

SOURCE EMISSIONS SURVEY
OF
VALERO REFINING - TEXAS, L.P.
HOUSTON REFINERY
B-TRAIN SRU TAIL GAS STACK (EPN 46CB6301)
HOUSTON, TEXAS
TCEQ PERMIT 2507A

AUGUST 2007

FILE NUMBER 07-338A

"I certify that I have personally checked and am familiar with the information submitted herein, and based on my inquiries of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete."



James R. Monfries
Senior Quality Assurance Manager

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
SUMMARY OF RESULTS	2
DISCUSSION OF RESULTS	8
DESCRIPTION OF SAMPLING LOCATION	10
SAMPLING AND ANALYTICAL PROCEDURES	12
DESCRIPTION OF TESTS	25
APPENDICES	26
A. Location of Sampling Points	
B. Source Emissions Calculations	
C. Calibration Data	
D. Field Testing Data	
E. Analytical Data	
F. Reference Method Monitors Data	
G. Plant Operational Data	
H. Chain of Custody	
I. Resumes of Test Personnel	

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INTRODUCTION

METCO Environmental, 1100 Gulf Freeway, Calder Ridge Business Park, Suite 100, League City, Texas, conducted a source emissions survey of Valero Refining – Texas, L.P., Houston Refinery, located at 9701 Manchester Avenue, Houston, Texas, on August 29 and 30, 2007. The purpose of these tests was to determine the concentrations of ammonia, hydrogen sulfide, oxides of nitrogen, sulfur dioxide, carbon monoxide, non-methane/non-ethane volatile organic compounds, and highly reactive volatile organic compounds (HRVOCs) being emitted to the atmosphere via the B-Train SRU Tail Gas Stack (EPN 46CB6301), in order to comply with TCEQ Permit 2507A. Three tests were performed while the unit was operating at an average AAG rate of 68.23 MSCFH.

The sampling was performed by the following METCO personnel: Ryan Williams - Project Supervisor, Mike Bass, Justin Cooper, and Jeff Knapp.

The sampling followed the procedures set forth in the Code of Federal Regulations, Title 40, Chapter I, Part 60, Appendix A, Methods 1, 2, 3A, 3B, 4, 6C, 7E, 10, 11, 18, and 25A; and in the "Sampling Procedures Manual, Texas Air Control Board, Revised July 1985".

SUMMARY OF RESULTS

B-Train SRU Tail Gas Stack (EPN 46CB6301)

Run Number	Ammonia Emissions (dry ppm) (lbs/hr)	Hydrogen Sulfide Emissions (dry ppm) (lbs/hr)	Oxides of Nitrogen Emissions (dry ppm) (lbs/hr)
2	0.09 0.004	< 0.21 < 0.02	11.13 1.27
3	0.05 0.002	< 0.20 < 0.01	11.14 1.02
4	0.03 0.001	< 0.21 < 0.01	12.32 1.10
Average	0.06 0.002	< 0.21 < 0.01	11.53 1.13
Allowable Emission Rate	---- ≤ 0.01	---- ≤ 0.44	---- ≤ 5.01

Run Number	Sulfur Dioxide Emissions (dry ppm) (lbs/hr)	Carbon Monoxide Emissions (dry ppm) (lbs/hr)	Non-Methane/Non-Ethane Volatile Organic Compounds Emissions as Propane (dry ppm) (lbs/hr)
2	17.65 2.81	16.97 1.18	< 0.01 < 0.01
3	17.43 2.23	21.39 1.20	< 0.01 < 0.01
4	15.85 1.97	29.09 1.58	< 0.01 < 0.01
Average	16.98 2.34	22.48 1.32	< 0.01 < 0.01
Allowable Emission Rate	---- ≤ 85.15	---- ≤ 9.26	---- ≤ 0.32

Note: Run Number 1 was invalid due to plant operational problems.

SUMMARY OF RESULTS

B-Train SRU Tail Gas Stack (EPN 46CB6301)

Run Number	Ethylene Emissions		Propylene Emissions		1,3-Butadiene Emissions		Butenes Emissions		Total Highly Reactive Volatile Organic Compounds Emissions	
	(dry ppm)	(lbs/hr)	(dry ppm)	(lbs/hr)	(dry ppm)	(lbs/hr)	(dry ppm)	(lbs/hr)	(dry ppm)	(lbs/hr)
2	< 0.02	< 0.001	< 0.02	< 0.002	< 0.05	< 0.007	< 0.14	< 0.020	< 0.030	< 0.030
3	< 0.02	< 0.001	< 0.02	< 0.002	< 0.05	< 0.005	< 0.14	< 0.016	< 0.024	< 0.024
4	< 0.02	< 0.001	< 0.02	< 0.002	< 0.05	< 0.005	< 0.14	< 0.015	< 0.023	< 0.023
Average	< 0.02	< 0.001	< 0.02	< 0.002	< 0.05	< 0.006	< 0.14	< 0.017	< 0.026	< 0.026

Note: Run Number 1 was invalid due to plant operational problems.

SUMMARY OF RESULTS

B-Train SRU Tail Gas Stack (EPN 46CB6301)

Run Number	2	3	4
Date	08/30/07	08/30/07	08/30/07
Time	1159-1259	1327-1427	1455-1555
Stack Flow Rate - ACFM	59,685	49,493	47,683
Stack Flow Rate - DSCFM*	15,965	12,838	12,460
% Water Vapor - % Volume	9.50	11.09	10.92
% CO ₂ - % Volume	7.0	8.0	7.6
% O ₂ - % Volume (orsat)	6.0	5.0	5.4
% O ₂ - % Volume (monitor)	4.82	4.91	5.02
Excess Air @ Sampling Point - %	35.2	27.7	30.6
Stack Temperature - °F	1,338	1,361	1,350
Stack Pressure - "Hg	30.02	30.00	29.98
Volume Dry Gas Sampled – DSCF*	34.288	34.191	33.591
Ammonia - ug	61.6	31.4	22.1
Ammonia Emissions – dry ppm	0.09	0.05	0.03
Ammonia Emissions – lbs/hr	0.004	0.002	0.001

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

Note: Run Number 1 was invalid due to plant operational problems.

1) Set at Lowest Limit Per Reg.

SUMMARY OF RESULTS

B-Train SRU Tail Gas Stack (EPN 46CB6301)

Run Number	2	3	4
% O ₂ - % Volume (monitor)	4.82	4.91	5.02
Oxides of Nitrogen Emissions - dry ppm	11.13	11.14	12.32
Oxides of Nitrogen Emissions - lbs/hr	1.27	1.02	1.10
Sulfur Dioxide Emissions - dry ppm	17.65	17.43	15.85
Sulfur Dioxide Emissions - lbs/hr	2.81	2.23	1.97
Carbon Monoxide Emissions - dry ppm	16.97	21.39	29.09
Carbon Monoxide Emissions - lbs/hr	1.18	1.20	1.58
Total Hydrocarbons Emissions as Propane - wet ppm	< 0.10	0.10	0.20
Total Hydrocarbons Emissions as Propane - dry ppm	< 0.11	0.11	0.22
Methane Concentrations as Propane - dry ppm	0.64	0.61	0.61
Ethane Concentrations as Propane - dry ppm	N.D.	N.D.	N.D.
Non-Methane/Non-Ethane Volatile Organic Compounds Emissions as Propane - dry ppm	< 0.01	< 0.01	< 0.01
Non-Methane/Non-Ethane Volatile Organic Compounds Emissions as Propane - lbs/hr	< 0.01	< 0.01	< 0.01

N.D. – None detected.

Note: Run Number 1 was invalid due to plant operational problems.

SUMMARY OF RESULTS

B-Train SRU Tail Gas Stack (EPN 46CB6301)

Run Number	2	3	4
Ethylene Emissions - dry ppm	< 0.02	< 0.02	< 0.02
Ethylene Emissions - lbs/hr	< 0.001	< 0.001	< 0.001
Propylene Emissions - dry ppm	< 0.02	< 0.02	< 0.02
Propylene Emissions - lbs/hr	< 0.002	< 0.002	< 0.002
1,3-Butadiene Emissions - dry ppm	< 0.05	< 0.05	< 0.05
1,3-Butadiene Emissions - lbs/hr	< 0.007	< 0.005	< 0.005
Butenes Emissions - dry ppm	< 0.14	< 0.14	< 0.14
Butenes Emissions - lbs/hr	< 0.020	< 0.016	< 0.015
Total Highly Reactive Volatile Organic Compounds Emissions - lbs/hr	< 0.030	< 0.024	< 0.023

Note: Run Number 1 was invalid due to plant operational problems.

DISCUSSION OF RESULTS

Run Number 1 was invalid due to plant operational problems.

The three valid tests for ammonia, oxides of nitrogen, sulfur dioxide, carbon monoxide, and non-methane/non-ethane volatile organic compounds appeared to be accurate representations of the actual emissions during the tests. All leak checks performed on the sampling train, the pitot tubes, the integrated bag sampling system, and the reference method monitors sampling systems showed no leaks before or after each test. The zero and calibration drift tests of the reference method monitors were stable with no variations greater than 3.0 percent. The calibration error check, sampling system bias check, and NO₂ to NO conversion efficiency check performed on the reference method monitors prior to testing were valid. The indicative parameters calculated from the field data were in close agreement. The moisture percentages for the three valid tests were within 9.6 percent of the mean value. The measured flow rates (Q_s) for the tests were within 16.1 percent of the mean value.

The NO₂ to NO conversion efficiency check was performed prior to testing on August 29, 2007, from 0852-0922. The results were as follows:

Highest peak value observed: 23.1 ppm

Value observed after 30 minutes: 22.8 ppm

NO₂ to NO conversion efficiency (%) = (Value observed after 30 minutes/Highest peak value observed) x 100

$(22.8/23.1) \times 100 = 98.7\%$

The required allowable as found in 40 CFR, Part 60, Appendix A, Method 7E, is 98.0%. Therefore, the NO₂ to NO conversion efficiency check was valid.

The calculated emissions (pounds per hour) of ammonia for the three valid tests showed a range of -57.1 percent to +71.4 percent variation from the mean value.

The calculated emissions (pounds per hour) of oxides of nitrogen for the three valid tests showed a range of -9.7 percent to +12.4 percent variation from the mean value.

The calculated emissions (pounds per hour) of sulfur dioxide for the three valid tests showed a range of -15.7 percent to +20.3 percent variation from the mean value.

The calculated emissions (pounds per hour) of carbon monoxide for the three valid tests showed a range of -10.6 percent to +19.7 percent variation from the mean value.

The concentrations of non-methane/non-ethane volatile organic compounds for the three valid tests were below the minimum detectable limit of the method.

The three valid tests for hydrogen sulfide appeared to be accurate representations of the actual emissions during the tests. All leak checks performed on the sampling train showed no leaks before or after each test.

The concentrations of hydrogen sulfide for the three valid tests were below the minimum detectable limit of the method.

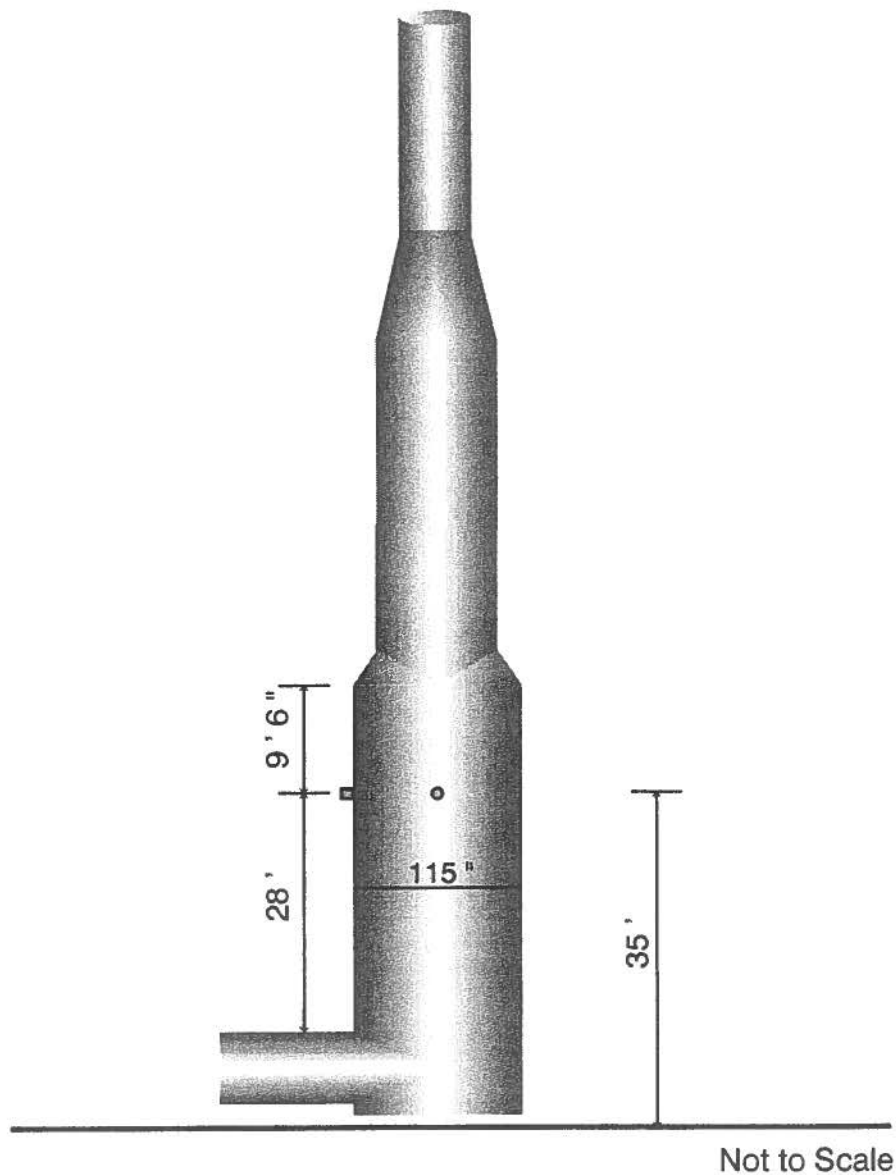
The three valid tests for ethylene, propylene, 1,3-butadiene, and butenes appeared to be accurate representations of the actual emissions during the tests. All leak checks performed on the integrated bag sampling system showed no leaks before or after each test.

DESCRIPTION OF SAMPLING LOCATION

The sampling location on the B-Train SRU Tail Gas Stack (EPN 46CB6301) is approximately 35 feet above the ground. The sampling ports are located 28 feet (2.92 stack diameters) downstream from the inlet to the stack and 9 feet 6 inches (0.99 stack diameters) upstream from a constriction in the stack.

SAMPLING LOCATION

B-Train SRU Tail Gas Stack (EPN 46CB6301)



SAMPLING AND ANALYTICAL PROCEDURES

The sampling followed the procedures set forth in the Code of Federal Regulations, Title 40, Chapter I, Part 60, Appendix A, Methods 1, 2, 3A, 3B, 4, 6C, 7E, 10, 11, 18, and 25A; and in the "Sampling Procedures Manual, Texas Air Control Board, Revised July 1985".

A velocity traverse was made at each of the two ports on the stack, in order to determine the uniformity and magnitude of the flow during each test. Several traverse points were checked for cyclonic flow and none was found to be present. Eight traverse points were sampled from each of the two ports for a total of sixteen traverse points.

The sampling trains were leak-checked before each test, and again after each test at the highest vacuum reading recorded during the test. This was done to predetermine the possibility of a diluted sample.

The reference method monitors sampling system was leak-checked at the end of the sampling probe before sampling, and again at the conclusion of sampling.

The pitot tube lines were checked for leaks before and after each test under both a vacuum and a pressure. The lines were also checked for clearance and the manometer was zeroed before each test.

An integrated orsat sample was collected and analyzed according to EPA Method 3B during each test.

Ammonia

Triplicate samples for ammonia were collected. The samples were taken according to

EPA Method 4; and the "Sampling Procedures Manual, Texas Air Control Board, Revised July 1985". For each run, samples of twenty-minute duration were taken from three traverse points for a total sampling time of 60 minutes. Data was recorded at five-minute intervals. Reagent blanks were submitted.

The " front-half " of the sampling train contained the following components:

Heated Probe

Heated Glass Fiber Filter and Glass Support @ $248^{\circ}\text{F} \pm 25^{\circ}\text{F}$

The " back-half " of the sampling train contained the following components:

<u>Impinger Number</u>	<u>Contents</u>	<u>Amount</u>	<u>Parameter Collected</u>
1	0.1N H_2SO_4	100 ml	Ammonia
2	0.1N H_2SO_4	100 ml	Ammonia
3	Empty	----	Moisture
4	Silica Gel	200 g	Moisture

The ammonia samples were analyzed by ion chromatography.

Hydrogen Sulfide

Triplicate sets of samples for hydrogen sulfide were collected. The samples were taken according to EPA Method 11. For each run, samples of sixty-minute duration were taken from the midpoint of the stack. Data was recorded at five-minute intervals. At the conclusion of each run the sampling train was purged for fifteen minutes with ambient air drawn through a charcoal scrubber.

The " front-half " of the sampling train contained the following components:

Stainless Steel Probe
Glass Wool Plug
Teflon Sample Line

The " back-half " of the sampling train contained the following components:

<u>Impinger Number</u>	<u>Contents</u>	<u>Amount</u>	<u>Parameter Collected</u>
1	6% Hydrogen Peroxide	15 ml	Sulfur Dioxide
2	Empty	-----	Moisture
3	Cadmium Sulfate Solution	15 ml	Hydrogen Sulfide
4	Cadmium Sulfate Solution	15 ml	Hydrogen Sulfide
5	Cadmium Sulfate Solution	15 ml	Hydrogen Sulfide
6	Silica Gel	30 g	Moisture

The concentration of hydrogen sulfide in the samples was determined on-site iodometrically.

Ethylene, Propylene, 1,3-Butadiene, and Butenes (HRVOCs)

Triplicate samples for ethylene, propylene, 1,3-butadiene, and butenes were collected. The samples were collected according to EPA Method 18. For each run, samples of sixty-minute duration were collected from the midpoint of the stack. The reference method sampling system consisted of a probe, a Teflon sample line, a rotameter, and a Tedlar bag.

The samples were analyzed by GC/FID.

Oxides of Nitrogen

The oxides of nitrogen sampling was performed according to EPA Method 7E. A Thermo Environmental Model 10S Oxides of Nitrogen Analyzer (Serial Number 1046CB63019403-260) was used to monitor the concentrations of oxides of nitrogen during each run. The reference method analyzer was operated at a range of 0 to 100 parts per million, with a calibration span of 93.6 parts per million. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check, a sampling system bias check, and a NO₂ to NO conversion efficiency check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen

44.5 ppm NO in N₂ (ALM 35137)

93.6 ppm NO in N₂ (BLM 1222)

The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

Sulfur Dioxide

The sulfur dioxide sampling was performed according to EPA Method 6C. A Western Research Model 721M Sulfur Dioxide Analyzer (Serial Number 94-721M-8191-3) was used to monitor the concentrations of sulfur dioxide during each run. The reference method analyzer was operated at a range of 0 to 100 parts per million, with a calibration span of 84.5 parts per million. A multi-point calibration was performed on the reference
07-338A

method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen

41.7 ppm SO₂ in N₂ (ALMX67916)

84.5 ppm SO₂ in N₂ (BLM 3931)

The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

Carbon Monoxide

The carbon monoxide sampling was performed according to EPA Method 10 using the continuous sampling procedure. A Thermo Environmental Model 48 Carbon Monoxide Analyzer (Serial Number 48-39616-261) was used to monitor the concentrations of carbon monoxide during each run. The reference method analyzer was operated at a range of 0 to 1,000 parts per million, with a calibration span of 921.0 parts per million. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen

464.0 ppm CO in N₂ (BLM 5090)

921.0 ppm CO in N₂ (BAL 2535)

The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

Non-Methane/Non-Ethane Volatile Organic Compounds

The non-methane/non-ethane volatile organic compounds sampling was performed according to EPA Methods 18 and 25A. A J.U.M. Model VE-7 Total Hydrocarbon Analyzer (Serial Number 00061209-109) was used to monitor the concentrations of total hydrocarbons during each run. The reference method analyzer was operated at a range of 0 to 100 parts per million. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen

29.9 ppm C₃H₈ in N₂ (BLM 4041)

47.0 ppm C₃H₈ in N₂ (BAL 4862)

84.6 ppm C₃H₈ in N₂ (BLM 517)

The reference method sampling system consisted of a heated probe with an in-stack filter and a heated Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the heated Teflon sample line.

Calibration gas certifications are included in Appendix C.

An integrated gas sample was also collected during each test according to EPA Method 18. The reference method sampling system consisted of a stainless steel probe, a chilled condenser, rotameter, and a Tedlar bag. The integrated samples were analyzed for methane and ethane by GC/FID. The concentrations of methane and ethane were subtracted from the total hydrocarbons concentrations to obtain the non-methane/non-ethane volatile organic compounds concentrations.

Oxygen

The oxygen sampling was performed according to EPA Method 3A. A Teledyne Oxygen Analyzer (Serial Number 132689) was used to monitor the concentrations of oxygen during each run. The reference method analyzer was operated at a range of 0 to 25 percent, with a calibration span of 20.90 percent. A multi-point calibration was performed on the reference method analyzer prior to testing. An analyzer calibration error check and a sampling system bias check were also conducted prior to testing. After each run, the zero and calibration drift of the reference method monitor was checked. The calibration gases were as follows:

Zero Nitrogen

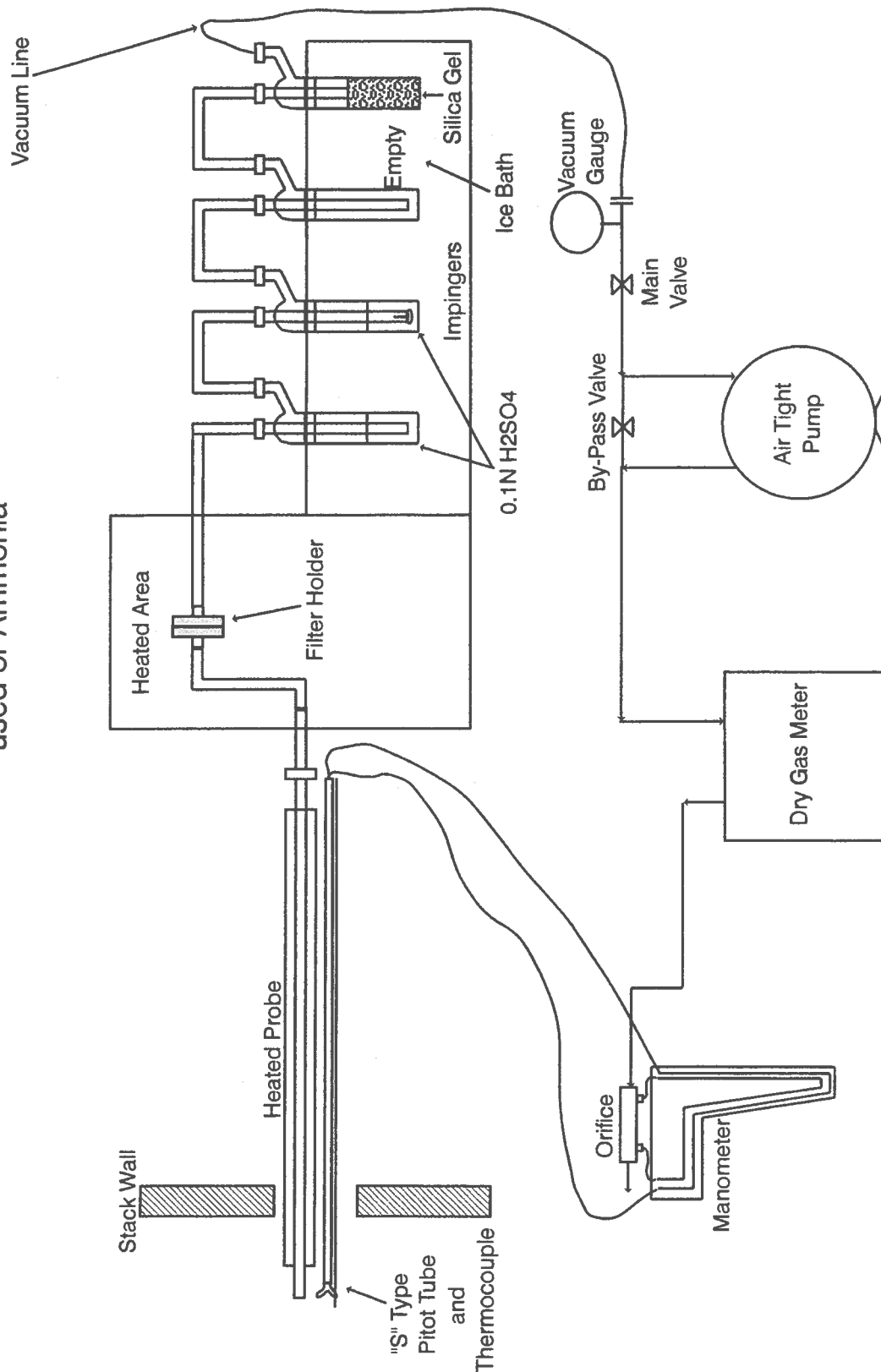
12.20 percent O₂ in N₂ (AAL 16103)

20.90 percent O₂ in air (AAL 14753)

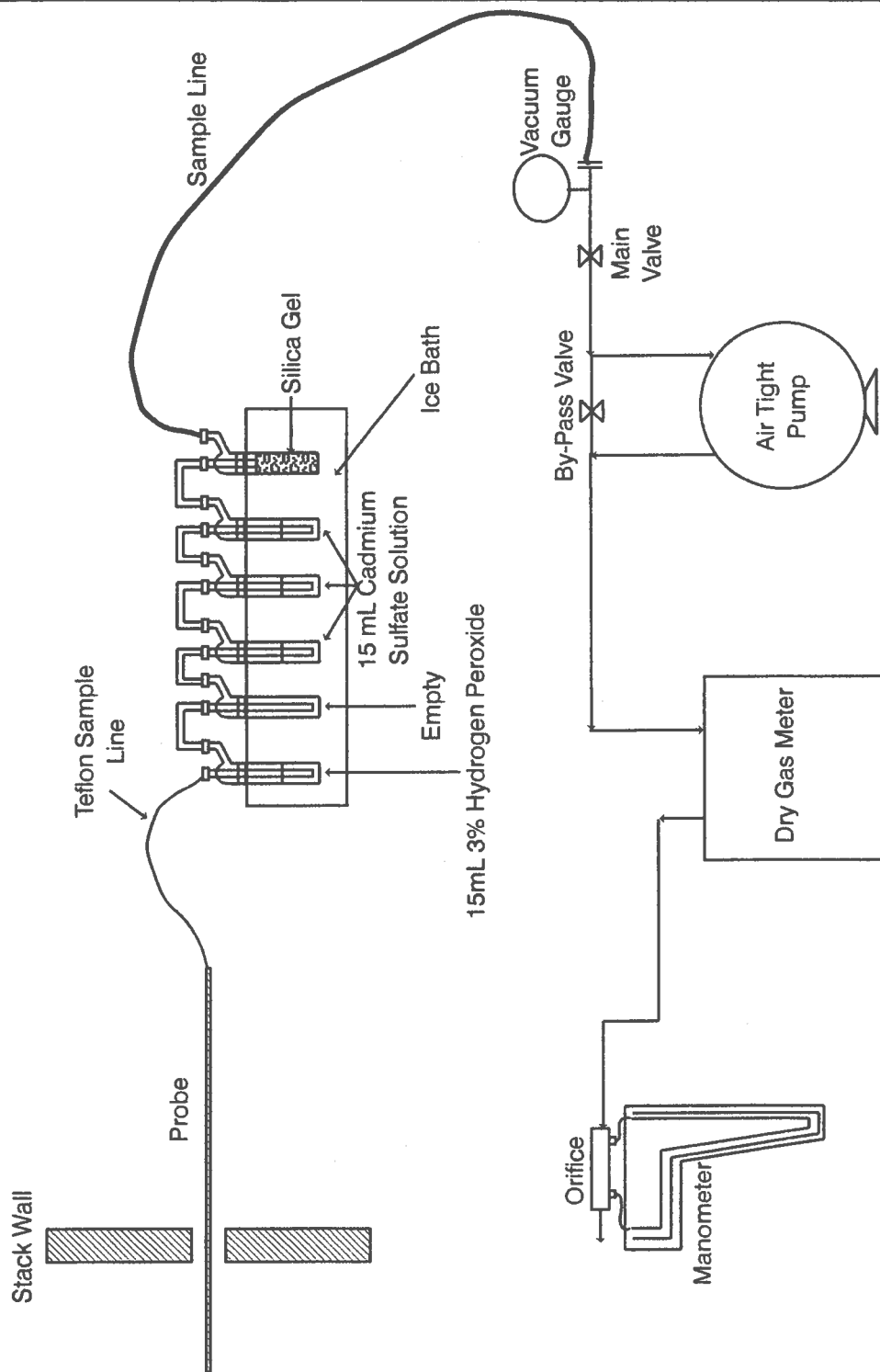
The reference method sampling system consisted of a heated probe, a chilled condenser, and a Teflon sample line. The calibration gases for the bias and drift checks were introduced upstream of the chilled condenser.

Calibration gas certifications are included in Appendix C.

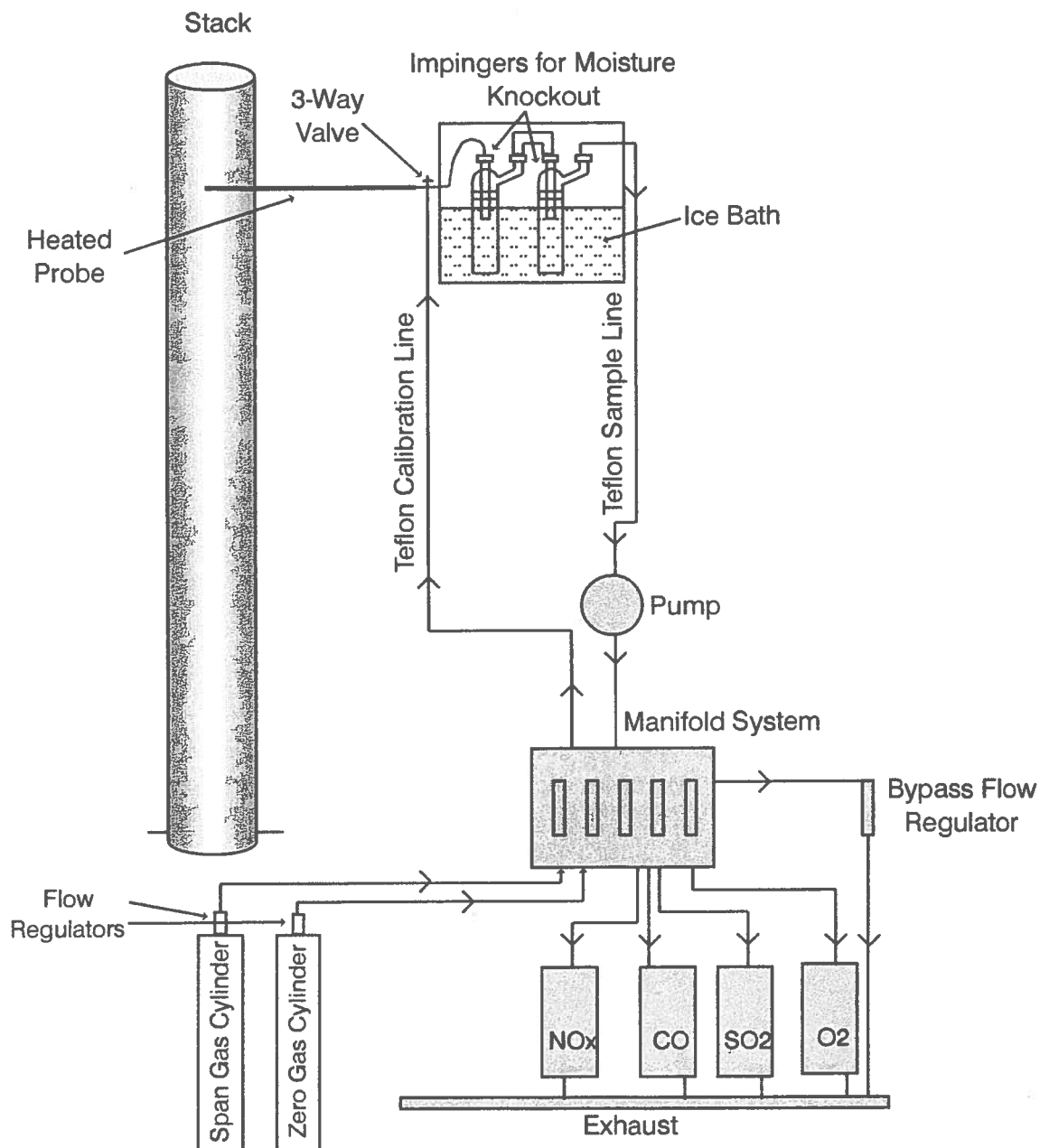
Schematic Diagram of the EPA Method 4 Sampling Train
used for Ammonia



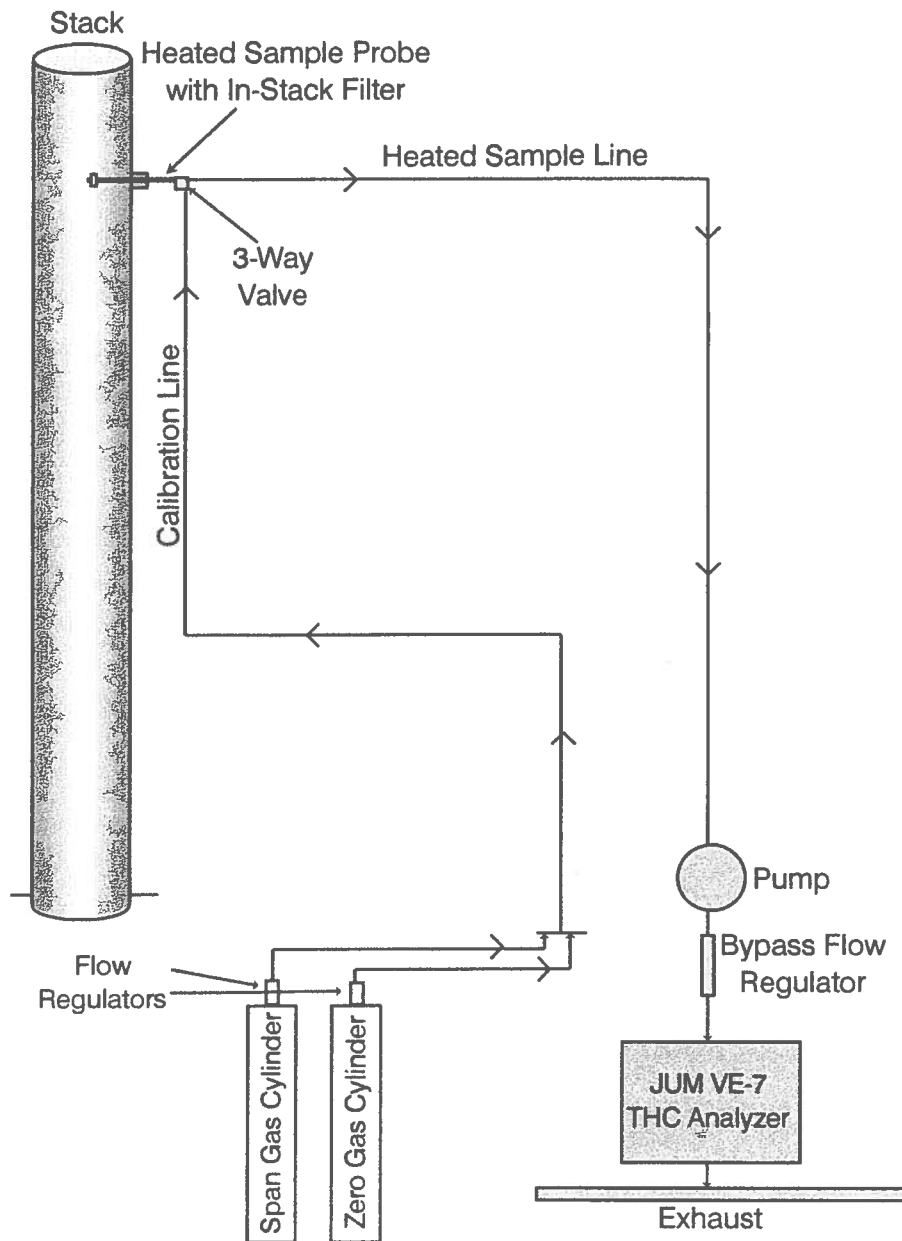
Schematic Diagram of the EPA Method 11 Sample Train



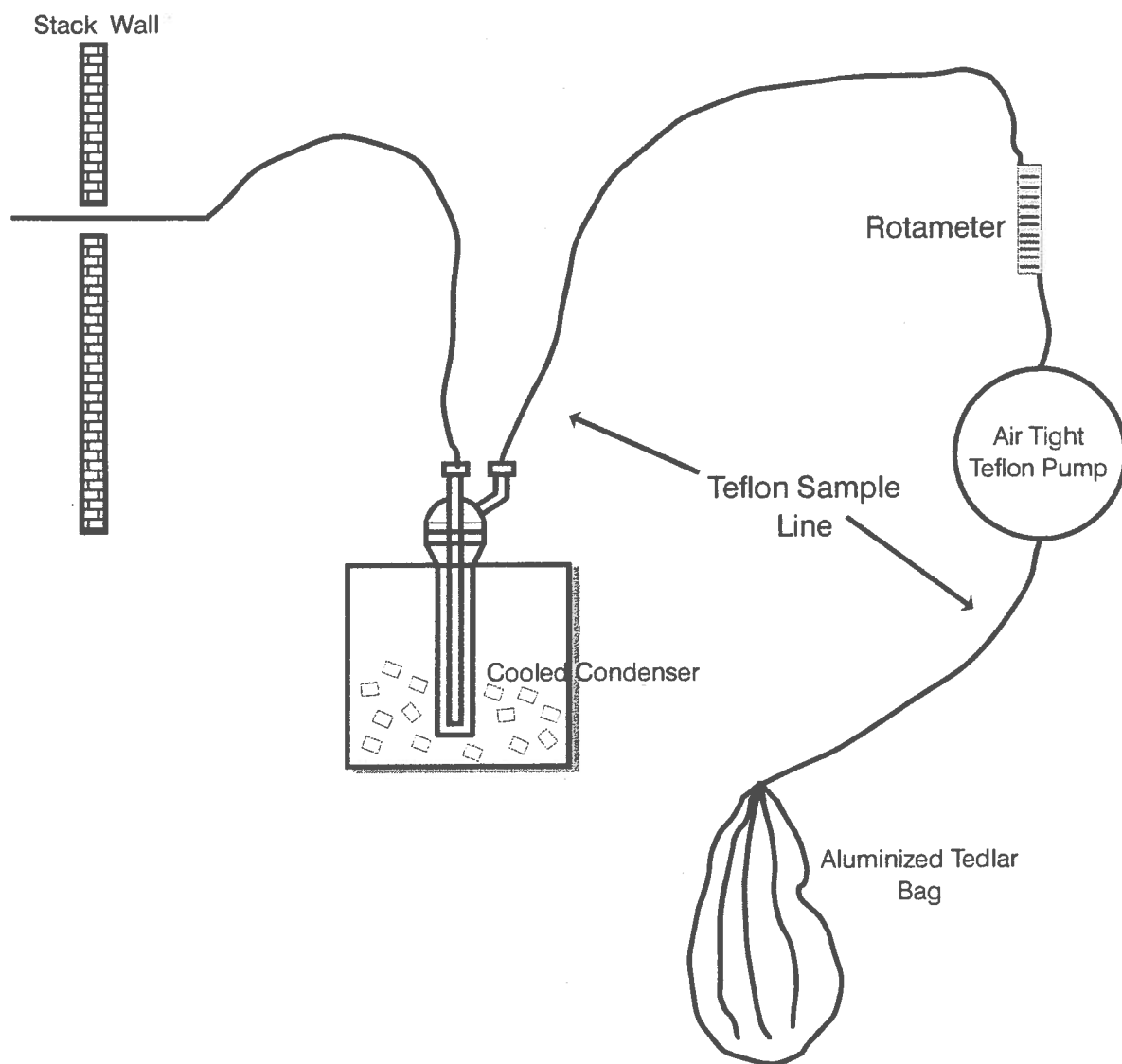
Reference Method Monitors Sampling System (EPA Methods 3A, 6C, 7E, and 10)



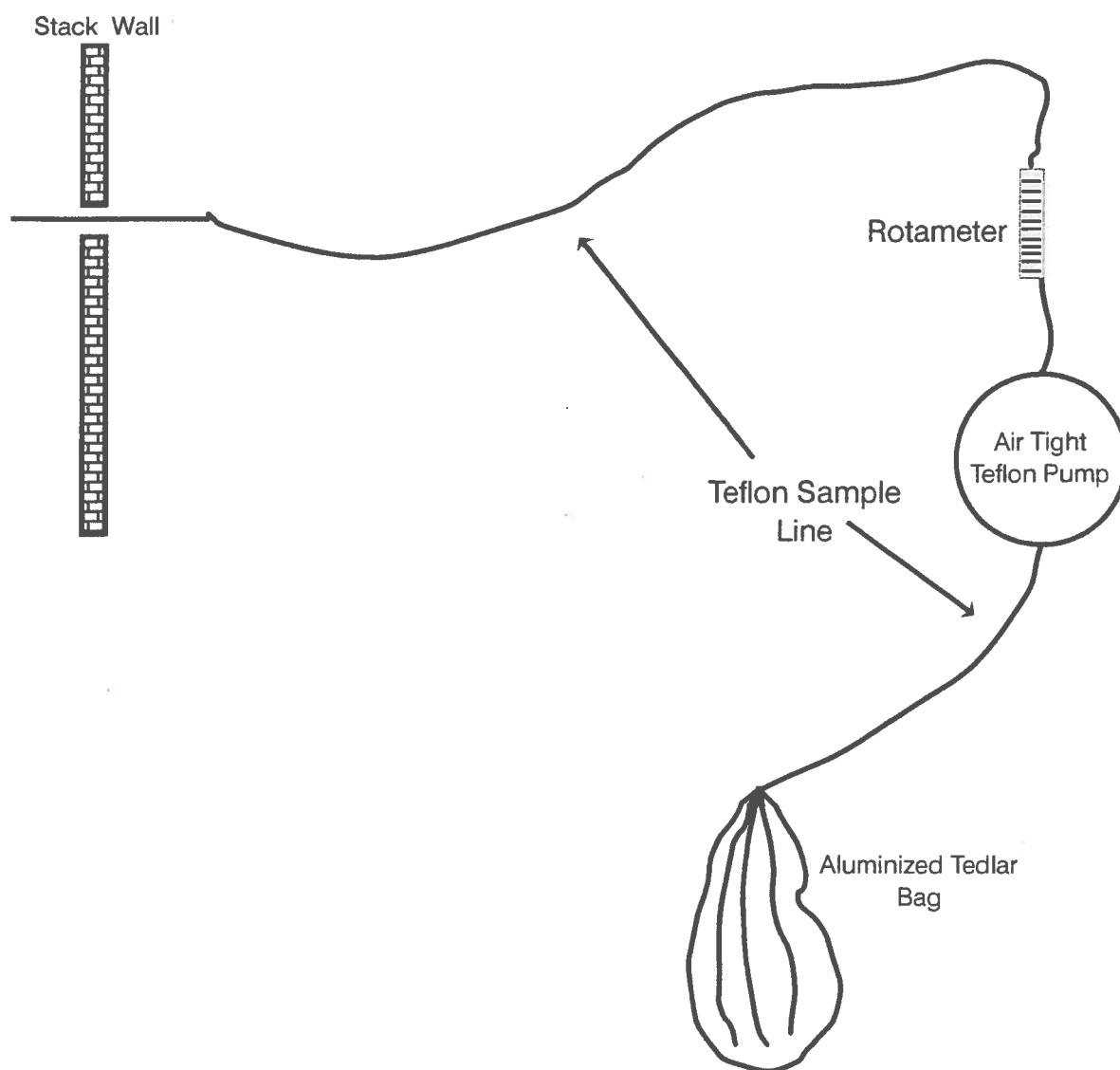
Reference Method Monitor Sampling System (EPA Method 25A)



EPA Method 18 (Integrated Bag) Sampling Train
used for the determination of Methane/Ethane



EPA Method 18 (Integrated Bag) Sampling Train
used for the determination of HRVOCs



DESCRIPTION OF TESTS

Personnel from METCO Environmental arrived at the plant at 7:00 a.m. on Wednesday, August 29, 2007. After meeting with plant personnel, the equipment was moved onto the B-Train SRU Tail Gas Stack (EPN 46CB6301). Testing was delayed and later postponed due to severe weather. The equipment was secured for the night and all work was completed at 4:00 p.m.

On Thursday, August 30, work began at 6:45 a.m. The reference method monitors were calibrated and the equipment was prepared for testing. The first set of tests for ammonia, hydrogen sulfide, oxides of nitrogen, sulfur dioxide, carbon monoxide, non-methane/non-ethane volatile organic compounds, and HRVOCs began at 9:32 a.m. Testing continued until completion of the fourth set of tests at 3:55 p.m. Run Number 1 was invalid due to plant operational problems.

The reference method monitors were calibrated and secured for transport. The equipment was moved off of the stack and loaded into the sampling van. The samples were recovered and transported to METCO Environmental's laboratory in Dallas, Texas, for analysis and evaluation.

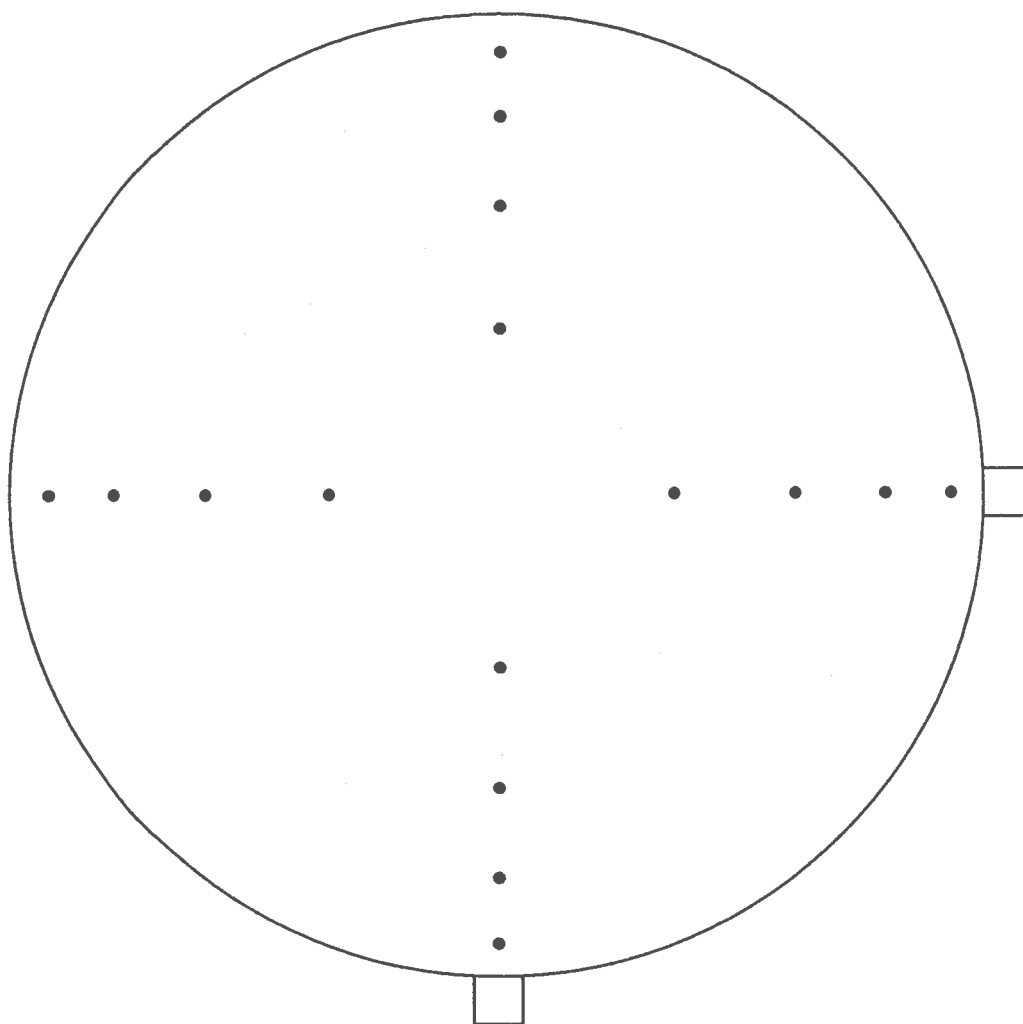
Operations at Valero Refining - Texas, L.P., Houston Refinery, B-Train SRU Tail Gas Stack (EPN 46CB6301), located in Houston, Texas, were completed at 6:00 p.m. on Thursday, August 30, 2007.

APPENDICES

- A. Location of Sampling Points
- B. Source Emissions Calculations
- C. Calibration Data
- D. Field Testing Data
- E. Analytical Data
- F. Reference Method Monitors Data
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APPENDIX A

Location of Velocity Sampling Points B-Train SRU Tail Gas Stack (EPN 46CB6301)



APPENDIX A

Location of Ammonia Sampling Points B-Train SRU Tail Gas Stack (EPN 46CB6301)

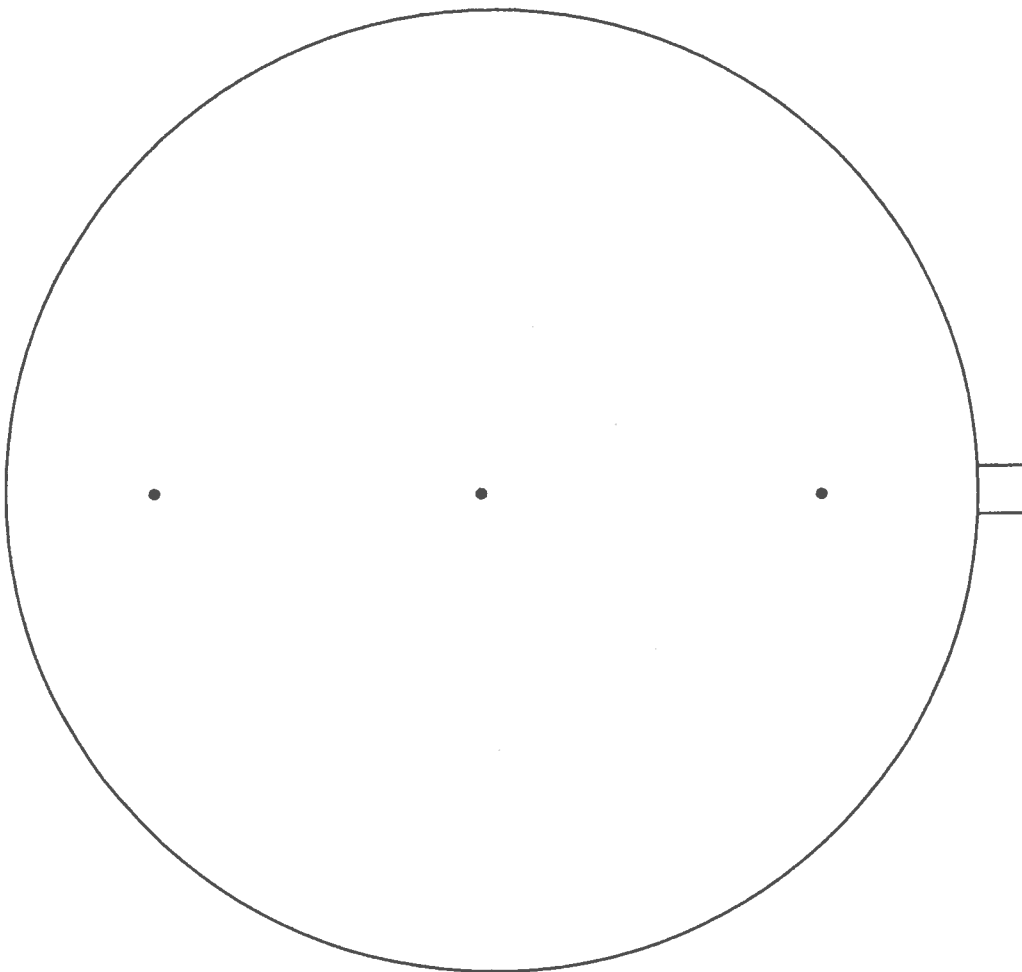
The sampling ports are located 28 feet (2.92 stack diameters) downstream from the inlet to the stack and 9 feet 6 inches (0.99 stack diameters) upstream from a constriction in the stack. The locations of the sampling points were calculated as follows:

Port and Wall Thickness = 7 inches
Inside Stack Diameter = 115 inches

<u>Point Number</u>	<u>Percent of Diameter From Wall</u>	<u>Distance From Wall</u>
1	16.7	19 3/16 "
2	50.0	57 1/2 "
3	83.3	95 13/16 "

APPENDIX A

Location of Ammonia Sampling Points B-Train SRU Tail Gas Stack (EPN 46CB6301)



APPENDIX B

Nomenclature and Equations for Calculation of Source Emissions

APPENDIX B

Nomenclature and Equations for Calculation of Source Emissions

NOMENCLATURE FOR CALCULATIONS

<u>Symbol</u>	<u>English Units</u>	<u>Metric Units</u>	<u>Description</u>
A_s	in. ²	m ²	Stack Area
C_p			Pitot Tube Calibration Factor
D_n	in.	m	Sampling Nozzle Diameter
%EA			Percent Excess Air at sampling point
g	32.174 ft/sec ²		Acceleration of Gravity
%I			Percent Isokinetic
%M			Percent Moisture in the stack gas by volume
M_d			Mole fraction of dry gas
M_{water}	18 lb/lb-mole		Molecular Weight of water
MW	lb/lb-mole	g/g-mole	Molecular Weight of stack gas
MW_{air}	28.96 lb/lb-mole		Molecular Weight of air
MW_d	lb/lb-mole	g/g-mole	Molecular Weight of dry stack gas
P_b	"Hg Absolute	mm Hg	Barometric Pressure
P_m	"H ₂ O	mm H ₂ O	Orifice Pressure drop
P_s	"Hg Absolute	mm Hg	Stack Pressure

<u>Symbol</u>	<u>English Units</u>	<u>Metric Units</u>	<u>Description</u>
ΔP	"H ₂ O	mm H ₂ O	Velocity Head of stack gas
P_{std}	29.92 "Hg	760 mm Hg	Standard Barometric Pressure
Q_a	ACFM	m ³ /hr	Stack Gas Volume at actual stack conditions
Q_s	DSCFM*	dscm/hr*	Stack Gas Volume at 29.92 "Hg, 528°R, dry
R	21.83 "Hg-ft ³ /lb-mole°R		Universal Gas Constant
T_m	°F	°C	Average Gas Meter Temperature
T_t	min	min	Net time of test
T_s	°F	°C	Stack Temperature
T_{std}	528°R	293°K	Standard Temperature
V_m	ft ³	m ³	Volume of dry gas sampled @ meter conditions
V_{mstd}	dscf*	dscm*	Volume of dry gas sampled @ standard conditions
V_s	fpm	m/sec	Stack velocity @ stack conditions
V_w	ml	ml	Total water collected in impingers and silica gel
V_{wgas}	scf*	scm*	Volume of water vapor collected @ standard conditions
ρ_{air}	0.0752 lbs/ft ³		Density of Air

* 29.92 " Hg, 68° F (760 mm Hg, 20° C) B-3

<u>Symbol</u>	<u>English Units</u>	<u>Metric Units</u>	<u>Description</u>
ρ_{water}	1 g/ml		Density of Water
ρ_{man}	62.32 lbs/ft ³		Density of Manometer Oil

Standard Conditions: 29.92 "Hg, 68°F (760 mm Hg, 20°C)

EXAMPLE CALCULATIONS

1. Volume of dry gas sampled at standard conditions. *

$$Vm_{std} = Vm \left(\frac{T_{std}}{T_m + 460} \right) \left[\frac{P_b + \frac{P_m}{13.6}}{P_{std}} \right]$$

$$Vm_{std} = 17.65 Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = dscf$$

$$Vm_{std} = dscf \times 0.028317 = dscm$$

2. Volume of water vapor collected at standard conditions. *

$$VW_{gas} = \frac{(V_w - gms SO_2 - gms H_2S) \rho_{water} R T_{std}}{P_{std} M_{water} 453.6}$$

$$VW_{gas} = 0.0472 (V_w - gms SO_2 - gms H_2S) = scf$$

$$VW_{gas} = scf \times 0.028317 = scm$$

3. Percent moisture in stack gas.

$$\%M = \frac{VW_{gas}}{Vm_{std} + VW_{gas}} \times 100 = \%$$

4. Mole fraction of dry gas.

$$M_d = \frac{100 - \%M}{100}$$

5. Average molecular weight of dry stack gas.

$$MW_d = \left[\%CO_2 \times \frac{44}{100} \right] + \left[\%O_2 \times \frac{32}{100} \right] + \left[\%N_2 \times \frac{28}{100} \right] + \left[\%CO \times \frac{28}{100} \right] = lb/lb - mole$$

$$= g/g - mole$$

6. Molecular weight of stack gas.

$$MW = MW_d \times M_d + 18 (1 - M_d) = \frac{lb}{lb - mole} = g/g - mole$$

7. Percent excess air at sampling point.

$$\%EA = \frac{100 [\%O_2 - (0.5 \%CO)]}{0.265 (\%N_2) - [\%O_2 - (0.5 \%CO)]}$$

8. Stack Pressure.

$$P_s = P_b + \frac{\text{Stack Pressure " H}_2\text{O}}{13.6} = \text{" Hg Absolute}$$

$$P_s = \text{" Hg Abs.} \times 25.4 = mm Hg$$

9. Stack velocity at stack conditions.

$$V_s = C_p 60 \left[\frac{2g \times \rho_{man} \times P_{std} \times MW_{air} \times (T_s + 460)}{12 \times \rho_{air} \times P_s \times MW \times T_{std}} \right]^{1/2} \times \sqrt{\Delta P \text{ average}}$$

$$V_s = 5,123.8 C_p \left[\frac{(T_s + 460)}{P_s \times MW} \right]^{1/2} \sqrt{\Delta P \text{ average}} = \text{fpm}$$

$$V_s = \text{fpm} \times 0.00508 = \text{m/sec}$$

10. Dry stack gas volume at standard conditions. *

$$Q_s = \frac{1}{144} V_s \times A_s \times M_d \times \frac{T_{std}}{T_s + 460} \times \frac{P_s}{P_{std}}$$

$$Q_s = \frac{0.123 V_s \times A_s \times M_d \times P_s}{T_s + 460} = \text{DSCFM}$$

$$Q_s = \text{DSCFM} \times 1.6990 = \text{dscm/hr}$$

11. Actual stack gas volume at stack conditions.

$$Q_a = \frac{V_s \times A_s}{144} = \text{ACFM}$$

$$Q_a = \text{ACFM} \times 1.6990 = \text{m}^3/\text{hr}$$

EXAMPLE CALCULATIONS

$$\text{lbs/hr} = \frac{\text{mg}}{\text{Vm}_{\text{std}}} \times 2.205 \times 10^{-6} \text{ lbs/mg} \times \text{DSCFM}^* \times 60 \text{ min/hr}$$

Vm_{std} = Volume of dry gas sampled (dscf*)

DSCFM* = Stack Flow Rate

$$\text{ppm} = \frac{\text{mg}}{\text{Vm}_{\text{std}} (\text{m}^3)} \times \frac{24.04}{\text{MW}}$$

24.04 = Ideal Gas Constant liters/g-mole

Vm_{std} = Volume of dry gas sampled (m^3 *)

MW = Molecular Weight

<u>Compound</u>	<u>Molecular Weight</u>
Ammonia	17.03

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

EXAMPLE CALCULATIONS

$$\text{lbs/hr} = \text{ppm} \times \text{CF} \times 60 \text{ min/hr} \times \text{DSCFM}^*$$

CF = Conversion Factor for ppm to lbs/scf*

<u>Compound</u>	<u>Conversion Factor</u>
NO _x	1.194×10^{-7}
SO ₂	1.660×10^{-7}
CO	7.273×10^{-8}

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

EXAMPLE CALCULATIONS

$$\text{lbs/hr} = \frac{\text{ppm} \times \text{MW} \times 60 \times \text{DSCFM}^*}{385.1 \times 10^6}$$

where : MW = molecular weight

ppm = ppm of compound

DSCFM* = flow rate

<u>Compound</u>	<u>Molecular Weight</u>
Ethylene	28.05
Hydrogen Sulfide	34.08
Propylene	42.08
Butenes	56.11
1,3-Butadiene	54.09

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

EXAMPLE CALCULATIONS

$$\text{lbs/hr} = \text{ppm} \times \text{CF} \times 60 \text{ min/hr} \times \text{DSCFM}^*$$

CF = Conversion Factor for ppm to lbs/scf*

<u>Compound</u>	<u>Conversion Factor</u>
Non-Methane/Non-Ethane Volatile Organic Compounds as Propane	1.145×10^{-7}

The non-methane/non-ethane volatile organic compounds number is derived by subtracting the propane equivalents of methane (dry ppm) and ethane (dry ppm) from the total hydrocarbons concentrations (dry ppm).

Methane as propane = Methane concentration/3

Ethane as propane = Ethane concentration x 2/3

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

EXAMPLE CALCULATIONS

Equation 7E-5

$$C_{\text{gas}} = (\bar{C} - C_o) \frac{C_{\text{ma}}}{C_m - C_o}$$

Where: C_{gas} = Effluent gas concentration - dry basis (ppm)

$\bar{C}$ = Average gas concentration indicated by gas analyzer - dry basis (ppm)

C_o = Average of initial and final system calibration bias check responses for the zero gas (ppm)

C_m = Average of initial and final system calibration bias check responses for the upscale calibration gas (ppm)

C_{ma} = Actual concentration of the upscale calibration gas (ppm)

SOURCE EMISSION SURVEY

JOB NUMBER: 07-338
 JOB NAME: VALERO REFINING-TEXAS
 LOCATION: HOUSTON, TEXAS
 UNIT TESTED: B-TRAIN SRU TAIL GAS STACK

SOURCE EMISSION CALCULATIONS

SYMBOL	DESCRIPTION	UNITS	RUN NUMBER		
			2	3	4
DATE			08/30/07	08/30/07	08/30/07
BEGIN TIME			1159	1327	1455
END TIME			1259	1427	1555
P(b)	BAROMETRIC PRESSURE	"Hg Abs. (mm Hg)	30.06 (764.00)	30.04 (763.00)	30.02 (763.00)
P(m)	ORIFICE PRESSURE DROP	"H2O (mm H2O)	1.100 (27.900)	1.100 (27.900)	1.100 (27.900)
	DGM CALIBRATION FACTOR		0.992	0.992	0.992
V(m)	VOLUME DRY GAS SAMPLED	ft.^3	35.127	35.308	34.901
	@ METER CONDITIONS	(m^3)	(0.995)	(1.000)	(0.988)
	LEAK CHECK VOLUME	ft.^3	0.000	0.000	0.000
T(m)	AVERAGE GAS METER TEMPERATURE	DEG.F (DEG.C)	85 (29)	89 (32)	92 (33)
V(m[std])*	VOLUME DRY GAS SAMPLED @ STANDARD CONDITIONS*	DSCF (DSCM)	34.288 (0.971)	34.191 (0.968)	33.591 (0.951)
V(w)	TOTAL WATER COLLECTED, IMPINGERS & SILICA GEL	ml	76.3	90.4	87.2
V(w[gas])	VOLUME WATER VAPOR COLLECTED @ STANDARD CONDITIONS*	SCF (SCM)	3.601 (0.102)	4.267 (0.121)	4.116 (0.117)
%M	MOISTURE IN STACK GAS BY VOLUME	%	9.50	11.09	10.92
Md	MOL FRACTION OF DRY GAS		0.9050	0.8891	0.8908
Tt	NET TIME OF TEST	MINUTES	60	60	60

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

SOURCE EMISSION CALCULATIONS

JOB NUMBER: 07-338
 JOB NAME: VALERO REFINING-TEXAS
 LOCATION: HOUSTON, TEXAS
 UNIT TESTED: B-TRAIN SRU TAIL GAS STACK

SYMBOL	DESCRIPTION	UNITS	RUN NUMBER		
			2	3	4
CO2		%	7.0	8.0	7.6
O2		%	6.0	5.0	5.4
CO		%	0.0	0.0	0.0
N2		%	87.0	87.0	87.0
%EA	EXCESS AIR @ SAMPLING POINT	%	35.2	27.7	30.6
MWd	MOLECULAR WEIGHT OF DRY STACK GAS	LB/LB-MOLE (g/g-MOLE)	29.36 (29.36)	29.48 (29.48)	29.43 (29.43)
MW	MOLECULAR WEIGHT OF STACK GAS	LB/LB-MOLE (g/g-MOLE)	28.28 (28.28)	28.21 (28.21)	28.18 (28.18)
Cp	PITOT TUBE CALIBRATION		0.787	0.787	0.787
DELTA P	VELOCITY HEAD OF STACK GAS	"H2O (mm H2O)	0.020 (0.500)	0.014 (0.400)	0.013 (0.300)
DELTA P ^{^(1/2)}		"H2O	0.141	0.116	0.112
Ts	STACK TEMPERATURE	DEG. F (DEG. C)	1,338 (726)	1,361 (738)	1,350 (732)
Ps	STACK PRESSURE	"Hg Abs. (mm Hg) "H2O	30.02 (763.00) -0.50	30.00 (762.00) -0.50	29.98 (761.00) -0.50
Vs	STACK VELOCITY @ STACK CONDITIONS	FPM (m/SEC.)	827 (4)	686 (3)	661 (3)
As	STACK AREA	(SQ.INCHES) (SQ.METERS)	10,387 (7)	10,387 (7)	10,387 (7)
Qs	DRY STACK GAS VOLUME @ STANDARD CONDITIONS* WET STACK GAS VOLUME @ STANDARD CONDITIONS*	DSCFM (DSCM/HR) WSCFH	15,965 (27,125) 1,058,453	12,838 (21,812) 866,359	12,460 (21,170) 839,246
Qa	ACTUAL STACK GAS VOLUME @ STACK CONDITIONS	ACFM (m^3/HR)	59,685 (101,405)	49,493 (84,089)	47,683 (81,013)

* 68 Deg.F, 29.92 "Hg (20 Deg.C, 760 mm Hg)

APPENDIX C

Calibration Data

<u>Equipment</u>	<u>Calibration Factor</u>	<u>Calibration Date</u>
Pitot Tube #44-12-1	0.787	07/27/07
Dry Gas Meter #44-1	0.992	08/06/07
Stack Unit Orifice #44-1		08/06/07
Digital Temperature Indicator #44-1		08/03/07
VOST Dry Gas Meter #11	0.994	08/04/07
Barometer #44-2		08/04/07

PITOT TUBE CALIBRATION

Date: 7-27-07

Time: 1445

Pitot No.: 44-12-1

T_a: 75 °F

Pitot Dimensions: 12" x 1/2"

C_{ptd}: 0.990

Motor Setting	fps mark	Calibration Standard		Standard Average	High	√High	Cal. Factor	Low	√Low	Cal. Factor
7	20	0.09	0.09	0.300	0.14	0.374	0.794	0.14	0.374	0.794
14	30	0.20	0.20	0.447	0.32	0.566	0.783	0.32	0.566	0.783
20	40	0.35	0.35	0.592	0.55	0.742	0.790	0.55	0.742	0.790
28	50	0.55	0.55	0.742	0.90	0.949	0.774	0.90	0.949	0.774
35	60	0.79	0.79	0.889	1.30	1.140	0.772	1.30	1.140	0.772
41	70	1.10	1.10	1.049	1.70	1.304	0.796	1.70	1.304	0.796
50	80	1.40	1.40	1.193	2.20	1.483	0.790 2.20	2.20	1.483	0.790 2.20
62	90	1.80	1.80	1.342	2.80	1.673	0.794	2.80	1.673	0.794
28	50	0.55	0.55	0.742	0.90	0.949	0.774	0.90	0.949	0.774
28	50	0.55	0.55	0.742	0.90	0.949	0.774	0.90	0.949	0.774
Average							0.787			0.787

Summary of Results:

Normal high side calibration factor 0.787

variation + 1.14%

variation - 1.91%

Normal low side calibration factor 0.787

variation + 1.14%

variation - 1.91%

Calibrator: Ryan Willard

Checked By: Mike Bass

Dry Gas Meter Calibration

Dry Gas Meter No.: 44-1Date: 8-6-07

ΔH ($"H_2O$)	C_{DG}	
0.5	<u>0.994</u>	
1.0	<u>0.993</u>	
1.5	<u>0.994</u>	
2.0	<u>0.994</u>	
3.0	<u>0.983</u>	
4.0	<u>0.991</u>	
Average	<u>0.992</u> ✓	Variation: + <u>0.40</u> - <u>0.91</u>

Calibrator: Rya WillisChecked By: Christy I. Hoover

DRY GAS METER CALIBRATION

Meter Number: 44-1

Calibrator: R. Williams

Date: 8-6-07

$$\text{Calibration Factor } (C_{DG}) = \frac{\text{Wet Test Meter } Vm_{std}}{\text{Dry Gas Meter } Vm_{std}}$$

Run No.: 1 @ 0.50

P_b: 30.00 "Hg

Control Module Vacuum: 5.0 "Hg

Wet Test Meter (No. 2)

Dry Gas Meter

	Time	Meter Reading	Temp.	P _m
End	12:44	5.135 cf	80 °F	-1.0 "H ₂ O
Start	0:00	0.000 cf	80 °F	-1.0 "H ₂ O
Avg.	12:44	5.135 / cf	80 / °F	-1.0 / "H ₂ O

	Meter Reading	Temp. In	Temp. Out	P _m
End	092.888 cf	81 °F	79 °F	0.50 "H ₂ O
Start	087.750 cf	80 °F	78 °F	0.50 "H ₂ O
Avg.	5.138 cf	80 °F		0.50 "H ₂ O

$$\text{Wet Test Meter } Vm_{std} = 17.65 \times 5.135 \left[\frac{30.00 + \frac{-1.0}{13.6}}{80 + 460} \right] \times 1.000 (C_p) = 5.023 \text{ dcsf}$$

$$\text{Dry Gas Meter } Vm_{std} = 17.65 \times 5.138 \left[\frac{30.00 + \frac{0.50}{13.6}}{80 + 460} \right] = 5.041 \text{ dcsf}$$

$$C_{DG} = \frac{5.023}{5.041} =$$

0.996

DRY GAS METER CALIBRATION

Meter Number: 44-1

Calibrator: R. Williams

Date: 8-6-07

$$\text{Calibration Factor } (C_{DG}) = \frac{\text{Wet Test Meter } Vm_{std}}{\text{Dry Gas Meter } Vm_{std}}$$

Run No.: 1 @ 1.00

P_b: 30.00 "Hg

Control Module Vacuum: 5.0 "Hg

Wet Test Meter (No. 2)

Dry Gas Meter

	Time	Meter Reading	Temp.	P _m
End	9:14	5.110 cf	80 °F	-1.50 "H ₂ O
Start	0:00	0.000 cf	80 °F	-1.50 "H ₂ O
Avg.	9:14	5.110 cf	80 °F	-1.50 "H ₂ O

	Meter Reading	Temp. In	Temp. Out	P _m
End	098.327 cf	84 °F	77 °F	1.00 "H ₂ O
Start	093.215 cf	80 °F	77 °F	1.00 "H ₂ O
Avg.	5.112 cf	80 °F	77 °F	1.00 "H ₂ O

$$\text{Wet Test Meter } Vm_{std} = 17.65 \times 5.110 \left[\frac{30.00 + \frac{-1.50}{13.6}}{80 + 460} \right] \times 1.000 (C_p) = 4.992 \text{ dcsf}$$

$$\text{Dry Gas Meter } Vm_{std} = 17.65 \times 5.112 \left[\frac{30.00 + \frac{1.00}{13.6}}{80 + 460} \right] = 5.025 \text{ dcsf}$$

$$C_{DG} = \frac{4.992}{5.025} =$$

0.993 ✓

DRY GAS METER CALIBRATION

Meter Number: 44-1

Calibrator: R. Williams

Date: 8-6-07

$$\text{Calibration Factor } (C_{DG}) = \frac{\text{Wet Test Meter } Vm_{std}}{\text{Dry Gas Meter } Vm_{std}}$$

Run No.: 1 @ 1.50

P_b: 30.00 "Hg

Control Module Vacuum: 5.0 "Hg

Wet Test Meter (No. 2)

Dry Gas Meter

	Time	Meter Reading	Temp.	P _m
End	15:01	10.270 cf	80 °F	-2.00 "H ₂ O
Start	0:00	0.000 cf	80 °F	-2.00 "H ₂ O
Avg.	15:01	10.270 cf	80 °F	-2.00 "H ₂ O

	Meter Reading	Temp. In	Temp. Out	P _m
	108.848 cf	87 °F	78 °F	1.50 "H ₂ O
	098.584 cf	82 °F	78 °F	1.50 "H ₂ O
	10.244 cf	81 °F		1.50 "H ₂ O

$$\text{Wet Test Meter } Vm_{std} = 17.65 \times 10.270 \left[\frac{30.00 + \frac{-2.00}{13.6}}{80 + 460} \right] \times 1.000 (C_p) = 10.021 \text{ dcsf}$$

$$\text{Dry Gas Meter } Vm_{std} = 17.65 \times 10.244 \left[\frac{30.00 + \frac{1.50}{13.6}}{81 + 460} \right] = 10.083 \text{ dcsf}$$

$$C_{DG} = \frac{10.021}{10.083} =$$

0.994 ✓

DRY GAS METER CALIBRATION

Meter Number: 44-1

Calibrator: R. Williams

Date: 8-4-07

$$\text{Calibration Factor } (C_{DG}) = \frac{\text{Wet Test Meter } Vm_{std}}{\text{Dry Gas Meter } Vm_{std}}$$

Run No.: 1 @ 2.00

P_b: 30.00 "Hg

Control Module Vacuum: 5.0 "Hg

Wet Test Meter (No. 2)

Dry Gas Meter

	Time	Meter Reading	Temp.	P _m		Meter Reading	Temp. In	Temp. Out	P _m
End	17:47	10.135 cf	80 °F	-2.50	"H ₂ O	114.237 cf	91 °F	80 °F	2.00 "H ₂ O
Start	0:00	0.000 cf	80 °F	-2.50	"H ₂ O	104.100 cf	83 °F	78 °F	2.00 "H ₂ O
Avg.	17:47 ✓	10.135 ✓ cf	80 ✓ °F	-2.50 ✓	"H ₂ O	10.137 ✓ cf	83 ✓ °F		2.00 "H ₂ O

$$\text{Wet Test Meter } Vm_{std} = 17.65 \times 10.135 \left[\frac{30.00 + \frac{-2.50}{13.6}}{80 + 460} \right] \times 1.000 (C_p) = 9.877 \text{ dcsf} \quad \checkmark$$

$$\text{Dry Gas Meter } Vm_{std} = 17.65 \times 10.137 \left[\frac{30.00 + \frac{2.00}{13.6}}{83 + 460} \right] = 9.933 \text{ dcsf} \quad \checkmark$$

$$C_{DG} = \frac{9.877}{9.933} =$$

0.994 ✓

DRY GAS METER CALIBRATION

Meter Number: 44-1

Calibrator: R. Williams

Date: 8-6-07

$$\text{Calibration Factor } (C_{DG}) = \frac{\text{Wet Test Meter } Vm_{std}}{\text{Dry Gas Meter } Vm_{std}}$$

Run No.: 1 @ 3.00

P_b: 30.00 "Hg

Control Module Vacuum: 5.0 "Hg

Wet Test Meter (No. 2)

Dry Gas Meter

	Time	Meter Reading	Temp.	P _m
End	10:25	10.140	cf 80 °F	-3.70 "H ₂ O
Start	0:00	0.000	cf 80 °F	-3.70 "H ₂ O
Avg.	10:25	10.140	cf 80 °F	-3.70 "H ₂ O

	Meter Reading	Temp. In	Temp. Out	P _m
	124.702	cf 72 °F	79 °F	3.00 "H ₂ O
	119.403	cf 84 °F	74 °F	3.00 "H ₂ O
	10.099	cf 84 °F		3.00 "H ₂ O

$$\text{Wet Test Meter } Vm_{std} = 17.65 \times 10.140 \left[\frac{30.00 + \frac{-3.70}{13.6}}{80 + 460} \right] \times 1.00 \quad (C_p) = \frac{4.853}{4.730} \text{ dcsf}$$

$$\text{Dry Gas Meter } Vm_{std} = 17.65 \times 10.099 \left[\frac{30.00 + \frac{3.00}{13.6}}{84 + 460} \right] = 9.902 \text{ dcsf}$$

$$C_{DG} = \frac{\frac{4.853}{4.730}}{9.902} = \boxed{0.983 \checkmark}$$

DRY GAS METER CALIBRATION

Meter Number: 44-1

Calibrator: R. Williams

Date: 8-6-07

$$\text{Calibration Factor } (C_{DG}) = \frac{\text{Wet Test Meter } Vm_{std}}{\text{Dry Gas Meter } Vm_{std}}$$

Run No.: 1 @ 4.00

P_b: 30.00 "Hg

Control Module Vacuum: 5.0 "Hg

Wet Test Meter (No. 2)

Dry Gas Meter

	Time	Meter Reading	Temp.	P _m
End	4:11	10.280 cf	80 °F	-5.0 "H ₂ O
Start	0:00	0.000 cf	80 °F	-5.0 "H ₂ O
Avg.	4:11	10.280 cf	80 °F	-5.0 "H ₂ O

	Meter Reading	Temp. In	Temp. Out	P _m
	140.314 cf	93 °F	79 °F	4.00 "H ₂ O
	130.092 cf	78.87 °F	75 °F	4.00 "H ₂ O
	10.227 cf	84 °F		4.00 "H ₂ O

$$\text{Wet Test Meter } Vm_{std} = 17.65 \times 10.280 \left[\frac{30.00 + \frac{-5.0}{13.6}}{80 + 460} \right] \times 1.000 (C_p) = 9.957 \text{ dcsf}$$

$$\text{Dry Gas Meter } Vm_{std} = 17.65 \times 10.227 \left[\frac{30.00 + \frac{4.00}{13.6}}{84 + 460} \right] = 10.047 \text{ dcsf}$$

$$C_{DG} = \frac{9.957}{10.047} =$$

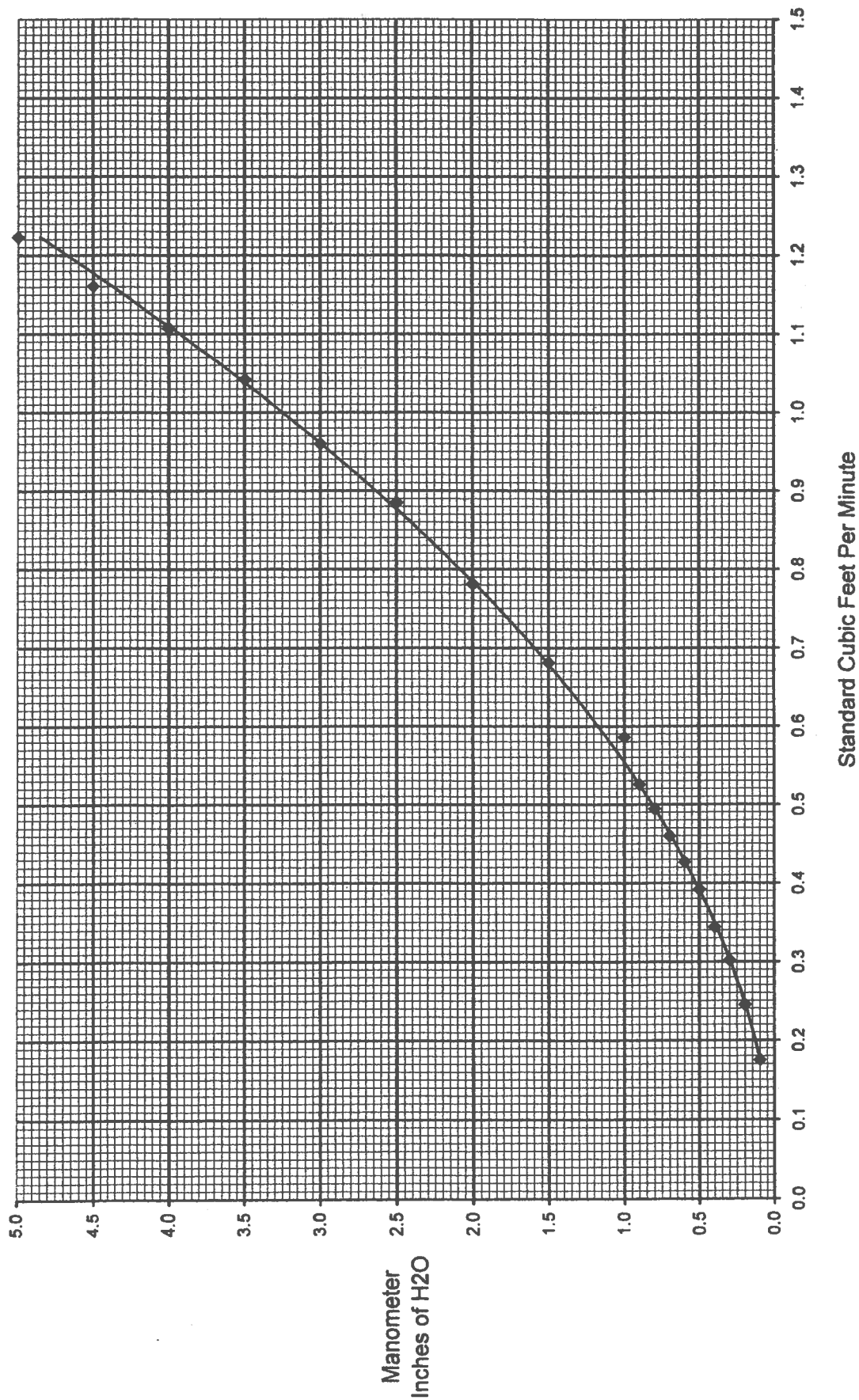
0.991

STACK UNIT ORIFICE NO: 44-1

DATE: 08/06/07

CALIBRATED BY: Ryan Williams

CHECKED BY: Chris Smith



DIGITAL TEMPERATURE INDICATOR NO. 44-1

CALIBRATION DATA

DATE: 8-3-07

<u>Media</u>	<u>Time</u>	Mercury	
		Temperature (°F)	DTI (°F)
Ambient Air	<u>815</u>	<u>78</u>	<u>78</u> /
Ice Bath	<u>817</u>	<u>34</u>	<u>33</u> /
Boiling Water	<u>820</u>	<u>212</u>	<u>212</u> /
Oven	<u>830</u>	<u>251</u>	<u>251</u> /
Oven	<u>840</u>	<u>302</u>	<u>301</u> /
Oven	<u>847</u>	<u>350</u>	<u>351</u> /
Oven	<u>854</u>	<u>375</u>	<u>375</u> /

Meter Adjusted? YES _____ No ✓Reference Thermometer No. H-IVCalibrator R. WallChecked By: Christopher J. L.

VOST Dry Gas Meter Calibration

Dry Gas Meter Number 11Date: 8/4/7Rate l/min.CDG

0.30

1.006

0.50

0.999

1.00

0.991

1.50

0.981

Average

0.994 ✓Variation: +1.21 %
-1.31 %Calibrator: M. BassChecked By: [Signature]

VOST DRY GAS METER CALIBRATION

Meter Number: 11

Date: 8/4/7

Calibrator: M. Bass

$$\text{Calibration Factor (C}_{\text{DG}}) = \frac{\text{Wet Test Meter VM}_{\text{STD}}}{\text{Dry Gas Meter VM}_{\text{STD}}}$$

Run No.: 1 @ 0.3 L/m

P_b: 30.04 "HG

Control Module Vacuum 6.0 "HG

WET TEST METER (No. 5)

DRY GAS METER

	Time	Meter Reading	T _m	P _m	Meter Reading	T _m In	T _m Out	P _m
End	17.5	5.465	79 °F	-0.10 "H ₂ O	8078.541	80 °F	80 °F	0.8 "H ₂ O
Start	0	0.000	79 °F	-0.10 "H ₂ O	8073.101	79 °F	79 °F	0.8 "H ₂ O
	17.5	5.465	79 °F	-0.100 "H ₂ O	5.44	80 °F	80 °F	0.80 "H ₂ O

$$\text{Wet Test Meter VM}_{\text{std}} = 17.65 \times 5.465 \left(\frac{30.04 - 0.100}{79 + 460} + \frac{13.6}{460} \right) \times 1.002 (C_1) = 5.385$$

$$\text{Gas Meter VM}_{\text{std}} = 17.65 \times 5.44 \left(\frac{30.04 + 0.800}{80 + 460} + \frac{13.6}{460} \right) \times 1.002 (C_2) = 5.352$$

$$C_{\text{DG}} = \frac{5.385}{5.352} =$$

1.006 ✓

VOST DRY GAS METER CALIBRATION

Meter Number: 11

Date: 8/4/7

Calibrator: M. Bass

$$\text{Calibration Factor (C}_{\text{DG}}) = \frac{\text{Wet Test Meter VM}_{\text{STD}}}{\text{Dry Gas Meter VM}_{\text{STD}}}$$

Run No.: 1 @ 0.5 L/m

P_b: 30.04 "HG
Control Module Vacuum 5.5 "HG

WET TEST METER (No. 5)

DRY GAS METER

	Meter				Meter			
	Time	Reading	T _m		Reading	In	Out	
End	10.5	5.2767	79 °F	-0.10 "H ₂ O	8072.021	79 °F	79 °F	0.9 "H ₂ O
Start	0	0.000	79 °F	-0.10 "H ₂ O	8066.751	78 °F	78 °F	0.9 "H ₂ O
	10.5	5.267	79 °F	-0.100 "H ₂ O	5.271	79 °F	79 °F	0.90 "H ₂ O

$$\text{Wet Test Meter VM}_{\text{std}} = 17.65 \times 5.267 \left(\frac{30.04 - 0.100}{79 + 460} + \frac{13.6}{460} \right) \times 1.002(C_p) = 5.190 \text{ l}$$

$$\text{Gas Meter VM}_{\text{std}} = 17.65 \times 5.27 \left(\frac{30.04 + 0.900}{79 + 460} + \frac{13.6}{460} \right) \times 1.002(C_p) = 5.195 \text{ l}$$

$$C_{\text{DG}} = \frac{5.190}{5.195} = \boxed{0.999}$$

VOST DRY GAS METER CALIBRATION

Meter Number: 11

Date: 8/4/7

Calibrator: M. Bass

$$\text{Calibration Factor (C}_{\text{DG}}) = \frac{\text{Wet Test Meter VM}_{\text{STD}}}{\text{Dry Gas Meter VM}_{\text{STD}}}$$

Run No.: 1 @ 1.0 L/m

P_b: 30.04 "HG
Control Module Vacuum 5.0 "HG

WET TEST METER (No. 5)

DRY GAS METER

	Time	Meter		T _m	P _m	Meter		T _m		P _m
		Reading				Reading		In	Out	
End	10.5	10.024	179 °F	-0.15 "H ₂ O		8090.151		81 °F	81 °F	1.3 "H ₂ O
Start	0	0.000	179 °F	-0.15 "H ₂ O		8080.011		81 °F	80 °F	1.3 "H ₂ O
	10.5	10.024	179 °F	-0.150 "H ₂ O		10.14		81 °F	81 °F	1.30 "H ₂ O

$$\text{Wet Test Meter VM}_{\text{std}} = 17.65 \times 10.024 \left(\frac{30.04 - 0.150}{79 + 460} + \frac{13.6}{460} \right) \times 1.002(C_p) = 9.877$$

$$\text{Gas Meter VM}_{\text{std}} = 17.65 \times 10.14 \left(\frac{30.04 + 1.300}{81 + 460} + \frac{13.6}{460} \right) \times 1.002(C_p) = 9.969$$

$$C_{\text{DG}} = \frac{9.877}{9.969} =$$

0.991

VOST DRY GAS METER CALIBRATION

Meter Number: 11

Date: 8/4/7

Calibrator: M. Bass

$$\text{Calibration Factor (C}_{\text{DG}}) = \frac{\text{Wet Test Meter VM}_{\text{STD}}}{\text{Dry Gas Meter VM}_{\text{STD}}}$$

Run No.: 10154/m

P_b: 30.04 "HG

Control Module Vacuum 5.5 "HG

WET TEST METER (No. 5)

DRY GAS METER

	Time	Meter Reading	T _m	P _m	Meter Reading	T _m In	T _m Out	P _m
End	7	10.562	79 °F	-0.15 "H ₂ O	8102.881	81 °F	81 °F	2.5 "H ₂ O
Start	0	0.000	79 °F	-0.15 "H ₂ O	8092.111	81 °F	81 °F	2.0 "H ₂ O
	7	10.562	79 °F	-0.15 "H ₂ O	10.771	81 °F	81 °F	2.00 "H ₂ O

$$\text{Wet Test Meter VM}_{\text{std}} = 17.65 \times 10.562 \left(\frac{30.04 - 0.15}{79 + 460} + \frac{13.6}{460} \right) \times 1.0024(C_1) = 10.407 \text{ l}$$

$$\text{Gas Meter VM}_{\text{std}} = 17.65 \times 10.77 \left(\frac{30.04 + 2.00}{81 + 460} + \frac{13.6}{460} \right) \times 1.0024(C_1) = 10.607 \text{ l}$$

$$C_{\text{DG}} = \frac{10.407}{10.607} =$$

0.981

DIGITAL TEMPERATURE INDICATOR NO: 11

CALIBRATION DATA

DATE: 8/4/7

<u>Media</u>	<u>Time</u>	Mercury	
		Temperature (°F)	DTI (°F)
Ambient Air	<u>1270</u>	<u>80</u>	<u>80</u>
Ice Bath	<u>1234</u>	<u>34</u>	<u>34</u>
Boiling Water	<u>1238</u>	<u>212</u>	<u>212</u>
Oven	<u> </u>	<u> </u>	<u> </u>
Oven	<u> </u>	<u> </u>	<u> </u>
Oven	<u> </u>	<u> </u>	<u> </u>
Oven	<u> </u>	<u> </u>	<u> </u>

Meter Adjusted? YES No ✓Reference Thermometer No. H-VCalibrator M. GassChecked By:

BAROMETER CALIBRATION

Barometer No. 44-2

Date: 4/25/07

Time: 0850

Barometric Pressure @ Hobby Airport @ 45 ft.

= 29.91

- 0.045

Absolute Pressure @ Hobby Airport

= 29.865

+ 0.024

Absolute Pressure @ METCO @ 21 ft.

= 29.889

Barometer Reading

= 29.89

Variation

= 0.00

Barometer Adjusted?

