TEST REPORT

COMPLIANCE EMISSION TEST PROGRAM
SULFTEN TAILGAS INCINERATOR (EPN 121)
TCEQ FLEXIBLE AIR PERMIT NOS. 38754 AND PSD-TX-324M12
TCEQ ACCOUNT NO. NE-0112-G

VALERO REFINING – TEXAS, L.P.
CORPUS CHRISTI, TEXAS

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ARI Project No. H555-283
ARI Proposal No. H4708
Valero Contract No. 4501387113
Test Date: March 27, 2008

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SECTION ONE Introduction and Summary

ARI Environmental, Inc. (ARI) was retained by Valero Refining - Texas, L.P. (Valero) to conduct an emission test program at Valero's West Plant Refinery located in Corpus Christi, Texas. The emission test program consisted of an emission compliance program performed on the exhaust stream of the Sulften Tailgas Incinerator.

Compliance testing at the Sulften Tailgas Incinerator exhaust was conducted to determine the concentrations and mass emission rates of particulate matter (PM), nitrogen oxides (NO_x), carbon monoxide (CO), hydrogen sulfide (H_2S), carbonyl sulfide (COS), carbon disulfide (CS_2) and total reduced sulfur (TRS) as SO_2. The test programs followed the regulatory requirements and sampling procedures listed below:

- 40 CFR Part 60, Appendix A, USEPA Methods 1-5, 7E, 10 and 15.
- 40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries.
- 40 CFR Part 51, Appendix M, USEPA Method 205.
- Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods.
- Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual.

Under the direction of Mr. Greg Burch, the ARI field test team consisted of Dr. Steve Yuchs and Messrs. Shawn Moody, Dustin Manthei and Jeff Goldfine. Mr. Onofre Garza of Valero coordinated the test activities with plant operations and provided process data to ARI for inclusion in this report. The test program was performed on March 27, 2008.

The results of the compliance test program are summarized in Table 1-1.

SECTION ONE Introduction and Summary

TABLE 1-1. SUMMARY OF SULFTEN TAILGAS INCINERATOR COMPLIANCE TEST RESULTS

RUN NO. :	1	2	3	
TEST DATE :	3/27/08	3/27/08	3/27/08	
TEST TIME :	13:00 – 16:00	16:00 – 19:00	19:00 – 22:28	Average
Particulate Matter				
lb/hr	11.36	6.93	7.70	8.66
Nitrogen Oxides				
lb/hr	1.52	1.56	1.52	1.53
Carbon Monoxide				
lb/hr	45.73	43.11	42.01	43.62
Hydrogen Sulfide				
lb/hr	0.562	0.595	0.569	0.575
Carbonyl Sulfide				
lb/hr	0.379	0.355	0.353	0.362
Carbon Disulfide				
lb/hr	<0.024	<0.024	<0.024	<0.024
TRS as SO_2				
lb/hr	1.50	1.54	1.49	1.51

Values represented as less than are calculated by using the analytical detection limit. If these constituents were present in the exhaust gas stream, they existed at concentrations and mass emission rates below the reported values.

SECTION TWO Compliance Test Procedures

2.1 OVERVIEW

ARI conducted a compliance emission test on the Sulften Tailgas Incinerator exhaust at Valero's refinery located in Corpus Christi, Texas. The purpose of the test program was to determine various pollutant concentrations and mass emission rates to atmosphere.

Test methods followed those as detailed in 40 CFR, Part 60, Appendix A, USEPA Methods 1-5, 7E, 10 and 15 and 40 CFR Part 51, Appendix M USEPA Method 205 as detailed in Table 2-1.

TABLE 2-1. USEPA TEST METHODOLOGIES

USEPA Method	Description
1	Sample and Velocity Traverses for Stationary Sources
2	Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
3A	Determination of Oxygen and Carbon Dioxide Concentrations in Emission from Stationary Sources (Instrumental Analyzer Procedure)
4	Determination of Moisture Content in Stack Gases
5	Determination of Particulate Matter Emissions from Stationary Sources
7E	Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)
10	Determination of Carbon Monoxide Emissions from Stationary Sources
15	Determination of Hydrogen Sulfide, Carbonyl Sulfide and Carbon Disulfide Emissions from Stationary Sources
205	Verification of Gas Dilution Systems for Field Instrument Calibrations

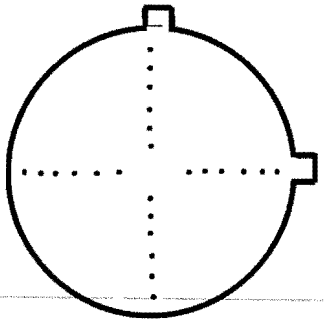
Testing of the Tailgas Incinerator exhaust consisted of three 3-hour runs for the TRS compounds as required by USEPA Method 15. Sampling for PM, NO_x and CO emissions consisted of three 2-hour runs with each run performed within the time period of the corresponding Method 15 run.

2.2 USEPA METHOD 1 - SAMPLE AND VELOCITY TRAVERSE LOCATIONS

Sampling at the Incinerator exhaust was conducted using the two (2) 4-inch diameter sampling ports provided on the exhaust duct. The sampling port locations on the 31.5-inch diameter duct are located approximately 180 inches (~5.9 duct diameters) upstream and approximately 360 inches (~11.8 duct diameters) downstream from the nearest flow disturbances. The sampling point locations were determined following USEPA Method 1 procedures. Specifically, twelve sampling points were used for each sample port for a total of twenty-four sampling points as presented in Figure 2-1.

SECTION TWO Compliance Test Procedures

CROSS SECTION



TRAVERSE POINTS:	24
NUMBER OF PORTS:	2
POINTS/PORT:	12
STACK ID:	31.5 in.
PORT LENGTH:	30.5 in.

TRAVERSE POINT NO.	DISTANCE FROM INSIDE WALL, in.
1	1.0
2	2.1
3	3.7
4	5.6
5	7.9
6	11.2
7	20.3
8	23.6
9	25.9
10	27.8
11	29.4
12	30.5

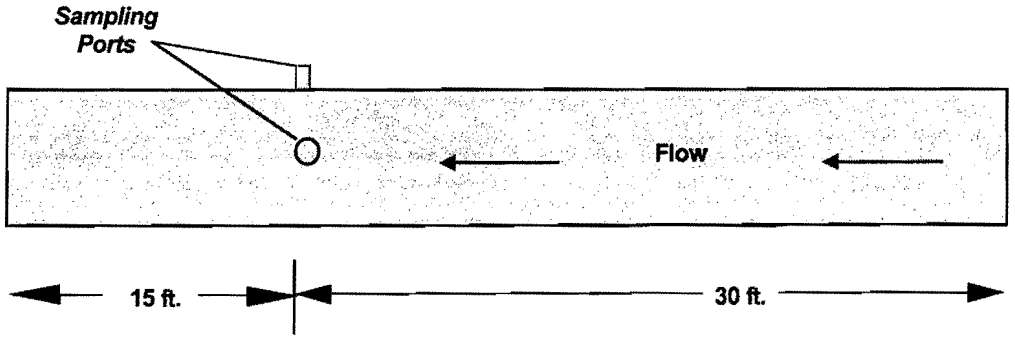


FIGURE 2-1. SULFTEN TAILGAS INCINERATOR SAMPLING LOCATION

2.3 USEPA METHOD 2 – VELOICTY AND VOLUMETRIC FLOW RATE DETERMINATION

Velocity traverses were performed using a Type "S" pitot tube with the velocity head pressure measured on a Dwyer oil gauge included manometer to the nearest 0.01 in. H_2O. Temperature measurements in the ducts were performed with a Chromel-Alumel thermocouple connected to a digital direct read-out potentiometer.

2.4 USEPA METHOD 3A - CO_2, O_2 AND MOLECULAR WEIGHT DETERMINATION

The molecular weight of the stack gas was determined following USEPA Method 3A. Specifically for each sampling run, the exhaust gas was analyzed for CO_2, O_2 and N_2 (by difference) using the analyzers described in Subsection 2.7.

2.5 USEPA METHOD 4 – STACK GAS MOISTURE CONTENT

Stack gas moisture determination was conducted in accordance with USEPA Method 4 procedures and in conjunction with the USEPA Method 5 sampling train. Specifically, stack gas was extracted at an isokinetic rate through a series of chilled impingers. The first two impingers contained deionized/distilled water, the third was initially empty and the final impinger contained silica gel for final water vapor removal. Total moisture collected was determined based upon the volumetric gains of impingers one through three and the weight gain of the silica gel contained in impinger four. Stack gas moisture was determined from the volume of water vapor condensed from the stack gas, the volume of gas sampled and the ideal gas law.

2.6 USEPA METHOD 5 - PARTICULATE MATTER

The sampling procedures for this test program were those described in USEPA Method 5 - Determination of Particulate Matter from Stationary Sources. Analysis of the collected samples was performed by ARI's laboratory located in Wauconda, Illinois.

2.6.1 Sampling Apparatus

The particulate sampling train, as shown in Figure 2-2, used at the exit stack during the test program met the design specifications established by the USEPA. The sample train consisted of the following:

Nozzle – Stainless steel (316 grade) with sharp, tapered, leading edge and accurately measured round opening.

Probe - Stainless steel (316 grade) outer sheath with a heating system capable of maintaining a gas temperature of 248°F ± 25°F, with a borosilicate glass inner liner for sample transport.

Pitot Tube - A Type-S pitot tube that meets all geometric standards; attached to the probe to monitor stack gas velocity.

Filter Holder - Borosilicate glass with a heating system capable of maintaining a filter temperature of 248°F ± 25°F. Filter - Whatman Reeve Angel 934 AH glass-fiber, 4-in. diameter.

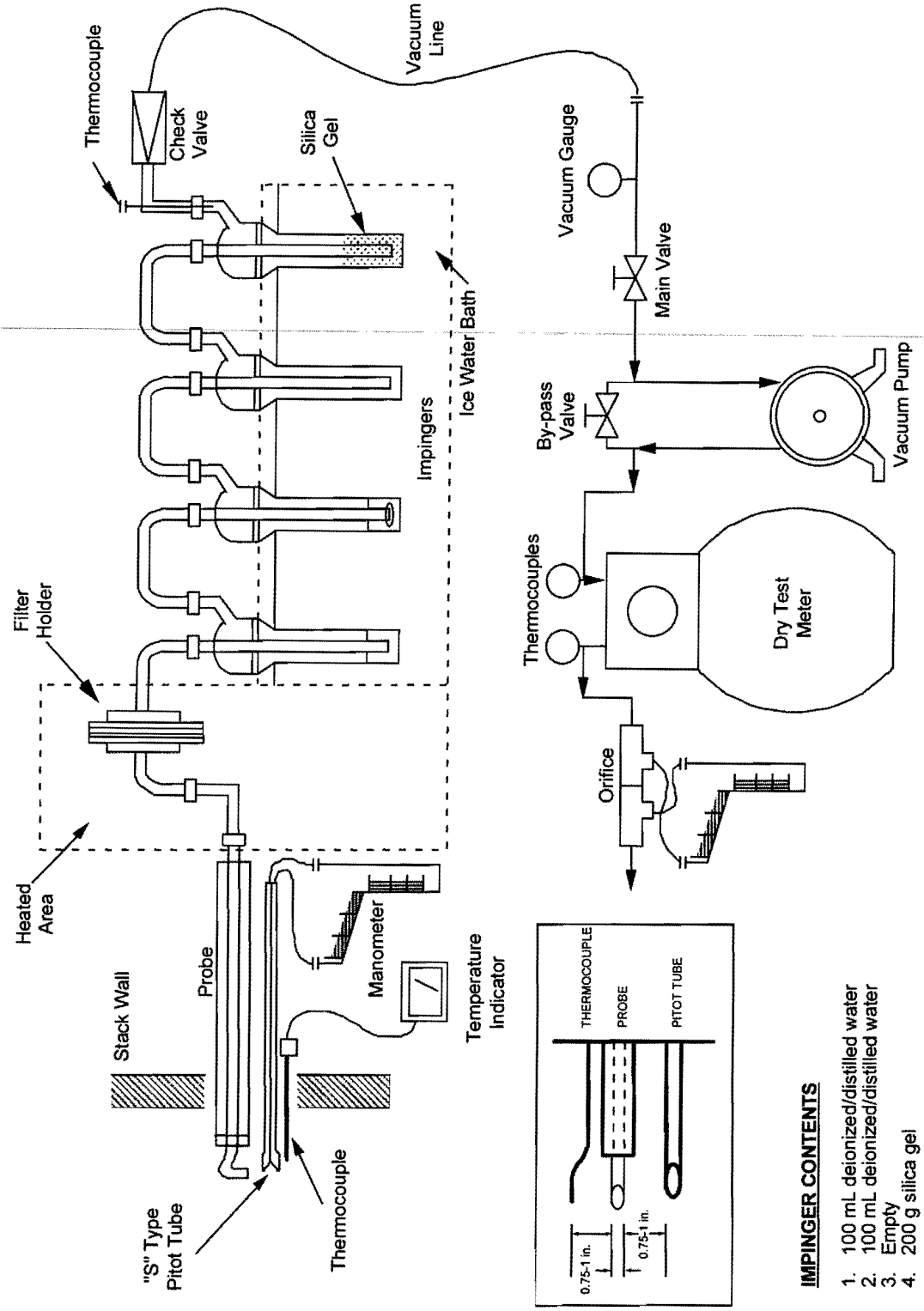


FIGURE 2-2: USEPA METHOD 5 - PARTICULATE MATTER SAMPLING TRAIN

Draft Gauge - A dual-inclined manometer made by Dwyer with a readability of 0.01 in. H_2O in the 0 to 1-in. range and 0.1 in. H_2O in the 1 to 10-in. range.

Impingers - Four impingers connected in series with glass ball joints. The first, third, and fourth impingers were of the Greenburg-Smith design. The second impinger was of the Greenburg-Smith design but modified by replacing the tip with a 1/2-in. i.d. glass tube extending to 1/2-in. from the bottom of the flask.

Metering System - Vacuum gauge, leak-free pump, thermometers capable of measuring temperature to within 5°F, dry gas meter with 2 percent accuracy, and related equipment to maintain an isokinetic sampling rate and to determine sample volume.

Barometer - Aneroid type to measure atmospheric pressure to ±0.1 in. Hg.

2.6.2 Sampling Procedure

The sample train was assembled as shown in Figure 2-2. Glass-fiber filters were initially desiccated for at least 24 hours and weighed to the nearest 0.1 mg on an analytical balance. One hundred milliliters (mL) of deionized/distilled water were placed in each of the first two impingers; the third impinger was initially empty; and the fourth impinger contained approximately 200 grams of silica gel. The sampling train was leak-checked at the sampling site prior to each test run by plugging the inlet to the nozzle and pulling a 15-in. Hg vacuum; and at the conclusion of the test, by plugging the inlet to the nozzle and pulling a vacuum equal to at least the highest vacuum reached during the test run.

The pitot tube and lines were leak-checked at the test site prior to and at the conclusion of each test run. The check was made by blowing into the impact opening of the pitot tube until 3 or more inches of water was recorded on the manometer and then capping the impact opening and holding it for 15 seconds to assure it was leak-free. The negative pressure side of the pitot tube was leak-checked by the same procedure, except suction was used to obtain the 3-in. H_2O manometer reading. Crushed ice was placed around the impingers to keep the temperature of the gases leaving the last impinger at 68°F or less.

During sampling, stack gas and sampling train data were recorded and isokinetic sampling rates were set at each sampling point. All sampling data was recorded on the Field Data sheets provided in Appendix B.

2.6.3 Sample Recovery Procedure

The sampling train was moved carefully from the test site to the cleanup area. The volume of water from the first three impingers was measured, and sample fractions were recovered as follows:

Container No. 1 - The filter was removed from its holder and placed in a petri dish and sealed.

Container No. 2 - Loose particulate and acetone washings from all sample-exposed surfaces prior to the filter were placed in an amber glass container, sealed, and labeled. Particulate was removed from the probe with the aid of a nylon brush. The liquid level was marked after the container was sealed.

Container No. 3 - The contents of the first three impingers were measured volumetrically and recorded on the field data sheet. The contents and subsequent H_2O rinse of the impingers and connecting glassware were placed in a polyethylene jar.

The silica gel from the fourth impinger was weighed, and this value was recorded on the Field Data sheet. An unused filter, acetone and distilled water were taken as blanks.

2.6.4 Analytical Procedures

The analytical procedures followed during this program were those described in USEPA Method 5.

Container No. 1 - The filter and any loose particulate matter from this sample container were placed in a tared glass weighing dish, placed in a desiccator for 24 hours and measured to a constant weight to the nearest 0.1 mg.

Container No. 2 - The acetone washings were transferred to a tared beaker and evaporated to dryness on a hot plate by heating at 45°C. The beaker and the contents were placed in a desiccator for 24 hours and measured to a constant weight to the nearest 0.1 mg.

Container No. 3 - The impinger contents and associated rinse were transferred to a tared beaker and evaporated to dryness on a hot plate by heating to 105°C. The beaker and the contents were placed in a desiccator for 24 hours and measured to a constant weight to the nearest 0.1 mg.

The acetone and water blanks were analyzed in the same way as their respective sample fractions.

The term "constant weight" means a difference of no more than 0.5 mg or 1 percent of total weight less tare weight, whichever is greater between two consecutive readings, with no less than 6 hours of desiccation between weighings. All analytical data are presented in Appendix C.

2.7 USEPA METHODS 3A, 7E AND 10 - O_2, CO_2, NO_x AND CO

Sampling for O_2, CO_2, NO_x and CO was performed following procedures from USEPA Methods 3A, 7E and 10. ARI's gaseous reference method sampling system consisted of a heated probe with in-stack filter followed by a calibration tee connected to a heated Teflon sample line. The Teflon sample line was used to transport sample to an electronic sample conditioner (Universal Analyzer Model No. 3082) to condition the sample by cooling and removing moisture. A sample manifold was connected to the exhaust side of the sample conditioner with intake lines for ARI's O_2, CO_2, NO_x and CO analyzers as presented in Figure 2-3.

USEPA Method 3A was used for reference method sampling of O_2 and CO_2 using ARI's Servomex Model 1440 combination analyzer. For the analysis of O_2 in the sample stream, a paramagnetic detector was utilized. For the measurement of CO_2, a non-dispersive infrared detector was utilized. USEPA Method 7E was used for reference method sampling of NO_x using ARI's California Analytical Model 600 chemiluminescent analyzer. USEPA Method 10 was used for CO analysis of the sample stream using ARI's Thermo Environmental Instruments, Inc. Model 48 gas filter correlation infrared analyzer

SECTION TWO Compliance Test Procedures

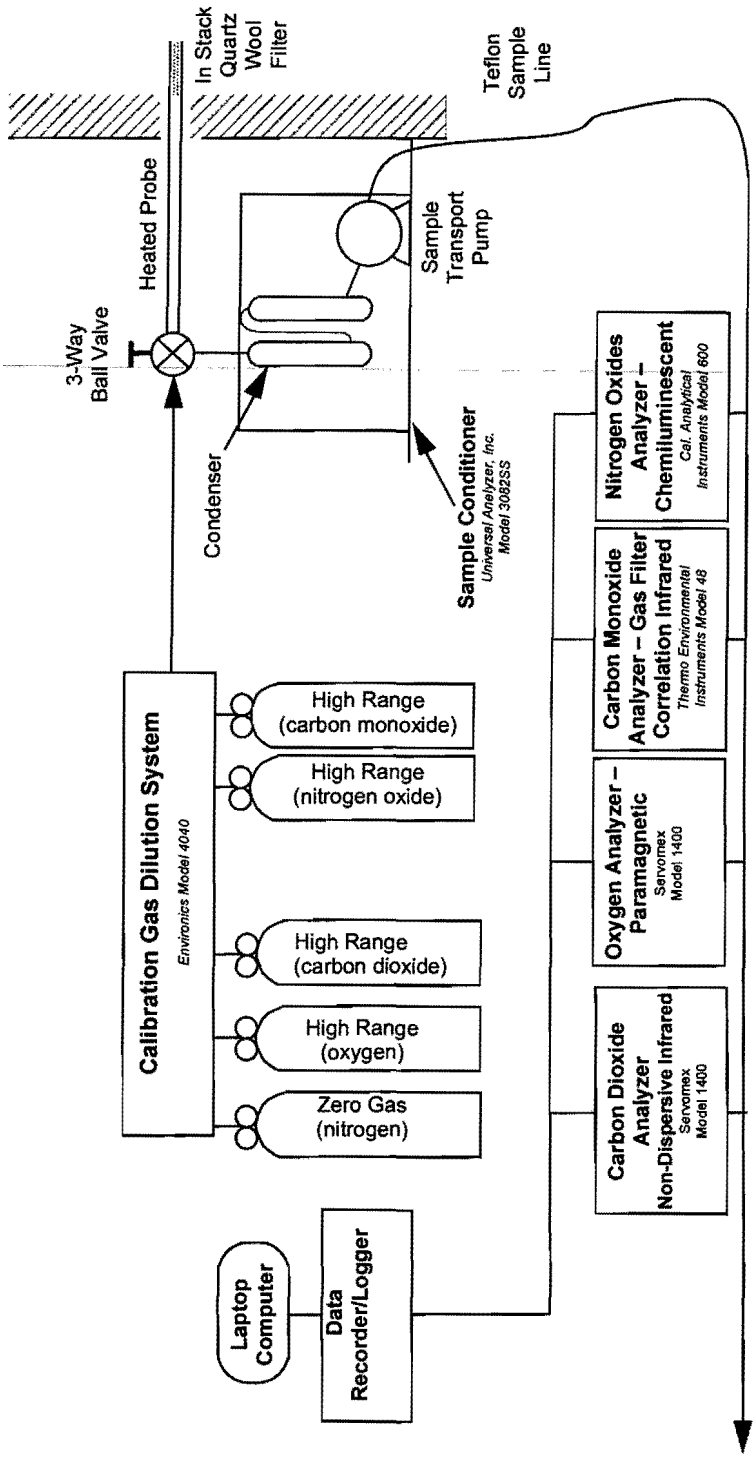


FIGURE 2-3. ARI REFERENCE METHOD O_2, CO_2, NO_X AND CO SAMPLING SYSTEM

Prior to the test, initial calibration error checks were performed for each constituent using zero gas (N_2), followed by high and mid level standards prepared from an EPA Protocol standard diluted with N_2 following the procedures from USEPA Method 205 as detailed in following sections. The analyzer response for each calibration gas introduced was less than two percent of the corresponding span value as determined by the span gas concentration.

Following the calibration error test and prior to sampling a NO_2 converter test was performed using a certified NO_2 standard of approximately 50 ppm. The results were within 10% of the cylinder certified concentration.

Immediately before and after each test run, system bias checks were performed for each reference method analyzer. This bias check consisted of introducing calibration gases into the sample system at a calibration tee placed between the sample probe and the heated sample line. The sample gas was introduced at a rate slightly higher than the sample rate to ensure excess gas flows out the tip of the probe, preventing stack gas from entering the sample system during calibrations. System bias checks were performed using a zero gas and either the mid or span level calibration gas (whichever is closer to the actual stack gas concentrations).

The pre-test and post-test system bias results were within the 5% of span allowed for each calibration gas. The system bias results were also used to calculated system drift during each run. The drift test results were within the 3% of span allowed for each test run.

Prior to the first run, response times were determined upscale and downscale for each analyzer. The start of each run was delayed for a period of at least twice the length of the longest response time following calibrations.

Data was recorded and archived on ARI's data acquisition system consisting of a data recorder/logger linked to a computer for digital data archives and reduction. All calibration data, including calibration gas specifications, calibration span values, recorded responses, and certifications relevant to this test program are presented in the Appendices of this report.

All calibration gases were certified by USEPA Protocol 1 procedures. ARI's Environics Model 4040 Gas Dilution System introduced calibration gases to the analyzers. The gas dilution system was determined to be acceptable following the procedures described in USEPA Method 205. The procedures and results are discussed in Subsection 2.9.

2.8 USEPA METHOD 15 – COS, CS_2 AND H_2S

Determination of TRS was conducted in accordance with USEPA Method 15 using a gas chromatograph for separation of sulfur compounds and measurement by a flame photometric detector.

Modifications and improvements to USEPA Method 15 during the testing included the following:

1. No sample dilution was required (GC range ~50 ppm TRS)
2. USEPA Protocol 1 calibration gases were used to calibrate the GC (no permeation tubes used)

The TRS gas sampling system consisted of a heated glass lined probe connected to a heated Teflon sampling line. The exhaust gas was then conveyed through a series of Teflon impingers located on the sampling platform containing a citrate buffer solution to remove SO_2 from the sample stream.

A Teflon lined sample pump transported the sample through 0.375-inch OD Teflon tubing to the ARI mobile laboratory located at grade approximately 80-feet from the sampling location. The sample was run to a manifold system at a flow rate of approximately 3 liters per minute from which a sample was introduced to the GC-FPD.

The GC-FPD system consisted of an SRI Model 9300B field gas chromatograph containing a heated gas sampling valve, column oven and detector. A computer based integrator utilizing Peak Simple W95 software was used for data acquisition and integration.

The GC-FPD was calibrated with a USEPA Protocol 1 TRS gas standard obtained from Specialty Gas Products. The gas standard was generated using an Environics Model 4040 mass flow controller gas dilution system. The dilution system was verified onsite in accordance with USEPA Method 205 (see Subsection 2.9).

The TRS results were converted to equivalent SO_2 concentration in parts per million (ppmv) using the equation:

$$\Sigma SO_2 = COS + H_2S + 2CS_2$$

During each compliance test run, there were nominally 25 to 29 injections to the GC-FPD.

2.9 USEPA METHOD 205 - GAS DILUTION SYSTEM VERIFICATION

All diluted calibration standards were prepared using an Environics Model 4040 Dilution System, which was verified by a field evaluation at the job site prior to testing following the requirements of USEPA Method 205.

ARI's Servomex Model 1440 non-dispersive infrared (NDIR) CO_2 gas analyzer was calibrated following USEPA Method 3A procedures. After the calibration procedure was complete, diluted mid and high range standards and a mid-range USEPA Protocol 1 standard were alternately introduced in triplicate and an average instrument response was calculated for each standard. No single response differed by more than $\pm$2% from the average response for each standard.

The difference between the instrument average and the predicted concentration was less than $\pm$2% for each diluted standard. The difference between the certified gas concentration and the average instrument response for the mid-range USEPA Protocol 1 standard was less than $\pm$2%. Complete documentation of the USEPA Method 205 Dilution System verification is presented in Appendix E.

SECTION THREE Test Results

The data collected for the compliance emission testing are presented in Table 3-1. The test runs represent data collected on the exhaust of the Sulften Tailgas Incinerator Exhaust.

Appendix A presents example calculations and computer generated printouts of calculated values from the field data. Appendix B presents the field data including raw handwritten sheets. The analytical data are presented in Appendix C. Appendix D contains the 15-second interval data recorded from each of ARI's reference method analyzers. Appendix E presents the calibration data and cylinder gas certification sheets. The data supplied by plant personnel for the process operating levels are presented in Appendix F. Appendix G presents a brief description of personnel qualifications for ARI's test crew.

SECTION THREE Test Results

TABLE 3-1: SULFTEN TAILGAS INCINERATOR TEST RESULTS

Company	:	Valero Refining - Texas, L.P.			
Location	:	Corpus Christi, Texas			
Source	:	Sulften Tailgas Incinerator			
Operators	:	G. Burch, S. Yuchs, D. Manthei, S. Moody, J. Goldfine			
Test Run	:	1	2	3	
Test Date	:	3/27/08	3/27/08	3/27/08	
Test Time	:	13:00 – 16:00	16:00 – 19:00	19:00 – 22:28	Average
PROCESS DATA					
ABS Overhead Rate, Mlb/hr		64.11	63.29	63.76	63.72
TGI Firebox Temperature, °F		952.8	953.5	953.8	953.4
TGI Fuel Gas Flow, lb/hr		595.90	585.27	605.96	595.71
Sulfur Production, ltpd (calculated)		360.2	353.0	351.1	354.8
STACK GAS					
Temperature, av. °F		765.0	766.7	767.9	766.5
Velocity, ft/sec		123.8	121.9	123.7	123.1
Volume flow, acfm		40,206	39,587	40,178	39,990
Volume flow, scfh		1,110,616	1,098,105	1,111,833	1,106,851
Volume flow, dscfh		1,020,360	1,012,612	1,020,919	1,017,964
Moisture, % vol		8.1	7.8	8.2	8.0
CO_2, % vol, db		4.12	4.12	4.15	4.13
O_2, % vol, db		4.85	5.00	4.77	4.87
PARTICULATE MATTER					
Sample volume, dscf		88.175	87.251	87.954	87.793
% Isokinetic		101.0	100.7	100.7	100.8
Total Particulate, mg		445.6	271.0	300.76	339.1
Total Concentration					
gr/dscf		0.07798	0.04792	0.05276	0.05955
lb/dscf x 10^{-6}		11.14	6.85	7.54	8.51
Total Emission rate					
lb/hr		11.37	6.93	7.70	8.67
NITROGEN OXIDES as NO_2					
Concentration					
ppmv db		12.47	12.78	12.61	12.62
lb/dscf x 10^{-6}		1.489	1.526	1.505	1.507
Emission rate					
lb/hr		1.52	1.56	1.52	1.53
ton/yr		6.65	6.82	6.68	6.72
CARBON MONOXIDE					
Concentration					
ppmv db		616.6	581.3	570.9	589.6
lb/dscf x 10^{-6}		44.81	42.25	41.49	42.85
Emission rate					
lb/hr		45.73	43.11	42.01	43.62
ton/yr		200.3	188.8	184.0	191.0

SECTION THREE Test Results

TABLE 3-1 (CONTINUED): SRU NO. 1 INCINERATOR TEST RESULTS

Test Run	1	2	3	
Test Date	3/27/08	3/27/08	3/27/08	
Test Time	13:00 – 16:00	16:00 – 19:00	19:00 – 22:28	Average
CARBONYL SULFIDE				
Concentration				
ppmv db	2.38	2.25	2.22	2.28
lb/dscf x 10^{-6}	0.3711	0.3508	0.3461	0.3560
Emission rate				
lb/hr	0.3786	0.3552	0.3534	0.3624
ton/yr	1.658	1.556	1.548	1.587
CARBON DISULFIDE				
Concentration				
ppmv db	<0.12	<0.12	<0.12	<0.12
lb/dscf x 10^{-6}	<0.0237	<0.0237	<0.0237	<0.0237
Emission rate				
lb/hr	<0.024	<0.024	<0.024	<0.024
ton/yr	<0.106	<0.105	<0.106	<0.106
HYDROGEN SULFIDE				
Concentration				
ppmv db @ 3% O_2	6.95	7.48	6.99	7.14
ppmv db	6.23	6.64	6.30	6.39
lb/dscf x 10^{-6}	0.5511	0.5874	0.5573	0.5653
Emission rate				
lb/hr	0.5623	0.5948	0.5690	0.5754
ton/yr	2.463	2.605	2.492	2.520
RSC as H_2S				
Concentration				
ppmv db @ 3% O_2	9.87	10.28	8.39	9.51
ppmv db	8.85	9.13	8.76	8.91
lb/dscf x 10^{-6}	0.7829	0.8076	0.7749	0.7885
Emission rate				
lb/hr	0.7988	0.8178	0.7911	0.8026
TRS as SO_2				
Concentration				
ppmv db @ 0% O_2	11.53	12.00	11.35	11.63
ppmv db	8.85	9.13	8.76	8.91
lb/dscf x 10^{-6}	1.470	1.517	1.455	1.481
Emission rate				
lb/hr	1.500	1.536	1.486	1.507
ton/yr	6.57	6.73	6.51	6.60

APPENDIX A

Calculation Summaries

MONITOR DATA SUMMARY

COMPANY :	Valero
SOURCE :	Sulften Unit
REPETITION :	Run 1
TEST DATE :	3/27/2008
START TIME :	14:31
END TIME :	16:31

GAS ANALYZER O_2

SPAN VALUE :	10 %
AVERAGE CAL. BIAS (C_m):	5.082
AVERAGE ZERO BIAS (C_o):	0.121
CALIBRATION GAS:	EPA Protocol O_2
CALIBRATION % (C_{ma}):	5.00
% CORRECTED (C_{gas}):	**4.85**

GAS ANALYZER NO_x

SPAN VALUE :	90 ppm
AVERAGE CAL. BIAS (C_m):	41.96
AVERAGE ZERO BIAS (C_o):	0.18
CALIBRATION GAS:	EPA Protocol NO_x
CALIBRATION PPM (C_{ma}):	45.0
PPM CORRECTED (C_{gas}):	**12.5**

GAS ANALYZER CO

SPAN VALUE :	1500 ppm
AVERAGE CAL. BIAS (C_m):	721.13
AVERAGE ZERO BIAS (C_o):	5.32
CALIBRATION GAS:	EPA Protocol CO
CALIBRATION PPM (C_{ma}):	750.0
PPM CORRECTED (C_{gas}):	**616.6**

GAS ANALYZER CO_2

SPAN VALUE :	18 %
AVERAGE CAL. BIAS (C_m):	8.86
AVERAGE ZERO BIAS (C_o):	-0.02
CALIBRATION GAS:	EPA Protocol CO_2
CALIBRATION % (C_{ma}):	9.00
% CORRECTED (C_{gas}):	**4.12**

CLOCK TIME	ELAPSED TIME	NO_x	CO	O_2	CO_2
14:31	0	-------	-------	-------	------
14:32	1	11.5	535.0	5.1	4.0
14:33	2	11.5	504.6	5.1	4.0
14:34	3	11.7	439.6	5.2	4.0
14:35	4	11.8	412.4	5.2	4.0
14:36	5	11.5	413.3	5.3	4.0
14:37	6	11.4	588.7	5.1	4.1
14:38	7	11.8	488.7	5.1	4.1
14:39	8	12.1	427.9	5.1	4.1
14:40	9	12.2	401.6	5.1	4.1
14:41	10	12.6	488.7	4.9	4.1
14:42	11	12.5	566.4	4.7	4.2
14:43	12	12.9	548.3	4.6	4.2
14:44	13	12.9	534.6	4.7	4.2
14:45	14	13.4	458.1	4.6	4.2
14:46	15	13.0	429.0	4.7	4.2
14:47	16	12.6	611.4	4.6	4.2
14:48	17	12.5	749.7	4.5	4.2
14:49	18	12.7	639.4	4.5	4.2
14:50	19	12.4	612.3	4.7	4.2
14:51	20	12.7	522.3	4.7	4.2
14:52	21	12.2	462.7	4.9	4.1
14:53	22	11.9	645.9	4.8	4.1
14:54	23	12.1	677.3	4.6	4.2
14:55	24	12.1	726.6	4.7	4.1
14:56	25	12.2	696.6	4.6	4.2
14:57	26	12.2	589.5	4.8	4.1
14:58	27	12.2	512.1	4.9	4.0
14:59	28	11.9	602.9	4.8	4.2
15:00	29	11.3	759.0	4.8	4.1
15:01	30	11.5	620.8	4.9	4.1
15:02	31	11.8	650.7	4.9	4.1
15:03	32	11.2	581.7	5.1	4.0
15:04	33	11.2	500.0	5.2	4.0
15:05	34	10.7	681.0	5.0	4.0
15:06	35	10.9	661.1	5.1	4.0
15:07	36	11.1	699.4	5.1	4.0
15:08	37	11.5	495.1	5.2	4.0
15:09	38	11.7	510.5	5.1	4.0
15:10	39	11.5	462.6	5.2	4.0
15:11	40	11.2	721.9	5.0	4.0
15:12	41	11.7	586.3	4.9	4.1
15:13	42	11.5	724.3	4.8	4.1
15:14	43	11.9	570.8	4.8	4.1
15:15	44	12.2	457.5	4.9	4.1
15:16	45	12.2	542.3	4.7	4.1
15:17	46	12.1	654.5	4.6	4.2
15:18	47	12.1	686.1	4.6	4.2
15:19	48	13.7	832.2	4.5	4.2
15:20	49	11.9	873.9	4.5	4.2
15:21	50	11.7	686.9	4.8	4.1
15:22	51	17.0	801.3	4.7	4.1
15:23	52	11.4	829.9	4.8	4.1
15:24	53	11.4	760.2	4.9	4.1
15:25	54	11.8	521.7	5.1	4.0
15:26	55	11.4	634.2	5.1	4.0
15:27	56	11.5	625.4	4.9	4.0
15:28	57	11.3	576.8	5.0	4.0
15:29	58	11.1	887.0	4.8	4.1
15:30	59	11.4	648.2	5.0	4.0
15:31	60	11.1	875.5	4.8	4.1
15:32	61	11.5	608.8	4.9	4.0
15:33	62	11.6	563.8	5.1	4.0
15:34	63	11.7	507.9	5.1	4.0
15:35	64	11.2	654.0	5.0	4.0
15:36	65	11.0	754.7	4.8	4.0
15:37	66	11.0	566.7	5.1	4.0
15:38	67	10.6	911.1	5.1	4.0
15:39	68	11.0	829.6	4.9	4.1
15:40	69	11.5	559.2	5.0	4.0
15:41	70	12.3	403.7	4.8	4.1
15:42	71	12.3	403.7	4.8	4.1
15:43	72	11.8	531.5	5.0	4.0
15:44	73	11.6	574.1	5.0	4.0
15:45	74	11.6	574.1	5.0	4.0

MONITOR DATA SUMMARY

CLOCK TIME	ELAPSED TIME	NO_x	CO	O_2	CO_2
15:46	75	11.6	574.1	5.0	4.0
15:47	76	11.6	574.1	5.0	4.0
15:48	77	11.6	574.1	5.0	4.0
15:49	78	11.6	574.1	5.0	4.0
15:50	79	11.6	574.1	5.0	4.0
15:51	80	11.6	574.1	5.0	4.0
15:52	81	11.6	574.1	5.0	4.0
15:53	82	11.6	574.1	5.0	4.0
15:54	83	11.6	574.1	5.0	4.0
15:55	84	11.6	574.1	5.0	4.0
15:56	85	11.6	574.1	5.0	4.0
15:57	86	11.6	574.1	5.0	4.0
15:58	87	11.6	574.1	5.0	4.0
15:59	88	11.6	574.1	5.0	4.0
16:00	89	11.6	574.1	5.0	4.0
16:01	90	11.6	574.1	5.0	4.0
16:02	91	11.6	574.1	5.0	4.0
16:03	92	11.6	574.1	5.0	4.0
16:04	93	11.6	574.1	5.0	4.0
16:05	94	11.6	574.1	5.0	4.0
16:06	95	11.6	574.1	5.0	4.0
16:07	96	11.6	574.1	5.0	4.0
16:08	97	11.6	574.1	5.0	4.0
16:09	98	11.6	574.1	5.0	4.0
16:10	99	11.6	574.1	5.0	4.0
16:11	100	11.6	574.1	5.0	4.0
16:12	101	11.6	574.1	5.0	4.0
16:13	102	11.6	574.1	5.0	4.0
16:14	103	11.6	574.1	5.0	4.0
16:15	104	11.6	574.1	5.0	4.0
16:16	105	11.6	574.1	5.0	4.0
16:17	106	11.6	574.1	5.0	4.0
16:18	107	11.6	574.1	5.0	4.0
16:19	108	11.6	574.1	5.0	4.0
16:20	109	11.6	574.1	5.0	4.0
16:21	110	11.6	574.1	5.0	4.0
16:22	111	11.6	574.1	5.0	4.0
16:23	112	11.6	574.1	5.0	4.0
16:24	113	11.6	574.1	5.0	4.0
16:25	114	11.6	574.1	5.0	4.0
16:26	115	11.6	574.1	5.0	4.0
16:27	116	11.6	574.1	5.0	4.0
16:28	117	11.6	574.1	5.0	4.0
16:29	118	11.6	574.1	5.0	4.0
16:30	119	11.6	574.1	5.0	4.0
16:31	120	11.6	574.1	5.0	4.0
$\overline{C}$	Uncorrected Average =	11.75	593.81	4.937	4.048

ARI ENVIRONMENTAL, INC.
FLOW RATE CALCULATION SUMMARY

COMPANY:	Valero	**SOURCE:**	Sulften Unit
LOCATION:	Corpus Christi, Texas	**TEST DATE:**	3/27/2008
RUN NUMBER:	1		

BAROMETRIC:	29.68 **in. Hg**	**STACK DIAM:**	31.50 **inches**
STATIC PRES:	31 **in.H_2O**	**CO_2:**	4.12 **% by volume**
STACK TEMP:	765.0 **°F**	**O_2:**	4.85 **% by volume**
SQ.RT ΔP:	1.473 **in.H_2O**		

DRY MOLECULAR WEIGHT OF STACK GAS			
$M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2 + \%CO)$	=	28.85	**lb/lb-mole**
MOLECULAR WEIGHT OF STACK GAS, wet basis			
$M_s = M_d(1 - B_{ws}) + 18B_{ws}$	=	27.97	**lb/lb-mole**
PITOT TUBE COEFFICIENT			
C_p (from calibration curve or geometric specifications)	=	0.84	
AVERAGE VELOCITY HEAD OF STACK GAS, in. H_2O			
$\overline{\sqrt{\Delta P}} = \frac{1}{n}\sum_{i=1}^{n}\sqrt{\Delta p}$	=	1.4729	**in. H_2O**
AVERAGE ABSOLUTE STACK GAS TEMPERATURE			
T_s = 765.0 °F + 460	=	1,225	**°R**
ABSOLUTE STACK GAS PRESSURE			
$P_s = P_{bar} + \frac{P_{static}}{13.6}$	=	31.96	**in.Hg**
STACK GAS VELOCITY			
$V_s = (85.49)(C_p)(\text{avg}\sqrt{\Delta P})\sqrt{\frac{T_s}{(P_s)(M_s)}}$	=	123.82	**ft/sec**
STACK GAS VOLUMETRIC FLOW RATE, actual			
$Q_s = 60 \times V_s \times A_s$	=	40,206	**acfm**
Stack Area = 5.412 ft^2			
STACK GAS VOLUMETRIC FLOW RATE, standard conditions, wet basis			
$Q_{stdw} = \left(\frac{528}{29.92}\right)(Q_s)\left(\frac{P_s}{T_s}\right)$	=	18,510 1,110,616	**scfm, wb** **scfh, wb**
STACK GAS VOLUMETRIC FLOW RATE, standard conditions, dry basis			
$Q_{std} = \left(\frac{528}{29.92}\right)(Q_s)\left(\frac{P_s}{T_s}\right)(1 - B_{ws})$	=	17,006 1,020,360	**dscfm** **dscfh**

ARI ENVIRONMENTAL, INC.
MOISTURE CALCULATION SUMMARY

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
TEST DATE: 3/27/2008
RUN NUMBER: 1

γ FACTOR:	1.025	**STACK DIAM:**	31.50 **inches**
BAROMETRIC:	29.68 **in. Hg**	**METER VOLUME:**	90.529 **ft^3**
STATIC PRES:	31.00 **in.H_2O**	**METER TEMP:**	93.5 **°F**
STACK TEMP:	765.0 **°F**	**LIQUID COLL:**	165.7 **milliliters**
SQ.RT ΔP:	1.4729 **in.H_2O**	**CO_2:**	4.12 **% by volume**
ΔH:	1.72 **in.H_2O**	**O_2:**	4.85 **% by volume**

ENGLISH UNITS
(29.92 in.Hg & 68 °F)

VOLUME OF SAMPLE
@ STANDARD CONDITIONS, DRY BASIS

$$V_{mstd} = \left(\frac{528}{29.92}\right) \times V_m \times \gamma \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}\right]$$ = 88.175 **dscf**

γ = 1.025

VOLUME OF WATER IN SAMPLE
@ STANDARD CONDITIONS

$$V_{wstd} = 0.04707 \times V_{lc}$$ = 7.799 **scf**

V_{lc} = 165.7 mL

FRACTIONAL MOISTURE CONTENT OF STACK GAS AS MEASURED

$$B_{ws} = \frac{V_{wstd}}{V_{wstd} + V_{mstd}}$$ = 0.081

FRACTIONAL MOISTURE CONTENT OF STACK GAS @ SATURATION

$$MF = \frac{\left(10^{\left[8.361 - \left(\frac{1893.5}{T - 27.65}\right)\right]}\right) - 0.5}{P}$$ = 1.000

T = 680.2 °K
P = 811.8 mmHg

FRACTIONAL MOISTURE CONTENT USED IN CALCULATIONS

B_{ws} = 0.081

ARI ENVIRONMENTAL, INC.
TOTAL PARTICULATE CALCULATION SUMMARY

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
TEST DATE: 3/27/2008
RUN NUMBER: 1

INPUT

V_m:	90.529	ft^3	Q_s:	17,006	dscfm
γ FACTOR:	1.025		T_s:	765.0	°F
P_{bar}:	29.68	in.Hg	Runtime:	120	minutes
ΔH:	1.7	$in.H_2O$	V_s:	123.8	ft/sec
T_m:	93.5	°F	P_s:	31.96	in.Hg
V_{lc}:	165.7	mL	Noz. diam:	0.206	inches
M_n front:	61.88	mg			
M_n back:	383.75	mg			

ENGLISH UNITS
(29.92 in.Hg & 68 °F)

VOLUME OF SAMPLE @ STANDARD CONDITIONS, DRY BASIS

$$V_{mstd} = \left(\frac{528}{29.92}\right) \times V_m \times \gamma \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}\right]$$

= 88.175 **dscf**

γ = 1.025

VOLUME OF WATER IN SAMPLE @ STANDARD CONDITIONS

$$V_{wstd} = 0.04707 \times V_{lc}$$

= 7.799 **scf**

FRACTIONAL MOISTURE CONTENT OF STACK GAS

$$B_{ws} = \frac{V_{wstd}}{V_{wstd} + V_{mstd}} \times 100$$

= 8.13 **%**

PARTICULATE CONCENTRATION IN STACK GAS ON A DRY BASIS

$$C_s = (0.01543)\left(\frac{M_n}{V_{mstd}}\right)$$

Total	=	0.07798	**gr/dscf**
Front	=	0.01083	**gr/dscf**
Back	=	0.06715	**gr/dscf**

$$C'_s = \left(2.205 \times 10^{-6}\right)\left(\frac{M_n}{V_{mstd}}\right)$$

C'_s Total	=	11.144	**x 10^{-6} lbs/dscf**
C's Front	=	1.547	**x 10^{-6} lbs/dscf**
C's Back	=	9.596	**x 10^{-6} lbs/dscf**

EMISSION RATE

$$pmr = \left(\frac{C_s}{7000}\right)(Q_{std})(60)$$

Total	=	11.367	**lbs/hr**
Front	=	1.578	**lbs/hr**
Back	=	9.789	**lbs/hr**

ISOKINETIC SAMPLING RATE

$$\%ISO = \frac{(100)(T_s)\left[(0.002669 \times V_{lc}) + \left(\frac{V_m}{T_m}\right)(\lambda)\left(P_{bar} + \left(\frac{\Delta H}{13.6}\right)\right)\right]}{(60)(\theta)(V_s)(P_s)(A_n)}$$

= 101.03 **% I**

A_n = 0.00023145 ft^2 Runtime = 120 minutes

NO_x CALIBRATION CORRECTION DATA SHEET
USEPA METHOD 7E

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: Thermo Environmental Model 42H
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

NO_x AVERAGE CHART READING (C):	11.75	ppmv
AVG PRE/POST ZERO DRIFT READING (C_o):	0.2	ppmv
CAL GAS CONCENTRATION (C_{ma}):	45.0	ppmv
AVG CAL PRE/POST TEST READING (C_m):	42.0	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

STACK NO_x AVERAGE CHART READING = 11.75 ppmv

STACK NO_x CONC. CORRECTED FOR ZERO AND CALIBRATION DRIFT:

NO_x CONC, ppmv (corrected) = $C_{gas,ppm} = (\bar{C} - C_o)\frac{C_{ma}}{C_m - C_o}$ = 12.47 ppmv db

NOx CONC.(lbs/dscf) =

$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{46 lb/lb-mole}{385.26 \times 10^6 ft^3/lb-mole}\right)$ = 1.489 x 10^{-6} lbs/dscf

NO_x EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK NOx EMISSION RATE =

$NO_{xpmr} = (C_{gas,lb/dscf})(Q_{std})$ = 1.519 lbs/hr
= 6.65 ton/yr

CO CALIBRATION CORRECTION DATA SHEET
USEPA METHOD 10

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: Thermo Environmental Model 42C
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

CO AVERAGE CHART READING (C):	593.8	ppmv
AVG PRE/POST ZERO DRIFT READING (C_o):	5.3	ppmv
CAL GAS CONCENTRATION (C_{ma}):	750.0	ppmv
AVG CAL PRE/POST TEST READING (C_m):	721.1	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

STACK CO AVERAGE CHART READING = 593.8 ppmv

STACK CO CONC. CORRECTED FOR ZERO AND CALIBRATION DRIFT:

CO CONC, ppmv (corrected) = $C_{gas,ppm} = (\overline{C} - C_o)\frac{C_{ma}}{C_m - C_o}$ = 616.6 ppmv db

CO CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{28 lb/lb-mole}{385.26 \times 10^6 ft^3/lb-mole}\right)$$ = 44.81 x 10^{-6} lbs/dscf

CO EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK CO EMISSION RATE =

$$CO_{pmr} = (C_{gas,lb/dscf})(Q_{std})$$ = 45.73 lbs/hr
= 200.3 ton/yr

H_2S DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

H_2S AVERAGE READING (C):	6.23	ppmv
H_2S PPMV @ 3% O2:	6.95	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

H_2S CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{34.08 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.5511 x 10^{-6} lbs/dscf

H_2S EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK H_2S EMISSION RATE =

$$H_2S_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.5623 lbs/hr
= 2.463 ton/yr

COS DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

COS AVERAGE CHART READING (C):	2.38	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

COS CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{60.07 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.3711 x 10^{-6} lbs/dscf

COS EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK COS EMISSION RATE =

$$COS_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.3786 lbs/hr
= 1.658 ton/yr

CS_2 DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

CS_2 AVERAGE CHART READING (C):	<0.12	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

CS_2 CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{76.14 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= <0.0237 x 10^{-6} lbs/dscf

CS_2 EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK CS_2 EMISSION RATE =

$$CS_{2\ pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= <0.024 lbs/hr
= <0.106 ton/yr

RSC as H2S DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

RSC AVERAGE CHART READING (C):	8.85	ppmv
RSC PPMV @ 3% O2:	9.87	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

RSC CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{34.08 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.7829 x 10^{-6} lbs/dscf

RSC EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK RSC EMISSION RATE =

$$RSC_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.7988 lbs/hr
= 3.499 ton/yr

TRS as SO2 DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 1
TEST DATE: 3/27/2008

INPUT

TRS AVERAGE CHART READING (C):	8.85	ppmv
TRS PPMV @ 0% O2:	11.53	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

TRS CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{64 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 1.470 x 10^{-6} lbs/dscf

TRS EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK TRS EMISSION RATE =

$$TRS_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 1.500 lbs/hr
= 6.57 ton/yr

MONITOR DATA SUMMARY

COMPANY :	Valero
SOURCE :	Sulften Unit
REPETITION :	2
TEST DATE :	3/27/2008
START TIME :	17:40
END TIME :	19:40

GAS ANALYZER O_2

SPAN VALUE :	10 %
AVERAGE CAL. BIAS (C_m):	5.056
AVERAGE ZERO BIAS (C_o):	0.128
CALIBRATION GAS:	EPA Protocol O_2
CALIBRATION % (C_{ma}):	5.00
% CORRECTED (C_{gas}):	**5.00**

GAS ANALYZER NO_x

SPAN VALUE :	90 ppm
AVERAGE CAL. BIAS (C_m):	42.10
AVERAGE ZERO BIAS (C_o):	0.23
CALIBRATION GAS:	EPA Protocol NO_x
CALIBRATION PPM (C_{ma}):	45.0
PPM CORRECTED (C_{gas}):	**12.8**

GAS ANALYZER CO

SPAN VALUE :	1500 ppm
AVERAGE CAL. BIAS (C_m):	724.91
AVERAGE ZERO BIAS (C_o):	6.11
CALIBRATION GAS:	EPA Protocol CO
CALIBRATION PPM (C_{ma}):	750.0
PPM CORRECTED (C_{gas}):	**581.3**

GAS ANALYZER CO_2

SPAN VALUE :	18 %
AVERAGE CAL. BIAS (C_m):	8.82
AVERAGE ZERO BIAS (C_o):	-0.02
CALIBRATION GAS:	EPA Protocol CO_2
CALIBRATION % (C_{ma}):	9.00
% CORRECTED (C_{gas}):	**4.12**

CLOCK TIME	ELAPSED TIME	NO_x	CO	O_2	CO_2
17:40	0	-------	-------	-------	-------
17:41	1	12.0	544.3	5.14	4.00
17:42	2	12.2	524.3	5.09	4.00
17:43	3	11.8	596.8	5.12	4.01
17:44	4	11.6	834.8	4.91	4.07
17:45	5	12.1	738.6	4.81	4.08
17:46	6	11.9	787.2	4.86	4.08
17:47	7	12.3	750.3	4.81	4.09
17:48	8	12.4	606.5	4.87	4.06
17:49	9	12.3	468.4	5.11	4.00
17:50	10	11.9	718.3	5.00	4.03
17:51	11	11.9	706.9	4.79	4.10
17:52	12	11.7	662.9	5.00	4.04
17:53	13	11.7	625.4	5.07	4.03
17:54	14	11.7	543.3	5.14	4.02
17:55	15	11.0	798.2	5.09	4.06
17:56	16	11.4	796.0	5.02	4.08
17:57	17	11.8	574.2	5.17	4.04
17:58	18	11.7	564.9	5.22	4.03
17:59	19	12.1	527.9	5.15	4.02
18:00	20	12.4	474.9	5.14	4.02
18:01	21	12.3	472.6	5.1	4.0
18:02	22	11.9	741.9	4.8	4.1
18:03	23	12.4	622.5	4.8	4.1
18:04	24	12.4	485.5	5.0	4.0
18:05	25	12.4	541.7	4.9	4.1
18:06	26	12.4	467.3	5.0	4.1
18:07	27	12.3	542.3	4.9	4.1
18:08	28	12.3	663.3	4.7	4.2
18:09	29	12.5	509.4	4.8	4.1
18:10	30	12.2	478.5	5.1	4.1
18:11	31	12.3	539.8	5.0	4.1
18:12	32	12.3	482.1	5.1	4.1
18:13	33	12.4	506.9	5.1	4.1
18:14	34	12.3	469.8	5.1	4.1
18:15	35	12.0	528.0	5.0	4.1
18:16	36	12.1	677.4	4.9	4.1
18:17	37	12.2	582.8	4.9	4.1
18:18	38	12.3	514.8	5.0	4.0
18:19	39	12.2	542.1	5.0	4.0
18:20	40	12.3	504.6	5.0	4.0
18:21	41	11.8	651.8	5.0	4.0
18:22	42	12.2	727.1	4.8	4.1
18:23	43	11.9	659.7	4.9	4.1
18:24	44	11.8	861.9	4.8	4.1
18:25	45	12.0	743.3	4.9	4.1
18:26	46	11.6	700.6	5.1	4.0
18:27	47	12.0	861.3	4.8	4.1
18:28	48	11.8	702.7	5.0	4.0
18:29	49	11.8	721.0	5.0	4.0
18:30	50	11.8	749.4	5.0	4.0
18:31	51	12.0	758.8	4.9	4.1
18:32	52	12.3	508.8	5.2	4.0
18:33	53	12.4	552.6	5.1	4.0
18:34	54	12.7	442.8	5.2	4.0
18:35	55	12.1	698.4	5.0	4.0
18:36	56	12.4	702.2	4.8	4.1
18:37	57	12.2	700.5	4.9	4.1
18:38	58	12.3	846.3	4.6	4.1
18:39	59	12.2	718.5	4.7	4.1
18:40	60	12.3	515.6	5.0	4.0
18:41	61	12.3	672.6	4.8	4.1
18:42	62	12.4	487.9	5.0	4.0
18:43	63	12.3	585.3	4.9	4.0
18:44	64	12.1	659.2	4.9	4.1
18:45	65	12.4	536.8	5.0	4.0
18:46	66	12.3	528.2	5.0	4.0
18:47	67	12.4	539.2	5.0	4.0
18:48	68	12.0	628.5	4.9	4.0
18:49	69	12.3	595.8	5.0	4.0
18:50	70	12.6	412.7	5.2	4.0
18:51	71	12.6	412.7	5.2	4.0
18:52	72	12.2	470.7	5.2	4.0
18:53	73	12.1	490.0	5.2	4.0
18:54	74	12.1	490.0	5.2	4.0

MONITOR DATA SUMMARY

CLOCK TIME	ELAPSED TIME	NO_x	CO	O_2	CO_2
18:55	75	12.1	490.0	5.2	4.0
18:56	76	12.1	490.0	5.2	4.0
18:57	77	12.1	490.0	5.2	4.0
18:58	78	12.1	490.0	5.2	4.0
18:59	79	12.1	490.0	5.2	4.0
19:00	80	12.1	490.0	5.2	4.0
19:01	81	12.1	490.0	5.2	4.0
19:02	82	12.1	490.0	5.2	4.0
19:03	83	12.1	490.0	5.2	4.0
19:04	84	12.1	490.0	5.2	4.0
19:05	85	12.1	490.0	5.2	4.0
19:06	86	12.1	490.0	5.2	4.0
19:07	87	12.1	490.0	5.2	4.0
19:08	88	12.1	490.0	5.2	4.0
19:09	89	12.1	490.0	5.2	4.0
19:10	90	12.1	490.0	5.2	4.0
19:11	91	12.1	490.0	5.2	4.0
19:12	92	12.1	490.0	5.2	4.0
19:13	93	12.1	490.0	5.2	4.0
19:14	94	12.1	490.0	5.2	4.0
19:15	95	12.1	490.0	5.2	4.0
19:16	96	12.1	490.0	5.2	4.0
19:17	97	12.1	490.0	5.2	4.0
19:18	98	12.1	490.0	5.2	4.0
19:19	99	12.1	490.0	5.2	4.0
19:20	100	12.1	490.0	5.2	4.0
19:21	101	12.1	490.0	5.2	4.0
19:22	102	12.1	490.0	5.2	4.0
19:23	103	12.1	490.0	5.2	4.0
19:24	104	12.1	490.0	5.2	4.0
19:25	105	12.1	490.0	5.2	4.0
19:26	106	12.1	490.0	5.2	4.0
19:27	107	12.1	490.0	5.2	4.0
19:28	108	12.1	490.0	5.2	4.0
19:29	109	12.1	490.0	5.2	4.0
19:30	110	12.1	490.0	5.2	4.0
19:31	111	12.1	490.0	5.2	4.0
19:32	112	12.1	490.0	5.2	4.0
19:33	113	12.1	490.0	5.2	4.0
19:34	114	12.1	490.0	5.2	4.0
19:35	115	12.1	490.0	5.2	4.0
19:36	116	12.1	490.0	5.2	4.0
19:37	117	12.1	490.0	5.2	4.0
19:38	118	12.1	490.0	5.2	4.0
19:39	119	12.1	490.0	5.2	4.0
19:40	120	12.1	490.0	5.2	4.0
	Uncorrected Average =	**12.126**	**563.24**	**5.059**	**4.024**

ARI ENVIRONMENTAL, INC.
FLOW RATE CALCULATION SUMMARY

COMPANY:	Valero	**SOURCE:**	Sulften Unit
LOCATION:	Corpus Christi, Texas	**TEST DATE:**	3/27/2008
RUN NUMBER:	2		

BAROMETRIC:	29.68 **in. Hg**	**STACK DIAM:**	31.50 **inches**
STATIC PRES:	33.4 **in.H_2O**	**CO_2:**	4.12 **% by volume**
STACK TEMP:	766.7 **°F**	**O_2:**	5.00 **% by volume**
SQ.RT ΔP:	1.454 **in.H_2O**		

DRY MOLECULAR WEIGHT OF STACK GAS

$$M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2 + \%CO)$$ = 28.86 **lb/lb-mole**

MOLECULAR WEIGHT OF STACK GAS, wet basis

$$M_s = M_d(1 - B_{ws}) + 18B_{ws}$$ = 28.01 **lb/lb-mole**

PITOT TUBE COEFFICIENT

C_p (from calibration curve or geometric specifications) = 0.84

AVERAGE VELOCITY HEAD OF STACK GAS, in. H_2O

$$\overline{\sqrt{\Delta P}} = \frac{1}{n}\sum_{i=1}^{n}\sqrt{\Delta p}$$ = 1.4544 **in. H_2O**

AVERAGE ABSOLUTE STACK GAS TEMPERATURE

T_s = 766.7 °F + 460 = 1,227 **°R**

ABSOLUTE STACK GAS PRESSURE

$$P_s = P_{bar} + \frac{P_{static}}{13.6}$$ = 32.14 **in.Hg**

STACK GAS VELOCITY

$$V_s = (85.49)(C_p)\left(\text{avg}\sqrt{\Delta P}\right)\sqrt{\frac{T_s}{(P_s)(M_s)}}$$ = 121.91 **ft/sec**

STACK GAS VOLUMETRIC FLOW RATE, actual

$$Q_s = 60 \times V_s \times A_s$$ = 39,587 **acfm**

Stack Area = 5.412 ft^2

STACK GAS VOLUMETRIC FLOW RATE, standard conditions, wet basis

$$Q_{stdw} = \left(\frac{528}{29.92}\right)(Q_s)\left(\frac{P_s}{T_s}\right)$$ = 18,302 **scfm, wb**
1,098,105 **scfh, wb**

STACK GAS VOLUMETRIC FLOW RATE, standard conditions, dry basis

$$Q_{std} = \left(\frac{528}{29.92}\right)(Q_s)\left(\frac{P_s}{T_s}\right)(1 - B_{ws})$$ = 16,877 **dscfm**
1,012,612 **dscfh**

ARI ENVIRONMENTAL, INC.
MOISTURE CALCULATION SUMMARY

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
TEST DATE: 3/27/2008
RUN NUMBER: 2

γ FACTOR:	1.025	**STACK DIAM:**	31.50 **inches**
BAROMETRIC:	29.68 **in. Hg**	**METER VOLUME:**	89.139 **ft^3**
STATIC PRES:	33.40 **in.H_2O**	**METER TEMP:**	90.7 **°F**
STACK TEMP:	766.7 **°F**	**LIQUID COLL:**	156.5 **milliliters**
SQ.RT ΔP:	1.4544 **in.H_2O**	**CO_2:**	4.12 **% by volume**
ΔH:	1.66 **in.H_2O**	**O_2:**	5.00 **% by volume**

ENGLISH UNITS
(29.92 in.Hg & 68 °F)

VOLUME OF SAMPLE
@ STANDARD CONDITIONS, DRY BASIS

$$V_{mstd} = \left(\frac{528}{29.92}\right) \times V_m \times \gamma \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}\right]$$ = 87.251 **dscf**

γ = 1.025

VOLUME OF WATER IN SAMPLE
@ STANDARD CONDITIONS

$$V_{wstd} = 0.04707 \times V_{lc}$$ = 7.366 **scf**

V_{lc} = 156.5 mL

FRACTIONAL MOISTURE CONTENT OF STACK GAS AS MEASURED

$$B_{ws} = \frac{V_{wstd}}{V_{wstd} + V_{mstd}}$$ = 0.078

FRACTIONAL MOISTURE CONTENT OF STACK GAS @ SATURATION

$$MF = \frac{\left(10^{\left[8.361 - \left(\frac{1893.5}{T - 27.65}\right)\right]}\right) - 0.5}{P}$$ = 1.000

T = 681.1 °K
P = 816.3 mmHg

FRACTIONAL MOISTURE CONTENT USED IN CALCULATIONS

B_{ws} = 0.078

ARI ENVIRONMENTAL, INC.
TOTAL PARTICULATE CALCULATION SUMMARY

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
TEST DATE: 3/27/2008
RUN NUMBER: 2

INPUT

V_m:	89.139	ft^3	Q_s:	16,877	dscfm
γ FACTOR:	1.025		T_s:	766.7	°F
P_{bar}:	29.68	in.Hg	Runtime:	120	minutes
ΔH:	1.66	$in.H_2O$	V_s:	121.915	ft/sec
T_m:	90.7	°F	P_s:	32.14	in.Hg
V_{lc}:	156.5	mL	Noz. diam:	0.206	inches
M_n front:	35.06	mg			
M_n back:	235.90	mg			

ENGLISH UNITS
(29.92 in.Hg & 68 °F)

VOLUME OF SAMPLE @ STANDARD CONDITIONS, DRY BASIS

$$V_{mstd} = \left(\frac{528}{29.92}\right) \times V_m \times \gamma \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}\right]$$

= 87.251 **dscf**

γ = 1.025

VOLUME OF WATER IN SAMPLE @ STANDARD CONDITIONS

$$V_{wstd} = 0.04707 \times V_{lc}$$

= 7.366 **scf**

FRACTIONAL MOISTURE CONTENT OF STACK GAS

$$B_{ws} = \frac{V_{wstd}}{V_{wstd} + V_{mstd}} \times 100$$

= 7.79 **%**

PARTICULATE CONCENTRATION IN STACK GAS ON A DRY BASIS

$$C_s = (0.01543)\left(\frac{M_n}{V_{mstd}}\right)$$

Total	=	0.04792	**gr/dscf**
Front	=	0.00620	**gr/dscf**
Back	=	0.041718	**gr/dscf**

$$C'_s = \left(2.205 \times 10^{-6}\right)\left(\frac{M_n}{V_{mstd}}\right)$$

C'_s Total	=	6.848	**x 10^{-6} lbs/dscf**
C's Front	=	0.886	**x 10^{-6} lbs/dscf**
C's Back	=	5.9616	**x 10^{-6} lbs/dscf**

EMISSION RATE

$$pmr = \left(\frac{C_s}{7000}\right)(Q_{std})(60)$$

Total	=	6.932	**lbs/hr**
Front	=	0.897	**lbs/hr**
Back	=	6.0349	**lbs/hr**

ISOKINETIC SAMPLING RATE

$$\%ISO = \frac{(100)(T_s)\left[(0.002669 \times V_{lc}) + \left(\frac{V_m}{T_m}\right)(\lambda)\left(P_{bar} + \left(\frac{\Delta H}{13.6}\right)\right)\right]}{(60)(\theta)(V_s)(P_s)(A_n)}$$

= 100.74 **% I**

A_n = 0.00023145 ft^2 Runtime = 120 minutes

NO_x CALIBRATION CORRECTION DATA SHEET
USEPA METHOD 7E

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: Thermo Environmental Model 42H
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

NO_x AVERAGE CHART READING (C):	12.13	ppmv
AVG PRE/POST ZERO DRIFT READING (C_o):	0.2	ppmv
CAL GAS CONCENTRATION (C_{ma}):	45.0	ppmv
AVG CAL PRE/POST TEST READING (C_m):	42.1	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

STACK NO_x AVERAGE CHART READING = 12.13 ppmv

STACK NO_x CONC. CORRECTED FOR ZERO AND CALIBRATION DRIFT:

NO_x CONC, ppmv (corrected) = $C_{gas,ppm} = (\overline{C} - C_o)\frac{C_{ma}}{C_m - C_o}$ = 12.78 ppmv db

NOx CONC.(lbs/dscf) =

$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{46 lb/lb-mole}{385.26 \times 10^6 ft^3/lb-mole}\right)$ = 1.526 x 10^{-6} lbs/dscf

NO_x EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK NOx EMISSION RATE =

$NO_{xpmr} = (C_{gas,lb/dscf})(Q_{std})$ = 1.557 lbs/hr
= 6.82 ton/yr

CO CALIBRATION CORRECTION DATA SHEET
USEPA METHOD 10

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: Thermo Environmental Model 42C
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

CO AVERAGE CHART READING (C):	563.2	ppmv
AVG PRE/POST ZERO DRIFT READING (C_o):	6.1	ppmv
CAL GAS CONCENTRATION (C_{ma}):	750.0	ppmv
AVG CAL PRE/POST TEST READING (C_m):	724.9	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,360	dscfh

CALCULATIONS

STACK CO AVERAGE CHART READING = 563.2 ppmv

STACK CO CONC. CORRECTED FOR ZERO AND CALIBRATION DRIFT:

CO CONC, ppmv (corrected) = $C_{gas,ppm} = (\overline{C} - C_o)\frac{C_{ma}}{C_m - C_o}$ = 581.3 ppmv db

CO CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{28 lb/lb-mole}{385.26 \times 10^6 ft^3/lb-mole}\right)$$

= 42.25 x 10^{-6} lbs/dscf

CO EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,360 dscfh

STACK CO EMISSION RATE =

$$CO_{pmr} = (C_{gas,lb/dscf})(Q_{std})$$

= 43.11 lbs/hr
= 188.8 ton/yr

H_2S DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

H_2S AVERAGE READING (C):	6.64	ppmv
H_2S PPMV @ 3% O_2:	7.48	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

H_2S CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{34.08 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.5874 x 10^{-6} lbs/dscf

H_2S EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK H_2S EMISSION RATE =

$$H_2S_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.5948 lbs/hr
= 2.605 ton/yr

COS DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

COS AVERAGE CHART READING (C):	2.25	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

COS CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{60.07 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.3508 x 10^{-6} lbs/dscf

COS EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK COS EMISSION RATE =

$$COS_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.3552 lbs/hr
= 1.556 ton/yr

CS_2 DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

CS_2 AVERAGE CHART READING (C):	<0.12	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

CS_2 CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{76.14 lb/lb-mole}{385.26\times10^{6} ft^3/lb-mole}\right)$$

= <0.0237 x 10^{-6} lbs/dscf

CS_2 EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK CS_2 EMISSION RATE =

$$CS_{2\ pmr} = (C_{gas,lb/dscf})(Q_{std})$$

= <0.024 lbs/hr
= <0.105 ton/yr

RSC as H_2S DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

RSC AVERAGE CHART READING (C):	9.13	ppmv
RSC PPMV @ 3% O_2:	10.28	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

RSC CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{34.08 lb/lb-mole}{385.26\times10^{6} ft^3/lb-mole}\right)$$

= 0.8076 x 10^{-6} lbs/dscf

RSC EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK RSC EMISSION RATE =

$$RSC_{pmr} = (C_{gas,lb/dscf})(Q_{std})$$

= 0.8178 lbs/hr
= 3.582 ton/yr

TRS as SO_2 DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 2
TEST DATE: 3/27/2008

INPUT

TRS AVERAGE CHART READING (C):	9.13	ppmv
TRS PPMV @ 0% O_2:	12.00	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

TRS CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{64 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 1.517 x 10^{-6} lbs/dscf

TRS EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK TRS EMISSION RATE =

$$TRS = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 1.536 lbs/hr
= 6.73 ton/yr

MONITOR DATA SUMMARY

COMPANY :	Valero
SOURCE :	Sulften Unit
REPETITION :	3
TEST DATE :	3/27/2008
START TIME :	20:20
END TIME :	22:20

GAS ANALYZER O_2

SPAN VALUE :	10 %
AVERAGE CAL. BIAS (C_m):	5.074
AVERAGE ZERO BIAS (C_o):	0.140
CALIBRATION GAS:	EPA Protocol O_2
CALIBRATION % (C_{ma}):	5.00
% CORRECTED (C_{gas}):	4.77

GAS ANALYZER NO_x

SPAN VALUE :	90 ppm
AVERAGE CAL. BIAS (C_m):	43.10
AVERAGE ZERO BIAS (C_o):	0.25
CALIBRATION GAS:	EPA Protocol NO_x
CALIBRATION PPM (C_{ma}):	45.0
PPM CORRECTED (C_{gas}):	**12.6**

GAS ANALYZER CO

SPAN VALUE :	1500 ppm
AVERAGE CAL. BIAS (C_m):	728.73
AVERAGE ZERO BIAS (C_o):	6.91
CALIBRATION GAS:	EPA Protocol CO
CALIBRATION PPM (C_{ma}):	750.0
PPM CORRECTED (C_{gas}):	**570.9**

GAS ANALYZER CO_2

SPAN VALUE :	18 %
AVERAGE CAL. BIAS (C_m):	8.80
AVERAGE ZERO BIAS (C_o):	-0.02
CALIBRATION GAS:	EPA Protocol CO_2
CALIBRATION % (C_{ma}):	9.00
% CORRECTED (C_{gas}):	**4.2**