Yes No X

Barometer Reading (after adjustment)

= -

Ben Sahil
Signature of Calibrator



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

Dual-Analyzed Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11851
Project No.: 04-52415-003

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALM035137 Certification Date: 08Mar2007 Exp. Date: 07Mar2009
Cylinder Pressure***: 1991 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
NITRIC OXIDE	44.5 PPM	+/- 1%	Direct NIST and NMI
NITROGEN - OXYGEN FREE	BALANCE		
TOTAL OXIDES OF NITROGEN	44.5 PPM		Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1683	15Aug2009	AAL070665	49.82 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#
FTIR//1602651

DATE LAST CALIBRATED
27Feb2007

ANALYTICAL PRINCIPLE
FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)
First Triad Analysis Second Triad Analysis Calibration Curve

NITRIC OXIDE

Date: 01Mar2007	Response Unit: PPM
Z1 = 0.00224	R1 = 50.02994 T1 = 44.48326
R2 = 50.10500	Z2 = 0.05554 T2 = 44.52593
Z3 = 0.05924	T3 = 45.10644 R3 = 50.12430
Avg. Concentration:	44.46 PPM

Date: 08Mar2007	Response Unit: PPM
Z1 = -0.15681	R1 = 49.85123 T1 = 44.42013
R2 = 49.85643	Z2 = -0.13049 T2 = 44.53143
Z3 = -0.10837	T3 = 44.56849 R3 = 49.95522
Avg. Concentration:	44.46 PPM

Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴	
r = 9.99985E-1	
Constants:	A = 0.00000E+0
B = 5.25998E-1	C = 5.90000E-5
D = 0.00000E+0	E = 0.00000E+0

APPROVED BY:

LaVail Washington

C-19

SUPERVISOR:

TOM NGUYEN



Scott Specialty Gases

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Phone: 281-474-5800

Fax: 281-474-5857

Dual-Analyzed Calibration Standard

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11851

Project No.: 04-52415-004

Customer

FOLIO# 0815ONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM001222 Certification Date: 12Mar2007 Exp. Date: 11Mar2009
Cylinder Pressure***: 2015 PSIG

ANALYTICAL

ACCURACY**

+/- 1%

TRACEABILITY

Direct NIST and NMI

COMPONENT

NITRIC OXIDE

NITROGEN - OXYGEN FREE

CERTIFIED CONCENTRATION (Moles)

93.6 PPM

BALANCE

TOTAL OXIDES OF NITROGEN

93.6 PPM

Reference Value Only

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1684	01Jun2009	AAL070662	98.40 PPM	NITRIC OXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

FTIR//1602651

DATE LAST CALIBRATED

27Feb2007

ANALYTICAL PRINCIPLE

FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

NITRIC OXIDE

Date: 05Mar2007 Response Unit: PPM
Z1 = -0.10864 R1 = 98.79787 T1 = 94.00968
R2 = 98.82276 Z2 = 0.01118 T2 = 94.10664
Z3 = 0.14887 T3 = 94.12026 R3 = 98.93663
Avg. Concentration: 93.65 PPM

Date: 12Mar2007 Response Unit: PPM
Z1 = -0.04292 R1 = 98.75526 T1 = 93.81463
R2 = 98.79322 Z2 = -0.02097 T2 = 93.89314
Z3 = 0.00876 T3 = 93.94102 R3 = 98.86146
Avg. Concentration: 93.50 PPM

Concentration = A + Bx + Cx² + Dx³ + Ex⁴
r = 9.99994E-1
Constants: A = 0.00000E+0
B = 9.88267E-1 C = 1.96000E-4
D = 0.00000E+0 E = 0.00000E+0

APPROVED BY:

LARA NASH

C-20



Scott Specialty Gases

9810 BAY AREA BLVD,PASADENA,TX 77507

Dual-Analyzed Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA,TX 77507

P.O. No.: 11628
Project No.: 04-47453-001

Customer

METCO ENVIRONMENTAL

3226 COMMANDER DR
CARROLLTON TX 75006

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: ALMX067916 Certification Date: 14Sep2006 Exp. Date: 13Sep2008
Cylinder Pressure***: 2015 PSIG

COMPONENT

SULFUR DIOXIDE *
NITROGEN

CERTIFIED CONCENTRATION (Moles)

41.7 PPM
BALANCE

ANALYTICAL

ACCURACY**
+/- 1%

TRACEABILITY

Direct NIST and NMI

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Prot

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1693	15Aug2009	ALM060767	50.79 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

FTIR//1602651

DATE LAST CALIBRATED

25Aug2006

ANALYTICAL PRINCIPLE

FTIR

ANALYZER READINGS

First Triad Analysis

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

Second Triad Analysis

Calibration Curve

SULFUR DIOXIDE *

Date: 06Sep2006 Response Unit: PPM
Z1 = 0.00650 R1 = 50.66982 T1 = 41.48558
R2 = 50.68285 Z2 = 0.01046 T2 = 41.55101
Z3 = 0.02153 T3 = 41.56378 R3 = 50.73442
Avg. Concentration: 41.61 PPM

Date: 14Sep2006 Response Unit: PPM
Z1 = -0.01751 R1 = 50.49213 T1 = 41.50327
R2 = 50.54832 Z2 = 0.00516 T2 = 41.52610
Z3 = 0.02228 T3 = 41.56072 R3 = 50.57292
Avg. Concentration: 41.74 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99995E-1
Constants: A = 0.00000E+0
B = 1.00018E+0 C = -8.00000E-5
D = 0.00000E+0 E = 0.00000E+0

Special Notes:

FOLIO ITEM 1015

APPROVED BY:

Lara Nash

C-21



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

Dual-Analyzed Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11651

Project No.: 04-48667-004

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM003931 Certification Date: 11Oct2006 Exp. Date: 10Oct2008
Cylinder Pressure***: 765 PSIG

COMPONENT

SULFUR DIOXIDE *
NITROGEN

CERTIFIED CONCENTRATION (Moles)

84.5 PPM
BALANCE

ANALYTICAL

ACCURACY**
+/- 1%

TRACEABILITY

Direct NIST and NMI

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

* This Protocol has been certified using corrected NIST SO2 standard values, per EPA guidance dated 7/24/96 and will not correlate with uncorrected Prot

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1694	01Sep2007	ALM015595	98.10 PPM	SULFUR DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

FTIR/1602651

DATE LAST CALIBRATED

29Sep2006

ANALYTICAL PRINCIPLE

FTIR

ANALYZER READINGS

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

SULFUR DIOXIDE *

Date: 15Sep2004 Response Unit: PPM
Z1=0.00000 R1=0.00000 T1=0.00000
R2=0.00000 Z2=0.00000 T2=0.00000
Z3=0.00000 T3=0.00000 R3=0.00000
Avg. Concentration: 84.10 PPM

Date: 11Oct2006 Response Unit: PPM
Z1=-0.00828 R1=96.64872 T1=83.73190
R2=96.82528 Z2=0.01738 T2=83.85848
Z3=0.03620 T3=83.89366 R3=96.90284
Avg. Concentration: 84.96 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99998E-1
Constants: A = 0.00000E+0
B = 1.00441E+0 C = -8.00000E-5
D = 0.00000E+0 E = 0.00000E+0

Special Notes:

RE-CERT

APPROVED BY:

Lara Nash

C-22



CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11701
Project No.: 04-49689-002

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM005090 Certification Date: 28Nov2006 Exp. Date: 27Nov2009
Cylinder Pressure***: 2014 PSIG

COMPONENT

CARBON MONOXIDE
NITROGEN

CERTIFIED CONCENTRATION (Moles)

464 PPM
BALANCE

ANALYTICAL

ACCURACY**

+/- 1%

TRACEABILITY

Direct NIST and NMI

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1680	01Nov2008	ALM048033	498.0 PPM	CARBON MONOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#
FTIR/1602651

DATE LAST CALIBRATED
02Nov2006

ANALYTICAL PRINCIPLE
FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON MONOXIDE

Date: 21Nov2006 Response Unit: PPM
Z1 = -0.02896 R1 = 499.1105 T1 = 465.1018
R2 = 499.6015 Z2 = 0.19994 T2 = 465.2588
Z3 = 0.30147 T3 = 465.6823 R3 = 500.3037
Avg. Concentration: 463.8 PPM

Date: 28Nov2006 Response Unit: PPM
Z1 = -0.08745 R1 = 498.4862 T1 = 464.2624
R2 = 498.5814 Z2 = 0.12281 T2 = 464.3405
Z3 = 0.26069 T3 = 464.6972 R3 = 498.9817
Avg. Concentration: 463.8 PPM

Concentration = A + 8x + Cx2 + Dx3 + Ex4
r = 9.99996E-1
Constants: A = 0.00000E+0
B = 5.19506E-1 C = 5.60000E-5
D = 0.00000E+0 E = 0.00000E+0

Special Notes:

0225

APPROVED BY:

Lara Nash

C-23



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

RATA CLASS

Dual-Analyzed Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11465
Project No.: 04-43989-003

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BAL2535 Certification Date: 09May2006 Exp. Date: 08May2009
Cylinder Pressure***: 1888 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
CARBON MONOXIDE	921 PPM	+/- 1%	Direct NIST and NMI
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1681	01Mar2008	ALM036246	1013. PPM	CARBON MONOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR//1602651	04May2006	FTIR

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON MONOXIDE

Date: 29Apr2006 Response Unit: PPM
Z1 = -0.01174 R1 = 1012.090 T1 = 920.6451
R2 = 1012.274 Z2 = 0.30387 T2 = 920.9011
Z3 = 0.37567 T3 = 921.1992 R3 = 1012.351
Avg. Concentration: 921.6 PPM

Date: 09May2006 Response Unit: PPM
Z1 = -0.01669 R1 = 1010.906 T1 = 918.3740
R2 = 1011.312 Z2 = 0.37294 T2 = 919.8924
Z3 = 0.49380 T3 = 920.1051 R3 = 1011.616
Avg. Concentration: 921.0 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 9.99993E-1
Constants: A = 0.00000E+0
B = 3.67206E-1 C = 5.40000E-5
D = 0.00000E+0 E = 0.00000E+0

APPROVED BY:

Lara Nash

C-24



Scott Specialty Gases

1290 COMBERMERE STREET, TROY, MI 48083

Dual-Analyzed Calibration Standard

Phone: 248-589-2950

Fax: 248-589-2134

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 11379

Project No.: 05-40652-004

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM004041 Certification Date: 07Mar2006 Exp. Date: 06Mar2009
Cylinder Pressure***: 1950 PSIG

COMPONENT

PROPANE
NITROGEN

CERTIFIED CONCENTRATION (Moles)

29.87 PPM
BALANCE

ANALYTICAL

ACCURACY**

+/- 1%

TRACEABILITY

Direct NIST and NMI

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1667	04Jul2008	ALM019225	49.80 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

VARIAN/3600/0455

DATE LAST CALIBRATED

21Feb2006

ANALYTICAL PRINCIPLE

FLAME IONIZATION

ANALYZER READINGS

(Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Date: 07Mar2006 Response Unit: AREA

Z1=0.00000	R1=52368.00	T1=31290.00
R2=52441.00	Z2=0.00000	T2=31492.00
Z3=0.00000	T3=31451.00	R3=52541.00
Avg. Concentration: 29.87 PPM		



Concentration = A + Bx + Cx2 + Dx3 + Ex4

r = 0.999997

Constants: A = 0.056131

B = 0.000975 C = 0

D = 0 E = 0

APPROVED BY:

HILARY THATCHER

C-25



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

Dual-Analyzed Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11465

Project No.: 04-43989-009

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BAL4862 Certification Date: 10May2006 Exp. Date: 10May2009
Cylinder Pressure***: 1950 PSIG

COMPONENT

PROPANE
NITROGEN

CERTIFIED CONCENTRATION (Moles)

47 PPM
BALANCE

ANALYTICAL

ACCURACY**

+/- 1%

TRACEABILITY

Direct NIST and NMI

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1667	04Jul2008	ALMO28376	49.80 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

HP-Y/HP 6890/US00000974

DATE LAST CALIBRATED

27Apr2006

ANALYTICAL PRINCIPLE

GAS CHROMATOGRAPHY

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Date: 10May2006

Z1 = 141710.0 R1 = 745333.0 T1 = 711783.0

R2 = 747510.0 Z2 = 141884.0 T2 = 714235.0

Z3 = 142241.0 T3 = 712454.0 R3 = 745025.0

Avg. Concentration: 47.00 PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4

r = 0.999989

Constants: A = -0.0573

B = 0.0000658 C =

D = E =

Special Notes:

FOLIO ITEM: 0.925

APPROVED BY:

CRISSA MARTIN

C-26

SUPERVISOR:

SUSAN BRANDON

RATA CLASS



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

Phone: 281-474-5800

Fax: 281-474-5857

Dual-Analyzed Calibration Standard

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1290 COMBERMERE STREET
TROY, MI 48083

P.O. No.: 11052
Project No.: 04-32825-005

Customer

METCO ENVIRONMENTAL
SCOT JACKSON
P O BOX 598
ADDISON TX 75001

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: BLM000517

Certification Date: 14Mar2005

Exp. Date: 13Mar2008

Cylinder Pressure***: 1900 PSIG

COMPONENT

PROPANE
NITROGEN

CERTIFIED CONCENTRATION (Moles)

84.62 PPM
BALANCE

ANALYTICAL

ACCURACY**

+/- 1%

TRACEABILITY

Direct NIST and NMI

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.

NTRM 1668

EXPIRATION DATE

01Aug2005

CYLINDER NUMBER

ALM008717

CONCENTRATION

99.50 PPM

COMPONENT

PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

VARIAN/3600/0455

DATE LAST CALIBRATED

14Mar2005

ANALYTICAL PRINCIPLE

FLAME IONIZATION

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Date: 14Mar2005 Response Unit: HGHT
Z1 = 0.00000 R1 = 759762.0 T1 = 643595.0
R2 = 762171.0 Z2 = 0.00000 T2 = 644008.0
Z3 = 0.00000 T3 = 644047.0 R3 = 761893.0
Avg. Concentration: 84.62 PPM

Concentration = A + Bx + Cx² + Dx³ + Ex⁴

r = 0.999955

Constants: A = 0.432368

B = 0.000130 C = 0.00

D = 0.00 E = 0.00

APPROVED BY: April Ash C-27



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

Dual-Analyzed Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
9810 BAY AREA BLVD
PASADENA, TX 77507

P.O. No.: 11909

Project No.: 04-53520-003

Customer

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY TX 77573

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure G-1; September, 1997.

Cylinder Number: AAL16103 Certification Date: 19Apr2007 Exp. Date: 19Apr2010
Cylinder Pressure***: 1950 PSIG

COMPONENT

CARBON DIOXIDE
OXYGEN
NITROGEN

CERTIFIED CONCENTRATION (Moles)

12.1 %
12.2 %
BALANCE

ANALYTICAL

ACCURACY**

+/- 1%
+/- 1%

TRACEABILITY

Direct NIST and NMi
Direct NIST and NMi

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol Procedure G1, September 1997.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1675	04Jul2008	K001494	13.93 %	CARBON DIOXIDE
NTRM 2350	01May2009	K003567	23.48 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#

MTIA/M200/171109
SERVOMEX/MODEL 244A/701/716

DATE LAST CALIBRATED

27Mar2007
23Mar2007

ANALYTICAL PRINCIPLE

GAS CHROMATOGRAPHY
PARAMAGNETIC

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

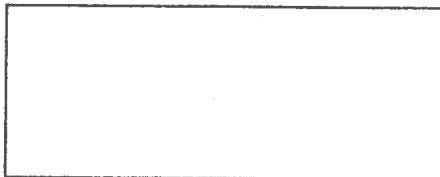
First Triad Analysis

Second Triad Analysis

Calibration Curve

CARBON DIOXIDE

Date: 19Apr2007 Response Unit: AREA
Z1 = 3.00000 R1 = 1065526. T1 = 927212.0
R2 = 1067773. Z2 = 260.0000 T2 = 927081.0
Z3 = 210.0000 T3 = 926833.0 R3 = 1067476.
Avg. Concentration: 12.12 %



Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999997
Constants: A = -0.02423971
B = .0000131416 C =
D = E =

OXYGEN

Date: 20Apr2007 Response Unit: VOLTS
Z1 = 0.00000 R1 = 0.98500 T1 = 5126.000
R2 = 0.98500 Z2 = 0.00000 T2 = 5127.000
Z3 = 0.00000 T3 = 5127.000 R3 = 0.98490
Avg. Concentration: 12.22 %



Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999998
Constants: A = .004395935
B = 23.82394065 C =
D = E =

APPROVED BY:

DAVID KELLY

C-28



Scott Specialty Gases

Shipped
From:

9810 BAY AREA BLVD
PASADENA
Phone: 281-474-5800

TX 77507

Fax: 281-474-5857

C E R T I F I C A T E O F A N A L Y S I S

METCO ENVIRONMENTAL

1100 GULF FREEWAY STE 100
CALDER RIDGE BUS. PARK
LEAGUE CITY

TX 77573

PROJECT #: 04-55550-001

PO#: 12016

ITEM #: 0401031

AL

DATE: 09Jul2007

CYLINDER #: AAL14753

FILL PRESSURE: 02000 PSIG

PURE MATERIAL: AIR

CAS# 132259-10-0

GRADE: CEM ZERO

PURITY: -

IMPURITY

MAXIMUM CONCENTRATIONS

CO	0.5 PPM
CO2	1 PPM
THC (CH4)	0.1 PPM
H2O	5 PPM
O2	20 TO 21%

APPENDIX D

Field Testing Data

Job Number 07-338 ✓
 Job Name Valero ✓
 Run Number Z ✓
 Unit B-Traffic SPV ✓
 Date 8/30/07 ✓
 Operator Bass/Cooper/Williams ✓
 Sample box No. 44-1 Meter Box No. 44-1 ✓

Field Data
 Ambient Temp. °F 95
 Assumed Moisture % —
 Probe Length 10'
 C Factor — to reference.
 Initial Leak @ 15.0 "Hg = 0.000 cfm
 Final Leak @ 5.0 "Hg = 0.015 cfm

Read and record at the start of each test point.
 Purge to: —
 Purge time: —
 Pilot Leak Check Initial ✓ Final ✓

Point	Clock Time	Dry Gas Meter, CF	ΔP _s		P _m			T _s			T _m			T _{Reverse Point}	Remarks
			"Pilot" "H ₂ O"	Office ΔH "H ₂ O" Desired	Office ΔH "H ₂ O" Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Probe Temp °F	Oven Temp °F	Effluent Temp °F	Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet			
A3	1159	312.972	0.020	1.10	1.10	4.0	1330	—	234	62	81	81	8	CST	
3	1204	315.99	0.020	1.10	1.10	4.0	1334	—	247	54	82	81	7		
3	1209	319.11	0.020	1.10	1.10	4.0	1335	—	245	53	84	81	6		
3	1214	322.14	0.020	1.10	1.10	4.0	1340	—	253	53	86	81	5		
A2	1219	324.93	0.020	1.10	1.10	4.0	1345	—	247	53	87	81	4		
2	1224	327.95	0.020	1.10	1.10	4.0	1351	—	249	54	89	81	3		
2	1229	330.85	0.020	1.10	1.10	4.0	1352	—	249	55	90	82	2		
2	1234	334.16	0.020	1.10	1.10	4.0	1324	—	243	55	92	82	1		
A1	1239	337.03	—	1.10	1.10	4.0	—	—	247	59	92	82	—		
1	1244	339.90	0.020	1.10	1.10	4.0	1314	—	243	58	93	83	8		
1	1249	342.82	0.020	1.10	1.10	4.0	1334	—	246	60	94	83	7		
1	1254	345.71	0.020	1.10	1.10	4.0	1340	—	251	60	94	83	6		
END	1259	348.382	0.020	—	—	—	1347	—	—	—	—	—	5		
			0.020				1354						4		
			0.015				1356						3		
			0.015				1340						2		
			0.030				1309						1		
			—				—						END		

Pilot Tube No. 44-12-1 ✓
 Baro. Press. P_b 30.06 "Hg
 Probe Tip Dia. D_n 7.0 ✓ % CO 0.0 ✓
 % CO₂ 6.0 ✓ % N₂ 87.0 ✓
 Area Stack A_s 10387 in²
 Pitot Tube Calibration Factor C_p 0.787 ✓
 Volume Collected V_m 35.127 ✓ ft³
 Water Collected V_w 76.3 ✓ ml
 Time of Test T_t 60 ✓ min.
 Stack Pressure P_s -0.5 ✓ "H₂O
 Barometer No. 44-2 ✓ Probe Tip No. —
 Total Volume of Leak Checks After Start: — ft³
 V_m = Dry Gas Meter Calibration Factor 0.992 ✓ X 35.127
 (Dry Gas Meter Reading — ft³ - (T_t — min. X Leak Rate — cfm))

Impinger Box No. 44-1

Impinger 1	Final Weight	<u>821.9</u>
	Initial Weight	<u>268.1</u>
	Increase	

Impinger 2	Final Weight	771.5
	Initial Weight	761.5
	Increase	

Impinger 3	Final Weight	<u>671.4</u>
	Initial Weight	<u>667.4</u>
	Increase	

Impinger 4	Final Weight	<u>861.2</u>
	Initial Weight	<u>852.7</u>
	Increase	

Impinger 5 Final Weight _____
 Initial Weight _____
 Increase _____

Impinger 6 Final Weight _____
 Initial Weight _____
 Increase _____

Impinger 7 Final Weight _____
 Initial Weight _____
 Increase _____

Water Weight Gain

Balance QA

Impinger 1 53.8

Impinger 2 10.0

Impinger 3 2/10

Impinger 4 8.5

Impinger 5 _____

Impinger 6 _____

Impinger 7 _____

$$\text{Total } \underline{76.3^{\circ}} = V_{\text{c}}$$
$$\begin{array}{rcl} P_b & = & 30.06 \checkmark \\ V_m & = & 35.127 \checkmark \\ V_w & = & 74.3 \checkmark \\ P_m & = & 1.100 \checkmark \\ \text{Avg } \Delta P & = & 0.020 \checkmark \end{array}$$
$$\begin{aligned} \text{Avg} \sqrt{\Delta P} &= \frac{0.141 \text{ V}}{0.787 \text{ V}} \\ C_p &= \frac{-0.5 \text{ V}}{85 \text{ V}} \\ T_m &= \frac{1338 \text{ V}}{1338 \text{ V}} \end{aligned}$$

$\%CO_2 = 7.0 \checkmark$
 $\%O_2 = 6.0 \checkmark$
 $\%CO = 0.0 \checkmark$
 $\%N_2 = 87.0 \checkmark$
 $A_s = 10387 \checkmark$
 $D_n = -$
 $T. = 60 \checkmark$

$$\begin{array}{r} 30.02 \checkmark \\ \hline 545 \checkmark \\ \hline 1798 \checkmark \end{array} \begin{array}{l} ^\circ\text{Hg} \\ ^\circ\text{R} \\ ^\circ\text{R} \end{array}$$

Moisture Content: $\%M = \frac{9.56}{\checkmark}$ $M_d = \frac{0.4050}{\checkmark}$ $MW_d = \frac{79.360}{\checkmark}$ $MW = \frac{78.28}{\checkmark}$

$$Vm_{std} = 17.65 \text{ Vm} \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = 17.65 \times 35.127 \left[\frac{30.06 + \frac{1.100}{13.6}}{85 + 460} \right] = \frac{34.288 \checkmark}{0.571 \checkmark} \frac{\text{slft}^3}{\text{scfm}}$$

$$V_{w_{\text{gas}}} = 0.0472 \times V_w = 0.0472 \times \frac{76.3}{1} = 3.601 \checkmark \text{ sft}^3$$

$$\% \text{ Moisture} = \frac{V_{w_{\text{gas}}}}{V_{m_{\text{td}}} + V_{w_{\text{gas}}}} \times 100 = \frac{3.601}{34.288 + 3.601} \times 100 = 9.50 \checkmark \%$$

$$V_s = 5123.8 \times \frac{0.787}{\sqrt{\frac{1798}{30.02 \times 78.78}}} \times \frac{0.141}{1} = 827 \text{ } \checkmark \text{ } \text{rpm}$$

ACFM: 59.684 ✓ 5

SCFM: 15,945^v

%EA: 35.2 ✓

$$\%I = \frac{1,039}{\sqrt{\frac{x}{x} \cdot \frac{x}{x} \cdot \frac{x}{x}})} = \underline{\hspace{2cm}} \%$$

Job Number 07-338 ☒ Ambient Temp. °F 95
 Job Name Valero ☒ Assumed Moisture % -
 Run Number 3 ☒ Probe Length 10'
 Unit B-Train SRV Tail Gas Stack
 Date 8/30/07
 Operator Davis / Cooper / Williams
 Sample box No. 45-3 Meter Box No. 44-1
 Read and record at the start of each test point.
 Purge to: -
 Purge time: -
 Pitot Leak Check Initial ☒ Final ☒

Point	Clock Time	Dry Gas Meter, CF	ΔP _s		P _m			T _s			Probe Temp °F	Oven Temp °F	Effluent Temp °F	T _m		Remarks
			"Pitot" "H ₂ O"	Orifice ΔH "H ₂ O" Desired	Orifice ΔH "H ₂ O" Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	Pitot Leak Check Initial	Pitot Leak Check Final	Final				Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	
A3	1327	349.080	0.020	1.10	1.10	4.5	1312	-	-	-	-	255	87	86	85	A8 CST
3	1332	352.16	0.015	1.10	1.10	4.5	1350	-	-	-	-	255	71	88	85	7
3	1337	355.74	0.015	1.10	1.10	4.5	1378	-	-	-	-	240	58	90	85	6
3	1342	358.02	0.015	1.10	1.10	4.5	1389	-	-	-	-	232	57	91	85	5
2	1347	360.47	0.015	1.10	1.10	4.5	1394	-	-	-	-	240	56	92	86	4
2	1352	363.96	0.015	1.10	1.10	4.5	1395	-	-	-	-	234	56	93	86	3
2	1357	367.00	0.015	1.10	1.10	4.5	1389	-	-	-	-	235	55	95	86	2
2	1402	369.92	0.010	1.10	1.10	4.5	1321	-	-	-	-	239	57	96	86	1
1	1407	372.87	-	1.10	1.10	4.5	-	-	-	-	-	243	57	96	86	-
1	1412	375.77	0.010	1.10	1.10	4.5	1314	-	-	-	-	240	57	96	86	8
1	1417	378.73	0.015	1.10	1.10	4.5	1345	-	-	-	-	242	57	96	87	7
1	1422	381.80	0.015	1.10	1.10	4.5	1372	-	-	-	-	235	59	97	87	6
END	1427	384.673	0.015	-	-	-	1381	-	-	-	-	-	-	-	-	5
			0.015				1381									4
			0.015				1378									3
			0.010				1375									2
			0.005				1301									1
			-				-									End

Pitot Tube Calibration Factor C_p 0.737 ☒
 Volume Collected V_m 35.368 ☒ ft³
 Water Collected V_w 90.4 ☒ ml
 Time of Test T_i 60 ☒ min.
 Stack Pressure P_s -0.5 ☒ "H₂O
 Barometer No. 44-2 ☒ Probe Tip No. - ☒ ft
 Total Volume of Leak Checks After Start: - ft³
 V_m = Dry Gas Meter Calibration Factor 0.992 ☒ X 35.368
 {Dry Gas Meter Reading - ft³ - (T_i - - min. X Leak Rate - cfm)}

Impinger Box No. 45-3

Impinger 1	Final Weight	<u>841.0</u>
	Initial Weight	<u>773.4</u>
	Increase	
Impinger 2	Final Weight	<u>781.8</u>
	Initial Weight	<u>769.4</u>
	Increase	
Impinger 3	Final Weight	<u>673.2</u>
	Initial Weight	<u>670.7</u>
	Increase	
Impinger 4	Final Weight	<u>940.3</u>
	Initial Weight	<u>952.4</u>
	Increase	
Impinger 5	Final Weight	
	Initial Weight	
	Increase	
Impinger 6	Final Weight	
	Initial Weight	
	Increase	
Impinger 7	Final Weight	
	Initial Weight	
	Increase	

Water Weight Gain

Balance QA _____

Impinger 1	<u>47.4</u>
Impinger 2	<u>12.4</u>
Impinger 3	<u>2.5</u>
Impinger 4	<u>7.9</u>
Impinger 5	
Impinger 6	
Impinger 7	
Total	<u>90.4</u> ✓ = V_w

$$V_w =$$

$$g SO_2 =$$

$$V_w =$$

$$P_b = \frac{30.04}{\checkmark}$$

$$V_m = \frac{35.308}{\checkmark}$$

$$V_w = \frac{90.4}{\checkmark}$$

$$P_m = \frac{1.100}{\checkmark}$$

$$Avg \Delta P = \frac{0.014}{\checkmark}$$

$$Avg \sqrt{\Delta P} = \frac{0.116}{\checkmark}$$

$$C_p = \frac{0.787}{\checkmark}$$

$$P_s = \frac{-0.5}{\checkmark} \text{ } ^\circ H_2O$$

$$T_m = \frac{89}{\checkmark} \text{ } ^\circ F$$

$$T_s = \frac{1341}{\checkmark} \text{ } ^\circ F$$

$$\%CO_2 = \frac{8.0}{\checkmark}$$

$$\%O_2 = \frac{4.25}{\checkmark}$$

$$\%CO = \frac{0.0}{\checkmark}$$

$$\%N_2 = \frac{87.00}{\checkmark}$$

$$A_s = \frac{1.0387}{\checkmark}$$

$$D_s =$$

$$T_s = \frac{60}{\checkmark}$$

Moisture Content: $\%M = \frac{11.09}{\checkmark}$ $M_s = \frac{0.8891}{\checkmark}$ $MW_s = \frac{29.480}{\checkmark}$ $MW = \frac{28.21}{\checkmark}$

$$Vm_{std} = 17.65 Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = 17.65 \times 35.308 \times \left[\frac{30.04 + \frac{1.100}{13.6}}{89 + 460} \right] = \frac{34.191}{0.530} \frac{\checkmark}{\text{scfm}} \text{ } ^\circ \text{st}^3$$

$$Vw_{gas} = 0.0472 \times Vw = 0.0472 \times \frac{90.4}{\checkmark} = \frac{4.267}{\checkmark} \text{ } ^\circ \text{st}^3$$

$$\% \text{ Moisture} = \frac{Vw_{gas}}{Vm_{std} + Vw_{gas}} \times 100 = \frac{4.267}{34.191 + 4.267} \times 100 = \frac{11.09}{\checkmark} \%$$

$$V_s = 5123.8 \times \frac{0.787}{\checkmark} \times \frac{1821}{30.00 \times 28.21} \times \frac{0.114}{\checkmark} = \frac{484}{\checkmark} \text{ } ^\circ \text{tpm}$$

$$ACFM: \frac{219.443}{\checkmark}$$

$$SCFM: \frac{12.837}{\checkmark}$$

$$\%EA: \frac{27.7}{\checkmark}$$

$$\%I = \frac{1.039 \times \dots \times \dots \times \dots \times \dots}{\dots} = \dots \%$$

Job Number 07-33 ✓
 Job Name Valero ✓
 Run Number 4 ✓
 Unit Bitrain SRV Tail Gas Stack ✓
 Date 8/30/07 ✓
 Operator Bass/cooper/williams ✓
 Sample box No. 45-7 Meter Box No. 44-1 ✓
 Ambient Temp. °F 98
 Assumed Moisture % —
 Probe Length 10'
 C Factor — to reference.
 Initial Leak @ 15.0 "Hg = 0.000 cfm
 Final Leak @ 5.0 "Hg = 0.000 cfm
 Read and record at the start of each test point.
 Purge to: —
 Purge time: —
 Pitot Leak Check Initial ✓ Final ✓

Point	Clock Time	Dry Gas Meter, CF	AP _s		P _m		T _s		Probe Temp °F	Oven Temp °F	Effluent Temp °F	T _m		Remarks
			"Pitot" "H ₂ O	Office ΔH "H ₂ O Desired	Office ΔH "H ₂ O Actual	Pump Vacuum "Hg Gauge	Stack Temp °F	—				Dry Gas Temp °F Inlet	Dry Gas Temp °F Outlet	
A 3	1455	384.981	0.010	1.10	1.10	4.5	1308	—	—	257	68	90	88	AB CST
3	1500	387.37	0.015	1.10	1.10	4.5	1346	—	—	250	65	90	88	7
3	1505	390.73	0.015	1.10	1.10	4.5	1371	—	—	258	64	91	89	6
3	1510	393.68	0.015	1.10	1.10	4.5	1370	—	—	258	66	92	89	5
2	1515	396.89	0.015	1.10	1.10	4.5	1368	—	—	263	63	94	89	4
2	1520	399.59	0.015	1.10	1.10	4.5	1364	—	—	259	65	96	89	3
2	1525	402.54	0.015	1.10	1.10	4.5	1343	—	—	257	64	96	88	2
2	1530	405.48	0.010	1.10	1.10	4.5	1307	—	—	263	64	97	88	1
1	1535	408.27	—	1.10	1.10	4.5	—	—	—	266	64	98	89	—
1	1540	411.37	0.005	1.10	1.10	4.5	1318	—	—	257	64	98	89	188
1	1545	414.30	0.010	1.10	1.10	4.5	1347	—	—	249	63	99	90	7
1	1550	417.24	0.015	1.10	1.10	4.5	1375	—	—	250	66	100	90	6
END	1555	420.163	0.015	—	—	—	1375	—	—	—	—	—	—	3
			0.015				1377							4
			0.015				1362							3
			0.010				1351							2
			0.010				1312							1
							—							END

Pitot Tube Calibration Factor C_p 0.787 ✓
 Volume Collected V_m 34.761 ✓ ft³
 Water Collected V_w 87.2 ✓ ml
 Time of Test T_i 60 ✓ min.
 Stack Pressure P_s -0.5 ✓ "H₂O
 Pitot Tube No. 44-12-1 ✓
 Baro. Press. P_b 30.02 ✓ "Hg
 Probe Tip Dia. D_n 7.6 ✓ % CO 0.0 ✓
 % CO₂ 5.4 ✓ % N₂ 87.9 ✓
 Area Stack A_s 10987 in²
 Barometer No. 44-2 ✓ Probe Tip No. —
 Total Volume of Leak Checks After Start: — ft³
 V_m = Dry Gas Meter Calibration Factor 0.992 X 35 182
 {Dry Gas Meter Reading ft³ - (T_i min. X Leak Rate cfm)}

Impinger Box No. 45-2

			Water Weight Gain			
Impinger 1	Final Weight	<u>833.2</u>	Balance QA	_____	Impinger 1	<u>63.5</u>
	Initial Weight	<u>769.7</u>			Impinger 2	<u>11.2</u>
	Increase				Impinger 3	<u>4.3</u>
Impinger 2	Final Weight	<u>775.5</u>			Impinger 4	<u>8.2</u>
	Initial Weight	<u>764.3</u>			Impinger 5	
	Increase				Impinger 6	
Impinger 3	Final Weight	<u>672.4</u>			Impinger 7	
	Initial Weight	<u>668.3</u>			Total	<u>87.2</u> $\checkmark$ = V_w
	Increase					
Impinger 4	Final Weight	<u>849.3</u>				
	Initial Weight	<u>861.1</u>				
	Increase					
Impinger 5	Final Weight					
	Initial Weight					
	Increase					
Impinger 6	Final Weight					
	Initial Weight					
	Increase					
Impinger 7	Final Weight					
	Initial Weight					
	Increase					

$$V_w =$$

$$g SO_2 = -$$

$$V_w =$$

$$P_b = \frac{30.02 \checkmark}{34.901 \checkmark}$$

$$V_m = \frac{87.2 \checkmark}{1.100 \checkmark}$$

$$P_m = \frac{0.013 \checkmark}{0.112 \checkmark}$$

$$C_p = \frac{0.787 \checkmark}{-0.5 \checkmark}$$

$$P_s = \frac{92 \checkmark}{1350 \checkmark}$$

$$T_m =$$

$$T_s =$$

$$\%CO_2 = \frac{7.6 \checkmark}{5.4 \checkmark}$$

$$\%O_2 = \frac{0.0 \checkmark}{87.0 \checkmark}$$

$$\%CO = \frac{10387 \checkmark}{60 \checkmark}$$

$$A_s =$$

$$D_n =$$

$$T_i =$$

Moisture Content: $\%M = \frac{10.92 \checkmark}{M_d = \frac{0.8908 \checkmark}{MW_d = \frac{29.432 \checkmark}{MW = \frac{78.18 \checkmark}}}}$

$$Vm_{std} = 17.65 Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = 17.65 \times 34.901 \times \left[\frac{30.02 + \frac{1.100}{13.6}}{92 + 460} \right] = \frac{33.551 \checkmark \text{ sft}^3}{0.540 \checkmark \text{ scfm}}$$

$$Vw_{gas} = 0.0472 \times Vw = 0.0472 \times 87.2 = 4.114 \checkmark \text{ sft}^3$$

$$\% \text{ Moisture} = \frac{Vw_{gas}}{Vm_{std} + Vw_{gas}} \times 100 = \frac{4.114}{33.551 + 4.114} \times 100 = 10.92 \checkmark \%$$

$$V_s = 5123.8 \times \frac{0.787 \checkmark}{29.98 \times 78.18} \times \frac{1810}{0.112} = 641 \checkmark \text{ fpm}$$

$$ACFM: \frac{47.683 \checkmark}{124100 \checkmark}$$

$$SCFM: \frac{30.6 \checkmark}{124100 \checkmark}$$

$$\%I = \frac{1,039 \times \dots}{\dots} = \dots \%$$

$$\%EA: \frac{30.6 \checkmark}{124100 \checkmark}$$

VOST FIELD DATA

Job Number 07-338 Probe Length 6'
 Job Name Valero Sample Point Mild
 Run Number 2 Initial Leak @ 15.0 "Hg = 0.0 "Hg
 Location B-Trair SRV Fail Gas Stack Final Leak @ 7.9 "Hg = 0.0 "Hg
 Date 8/30/07 Baro. Pressure P_b 30.06 "Hg
 Operator Doss/Cooper/Wilkins
 Meter Number 11 ✓
 Ambient Temp. 95 °C (°F)
 Barometer Number 44-2 ✓

CLOCK TIME	DRY GAS METER (LITERS)	ROTOMETER READING	PUMP VACUUM "HG GAUGE	PROBE TEMP. °C / °F	CONDENSER TEMPERATURE °C / °F		DRY GAS TEMPERATURE °C / °F		DRY GAS METER PRESSURE "H ₂ O	REMARKS
					1ST	2ND	INLET	OUTLET		
1200	8267.75	0.5	2.0	—	—	—	85	85	1.0	EST
1205	8270.34	0.5	2.0	—	—	—	85	85	1.0	
1210	8273.00	0.5	2.0	—	—	—	85	85	1.0	
1215	8275.55	0.5	2.0	—	—	—	86	86	1.0	
1220	8278.14	0.5	2.0	—	—	—	86	86	1.0	
1225	8280.61	0.5	2.0	—	—	—	86	86	1.0	per se 8290.67
1230	8283.01	0.5	2.0	—	—	—	87	87	1.0	1305-1320
1235	8286.00	0.5	2.0	—	—	—	87	87	1.0	8306.49
1240	8288.46	0.5	2.0	—	—	—	88	88	1.0	
1245	8291.20	0.5	2.0	—	—	—	88	88	1.0	
1250	8293.55	0.5	2.0	—	—	—	89	89	1.0	
1255	8296.25	0.5	2.0	—	—	—	89	89	1.0	
1300	8298.57	—	—	—	—	—	—	—	—	End

$V_m = \text{Dry Gas Meter Calibration Factor} \times 0.994 \text{ V} \times 30.82 \text{ V} = 30.635 \text{ V}$
 $T_m \text{ °C} \times 9/5 \text{ } 32 = T_m \text{ °F}$

$$\begin{aligned}
 V_{m_{std}} &= 17.65 \text{ Vm} \\
 &= 17.65 \times \frac{P_b + \frac{13.6}{T_m + 460}}{30.06 + \frac{13.6}{87 + 460}} \times \left[\frac{29.287 \text{ V}}{1.05 \text{ V}} \right] \text{ standard liters} \\
 &= \frac{V_{m_{std}} (\text{dscf}) = V_{m_{std}} (L)}{28.317} = 28.317 = \frac{1.05 \text{ V}}{1.05 \text{ V}} \text{ dscf}
 \end{aligned}$$

VOST FIELD DATA

Job Number 07338
 Job Name Valero
 Run Number 3
 Location B-Trair SRV Tail Gas Stack
 Date 8/30/07

Operator Boss/Cooper/Williams
 Meter Number 11 ✓
 Ambient Temp. 95 °C 20 °F
 Barometer Number 44-2 ✓
 Probe Length 6'
 Sample Point mid
 Initial Leak @ 15.0 "Hg = 0.0 "Hg
 Final Leak @ 6.0 "Hg = 0.0 "Hg
 Baro. Pressure P_b 30.04 "Hg

CLOCK TIME	DRY GAS METER (LITERS)	ROTOMETER READING	PUMP VACUUM "HG GAUGE	PROBE TEMP. °C / °F	CONDENSER TEMPERATURE °C / °F		DRY GAS TEMPERATURE °C / °F		DRY GAS METER PRESSURE "H ₂ O	REMARKS
					1ST	2ND	INLET	OUTLET		
1328	8306.93	0.5	2.0	—	—	—	89	89	1.0	CST
1333	8309.45	0.5	2.0	—	—	—	89	89	1.0	
1338	8312.25	0.5	2.0	—	—	—	90	90	1.0	
1343	8314.70	0.5	2.0	—	—	—	90	90	1.0	
1348	8317.55	0.5	2.0	—	—	—	90	90	1.0	purge 8338.75
1353	8320.12	0.5	2.0	—	—	—	90	90	1.0	1431-1446
1358	8322.61	0.5	2.0	—	—	—	91	91	1.0	8346.17
1403	8325.36	0.5	2.0	—	—	—	91	91	1.0	
1408	8328.25	0.5	2.0	—	—	—	91	91	1.0	
1413	8330.65	0.5	2.0	—	—	—	92	92	1.0	
1418	8333.44	0.5	2.0	—	—	—	92	92	1.0	
1423	8336.94	0.5	2.0	—	—	—	92	92	1.0	
1428	8338.61	—	—	—	—	—	—	—	—	End

V_m = Dry Gas Meter Calibration Factor 0.994 ✓ X 31.68 ✓ = 31.490 ✓ T_m °C x 9/5 32 = T_m °F

$$Vm_{std} = 17.65 Vm \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = 17.65 \times \frac{31.490}{91 + 460} \times \left[\frac{30.04 + \frac{1.000}{13.6}}{91 + 460} \right] = 30.376 \checkmark \text{ standard liters}$$

$$Vm_{std} (dscf) = \frac{Vm_{std} (L)}{28.317} = \frac{30.376}{28.317} = 1.073 \checkmark \text{ dscf}$$

VOST FIELD DATA

Job Number 07-338
 Job Name Valero
 Run Number 4
 Location B-Traffic SRU Tail Gas Stack
 Date 8/30/07

Operator H2S
 Meter Number 11 ✓
 Ambient Temp. 93 °C (°F)
 Barometer Number 44.2 ✓
 Probe Length 6'
 Sample Point mid
 Initial Leak @ 15.0 "Hg = 0.0 "Hg
 Final Leak @ 6.0 "Hg = 0.0 "Hg
 Baro. Pressure P_b 30.02 "Hg

CLOCK TIME	DRY GAS METER (LITERS)	ROTOMETER READING	PUMP VACUUM "HG GAUGE	PROBE TEMP. °C / °F	CONDENSER TEMPERATURE °C / °F		DRY GAS TEMPERATURE °C / °F		DRY GAS METER PRESSURE "H ₂ O	REMARKS
					1ST	2ND	INLET	OUTLET		
1456	8346.80	0.5	2.0	—	—	—	92	92	1.0	
1501	8349.40	0.5	2.0	—	—	—	92	92	1.0	
1506	8351.77	0.5	2.0	—	—	—	92	92	1.0	
1511	8354.41	0.5	2.0	—	—	—	92	92	1.0	
1516	8357.02	0.5	2.0	—	—	—	93	93	1.0	purge 8376.80
1521	8359.35	0.5	2.0	—	—	—	93	93	1.0	1601-1616
1526	8361.99	0.5	2.0	—	—	—	93	93	1.0	8384.13
1531	8364.41	0.5	2.0	—	—	—	93	93	1.0	
1536	8366.97	0.5	2.0	—	—	—	94	94	1.0	
1541	8369.36	0.5	2.0	—	—	—	94	94	1.0	
1546	8371.76	0.5	2.0	—	—	—	94	94	1.0	
1551	8374.40	0.5	2.0	—	—	—	94	94	1.0	
1556	8376.69	—	—	—	—	—	—	—	—	End

T_m °C x 9/5 32 = T_m °F

$$V_{m_{std}} = 17.65 \text{ Vm} \left[\frac{P_b + \frac{P_m}{13.6}}{T_m + 460} \right] = 17.65 \times \frac{29.711 \text{ V}}{28.317} \times \left[\frac{30.02 + \frac{1.000}{13.6}}{93 \text{ V} + 460} \right] = 28.537 \text{ standard liters}$$

$$V_{m_{std}} (\text{dscf}) = \frac{V_{m_{std}} (\text{L})}{28.317} = \frac{28.537}{28.317} \text{ dscf} = 1.008 \text{ dscf}$$

Job Number 07-338
Job Name Valero
Bag/Run Number 2 / 112002
Location B-Train SPU
Date 8-30-07

Rotometer # 44 Probe Length 4'
Operator William S Sample Point m.d
Ambient Temp. 65 °C / °F Baro. Pressure P_b 30.04 "Hg
Barometer Number 44.2 P_m Source Pressure P_s -0.50 "H₂O

[illegible]

AVG Rotometer Reading = _____ = 0.15 L/m

Volume_{TOTAL} = L/m x T_t (min) = 0.15 x 60 = 9 Liters

Collected Condensate + Rinse = _____ ml

Job Number 07-338
Job Name Valero
Bag/Run Number 3 / HRVOL
Location B-Train SAV
Date 8-30-07

Rotometer # 44 Probe Length 6'
Operator Williams Sample Point mid
Ambient Temp. 95 °C / °F Baro. Pressure P_b 30.04 "Hg
Barometer Number 44-2 P_m Source Pressure Ps -0.5 "H₂O

[illegible]

AVG Rotometer Reading = _____ = 0.15 L/m

Volume_{TOTAL} = L/m x T₁ (min) = 0.15 x 60 = 9 Liters

Collected Condensate + Rinse = _____ ml

Job Number 07-338

Job Name Valero

Bag/Run Number 21 H200C

Location Val B-Trair Sku

Date 8-30-07

Rotometer # 244 Probe Length 60'
Operator Will. Adams Sample Point Mid
Ambient Temp. 98 °C / (°F) Baro. Pressure P_b 30.02 "Hg
Barometer Number 44-2 Source Pressure P_m 30.5 "H₂O

[illegible]

AVG Rotometer Reading = 0.15 L/m

Volume_{TOTAL} = L/m x T₁ (min) = 0.15 x 60 = 9 Liters

Collected Condensate + Rinse = _____ ml

APPENDIX E

Analytical Data

SUMMARY OF RESULTS
B-Train SRU Tail Gas Stack

Run Number	1	2	3	4		
Time	0933-1045	1200-1300	1328-1429	1456-1556		
N _I	0.0101 0.0104	0.0104	0.0104	0.0104 →		
V _I , ml	50	50	50	50		
N _S	0.0102	0.0102	0.0102	0.0102		
V _S , ml	49.00	49.00	49.00	49.00		
V _I Blank, ml	50	50	50	50		
V _S Blank, ml	49.00	49.00	49.00	49.00		
V _{mstd} , liters*	28.7983 ✓	29.787 ✓	30.376 ✓	28.537 ✓		
C _{H₂S} , mg/dscm*	0.000	<0.29 0.000	<0.29 0.000	<0.30 0.000		
C _{H₂S} , ppm	0.00	<0.21 0.00	<0.20 0.00	<0.21 0.00		

$$C_{H_2S} = K \frac{(V_I N_I - V_S N_S) \text{ sample} - (V_I N_I - V_S N_S) \text{ blank}}{V_{mstd}}$$

C_{H₂S} = Concentration of H₂S at standard conditions, mg/dscm*

K = Conversion factor = 17.04 x 10³

V_I = Volume of standard iodine solution, ml

N_I = Normality of standard iodine solution

V_S = Volume of standard sodium thiosulfate solution, ml

N_S = Normality of standard sodium thiosulfate solution

V_{mstd} = Dry Gas Volume at standard conditions, liters*

* 29.92 "Hg, 68°F (760 mm Hg, 20°C)

Standardization of Iodine

Date 8/30/07

Run Number

ml of 0.1 N Iodine

ml of 0.0102 N $\text{Na}_2\text{S}_2\text{O}_3$
to titrate

Normality of Iodine

Average Normality

1	2	3
25	25	25
24.88	24.80	24.88
0.01015	0.01012	0.01015
0.01014 → 0.0101		

Analyst Bass

07-89
Marathon

Standardization of Sodium Thiosulfate

Date 2-23-07

Run Number

ml of 0.100 N $K_2Cr_2O_7$

ml of $Na_2S_2O_3$
to titrate

Normality of $Na_2S_2O_3$

Average Normality

1	2	3
50	50	50
49.20	49.25	49.25
0.101626	0.101523	0.101523
0.1016		

Analyst

M. Pantar

The "0.01N" Sodium
thiosulfate is 0.0102N

07-338
Valero
Houston, Tx

9-6-07
SRU-B Jail Gas Stack

Ammonia Analysis

Run	Sample	Vol	Diln	ppm NH ₄	ppm NH ₄	avg. ppm	% RD	Total ug NH ₃
2	1	185	1	0.151	0.153	0.152	1.3	26.558
	2,3	163	1	0.221	0.234	0.2275	5.7	35.122
Run 2 total ug								61.6
3	1	192	1	0.114	0.111	0.1125	2.7	20.400
	2,3	160	1	0.070	0.076	0.073	8.2	11.031
Run 3 total ug								31.431
4	1	195	1	0.058	0.058	0.058	0	10.682
	2,3	165	1	0.074	0.072	0.073	2.7	11.376
Run 4 total ug								22.1

Spike	ppm NH ₄	ppm NH ₄	% RD	% Recovery	% Recovery
R4I1@2x + 1 ppm	1.085	1.080	0.5	105.6	105.1

METCO ENVIRONMENTAL

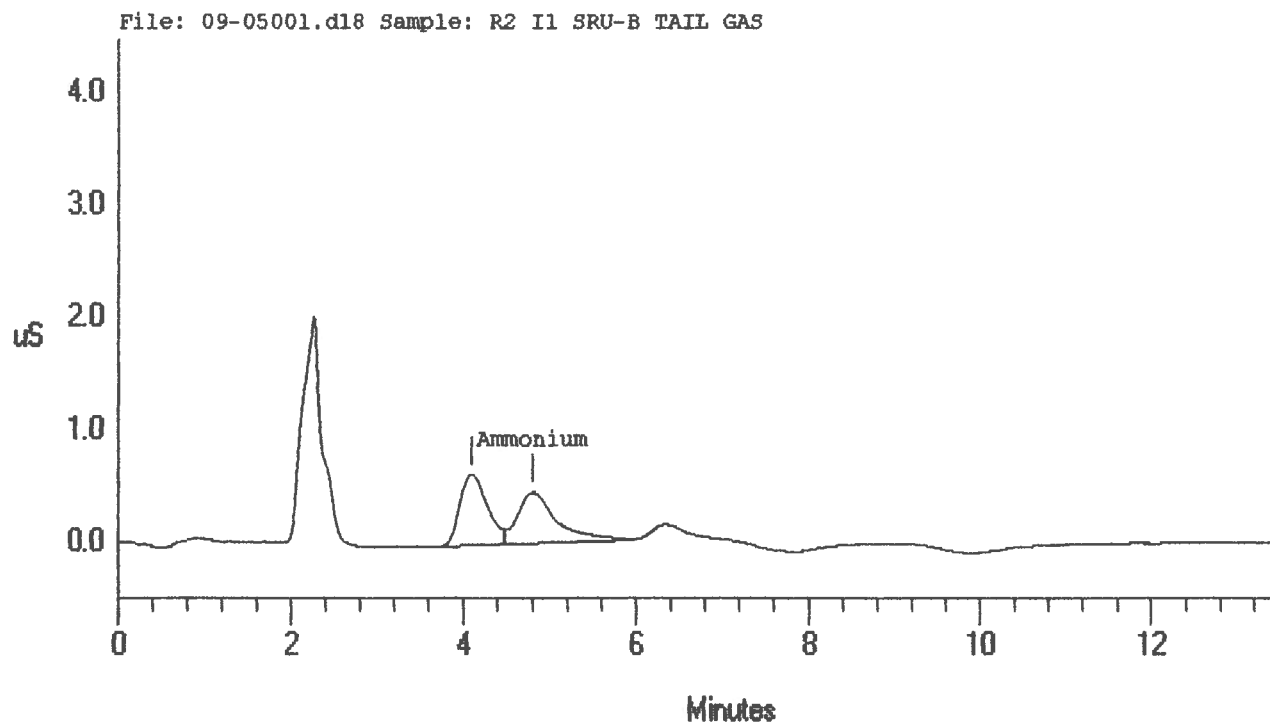
Data Reprocessed On 09/06/2007 09:25:26

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| Sample Name: R2 I1 SRU-B TAIL GAS      Date: 09/05/2007 15:35:38 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d18          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 18                      Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.80 Ammonium	14024270	453329	0.151
Totals	14024270	453329	0.151



MBTGO ENVIRONMENTAL

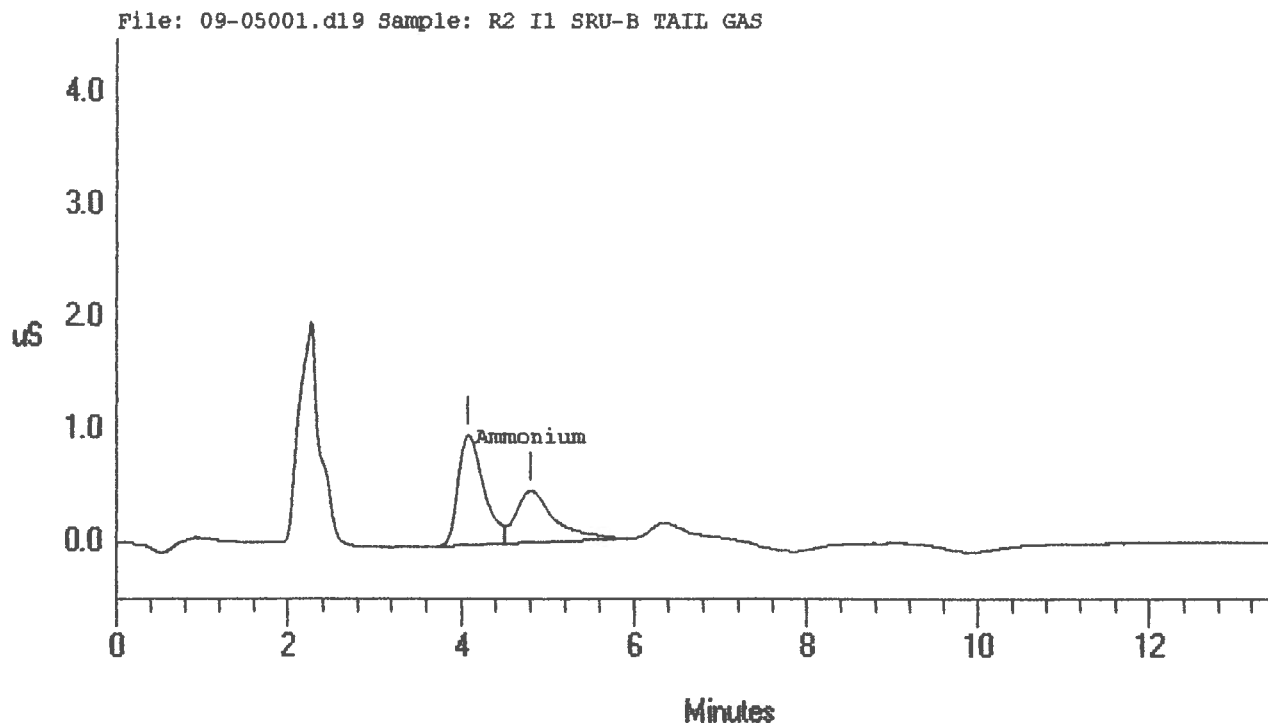
Data Reprocessed On 09/06/2007 09:25:26

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| Sample Name: R2 I1 SRU-B TAIL GAS      Date: 09/05/2007 15:50:26 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d19          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 19                      Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.80	Ammonium	14287144	459432	0.153
Totals		14287144	459432	0.153



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:30

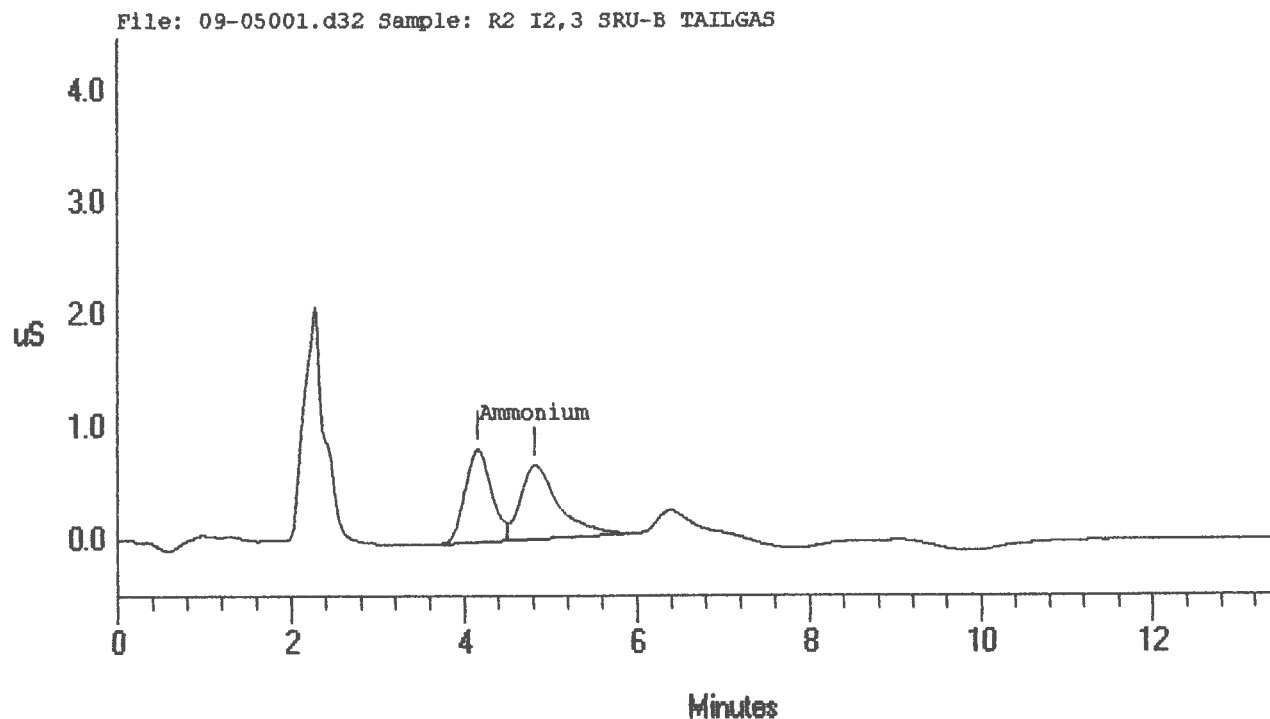
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=====
| Sample Name: R2 I2,3 SRU-B TAILGAS      Date: 09/05/2007 19:02:28 |
| Data File  : C:\DK\DATA\CATIONS\07-338\09-05001.d32          |
| Method     : C:\DK\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 32                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.82	Ammonium	20166382	653867	0.221
Totals		20166382	653867	0.221



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:30

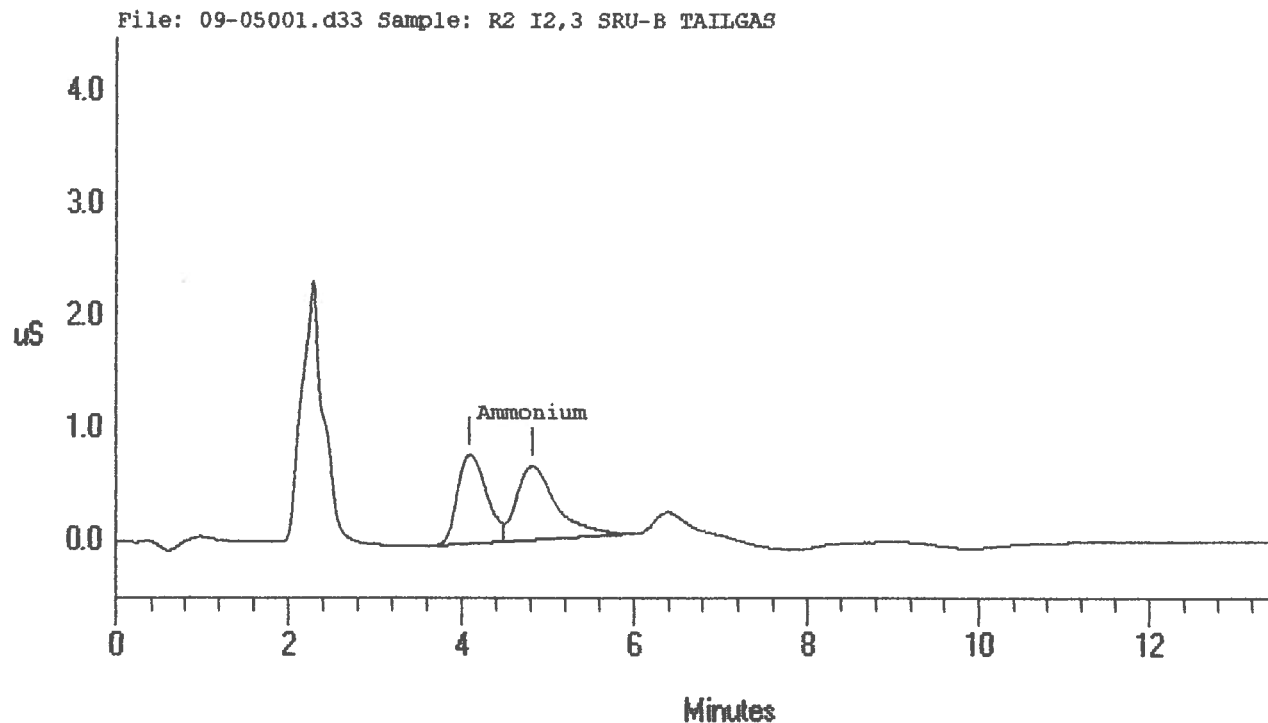
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=====
| Sample Name: R2 I2,3 SRU-B TAILGAS      Date: 09/05/2007 19:17:11 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d33          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 33                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.82	Ammonium	21283436	656480	0.234
Totals		21283436	656480	0.234



METCO ENVIRONMENTAL

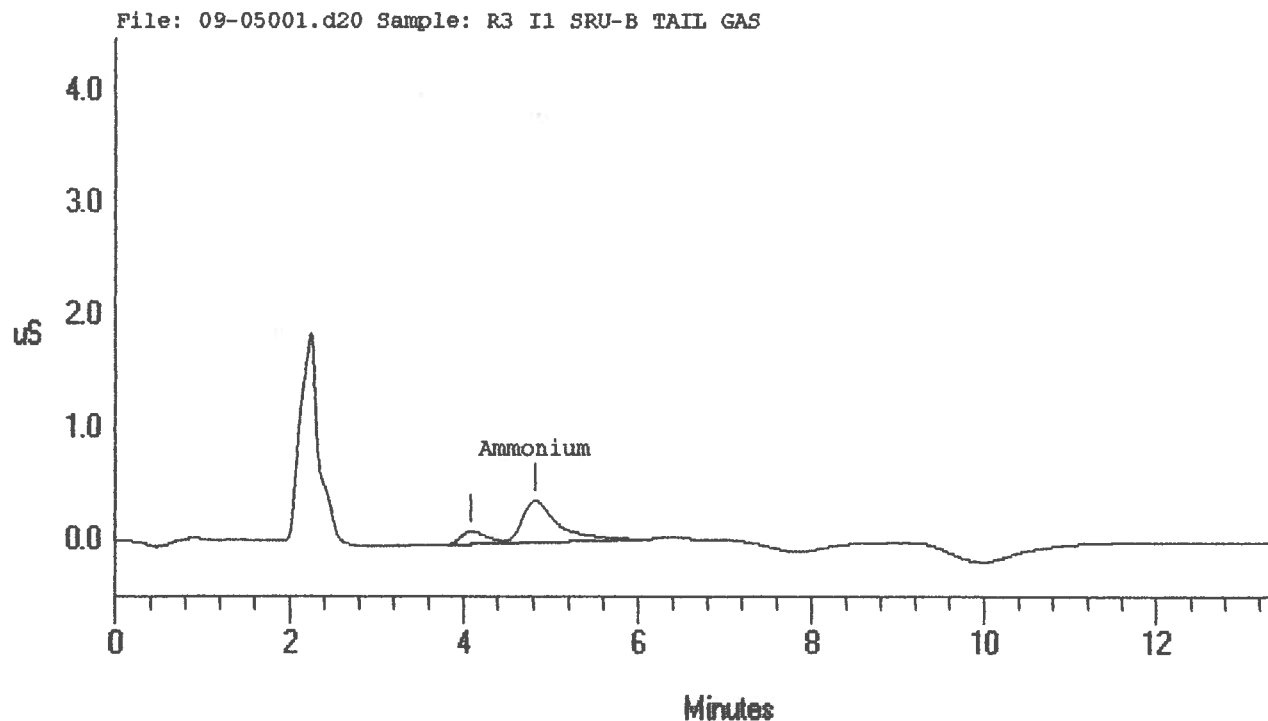
Data Reprocessed On 09/06/2007 09:25:26

```
=====
| Sample Name: R3 I1 SRU-B TAIL GAS      Date: 09/05/2007 16:05:05 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d20          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 20                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4019	5Hz	0.00	13.39		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	10727141	374581	0.114
Totals	10727141	374581	0.114



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:27

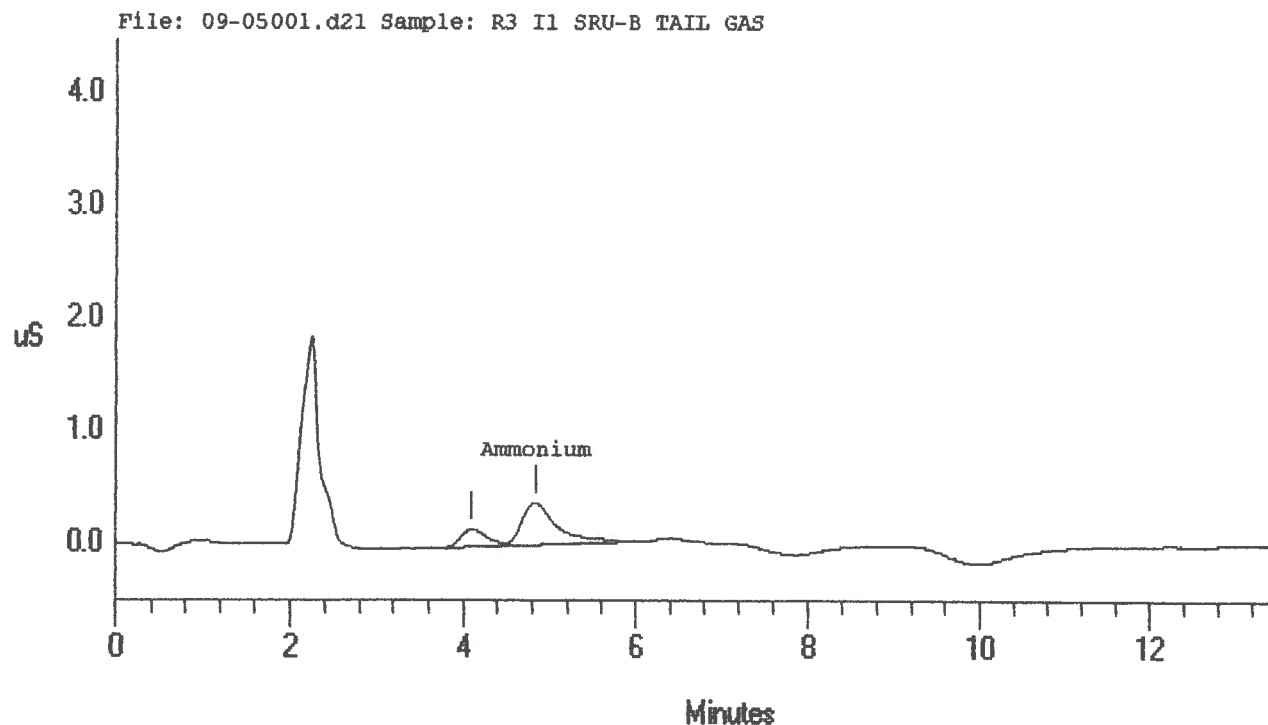
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=====
| Sample Name: R3 I1 SRU-B TAIL GAS          Date: 09/05/2007 16:20:26 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d21                |
| Method     : C:\DX\METHOD\NH3LOW.MET                                     |
| ACI Address: 1 System: 1 Inject#: 21                               Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.83 Ammonium	10490187	371379	0.111
Totals	10490187	371379	0.111



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:30

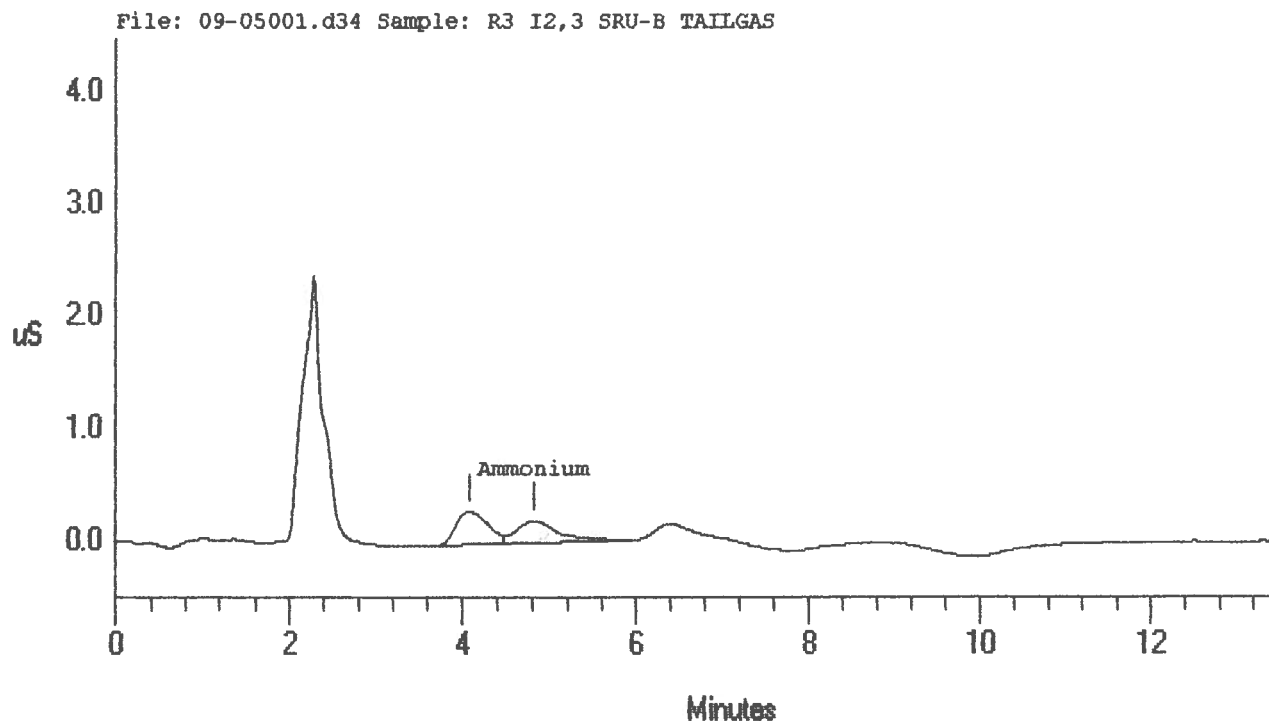
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=====
| Sample Name: R3 I2,3 SRU-B TAILGAS      Date: 09/05/2007 19:31:54 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d34          |
| Method     : C:\DX\METHOD\NH3LOW.MBT                      |
| ACI Address: 1 System: 1 Inject#: 34                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	6712380	196670	0.070
Totals	6712380	196670	0.070



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:30

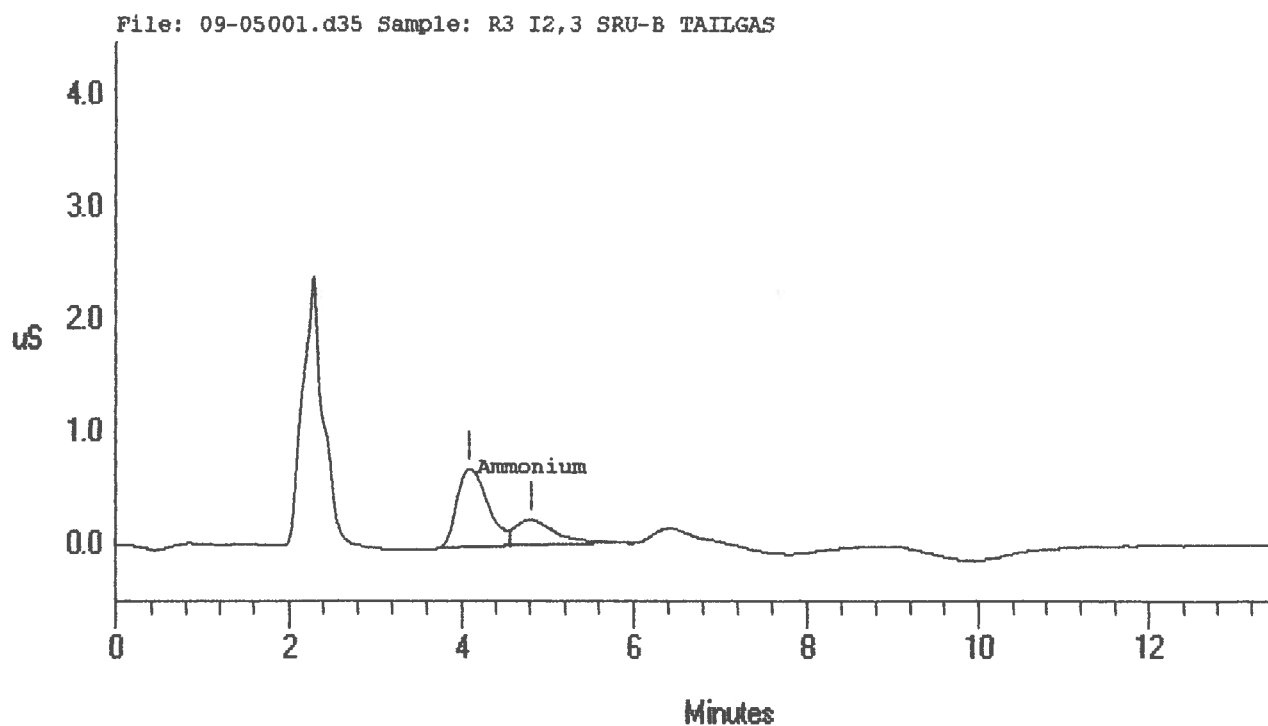
```

=====
| Sample Name: R3 I2,3 SRU-B TAILGAS      Date: 09/05/2007 19:46:37 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d35          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 35                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	7272775	223886	0.076
Totals	7272775	223886	0.076



METCO ENVIRONMENTAL

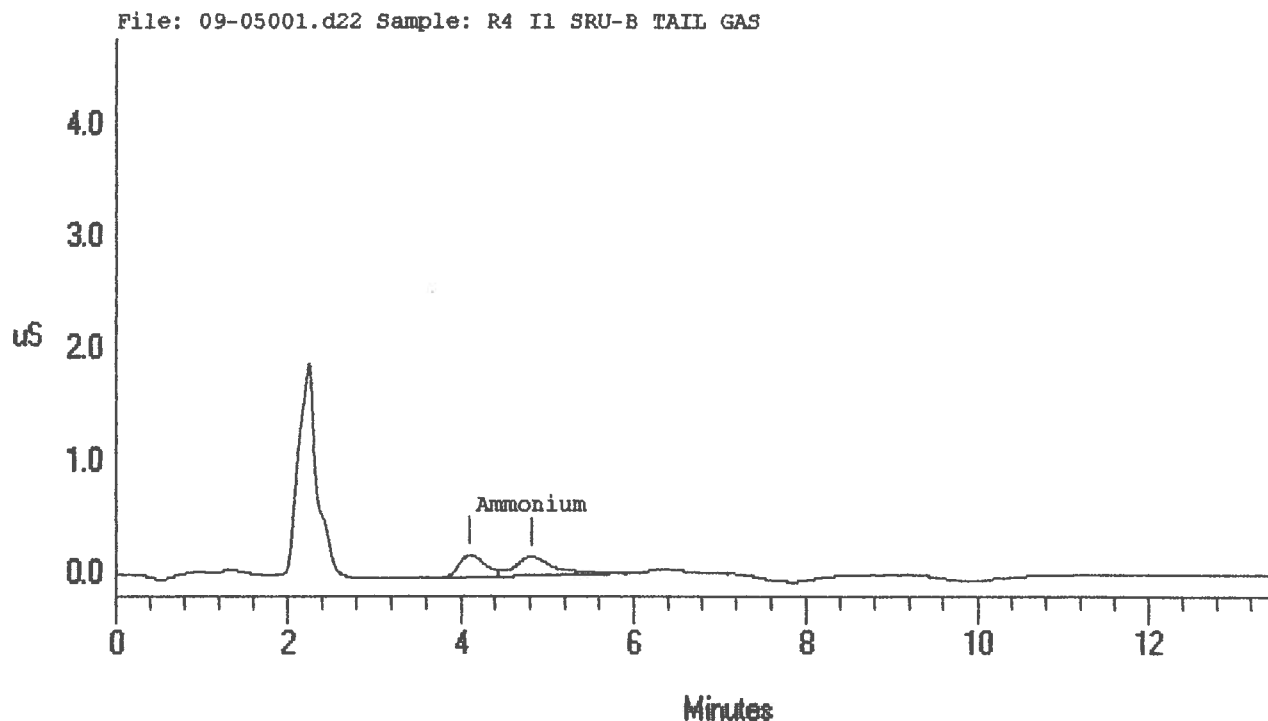
Data Reprocessed On 09/06/2007 09:25:27

```
=====
| Sample Name: R4 I1 SRU-B TAIL GAS      Date: 09/05/2007 16:35:14 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d22          |
| Method     : C:\DX\METHOD\NH3LOW.MET                               |
| ACI Address: 1 System: 1 Inject#: 22                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.82	Ammonium	5521081	171489	0.058
Totals		5521081	171489	0.058



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:27

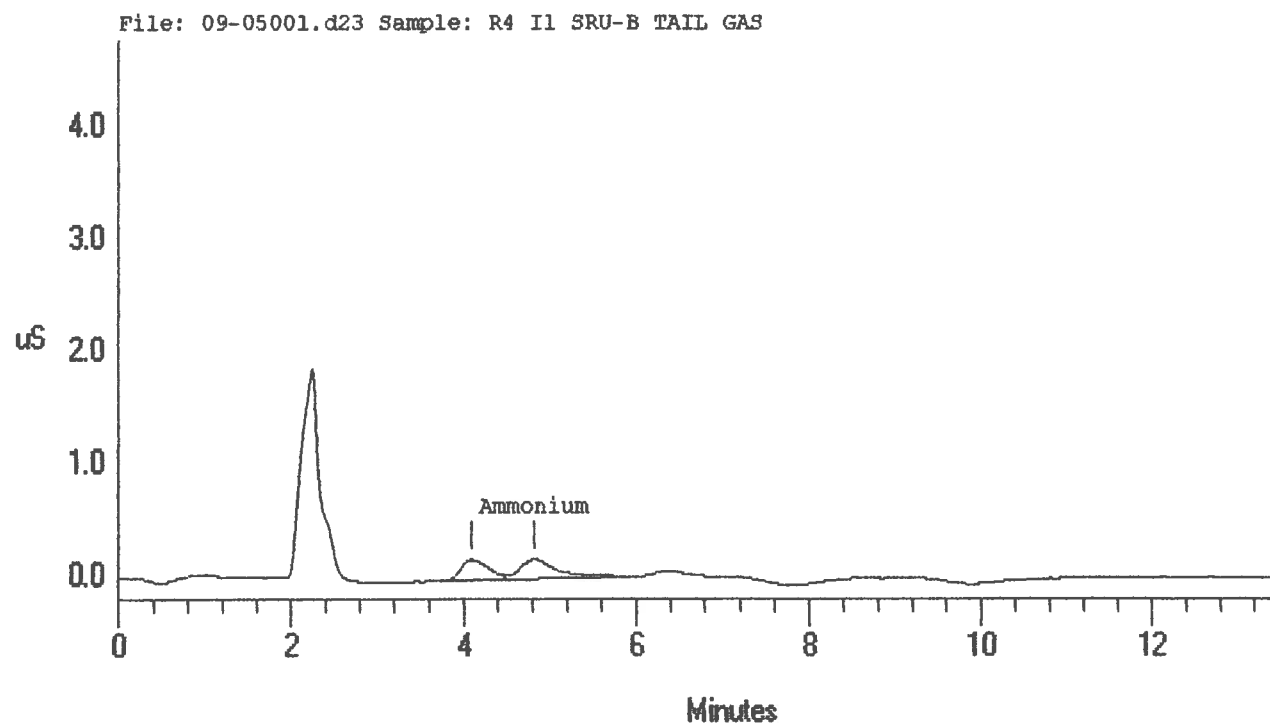
```

=====
| Sample Name: R4 I1 SRU-B TAIL GAS      Date: 09/05/2007 16:50:02 |
| Data File  : C:\DK\DATA\CATIONS\07-338\09-05001.d23          |
| Method     : C:\DK\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 23                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	5509896	175959	0.058
Totals	5509896	175959	0.058



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:28

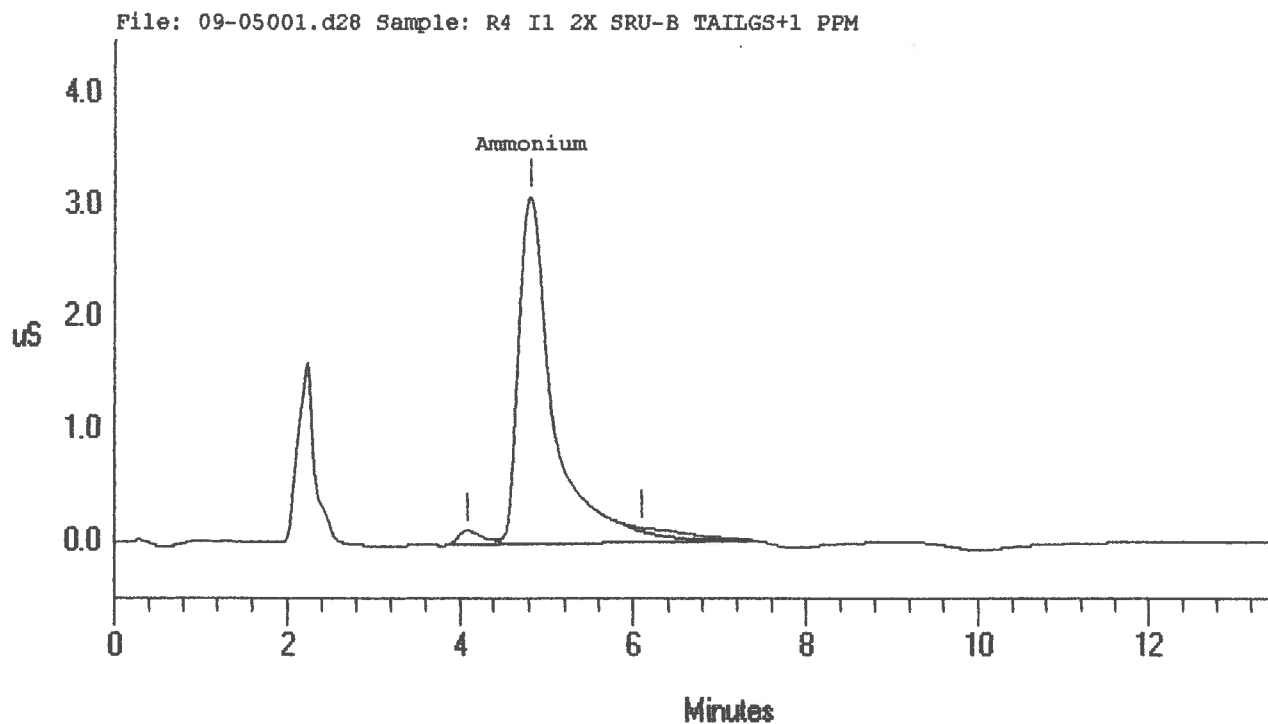
```

=====
| Sample Name: R4 I1 2X SRU-B TAILGS+1 PPM   Date: 09/05/2007 18:03:33 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d28                 |
| Method     : C:\DX\METHOD\NH3LOW.MET                                     |
| ACI Address: 1 System: 1 Inject#: 28                               Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	85646232	3092786	1.085
Totals	85646232	3092786	1.085



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:28

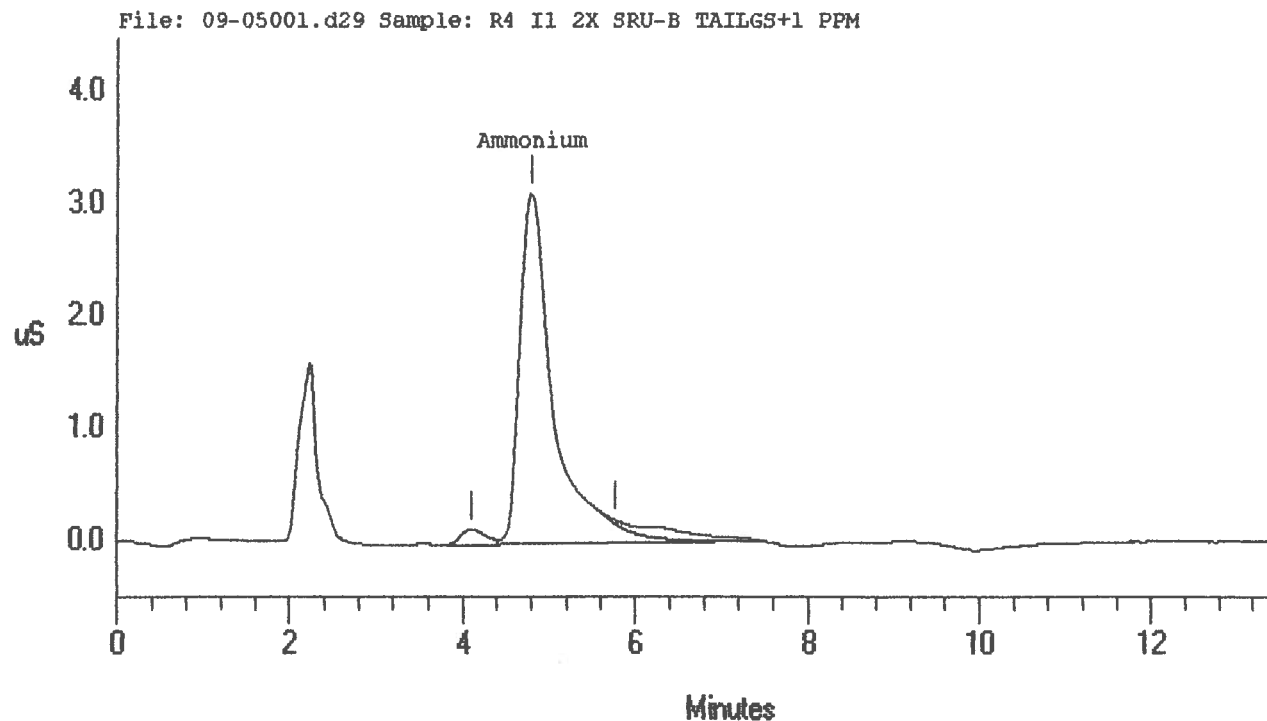
```

=====
| Sample Name: R4 I1 2X SRU-B TAILGS+1 PPM      Date: 09/05/2007 18:18:16 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d29 |
| Method     : C:\DX\METHOD\NH3LOW.MET |
| ACI Address: 1 System: 1 Inject#: 29           Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.80 Ammonium	85372901	3125381	1.080
Totals	85372901	3125381	1.080



METCO ENVIRONMENTAL

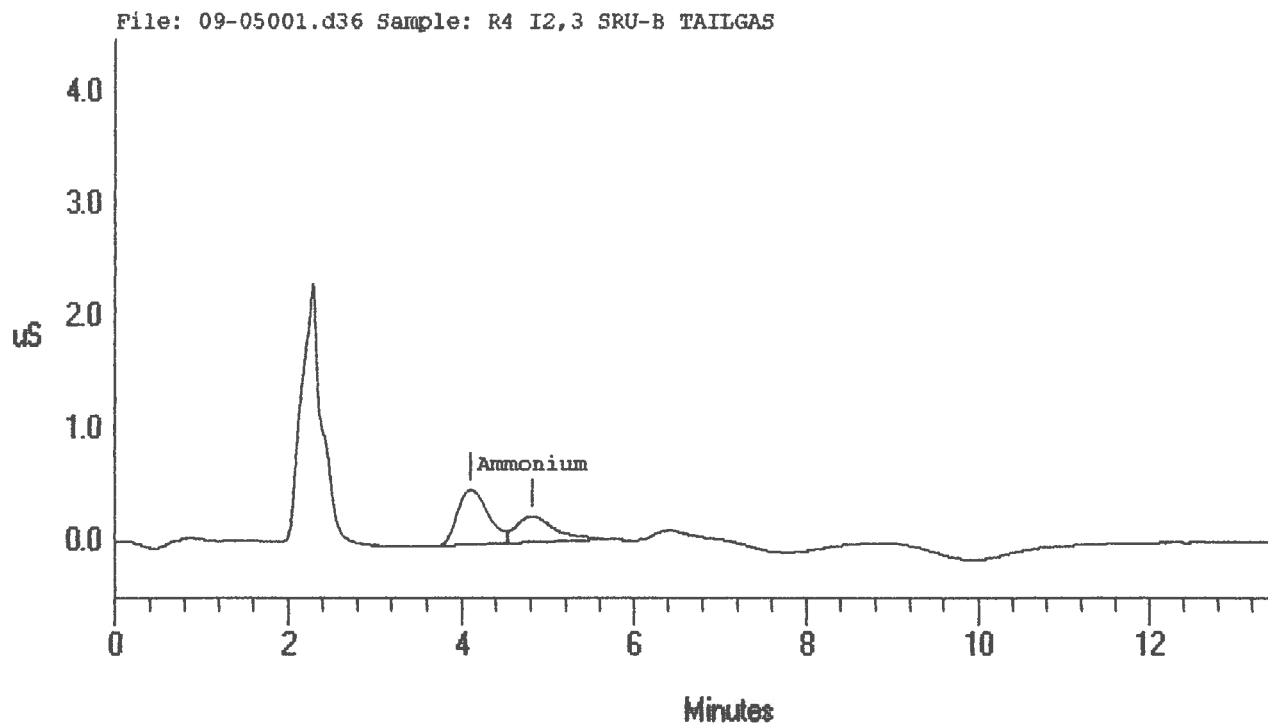
Data Reprocessed On 09/06/2007 09:25:29

```
=====
| Sample Name: R4 I2,3 SRU-B TAILGAS      Date: 09/05/2007 20:01:20 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d36          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 36                      Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.82	Ammonium	7050949	228319	0.074
Totals		7050949	228319	0.074



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:29

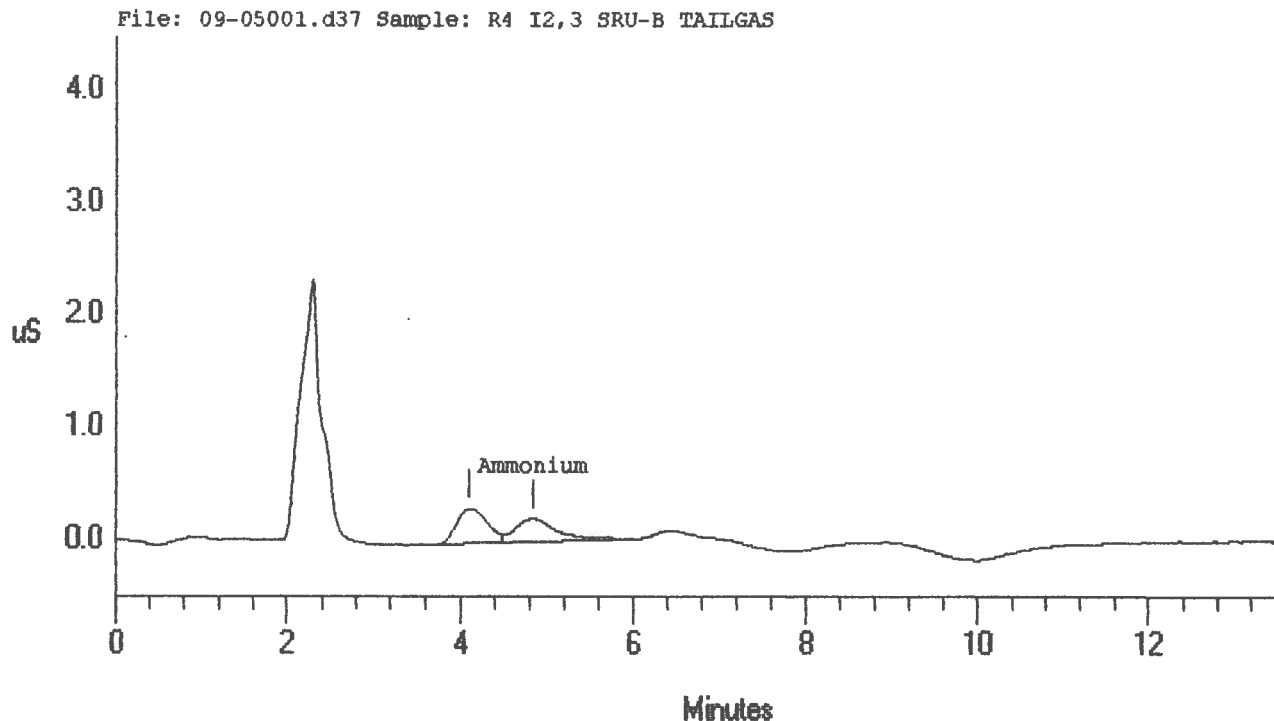
```

=====
| Sample Name: R4 I2,3 SRU-B TAILGAS      Date: 09/05/2007 20:16:03 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d37          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 37                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.83 Ammonium	6886971	203101	0.072
Totals	6886971	203101	0.072



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:21:31

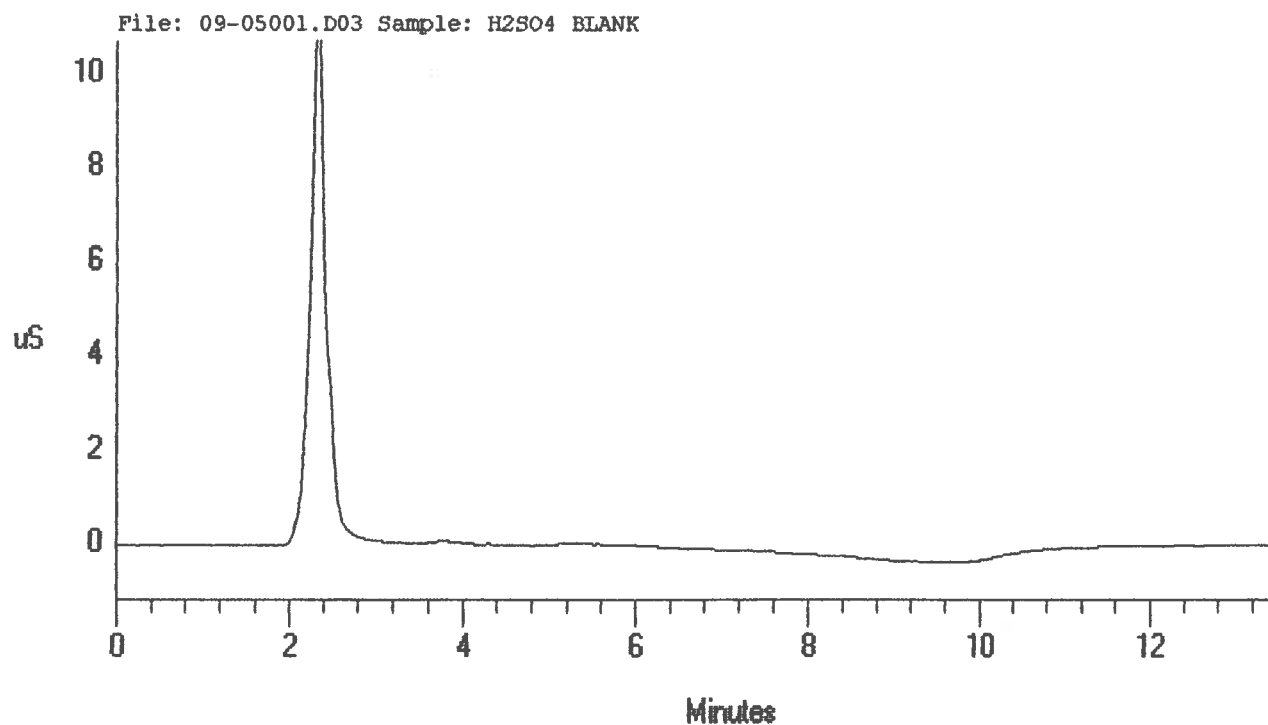
```

=====
| Sample Name: H2SO4 BLANK           Date: 09/05/2007 10:42:05 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D03      |
| Method     : C:\DX\METHOD\NH3LOW.MET                    |
| ACI Address: 1 System: 1 Inject#: 3                      |
| Analyst    :                               Detector:CDM-2 |
|                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
Totals	0	0	0.000



METCO ENVIRONMENTAL

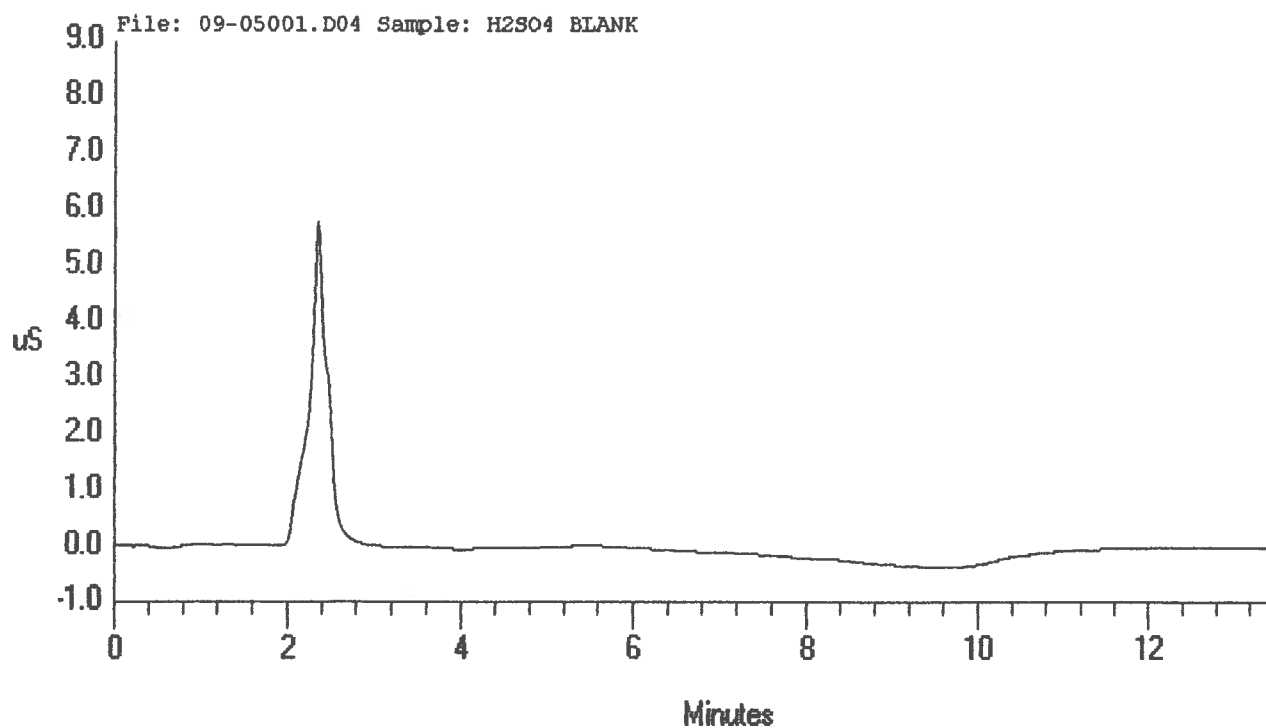
Data Reprocessed On 09/06/2007 09:21:39

```
=====
| Sample Name: H2SO4 BLANK           Date: 09/05/2007 10:56:48 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D04      |
| Method     : C:\DX\METHOD\NH3LOW.MET                   |
| ACI Address: 1 System: 1 Inject#: 4                     |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
Totals	0	0	0.000



METCO ENVIRONMENTAL

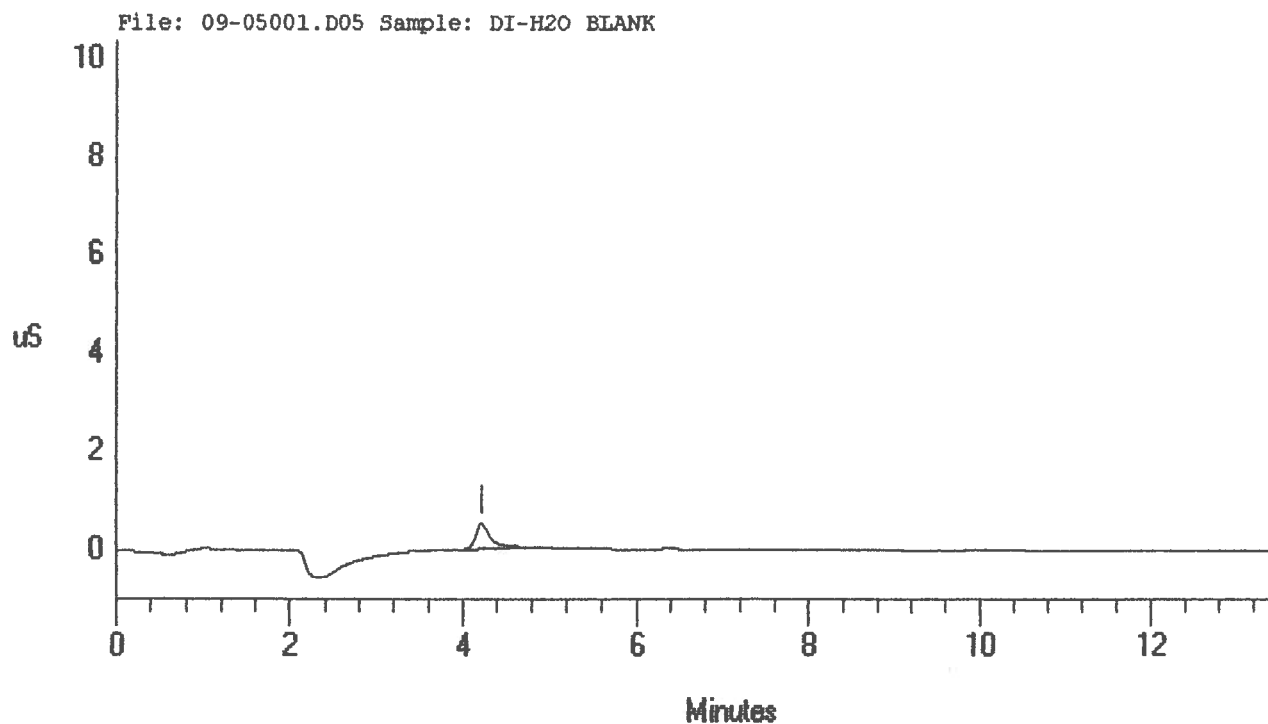
Data Reprocessed On 09/06/2007 09:21:53

```
=====
| Sample Name: DI-H2O BLANK          Date: 09/05/2007 11:11:31 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D05      |
| Method     : C:\DX\METHOD\NH3LOW.MET                   |
| ACI Address: 1 System: 1 Inject#: 5                     |
| Analyst    :                               Detector:CDM-2 |
|                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
Totals	0	0	0.000



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:22:07

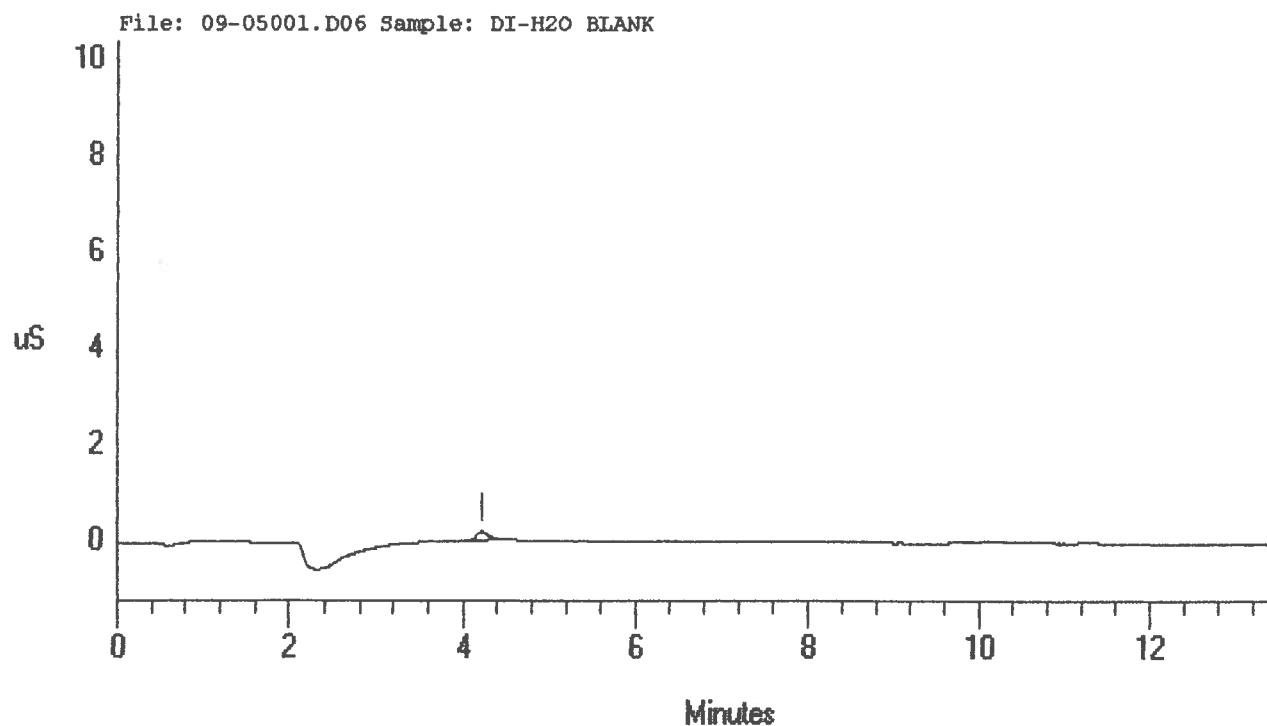
```

=====
| Sample Name: DI-H2O BLANK           Date: 09/05/2007 11:26:13 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D06      |
| Method     : C:\DX\METHOD\NH3LOW.MET                    |
| ACI Address: 1 System: 1 Inject#: 6                      |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
Totals	0	0	0.000



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:22:27

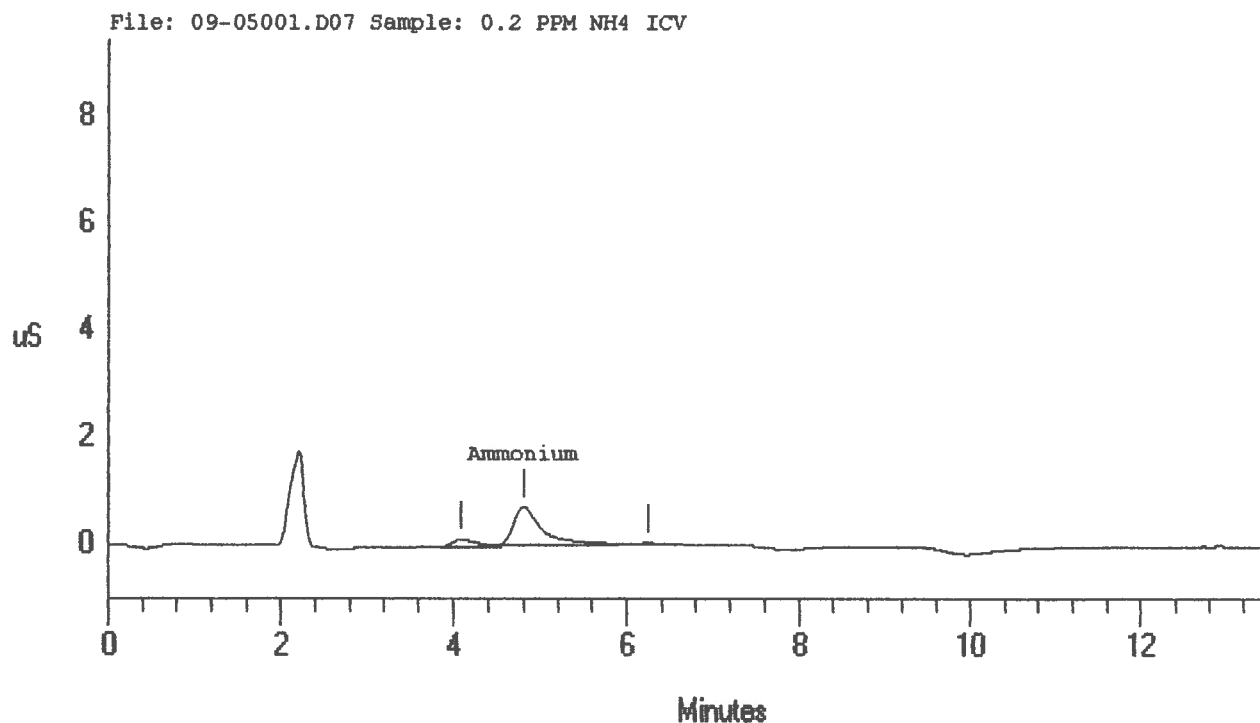
```

=====
| Sample Name: 0.2 PPM NH4 ICV          Date: 09/05/2007 11:41:01 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D07          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 7                          |
| Analyst    :          Column: CS12-SC,4mm STARTED 5-17-01    |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.80 Ammonium	18823031	736431	0.205
Totals	18823031	736431	0.205



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:22:39

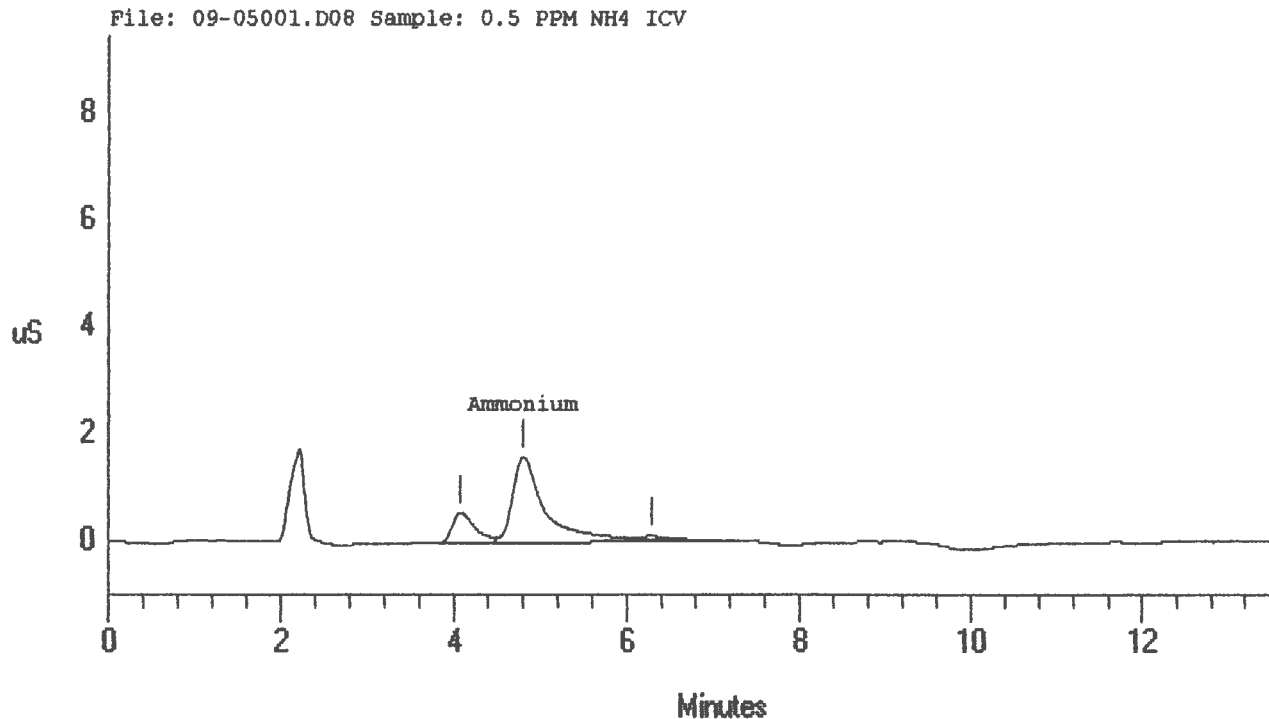
```

=====
| Sample Name: 0.5 PPM NH4 ICV          Date: 09/05/2007 11:55:50 |
| Data File  : C:\DK\DATA\CATIONS\07-338\09-05001.D08          |
| Method     : C:\DK\METHOD\NH3LOW.MBT                        |
| ACI Address: 1 System: 1 Inject#: 8                          |
| Analyst    :          Column: CS12-SC, 4mm STARTED 5-17-01   |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.80 Ammonium	43634885	1596371	0.511
Totals	43634885	1596371	0.511



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:22:47

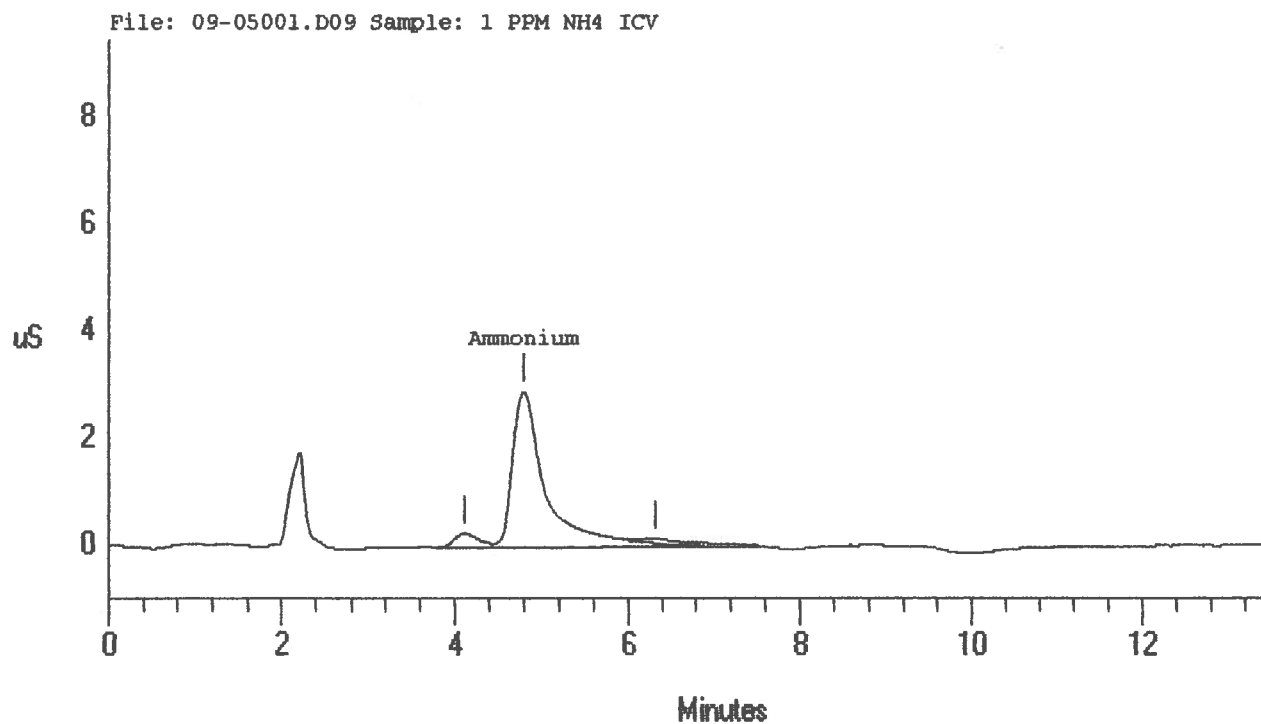
```

=====
| Sample Name: 1 PPM NH4 ICV          Date: 09/05/2007 12:10:38 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D09          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 9                          |
| Analyst    :          Column: CS12-SC,4mm STARTED 5-17-01    |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.80 Ammonium	78825804	2898886	1.014
Totals	78825804	2898886	1.014



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:22:55

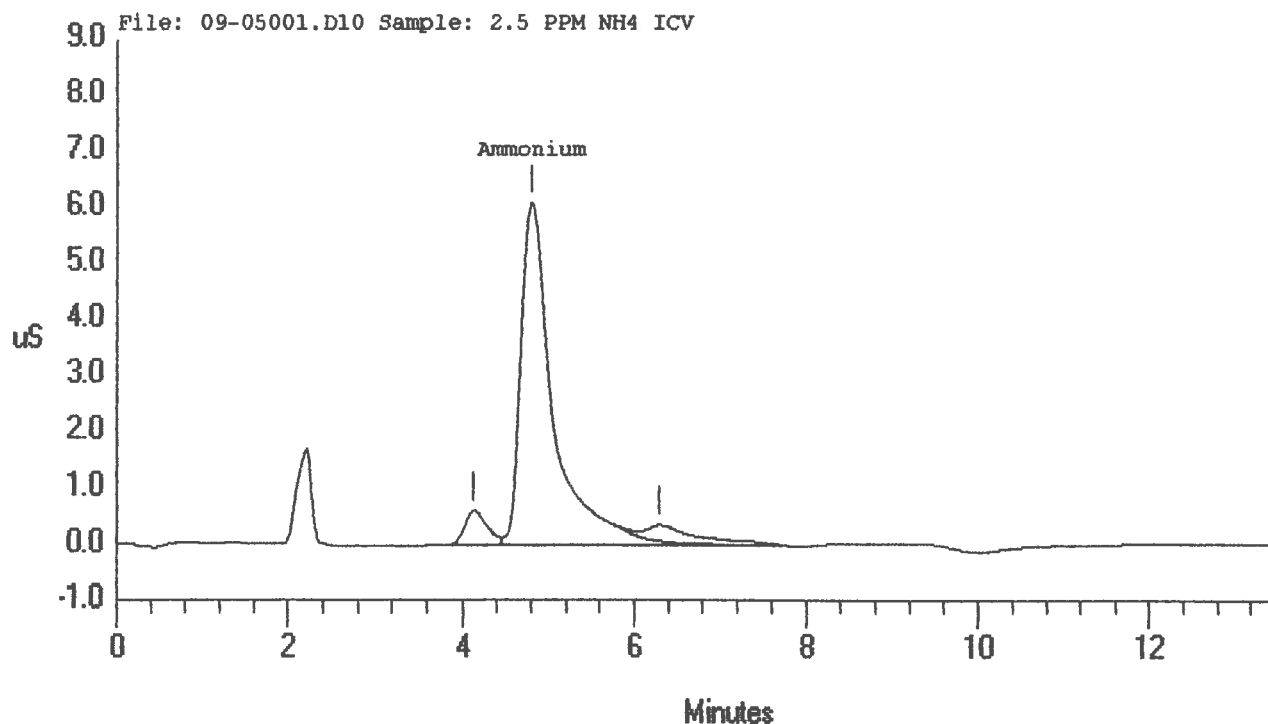
```

=====
| Sample Name: 2.5 PPM NH4 ICV          Date: 09/05/2007 12:25:26 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D10          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 10                          |
| Analyst    :          Column: CS12-SC,4mm STARTED 5-17-01    |
|                                                    Detector:CDM-2 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.80	Ammonium	160972823	6095751	2.507
Totals		160972823	6095751	2.507



METCO ENVIRONMENTAL

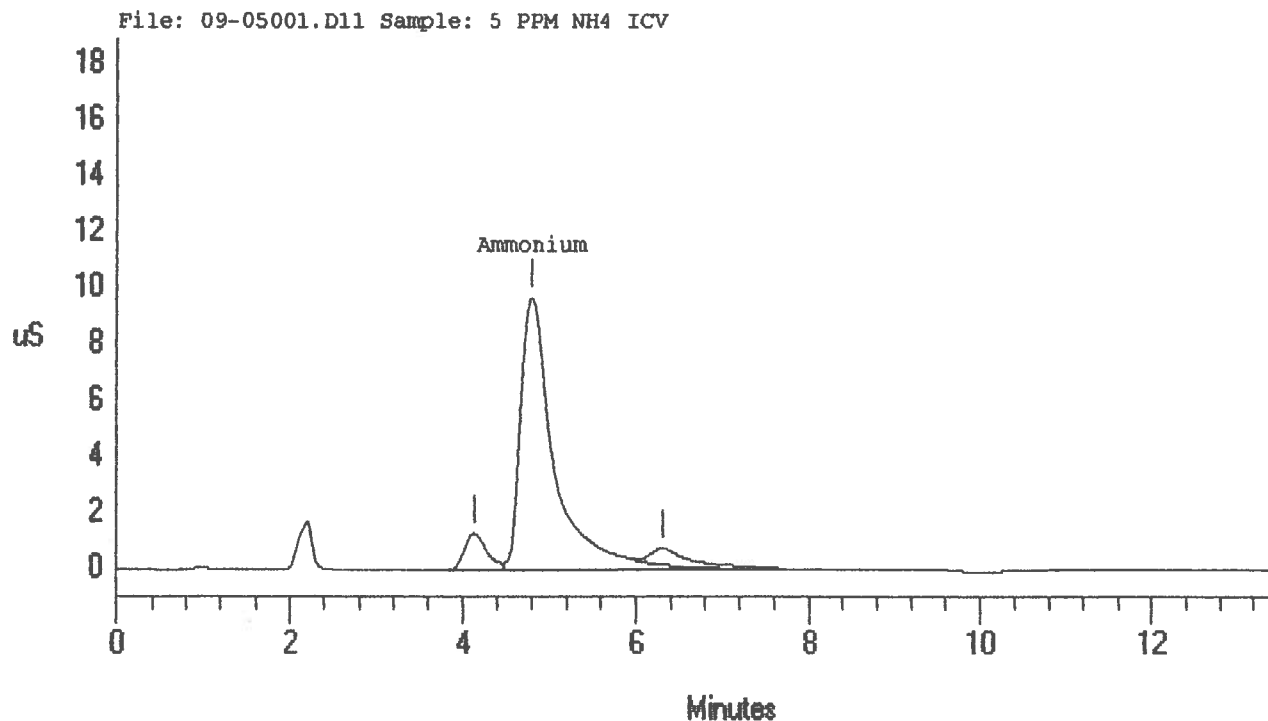
Data Reprocessed On 09/06/2007 09:23:02

```
=====
| Sample Name: 5 PPM NH4 ICV          Date: 09/05/2007 12:40:14 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D11      |
| Method     : C:\DX\METHOD\NH3LOW.MET                   |
| ACI Address: 1 System: 1 Inject#: 11                     |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
|                                                    |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.80 Ammonium	264188658	9685531	5.014
Totals	264188658	9685531	5.014



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:23:09

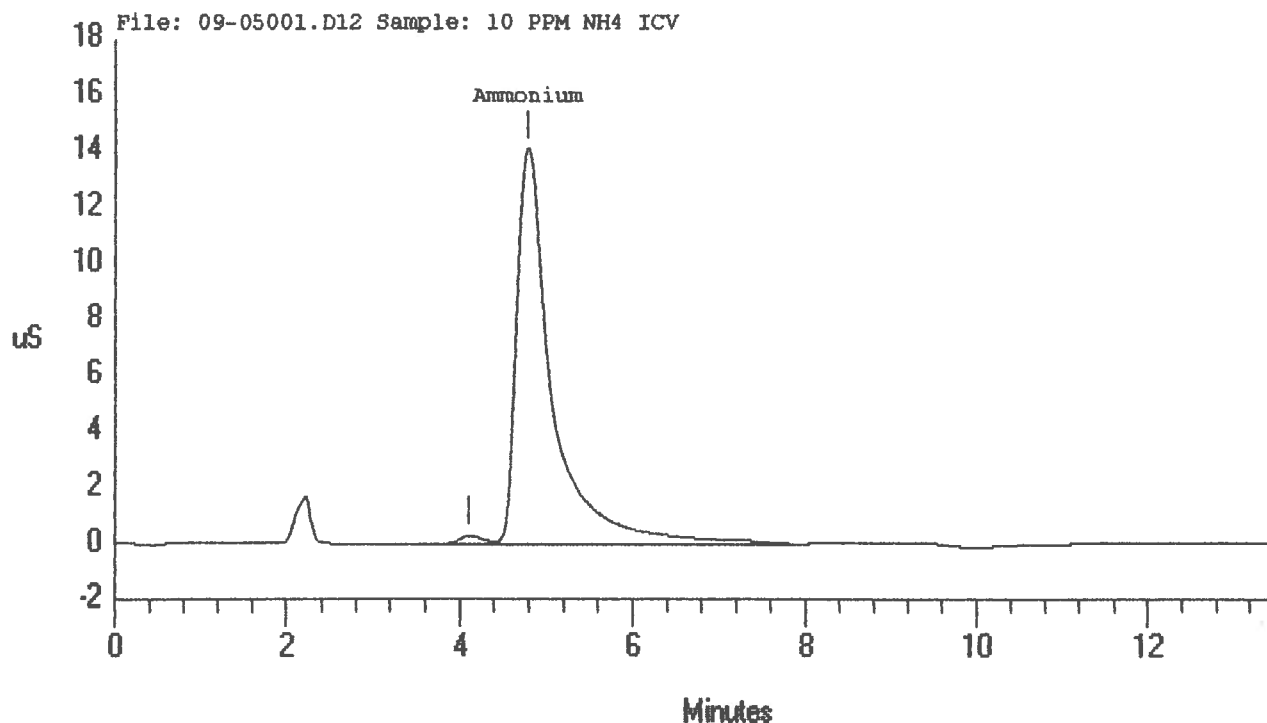
```

=====
| Sample Name: 10 PPM NH4 ICV          Date: 09/05/2007 13:43:39 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D12          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 12                          |
| Analyst    :          Column: CS12-SC,4mm STARTED 5-17-01    |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.78	Ammonium	406657741	14123607	9.628
Totals		406657741	14123607	9.628



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:23:17

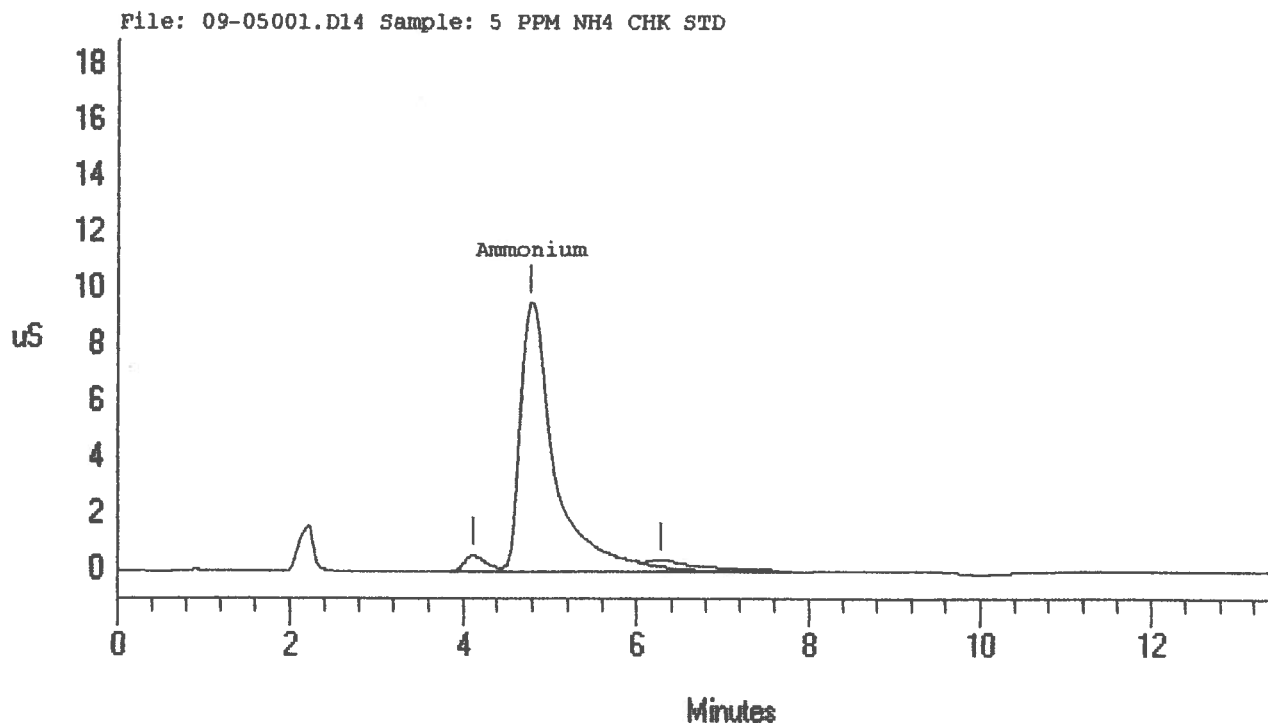
```
=====
| Sample Name: 5 PPM NH4 CHK STD          Date: 09/05/2007 14:07:14 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D14          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 14                          |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.78	Ammonium	264065600	9557753	5.011
Totals		264065600	9557753	5.011

100.2%



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:23:23

```

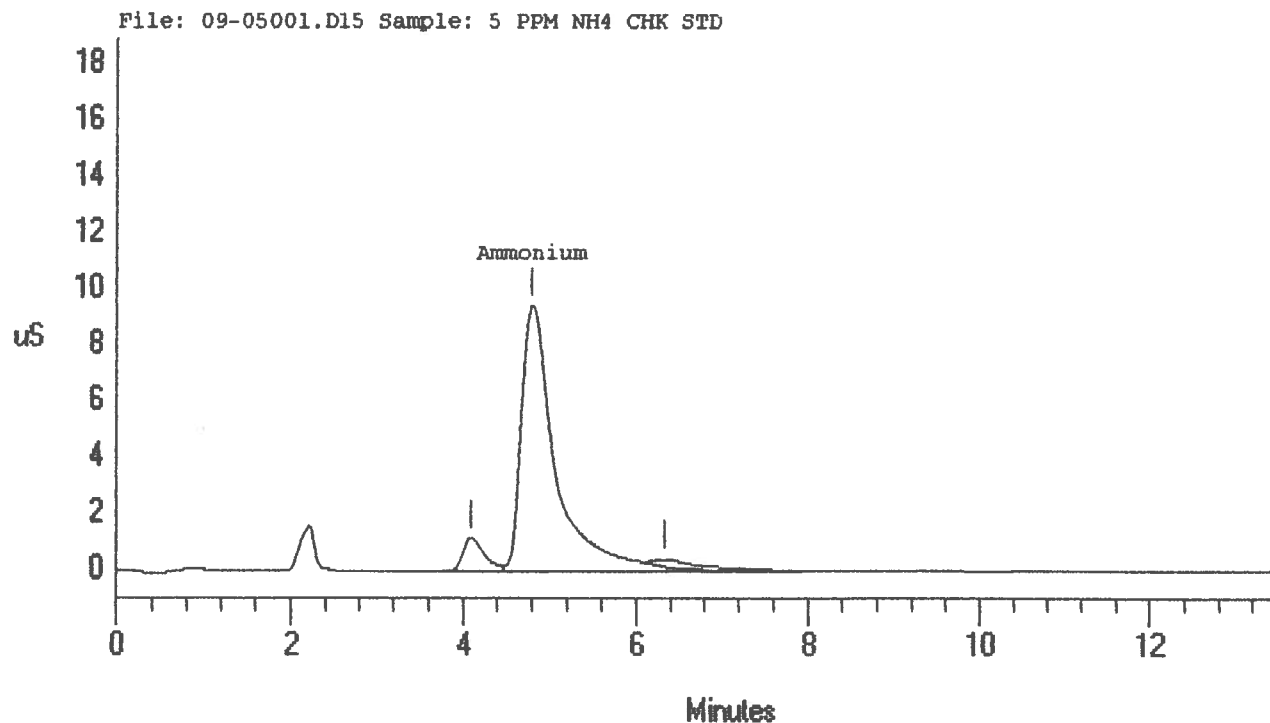
=====
| Sample Name: 5 PPM NH4 CHK STD          Date: 09/05/2007 15:09:15 |
| Data File : C:\DX\DATA\CATIONS\07-338\09-05001.D15          |
| Method    : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 15                      Detector: CDM-2 |
| Analyst   :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Time	Component Name	Area	Height	Concentration ppm
4.80	Ammonium	263450504	9468029	4.994
Totals		263450504	9468029	4.994

99.9%



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:25

```

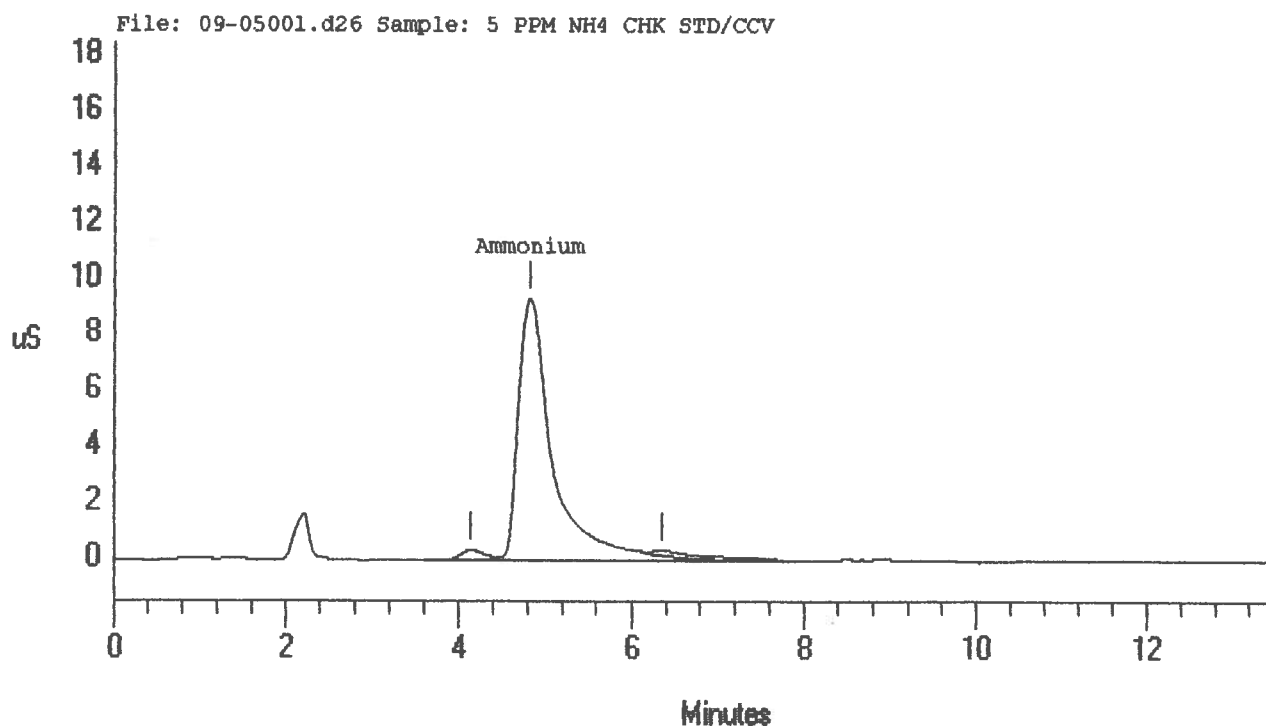
=====
| Sample Name: 5 PPM NH4 CHK STD/CCV      Date: 09/05/2007 17:34:11 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d26          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 26                      Detector: CDM-2 |
| Analyst    :                      Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	259362764	9326300	4.881
Totals	259362764	9326300	4.881

97.4%



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:25

```

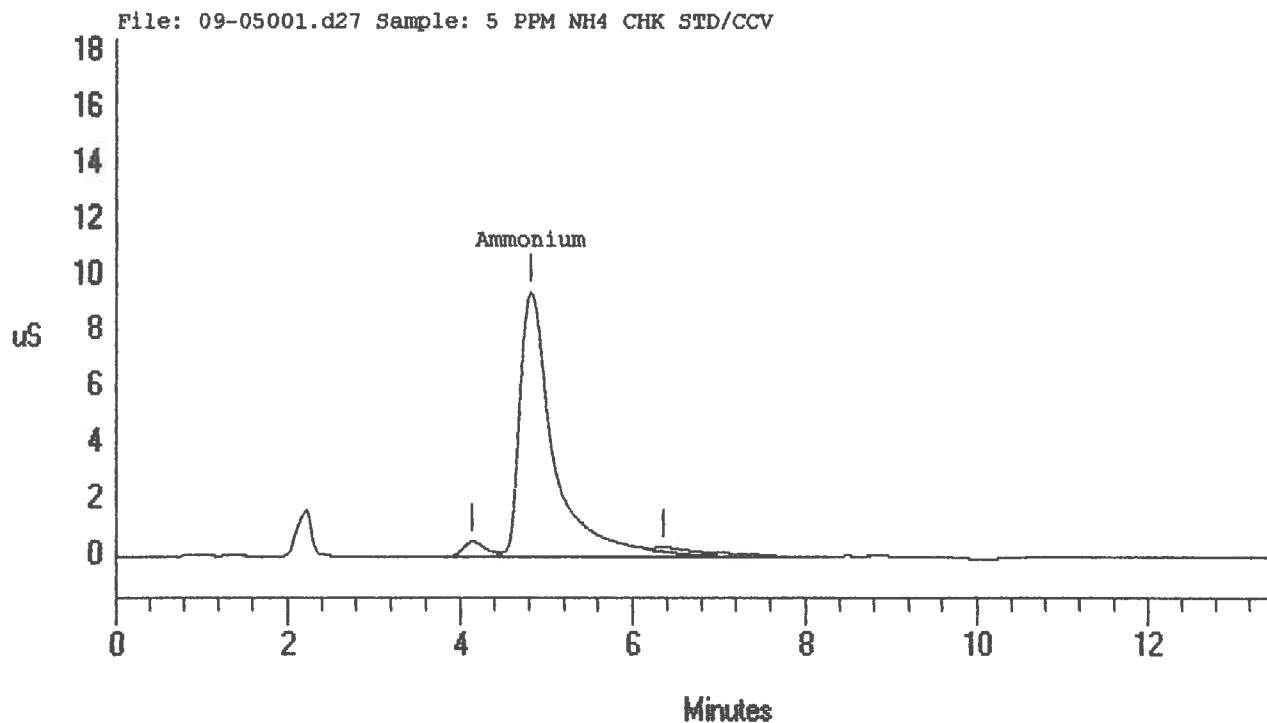
=====
| Sample Name: 5 PPM NH4 CHK STD/CCV      Date: 09/05/2007 17:48:54 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d27          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 27                      Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.82 Ammonium	260692173	9374228	4.918
Totals	260692173	9374228	4.918

98.4%



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:26

```

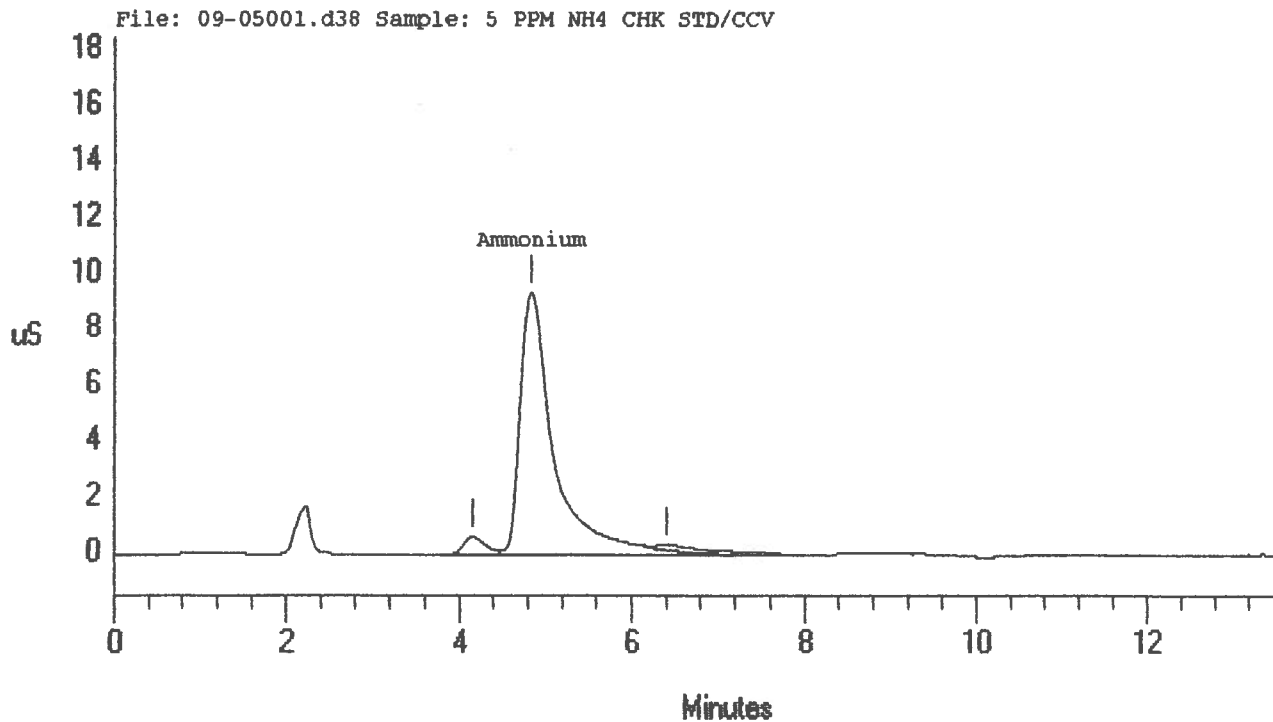
=====
| Sample Name: 5 PPM NH4 CHK STD/CCV      Date: 09/05/2007 20:30:46 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d38          |
| Method     : C:\DX\METHOD\NH3LOW.MET                      |
| ACI Address: 1 System: 1 Inject#: 38                      Detector:CDM-2 |
| Analyst    :                               Column: CS12-SC,4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.83 Ammonium	261974332	9346496	4.953
Totals	261974332	9346496	4.953

99.1%



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:25:26

```

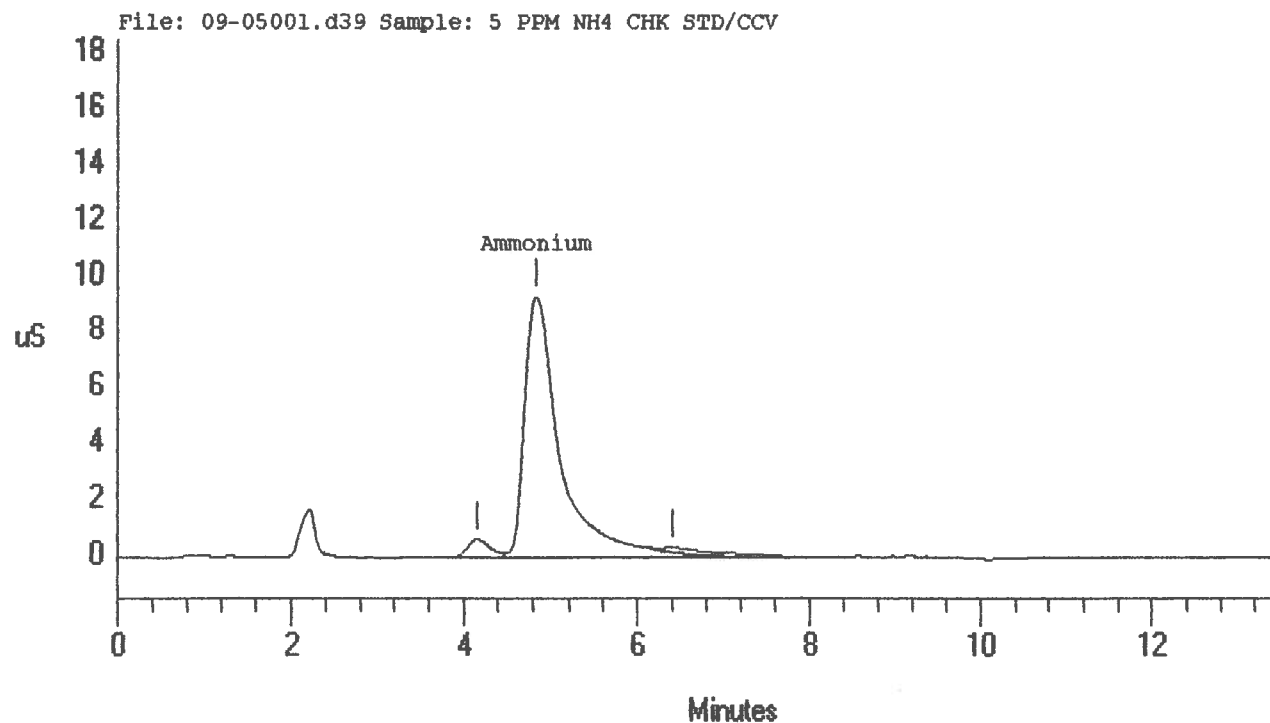
=====
| Sample Name: 5 PPM NH4 CHK STD/CCV      Date: 09/05/2007 20:45:29 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.d39          |
| Method     : C:\DX\METHOD\NH3LOW.MBT                      |
| ACI Address: 1 System: 1 Inject#: 39                      Detector: CDM-2 |
| Analyst    :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50	1000	

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
4.83 Ammonium	261760574	9290332	4.947
Totals	261760574	9290332	4.947

98.9%





RICCA CHEMICAL COMPANY

Arlington, TX 76012

Pocomoke City, MD 21851

Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

Ammonium Standard, 1 mL = 1 mg NH₄⁺, 1000 ppm NH₄⁺ (776.5 ppm N)

Lot Number: 1702041

Product Number: 693

Expiration Date: JUL 2008

Manufacture Date: 2/8/2007

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Contains:

Name	CAS#	Grade
Ammonium Chloride, NH ₄ Cl	12125-02-9	High Purity
Water, Deionized, H ₂ O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, odorless	Passed Test
Certified Concentration	Based on accurate volumetric preparation	1000 ± 5 ppm NH ₄	1000 ppm NH ₄

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
693-4	18 months
693-32	18 months
693-16	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Joan Lutkenhaus

Joan Lutkenhaus

Director of Quality Assurance and Regulatory Affairs

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

To determine manufacturing site using lot number, visit www.riccachemical.com/AboutUs/lot.pdf.

Method: NH3LOW.MET - Last Updated: 18:17 on Wed, 05 Sep 2007

Component: Ammonium

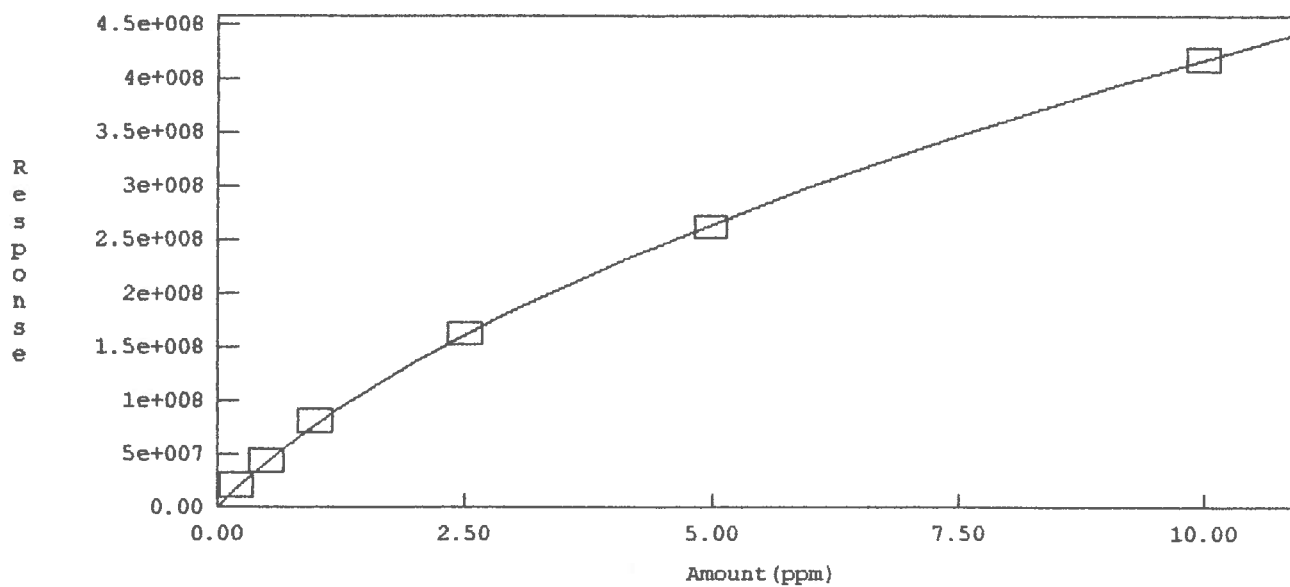
Fit Type: Quadratic (Force Zero)

$r^2 = 0.999894$

$Amt = (3.296662e-017 * Resp^2) +$
 $(1.026968e-008 * Resp) + 0.0000$

Standardization: External

Calibration: Area



METCO ENVIRONMENTAL

Data Reprocessed On 09/06/2007 09:21:01

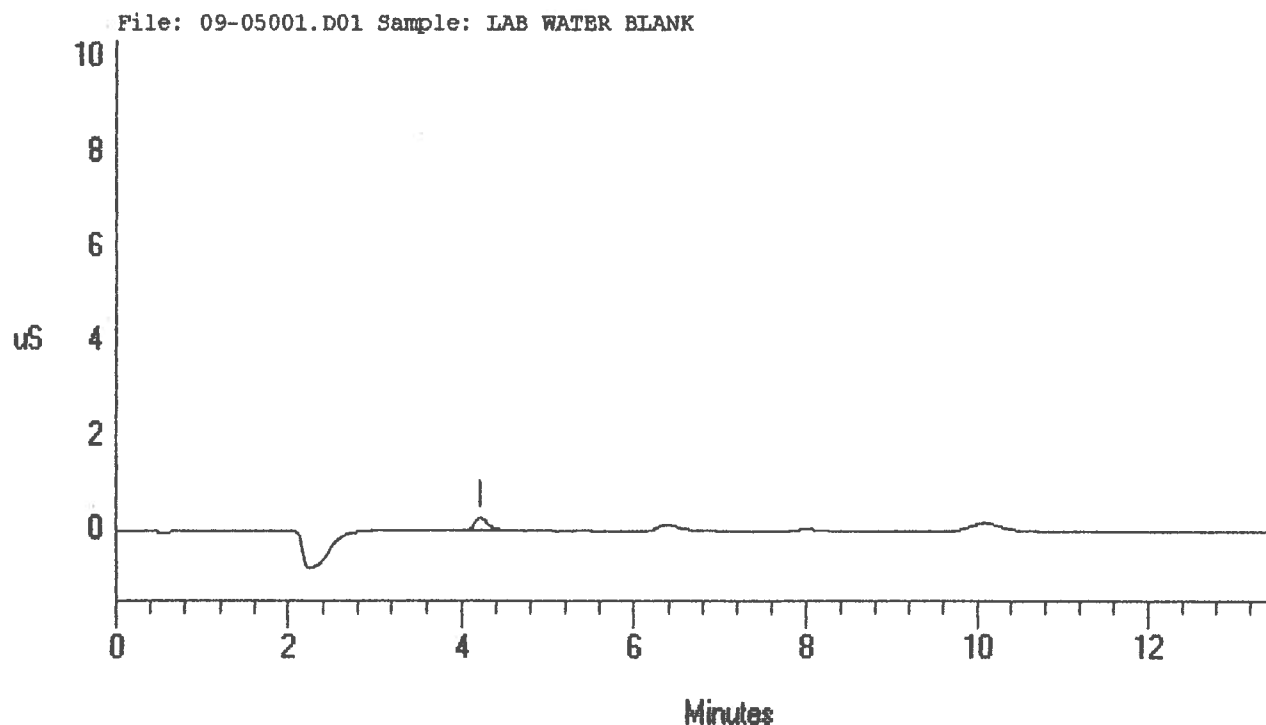
```
=====
| Sample Name: LAB WATER BLANK          Date: 09/05/2007 09:55:48 |
| Data File  : C:\DX\DATA\CATIONS\07-338\09-05001.D01          |
| Method     : C:\DX\METHOD\NH3LOW.MET                        |
| ACI Address: 1 System: 1 Inject#: 2                          |
| Analyst    :                               Column: CS12-SC,4mm |
|                               STARTED 5-17-01                 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4050	5Hz	0.00	13.50		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm

Totals	0	0	0.000



METCO ENVIRONMENTAL

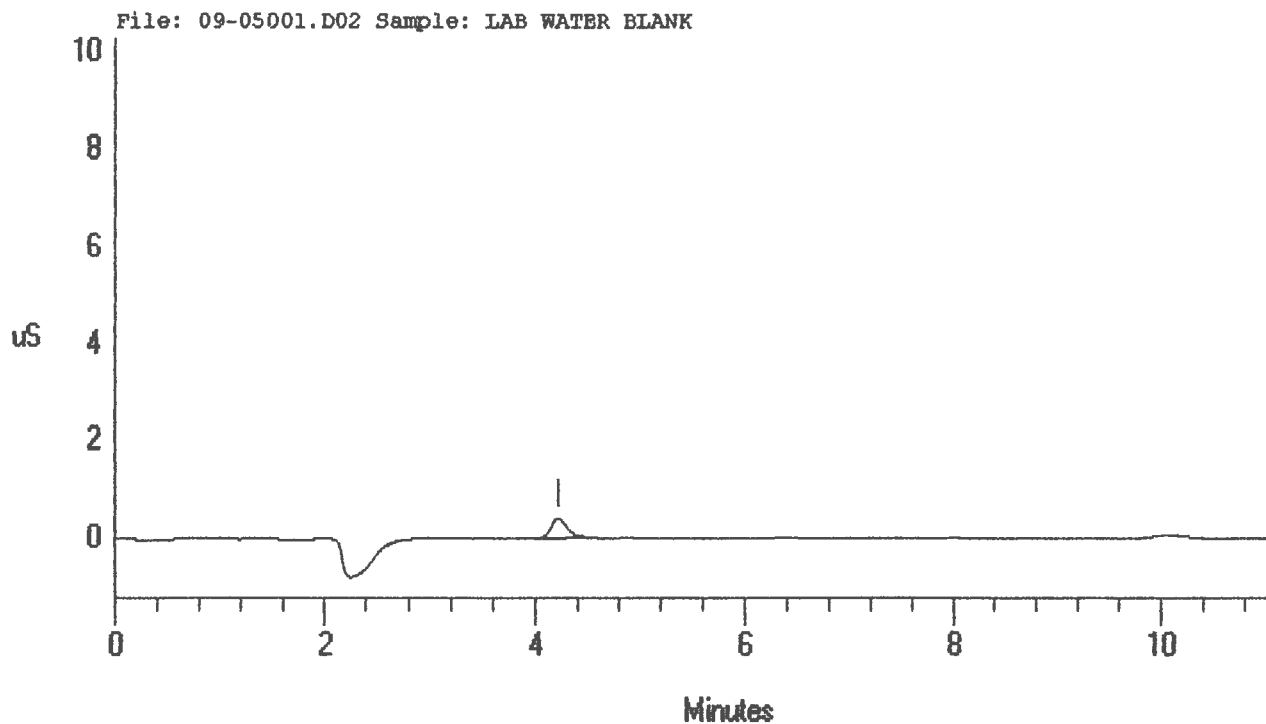
Data Reprocessed On 09/06/2007 09:21:22

```
=====
| Sample Name: LAB WATER BLANK          Date: 09/05/2007 10:08:09 |
| Data File : C:\DX\DATA\CATIONS\07-338\09-05001.D02          |
| Method    : C:\DX\METHOD\NH3LOW.MBT                        |
| ACI Address: 1 System: 1 Inject#: 3.                      Detector: CDM-2 |
| Analyst   :                               Column: CS12-SC, 4mm STARTED 5-17-01 |
=====
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3331	5Hz	0.00	11.10		1000

***** Component Report: Components Found *****

Ret Component Time Name	Area	Height	Concentration ppm
Totals	0	0	0.000



METCO Environmental
3226 Commander Drive
Carrollton, Tx 75006

Valero
Houston, TX
SRU B Tail Gas Stack
(07-338)

Analytical Report

EPA Method 18
Methane-Ethane

Narrative

METCO Environmental Narrative
Valero
Houston, TX
SRU B Tail Gas Stack
(07-338)

Introduction

The procedure utilized for this analysis can be found in detail in EPA Method 18 (40 CFR, Part 60, Appendix A). In this analytical procedure the straight chain hydrocarbons, methane and ethane were examined in Tedlar bags using a gas chromatograph/flame ionization detector (GC/FID) system.

Procedure

Before samples were analyzed, an analytical system blank and a three-point calibration curve were performed. The calibration was performed using certified gas standards ranging in concentration from 15 to 100 ppm. Each day a daily calibration and an analytical system blank were performed. The daily calibration was required to be within 5% of detector response. If this value were exceeded, a second three-point calibration would be performed and verified before any sample analysis. The relative percent difference for the retention and area counts of the calibration injections was calculated.

Each sample was analyzed by pumping the gas from a Tedlar bag that had been previously shown to be free from possible hydrocarbon contaminants, into a sample loop at a sampling rate greater than 20 ml/minute in order to purge the sample loop. A sample was then mechanically injected into the gas chromatographic column for separation of its components and analysis utilizing a flame ionization detector. The results are summarized in the summary section and the chromatograms are presented in the data section.

Results and Discussion

Methane was detected in the samples. No ethane was detected in the samples.

Summary of Results

07-338

Valero
Houston, TX
SRU B Tail Gas Stack

Compound	Run 1	Run 2	Run 3
Methane	1.93	1.82	1.84
Ethane	<0.04	<0.04	<0.04

Results

METCO Environmental

Sample Results

Valero
Houston, TX 07-338
SRU B Tail Gas Stack
Compound
Ethane

Limit of Detection (LOD) 0.04 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Adj Conc
Run 2	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.04
Run 3	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.04
Run 4	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.04

METCO Environmental

Sample Results

Valero
Houston, TX 07-338
SRU B Tail Gas Stack
Compound
Methane

Limit of Detection (LOD) 0.28 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Adj Conc
Run 2	EPA M18	1.62	1.62	1.61	1.98	1.91	1.91	1.93	1.61%	1.000	1.93
Run 3	EPA M18	1.61	1.62	1.62	1.83	1.83	1.80	1.82	0.73%	1.000	1.82
Run 4	EPA M18	1.62	1.61	1.61	1.84	1.85	1.82	1.84	0.60%	1.000	1.84

Sample Custody



METCO
Environmental

CHAIN OF CUSTODY RECORD

Page 1 of 1

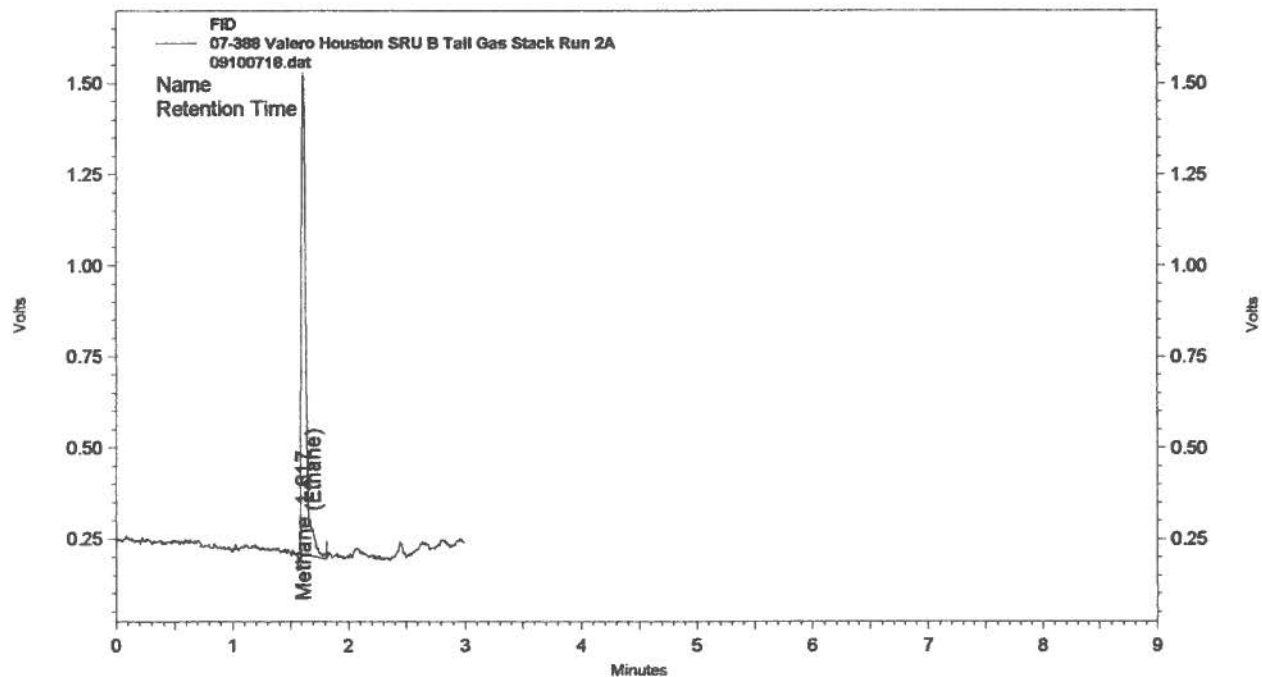
Job No.: <u>07-368 07-338</u>		Project Manager: <u>M. Collier</u>		Method: <u>Heads / meth / ETH</u>															
Job Name: <u>Valero</u>		Project Supervisor: <u>R. Williams</u>																	
Location: <u>Houston, TX</u>																			
Unit: <u>Sev-B Trail Gas Storage</u>																			
SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED								Recovered by	REMARKS (Specific Compounds/Methods)				
						P	A	R	T	H	C	L	C			S	O	S	O
Run 1 Bag	8-30-07	1043	1	-	-														
Run 2 Bag		1254	1	-	-														
Run 3 Bag		1427	1	-	-														
Run 1 Bag		1043	1	-	-														
Run 2 Bag		1254	1	-	-														
Run 3 Bag		1427	1	-	-														
Run 1 Bag		1555	1	-	-														
Run 2 Bag		1555	1	-	-														

Samples Received for Transport/Shipments by:	Date: <u>8/31/07</u>	Time: <u>1615</u>
Samples Received for Transport/Shipments by:	Date:	Time:
Samples Received for Transport/Shipments by:	Date:	Time:
Samples Shipped Via:	Date:	Time:
Samples Received at Laboratory by:	Date: <u>9/10/07</u>	Time: <u>0830</u>
Samples Analyzed by:	Date: <u>9/10/07</u>	Time: <u>0830</u>
Samples Analyzed by:	Date:	Time:
Data Checked by:	Date:	Time:

Sample Chromatograms

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
 Method: 9/10/2007 3:02:58 PM
 Acquired: 9/10/2007 2:59:53 PM
 Printed: 1

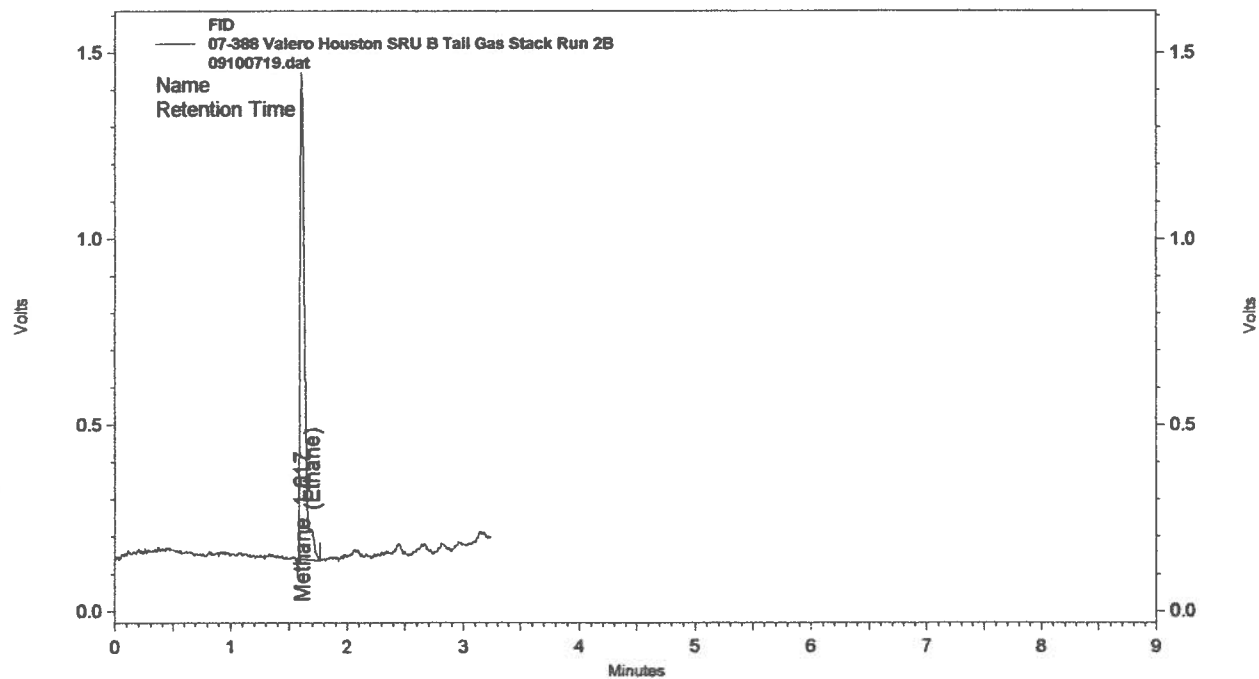


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.617	1324	3665	1.98
Totals		1324	3665	1.98

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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 Printed: 1

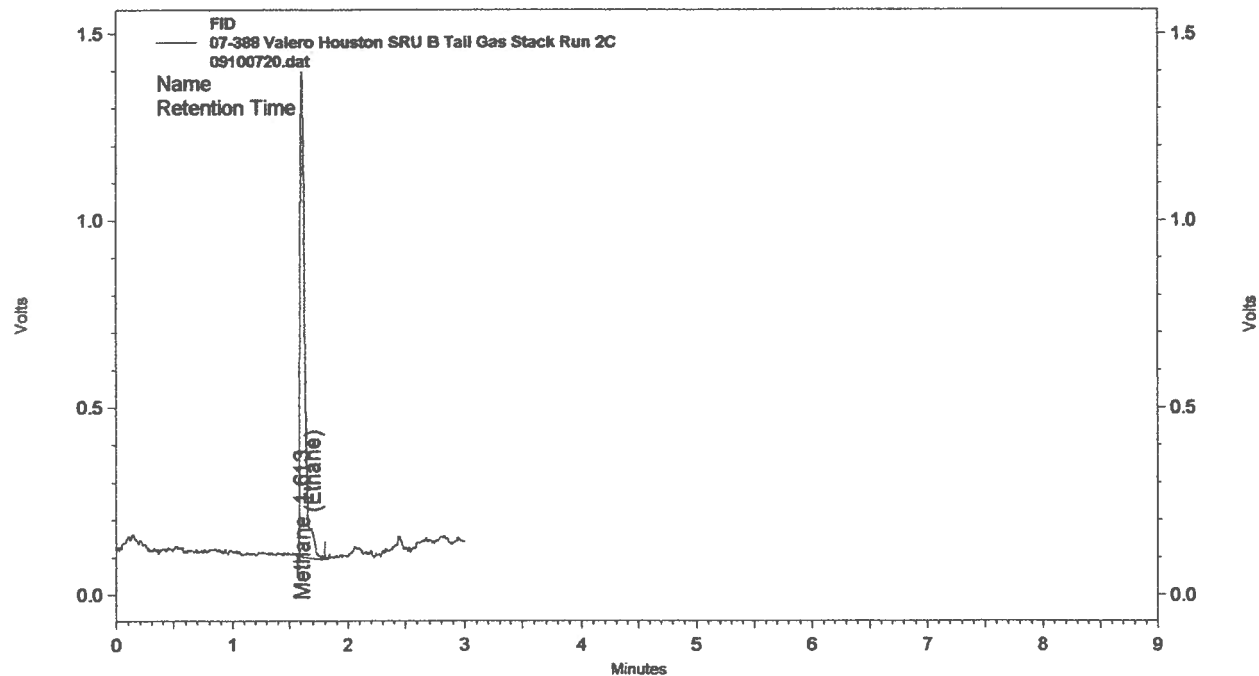


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.617	1308	3539	1.91
Totals		1308	3539	1.91

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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 Acquired: 9/10/2007 3:11:54 PM
 Printed: 1

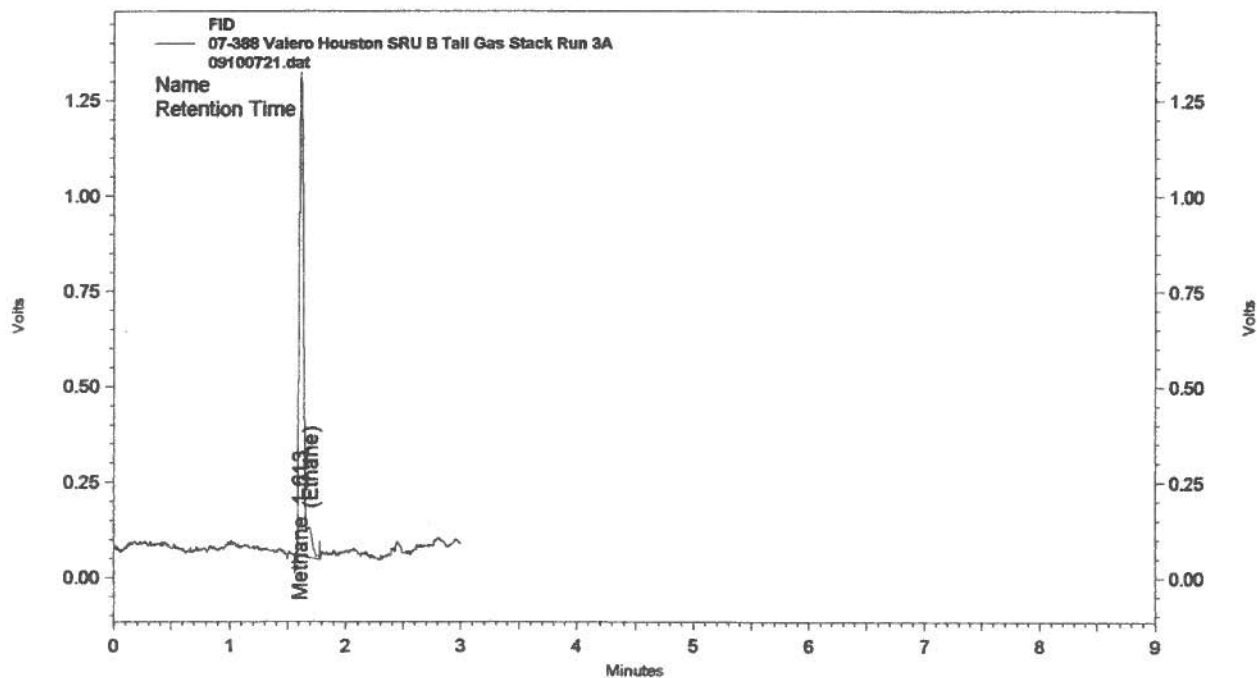


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.613	1299	3545	1.91
Totals		1299	3545	1.91

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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 Acquired: 9/10/2007 3:17:16 PM
 Printed: 1

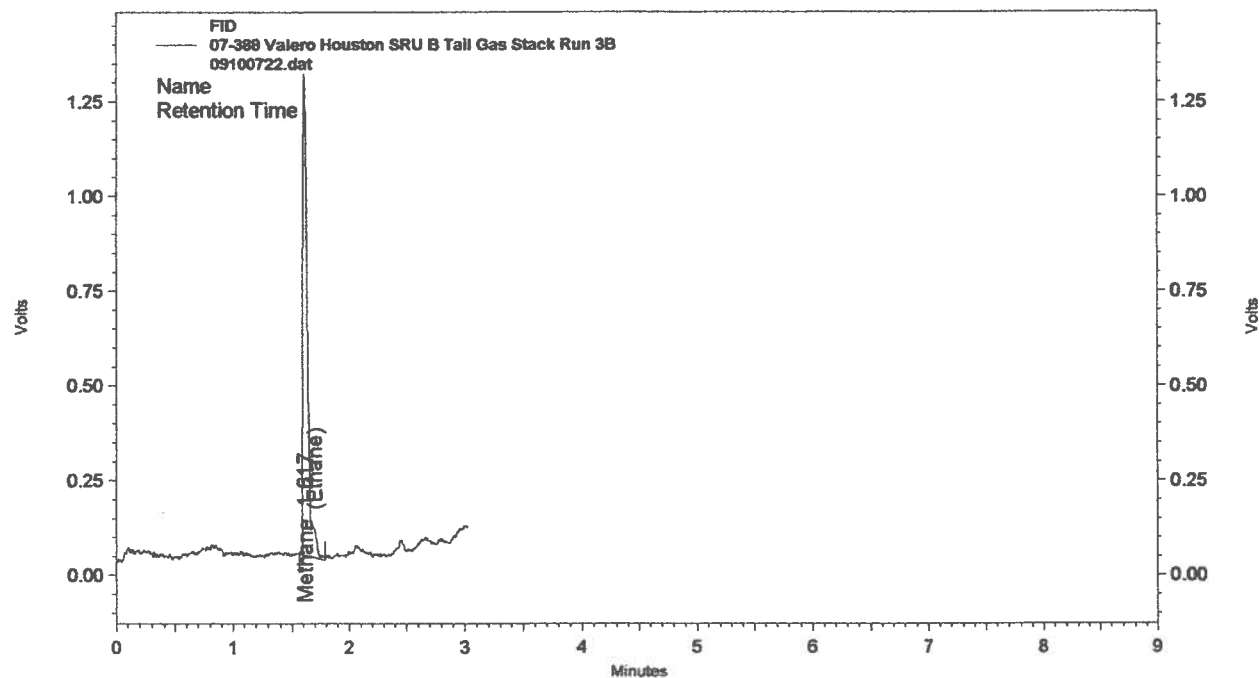


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.613	1268	3386	1.83
Totals		1268	3386	1.83

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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 Printed: 1

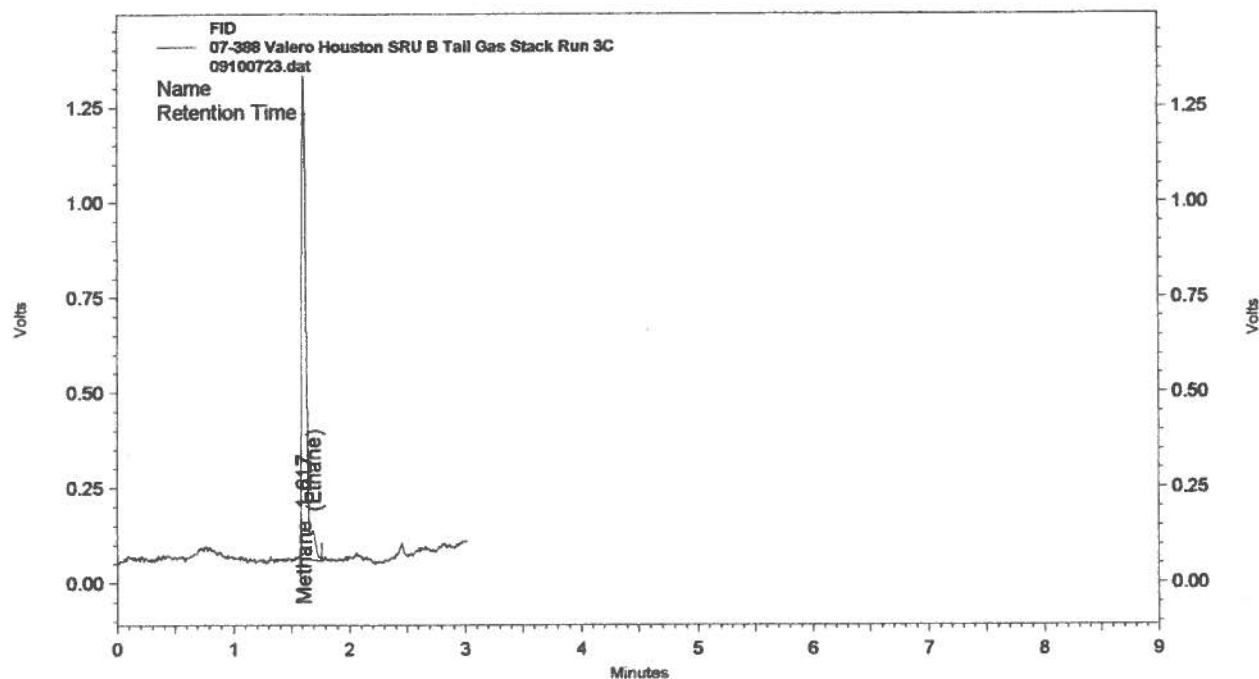


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.617	1273	3388	1.83
Totals		1273	3388	1.83

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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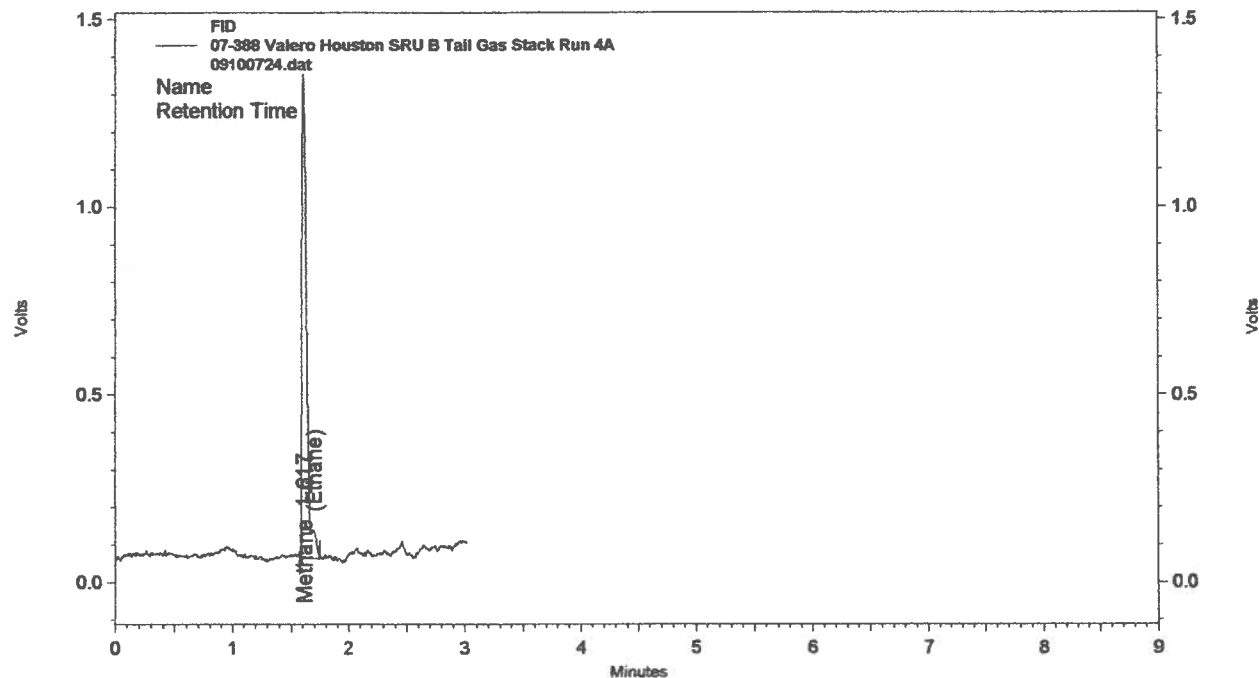


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.617	1269	3336	1.80
Totals		1269	3336	1.80

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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 Acquired: 9/10/2007 3:34:00 PM
 Printed: 1

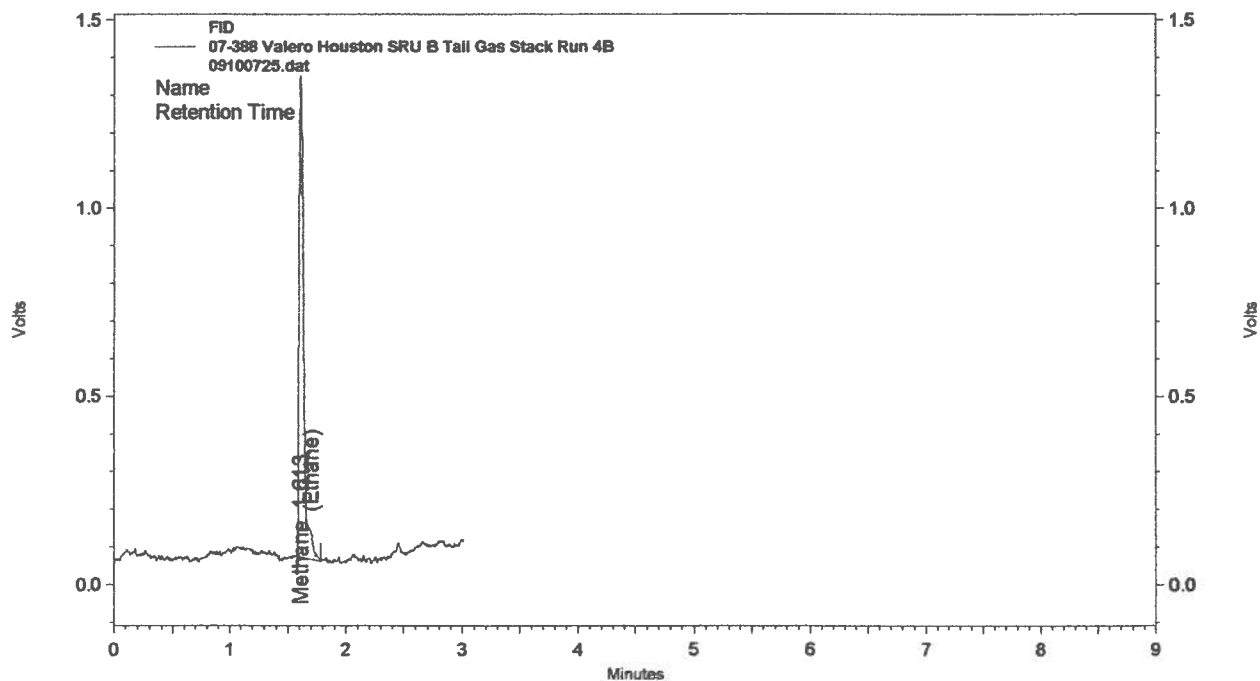


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.617	1287	3419	1.84
Totals		1287	3419	1.84

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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 Acquired: 9/10/2007 3:39:19 PM
 Printed: 1

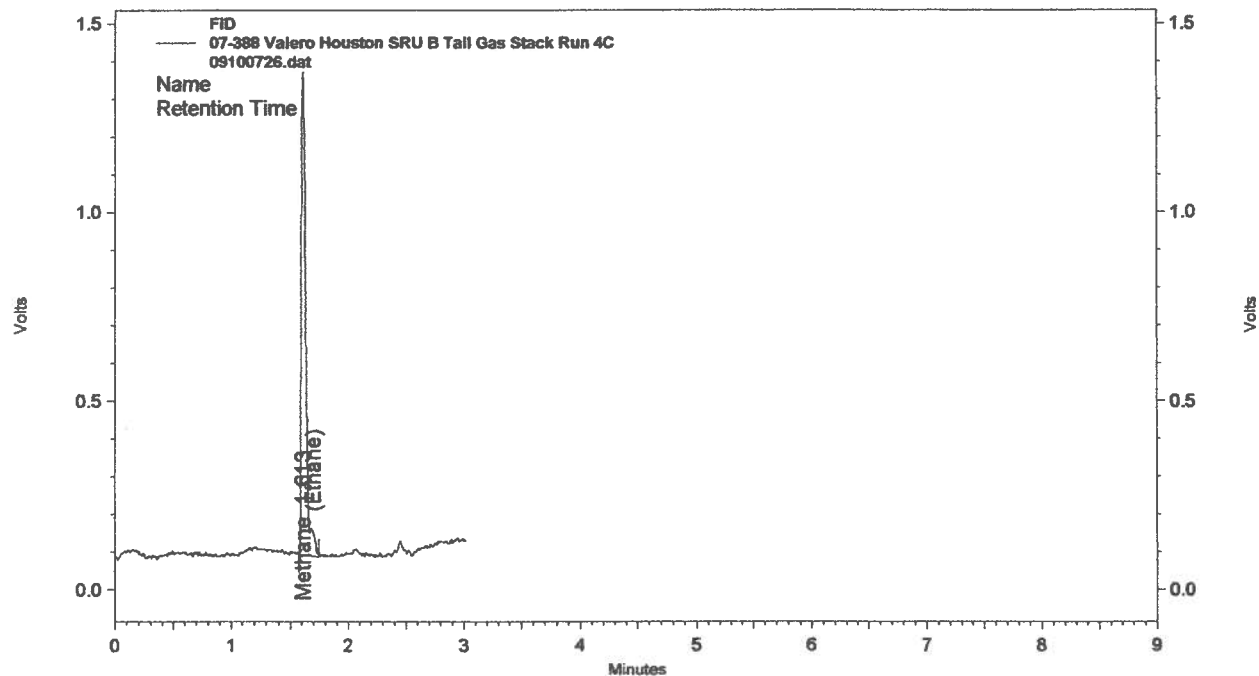


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.613	1280	3436	1.85
Totals		1280	3436	1.85

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
 Method: 9/10/2007 3:47:41 PM
 Acquired: 9/10/2007 3:44:34 PM
 Printed: 1



FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.613	1281	3374	1.82
Totals		1281	3374	1.82

Standards, Blanks

GC Conditions

Column: Restek RTx-1, 50 m, 0.53 mm ID,
Oven: 40C hold 2 minutes to 195 at 25C/ minute, held for 2.8 minute
Carrier: Helium
Injector: VICI 6 port 1mL volume

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
 Print Time: 9/7/2007 8:12:40 AM
 User: System
 Instrument: GC 14A

Methane (FID)

Average RF: 0.000524611 RF StDev: 2.08720e-005 RF %RSD: 3.97856

Scaling: None LSQ Weighting: None Force Through Zero: Off

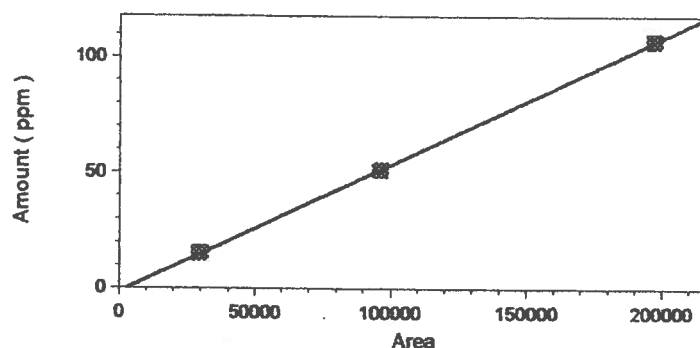
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000549503x - 1.58705$

Goodness of fit (r^2): 0.999978

Peak: Methane -- ESTD -- FID



	Level 1	Level 2	Level 3	Level 4
Amount	15	51	107	510
Area	29913.3	96149.5	197432	
RF	0.000501448	0.00053042397	0.00054196012	
	629373746	5163677	2878062	
Last Area	29928.5	96101.7	197511	
Residual	0.14958	-0.247402	0.0978218	N/A
Rep StDev	49.9633	159.978	374.305	
Rep %RSD	0.167027	0.166385	0.189587	
Rep 1 Area	29971	96283	197981	
Rep 1 User	System	System	System	
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060713.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060707.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060710.dat	
Rep 1 Sample ID	15 ppm cal a	50 ppm cal a	100 ppm cal a	
Rep 1 Calib. Time	9/6/2007 2:57:55 PM	9/6/2007 11:20:28 AM	9/6/2007 1:52:47 PM	
Rep 2 Area	29886	96011	197357	
Rep 2 User	System	System	System	