CLOCK TIME	ELAPSED TIME	NO_x	CO	O_2	CO_2
20:20	0	-------	-------	-------	-------
20:21	1	12.3	516.1	4.83	4.04
20:22	2	12.2	530.6	4.91	4.02
20:23	3	12.2	602.9	4.77	4.04
20:24	4	12.3	662.5	4.62	4.08
20:25	5	12.0	716.2	4.68	4.08
20:26	6	11.9	669.7	4.86	4.03
20:27	7	12.2	559.8	4.91	4.01
20:28	8	12.0	521.8	4.98	4.01
20:29	9	11.8	498.4	5.12	3.99
20:30	10	11.7	627.8	5.04	4.03
20:31	11	11.6	639.4	5.06	4.03
20:32	12	12.0	601.9	4.95	4.05
20:33	13	12.2	469.1	5.06	4.01
20:34	14	12.3	413.2	5.12	3.99
20:35	15	12.2	743.6	4.72	4.08
20:36	16	12.3	686.4	4.57	4.10
20:37	17	12.8	474.5	4.79	4.04
20:38	18	12.6	568.4	4.74	4.05
20:39	19	12.5	516.6	4.79	4.01
20:40	20	12.4	680.5	4.66	4.05
20:41	21	12.2	595.9	4.7	4.1
20:42	22	12.0	641.1	4.8	4.1
20:43	23	12.3	484.6	4.9	4.0
20:44	24	12.0	477.9	5.0	4.0
20:45	25	12.0	504.5	5.0	4.0
20:46	26	11.7	583.9	5.0	4.1
20:47	27	11.7	724.4	4.8	4.1
20:48	28	12.2	655.8	4.8	4.1
20:49	29	12.4	575.4	4.9	4.1
20:50	30	12.7	514.3	4.8	4.1
20:51	31	12.6	484.4	4.8	4.0
20:52	32	12.1	738.5	4.7	4.1
20:53	33	12.5	607.1	4.6	4.1
20:54	34	12.5	688.2	4.5	4.1
20:55	35	12.2	501.1	4.8	4.0
20:56	36	12.1	546.1	4.9	4.0
20:57	37	12.0	506.8	4.9	4.0
20:58	38	11.6	679.9	4.9	4.0
20:59	39	12.0	569.1	4.8	4.0
21:00	40	12.1	475.8	5.0	4.0
21:01	41	12.1	538.4	4.9	4.0
21:02	42	11.9	543.6	4.9	4.0
21:03	43	11.9	608.8	5.0	4.0
21:04	44	12.0	503.3	5.0	4.0
21:05	45	11.9	457.3	5.1	4.0
21:06	46	11.9	619.9	4.9	4.0
21:07	47	11.8	704.3	4.6	4.1
21:08	48	11.8	608.0	4.8	4.1
21:09	49	11.8	719.9	4.8	4.1
21:10	50	11.9	491.2	5.0	4.0
21:11	51	11.6	572.7	5.0	4.0
21:12	52	11.7	802.5	4.8	4.1
21:13	53	12.0	623.0	4.8	4.1
21:14	54	12.3	428.0	5.1	4.0
21:15	55	12.2	545.4	5.0	4.0
21:16	56	12.1	610.1	4.8	4.1
21:17	57	12.2	590.1	4.8	4.1
21:18	58	12.2	468.9	5.0	4.0
21:19	59	12.2	515.2	5.0	4.0
21:20	60	12.5	467.6	4.8	4.0
21:21	61	12.3	535.5	4.8	4.0
21:22	62	12.3	536.8	4.7	4.1
21:23	63	12.4	516.5	4.7	4.1
21:24	64	12.3	491.4	4.8	4.1
21:25	65	12.1	499.2	4.9	4.1
21:26	66	12.4	594.3	4.7	4.1
21:27	67	12.4	473.6	4.9	4.1
21:28	68	12.2	447.6	5.0	4.0
21:29	69	12.2	583.5	4.8	4.1
21:30	70	12.5	683.4	4.5	4.1
21:31	71	12.5	683.4	4.5	4.1
21:32	72	12.4	568.9	4.8	4.1
21:33	73	12.4	530.7	4.8	4.0
21:34	74	12.4	530.7	4.8	4.0

MONITOR DATA SUMMARY

CLOCK TIME	ELAPSED TIME	NO_x	CO	O_2	CO_2
21:35	75	12.4	530.7	4.8	4.0
21:36	76	12.4	530.7	4.8	4.0
21:37	77	12.4	530.7	4.8	4.0
21:38	78	12.4	530.7	4.8	4.0
21:39	79	12.4	530.7	4.8	4.0
21:40	80	12.4	530.7	4.8	4.0
21:41	81	12.4	530.7	4.8	4.0
21:42	82	12.4	530.7	4.8	4.0
21:43	83	12.4	530.7	4.8	4.0
21:44	84	12.4	530.7	4.8	4.0
21:45	85	12.4	530.7	4.8	4.0
21:46	86	12.4	530.7	4.8	4.0
21:47	87	12.4	530.7	4.8	4.0
21:48	88	12.4	530.7	4.8	4.0
21:49	89	12.4	530.7	4.8	4.0
21:50	90	12.4	530.7	4.8	4.0
21:51	91	12.4	530.7	4.8	4.0
21:52	92	12.4	530.7	4.8	4.0
21:53	93	12.4	530.7	4.8	4.0
21:54	94	12.4	530.7	4.8	4.0
21:55	95	12.4	530.7	4.8	4.0
21:56	96	12.4	530.7	4.8	4.0
21:57	97	12.4	530.7	4.8	4.0
21:58	98	12.4	530.7	4.8	4.0
21:59	99	12.4	530.7	4.8	4.0
22:00	100	12.4	530.7	4.8	4.0
22:01	101	12.4	530.7	4.8	4.0
22:02	102	12.4	530.7	4.8	4.0
22:03	103	12.4	530.7	4.8	4.0
22:04	104	12.4	530.7	4.8	4.0
22:05	105	12.4	530.7	4.8	4.0
22:06	106	12.4	530.7	4.8	4.0
22:07	107	12.4	530.7	4.8	4.0
22:08	108	12.4	530.7	4.8	4.0
22:09	109	12.4	530.7	4.8	4.0
22:10	110	12.4	530.7	4.8	4.0
22:11	111	12.4	530.7	4.8	4.0
22:12	112	12.4	530.7	4.8	4.0
22:13	113	12.4	530.7	4.8	4.0
22:14	114	12.4	530.7	4.8	4.0
22:15	115	12.4	530.7	4.8	4.0
22:16	116	12.4	530.7	4.8	4.0
22:17	117	12.4	530.7	4.8	4.0
22:18	118	12.4	530.7	4.8	4.0
22:19	119	12.4	530.7	4.8	4.0
22:20	120	12.4	530.7	4.8	4.0
	Uncorrected Average =	**12.26**	**556.35**	**4.843**	**4.048**

ARI ENVIRONMENTAL, INC.
FLOW RATE CALCULATION SUMMARY

COMPANY:	Valero	**SOURCE:**	Sulften Unit
LOCATION:	Corpus Christi, Texas	**TEST DATE:**	3/27/2008
RUN NUMBER:	3		

BAROMETRIC:	29.68 **in. Hg**	**STACK DIAM:**	31.50 **inches**
STATIC PRES:	32.8 **in.H_2O**	**CO_2:**	4.15 **% by volume**
STACK TEMP:	767.9 **°F**	**O_2:**	4.77 **% by volume**
SQ.RT ΔP:	1.473 **in.H_2O**		

DRY MOLECULAR WEIGHT OF STACK GAS			
$M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2 + \%CO)$	=	28.85	**lb/lb-mole**
MOLECULAR WEIGHT OF STACK GAS, wet basis			
$M_s = M_d(1 - B_{ws}) + 18B_{ws}$	=	27.97	**lb/lb-mole**
PITOT TUBE COEFFICIENT			
C_p (from calibration curve or geometric specifications)	=	0.84	
AVERAGE VELOCITY HEAD OF STACK GAS, in. H_2O			
$\overline{\sqrt{\Delta P}} = \frac{1}{n}\sum_{i=1}^{n}\sqrt{\Delta p}$	=	1.4731	**in. H_2O**
AVERAGE ABSOLUTE STACK GAS TEMPERATURE			
T_s = 767.9 °F + 460	=	1,228	**°R**
ABSOLUTE STACK GAS PRESSURE			
$P_s = P_{bar} + \frac{P_{static}}{13.6}$	=	32.09	**in.Hg**
STACK GAS VELOCITY			
$V_s = (85.49)(C_p)(\text{avg}\sqrt{\Delta P})\sqrt{\frac{T_s}{(P_s)(M_s)}}$	=	123.73	**ft/sec**
STACK GAS VOLUMETRIC FLOW RATE, actual			
$Q_s = 60 \times V_s \times A_s$	=	40,178	**acfm**
Stack Area = 5.412 ft^2			
STACK GAS VOLUMETRIC FLOW RATE, standard conditions, wet basis			
$Q_{stdw} = \left(\frac{528}{29.92}\right)(Q_s)\left(\frac{P_s}{T_s}\right)$	=	18,531 1,111,833	**scfm, wb** **scfh, wb**
STACK GAS VOLUMETRIC FLOW RATE, standard conditions, dry basis			
$Q_{std} = \left(\frac{528}{29.92}\right)(Q_s)\left(\frac{P_s}{T_s}\right)(1 - B_{ws})$	=	17,015 1,020,919	**dscfm** **dscfh**

ARI ENVIRONMENTAL, INC.
MOISTURE CALCULATION SUMMARY

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
TEST DATE: 3/27/2008
RUN NUMBER: 3

γ FACTOR:	1.025	**STACK DIAM:**	31.50 **inches**
BAROMETRIC:	29.68 **in. Hg**	**METER VOLUME:**	89.474 **ft^3**
STATIC PRES:	32.80 **in.H_2O**	**METER TEMP:**	88.4 **°F**
STACK TEMP:	767.9 **°F**	**LIQUID COLL:**	166.4 **milliliters**
SQ.RT ΔP:	1.4731 **in.H_2O**	**CO_2:**	4.15 **% by volume**
ΔH:	1.70 **in.H_2O**	**O_2:**	4.77 **% by volume**

ENGLISH UNITS
(29.92 in.Hg & °F)

VOLUME OF SAMPLE
@ STANDARD CONDITIONS, DRY BASIS

$$V_{mstd} = \left(\frac{528}{29.92}\right) \times V_m \times \gamma \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}\right]$$ = 87.954 **dscf**

γ = 1.025

VOLUME OF WATER IN SAMPLE
@ STANDARD CONDITIONS

$$V_{wstd} = 0.04707 \times V_{lc}$$ = 7.832 **scf**

V_{lc} = 166.4 mL

FRACTIONAL MOISTURE CONTENT OF STACK GAS AS MEASURED

$$B_{ws} = \frac{V_{wstd}}{V_{wstd} + V_{mstd}}$$ = 0.082

FRACTIONAL MOISTURE CONTENT OF STACK GAS @ SATURATION

$$MF = \frac{\left(10^{\left[8.361 - \left(\frac{1893.5}{T - 27.65}\right)\right]}\right) - 0.5}{P}$$ = 1.000

T = 681.8 °K
P = 815.1 mmHg

FRACTIONAL MOISTURE CONTENT USED IN CALCULATIONS

B_{ws} = 0.082

ARI ENVIRONMENTAL, INC.
TOTAL PARTICULATE CALCULATION SUMMARY

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
TEST DATE: 3/27/2008
RUN NUMBER: 3

INPUT

V_m:	89.474	ft^3	Q_s:	17,015	dscfm
γ FACTOR:	1.025		T_s:	767.9	°F
P_{bar}:	29.68	in.Hg	Runtime:	120	minutes
ΔH:	1.7	$in.H_2O$	V_s:	123.7	ft/sec
T_m:	88.4	°F	P_s:	32.09	in.Hg
V_{lc}:	166.4	mL	Noz. diam:	0.206	inches
~~M_n front:~~	~~36.86~~	~~mg~~			
M_n back:	263.90	mg			

ENGLISH UNITS
(29.92 in.Hg & 68 °F)

VOLUME OF SAMPLE @ STANDARD CONDITIONS, DRY BASIS

$$V_{mstd} = \left(\frac{528}{29.92}\right) \times V_m \times \gamma \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}\right]$$

= 87.954 **dscf**

γ = 1.025

VOLUME OF WATER IN SAMPLE @ STANDARD CONDITIONS

$$V_{wstd} = 0.04707 \times V_{lc}$$

= 7.832 **scf**

FRACTIONAL MOISTURE CONTENT OF STACK GAS

$$B_{ws} = \frac{V_{wstd}}{V_{wstd} + V_{mstd}} \times 100$$

= 8.18 **%**

PARTICULATE CONCENTRATION IN STACK GAS ON A DRY BASIS

$$C_s = (0.01543)\left(\frac{M_n}{V_{mstd}}\right)$$

Total	=	0.05276	**gr/dscf**
Front	=	0.00647	**gr/dscf**
Back	=	0.04630	**gr/dscf**

$$C'_s = \left(2.205 \times 10^{-6}\right)\left(\frac{M_n}{V_{mstd}}\right)$$

C'_s Total	=	7.54	**x 10^{-6} lbs/dscf**
C's Front	=	0.924	**x 10^{-6} lbs/dscf**
C's Back	=	6.616	**x 10^{-6} lbs/dscf**

EMISSION RATE

$$pmr = \left(\frac{C_s}{7000}\right)(Q_{std})(60)$$

Total	=	7.70	**lbs/hr**
Front	=	0.943	**lbs/hr**
Back	=	6.752	**lbs/hr**

ISOKINETIC SAMPLING RATE

$$\%ISO = \frac{(100)(T_s)\left[(0.002669 \times V_{lc}) + \left(\frac{V_m}{T_m}\right)(\lambda)\left(P_{bar} + \left(\frac{\Delta H}{13.6}\right)\right)\right]}{(60)(\theta)(V_s)(P_s)(A_n)}$$

= 100.73 **% I**

A_n = 0.00023145 ft^2 Runtime = 120 minutes

NO_x CALIBRATION CORRECTION DATA SHEET
USEPA METHOD 7E

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: Thermo Environmental Model 42H
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

NO_x AVERAGE CHART READING (C):	12.26	ppmv
AVG PRE/POST ZERO DRIFT READING (C_o):	0.3	ppmv
CAL GAS CONCENTRATION (C_{ma}):	45.0	ppmv
AVG CAL PRE/POST TEST READING (C_m):	43.1	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

STACK NO_x AVERAGE CHART READING = 12.26 ppmv

STACK NO_x CONC. CORRECTED FOR ZERO AND CALIBRATION DRIFT:

NO_x CONC, ppmv (corrected) = $C_{gas,ppm} = (\overline{C} - C_o)\frac{C_{ma}}{C_m - C_o}$ = 12.61 ppmv db

NOx CONC.(lbs/dscf) =

$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{46 lb/lb-mole}{385.26 \times 10^6 ft^3/lb-mole}\right)$ = 1.505 x 10^{-6} lbs/dscf

NO_x EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK NOx EMISSION RATE =

$NO_{xpmr} = (C_{gas,lb/dscf})(Q_{std})$ = 1.524 lbs/hr
= 6.68 ton/yr

CO CALIBRATION CORRECTION DATA SHEET
USEPA METHOD 10

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: Thermo Environmental Model 42C
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

CO AVERAGE CHART READING (C):	556.3	ppmv
AVG PRE/POST ZERO DRIFT READING (C_o):	6.9	ppmv
CAL GAS CONCENTRATION (C_{ma}):	750.0	ppmv
AVG CAL PRE/POST TEST READING (C_m):	728.7	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,012,612	dscfh

CALCULATIONS

STACK CO AVERAGE CHART READING = 556.3 ppmv

STACK CO CONC. CORRECTED FOR ZERO AND CALIBRATION DRIFT:

CO CONC, ppmv (corrected) = $C_{gas,ppm} = (\overline{C} - C_o)\frac{C_{ma}}{C_m - C_o}$ = 570.9 ppmv db

CO CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = (C_{gas,ppm})\left(\frac{28 lb/lb-mole}{385.26 \times 10^6 ft^3/lb-mole}\right)$$ = 41.49 x 10^{-6} lbs/dscf

CO EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,012,612 dscfh

STACK CO EMISSION RATE =

$CO_{pmr} = (C_{gas,lb/dscf})(Q_{std})$ = 42.01 lbs/hr
= 184.0 ton/yr

H_2S DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

H_2S AVERAGE READING (C):	6.30	ppmv
H_2S PPMV @ 3% O_2:	6.99	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,919	dscfh

CALCULATIONS

H_2S CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{34.08 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.5573 x 10^{-6} lbs/dscf

H_2S EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,919 dscfh

STACK H_2S EMISSION RATE =

$$H_2S_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.5690 lbs/hr
= 2.492 ton/yr

COS DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

COS AVERAGE CHART READING (C):	2.22	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,919	dscfh

CALCULATIONS

COS CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{60.07 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.3461 x 10^{-6} lbs/dscf

COS EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,919 dscfh

STACK COS EMISSION RATE =

$$COS_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.3534 lbs/hr
= 1.548 ton/yr

CS_2 DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

CS_2 AVERAGE CHART READING (C): <0.12 ppmv

STACK GAS VOLUMETRIC FLOW RATE (Q_{std}): 1,020,919 dscfh

CALCULATIONS

CS_2 CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{76.14 lb/lb-mole}{385.26\times10^{6} ft^3/lb-mole}\right)$$

= <0.024 x 10^{-6} lbs/dscf

CS_2 EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,919 dscfh

STACK CS_2 EMISSION RATE =

$$CS_{2\ pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= <0.024 lbs/hr
= <0.106 ton/yr

RSC as H_2S DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

RSC AVERAGE CHART READING (C):	8.76	ppmv
RSC PPMV @ 3% O_2:	8.39	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,919	dscfh

CALCULATIONS

RSC CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{34.08 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 0.7749 x 10^{-6} lbs/dscf

RSC EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,919 dscfh

STACK RSC EMISSION RATE =

$$RSC_{pmr} = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 0.7911 lbs/hr
= 3.465 ton/yr

TRS as SO_2 DATA SHEET
USEPA METHOD 15

COMPANY: Valero
LOCATION: Corpus Christi, Texas
SOURCE: Sulften Unit
MONITOR ID: GC-FPD
RUN NO: 3
TEST DATE: 3/27/2008

INPUT

TRS AVERAGE CHART READING (C):	8.76	ppmv
TRS PPMV @ 0% O_2:	11.35	ppmv
STACK GAS VOLUMETRIC FLOW RATE (Q_{std}):	1,020,919	dscfh

CALCULATIONS

TRS CONC.(lbs/dscf) =

$$C_{gas,lb/dscf} = \left(C_{gas,ppm}\right)\left(\frac{64 lb/lb-mole}{385.26\times10^{6} ft^{3}/lb-mole}\right)$$

= 1.455 x 10^{-6} lbs/dscf

TRS EMISSION RATE:

STACK GAS VOLUMETRIC FLOW RATE = 1,020,919 dscfh

STACK TRS EMISSION RATE =

$$TRS = \left(C_{gas,lb/dscf}\right)\left(Q_{std}\right)$$

= 1.486 lbs/hr
= 6.51 ton/yr

APPENDIX B

Field Data

TRAVERSE POINT LOCATION FOR CIRCULAR AND RECTANGULAR DUCTS

Plant: Valero CC
Date:
Sampling Location: Sulfolen Tailgas Incinerator
Inside Of Far Wall To Outside Of Port (Distance C): 59"
Inside Of Near Wall To Outside Of Port (Distance D): 30 1/2"
Stack Id: 31.5"
Distance Upstream From Disturbance (A): 15'
Distance Downstream From Disturbance (B): 30'

Calculator: JG, DLOM

Equivalent Diameters From Upstream Disturbance (B): 11.8
Equivalent Diameters From Downstream Disturbance(A): 5.9

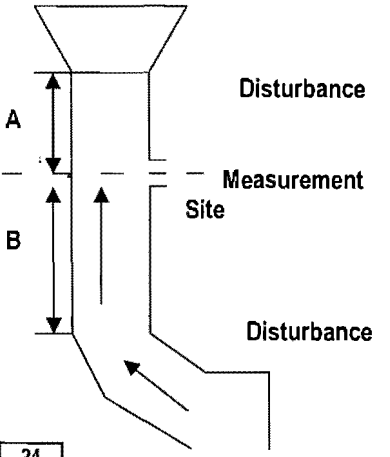
TRAVERSE POINT NUMBER	FRACTION OF STACK I.D.	STACK I.D.	PRODUCT OF COLUMNS 1 AND 2 (TO NEAREST1/8 INCH)	DISTANCE D (PORT DEPTH)	TRAVERSE POINT LOCATION FROM OUTSIDE OF PORT(SUM OF COLUMNS 3 AND 4)
1	0.021	31.5	0.66(1)	30.5	31.16(31.5)
2	0.067		2.11		32.61
3	0.118		3.72		34.22
4	0.177		5.58		36.08
5	0.250		7.88		38.38
6	0.356		11.21		41.71
7	0.644		20.29		50.79
8	0.750		23.63		54.13
9	0.823		25.92		56.42
10	0.882		27.78		58.28
11	0.933		29.39		59.89
12	0.979		30.84(30.5)		61.34 (61.0)
13					

Note: For Stacks / Ducts 12 – 24 inches ID – No traverse Point shall be located within 0.5 inches of the Stack wall.
For Stacks / Ducts > 24 inches ID – No traverse Point shall be located within 1.0 inch of the Stack wall.

B1

Location of Traverse Points in Rectangular Stacks

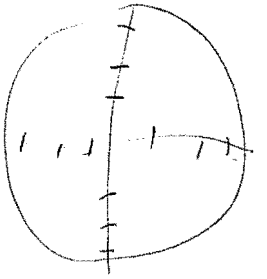
	2	3	4	5	6	7	8	9	10	11	12
1	25.0	16.7	12.5	10.0	8.3	7.1	6.3	5.6	5.0	4.5	4.2
2	75.0	50.0	37.5	30.0	25.0	21.4	18.8	16.7	15.0	13.6	12.5
3		83.3	62.5	50.0	41.7	35.7	31.3	27.8	25.0	22.7	20.8
4			87.5	70.0	58.3	50.0	43.8	38.9	35.0	31.8	29.2
5				90.0	75.0	64.3	56.3	50.0	45.0	40.9	37.5
6					91.7	78.6	68.8	61.1	55.0	50.0	45.8
7						92.9	81.3	72.2	65.0	59.1	54.2
8							93.8	83.3	75.0	68.2	62.5
9								94.4	85.0	77.3	70.8
10									95.0	86.4	79.2
11										95.5	87.5
12											95.8

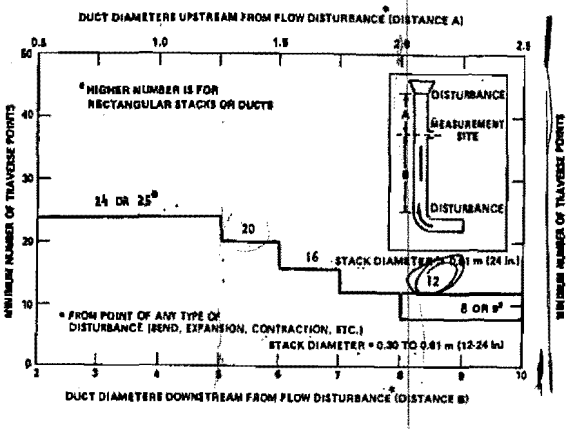


Rectangular Duct Equivalent Diameter Determination $\frac{2 \times L \times W}{L + W}$

LOCATION OF TRAVERSE POINTS ON CIRCULAR STACKS

	4	6	8	10	12	14	16	18	20	22	24
1	6.7	4.4	3.2	2.6	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2	25.0	14.6	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3	75.0	29.6	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4	93.3	70.4	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9
5		85.4	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5
6		95.6	80.6	65.8	35.6	26.9	22.0	18.8	16.5	14.6	13.2
7			89.5	77.4	64.4	36.6	28.3	23.6	20.4	18.0	16.1
8			96.8	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4
9				91.8	82.3	73.1	62.5	38.2	30.6	26.2	23.0
10				97.4	88.2	79.9	71.7	61.8	38.8	31.5	27.2
11					93.3	85.4	78.0	70.4	61.2	39.3	32.3
12					97.9	90.1	83.1	76.4	69.4	60.7	39.8
13						94.3	87.5	81.2	75.0	68.5	60.2
14						98.2	91.5	85.4	79.6	73.8	67.7
15							95.1	89.1	83.5	78.2	72.8
16							98.4	92.5	87.1	82.0	77.0
17								95.6	90.3	85.4	80.6
18								98.6	93.3	88.4	83.9
19									96.1	91.3	86.8
20									98.7	94.0	89.5
21										96.5	92.1
22										98.9	94.5
23											96.8
24											98.9





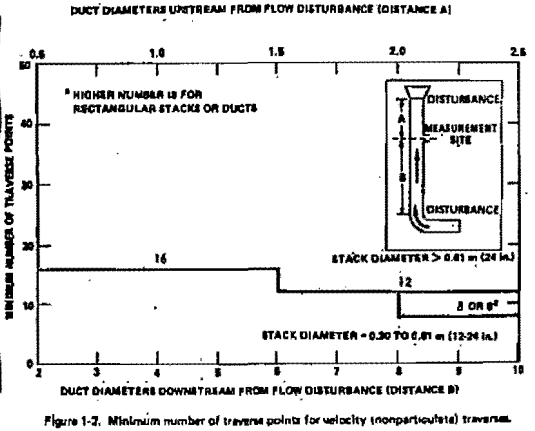


Figure 1-2. Minimum number of traverse points for velocity (nonparticulate) traverses.

CEMS CALIBRATION DATA

Plant	Valero Refinery	Plant Rep.	Onofre Garza	Analyzer Span Values (% or ppm)	
Location	Corpus Christi, Texas	Team Leader	Greg Burch	CO	ppm
Source	Sulften Incinerator	CEM Operator	Greg Burch	CO_2	%
Date	3/27/2008			O_2	%
Run Number				THC	ppm
Start Time	~~1430~~ 1431			NO_x	ppm
Stop Time	~~1632~~ 1621			SO_2	ppm

	CALIBRATION ERROR - 0644 hrs				SYSTEM BIAS CHECK					Calibration
					Pretest: 1230 hrs		1633 hrs			
	Cylinder Value (% or ppm)	Cylinder Number	Analyzer Calibration Response	Time	System Response	Response Time	System Response	Time	Drift (% of Span)	Correction Factors
CO Zero	0.0	ALM016805	3.0		5.0	90 sec	5.6			Co=
CO Low		Diluted from								
CO Mid	750.0	EB0001619	733		720	90 sec	722			Cm=
CO High	1,500.0	2,000 ppm	1498							
CO_2 Zero	0.00	ALM016805	-0.07		-0.05	90 sec	-0.01			Co=
CO_2 Low		Diluted from								
CO_2 Mid	9.00	ALM018595	8.95		8.89	90 sec	8.83			Cm=
CO_2 High	18.00	25.0%	17.84							
O_2 Zero	0.00	ALM016805	0.04		0.12	120 sec	0.12			Co=
O_2 Low		Diluted from								
O_2 Mid	5.00	EB0005305	5.05		5.12	120 sec	5.04			Cm=
O_2 High	10.00	24.9 %	10.02							
NO_x Zero	0.0	ALM016805	0.0		0.1	120 sec	0.2			Co=
NO_x Low		Diluted from								
NO_x Mid	45.0	EB0004890	45.2		42.8	120 sec	41.2			Cm=
NO_x High	90.0	1,996 ppm	89.3							

Conv. Eff. 90.6 % 07:15

Cyl AAL 8272 43.9 ppm NO_2

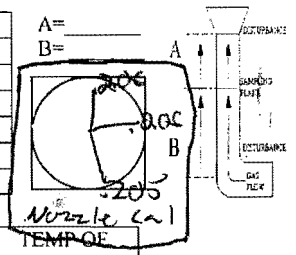
ARI ENVIRONMENTAL INC.

M5-1

FIELD DATA

PLANT	Valero	METER BOX NO.	801005	BAROMETER NO.		PARTICULATE COLLECTED, mg	
DATE	5-27-08	AMBIENT TEMPERATURE	83	PROBE HEATER SETTING	250	FILTER NO.	
LOCATION	Corpus Christi, Tx	BAROMETRIC PRESSURE	29.63	HEATER BOX SETTING	250	SAMPLE / FILTER / PROBE	
OPERATOR	JG	ASSUMED MOISTURE, %	8.5	METER H	1.68	FINAL WEIGHT	
STACK NO.		PROBE LENGTH, in.	72"	C_d FACTOR	.84	TARE WEIGHT	
METHOD	M5	NOZZLE DIAMETER, in.	.206	Y FACTOR	1.025	WEIGHT GAIN	
RUN NO.	1	STACK DIAMETER, in.	315"			TOTAL	
METER NO.		PITOT NO.	#93 2w 833-4				

A= B=



Filter # 25006
Tare 715.2mg

CLOCK TIME	TRAVERSE POINT NUMBER	SAMPLE TIME min.	STATIC PRESSURE (in., H_2O)	STACK TEMP (T_S), °F	VELOCITY HEAD (ΔP_S)	VELOCITY HEAD ($\sqrt{\Delta P_S}$)	PRESSURE DIFFERENTIAL ACROSS ORIFICE (ΔH) In., H_2O ACTUAL	PRESSURE DIFFERENTIAL ACROSS ORIFICE (ΔH) In., H_2O DESIRED	GAS SAMPLE VOLUME (Vm), ft^3	GAS TEMP AT DRY GAS METER INLET (Tm_{in}) °F	GAS TEMP AT DRY GAS METER OUTLET (Tm_{out}) °F	SAMPLE BOX TEMP °F	TEMP OF GAS LEAVING LAST IMPINGER	PUMP VACUUM in., Hg
1431	Tap - 1	0	+3.0	740	2.4		1.9	1.88	289.400	84	84	250	57	1
	2	5		742	2.5		2.0	1.98	873.34	97	84	251	57	1
1441	3	10		771	2.3		1.8	1.79	877.40	99	86	253	55	1
	4	15		793	2.4		1.8	1.84	881.27	100	86	252	54	1
1451	5	20		773	2.2		1.7	1.71	885.18	100	86	257	52	1
	6	25		779	2.3		1.8	1.78	888.97	100	87	253	52	1
1501	7	30		760	2.3		1.8	1.81	892.83	101	87	254	51	1
	8	25		750	2.2		1.8	1.75	896.73	102	87	256	51	1
1511	9	40		757	2.0		1.6	1.58	900.56	103	87	254	52	1
	10	45		786	1.9		1.5	1.47	904.20	102	88	253	52	1
1521	11	50		777	1.8		1.4	1.39	907.71	102	88	254	52	1
	12	55		763	1.7		1.3	1.34	911.14	102	88	253	52	1
1531/1557	Side - 1	60		782	2.4		1.9	1.85	914.49	101	86	256	52	1
	2	65		767	2.2		1.7	1.72	918.42	101	87	253	52	1
1607	3	70		756	2.3		1.8	1.81	922.23	101	87	254	52	1
	4	75		758	2.4		1.9	1.89	926.12	102	87	255	52	1
1617	5	80		749	2.3		1.8	1.83	930.11	102	87	253	53	1
	6	85		764	2.4		1.9	1.88	934.02	102	87	255	53	1
1627	7	90		762	2.2		1.7	1.73	938.01	102	87	256	52	1
	8	95		766	2.1		1.7	1.65	941.81	102	87	255	52	1
1637	9	100		760	2.0		1.6	1.56	945.53	102	87	251	53	1
	10	105		755	2.1		1.7	1.66	949.16	101	87	256	53	1
1647	11	110		772	1.9		1.5	1.48	952.89	101	87	256	53	1
	12	115		779	1.9		1.5	1.47	956.42	101	87			
1657	TOTAL	120							959.929					
	AVERAGE			765.0	1.4729		1.71		90.529	93.6				

VOLUME OR WEIGHT OF LIQUID COLLECTED	IMPINGER VOLUME (ml) OR WEIGHT (g) 1	2	3	4	SILICA GEL WEIGHT
CONTENTS					
FINAL	945.7	697.5	610.3		221.3
INITIAL	703.9	688.7	603.9	807	807.5
LIQUID COLLECTED					
TOTAL ____ COLLECTED (specify ml or mg)					

ORSAT MEASUREMENT	TIME	CO_2	O_2	CO
1				
2				
3				
AVG				

LEAK CHECK		
SYSTEM	PRE: 000	CFM at 15" Hg
	POST: 000	CFM at ___ Hg
PITOT	PRE: OK	3" H_2O for 15 sec
	POST: OK	3" H_2O for 15 sec

CEMS CALIBRATION DATA

Plant	Valero Refinery	Plant Rep.	Onofre Garza	Analyzer Span Values (% or ppm)	
Location	Corpus Christi, Texas	Team Leader	Greg Burch	CO	ppm
Source	Sulften Incinerator	CEM Operator	Greg Burch	CO_2	%
Date	3/27/2008			O_2	%
Run Number	2			THC	ppm
Start Time	1740			NO_x	ppm
Stop Time	1940			SO_2	ppm

	CALIBRATION ERROR - 0644 hrs				SYSTEM BIAS CHECK					Calibration
					Pretest: 1633 hrs		1952 hrs			
	Cylinder Value (% or ppm)	Cylinder Number	Analyzer Calibration Response	Time	System Response	Time	System Response	Time	Drift (% of Span)	Correction Factors
CO Zero	0.0	ALM016805			5.6		6.6			Co=
CO Low		Diluted from								
CO Mid	750.0	EB0001619			722		728			Cm=
CO High	1,500.0	2,000 ppm								
CO_2 Zero	0.00	ALM016805			-0.01		-0.02			Co=
CO_2 Low		Diluted from								
CO_2 Mid	9.00	ALM018595			8.33		8.80			Cm=
CO_2 High	18.00	25.0%								
O_2 Zero	0.00	ALM016805			0.12		0.13			Co=
O_2 Low		Diluted from								
O_2 Mid	5.00	EB0005305			5.04		5.07			Cm=
O_2 High	10.00	24.9 %								
NO_x Zero	0.0	ALM016805			0.2		0.2			Co=
NO_x Low		Diluted from								
NO_x Mid	45.0	EB0004890			41.2		43.0			Cm=
NO_x High	90.0	1,996 ppm								

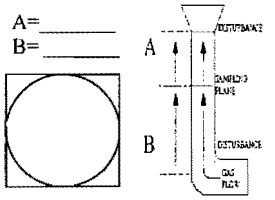
FIELD DATA

PLANT	Valero	METER BOX NO.	801005	BAROMETER NO.	
DATE	3-27-08	AMBIENT TEMPERATURE	84	PROBE HEATER SETTING	250
LOCATION	Corpus Christi TX	BAROMETRIC PRESSURE	29.68	HEATER BOX SETTING	250
OPERATOR	JG	ASSUMED MOISTURE, %	8.0	METER H	1.68
STACK NO.	[illegible]	PROBE LENGTH, in.	72"	C_d FACTOR	.84
METHOD	5	NOZZLE DIAMETER, in.	0.206	Y FACTOR	1.025
RUN NO.	2	STACK DIAMETER, in.	31.5"		
METER NO.		PITOT NO.	63-P87		

F-Fac 25017 Ave 748.0

PARTICULATE COLLECTED, mg		
FILTER NO.		
SAMPLE	FILTER	PROBE
FINAL WEIGHT		
TARE WEIGHT		
WEIGHT GAIN		
TOTAL		

A= B=



CLOCK TIME	TRAVERSE POINT NUMBER	SAMPLE TIME min.	STATIC PRESSURE (in., H_2O)	STACK TEMP (T_S), °F	VELOCITY HEAD (ΔP_S)	VELOCITY HEAD ($\sqrt{\Delta P_S}$)	PRESSURE DIFFERENTIAL ACROSS ORIFICE (ΔH) In., H_2O ACTUAL	PRESSURE DIFFERENTIAL ACROSS ORIFICE (ΔH) In., H_2O DESIRED	GAS SAMPLE VOLUME (Vm), ft^3	GAS TEMP AT DRY GAS METER INLET (Tm_{in}) °F	GAS TEMP AT DRY GAS METER OUTLET (Tm_{out}) °F	SAMPLE BOX TEMP °F	TEMP OF GAS LEAVING LAST IMPINGER	PUMP VACUUM in., Hg
1740	1	0	-3.4	786	2.2		1.7	1.67	960.350	85	82	250	49	1
	2	5		770	2.3		1.8	1.79	964.06	99	83	252	50	1
1750	3	10		779	2.4		1.9	1.86	967.93	99	84	253	52	1
	4	15		771	2.3		1.8	1.79	971.86	99	84	251	52	1
1800	5	20		753	2.2		1.7	1.74	975.74	97	84	254	53	1
	6	25		769	2.2		1.7	1.72	979.55	99	84	251	53	1
1810	7	30		759	2.1		1.7	1.66	983.34	100	85	256	53	1
	8	35		774	2.0		1.6	1.56	987.06	101	85	255	55	1
1820	9	40		759	1.9		1.5	1.50	990.67	100	86	256	56	1
	10	45		764	1.8		1.4	1.41	994.22	99	85	255	56	1
1830	11	50		755	1.9		1.5	1.50	997.66	99	85	254	57	1
	12	55		782	1.8		1.4	1.39	1001.20	99	85	256	57	1
1840/1845	1	60		772	2.3		1.8	1.79	4.61	98	84	251	52	1
	2	65		762	2.4		1.9	1.89	8.47	98	84	252	52	1
1855	3	70		742	2.3		1.8	1.84	12.44	98	84	250	55	1
	4	75		718	2.5		1.9	1.94	16.36	98	84	254	56	1
1905	5	80		763	2.2		1.7	1.73	20.38	98	84	253	57	1
	6	85		767	2.3		1.8	1.80	24.17	97	84	256	57	1
1915	7	90		780	2.2		1.7	1.70	28.04	97	83	251	57	1
	8	95		774	2.1		1.6	1.63	31.80	97	83	252	58	1
1925	9	100		755	2.0		1.6	1.58	35.49	96	83	250	57	1
	10	105		760	2.0		1.6	1.57	39.11	96	83	252	58	1
1935	11	110		762	1.8		1.4	1.41	42.73	96	83	254	59	1
	12	115		754	1.7		1.3	1.34	46.15	96	82	253	59	1
1945	TOTAL								1049.489					
	AVERAGE		-3.4	766.3	1.45344		1.66		89.139		90.7			

VOLUME OR WEIGHT OF LIQUID COLLECTED	IMPINGER VOLUME (ml) OR WEIGHT (g) 1	2	3	4	SILICA GEL WEIGHT
CONTENTS					
FINAL	843.6	693.7	610.3		796.0
INITIAL	710.4	682.9	609.1		779.7
LIQUID COLLECTED	133.2	5.8	1.2		16.3
TOTAL COLLECTED (specify ml or mg)					15.5