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
 Print Time: 9/7/2007 8:12:40 AM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060714.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060708.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060711.dat
Rep 2 Sample ID	15 ppm cal b	50 ppm cal b	100 ppm cal b
Rep 2 Calib. Time	9/6/2007 3:26:15 PM	9/6/2007 11:43:34 AM	9/6/2007 2:24:07 PM
Rep 3 Area	29883	96011	197194
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060715.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060708.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060712.dat
Rep 3 Sample ID	15 ppm cal c	50 ppm cal b	100 ppm cal c
Rep 3 Calib. Time	9/6/2007 4:16:58 PM	9/6/2007 11:55:14 AM	9/6/2007 2:44:15 PM
Rep 4 Area		96293	197194
Rep 4 User		System	System
Rep 4 Data File		C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060709.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060712.dat
Rep 4 Sample ID		50 ppm cal c	100 ppm cal c
Rep 4 Calib. Time		9/6/2007 1:30:52 PM	9/6/2007 2:58:27 PM

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
 Print Time: 9/7/2007 8:12:41 AM
 User: System
 Instrument: GC 14A

Ethane (FID)

Average RF: 0.000301725 RF StDev: 4.02444e-006 RF %RSD: 1.33381

Scaling: None LSQ Weighting: None Force Through Zero: Off

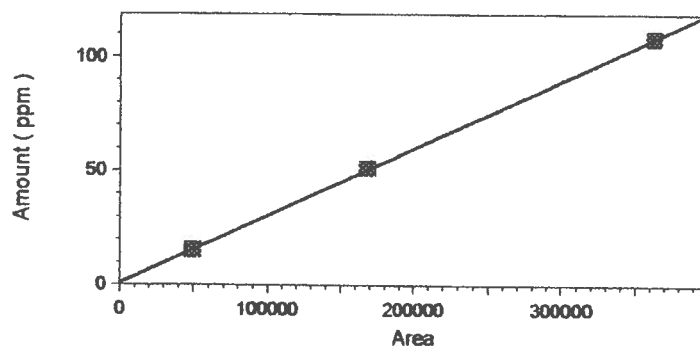
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000295636x + 0.758032$

Goodness of fit (r^2): 0.999921

Peak: Ethane -- ESTD -- FID



	Level 1	Level 2	Level 3	Level 4
Amount	15.1	51	108	500
Area	49510.3	168339	363358	
RF	0.000304986	0.00030296009	0.00029722752	
	837764507	8372926	7672433	
Last Area	49504	168261	363510	
Residual	-0.295077	0.474873	-0.179796	N/A
Rep StDev	42.4421	239.964	635.593	
Rep %RSD	0.0857238	0.142548	0.174922	
Rep 1 Area	49545	168520	364250	
Rep 1 User	System	System	System	
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060713.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060707.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060710.dat	
Rep 1 Sample ID	15 ppm cal a	50 ppm cal a	100 ppm cal a	
Rep 1 Calib. Time	9/6/2007 2:57:55 PM	9/6/2007 11:20:28 AM	9/6/2007 1:52:47 PM	
Rep 2 Area	49463	168132	363378	
Rep 2 User	System	System	System	

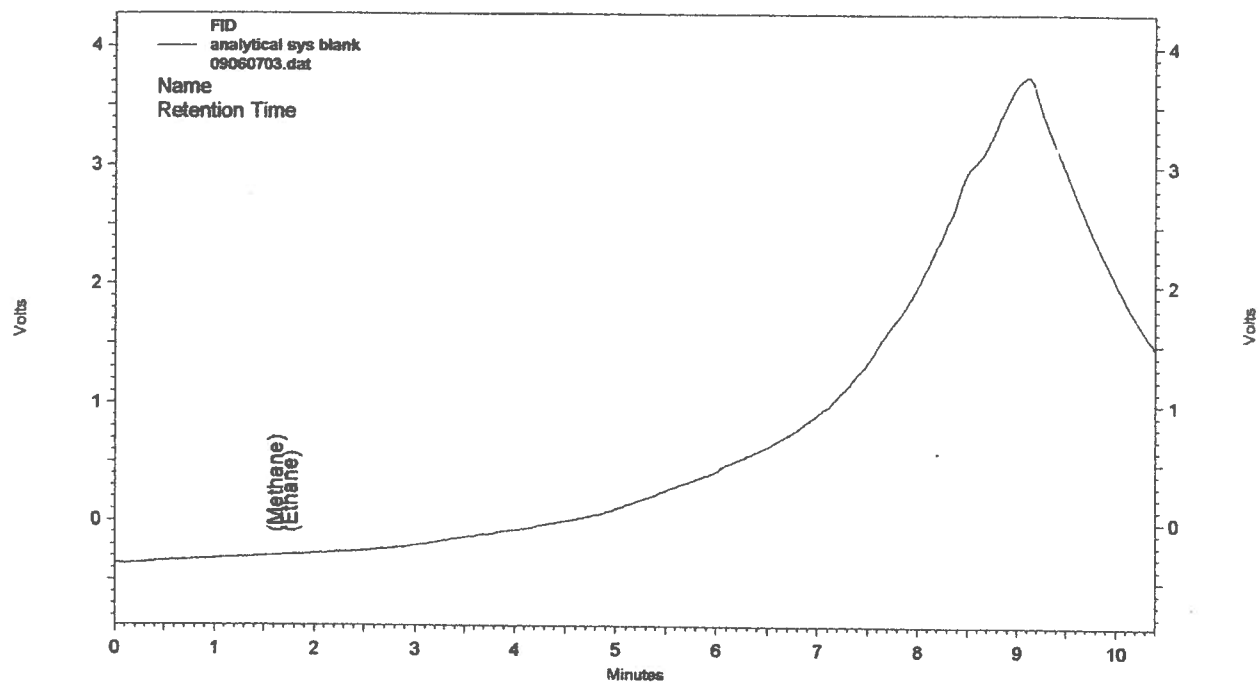
Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
 Print Time: 9/7/2007 8:12:41 AM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060714.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060708.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060711.dat
Rep 2 Sample ID	15 ppm cal b	50 ppm cal b	100 ppm cal b
Rep 2 Calib. Time	9/6/2007 3:26:15 PM	9/6/2007 11:43:34 AM	9/6/2007 2:24:07 PM
Rep 3 Area	49523	168132	362902
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060715.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060708.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060712.dat
Rep 3 Sample ID	15 ppm cal c	50 ppm cal b	100 ppm cal c
Rep 3 Calib. Time	9/6/2007 4:16:58 PM	9/6/2007 11:55:14 AM	9/6/2007 2:44:15 PM
Rep 4 Area		168572	362902
Rep 4 User		System	System
Rep 4 Data File		C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060709.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09060712.dat
Rep 4 Sample ID		50 ppm cal c	100 ppm cal c
Rep 4 Calib. Time		9/6/2007 1:30:52 PM	9/6/2007 2:58:27 PM

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
Method: 9/6/2007 9:42:16 AM
Acquired: 9/6/2007 9:27:27 AM
Printed: 1

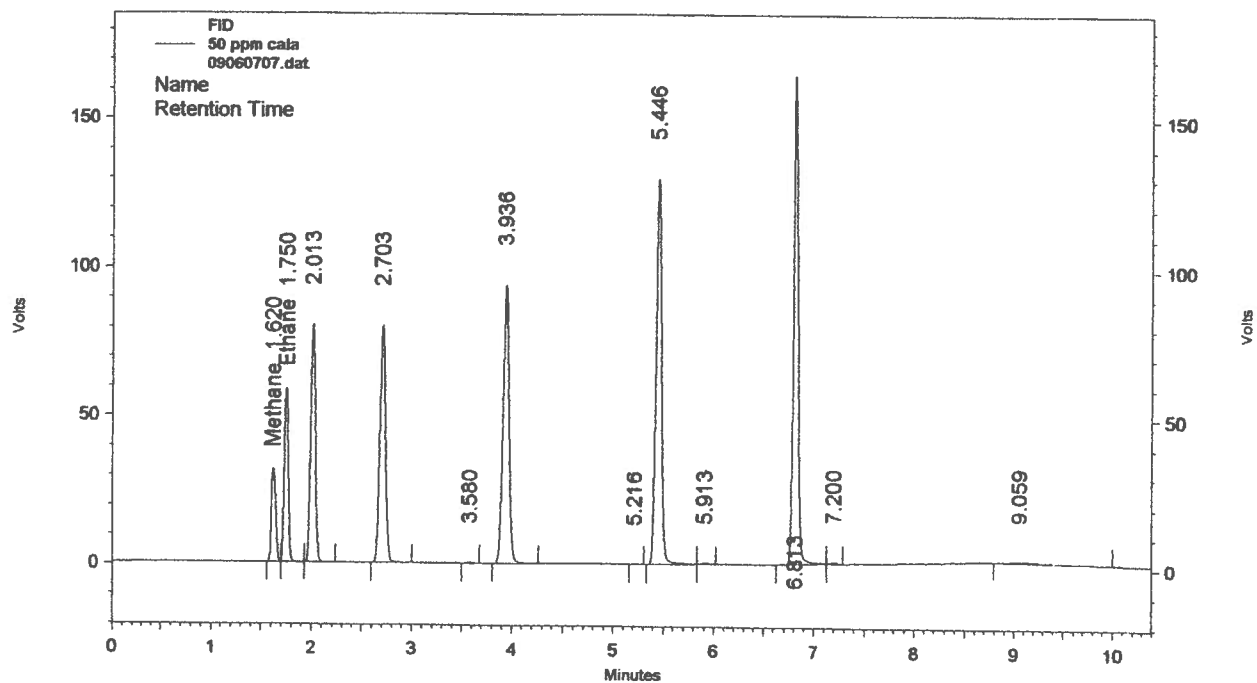


FID Results

Name	Retention Time	Height	Area	ESTD concentration
------	----------------	--------	------	-----------------------

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
 Method: 9/6/2007 11:20:28 AM
 Acquired: 9/6/2007 11:08:49 AM
 Printed: 1



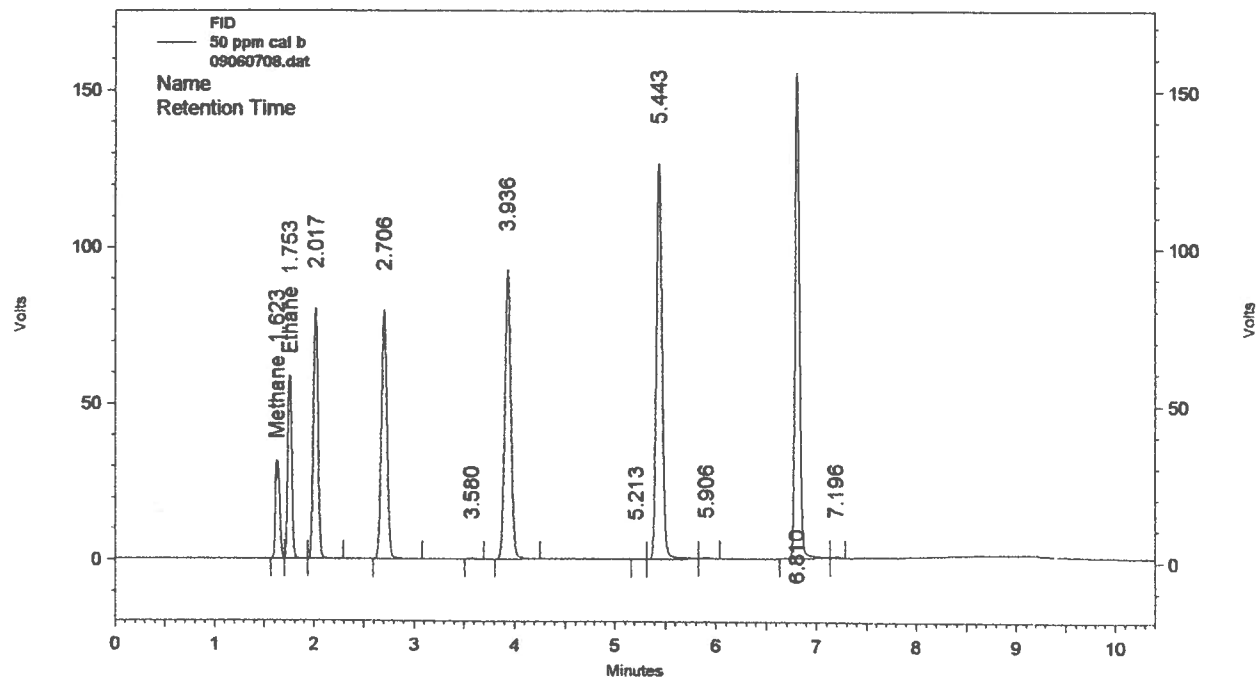
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.620	31717	96283	51.00 CAL
Ethane	1.750	58808	168520	51.00 CAL
	2.013	80471	256921	0.00
	2.703	80243	314652	0.00
	3.580	329	1494	0.00
	3.936	94030	403465	0.00
	5.216	102	409	0.00
	5.446	129688	483096	0.00
	5.913	507	2249	0.00
	6.813	163813	541005	0.00
	7.200	649	2840	0.00
	9.059	373	10442	0.00

Totals		640730	2281376	102.00 CAL
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METCO Environmental

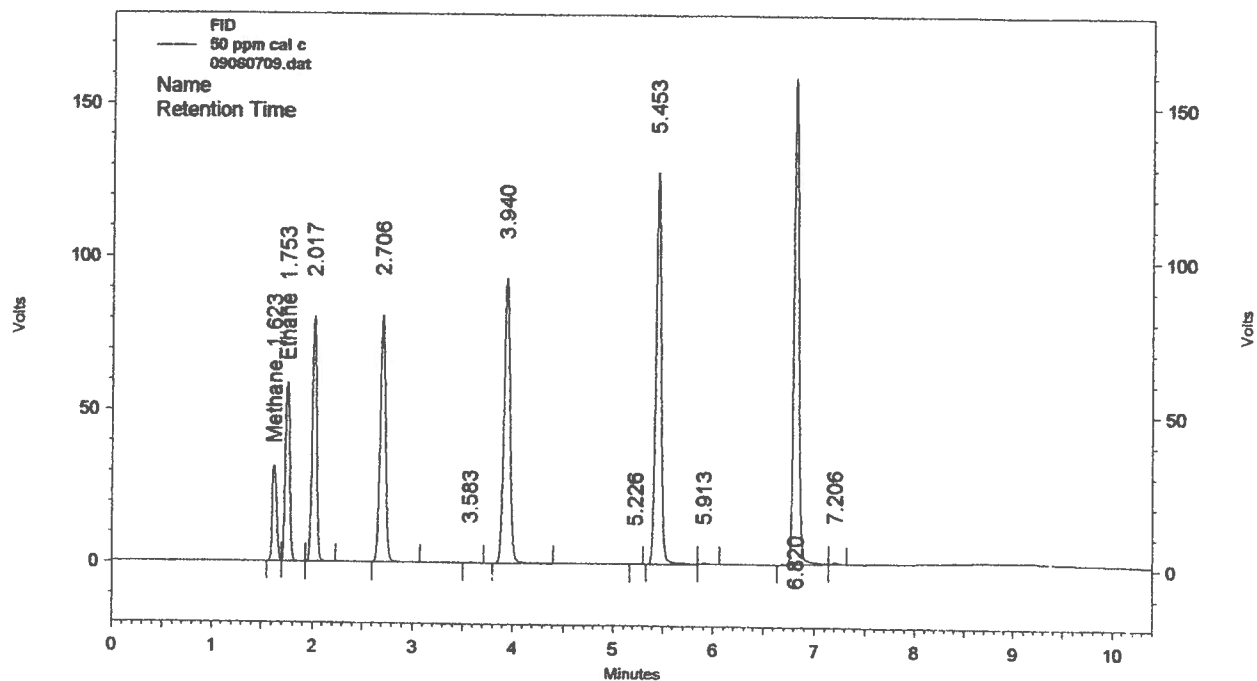
Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
 Method: 9/6/2007 11:55:14 AM
 Acquired: 9/6/2007 11:33:09 AM
 Printed: 1



FID Results				
Name	Retention Time	Height	Area	ESTD concentration
Methane	1.623	31630	96011	51.00 CAL
Ethane	1.753	58695	168132	51.00 CAL
	2.017	80367	256421	0.00
	2.706	79851	313008	0.00
	3.580	325	1491	0.00
	3.936	92548	398379	0.00
	5.213	100	381	0.00
	5.443	126491	470724	0.00
	5.906	497	2285	0.00
	6.810	154917	510674	0.00
	7.196	602	2546	0.00
Totals		626023	2220052	102.00 CAL

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
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 Acquired: 9/6/2007 11:55:44 AM
 Printed: 1



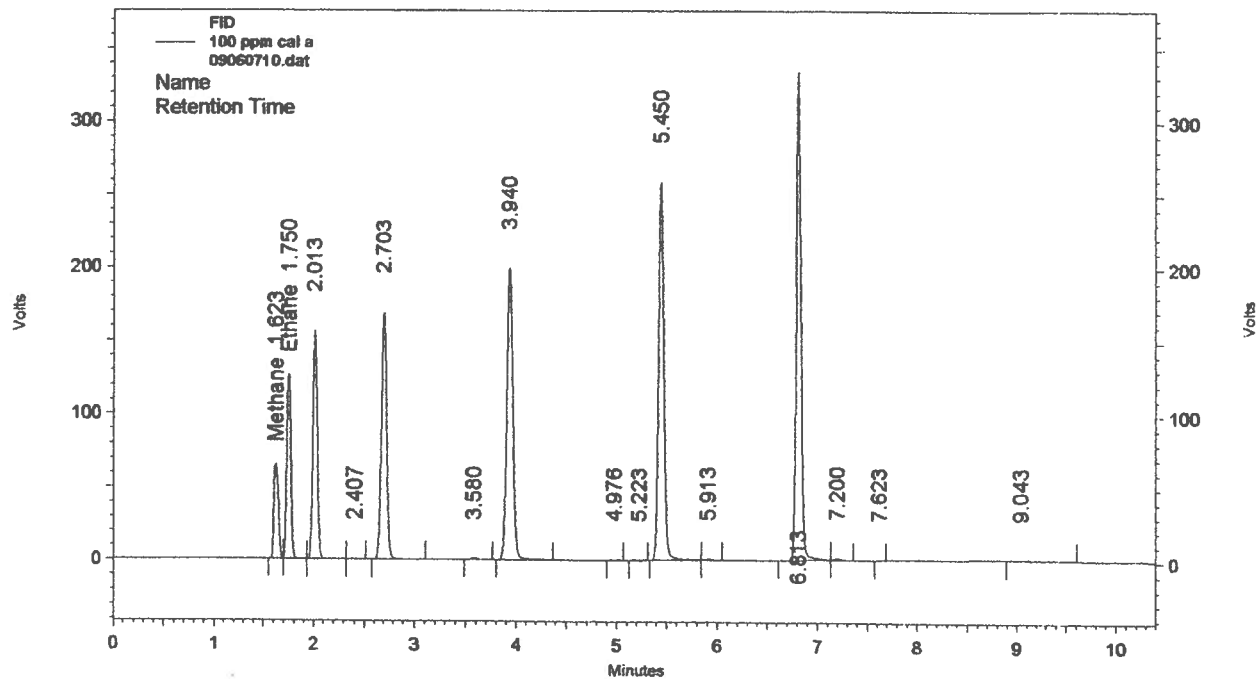
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.623	31618	96293	51.00 CAL
Ethane	1.753	58703	168572	51.00 CAL
	2.017	80393	256866	0.00
	2.706	81147	314699	0.00
	3.583	319	1487	0.00
	3.940	93203	402529	0.00
	5.226	104	395	0.00
	5.453	127846	476241	0.00
	5.913	507	2323	0.00
	6.820	158710	522635	0.00
	7.206	617	2725	0.00

Totals		633167	2244765	102.00 CAL
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
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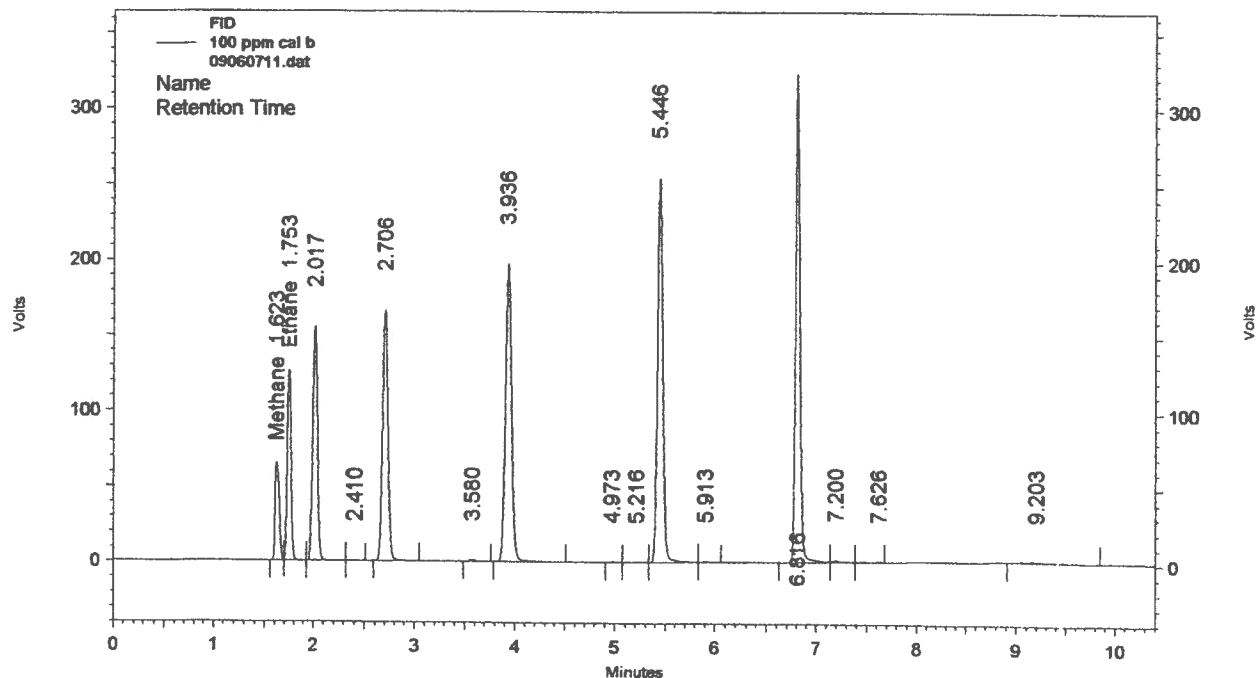
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.623	65407	197981	107.00 CAL
Ethane	1.750	126446	364250	108.00 CAL
	2.013	156112	499549	0.00
	2.407	428	1768	0.00
	2.703	168713	656274	0.00
	3.580	1015	4854	0.00
	3.940	199272	859534	0.00
	4.976	200	840	0.00
	5.223	247	1071	0.00
	5.450	258226	964445	0.00
	5.913	746	3471	0.00
	6.813	333445	1099899	0.00
	7.200	1361	6399	0.00
	7.623	171	499	0.00
	9.043	244	5020	0.00

Totals		1312033	4665854	215.00 CAL
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
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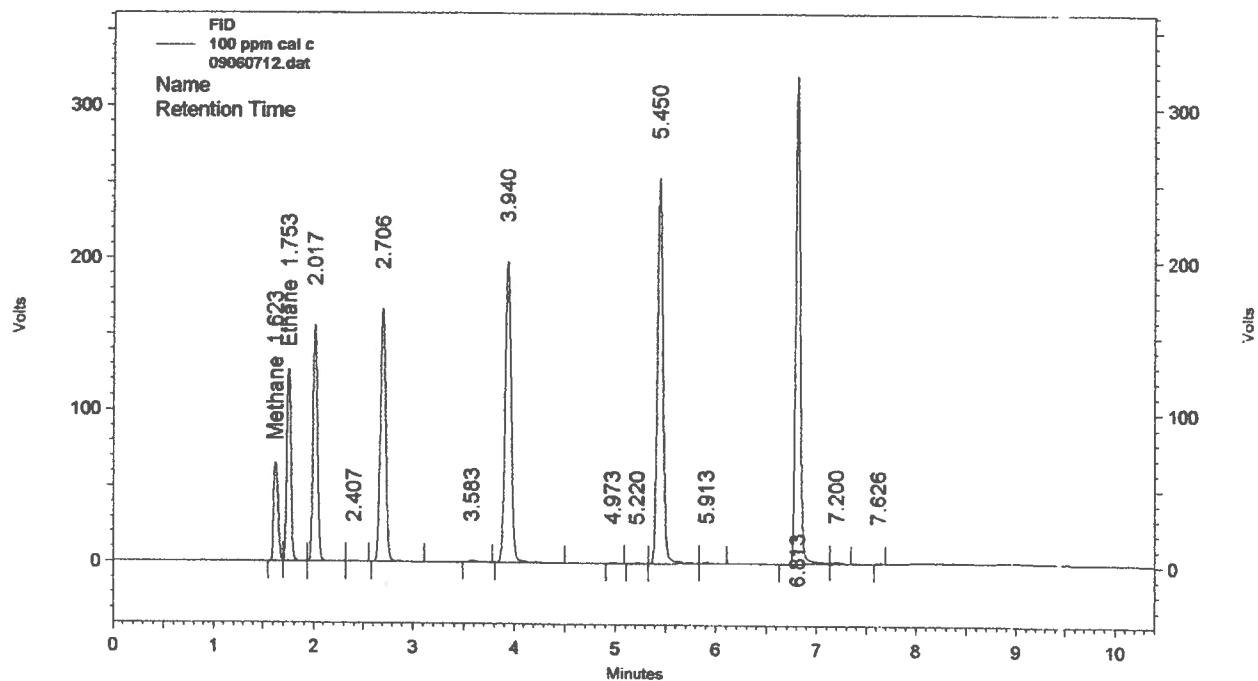
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.623	65369	197357	107.00 CAL
Ethane	1.753	126174	363378	108.00 CAL
	2.017	155337	498065	0.00
	2.410	435	1780	0.00
	2.706	166242	652756	0.00
	3.580	1004	4860	0.00
	3.936	197496	854630	0.00
	4.973	199	842	0.00
	5.216	240	1076	0.00
	5.446	254947	951257	0.00
	5.913	742	3526	0.00
	6.816	322943	1067271	0.00
	7.200	1426	7608	0.00
	7.626	324	1554	0.00
	9.203	598	12165	0.00

Totals		1293476	4618125	215.00 CAL
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
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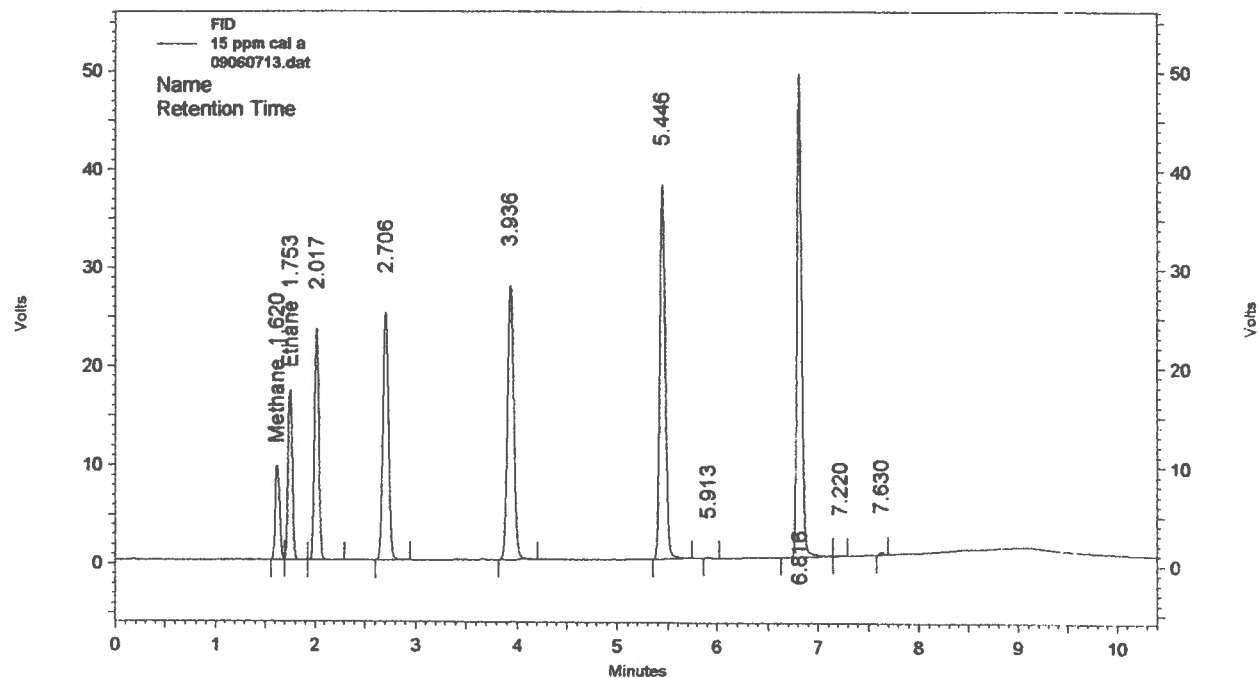
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.623	65427	197194	107.00 CAL
Ethane	1.753	126550	362902	108.00 CAL
	2.017	155949	497764	0.00
	2.407	438	1858	0.00
	2.706	166831	652352	0.00
	3.583	1007	4902	0.00
	3.940	198345	852384	0.00
	4.973	200	841	0.00
	5.220	239	1033	0.00
	5.450	253647	947090	0.00
	5.913	776	3972	0.00
	6.813	320055	1056734	0.00
	7.200	1308	6033	0.00
	7.626	273	769	0.00
Totals				

		1291045	4585828	215.00 CAL
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METCO Environmental

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 Printed: 1



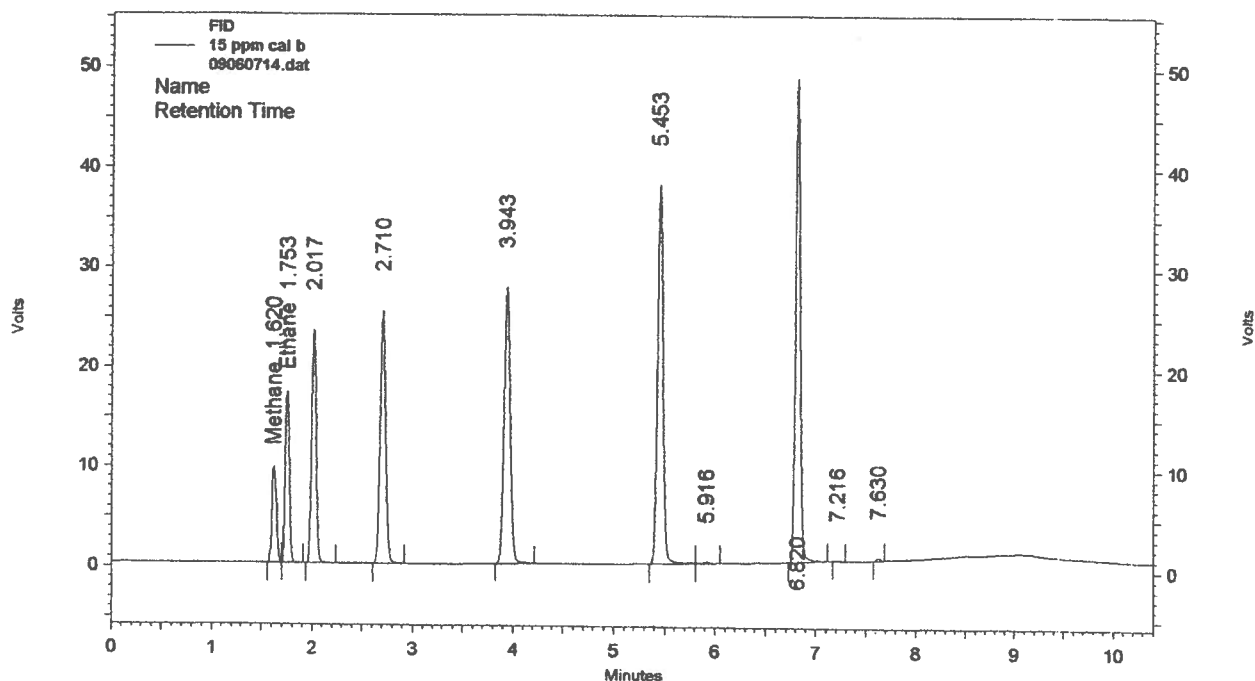
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.620	9611	29971	15.00 CAL
Ethane	1.753	17205	49545	15.10 CAL
	2.017	23466	75212	0.00
	2.706	25105	98383	0.00
	3.936	27803	119904	0.00
	5.446	37963	140948	0.00
	5.913	115	418	0.00
	6.816	49026	161803	0.00
	7.220	135	667	0.00
	7.630	291	838	0.00

Totals		190720	677689	30.10 CAL
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METCO Environmental

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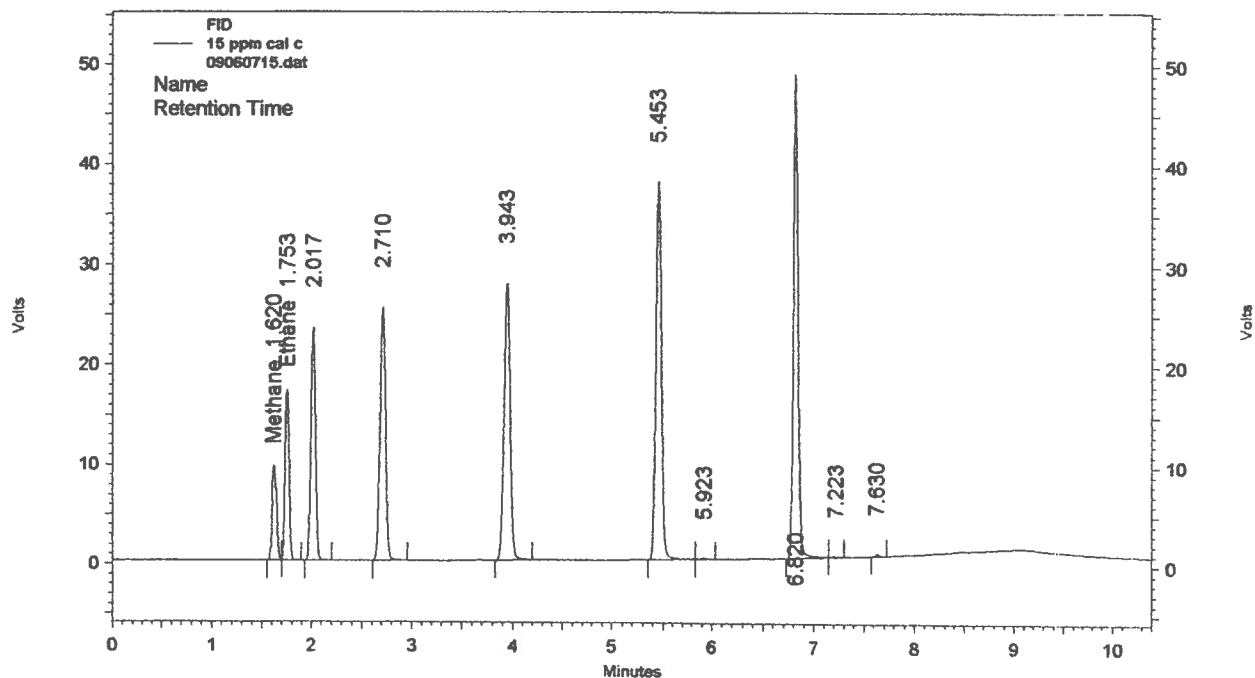


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.620	9592	29886	15.00 CAL
Ethane	1.753	17170	49463	15.10 CAL
	2.017	23420	74995	0.00
	2.710	25345	98190	0.00
	3.943	27680	119385	0.00
	5.453	37925	141055	0.00
	5.916	150	758	0.00
	6.820	48335	158647	0.00
	7.216	95	384	0.00
	7.630	275	783	0.00
Totals		189987	673546	30.10 CAL

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth062907.met
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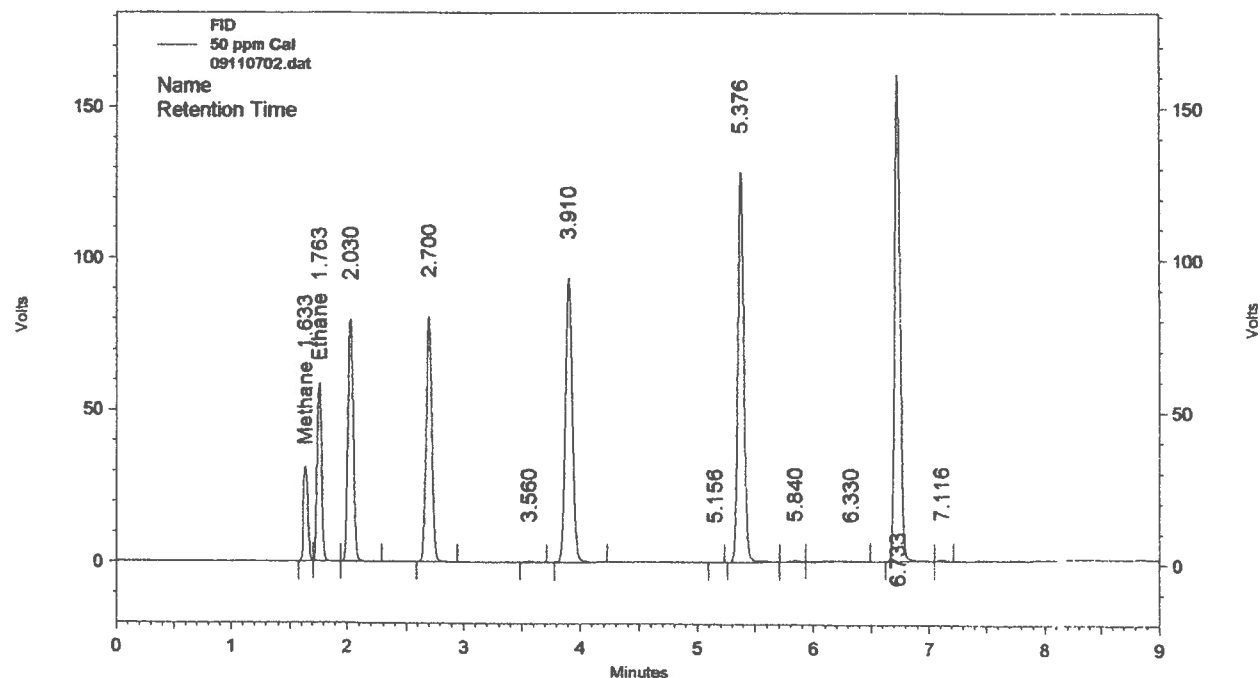
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.620	9604	29883	15.00 CAL
Ethane	1.753	17169	49523	15.10 CAL
	2.017	23455	75117	0.00
	2.710	25428	98422	0.00
	3.943	27767	119530	0.00
	5.453	37863	141209	0.00
	5.923	148	692	0.00
	6.820	48419	159599	0.00
	7.223	137	742	0.00
	7.630	256	779	0.00

Totals		190246	675496	30.10 CAL
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
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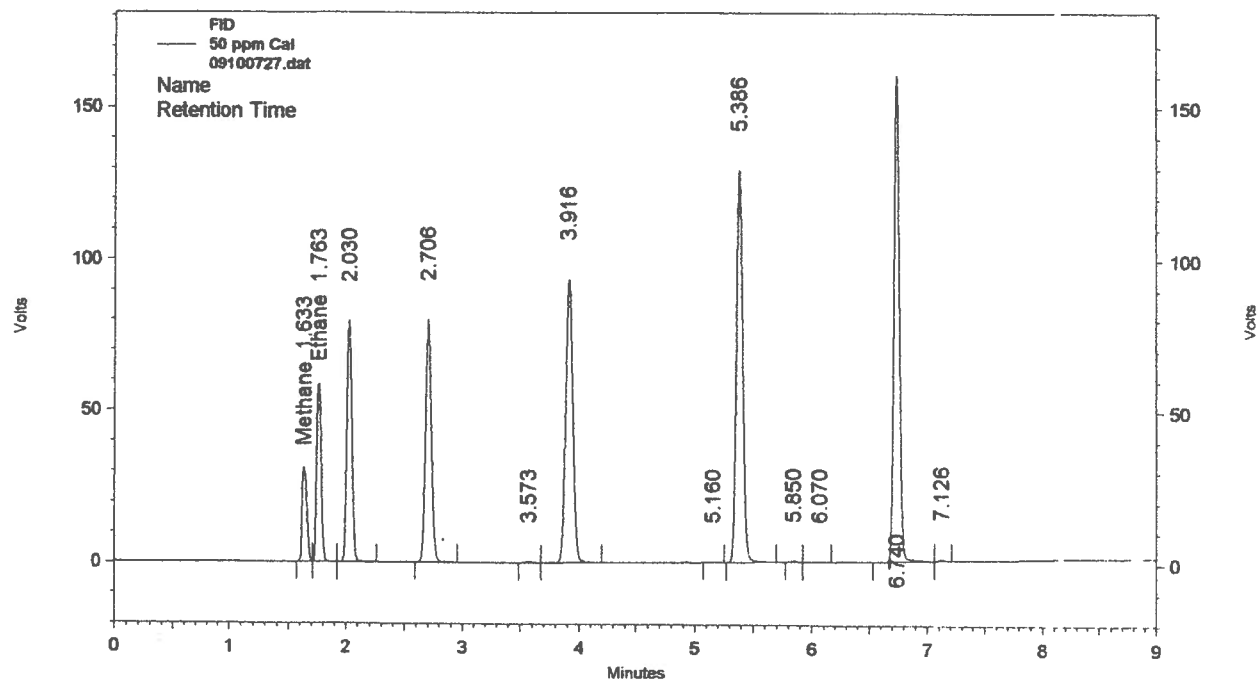


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.633	31148	92765	50.01
Ethane	1.763	58779	163828	48.88
	2.030	79587	249153	0.00
	2.700	80575	304090	0.00
	3.560	320	1470	0.00
	3.910	93305	391091	0.00
	5.156	107	405	0.00
	5.376	128306	467159	0.00
	5.840	543	2978	0.00
	6.330	174	4357	0.00
	6.733	160064	519076	0.00
	7.116	573	2352	0.00
Totals		633481	2198724	98.88

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
 Method: 9/10/2007 3:59:00 PM
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 Printed: 1



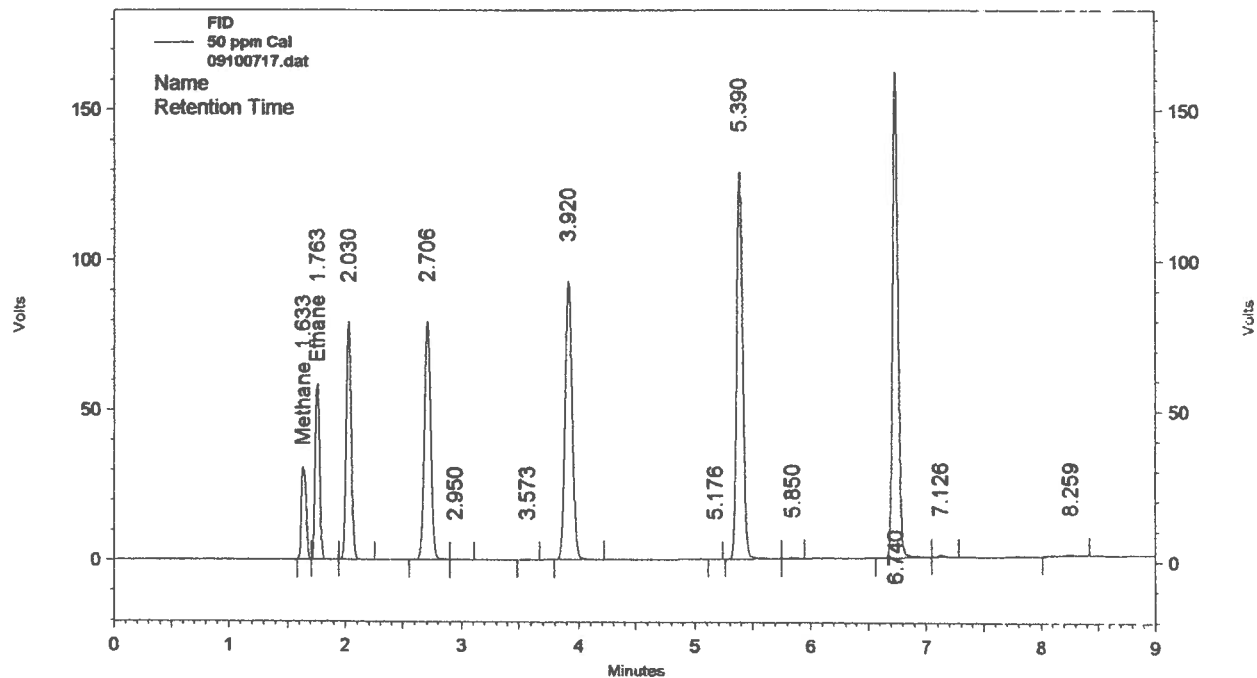
FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.633	31106	92667	49.95
Ethane	1.763	58722	163756	48.86
	2.030	79621	249153	0.00
	2.706	80114	304239	0.00
	3.573	328	1519	0.00
	3.916	93456	391308	0.00
	5.160	120	627	0.00
	5.386	129133	465946	0.00
	5.850	428	1551	0.00
	6.070	110	518	0.00
	6.740	159866	519177	0.00
	7.126	586	2365	0.00

Totals		633590	2192826	98.81
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
 Method: 9/10/2007 2:52:54 PM
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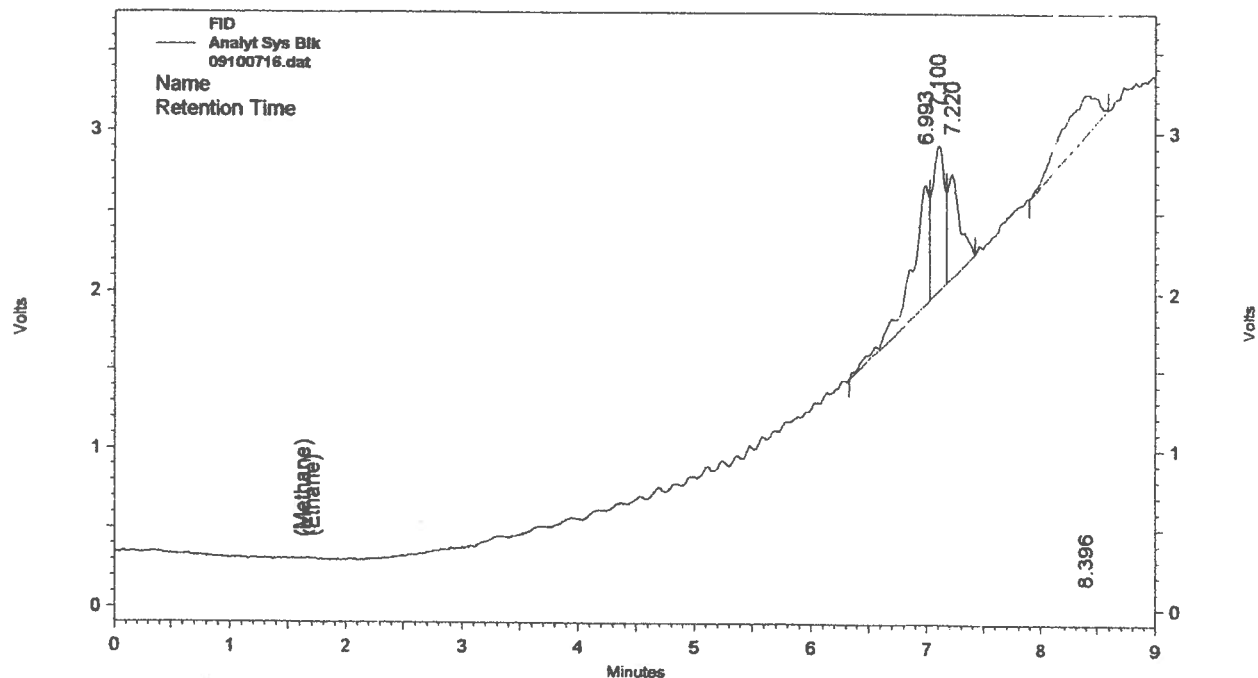


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Methane	1.633	30948	92262	49.11
Ethane	1.763	58554	163028	48.96
	2.030	79412	248185	0.00
	2.706	79501	305178	0.00
	2.950	162	827	0.00
	3.573	324	1479	0.00
	3.920	92853	390037	0.00
	5.176	109	384	0.00
	5.390	128982	467529	0.00
	5.850	456	1901	0.00
	6.740	161462	523481	0.00
	7.126	647	3193	0.00
	8.259	309	3452	0.00
Totals		633719	2200936	98.07

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\Metheth090607.met
 Method: 9/10/2007 2:33:38 PM
 Acquired: 9/10/2007 2:24:37 PM
 Printed: 1



FID Results

Name	Retention Time	Height	Area	ESTD concentration
	6.993	749	7969	0.00
	7.100	905	6646	0.00
	7.220	646	4664	0.00
	8.396	252	6063	0.00
Totals		2552	25342	0.00

METCO Environmental
3226 Commander Drive
Carrollton, Tx 75006

Valero Refining
Houston, Tx
SRU B Tail Gas Stack
(07-338)

Analytical Report

EPA Method 18
HRVOC

Narrative

METCO Environmental Narrative
Valero Refining, Houston, Tx
SRU B Tail Gas Stack
(07-338)

Introduction

The procedure utilized for this analysis can be found in detail in EPA Method 18 (40 CFR, Part 60, Appendix A). In this analytical procedure, the highly reactive volatile organic compounds (HRVOC) were examined in Tedlar bags using a gas chromatograph/flame ionization detector (GC/FID) system.

Procedure

Before samples were analyzed, an analytical system blank and a three-point calibration curve were performed. The calibration was performed using certified gas standards ranging in concentration from 10 to 100 ppm. Each day a daily calibration and an analytical system blank were performed. The daily calibration was required to be within 5% of detector response. If this value were exceeded, a second three-point calibration would be performed and verified before any sample analysis. The relative percent difference for the retention and area counts of the calibration injections was calculated.

Each sample was analyzed by pumping the gas from a Tedlar bag that had been previously shown to be free from possible hydrocarbon contaminants, into a sample loop at a sampling rate greater than 20 ml/minute in order to purge the sample loop. A sample was then mechanically injected into the gas chromatographic column for separation of its components and analysis utilizing a flame ionization detector. The results are summarized in the summary section and the chromatograms are presented in the data section. A spike was performed on Run 2 after the initial analysis. An injection of 10 ml of the 50-ppm gas standard was performed on the sample. The recoveries were within the required 70-130%. The volume of the Tedlar bag was measured with a calibrated rotometer. The recovery efficiency of the spiked sample was used to correct the concentration of each analyte.

The Certificates of Analysis for the certified gas standards are presented in calibration section. The calculations for the determination of spike recovery are presented in results section.

Results and Discussion

No HRVOC compounds were detected in the samples.

Summary of Results

07-338

Valero Refining
Houston, TX

SRU B Tail Gas Stack

(Concentration corrected for recovery)

Compound	Run 1	Run 2	Run 3
Ethylene	<0.02	<0.02	<0.02
Propylene	<0.02	<0.02	<0.02
trans-2-Butene	<0.03	<0.03	<0.03
1-Butene	<0.04	<0.04	<0.04
Isobutylene	<0.03	<0.03	<0.03
cis-2-Butene	<0.04	<0.04	<0.04
1,3-Butadiene	<0.05	<0.05	<0.05

Results

METCO Environmental

Sample Results

Valero Refining
Houston, TX 07-338
SRU B Tail Gas Stack
Compound
Ethylene

Limit of Detection (LOD) 0.02 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 3	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.02	0.02	0.02	0.02	0.00%	1.000	0.980	0.02
Run 2	EPA M18	NA	NA	NA	0.02	0.02	0.02	0.02	0.00%	1.000	0.980	0.02
Run 3	EPA M18	NA	NA	NA	0.02	0.02	0.02	0.02	0.00%	1.000	0.980	0.02
Run 2 Spike	EPA M18	2.40	2.40	2.40	0.29	0.29	0.29	0.29	0.00%	1.000	1.000	0.29

METCO Environmental

Sample Results

Valero Refining
Houston, TX 07-338
SRU B Tail Gas Stack
Compound
Propylene

Limit of Detection (LOD) 0.02 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 3	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.08	0.02	0.02	0.02	100.00%	1.000	0.946	0.02
Run 2	EPA M18	NA	NA	NA	0.02	0.02	0.02	0.02	0.00%	1.000	0.946	0.02
Run 3	EPA M18	NA	NA	NA	0.02	0.02	0.02	0.02	0.00%	1.000	0.946	0.02
Run 2 Spike	EPA M18	3.84	3.84	3.83	0.28	0.28	0.27	0.28	1.61%	1.000	1.000	0.28

METCO Environmental Sample Results

Valero Refining
Houston, TX
SRU B Tail Gas Stack
Compound
trans-2-Butene

07-338

Limit of Detection (LOD) 0.03 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.03	0.03	0.03	0.03	0.00%	1.000	0.913	0.03
Run 2	EPA M18	NA	NA	NA	0.03	0.03	0.03	0.03	0.00%	1.000	0.913	0.03
Run 3	EPA M18	NA	NA	NA	0.03	0.03	0.03	0.03	0.00%	1.000	0.913	0.03
Run 2 Spike	EPA M18	6.39	6.37	6.35	0.27	0.27	0.27	0.27	0.00%	1.000	1.000	0.27

METCO Environmental

Sample Results

Valero Refining
Houston, TX
SRU B Tail Gas Stack
Compound
1-Butene

07-338

Limit of Detection (LOD) 0.04 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.913	0.04
Run 2	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.913	0.04
Run 3	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.913	0.04
Run 2 Spike	EPA M18	6.51	6.49	6.47	0.27	0.28	0.27	0.27	1.63%	1.000	1.000	0.27

METCO Environmental

Sample Results

Valero Refining
Houston, TX 07-338
SRU B Tail Gas Stack
Compound
Isobutylene

Limit of Detection (LOD) 0.03 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.03	0.03	0.03	0.03	0.00%	1.000	0.946	0.03
Run 2	EPA M18	NA	NA	NA	0.03	0.03	0.03	0.03	0.00%	1.000	0.946	0.03
Run 3	EPA M18	NA	NA	NA	0.03	0.03	0.03	0.03	0.00%	1.000	0.946	0.03
Run 2 Spike	EPA M18	6.83	6.81	6.79	0.29	0.28	0.28	0.28	1.57%	1.000	1.000	0.28

METCO Environmental

Sample Results

Valero Refining
Houston, TX
SRU B Tail Gas Stack
Compound
cis-2-Butene

07-338

Limit of Detection (LOD) 0.04 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.928	0.04
Run 2	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.928	0.04
Run 3	EPA M18	NA	NA	NA	0.04	0.04	0.04	0.04	0.00%	1.000	0.928	0.04
Run 2 Spike	EPA M18	7.01	6.98	6.97	0.29	0.28	0.27	0.28	2.38%	1.000	1.000	0.28

METCO Environmental

Sample Results

Valero Refining
Houston, TX 07-338
SRU B Tail Gas Stack
Compound
1,3-Butadiene

Limit of Detection (LOD) 0.05 ppm

Sample ID	Analysis Method	Ret Time 1	Ret Time 2	Ret Time 3	Conc 1	Conc 2	Conc 3	Avg Conc	% Dif Con	Dil Fac	Rec Eff	Adj Conc
Run 1	EPA M18	NA	NA	NA	0.05	0.05	0.05	0.05	0.00%	1.000	0.946	0.05
Run 2	EPA M18	NA	NA	NA	0.05	0.05	0.05	0.05	0.00%	1.000	0.946	0.05
Run 3	EPA M18	NA	NA	NA	0.05	0.05	0.05	0.05	0.00%	1.000	0.946	0.05
Run 2 Spike	EPA M18	8.15	8.12	8.1	0.29	0.27	0.28	0.28	2.38%	1.000	1.000	0.28

Sample Custody



METCO
Environmental

CHAIN OF CUSTODY RECORD

Page 1 of 1

Job No.: <u>07-038</u>		Project Manager: <u>Bob Jones</u>		Method: <u>GC/MS</u>								
Job Name: <u>Site Investigation</u>		Project Supervisor: <u>Bob Jones</u>										
Location: <u>10000 Tenth Avenue, Suite 100</u>												
Unit: <u>10000 Tenth Avenue, Suite 100</u>												
SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED					Recovered by	REMARKS (Specific Compounds/Methods)
						P A R T	H C L	C L 2	S O 2	S O 3		
<u>Rock 1</u>	<u>6/20/03</u>	<u>17:13</u>	<u>1</u>								<u>Rock 1</u>	
<u>Rock 2</u>		<u>17:54</u>	<u>1</u>									
<u>Rock 3</u>		<u>14:27</u>	<u>1</u>									
<u>Rock 4</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 5</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 6</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 7</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 8</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 9</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 10</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 11</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 12</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 13</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 14</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 15</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 16</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 17</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 18</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 19</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 20</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 21</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 22</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 23</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 24</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 25</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 26</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 27</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 28</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 29</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 30</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 31</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 32</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 33</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 34</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 35</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 36</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 37</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 38</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 39</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 40</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 41</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 42</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 43</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 44</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 45</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 46</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 47</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 48</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 49</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 50</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 51</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 52</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 53</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 54</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 55</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 56</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 57</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 58</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 59</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 60</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 61</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 62</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 63</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 64</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 65</u>		<u>17:13</u>	<u>1</u>									
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<u>Rock 68</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 69</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 70</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 71</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 72</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 73</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 74</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 75</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 76</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 77</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 78</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 79</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 80</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 81</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 82</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 83</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 84</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 85</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 86</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 87</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 88</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 89</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 90</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 91</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 92</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 93</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 94</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 95</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 96</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 97</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 98</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 99</u>		<u>17:13</u>	<u>1</u>									
<u>Rock 100</u>		<u>17:13</u>	<u>1</u>									

Samples Received for Transport/Shipiment by: _____ Date: _____ Time: _____

Samples Received for Transport/Shipiment by: _____ Date: _____ Time: _____

Samples Received for Transport/Shipiment by: _____ Date: _____ Time: _____

Samples Shipped Via: _____ Date: _____ Time: _____

Samples Received at Laboratory by: _____ Date: _____ Time: _____

Samples Analyzed by: _____ Date: _____ Time: _____

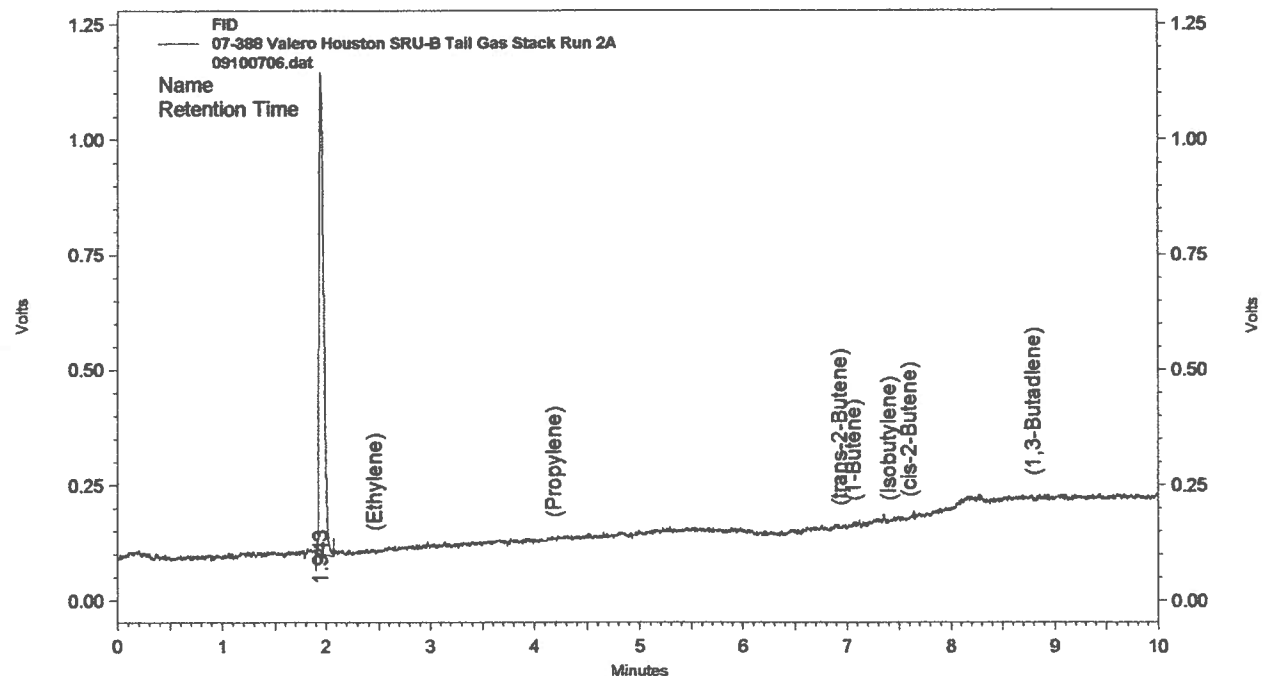
Samples Analyzed by: _____ Date: _____ Time: _____

Data Checked by: _____ Date: _____ Time: _____

Sample Chromatograms

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 10:22:09 AM
 Acquired: 9/10/2007 10:12:08 AM
 Printed: 1



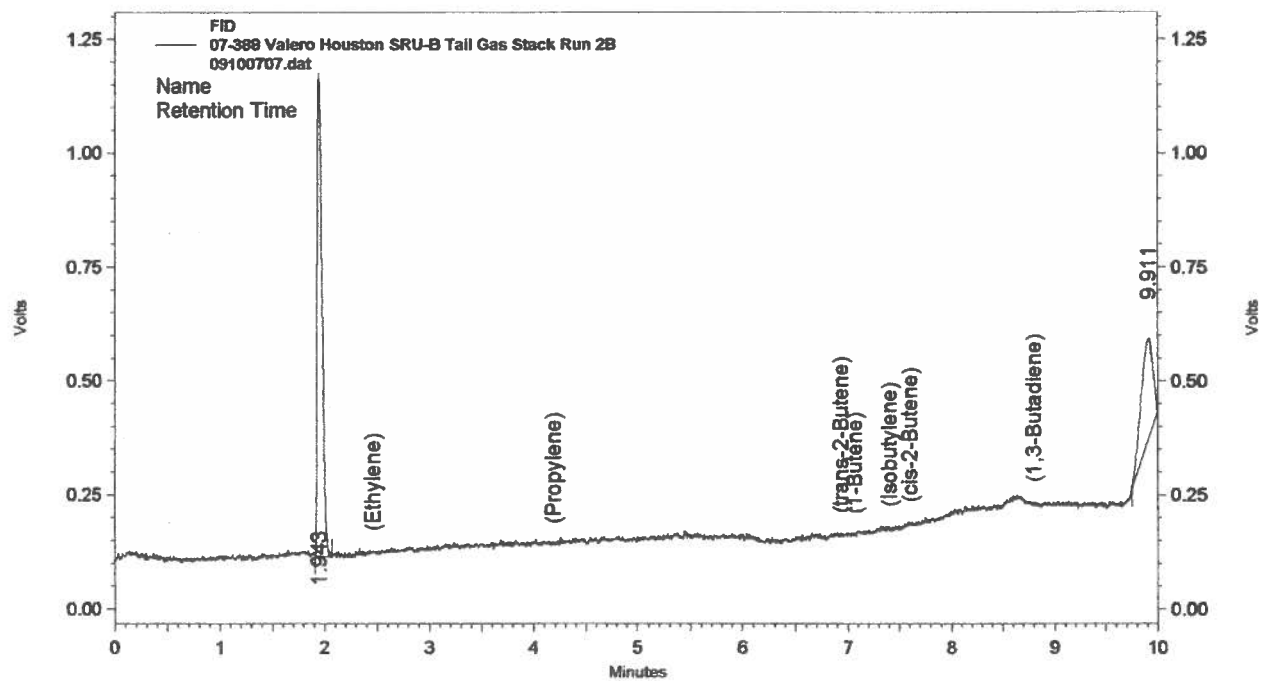
FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	1045	3316	0.00

Totals		1045	3316	0.00
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 10:38:28 AM
 Acquired: 9/10/2007 10:28:28 AM
 Printed: 1

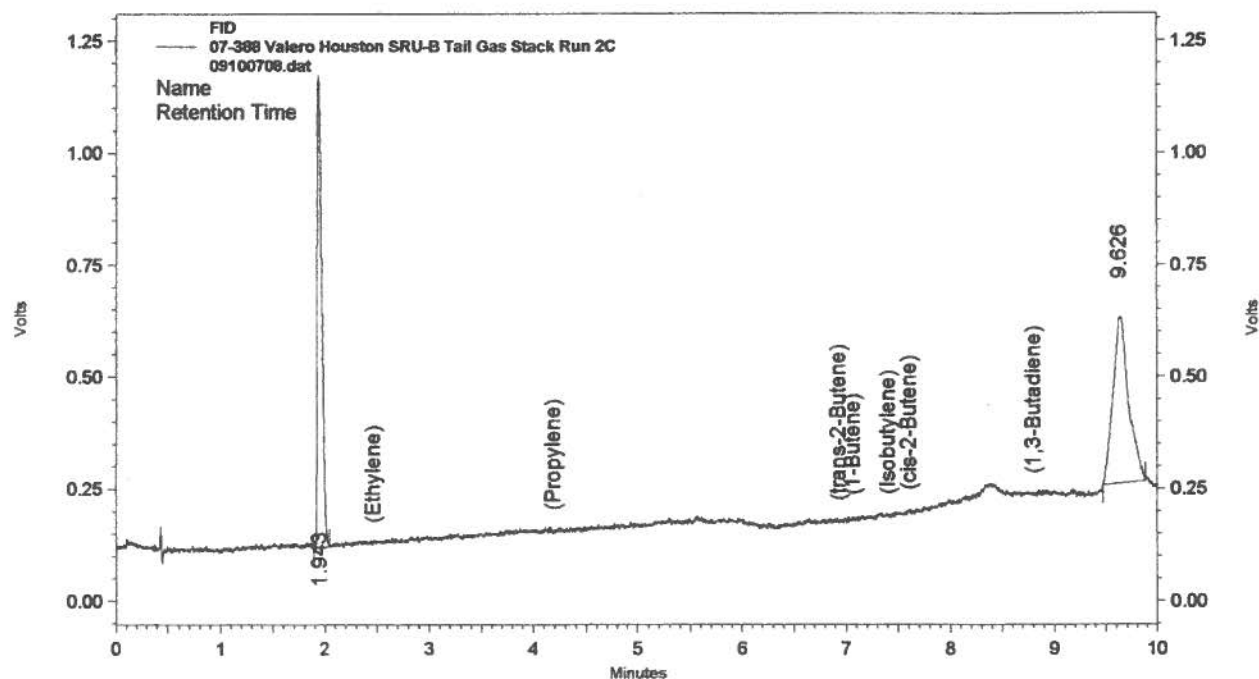


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	1058	3310	0.00
	9.911	221	1743	0.00
Totals		1279	5053	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 10:54:45 AM
 Acquired: 9/10/2007 10:44:43 AM
 Printed: 1

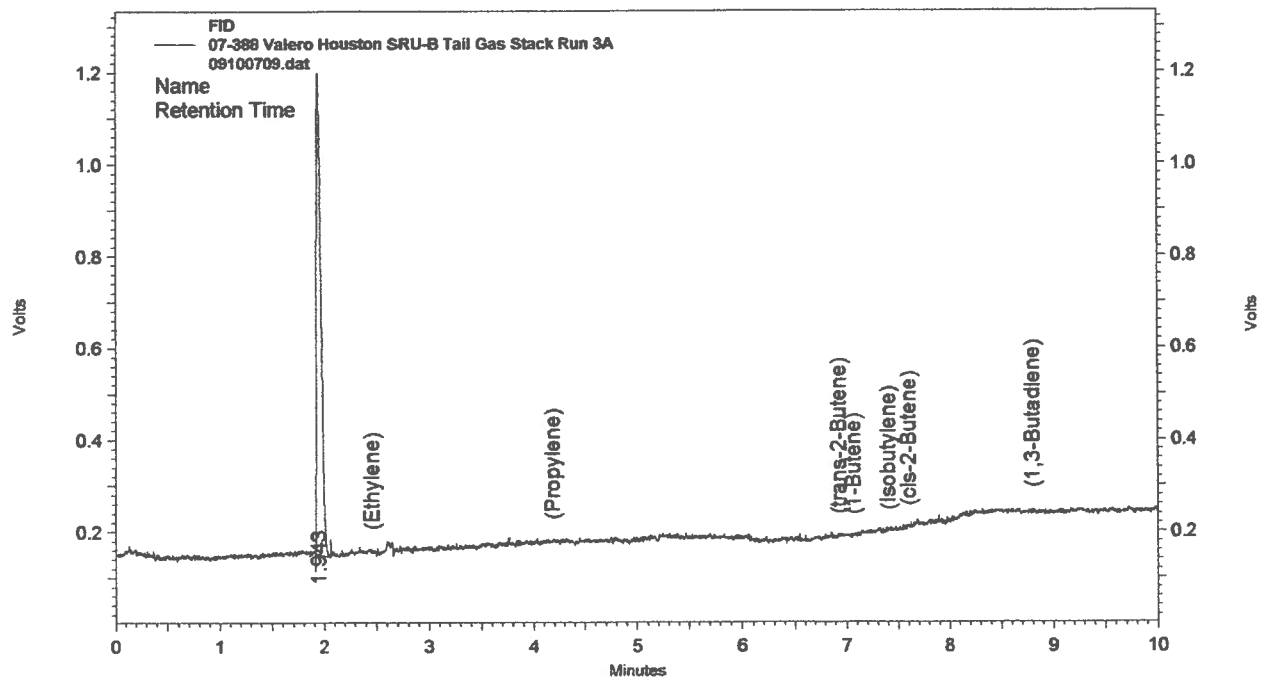


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	1052	3295	0.00
	9.626	371	3898	0.00
Totals		1423	7193	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 11:20:00 AM
 Acquired: 9/10/2007 11:09:59 AM
 Printed: 1

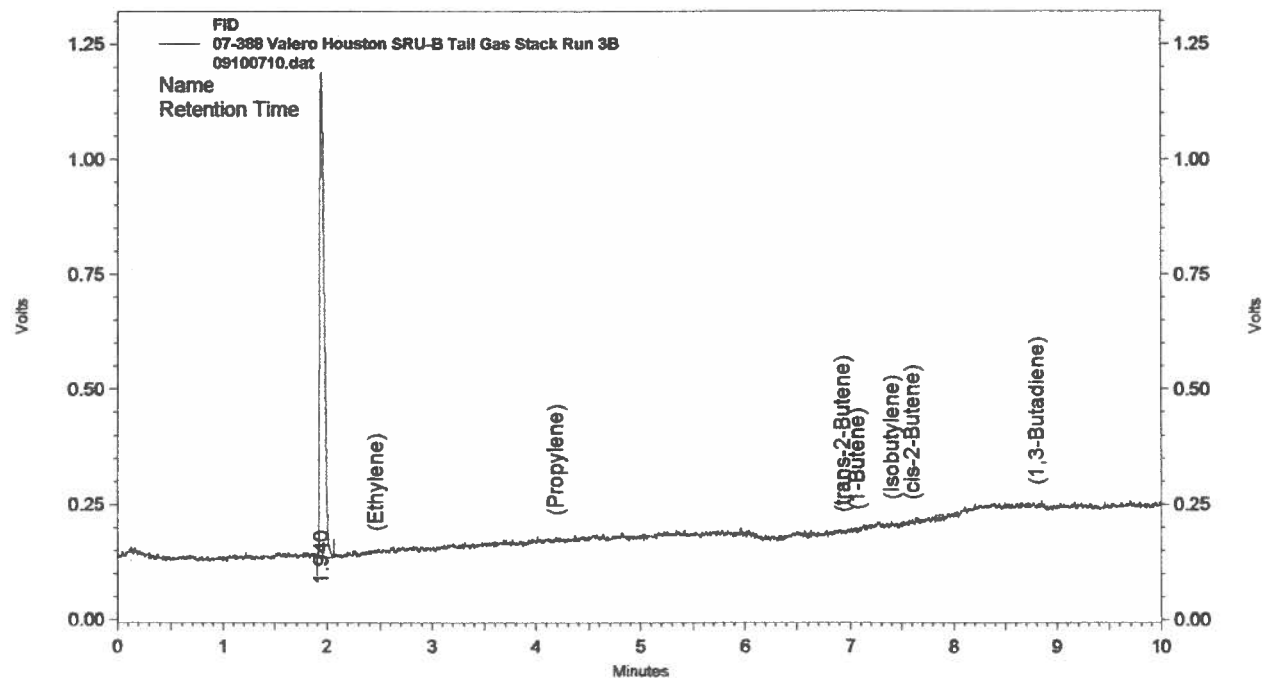


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	1049	3235	0.00
Totals		1049	3235	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 11:36:16 AM
 Acquired: 9/10/2007 11:26:16 AM
 Printed: 1

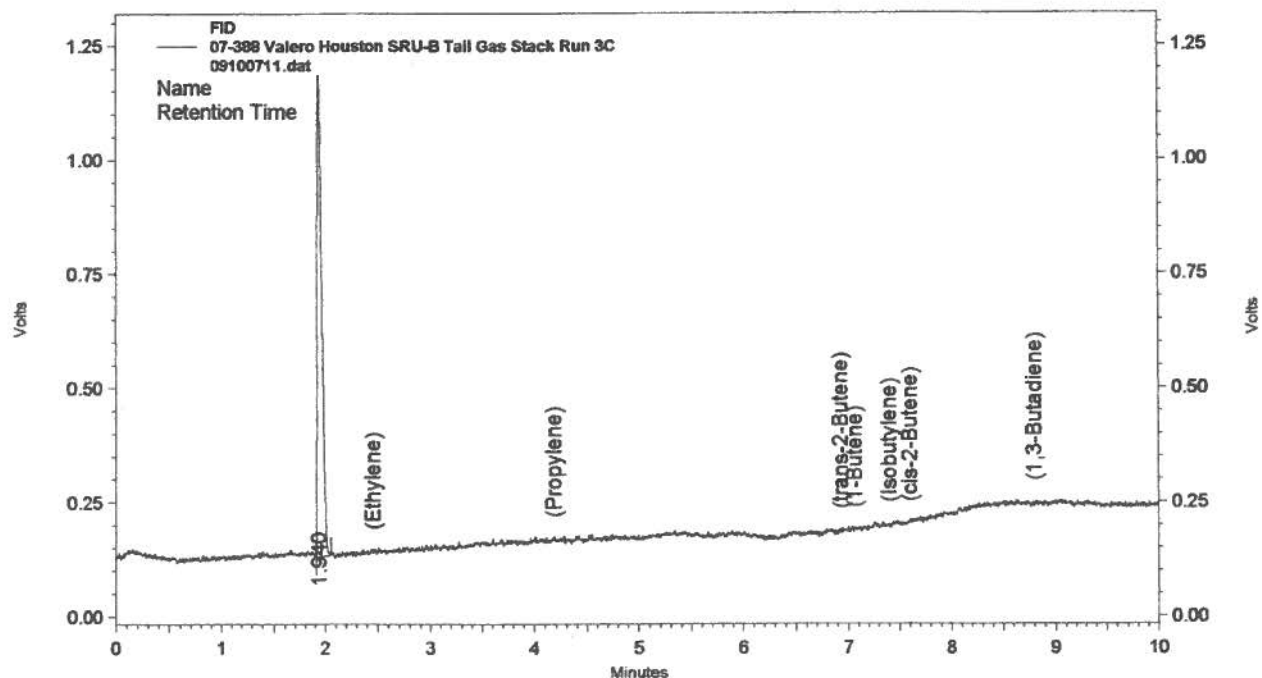


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.940	1052	3264	0.00
Totals				
		1052	3264	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 11:52:26 AM
 Acquired: 9/10/2007 11:42:25 AM
 Printed: 1

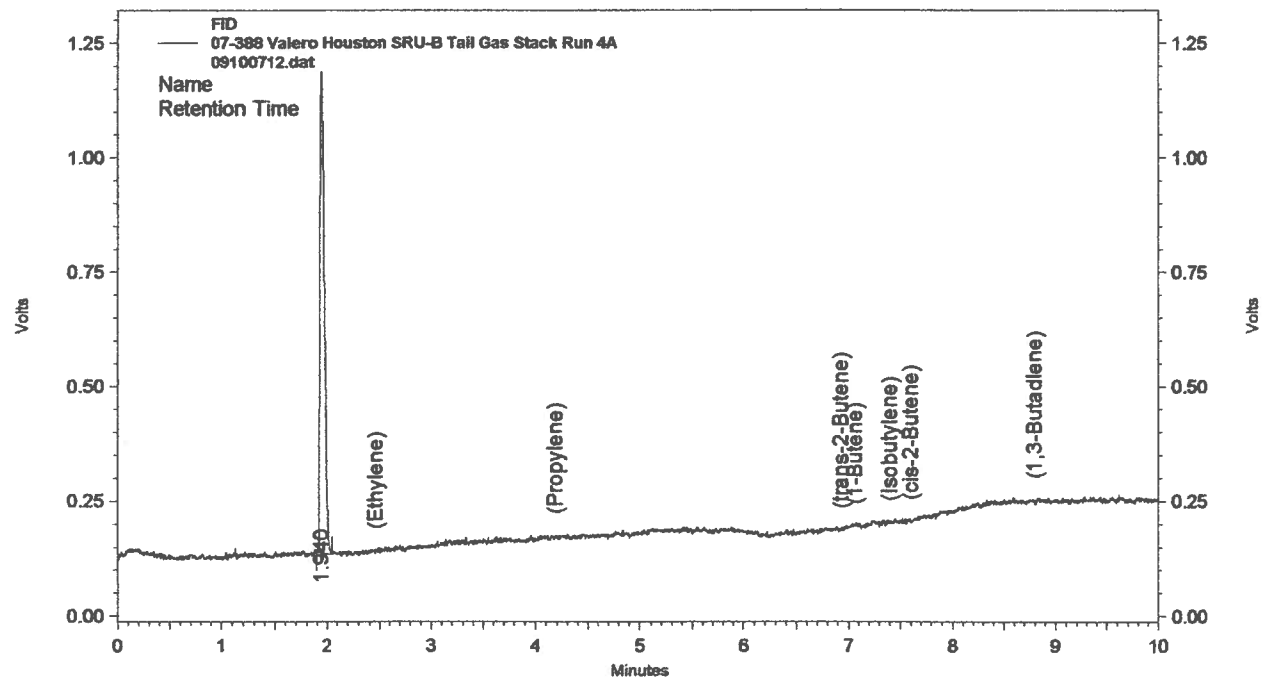


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.940	1055	3270	0.00
Totals		1055	3270	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 12:06:47 PM
 Acquired: 9/10/2007 11:56:46 AM
 Printed: 1

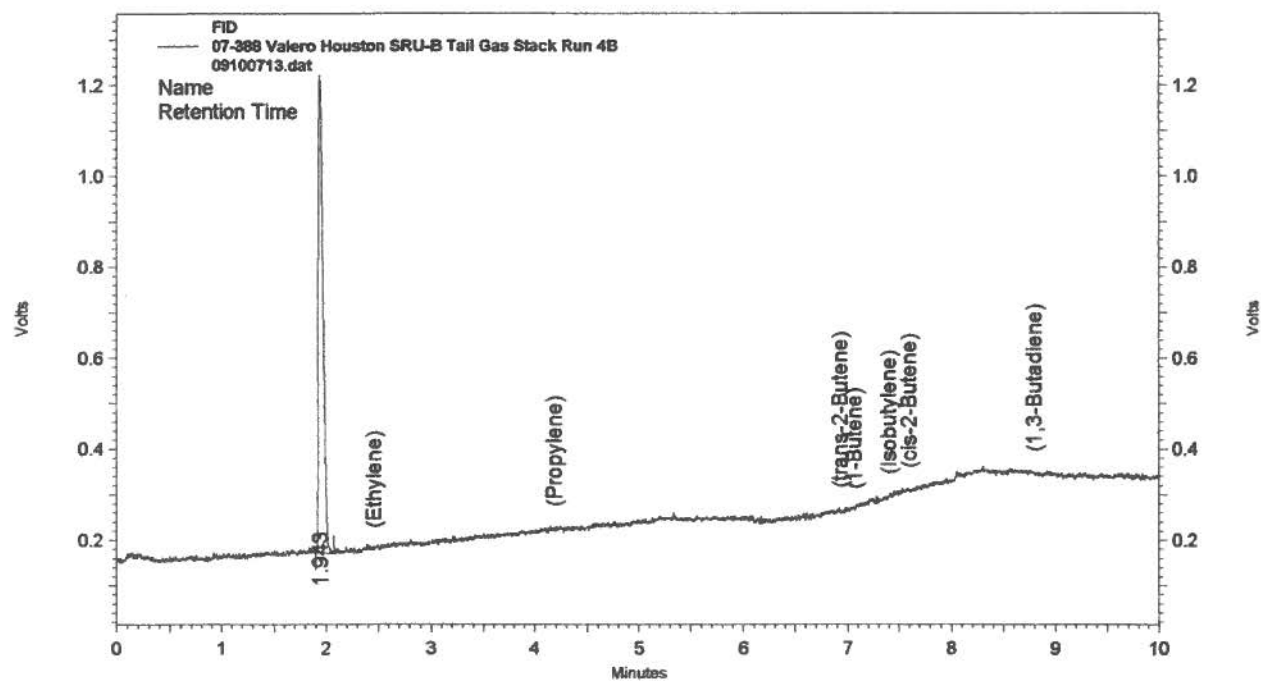


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.940	1051	3241	0.00
Totals				
		1051	3241	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 1:08:57 PM
 Acquired: 9/10/2007 12:58:56 PM
 Printed: 1



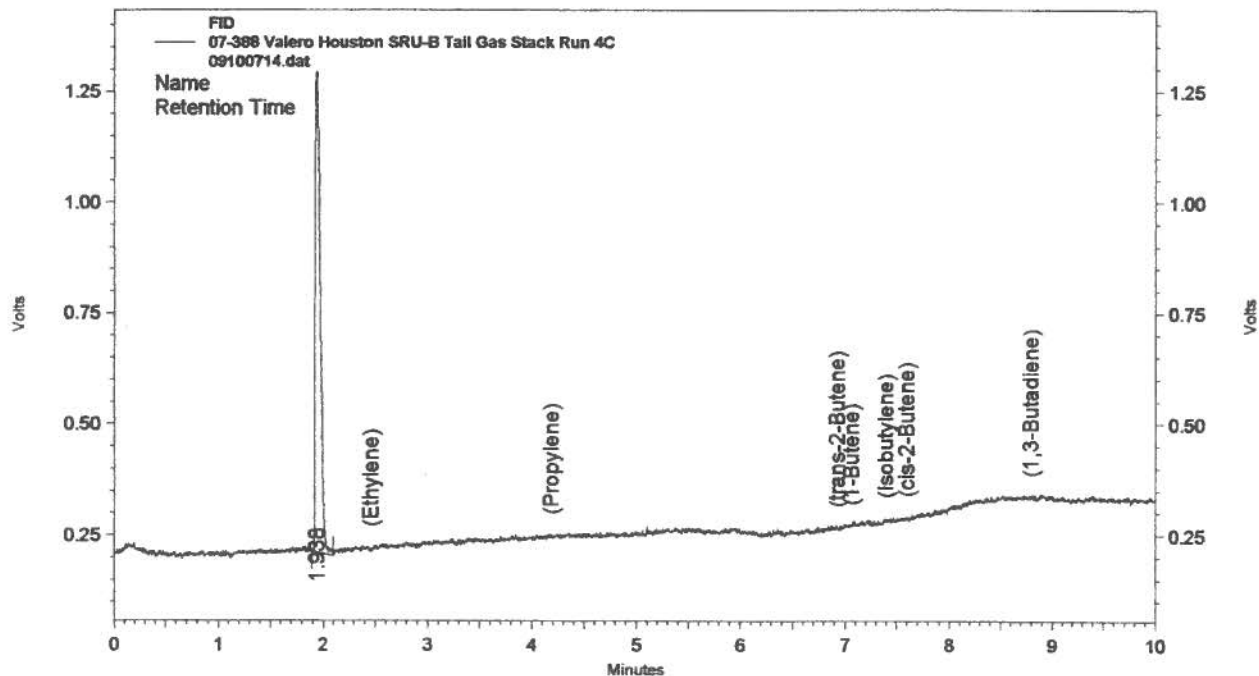
FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	1051	3263	0.00

Totals		1051	3263	0.00
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 1:25:00 PM
 Acquired: 9/10/2007 1:14:58 PM
 Printed: 1

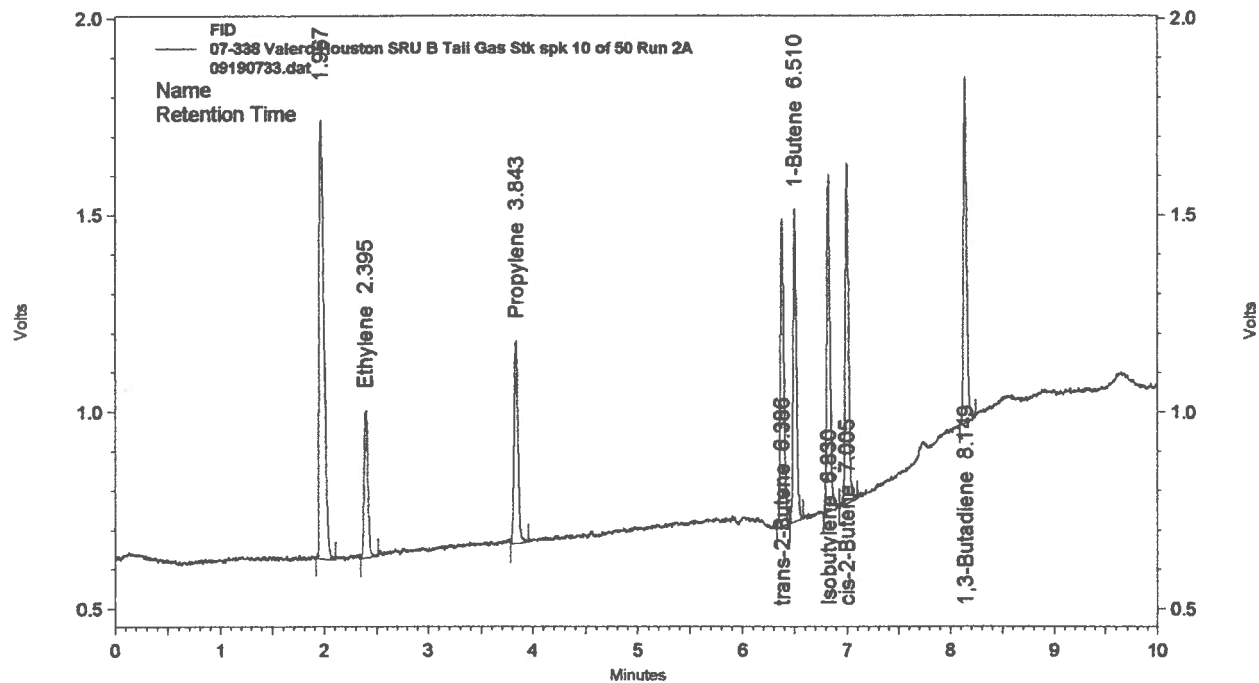


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.938	1084	3550	0.00
Totals		1084	3550	0.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/19/2007 3:18:29 PM
 Acquired: 9/19/2007 3:08:29 PM
 Printed: 1



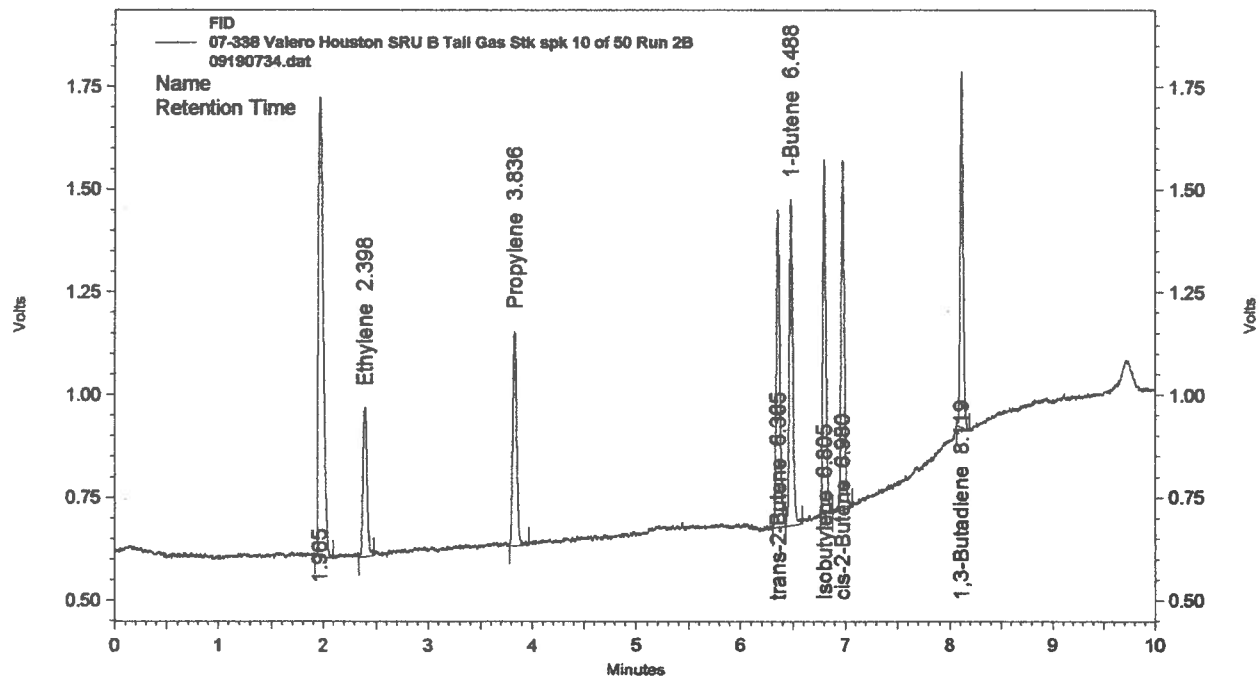
FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.967	1115	3616	0.00
Ethylene	2.395	375	963	0.29
Propylene	3.843	516	1387	0.28
trans-2-Butene	6.386	780	1771	0.27
1-Butene	6.510	795	1785	0.27
Isobutylene	6.830	857	1863	0.29
cis-2-Butene	7.005	865	1886	0.29
1,3-Butadiene	8.149	879	1843	0.29

Totals		6182	15114	1.98
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/19/2007 3:34:42 PM
 Acquired: 9/19/2007 3:24:02 PM
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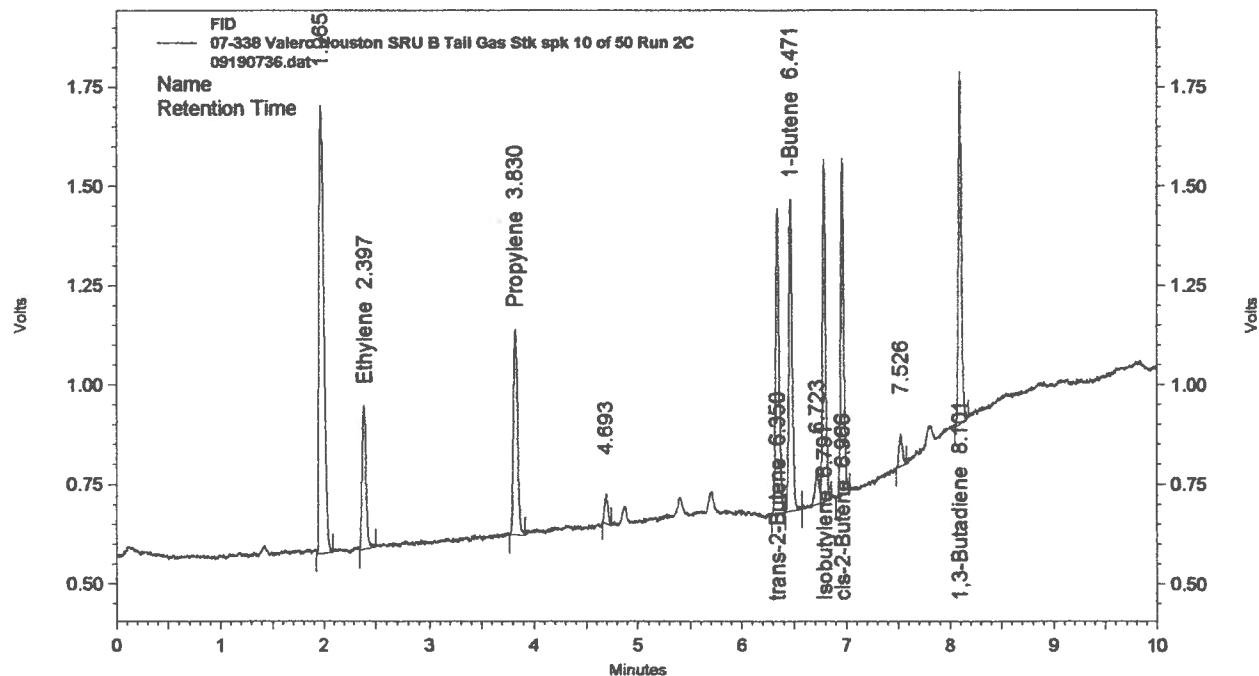
FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.965	1118	3672	0.00
Ethylene	2.398	362	958	0.29
Propylene	3.836	523	1375	0.28
trans-2-Butene	6.365	773	1748	0.27
1-Butene	6.488	796	1822	0.28
Isobutylene	6.805	862	1807	0.28
cis-2-Butene	6.980	852	1866	0.28
1,3-Butadiene	8.119	868	1728	0.27

Totals		6154	14976	1.95
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/21/2007 2:32:19 PM
 Acquired: 9/19/2007 3:43:51 PM
 Printed: 1



FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.965	1127	3703	0.00
Ethylene	2.397	361	949	0.29
Propylene	3.830	518	1353	0.27
	4.693	75	180	0.00
trans-2-Butene	6.350	768	1718	0.27
1-Butene	6.471	784	1762	0.27
	6.723	79	219	0.00
Isobutylene	6.791	862	1814	0.28
cis-2-Butene	6.966	847	1800	0.27
	7.526	83	180	0.00
1,3-Butadiene	8.101	888	1793	0.28
Totals		6392	15471	1.93

07-338

Spike Recovery Valero Houston SRU B Tail Gas Stack Run 2

	<u>Ccylinder</u>	<u>Vspike (L)</u>	<u>Cspike (ppm)</u>	<u>Sample A</u>	<u>Spike</u>	<u>Recovery %</u>
					<u>Sample A</u>	
Ethylene	50.0	0.01	0.30	0.00	0.29	98.02%
Propylene	50.0	0.01	0.30	0.00	0.28	94.64%
t-2-Butene	50.0	0.01	0.30	0.00	0.27	91.26%
1-Butene	50.0	0.01	0.30	0.00	0.27	91.26%
Isobutylene	50.0	0.01	0.30	0.00	0.28	94.64%
cis-2Butene	51.0	0.01	0.30	0.00	0.28	92.78%
1,3-Butadiene	50.0	0.01	0.30	0.00	0.28	94.64%

Vsample (L): 1.69

Standards, Blanks

GC Conditions

Column: Restek RT-Alumina Al₂O₃ PLOT 50 m, 0.53 mm ID

Oven: 40C to 90C at 10C/ minute hold 1 minute 90 to 130C at 30 C/Min hold 2.7

Carrier: Helium

Injector: VICI 6 port 1mL volume

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:02 PM
 User: System
 Instrument: GC 14A

Ethylene (FID)

Average RF: 0.000299569 RF StDev: 1.25993e-006 RF %RSD: 0.420582

Scaling: None LSQ Weighting: None Force Through Zero: Off

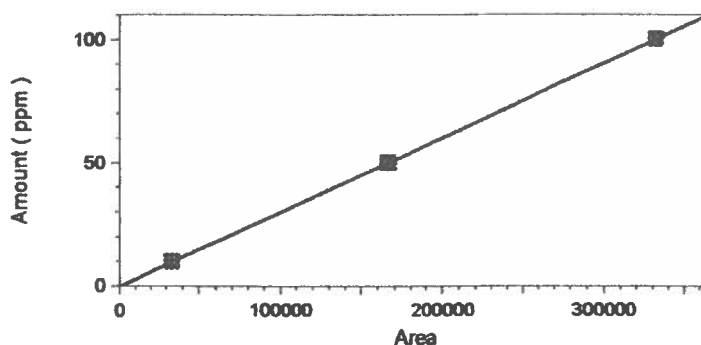
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000300986x - 0.129395$

Goodness of fit (r^2): 0.999998

Peak: Ethylene - ESTD - FID



	Level 1	Level 2	Level 3
Amount	10	50	100
Area	33534.3	166767	332575
RF	0.000298201	0.00029982010	0.00030068375
	842887389	7935239	4858548
Last Area	33508.5	166759	332491
Residual	0.0360382	-0.0649959	0.0289578
Rep StDev	206.408	93.9432	347.219
Rep %RSD	0.615513	0.0563321	0.104403
Rep 1 Area	33307	166852	332806
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	33710	166666	332176
Rep 2 User	System	System	System

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:02 PM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	33586	166782	332744
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:02 PM
 User: System
 Instrument: GC 14A

Propylene (FID)

Average RF: 0.000202832 RF StDev: 4.13920e-007 RF %RSD: 0.204070

Scaling: None LSQ Weighting: None Force Through Zero: Off

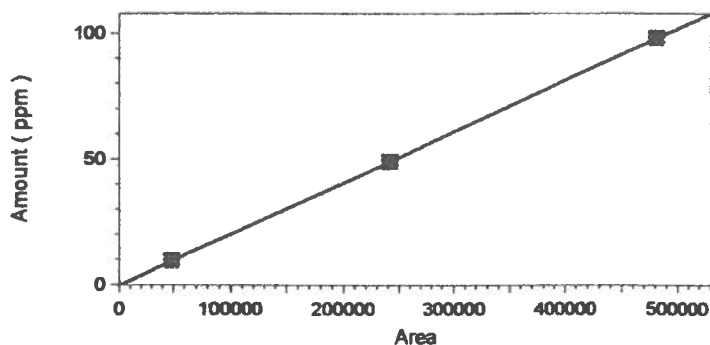
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000203416x - 0.0951374$

Goodness of fit (r^2): 0.999996

Peak: Propylene -- ESTD -- FID



	Level 1	Level 2	Level 3
Amount	9.8	49	98
Area	48378.7	241834	482024
RF	0.000202568	0.00020261860	0.00020330923
	625289384	4247272	8191986
Last Area	48356	241526	481873
Residual	0.0541351	-0.0977368	0.0436017
Rep StDev	164.746	543.728	280.19
Rep %RSD	0.340535	0.224836	0.0581277
Rep 1 Area	48196	241634	481972
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	48516	241418	481774
Rep 2 User	System	System	System

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:02 PM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	48424	242449	482327
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:03 PM
 User: System
 Instrument: GC 14A

trans-2-Butene (FID)

Average RF: 0.000154743 RF StDev: 3.65455e-007 RF %RSD: 0.236169

Scaling: None LSQ Weighting: None Force Through Zero: Off

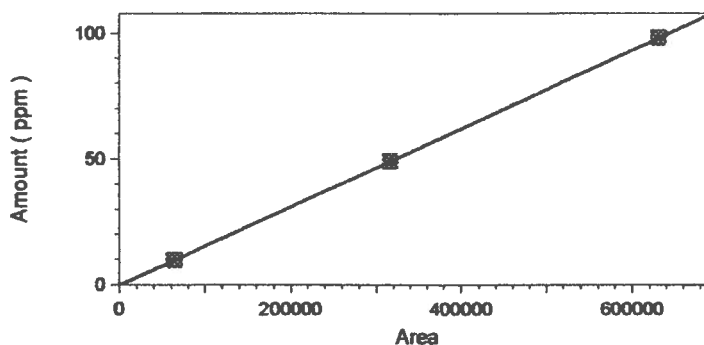
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000155239x - 0.0985050$

Goodness of fit (r^2): 0.999997

Peak: trans-2-Butene – ESTD – FID



	Level 1	Level 2	Level 3
Amount	9.8	49	98
Area	63461	316823	631678
RF	0.000154425	0.00015466048	0.00015514241
	552701659	8664017	704498
Last Area	63388.5	316084	631283
Residual	0.0469081	-0.0846548	0.0377467
Rep StDev	377.027	1288.98	761.696
Rep %RSD	0.594107	0.406844	0.120583
Rep 1 Area	63033	316228	631619
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	63744	315939	630947
Rep 2 User	System	System	System

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HR VOC090707.met
 Print Time: 9/7/2007 4:52:03 PM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	63606	318302	632467
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:04 PM
 User: System
 Instrument: GC 14A

1-Butene (FID)

Average RF: 0.000151465 RF StDev: 4.80042e-007 RF %RSD: 0.316932

Scaling: None LSQ Weighting: None Force Through Zero: Off

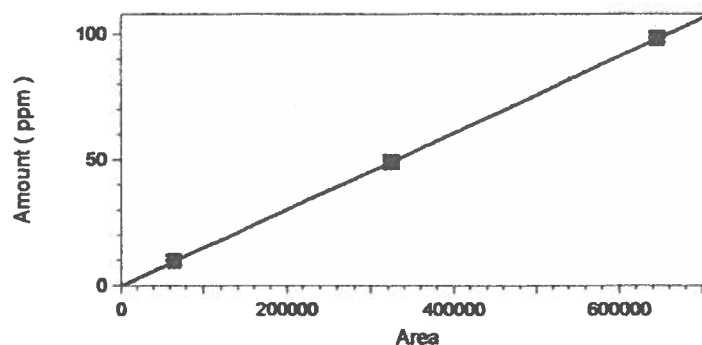
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000151713x - 0.0892404$

Goodness of fit (r^2): 0.999989

Peak: 1-Butene -- ESTD -- FID



	Level 1	Level 2	Level 3
Amount	9.8	49	98
Area	64563.3	324689	646042
RF	0.000151788	0.00015091364	0.00015169292
	941091435	3517335	3989462
Last Area	64522	324479	645964
Residual	0.0941364	-0.170337	0.0762006
Rep StDev	258.127	604.64	337.134
Rep %RSD	0.399804	0.186221	0.0521845
Rep 1 Area	64274	324962	646272
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	64770	323996	645655
Rep 2 User	System	System	System

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
Print Time: 9/7/2007 4:52:04 PM
User: System
Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	64646	325109	646199
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:06 PM
 User: System
 Instrument: GC 14A

Isobutylene (FID)

Average RF: 0.000155015 RF StDev: 2.08204e-006 RF %RSD: 1.34312

Scaling: None LSQ Weighting: None Force Through Zero: Off

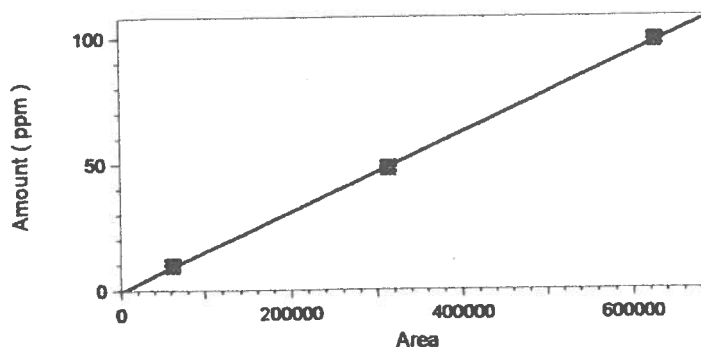
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000156195x - 0.395485$

Goodness of fit (r^2): 0.999795

Peak: Isobutylene -- ESTD -- FID



	Level 1	Level 2	Level 3
Amount	9.8	48	98
Area	62681.7	314516	627869
RF	0.000156345	0.00015261544	0.00015608343
	555585099	722685	1372133
Last Area	62630.5	314172	627755
Residual	0.404921	-0.730346	0.325425
Rep StDev	277.057	641.601	335.753
Rep %RSD	0.442006	0.203996	0.053475
Rep 1 Area	62368	314410	628025
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	62893	313934	627484
Rep 2 User	System	System	System

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:06 PM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	62784	315204	628099
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:08 PM
 User: System
 Instrument: GC 14A

cis-2-Butene (FID)

Average RF: 0.000150901 RF StDev: 1.61946e-006 RF %RSD: 1.07319

Scaling: None LSQ Weighting: None Force Through Zero: Off

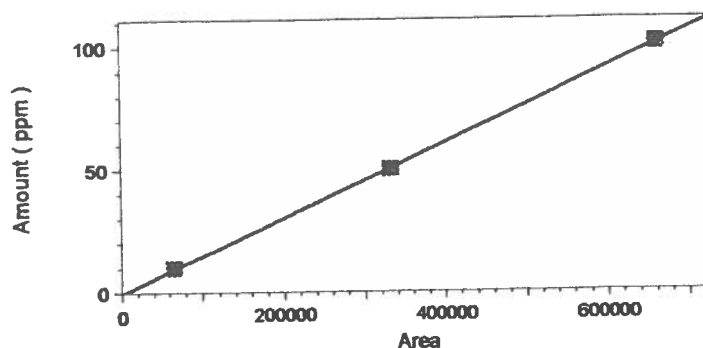
Replicate Mode: Wt Average (Weight: 100)

Fit Type: Linear

$y = 0.000153062x - 0.442477$

Goodness of fit (r^2): 0.999952

Peak: cis-2-Butene -- ESTD -- FID



	Level 1	Level 2	Level 3
Amount	9.9	50	101
Area	66249.7	331942	661691
RF	0.000149434	0.00015062872	0.00015263914
	714136926	4295208	5946196
Last Area	66202.5	331543	661419
Residual	0.202194	-0.36511	0.162916
Rep StDev	340.447	783.431	601.353
Rep %RSD	0.513885	0.236014	0.0908812
Rep 1 Area	65872	331912	661792
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	66533	331174	661046
Rep 2 User	System	System	System

Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:08 PM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	66344	332740	662236
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

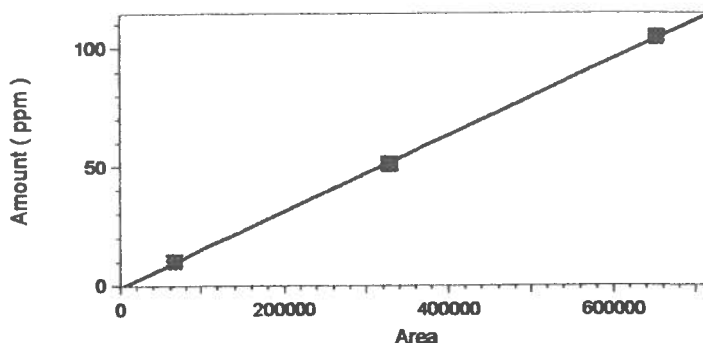
Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Print Time: 9/7/2007 4:52:09 PM
 User: System
 Instrument: GC 14A

1,3-Butadiene (FID)

Average RF: 0.000156643 RF StDev: 2.14443e-006 RF %RSD: 1.36899
 Scaling: None LSQ Weighting: None Force Through Zero: Off
 Replicate Mode: Wt Average (Weight: 100)
 Fit Type: Linear
 $y = 0.000159659x - 0.681807$
 Goodness of fit (r^2): 0.999816

Peak: 1,3-Butadiene -- ESTD -- FID



	Level 1	Level 2	Level 3
Amount	10.2	51	104
Area	65607	328311	653601
RF	0.000155471	0.00015534051	0.00015911840
	214961818	5547758	2451239
Last Area	65542.5	327655	653455
Residual	0.407088	-0.735852	0.328764
Rep StDev	279.773	1149.17	700.464
Rep %RSD	0.426438	0.350025	0.10717
Rep 1 Area	65286	327827	654108
Rep 1 User	System	System	System
Rep 1 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070738.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070735.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070741.dat
Rep 1 Sample ID	10 ppm Cal A	50 ppm Cal A	100 ppm Cal A
Rep 1 Calib. Time	9/7/2007 3:34:46 PM	9/7/2007 2:46:58 PM	9/7/2007 4:22:16 PM
Rep 2 Area	65799	327483	652802
Rep 2 User	System	System	System

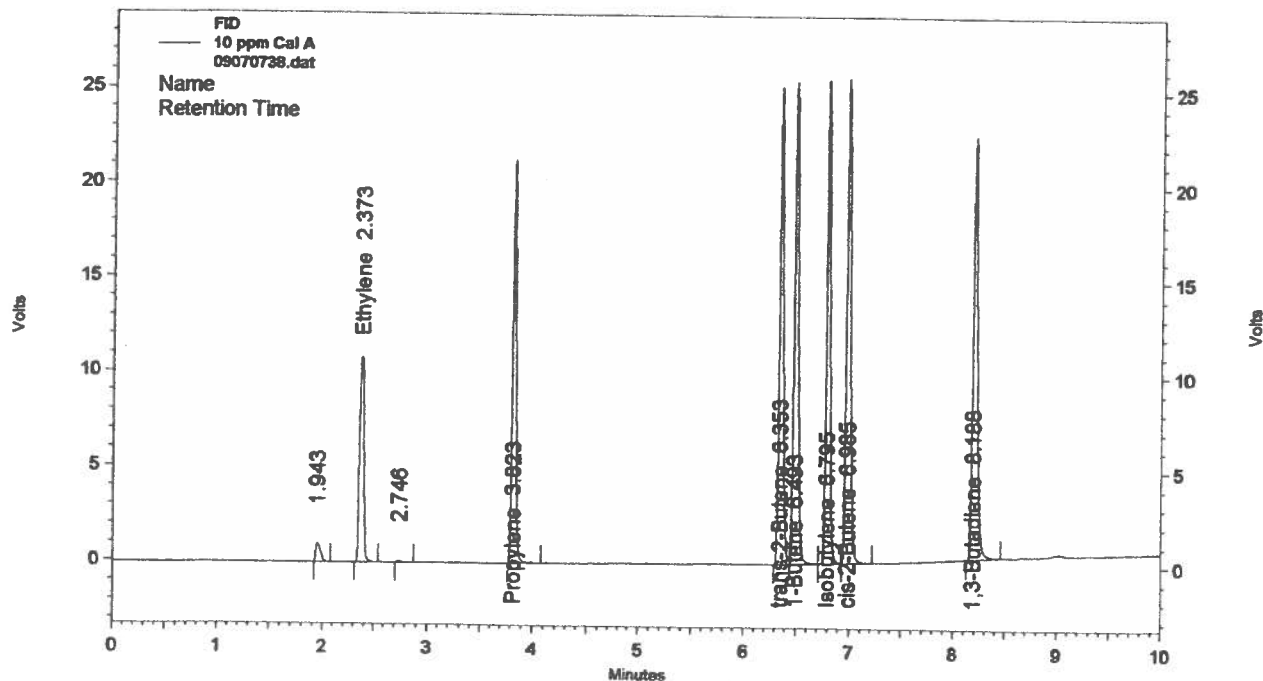
Calibration Report

Method: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.mct
 Print Time: 9/7/2007 4:52:09 PM
 User: System
 Instrument: GC 14A

Rep 2 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070739.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070736.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070742.dat
Rep 2 Sample ID	10 ppm Cal B	50 ppm Cal B	100 ppm Cal B
Rep 2 Calib. Time	9/7/2007 3:51:23 PM	9/7/2007 3:01:53 PM	9/7/2007 4:37:18 PM
Rep 3 Area	65736	329623	653894
Rep 3 User	System	System	System
Rep 3 Data File	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070740.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070737.dat	C:\EZChrom Elite\Enterprise\Projects\Default\Data\09070743.dat
Rep 3 Sample ID	10 ppm Cal C	50 ppm Cal C	100 ppm Cal C
Rep 3 Calib. Time	9/7/2007 4:07:44 PM	9/7/2007 3:18:10 PM	9/7/2007 4:51:48 PM

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/7/2007 3:34:46 PM
 Acquired: 9/7/2007 3:24:34 PM
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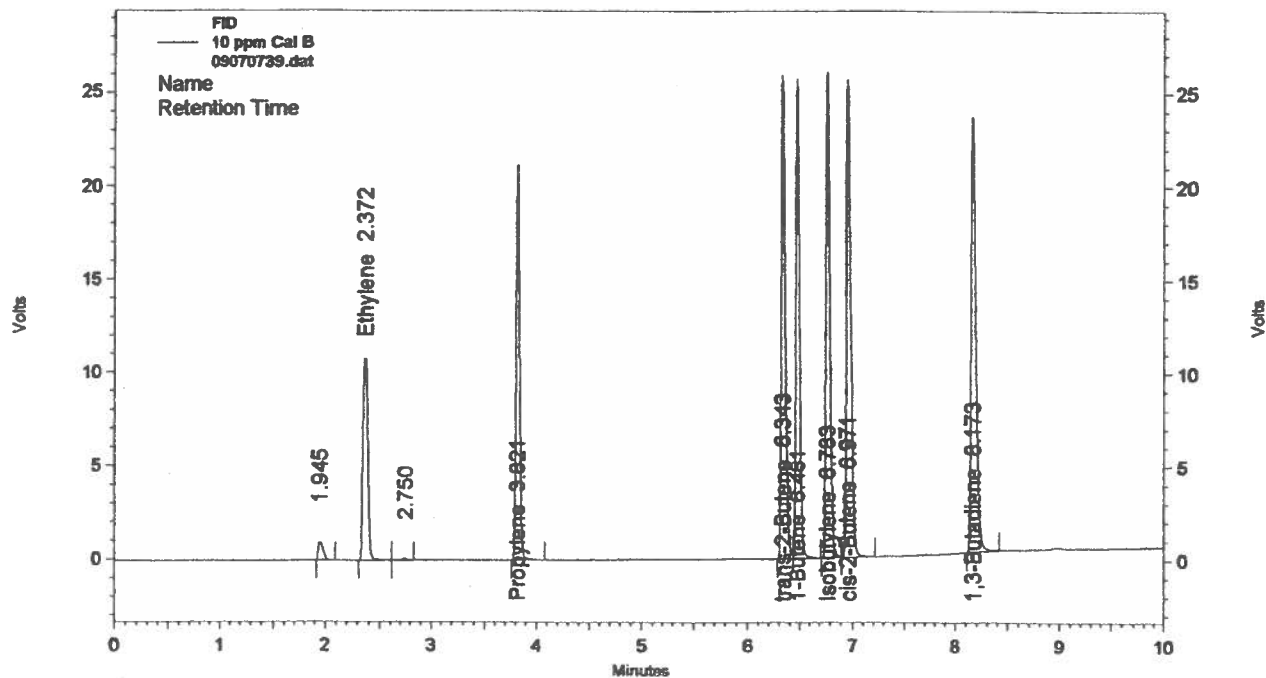


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Ethylene	1.943	974	3120	0.00
	2.373	10800	33307	10.00 CAL
	2.746	88	266	0.00
Propylene	3.823	21246	48196	9.80 CAL
trans-2-Butene	6.353	25148	63033	9.80 CAL
1-Butene	6.493	25400	64274	9.80 CAL
Isobutylene	6.795	25463	62368	9.80 CAL
cis-2-Butene	6.985	25539	65872	9.90 CAL
1,3-Butadiene	8.188	22238	65286	10.20 CAL
Totals		156896	405722	69.30

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/7/2007 3:51:23 PM
 Acquired: 9/7/2007 3:41:10 PM
 Printed: 1

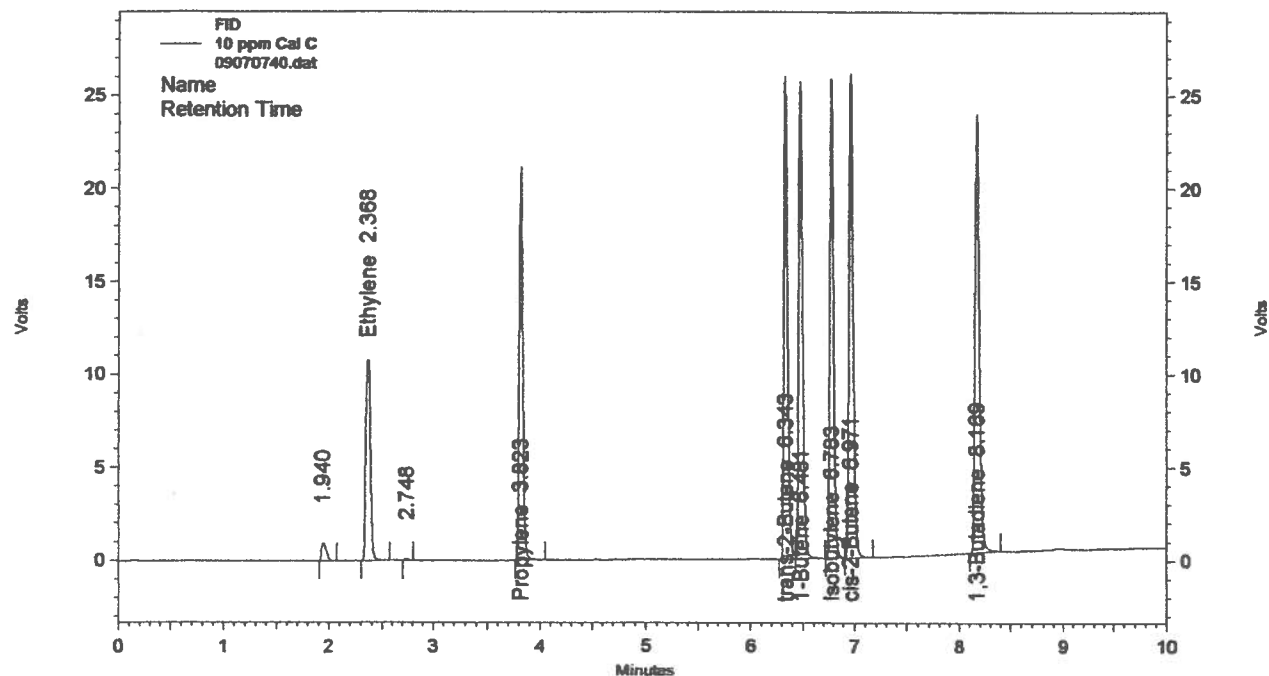


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.945	965	3126	0.00
Ethylene	2.372	10802	33710	10.00 CAL
	2.750	94	337	0.00
Propylene	3.821	21142	48516	9.80 CAL
trans-2-Butene	6.343	25864	63744	9.80 CAL
1-Butene	6.481	25607	64770	9.80 CAL
Isobutylene	6.783	25970	62893	9.80 CAL
cis-2-Butene	6.971	25513	66533	9.90 CAL
1,3-Butadiene	8.173	23267	65799	10.20 CAL
Totals		159224	409428	69.30

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/7/2007 4:07:44 PM
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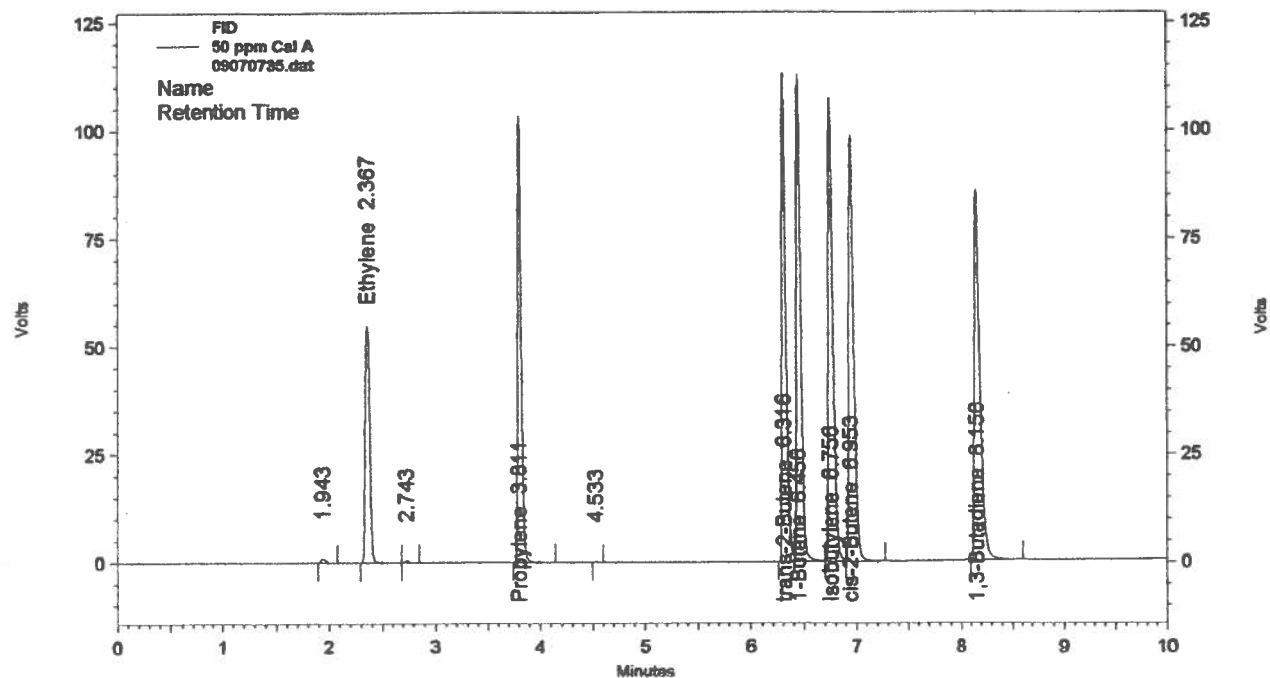


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.940	966	3136	0.00
Ethylene	2.368	10792	33586	10.00 CAL
	2.748	89	245	0.00
Propylene	3.823	21154	48424	9.80 CAL
trans-2-Butene	6.343	25967	63606	9.80 CAL
1-Butene	6.481	25656	64646	9.80 CAL
Isobutylene	6.783	25788	62784	9.80 CAL
cis-2-Butene	6.971	26038	66344	9.90 CAL
1,3-Butadiene	8.169	23581	65736	10.20 CAL
Totals		160031	408507	69.30

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC052307.met
 Method: 9/7/2007 2:46:58 PM
 Acquired: 9/7/2007 2:36:30 PM
 Printed: 1

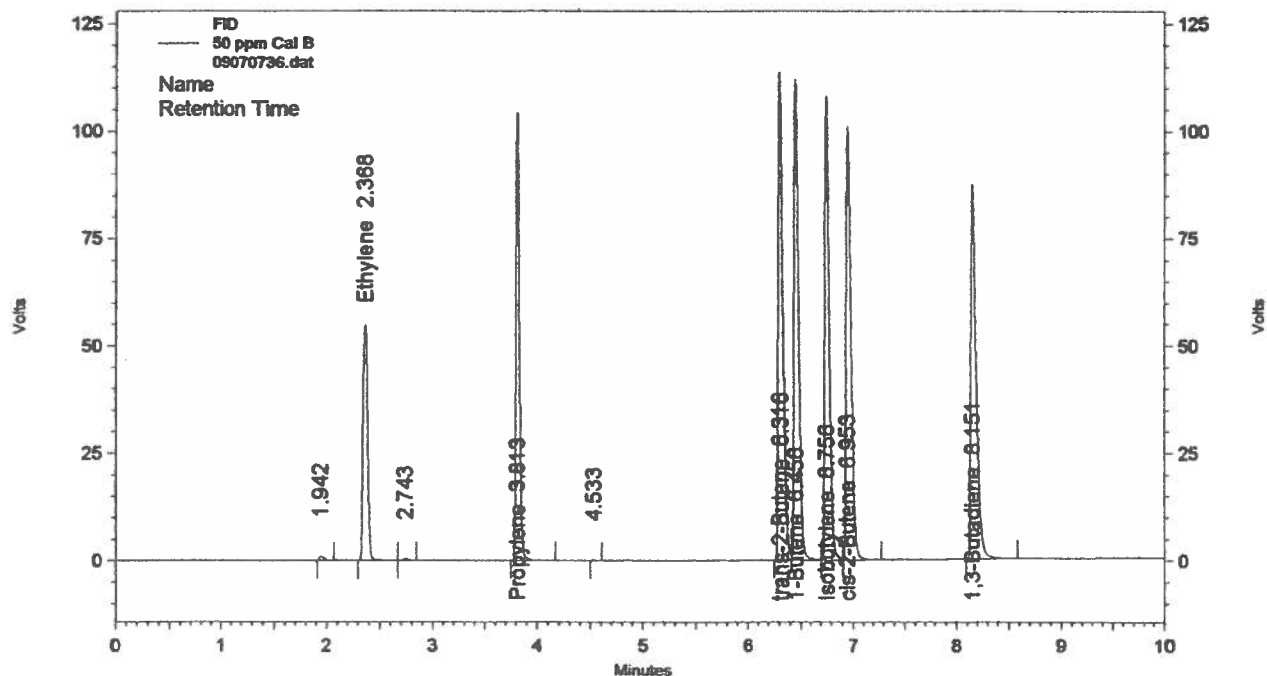


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	983	3168	0.00
Ethylene	2.367	54853	166852	50.00 CAL
	2.743	427	1258	0.00
Propylene	3.811	103349	241634	49.00 CAL
	4.533	109	258	0.00
trans-2-Butene	6.316	112893	316228	49.00 CAL
1-Butene	6.456	112538	324962	49.00 CAL
Isobutylene	6.756	107152	314410	48.00 CAL
cis-2-Butene	6.953	98463	331912	50.00 CAL
1,3-Butadiene	8.158	85564	327827	51.00 CAL
Totals		676331	2028509	346.00

METCO Environmental

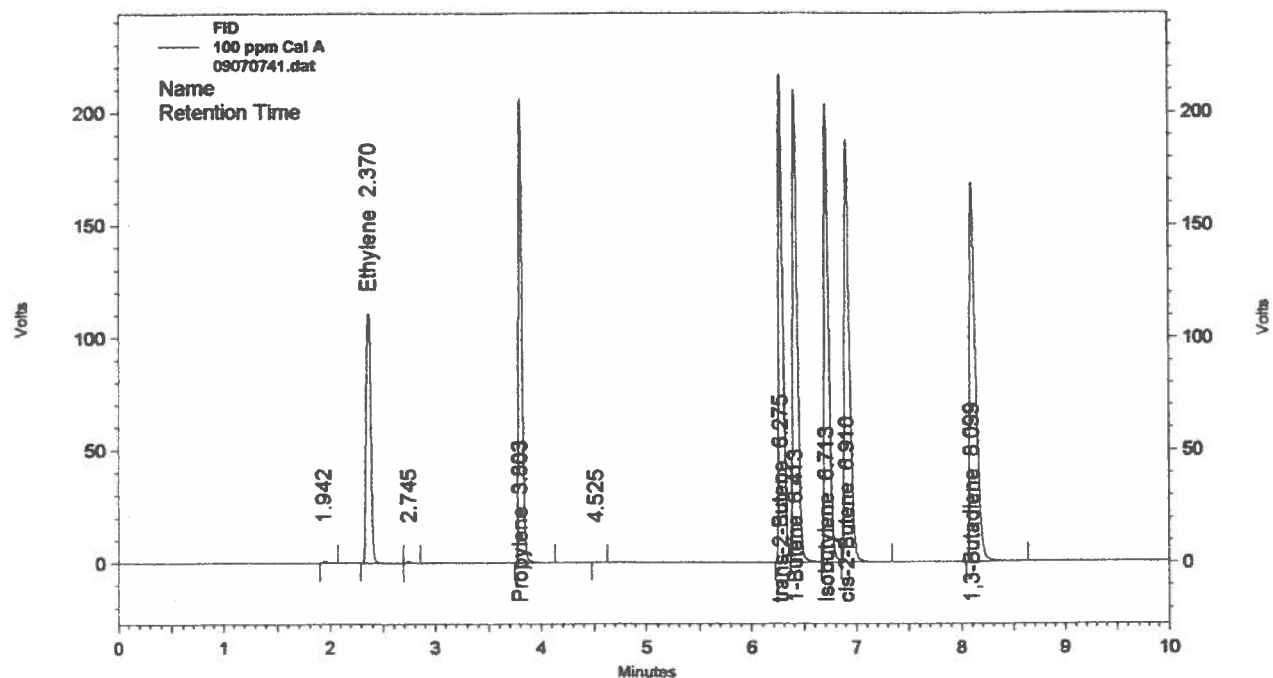
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 Method: 9/7/2007 3:01:53 PM
 Acquired: 9/7/2007 2:51:32 PM
 Printed: 1



FID Results				
Name	Retention Time	Height	Area	ESTD concentration
	1.942	977	3163	0.00
Ethylene	2.368	54899	166666	50.00 CAL
	2.743	417	1224	0.00
Propylene	3.813	104224	241418	49.00 CAL
	4.533	101	239	0.00
trans-2-Butene	6.316	113586	315939	49.00 CAL
1-Butene	6.456	111812	323996	49.00 CAL
Isobutylene	6.756	107992	313934	48.00 CAL
cis-2-Butene	6.953	100717	331174	50.00 CAL
1,3-Butadiene	8.151	87215	327483	51.00 CAL
Totals		681940	2025236	346.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/7/2007 4:22:16 PM
 Acquired: 9/7/2007 4:11:54 PM
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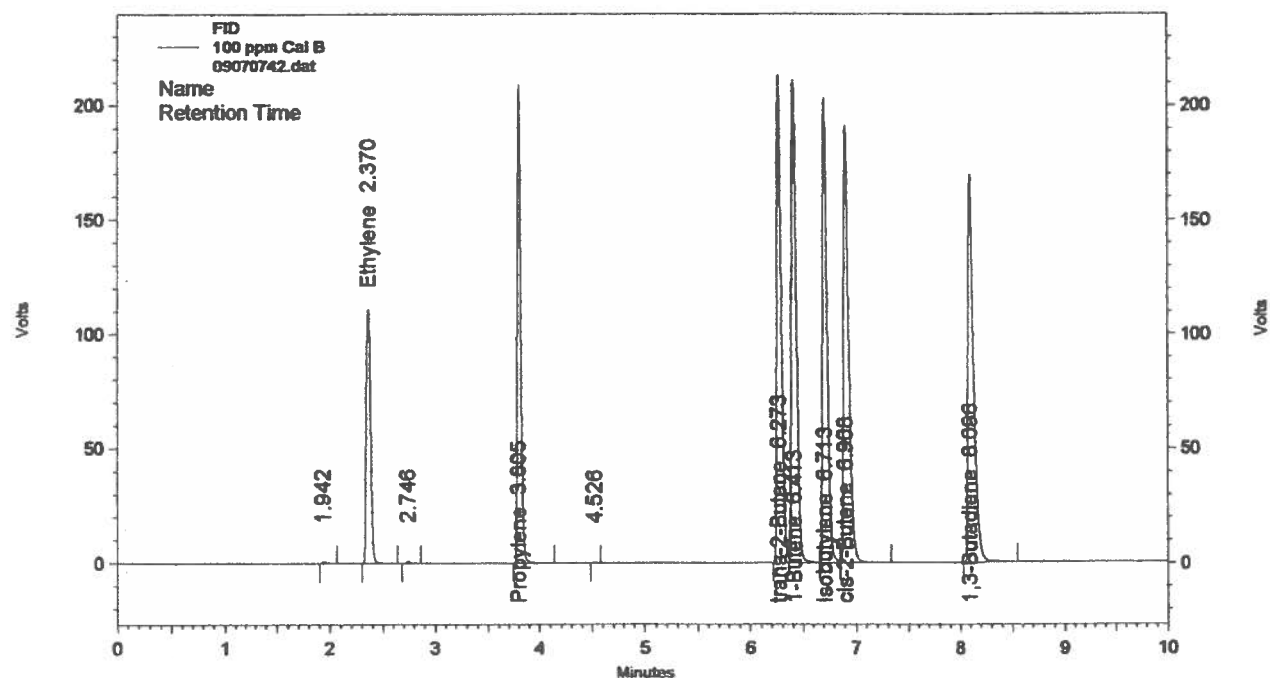


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.942	978	3139	0.00
Ethylene	2.370	110851	332806	100.00 CAL
	2.745	850	2393	0.00
Propylene	3.883	206105	481972	98.00 CAL
	4.525	186	462	0.00
trans-2-Butene	6.275	216617	631619	98.00 CAL
1-Butene	6.413	209731	646272	98.00 CAL
Isobutylene	6.713	203486	628025	98.00 CAL
cis-2-Butene	6.910	187342	661792	101.00 CAL
1,3-Butadiene	8.099	168460	654108	104.00 CAL
Totals		1304606	4042588	697.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/7/2007 4:37:18 PM
 Acquired: 9/7/2007 4:27:02 PM
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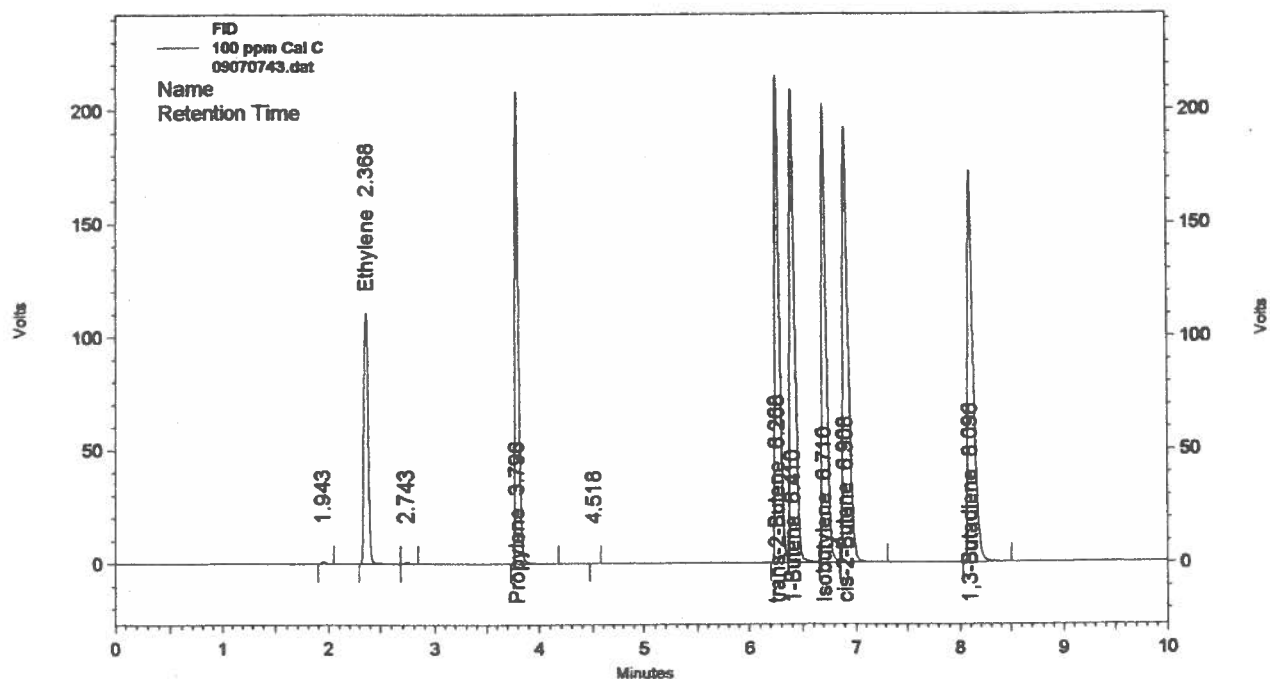


FID Results

Name	Retention Time	Height	Area	ESTD concentration
Ethylene	1.942	977	3110	0.00
	2.370	111112	332176	100.00 CAL
	2.746	831	2291	0.00
Propylene	3.805	208956	481774	98.00 CAL
	4.526	189	408	0.00
trans-2-Butene	6.273	213095	630947	98.00 CAL
1-Butene	6.413	211059	645655	98.00 CAL
Isobutylene	6.713	202957	627484	98.00 CAL
cis-2-Butene	6.908	191213	661046	101.00 CAL
1,3-Butadiene	8.096	169480	652802	104.00 CAL
Totals		1309869	4037693	697.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/7/2007 4:51:48 PM
 Acquired: 9/7/2007 4:41:24 PM
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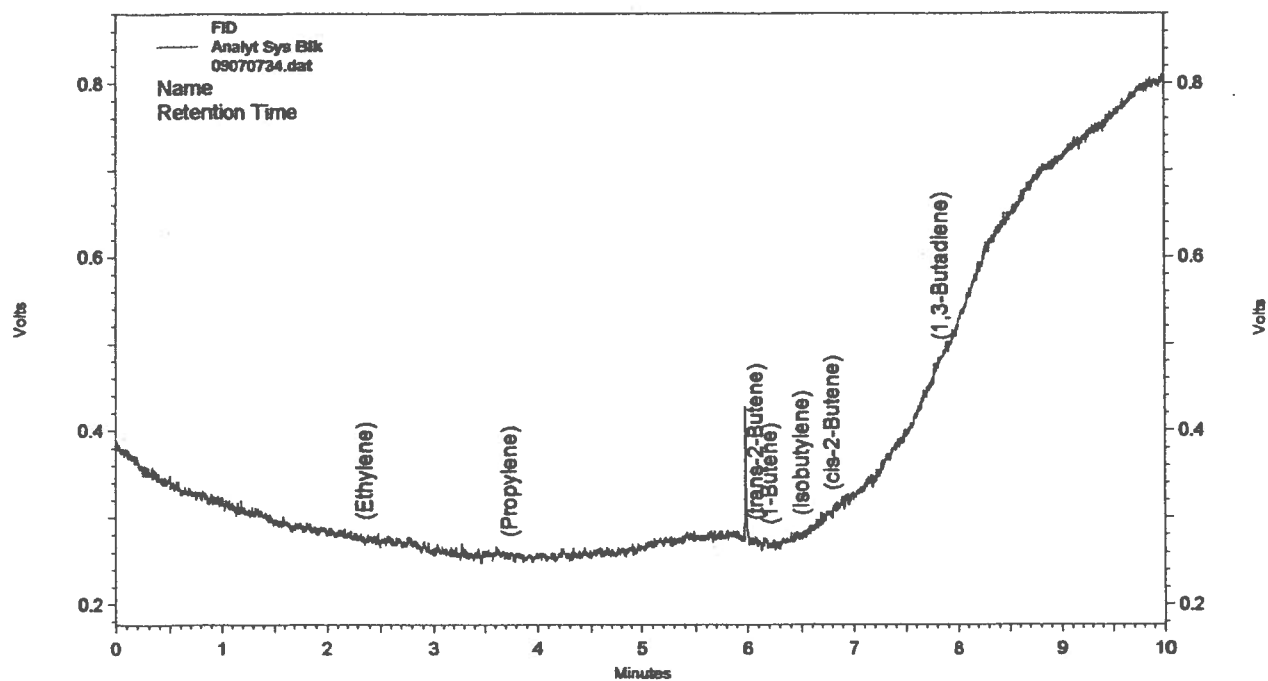


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.943	972	3103	0.00
Ethylene	2.368	110839	332744	100.00 CAL
	2.743	843	2343	0.00
Propylene	3.796	208655	482327	98.00 CAL
	4.518	191	419	0.00
trans-2-Butene	6.268	215357	632467	98.00 CAL
1-Butene	6.410	208920	646199	98.00 CAL
Isobutylene	6.710	202678	628099	98.00 CAL
cis-2-Butene	6.908	192475	662236	101.00 CAL
1,3-Butadiene	8.096	173058	653894	104.00 CAL
Totals		1313988	4043831	697.00

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC052307.met
Method: 9/7/2007 2:32:05 PM
Acquired: 9/7/2007 2:22:05 PM
Printed: 1

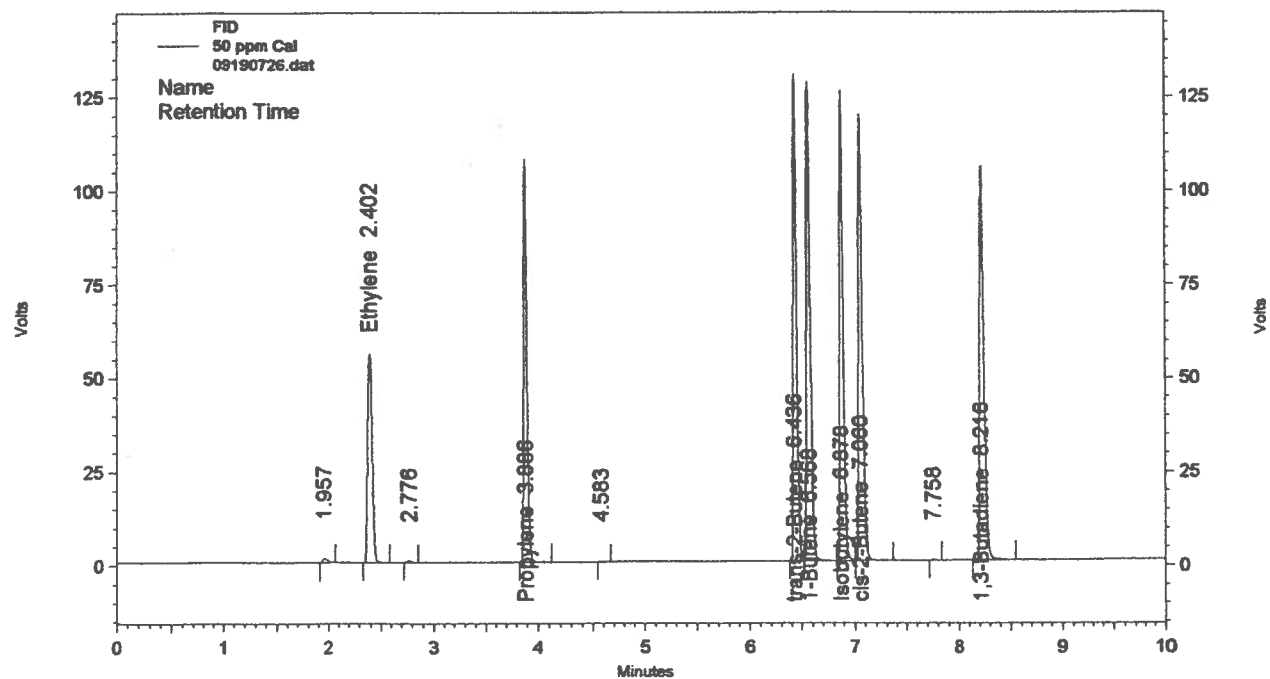


FID Results

Name	Retention Time	Height	Area	ESTD concentration
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METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/19/2007 1:04:46 PM
 Acquired: 9/19/2007 12:35:35 PM
 Printed: 1

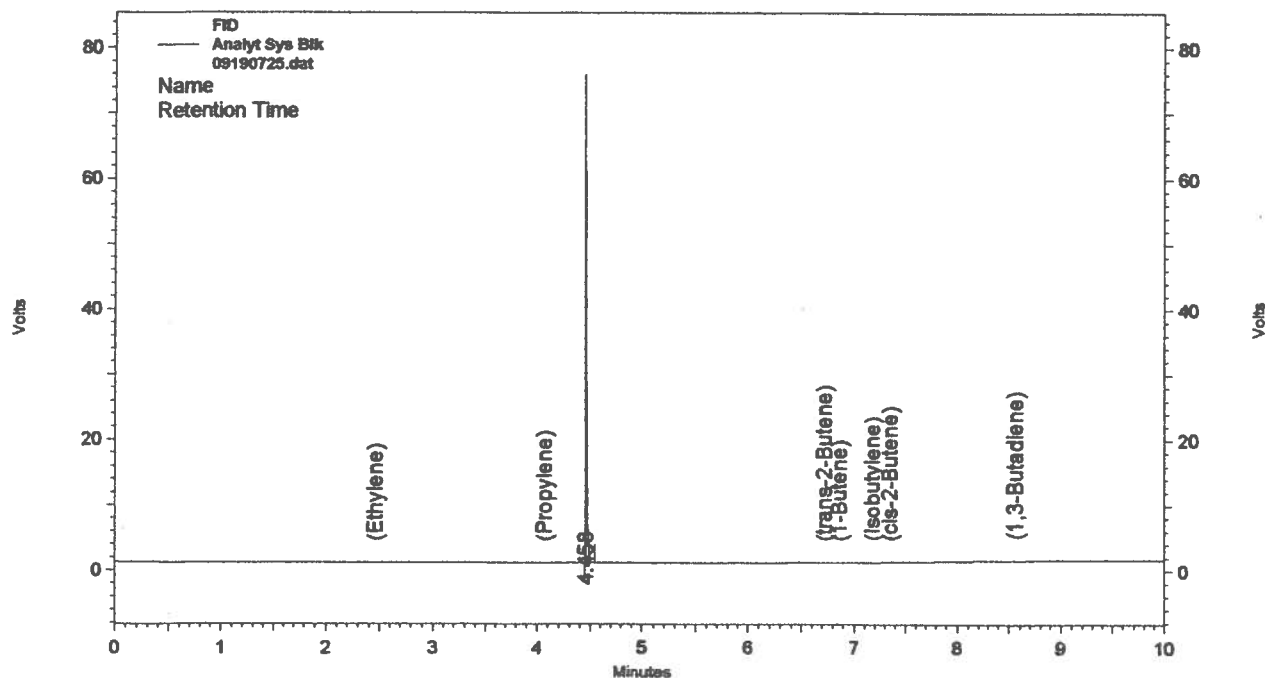


FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.957	1119	3582	0.00
Ethylene	2.402	55622	161244	48.45
	2.776	470	1274	0.00
Propylene	3.886	107722	233763	47.46
	4.583	190	442	0.00
trans-2-Butene	6.436	130145	309125	47.89
1-Butene	6.568	128087	312469	47.32
Isobutylene	6.878	125386	304681	47.19
cis-2-Butene	7.060	119320	320903	48.68
	7.758	190	438	0.00
1,3-Butadiene	8.216	105108	317584	50.02
Totals		773359	1965505	337.01

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/19/2007 12:11:27 PM
 Acquired: 9/19/2007 12:01:28 PM
 Printed: 1



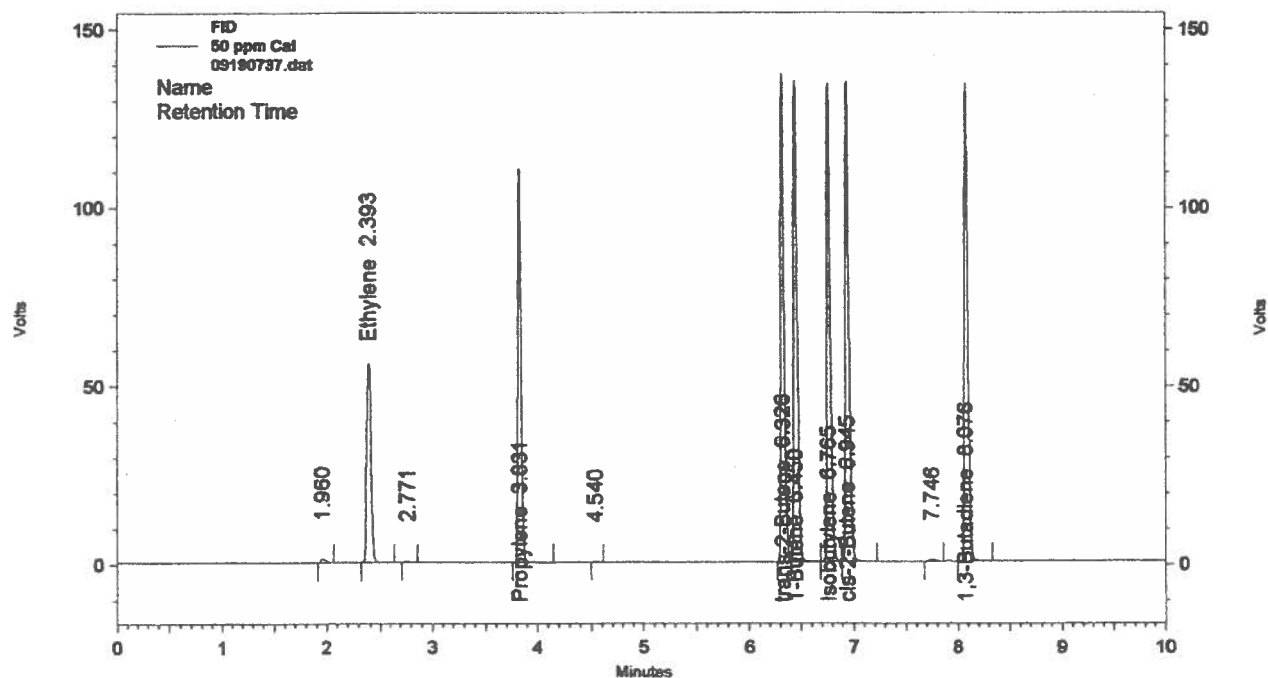
FID Results

Name	Retention Time	Height	Area	ESTD concentration
	4.458	74889	43583	0.00

Totals		74889	43583	0.00
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METCO Environmental

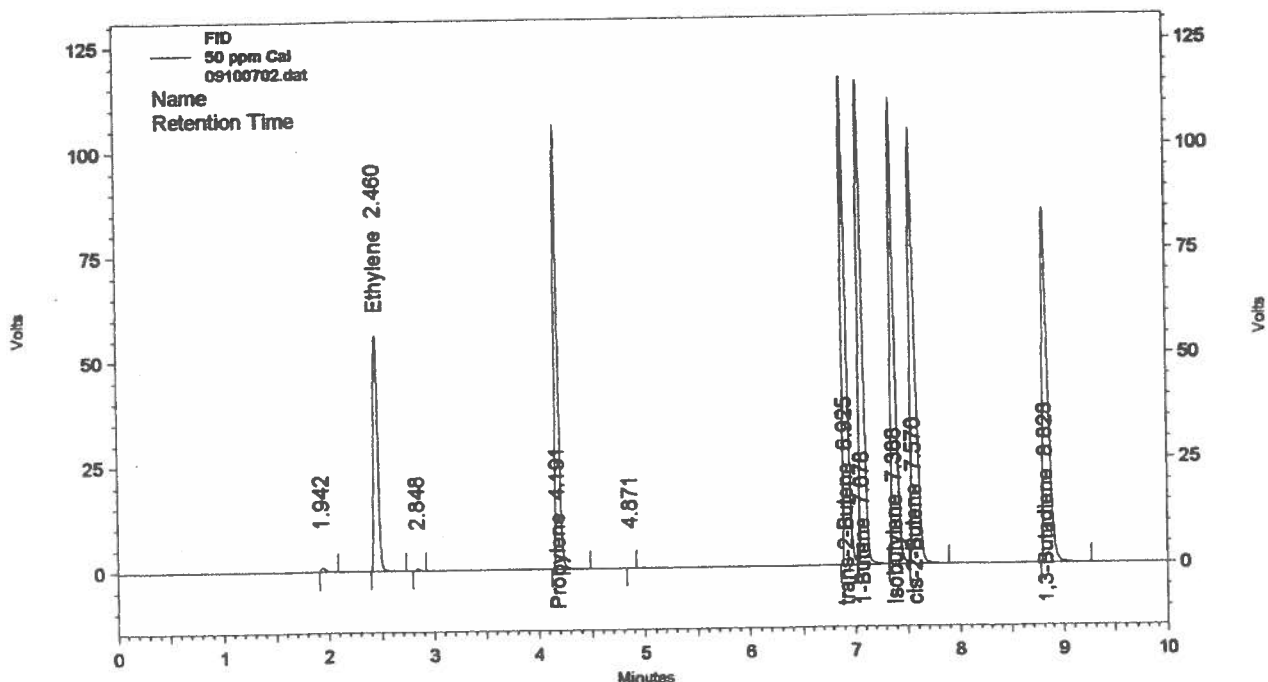
Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/19/2007 4:10:02 PM
 Acquired: 9/19/2007 4:00:01 PM
 Printed: 1



FID Results Name	Retention Time	Height	Area	ESTD concentration
	1.960	1073	3359	0.00
Ethylene	2.393	55798	161740	48.60
	2.771	428	1144	0.00
Propylene	3.831	110274	234849	47.71
	4.540	102	236	0.00
trans-2-Butene	6.326	136649	310179	48.09
1-Butene	6.450	134563	313320	47.48
Isobutylene	6.765	133794	305979	47.55
cis-2-Butene	6.945	134330	322257	49.05
	7.746	504	1928	0.00
1,3-Butadiene	8.076	133754	319662	50.61
Totals		841269	1974653	339.10

METCO Environmental

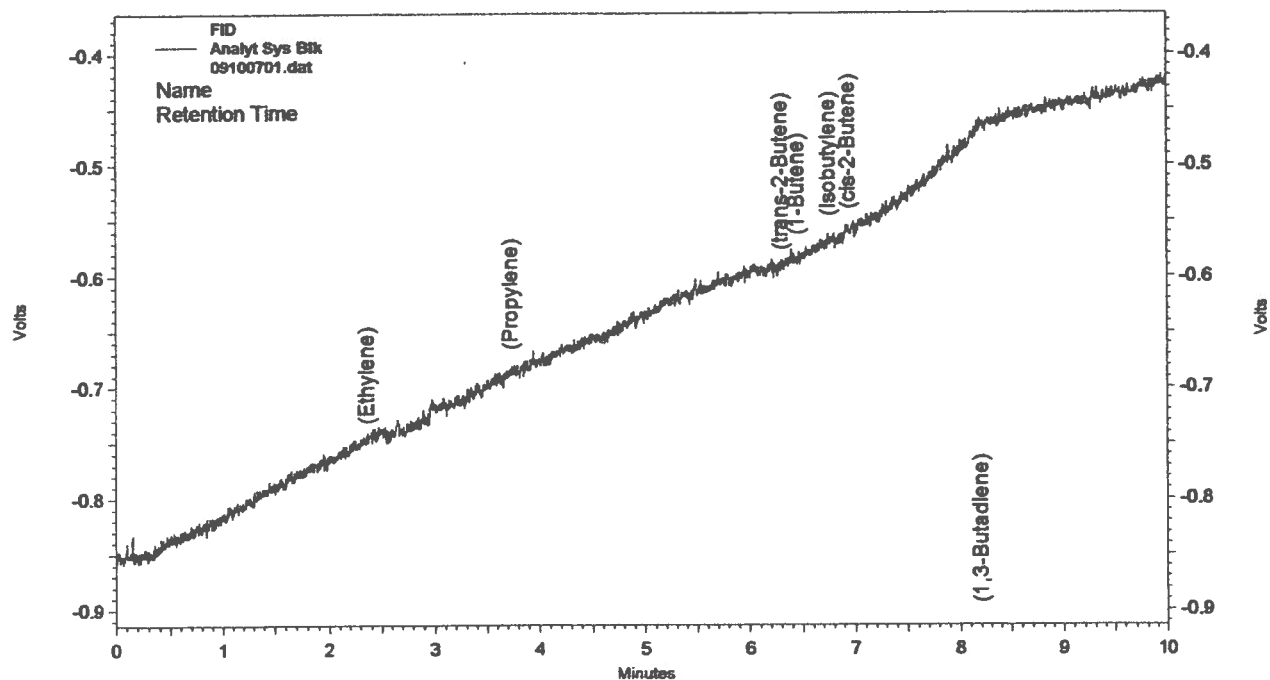
Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 9:17:44 AM
 Acquired: 9/10/2007 9:06:28 AM
 Printed: 1



FID Results Name	Retention Time	Height	Area	ESTD concentration
	1.942	947	3048	0.00
Ethylene	2.460	56262	165270	49.61
	2.848	428	1158	0.00
Propylene	4.191	105852	239375	48.60
	4.871	94	204	0.00
trans-2-Butene	6.925	116317	314361	48.70
1-Butene	7.078	115273	319637	48.40
Isobutylene	7.388	111046	310733	48.14
cis-2-Butene	7.570	103846	328080	49.77
1,3-Butadiene	8.828	84563	324145	51.07
Totals		694628	2006011	344.30

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
Method: 9/10/2007 8:47:08 AM
Acquired: 9/10/2007 8:37:07 AM
Printed: 1

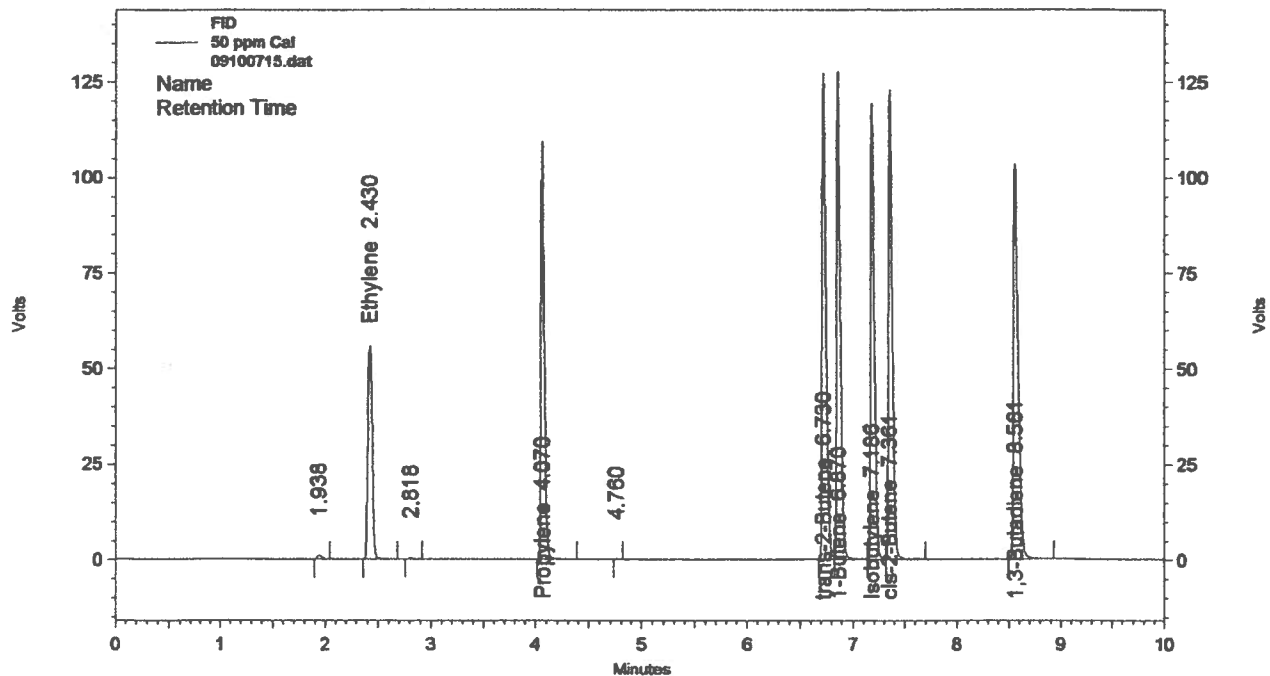


FID Results

Name	Retention Time	Height	Area	ESTD concentration
------	----------------	--------	------	-----------------------

METCO Environmental

Data File: C:\EZChrom Elite\Enterprise\Projects\Default\Method\HRVOC090707.met
 Method: 9/10/2007 1:43:32 PM
 Acquired: 9/10/2007 1:31:20 PM
 Printed: 1



FID Results

Name	Retention Time	Height	Area	ESTD concentration
	1.938	998	3216	0.00
Ethylene	2.430	55966	164164	49.33
	2.818	421	1157	0.00
	4.070	109249	238157	48.35
Propylene	4.760	89	186	0.00
	6.730	127044	314081	48.66
trans-2-Butene	6.870	127669	318085	48.17
1-Butene	7.186	119306	309551	47.95
Isobutylene	7.361	122760	327010	49.61
cis-2-Butene	8.561	103379	323333	50.94
1,3-Butadiene				
Totals		766881	1998940	343.01



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281 474 5800

Fax: 281 474 5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-001

Item No.: 0402B800018PAL

P.O. No.: 11719

Cylinder Number: ALM060050

Cylinder Size: AL

Certification Date: 29Nov2006

Expiration Date: 01Dec2007

Customer

METCO ENVIRONMENTAL

3226 COMMANDER DR

CARROLLTON, TX 75006

CERTIFIED CONCENTRATION

<u>Component Name</u>	<u>Concentration (Moles)</u>	<u>Accuracy (+/-%)</u>
1,3-BUTADIENE	10.2 PPM	2
1-BUTENE	9.8 PPM	2
CIS-2-BUTENE	9.9 PPM	2
ETHYLENE	10.0 PPM	2
ISOBUTYLENE	9.8 PPM	2
PROPYLENE	9.8 PPM	2
TRANS-2-BUTENE	9.8 PPM	2
NITROGEN	BALANCE	

TRACEABILITY

Traceable To

Scott Reference Standard

APPROVED BY:


CRISSA MARTIN

DATE: 11/29/06



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281 474 5800

Fax: 281 474 5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-002
Item No.: 0402B800018PAL
P.O. No.: 11719

Cylinder Number: ALM024421
Cylinder Size: AL
Certification Date: 29Nov2006
Expiration Date: 01Dec2007

Customer

METCO ENVIRONMENTAL
3226 COMMANDER DR
CARROLLTON, TX 75006

CERTIFIED CONCENTRATION

Component Name

**Concentration
(Moles)**

**Accuracy
(+/-%)**

1,3-BUTADIENE	51.	PPM	2
1-BUTENE	49.	PPM	2
CIS-2-BUTENE	50.	PPM	2
ETHYLENE	50.	PPM	2
ISOBUTYLENE	48.	PPM	2
PROPYLENE	49.	PPM	2
TRANS-2-BUTENE	49.	PPM	2
NITROGEN		BALANCE	

TRACEABILITY

Traceable To

Scott Reference Standard

APPROVED BY:

CRISSA MARTIN

DATE:

11/29/06



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281 474 5800

Fax: 281 474 5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-003
Item No.: 0402B800007PAL
P.O. No.: 11719

Cylinder Number: AAL18899
Cylinder Size: AL
Certification Date: 22Nov2006
Expiration Date: 01Dec2007

Customer

METCO ENVIRONMENTAL
3226 COMMANDER DR
CARROLLTON, TX 75006

CERTIFIED CONCENTRATION

<u>Component Name</u>	<u>Concentration (Moles)</u>	<u>Accuracy (+/-%)</u>
1,3-BUTADIENE	104. PPM	2
1-BUTENE	98. PPM	2
CIS-2-BUTENE	101. PPM	2
ETHYLENE	100. PPM	2
ISOBUTYLENE	98. PPM	2
PROPYLENE	98. PPM	2
TRANS-2-BUTENE	98. PPM	2
NITROGEN	BALANCE	

TRACEABILITY

Traceable To

NIST

APPROVED BY:

CRISSA MARTIN

DATE:

11/22/06



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-004
Item No.: 0402B800007PAL
P.O. No.: 11719

Customer

METCO ENVIRONMENTAL
3226 COMMANDER DR
CARROLLTON, TX 75006

Cylinder Number: ALM028213
Cylinder Size: AL
Certification Date: 27Nov2006
Expiration Date: 01Dec2007

CERTIFIED CONCENTRATION

<u>Component Name</u>	<u>Concentration (Moles)</u>	<u>Accuracy (+/-%)</u>
1,3-BUTADIENE	510. PPM	2
1-BUTENE	490. PPM	2
CIS-2-BUTENE	500. PPM	2
ETHYLENE	490. PPM	2
ISOBUTYLENE	480. PPM	2
PROPYLENE	480. PPM	2
TRANS-2-BUTENE	480. PPM	2
NITROGEN	BALANCE	

TRACEABILITY

Traceable To

NIST

APPROVED BY:


CRISSA MARTIN

DATE:

11/27/00

ROTOMETER CALIBRATION

CALIBRATOR: RadomROTOMETER NUMBER: 15DATE: 11/9/06 P_b "Hg: 29.81

FLOW METER SETTING	FLOW RATE (l/min.)
10	0.013
15	0.020
20	0.029
25	0.038
30	0.053
35	0.070
40	0.088
45	0.114
50	0.143
55	0.170
60	0.201

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....12.....

FLOW	AVERAGE	# SAMPLES
12.82	12.82	01
12.89	12.86	02
13.06	12.92	03
13.03	12.95	04

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....13.....

FLOW	AVERAGE	# SAMPLES
20.56	20.56	01
20.41	20.49	02
20.48	20.48	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....20.....

FLOW	AVERAGE	# SAMPLES
28.55	28.55	01
28.90	28.72	02
28.66	28.70	03

GILIBRATOR 2 WET V4.4 DATE...11/11/06...
PUMP S/N.....ID.....25.....

FLOW	AVERAGE	# SAMPLES
38.28	38.28	01
38.26	38.27	02
38.46	38.33	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....30.....

FLOW	AVERAGE	# SAMPLES
53.26	53.26	01
53.57	53.41	02
53.64	53.49	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....35.....

FLOW	AVERAGE	# SAMPLES
70.33	70.33	01
70.62	70.48	02
70.50	70.49	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....40.....

FLOW	AVERAGE	# SAMPLES
86.45	86.45	01
89.15	87.80	02
88.82	88.14	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....45.....

FLOW	AVERAGE	# SAMPLES
112.6	112.6	01
114.3	113.5	02
113.8	113.6	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....50.....

FLOW	AVERAGE	# SAMPLES
142.1	142.1	01
144.0	143.1	02
143.1	143.1	03

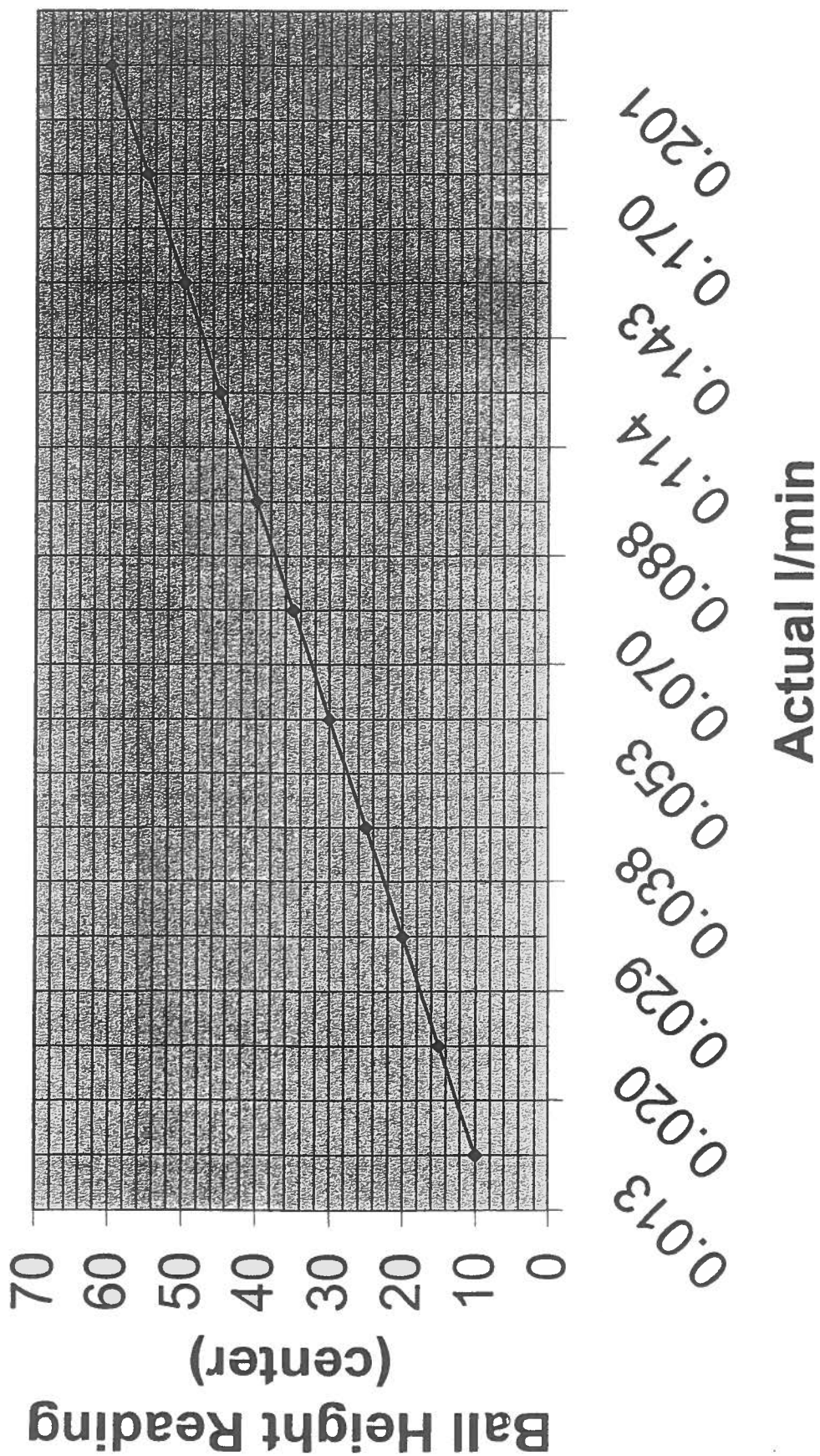
GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID.....55.....

FLOW	AVERAGE	# SAMPLES
169.9	169.9	01
170.6	170.3	02
169.7	170.1	03

V4.4 DATE...11/9/06...
ID.....60.....

SAMPLES
01
02
03

ROTAMETER CALIBRATION CURVE



Calibration Curves

A calibration curve relates the component amount to detector response, (or for an Internal Standard calibration, the amount ratio to the area or height ratio). Class VP Client/Server fits a curve to the calibration points, according to the fit type, scaling, and weighting factors you select. The resulting calibration curve is used to calculate component concentrations in unknown samples, and is generally defined by a least squares calculation

$$y = f(x)$$

where $f =$

linear (with or without force through zero)

Replicates and Averaging Calibrations

Initially, a method contains no calibration. When you run the first calibration standard, the areas/heights for each calibrated peak are entered into the method calibration. If you run a subsequent standard at the same calibration level (a **replicate**), you have a choice of how you want the data system to treat the new areas/heights for the calibration. Setting the Calib Flag in the peak table to either **Replace** or **Wt Average** for each calibrated peak makes this choice.

If you choose to **Replace** the existing calibration, the areas/heights for each replicate replaces the area/height for the previous replicate in the calibration. Only the most recent replicate areas/heights are used to create the calibration curve. Previous replicates are ignored.

If you choose **Wt Average**, each calibration point on the curve will be determined by performing the average of the current calibration with previous replicate areas/heights in the method. The following example describes how this is done.

Assume a starting method for a single-level calibration with no existing calibration data. After a series of "n" calibration replicate samples are run, the calibration curve is determined as shown below.

Level 1 Replicate Area

1. Area₁

2. Area₂

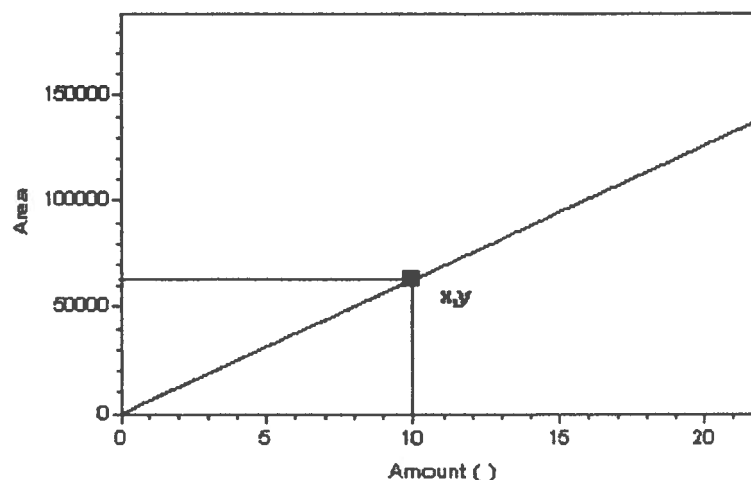
3. Area₃

...

...

...

n Area_n



The resulting calibration curve is shown above, with the point (x,y) representing the calibration point for Level 1. The area, y, of this point is calculated by taking the average of the replicates at this level.

$$y = \frac{\text{area}_1 + \text{area}_2 + \dots \text{area}_n}{n}$$

This average, y, is saved as the **last area** in the method. This value is used to calculate the weighted average when a new series of replicates for this level is run, as shown below.

Level 1 Replicate Area

1 Area₁

2 Area₂

3 Area₃

...

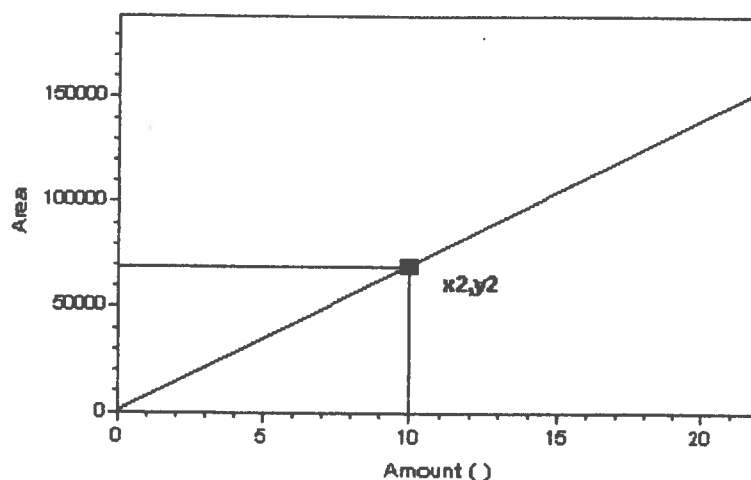
...

...

m Area_m

Because this is the second time a series of replicates was run for this level, a weighted average is now calculated, using the Calib Weight (weighting factor) set in the peak table.

A new calibration curve is calculated.