ORSAT MEASUREMENT	TIME	CO_2	O_2	CO
1				
2				
3				
AVG				

LEAK CHECK		
SYSTEM	PRE: .000	CFM at 15" Hg
	POST: .000	CFM at ___ Hg
PITOT	PRE: OK	3" H_2O for 15 sec
	POST: OK	3" H_2O for 15 sec

CEMS CALIBRATION DATA

Plant	Valero Refinery
Location	Corpus Christi, Texas
Source	Sulften Incinerator
Date	3/27/2008
Run Number	3
Start Time	2020
Stop Time	2220

Plant Rep.	Onofre Garza
Team Leader	Greg Burch
CEM Operator	Greg Burch

Analyzer Span Values (% or ppm)		
CO		ppm
CO_2		%
O_2		%
THC		ppm
NO_x		ppm
SO_2		ppm

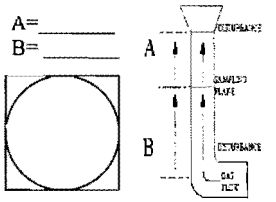
	CALIBRATION ERROR - hrs				SYSTEM BIAS CHECK					Calibration Correction Factors
					Pretest: 1952 hrs		2222 hrs			
	Cylinder Value (% or ppm)	Cylinder Number	Analyzer Calibration Response	Time	System Response	Time	System Response	Time	Drift (% of Span)	
CO Zero	0.0	ALM016805			6.6		7.2			Co=
CO Low		Diluted from								
CO Mid	750.0	EB0001619			728		730			Cm=
CO High	1,500.0	2,000 ppm								
CO_2 Zero	0.00	ALM016805			-0.02		-0.01			Co=
CO_2 Low		Diluted from								
CO_2 Mid	9.00	ALM018595			8.80		8.79			Cm=
CO_2 High	18.00	25.0%								
O_2 Zero	0.00	ALM016805			0.13					Co=
O_2 Low		Diluted from								
O_2 Mid	5.00	EB0005305			5.07		5.08			Cm=
O_2 High	10.00	24.9 %								
NO_x Zero	0.0	ALM016805			0.2		0.3			Co=
NO_x Low		Diluted from								
NO_x Mid	45.0	EB0004890			430		43.2			Cm=
NO_x High	90.0	1,996 ppm								

FIELD DATA

PLANT	Valero	METER BOX NO.	801005	BAROMETER NO.	
DATE	3-27-08	AMBIENT TEMPERATURE	78	PROBE HEATER SETTING	250
LOCATION	Corpus Christi TX	BAROMETRIC PRESSURE	25.68	HEATER BOX SETTING	250
OPERATOR	JG	ASSUMED MOISTURE, %	8.5%	METER H	1.68
STACK NO.		PROBE LENGTH, in.	72"	C_d FACTOR	.824
METHOD	M5	NOZZLE DIAMETER, in.	0.206	Y FACTOR	1.025
RUN NO.	3	STACK DIAMETER, in.	31.5"		
METER NO.		PITOT NO.	B3		

PARTICULATE COLLECTED, mg		
FILTER NO.		
SAMPLE	FILTER	PROBE
FINAL WEIGHT		
TARE WEIGHT		
WEIGHT GAIN		
TOTAL		

A= B=



CLOCK TIME	TRAVERSE POINT NUMBER	SAMPLE TIME min.	STATIC PRESSURE (in., H_2O)	STACK TEMP (T_S), °F	VELOCITY HEAD (ΔP_S)	VELOCITY HEAD ($\sqrt{\Delta P_S}$)	PRESSURE DIFFERENTIAL ACROSS ORIFICE (ΔH) In., H_2O ACTUAL	PRESSURE DIFFERENTIAL ACROSS ORIFICE (ΔH) In., H_2O DESIRED	GAS SAMPLE VOLUME (Vm), ft^3	GAS TEMP AT DRY GAS METER INLET (Tm_{in}) °F	GAS TEMP AT DRY GAS METER OUTLET (Tm_{out}) °F	SAMPLE BOX TEMP °F	TEMP OF GAS LEAVING LAST IMPINGER	PUMP VACUUM in., Hg
2024	1	0	+32.8	756	2.5		1.9	1.92	49.950	78	78	252	58	1
	2	5		774	2.4		1.9	1.89	53.91	74	79	260	53	1
2034	3	10		786	2.4		1.8	1.83	57.86	94	79	257	51	1
	4	15		782	2.5		1.9	1.92	61.75	95	80	259	51	1
2044	5	20		764	2.3		1.8	1.79	65.74	95	80	257	49	1
	6	25		771	2.2		1.7	1.70	69.59	95	81	255	49	1
2054	7	30		773	2.3		1.8	1.76	73.35	96	81	258	49	1
	8	35		770	2.2		1.7	1.69	77.15	96	81	257	49	1
2104	9	40		758	2.1		1.6	1.63	80.88	96	81	258	49	1
	10	45		760	2.0		1.6	1.55	84.55	96	81	257	48	1
2114	11	50		752	1.9		1.5	1.48	88.12	96	81	258	49	1
	12	55		759	2.0		1.6	1.55	91.61	96	81	258	48	1
2124/2125	1	60		764	2.3		1.8	1.78	95.18	96	81	259	48	1
	2	65		774	2.4		1.9	1.86	99.00	97	81	256	48	1
2138	3	70		793	2.3		1.8	1.76	102.93	98	82	257	49	1
	4	75		782	2.4		1.9	1.85	106.75	98	82	258	50	1
2148	5	80		785	2.2		1.7	1.69	110.68	98	82	257	50	1
	6	85		754	2.2		1.7	1.73	114.43	98	82	258	49	1
2158	7	90		751	2.1		1.7	1.66	118.22	98	82	260	49	1
	8	95		771	2.0		1.6	1.56	121.94	98	82	258	50	1
2208	9	100		762	1.9		1.5	1.49	125.54	98	82	256	50	1
	10	105		777	1.9		1.5	1.47	129.06	98	82	257	50	1
2218	11	110		770	1.8		1.4	1.40	132.58	98	82	254	50	1
	12	115		767	1.9		1.5	1.48	135.97	98	82	257	50	1
2228	TOTAL	120							139.424					
	AVERAGE									90.5				

VOLUME OR WEIGHT OF LIQUID COLLECTED	IMPINGER VOLUME (ml) OR WEIGHT (g) 1	2	3	4	SILICA GEL WEIGHT
CONTENTS					
FINAL	253.9	694.3	611.9		813.4
INITIAL	709.6	688.4	610.1		799.0
LIQUID COLLECTED	144.3	5.9	1.8		14.4
TOTAL COLLECTED (specify ml or mg)					166.4

ORSAT MEASUREMENT	TIME	CO_2	O_2	CO
1				
2				
3				
AVG				

LEAK CHECK		
SYSTEM	PRE: 0.000	CFM at 15" Hg
	POST: 0.000	CFM at " Hg
PITOT	PRE: OK	3" H_2O for 15 sec
	POST: OK	3" H_2O for 15 sec

APPENDIX C

Analytical Data

ANALYTICAL SUMMARY

CLIENT: Valero
LOCATION: Corpus Christi, TX
SOURCE: Sulften
SAMPLE DATE: 3/27/2008
ANALYSIS: Particulates
METHOD: TCEQ Method 23

Run		Mass (g)	Tare #1	Tare #2	WT 1	WT 2	Particulate (mg)	Blank Corrected WT (mg)
1	Filter	-	715.2	-	766.9	766.5	51.50	
2	Filter	-	748.0	-	778.1	778.5	30.30	
3	Filter	-	712.4	-	745.2	745.6	33.00	
1	PW	184.5	116495.0	116494.7	116506.8	116507.0	12.05	10.38
2	PW	147.6	114356.7	114356.4	114362.5	114362.8	6.10	4.76
3	PW	279.5	112318.0	112318.3	112324.3	112324.8	6.40	3.86
Blank	PW	281.1	106516.0	106515.7	106518.9	106517.9	2.55	
1	Imps	200	117709.8	117709.4	118093.8	118093.4	384.0	383.75
2	Imps	200	99744.2	99743.9	99980.4	99980.0	236.2	235.90
3	Imps	200	104020.9	104020.9	104285.3	104284.8	264.2	263.90
Blank	Imps	200	106882.5	106882.4	106882.8	106882.6	0.3	

Analyst: E. Vogt
Date: 04/08/08

Concentration Calculation Summary

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 1
Compound Analyzed: TRS
Units of Detection: ppm

File Name	Date	Time	H_2S area cts	H_2S ppm v	COS area cts	COS ppm v	CS_2 area cts	CS_2 ppm v	Total TRS ppm v	Injection Number
valeroruns16.CHR	3/27/2008	13:00:10	443.56	**7.83**	169.16	**3.87**	0.00	**<0.12**	**11.94**	1-1
valeroruns17.CHR	3/27/2008	13:10:10	148.14	**4.69**	0.00	**<0.23**	0.00	**<0.12**	**5.16**	1-2
valeroruns18.CHR	3/27/2008	13:20:10	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	1-3
valeroruns19.CHR	3/27/2008	13:30:10	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	1-4
valeroruns20.CHR	3/27/2008	13:40:10	128.33	**4.39**	0.00	**<0.23**	0.00	**<0.12**	**4.86**	1-5
valeroruns21.CHR	3/27/2008	13:50:10	622.12	**9.20**	167.30	**3.85**	0.00	**<0.12**	**13.29**	1-6
valeroruns22.CHR	3/27/2008	14:00:10	110.22	**4.10**	0.00	**<0.23**	0.00	**<0.12**	**4.57**	1-7
valeroruns23.CHR	3/27/2008	14:10:10	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	1-8
valeroruns24.CHR	3/27/2008	14:20:10	266.47	**6.16**	159.08	**3.74**	0.00	**<0.12**	**10.14**	1-9
valeroruns25.CHR	3/27/2008	14:30:10	896.41	**10.97**	302.07	**5.25**	0.00	**<0.12**	**16.45**	1-10
valeroruns26.CHR	3/27/2008	14:40:11	876.84	**10.85**	174.25	**3.93**	0.00	**<0.12**	**15.02**	1-11
valeroruns27.CHR	3/27/2008	14:50:11	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	1-12
valeroruns28.CHR	3/27/2008	15:00:11	230.40	**5.75**	138.63	**3.48**	0.00	**<0.12**	**9.47**	1-13
valeroruns29.CHR	3/27/2008	15:10:11	1155.86	**12.40**	294.07	**5.17**	0.00	**<0.12**	**17.82**	1-14
valeroruns30.CHR	3/27/2008	15:20:11	318.07	**6.69**	112.64	**3.11**	0.00	**<0.12**	**10.05**	1-15
valeroruns31.CHR	3/27/2008	15:30:11	611.96	**9.13**	173.38	**3.92**	0.00	**<0.12**	**13.29**	1-16
valeroruns32.CHR	3/27/2008	15:40:11	1392.81	**13.58**	246.72	**4.72**	0.00	**<0.12**	**18.54**	1-17
valeroruns33.CHR	3/27/2008	15:50:11	219.50	**5.62**	0.00	**<0.23**	0.00	**<0.12**	**6.09**	1-18
			Average	**6.23**		**2.38**		**<0.12**	**8.85**	

Concentration Calculation Summary

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 2
Compound Analyzed: TRS
Units of Detection: ppm

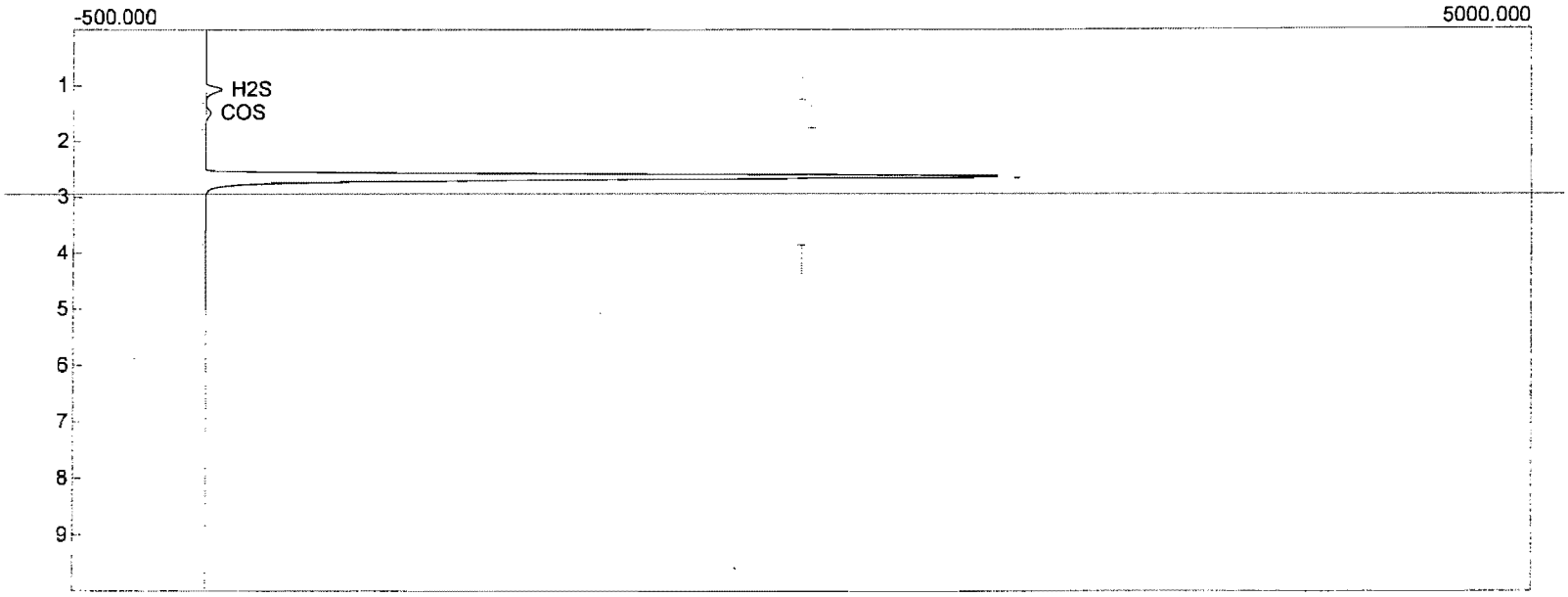
File Name	Date	Time	H_2S area cts	H_2S ppm v	COS area cts	COS ppm v	CS_2 area cts	CS_2 ppm v	Total TRS ppm v	Injection Number
valeroruns34.CHR	3/27/2008	16:00:11	159.79	**4.86**	0.00	**<0.23**	0.00	**<0.12**	**5.33**	2-1
valeroruns35.CHR	3/27/2008	16:10:11	580.49	**8.90**	153.48	**3.67**	0.00	**<0.12**	**12.82**	2-2
valeroruns36.CHR	3/27/2008	16:20:11	357.89	**7.07**	115.23	**3.15**	0.00	**<0.12**	**10.47**	2-3
valeroruns37.CHR	3/27/2008	16:30:11	232.04	**5.77**	0.00	**<0.23**	0.00	**<0.12**	**6.24**	2-4
valeroruns38.CHR	3/27/2008	16:40:11	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	2-5
valeroruns39.CHR	3/27/2008	16:50:11	413.07	**7.57**	124.90	**3.29**	0.00	**<0.12**	**11.10**	2-6
valeroruns40.CHR	3/27/2008	17:00:11	271.78	**6.21**	0.00	**<0.23**	0.00	**<0.12**	**6.68**	2-7
valeroruns41.CHR	3/27/2008	17:10:11	453.76	**7.92**	148.49	**3.61**	0.00	**<0.12**	**11.77**	2-8
valeroruns42.CHR	3/27/2008	17:20:11	475.46	**8.09**	124.00	**3.28**	0.00	**<0.12**	**11.61**	2-9
valeroruns43.CHR	3/27/2008	17:30:11	176.55	**5.08**	0.00	**<0.23**	0.00	**<0.12**	**5.55**	2-10
valeroruns44.CHR	3/27/2008	17:40:11	492.42	**8.23**	140.63	**3.51**	0.00	**<0.12**	**11.98**	2-11
valeroruns45.CHR	3/27/2008	17:50:12	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	2-12
valeroruns46.CHR	3/27/2008	18:00:12	715.43	**9.84**	177.07	**3.96**	0.00	**<0.12**	**14.04**	2-13
valeroruns47.CHR	3/27/2008	18:10:12	380.82	**7.28**	120.72	**3.23**	0.00	**<0.12**	**10.76**	2-14
valeroruns48.CHR	3/27/2008	18:20:12	471.35	**8.06**	138.37	**3.48**	0.00	**<0.12**	**11.78**	2-15
valeroruns49.CHR	3/27/2008	18:30:12	766.68	**10.17**	161.78	**3.78**	0.00	**<0.12**	**14.19**	2-16
valeroruns50.CHR	3/27/2008	18:40:12	604.18	**9.07**	169.74	**3.88**	0.00	**<0.12**	**13.19**	2-17
valeroruns51.CHR	3/27/2008	18:50:12	174.66	**5.06**	0.00	**<0.23**	0.00	**<0.12**	**5.53**	2-18
			Average	**6.64**		**2.25**		**<0.12**	**9.13**	

Concentration Calculation Summary

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 3
Compound Analyzed: TRS
Units of Detection: ppm

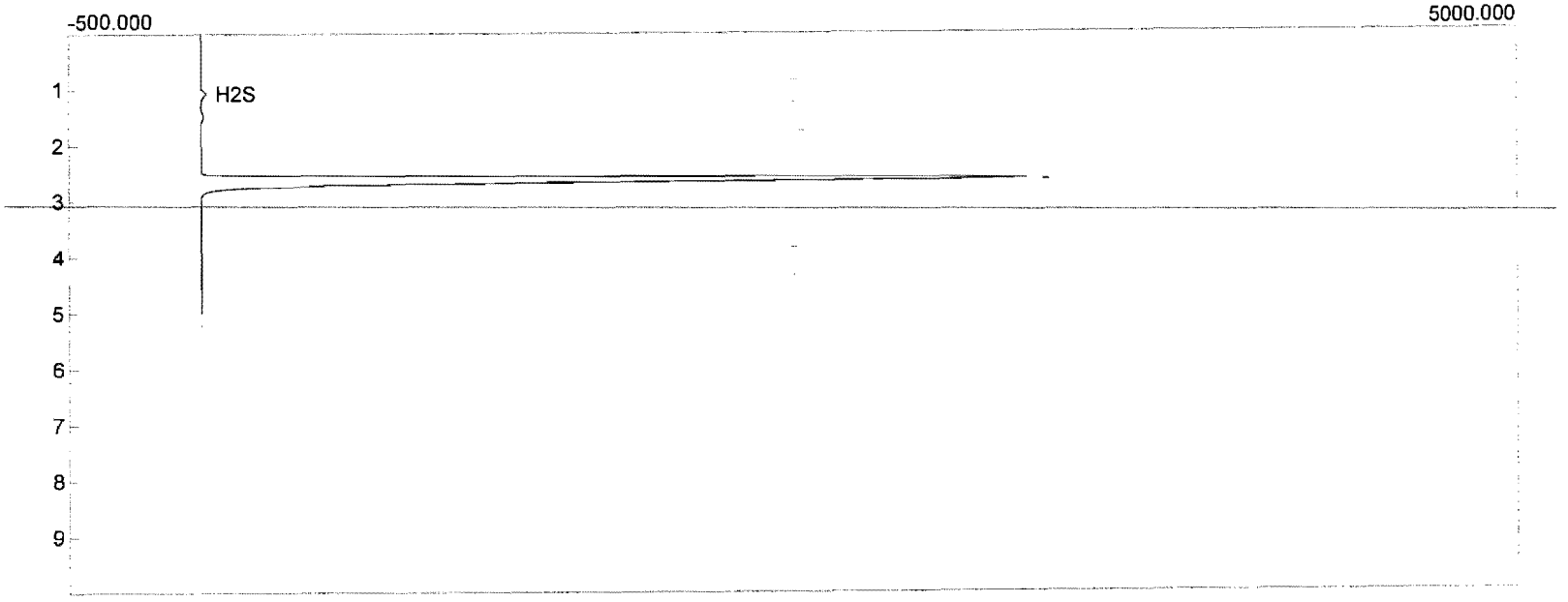
File Name	Date	Time	H_2S area cts	H_2S ppm v	COS area cts	COS ppm v	CS_2 area cts	CS_2 ppm v	Total TRS ppm v	Injection Number
valeroruns52.CHR	3/27/2008	19:00:12	828.41	**10.56**	142.12	**<0.23**	0.00	**<0.12**	**11.03**	3-1
valeroruns53.CHR	3/27/2008	19:10:12	557.37	**8.73**	141.75	**3.52**	0.00	**<0.12**	**12.49**	3-2
valeroruns54.CHR	3/27/2008	19:20:12	660.81	**9.47**	190.83	**4.12**	0.00	**<0.12**	**13.84**	3-3
valeroruns55.CHR	3/27/2008	19:30:12	293.08	**6.44**	102.29	**2.96**	0.00	**<0.12**	**9.64**	3-4
valeroruns56.CHR	3/27/2008	19:40:12	609.30	**9.11**	139.61	**3.49**	0.00	**<0.12**	**12.85**	3-5
valeroruns57.CHR	3/27/2008	19:50:12	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	3-6
valeroruns58.CHR	3/27/2008	20:00:12	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	3-7
valeroruns59.CHR	3/27/2008	20:10:12	339.31	**6.90**	130.25	**3.37**	0.00	**<0.12**	**10.50**	3-8
valeroruns60.CHR	3/27/2008	20:20:12	227.32	**5.72**	113.22	**3.12**	0.00	**<0.12**	**9.08**	3-9
valeroruns61.CHR	3/27/2008	20:30:12	623.33	**9.21**	193.10	**4.15**	0.00	**<0.12**	**13.60**	3-10
valeroruns62.CHR	3/27/2008	20:40:12	0.00	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**0.66**	3-11
valeroruns63.CHR	3/27/2008	20:50:13	187.12	**<0.19**	0.00	**<0.23**	0.00	**<0.12**	**<0.66**	3-12
valeroruns64.CHR	3/27/2008	21:00:13	285.01	**6.35**	0.00	**<0.23**	0.00	**<0.12**	**6.82**	3-13
valeroruns65.CHR	3/27/2008	21:10:13	580.39	**8.90**	134.45	**3.42**	0.00	**<0.12**	**12.57**	3-14
valeroruns66.CHR	3/27/2008	21:20:13	429.58	**7.71**	110.54	**3.08**	0.00	**<0.12**	**11.04**	3-15
valeroruns67.CHR	3/27/2008	21:30:13	741.91	**10.01**	127.92	**3.33**	0.00	**<0.12**	**13.59**	3-16
valeroruns68.CHR	3/27/2008	21:40:33	115.72	**4.19**	0.00	**<0.23**	0.00	**<0.12**	**4.66**	3-17
valeroruns69.CHR	3/27/2008	21:50:33	638.56	**9.32**	162.34	**3.79**	0.00	**<0.12**	**13.34**	3-18
			Average	**6.30**		**2.22**		**<0.12**	**8.76**	

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 13:00:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns16.CHR ()
Sample: Stack Exhaust
Operator: SEY



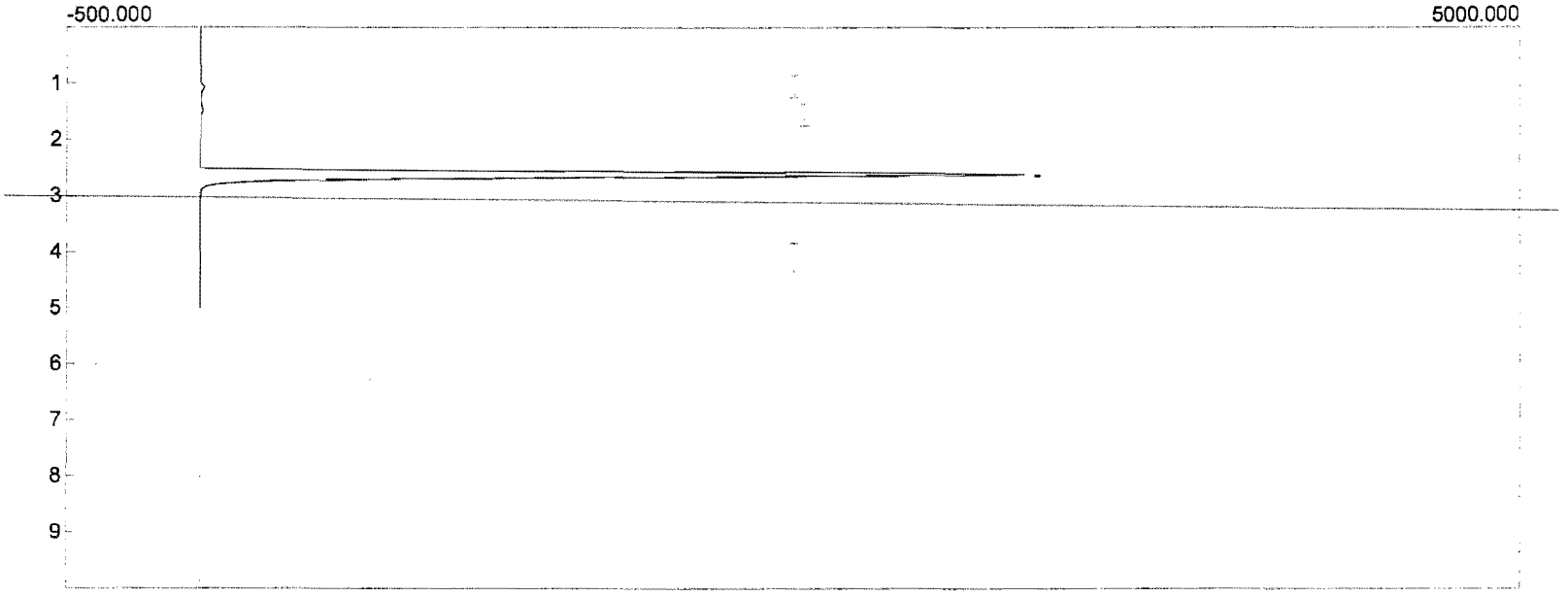
Component	Area
H2S	443.5600
COS	169.1560
	612.7160

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 13:10:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns17.CHR ()
Sample: Stack Exhaust
Operator: SEY



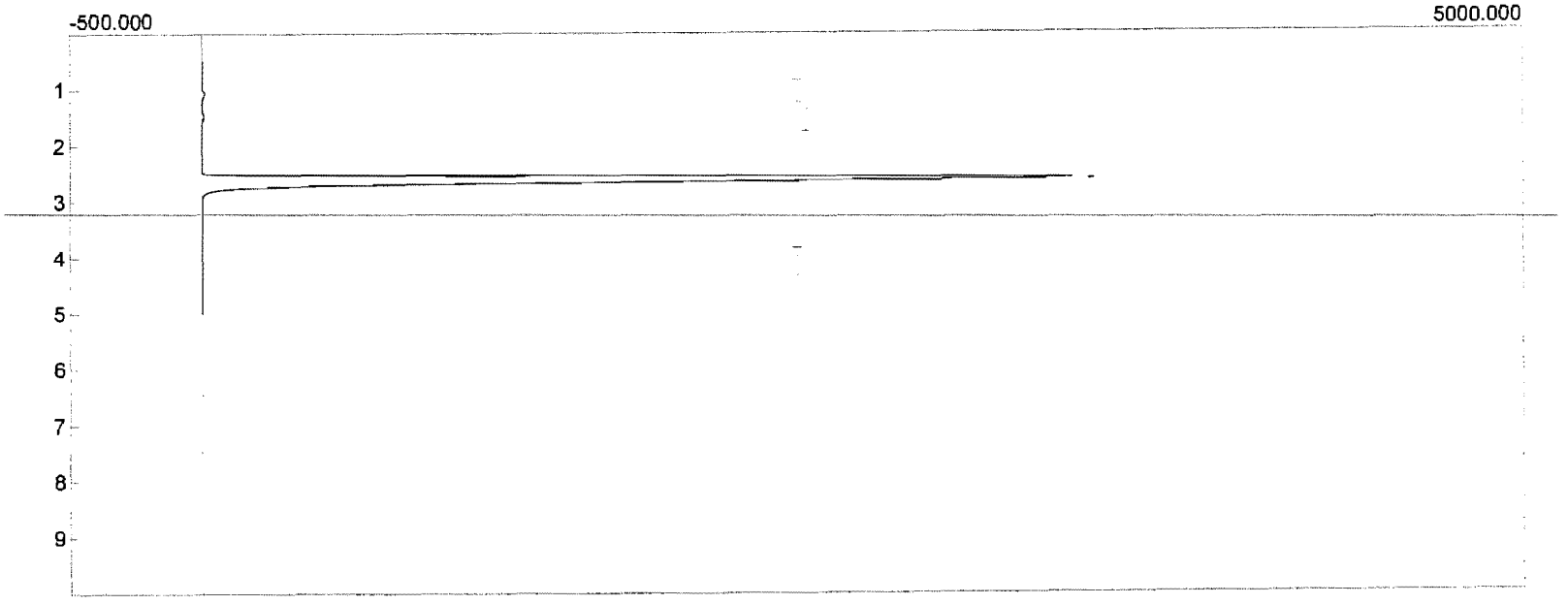
Component	Area
H2S	148.1420
	148.1420

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 13:20:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns18.CHR ()
Sample: Stack Exhaust
Operator: SEY



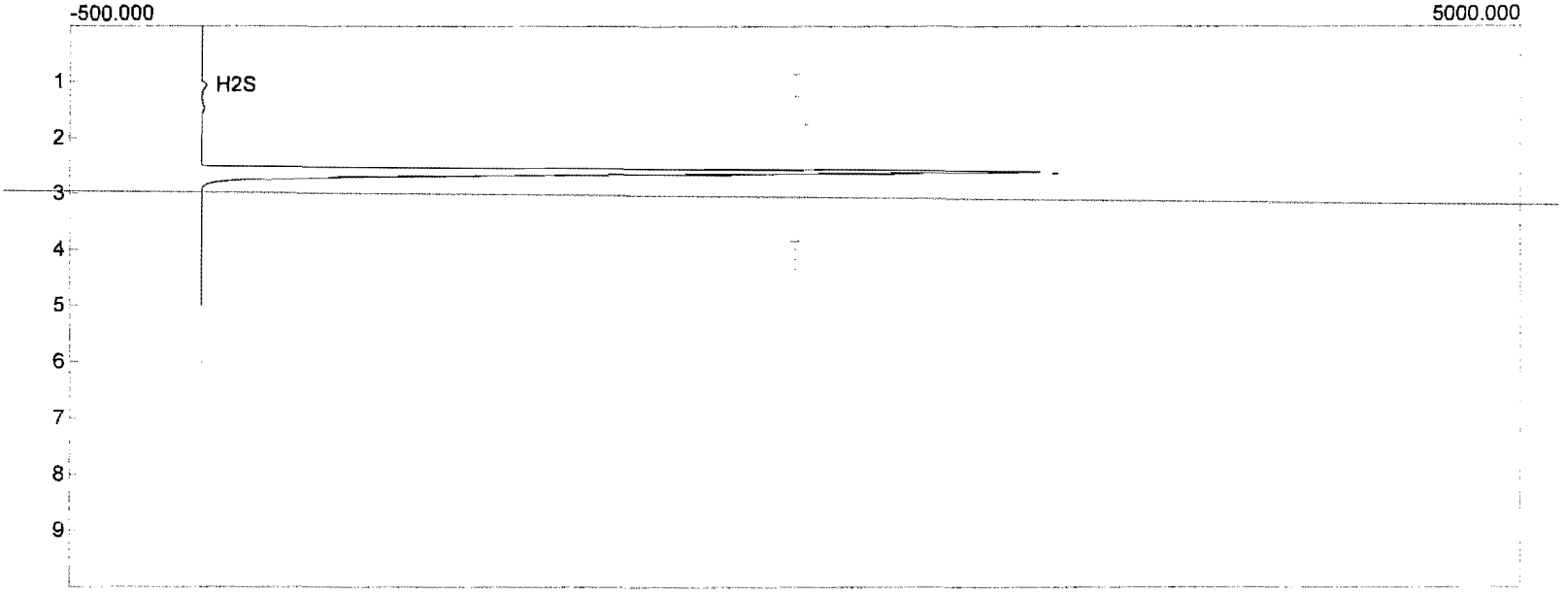
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 13:30:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns19.CHR ()
Sample: Stack Exhaust
Operator: SEY



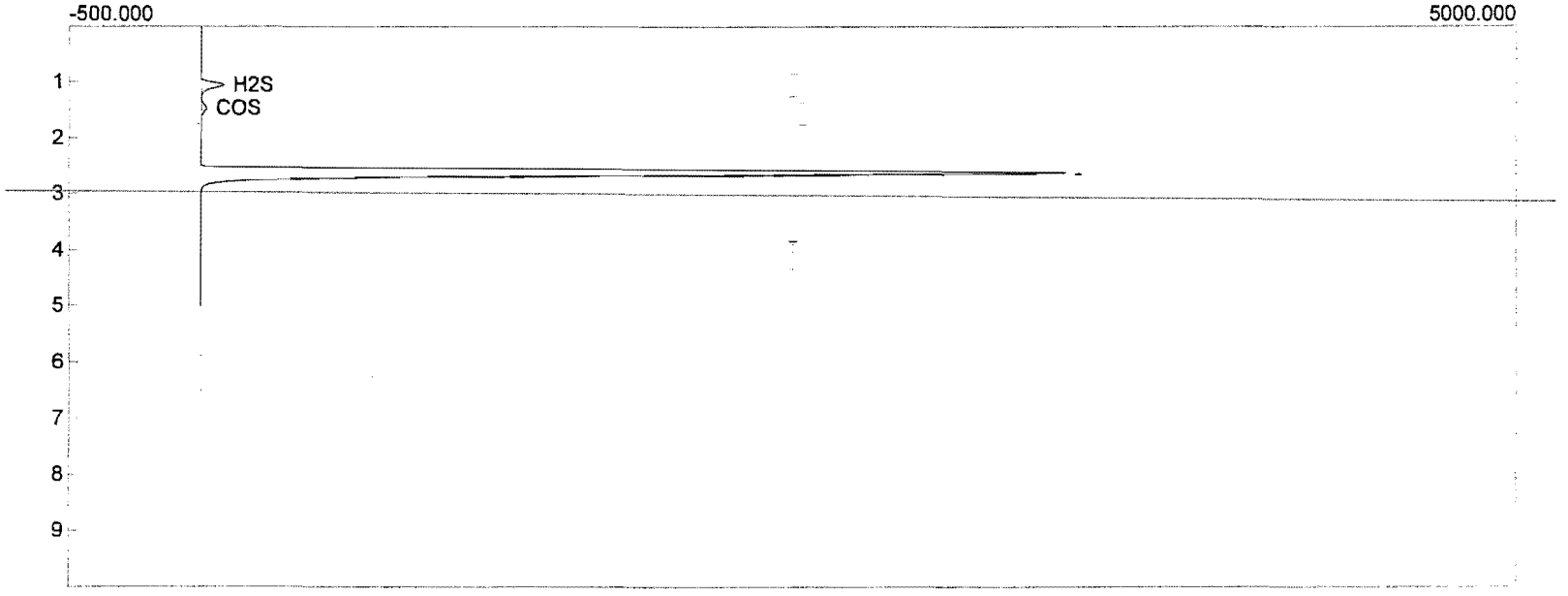
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 13:40:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns20.CHR ()
Sample: Stack Exhaust
Operator: SEY



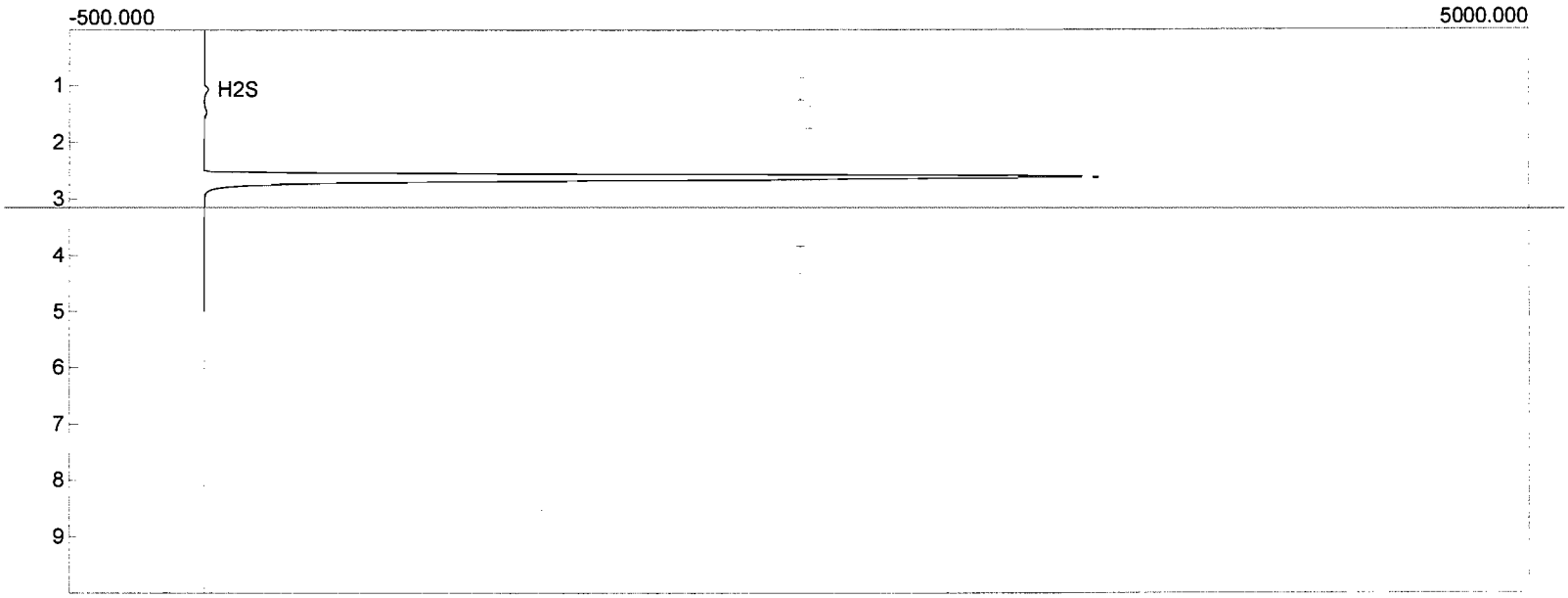
Component	Area
H2S	128.3250
	128.3250

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 13:50:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns21.CHR ()
Sample: Stack Exhaust
Operator: SEY