The new calibration point (x₂,y₂) is used to draw the calibration curve, with the area, y₂, calculated as follows.

$$y_2 = \left[\left(\frac{\text{area}_1 + \text{area}_2 + \dots \text{area}_m}{m} \right) * W \right] + [y * (1 - W)]$$

Where

y₂ = area of calibration point x₂,y₂

APPENDIX F

Reference Method Monitors Data

B-Train SRU Tail Gas Stack (EPN S-3)
Oxides of Nitrogen
Concentration

<u>Run Number</u>	<u>Measured (ppm)</u>	<u>Adjusted (ppm*)</u>
2	10.70	11.13
3	10.50	11.14
4	11.70	12.32

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Sulfur Dioxide
Concentration

<u>Run Number</u>	<u>Measured (ppm)</u>	<u>Adjusted (ppm*)</u>
2	17.10	17.65
3	16.40	17.43
4	15.00	15.85

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Carbon Monoxide
Concentration

<u>Run Number</u>	<u>Measured (ppm)</u>	<u>Adjusted (ppm*)</u>
2	16.30	16.97
3	19.90	21.39
4	27.10	29.09

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Total Hydrocarbons
Concentration

<u>Run Number</u>	<u>Measured (wet ppm)</u>
2	< 0.10
3	0.10
4	0.20

B-Train SRU Tail Gas Stack (EPN S-3)
Oxygen
Concentration

<u>Run Number</u>	<u>Measured (%)</u>	<u>Adjusted (%*)</u>
2	4.86	4.82
3	4.92	4.91
4	5.06	5.02

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Oxides of Nitrogen

Run Number	NO _x Calibration			NO _x Zero			Actual	
	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	NO _x Calibration Value (ppm)	NO _x Zero Value (ppm)
2	43.20	41.80	42.50	0.10	0.10	0.10	44.50	0.00
3	41.80	41.50	41.65	0.10	0.10	0.10	44.50	0.00
4	41.50	42.50	42.00	0.10	0.10	0.10	44.50	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Sulfur Dioxide

Run Number	SO ₂ Calibration			SO ₂ Zero			Actual	
	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	SO ₂ Calibration Value (ppm)	Actual SO ₂ Zero Value (ppm)
2	40.40	38.10	39.25	1.10	0.60	0.85	41.70	0.00
3	38.10	38.70	38.40	0.60	0.60	0.60	41.70	0.00
4	38.70	38.10	38.40	0.60	0.70	0.65	41.70	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Carbon Monoxide

Run Number	CO Calibration			CO Zero			Actual	
	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	CO Calibration Value (ppm)	CO Zero Value (ppm)
2	460.90	456.60	458.75	0.00	-1.00	-0.50	464.00	0.00
3	456.60	448.30	452.45	-1.00	-1.00	-1.00	464.00	0.00
4	448.30	446.00	447.15	-1.00	-1.00	-1.00	464.00	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Oxygen

Run Number	O ₂ Calibration			O ₂ Zero			Average Value (%)	Actual O ₂ Calibration Value (%)	Actual O ₂ Zero Value (%)
	Initial Drift Check (%)	Final Drift Check (%)	Average (%)	Initial Drift Check (%)	Final Drift Check (%)	Average (%)			
2	12.08	12.13	12.11	0.20	0.06	0.13	12.20	12.20	0.00
3	12.13	12.12	12.13	0.06	0.08	0.07	12.20	12.20	0.00
4	12.12	12.19	12.16	0.08	0.10	0.09	12.20	12.20	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
System Calibration Bias and Drift Data

Oxides of Nitrogen
Calibration Span = 93.6 ppm

Run Number	NO _x Calibration				NO _x Zero				Actual NO _x Calibration		Actual NO _x Zero Value	
	Initial Response (ppm)	Initial Bias (%)	Final Response (ppm)	Final Bias (%)	Initial Response (ppm)	Initial Bias (%)	Final Response (ppm)	Final Bias (%)	Drift (%)	Value (ppm)	Value (ppm)	Value (ppm)
2	43.20	1.28	41.80	2.78	0.10	0.11	0.10	0.11	0.00	44.40	0.00	0.00
3	41.80	2.78	41.50	3.10	0.10	0.11	0.10	0.11	0.00	44.40	0.00	0.00
4	41.50	3.10	42.50	2.03	0.10	0.11	0.10	0.11	0.00	44.40	0.00	0.00

* PERCENT OF CALIBRATION SPAN

B-Train SRU Tail Gas Stack (EPN S-3)
 System Calibration Bias and Drift Data

Carbon Monoxide
 Calibration Span = 921.0 ppm

Run Number	CO Calibration			CO Zero			Actual	
	Initial Response (ppm)	Initial Bias (%*)	Final Response (ppm)	Initial Response (ppm)	Initial Bias (%*)	Final Response (ppm)	CO Calibration Value (ppm)	CO Zero Value (ppm)
2	460.90	0.03	456.60	0.00	0.00	-1.00	460.60	0.00
3	456.60	0.43	448.30	-1.00	0.11	-1.00	460.60	0.00
4	448.30	1.34	446.00	-1.00	0.11	-1.00	460.60	0.00

* PERCENT OF CALIBRATION SPAN

B-Train SRU Tail Gas Stack (EPN S-3)
System Calibration Bias and Drift Data

Oxygen
Calibration Span = 20.90 percent

Run Number	O ₂ Calibration				O ₂ Zero				Actual		Actual O ₂ Zero Value (%)
	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O ₂ Calibration Value (%)	
2	12.08	0.53	12.13	0.29	0.20	0.33	0.06	0.33	0.67	12.19	0.13
3	12.13	0.29	12.12	0.33	0.06	0.33	0.08	0.24	0.10	12.19	0.13
4	12.12	0.33	12.19	0.00	0.08	0.24	0.10	0.14	0.10	12.19	0.13

* PERCENT OF CALIBRATION SPAN

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Oxides of Nitrogen

Date 08/30/07

Runs 2 - 4

Calibration Span = 93.6 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Low	0.00	0.00	0.00	0.00
Mid	44.50	44.40	0.10	0.11
High	93.60	93.60	0.00	0.00

* Percent of calibration span

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Sulfur Dioxide

Date 08/30/07

Runs 2 - 4

Calibration Span = 84.5 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Low	0.00	0.00	0.00	0.00
Mid	41.70	41.30	0.40	0.47
High	84.50	84.40	0.10	0.12

* Percent of calibration span

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Carbon Monoxide

Date 08/30/07

Runs 2 - 4

Calibration Span = 921.0 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Low	0.00	0.00	0.00	0.00
Mid	464.00	460.60	3.40	0.37
High	921.00	907.30	13.70	1.49

* Percent of calibration span

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Total Hydrocarbons

Date 08/30/07

Runs 2 - 4

Span = 100 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Zero	0.00	0.00	0.00	----
Low	29.87	29.90	0.03	0.10
Mid	47.00	48.20	1.20	2.55
High	84.62	84.70	0.08	----

* Percent of span gas

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Oxygen

Date 08/30/07
Runs 2 - 4

Calibration Span = 20.90 %

<u>Gas Range</u>	<u>Actual Calibration Value (%)</u>	<u>Analyzer Calibration Response (%)</u>	<u>Absolute Difference (%)</u>	<u>Difference (%*)</u>
Low	0.00	0.13	0.13	0.62
Mid	12.20	12.19	0.01	0.05
High	20.90	20.87	0.03	0.14

* Percent of calibration span

Unit 1 @ 15.0 "Hg = 0.0 "Hg

O2 NOx SO2 CO THC

filename 8/29/2007 8:12:59 C:\RMDATA\SRU-B.CSV
 testby1 Metco Environmental
 testby2 Houston Division
 testby3 METCO 44
 testby4 R. Williams
 testfor1 Valero Houston
 testfor2 Houston, TX
 testfor3 B-Train SRU Tail Gas Stack
 testfor4 07-144B

name		1 O2	3 NOx	6 SO2	5 CO	4 THC			
sn		632689	10S-39403-260	94-721M-8191-3	48-39616-261	00061209-109			
offset		0	0	0	0	0			
fullscale		25	100	100	100	100			
train		1	1	1	1	1			
gastype		o2 3a	nox 7e	so2 6c	co 10	thc 25a			
dsg1	8/29/2007	8:14:00	20.75	0.0	0.3	-0.1	6.9	ALM000674/cg1	N2
dsg1	8/29/2007	8:14:15	12.59	0.0	0.5	-0.2	6.6	ALM000674/cg1	N2
dsg1	8/29/2007	8:14:30	3.48	0.0	0.1	-0.1	6.4	ALM000674/cg1	N2
dsg1	8/29/2007	8:14:45	1.29	0.0	-0.4	-0.1	6.2	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:00	0.67	0.0	-0.6	-0.1	6.0	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:15	0.45	0.0	-0.5	-0.1	5.8	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:30	0.35	0.0	-0.5	-0.1	5.6	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:45	0.30	0.0	-0.6	-0.1	5.4	ALM000674/cg1	N2
dsg1	8/29/2007	8:16:00	0.27	0.0	-0.4	-0.2	5.3	ALM000674/cg1	N2
dsg1	8/29/2007	8:16:15	0.24	0.0	0.2	-0.2	5.2	ALM000674/cg1	N2
dsg1	8/29/2007	8:16:30	0.23	0.0	0.1	-0.2	5.0	ALM000674/cg1	N2
dsg9	8/29/2007	8:17:00	13.15	0.0	0.5	-0.1	4.8	ALM047398/cg9	CO
dsg9	8/29/2007	8:17:15	8.74	0.0	0.8	3.3	4.7	ALM047398/cg9	CO
dsg9	8/29/2007	8:17:30	2.15	0.0	0.5	17.1	4.6	ALM047398/cg9	CO
dsg9	8/29/2007	8:17:45	0.77	0.0	0.4	36.1	4.4	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:00	0.41	0.0	0.1	58.0	4.3	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:15	0.28	0.0	0.2	74.4	4.3	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:30	0.23	0.0	0.2	82.2	4.3	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:45	0.20	0.1	0.1	83.9	4.2	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:00	0.19	0.0	0.1	84.1	4.1	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:15	0.18	0.0	0.2	84.1	4.0	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:30	0.17	0.0	0.0	84.1	4.0	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:45	0.17	0.0	-0.1	84.0	4.0	ALM047398/cg9	CO
dsg9	8/29/2007	8:20:00	0.16	0.0	0.0	84.1	3.9	ALM047398/cg9	CO
dsg9	8/29/2007	8:20:15	0.16	0.0	-0.1	84.1	3.9	ALM047398/cg9	CO
cohigh1	8/29/2007	8:20:15	0.16	0.0	-0.1	84.1	3.9	ALM047398/cg9	CO
dsg5	8/29/2007	8:20:30	0.23	0.0	-0.1	84.1	4.0	BLM001222/cg5	NOx
dsg5	8/29/2007	8:20:45	5.46	55.1	0.2	82.1	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:00	2.18	72.8	0.1	71.1	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:15	0.63	72.9	0.0	53.3	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:30	0.29	73.0	0.1	32.3	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:45	0.19	72.5	0.0	13.6	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:00	0.16	73.3	-0.1	3.2	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:15	0.15	75.4	0.1	0.3	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:30	0.14	82.8	0.0	-0.1	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:45	0.13	91.9	-0.2	-0.1	3.8	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:00	0.12	93.4	0.0	-0.2	3.8	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:15	0.12	93.0	0.0	-0.2	3.8	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:30	0.12	93.3	-0.2	-0.1	3.7	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:45	0.11	94.0	0.0	-0.1	3.7	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:00	0.11	94.6	-0.1	-0.2	3.6	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:15	0.11	94.3	-0.2	-0.2	3.6	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:30	0.10	93.8	-0.1	-0.2	3.6	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:45	0.10	94.3	-0.1	-0.2	3.5	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:00	0.10	94.5	-0.2	-0.3	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:15	0.10	94.4	-0.1	-0.2	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:30	0.10	93.6	0.0	-0.1	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:45	0.10	94.3	-0.1	-0.1	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:26:00	0.09	93.6	-0.2	-0.1	3.4	BLM001222/cg5	NOx
dsg10	8/29/2007	8:26:15	0.91	59.3	-0.1	-0.1	3.3	ALM054751/cg10	CO
dsg10	8/29/2007	8:26:30	10.67	3.2	0.1	0.3	3.3	ALM054751/cg10	CO
dsg10	8/29/2007	8:26:45	4.63	0.5	0.3	4.4	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:00	1.16	0.4	0.2	14.4	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:15	0.43	0.3	0.1	24.4	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:30	0.22	0.3	0.0	35.9	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:45	0.15	0.2	0.1	42.0	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:00	0.12	0.2	0.1	44.0	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:15	0.11	1.0	0.0	43.9	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:30	0.10	0.2	0.1	44.1	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:45	0.09	0.7	0.0	43.8	3.1	ALM054751/cg10	CO
dsg10	8/29/2007	8:29:00	0.09	0.4	-0.1	43.8	3.1	ALM054751/cg10	CO
comid1	8/29/2007	8:29:00	0.09	0.4	-0.1	43.8	3.1	ALM054751/cg10	CO
dsg2	8/29/2007	8:29:15	0.41	1.5	0.1	44.0	3.1	AAL14753/cg2	O2
dsg2	8/29/2007	8:29:30	10.34	0.6	0.1	42.1	3.1	AAL14753/cg2	O2
dsg2	8/29/2007	8:29:45	17.98	0.5	0.0	36.7	3.0	AAL14753/cg2	O2
dsg2	8/29/2007	8:30:00	20.01	0.2	0.0	26.5	2.9	AAL14753/cg2	O2

Cal Error

O2 NOx SO2 CO THC

dsg2	8/29/2007	8:30:15	20.57	0.9	0.0	16.3	3.0	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:30:30	20.79	0.1	-0.1	6.5	3.0	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:30:45	20.88	0.0	-0.2	1.4	2.9	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:31:00	20.93	0.0	0.0	0.0	2.9	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:31:15	20.94	0.0	-0.2	-0.2	2.9	AAL14753/cg2	O2	20.9
o2high1	8/29/2007	8:31:15	<u>20.94</u>	0.0	-0.2	-0.2	2.9	AAL14753/cg2	O2	<u>20.9</u>
dsg7	8/29/2007	8:31:30	20.95	0.2	-0.3	-0.4	2.9	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:31:45	16.57	0.9	18.7	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:00	4.90	0.4	68.3	-0.5	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:15	1.53	0.4	82.4	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:30	0.66	0.5	84.8	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:45	0.38	0.9	85.3	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:00	0.26	0.4	85.4	-0.3	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:15	0.20	0.4	85.6	-0.4	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:30	0.17	0.5	85.8	-0.4	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:45	0.15	0.4	85.6	-0.5	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:34:00	0.14	0.4	85.1	-0.4	2.6	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:34:15	0.13	0.4	85.1	-0.4	2.6	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:34:30	0.12	0.4	85.1	-0.3	2.6	BLM003931/cg7	SO2	84.5
so2high1	8/29/2007	8:34:30	0.12	0.4	<u>85.1</u>	-0.3	2.6	BLM003931/cg7	SO2	<u>84.5</u>
dsg3	8/29/2007	8:34:45	0.14	1.3	<u>84.7</u>	-0.3	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:00	6.78	0.2	47.8	-0.4	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:15	11.02	0.0	8.7	-0.5	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:30	11.85	0.1	1.2	-0.5	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:45	12.11	1.1	0.3	-0.6	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:36:00	12.21	1.5	0.0	-0.6	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:36:15	12.26	4.9	-0.2	-0.7	2.5	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:36:30	12.29	1.0	-0.2	-0.8	2.5	ALM005139/cg3	O2	12.2
o2mid1	8/29/2007	8:36:30	<u>12.29</u>	1.0	-0.2	-0.8	2.5	ALM005139/cg3	O2	<u>12.2</u>
dsg6	8/29/2007	8:36:45	12.31	0.0	-0.1	-0.8	2.5	ALM035137/cg6	NOx	44.5
dsg5	8/29/2007	8:37:00	15.82	2.1	0.4	-0.9	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:37:15	14.55	76.3	1.2	-0.8	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:37:30	4.12	93.9	0.5	-0.7	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:37:45	1.24	95.2	0.1	-0.5	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:00	0.53	94.7	0.1	-0.4	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:15	0.30	95.5	-0.1	-0.2	2.4	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:30	0.21	95.6	-0.3	-0.2	2.3	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:45	0.17	95.5	-0.1	-0.2	2.3	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:39:00	0.14	94.6	-0.2	-0.2	2.2	BLM001222/cg5	NOx	93.8
dsg5	8/29/2007	8:39:15	0.13	93.8	-0.2	-0.2	2.3	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:39:30	0.12	93.0	-0.2	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:39:45	0.11	94.2	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:00	0.11	94.0	-0.4	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:15	0.10	93.0	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:30	0.10	93.7	-0.2	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:45	0.09	93.9	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:41:00	0.09	95.3	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.8
dsg5	8/29/2007	8:41:15	0.08	93.7	-0.1	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:41:30	0.08	97.5	-0.4	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:41:45	0.08	94.6	-0.4	-0.1	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:42:00	0.08	93.2	-0.2	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:42:15	0.07	93.4	-0.3	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:42:30	0.07	93.3	-0.5	-0.1	2.0	BLM001222/cg5	NOx	93.6
noxhigh1	8/29/2007	8:42:30	0.07	<u>93.3</u>	-0.5	-0.1	2.0	BLM001222/cg5	NOx	<u>93.6</u>
dsg8	8/29/2007	8:42:45	0.67	62.5	-0.3	-0.2	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:00	9.63	2.9	6.0	-0.2	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:15	3.59	0.5	31.9	-0.2	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:30	0.90	0.4	40.1	-0.3	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:45	0.33	0.3	41.1	-0.3	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:44:00	0.17	0.3	41.2	-0.4	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:44:15	0.12	0.2	41.3	-0.5	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:44:30	0.09	0.2	41.3	-0.5	2.0	ALM067916/cg8	SO2	41.7
so2mid1	8/29/2007	8:44:30	0.09	0.2	<u>41.3</u>	-0.5	2.0	ALM067916/cg8	SO2	<u>41.7</u>
dsg6	8/29/2007	8:44:45	0.24	0.2	40.5	-0.5	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:00	4.31	40.5	20.8	-0.4	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:15	1.35	45.6	3.6	-0.3	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:30	0.37	45.3	0.2	-0.3	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:45	0.16	45.2	-0.2	-0.2	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:46:00	0.10	45.1	-0.1	-0.1	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:46:15	0.08	45.1	-0.3	-0.2	1.9	ALM035137/cg6	NOx	44.5
noxmid1	8/29/2007	8:46:15	0.08	<u>45.1</u>	-0.3	-0.2	1.9	ALM035137/cg6	NOx	<u>44.5</u>
dsg1	8/29/2007	8:46:30	0.27	35.2	-0.2	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:46:45	7.82	1.8	0.2	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:00	3.08	0.3	0.1	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:15	0.78	0.2	-0.1	-0.2	1.9	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:30	0.28	0.1	-0.1	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:45	0.15	0.1	-0.2	-0.2	1.9	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:48:00	0.10	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:48:15	0.08	0.1	-0.2	-0.2	1.9	ALM000674/cg1	N2	0
o2ezero1	8/29/2007	8:48:00	<u>0.10</u>	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
noxezero1	8/29/2007	8:48:00	0.10	<u>0.1</u>	-0.2	-0.1	1.9	ALM000674/cg1	N2	0

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O2 NOx SO2 CO THC

coezero1	8/29/2007	8:48:00	0.10	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
so2ezero1	8/29/2007	8:48:00	0.10	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
dsg6	8/29/2007	8:51:00	20.64	0.1	0.8	-0.3	6.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:51:15	20.48	15.5	1.0	-0.3	6.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:51:30	20.20	22.5	1.1	-0.2	18.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:51:45	19.95	22.6	1.1	-0.1	24.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:00	19.74	22.6	1.3	0.0	28.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:15	19.54	22.7	1.4	-0.1	30.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:30	19.35	22.6	1.2	-0.1	30.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:45	19.18	22.6	1.4	-0.1	26.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:00	19.02	22.7	1.5	-0.1	25.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:15	18.87	22.7	1.4	0.0	28.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:30	18.73	22.7	1.5	-0.2	27.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:45	18.61	22.6	1.6	-0.1	30.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:00	18.49	22.7	1.6	-0.1	31.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:15	18.38	22.7	1.7	-0.2	32.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:30	18.28	22.8	1.8	-0.2	30.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:45	18.19	22.8	1.7	-0.2	30.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:00	18.10	22.9	1.8	-0.2	31.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:15	18.03	22.8	2.0	-0.3	29.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:30	17.96	22.8	1.9	-0.3	28.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:45	17.89	22.8	2.0	-0.2	29.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:00	17.83	22.7	2.1	-0.2	28.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:15	17.78	22.7	2.1	-0.2	27.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:30	17.73	22.6	2.2	-0.2	28.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:45	17.69	22.7	2.3	-0.2	28.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:00	17.65	22.7	2.2	-0.2	27.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:15	17.62	22.8	2.2	-0.2	26.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:30	17.59	22.8	2.5	-0.1	25.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:45	17.56	22.8	2.5	-0.1	24.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:00	17.53	21.9	2.0	-0.1	19.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:15	17.51	22.8	1.3	-0.1	5.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:30	17.50	22.8	2.1	-0.1	3.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:45	17.48	22.9	2.3	-0.2	3.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:00	17.46	22.8	2.5	-0.2	2.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:15	17.45	22.9	2.4	-0.2	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:30	17.44	22.9	2.3	-0.3	1.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:45	17.44	22.9	2.5	-0.3	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:00	17.43	22.7	2.5	-0.2	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:15	17.43	22.7	2.4	-0.2	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:30	17.43	22.8	2.6	-0.2	1.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:45	17.43	22.7	2.5	-0.2	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:00	17.43	22.7	2.4	-0.2	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:15	17.44	22.8	2.5	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:30	17.44	22.8	2.4	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:45	17.45	22.9	2.0	-0.2	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:00	17.45	22.8	2.1	-0.3	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:15	17.46	22.8	2.1	-0.3	1.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:30	17.47	22.8	2.0	-0.2	1.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:45	17.48	22.8	2.2	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:00	17.49	22.8	2.1	-0.2	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:15	17.50	22.8	2.1	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:30	17.52	22.8	2.1	-0.3	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:45	17.53	22.7	2.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:00	17.54	22.7	2.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:15	17.56	22.9	2.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:30	17.57	22.6	2.0	-0.4	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:45	17.58	22.6	1.9	-0.3	0.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:00	17.60	22.6	1.8	-0.3	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:15	17.62	22.6	1.9	-0.3	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:30	17.63	22.7	1.8	-0.4	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:45	17.65	22.7	1.8	-0.3	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:00	17.66	22.7	1.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:15	17.68	22.7	1.6	-0.3	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:30	17.70	22.6	1.7	-0.2	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:45	17.71	22.6	1.8	-0.2	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:00	17.73	22.6	1.5	-0.2	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:15	17.75	22.5	1.6	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:30	17.77	22.5	1.7	-0.2	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:45	17.79	22.6	1.6	-0.2	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:00	17.81	22.5	1.7	-0.1	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:15	17.82	22.5	1.6	-0.1	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:30	17.84	22.6	1.5	-0.1	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:45	17.87	22.6	1.5	-0.1	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:00	17.88	22.5	1.6	-0.2	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:15	17.90	22.5	1.5	-0.1	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:30	17.92	22.5	1.5	-0.1	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:45	17.94	22.6	1.5	-0.1	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:10:00	17.96	22.7	1.5	-0.2	0.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:10:15	17.97	22.6	1.4	-0.2	0.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:10:30	18.00	22.5	1.4	-0.3	0.9	ALM035137/cg6	NOx	44.5

O2 NOx SO2 CO THC

dog6	8/29/2007	9:10:45	18.02	22.5	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:00	18.03	22.5	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:15	18.05	22.4	1.5	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:30	18.08	22.4	1.4	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:45	18.09	22.3	1.2	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:00	18.11	22.4	1.3	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:15	18.13	22.4	1.5	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:30	18.15	22.3	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:45	18.16	22.4	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:00	18.18	22.4	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:15	18.20	22.3	1.3	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:30	18.22	22.3	1.2	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:45	18.24	22.2	1.5	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:00	18.25	22.2	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:15	18.28	22.3	1.2	-0.2	0.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:30	18.30	22.4	1.4	-0.2	0.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:45	18.31	22.5	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:00	18.33	22.5	1.2	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:15	18.35	22.5	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:30	18.36	22.5	1.3	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:45	18.38	22.5	1.2	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:00	18.40	22.5	1.2	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:15	18.41	22.5	1.3	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:30	18.43	22.6	1.2	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:45	18.45	22.6	1.3	-0.2	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:00	18.47	22.6	1.2	-0.2	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:15	18.48	22.6	1.1	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:30	18.50	22.5	1.2	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:45	18.52	22.4	1.2	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:00	18.53	22.3	1.1	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:15	18.55	22.2	1.3	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:30	18.56	22.4	1.3	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:45	18.58	22.3	1.1	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:19:00	18.59	22.4	1.2	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:19:15	18.61	22.0	1.2	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:19:30	18.62	22.8	1.1	-0.3	1.7	ALM035137/cg6	NOx	44.6
dog6	8/29/2007	9:19:45	18.64	23.1	1.2	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:00	18.66	23.0	1.2	-0.3	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:15	18.67	23.0	1.1	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:30	18.68	23.0	1.2	-0.3	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:45	18.69	23.0	1.4	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:00	18.71	23.0	1.2	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:15	18.72	23.0	1.2	-0.2	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:30	18.73	23.0	1.2	-0.2	3.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:45	18.74	23.0	1.1	-0.2	3.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:00	18.75	22.8	1.1	-0.2	3.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:15	18.76	22.7	1.1	-0.2	2.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:30	18.77	22.8	1.1	-0.2	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:45	18.78	22.8	1.0	-0.2	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:00	18.79	22.4	1.1	-0.2	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:15	18.79	22.4	1.0	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:30	18.81	22.5	1.1	-0.2	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:45	18.82	22.4	1.2	-0.2	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:00	18.82	22.5	1.2	-0.1	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:15	18.83	22.5	1.0	-0.1	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:30	18.83	22.5	1.2	-0.2	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:45	18.83	22.2	1.1	-0.1	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:00	18.84	22.7	1.0	-0.1	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:15	18.84	22.9	1.2	-0.2	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:30	18.85	23.1	1.2	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:45	18.85	23.1	1.1	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:00	20.66	10.5	0.7	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:15	20.58	25.1	0.8	-0.3	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:30	20.53	25.2	0.6	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:45	20.51	25.2	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:00	20.48	25.5	0.8	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:15	20.46	25.4	0.8	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:30	20.43	25.4	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:45	20.41	25.3	0.7	-0.3	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:00	20.40	25.1	0.6	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:15	20.38	25.2	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:30	20.36	25.2	0.7	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:45	20.35	25.4	0.6	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:00	20.34	25.4	0.7	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:15	20.32	25.5	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:30	20.31	25.5	0.6	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:45	20.29	25.5	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:00	20.29	25.5	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:15	20.27	25.5	0.6	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:30	20.27	25.6	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:45	20.26	25.7	0.8	-0.3	1.1	ALM035137/cg6	NOx	44.5

228
23.1

O2 NOx SO2 CO THC

dog6	8/29/2007	9:40:00	20.25	25.6	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:40:15	20.24	25.6	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:40:30	20.23	25.7	0.8	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:40:45	20.22	25.9	0.6	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:00	20.22	25.9	0.7	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:15	20.21	26.0	0.8	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:30	20.21	25.9	0.7	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:45	20.20	26.0	0.7	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:00	20.20	25.9	0.8	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:15	20.19	26.0	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:30	20.18	26.1	0.8	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:45	20.19	25.9	0.8	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:00	20.18	25.6	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:15	20.18	25.6	0.7	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:30	20.18	25.5	0.7	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:45	20.17	25.4	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:00	20.17	25.4	0.7	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:15	20.17	25.4	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:30	20.17	25.5	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:45	20.16	25.4	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:00	20.16	25.4	0.8	-0.3	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:15	20.16	25.3	0.6	-0.4	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:30	20.16	25.6	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:45	20.16	25.7	0.8	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:00	20.16	25.6	0.6	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:15	20.16	25.5	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:30	20.15	25.6	0.8	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:45	20.15	25.6	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:00	20.15	25.8	0.8	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:15	20.15	26.0	0.8	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:30	20.15	25.8	0.7	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:45	20.15	25.7	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:00	20.15	25.5	0.7	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:15	20.15	25.5	0.6	-0.4	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:30	20.15	25.6	0.7	-0.3	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:45	20.15	25.6	0.7	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:00	20.15	25.6	0.6	-0.4	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:15	20.15	25.9	0.7	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:30	20.15	25.7	0.8	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:45	20.15	25.6	0.6	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:00	20.16	25.7	0.7	-0.3	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:15	20.16	25.9	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:30	20.16	25.7	0.6	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:45	20.16	25.7	0.7	-0.3	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:00	20.16	25.8	0.6	-0.4	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:15	20.16	25.6	0.6	-0.4	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:30	20.16	25.4	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:45	20.16	25.1	0.6	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:00	20.16	25.1	0.5	-0.2	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:15	20.16	25.1	0.7	-0.2	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:30	20.16	25.2	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:45	20.16	26.3	0.5	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:00	20.16	26.3	0.6	-0.4	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:15	20.17	26.2	0.6	-0.3	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:30	20.17	25.9	0.6	-0.4	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:45	20.17	26.0	0.7	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:00	20.17	25.7	0.7	-0.3	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:15	20.17	25.5	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:30	20.17	25.6	0.8	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:45	20.17	25.4	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:00	20.17	25.4	0.6	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:15	20.18	25.4	0.6	-0.3	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:30	20.18	25.4	0.5	-0.4	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:45	20.18	26.2	0.5	-0.3	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:00	20.18	25.4	0.6	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:15	20.18	25.9	0.5	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:30	20.18	25.6	0.6	-0.4	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:45	20.19	25.1	0.6	-0.4	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:00	20.19	24.9	0.6	-0.4	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:15	20.19	25.0	0.6	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:30	20.19	25.0	0.7	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:45	20.19	25.1	0.6	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:00	20.19	<u>25.0</u>	0.6	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:15	20.20	24.9	0.7	-0.4	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:30	20.20	24.9	0.5	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:45	20.20	25.0	0.6	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:00	20.20	24.9	0.7	-0.4	2.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:15	20.20	24.9	0.5	-0.2	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:30	20.20	25.0	0.5	-0.2	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:45	20.20	24.9	0.5	-0.2	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:00:00	20.21	24.8	0.4	-0.4	1.6	ALM035137/cg6	NOx	44.5

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O2 NOx SO2 CO THC

dog6	8/29/2007	10:00:15	20.21	24.8	0.5	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:00:30	20.21	24.8	0.6	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:00:45	20.21	24.8	0.3	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:00	20.22	24.9	0.4	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:15	20.21	24.9	0.6	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:30	20.22	24.9	0.4	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:45	20.22	24.8	0.4	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:00	20.22	24.9	0.6	-0.4	2.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:15	20.22	25.1	0.3	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:30	20.23	25.0	0.4	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:45	20.22	25.1	0.5	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:00	20.23	25.1	0.3	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:15	20.23	25.1	0.3	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:30	20.23	25.1	0.5	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:45	20.23	25.0	0.4	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:00	20.24	25.1	0.4	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:15	20.24	25.1	0.3	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:30	20.24	25.1	0.2	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:45	20.24	25.1	0.3	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:00	20.24	25.1	0.3	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:15	20.24	25.0	0.2	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:30	20.25	25.1	0.2	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:45	20.25	25.0	0.2	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:00	20.26	25.0	0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:15	20.26	25.0	0.4	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:30	20.25	25.0	0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:45	20.25	25.1	0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:00	20.26	25.1	0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:15	20.26	25.0	0.1	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:30	20.26	25.0	0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:45	20.26	25.1	0.3	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:00	20.27	25.1	0.2	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:15	20.27	25.0	0.2	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:30	20.27	25.0	0.2	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:45	20.27	24.9	0.1	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:00	20.28	24.8	0.1	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:15	20.28	24.8	0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:30	20.28	24.9	0.1	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:45	20.28	24.9	0.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:00	20.28	25.0	0.0	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:15	20.28	25.0	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:30	20.29	25.1	0.2	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:45	20.29	25.0	0.1	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:00	20.29	25.0	-0.1	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:15	20.29	25.0	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:30	20.30	25.0	0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:45	20.30	25.0	0.0	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:00	20.30	25.0	0.0	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:15	20.30	25.0	0.0	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:30	20.30	25.1	0.0	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:45	20.31	25.1	0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:00	20.31	25.1	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:15	20.31	25.1	-0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:30	20.31	25.1	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:45	20.31	25.2	0.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:00	20.31	25.2	0.1	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:15	20.32	25.2	0.1	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:30	20.32	25.2	0.0	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:45	20.32	25.0	0.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:00	20.33	25.1	0.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:15	20.32	25.1	-0.1	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:30	20.33	25.1	0.0	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:45	20.33	25.0	0.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:00	20.33	24.9	0.0	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:15	20.33	24.8	-0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:30	20.34	24.9	-0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:45	20.34	24.9	-0.5	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:00	20.34	24.8	-0.2	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:15	20.34	25.1	-0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:30	20.35	25.1	-0.3	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:45	20.34	25.2	-0.2	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:00	20.35	25.2	-0.3	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:15	20.35	25.0	-0.4	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:30	20.35	25.0	-0.3	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:45	20.35	25.0	-0.4	-0.3	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:00	20.35	25.0	-0.5	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:15	20.36	25.0	-0.3	-0.3	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:30	20.36	25.0	-0.3	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:45	20.36	25.0	-0.4	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:20:00	20.36	25.0	-0.4	-0.4	30.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:20:15	20.36	25.0	-0.4	-0.4	50.8	ALM035137/cg6	NOx	44.5

O2 NOx SO2 CO THC

dsg6	8/29/2007	10:20:30	20.37	25.0	-0.5	-0.4	49.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:20:45	20.36	25.2	-0.3	-0.4	48.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:00	20.37	25.0	-0.5	-0.4	47.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:15	20.37	25.0	-0.5	-0.4	46.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:30	20.37	25.0	-0.4	-0.4	55.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:45	20.37	25.0	-0.5	-0.4	82.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:00	20.38	25.1	-0.4	-0.4	84.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:15	20.38	25.1	-0.4	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:30	20.38	25.2	-0.4	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:45	20.38	25.1	-0.4	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:00	20.39	25.1	-0.5	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:15	20.39	25.0	-0.6	-0.4	84.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:30	20.38	25.1	-0.5	-0.4	28.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:45	20.39	25.1	-0.5	-0.4	25.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:00	20.39	25.1	-0.8	-0.4	0.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:15	20.39	25.1	-0.7	-0.5	0.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:30	20.40	25.1	-0.7	-0.4	0.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:45	20.40	25.1	-0.8	-0.4	0.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:00	20.40	25.1	-0.6	-0.4	0.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:15	20.40	25.1	-0.7	-0.4	0.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:30	20.40	25.1	-0.9	-0.4	21.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:45	20.41	25.0	-0.8	-0.4	83.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:00	20.41	25.2	-1.0	-0.4	84.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:15	20.41	25.1	-1.0	-0.4	84.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:30	20.42	25.0	-0.9	-0.4	84.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:45	20.41	25.1	-1.2	-0.4	84.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:00	20.42	25.0	-1.0	-0.4	46.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:15	20.41	25.2	-1.0	-0.3	48.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:30	20.42	25.0	-1.1	-0.4	48.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:45	20.42	25.0	-1.0	-0.3	47.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:00	20.42	25.0	-1.0	-0.3	47.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:15	20.43	25.0	-1.1	-0.3	47.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:30	20.43	25.0	-1.0	-0.3	47.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:45	20.43	25.0	-1.1	-0.3	47.6	ALM035137/cg6	NOx	44.5
dsg12	8/29/2007	10:29:45	20.34	5.5	-0.5	13.9	2.3	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:00	20.54	1.2	-0.3	28.9	1.8	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:15	20.60	0.5	-0.5	37.5	3.4	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:30	20.62	0.4	-0.7	37.2	67.0	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:45	20.62	0.3	-0.6	27.7	83.7	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:00	20.61	0.3	-0.7	12.4	84.0	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:15	20.61	0.3	-0.7	4.8	84.1	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:30	20.60	0.3	-0.6	2.1	84.2	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:45	20.60	0.2	-0.6	1.6	84.3	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:32:00	20.60	0.2	-0.7	1.3	84.2	BLM000517/cg12	THC	84.62
thchigh1	8/29/2007	10:32:00	20.60	0.2	-0.7	1.3	84.2	BLM000517/cg12	THC	84.62
dsg13	8/29/2007	10:33:00	20.59	0.2	-0.5	1.0	73.9	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:33:15	20.58	0.2	-0.6	0.9	49.7	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:33:30	20.59	0.1	-0.5	0.8	48.2	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:33:45	20.58	0.1	-0.6	0.8	48.0	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:34:00	20.58	0.1	-0.6	0.8	48.0	BAL4862/cg13	THC	47
thcmid1	8/29/2007	10:34:00	20.58	0.1	-0.6	0.8	48.0	BAL4862/cg13	THC	47
dsg14	8/29/2007	10:35:15	20.57	0.1	-0.6	0.6	33.3	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:35:30	20.58	0.1	-0.6	0.7	30.0	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:35:45	20.58	0.1	-0.5	0.7	29.9	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:36:00	20.58	0.1	-0.6	0.7	29.9	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:36:15	20.58	0.1	-0.6	0.7	29.9	BLM004041/cg14	THC	29.87
thclow1	8/29/2007	10:36:15	20.58	0.1	-0.6	0.7	29.9	BLM004041/cg14	THC	29.87
dsg2	8/29/2007	10:37:15	20.57	0.1	-0.5	0.9	22.6	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:37:30	20.55	0.1	-0.6	0.8	11.6	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:37:45	20.52	0.0	-0.5	0.8	0.4	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:00	20.52	0.0	-0.5	0.5	0.2	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:15	20.53	0.0	-0.7	0.3	0.2	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:30	20.53	0.0	-0.6	0.1	0.1	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:45	20.53	0.0	-0.6	0.0	0.1	AAL14753/cg2	O2	20.9
thczero1	8/29/2007	10:38:45	20.53	0.0	-0.6	0.0	0.1	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:40:45	20.59	0.1	-0.8	2.1	1.4	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:00	20.59	0.1	-0.8	1.6	1.3	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:15	20.58	0.1	-0.8	1.2	1.2	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:30	20.57	0.1	-0.7	1.1	0.9	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:45	20.58	0.1	-0.9	1.1	0.1	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:42:00	20.58	0.1	-0.8	1.0	0.0	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:42:15	20.58	0.1	-0.8	1.1	0.0	AAL14753/cg2	O2	20.9
thczero1	8/29/2007	10:42:15	20.58	0.1	-0.8	1.1	0.0	AAL14753/cg2	O2	20.9
sg13	8/29/2007	10:43:30	20.58	0.1	-0.7	1.0	40.1	BAL4862/cg13	THC	47
sg13	8/29/2007	10:43:45	20.59	0.1	-0.8	1.1	47.4	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:00	20.59	0.1	-0.9	1.0	47.5	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:15	20.59	0.1	-0.8	1.0	47.6	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:30	20.59	0.1	-0.8	1.0	47.7	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:45	20.59	0.1	-0.8	0.9	47.7	BAL4862/cg13	THC	47
sg13	8/29/2007	10:45:00	20.59	0.1	-0.8	0.9	47.7	BAL4862/cg13	THC	47
thcspan1	8/29/2007	10:44:45	20.59	0.1	-0.8	0.9	47.7	BAL4862/cg13	THC	47

Encl Conv v

Initial Run 1

black v @ 15.0" Hg = 0.0" Hg

O2 NOx SO2 CO THC

filename 8/30/2007 6:35:43 C:\RMDATA\SRU-B2.CSV
testby1 Metco Environmental
testby2 Houston Division
testby3 METCO 44
testby4 R. Williams
testfor1 Valero Houston
testfor2 Houston, TX
testfor3 B-Train SRU Tail Gas Stack
testfor4 07-1448

name		1 O2	3 NOx	6 SO2	5 CO	4 THC				
sn		632689	10S-39403-260	94-721M-8191-	48-39616-261	00061209-109				
offset		0	0	0	0	0				
fullscale		25	100	100	100	100				
train		1	1	1	1	1				
gastype		o2 3a	nox 7e	so2 6c	co 10	thc 25a				
dsg1	8/30/2007	6:36:15	20.69	0.1	0.8	-0.3	1.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:36:30	13.70	0.1	0.8	-0.2	1.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:36:45	3.65	0.0	0.6	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:37:00	1.27	0.0	0.0	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:37:15	0.63	0.2	-0.1	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:37:30	0.41	0.3	-0.1	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:37:45	0.32	0.4	-0.5	-0.2	2.1	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:38:00	0.27	2.0	-0.5	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:38:15	0.24	1.2	-0.4	-0.3	2.1	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:38:30	0.21	0.0	-0.6	-0.3	2.1	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:38:45	0.20	0.0	-0.5	-0.2	2.1	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:39:00	0.19	0.4	-0.4	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:39:15	0.18	0.3	-0.1	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/30/2007	6:39:30	0.18	0.0	0.3	-0.3	1.9	ALM000674/cg1	N2	0
dsg5	8/30/2007	6:40:15	16.49	53.4	0.9	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:40:30	6.05	108.6	1.0	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:40:45	1.58	109.3	0.5	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:41:00	0.61	103.3	0.4	-0.3	1.9	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:41:15	0.33	93.5	0.2	-0.3	1.9	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:41:30	0.24	93.9	0.0	-0.2	1.9	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:41:45	0.19	97.3	0.3	-0.2	1.9	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:42:00	0.17	93.4	0.2	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:42:15	0.16	93.8	0.0	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:42:30	0.15	93.8	0.2	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:42:45	0.14	93.0	0.1	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:43:00	0.13	92.1	0.0	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:43:15	0.13	87.1	0.1	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:43:30	0.12	92.3	0.0	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:43:45	0.12	92.4	-0.1	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:44:00	0.12	93.6	0.0	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:44:15	0.12	93.8	0.0	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:44:30	0.11	93.8	0.0	-0.3	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:44:45	0.11	93.6	0.1	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:45:00	0.11	93.6	-0.3	-0.3	2.0	BLM001222/cg5	NOx	93.6
noxhigh1	8/30/2007	6:45:00	0.11	93.6	-0.3	-0.3	2.0	BLM001222/cg5	NOx	93.6
dsg9	8/30/2007	6:46:15	20.35	0.0	1.0	-0.2	2.0	ALM047398/cg9	CO	83
dsg7	8/30/2007	6:46:45	18.96	0.0	4.3	0.2	2.1	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:47:00	7.95	0.0	47.3	0.7	2.1	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:47:15	2.15	0.0	77.0	1.3	2.1	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:47:30	0.80	0.0	82.7	1.4	2.0	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:47:45	0.41	0.0	83.8	1.0	1.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:48:00	0.27	0.0	84.1	0.3	1.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:48:15	0.20	-0.1	84.3	-0.2	1.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:48:30	0.17	0.1	84.6	-0.4	1.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:48:45	0.15	0.4	84.5	-0.4	1.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:49:00	0.14	0.4	84.7	-0.4	1.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:49:15	0.13	0.4	84.8	-0.4	2.0	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	6:49:30	0.12	0.4	84.7	-0.4	2.0	BLM003931/cg7	SO2	84.5
so2high1	8/30/2007	6:49:30	0.12	0.4	84.7	-0.4	2.0	BLM003931/cg7	SO2	84.5
dsg9	8/30/2007	6:49:45	0.12	0.4	84.7	-0.4	2.0	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:50:00	3.26	0.1	59.5	-0.3	2.0	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:50:15	2.31	0.0	14.7	5.4	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:50:30	0.60	0.0	2.4	17.8	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:50:45	0.25	0.0	0.6	40.0	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:51:00	0.16	0.0	0.3	58.3	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:51:15	0.12	0.0	0.2	76.1	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:51:30	0.11	0.0	0.1	81.9	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:51:45	0.10	0.0	0.0	83.2	2.0	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:52:00	0.10	0.0	0.1	83.4	1.9	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:52:15	0.09	0.0	0.0	83.5	1.8	ALM047398/cg9	CO	83
dsg9	8/30/2007	6:52:30	0.09	0.0	0.0	83.4	1.7	ALM047398/cg9	CO	83
cohigh1	8/30/2007	6:52:30	0.09	0.0	0.0	83.4	1.7	ALM047398/cg9	CO	83
dsg5	8/30/2007	6:52:45	0.14	1.6	0.0	83.4	1.4	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:53:00	2.26	84.5	0.2	81.6	1.3	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:53:15	0.71	91.2	0.1	69.3	1.4	BLM001222/cg5	NOx	93.6
dsg5	8/30/2007	6:53:30	0.24	91.5	0.0	53.2	1.5	BLM001222/cg5	NOx	93.6

Cal Error

O2 NOx SO2 CO THC

dog5	8/30/2007	6:53:45	0.13	92.4	0.0	30.0	1.5	BLM001222/cg5	NOx	93.6
dog5	8/30/2007	6:54:00	0.10	93.7	0.0	13.6	1.5	BLM001222/cg5	NOx	93.6
dog5	8/30/2007	6:54:15	0.09	93.7	0.0	2.4	1.6	BLM001222/cg5	NOx	93.6
dog2	8/30/2007	6:54:30	0.36	68.7	-0.2	0.2	1.6	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:54:45	10.68	4.1	0.6	-0.2	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:00	18.19	0.4	0.8	-0.3	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:15	20.16	0.2	0.3	-0.4	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:30	20.71	0.2	0.0	-0.4	1.6	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:45	20.92	0.2	0.1	-0.6	1.5	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:00	21.01	0.1	0.0	-0.6	1.5	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:15	21.06	0.1	0.0	-0.6	1.5	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:30	21.09	0.1	0.0	-0.6	1.6	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:45	20.92	0.1	-0.2	-0.6	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:57:00	20.87	0.0	-0.2	-0.6	1.6	AAL14753/cg2	O2	20.9
o2high1	8/30/2007	6:57:00	20.87	0.0	-0.2	-0.6	1.6	AAL14753/cg2	O2	20.9
dog6	8/30/2007	6:57:15	20.88	1.1	-0.2	-0.6	1.4	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:57:30	14.43	44.6	0.1	-0.6	1.5	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:57:45	3.89	44.6	0.1	-0.6	1.5	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:58:00	1.28	44.4	0.1	-0.5	1.5	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:58:15	0.59	44.3	-0.1	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:58:30	0.35	44.4	-0.1	-0.3	1.6	ALM035137/cg6	NOx	44.5
noxmid1	8/30/2007	6:58:30	0.35	44.4	-0.1	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog8	8/30/2007	6:58:45	0.27	39.5	0.0	-0.2	1.7	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:00	5.11	1.8	8.2	-0.2	1.7	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:15	2.15	0.3	33.0	-0.3	1.8	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:30	0.62	0.2	40.1	-0.3	1.8	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:45	0.28	0.1	40.9	-0.4	1.7	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:00	0.18	0.1	41.1	-0.4	1.4	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:15	0.15	0.1	41.2	-0.5	1.4	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:30	0.13	0.1	41.1	-0.5	1.3	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:45	0.12	0.1	41.2	-0.5	1.7	ALM067916/cg8	SO2	41.7
so2mid1	8/30/2007	7:00:45	0.12	0.1	41.2	-0.5	1.7	ALM067916/cg8	SO2	41.7
dog10	8/30/2007	7:01:15	2.28	0.1	35.1	-0.4	1.5	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:01:30	3.07	0.0	10.8	1.2	1.3	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:01:45	0.76	0.0	1.7	8.7	1.3	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:00	0.27	0.0	0.3	17.6	1.3	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:15	0.16	0.0	0.3	29.6	1.2	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:30	0.12	0.0	0.2	38.0	1.2	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:45	0.10	0.0	0.1	42.8	1.2	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:03:00	0.09	0.0	0.2	43.6	1.1	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:03:15	0.09	0.0	0.0	43.8	1.1	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:03:30	0.08	0.0	-0.1	43.8	1.2	ALM054751/cg10	CO	44.9
comid1	8/30/2007	7:03:30	0.08	0.0	-0.1	43.8	1.2	ALM054751/cg10	CO	44.9
dog3	8/30/2007	7:03:45	0.22	0.0	0.1	43.8	1.3	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:00	7.45	0.1	0.3	42.8	1.3	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:15	11.05	0.0	0.1	36.4	1.2	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:30	11.79	0.0	0.1	28.3	1.1	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:45	12.03	0.0	-0.3	16.3	1.1	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:05:00	12.12	0.0	-0.3	7.6	1.2	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:05:15	12.17	0.0	-0.2	1.5	1.2	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:05:30	12.19	0.0	-0.2	-0.1	1.2	ALM005139/cg3	O2	12.2
o2mid1	8/30/2007	7:05:30	12.19	0.0	-0.2	-0.1	1.2	ALM005139/cg3	O2	12.2
dog1	8/30/2007	7:05:45	12.31	0.0	-0.3	-0.7	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:00	9.90	0.0	-0.1	-0.8	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:15	2.65	0.0	-0.2	-0.8	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:30	0.84	0.0	-0.2	-0.7	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:45	0.38	0.0	-0.1	-0.5	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:07:00	0.23	0.0	-0.3	-0.4	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:07:15	0.16	0.0	-0.3	-0.4	1.2	ALM000674/cg1	N2	0
dog1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
o2ezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
noxezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
coezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
so2ezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
dog12	8/30/2007	7:14:15	20.29	0.1	1.5	-0.2	0.0	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:14:30	20.29	0.1	1.4	-0.2	0.7	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:14:45	20.28	0.1	1.6	-0.2	1.0	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:00	20.28	0.1	1.5	-0.2	65.6	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:15	20.28	0.1	1.5	-0.2	84.2	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:30	20.28	0.1	1.6	-0.2	84.5	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:45	20.28	0.1	1.5	-0.1	84.6	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:16:00	20.20	0.1	1.5	0.0	84.7	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:16:15	19.99	0.1	1.5	0.7	84.7	BLM000517/cg12	THC	84.6
thchigh1	8/30/2007	7:16:15	19.99	0.1	1.5	0.7	84.7	BLM000517/cg12	THC	84.6
dog13	8/30/2007	7:17:30	20.28	0.1	1.6	0.2	37.4	BAL4862/cg13	THC	47
dog13	8/30/2007	7:17:45	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
dog13	8/30/2007	7:18:00	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
dog13	8/30/2007	7:18:15	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
thcmid1	8/30/2007	7:18:15	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
dog14	8/30/2007	7:19:00	20.27	0.1	1.6	-0.2	48.0	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:19:15	20.28	0.1	1.6	-0.2	41.3	BLM004041/cg14	THC	29.9

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O2 NOx SO2 CO THC

dog14	8/30/2007	7:19:30	20.28	0.1	1.6	-0.2	11.8	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:19:45	20.28	0.1	1.7	-0.2	35.7	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:20:00	20.28	0.1	1.7	-0.2	29.9	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:20:15	20.27	0.1	1.6	-0.2	29.9	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:20:30	20.27	0.1	1.8	-0.2	29.9	BLM004041/cg14	THC	29.9
thclow1	8/30/2007	7:20:30	20.27	0.1	1.8	-0.2	29.9	BLM004041/cg14	THC	29.9
dog2	8/30/2007	7:21:15	20.27	0.1	1.7	-0.2	29.9	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:21:30	20.23	0.1	1.5	-0.2	29.8	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:21:45	20.13	0.1	1.5	-0.2	13.9	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:22:00	20.04	0.1	1.7	-0.2	0.1	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:22:15	19.96	0.1	1.7	-0.2	0.0	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:22:30	19.89	0.1	1.8	-0.2	0.0	AAL14753/cg2	O2	20.9
thczero1	8/30/2007	7:22:30	19.89	0.1	1.8	-0.2	0.0	AAL14753/cg2	O2	20.9
scg3	8/30/2007	8:28:15	20.36	0.1	-0.1	-0.3	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:28:30	20.36	0.1	0.0	-0.3	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:28:45	20.34	0.1	0.1	-0.3	1.2	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:00	18.14	0.1	0.0	-0.3	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:15	13.98	0.0	0.1	-0.3	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:30	12.59	0.0	0.0	-0.3	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:45	12.24	0.0	-0.1	-0.4	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:30:00	12.14	0.0	0.0	-0.5	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:30:15	12.10	0.0	-0.3	-0.6	1.0	ALM005139/cg3	O2	12.2
o2span1	8/30/2007	8:30:15	12.10	0.0	-0.3	-0.6	1.0	ALM005139/cg3	O2	12.2
scg6	8/30/2007	8:30:30	12.08	0.0	-0.3	-0.6	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:30:45	12.08	0.0	-0.3	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:00	12.05	1.7	-0.5	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:15	9.39	22.3	-0.5	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:30	3.86	38.9	-0.5	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:45	1.32	41.9	-0.7	-0.6	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:00	0.63	42.3	-0.6	-0.5	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:15	0.42	42.5	-0.6	-0.3	1.1	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:30	0.35	42.6	-0.7	-0.3	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:45	0.31	42.7	-0.8	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:33:00	0.28	42.8	-0.8	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:33:15	0.26	43.0	-1.0	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
o2zero1	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
cozero1	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
noxspan1	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg10	8/30/2007	8:33:45	0.23	43.0	-1.1	-0.2	1.0	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:00	0.22	43.1	-1.2	-0.2	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:15	0.22	39.2	-1.1	-0.2	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:30	0.25	10.0	-1.2	0.4	1.0	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:45	0.22	1.0	-1.3	4.9	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:00	0.20	0.3	-1.1	12.6	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:15	0.19	0.2	-1.2	23.8	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:30	0.19	0.2	-1.2	33.0	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:45	0.18	0.1	-1.1	40.5	1.2	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:00	0.18	0.1	-1.3	42.7	1.2	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:15	0.18	0.1	-1.2	43.4	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:30	0.17	0.1	-1.2	43.4	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:45	0.17	0.1	-1.4	43.4	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
noxzero1	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
so2zero1	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
cospan1	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
scg8	8/30/2007	8:37:15	0.16	0.1	-1.4	43.3	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:37:30	0.16	0.1	-1.5	43.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:37:45	0.17	0.1	-1.3	43.3	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:00	0.21	0.4	4.3	43.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:15	0.19	0.2	21.7	39.2	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:30	0.16	0.1	32.4	32.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:45	0.15	0.1	35.4	21.1	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:00	0.15	0.1	36.5	11.8	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:15	0.14	0.1	37.0	3.3	1.3	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:30	0.14	0.1	37.1	0.6	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:45	0.14	0.1	37.4	-0.3	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:00	0.14	0.1	37.6	-0.4	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:15	0.13	0.1	37.7	-0.5	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:30	0.13	0.1	37.8	-0.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:45	0.13	0.1	37.9	-0.5	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:41:00	0.13	0.1	37.9	-0.5	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:41:15	0.13	0.1	38.0	-0.5	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:41:30	0.13	0.1	38.0	-0.5	1.0	ALM067916/cg8	SO2	41.7
so2span1	8/30/2007	8:41:30	0.13	0.1	38.0	-0.5	1.0	ALM067916/cg8	SO2	41.7
scg2	8/30/2007	8:42:45	16.30	0.2	12.7	-0.5	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	8:43:00	19.40	0.1	2.8	-0.4	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	8:43:15	20.03	0.1	0.4	-0.4	-0.3	AAL14753/cg2	O2	20.9
thczero1	8/30/2007	8:43:15	20.03	0.1	0.4	-0.4	-0.3	AAL14753/cg2	O2	20.9
scg13	8/30/2007	8:44:45	20.55	0.1	-0.9	-0.3	47.2	BAL4862/cg13	THC	47
scg13	8/30/2007	8:45:00	20.59	0.1	-1.2	-0.2	47.5	BAL4862/cg13	THC	47

Initial Bias Run 1

O2 NOx SO2 CO THC

scg13	8/30/2007	8:45:15	20.60	0.1	-1.4	-0.2	47.6	BAL4862/cg13	THC	47
scg13	8/30/2007	8:45:30	20.34	0.1	-1.0	-0.2	47.7	BAL4862/cg13	THC	47
scg13	8/30/2007	8:45:45	20.39	0.1	-0.7	-0.2	47.7	BAL4862/cg13	THC	47
thcspan1	8/30/2007	8:45:45	20.39	0.1	-0.7	-0.2	47.7	BAL4862/cg13	THC	47
dsg1	8/30/2007	9:01:45	5.92	7.6	13.0	364.6	1.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:00	3.04	0.1	4.7	354.9	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:15	0.76	0.1	-1.6	298.9	1.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:30	0.31	0.0	-2.7	225.1	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:45	0.19	0.0	-3.0	127.9	1.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:00	0.15	0.0	-2.8	56.8	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:15	0.13	0.0	-2.9	11.7	1.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:30	0.12	0.0	-3.1	2.1	1.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:45	0.11	0.0	-2.8	0.0	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:04:00	0.10	0.0	-3.0	0.0	1.8	ALM000674/cg1	N2	0
dsg9	8/30/2007	9:04:15	0.11	1.1	-2.9	0.0	1.6	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:04:30	2.07	3.5	1.0	6.5	1.7	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:04:45	1.33	0.0	-0.9	70.1	1.7	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:00	0.34	0.0	-2.6	204.2	1.6	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:15	0.16	0.0	-2.9	427.9	1.6	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:30	0.11	0.0	-3.1	619.0	1.4	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:45	0.10	0.0	-3.0	805.7	1.5	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:00	0.09	0.0	-3.0	876.6	1.5	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:15	0.09	0.0	-3.2	897.8	1.3	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:30	0.08	0.0	-3.0	899.8	1.4	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:45	0.08	0.0	-3.2	903.0	1.3	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:00	0.08	0.0	-3.3	903.6	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:15	0.08	0.0	-3.1	903.1	1.4	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:30	0.08	0.0	-3.2	906.3	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:45	0.08	0.0	-3.2	911.7	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:00	0.07	0.0	-3.2	916.3	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:15	0.07	0.0	-3.4	927.2	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:30	0.07	0.0	-3.2	931.1	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:45	0.07	0.0	-3.3	934.4	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:00	0.07	0.0	-3.3	934.4	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:15	0.07	0.0	-3.3	929.8	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:30	0.06	0.0	-3.3	915.3	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:45	0.06	0.0	-3.4	903.8	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:00	0.06	0.0	-3.2	897.9	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:15	0.06	0.0	-3.3	899.4	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:30	0.06	0.0	-3.4	900.8	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:45	0.06	0.0	-3.3	899.7	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:00	0.06	0.0	-3.5	904.4	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:15	0.06	0.0	-3.4	905.2	0.9	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:30	0.06	0.0	-3.2	906.7	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:45	0.05	0.0	-3.4	911.0	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:12:00	0.06	0.0	-3.2	908.2	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:12:15	0.05	0.0	-3.3	906.6	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:12:30	0.05	0.0	-3.5	907.3	0.9	BAL2535/cg9	CO	921
cohigh1	8/30/2007	9:12:30	0.05	0.0	-3.5	907.3	0.9	BAL2535/cg9	CO	921
dsg10	8/30/2007	9:12:45	0.15	1.2	-3.2	905.9	0.9	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:00	0.61	0.0	-2.4	891.3	1.0	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:15	0.17	0.0	-3.2	819.0	1.0	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:30	0.08	0.0	-3.2	722.8	1.0	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:45	0.06	0.0	-3.3	602.0	0.8	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:00	0.06	0.0	-3.4	518.9	0.9	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:15	0.05	0.0	-3.4	468.9	0.6	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:30	0.05	0.0	-3.6	462.3	0.7	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:45	0.05	0.0	-3.4	460.6	0.6	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:15:00	0.05	0.0	-3.3	460.6	0.8	BLM005090/cg10	CO	464
comid1	8/30/2007	9:15:00	0.05	0.0	-3.3	460.6	0.8	BLM005090/cg10	CO	464
dsg1	8/30/2007	9:15:15	0.05	0.1	-3.5	458.6	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:15:30	1.11	2.5	-1.5	457.4	0.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:15:45	0.45	0.0	-2.4	415.8	0.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:00	0.13	0.0	-3.3	339.6	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:15	0.07	0.0	-3.4	215.8	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:30	0.05	0.0	-3.5	116.6	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:45	0.05	0.0	-3.5	29.5	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:00	0.04	0.0	-3.4	5.3	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:15	0.04	0.0	-3.6	0.0	0.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:30	0.04	0.0	-3.5	0.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:45	0.04	0.0	-3.5	0.0	0.8	ALM000674/cg1	N2	0
coezero1	8/30/2007	9:17:45	0.04	0.0	-3.5	0.0	0.8	ALM000674/cg1	N2	0
scg6	8/30/2007	9:18:15	3.84	9.5	2.3	13.7	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:18:30	5.65	10.0	6.7	61.2	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:18:45	5.98	13.0	6.8	140.8	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:00	5.10	31.7	6.1	203.8	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:15	1.98	41.5	4.2	238.5	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:30	0.71	42.9	2.5	207.6	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:45	0.32	43.5	1.4	129.8	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:20:00	0.18	43.6	0.4	67.9	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:20:15	0.13	43.5	-0.2	19.7	0.7	ALM035137/cg6	NOx	44.5

Re-cal CO 0-1000

O2 NOx SO2 CO THC

scg6	8/30/2007	9:20:30	0.10	43.5	-0.6	6.1	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:20:45	0.10	43.5	-1.1	1.2	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:21:00	0.09	43.6	-1.3	0.4	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:21:15	0.09	43.6	-1.4	0.0	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:21:30	0.08	43.6	-1.6	0.0	0.6	ALM035137/cg6	NOx	44.5
cozero1	8/30/2007	9:21:30	0.08	43.6	-1.6	0.0	0.6	ALM035137/cg6	NOx	44.5
scg10	8/30/2007	9:21:45	0.08	43.6	-1.7	0.0	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:00	0.08	43.6	-1.8	0.0	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:15	0.08	38.9	-2.1	0.0	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:30	0.08	11.3	-2.0	6.0	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:45	0.08	2.5	-2.2	55.7	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:00	0.08	1.6	-2.3	131.5	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:15	0.08	1.4	-2.2	251.3	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:30	0.08	1.3	-2.4	343.3	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:45	0.08	1.3	-2.4	417.2	0.4	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:00	0.08	1.3	-2.3	439.3	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:15	0.08	1.2	-2.5	445.1	0.4	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:30	0.11	0.8	-2.6	445.9	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:45	0.16	0.5	-2.5	446.2	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:00	0.20	0.4	-2.7	448.2	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:15	0.20	0.4	-2.6	449.1	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:30	0.21	0.4	-2.7	449.8	0.4	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:45	0.21	0.4	-2.9	449.8	0.5	BLM005090/cg10	CO	464
cospan1	8/30/2007	9:25:45	0.21	0.4	-2.9	449.8	0.5	BLM005090/cg10	CO	464
run1	8/30/2007	9:32:00	5.60	10.6	12.5	315.4	0.3			
run1	8/30/2007	9:32:15	5.59	10.6	12.6	298.8	0.3			
run1	8/30/2007	9:32:30	5.59	10.6	12.4	293.0	0.3			
run1	8/30/2007	9:32:45	5.56	10.7	12.4	289.3	0.1			
run1	8/30/2007	9:33:00	5.52	10.7	12.6	286.7	0.0			
run1	8/30/2007	9:33:15	5.47	10.7	12.6	279.4	0.1			
run1	8/30/2007	9:33:30	5.43	10.8	12.7	271.5	0.0			
run1	8/30/2007	9:33:45	5.41	10.8	12.9	257.1	0.0			
run1	8/30/2007	9:34:00	5.40	10.7	12.8	246.7	-0.1			
run1	8/30/2007	9:34:15	5.37	10.7	12.8	235.6	0.0			
run1	8/30/2007	9:34:30	5.34	10.8	12.8	229.7	-0.1			
run1	8/30/2007	9:34:45	5.30	10.8	12.8	222.9	-0.2			
run1	8/30/2007	9:35:00	5.28	10.9	12.9	216.0	-0.2			
run1	8/30/2007	9:35:15	5.26	10.9	13.0	206.2	-0.2			
run1	8/30/2007	9:35:30	5.25	10.9	13.1	195.9	-0.2			
run1	8/30/2007	9:35:45	5.24	10.8	13.1	184.2	-0.2			
run1	8/30/2007	9:36:00	5.24	10.8	13.1	178.1	-0.2			
run1	8/30/2007	9:36:15	5.23	10.8	13.2	173.1	-0.2			
run1	8/30/2007	9:36:30	5.22	10.8	13.2	170.4	-0.1			
run1	8/30/2007	9:36:45	5.21	10.7	13.2	168.5	-0.2			
run1	8/30/2007	9:37:00	5.20	10.8	13.5	166.5	-0.1			
run1	8/30/2007	9:37:15	5.19	10.9	13.4	164.2	-0.1			
run1	8/30/2007	9:37:30	5.18	10.9	13.3	160.8	-0.2			
run1	8/30/2007	9:37:45	5.17	10.8	13.5	155.7	-0.2			
run1	8/30/2007	9:38:00	5.18	10.9	13.5	150.2	-0.2			
run1	8/30/2007	9:38:15	5.18	10.9	13.5	146.4	-0.2			
run1	8/30/2007	9:38:30	5.19	10.8	13.7	144.4	-0.2			
run1	8/30/2007	9:38:45	5.20	10.8	13.7	145.4	-0.2			
run1	8/30/2007	9:39:00	5.29	10.7	13.5	147.3	-0.1			
run1	8/30/2007	9:39:15	5.61	10.5	13.4	157.0	0.4			
run1	8/30/2007	9:39:30	5.83	10.5	13.1	177.7	0.6			
run1	8/30/2007	9:39:45	5.95	10.4	12.9	219.1	0.9			
run1	8/30/2007	9:40:00	6.03	10.3	12.7	257.6	1.1			
run1	8/30/2007	9:40:15	6.09	10.3	12.5	304.5	1.5			
run1	8/30/2007	9:40:30	6.14	10.1	12.5	331.2	2.0			
run1	8/30/2007	9:40:45	6.21	10.0	12.5	355.5	2.3			
run1	8/30/2007	9:41:00	6.26	10.0	12.3	370.7	2.8			
run1	8/30/2007	9:41:15	6.29	10.0	12.5	389.3	3.1			
run1	8/30/2007	9:41:30	6.32	10.0	12.5	403.8	3.3			
run1	8/30/2007	9:41:45	6.35	9.9	12.4	419.2	4.2			
run1	8/30/2007	9:42:00	6.39	9.9	12.6	430.3	5.0			
run1	8/30/2007	9:42:15	6.44	9.8	12.8	446.3	6.1			
run1	8/30/2007	9:42:30	6.47	9.7	12.6	458.5	7.1			
run1	8/30/2007	9:42:45	6.50	9.6	12.7	473.3	8.9			
run1	8/30/2007	9:43:00	6.53	9.6	12.7	487.9	10.8			
run1	8/30/2007	9:43:15	6.56	9.4	13.0	503.2	11.9			
run1	8/30/2007	9:43:30	6.61	9.3	13.1	516.2	17.7			
run1	8/30/2007	9:43:45	6.65	9.3	13.3	534.3	20.5			
run1	8/30/2007	9:44:00	6.67	9.1	13.6	547.5	24.0			
run1	8/30/2007	9:44:15	6.71	9.0	13.7	563.1	29.1			
run1	8/30/2007	9:44:30	6.76	8.9	13.9	575.6	39.5			
run1	8/30/2007	9:44:45	6.80	8.8	14.3	589.8	45.4			
run1	8/30/2007	9:45:00	6.82	8.8	14.4	601.6	54.9			
run1	8/30/2007	9:45:15	6.84	8.8	14.6	612.6	49.1			
run1	8/30/2007	9:45:30	6.89	8.6	14.8	620.0	70.2			
run1	8/30/2007	9:45:45	6.94	8.6	15.0	625.9	70.2			
run1	8/30/2007	9:57:00	6.82	9.6	16.3	585.0	68.8			

Run 1 932-1043



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281 474 5800

Fax: 281 474 5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-002
Item No.: 0402B800018PAL
P.O. No.: 11719

Cylinder Number: ALM024421
Cylinder Size: AL
Certification Date: 29Nov2006
Expiration Date: 01Dec2007

Customer

METCO ENVIRONMENTAL
3226 COMMANDER DR
CARROLLTON, TX 75006

CERTIFIED CONCENTRATION

<u>Component Name</u>	<u>Concentration (Moles)</u>	<u>Accuracy (+/-%)</u>
1,3-BUTADIENE	51. PPM	2
1-BUTENE	49. PPM	2
CIS-2-BUTENE	50. PPM	2
ETHYLENE	50. PPM	2
ISOBUTYLENE	48. PPM	2
PROPYLENE	49. PPM	2
TRANS-2-BUTENE	49. PPM	2
NITROGEN	BALANCE	

TRACEABILITY

Traceable To

Scott Reference Standard

APPROVED BY:

CRISSA MARTIN

DATE:

11/29/06



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281 474 5800

Fax: 281 474 5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-003
Item No.: 0402B800007PAL
P.O. No.: 11719

Cylinder Number: AAL18899
Cylinder Size: AL
Certification Date: 22Nov2006
Expiration Date: 01Dec2007

Customer

METCO ENVIRONMENTAL
3226 COMMANDER DR
CARROLLTON, TX 75006

CERTIFIED CONCENTRATION

<u>Component Name</u>	<u>Concentration (Moles)</u>	<u>Accuracy (+/-%)</u>
1,3-BUTADIENE	104. PPM	2
1-BUTENE	98. PPM	2
CIS-2-BUTENE	101. PPM	2
ETHYLENE	100. PPM	2
ISOBUTYLENE	98. PPM	2
PROPYLENE	98. PPM	2
TRANS-2-BUTENE	98. PPM	2
NITROGEN	BALANCE	

TRACEABILITY

Traceable To

NIST

APPROVED BY:

CRISSA MARTIN

DATE:

11/22/06



Scott Specialty Gases

9810 BAY AREA BLVD, PASADENA, TX 77507

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Phone: 281-474-5800

Fax: 281-474-5857

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information

Project No.: 04-49678-004
Item No.: 0402B800007PAL
P.O. No.: 11719

Customer

METCO ENVIRONMENTAL
3226 COMMANDER DR
CARROLLTON, TX 75006

Cylinder Number: ALM028213
Cylinder Size: AL
Certification Date: 27Nov2006
Expiration Date: 01Dec2007

CERTIFIED CONCENTRATION

<u>Component Name</u>	<u>Concentration (Moles)</u>	<u>Accuracy (+/-%)</u>
1,3-BUTADIENE	510. PPM	2
1-BUTENE	490. PPM	2
CIS-2-BUTENE	500. PPM	2
ETHYLENE	490. PPM	2
ISOBUTYLENE	480. PPM	2
PROPYLENE	480. PPM	2
TRANS-2-BUTENE	480. PPM	2
NITROGEN	BALANCE	

TRACEABILITY

Traceable To

NIST

APPROVED BY:


CRISSA MARTIN

DATE:

11/27/06

ROTOMETER CALIBRATION

CALIBRATOR: RadomROTOMETER NUMBER: 15DATE: 11/9/06 P_b "Hg: 29.81

FLOW METER SETTING	FLOW RATE (l/min.)
10	0.013
15	0.020
20	0.029
25	0.038
30	0.053
35	0.070
40	0.088
45	0.114
50	0.143
55	0.170
60	0.201

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...12.....

FLOW	AVERAGE	# SAMPLES
12.82	12.82	01
12.89	12.86	02
13.06	12.92	03
13.03	12.95	04

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...13.....

FLOW	AVERAGE	# SAMPLES
20.56	20.56	01
20.41	20.49	02
20.48	20.48	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...20.....

FLOW	AVERAGE	# SAMPLES
28.55	28.55	01
28.90	28.72	02
28.66	28.70	03

GILIBRATOR 2 WET V4.4 DATE...11/14/06...
PUMP S/N.....ID...25.....

FLOW	AVERAGE	# SAMPLES
38.28	38.28	01
38.26	38.27	02
38.46	38.33	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...30.....

FLOW	AVERAGE	# SAMPLES
53.26	53.26	01
53.57	53.41	02
53.64	53.49	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...35.....

FLOW	AVERAGE	# SAMPLES
70.33	70.33	01
70.62	70.48	02
70.50	70.49	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...40.....

FLOW	AVERAGE	# SAMPLES
86.45	86.45	01
89.15	87.80	02
88.82	88.14	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...45.....

FLOW	AVERAGE	# SAMPLES
112.6	112.6	01
114.3	113.5	02
113.8	113.6	03

GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...50.....

FLOW	AVERAGE	# SAMPLES
142.1	142.1	01
144.0	143.1	02
143.1	143.1	03

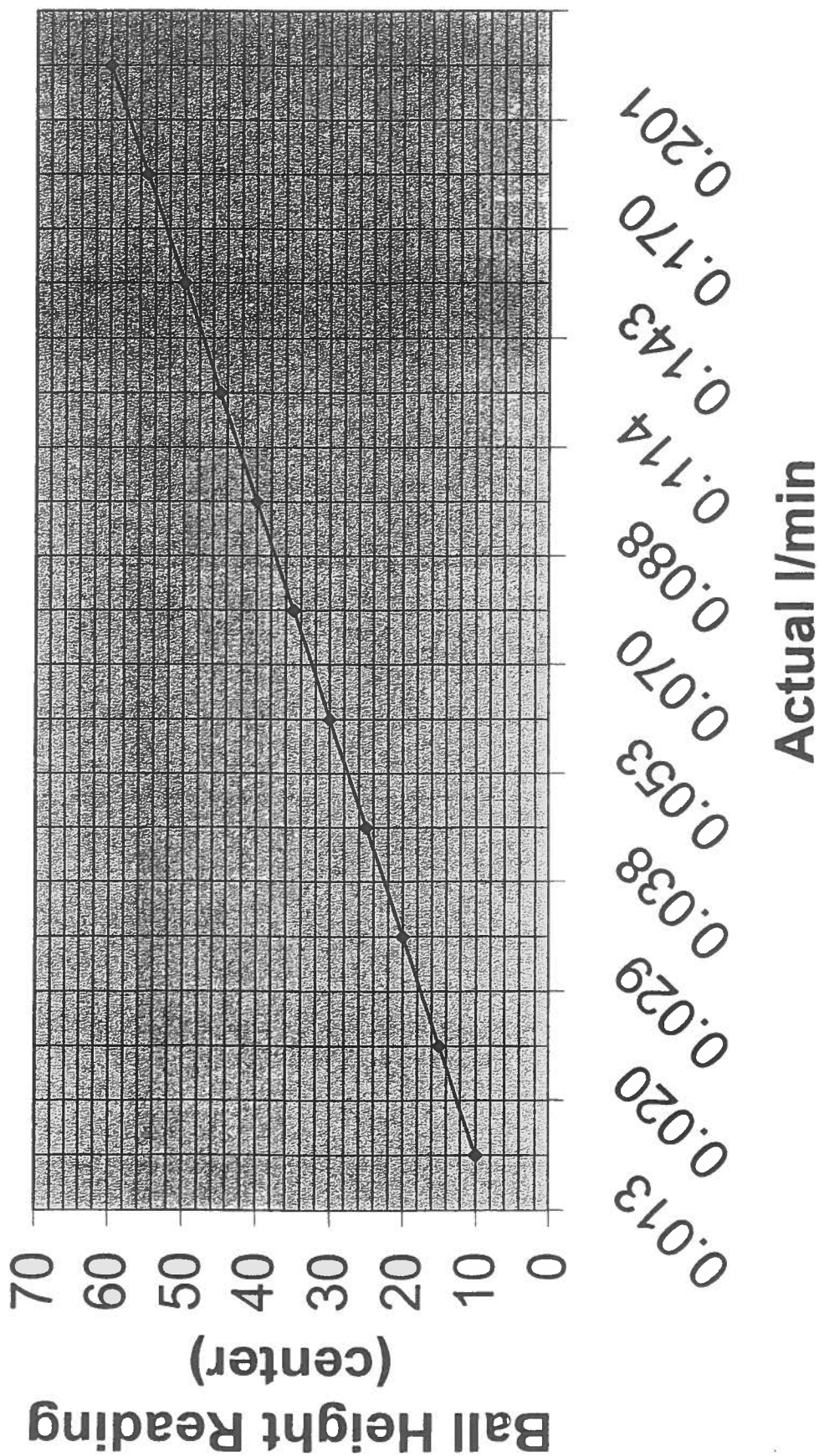
GILIBRATOR 2 WET V4.4 DATE...11/9/06...
PUMP S/N.....ID...55.....

FLOW	AVERAGE	# SAMPLES
169.9	169.9	01
170.6	170.3	02
169.7	170.1	03

V4.4 DATE...11/9/06...
ID...60.....

SAMPLES
01
02
03

ROTAMETER CALIBRATION CURVE



Calibration Curves

A calibration curve relates the component amount to detector response, (or for an Internal Standard calibration, the amount ratio to the area or height ratio). Class VP Client/Server fits a curve to the calibration points, according to the fit type, scaling, and weighting factors you select. The resulting calibration curve is used to calculate component concentrations in unknown samples, and is generally defined by a least squares calculation

$$y = f(x)$$

where $f =$

linear (with or without force through zero)

Replicates and Averaging Calibrations

Initially, a method contains no calibration. When you run the first calibration standard, the areas/heights for each calibrated peak are entered into the method calibration. If you run a subsequent standard at the same calibration level (a **replicate**), you have a choice of how you want the data system to treat the new areas/heights for the calibration. Setting the Calib Flag in the peak table to either **Replace** or **Wt Average** for each calibrated peak makes this choice.

If you choose to **Replace** the existing calibration, the areas/heights for each replicate replaces the area/height for the previous replicate in the calibration. Only the most recent replicate areas/heights are used to create the calibration curve. Previous replicates are ignored.

If you choose **Wt Average**, each calibration point on the curve will be determined by performing the average of the current calibration with previous replicate areas/heights in the method. The following example describes how this is done.

Assume a starting method for a single-level calibration with no existing calibration data. After a series of "n" calibration replicate samples are run, the calibration curve is determined as shown below.

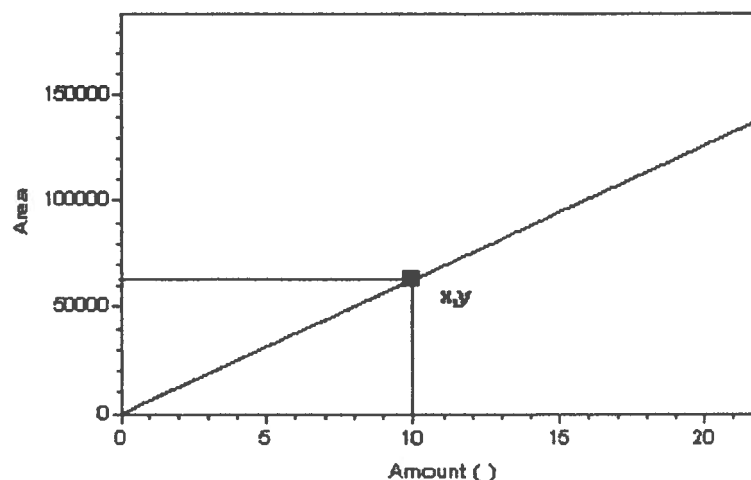
Level 1 Replicate Area

1. Area₁2. Area₂3. Area₃

...

...

...

n Area_n

The resulting calibration curve is shown above, with the point (x,y) representing the calibration point for Level 1. The area, y, of this point is calculated by taking the average of the replicates at this level.

$$y = \frac{\text{area}_1 + \text{area}_2 + \dots \text{area}_n}{n}$$

This average, y, is saved as the **last area** in the method. This value is used to calculate the weighted average when a new series of replicates for this level is run, as shown below.

Level 1 Replicate Area

1 Area₁

2 Area₂

3 Area₃

...

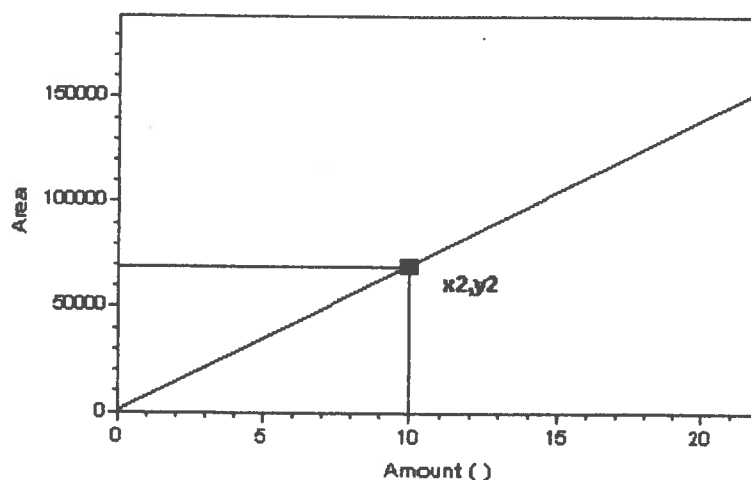
...

...

m Area_m

Because this is the second time a series of replicates was run for this level, a weighted average is now calculated, using the Calib Weight (weighting factor) set in the peak table.

A new calibration curve is calculated.



The new calibration point (x₂,y₂) is used to draw the calibration curve, with the area, y₂, calculated as follows.

$$y_2 = \left[\left(\frac{\text{area}_1 + \text{area}_2 + \dots \text{area}_m}{m} \right) * W \right] + [y * (1 - W)]$$

Where

y₂ = area of calibration point x₂,y₂

APPENDIX F

Reference Method Monitors Data

B-Train SRU Tail Gas Stack (EPN S-3)
Oxides of Nitrogen
Concentration

<u>Run Number</u>	<u>Measured (ppm)</u>	<u>Adjusted (ppm*)</u>
2	10.70	11.13
3	10.50	11.14
4	11.70	12.32

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Sulfur Dioxide
Concentration

<u>Run Number</u>	<u>Measured (ppm)</u>	<u>Adjusted (ppm*)</u>
2	17.10	17.65
3	16.40	17.43
4	15.00	15.85

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Carbon Monoxide
Concentration

<u>Run Number</u>	<u>Measured (ppm)</u>	<u>Adjusted (ppm*)</u>
2	16.30	16.97
3	19.90	21.39
4	27.10	29.09

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Total Hydrocarbons
Concentration

<u>Run Number</u>	<u>Measured (wet ppm)</u>
2	< 0.10
3	0.10
4	0.20

B-Train SRU Tail Gas Stack (EPN S-3)
Oxygen
Concentration

<u>Run Number</u>	<u>Measured (%)</u>	<u>Adjusted (%*)</u>
2	4.86	4.82
3	4.92	4.91
4	5.06	5.02

*Calculated according to equation 7E-5.

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Oxides of Nitrogen

Run Number	NO _x Calibration			NO _x Zero			Actual	
	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	NO _x Calibration Value (ppm)	NO _x Zero Value (ppm)
2	43.20	41.80	42.50	0.10	0.10	0.10	44.50	0.00
3	41.80	41.50	41.65	0.10	0.10	0.10	44.50	0.00
4	41.50	42.50	42.00	0.10	0.10	0.10	44.50	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Sulfur Dioxide

Run Number	SO ₂ Calibration			SO ₂ Zero			Actual	
	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	SO ₂ Calibration Value (ppm)	Actual SO ₂ Zero Value (ppm)
2	40.40	38.10	39.25	1.10	0.60	0.85	41.70	0.00
3	38.10	38.70	38.40	0.60	0.60	0.60	41.70	0.00
4	38.70	38.10	38.40	0.60	0.70	0.65	41.70	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Carbon Monoxide

Run Number	CO Calibration			CO Zero			Actual	
	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	Initial Drift Check (ppm)	Final Drift Check (ppm)	Average (ppm)	CO Calibration Value (ppm)	CO Zero Value (ppm)
2	460.90	456.60	458.75	0.00	-1.00	-0.50	464.00	0.00
3	456.60	448.30	452.45	-1.00	-1.00	-1.00	464.00	0.00
4	448.30	446.00	447.15	-1.00	-1.00	-1.00	464.00	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
Calibration Summary
Oxygen

Run Number	O ₂ Calibration			O ₂ Zero			Actual	
	Initial Drift Check (%)	Final Drift Check (%)	Average (%)	Initial Drift Check (%)	Final Drift Check (%)	Average (%)	O ₂ Calibration Value (%)	Actual O ₂ Zero Value (%)
2	12.08	12.13	12.11	0.20	0.06	0.13	12.20	0.00
3	12.13	12.12	12.13	0.06	0.08	0.07	12.20	0.00
4	12.12	12.19	12.16	0.08	0.10	0.09	12.20	0.00

B-Train SRU Tail Gas Stack (EPN S-3)
System Calibration Bias and Drift Data
Oxides of Nitrogen
Calibration Span = 93.6 ppm

Run Number	NO _x Calibration				NO _x Zero				Actual NO _x Calibration		Actual NO _x Zero Value	
	Initial Response (ppm)	Initial Bias (%)	Final Response (ppm)	Final Bias (%)	Initial Response (ppm)	Initial Bias (%)	Final Response (ppm)	Final Bias (%)	Drift (%)	Value (ppm)	Value (ppm)	Value (ppm)
2	43.20	1.28	41.80	2.78	0.10	0.11	0.10	0.11	0.00	44.40	0.00	0.00
3	41.80	2.78	41.50	3.10	0.10	0.11	0.10	0.11	0.00	44.40	0.00	0.00
4	41.50	3.10	42.50	2.03	0.10	0.11	0.10	0.11	0.00	44.40	0.00	0.00

* PERCENT OF CALIBRATION SPAN

**B-Train SRU Tail Gas Stack (EPN S-3)
 System Calibration Bias and Drift Data**

Carbon Monoxide
 Calibration Span = 921.0 ppm

Run Number	CO Calibration			CO Zero			Actual	
	Initial Response (ppm)	Initial Bias (%*)	Final Response (ppm)	Initial Response (ppm)	Initial Bias (%*)	Final Response (ppm)	CO Calibration Value (ppm)	CO Zero Value (ppm)
2	460.90	0.03	456.60	0.00	0.00	-1.00	460.60	0.00
3	456.60	0.43	448.30	-1.00	0.11	-1.00	460.60	0.00
4	448.30	1.34	446.00	-1.00	0.11	-1.00	460.60	0.00

* PERCENT OF CALIBRATION SPAN

B-Train SRU Tail Gas Stack (EPN S-3)
System Calibration Bias and Drift Data

Oxygen
Calibration Span = 20.90 percent

Run Number	O ₂ Calibration				O ₂ Zero				Actual		Actual O ₂ Zero Value (%)
	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Initial Response (%)	Initial Bias (%*)	Final Response (%)	Final Bias (%*)	Drift (%*)	O ₂ Calibration Value (%)	
2	12.08	0.53	12.13	0.29	0.20	0.33	0.06	0.33	0.67	12.19	0.13
3	12.13	0.29	12.12	0.33	0.06	0.33	0.08	0.24	0.10	12.19	0.13
4	12.12	0.33	12.19	0.00	0.08	0.24	0.10	0.14	0.10	12.19	0.13

* PERCENT OF CALIBRATION SPAN

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Oxides of Nitrogen

Date 08/30/07

Runs 2 - 4

Calibration Span = 93.6 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Low	0.00	0.00	0.00	0.00
Mid	44.50	44.40	0.10	0.11
High	93.60	93.60	0.00	0.00

* Percent of calibration span

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Sulfur Dioxide

Date 08/30/07

Runs 2 - 4

Calibration Span = 84.5 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Low	0.00	0.00	0.00	0.00
Mid	41.70	41.30	0.40	0.47
High	84.50	84.40	0.10	0.12

* Percent of calibration span

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Carbon Monoxide

Date 08/30/07

Runs 2 - 4

Calibration Span = 921.0 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Low	0.00	0.00	0.00	0.00
Mid	464.00	460.60	3.40	0.37
High	921.00	907.30	13.70	1.49

* Percent of calibration span

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Total Hydrocarbons

Date 08/30/07

Runs 2 - 4

Span = 100 ppm

<u>Gas Range</u>	<u>Actual Calibration Value (ppm)</u>	<u>Analyzer Calibration Response (ppm)</u>	<u>Absolute Difference (ppm)</u>	<u>Difference (%*)</u>
Zero	0.00	0.00	0.00	----
Low	29.87	29.90	0.03	0.10
Mid	47.00	48.20	1.20	2.55
High	84.62	84.70	0.08	----

* Percent of span gas

B-Train SRU Tail Gas Stack (EPN S-3)
Analyzer Calibration Data
Oxygen

Date 08/30/07

Runs 2 - 4

Calibration Span = 20.90 %

<u>Gas Range</u>	<u>Actual Calibration Value (%)</u>	<u>Analyzer Calibration Response (%)</u>	<u>Absolute Difference (%)</u>	<u>Difference (%*)</u>
Low	0.00	0.13	0.13	0.62
Mid	12.20	12.19	0.01	0.05
High	20.90	20.87	0.03	0.14

* Percent of calibration span

Unit 1 @ 15.0 "Hg = 0.0 "Hg

O2 NOx SO2 CO THC

filename 8/29/2007 8:12:59 C:\RMDATA\SRU-B.CSV
 testby1 Metco Environmental
 testby2 Houston Division
 testby3 METCO 44
 testby4 R. Williams
 testfor1 Valero Houston
 testfor2 Houston, TX
 testfor3 B-Train SRU Tail Gas Stack
 testfor4 07-144B

name		1 O2	3 NOx	6 SO2	5 CO	4 THC			
sn		632689	10S-39403-260	94-721M-8191-3	48-39616-261	00061209-109			
offset		0	0	0	0	0			
fullscale		25	100	100	100	100			
train		1	1	1	1	1			
gastype		o2 3a	nox 7e	so2 6c	co 10	thc 25a			
dsg1	8/29/2007	8:14:00	20.75	0.0	0.3	-0.1	6.9	ALM000674/cg1	N2
dsg1	8/29/2007	8:14:15	12.59	0.0	0.5	-0.2	6.6	ALM000674/cg1	N2
dsg1	8/29/2007	8:14:30	3.48	0.0	0.1	-0.1	6.4	ALM000674/cg1	N2
dsg1	8/29/2007	8:14:45	1.29	0.0	-0.4	-0.1	6.2	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:00	0.67	0.0	-0.6	-0.1	6.0	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:15	0.45	0.0	-0.5	-0.1	5.8	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:30	0.35	0.0	-0.5	-0.1	5.6	ALM000674/cg1	N2
dsg1	8/29/2007	8:15:45	0.30	0.0	-0.6	-0.1	5.4	ALM000674/cg1	N2
dsg1	8/29/2007	8:16:00	0.27	0.0	-0.4	-0.2	5.3	ALM000674/cg1	N2
dsg1	8/29/2007	8:16:15	0.24	0.0	0.2	-0.2	5.2	ALM000674/cg1	N2
dsg1	8/29/2007	8:16:30	0.23	0.0	0.1	-0.2	5.0	ALM000674/cg1	N2
dsg9	8/29/2007	8:17:00	13.15	0.0	0.5	-0.1	4.8	ALM047398/cg9	CO
dsg9	8/29/2007	8:17:15	8.74	0.0	0.8	3.3	4.7	ALM047398/cg9	CO
dsg9	8/29/2007	8:17:30	2.15	0.0	0.5	17.1	4.6	ALM047398/cg9	CO
dsg9	8/29/2007	8:17:45	0.77	0.0	0.4	36.1	4.4	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:00	0.41	0.0	0.1	58.0	4.3	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:15	0.28	0.0	0.2	74.4	4.3	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:30	0.23	0.0	0.2	82.2	4.3	ALM047398/cg9	CO
dsg9	8/29/2007	8:18:45	0.20	0.1	0.1	83.9	4.2	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:00	0.19	0.0	0.1	84.1	4.1	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:15	0.18	0.0	0.2	84.1	4.0	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:30	0.17	0.0	0.0	84.1	4.0	ALM047398/cg9	CO
dsg9	8/29/2007	8:19:45	0.17	0.0	-0.1	84.0	4.0	ALM047398/cg9	CO
dsg9	8/29/2007	8:20:00	0.16	0.0	0.0	84.1	3.9	ALM047398/cg9	CO
dsg9	8/29/2007	8:20:15	0.16	0.0	-0.1	84.1	3.9	ALM047398/cg9	CO
cohigh1	8/29/2007	8:20:15	0.16	0.0	-0.1	84.1	3.9	ALM047398/cg9	CO
dsg5	8/29/2007	8:20:30	0.23	0.0	-0.1	84.1	4.0	BLM001222/cg5	NOx
dsg5	8/29/2007	8:20:45	5.46	55.1	0.2	82.1	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:00	2.18	72.8	0.1	71.1	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:15	0.63	72.9	0.0	53.3	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:30	0.29	73.0	0.1	32.3	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:21:45	0.19	72.5	0.0	13.6	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:00	0.16	73.3	-0.1	3.2	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:15	0.15	75.4	0.1	0.3	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:30	0.14	82.8	0.0	-0.1	3.9	BLM001222/cg5	NOx
dsg5	8/29/2007	8:22:45	0.13	91.9	-0.2	-0.1	3.8	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:00	0.12	93.4	0.0	-0.2	3.8	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:15	0.12	93.0	0.0	-0.2	3.8	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:30	0.12	93.3	-0.2	-0.1	3.7	BLM001222/cg5	NOx
dsg5	8/29/2007	8:23:45	0.11	94.0	0.0	-0.1	3.7	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:00	0.11	94.6	-0.1	-0.2	3.6	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:15	0.11	94.3	-0.2	-0.2	3.6	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:30	0.10	93.8	-0.1	-0.2	3.6	BLM001222/cg5	NOx
dsg5	8/29/2007	8:24:45	0.10	94.3	-0.1	-0.2	3.5	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:00	0.10	94.5	-0.2	-0.3	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:15	0.10	94.4	-0.1	-0.2	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:30	0.10	93.6	0.0	-0.1	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:25:45	0.10	94.3	-0.1	-0.1	3.4	BLM001222/cg5	NOx
dsg5	8/29/2007	8:26:00	0.09	93.6	-0.2	-0.1	3.4	BLM001222/cg5	NOx
dsg10	8/29/2007	8:26:15	0.91	59.3	-0.1	-0.1	3.3	ALM054751/cg10	CO
dsg10	8/29/2007	8:26:30	10.67	3.2	0.1	0.3	3.3	ALM054751/cg10	CO
dsg10	8/29/2007	8:26:45	4.63	0.5	0.3	4.4	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:00	1.16	0.4	0.2	14.4	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:15	0.43	0.3	0.1	24.4	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:30	0.22	0.3	0.0	35.9	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:27:45	0.15	0.2	0.1	42.0	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:00	0.12	0.2	0.1	44.0	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:15	0.11	1.0	0.0	43.9	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:30	0.10	0.2	0.1	44.1	3.2	ALM054751/cg10	CO
dsg10	8/29/2007	8:28:45	0.09	0.7	0.0	43.8	3.1	ALM054751/cg10	CO
dsg10	8/29/2007	8:29:00	0.09	0.4	-0.1	43.8	3.1	ALM054751/cg10	CO
comid1	8/29/2007	8:29:00	0.09	0.4	-0.1	43.8	3.1	ALM054751/cg10	CO
dsg2	8/29/2007	8:29:15	0.41	1.5	0.1	44.0	3.1	AAL14753/cg2	O2
dsg2	8/29/2007	8:29:30	10.34	0.6	0.1	42.1	3.1	AAL14753/cg2	O2
dsg2	8/29/2007	8:29:45	17.98	0.5	0.0	36.7	3.0	AAL14753/cg2	O2
dsg2	8/29/2007	8:30:00	20.01	0.2	0.0	26.5	2.9	AAL14753/cg2	O2

Cal Error

O2 NOx SO2 CO THC

dsg2	8/29/2007	8:30:15	20.57	0.9	0.0	16.3	3.0	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:30:30	20.79	0.1	-0.1	6.5	3.0	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:30:45	20.88	0.0	-0.2	1.4	2.9	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:31:00	20.93	0.0	0.0	0.0	2.9	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	8:31:15	20.94	0.0	-0.2	-0.2	2.9	AAL14753/cg2	O2	20.9
o2high1	8/29/2007	8:31:15	<u>20.94</u>	0.0	-0.2	-0.2	2.9	AAL14753/cg2	O2	<u>20.9</u>
dsg7	8/29/2007	8:31:30	20.95	0.2	-0.3	-0.4	2.9	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:31:45	16.57	0.9	18.7	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:00	4.90	0.4	68.3	-0.5	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:15	1.53	0.4	82.4	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:30	0.66	0.5	84.8	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:32:45	0.38	0.9	85.3	-0.4	2.8	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:00	0.26	0.4	85.4	-0.3	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:15	0.20	0.4	85.6	-0.4	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:30	0.17	0.5	85.8	-0.4	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:33:45	0.15	0.4	85.6	-0.5	2.7	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:34:00	0.14	0.4	85.1	-0.4	2.6	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:34:15	0.13	0.4	85.1	-0.4	2.6	BLM003931/cg7	SO2	84.5
dsg7	8/29/2007	8:34:30	0.12	0.4	85.1	-0.3	2.6	BLM003931/cg7	SO2	84.5
so2high1	8/29/2007	8:34:30	0.12	0.4	<u>85.1</u>	-0.3	2.6	BLM003931/cg7	SO2	<u>84.5</u>
dsg3	8/29/2007	8:34:45	0.14	1.3	<u>84.7</u>	-0.3	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:00	6.78	0.2	47.8	-0.4	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:15	11.02	0.0	8.7	-0.5	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:30	11.85	0.1	1.2	-0.5	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:35:45	12.11	1.1	0.3	-0.6	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:36:00	12.21	1.5	0.0	-0.6	2.6	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:36:15	12.26	4.9	-0.2	-0.7	2.5	ALM005139/cg3	O2	12.2
dsg3	8/29/2007	8:36:30	12.29	1.0	-0.2	-0.8	2.5	ALM005139/cg3	O2	12.2
o2mid1	8/29/2007	8:36:30	<u>12.29</u>	1.0	-0.2	-0.8	2.5	ALM005139/cg3	O2	<u>12.2</u>
dsg6	8/29/2007	8:36:45	12.31	0.0	-0.1	-0.8	2.5	ALM035137/cg6	NOx	44.5
dsg5	8/29/2007	8:37:00	15.82	2.1	0.4	-0.9	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:37:15	14.55	76.3	1.2	-0.8	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:37:30	4.12	93.9	0.5	-0.7	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:37:45	1.24	95.2	0.1	-0.5	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:00	0.53	94.7	0.1	-0.4	2.5	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:15	0.30	95.5	-0.1	-0.2	2.4	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:30	0.21	95.6	-0.3	-0.2	2.3	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:38:45	0.17	95.5	-0.1	-0.2	2.3	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:39:00	0.14	94.6	-0.2	-0.2	2.2	BLM001222/cg5	NOx	93.8
dsg5	8/29/2007	8:39:15	0.13	93.8	-0.2	-0.2	2.3	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:39:30	0.12	93.0	-0.2	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:39:45	0.11	94.2	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:00	0.11	94.0	-0.4	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:15	0.10	93.0	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:30	0.10	93.7	-0.2	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:40:45	0.09	93.9	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:41:00	0.09	95.3	-0.3	-0.2	2.2	BLM001222/cg5	NOx	93.8
dsg5	8/29/2007	8:41:15	0.08	93.7	-0.1	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:41:30	0.08	97.5	-0.4	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:41:45	0.08	94.6	-0.4	-0.1	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:42:00	0.08	93.2	-0.2	-0.2	2.1	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:42:15	0.07	93.4	-0.3	-0.2	2.0	BLM001222/cg5	NOx	93.6
dsg5	8/29/2007	8:42:30	0.07	93.3	-0.5	-0.1	2.0	BLM001222/cg5	NOx	93.6
noxhigh1	8/29/2007	8:42:30	0.07	<u>93.3</u>	-0.5	-0.1	2.0	BLM001222/cg5	NOx	<u>93.6</u>
dsg8	8/29/2007	8:42:45	0.67	62.5	-0.3	-0.2	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:00	9.63	2.9	6.0	-0.2	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:15	3.59	0.5	31.9	-0.2	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:30	0.90	0.4	40.1	-0.3	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:43:45	0.33	0.3	41.1	-0.3	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:44:00	0.17	0.3	41.2	-0.4	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:44:15	0.12	0.2	41.3	-0.5	2.0	ALM067916/cg8	SO2	41.7
dsg8	8/29/2007	8:44:30	0.09	0.2	41.3	-0.5	2.0	ALM067916/cg8	SO2	41.7
so2mid1	8/29/2007	8:44:30	0.09	0.2	<u>41.3</u>	-0.5	2.0	ALM067916/cg8	SO2	<u>41.7</u>
dsg6	8/29/2007	8:44:45	0.24	0.2	40.5	-0.5	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:00	4.31	40.5	20.8	-0.4	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:15	1.35	45.6	3.6	-0.3	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:30	0.37	45.3	0.2	-0.3	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:45:45	0.16	45.2	-0.2	-0.2	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:46:00	0.10	45.1	-0.1	-0.1	2.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:46:15	0.08	45.1	-0.3	-0.2	1.9	ALM035137/cg6	NOx	44.5
noxmid1	8/29/2007	8:46:15	0.08	<u>45.1</u>	-0.3	-0.2	1.9	ALM035137/cg6	NOx	<u>44.5</u>
dsg1	8/29/2007	8:46:30	0.27	35.2	-0.2	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:46:45	7.82	1.8	0.2	-0.2	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:00	3.08	0.3	0.1	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:15	0.78	0.2	-0.1	-0.2	1.9	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:30	0.28	0.1	-0.1	-0.3	2.0	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:47:45	0.15	0.1	-0.2	-0.2	1.9	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:48:00	0.10	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
dsg1	8/29/2007	8:48:15	0.08	0.1	-0.2	-0.2	1.9	ALM000674/cg1	N2	0
o2ezero1	8/29/2007	8:48:00	<u>0.10</u>	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
noxezero1	8/29/2007	8:48:00	0.10	<u>0.1</u>	-0.2	-0.1	1.9	ALM000674/cg1	N2	0

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O2 NOx SO2 CO THC

coezero1	8/29/2007	8:48:00	0.10	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
so2ezero1	8/29/2007	8:48:00	0.10	0.1	-0.2	-0.1	1.9	ALM000674/cg1	N2	0
dsg6	8/29/2007	8:51:00	20.64	0.1	0.8	-0.3	6.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:51:15	20.48	15.5	1.0	-0.3	6.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:51:30	20.20	22.5	1.1	-0.2	18.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:51:45	19.95	22.6	1.1	-0.1	24.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:00	19.74	22.6	1.3	0.0	28.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:15	19.54	22.7	1.4	-0.1	30.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:30	19.35	22.6	1.2	-0.1	30.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:52:45	19.18	22.6	1.4	-0.1	26.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:00	19.02	22.7	1.5	-0.1	25.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:15	18.87	22.7	1.4	0.0	28.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:30	18.73	22.7	1.5	-0.2	27.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:53:45	18.61	22.6	1.6	-0.1	30.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:00	18.49	22.7	1.6	-0.1	31.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:15	18.38	22.7	1.7	-0.2	32.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:30	18.28	22.8	1.8	-0.2	30.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:54:45	18.19	22.8	1.7	-0.2	30.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:00	18.10	22.9	1.8	-0.2	31.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:15	18.03	22.8	2.0	-0.3	29.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:30	17.96	22.8	1.9	-0.3	28.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:55:45	17.89	22.8	2.0	-0.2	29.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:00	17.83	22.7	2.1	-0.2	28.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:15	17.78	22.7	2.1	-0.2	27.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:30	17.73	22.6	2.2	-0.2	28.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:56:45	17.69	22.7	2.3	-0.2	28.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:00	17.65	22.7	2.2	-0.2	27.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:15	17.62	22.8	2.2	-0.2	26.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:30	17.59	22.8	2.5	-0.1	25.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:57:45	17.56	22.8	2.5	-0.1	24.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:00	17.53	21.9	2.0	-0.1	19.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:15	17.51	22.8	1.3	-0.1	5.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:30	17.50	22.8	2.1	-0.1	3.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:58:45	17.48	22.9	2.3	-0.2	3.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:00	17.46	22.8	2.5	-0.2	2.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:15	17.45	22.9	2.4	-0.2	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:30	17.44	22.9	2.3	-0.3	1.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	8:59:45	17.44	22.9	2.5	-0.3	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:00	17.43	22.7	2.5	-0.2	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:15	17.43	22.7	2.4	-0.2	1.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:30	17.43	22.8	2.6	-0.2	1.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:00:45	17.43	22.7	2.5	-0.2	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:00	17.43	22.7	2.4	-0.2	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:15	17.44	22.8	2.5	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:30	17.44	22.8	2.4	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:01:45	17.45	22.9	2.0	-0.2	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:00	17.45	22.8	2.1	-0.3	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:15	17.46	22.8	2.1	-0.3	1.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:30	17.47	22.8	2.0	-0.2	1.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:02:45	17.48	22.8	2.2	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:00	17.49	22.8	2.1	-0.2	1.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:15	17.50	22.8	2.1	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:30	17.52	22.8	2.1	-0.3	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:03:45	17.53	22.7	2.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:00	17.54	22.7	2.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:15	17.56	22.9	2.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:30	17.57	22.6	2.0	-0.4	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:04:45	17.58	22.6	1.9	-0.3	0.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:00	17.60	22.6	1.8	-0.3	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:15	17.62	22.6	1.9	-0.3	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:30	17.63	22.7	1.8	-0.4	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:05:45	17.65	22.7	1.8	-0.3	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:00	17.66	22.7	1.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:15	17.68	22.7	1.6	-0.3	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:30	17.70	22.6	1.7	-0.2	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:06:45	17.71	22.6	1.8	-0.2	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:00	17.73	22.6	1.5	-0.2	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:15	17.75	22.5	1.6	-0.2	1.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:30	17.77	22.5	1.7	-0.2	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:07:45	17.79	22.6	1.6	-0.2	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:00	17.81	22.5	1.7	-0.1	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:15	17.82	22.5	1.6	-0.1	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:30	17.84	22.6	1.5	-0.1	1.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:08:45	17.87	22.6	1.5	-0.1	1.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:00	17.88	22.5	1.6	-0.2	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:15	17.90	22.5	1.5	-0.1	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:30	17.92	22.5	1.5	-0.1	1.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:09:45	17.94	22.6	1.5	-0.1	1.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:10:00	17.96	22.7	1.5	-0.2	0.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:10:15	17.97	22.6	1.4	-0.2	0.9	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	9:10:30	18.00	22.5	1.4	-0.3	0.9	ALM035137/cg6	NOx	44.5

O2 NOx SO2 CO THC

dog6	8/29/2007	9:10:45	18.02	22.5	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:00	18.03	22.5	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:15	18.05	22.4	1.5	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:30	18.08	22.4	1.4	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:11:45	18.09	22.3	1.2	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:00	18.11	22.4	1.3	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:15	18.13	22.4	1.5	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:30	18.15	22.3	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:12:45	18.16	22.4	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:00	18.18	22.4	1.4	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:15	18.20	22.3	1.3	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:30	18.22	22.3	1.2	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:13:45	18.24	22.2	1.5	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:00	18.25	22.2	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:15	18.28	22.3	1.2	-0.2	0.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:30	18.30	22.4	1.4	-0.2	0.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:14:45	18.31	22.5	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:00	18.33	22.5	1.2	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:15	18.35	22.5	1.3	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:30	18.36	22.5	1.3	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:15:45	18.38	22.5	1.2	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:00	18.40	22.5	1.2	-0.2	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:15	18.41	22.5	1.3	-0.3	0.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:30	18.43	22.6	1.2	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:16:45	18.45	22.6	1.3	-0.2	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:00	18.47	22.6	1.2	-0.2	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:15	18.48	22.6	1.1	-0.2	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:30	18.50	22.5	1.2	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:17:45	18.52	22.4	1.2	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:00	18.53	22.3	1.1	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:15	18.55	22.2	1.3	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:30	18.56	22.4	1.3	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:18:45	18.58	22.3	1.1	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:19:00	18.59	22.4	1.2	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:19:15	18.61	22.0	1.2	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:19:30	18.62	22.8	1.1	-0.3	1.7	ALM035137/cg6	NOx	44.6
dog6	8/29/2007	9:19:45	18.64	23.1	1.2	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:00	18.66	23.0	1.2	-0.3	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:15	18.67	23.0	1.1	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:30	18.68	23.0	1.2	-0.3	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:20:45	18.69	23.0	1.4	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:00	18.71	23.0	1.2	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:15	18.72	23.0	1.2	-0.2	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:30	18.73	23.0	1.2	-0.2	3.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:21:45	18.74	23.0	1.1	-0.2	3.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:00	18.75	22.8	1.1	-0.2	3.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:15	18.76	22.7	1.1	-0.2	2.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:30	18.77	22.8	1.1	-0.2	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:22:45	18.78	22.8	1.0	-0.2	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:00	18.79	22.4	1.1	-0.2	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:15	18.79	22.4	1.0	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:30	18.81	22.5	1.1	-0.2	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:23:45	18.82	22.4	1.2	-0.2	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:00	18.82	22.5	1.2	-0.1	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:15	18.83	22.5	1.0	-0.1	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:30	18.83	22.5	1.2	-0.2	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:24:45	18.83	22.2	1.1	-0.1	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:00	18.84	22.7	1.0	-0.1	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:15	18.84	22.9	1.2	-0.2	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:30	18.85	23.1	1.2	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:25:45	18.85	23.1	1.1	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:00	20.66	10.5	0.7	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:15	20.58	25.1	0.8	-0.3	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:30	20.53	25.2	0.6	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:35:45	20.51	25.2	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:00	20.48	25.5	0.8	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:15	20.46	25.4	0.8	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:30	20.43	25.4	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:36:45	20.41	25.3	0.7	-0.3	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:00	20.40	25.1	0.6	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:15	20.38	25.2	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:30	20.36	25.2	0.7	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:37:45	20.35	25.4	0.6	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:00	20.34	25.4	0.7	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:15	20.32	25.5	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:30	20.31	25.5	0.6	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:38:45	20.29	25.5	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:00	20.29	25.5	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:15	20.27	25.5	0.6	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:30	20.27	25.6	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:39:45	20.26	25.7	0.8	-0.3	1.1	ALM035137/cg6	NOx	44.5

22.8
23.1

O2 NOx SO2 CO THC

dog6	8/29/2007	9:40:00	20.25	25.6	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:40:15	20.24	25.6	0.7	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:40:30	20.23	25.7	0.8	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:40:45	20.22	25.9	0.6	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:00	20.22	25.9	0.7	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:15	20.21	26.0	0.8	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:30	20.21	25.9	0.7	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:41:45	20.20	26.0	0.7	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:00	20.20	25.9	0.8	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:15	20.19	26.0	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:30	20.18	26.1	0.8	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:42:45	20.19	25.9	0.8	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:00	20.18	25.6	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:15	20.18	25.6	0.7	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:30	20.18	25.5	0.7	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:43:45	20.17	25.4	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:00	20.17	25.4	0.7	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:15	20.17	25.4	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:30	20.17	25.5	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:44:45	20.16	25.4	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:00	20.16	25.4	0.8	-0.3	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:15	20.16	25.3	0.6	-0.4	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:30	20.16	25.6	0.7	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:45:45	20.16	25.7	0.8	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:00	20.16	25.6	0.6	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:15	20.16	25.5	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:30	20.15	25.6	0.8	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:46:45	20.15	25.6	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:00	20.15	25.8	0.8	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:15	20.15	26.0	0.8	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:30	20.15	25.8	0.7	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:47:45	20.15	25.7	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:00	20.15	25.5	0.7	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:15	20.15	25.5	0.6	-0.4	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:30	20.15	25.6	0.7	-0.3	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:48:45	20.15	25.6	0.7	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:00	20.15	25.6	0.6	-0.4	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:15	20.15	25.9	0.7	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:30	20.15	25.7	0.8	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:49:45	20.15	25.6	0.6	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:00	20.16	25.7	0.7	-0.3	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:15	20.16	25.9	0.7	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:30	20.16	25.7	0.6	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:50:45	20.16	25.7	0.7	-0.3	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:00	20.16	25.8	0.6	-0.4	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:15	20.16	25.6	0.6	-0.4	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:30	20.16	25.4	0.7	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:51:45	20.16	25.1	0.6	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:00	20.16	25.1	0.5	-0.2	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:15	20.16	25.1	0.7	-0.2	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:30	20.16	25.2	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:52:45	20.16	26.3	0.5	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:00	20.16	26.3	0.6	-0.4	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:15	20.17	26.2	0.6	-0.3	2.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:30	20.17	25.9	0.6	-0.4	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:53:45	20.17	26.0	0.7	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:00	20.17	25.7	0.7	-0.3	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:15	20.17	25.5	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:30	20.17	25.6	0.8	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:54:45	20.17	25.4	0.7	-0.3	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:00	20.17	25.4	0.6	-0.3	2.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:15	20.18	25.4	0.6	-0.3	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:30	20.18	25.4	0.5	-0.4	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:55:45	20.18	26.2	0.5	-0.3	2.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:00	20.18	25.4	0.6	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:15	20.18	25.9	0.5	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:30	20.18	25.6	0.6	-0.4	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:56:45	20.19	25.1	0.6	-0.4	2.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:00	20.19	24.9	0.6	-0.4	2.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:15	20.19	25.0	0.6	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:30	20.19	25.0	0.7	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:57:45	20.19	25.1	0.6	-0.3	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:00	20.19	<u>25.0</u>	0.6	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:15	20.20	24.9	0.7	-0.4	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:30	20.20	24.9	0.5	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:58:45	20.20	25.0	0.6	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:00	20.20	24.9	0.7	-0.4	2.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:15	20.20	24.9	0.5	-0.2	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:30	20.20	25.0	0.5	-0.2	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	9:59:45	20.20	24.9	0.5	-0.2	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:00:00	20.21	24.8	0.4	-0.4	1.6	ALM035137/cg6	NOx	44.5

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dog6	8/29/2007	10:00:15	20.21	24.8	0.5	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:00:30	20.21	24.8	0.6	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:00:45	20.21	24.8	0.3	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:00	20.22	24.9	0.4	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:15	20.21	24.9	0.6	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:30	20.22	24.9	0.4	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:01:45	20.22	24.8	0.4	-0.4	2.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:00	20.22	24.9	0.6	-0.4	2.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:15	20.22	25.1	0.3	-0.3	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:30	20.23	25.0	0.4	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:02:45	20.22	25.1	0.5	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:00	20.23	25.1	0.3	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:15	20.23	25.1	0.3	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:30	20.23	25.1	0.5	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:03:45	20.23	25.0	0.4	-0.4	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:00	20.24	25.1	0.4	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:15	20.24	25.1	0.3	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:30	20.24	25.1	0.2	-0.4	2.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:04:45	20.24	25.1	0.3	-0.4	1.9	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:00	20.24	25.1	0.3	-0.3	1.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:15	20.24	25.0	0.2	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:30	20.25	25.1	0.2	-0.4	1.7	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:05:45	20.25	25.0	0.2	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:00	20.26	25.0	0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:15	20.26	25.0	0.4	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:30	20.25	25.0	0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:06:45	20.25	25.1	0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:00	20.26	25.1	0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:15	20.26	25.0	0.1	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:30	20.26	25.0	0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:07:45	20.26	25.1	0.3	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:00	20.27	25.1	0.2	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:15	20.27	25.0	0.2	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:30	20.27	25.0	0.2	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:08:45	20.27	24.9	0.1	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:00	20.28	24.8	0.1	-0.4	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:15	20.28	24.8	0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:30	20.28	24.9	0.1	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:09:45	20.28	24.9	0.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:00	20.28	25.0	0.0	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:15	20.28	25.0	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:30	20.29	25.1	0.2	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:10:45	20.29	25.0	0.1	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:00	20.29	25.0	-0.1	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:15	20.29	25.0	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:30	20.30	25.0	0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:11:45	20.30	25.0	0.0	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:00	20.30	25.0	0.0	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:15	20.30	25.0	0.0	-0.3	1.5	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:30	20.30	25.1	0.0	-0.4	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:12:45	20.31	25.1	0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:00	20.31	25.1	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:15	20.31	25.1	-0.1	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:30	20.31	25.1	0.0	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:13:45	20.31	25.2	0.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:00	20.31	25.2	0.1	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:15	20.32	25.2	0.1	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:30	20.32	25.2	0.0	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:14:45	20.32	25.0	0.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:00	20.33	25.1	0.0	-0.3	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:15	20.32	25.1	-0.1	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:30	20.33	25.1	0.0	-0.3	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:15:45	20.33	25.0	0.0	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:00	20.33	24.9	0.0	-0.4	1.2	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:15	20.33	24.8	-0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:30	20.34	24.9	-0.3	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:16:45	20.34	24.9	-0.5	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:00	20.34	24.8	-0.2	-0.4	1.3	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:15	20.34	25.1	-0.2	-0.4	1.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:30	20.35	25.1	-0.3	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:17:45	20.34	25.2	-0.2	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:00	20.35	25.2	-0.3	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:15	20.35	25.0	-0.4	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:30	20.35	25.0	-0.3	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:18:45	20.35	25.0	-0.4	-0.3	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:00	20.35	25.0	-0.5	-0.4	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:15	20.36	25.0	-0.3	-0.3	-0.1	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:30	20.36	25.0	-0.3	-0.3	1.4	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:19:45	20.36	25.0	-0.4	-0.3	1.0	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:20:00	20.36	25.0	-0.4	-0.4	30.8	ALM035137/cg6	NOx	44.5
dog6	8/29/2007	10:20:15	20.36	25.0	-0.4	-0.4	50.8	ALM035137/cg6	NOx	44.5

O2 NOx SO2 CO THC

dsg6	8/29/2007	10:20:30	20.37	25.0	-0.5	-0.4	49.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:20:45	20.36	25.2	-0.3	-0.4	48.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:00	20.37	25.0	-0.5	-0.4	47.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:15	20.37	25.0	-0.5	-0.4	46.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:30	20.37	25.0	-0.4	-0.4	55.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:21:45	20.37	25.0	-0.5	-0.4	82.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:00	20.38	25.1	-0.4	-0.4	84.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:15	20.38	25.1	-0.4	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:30	20.38	25.2	-0.4	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:22:45	20.38	25.1	-0.4	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:00	20.39	25.1	-0.5	-0.4	84.6	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:15	20.39	25.0	-0.6	-0.4	84.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:30	20.38	25.1	-0.5	-0.4	28.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:23:45	20.39	25.1	-0.5	-0.4	25.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:00	20.39	25.1	-0.8	-0.4	0.4	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:15	20.39	25.1	-0.7	-0.5	0.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:30	20.40	25.1	-0.7	-0.4	0.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:24:45	20.40	25.1	-0.8	-0.4	0.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:00	20.40	25.1	-0.6	-0.4	0.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:15	20.40	25.1	-0.7	-0.4	0.0	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:30	20.40	25.1	-0.9	-0.4	21.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:25:45	20.41	25.0	-0.8	-0.4	83.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:00	20.41	25.2	-1.0	-0.4	84.3	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:15	20.41	25.1	-1.0	-0.4	84.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:30	20.42	25.0	-0.9	-0.4	84.5	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:26:45	20.41	25.1	-1.2	-0.4	84.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:00	20.42	25.0	-1.0	-0.4	46.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:15	20.41	25.2	-1.0	-0.3	48.2	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:30	20.42	25.0	-1.1	-0.4	48.1	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:27:45	20.42	25.0	-1.0	-0.3	47.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:00	20.42	25.0	-1.0	-0.3	47.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:15	20.43	25.0	-1.1	-0.3	47.8	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:30	20.43	25.0	-1.0	-0.3	47.7	ALM035137/cg6	NOx	44.5
dsg6	8/29/2007	10:28:45	20.43	25.0	-1.1	-0.3	47.6	ALM035137/cg6	NOx	44.5
dsg12	8/29/2007	10:29:45	20.34	5.5	-0.5	13.9	2.3	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:00	20.54	1.2	-0.3	28.9	1.8	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:15	20.60	0.5	-0.5	37.5	3.4	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:30	20.62	0.4	-0.7	37.2	67.0	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:30:45	20.62	0.3	-0.6	27.7	83.7	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:00	20.61	0.3	-0.7	12.4	84.0	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:15	20.61	0.3	-0.7	4.8	84.1	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:30	20.60	0.3	-0.6	2.1	84.2	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:31:45	20.60	0.2	-0.6	1.6	84.3	BLM000517/cg12	THC	84.62
dsg12	8/29/2007	10:32:00	20.60	0.2	-0.7	1.3	84.2	BLM000517/cg12	THC	84.62
thchigh1	8/29/2007	10:32:00	20.60	0.2	-0.7	1.3	84.2	BLM000517/cg12	THC	84.62
dsg13	8/29/2007	10:33:00	20.59	0.2	-0.5	1.0	73.9	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:33:15	20.58	0.2	-0.6	0.9	49.7	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:33:30	20.59	0.1	-0.5	0.8	48.2	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:33:45	20.58	0.1	-0.6	0.8	48.0	BAL4862/cg13	THC	47
dsg13	8/29/2007	10:34:00	20.58	0.1	-0.6	0.8	48.0	BAL4862/cg13	THC	47
thcmid1	8/29/2007	10:34:00	20.58	0.1	-0.6	0.8	48.0	BAL4862/cg13	THC	47
dsg14	8/29/2007	10:35:15	20.57	0.1	-0.6	0.6	33.3	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:35:30	20.58	0.1	-0.6	0.7	30.0	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:35:45	20.58	0.1	-0.5	0.7	29.9	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:36:00	20.58	0.1	-0.6	0.7	29.9	BLM004041/cg14	THC	29.87
dsg14	8/29/2007	10:36:15	20.58	0.1	-0.6	0.7	29.9	BLM004041/cg14	THC	29.87
thclow1	8/29/2007	10:36:15	20.58	0.1	-0.6	0.7	29.9	BLM004041/cg14	THC	29.87
dsg2	8/29/2007	10:37:15	20.57	0.1	-0.5	0.9	22.6	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:37:30	20.55	0.1	-0.6	0.8	11.6	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:37:45	20.52	0.0	-0.5	0.8	0.4	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:00	20.52	0.0	-0.5	0.5	0.2	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:15	20.53	0.0	-0.7	0.3	0.2	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:30	20.53	0.0	-0.6	0.1	0.1	AAL14753/cg2	O2	20.9
dsg2	8/29/2007	10:38:45	20.53	0.0	-0.6	0.0	0.1	AAL14753/cg2	O2	20.9
thczero1	8/29/2007	10:38:45	20.53	0.0	-0.6	0.0	0.1	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:40:45	20.59	0.1	-0.8	2.1	1.4	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:00	20.59	0.1	-0.8	1.6	1.3	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:15	20.58	0.1	-0.8	1.2	1.2	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:30	20.57	0.1	-0.7	1.1	0.9	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:41:45	20.58	0.1	-0.9	1.1	0.1	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:42:00	20.58	0.1	-0.8	1.0	0.0	AAL14753/cg2	O2	20.9
sg2	8/29/2007	10:42:15	20.58	0.1	-0.8	1.1	0.0	AAL14753/cg2	O2	20.9
thczero1	8/29/2007	10:42:15	20.58	0.1	-0.8	1.1	0.0	AAL14753/cg2	O2	20.9
sg13	8/29/2007	10:43:30	20.58	0.1	-0.7	1.0	40.1	BAL4862/cg13	THC	47
sg13	8/29/2007	10:43:45	20.59	0.1	-0.8	1.1	47.4	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:00	20.59	0.1	-0.9	1.0	47.5	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:15	20.59	0.1	-0.8	1.0	47.6	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:30	20.59	0.1	-0.8	1.0	47.7	BAL4862/cg13	THC	47
sg13	8/29/2007	10:44:45	20.59	0.1	-0.8	0.9	47.7	BAL4862/cg13	THC	47
sg13	8/29/2007	10:45:00	20.59	0.1	-0.8	0.9	47.7	BAL4862/cg13	THC	47
thcspan1	8/29/2007	10:44:45	20.59	0.1	-0.8	0.9	47.7	BAL4862/cg13	THC	47

Encl Conv v

Initial Run 1

black v @ 15.0" Hg = 0.0" Hg

O2 NOx SO2 CO THC

filename 8/30/2007 6:35:43 C:\RMDATA\SRU-B2.CSV
testby1 Metco Environmental
testby2 Houston Division
testby3 METCO 44
testby4 R. Williams
testfor1 Valero Houston
testfor2 Houston, TX
testfor3 B-Train SRU Tail Gas Stack
testfor4 07-1448

name		1 O2	3 NOx	6 SO2	5 CO	4 THC			
sn		632689	10S-39403-260	94-721M-8191-	48-39616-261	00061209-109			
offset		0	0	0	0	0			
fullscale		25	100	100	100	100			
train		1	1	1	1	1			
gastype		o2 3a	nox 7e	so2 6c	co 10	thc 25a			
dsg1	8/30/2007	6:36:15	20.69	0.1	0.8	-0.3	1.8	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:36:30	13.70	0.1	0.8	-0.2	1.8	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:36:45	3.65	0.0	0.6	-0.2	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:37:00	1.27	0.0	0.0	-0.2	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:37:15	0.63	0.2	-0.1	-0.2	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:37:30	0.41	0.3	-0.1	-0.2	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:37:45	0.32	0.4	-0.5	-0.2	2.1	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:38:00	0.27	2.0	-0.5	-0.3	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:38:15	0.24	1.2	-0.4	-0.3	2.1	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:38:30	0.21	0.0	-0.6	-0.3	2.1	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:38:45	0.20	0.0	-0.5	-0.2	2.1	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:39:00	0.19	0.4	-0.4	-0.3	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:39:15	0.18	0.3	-0.1	-0.3	2.0	ALM000674/cg1	N2 0
dsg1	8/30/2007	6:39:30	0.18	0.0	0.3	-0.3	1.9	ALM000674/cg1	N2 0
dsg5	8/30/2007	6:40:15	16.49	53.4	0.9	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:40:30	6.05	108.6	1.0	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:40:45	1.58	109.3	0.5	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:41:00	0.61	103.3	0.4	-0.3	1.9	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:41:15	0.33	93.5	0.2	-0.3	1.9	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:41:30	0.24	93.9	0.0	-0.2	1.9	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:41:45	0.19	97.3	0.3	-0.2	1.9	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:42:00	0.17	93.4	0.2	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:42:15	0.16	93.8	0.0	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:42:30	0.15	93.8	0.2	-0.2	2.1	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:42:45	0.14	93.0	0.1	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:43:00	0.13	92.1	0.0	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:43:15	0.13	87.1	0.1	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:43:30	0.12	92.3	0.0	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:43:45	0.12	92.4	-0.1	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:44:00	0.12	93.6	0.0	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:44:15	0.12	93.8	0.0	-0.2	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:44:30	0.11	93.8	0.0	-0.3	2.1	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:44:45	0.11	93.6	0.1	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:45:00	0.11	93.6	-0.3	-0.3	2.0	BLM001222/cg5	NOx 93.6
noxhigh1	8/30/2007	6:45:00	0.11	93.6	-0.3	-0.3	2.0	BLM001222/cg5	NOx 93.6
dsg9	8/30/2007	6:46:15	20.35	0.0	1.0	-0.2	2.0	ALM047398/cg9	CO 83
dsg7	8/30/2007	6:46:45	18.96	0.0	4.3	0.2	2.1	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:47:00	7.95	0.0	47.3	0.7	2.1	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:47:15	2.15	0.0	77.0	1.3	2.1	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:47:30	0.80	0.0	82.7	1.4	2.0	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:47:45	0.41	0.0	83.8	1.0	1.9	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:48:00	0.27	0.0	84.1	0.3	1.9	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:48:15	0.20	-0.1	84.3	-0.2	1.9	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:48:30	0.17	0.1	84.6	-0.4	1.9	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:48:45	0.15	0.4	84.5	-0.4	1.9	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:49:00	0.14	0.4	84.7	-0.4	1.9	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:49:15	0.13	0.4	84.8	-0.4	2.0	BLM003931/cg7	SO2 84.5
dsg7	8/30/2007	6:49:30	0.12	0.4	84.7	-0.4	2.0	BLM003931/cg7	SO2 84.5
so2high1	8/30/2007	6:49:30	0.12	0.4	84.7	-0.4	2.0	BLM003931/cg7	SO2 84.5
dsg9	8/30/2007	6:49:45	0.12	0.4	84.7	-0.4	2.0	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:50:00	3.26	0.1	59.5	-0.3	2.0	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:50:15	2.31	0.0	14.7	5.4	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:50:30	0.60	0.0	2.4	17.8	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:50:45	0.25	0.0	0.6	40.0	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:51:00	0.16	0.0	0.3	58.3	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:51:15	0.12	0.0	0.2	76.1	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:51:30	0.11	0.0	0.1	81.9	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:51:45	0.10	0.0	0.0	83.2	2.0	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:52:00	0.10	0.0	0.1	83.4	1.9	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:52:15	0.09	0.0	0.0	83.5	1.8	ALM047398/cg9	CO 83
dsg9	8/30/2007	6:52:30	0.09	0.0	0.0	83.4	1.7	ALM047398/cg9	CO 83
cohigh1	8/30/2007	6:52:30	0.09	0.0	0.0	83.4	1.7	ALM047398/cg9	CO 83
dsg5	8/30/2007	6:52:45	0.14	1.6	0.0	83.4	1.4	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:53:00	2.26	84.5	0.2	81.6	1.3	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:53:15	0.71	91.2	0.1	69.3	1.4	BLM001222/cg5	NOx 93.6
dsg5	8/30/2007	6:53:30	0.24	91.5	0.0	53.2	1.5	BLM001222/cg5	NOx 93.6

Cal Error

O2 NOx SO2 CO THC

dog5	8/30/2007	6:53:45	0.13	92.4	0.0	30.0	1.5	BLM001222/cg5	NOx	93.6
dog5	8/30/2007	6:54:00	0.10	93.7	0.0	13.6	1.5	BLM001222/cg5	NOx	93.6
dog5	8/30/2007	6:54:15	0.09	93.7	0.0	2.4	1.6	BLM001222/cg5	NOx	93.6
dog2	8/30/2007	6:54:30	0.36	68.7	-0.2	0.2	1.6	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:54:45	10.68	4.1	0.6	-0.2	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:00	18.19	0.4	0.8	-0.3	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:15	20.16	0.2	0.3	-0.4	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:30	20.71	0.2	0.0	-0.4	1.6	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:55:45	20.92	0.2	0.1	-0.6	1.5	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:00	21.01	0.1	0.0	-0.6	1.5	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:15	21.06	0.1	0.0	-0.6	1.5	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:30	21.09	0.1	0.0	-0.6	1.6	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:56:45	20.92	0.1	-0.2	-0.6	1.7	AAL14753/cg2	O2	20.9
dog2	8/30/2007	6:57:00	20.87	0.0	-0.2	-0.6	1.6	AAL14753/cg2	O2	20.9
o2high1	8/30/2007	6:57:00	20.87	0.0	-0.2	-0.6	1.6	AAL14753/cg2	O2	20.9
dog6	8/30/2007	6:57:15	20.88	1.1	-0.2	-0.6	1.4	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:57:30	14.43	44.6	0.1	-0.6	1.5	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:57:45	3.89	44.6	0.1	-0.6	1.5	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:58:00	1.28	44.4	0.1	-0.5	1.5	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:58:15	0.59	44.3	-0.1	-0.4	1.6	ALM035137/cg6	NOx	44.5
dog6	8/30/2007	6:58:30	0.35	44.4	-0.1	-0.3	1.6	ALM035137/cg6	NOx	44.5
noxmid1	8/30/2007	6:58:30	0.35	44.4	-0.1	-0.3	1.6	ALM035137/cg6	NOx	44.5
dog8	8/30/2007	6:58:45	0.27	39.5	0.0	-0.2	1.7	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:00	5.11	1.8	8.2	-0.2	1.7	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:15	2.15	0.3	33.0	-0.3	1.8	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:30	0.62	0.2	40.1	-0.3	1.8	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	6:59:45	0.28	0.1	40.9	-0.4	1.7	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:00	0.18	0.1	41.1	-0.4	1.4	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:15	0.15	0.1	41.2	-0.5	1.4	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:30	0.13	0.1	41.1	-0.5	1.3	ALM067916/cg8	SO2	41.7
dog8	8/30/2007	7:00:45	0.12	0.1	41.2	-0.5	1.7	ALM067916/cg8	SO2	41.7
so2mid1	8/30/2007	7:00:45	0.12	0.1	41.2	-0.5	1.7	ALM067916/cg8	SO2	41.7
dog10	8/30/2007	7:01:15	2.28	0.1	35.1	-0.4	1.5	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:01:30	3.07	0.0	10.8	1.2	1.3	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:01:45	0.76	0.0	1.7	8.7	1.3	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:00	0.27	0.0	0.3	17.6	1.3	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:15	0.16	0.0	0.3	29.6	1.2	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:30	0.12	0.0	0.2	38.0	1.2	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:02:45	0.10	0.0	0.1	42.8	1.2	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:03:00	0.09	0.0	0.2	43.6	1.1	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:03:15	0.09	0.0	0.0	43.8	1.1	ALM054751/cg10	CO	44.9
dog10	8/30/2007	7:03:30	0.08	0.0	-0.1	43.8	1.2	ALM054751/cg10	CO	44.9
comid1	8/30/2007	7:03:30	0.08	0.0	-0.1	43.8	1.2	ALM054751/cg10	CO	44.9
dog3	8/30/2007	7:03:45	0.22	0.0	0.1	43.8	1.3	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:00	7.45	0.1	0.3	42.8	1.3	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:15	11.05	0.0	0.1	36.4	1.2	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:30	11.79	0.0	0.1	28.3	1.1	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:04:45	12.03	0.0	-0.3	16.3	1.1	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:05:00	12.12	0.0	-0.3	7.6	1.2	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:05:15	12.17	0.0	-0.2	1.5	1.2	ALM005139/cg3	O2	12.2
dog3	8/30/2007	7:05:30	12.19	0.0	-0.2	-0.1	1.2	ALM005139/cg3	O2	12.2
o2mid1	8/30/2007	7:05:30	12.19	0.0	-0.2	-0.1	1.2	ALM005139/cg3	O2	12.2
dog1	8/30/2007	7:05:45	12.31	0.0	-0.3	-0.7	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:00	9.90	0.0	-0.1	-0.8	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:15	2.65	0.0	-0.2	-0.8	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:30	0.84	0.0	-0.2	-0.7	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:06:45	0.38	0.0	-0.1	-0.5	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:07:00	0.23	0.0	-0.3	-0.4	1.1	ALM000674/cg1	N2	0
dog1	8/30/2007	7:07:15	0.16	0.0	-0.3	-0.4	1.2	ALM000674/cg1	N2	0
dog1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
o2ezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
noxezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
coezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
so2ezero1	8/30/2007	7:07:30	0.13	0.0	-0.2	-0.3	1.2	ALM000674/cg1	N2	0
dog12	8/30/2007	7:14:15	20.29	0.1	1.5	-0.2	0.0	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:14:30	20.29	0.1	1.4	-0.2	0.7	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:14:45	20.28	0.1	1.6	-0.2	1.0	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:00	20.28	0.1	1.5	-0.2	65.6	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:15	20.28	0.1	1.5	-0.2	84.2	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:30	20.28	0.1	1.6	-0.2	84.5	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:15:45	20.28	0.1	1.5	-0.1	84.6	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:16:00	20.20	0.1	1.5	0.0	84.7	BLM000517/cg12	THC	84.6
dog12	8/30/2007	7:16:15	19.99	0.1	1.5	0.7	84.7	BLM000517/cg12	THC	84.6
thchigh1	8/30/2007	7:16:15	19.99	0.1	1.5	0.7	84.7	BLM000517/cg12	THC	84.6
dog13	8/30/2007	7:17:30	20.28	0.1	1.6	0.2	37.4	BAL4862/cg13	THC	47
dog13	8/30/2007	7:17:45	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
dog13	8/30/2007	7:18:00	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
dog13	8/30/2007	7:18:15	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
thcmid1	8/30/2007	7:18:15	20.28	0.1	1.6	-0.2	48.2	BAL4862/cg13	THC	47
dog14	8/30/2007	7:19:00	20.27	0.1	1.6	-0.2	48.0	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:19:15	20.28	0.1	1.6	-0.2	41.3	BLM004041/cg14	THC	29.9

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O2 NOx SO2 CO THC

dog14	8/30/2007	7:19:30	20.28	0.1	1.6	-0.2	11.8	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:19:45	20.28	0.1	1.7	-0.2	35.7	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:20:00	20.28	0.1	1.7	-0.2	29.9	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:20:15	20.27	0.1	1.6	-0.2	29.9	BLM004041/cg14	THC	29.9
dog14	8/30/2007	7:20:30	20.27	0.1	1.8	-0.2	29.9	BLM004041/cg14	THC	29.9
thclow1	8/30/2007	7:20:30	20.27	0.1	1.8	-0.2	29.9	BLM004041/cg14	THC	29.9
dog2	8/30/2007	7:21:15	20.27	0.1	1.7	-0.2	29.9	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:21:30	20.23	0.1	1.5	-0.2	29.8	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:21:45	20.13	0.1	1.5	-0.2	13.9	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:22:00	20.04	0.1	1.7	-0.2	0.1	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:22:15	19.96	0.1	1.7	-0.2	0.0	AAL14753/cg2	O2	20.9
dog2	8/30/2007	7:22:30	19.89	0.1	1.8	-0.2	0.0	AAL14753/cg2	O2	20.9
thczero1	8/30/2007	7:22:30	19.89	0.1	1.8	-0.2	0.0	AAL14753/cg2	O2	20.9
scg3	8/30/2007	8:28:15	20.36	0.1	-0.1	-0.3	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:28:30	20.36	0.1	0.0	-0.3	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:28:45	20.34	0.1	0.1	-0.3	1.2	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:00	18.14	0.1	0.0	-0.3	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:15	13.98	0.0	0.1	-0.3	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:30	12.59	0.0	0.0	-0.3	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:29:45	12.24	0.0	-0.1	-0.4	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:30:00	12.14	0.0	0.0	-0.5	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	8:30:15	12.10	0.0	-0.3	-0.6	1.0	ALM005139/cg3	O2	12.2
o2span1	8/30/2007	8:30:15	12.10	0.0	-0.3	-0.6	1.0	ALM005139/cg3	O2	12.2
scg6	8/30/2007	8:30:30	12.08	0.0	-0.3	-0.6	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:30:45	12.08	0.0	-0.3	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:00	12.05	1.7	-0.5	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:15	9.39	22.3	-0.5	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:30	3.86	38.9	-0.5	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:31:45	1.32	41.9	-0.7	-0.6	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:00	0.63	42.3	-0.6	-0.5	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:15	0.42	42.5	-0.6	-0.3	1.1	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:30	0.35	42.6	-0.7	-0.3	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:32:45	0.31	42.7	-0.8	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:33:00	0.28	42.8	-0.8	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:33:15	0.26	43.0	-1.0	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
o2zero1	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
cozero1	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
noxspan1	8/30/2007	8:33:30	0.24	43.0	-0.9	-0.2	1.0	ALM035137/cg6	NOx	44.5
scg10	8/30/2007	8:33:45	0.23	43.0	-1.1	-0.2	1.0	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:00	0.22	43.1	-1.2	-0.2	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:15	0.22	39.2	-1.1	-0.2	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:30	0.25	10.0	-1.2	0.4	1.0	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:34:45	0.22	1.0	-1.3	4.9	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:00	0.20	0.3	-1.1	12.6	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:15	0.19	0.2	-1.2	23.8	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:30	0.19	0.2	-1.2	33.0	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:35:45	0.18	0.1	-1.1	40.5	1.2	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:00	0.18	0.1	-1.3	42.7	1.2	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:15	0.18	0.1	-1.2	43.4	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:30	0.17	0.1	-1.2	43.4	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:36:45	0.17	0.1	-1.4	43.4	1.1	ALM054751/cg10	CO	44.9
scg10	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
noxzero1	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
so2zero1	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
cospan1	8/30/2007	8:37:00	0.17	0.1	-1.4	43.4	1.0	ALM054751/cg10	CO	44.9
scg8	8/30/2007	8:37:15	0.16	0.1	-1.4	43.3	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:37:30	0.16	0.1	-1.5	43.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:37:45	0.17	0.1	-1.3	43.3	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:00	0.21	0.4	4.3	43.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:15	0.19	0.2	21.7	39.2	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:30	0.16	0.1	32.4	32.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:38:45	0.15	0.1	35.4	21.1	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:00	0.15	0.1	36.5	11.8	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:15	0.14	0.1	37.0	3.3	1.3	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:30	0.14	0.1	37.1	0.6	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:39:45	0.14	0.1	37.4	-0.3	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:00	0.14	0.1	37.6	-0.4	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:15	0.13	0.1	37.7	-0.5	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:30	0.13	0.1	37.8	-0.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:40:45	0.13	0.1	37.9	-0.5	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:41:00	0.13	0.1	37.9	-0.5	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:41:15	0.13	0.1	38.0	-0.5	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	8:41:30	0.13	0.1	38.0	-0.5	1.0	ALM067916/cg8	SO2	41.7
so2span1	8/30/2007	8:41:30	0.13	0.1	38.0	-0.5	1.0	ALM067916/cg8	SO2	41.7
scg2	8/30/2007	8:42:45	16.30	0.2	12.7	-0.5	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	8:43:00	19.40	0.1	2.8	-0.4	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	8:43:15	20.03	0.1	0.4	-0.4	-0.3	AAL14753/cg2	O2	20.9
thczero1	8/30/2007	8:43:15	20.03	0.1	0.4	-0.4	-0.3	AAL14753/cg2	O2	20.9
scg13	8/30/2007	8:44:45	20.55	0.1	-0.9	-0.3	47.2	BAL4862/cg13	THC	47
scg13	8/30/2007	8:45:00	20.59	0.1	-1.2	-0.2	47.5	BAL4862/cg13	THC	47

Initial Bias Run 1

O2 NOx SO2 CO THC

scg13	8/30/2007	8:45:15	20.60	0.1	-1.4	-0.2	47.6	BAL4862/cg13	THC	47
scg13	8/30/2007	8:45:30	20.34	0.1	-1.0	-0.2	47.7	BAL4862/cg13	THC	47
scg13	8/30/2007	8:45:45	20.39	0.1	-0.7	-0.2	47.7	BAL4862/cg13	THC	47
thcspan1	8/30/2007	8:45:45	20.39	0.1	-0.7	-0.2	47.7	BAL4862/cg13	THC	47
dsg1	8/30/2007	9:01:45	5.92	7.6	13.0	364.6	1.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:00	3.04	0.1	4.7	354.9	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:15	0.76	0.1	-1.6	298.9	1.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:30	0.31	0.0	-2.7	225.1	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:02:45	0.19	0.0	-3.0	127.9	1.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:00	0.15	0.0	-2.8	56.8	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:15	0.13	0.0	-2.9	11.7	1.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:30	0.12	0.0	-3.1	2.1	1.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:03:45	0.11	0.0	-2.8	0.0	1.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:04:00	0.10	0.0	-3.0	0.0	1.8	ALM000674/cg1	N2	0
dsg9	8/30/2007	9:04:15	0.11	1.1	-2.9	0.0	1.6	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:04:30	2.07	3.5	1.0	6.5	1.7	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:04:45	1.33	0.0	-0.9	70.1	1.7	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:00	0.34	0.0	-2.6	204.2	1.6	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:15	0.16	0.0	-2.9	427.9	1.6	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:30	0.11	0.0	-3.1	619.0	1.4	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:05:45	0.10	0.0	-3.0	805.7	1.5	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:00	0.09	0.0	-3.0	876.6	1.5	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:15	0.09	0.0	-3.2	897.8	1.3	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:30	0.08	0.0	-3.0	899.8	1.4	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:06:45	0.08	0.0	-3.2	903.0	1.3	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:00	0.08	0.0	-3.3	903.6	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:15	0.08	0.0	-3.1	903.1	1.4	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:30	0.08	0.0	-3.2	906.3	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:07:45	0.08	0.0	-3.2	911.7	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:00	0.07	0.0	-3.2	916.3	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:15	0.07	0.0	-3.4	927.2	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:30	0.07	0.0	-3.2	931.1	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:08:45	0.07	0.0	-3.3	934.4	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:00	0.07	0.0	-3.3	934.4	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:15	0.07	0.0	-3.3	929.8	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:30	0.06	0.0	-3.3	915.3	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:09:45	0.06	0.0	-3.4	903.8	1.2	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:00	0.06	0.0	-3.2	897.9	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:15	0.06	0.0	-3.3	899.4	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:30	0.06	0.0	-3.4	900.8	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:10:45	0.06	0.0	-3.3	899.7	1.1	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:00	0.06	0.0	-3.5	904.4	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:15	0.06	0.0	-3.4	905.2	0.9	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:30	0.06	0.0	-3.2	906.7	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:11:45	0.05	0.0	-3.4	911.0	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:12:00	0.06	0.0	-3.2	908.2	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:12:15	0.05	0.0	-3.3	906.6	1.0	BAL2535/cg9	CO	921
dsg9	8/30/2007	9:12:30	0.05	0.0	-3.5	907.3	0.9	BAL2535/cg9	CO	921
cohigh1	8/30/2007	9:12:30	0.05	0.0	-3.5	907.3	0.9	BAL2535/cg9	CO	921
dsg10	8/30/2007	9:12:45	0.15	1.2	-3.2	905.9	0.9	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:00	0.61	0.0	-2.4	891.3	1.0	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:15	0.17	0.0	-3.2	819.0	1.0	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:30	0.08	0.0	-3.2	722.8	1.0	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:13:45	0.06	0.0	-3.3	602.0	0.8	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:00	0.06	0.0	-3.4	518.9	0.9	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:15	0.05	0.0	-3.4	468.9	0.6	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:30	0.05	0.0	-3.6	462.3	0.7	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:14:45	0.05	0.0	-3.4	460.6	0.6	BLM005090/cg10	CO	464
dsg10	8/30/2007	9:15:00	0.05	0.0	-3.3	460.6	0.8	BLM005090/cg10	CO	464
comid1	8/30/2007	9:15:00	0.05	0.0	-3.3	460.6	0.8	BLM005090/cg10	CO	464
dsg1	8/30/2007	9:15:15	0.05	0.1	-3.5	458.6	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:15:30	1.11	2.5	-1.5	457.4	0.5	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:15:45	0.45	0.0	-2.4	415.8	0.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:00	0.13	0.0	-3.3	339.6	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:15	0.07	0.0	-3.4	215.8	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:30	0.05	0.0	-3.5	116.6	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:16:45	0.05	0.0	-3.5	29.5	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:00	0.04	0.0	-3.4	5.3	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:15	0.04	0.0	-3.6	0.0	0.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:30	0.04	0.0	-3.5	0.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	9:17:45	0.04	0.0	-3.5	0.0	0.8	ALM000674/cg1	N2	0
coezero1	8/30/2007	9:17:45	0.04	0.0	-3.5	0.0	0.8	ALM000674/cg1	N2	0
scg6	8/30/2007	9:18:15	3.84	9.5	2.3	13.7	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:18:30	5.65	10.0	6.7	61.2	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:18:45	5.98	13.0	6.8	140.8	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:00	5.10	31.7	6.1	203.8	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:15	1.98	41.5	4.2	238.5	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:30	0.71	42.9	2.5	207.6	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:19:45	0.32	43.5	1.4	129.8	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:20:00	0.18	43.6	0.4	67.9	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:20:15	0.13	43.5	-0.2	19.7	0.7	ALM035137/cg6	NOx	44.5

Re-cal CO 0-1000

O2 NOx SO2 CO THC

scg6	8/30/2007	9:20:30	0.10	43.5	-0.6	6.1	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:20:45	0.10	43.5	-1.1	1.2	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:21:00	0.09	43.6	-1.3	0.4	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:21:15	0.09	43.6	-1.4	0.0	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	9:21:30	0.08	43.6	-1.6	0.0	0.6	ALM035137/cg6	NOx	44.5
cozero1	8/30/2007	9:21:30	0.08	43.6	-1.6	0.0	0.6	ALM035137/cg6	NOx	44.5
scg10	8/30/2007	9:21:45	0.08	43.6	-1.7	0.0	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:00	0.08	43.6	-1.8	0.0	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:15	0.08	38.9	-2.1	0.0	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:30	0.08	11.3	-2.0	6.0	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:22:45	0.08	2.5	-2.2	55.7	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:00	0.08	1.6	-2.3	131.5	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:15	0.08	1.4	-2.2	251.3	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:30	0.08	1.3	-2.4	343.3	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:23:45	0.08	1.3	-2.4	417.2	0.4	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:00	0.08	1.3	-2.3	439.3	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:15	0.08	1.2	-2.5	445.1	0.4	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:30	0.11	0.8	-2.6	445.9	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:24:45	0.16	0.5	-2.5	446.2	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:00	0.20	0.4	-2.7	448.2	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:15	0.20	0.4	-2.6	449.1	0.5	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:30	0.21	0.4	-2.7	449.8	0.4	BLM005090/cg10	CO	464
scg10	8/30/2007	9:25:45	0.21	0.4	-2.9	449.8	0.5	BLM005090/cg10	CO	464
cospan1	8/30/2007	9:25:45	0.21	0.4	-2.9	449.8	0.5	BLM005090/cg10	CO	464
run1	8/30/2007	9:32:00	5.60	10.6	12.5	315.4	0.3			
run1	8/30/2007	9:32:15	5.59	10.6	12.6	298.8	0.3			
run1	8/30/2007	9:32:30	5.59	10.6	12.4	293.0	0.3			
run1	8/30/2007	9:32:45	5.56	10.7	12.4	289.3	0.1			
run1	8/30/2007	9:33:00	5.52	10.7	12.6	286.7	0.0			
run1	8/30/2007	9:33:15	5.47	10.7	12.6	279.4	0.1			
run1	8/30/2007	9:33:30	5.43	10.8	12.7	271.5	0.0			
run1	8/30/2007	9:33:45	5.41	10.8	12.9	257.1	0.0			
run1	8/30/2007	9:34:00	5.40	10.7	12.8	246.7	-0.1			
run1	8/30/2007	9:34:15	5.37	10.7	12.8	235.6	0.0			
run1	8/30/2007	9:34:30	5.34	10.8	12.8	229.7	-0.1			
run1	8/30/2007	9:34:45	5.30	10.8	12.8	222.9	-0.2			
run1	8/30/2007	9:35:00	5.28	10.9	12.9	216.0	-0.2			
run1	8/30/2007	9:35:15	5.26	10.9	13.0	206.2	-0.2			
run1	8/30/2007	9:35:30	5.25	10.9	13.1	195.9	-0.2			
run1	8/30/2007	9:35:45	5.24	10.8	13.1	184.2	-0.2			
run1	8/30/2007	9:36:00	5.24	10.8	13.1	178.1	-0.2			
run1	8/30/2007	9:36:15	5.23	10.8	13.2	173.1	-0.2			
run1	8/30/2007	9:36:30	5.22	10.8	13.2	170.4	-0.1			
run1	8/30/2007	9:36:45	5.21	10.7	13.2	168.5	-0.2			
run1	8/30/2007	9:37:00	5.20	10.8	13.5	166.5	-0.1			
run1	8/30/2007	9:37:15	5.19	10.9	13.4	164.2	-0.1			
run1	8/30/2007	9:37:30	5.18	10.9	13.3	160.8	-0.2			
run1	8/30/2007	9:37:45	5.17	10.8	13.5	155.7	-0.2			
run1	8/30/2007	9:38:00	5.18	10.9	13.5	150.2	-0.2			
run1	8/30/2007	9:38:15	5.18	10.9	13.5	146.4	-0.2			
run1	8/30/2007	9:38:30	5.19	10.8	13.7	144.4	-0.2			
run1	8/30/2007	9:38:45	5.20	10.8	13.7	145.4	-0.2			
run1	8/30/2007	9:39:00	5.29	10.7	13.5	147.3	-0.1			
run1	8/30/2007	9:39:15	5.61	10.5	13.4	157.0	0.4			
run1	8/30/2007	9:39:30	5.83	10.5	13.1	177.7	0.6			
run1	8/30/2007	9:39:45	5.95	10.4	12.9	219.1	0.9			
run1	8/30/2007	9:40:00	6.03	10.3	12.7	257.6	1.1			
run1	8/30/2007	9:40:15	6.09	10.3	12.5	304.5	1.5			
run1	8/30/2007	9:40:30	6.14	10.1	12.5	331.2	2.0			
run1	8/30/2007	9:40:45	6.21	10.0	12.5	355.5	2.3			
run1	8/30/2007	9:41:00	6.26	10.0	12.3	370.7	2.8			
run1	8/30/2007	9:41:15	6.29	10.0	12.5	389.3	3.1			
run1	8/30/2007	9:41:30	6.32	10.0	12.5	403.8	3.3			
run1	8/30/2007	9:41:45	6.35	9.9	12.4	419.2	4.2			
run1	8/30/2007	9:42:00	6.39	9.9	12.6	430.3	5.0			
run1	8/30/2007	9:42:15	6.44	9.8	12.8	446.3	6.1			
run1	8/30/2007	9:42:30	6.47	9.7	12.6	458.5	7.1			
run1	8/30/2007	9:42:45	6.50	9.6	12.7	473.3	8.9			
run1	8/30/2007	9:43:00	6.53	9.6	12.7	487.9	10.8			
run1	8/30/2007	9:43:15	6.56	9.4	13.0	503.2	11.9			
run1	8/30/2007	9:43:30	6.61	9.3	13.1	516.2	17.7			
run1	8/30/2007	9:43:45	6.65	9.3	13.3	534.3	20.5			
run1	8/30/2007	9:44:00	6.67	9.1	13.6	547.5	24.0			
run1	8/30/2007	9:44:15	6.71	9.0	13.7	563.1	29.1			
run1	8/30/2007	9:44:30	6.76	8.9	13.9	575.6	39.5			
run1	8/30/2007	9:44:45	6.80	8.8	14.3	589.8	45.4			
run1	8/30/2007	9:45:00	6.82	8.8	14.4	601.6	54.9			
run1	8/30/2007	9:45:15	6.84	8.8	14.6	612.6	49.1			
run1	8/30/2007	9:45:30	6.89	8.6	14.8	620.0	70.2			
run1	8/30/2007	9:45:45	6.94	8.6	15.0	625.9	70.2			
run1	8/30/2007	9:57:00	6.82	9.6	16.3	585.0	68.8			

Run 1 932-1043

O2 NOx SO2 CO THC

run1	8/30/2007	9:57:15	6.77	9.6	16.4	596.0	61.8
run1	8/30/2007	9:57:30	6.73	9.6	16.4	605.2	56.9
run1	8/30/2007	9:57:45	6.72	9.6	16.4	615.5	56.9
run1	8/30/2007	9:58:00	6.70	9.6	16.2	620.0	54.0
run1	8/30/2007	9:58:15	6.67	9.7	16.0	624.6	44.3
run1	8/30/2007	9:58:30	6.61	9.8	16.0	624.6	37.3
run1	8/30/2007	9:58:45	6.56	9.9	15.7	622.6	30.7
run1	8/30/2007	9:59:00	6.52	9.9	15.6	622.0	25.2
run1	8/30/2007	9:59:15	6.48	10.0	15.5	617.9	25.1
run1	8/30/2007	9:59:30	6.44	10.0	15.0	614.7	19.8
run1	8/30/2007	9:59:45	6.41	10.1	15.0	607.7	17.3
run1	8/30/2007	10:00:00	6.38	10.1	14.8	597.3	14.8
run1	8/30/2007	10:00:15	6.35	10.1	14.5	586.2	14.2
run1	8/30/2007	10:00:30	6.30	10.2	14.4	574.5	10.6
run1	8/30/2007	10:00:45	6.27	10.2	14.2	561.5	10.1
run1	8/30/2007	10:01:00	6.23	10.3	14.1	550.7	8.1
run1	8/30/2007	10:01:15	6.19	10.3	14.2	535.3	6.7
run1	8/30/2007	10:01:30	6.17	10.4	13.9	521.0	6.8
run1	8/30/2007	10:01:45	6.15	10.4	13.6	505.4	6.0
run1	8/30/2007	10:02:00	6.15	10.3	13.5	496.6	6.8
run1	8/30/2007	10:02:15	6.12	10.4	13.3	490.2	4.6
run1	8/30/2007	10:02:30	6.08	10.5	13.4	485.1	4.2
run1	8/30/2007	10:02:45	6.05	10.5	13.3	475.6	3.5
run1	8/30/2007	10:03:00	6.01	10.5	13.0	463.9	3.4
run1	8/30/2007	10:03:15	5.98	10.5	13.0	450.1	3.1
run1	8/30/2007	10:03:30	5.96	10.6	12.9	440.6	2.8
run1	8/30/2007	10:03:45	5.92	10.6	12.8	431.2	2.5
run1	8/30/2007	10:04:00	5.88	10.6	13.0	424.4	2.4
run1	8/30/2007	10:04:15	5.86	10.7	12.9	414.8	2.3
run1	8/30/2007	10:04:30	5.84	10.7	12.9	405.2	2.2
run1	8/30/2007	10:04:45	5.83	10.8	13.0	397.2	2.0
run1	8/30/2007	10:05:00	5.81	10.7	12.8	386.4	1.8
run1	8/30/2007	10:05:15	5.80	10.7	12.9	381.4	1.8
run1	8/30/2007	10:05:30	5.77	10.7	12.9	376.5	1.8
run1	8/30/2007	10:05:45	5.77	10.8	12.8	372.7	1.5
run1	8/30/2007	10:06:00	5.75	10.8	12.8	370.1	1.3
run1	8/30/2007	10:06:15	5.75	10.8	12.6	363.8	1.3
run1	8/30/2007	10:06:30	5.73	10.7	12.5	359.5	1.3
run1	8/30/2007	10:06:45	5.72	10.8	12.7	352.4	1.3
run1	8/30/2007	10:07:00	5.71	10.7	12.7	349.0	1.2
run1	8/30/2007	10:07:15	5.70	10.8	12.5	348.3	1.2
run1	8/30/2007	10:07:30	5.67	10.9	12.6	347.1	1.0
run1	8/30/2007	10:07:45	5.64	10.9	12.5	342.6	0.8
run1	8/30/2007	10:08:00	5.62	10.9	12.4	335.2	0.7
run1	8/30/2007	10:08:15	5.60	10.8	12.5	323.9	0.7
run1	8/30/2007	10:08:30	5.61	10.8	12.2	313.9	0.8
run1	8/30/2007	10:08:45	5.59	10.8	12.4	308.1	0.6
run1	8/30/2007	10:09:00	5.58	10.8	12.5	305.3	0.6
run1	8/30/2007	10:09:15	5.57	10.7	12.4	304.8	0.7
run1	8/30/2007	10:09:30	5.56	10.7	12.5	305.5	0.6
run1	8/30/2007	10:09:45	5.55	10.7	12.3	304.4	0.5
run1	8/30/2007	10:10:00	5.56	10.7	12.3	302.4	0.6
run1	8/30/2007	10:10:15	5.55	10.7	12.4	300.8	0.6
run1	8/30/2007	10:10:30	5.54	10.7	12.3	300.2	1.3
run1	8/30/2007	10:10:45	5.53	10.7	12.3	298.5	2.4
run1	8/30/2007	10:11:00	5.53	10.7	12.3	297.2	2.1
run1	8/30/2007	10:11:15	5.53	10.8	12.2	295.3	1.9
run1	8/30/2007	10:11:30	5.53	10.7	12.3	293.2	1.4
run1	8/30/2007	10:11:45	5.53	10.7	12.3	291.1	1.2
run1	8/30/2007	10:12:00	5.54	10.8	12.3	291.1	1.2
run1	8/30/2007	10:12:15	5.57	10.7	12.4	290.7	1.1
run1	8/30/2007	10:12:30	5.58	10.7	12.2	289.3	1.1
run1	8/30/2007	10:12:45	5.57	10.8	12.1	288.7	1.0
run1	8/30/2007	10:13:00	5.55	10.8	12.1	288.1	0.9
run1	8/30/2007	10:13:15	5.55	10.8	11.9	286.7	0.9
run1	8/30/2007	10:13:30	5.59	10.7	11.8	285.3	1.0
run1	8/30/2007	10:13:45	5.63	10.7	11.9	285.7	1.1
run1	8/30/2007	10:14:00	5.65	10.7	11.9	288.4	1.1
run1	8/30/2007	10:14:15	5.67	10.7	12.0	294.6	1.2
run1	8/30/2007	10:14:30	5.69	10.6	12.0	301.9	1.2
run1	8/30/2007	10:14:45	5.72	10.6	11.9	310.4	1.3
run1	8/30/2007	10:15:00	5.73	10.6	11.8	317.0	1.3
run1	8/30/2007	10:15:15	5.74	10.7	11.7	322.4	1.2
run1	8/30/2007	10:15:30	5.74	10.7	11.7	325.0	1.3
run1	8/30/2007	10:15:45	5.75	10.6	11.7	326.9	1.3
run1	8/30/2007	10:16:00	5.77	10.6	11.6	328.1	1.4
run1	8/30/2007	10:16:15	5.78	10.6	11.7	332.4	1.4
run1	8/30/2007	10:16:30	5.79	10.6	11.7	335.9	1.4
run1	8/30/2007	10:16:45	5.78	10.7	11.5	339.8	1.3
run1	8/30/2007	10:17:00	5.79	10.6	11.6	341.1	1.2
run1	8/30/2007	10:17:15	5.79	10.6	11.5	341.1	1.2

O2 NOx SO2 CO THC

run1	8/30/2007	10:17:30	5.81	10.6	11.4	339.3	1.3
run1	8/30/2007	10:17:45	5.83	10.6	11.6	336.4	1.3
run1	8/30/2007	10:18:00	5.84	10.6	11.6	337.2	1.4
run1	8/30/2007	10:18:15	5.85	10.6	11.5	338.5	1.4
run1	8/30/2007	10:18:31	5.85	10.6	11.6	341.7	1.6
run1	8/30/2007	10:18:45	5.87	10.6	11.5	345.1	1.5
run1	8/30/2007	10:19:00	5.87	10.6	11.5	346.4	1.5
run1	8/30/2007	10:19:15	5.86	10.6	11.5	346.4	1.3
run1	8/30/2007	10:19:30	5.85	10.5	11.6	347.2	1.5
run1	8/30/2007	10:19:45	5.86	10.6	11.7	348.7	1.5
run1	8/30/2007	10:20:00	5.86	10.6	11.6	350.1	1.5
run1	8/30/2007	10:20:15	5.87	10.5	11.5	351.8	1.4
run1	8/30/2007	10:20:30	5.87	10.5	11.7	352.4	1.5
run1	8/30/2007	10:20:45	5.87	10.5	11.6	351.4	1.6
run1	8/30/2007	10:21:00	5.87	10.6	11.6	352.7	1.5
run1	8/30/2007	10:21:15	5.89	10.6	11.6	355.1	1.7
run1	8/30/2007	10:21:30	5.89	10.6	11.4	357.9	1.5
run1	8/30/2007	10:21:45	5.89	10.6	11.5	360.4	1.6
run1	8/30/2007	10:22:00	5.90	10.6	11.5	360.4	1.7
run1	8/30/2007	10:22:15	5.89	10.6	11.5	361.2	1.8
run1	8/30/2007	10:22:30	5.87	10.6	11.5	363.3	1.7
run1	8/30/2007	10:22:45	5.85	10.6	11.4	365.2	1.4
run1	8/30/2007	10:23:00	5.83	10.6	11.3	365.2	1.3
run1	8/30/2007	10:23:15	5.83	10.6	11.6	361.2	1.3
run1	8/30/2007	10:23:30	5.84	10.6	11.5	354.5	1.5
run1	8/30/2007	10:23:45	5.83	10.5	11.5	347.1	1.3
run1	8/30/2007	10:24:00	5.83	10.5	11.6	343.7	1.4
run1	8/30/2007	10:24:15	5.82	10.6	11.5	345.3	1.3
run1	8/30/2007	10:24:30	5.82	10.6	11.6	348.0	1.4
run1	8/30/2007	10:24:45	5.82	10.6	11.7	348.1	1.3
run1	8/30/2007	10:25:00	5.81	10.6	11.6	346.1	1.2
run1	8/30/2007	10:25:15	5.79	10.7	11.9	341.1	1.2
run1	8/30/2007	10:25:30	5.79	10.6	11.8	337.1	1.2
run1	8/30/2007	10:25:45	5.80	10.6	11.7	336.5	1.4
run1	8/30/2007	10:26:00	5.83	10.6	11.8	337.9	1.5
run1	8/30/2007	10:26:15	5.83	10.6	11.7	341.4	1.4
run1	8/30/2007	10:26:30	5.84	10.5	11.6	344.9	1.5
run1	8/30/2007	10:26:45	5.86	10.5	11.6	349.7	1.7
run1	8/30/2007	10:27:00	5.85	10.6	11.5	353.8	1.6
run1	8/30/2007	10:27:15	5.84	10.6	11.6	358.3	1.7
run1	8/30/2007	10:27:30	5.83	10.7	11.5	361.9	1.4
run1	8/30/2007	10:27:45	5.84	10.6	11.2	363.3	1.5
run1	8/30/2007	10:28:00	5.85	10.6	11.4	361.8	1.5
run1	8/30/2007	10:28:15	5.88	10.6	11.3	359.2	1.6
run1	8/30/2007	10:28:30	5.88	10.6	11.0	357.7	1.7
run1	8/30/2007	10:28:45	5.88	10.6	10.9	359.8	1.6
run1	8/30/2007	10:29:00	5.88	10.7	10.8	362.5	1.5
run1	8/30/2007	10:29:15	5.87	10.7	10.9	365.2	1.4
run1	8/30/2007	10:29:30	5.85	10.7	10.9	363.3	1.3
run1	8/30/2007	10:29:45	5.84	10.7	10.7	357.9	1.3
run1	8/30/2007	10:30:00	5.83	10.7	10.8	353.1	1.3
run1	8/30/2007	10:30:15	5.84	10.6	10.7	348.7	1.5
run1	8/30/2007	10:30:30	5.83	10.6	10.6	348.0	1.4
run1	8/30/2007	10:30:45	5.83	10.6	10.6	350.8	1.4
run1	8/30/2007	10:31:00	5.84	10.6	10.5	352.7	1.5
run1	8/30/2007	10:31:15	5.85	10.6	10.4	356.1	1.6
run1	8/30/2007	10:31:30	5.85	10.6	10.4	359.3	1.5
run1	8/30/2007	10:31:45	5.86	10.6	10.3	361.8	1.5
run1	8/30/2007	10:32:00	5.87	10.7	10.2	362.6	1.4
run1	8/30/2007	10:32:15	5.86	10.7	10.0	362.2	1.5
run1	8/30/2007	10:32:30	5.87	10.7	9.8	360.1	1.5
run1	8/30/2007	10:32:45	5.86	10.6	10.0	357.8	1.4
run1	8/30/2007	10:33:00	5.87	10.6	9.9	356.3	1.4
run1	8/30/2007	10:33:15	5.87	10.6	9.8	356.3	1.5
run1	8/30/2007	10:33:30	5.86	10.7	9.8	355.7	1.4
run1	8/30/2007	10:33:45	5.84	10.7	9.6	355.2	1.4
run1	8/30/2007	10:34:00	5.83	10.7	9.6	352.4	1.2
run1	8/30/2007	10:34:15	5.81	10.7	9.8	349.4	1.1
run1	8/30/2007	10:34:30	5.80	10.7	9.6	346.0	1.1
run1	8/30/2007	10:34:45	5.80	10.6	9.6	343.4	1.2
run1	8/30/2007	10:35:00	5.80	10.7	9.5	342.8	1.3
run1	8/30/2007	10:35:15	5.79	10.6	9.5	344.1	1.1
run1	8/30/2007	10:35:30	5.77	10.7	9.7	346.1	1.1
run1	8/30/2007	10:35:45	5.75	10.7	9.6	344.8	1.0
run1	8/30/2007	10:36:00	5.74	10.8	9.6	341.5	0.9
run1	8/30/2007	10:36:15	5.74	10.8	9.7	333.5	0.9
run1	8/30/2007	10:36:30	5.74	10.8	9.6	326.3	0.8
run1	8/30/2007	10:36:45	5.74	10.8	9.5	319.3	0.8
run1	8/30/2007	10:37:00	5.74	10.8	9.6	314.7	0.9
run1	8/30/2007	10:37:15	5.73	10.8	9.5	311.8	0.9
run1	8/30/2007	10:37:30	5.72	10.8	9.5	311.2	0.8

O2 NOx SO2 CO THC

run1	8/30/2007	10:37:45	5.72	10.7	9.6	312.4	0.9		
run1	8/30/2007	10:38:00	5.72	10.7	9.6	314.4	0.9		
run1	8/30/2007	10:38:15	5.72	10.6	9.5	316.1	0.9		
run1	8/30/2007	10:38:30	5.73	10.7	9.2	318.0	0.9		
run1	8/30/2007	10:38:45	5.72	10.7	9.1	320.0	0.8		
run1	8/30/2007	10:39:00	5.73	10.8	9.3	320.6	0.9		
run1	8/30/2007	10:39:15	5.74	10.8	9.1	321.0	0.9		
run1	8/30/2007	10:39:30	5.74	10.7	9.4	321.0	1.0		
run1	8/30/2007	10:39:45	5.75	10.6	9.5	321.0	1.0		
run1	8/30/2007	10:40:00	5.76	10.7	9.3	323.0	1.1		
run1	8/30/2007	10:40:15	5.76	10.7	9.4	326.5	0.9		
run1	8/30/2007	10:40:30	5.75	10.7	9.5	326.5	0.9		
run1	8/30/2007	10:40:45	5.75	10.7	9.5	326.6	1.0		
run1	8/30/2007	10:41:00	5.75	10.7	9.6	327.8	1.2		
run1	8/30/2007	10:41:15	5.77	10.7	9.5	329.4	1.2		
run1	8/30/2007	10:41:30	5.78	10.7	9.6	333.6	1.1		
run1	8/30/2007	10:41:45	5.78	10.8	9.6	336.1	1.1		
run1	8/30/2007	10:42:00	5.79	10.7	9.3	336.8	1.2		
run1	8/30/2007	10:42:15	5.81	10.8	9.4	337.5	1.3		
run1	8/30/2007	10:42:30	5.81	10.8	9.5	338.1	1.1		
run1	8/30/2007	10:42:45	5.82	10.8	9.4	339.2	1.2		
averun1	8/30/2007	9:43:00	5.90	10.5	12.0	360.1	5.4	60	
scg3	8/30/2007	10:43:45	5.83	10.7	9.6	342.3	1.3	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:44:00	5.84	10.7	9.3	347.0	1.4	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:44:15	5.80	7.2	9.0	351.7	1.5	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:44:30	7.92	1.6	7.0	346.7	1.6	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:44:45	10.69	0.3	4.4	308.4	1.5	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:45:00	11.69	0.2	2.4	244.8	1.5	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:45:15	11.95	0.1	0.9	153.9	1.5	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:45:30	12.04	0.1	-0.2	80.6	1.5	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:45:45	12.07	0.1	-1.0	24.5	1.4	ALM005139/cg3	O2 12.2
scg3	8/30/2007	10:46:00	12.08	0.1	-1.6	6.9	1.5	ALM005139/cg3	O2 12.2
o2span1	8/30/2007	10:46:00	12.08	0.1	-1.6	6.9	1.5	ALM005139/cg3	O2 12.2
scg6	8/30/2007	10:46:15	12.10	0.1	-2.0	0.8	1.4	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:46:30	12.10	0.1	-2.3	0.0	1.5	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:46:45	11.84	6.4	-2.6	-0.3	1.4	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:47:00	7.67	31.3	-2.6	-1.0	1.4	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:47:15	2.87	40.7	-2.9	-1.0	1.4	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:47:30	1.02	42.5	-3.4	-0.3	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:47:45	0.45	43.0	-3.3	0.0	1.5	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:48:00	0.26	43.2	-3.5	0.0	1.5	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	10:48:15	0.20	43.2	-3.6	0.0	1.5	ALM035137/cg6	NOx 44.5
o2zero1	8/30/2007	10:48:15	0.20	43.2	-3.6	0.0	1.5	ALM035137/cg6	NOx 44.5
cozero1	8/30/2007	10:48:15	0.20	43.2	-3.6	0.0	1.5	ALM035137/cg6	NOx 44.5
noxspan1	8/30/2007	10:48:15	0.20	43.2	-3.6	0.0	1.5	ALM035137/cg6	NOx 44.5
scg10	8/30/2007	10:48:30	0.17	43.3	-3.6	0.0	1.5	BLM005090/cg10	CO 464
scg10	8/30/2007	10:48:45	0.15	43.4	-3.7	0.0	1.5	BLM005090/cg10	CO 464
scg10	8/30/2007	10:49:00	0.14	43.2	-3.6	0.0	1.4	BLM005090/cg10	CO 464
scg10	8/30/2007	10:49:15	0.64	31.1	-3.6	1.1	1.3	BLM005090/cg10	CO 464
scg10	8/30/2007	10:49:30	3.20	14.6	-2.3	12.1	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	10:49:45	4.99	11.4	0.0	61.7	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	10:50:00	5.74	9.6	2.2	123.1	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	10:50:15	10.44	3.3	3.0	206.0	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	10:50:30	16.72	0.8	1.8	240.7	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	10:50:45	19.33	0.4	0.3	216.8	1.3	BLM005090/cg10	CO 464
scg10	8/30/2007	10:51:00	20.16	0.2	-0.6	159.2	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	10:51:15	20.41	0.2	-1.4	76.5	1.3	BLM005090/cg10	CO 464
scg10	8/30/2007	10:51:30	20.51	0.2	-2.1	31.2	1.4	BLM005090/cg10	CO 464
scg10	8/30/2007	10:51:45	20.56	0.2	-2.4	6.2	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	10:52:00	20.59	0.1	-2.8	1.9	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	10:52:15	19.59	1.7	-3.1	0.8	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	10:52:30	11.44	0.9	-3.3	9.8	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	10:52:45	3.94	0.2	-3.6	65.7	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	10:53:00	1.26	0.1	-3.6	146.5	0.9	BLM005090/cg10	CO 464
scg10	8/30/2007	10:53:15	0.54	0.1	-3.7	269.5	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	10:53:30	0.32	0.1	-3.8	360.2	0.9	BLM005090/cg10	CO 464
scg10	8/30/2007	10:53:45	0.23	0.1	-3.8	433.0	0.9	BLM005090/cg10	CO 464
scg10	8/30/2007	10:54:00	0.19	0.1	-3.8	455.1	0.8	BLM005090/cg10	CO 464
scg10	8/30/2007	10:54:15	0.17	0.1	-4.0	460.9	0.8	BLM005090/cg10	CO 464
scg10	8/30/2007	10:54:30	0.15	0.1	-3.9	460.9	0.8	BLM005090/cg10	CO 464
noxzero1	8/30/2007	10:54:30	0.15	0.1	-3.9	460.9	0.8	BLM005090/cg10	CO 464
so2zero1	8/30/2007	10:54:30	0.15	0.1	-3.9	460.9	0.8	BLM005090/cg10	CO 464
cospan1	8/30/2007	10:54:30	0.15	0.1	-3.9	460.9	0.8	BLM005090/cg10	CO 464
scg8	8/30/2007	10:54:45	0.14	0.1	-4.1	459.9	0.9	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:55:00	0.13	0.1	-4.1	458.6	0.9	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:55:15	0.13	0.1	-4.1	457.3	0.9	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:55:30	0.15	0.5	-2.7	454.0	0.9	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:55:45	0.14	0.2	3.3	419.1	1.0	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:56:00	0.12	0.1	11.6	346.4	0.9	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:56:15	0.11	0.1	18.5	233.4	0.9	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	10:56:30	0.10	0.1	23.4	133.1	0.9	ALM067916/cg8	SO2 41.7

Final Bias Run 1

O2 NOx SO2 CO THC

scg8	8/30/2007	10:56:45	0.10	0.1	26.6	44.9	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:57:00	0.10	0.1	28.6	12.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:57:15	0.09	0.1	30.0	1.9	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:57:30	0.09	0.1	30.7	0.4	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:57:45	0.09	0.1	31.1	0.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:58:00	0.09	0.1	31.5	0.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:58:15	0.09	0.1	31.9	0.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:58:30	0.09	0.1	32.3	0.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	10:58:45	0.09	0.1	32.3	0.0	1.0	ALM067916/cg8	SO2	41.7
scg2	8/30/2007	10:59:45	11.28	0.1	18.8	0.0	0.8	AAL14753/cg2	O2	20.9
scg2	8/30/2007	11:00:00	16.51	0.1	7.1	0.0	0.8	AAL14753/cg2	O2	20.9
scg2	8/30/2007	11:00:15	16.78	0.1	8.1	0.0	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	11:00:30	16.73	0.1	7.5	0.0	-0.3	AAL14753/cg2	O2	20.9
thczero1	8/30/2007	11:00:30	16.73	0.1	7.5	0.0	-0.3	AAL14753/cg2	O2	20.9
scg13	8/30/2007	11:01:30	20.40	0.1	-2.1	0.0	0.3	BAL4862/cg13	THC	47
scg13	8/30/2007	11:01:45	20.51	0.1	-2.8	0.0	36.2	BAL4862/cg13	THC	47
scg13	8/30/2007	11:02:00	20.56	0.1	-3.1	0.0	47.2	BAL4862/cg13	THC	47
scg13	8/30/2007	11:02:15	20.58	0.1	-3.5	0.0	47.4	BAL4862/cg13	THC	47
scg13	8/30/2007	11:02:30	20.59	0.1	-3.7	0.0	47.5	BAL4862/cg13	THC	47
scg13	8/30/2007	11:02:45	20.60	0.1	-3.9	0.0	47.5	BAL4862/cg13	THC	47
thcspan1	8/30/2007	11:02:45	20.60	0.1	-3.9	0.0	47.5	BAL4862/cg13	THC	47
scg8	8/30/2007	11:03:00	20.62	0.1	-4.0	0.0	47.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:03:15	20.64	0.1	-4.1	0.0	47.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:03:30	20.35	0.1	-4.1	0.0	47.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:03:45	13.08	0.1	-0.3	0.0	42.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:04:00	4.21	0.1	10.2	0.0	2.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:04:15	1.31	0.1	19.5	0.0	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:04:30	0.57	0.1	25.5	0.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:04:45	0.34	0.1	28.9	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:05:00	0.26	0.1	30.5	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:05:15	0.21	0.1	31.6	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:05:30	0.19	0.1	32.2	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:05:45	0.17	0.1	32.6	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:06:00	0.16	0.1	33.1	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:06:15	0.14	0.1	33.3	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:06:30	0.14	0.1	33.3	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:06:45	0.13	0.1	33.5	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:07:00	0.12	0.1	33.6	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:07:15	0.12	0.1	33.9	-1.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:07:30	0.11	0.1	33.9	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:07:45	0.11	0.1	33.9	-1.0	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:08:00	0.11	0.1	34.1	-1.0	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:08:15	0.10	0.1	33.3	-1.0	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:08:30	0.10	0.1	33.5	-1.0	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:08:45	0.10	0.1	33.9	-1.0	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:09:00	0.10	0.1	33.8	-1.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:09:15	0.09	0.1	34.1	-1.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:09:30	0.91	0.1	32.7	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:09:45	8.15	0.1	18.1	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:10:00	2.73	0.1	25.0	-1.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:10:15	0.66	0.1	31.4	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:10:30	0.24	0.1	33.3	-0.3	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:10:45	0.15	0.1	33.8	-0.3	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:11:00	0.11	0.1	34.0	-0.3	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:11:15	0.10	0.1	34.4	-0.6	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:11:30	0.09	0.1	34.5	-0.7	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:11:45	0.08	0.1	34.5	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:12:00	0.08	0.1	34.6	-0.3	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:12:15	0.08	0.1	34.6	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:12:30	0.08	0.1	34.6	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:12:45	0.07	0.1	34.7	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:13:00	0.07	0.1	34.5	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:13:15	0.07	0.1	34.8	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:13:30	0.07	0.1	34.7	-1.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:13:45	0.07	0.1	34.6	-1.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:14:00	0.07	0.1	34.8	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:14:15	0.07	0.1	34.8	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:14:30	0.07	0.1	34.6	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:16:30	20.45	0.0	-0.4	-1.0	0.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:16:45	20.53	0.0	-1.6	-1.0	0.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:17:00	19.73	0.1	-2.2	-1.0	0.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:17:15	10.89	0.1	3.7	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:17:30	3.12	0.1	15.7	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:17:45	0.92	0.1	24.5	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:18:00	0.41	0.1	29.2	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:18:15	0.25	0.1	31.3	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:18:30	0.19	0.1	32.5	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:18:45	0.15	0.1	33.2	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:19:00	0.14	0.1	33.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:19:15	0.12	0.1	33.8	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:19:30	0.11	0.1	34.0	-1.0	0.8	ALM067916/cg8	SO2	41.7

O2 NOx SO2 CO THC

scg8	8/30/2007	11:19:45	0.10	0.1	34.1	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:20:00	0.10	0.1	34.4	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:20:15	0.09	0.1	34.3	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:20:30	0.09	0.1	34.3	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:20:45	0.09	0.1	34.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:21:00	0.08	0.1	34.5	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:21:15	0.08	0.1	34.6	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:21:30	0.08	0.1	34.6	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:21:45	0.08	0.1	34.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:22:00	0.07	0.1	34.5	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:22:15	0.07	0.1	34.5	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:22:30	0.07	0.1	34.5	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:22:45	0.07	0.1	34.6	-1.0	0.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:23:00	0.07	0.1	34.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:23:15	0.07	0.1	34.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:23:30	0.07	0.1	34.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:23:45	0.06	0.1	34.4	-1.0	0.9	ALM067916/cg8	SO2	41.7
dsg1	8/30/2007	11:24:45	11.44	0.1	24.2	-1.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:25:00	12.77	0.0	9.6	-1.0	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:25:15	2.77	0.0	-2.5	-1.0	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:25:30	0.67	0.0	-5.4	-0.3	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:25:45	0.25	0.0	-6.0	0.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:26:00	0.14	0.0	-6.0	0.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:26:15	0.10	0.0	-28.2	-1.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:26:30	0.07	0.0	-40.2	-0.3	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:26:45	0.07	0.0	0.5	-1.0	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:27:00	0.06	0.0	0.1	-1.0	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:27:15	0.05	0.0	0.2	-1.0	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:27:30	0.05	0.0	0.3	-1.0	0.8	ALM000674/cg1	N2	0
dsg7	8/30/2007	11:27:45	0.35	0.1	0.6	-1.0	0.9	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:28:00	2.73	0.4	32.1	-1.0	0.8	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:28:15	0.58	0.4	72.5	-1.0	0.7	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:28:30	0.17	0.4	81.2	-1.0	0.7	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:28:45	0.08	0.4	82.4	-1.0	0.7	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:29:00	0.06	0.4	82.7	-1.0	0.6	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:29:15	0.05	0.4	82.9	-1.0	0.6	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:29:30	0.05	0.4	83.0	-1.0	0.6	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:29:45	0.04	0.4	83.8	-1.0	0.8	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:30:00	0.04	0.4	84.2	-1.0	1.0	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:30:15	0.04	0.4	84.3	-1.0	0.8	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:30:30	0.04	0.4	84.4	-1.0	0.8	BLM003931/cg7	SO2	84.5
dsg7	8/30/2007	11:30:45	0.04	0.4	84.4	-1.0	0.8	BLM003931/cg7	SO2	84.5
so2high1	8/30/2007	11:30:45	0.04	0.4	84.4	-1.0	0.8	BLM003931/cg7	SO2	84.5
dsg8	8/30/2007	11:32:15	20.48	0.1	4.8	0.0	0.9	ALM067916/cg8	SO2	41.7
dsg8	8/30/2007	11:32:30	10.35	0.1	22.6	0.0	0.7	ALM067916/cg8	SO2	41.7
dsg8	8/30/2007	11:32:45	2.16	0.1	38.4	0.0	0.6	ALM067916/cg8	SO2	41.7
dsg8	8/30/2007	11:33:00	0.66	0.0	40.9	0.0	0.5	ALM067916/cg8	SO2	41.7
dsg8	8/30/2007	11:33:15	0.30	0.0	41.3	-0.9	0.5	ALM067916/cg8	SO2	41.7
dsg8	8/30/2007	11:33:30	0.18	0.0	41.3	-1.0	0.6	ALM067916/cg8	SO2	41.7
so2mid1	8/30/2007	11:33:30	0.18	0.0	41.3	-1.0	0.6	ALM067916/cg8	SO2	41.7
dsg1	8/30/2007	11:33:45	0.13	0.0	41.0	-1.0	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:34:00	2.17	0.0	31.2	-1.0	0.6	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:34:15	0.89	0.0	7.4	-1.0	0.7	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:34:30	0.23	0.0	1.1	-1.0	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:34:45	0.11	0.0	0.4	-1.0	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:35:00	0.08	0.0	0.0	-1.0	0.9	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:35:15	0.07	0.0	0.0	-0.4	0.8	ALM000674/cg1	N2	0
dsg1	8/30/2007	11:35:30	0.06	0.0	0.0	-1.0	0.8	ALM000674/cg1	N2	0
so2ezero1	8/30/2007	11:35:30	0.06	0.0	0.0	-1.0	0.8	ALM000674/cg1	N2	0
scg8	8/30/2007	11:36:00	13.50	0.0	2.2	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:36:15	19.22	0.1	3.2	-1.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:36:30	19.07	0.1	3.3	-0.3	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:36:45	10.06	0.1	9.9	0.0	0.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:37:00	3.00	0.1	21.3	0.0	0.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:37:15	0.90	0.1	29.7	0.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:37:30	0.38	0.1	34.4	0.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:37:45	0.23	0.1	37.0	-1.0	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:38:00	0.17	0.1	38.5	-1.0	1.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:38:15	0.14	0.1	39.1	-1.0	0.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:38:30	0.12	0.1	39.4	-1.0	1.5	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:38:45	0.11	0.1	39.8	-1.0	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:39:00	0.10	0.1	39.9	-1.0	1.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:39:15	0.09	0.1	40.4	-1.0	1.3	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	11:39:30	0.09	0.1	40.4	-1.0	1.3	ALM067916/cg8	SO2	41.7
so2span1	8/30/2007	11:39:30	0.09	0.1	40.4	-1.0	1.3	ALM067916/cg8	SO2	41.7
scg10	8/30/2007	11:39:45	0.08	0.1	40.4	-1.0	1.3	BLM005090/cg10	CO	464
scg10	8/30/2007	11:40:00	0.08	0.1	40.6	-1.0	1.2	BLM005090/cg10	CO	464
scg10	8/30/2007	11:40:15	0.08	0.1	40.4	-0.7	1.1	BLM005090/cg10	CO	464
scg10	8/30/2007	11:40:30	0.08	0.1	35.0	4.7	0.9	BLM005090/cg10	CO	464
scg10	8/30/2007	11:40:45	0.08	0.0	21.6	50.7	1.0	BLM005090/cg10	CO	464
scg10	8/30/2007	11:41:00	0.07	0.1	12.4	130.7	0.9	BLM005090/cg10	CO	464

Re-cal SO2

O2 NOx SO2 CO THC

scg10	8/30/2007	11:41:15	0.07	0.0	7.8	248.8	1.1	BLM005090/cg10	CO	464
scg10	8/30/2007	11:41:30	0.06	0.0	5.5	347.1	0.9	BLM005090/cg10	CO	464
scg10	8/30/2007	11:41:45	0.06	0.0	4.2	426.6	0.9	BLM005090/cg10	CO	464
scg10	8/30/2007	11:42:00	0.06	0.1	3.5	451.3	0.8	BLM005090/cg10	CO	464
scg10	8/30/2007	11:42:15	0.06	0.1	2.7	457.5	0.8	BLM005090/cg10	CO	464
scg10	8/30/2007	11:42:30	0.06	0.1	2.3	459.5	0.7	BLM005090/cg10	CO	464
scg10	8/30/2007	11:42:45	0.06	0.0	2.1	459.5	0.7	BLM005090/cg10	CO	464
scg10	8/30/2007	11:43:00	0.06	0.0	1.8	459.5	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	11:43:15	0.06	0.0	1.7	460.5	0.6	BLM005090/cg10	CO	464
scg10	8/30/2007	11:43:30	0.05	0.0	1.5	459.9	0.7	BLM005090/cg10	CO	464
scg10	8/30/2007	11:43:45	0.05	0.1	1.3	458.9	0.7	BLM005090/cg10	CO	464
scg10	8/30/2007	11:44:00	0.05	0.0	1.4	459.5	0.8	BLM005090/cg10	CO	464
scg10	8/30/2007	11:44:15	0.05	0.0	1.1	458.9	0.8	BLM005090/cg10	CO	464
scg10	8/30/2007	11:44:30	0.05	0.0	1.1	460.2	0.8	BLM005090/cg10	CO	464
so2zero1	8/30/2007	11:44:30	0.05	0.0	1.1	460.2	0.8	BLM005090/cg10	CO	464
run2	8/30/2007	11:59:00	4.80	11.0	17.3	7.8	0.5			
run2	8/30/2007	11:59:15	4.80	10.9	17.6	7.8	0.5			
run2	8/30/2007	11:59:30	4.79	10.8	17.6	7.8	0.5			
run2	8/30/2007	11:59:45	4.78	10.8	17.7	7.8	0.4			
run2	8/30/2007	12:00:00	4.79	10.8	17.8	7.8	0.4			
run2	8/30/2007	12:00:15	4.80	10.8	17.7	7.8	0.3			
run2	8/30/2007	12:00:30	4.79	10.8	17.9	7.8	0.4			
run2	8/30/2007	12:00:45	4.79	10.7	17.8	8.8	0.3			
run2	8/30/2007	12:01:00	4.79	10.8	17.8	8.9	0.3			
run2	8/30/2007	12:01:15	4.80	10.9	17.8	8.8	0.3			
run2	8/30/2007	12:01:30	4.82	10.9	17.7	8.8	0.3			
run2	8/30/2007	12:01:45	4.84	10.8	17.8	10.0	0.3			
run2	8/30/2007	12:02:00	4.83	10.8	17.7	10.0	0.3			
run2	8/30/2007	12:02:15	4.83	10.8	17.7	10.9	0.3			
run2	8/30/2007	12:02:30	4.81	10.8	17.8	10.9	0.3			
run2	8/30/2007	12:02:45	4.81	10.8	17.7	12.0	0.3			
run2	8/30/2007	12:03:00	4.81	10.7	17.7	12.0	0.3			
run2	8/30/2007	12:03:15	4.81	10.7	17.9	12.3	0.3			
run2	8/30/2007	12:03:30	4.81	10.7	17.8	12.9	0.3			
run2	8/30/2007	12:03:45	4.81	10.7	17.8	12.9	0.2			
run2	8/30/2007	12:04:00	4.81	10.7	17.9	12.9	0.2			
run2	8/30/2007	12:04:15	4.81	10.8	17.8	12.9	0.2			
run2	8/30/2007	12:04:30	4.80	10.8	17.8	12.9	0.3			
run2	8/30/2007	12:04:45	4.80	10.8	17.6	12.9	0.2			
run2	8/30/2007	12:05:00	4.79	10.8	17.7	12.9	0.2			
run2	8/30/2007	12:05:15	4.80	10.8	17.7	12.9	0.2			
run2	8/30/2007	12:05:30	4.81	10.8	17.6	12.9	0.2			
run2	8/30/2007	12:05:45	4.81	10.7	17.8	12.9	0.2			
run2	8/30/2007	12:06:00	4.82	10.7	17.7	12.9	0.2			
run2	8/30/2007	12:06:15	4.83	10.7	17.7	13.9	0.2			
run2	8/30/2007	12:06:30	4.85	10.6	17.6	14.6	0.2			
run2	8/30/2007	12:06:45	4.83	10.6	17.5	15.7	0.2			
run2	8/30/2007	12:07:00	4.84	10.6	17.5	15.7	0.2			
run2	8/30/2007	12:07:15	4.84	10.7	17.6	16.8	0.2			
run2	8/30/2007	12:07:30	4.84	10.6	17.6	16.8	0.2			
run2	8/30/2007	12:07:45	4.83	10.7	17.7	16.8	0.2			
run2	8/30/2007	12:08:00	4.83	10.6	17.5	16.8	0.2			
run2	8/30/2007	12:08:15	4.83	10.6	17.7	16.8	0.2			
run2	8/30/2007	12:08:30	4.82	10.6	17.6	16.8	0.1			
run2	8/30/2007	12:08:45	4.83	10.7	17.4	16.5	0.0			
run2	8/30/2007	12:09:00	4.83	10.8	17.6	15.7	0.0			
run2	8/30/2007	12:09:15	4.83	10.8	17.6	15.7	-0.1			
run2	8/30/2007	12:09:30	4.84	10.7	17.6	15.7	-0.1			
run2	8/30/2007	12:09:45	4.86	10.8	17.7	14.9	-0.1			
run2	8/30/2007	12:10:00	4.86	10.9	17.7	15.4	-0.1			
run2	8/30/2007	12:10:15	4.85	10.9	17.7	15.1	-0.1			
run2	8/30/2007	12:10:30	4.88	10.9	17.8	15.7	-0.1			
run2	8/30/2007	12:10:45	4.89	10.8	17.7	16.8	-0.1			
run2	8/30/2007	12:11:00	4.89	10.8	17.7	17.5	-0.1			
run2	8/30/2007	12:11:15	4.89	11.0	17.5	18.8	-0.1			
run2	8/30/2007	12:11:30	4.90	11.0	17.4	18.8	-0.1			
run2	8/30/2007	12:11:45	4.89	10.8	17.5	18.8	-0.1			
run2	8/30/2007	12:12:00	4.90	10.8	17.4	19.5	-0.1			
run2	8/30/2007	12:12:15	4.90	10.7	17.4	20.2	-0.1			
run2	8/30/2007	12:12:30	4.90	10.7	17.4	21.6	-0.1			
run2	8/30/2007	12:12:45	4.90	10.8	17.3	23.1	-0.1			
run2	8/30/2007	12:13:00	4.90	10.8	17.5	24.5	-0.1			
run2	8/30/2007	12:13:15	4.90	10.9	17.3	24.9	-0.1			
run2	8/30/2007	12:13:30	4.91	10.9	17.3	24.9	-0.1			
run2	8/30/2007	12:13:45	4.91	10.8	17.4	24.5	-0.1			
run2	8/30/2007	12:14:00	4.90	10.9	17.3	23.7	-0.1			
run2	8/30/2007	12:14:15	4.90	10.9	17.4	22.8	-0.1			
run2	8/30/2007	12:14:30	4.90	10.9	17.3	22.3	-0.1			
run2	8/30/2007	12:14:45	4.90	10.9	17.2	22.0	-0.1			
run2	8/30/2007	12:15:00	4.90	10.8	17.4	21.3	-0.1			
run2	8/30/2007	12:15:15	4.88	10.9	17.3	21.0	-0.1			

Run 2 1155-1254

O2 NOx SO2 CO THC

run2	8/30/2007	12:15:30	4.86	10.9	17.3	20.2	-0.1
run2	8/30/2007	12:15:45	4.84	10.9	17.4	18.8	-0.1
run2	8/30/2007	12:16:00	4.83	11.0	17.2	18.2	-0.1
run2	8/30/2007	12:16:15	4.81	11.0	17.3	15.4	-0.1
run2	8/30/2007	12:16:30	4.78	11.1	17.5	14.3	-0.1
run2	8/30/2007	12:16:45	4.78	11.1	17.4	12.6	-0.1
run2	8/30/2007	12:17:00	4.76	11.3	17.6	12.0	-0.1
run2	8/30/2007	12:17:15	4.74	11.2	17.5	10.6	-0.1
run2	8/30/2007	12:17:30	4.73	11.2	17.5	9.2	-0.1
run2	8/30/2007	12:17:45	4.73	11.0	17.6	8.6	-0.1
run2	8/30/2007	12:18:00	4.76	11.0	17.6	7.8	-0.1
run2	8/30/2007	12:18:15	4.76	11.0	17.7	7.8	-0.1
run2	8/30/2007	12:18:30	4.75	11.1	17.6	7.8	-0.1
run2	8/30/2007	12:18:45	4.74	11.1	17.6	7.8	-0.1
run2	8/30/2007	12:19:00	4.76	11.0	17.6	8.5	-0.1
run2	8/30/2007	12:19:15	4.77	11.0	17.4	8.8	-0.1
run2	8/30/2007	12:19:30	4.77	10.9	17.5	8.9	-0.1
run2	8/30/2007	12:19:45	4.78	10.9	17.6	9.9	-0.1
run2	8/30/2007	12:20:00	4.77	11.0	17.5	10.0	-0.1
run2	8/30/2007	12:20:15	4.77	10.8	17.6	11.0	-0.1
run2	8/30/2007	12:20:30	4.78	10.8	17.4	10.9	-0.1
run2	8/30/2007	12:20:45	4.79	10.8	17.5	10.9	-0.1
run2	8/30/2007	12:21:00	4.79	10.7	17.5	11.6	-0.1
run2	8/30/2007	12:21:15	4.80	10.7	17.3	12.0	-0.1
run2	8/30/2007	12:21:30	4.81	10.8	17.4	12.0	-0.1
run2	8/30/2007	12:21:45	4.81	10.7	17.2	12.0	-0.1
run2	8/30/2007	12:22:00	4.81	10.7	17.1	12.0	-0.1
run2	8/30/2007	12:22:15	4.80	10.8	17.3	12.0	-0.1
run2	8/30/2007	12:22:30	4.81	10.8	17.3	11.3	-0.1
run2	8/30/2007	12:22:45	4.81	10.7	17.4	10.9	-0.1
run2	8/30/2007	12:23:00	4.82	10.7	17.1	10.8	-0.1
run2	8/30/2007	12:23:15	4.82	10.6	17.0	10.9	-0.1
run2	8/30/2007	12:23:30	4.84	10.7	17.1	11.6	-0.1
run2	8/30/2007	12:23:45	4.85	10.7	16.9	12.0	-0.1
run2	8/30/2007	12:24:00	4.86	10.8	17.0	12.6	-0.1
run2	8/30/2007	12:24:15	4.86	10.8	16.9	13.2	-0.1
run2	8/30/2007	12:24:30	4.86	10.7	16.8	13.9	-0.1
run2	8/30/2007	12:24:45	4.85	10.7	17.0	13.9	-0.1
run2	8/30/2007	12:25:00	4.85	10.7	16.9	13.9	-0.1
run2	8/30/2007	12:25:15	4.87	10.8	16.9	14.2	-0.1
run2	8/30/2007	12:25:30	4.89	10.8	17.0	14.9	-0.2
run2	8/30/2007	12:25:45	4.89	10.7	16.9	14.9	-0.2
run2	8/30/2007	12:26:00	4.88	10.6	16.9	15.4	-0.2
run2	8/30/2007	12:26:15	4.89	10.5	16.8	15.7	-0.2
run2	8/30/2007	12:26:30	4.88	10.5	16.8	15.7	-0.2
run2	8/30/2007	12:26:45	4.88	10.6	17.0	16.8	-0.2
run2	8/30/2007	12:27:00	4.87	10.7	16.9	16.8	-0.2
run2	8/30/2007	12:27:15	4.87	10.6	17.0	16.5	-0.2
run2	8/30/2007	12:27:30	4.87	10.5	16.9	15.7	-0.2
run2	8/30/2007	12:27:45	4.87	10.5	16.9	15.6	-0.2
run2	8/30/2007	12:28:00	4.86	10.6	16.9	15.7	-0.2
run2	8/30/2007	12:28:15	4.86	10.6	16.8	15.0	-0.2
run2	8/30/2007	12:28:30	4.86	10.6	16.8	14.9	-0.2
run2	8/30/2007	12:28:45	4.86	10.6	16.9	14.9	-0.2
run2	8/30/2007	12:29:00	4.86	10.8	16.9	14.9	-0.2
run2	8/30/2007	12:29:15	4.86	10.8	16.9	14.9	-0.2
run2	8/30/2007	12:29:30	4.85	10.7	17.0	14.9	-0.2
run2	8/30/2007	12:29:45	4.86	10.7	16.9	15.2	-0.2
run2	8/30/2007	12:30:00	4.87	10.7	17.0	15.7	-0.2
run2	8/30/2007	12:30:15	4.86	10.7	17.0	15.7	-0.2
run2	8/30/2007	12:30:30	4.85	10.7	17.1	15.7	-0.2
run2	8/30/2007	12:30:45	4.86	10.7	17.2	15.7	-0.2
run2	8/30/2007	12:31:00	4.87	10.7	16.9	15.7	-0.2
run2	8/30/2007	12:31:15	4.87	10.6	16.9	16.8	-0.1
run2	8/30/2007	12:31:30	4.87	10.6	17.0	16.8	-0.1
run2	8/30/2007	12:31:45	4.87	10.6	16.9	17.8	-0.1
run2	8/30/2007	12:32:00	4.88	10.7	17.1	18.5	-0.1
run2	8/30/2007	12:32:15	4.88	10.6	17.0	19.1	-0.1
run2	8/30/2007	12:32:30	4.89	10.7	16.9	19.8	-0.1
run2	8/30/2007	12:32:45	4.88	10.7	16.9	21.0	-0.1
run2	8/30/2007	12:33:00	4.88	10.7	16.8	21.0	-0.1
run2	8/30/2007	12:33:15	4.88	10.6	16.8	21.0	-0.1
run2	8/30/2007	12:33:30	4.87	10.7	16.8	21.0	-0.1
run2	8/30/2007	12:33:45	4.87	10.7	16.9	21.0	-0.1
run2	8/30/2007	12:34:00	4.87	10.6	16.9	20.9	-0.1
run2	8/30/2007	12:34:15	4.89	10.7	16.8	21.0	-0.1
run2	8/30/2007	12:34:30	4.89	10.7	17.0	21.0	-0.2
run2	8/30/2007	12:34:45	4.89	10.7	16.9	21.0	-0.2
run2	8/30/2007	12:35:00	4.89	10.9	16.8	20.2	-0.2
run2	8/30/2007	12:35:15	4.90	10.9	16.8	20.2	-0.2
run2	8/30/2007	12:35:30	4.90	10.9	16.7	21.0	-0.2