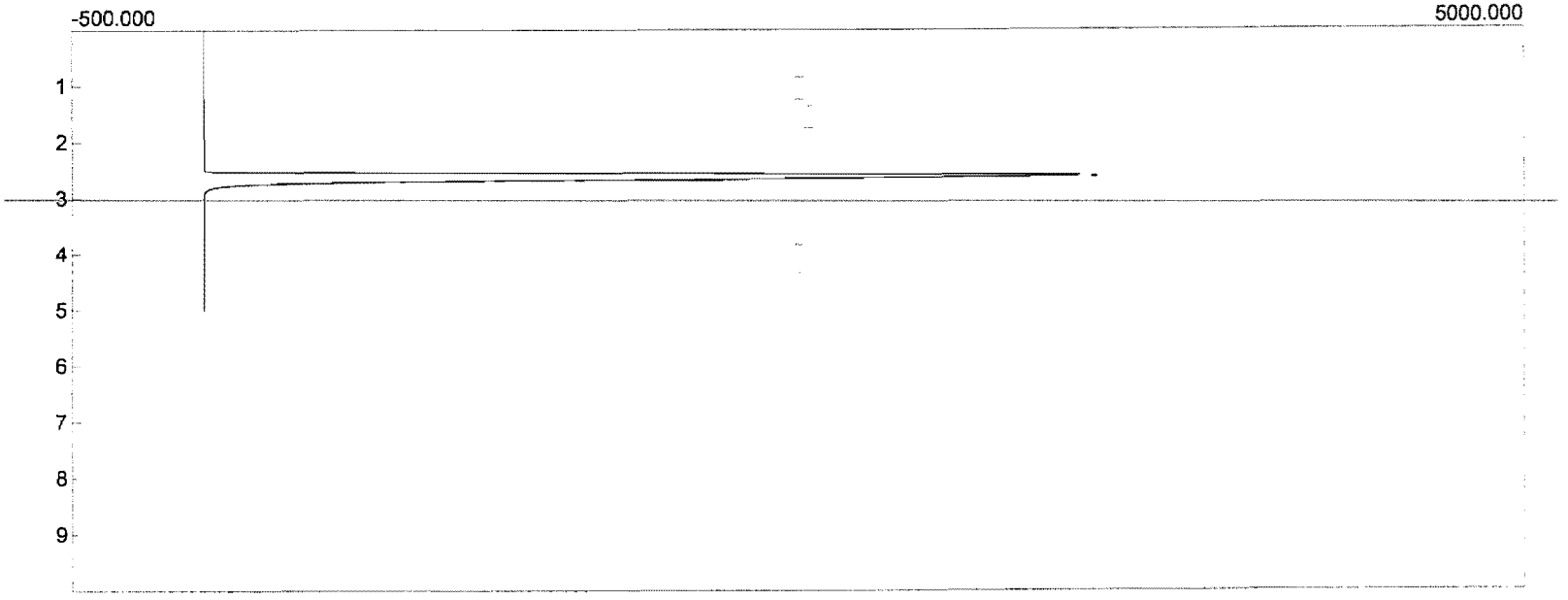
Component	Area
H2S	622.1200
COS	167.3020
	789.4220

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 14:00:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns22.CHR ()
Sample: Stack Exhaust
Operator: SEY



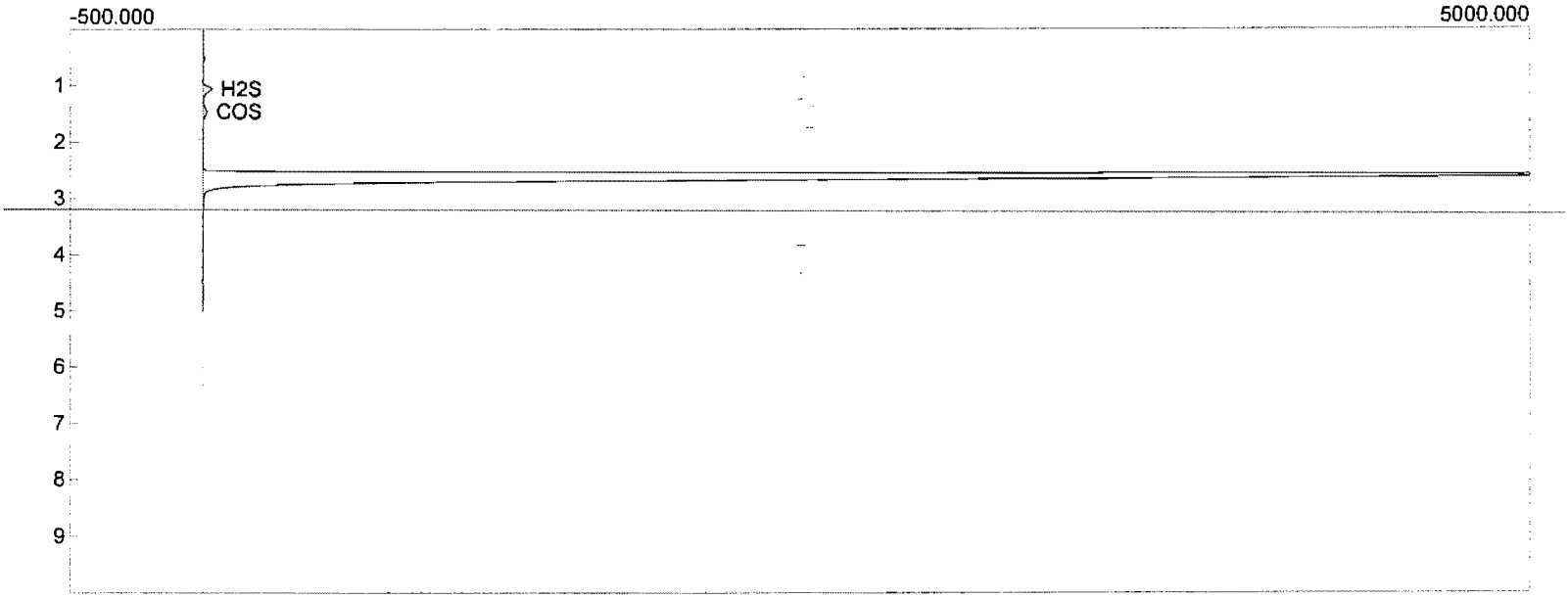
Component	Area
H2S	110.2160
	110.2160

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 14:10:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns23.CHR ()
Sample: Stack Exhaust
Operator: SEY



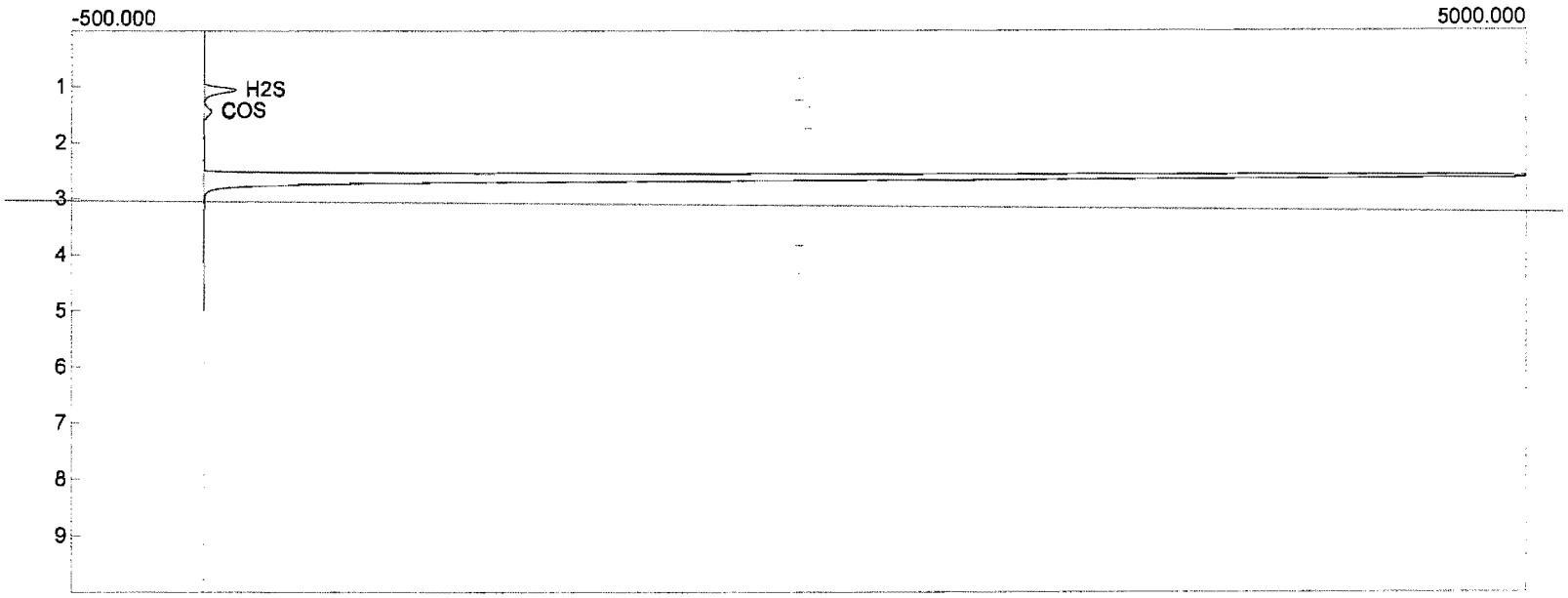
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 14:20:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns24.CHR ()
Sample: Stack Exhaust
Operator: SEY



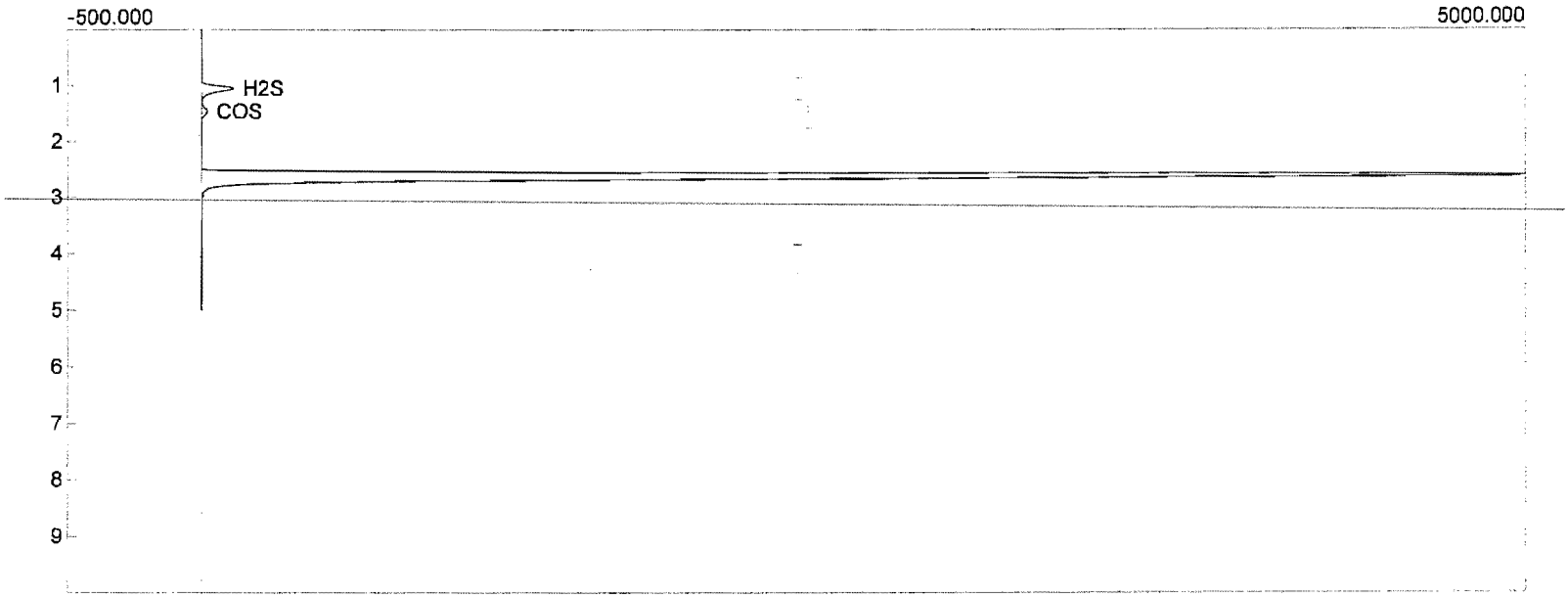
Component	Area
H2S	266.4660
COS	159.0830
	425.5490

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 14:30:10
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns25.CHR ()
Sample: Stack Exhaust
Operator: SEY



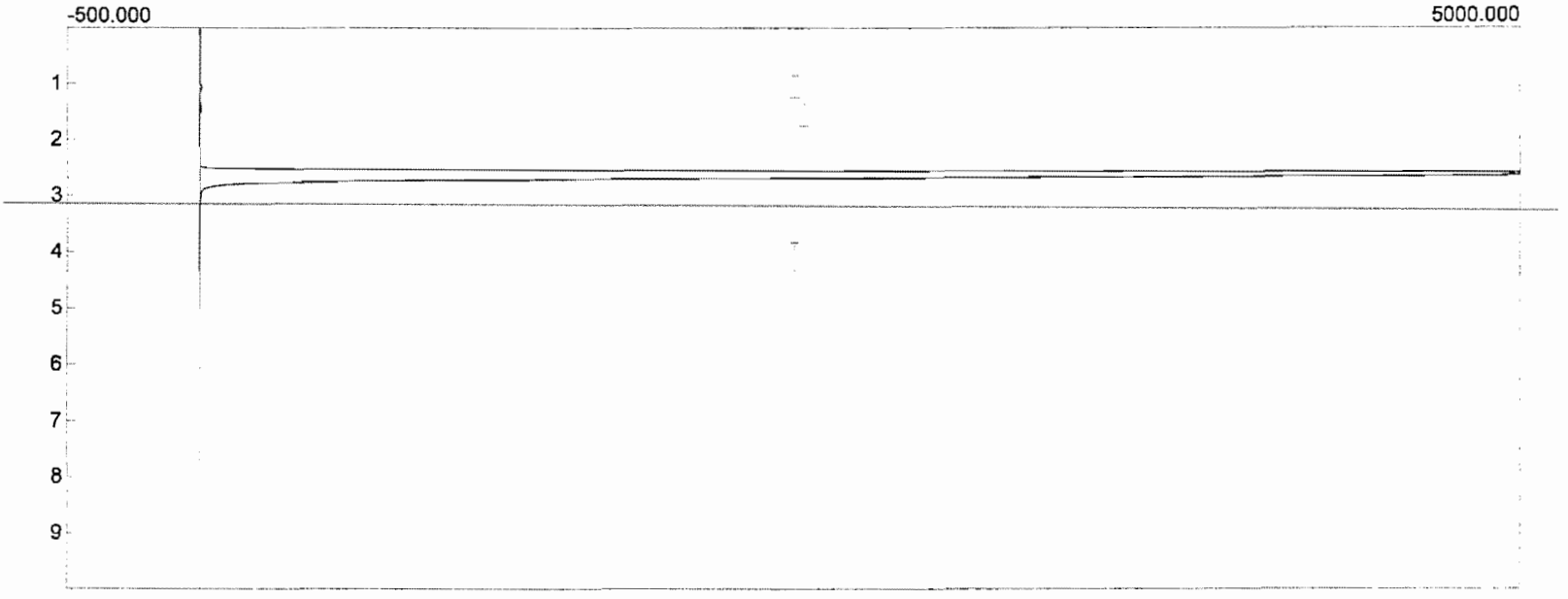
Component	Area
H2S	896.4060
COS	302.0680
	1198.4740

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 14:40:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns26.CHR ()
Sample: Stack Exhaust
Operator: SEY



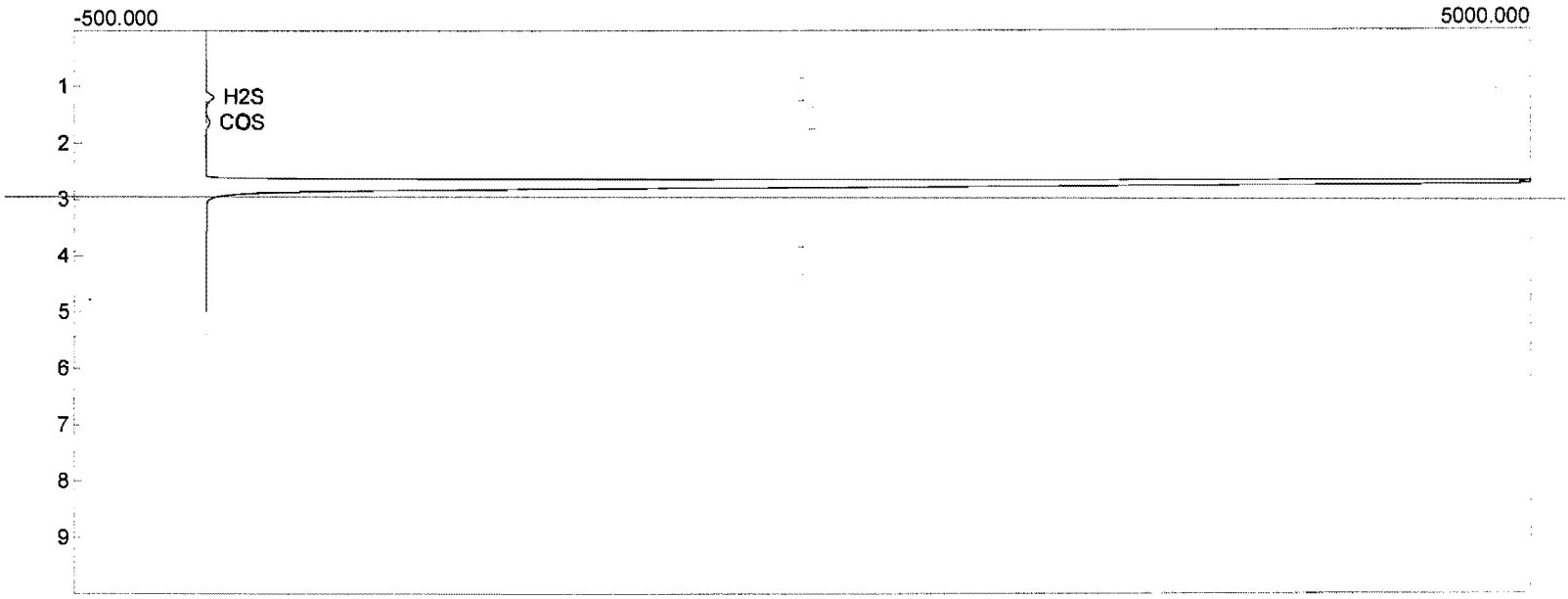
Component	Area
H2S	876.8400
COS	174.2460
	1051.0860

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 14:50:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns27.CHR ()
Sample: Stack Exhaust
Operator: SEY



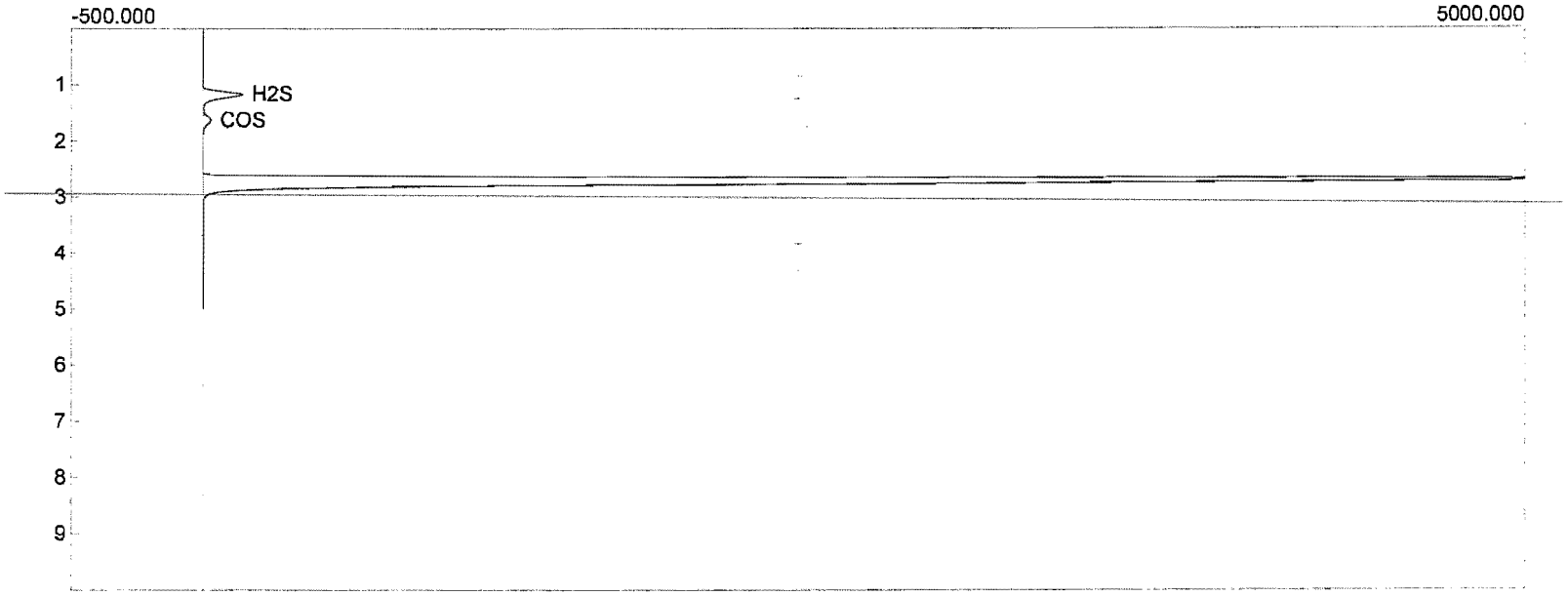
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 15:00:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns28.CHR ()
Sample: Stack Exhaust
Operator: SEY



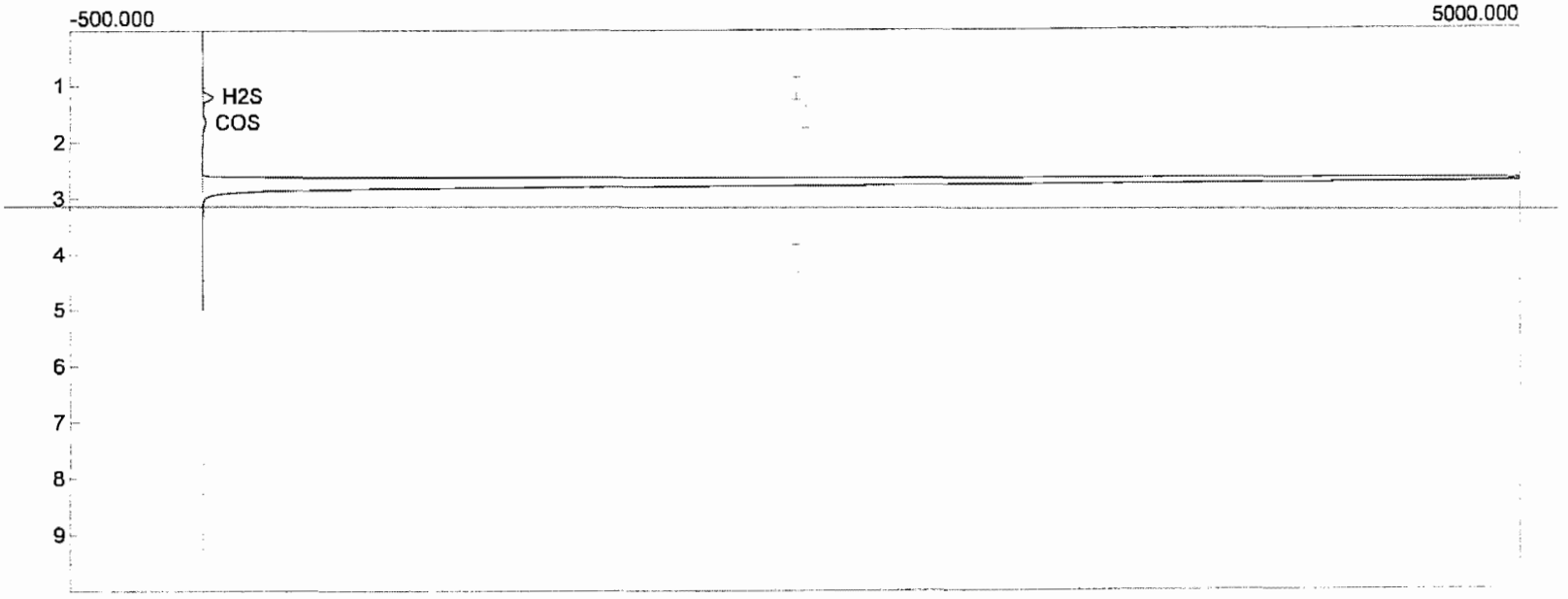
Component	Area
H2S	230.4040
COS	138.6300
	369.0340

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 15:10:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns29.CHR ()
Sample: Stack Exhaust
Operator: SEY



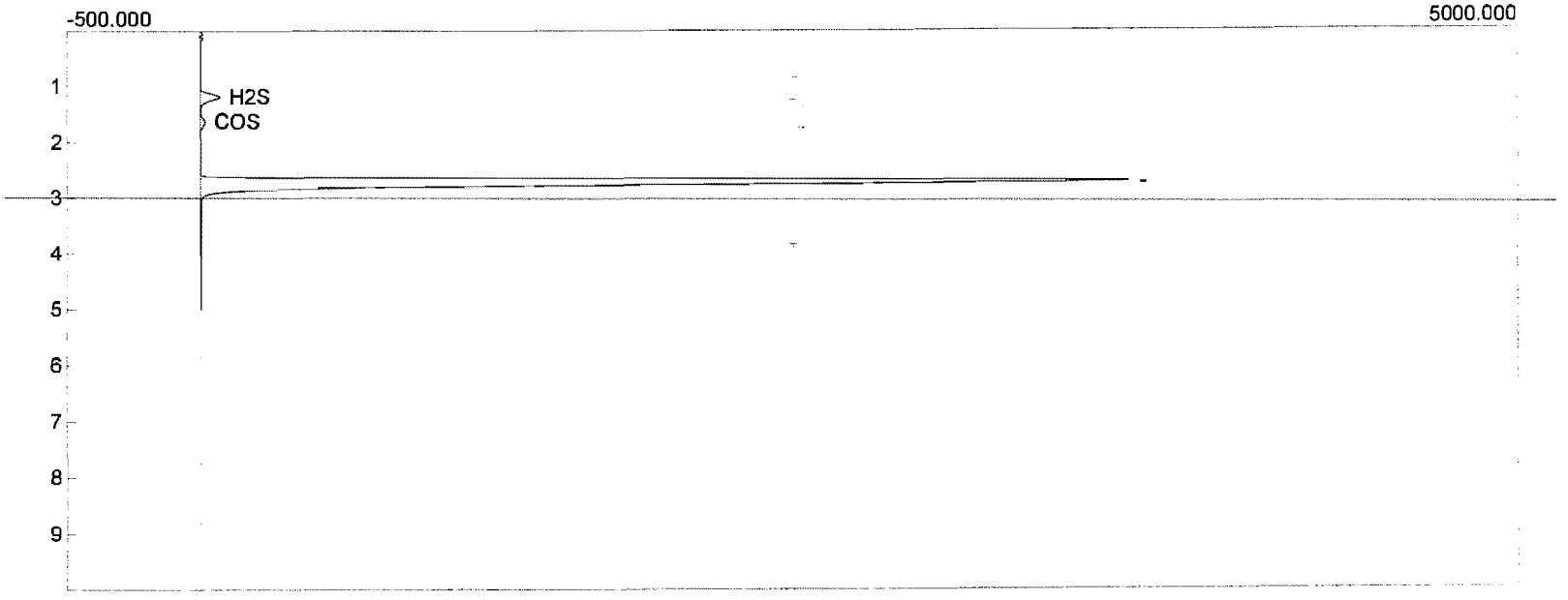
Component	Area
H2S	1155.8630
COS	294.0720
	1449.9350

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 15:20:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns30.CHR ()
Sample: Stack Exhaust
Operator: SEY



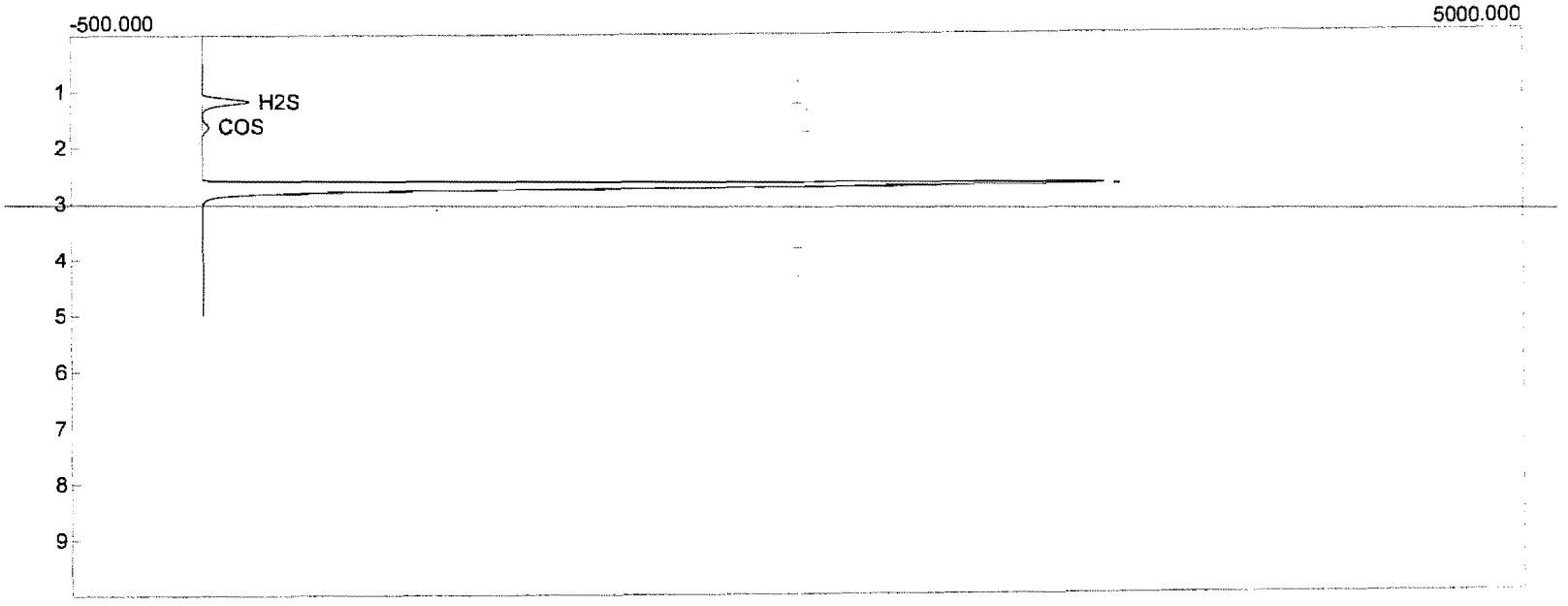
Component	Area
H2S	318.0720
COS	112.6400
	430.7120

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 15:30:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns31.CHR ()
Sample: Stack Exhaust
Operator: SEY



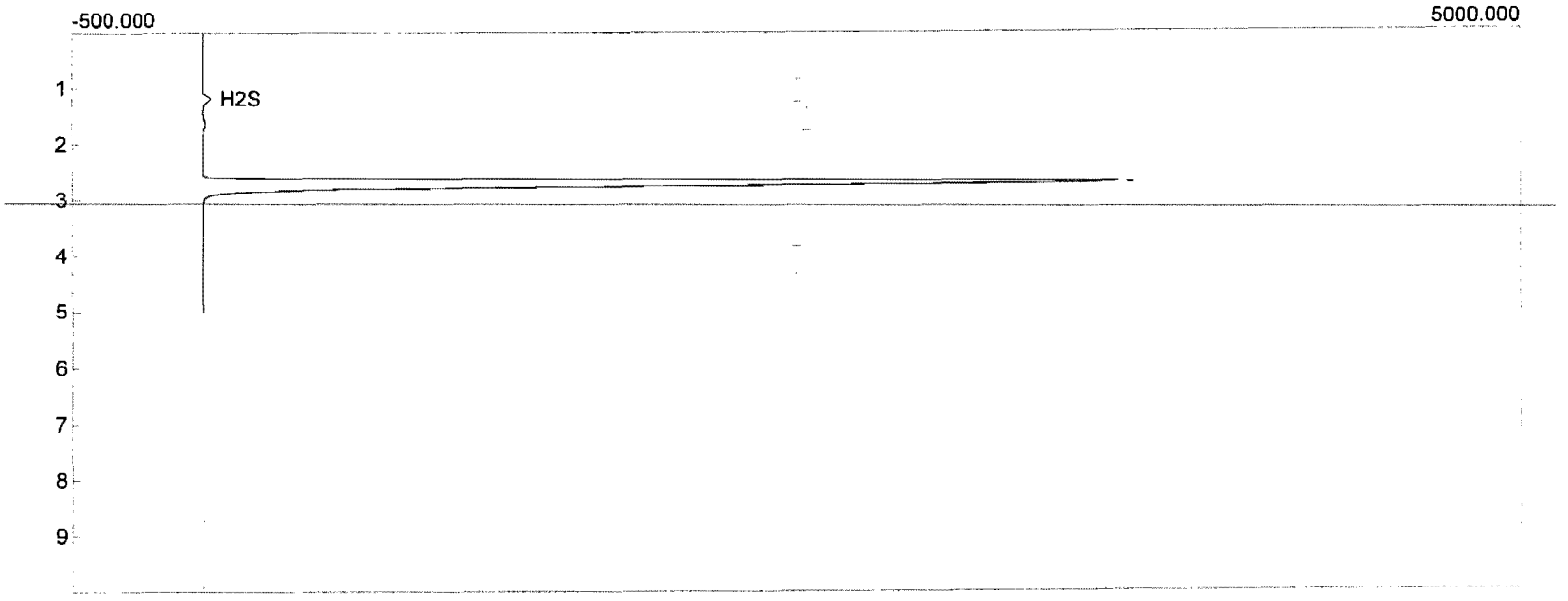
Component	Area
H2S	611.9580
COS	173.3820
	785.3400

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 15:40:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns32.CHR ()
Sample: Stack Exhaust
Operator: SEY