O2 NOx SO2 CO THC

run2	8/30/2007	12:35:45	4.89	10.9	16.8	21.0	-0.2
run2	8/30/2007	12:36:00	4.89	10.9	16.8	21.0	-0.1
run2	8/30/2007	12:36:15	4.90	10.9	16.5	19.8	-0.2
run2	8/30/2007	12:36:30	4.91	10.9	16.9	19.8	-0.2
run2	8/30/2007	12:36:45	4.92	10.9	16.9	20.2	-0.2
run2	8/30/2007	12:37:00	4.93	10.8	16.9	21.7	-0.1
run2	8/30/2007	12:37:15	4.91	10.7	16.9	22.2	-0.2
run2	8/30/2007	12:37:30	4.92	10.7	16.7	22.8	-0.2
run2	8/30/2007	12:37:45	4.92	10.6	16.8	24.1	-0.2
run2	8/30/2007	12:38:00	4.91	10.7	16.7	24.9	-0.2
run2	8/30/2007	12:38:15	4.90	10.7	16.6	24.9	-0.2
run2	8/30/2007	12:38:30	4.88	10.6	16.8	24.9	-0.2
run2	8/30/2007	12:38:45	4.86	10.8	16.7	23.4	-0.2
run2	8/30/2007	12:39:00	4.83	10.7	16.9	21.5	-0.2
run2	8/30/2007	12:39:15	4.82	10.8	16.9	19.1	-0.2
run2	8/30/2007	12:39:30	4.79	10.7	16.9	17.1	-0.2
run2	8/30/2007	12:39:45	4.79	10.7	17.0	14.6	-0.2
run2	8/30/2007	12:40:00	4.78	10.8	16.9	13.2	-0.2
run2	8/30/2007	12:40:15	4.78	10.8	17.1	12.6	-0.2
run2	8/30/2007	12:40:30	4.78	10.8	17.2	12.0	-0.2
run2	8/30/2007	12:40:45	4.79	10.7	17.1	10.9	-0.2
run2	8/30/2007	12:41:00	4.79	10.7	17.1	10.8	-0.2
run2	8/30/2007	12:41:15	4.79	10.6	16.9	10.9	-0.1
run2	8/30/2007	12:41:30	4.78	10.7	16.9	10.9	-0.2
run2	8/30/2007	12:41:45	4.78	10.6	17.1	12.0	-0.2
run2	8/30/2007	12:42:00	4.79	10.5	16.9	12.0	-0.2
run2	8/30/2007	12:42:15	4.79	10.6	16.8	12.0	-0.2
run2	8/30/2007	12:42:30	4.81	10.5	16.9	12.0	-0.2
run2	8/30/2007	12:42:45	4.81	10.5	16.8	12.0	-0.2
run2	8/30/2007	12:43:00	4.81	10.5	16.9	12.0	-0.2
run2	8/30/2007	12:43:15	4.80	10.5	16.8	12.0	-0.2
run2	8/30/2007	12:43:30	4.80	10.5	16.8	12.0	0.1
run2	8/30/2007	12:43:45	4.81	10.6	17.0	12.0	0.0
run2	8/30/2007	12:44:00	4.81	10.6	16.8	12.0	0.0
run2	8/30/2007	12:44:15	4.80	10.5	16.9	11.6	-0.1
run2	8/30/2007	12:44:30	4.78	10.5	16.8	10.9	-0.1
run2	8/30/2007	12:44:45	4.78	10.5	16.7	10.6	-0.1
run2	8/30/2007	12:45:00	4.80	10.3	16.8	10.0	-0.1
run2	8/30/2007	12:45:15	4.81	10.3	16.7	10.3	-0.1
run2	8/30/2007	12:45:30	4.81	10.5	16.7	10.9	-0.1
run2	8/30/2007	12:45:45	4.81	10.6	16.9	12.0	-0.1
run2	8/30/2007	12:46:00	4.80	10.5	16.7	12.0	-0.1
run2	8/30/2007	12:46:15	4.81	10.6	16.8	12.0	-0.1
run2	8/30/2007	12:46:30	4.81	10.5	16.7	12.0	-0.1
run2	8/30/2007	12:46:45	4.83	10.5	16.7	12.0	-0.1
run2	8/30/2007	12:47:00	4.83	10.4	16.8	12.6	-0.1
run2	8/30/2007	12:47:15	4.83	10.4	16.6	13.3	-0.1
run2	8/30/2007	12:47:30	4.84	10.4	16.6	14.0	-0.1
run2	8/30/2007	12:47:45	4.86	10.5	16.6	14.9	-0.1
run2	8/30/2007	12:48:00	4.86	10.5	16.7	14.9	-0.1
run2	8/30/2007	12:48:15	4.84	10.6	16.8	14.9	-0.1
run2	8/30/2007	12:48:30	4.85	10.6	16.6	14.9	-0.2
run2	8/30/2007	12:48:45	4.87	10.6	16.7	14.9	-0.2
run2	8/30/2007	12:49:00	4.86	10.6	16.7	14.9	-0.2
run2	8/30/2007	12:49:15	4.87	10.5	16.5	14.9	-0.2
run2	8/30/2007	12:49:30	4.88	10.5	16.6	15.4	-0.2
run2	8/30/2007	12:49:45	4.90	10.6	16.6	16.1	-0.2
run2	8/30/2007	12:50:00	4.91	10.5	16.6	17.5	-0.2
run2	8/30/2007	12:50:15	4.92	10.5	16.7	18.2	-0.2
run2	8/30/2007	12:50:30	4.92	10.4	16.5	19.5	-0.2
run2	8/30/2007	12:50:45	4.96	10.4	16.6	20.2	-0.2
run2	8/30/2007	12:51:00	4.98	10.6	16.6	21.6	-0.2
run2	8/30/2007	12:51:15	5.00	10.6	16.4	23.1	-0.2
run2	8/30/2007	12:51:30	5.02	10.5	16.5	25.2	-0.2
run2	8/30/2007	12:51:45	5.04	10.4	16.4	27.2	-0.2
run2	8/30/2007	12:52:00	5.05	10.4	16.4	28.5	-0.2
run2	8/30/2007	12:52:15	5.04	10.5	16.3	29.8	-0.2
run2	8/30/2007	12:52:30	5.02	10.6	16.2	30.4	-0.2
run2	8/30/2007	12:52:45	5.02	10.6	16.1	29.4	-0.2
run2	8/30/2007	12:53:00	5.01	10.6	16.0	28.2	-0.2
run2	8/30/2007	12:53:15	5.01	10.7	16.2	26.5	-0.1
run2	8/30/2007	12:53:30	5.01	10.8	16.3	25.9	-0.2
run2	8/30/2007	12:53:45	5.01	10.7	16.2	24.9	-0.2
run2	8/30/2007	12:54:00	5.00	10.6	16.2	24.9	-0.2
run2	8/30/2007	12:54:15	4.99	10.5	16.3	24.9	-0.2
run2	8/30/2007	12:54:30	4.98	10.4	16.2	24.1	-0.2
run2	8/30/2007	12:54:45	5.00	10.6	16.5	23.7	-0.2
run2	8/30/2007	12:55:00	5.01	10.7	16.4	24.5	-0.2
run2	8/30/2007	12:55:15	5.03	10.5	16.6	25.2	-0.2
run2	8/30/2007	12:55:30	5.04	10.5	16.5	25.9	-0.2
run2	8/30/2007	12:55:45	5.04	10.6	16.4	26.9	-0.2

O2 NOx SO2 CO THC

run2	8/30/2007	12:56:00	5.02	10.6	16.5	26.9	-0.2			
run2	8/30/2007	12:56:15	4.99	10.7	16.4	26.9	-0.2			
run2	8/30/2007	12:56:30	4.99	10.6	16.3	26.2	-0.2			
run2	8/30/2007	12:56:45	4.99	10.6	16.5	24.5	-0.2			
run2	8/30/2007	12:57:00	4.98	10.6	16.4	23.0	-0.2			
run2	8/30/2007	12:57:15	4.97	10.5	16.6	21.6	-0.2			
run2	8/30/2007	12:57:30	4.97	10.6	16.6	20.9	-0.2			
run2	8/30/2007	12:57:45	4.95	10.6	16.4	20.5	-0.2			
run2	8/30/2007	12:58:00	4.93	10.8	16.7	19.1	-0.2			
run2	8/30/2007	12:58:15	4.91	10.8	16.6	17.5	-0.2			
run2	8/30/2007	12:58:30	4.89	10.8	16.7	16.1	-0.2			
run2	8/30/2007	12:58:45	4.90	10.8	16.7	14.6	-0.2			
averun2	8/30/2007	11:59:00	4.86	10.7	17.1	16.3	-0.1			
scg8	8/30/2007	12:59:15	4.89	10.7	16.8	12.6	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	12:59:30	4.89	10.2	16.5	12.0	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	12:59:45	3.73	4.0	16.7	14.3	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:00:00	1.44	0.8	20.3	20.8	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:00:15	0.49	0.3	25.3	27.6	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:00:30	0.23	0.2	29.5	28.2	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:00:45	0.15	0.1	32.2	22.7	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:01:00	0.12	0.1	33.8	13.5	-0.2	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:01:15	0.10	0.1	35.0	3.7	0.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:01:30	0.10	0.1	35.7	0.3	1.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:01:45	0.09	0.1	36.3	0.0	1.0	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:02:00	0.08	0.1	36.6	-0.7	2.3	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:02:15	0.08	0.1	36.6	-1.0	2.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:02:30	0.08	0.1	37.0	-1.0	3.1	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:02:45	0.07	0.1	37.2	-1.0	3.3	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:03:00	0.07	0.1	37.4	-1.0	3.4	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:03:15	0.07	0.1	37.4	-1.0	2.8	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:03:30	0.07	0.1	37.4	-1.0	2.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:03:45	0.07	0.1	37.7	-1.0	2.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:04:00	0.07	0.1	37.8	-1.0	3.4	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:04:15	0.07	0.1	37.8	-1.0	3.6	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:04:30	0.06	0.1	38.0	-1.0	3.9	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:04:45	0.06	0.1	37.9	-1.0	2.7	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:05:00	0.06	0.1	38.0	-1.0	2.3	ALM067916/cg8	SO2	41.7
scg8	8/30/2007	13:05:15	0.06	0.1	38.1	-1.0	1.6	ALM067916/cg8	SO2	41.7
so2span1	8/30/2007	13:05:15	0.06	0.1	38.1	-1.0	1.6	ALM067916/cg8	SO2	41.7
scg3	8/30/2007	13:05:45	0.06	0.1	38.3	-1.0	1.4	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:06:00	0.07	0.1	38.4	-1.0	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:06:15	2.04	0.1	37.2	-1.0	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:06:30	8.07	0.0	29.6	-1.0	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:06:45	11.10	0.0	20.2	-1.0	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:07:00	11.86	0.0	14.3	-1.0	0.8	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:07:15	12.06	0.0	10.4	-1.0	0.8	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:07:30	12.13	0.0	8.1	-1.0	0.8	ALM005139/cg3	O2	12.2
scg3	8/30/2007	13:07:45	12.16	0.0	6.6	-1.0	0.7	ALM005139/cg3	O2	12.2
o2span1	8/30/2007	13:07:30	12.13	0.0	8.1	-1.0	0.8	ALM005139/cg3	O2	12.2
scg6	8/30/2007	13:08:00	12.18	0.0	5.3	-1.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:08:15	12.19	0.0	4.6	-1.0	0.9	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:08:30	11.79	6.7	3.8	-1.0	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:08:45	6.93	29.4	3.3	-1.0	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:09:00	2.26	38.0	3.0	-1.0	0.9	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:09:15	0.71	39.2	2.6	-1.0	0.6	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:09:30	0.31	39.3	2.5	-1.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:09:45	0.19	39.6	2.2	-1.0	0.9	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:10:00	0.14	39.7	1.9	-1.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:10:15	0.12	39.8	1.9	0.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:10:30	0.10	39.9	1.7	0.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:10:45	0.09	39.7	1.6	-1.0	0.9	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:11:00	0.09	39.8	1.6	-1.0	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:11:15	0.08	40.0	1.4	-1.0	1.1	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:11:30	0.08	39.9	1.4	-1.0	1.1	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:11:45	0.07	39.8	1.3	-0.7	1.0	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:12:00	0.07	39.7	1.1	-0.7	0.9	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:12:15	0.07	39.8	1.2	-1.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:12:30	0.07	40.1	1.1	-0.3	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:12:45	0.06	40.2	1.0	0.0	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:13:00	0.06	40.3	1.0	0.0	0.8	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:13:15	0.06	41.1	0.8	0.0	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:13:30	0.06	41.5	0.9	0.0	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:13:45	0.06	41.7	0.8	-0.3	0.7	ALM035137/cg6	NOx	44.5
scg6	8/30/2007	13:14:00	0.06	41.8	0.8	-1.0	0.8	ALM035137/cg6	NOx	44.5
o2zero1	8/30/2007	13:14:00	0.06	41.8	0.8	-1.0	0.8	ALM035137/cg6	NOx	44.5
cozero1	8/30/2007	13:14:00	0.06	41.8	0.8	-1.0	0.8	ALM035137/cg6	NOx	44.5
noxspan1	8/30/2007	13:14:00	0.06	41.8	0.8	-1.0	0.8	ALM035137/cg6	NOx	44.5
scg10	8/30/2007	13:14:15	0.05	41.8	0.8	-1.0	0.7	BLM005090/cg10	CO	464
scg10	8/30/2007	13:14:30	0.05	42.0	0.6	-0.3	0.7	BLM005090/cg10	CO	464
scg10	8/30/2007	13:14:45	0.06	38.4	0.7	0.0	0.9	BLM005090/cg10	CO	464
scg10	8/30/2007	13:15:00	0.07	12.0	0.7	5.5	1.0	BLM005090/cg10	CO	464

60
Final Bias Run 2

O2 NOx SO2 CO THC

scg10	8/30/2007	13:15:15	0.06	1.7	0.7	50.2	1.0	BLM005090/cg10	CO	464
scg10	8/30/2007	13:15:30	0.05	0.5	0.6	127.5	1.1	BLM005090/cg10	CO	464
scg10	8/30/2007	13:15:45	0.05	0.3	0.5	247.6	1.5	BLM005090/cg10	CO	464
scg10	8/30/2007	13:16:00	0.05	0.3	0.6	345.8	2.2	BLM005090/cg10	CO	464
scg10	8/30/2007	13:16:15	0.05	0.2	0.6	426.5	2.0	BLM005090/cg10	CO	464
scg10	8/30/2007	13:16:30	0.05	0.2	0.5	449.7	2.6	BLM005090/cg10	CO	464
scg10	8/30/2007	13:16:45	0.05	0.2	0.7	456.0	3.1	BLM005090/cg10	CO	464
scg10	8/30/2007	13:17:00	0.05	0.2	0.5	457.3	3.6	BLM005090/cg10	CO	464
scg10	8/30/2007	13:17:15	0.05	0.2	0.5	456.0	4.1	BLM005090/cg10	CO	464
scg10	8/30/2007	13:17:30	0.04	0.1	0.5	457.2	4.6	BLM005090/cg10	CO	464
scg10	8/30/2007	13:17:45	0.04	0.1	0.4	456.6	1.8	BLM005090/cg10	CO	464
scg10	8/30/2007	13:18:00	0.05	0.1	0.6	456.6	1.7	BLM005090/cg10	CO	464
noxzero1	8/30/2007	13:18:00	0.05	0.1	0.6	456.6	1.7	BLM005090/cg10	CO	464
so2zero1	8/30/2007	13:18:00	0.05	0.1	0.6	456.6	1.7	BLM005090/cg10	CO	464
cospan1	8/30/2007	13:18:00	0.05	0.1	0.6	456.6	1.7	BLM005090/cg10	CO	464
scg2	8/30/2007	13:18:30	0.04	0.1	0.5	455.7	1.9	AAL14753/cg2	O2	20.9
scg2	8/30/2007	13:18:45	0.05	0.1	0.5	456.5	2.1	AAL14753/cg2	O2	20.9
scg2	8/30/2007	13:19:00	3.48	0.3	0.5	455.3	0.7	AAL14753/cg2	O2	20.9
scg2	8/30/2007	13:19:15	12.84	0.2	0.6	425.9	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	13:19:30	17.15	0.2	0.6	367.7	-0.3	AAL14753/cg2	O2	20.9
scg2	8/30/2007	13:19:45	18.96	0.2	0.6	260.2	-0.4	AAL14753/cg2	O2	20.9
thczero1	8/30/2007	13:19:45	18.96	0.2	0.6	260.2	-0.4	AAL14753/cg2	O2	20.9
scg13	8/30/2007	13:21:00	20.72	0.0	0.5	4.2	14.4	BAL4862/cg13	THC	47
scg13	8/30/2007	13:21:15	20.74	0.0	0.6	0.7	46.9	BAL4862/cg13	THC	47
scg13	8/30/2007	13:21:30	20.74	0.0	0.5	0.0	47.2	BAL4862/cg13	THC	47
scg13	8/30/2007	13:21:45	20.74	0.1	0.5	0.0	47.3	BAL4862/cg13	THC	47
scg13	8/30/2007	13:22:00	20.73	0.0	0.5	0.0	47.4	BAL4862/cg13	THC	47
scg13	8/30/2007	13:22:15	20.74	0.0	0.5	0.0	47.3	BAL4862/cg13	THC	47
thcspace1	8/30/2007	13:22:15	20.74	0.0	0.5	0.0	47.3	BAL4862/cg13	THC	47
run3	8/30/2007	13:27:00	4.97	10.1	22.0	18.5	0.2			
run3	8/30/2007	13:27:15	4.96	10.1	20.8	19.1	0.2			
run3	8/30/2007	13:27:30	4.94	10.1	19.9	19.8	0.2			
run3	8/30/2007	13:27:45	4.92	10.0	19.5	19.8	0.2			
run3	8/30/2007	13:28:00	4.92	10.0	19.0	19.1	0.4			
run3	8/30/2007	13:28:15	4.90	10.0	18.6	17.5	0.3			
run3	8/30/2007	13:28:30	4.89	10.0	18.2	16.0	0.3			
run3	8/30/2007	13:28:45	4.89	10.1	18.0	15.6	0.2			
run3	8/30/2007	13:29:00	4.90	10.0	17.9	16.5	0.2			
run3	8/30/2007	13:29:15	4.89	10.1	17.6	16.8	0.2			
run3	8/30/2007	13:29:30	4.86	10.2	17.6	17.5	0.2			
run3	8/30/2007	13:29:45	4.84	10.3	17.6	17.5	0.1			
run3	8/30/2007	13:30:00	4.85	10.3	17.6	16.8	0.3			
run3	8/30/2007	13:30:15	4.88	10.3	17.7	15.6	0.2			
run3	8/30/2007	13:30:30	4.89	10.3	17.6	15.6	0.2			
run3	8/30/2007	13:30:45	4.90	10.2	17.6	16.8	0.2			
run3	8/30/2007	13:31:00	4.90	10.2	17.6	17.6	0.2			
run3	8/30/2007	13:31:15	4.92	10.3	17.4	18.8	0.2			
run3	8/30/2007	13:31:30	4.91	10.2	17.4	19.5	0.2			
run3	8/30/2007	13:31:45	4.91	10.3	17.3	19.8	0.2			
run3	8/30/2007	13:32:00	4.91	10.4	17.2	20.5	0.2			
run3	8/30/2007	13:32:15	4.92	10.2	17.2	21.2	0.2			
run3	8/30/2007	13:32:30	4.92	10.2	17.1	21.9	0.2			
run3	8/30/2007	13:32:45	4.93	10.3	17.1	22.2	0.2			
run3	8/30/2007	13:33:00	4.93	10.3	17.0	22.7	0.2			
run3	8/30/2007	13:33:15	4.93	10.1	16.9	23.7	0.2			
run3	8/30/2007	13:33:30	4.95	10.1	16.9	23.7	0.2			
run3	8/30/2007	13:33:45	4.94	10.3	16.8	24.8	0.2			
run3	8/30/2007	13:34:00	4.94	10.3	16.8	24.7	0.2			
run3	8/30/2007	13:34:15	4.94	10.3	16.7	25.9	0.2			
run3	8/30/2007	13:34:30	4.96	10.2	16.8	25.9	0.2			
run3	8/30/2007	13:34:45	4.97	10.2	16.8	26.2	0.2			
run3	8/30/2007	13:35:00	4.97	10.3	16.5	27.5	0.2			
run3	8/30/2007	13:35:15	4.97	10.1	16.6	27.8	0.2			
run3	8/30/2007	13:35:30	4.97	10.1	16.5	28.5	0.2			
run3	8/30/2007	13:35:45	4.96	10.1	16.5	27.8	0.2			
run3	8/30/2007	13:36:00	4.97	10.2	16.4	27.8	0.2			
run3	8/30/2007	13:36:15	4.98	10.2	16.2	26.9	0.2			
run3	8/30/2007	13:36:30	4.96	10.2	16.2	26.9	0.2			
run3	8/30/2007	13:36:45	4.96	10.2	16.3	25.4	0.2			
run3	8/30/2007	13:37:00	4.96	10.3	16.3	24.7	0.3			
run3	8/30/2007	13:37:15	4.96	10.3	16.4	24.4	0.3			
run3	8/30/2007	13:37:30	4.96	10.2	16.4	23.7	0.2			
run3	8/30/2007	13:37:45	4.96	10.2	16.3	23.7	0.3			
run3	8/30/2007	13:38:00	4.95	10.2	16.3	23.7	0.3			
run3	8/30/2007	13:38:15	4.94	10.1	16.3	23.3	0.2			
run3	8/30/2007	13:38:30	4.95	10.0	16.5	22.7	0.2			
run3	8/30/2007	13:38:45	4.95	10.0	16.4	22.4	0.2			
run3	8/30/2007	13:39:00	4.95	10.0	16.4	22.4	0.2			
run3	8/30/2007	13:39:15	4.96	10.0	16.5	22.7	0.2			
run3	8/30/2007	13:39:30	4.97	10.0	16.2	22.7	0.2			
run3	8/30/2007	13:39:45	4.94	10.1	16.4	22.7	0.2			

Run 3 1327-1427

O2 NOx SO2 CO THC

run3	8/30/2007	13:40:00	4.94	10.1	16.4	22.1	0.2
run3	8/30/2007	13:40:15	4.95	10.2	16.3	21.8	0.2
run3	8/30/2007	13:40:30	4.97	10.3	16.5	21.8	0.2
run3	8/30/2007	13:40:45	4.97	10.6	16.4	21.8	0.2
run3	8/30/2007	13:41:00	4.96	10.5	16.4	21.8	0.2
run3	8/30/2007	13:41:15	4.95	10.6	16.4	22.7	0.2
run3	8/30/2007	13:41:30	4.96	10.7	16.4	22.0	0.2
run3	8/30/2007	13:41:45	4.97	10.6	16.4	22.1	0.3
run3	8/30/2007	13:42:00	4.98	10.7	16.3	22.7	0.2
run3	8/30/2007	13:42:15	4.97	10.6	16.1	23.7	0.2
run3	8/30/2007	13:42:30	4.95	10.7	16.4	23.7	0.2
run3	8/30/2007	13:42:45	4.93	10.6	16.4	23.4	0.2
run3	8/30/2007	13:43:00	4.92	10.4	16.4	22.0	0.2
run3	8/30/2007	13:43:15	4.93	10.4	16.4	20.8	0.2
run3	8/30/2007	13:43:30	4.92	10.4	16.5	20.1	0.2
run3	8/30/2007	13:43:45	4.90	10.4	16.5	19.5	0.2
run3	8/30/2007	13:44:00	4.89	10.5	16.3	18.8	0.2
run3	8/30/2007	13:44:15	4.89	10.5	16.4	17.8	0.3
run3	8/30/2007	13:44:30	4.89	10.4	16.4	17.1	0.2
run3	8/30/2007	13:44:45	4.90	10.1	16.3	16.8	0.2
run3	8/30/2007	13:45:00	4.89	10.3	16.3	16.8	0.2
run3	8/30/2007	13:45:15	4.88	10.2	16.3	16.8	0.2
run3	8/30/2007	13:45:30	4.88	10.1	16.3	16.8	0.1
run3	8/30/2007	13:45:45	4.88	10.0	16.3	16.8	0.0
run3	8/30/2007	13:46:00	4.88	10.2	16.3	16.8	0.0
run3	8/30/2007	13:46:15	4.88	10.4	16.5	16.8	0.1
run3	8/30/2007	13:46:30	4.89	10.1	16.4	16.8	0.2
run3	8/30/2007	13:46:45	4.90	10.2	16.4	16.8	0.2
run3	8/30/2007	13:47:00	4.91	10.2	16.4	16.8	0.2
run3	8/30/2007	13:47:15	4.90	10.3	16.2	16.8	0.2
run3	8/30/2007	13:47:30	4.87	10.2	16.4	16.8	0.3
run3	8/30/2007	13:47:45	4.86	10.3	16.2	16.8	0.2
run3	8/30/2007	13:48:00	4.86	10.4	16.2	16.0	0.2
run3	8/30/2007	13:48:15	4.87	10.3	16.4	15.4	0.2
run3	8/30/2007	13:48:30	4.88	10.1	16.3	14.9	0.2
run3	8/30/2007	13:48:45	4.87	10.1	16.4	14.9	0.2
run3	8/30/2007	13:49:00	4.84	10.4	16.3	14.2	0.2
run3	8/30/2007	13:49:15	4.84	10.3	16.4	13.9	0.2
run3	8/30/2007	13:49:30	4.84	10.3	16.5	13.3	0.1
run3	8/30/2007	13:49:45	4.84	10.3	16.4	11.9	0.0
run3	8/30/2007	13:50:00	4.84	10.3	16.6	11.9	-0.1
run3	8/30/2007	13:50:15	4.84	10.4	16.5	10.7	-0.1
run3	8/30/2007	13:50:30	4.84	10.4	16.5	10.7	-0.1
run3	8/30/2007	13:50:45	4.82	10.4	16.6	11.5	-0.1
run3	8/30/2007	13:51:00	4.83	10.5	16.4	10.7	-0.1
run3	8/30/2007	13:51:15	4.85	10.5	16.5	11.2	-0.1
run3	8/30/2007	13:51:30	4.88	10.4	16.6	11.9	-0.1
run3	8/30/2007	13:51:45	4.91	10.4	16.4	13.3	-0.1
run3	8/30/2007	13:52:00	4.92	10.3	16.5	13.9	0.0
run3	8/30/2007	13:52:15	4.92	10.3	16.3	15.2	0.0
run3	8/30/2007	13:52:30	4.93	10.5	16.3	16.5	0.0
run3	8/30/2007	13:52:45	4.95	10.5	16.3	17.8	0.0
run3	8/30/2007	13:53:00	4.98	10.4	16.0	18.5	-0.1
run3	8/30/2007	13:53:15	4.99	10.2	16.1	20.4	0.0
run3	8/30/2007	13:53:30	4.98	10.3	16.1	22.4	-0.1
run3	8/30/2007	13:53:45	4.96	10.2	16.1	23.7	-0.1
run3	8/30/2007	13:54:00	4.95	10.2	16.2	23.7	-0.1
run3	8/30/2007	13:54:15	4.95	10.2	16.0	23.4	0.0
run3	8/30/2007	13:54:30	4.95	10.3	16.2	22.7	0.0
run3	8/30/2007	13:54:45	4.96	10.4	16.1	21.4	0.0
run3	8/30/2007	13:55:00	4.95	10.5	16.0	20.8	-0.1
run3	8/30/2007	13:55:15	4.94	10.3	16.2	20.4	0.0
run3	8/30/2007	13:55:30	4.94	10.2	16.1	19.8	0.0
run3	8/30/2007	13:55:45	4.95	10.3	16.3	19.8	0.0
run3	8/30/2007	13:56:00	4.95	10.4	16.1	19.1	0.0
run3	8/30/2007	13:56:15	4.93	10.4	16.2	18.8	0.0
run3	8/30/2007	13:56:30	4.91	10.4	16.3	18.8	0.0
run3	8/30/2007	13:56:45	4.90	10.3	16.3	18.5	0.0
run3	8/30/2007	13:57:00	4.90	10.8	16.5	17.8	0.0
run3	8/30/2007	13:57:15	4.90	10.8	16.4	17.5	0.0
run3	8/30/2007	13:57:30	4.91	10.7	16.3	16.8	0.0
run3	8/30/2007	13:57:45	4.93	10.7	16.4	16.8	0.0
run3	8/30/2007	13:58:00	4.92	10.9	16.3	16.8	0.0
run3	8/30/2007	13:58:15	4.91	10.9	16.4	17.2	0.0
run3	8/30/2007	13:58:30	4.91	11.0	16.3	17.8	0.0
run3	8/30/2007	13:58:45	4.92	11.0	16.3	17.5	0.0
run3	8/30/2007	13:59:00	4.94	11.0	16.4	16.9	0.0
run3	8/30/2007	13:59:15	4.93	10.9	16.2	17.8	0.0
run3	8/30/2007	13:59:30	4.94	10.8	16.2	17.8	0.0
run3	8/30/2007	13:59:45	4.93	10.9	16.2	17.8	0.0
run3	8/30/2007	14:00:00	4.93	10.9	16.0	18.5	0.0

O2 NOx SO2 CO THC

run3	8/30/2007	14:00:15	4.92	10.7	16.1	18.8	0.0
run3	8/30/2007	14:00:30	4.92	10.7	16.0	18.8	0.0
run3	8/30/2007	14:00:45	4.91	10.8	16.1	18.8	0.0
run3	8/30/2007	14:01:00	4.91	10.8	16.2	18.2	0.0
run3	8/30/2007	14:01:15	4.92	10.7	16.1	17.8	0.0
run3	8/30/2007	14:01:30	4.92	10.6	16.1	17.8	0.0
run3	8/30/2007	14:01:45	4.91	10.8	16.0	17.8	0.0
run3	8/30/2007	14:02:00	4.91	10.9	16.1	17.8	0.0
run3	8/30/2007	14:02:15	4.93	10.7	16.2	17.8	0.0
run3	8/30/2007	14:02:30	4.94	10.7	15.9	18.5	0.0
run3	8/30/2007	14:02:45	4.94	10.8	16.0	19.8	0.0
run3	8/30/2007	14:03:00	4.94	10.8	16.0	20.5	0.0
run3	8/30/2007	14:03:15	4.95	10.7	15.9	21.7	0.0
run3	8/30/2007	14:03:30	4.94	10.8	15.9	21.7	0.0
run3	8/30/2007	14:03:45	4.95	10.6	15.8	22.1	0.0
run3	8/30/2007	14:04:00	4.96	10.6	15.9	22.7	0.0
run3	8/30/2007	14:04:15	4.97	10.6	15.9	23.1	0.0
run3	8/30/2007	14:04:30	4.96	10.7	15.8	23.7	0.0
run3	8/30/2007	14:04:45	4.97	10.7	15.9	23.7	0.0
run3	8/30/2007	14:05:00	4.96	10.7	15.9	23.6	0.0
run3	8/30/2007	14:05:15	4.96	10.7	16.0	22.7	0.0
run3	8/30/2007	14:05:30	4.97	10.8	15.9	22.7	0.0
run3	8/30/2007	14:05:45	4.97	10.7	16.0	22.7	0.0
run3	8/30/2007	14:06:00	4.97	10.6	16.0	22.7	0.0
run3	8/30/2007	14:06:15	4.97	10.6	15.7	22.7	0.0
run3	8/30/2007	14:06:30	4.97	10.6	15.8	23.3	0.0
run3	8/30/2007	14:06:45	4.97	10.8	15.8	23.3	0.0
run3	8/30/2007	14:07:00	4.95	11.0	15.8	22.7	0.0
run3	8/30/2007	14:07:15	4.95	10.9	15.9	22.3	0.0
run3	8/30/2007	14:07:30	4.95	10.6	15.8	21.7	0.0
run3	8/30/2007	14:07:45	4.96	10.7	15.9	20.8	0.0
run3	8/30/2007	14:08:00	4.96	10.6	15.8	20.8	0.0
run3	8/30/2007	14:08:15	4.94	10.7	15.7	20.8	0.0
run3	8/30/2007	14:08:30	4.95	10.7	15.8	20.8	0.0
run3	8/30/2007	14:08:45	4.96	10.7	15.7	19.8	0.0
run3	8/30/2007	14:09:00	4.95	10.5	15.7	19.8	0.0
run3	8/30/2007	14:09:15	4.93	10.6	15.8	19.8	0.0
run3	8/30/2007	14:09:30	4.93	10.5	15.8	19.8	0.0
run3	8/30/2007	14:09:45	4.93	10.4	16.0	19.8	0.0
run3	8/30/2007	14:10:00	4.92	10.5	15.9	19.8	0.0
run3	8/30/2007	14:10:15	4.91	10.8	16.0	20.2	0.0
run3	8/30/2007	14:10:30	4.88	10.9	16.0	20.8	0.0
run3	8/30/2007	14:10:45	4.88	10.9	15.9	19.5	0.0
run3	8/30/2007	14:11:00	4.89	10.9	16.1	18.1	0.0
run3	8/30/2007	14:11:15	4.90	10.9	16.0	17.5	0.0
run3	8/30/2007	14:11:30	4.90	10.9	16.0	16.8	0.0
run3	8/30/2007	14:11:45	4.91	11.0	16.1	17.2	0.0
run3	8/30/2007	14:12:00	4.90	11.0	16.0	18.5	0.0
run3	8/30/2007	14:12:15	4.89	11.0	16.2	18.8	0.0
run3	8/30/2007	14:12:30	4.88	10.9	16.2	18.8	0.0
run3	8/30/2007	14:12:45	4.88	10.8	16.3	18.8	0.0
run3	8/30/2007	14:13:00	4.89	10.7	16.3	18.8	-0.1
run3	8/30/2007	14:13:15	4.91	10.7	16.2	18.8	0.0
run3	8/30/2007	14:13:30	4.91	10.7	16.2	19.5	-0.1
run3	8/30/2007	14:13:45	4.92	10.7	16.1	19.8	0.0
run3	8/30/2007	14:14:00	4.93	10.6	16.1	20.5	0.0
run3	8/30/2007	14:14:15	4.93	10.6	16.2	20.8	-0.1
run3	8/30/2007	14:14:30	4.90	10.5	16.1	20.8	-0.1
run3	8/30/2007	14:14:45	4.89	10.6	16.4	20.8	-0.1
run3	8/30/2007	14:15:00	4.88	10.6	16.1	20.1	-0.1
run3	8/30/2007	14:15:15	4.87	10.5	16.1	19.5	-0.1
run3	8/30/2007	14:15:30	4.88	10.6	16.0	18.8	-0.1
run3	8/30/2007	14:15:45	4.88	10.6	16.1	18.8	-0.1
run3	8/30/2007	14:16:00	4.90	10.4	16.3	18.9	-0.1
run3	8/30/2007	14:16:15	4.91	10.5	16.2	19.8	0.0
run3	8/30/2007	14:16:30	4.90	10.5	16.2	19.8	0.0
run3	8/30/2007	14:16:45	4.90	10.4	16.1	20.8	0.0
run3	8/30/2007	14:17:00	4.89	10.5	16.1	20.8	0.0
run3	8/30/2007	14:17:15	4.89	10.4	16.3	20.4	0.0
run3	8/30/2007	14:17:30	4.91	10.3	16.1	19.8	-0.1
run3	8/30/2007	14:17:45	4.93	10.3	16.1	19.8	0.0
run3	8/30/2007	14:18:00	4.91	10.5	16.0	19.8	0.0
run3	8/30/2007	14:18:15	4.90	10.5	15.9	19.8	0.0
run3	8/30/2007	14:18:30	4.90	10.6	16.1	19.8	0.0
run3	8/30/2007	14:18:45	4.90	10.5	16.1	19.8	0.0
run3	8/30/2007	14:19:00	4.90	10.6	16.0	19.8	0.0
run3	8/30/2007	14:19:15	4.90	10.6	16.0	19.8	0.0
run3	8/30/2007	14:19:30	4.90	10.5	16.0	19.8	0.0
run3	8/30/2007	14:19:45	4.90	10.7	16.3	19.8	0.0
run3	8/30/2007	14:20:00	4.90	10.8	15.9	19.8	0.0
run3	8/30/2007	14:20:15	4.92	10.9	16.1	19.8	0.0

O2 NOx SO2 CO THC

run3	8/30/2007	14:20:30	4.93	10.9	16.1	19.8	0.0		
run3	8/30/2007	14:20:45	4.90	10.8	15.9	18.8	0.0		
run3	8/30/2007	14:21:00	4.88	10.9	16.1	19.5	0.0		
run3	8/30/2007	14:21:15	4.89	10.8	16.1	18.8	0.0		
run3	8/30/2007	14:21:30	4.89	10.8	16.1	18.8	0.0		
run3	8/30/2007	14:21:45	4.88	10.7	16.2	18.8	0.0		
run3	8/30/2007	14:22:00	4.89	10.8	16.1	18.2	0.0		
run3	8/30/2007	14:22:15	4.90	10.8	16.1	17.8	0.0		
run3	8/30/2007	14:22:30	4.90	10.8	16.1	17.8	0.0		
run3	8/30/2007	14:22:45	4.90	10.7	16.1	18.2	0.0		
run3	8/30/2007	14:23:00	4.89	10.8	16.1	18.8	0.0		
run3	8/30/2007	14:23:15	4.89	10.8	16.0	18.8	0.0		
run3	8/30/2007	14:23:30	4.89	10.9	16.2	18.8	0.0		
run3	8/30/2007	14:23:45	4.90	10.9	16.0	18.8	0.0		
run3	8/30/2007	14:24:00	4.90	10.8	16.1	18.8	0.0		
run3	8/30/2007	14:24:15	4.91	10.7	16.2	19.1	0.0		
run3	8/30/2007	14:24:30	4.93	10.8	16.1	20.4	0.0		
run3	8/30/2007	14:24:45	4.93	10.8	16.2	22.0	0.0		
run3	8/30/2007	14:25:00	4.93	10.7	16.1	22.7	0.0		
run3	8/30/2007	14:25:15	4.94	10.8	16.1	24.0	0.0		
run3	8/30/2007	14:25:30	4.96	10.7	16.1	25.4	0.0		
run3	8/30/2007	14:25:45	4.96	10.7	15.9	25.6	0.0		
run3	8/30/2007	14:26:00	4.95	10.7	15.9	26.3	0.0		
run3	8/30/2007	14:26:15	4.94	10.7	15.9	26.3	0.0		
run3	8/30/2007	14:26:30	4.94	10.6	15.9	25.6	0.0		
run3	8/30/2007	14:26:45	4.95	10.6	15.9	25.6	0.0		
averun3	8/30/2007	13:27:00	4.92	10.5	16.4	19.9	0.1		
scg2	8/30/2007	14:28:45	4.94	10.7	15.6	22.1	0.1	AAL14753/cg2	O2 20.9
scg2	8/30/2007	14:29:00	4.94	10.6	15.6	22.7	0.0	AAL14753/cg2	O2 20.9
scg2	8/30/2007	14:29:15	5.34	9.7	15.7	22.7	0.0	AAL14753/cg2	O2 20.9
scg2	8/30/2007	14:29:30	6.68	9.2	15.2	22.0	0.0	AAL14753/cg2	O2 20.9
thczero1	8/30/2007	14:29:30	6.68	9.2	15.2	22.0	0.0	AAL14753/cg2	O2 20.9
scg13	8/30/2007	14:30:45	5.19	10.7	14.9	22.7	34.2	BAL4862/cg13	THC 47
scg13	8/30/2007	14:31:00	6.83	6.2	15.1	23.3	44.8	BAL4862/cg13	THC 47
scg13	8/30/2007	14:31:15	15.30	0.9	13.2	22.4	45.0	BAL4862/cg13	THC 47
scg13	8/30/2007	14:31:30	19.15	0.3	10.6	19.8	45.2	BAL4862/cg13	THC 47
scg13	8/30/2007	14:31:45	20.11	0.1	6.7	14.3	46.0	BAL4862/cg13	THC 47
scg13	8/30/2007	14:32:00	20.37	0.2	3.1	8.9	46.1	BAL4862/cg13	THC 47
scg13	8/30/2007	14:32:15	20.25	0.3	6.2	2.9	46.4	BAL4862/cg13	THC 47
scg13	8/30/2007	14:32:30	20.37	0.1	6.3	0.3	46.5	BAL4862/cg13	THC 47
thcspan1	8/30/2007	14:32:30	20.37	0.1	6.3	0.3	46.5	BAL4862/cg13	THC 47
scg8	8/30/2007	14:33:00	20.53	0.1	2.6	-1.0	46.6	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:33:15	20.55	0.1	2.0	-1.0	46.8	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:33:30	18.16	0.2	2.7	-1.0	30.8	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:33:45	7.52	0.2	11.4	-1.0	1.4	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:34:00	2.20	0.1	23.6	-1.0	1.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:34:15	0.89	0.1	30.9	-1.0	1.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:34:30	0.47	0.1	34.1	-1.0	1.0	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:34:45	0.29	0.1	35.9	-1.0	1.0	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:35:00	0.21	0.1	36.7	-1.0	1.0	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:35:15	0.18	0.1	37.5	-1.0	1.3	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:35:30	0.16	0.1	37.7	-1.0	1.3	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:35:45	0.15	0.1	38.0	-1.0	1.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:36:00	0.13	0.1	38.4	-1.0	1.0	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:36:15	0.13	0.1	38.5	-1.0	1.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:36:30	0.12	0.1	38.7	-1.0	1.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	14:36:45	0.11	0.1	38.7	-1.0	1.3	ALM067916/cg8	SO2 41.7
so2span1	8/30/2007	14:36:45	0.11	0.1	38.7	-1.0	1.3	ALM067916/cg8	SO2 41.7
scg6	8/30/2007	14:37:00	0.11	0.1	38.8	-1.0	1.4	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:37:15	0.10	0.1	39.0	-1.0	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:37:30	0.11	3.9	38.7	-1.0	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:37:45	0.13	29.1	32.0	-1.0	1.8	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:38:00	0.11	37.9	17.6	-1.0	1.7	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:38:15	0.10	38.9	9.2	-1.0	1.1	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:38:30	0.09	38.9	5.7	-1.0	1.4	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:38:45	0.09	40.0	3.9	-1.0	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:39:00	0.09	41.4	3.0	-1.0	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:39:15	0.08	41.5	2.4	-1.0	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	14:39:30	0.08	41.5	2.0	-1.0	1.5	ALM035137/cg6	NOx 44.5
o2zero1	8/30/2007	14:39:30	0.08	41.5	2.0	-1.0	1.5	ALM035137/cg6	NOx 44.5
cozero1	8/30/2007	14:39:30	0.08	41.5	2.0	-1.0	1.5	ALM035137/cg6	NOx 44.5
noxspan1	8/30/2007	14:39:30	0.08	41.5	2.0	-1.0	1.5	ALM035137/cg6	NOx 44.5
scg10	8/30/2007	14:40:00	0.08	41.5	1.6	-1.0	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	14:40:15	0.08	41.4	1.4	-1.0	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	14:40:30	1.25	25.5	1.4	-0.3	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	14:40:45	1.36	4.2	1.3	16.7	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	14:41:00	0.44	0.8	1.2	67.7	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	14:41:15	0.16	0.4	0.9	174.7	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	14:41:30	0.09	0.3	1.0	268.6	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	14:41:45	0.08	0.2	0.8	378.2	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	14:42:00	0.07	0.2	0.8	425.5	1.1	BLM005090/cg10	CO 464

60

Final Bias Run 3

O2 NOx SO2 CO THC

scg10	8/30/2007	14:42:15	0.07	0.2	0.8	444.8	1.0	BLM005090/cg10	CO	464
scg10	8/30/2007	14:42:30	0.07	0.2	0.7	449.4	1.1	BLM005090/cg10	CO	464
scg10	8/30/2007	14:42:45	0.07	0.2	0.7	450.3	1.2	BLM005090/cg10	CO	464
scg10	8/30/2007	14:43:00	0.06	0.2	0.7	449.0	1.1	BLM005090/cg10	CO	464
scg10	8/30/2007	14:43:15	0.06	0.1	0.7	448.9	1.0	BLM005090/cg10	CO	464
scg10	8/30/2007	14:43:30	0.06	0.1	0.6	448.3	1.0	BLM005090/cg10	CO	464
noxzero1	8/30/2007	14:43:30	0.06	0.1	0.8	448.3	1.0	BLM005090/cg10	CO	464
so2zero1	8/30/2007	14:43:30	0.06	0.1	0.6	448.3	1.0	BLM005090/cg10	CO	464
cospan1	8/30/2007	14:43:30	0.06	0.1	0.6	448.3	1.0	BLM005090/cg10	CO	464
scg3	8/30/2007	14:44:00	0.06	0.1	0.6	449.6	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:44:15	0.06	0.1	0.6	450.7	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:44:30	1.41	0.2	0.5	450.7	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:44:45	8.04	0.1	0.5	426.8	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:45:00	11.16	0.1	0.4	369.8	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:45:15	11.85	0.1	0.5	261.7	1.2	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:45:30	12.02	0.1	0.5	166.4	1.2	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:45:45	12.08	0.1	0.6	62.0	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	14:46:00	12.12	0.1	0.6	20.6	1.1	ALM005139/cg3	O2	12.2
o2span1	8/30/2007	14:46:00	12.12	0.1	0.6	20.6	1.1	ALM005139/cg3	O2	12.2
run4	8/30/2007	14:55:00	4.97	11.5	18.3	15.6	0.3			
run4	8/30/2007	14:55:15	5.01	11.4	18.3	15.6	0.3			
run4	8/30/2007	14:55:31	5.03	11.4	18.0	15.6	0.3			
run4	8/30/2007	14:55:45	5.01	11.5	18.2	15.6	0.3			
run4	8/30/2007	14:56:00	5.01	11.4	18.0	16.4	0.3			
run4	8/30/2007	14:56:15	5.03	11.4	17.7	17.2	0.3			
run4	8/30/2007	14:56:30	5.04	11.4	17.6	17.9	0.3			
run4	8/30/2007	14:56:45	5.04	11.3	17.4	18.8	0.3			
run4	8/30/2007	14:57:00	5.03	11.2	17.8	19.5	1.1			
run4	8/30/2007	14:57:15	5.04	11.3	17.2	21.1	0.5			
run4	8/30/2007	14:57:30	5.06	11.5	17.0	22.4	0.4			
run4	8/30/2007	14:57:45	5.07	11.5	16.9	25.0	0.3			
run4	8/30/2007	14:58:00	5.07	11.5	16.7	26.3	0.3			
run4	8/30/2007	14:58:15	5.06	11.5	16.7	27.7	0.3			
run4	8/30/2007	14:58:30	5.07	11.5	16.5	27.6	0.3			
run4	8/30/2007	14:58:45	5.08	11.3	18.6	28.1	0.3			
run4	8/30/2007	14:59:00	5.07	11.3	16.5	28.8	0.3			
run4	8/30/2007	14:59:15	5.05	11.5	16.5	28.8	0.4			
run4	8/30/2007	14:59:30	5.06	11.5	16.6	28.8	0.4			
run4	8/30/2007	14:59:45	5.06	11.4	16.5	28.4	0.3			
run4	8/30/2007	15:00:00	5.07	11.5	16.5	27.6	0.3			
run4	8/30/2007	15:00:15	5.07	11.5	16.5	26.7	0.3			
run4	8/30/2007	15:00:30	5.08	11.5	16.5	26.6	0.3			
run4	8/30/2007	15:00:45	5.09	11.6	16.5	27.0	0.3			
run4	8/30/2007	15:01:00	5.10	11.5	16.4	28.4	0.3			
run4	8/30/2007	15:01:15	5.11	11.5	16.5	30.1	0.4			
run4	8/30/2007	15:01:30	5.10	11.5	16.4	31.2	0.4			
run4	8/30/2007	15:01:45	5.09	11.6	16.3	31.9	0.3			
run4	8/30/2007	15:02:00	5.10	11.4	16.4	32.7	0.2			
run4	8/30/2007	15:02:15	5.11	11.3	16.2	33.1	0.2			
run4	8/30/2007	15:02:30	5.12	11.4	16.1	34.4	0.4			
run4	8/30/2007	15:02:45	5.12	11.4	16.3	37.1	0.4			
run4	8/30/2007	15:03:00	5.14	11.5	16.3	38.3	0.3			
run4	8/30/2007	15:03:15	5.15	11.6	16.3	39.6	0.3			
run4	8/30/2007	15:03:30	5.15	11.5	16.1	39.6	0.3			
run4	8/30/2007	15:03:45	5.17	11.5	16.0	38.9	0.3			
run4	8/30/2007	15:04:00	5.16	11.4	16.1	39.6	0.3			
run4	8/30/2007	15:04:15	5.15	11.5	16.1	39.9	0.3			
run4	8/30/2007	15:04:30	5.14	11.5	16.1	41.2	0.4			
run4	8/30/2007	15:04:45	5.16	11.6	16.0	41.5	0.5			
run4	8/30/2007	15:05:00	5.17	11.5	16.0	41.5	0.4			
run4	8/30/2007	15:05:15	5.15	11.2	15.9	41.5	0.3			
run4	8/30/2007	15:05:30	5.13	11.2	16.0	41.5	0.3			
run4	8/30/2007	15:05:45	5.12	11.4	16.0	41.5	0.3			
run4	8/30/2007	15:06:00	5.12	11.5	15.9	40.9	0.3			
run4	8/30/2007	15:06:15	5.13	11.5	16.0	39.2	0.3			
run4	8/30/2007	15:06:30	5.13	11.7	15.8	38.6	0.3			
run4	8/30/2007	15:06:45	5.12	11.6	15.7	37.4	0.3			
run4	8/30/2007	15:07:00	5.11	11.5	15.9	36.7	0.3			
run4	8/30/2007	15:07:15	5.12	11.3	15.8	36.8	0.3			
run4	8/30/2007	15:07:30	5.12	11.3	15.8	37.5	0.3			
run4	8/30/2007	15:07:45	5.12	11.3	15.9	38.1	0.3			
run4	8/30/2007	15:08:00	5.12	11.2	15.8	39.3	0.3			
run4	8/30/2007	15:08:15	5.11	11.3	15.7	39.6	0.3			
run4	8/30/2007	15:08:30	5.09	11.3	15.6	39.6	0.3			
run4	8/30/2007	15:08:45	5.07	11.3	15.8	38.3	0.3			
run4	8/30/2007	15:09:00	5.07	11.5	15.6	36.3	0.3			
run4	8/30/2007	15:09:15	5.05	11.6	15.6	34.0	0.3			
run4	8/30/2007	15:09:30	5.04	11.5	15.7	31.3	0.3			
run4	8/30/2007	15:09:45	5.04	11.6	15.7	29.5	0.3			
run4	8/30/2007	15:10:00	5.03	11.3	15.7	28.0	0.3			
run4	8/30/2007	15:10:15	5.03	11.4	15.6	27.3	0.3			

Run 4 1455-1555

O2 NOx SO2 CO THC

run4	8/30/2007	15:10:30	5.03	11.5	15.7	26.7	0.3
run4	8/30/2007	15:10:45	5.01	11.5	15.8	26.3	0.3
run4	8/30/2007	15:11:00	5.00	11.5	15.7	25.6	0.3
run4	8/30/2007	15:11:15	5.01	11.5	15.7	24.7	0.3
run4	8/30/2007	15:11:30	5.02	11.6	15.6	23.9	0.3
run4	8/30/2007	15:11:45	5.01	11.6	15.7	23.6	0.3
run4	8/30/2007	15:12:00	5.01	11.7	15.6	23.6	0.3
run4	8/30/2007	15:12:15	5.00	11.7	15.5	23.6	0.3
run4	8/30/2007	15:12:30	4.99	11.7	15.7	23.6	0.3
run4	8/30/2007	15:12:45	4.99	11.7	15.4	22.7	0.3
run4	8/30/2007	15:13:00	4.99	11.7	15.5	22.7	0.3
run4	8/30/2007	15:13:15	5.01	11.7	15.5	21.7	0.3
run4	8/30/2007	15:13:30	5.03	11.6	15.4	22.4	0.3
run4	8/30/2007	15:13:45	5.01	11.8	15.5	23.6	0.3
run4	8/30/2007	15:14:00	5.01	11.8	15.3	23.6	0.3
run4	8/30/2007	15:14:15	5.01	11.8	15.4	23.6	0.3
run4	8/30/2007	15:14:30	5.03	11.8	15.2	23.6	0.2
run4	8/30/2007	15:14:45	5.03	11.7	15.1	23.7	0.2
run4	8/30/2007	15:15:00	5.04	11.8	15.2	24.4	0.1
run4	8/30/2007	15:15:15	5.04	11.8	15.1	26.0	0.2
run4	8/30/2007	15:15:30	5.04	11.8	15.2	27.3	0.2
run4	8/30/2007	15:15:45	5.05	11.7	15.2	28.0	0.2
run4	8/30/2007	15:16:00	5.05	11.8	15.2	28.1	0.1
run4	8/30/2007	15:16:15	5.05	11.8	15.2	27.3	0.1
run4	8/30/2007	15:16:30	5.06	11.7	14.9	26.6	0.1
run4	8/30/2007	15:16:45	5.05	11.7	14.9	26.6	0.1
run4	8/30/2007	15:17:00	5.05	11.6	14.9	26.6	0.0
run4	8/30/2007	15:17:15	5.05	11.7	14.9	27.0	0.0
run4	8/30/2007	15:17:30	5.05	11.7	14.8	27.6	0.0
run4	8/30/2007	15:17:45	5.03	11.8	14.7	27.6	0.0
run4	8/30/2007	15:18:00	5.03	11.6	14.9	27.0	0.0
run4	8/30/2007	15:18:15	5.04	11.7	14.9	26.3	0.0
run4	8/30/2007	15:18:30	5.03	11.6	15.1	25.6	0.0
run4	8/30/2007	15:18:45	5.02	11.6	15.1	24.7	0.0
run4	8/30/2007	15:19:00	5.03	11.7	14.9	24.0	0.0
run4	8/30/2007	15:19:15	5.01	11.6	14.9	23.2	0.0
run4	8/30/2007	15:19:30	5.00	11.7	14.9	22.0	0.0
run4	8/30/2007	15:19:45	4.99	11.7	15.0	20.4	0.0
run4	8/30/2007	15:20:00	4.99	11.7	14.9	19.1	0.0
run4	8/30/2007	15:20:15	4.99	11.9	15.0	18.5	0.0
run4	8/30/2007	15:20:30	5.00	11.9	15.2	17.8	0.1
run4	8/30/2007	15:20:45	5.01	11.9	15.2	17.8	0.1
run4	8/30/2007	15:21:00	5.01	11.9	15.2	18.5	0.1
run4	8/30/2007	15:21:15	5.00	12.0	15.1	19.1	0.1
run4	8/30/2007	15:21:30	5.01	11.9	15.1	19.8	0.1
run4	8/30/2007	15:21:45	5.03	11.8	15.0	20.1	0.1
run4	8/30/2007	15:22:00	5.03	11.9	14.8	20.8	0.1
run4	8/30/2007	15:22:15	5.04	11.8	15.0	21.7	0.1
run4	8/30/2007	15:22:30	5.03	11.7	14.9	22.4	0.1
run4	8/30/2007	15:22:45	5.02	11.9	14.9	22.7	0.1
run4	8/30/2007	15:23:00	5.02	11.8	15.0	22.7	0.1
run4	8/30/2007	15:23:15	5.02	11.8	15.0	22.3	0.1
run4	8/30/2007	15:23:30	5.04	11.7	15.1	21.7	0.1
run4	8/30/2007	15:23:45	5.03	11.8	15.0	22.1	0.0
run4	8/30/2007	15:24:00	5.04	11.8	14.8	22.7	0.1
run4	8/30/2007	15:24:15	5.03	11.8	14.7	23.5	0.0
run4	8/30/2007	15:24:30	5.02	11.7	14.9	23.6	0.0
run4	8/30/2007	15:24:45	5.03	11.7	15.1	23.6	0.0
run4	8/30/2007	15:25:00	5.03	11.7	15.0	23.5	0.1
run4	8/30/2007	15:25:15	5.03	11.7	14.9	23.6	0.1
run4	8/30/2007	15:25:30	5.04	11.9	14.9	23.5	0.1
run4	8/30/2007	15:25:45	5.04	11.8	14.8	23.6	0.0
run4	8/30/2007	15:26:00	5.03	11.8	14.9	23.5	0.0
run4	8/30/2007	15:26:15	5.03	11.7	14.8	23.6	0.0
run4	8/30/2007	15:26:30	5.05	11.8	15.0	23.5	0.0
run4	8/30/2007	15:26:45	5.05	11.8	14.8	23.9	0.0
run4	8/30/2007	15:27:00	5.06	11.9	14.9	24.7	0.0
run4	8/30/2007	15:27:15	5.08	11.9	15.0	25.6	0.0
run4	8/30/2007	15:27:30	5.10	11.9	14.7	26.3	0.0
run4	8/30/2007	15:27:45	5.09	11.8	14.8	27.6	0.0
run4	8/30/2007	15:28:00	5.10	11.7	14.8	28.4	0.1
run4	8/30/2007	15:28:15	5.11	11.7	14.7	30.1	0.0
run4	8/30/2007	15:28:30	5.09	11.7	14.8	31.2	0.0
run4	8/30/2007	15:28:45	5.08	11.7	14.7	33.1	0.0
run4	8/30/2007	15:29:00	5.06	11.8	14.8	34.4	0.0
run4	8/30/2007	15:29:15	5.06	11.8	14.7	34.3	0.0
run4	8/30/2007	15:29:30	5.07	11.8	14.7	33.0	0.0
run4	8/30/2007	15:29:45	5.07	11.7	14.8	31.5	0.0
run4	8/30/2007	15:30:00	5.08	11.7	14.6	30.8	0.0
run4	8/30/2007	15:30:15	5.08	11.7	14.7	30.9	0.0
run4	8/30/2007	15:30:30	5.08	11.7	14.6	31.5	0.0

O2 NOx SO2 CO THC

run4	8/30/2007	15:30:45	5.09	11.7	14.6	31.5	0.0
run4	8/30/2007	15:31:00	5.09	11.7	14.7	31.5	0.0
run4	8/30/2007	15:31:15	5.11	11.6	14.5	31.5	0.0
run4	8/30/2007	15:31:30	5.13	11.7	14.6	32.4	0.0
run4	8/30/2007	15:31:45	5.12	11.7	14.4	34.1	0.1
run4	8/30/2007	15:32:00	5.11	11.8	14.5	35.4	0.0
run4	8/30/2007	15:32:15	5.10	11.8	14.5	36.7	0.0
run4	8/30/2007	15:32:30	5.09	11.7	14.5	35.9	0.0
run4	8/30/2007	15:32:45	5.10	11.8	14.4	34.3	0.0
run4	8/30/2007	15:33:00	5.10	11.7	14.3	33.0	0.0
run4	8/30/2007	15:33:15	5.11	11.7	14.4	32.7	0.0
run4	8/30/2007	15:33:30	5.12	11.6	14.3	33.4	0.1
run4	8/30/2007	15:33:45	5.13	11.7	14.3	35.1	0.1
run4	8/30/2007	15:34:00	5.14	11.7	14.4	36.4	0.1
run4	8/30/2007	15:34:15	5.13	11.9	14.2	37.6	0.1
run4	8/30/2007	15:34:30	5.11	11.9	14.3	37.6	0.1
run4	8/30/2007	15:34:45	5.09	11.8	14.2	36.3	0.1
run4	8/30/2007	15:35:00	5.09	11.8	14.2	34.3	0.1
run4	8/30/2007	15:35:15	5.09	11.7	14.2	31.1	0.1
run4	8/30/2007	15:35:30	5.10	11.8	14.0	30.0	0.1
run4	8/30/2007	15:35:45	5.06	11.8	14.1	29.7	0.1
run4	8/30/2007	15:36:00	5.02	11.6	14.0	29.7	0.1
run4	8/30/2007	15:36:15	5.02	11.6	14.1	28.3	0.1
run4	8/30/2007	15:36:30	5.03	11.7	14.2	26.1	0.1
run4	8/30/2007	15:36:45	5.03	11.9	14.1	24.2	0.1
run4	8/30/2007	15:37:00	5.01	11.9	14.1	23.5	0.1
run4	8/30/2007	15:37:15	5.00	11.9	14.1	22.7	0.1
run4	8/30/2007	15:37:30	5.01	11.8	14.2	22.0	0.1
run4	8/30/2007	15:37:45	5.03	11.8	14.3	21.3	0.1
run4	8/30/2007	15:38:00	5.03	11.8	14.2	20.8	0.1
run4	8/30/2007	15:38:15	5.02	11.9	14.3	21.2	0.1
run4	8/30/2007	15:38:30	5.02	11.8	14.2	22.4	0.1
run4	8/30/2007	15:38:45	5.02	11.8	14.2	22.7	0.1
run4	8/30/2007	15:39:00	5.01	11.9	14.1	23.3	0.1
run4	8/30/2007	15:39:15	5.00	11.8	14.2	23.5	0.1
run4	8/30/2007	15:39:30	5.02	11.8	14.4	23.4	0.1
run4	8/30/2007	15:39:45	5.03	11.9	14.2	23.5	0.1
run4	8/30/2007	15:40:00	5.03	12.1	14.3	23.5	0.1
run4	8/30/2007	15:40:15	5.03	12.0	14.2	23.5	0.1
run4	8/30/2007	15:40:30	5.03	12.0	14.3	23.5	0.1
run4	8/30/2007	15:40:45	5.03	12.1	14.3	24.7	0.1
run4	8/30/2007	15:41:00	5.02	12.0	14.1	24.7	0.1
run4	8/30/2007	15:41:15	5.02	12.0	14.2	24.7	0.1
run4	8/30/2007	15:41:30	5.02	11.9	14.1	23.8	0.1
run4	8/30/2007	15:41:45	5.02	11.9	14.1	23.5	0.1
run4	8/30/2007	15:42:00	5.03	11.9	14.1	23.4	0.1
run4	8/30/2007	15:42:15	5.03	11.9	14.0	23.4	0.1
run4	8/30/2007	15:42:30	5.01	11.8	14.1	23.4	0.1
run4	8/30/2007	15:42:45	4.99	11.9	14.0	23.5	0.1
run4	8/30/2007	15:43:00	4.97	11.9	14.1	23.4	0.1
run4	8/30/2007	15:43:15	4.97	11.9	14.1	22.3	0.1
run4	8/30/2007	15:43:30	4.97	11.8	14.1	21.0	0.1
run4	8/30/2007	15:43:45	5.00	11.8	14.2	20.8	0.1
run4	8/30/2007	15:44:00	5.00	11.9	14.0	20.8	0.1
run4	8/30/2007	15:44:15	5.01	12.0	14.1	21.2	0.1
run4	8/30/2007	15:44:30	5.01	12.1	14.2	21.7	0.1
run4	8/30/2007	15:44:45	5.02	12.0	14.2	21.7	0.1
run4	8/30/2007	15:45:00	5.05	11.9	14.3	21.8	0.1
run4	8/30/2007	15:45:15	5.07	11.8	14.2	22.7	0.1
run4	8/30/2007	15:45:30	5.09	11.6	14.2	23.5	0.1
run4	8/30/2007	15:45:45	5.08	11.9	14.0	26.0	0.1
run4	8/30/2007	15:46:00	5.08	12.0	14.1	27.4	0.1
run4	8/30/2007	15:46:15	5.07	11.8	14.2	28.8	0.1
run4	8/30/2007	15:46:30	5.05	11.7	14.0	28.7	0.1
run4	8/30/2007	15:46:45	5.05	11.8	14.0	27.2	0.1
run4	8/30/2007	15:47:00	5.06	11.8	13.8	26.6	0.0
run4	8/30/2007	15:47:15	5.05	11.8	13.9	25.6	0.1
run4	8/30/2007	15:47:30	5.05	11.9	13.9	25.6	0.0
run4	8/30/2007	15:47:45	5.07	11.9	13.9	25.6	0.1
run4	8/30/2007	15:48:00	5.09	11.8	14.1	25.6	0.1
run4	8/30/2007	15:48:15	5.09	11.8	13.9	25.6	0.1
run4	8/30/2007	15:48:30	5.10	11.9	14.0	26.3	0.1
run4	8/30/2007	15:48:45	5.09	11.9	13.9	27.0	0.1
run4	8/30/2007	15:49:00	5.08	11.9	14.0	27.5	0.1
run4	8/30/2007	15:49:15	5.08	11.9	14.1	26.6	0.1
run4	8/30/2007	15:49:30	5.07	11.8	13.9	25.9	0.1
run4	8/30/2007	15:49:45	5.08	11.9	14.1	25.2	0.1
run4	8/30/2007	15:50:00	5.08	11.9	14.1	24.7	0.1
run4	8/30/2007	15:50:15	5.08	11.9	14.1	24.7	0.1
run4	8/30/2007	15:50:30	5.08	12.0	14.1	24.7	0.1
run4	8/30/2007	15:50:45	5.08	11.9	14.0	24.7	0.1

O2 NOx SO2 CO THC

run4	8/30/2007	15:51:00	5.08	11.7	14.1	24.7	0.1		
run4	8/30/2007	15:51:15	5.10	11.8	13.8	24.7	0.1		
run4	8/30/2007	15:51:30	5.10	11.8	13.7	25.4	0.1		
run4	8/30/2007	15:51:45	5.09	11.7	13.8	26.1	0.1		
run4	8/30/2007	15:52:00	5.08	11.8	13.7	26.6	0.1		
run4	8/30/2007	15:52:15	5.08	11.9	13.9	25.6	0.1		
run4	8/30/2007	15:52:30	5.08	11.9	14.0	24.9	0.1		
run4	8/30/2007	15:52:45	5.07	11.9	14.0	24.7	0.1		
run4	8/30/2007	15:53:00	5.07	11.8	13.8	23.7	0.1		
run4	8/30/2007	15:53:15	5.06	11.7	13.7	23.5	0.1		
run4	8/30/2007	15:53:30	5.06	11.7	13.8	23.4	0.1		
run4	8/30/2007	15:53:45	5.06	11.7	13.7	23.1	0.1		
run4	8/30/2007	15:54:00	5.06	11.7	13.8	22.7	0.1		
run4	8/30/2007	15:54:15	5.07	11.8	13.5	22.7	0.1		
run4	8/30/2007	15:54:30	5.07	11.8	13.6	22.7	0.1		
run4	8/30/2007	15:54:45	5.07	11.8	13.7	23.0	0.2		
averun4	8/30/2007	14:55:00	<u>5.06</u>	<u>11.7</u>	<u>15.0</u>	<u>27.1</u>	<u>0.2</u>	60	
scg2	8/30/2007	15:56:45	5.03	11.8	13.6	20.8	0.2	AAL14753/cg2	O2 20.9
scg2	8/30/2007	15:57:00	7.13	7.0	13.3	19.9	0.2	AAL14753/cg2	O2 20.9
scg2	8/30/2007	15:57:15	14.88	1.5	10.8	18.4	0.3	AAL14753/cg2	O2 20.9
scg2	8/30/2007	15:57:30	18.89	0.5	7.9	15.2	0.3	AAL14753/cg2	O2 20.9
thczero1	8/30/2007	15:57:30	18.89	0.5	7.9	15.2	0.3	AAL14753/cg2	O2 20.9
scg13	8/30/2007	15:59:00	20.73	0.1	2.8	-1.1	45.6	BAL4862/cg13	THC 47
scg13	8/30/2007	15:59:15	20.75	0.1	2.1	-1.1	46.3	BAL4862/cg13	THC 47
scg13	8/30/2007	15:59:30	20.68	0.1	1.7	-1.1	46.6	BAL4862/cg13	THC 47
scg13	8/30/2007	15:59:45	20.46	0.1	1.4	-1.0	46.8	BAL4862/cg13	THC 47
scg13	8/30/2007	16:00:00	20.48	0.1	1.2	-1.1	46.9	BAL4862/cg13	THC 47
scg13	8/30/2007	16:00:15	20.67	0.1	1.0	-1.0	47.0	BAL4862/cg13	THC 47
scg13	8/30/2007	16:00:30	20.74	0.1	0.9	-1.0	47.2	BAL4862/cg13	THC 47
scg13	8/30/2007	16:00:45	20.76	0.1	1.0	-1.1	47.2	BAL4862/cg13	THC 47
thcspan1	8/30/2007	16:00:45	20.76	0.1	1.0	-1.1	<u>47.2</u>	BAL4862/cg13	THC 47
scg8	8/30/2007	16:01:00	20.78	0.1	0.9	-1.1	47.3	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:01:15	20.79	0.1	0.9	-1.1	47.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:01:30	20.64	0.1	0.7	-1.1	47.3	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:01:45	20.14	0.1	0.8	-1.1	27.8	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:02:00	20.57	0.1	0.9	-1.0	3.3	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:02:15	20.76	0.1	0.8	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:02:30	20.80	0.1	0.8	-1.1	3.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:02:45	20.79	0.1	0.6	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:03:00	15.91	0.4	2.2	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:03:15	5.64	0.2	10.2	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:03:30	1.73	0.1	20.2	-1.1	3.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:03:45	0.78	0.1	28.0	-1.1	3.3	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:04:00	0.50	0.1	32.3	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:04:15	0.38	0.1	34.9	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:04:30	0.31	0.1	36.0	-1.0	3.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:04:45	0.25	0.1	36.7	-1.1	3.6	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:05:00	0.21	0.1	37.3	-1.1	3.5	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:05:15	0.18	0.1	37.6	-1.0	3.2	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:05:30	0.16	0.1	38.1	-1.0	3.1	ALM067916/cg8	SO2 41.7
scg8	8/30/2007	16:05:45	0.15	0.1	38.1	-1.1	3.1	ALM067916/cg8	SO2 41.7
so2span1	8/30/2007	16:05:45	0.15	0.1	<u>38.1</u>	-1.1	3.1	ALM067916/cg8	SO2 41.7
scg6	8/30/2007	16:06:00	0.14	0.1	38.3	-1.0	3.1	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:06:15	0.13	0.1	38.5	-1.0	3.0	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:06:30	0.13	4.9	38.4	-1.1	1.5	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:06:45	0.15	32.2	32.3	-1.0	1.3	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:07:00	0.13	40.9	19.8	-1.1	1.1	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:07:15	0.12	42.1	11.9	-1.0	1.0	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:07:30	0.11	42.4	7.7	-1.0	1.0	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:07:45	0.10	42.5	5.4	-1.0	0.9	ALM035137/cg6	NOx 44.5
scg6	8/30/2007	16:08:00	0.10	42.5	4.2	-1.0	1.5	ALM035137/cg6	NOx 44.5
o2zero1	8/30/2007	16:08:00	<u>0.10</u>	42.5	4.2	-1.0	1.5	ALM035137/cg6	NOx 44.5
cozero1	8/30/2007	16:08:00	0.10	42.5	4.2	<u>-1.0</u>	1.5	ALM035137/cg6	NOx 44.5
noxspan1	8/30/2007	16:08:00	0.10	42.5	4.2	-1.0	1.5	ALM035137/cg6	NOx 44.5
scg10	8/30/2007	16:08:15	0.10	<u>42.3</u>	3.2	-1.1	1.5	BLM005090/cg10	CO 464
scg10	8/30/2007	16:08:30	0.09	42.3	2.7	-1.0	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	16:08:45	0.10	34.1	2.2	-0.7	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	16:09:00	0.11	7.9	1.9	10.1	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	16:09:15	0.09	1.7	1.8	62.9	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	16:09:30	0.08	0.7	1.4	149.6	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	16:09:45	0.08	0.4	1.3	260.1	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	16:10:00	0.07	0.3	1.2	355.6	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	16:10:15	0.07	0.2	1.1	420.4	1.2	BLM005090/cg10	CO 464
scg10	8/30/2007	16:10:30	0.07	0.2	0.9	440.8	1.3	BLM005090/cg10	CO 464
scg10	8/30/2007	16:10:45	0.07	0.2	0.8	447.0	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	16:11:00	0.06	0.2	0.8	447.6	1.1	BLM005090/cg10	CO 464
scg10	8/30/2007	16:11:15	0.06	0.1	0.7	446.6	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	16:11:30	0.06	0.1	0.8	445.9	1.0	BLM005090/cg10	CO 464
scg10	8/30/2007	16:11:45	0.06	0.1	0.7	446.0	0.9	BLM005090/cg10	CO 464
noxzero1	8/30/2007	16:11:45	0.06	<u>0.1</u>	0.7	446.0	0.9	BLM005090/cg10	CO 464
so2zero1	8/30/2007	16:11:45	0.06	<u>0.1</u>	<u>0.7</u>	446.0	0.9	BLM005090/cg10	CO 464

Final Bias Run 4

O2 NOx SO2 CO THC

cospan1	8/30/2007	16:11:45	0.06	0.1	0.7	<u>446.0</u>	0.9	BLM005090/cg10	<u>CO</u>	<u>464</u>
scg3	8/30/2007	16:12:00	0.06	0.1	0.5	<u>446.6</u>	1.0	ALM005139/cg3	<u>O2</u>	<u>12.2</u>
scg3	8/30/2007	16:12:15	0.06	0.1	0.6	445.7	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:12:30	0.07	0.1	0.5	445.0	1.2	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:12:45	3.22	0.2	0.7	441.8	1.1	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:13:00	9.51	0.1	0.5	413.3	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:13:15	11.53	0.1	0.5	335.9	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:13:30	11.99	0.1	0.6	244.2	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:13:45	12.12	0.1	0.5	129.7	1.0	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:14:00	12.17	0.1	0.7	57.1	0.9	ALM005139/cg3	O2	12.2
scg3	8/30/2007	16:14:15	12.19	0.1	0.6	13.2	0.7	ALM005139/cg3	O2	12.2
o2span1	8/30/2007	16:14:15	<u>12.19</u>	0.1	0.6	13.2	0.7	ALM005139/cg3	<u>O2</u>	<u>12.2</u>
End										

APPENDIX G

Plant Operational Data

SRU B Train Operational Data

MultiMonitor 1.2

Hourly Average (Houston)

Tag ID / Calculation:	45FI6205B	45FC6206	46FI6308	46TI6306A	46AI6303A	46AI6303B	46FX6318
Description:	AAG TO CLAUS COMBUSTOR	SWS GAS TO CLAUS COMBR	Incinerator Natural Gas	Incinerator Stack	CEMS PERCENT SO2 15 MIN AVERAGE	CEMS PERCENT O2 15 MIN AVERAGE	Stack Flow
Engineering Unit:	M SCFH	M SCFH	SCFH	DegF	PPM	%	Undefined
DateTime	Value_001	Value_002	Value_003	Value_004	Value_001	Value_002	Value_003
Wed, 29 Aug 07, 05:00:00 AM	68.24	16.60	4202.87	1273.28	10.91	5.87	148.25
Wed, 29 Aug 07, 06:00:00 AM	68.24	24.24	4198.45	1273.47	12.03	5.60	157.51
Wed, 29 Aug 07, 07:00:00 AM	68.24	25.12	4212.55	1273.52	13.18	5.50	158.51
Wed, 29 Aug 07, 08:00:00 AM	68.24	24.99	4231.64	1273.43	13.56	5.49	158.86
Wed, 29 Aug 07, 09:00:00 AM	68.23	24.75	4212.30	1273.15	15.61	5.46	160.18
Wed, 29 Aug 07, 10:00:00 AM	68.23	24.78	4269.45	1273.20	15.50	5.48	160.63
Wed, 29 Aug 07, 11:00:00 AM	68.23	24.92	4264.36	1273.60	14.34	5.52	160.46
Wed, 29 Aug 07, 12:00:00 PM	68.23	24.84	4256.38	1273.78	13.52	5.47	159.63
Wed, 29 Aug 07, 01:00:00 PM	68.24	24.85	4265.88	1273.93	13.10	5.46	163.42
Wed, 29 Aug 07, 02:00:00 PM	68.25	24.91	4259.58	1273.76	14.74	5.43	165.05
Wed, 29 Aug 07, 03:00:00 PM	68.25	25.09	4291.29	1273.86	12.87	5.40	167.17
Wed, 29 Aug 07, 04:00:00 PM	68.24	25.10	4251.07	1273.56	13.12	5.30	168.57
Wed, 29 Aug 07, 05:00:00 PM	68.24	24.83	4268.04	1273.65	13.24	5.25	168.28
Wed, 29 Aug 07, 06:00:00 PM	68.24	24.75	4258.71	1273.90	13.42	5.25	167.52
Wed, 29 Aug 07, 07:00:00 PM	68.24	25.02	4233.11	1273.95	13.54	5.33	165.48
Wed, 29 Aug 07, 08:00:00 PM	68.24	24.97	4231.62	1273.83	13.33	5.30	164.71
Wed, 29 Aug 07, 09:00:00 PM	68.24	24.99	4222.31	1273.57	14.03	5.40	160.87
Wed, 29 Aug 07, 10:00:00 PM	68.24	24.98	4180.88	1273.83	13.65	5.59	154.99
Wed, 29 Aug 07, 11:00:00 PM	68.24	25.13	4169.16	1273.61	13.48	5.64	154.36
Thu, 30 Aug 07, 12:00:00 AM	68.23	25.16	4198.25	1273.33	13.01	5.54	158.22
Thu, 30 Aug 07, 01:00:00 AM	68.23	25.24	4189.95	1273.54	12.98	5.52	158.70
Thu, 30 Aug 07, 02:00:00 AM	68.24	25.14	4192.48	1273.40	12.70	5.52	159.16
Thu, 30 Aug 07, 03:00:00 AM	68.24	24.92	4196.59	1273.88	13.04	5.48	158.09
Thu, 30 Aug 07, 04:00:00 AM	68.24	25.28	4175.66	1273.58	12.90	5.67	154.70
Thu, 30 Aug 07, 05:00:00 AM	68.24	25.03	4173.22	1273.64	13.52	5.69	153.69
Thu, 30 Aug 07, 06:00:00 AM	68.24	24.96	4209.09	1273.50	37.77	5.62	157.59
Thu, 30 Aug 07, 07:00:00 AM	68.23	24.89	4221.30	1273.16	14.77	5.50	164.07
Thu, 30 Aug 07, 08:00:00 AM	68.24	24.84	4323.85	1273.34	16.80	4.95	188.85
Thu, 30 Aug 07, 09:00:00 AM	68.24	25.10	3766.48	1234.82	19.40	4.92	188.97
Thu, 30 Aug 07, 10:00:00 AM	68.23	24.85	3337.63	1167.03	17.76	5.78	184.36
Thu, 30 Aug 07, 11:00:00 AM	68.23	25.04	3484.88	1141.76	17.89	6.17	181.68
Thu, 30 Aug 07, 12:00:00 PM	68.23	24.91	4496.38	1224.33	15.05	5.36	182.01
Thu, 30 Aug 07, 01:00:00 PM	68.23	25.21	4326.98	1249.42	15.79	4.81	183.54
Thu, 30 Aug 07, 02:00:00 PM	68.23	25.22	4265.17	1248.86	15.29	4.97	182.00
Thu, 30 Aug 07, 03:00:00 PM	68.23	24.89	4217.46	1248.84	15.29	5.01	183.12
Thu, 30 Aug 07, 04:00:00 PM	68.23	24.78	4136.80	1249.15	15.46	5.01	180.51
Thu, 30 Aug 07, 05:00:00 PM	68.24	25.13	4133.80	1248.71	15.75	5.02	181.76
Thu, 30 Aug 07, 06:00:00 PM	68.23	25.00	4129.77	1248.82	17.06	4.94	182.38
Thu, 30 Aug 07, 07:00:00 PM	68.23	25.05	4156.07	1248.92	16.23	5.01	180.67

APPENDIX H

Chain of Custody



METCO
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CHAIN OF CUSTODY RECORD

Page 1 of

Job No.: 07-388		Project Manager: M. Glizer		Method: Ammonia												
Job Name: Valero		Project Supervisor: R. Williams														
Location: Houston, TX																
Unit: SRV-B Tail bus Strike																
SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED						Recovered by	REMARKS (Specific Compounds/Methods)			
						PART	HCL	CL	2	S	2	S	3	AMMONIA		
Run 1 Imp 1	8-30-07	1205	1	0.1N H2SO4	100mL									✓	J. Cooper	Do not Analyze ARCHIVE
Run 1 Imp 2,3		1210	1	0.1N H2SO4	100mL									✓		Do not Analyze ARCHIVE
Run 2 Imp 1		1435	1	0.1N H2SO4	100mL									✓		
Run 2 Imp 2,3		1438	1	0.1N H2SO4	100mL									✓		
Run 3 Imp 1		1500	1	0.1N H2SO4	100mL									✓	R. Williams	
Run 3 Imp 2,3		1505	1	0.1N H2SO4	100mL									✓		
Run 4 Imp 1		1730	1	0.1N H2SO4	100mL									✓		
Run 4 Imp 2,3		1733	1	0.1N H2SO4	100mL									✓		
Samples Received for Transport/Shipments by: [Signature]			Date: 8/31/07		Time: 1615											
Samples Received for Transport/Shipments by:			Date:		Time:											
Samples Received for Transport/Shipments by:			Date:		Time:											
Samples Shipped Via:			Date:		Time:											
Samples Received at Laboratory by: [Signature]			Date: 9/5/07		Time: 0700											
Samples Analyzed by: [Signature]			Date: 9/6/07		Time: 1430											
Samples Analyzed by:			Date:		Time:											
Data Checked by: [Signature]			Date: 09/07/07		Time: 1345											



METCO

Environmental

CHAIN OF CUSTODY RECORD

Page 1 of 1

Job No.: <u>07-358 07-338</u>		Project Manager: <u>M. Glick</u>		Method: <u>Hevac / meth / eth</u>										
Job Name: <u>Valero</u>		Project Supervisor: <u>R. Williams</u>												
Location: <u>Houston, TX</u>														
Unit: <u>SOU-B Trail Gas Storage</u>														
SAMPLE I.D.	DATE	TIME	# OF CONT.	Absorb. Solution	Initial Vol.	SAMPLE ANALYSIS REQUIRED						Recovered by	REMARKS (Specific Compounds/Methods)	
						PART	HCL	CCL	SO ₂	SO ₃	H ₂ O			HCN
Run 1 Bag	8-30-07	1043	1	-	-									
Run 2 Bag		1255	1	-	-									
Run 3 Bag		1427	1	-	-									
Run 1 Bag		1043	1	-	-									
Run 2 Bag		1255	1	-	-									
Run 3 Bag		1427	1	-	-									
Run 4 Bag		1555	1	-	-									
Run 5 Bag		1555	1	-	-									
Samples Received for Transport/Shipments by: <u>ROD</u>			Date: <u>8/31/07</u>			Time: <u>1615</u>								
Samples Received for Transport/Shipments by:			Date:			Time:								
Samples Received for Transport/Shipments by:			Date:			Time:								
Samples Shipped Via:			Date:			Time:								
Samples Received at Laboratory by: <u>Mark</u>			Date: <u>9/10/07</u>			Time: <u>0830</u>								
Samples Analyzed by: <u>Roll</u>			Date: <u>9/10/07</u>			Time: <u>0830</u>								
Samples Analyzed by:			Date:			Time:								
Data Checked by: <u>JAN</u>			Date: <u>09/24/07</u>			Time: <u>1030</u>								

APPENDIX I

Resumes of Test Personnel

ROBERT M. PATTERSON; President

Education B. S. 1983, Central Michigan University; Mt. Pleasant, Michigan, in Geology and Earth Science-Meteorology.

Professional Training Courses Attended a two-day short course, "Performing and Observing Source Sampling" in Dallas, Texas.

Attended a one-day short course on basic supervision.

Attended a four-week management course presented by the American Management Association, 1991-1992.

Certification Certified Visible Emissions Evaluator
Certified Cabot Full-Face Respirator Fit Tester

Professional Memberships Source Evaluation Society
American Management Association

Technical Experience Participated in the sampling of over 1,000 sources, including several of which were sampled simultaneously using more than one sampling train. Thoroughly trained in all EPA testing procedures, 1986-present.

Over nineteen years experience with EPA and Texas Air Control Board methods of sampling - both stationary sources and ambient air. CFR, Title 40, Chapter I, Part 60, EPA Methods 1 through 25, and 101 through 110. Performance Specifications 1 through 5. CFR, Title 40, Chapter I, Part 50, Appendix A through F. "Sampling Procedures Manual, Texas Air Control Board, January 1983." Parts 1-1 through 14-6, Appendix B through Appendix M.

Experienced with sampling Method 0010, Modified Method 5 Sampling Train; Method 0030, Volatile Organic Sampling Train; and various EPA and "Site Specific" multiple metal and acid gas sampling trains.

PATTERSON, Rob (cont'd)

Technical
Experience
(cont'd)

Over twenty one years experience with EPA and Texas Air Control Board methods of analysis of both stationary and ambient air samples. Particulate matter, SO_3 , SO_2 , H_2SO_4 , NO_x , CO, CO_2 , O_2 , H_2S , F, TRS, HCl, Cl_2 , NH_3 , VOC, C_1 - C_7 , and other organics. Both laboratory and on-site analyses were performed.

Experienced in the sampling and analysis of commercial calibration gas cylinders for sulfur dioxide, oxides of nitrogen, carbon dioxide, oxygen, carbon monoxide, and C_1 - C_7 hydrocarbons.

Thoroughly trained in the operation and routine maintenance of the following:

- MSA LIRA Model 202S Infrared Analyzer
- Analytical Instrument Development, Inc. Model 340A Calibration System
- Shimadzu GC-Mini 2 Gas Chromatograph
- Thermo Environmental Model 10AR Oxides of Nitrogen Analyzer
- Thermo Oxygen Analyzer
- Teledyne Model 326 Oxygen Analyzer
- Thermo Environmental Model 48 Carbon Monoxide Analyzer
- Thermo Environmental Model 40 Sulfur Dioxide Analyzer
- Ratfisch Model RS 100 Total Hydrocarbon Analyzer
- Western Research Model 721AT Sulfur Dioxide Analyzer
- Horiba Model PIR 2000 Carbon Dioxide Analyzer
- Ratfisch Model RS 55 Total Hydrocarbon Analyzer
- J.U.M. Model VE-7 Total Hydrocarbon Analyzer

JAMES R. MONFRIES; Senior Quality Assurance Manager

Education B. S. 1975, University of Texas at Arlington; Arlington, Texas,
in Biology with a minor in Chemistry.

Graduate work at the University of Texas at Dallas in the
Environmental Science Department.

Professional
Training
Courses Attended a two-day short course, "Performing and Observing
Source Sampling" in Dallas, Texas, July 1976.

Certification Certified Visible Emissions Evaluator

Professional
Memberships Air and Waste Management Association
Source Evaluation Society - Past President

Technical
Experience Participated in the sampling of over 700 sources, serving in the
supervisory capacity on over 500 sources. Many of the sources
were sampled simultaneously using more than one sampling
train at several points in the flue gas stream, 1976-present.

Has also supervised several ambient air monitoring studies,
including a permanent five-station high volume air sampling
network in South Texas, a permanent four-station high volume
air sampling network in Pennsylvania, and a permanent seven-
station sulfur dioxide sampling network in East Texas.

Was Quality Assurance Manager for several ambient air
monitoring studies; including a four-station high volume air
sampling network for TSP and PM10 in Midlothian, Texas;
a single-station high volume air sampling network for PM10 in
South Texas; a two-station high volume air sampling network
for TSP in Wichita Falls, Texas; and a four-station continuous
air sampling network for TSP and PM10 in Jewett, Texas using
Thermo Andersen FH 62 C14 Beta Gauge Dust Monitors.

(continued)

MONFRIES, James (cont'd)

Twenty years experience with EPA and Texas Commission on Environmental Quality methods of analysis of both source and ambient air samples for particulates, SO₂, SO₃, H₂SO₄, H₂S, HCl, Cl₂, NO_x, Hydrocarbons, and TRS.

Experienced in the analysis of commercial calibration gas cylinders for sulfur dioxide and oxides of nitrogen.

Experienced with VOST and Modified Method 5 Sampling Procedures.

Thoroughly trained in the operation and routine maintenance of the following:

- Lear Siegler, Inc. SM800 Stack Gas Monitor
- Du Pont Model 460/1 Photometric Analyzer System
- Lear Siegler, Inc. SM1000 Ambient SO₂ Monitor
- Calibrated Instruments Ultragas SO₂ Monitor
- Meloy 285E SO₂ Analyzer
- Meloy SA-700 Fluorescent SO₂ Analyzer
- MSA LIRA Model 202S Infrared Analyzer
- Analytical Instrument Development, Inc. Model 340A Calibration System
- Shimadzu GC-Mini 2 Gas Chromatograph
- Thermo Environmental Model 10S NO_x Analyzer
- Thermo Oxygen Analyzer
- Teledyne Model 326 Oxygen Analyzer
- Thermo Environmental Model 48 Carbon Monoxide Analyzer
- Thermo Environmental Model 40 Sulfur Dioxide Analyzer
- Ratfisch Model RS 103 Total Hydrocarbon Analyzer
- Western Research Model 721AT Sulfur Dioxide Analyzer
- Horiba Model PIR 2000 Carbon Dioxide Analyzer
- Ratfisch Model RS 55 Total Hydrocarbon Analyzer
- J.U.M. Model VE-7 Total Hydrocarbon Analyzer
- Thermo Andersen Model FH 62 C14 Dust Monitor

RYAN WILLIAMS; Project Supervisor I

Education

B. S. Agricultural Service & Development, May 2001; Tarleton State University, Stephenville, Texas.

Technical
Experience

Participated in the sampling of over 150 sources, including several of which were sampled simultaneously using more than one sampling train.

Thoroughly trained in all EPA testing procedures, 2005-present.

MICHAEL BASS; Houston Office Manager

Education B. S. Geography, August 1998; Texas A&M University,
College Station, Texas.

Certifications Certified Visible Emissions Evaluator
HAZMAT certified
Adult CPR certified
Standard First Aid certified

Technical Experience Participated in the sampling of over 650 sources, including
several of which were sampled simultaneously using more
than one sampling train. Thoroughly trained in all EPA
testing procedures, 1998-present.

Experienced with Modified Method 5 Sampling Train
(Method 0010).

Experienced with VOST sampling procedure (Method 0030).

Experienced with calibration techniques for all field-testing
equipment.

Experienced with various multiple metal and acid gas
sampling trains.

Has performed on-site SO₂ analysis and H₂S fuel gas
analysis.

Thoroughly trained in the operation and routine maintenance
of the following:

- Thermo Environmental Model 10S and 42C Oxides
of Nitrogen Analyzers
- Teledyne Model 326 Oxygen Analyzer

(continued)

BASS, Michael (continued)

Technical
Experience
(cont'd)

- Western Research Model 721 AT Sulfur Dioxide Analyzer.
- Horiba Model PIR 2000 Carbon Dioxide Analyzer
- J.U.M. Model VE-7 Total Hydrocarbon Analyzer
- Thermo Environmental Model 48 Carbon Monoxide Analyzer

JUSTIN COOPER; Environmental Scientist II

Education

B. S. Wildlife & Fisheries Sciences, August 2006; Texas A&M University, College Station, Texas.

Technical
Experience

Participated in the sampling of over 50 sources, including several of which were sampled simultaneously using more than one sampling train.

Thoroughly trained in all EPA testing procedures, 2006-present.

JEFF KNAPP; Environmental Specialist

Education Nuclear Engineering, 1994 – U. S. Navy

Professional Dangerous Good Shipping Training

Certifications HAZMAT certified
Adult CPR certified
Standard First Aid certified
MSHA certified

Technical
Experience Participated in the sampling of over 250 sources, including several
of which were sampled simultaneously using more than one
sampling train. Thoroughly trained in all EPA testing procedures,
2006-present.

Successfully performed over 200 compliance tests using FTIR for
a variety of industries.

Experienced with all SW846 and 40 CFR 60 sampling trains.



*Dallas Operations
P. O. Box 598
Addison, TX 75001
Tel: 972.931.7127
Fax: 972.267.4111*

October 5, 2007

Ms. Winnie Dodson
Valero Refining – Texas, L. P.
Houston Refinery
9701 Manchester Ave.
Houston, Texas 77012

Dear Ms. Dodson:

Enclosed are three (3) copies of the report of the Source Emissions Survey Valero Refining - Texas, L.P., Houston Refinery, B-Train SRU Tail Gas Stack (EPN 46CB6301), located in Houston, Texas, which was performed August 29 and 30, 2007.

METCO Environmental appreciates the opportunity to be of service to Valero Refining - Texas, L.P. If you have any questions, please contact me.

Very truly yours,

METCO ENVIRONMENTAL

Rob Patterson
President

RMP:tr

Enclosures (3)