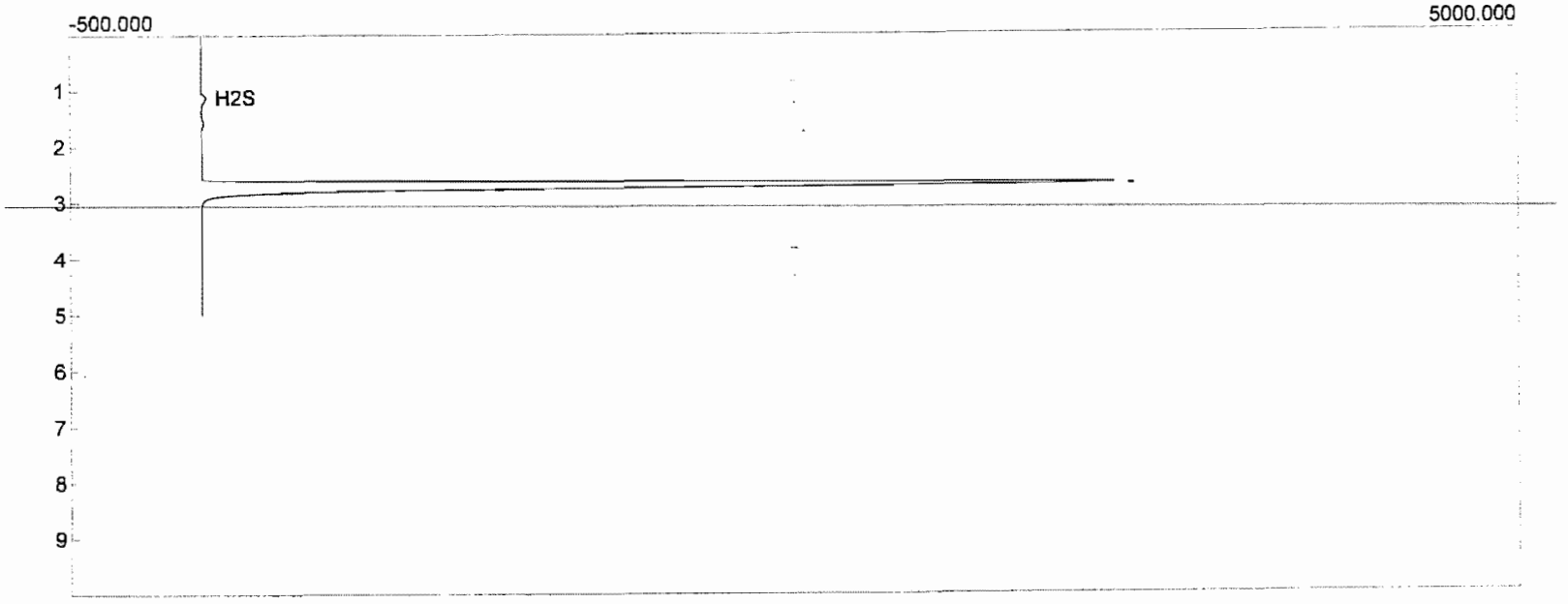
Component	Area
H2S	1392.8140
COS	246.7180
	1639.5320

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 15:50:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns33.CHR ()
Sample: Stack Exhaust
Operator: SEY



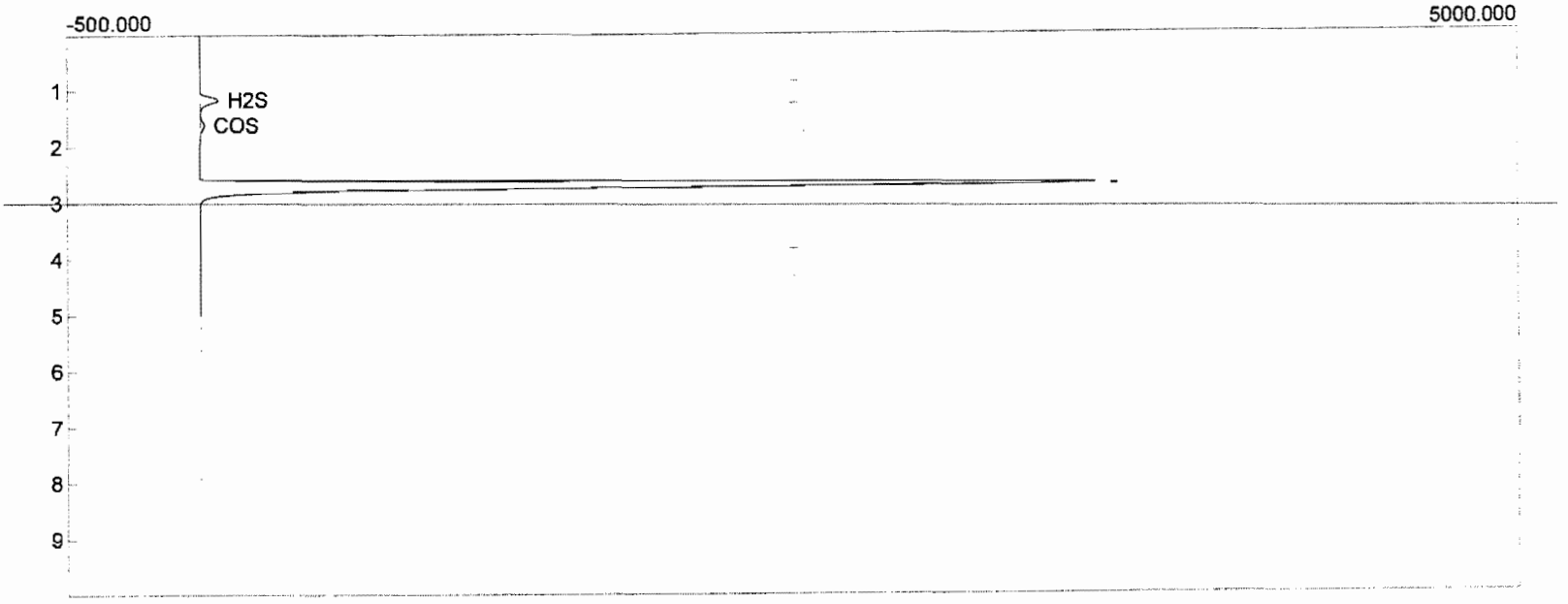
Component	Area
H2S	219.5030
	219.5030

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 16:00:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns34.CHR ()
Sample: Stack Exhaust
Operator: SEY



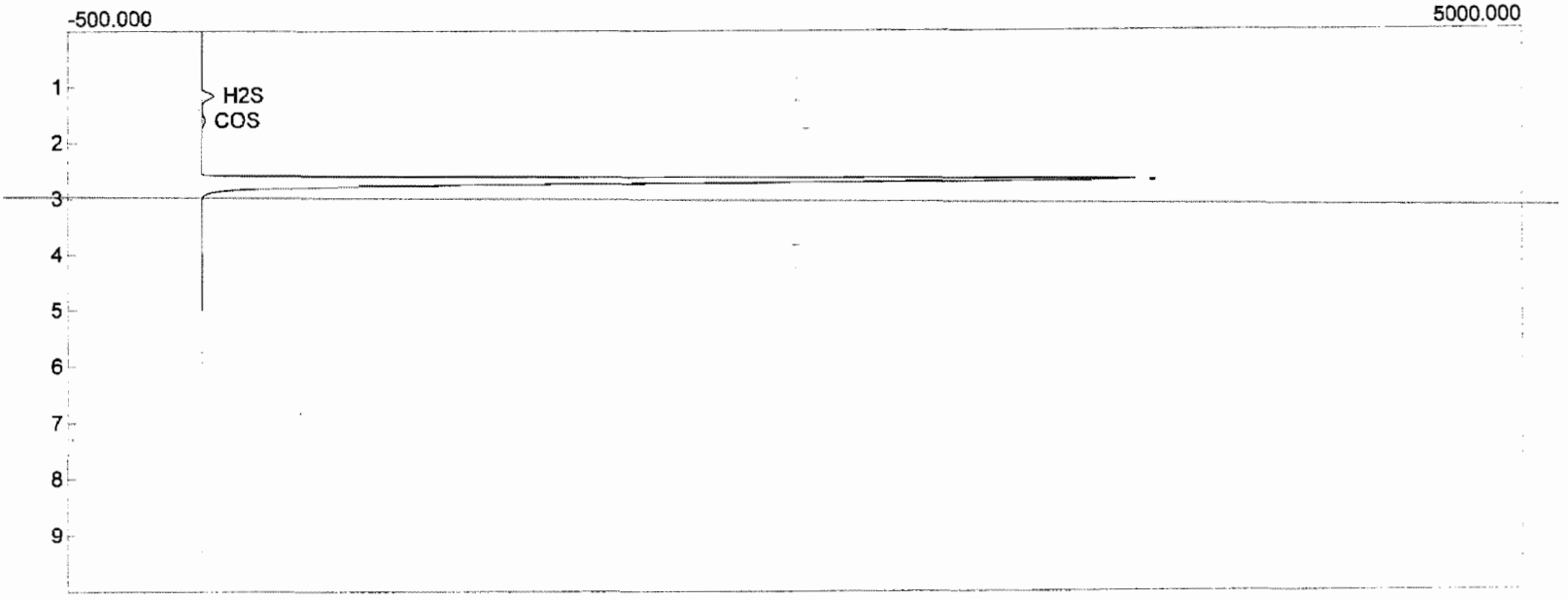
Component	Area
H2S	159.7860
	159.7860

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 16:10:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns35.CHR ()
Sample: Stack Exhaust
Operator: SEY



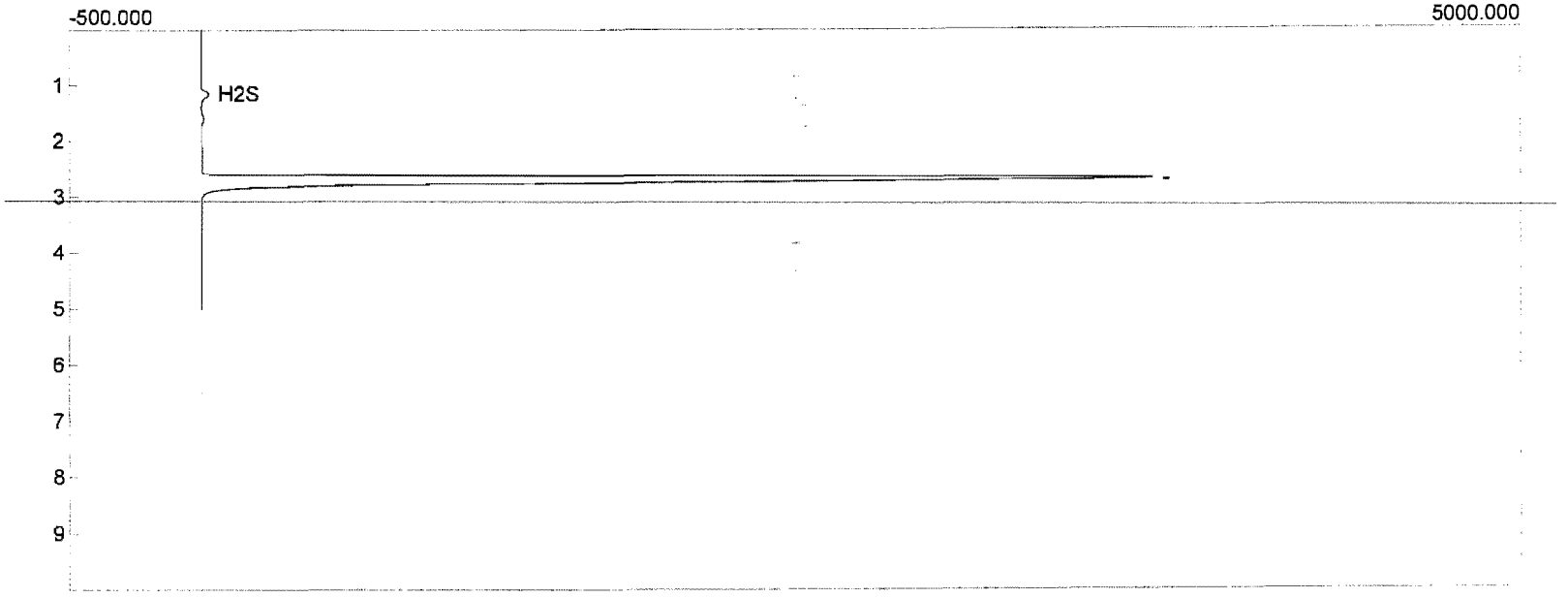
Component	Area
H2S	580.4880
COS	153.4820
	733.9700

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 16:20:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns36.CHR ()
Sample: Stack Exhaust
Operator: SEY



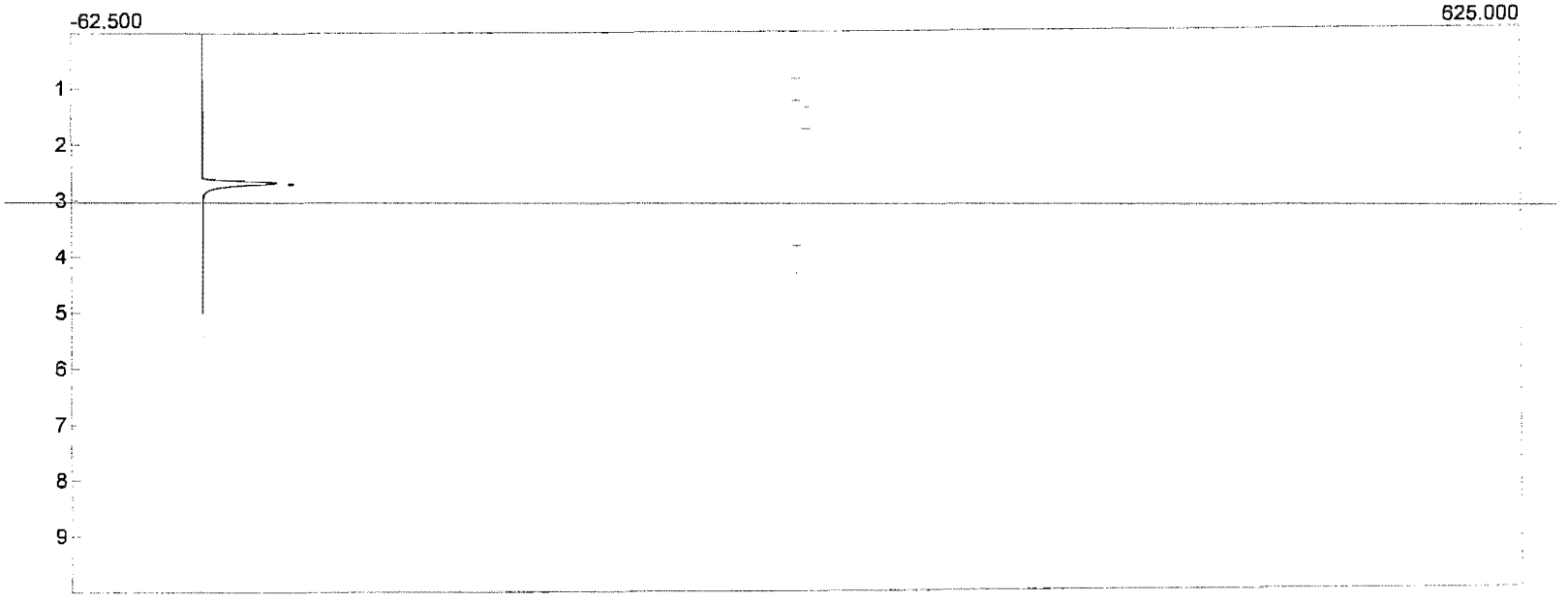
Component	Area
H2S	357.8940
COS	115.2270
	473.1210

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 16:30:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns37.CHR ()
Sample: Stack Exhaust
Operator: SEY



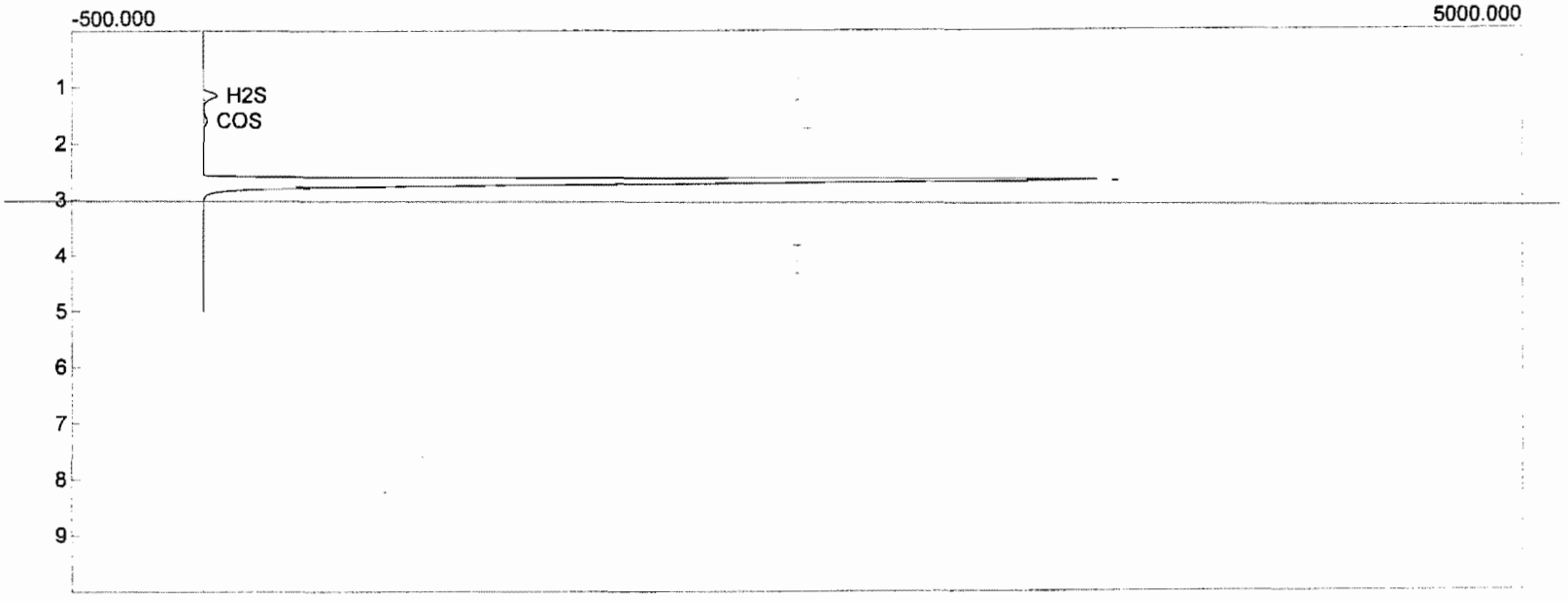
Component	Area
H2S	232.0400
	232.0400

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 16:40:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns38.CHR ()
Sample: Stack Exhaust
Operator: SEY



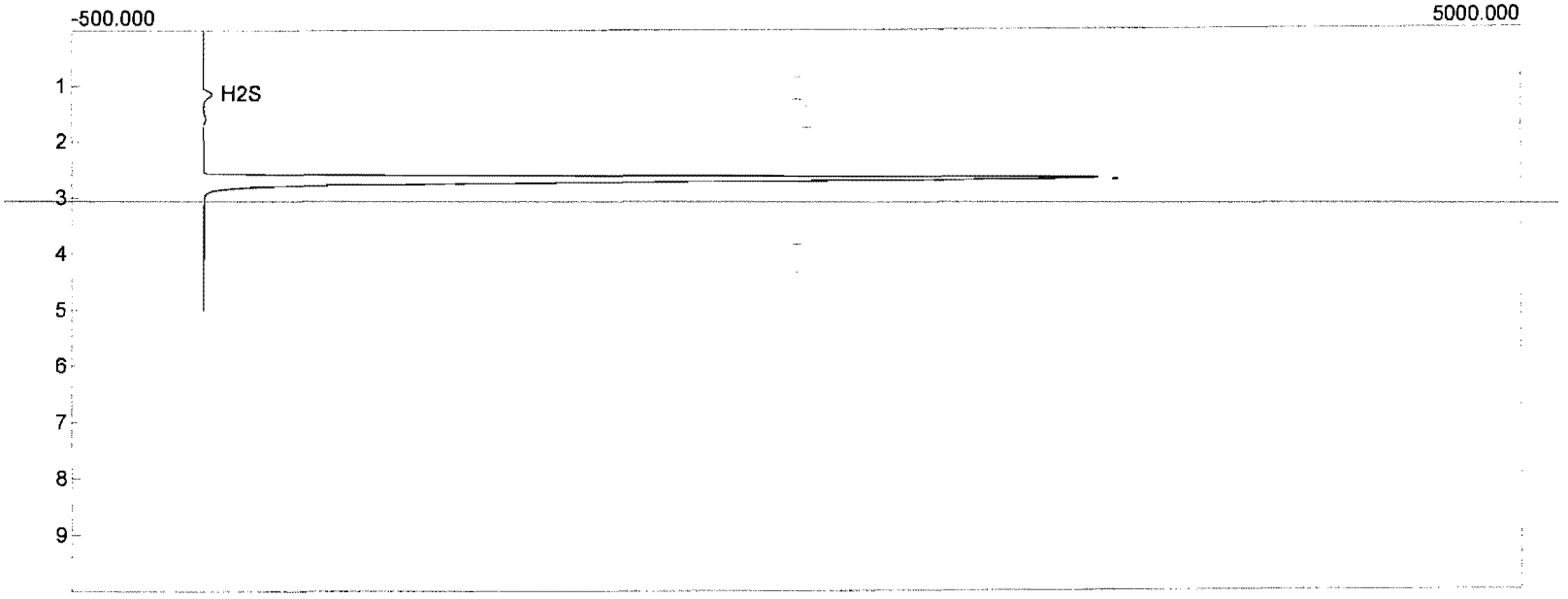
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 16:50:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns39.CHR ()
Sample: Stack Exhaust
Operator: SEY



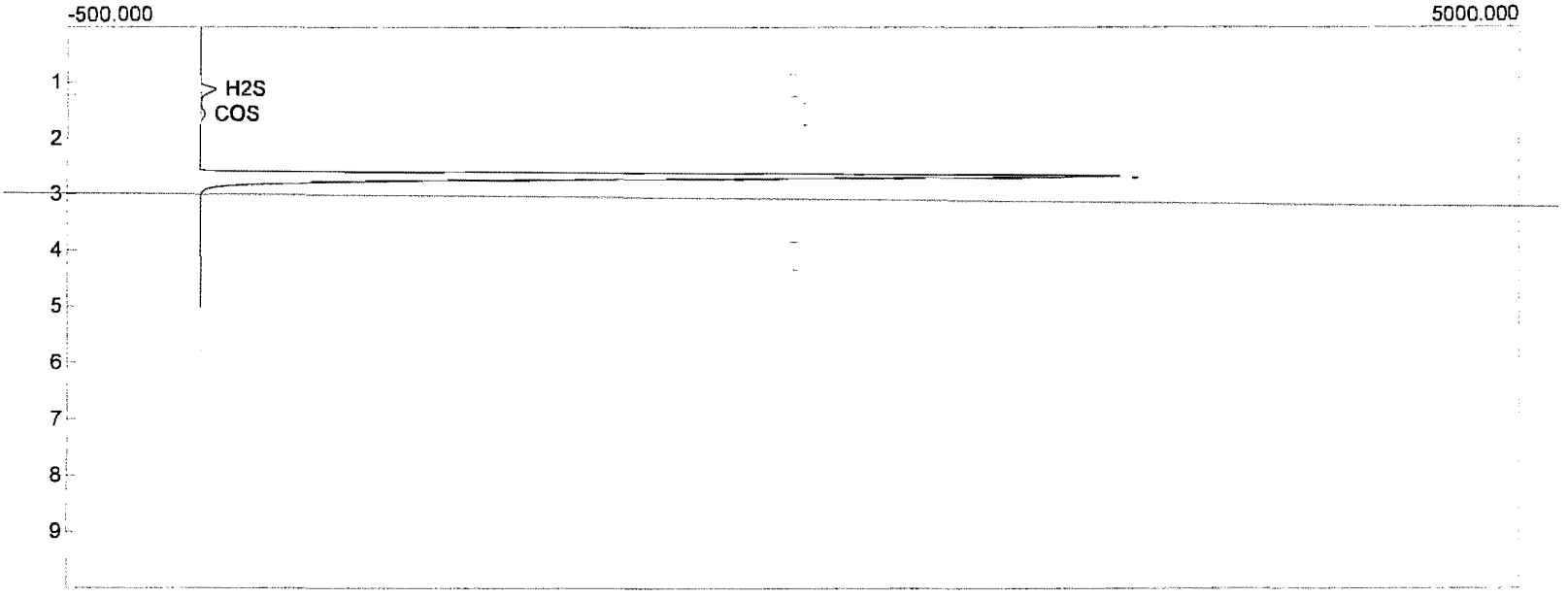
Component	Area
H2S	413.0660
COS	124.8980
	537.9640

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 17:00:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns40.CHR ()
Sample: Stack Exhaust
Operator: SEY



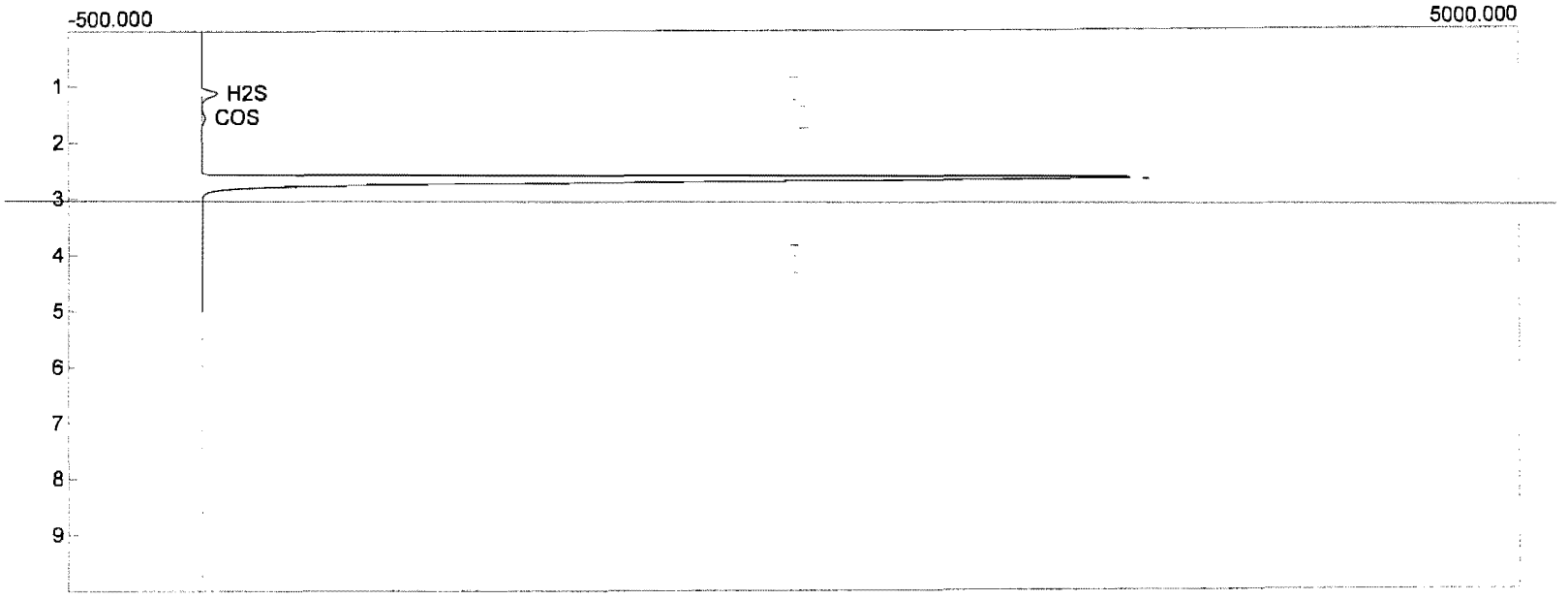
Component	Area
H2S	271.7780
	271.7780

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 17:10:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns41.CHR ()
Sample: Stack Exhaust
Operator: SEY



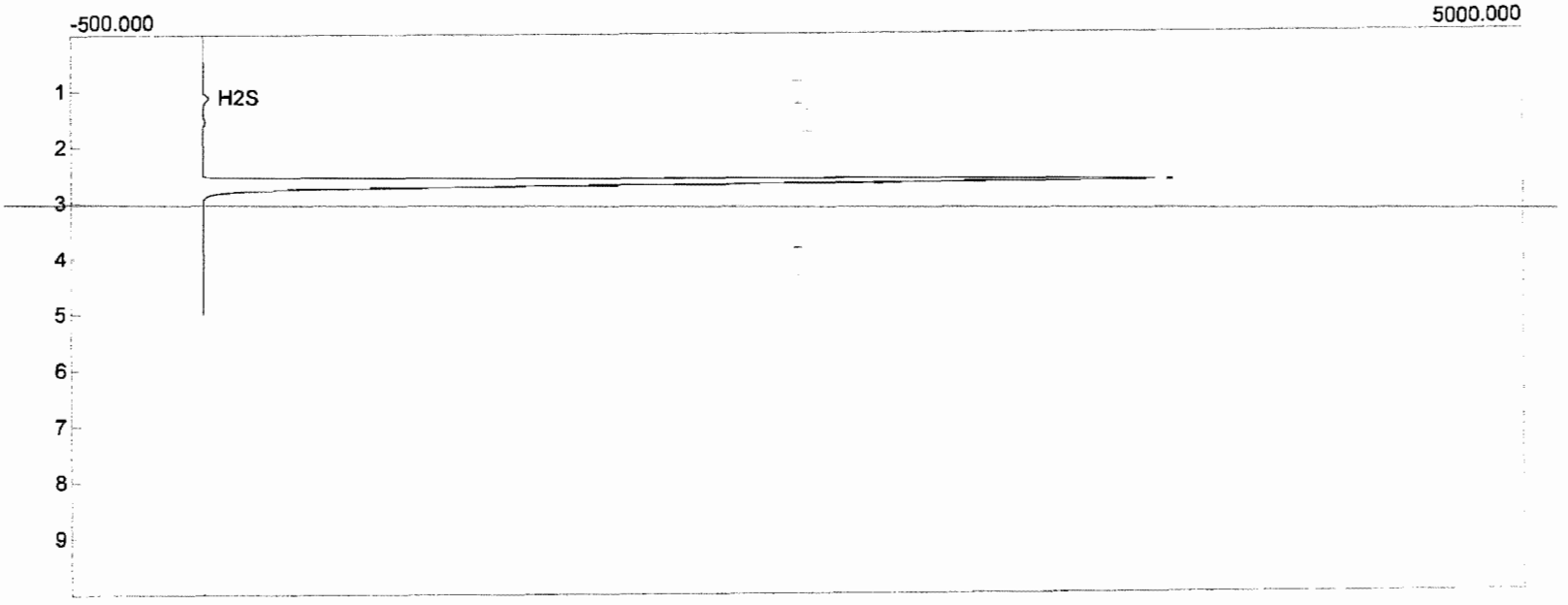
Component	Area
H2S	453.7640
COS	148.4920
	602.2560

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 17:20:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns42.CHR ()
Sample: Stack Exhaust
Operator: SEY



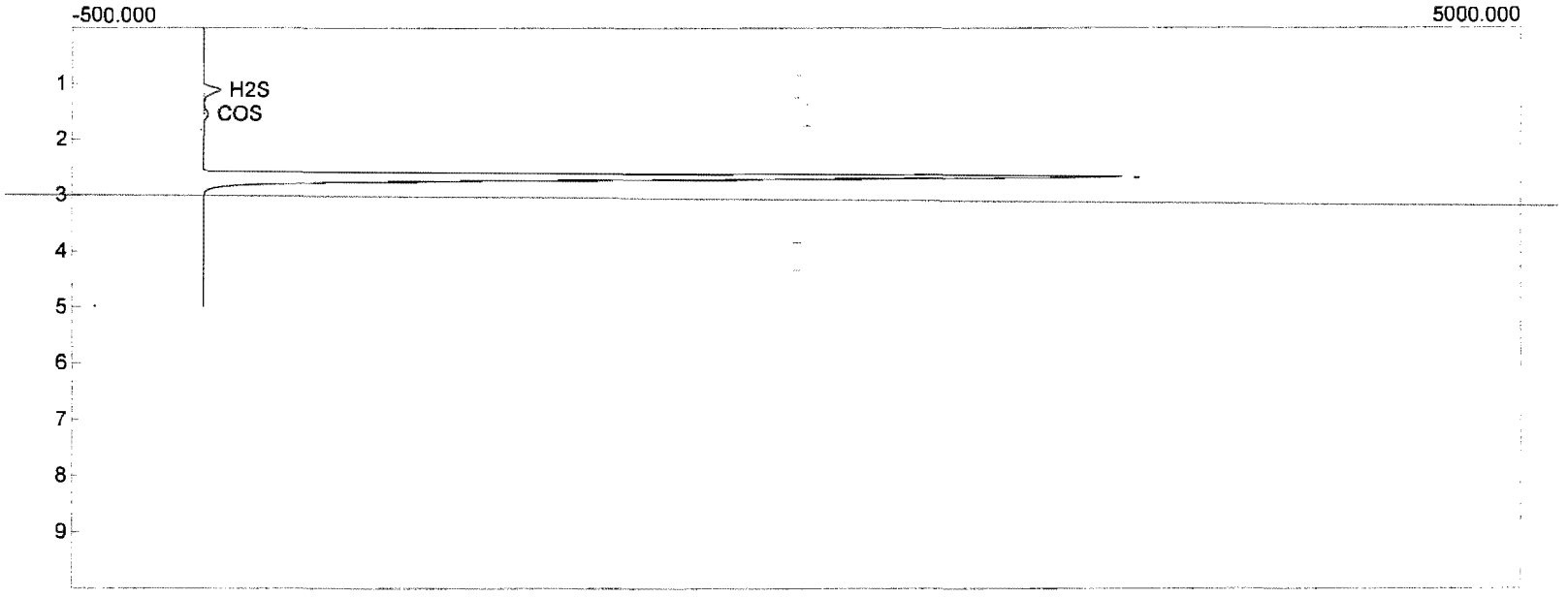
Component	Area
H2S	475.4640
COS	123.9950
	599.4590

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 17:30:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns43.CHR ()
Sample: Stack Exhaust
Operator: SEY



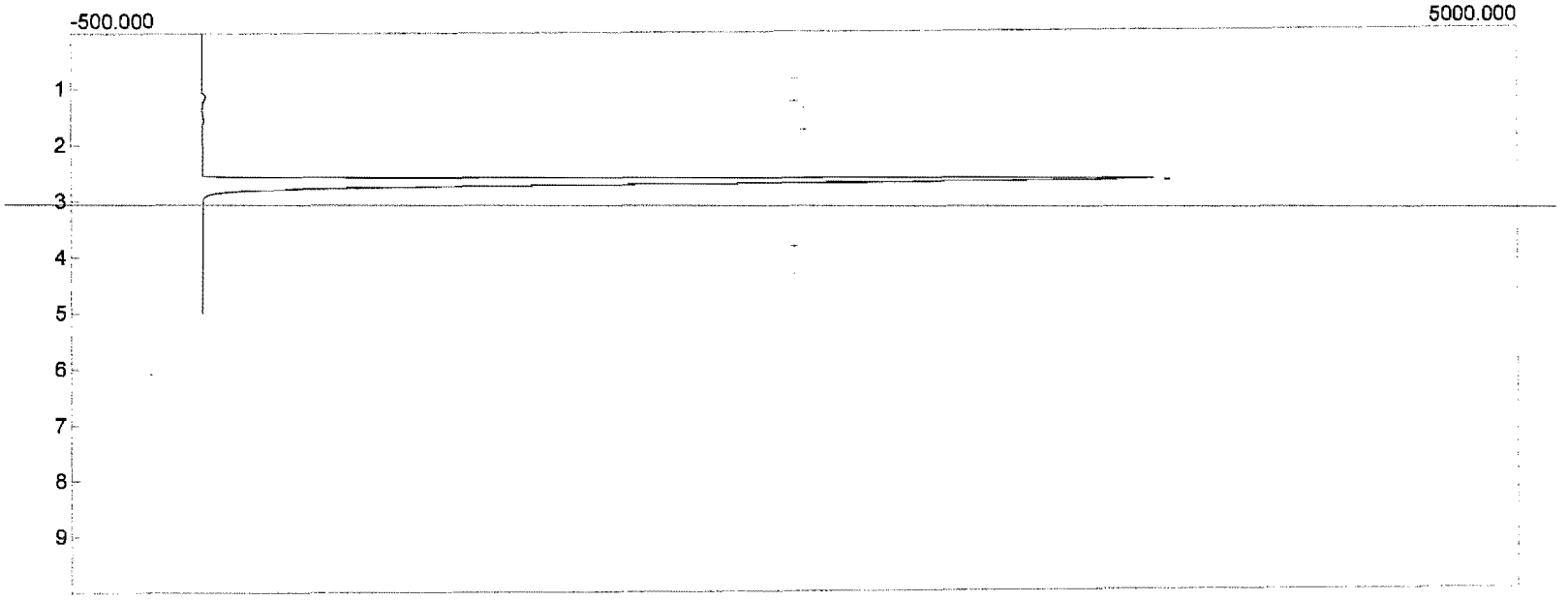
Component	Area
H2S	176.5490
	176.5490

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 17:40:11
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns44.CHR ()
Sample: Stack Exhaust
Operator: SEY



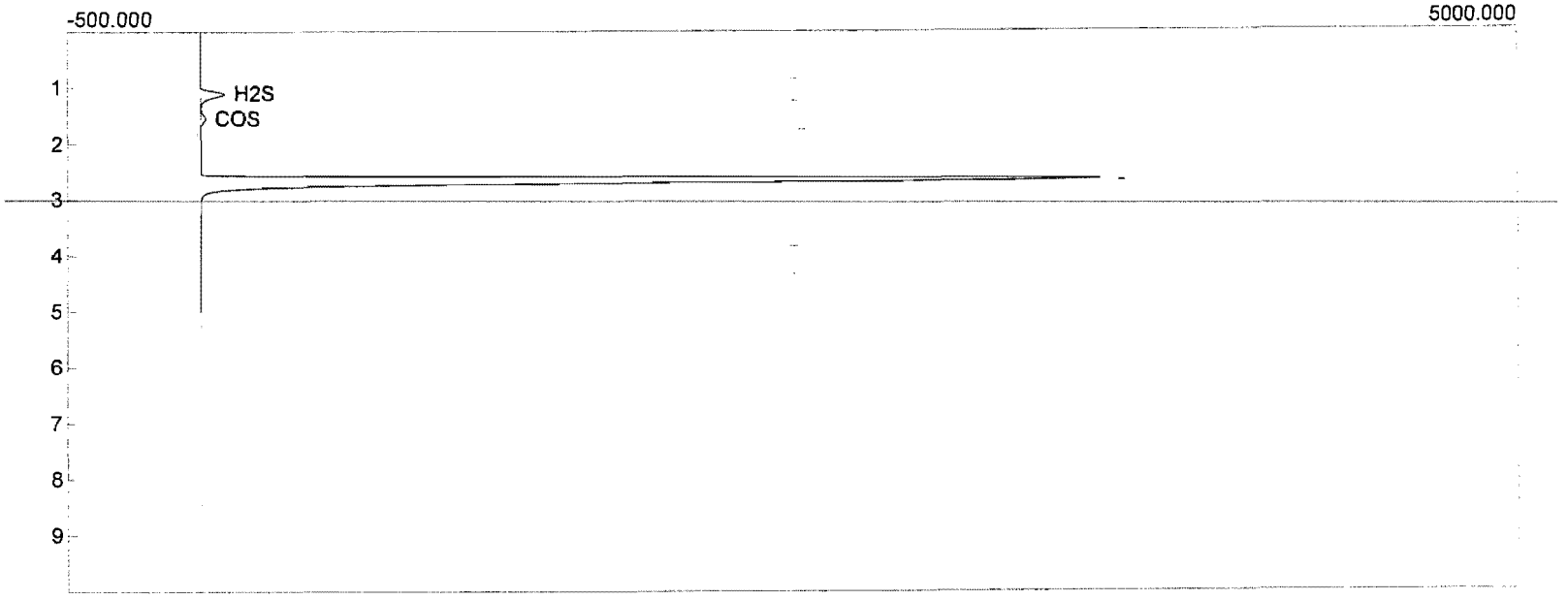
Component	Area
H2S	492.4160
COS	140.6290
	633.0450

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 17:50:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns45.CHR ()
Sample: Stack Exhaust
Operator: SEY



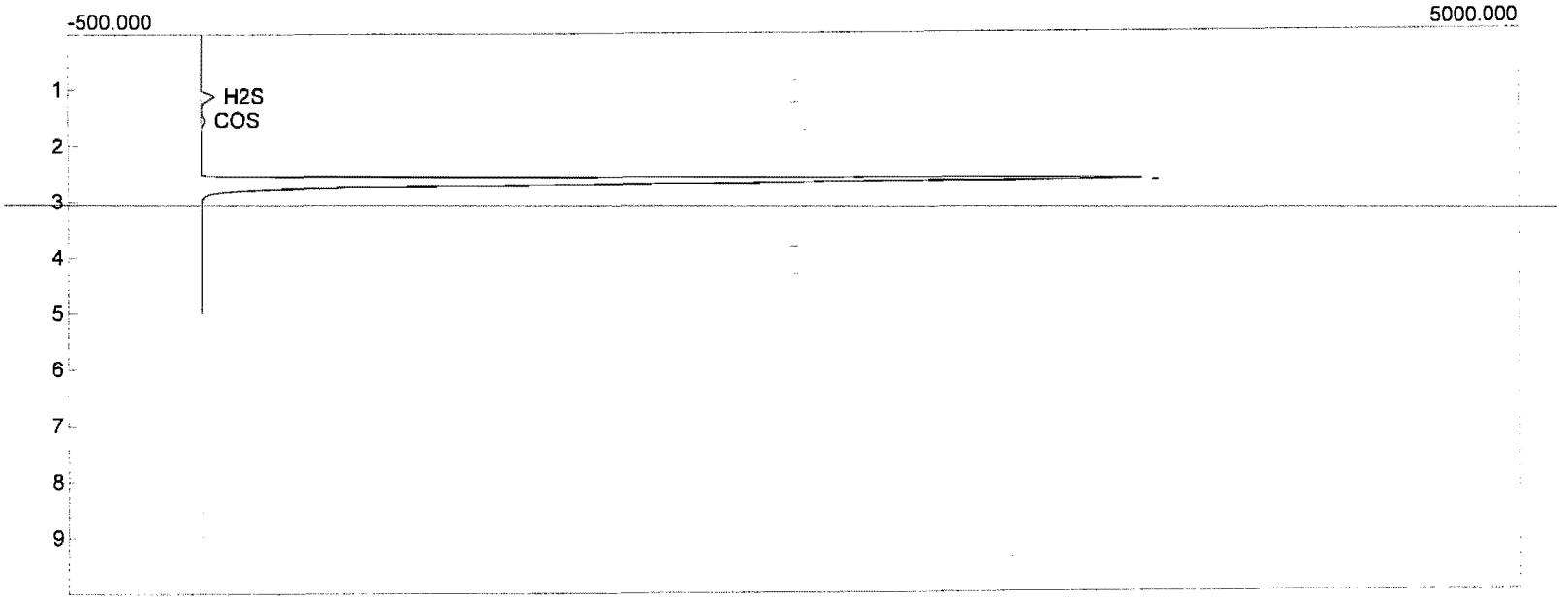
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 18:00:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns46.CHR ()
Sample: Stack Exhaust
Operator: SEY



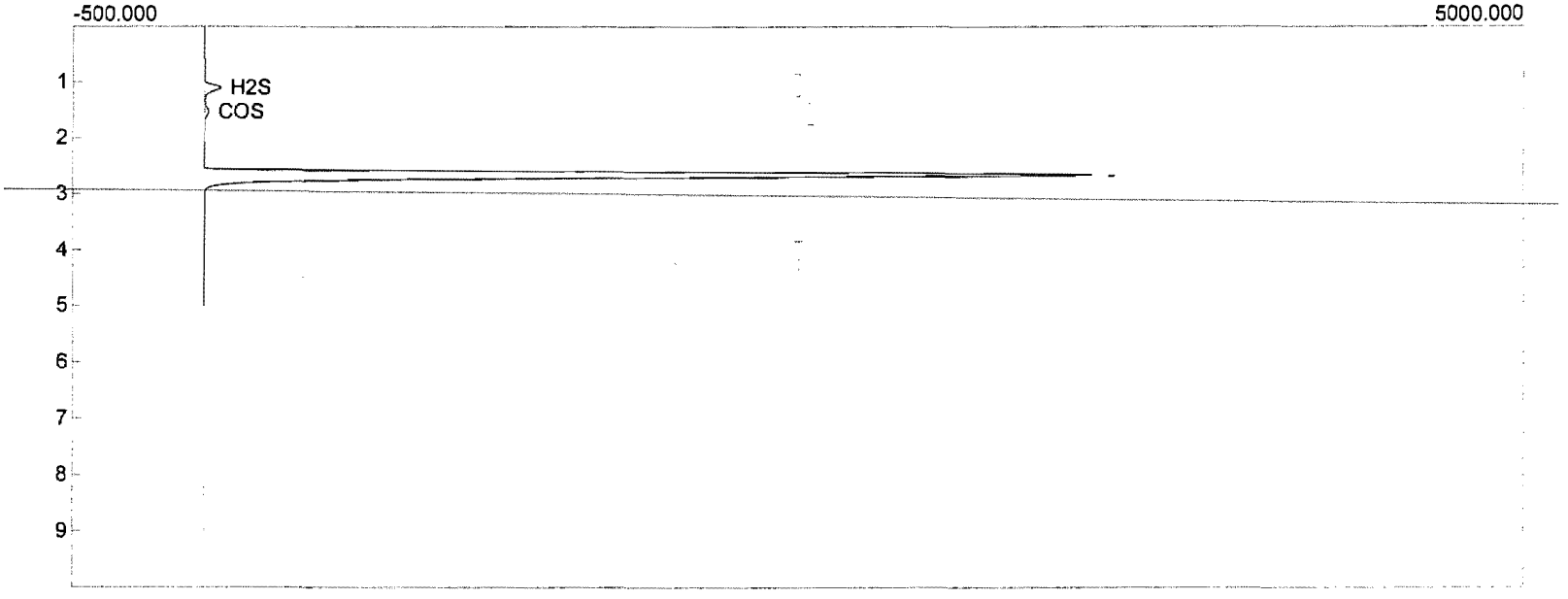
Component	Area
H2S	715.4300
COS	177.0720
	892.5020

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 18:10:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns47.CHR ()
Sample: Stack Exhaust
Operator: SEY



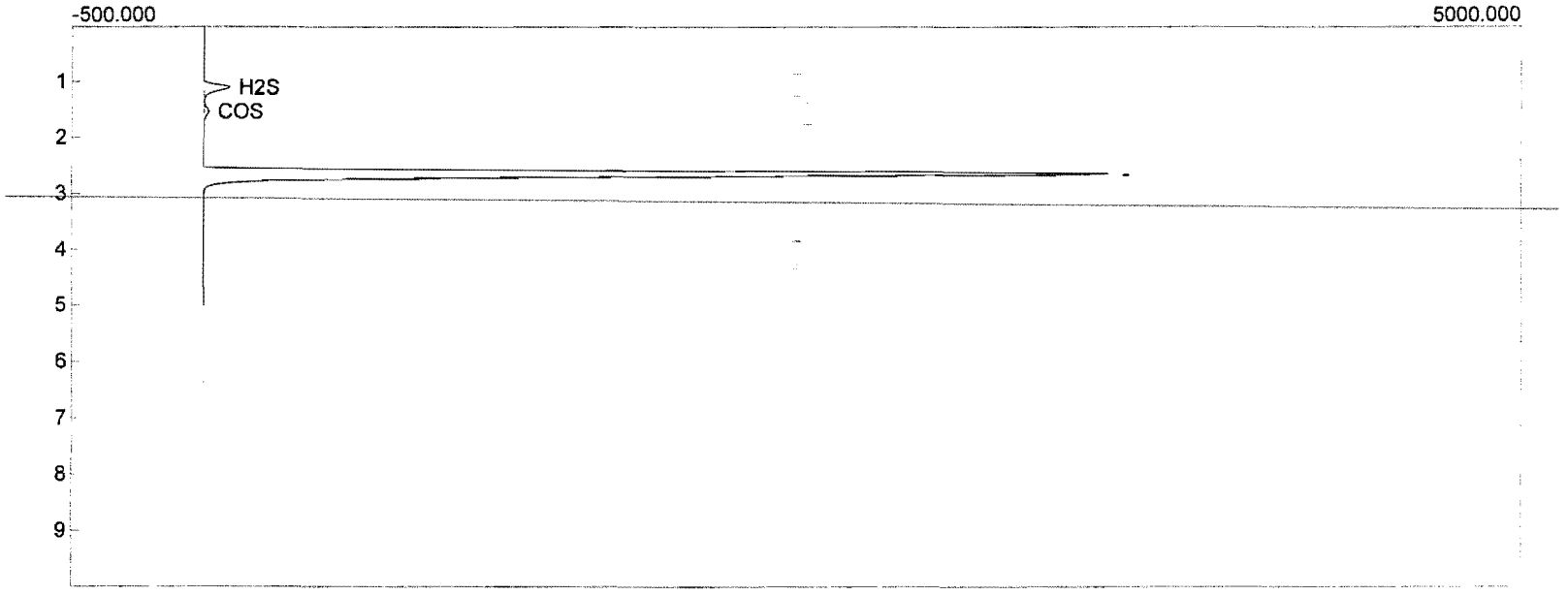
Component	Area
H2S	380.8220
COS	120.7190
	501.5410

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 18:20:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns48.CHR ()
Sample: Stack Exhaust
Operator: SEY



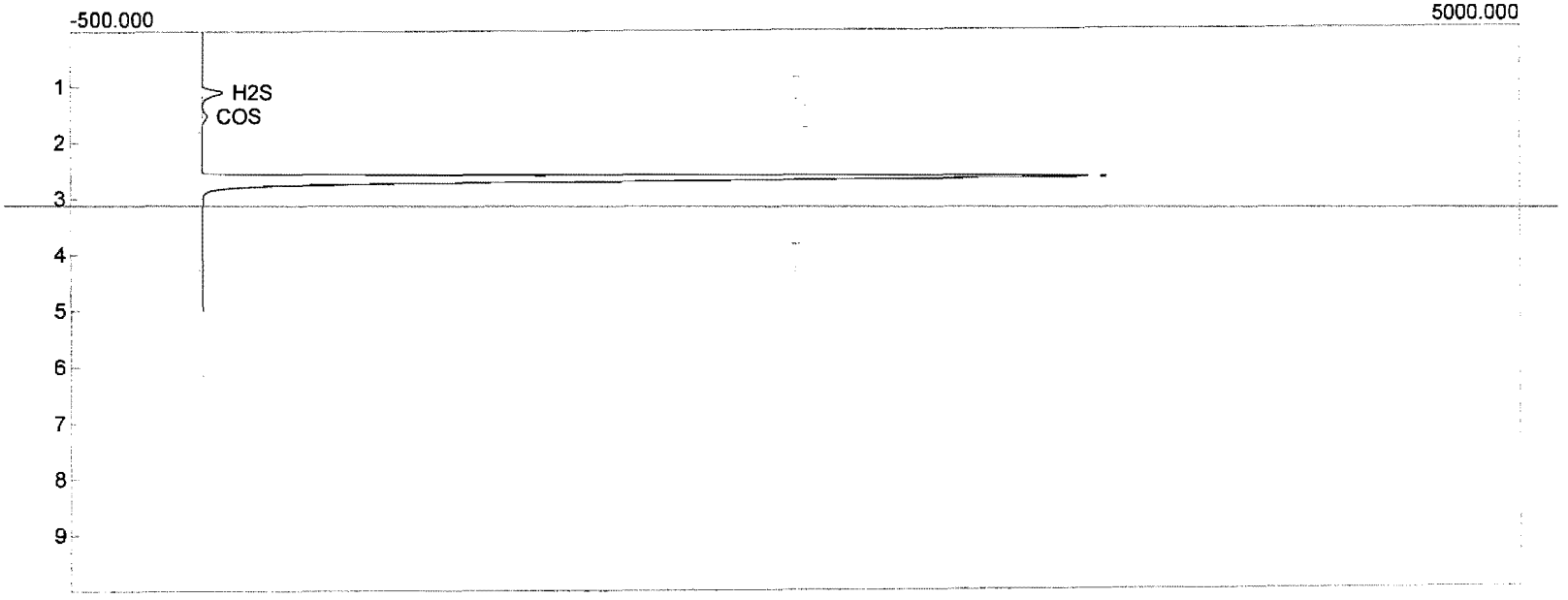
Component	Area
H2S	471.3460
COS	138.3690
	609.7150

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 18:30:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns49.CHR ()
Sample: Stack Exhaust
Operator: SEY



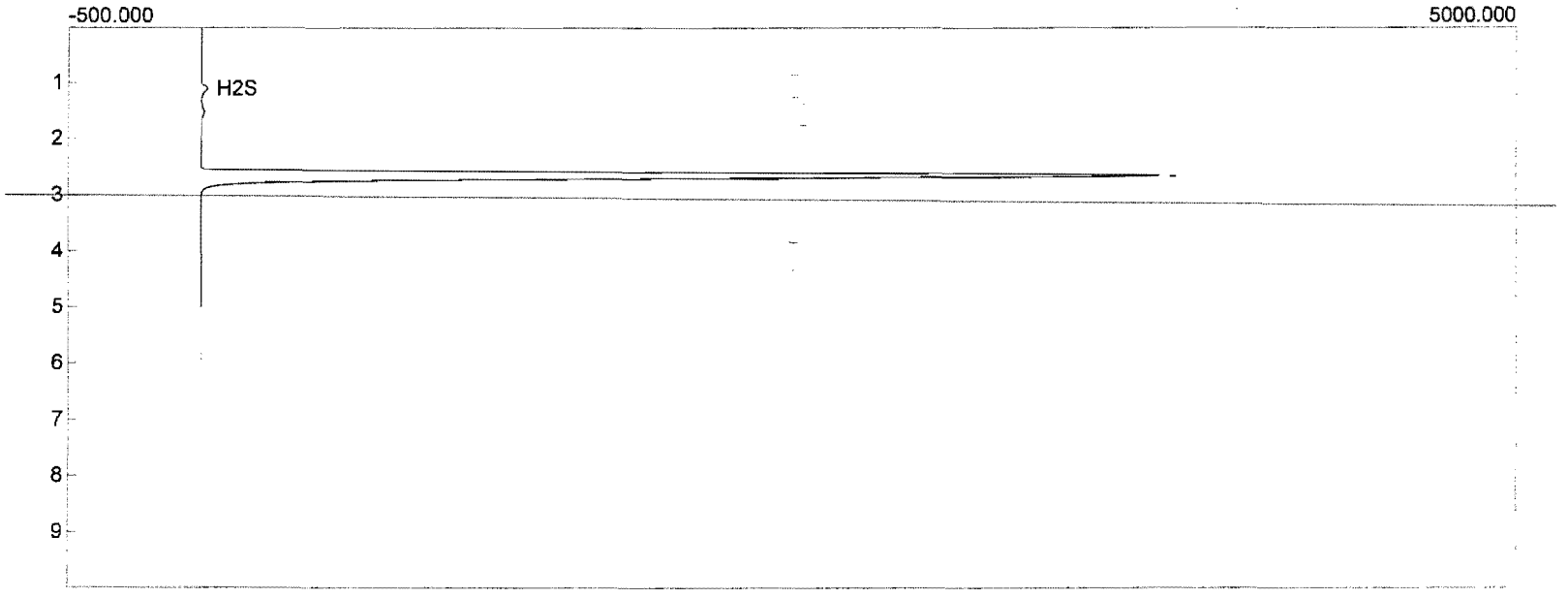
Component	Area
H2S	766.6820
COS	161.7820
	928.4640

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 18:40:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns50.CHR ()
Sample: Stack Exhaust
Operator: SEY



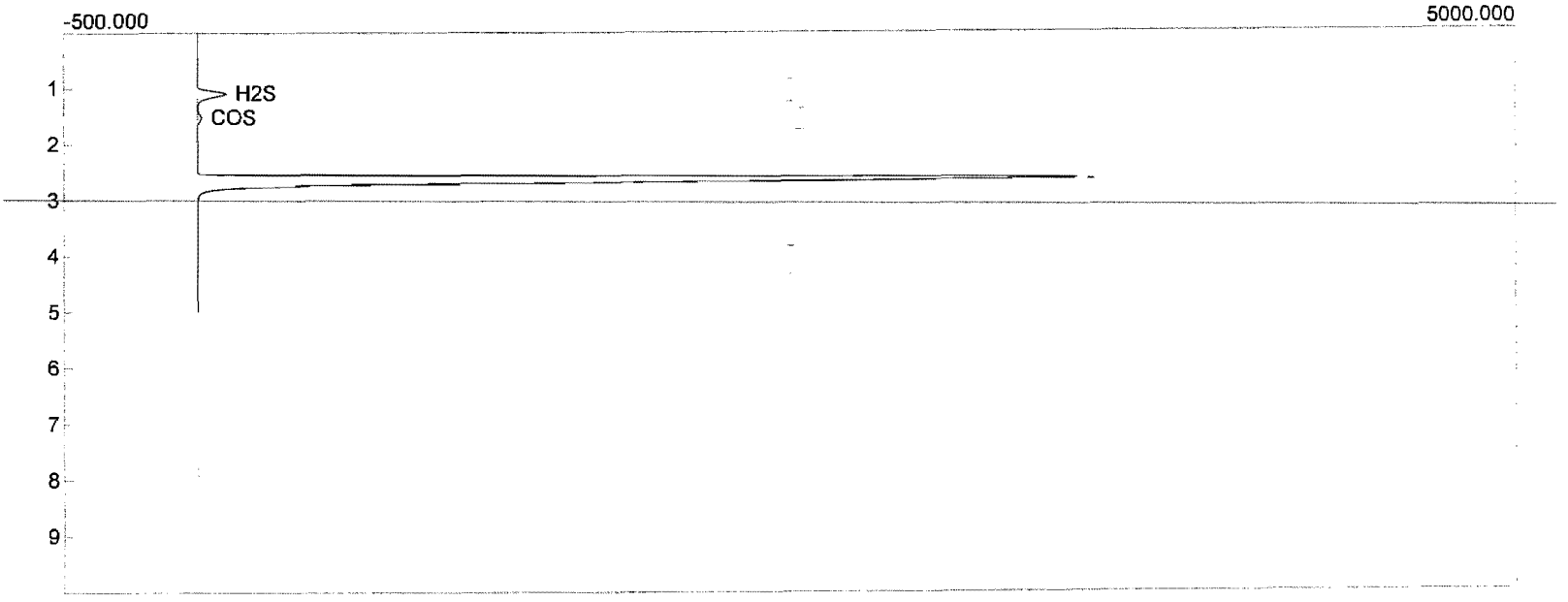
Component	Area
H2S	604.1820
COS	169.7350
	773.9170

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 18:50:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns51.CHR ()
Sample: Stack Exhaust
Operator: SEY



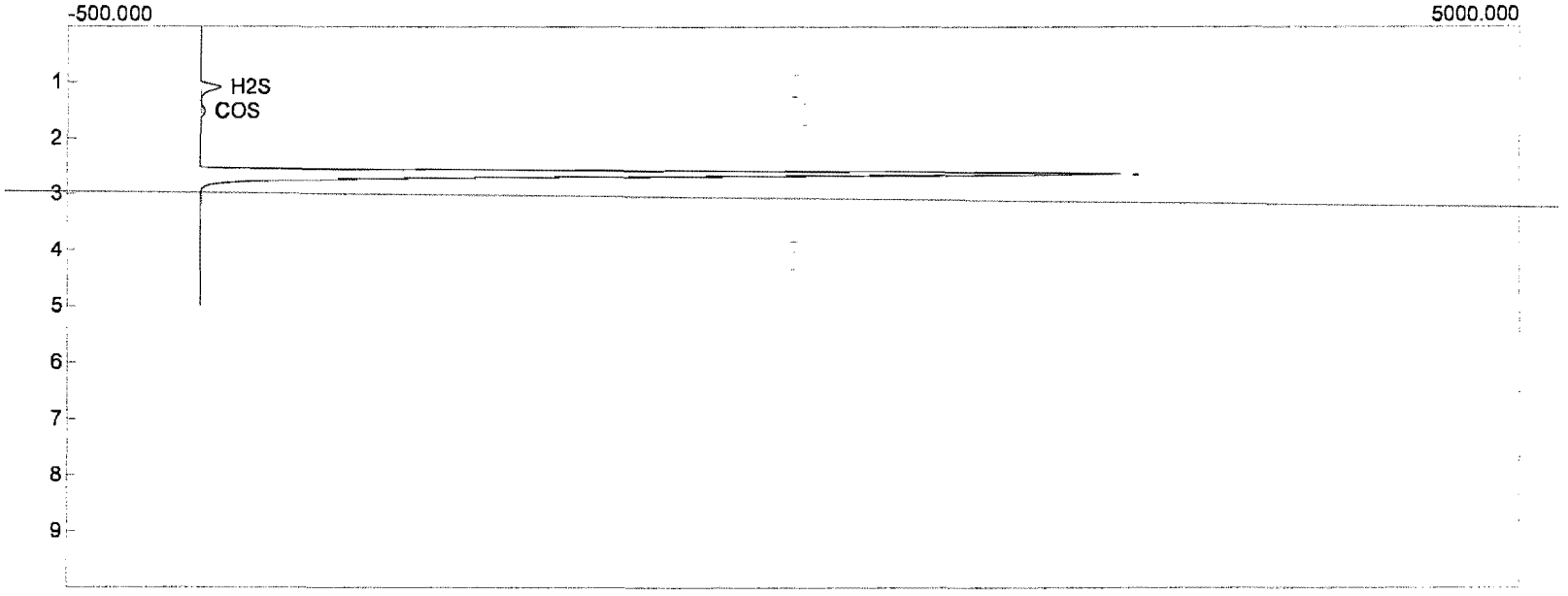
Component	Area
H2S	174.6640
	174.6640

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 19:00:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns52.CHR ()
Sample: Stack Exhaust
Operator: SEY



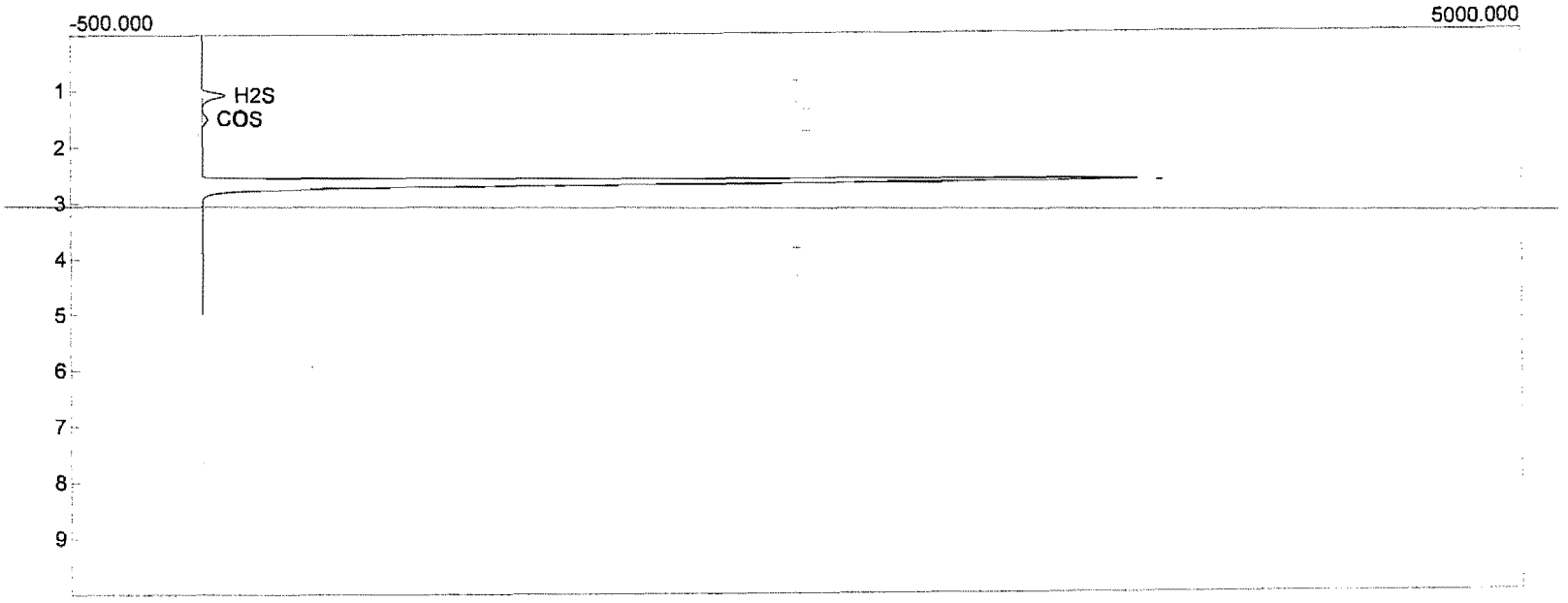
Component	Area
H2S	828.4100
COS	142.1190
	970.5290

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 19:10:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns53.CHR ()
Sample: Stack Exhaust
Operator: SEY



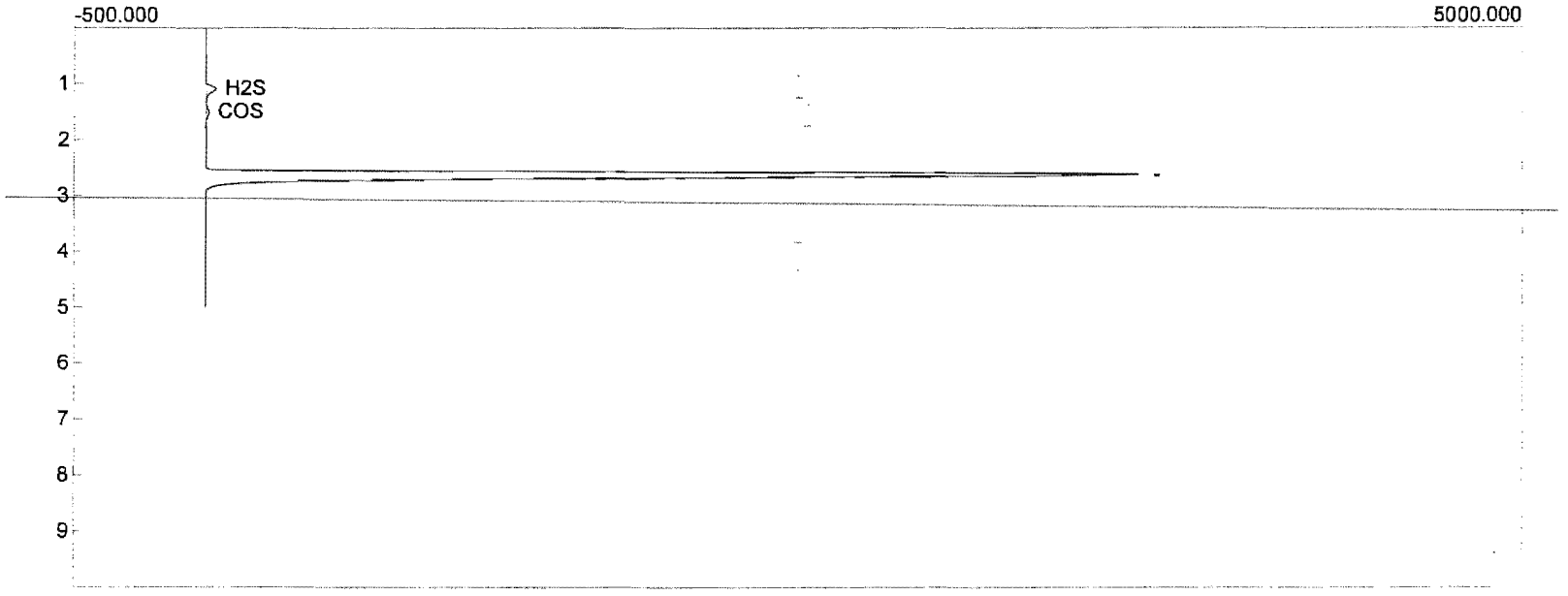
Component	Area
H2S	557.3660
COS	141.7540
	699.1200

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 19:20:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns54.CHR ()
Sample: Stack Exhaust
Operator: SEY



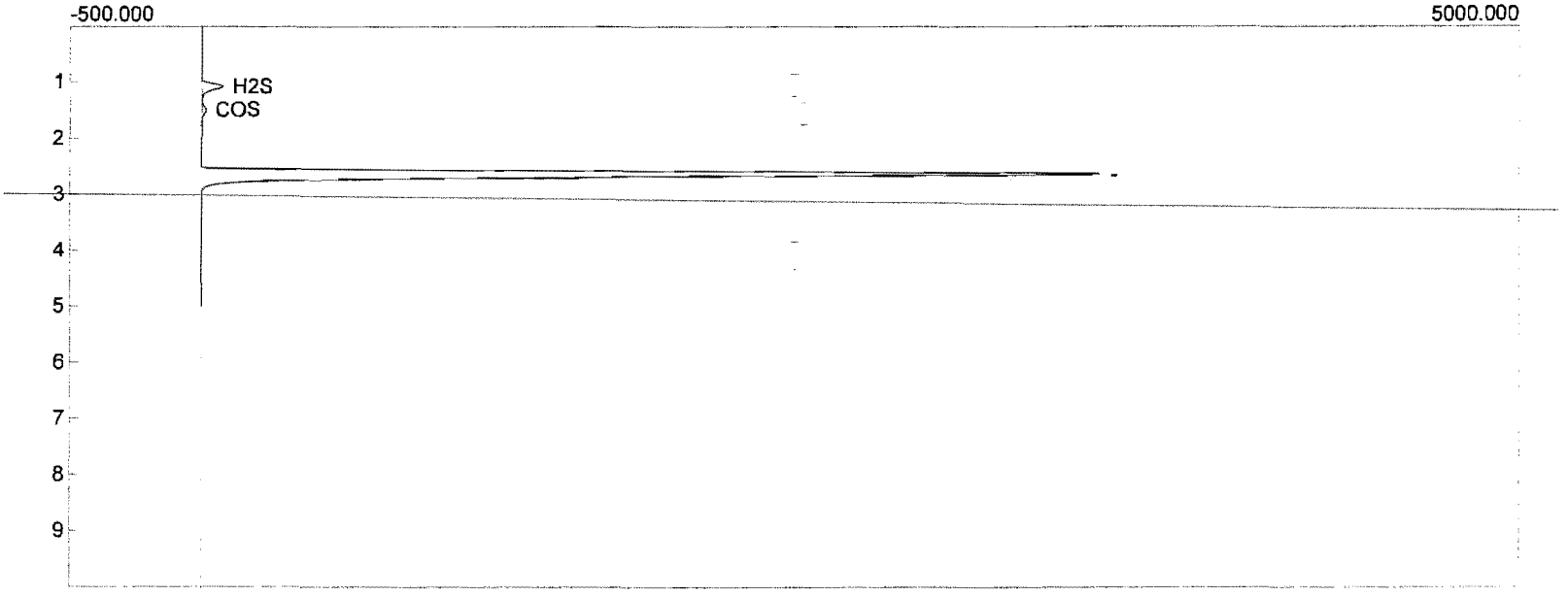
Component	Area
H2S	660.8140
COS	190.8260
	851.6400

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 19:30:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns55.CHR ()
Sample: Stack Exhaust
Operator: SEY



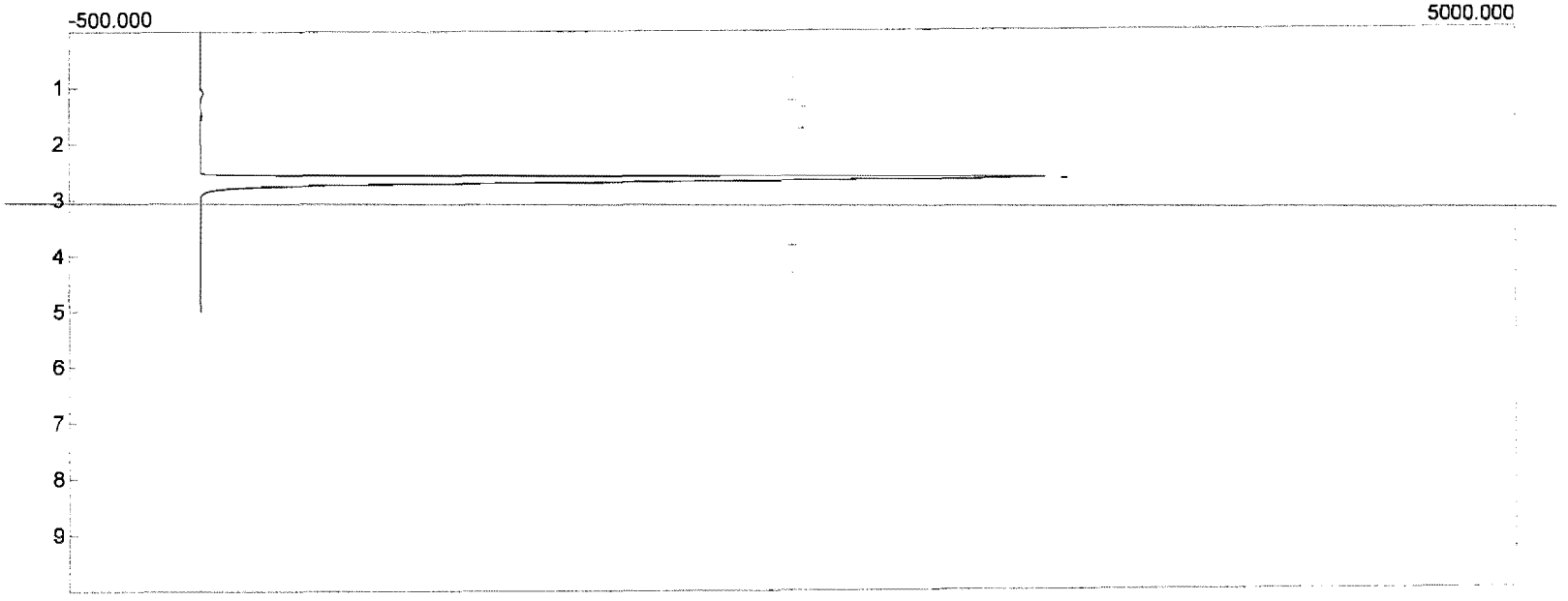
Component	Area
H2S	293.0810
COS	102.2920
	395.3730

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 19:40:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns56.CHR ()
Sample: Stack Exhaust
Operator: SEY



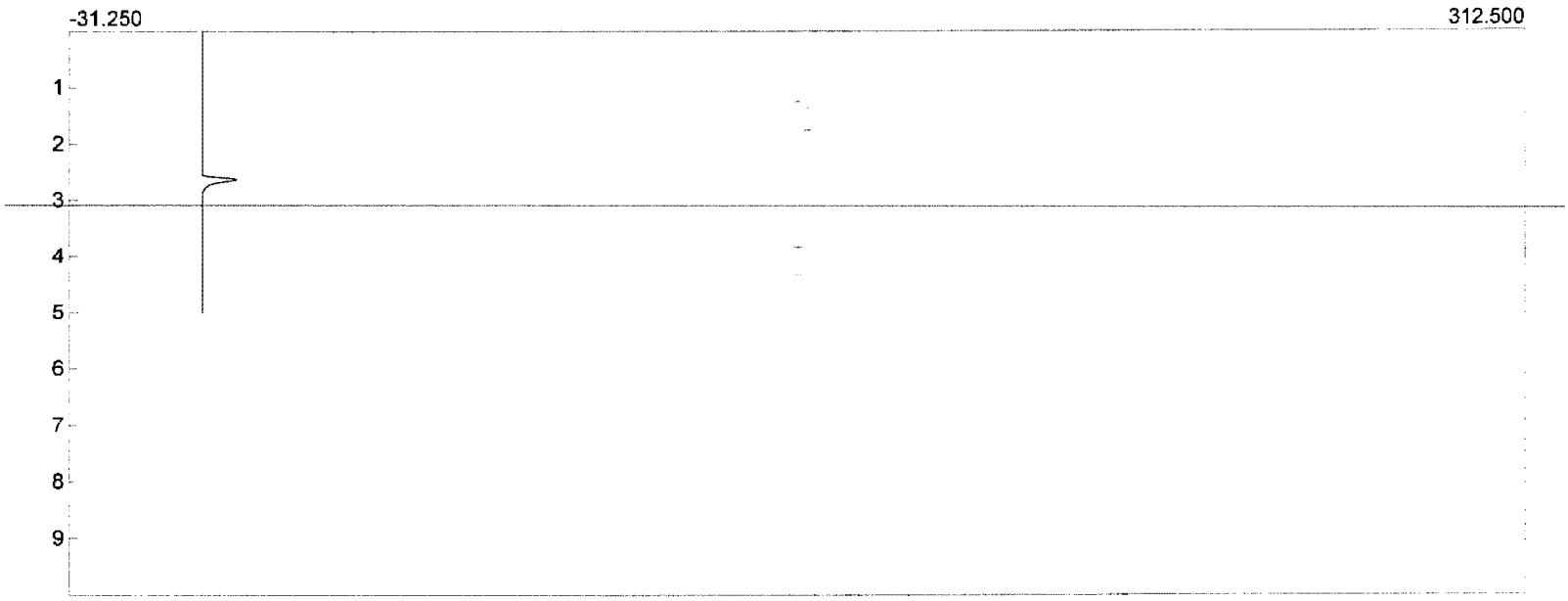
Component	Area
H2S	609.2960
COS	139.6080
	748.9040

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 19:50:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns57.CHR ()
Sample: Stack Exhaust
Operator: SEY



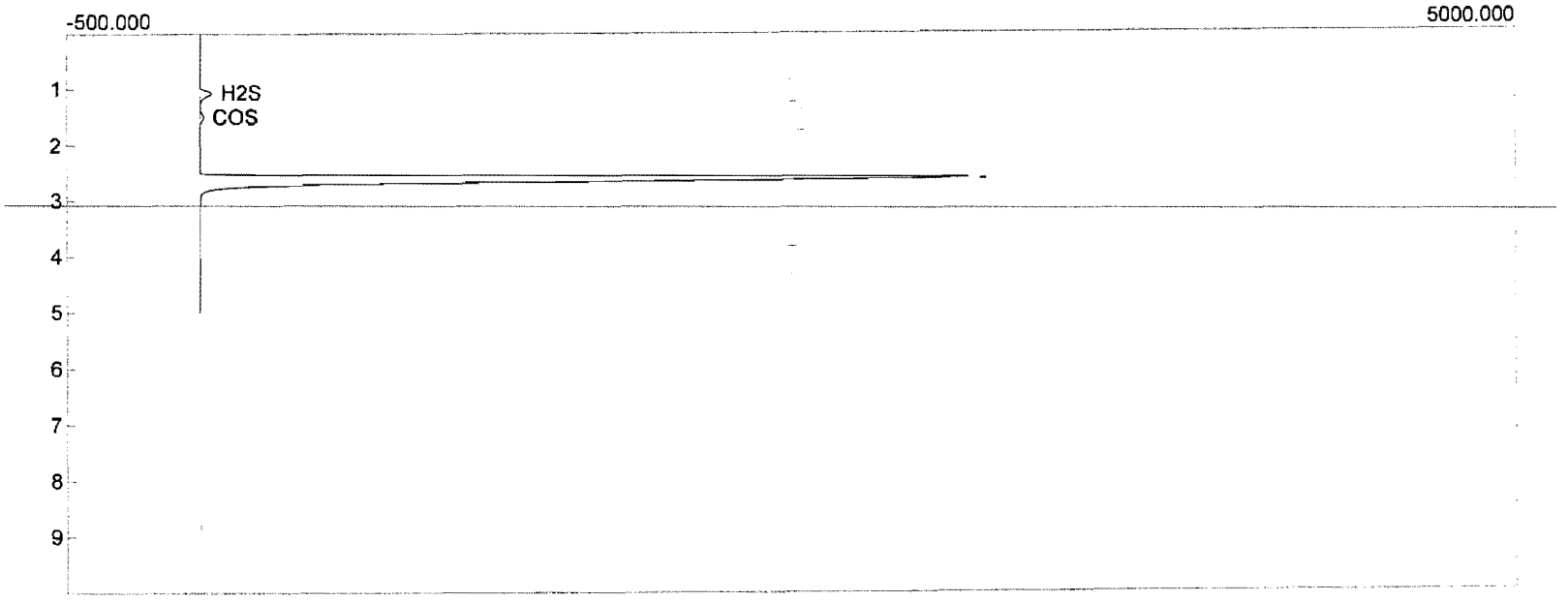
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 20:00:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns58.CHR ()
Sample: Stack Exhaust
Operator: SEY



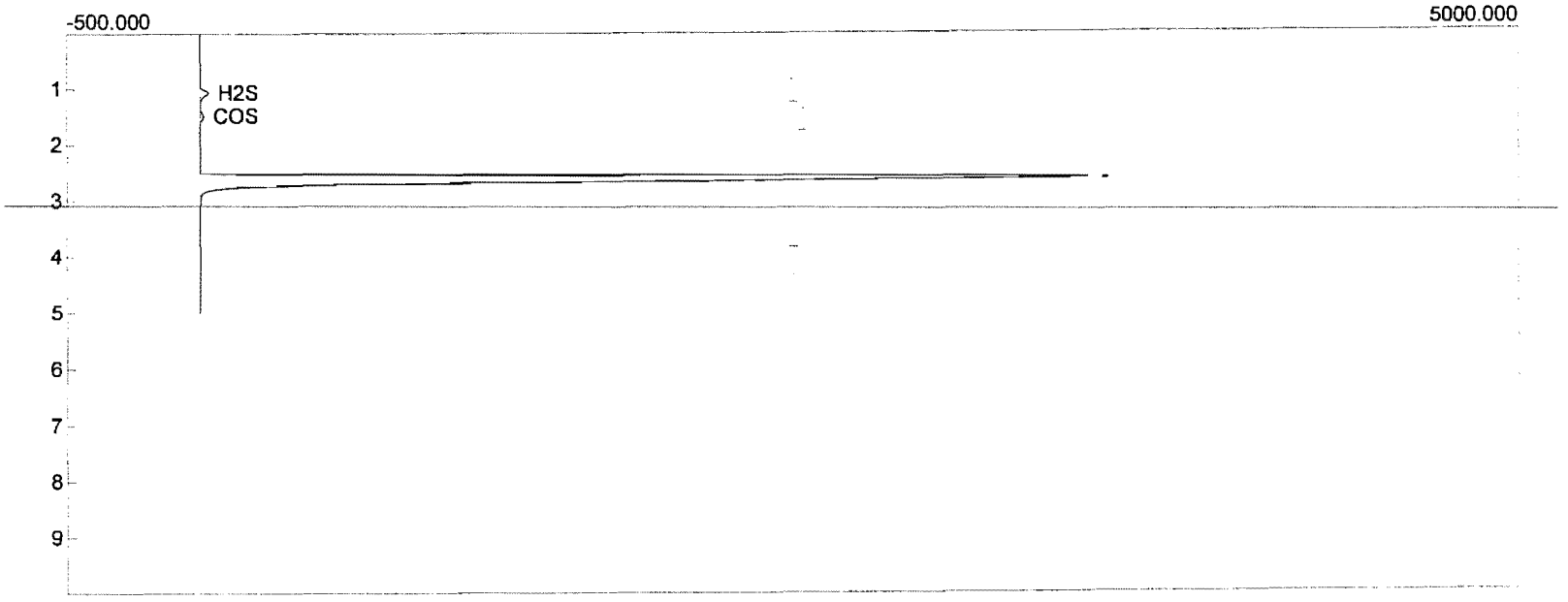
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 20:10:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns59.CHR ()
Sample: Stack Exhaust
Operator: SEY



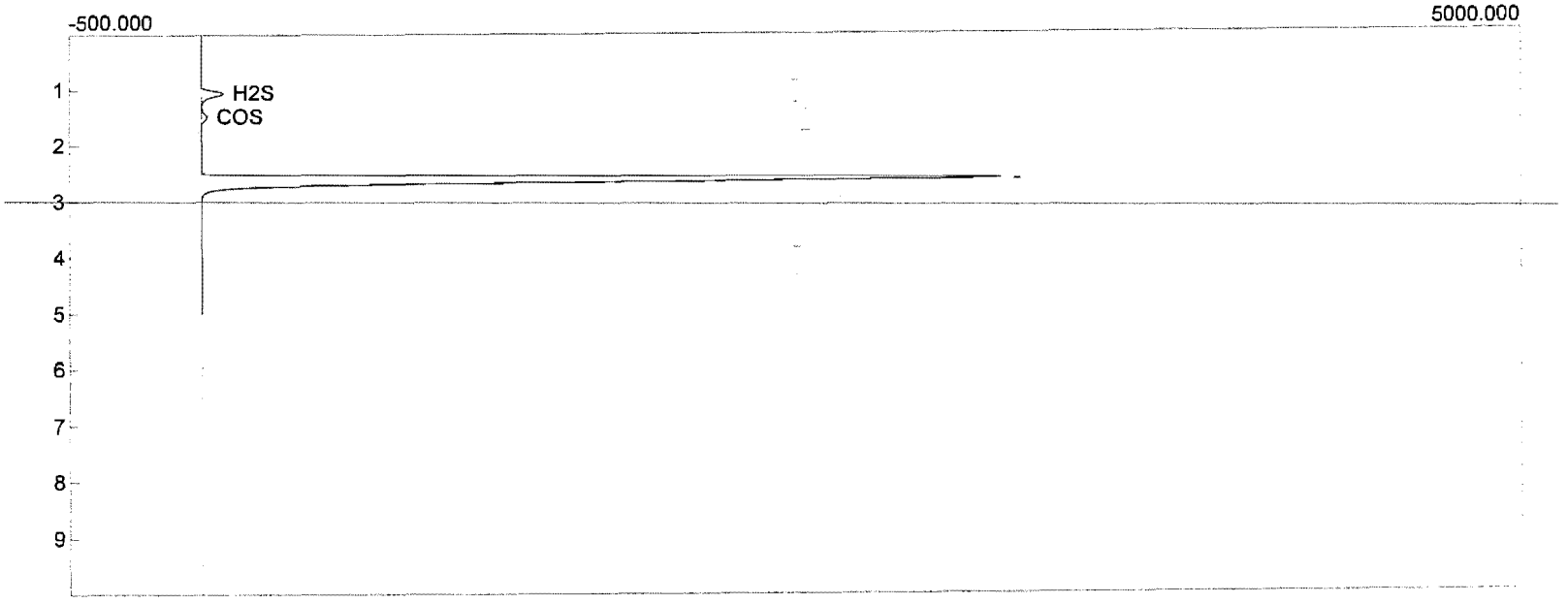
Component	Area
H2S	339.3140
COS	130.2530
	469.5670

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 20:20:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns60.CHR ()
Sample: Stack Exhaust
Operator: SEY



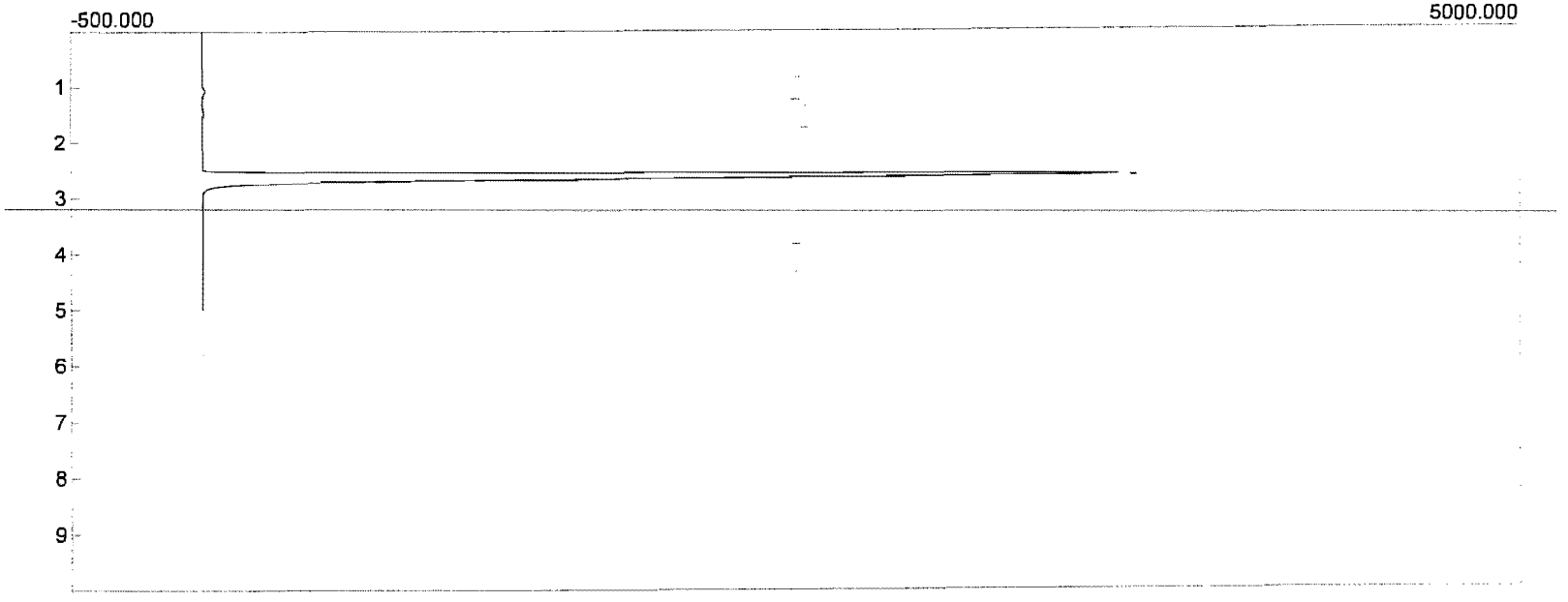
Component	Area
H2S	227.3160
COS	113.2220
	340.5380

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 20:30:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns61.CHR ()
Sample: Stack Exhaust
Operator: SEY



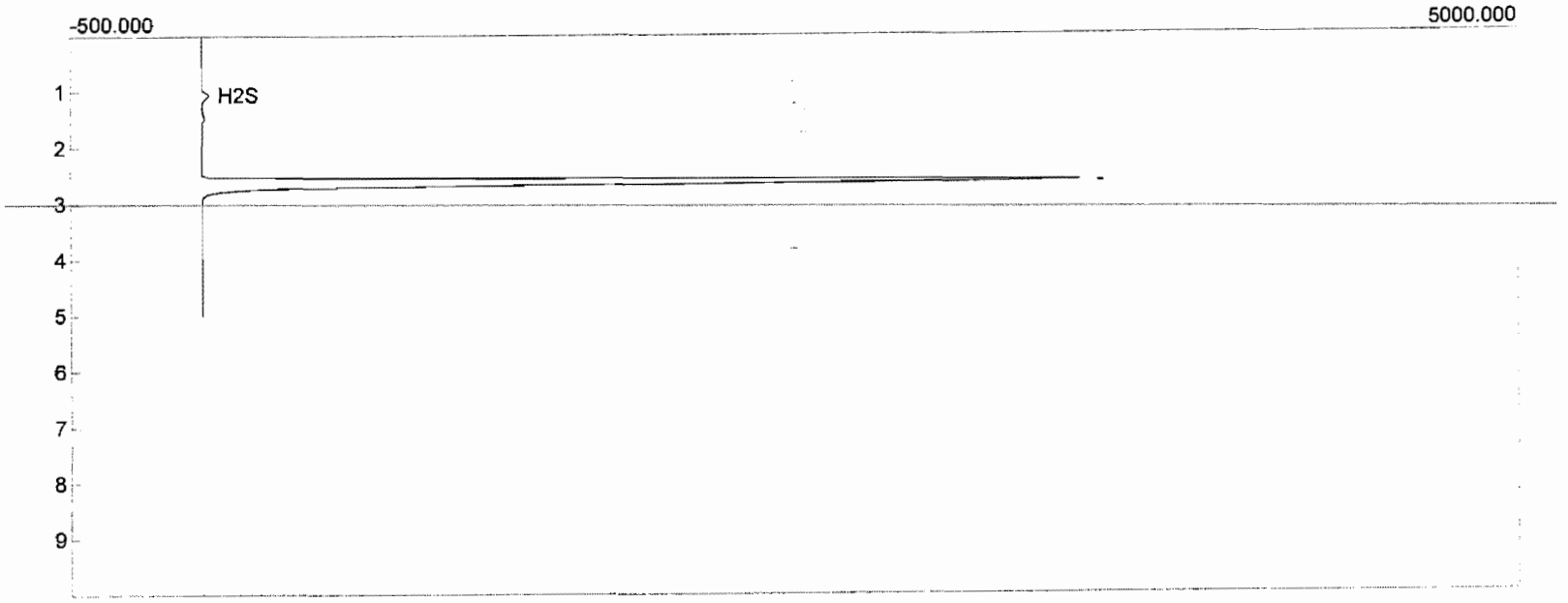
Component	Area
H2S	623.3280
COS	193.0960
	816.4240

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 20:40:12
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns62.CHR ()
Sample: Stack Exhaust
Operator: SEY



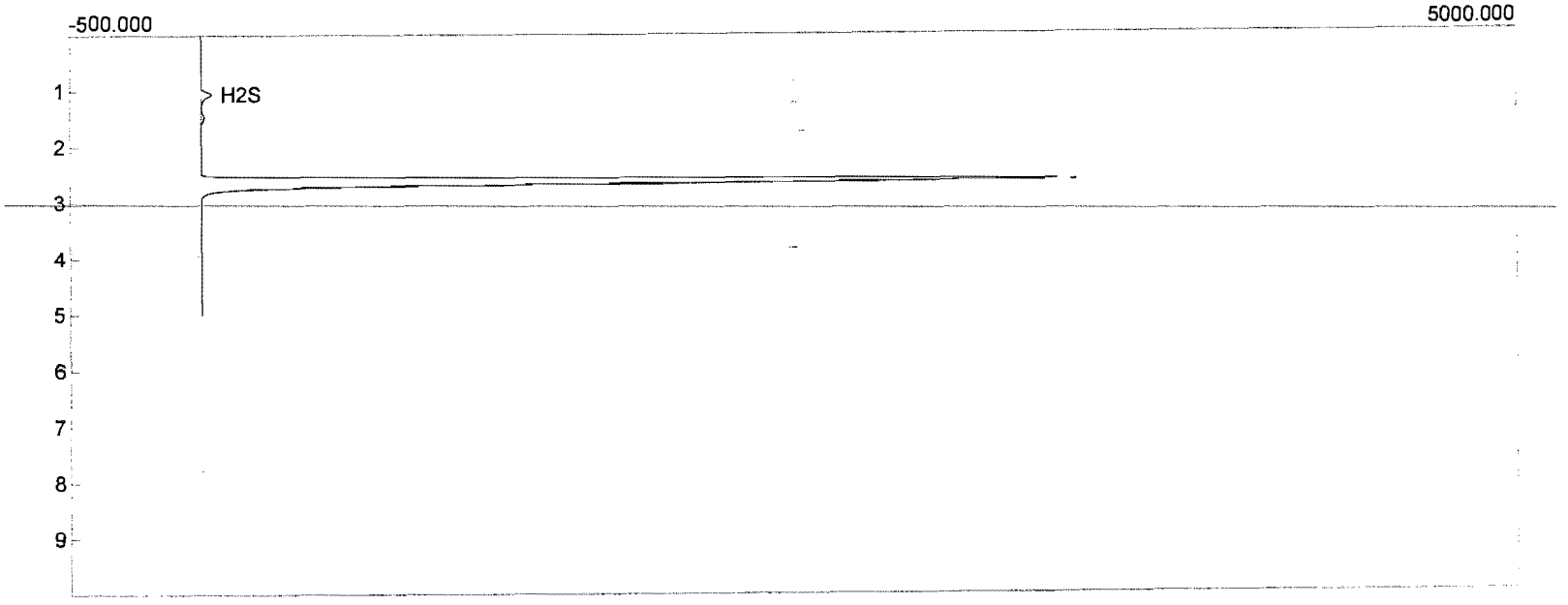
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 20:50:13
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns63.CHR ()
Sample: Stack Exhaust
Operator: SEY



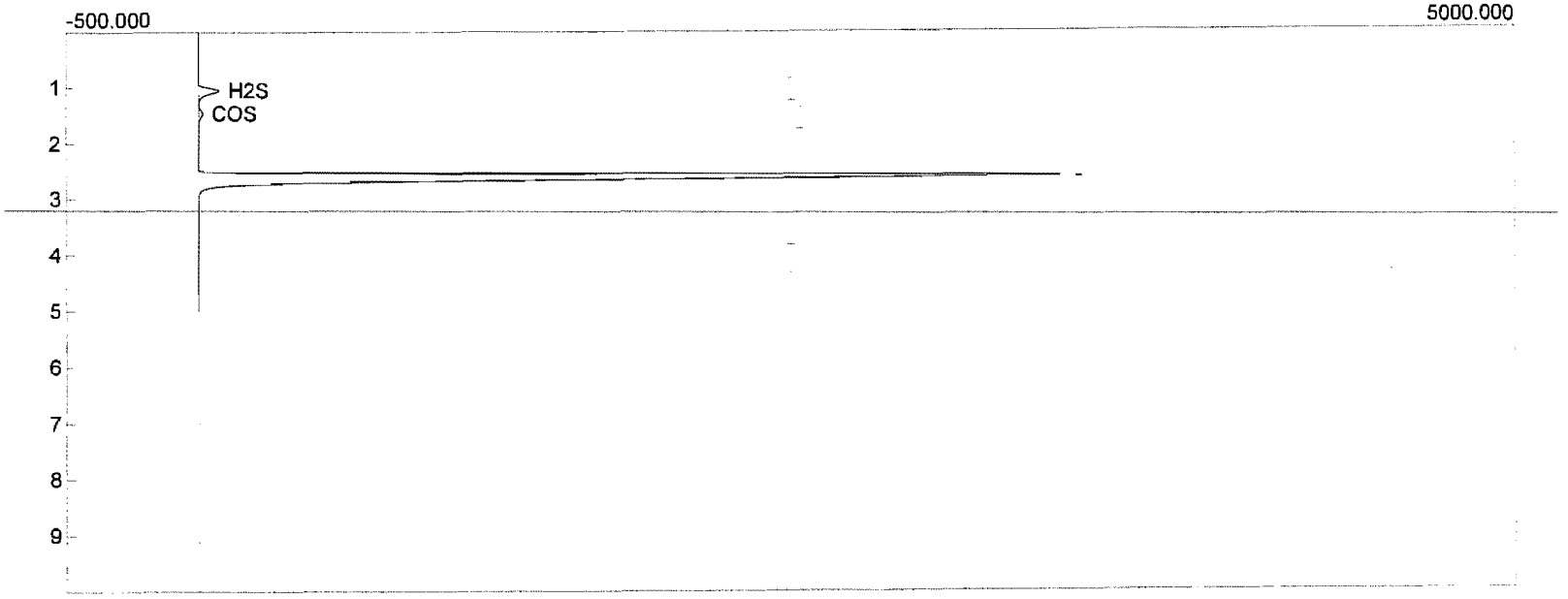
Component	Area
H2S	187.1180
	187.1180

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 21:00:13
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns64.CHR ()
Sample: Stack Exhaust
Operator: SEY



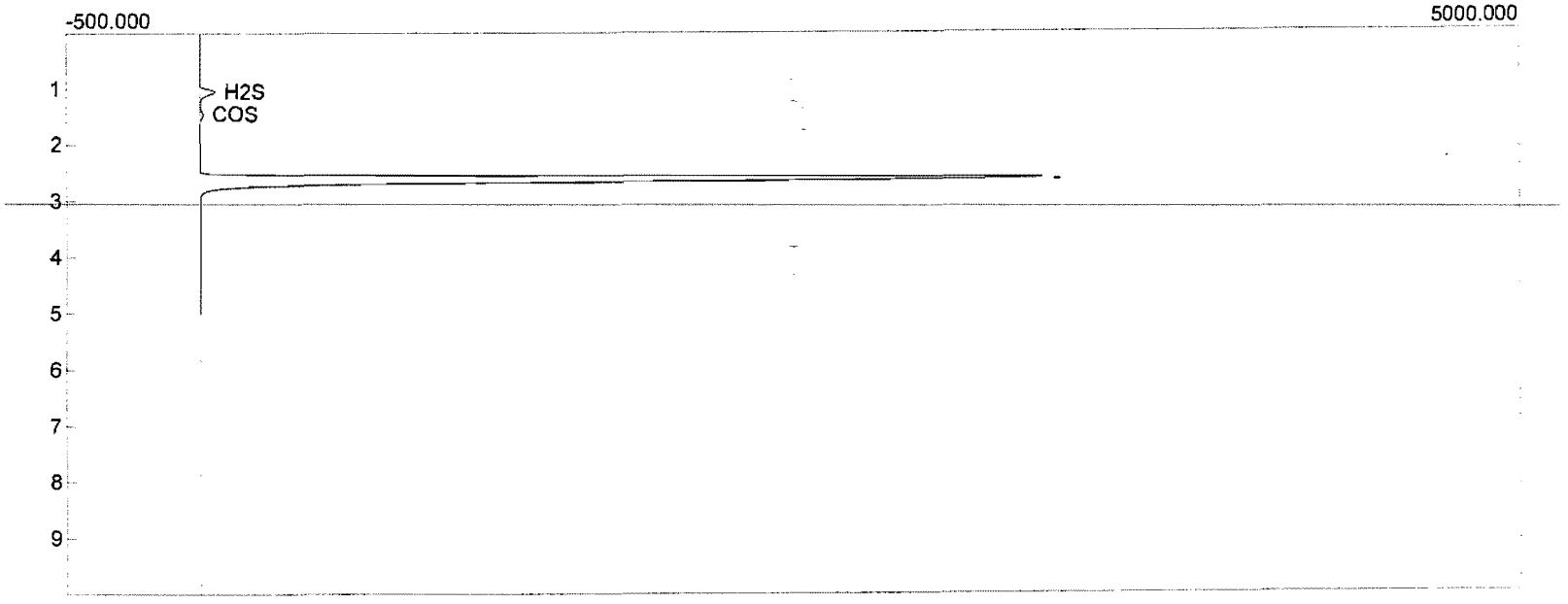
Component	Area
H2S	285.0100
	285.0100

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 21:10:13
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns65.CHR ()
Sample: Stack Exhaust
Operator: SEY



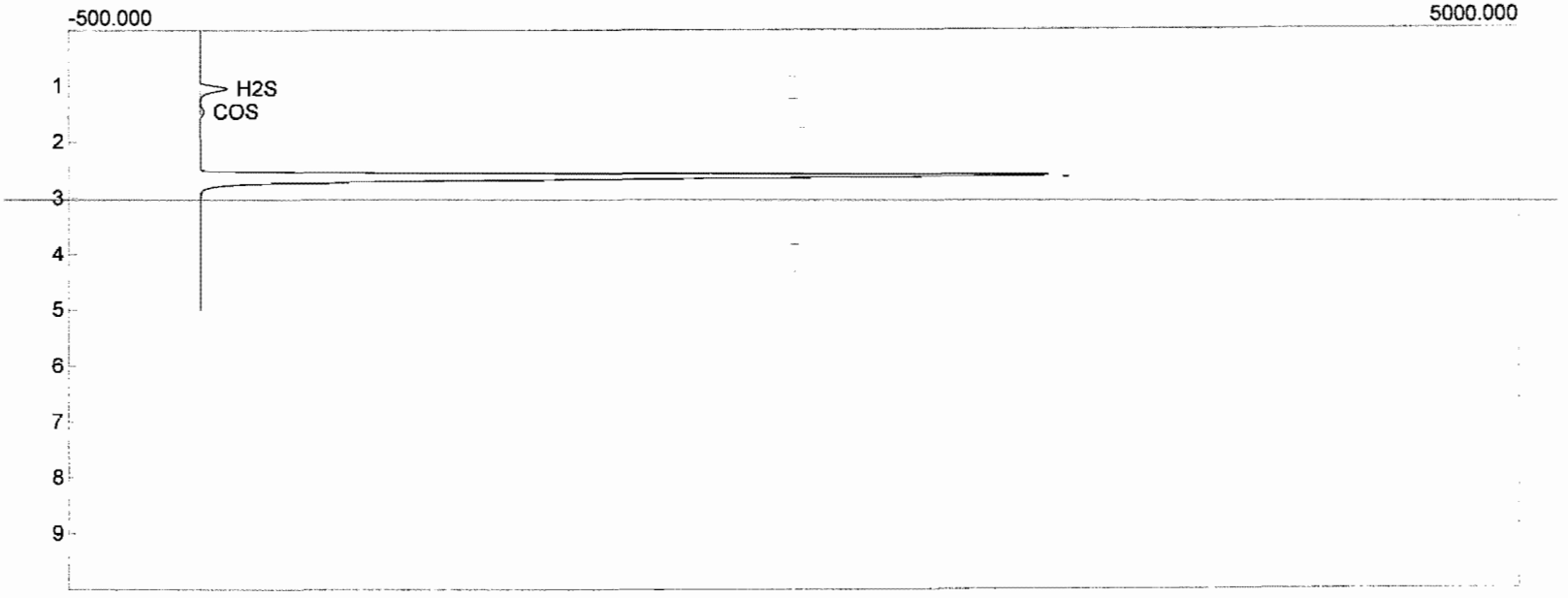
Component	Area
H2S	580.3930
COS	134.4480
	714.8410

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 21:20:13
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns66.CHR ()
Sample: Stack Exhaust
Operator: SEY



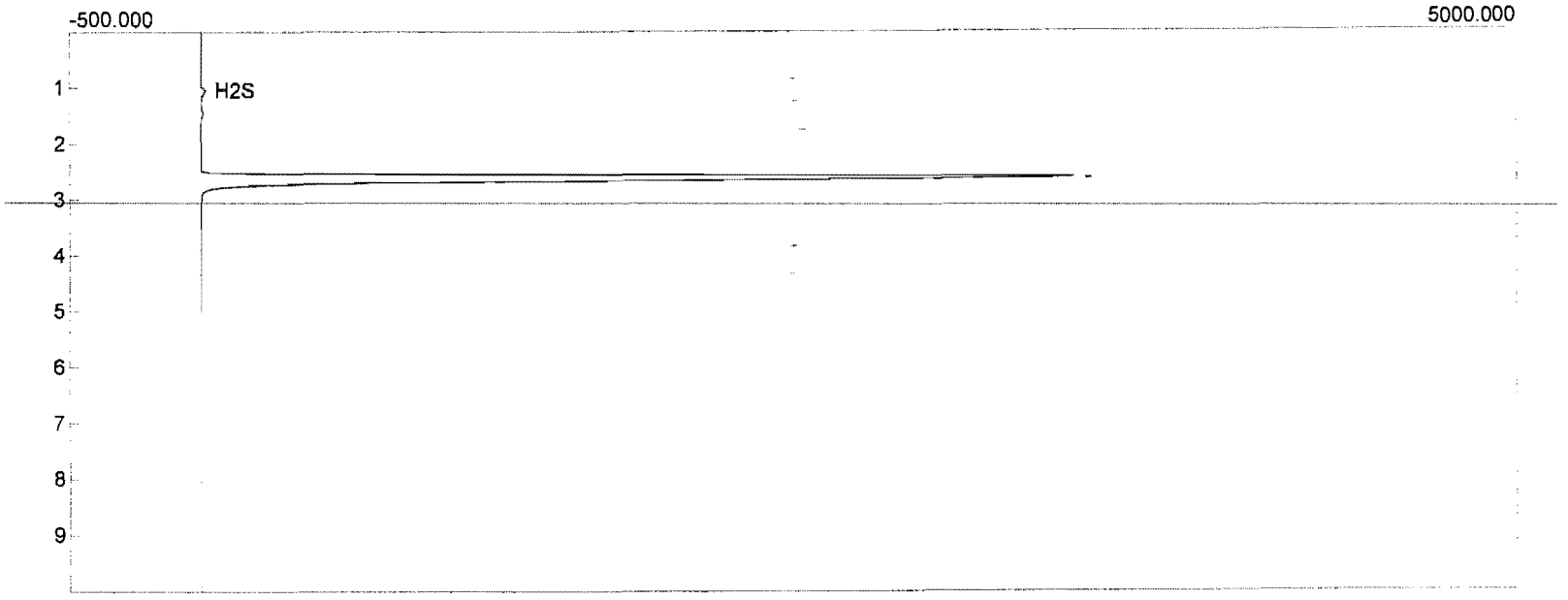
Component	Area
H2S	429.5760
COS	110.5380
	540.1140

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 21:30:13
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns67.CHR ()
Sample: Stack Exhaust
Operator: SEY



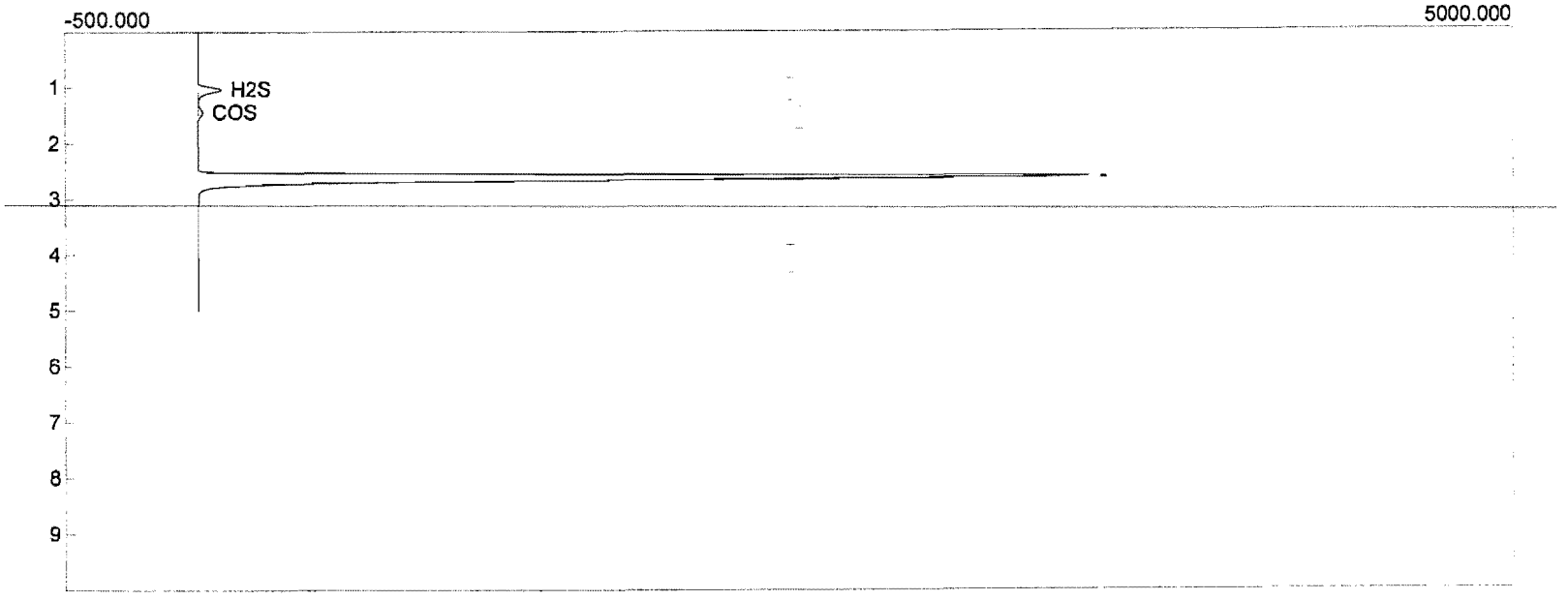
Component	Area
H2S	741.9060
COS	127.9240
	869.8300

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 21:40:33
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns68.CHR ()
Sample: Stack Exhaust
Operator: SEY



Component	Area
H2S	115.7200
	115.7200

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Analysis date: 03/27/2008 21:50:33
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroruns69.CHR ()
Sample: Stack Exhaust
Operator: SEY



Component	Area
H2S	638.5600
COS	162.3380
	800.8980

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date: 3/27/2008

Description	File Name precalXX	H_2S Area (mv)	Square Root H_2S Area	COS Area (mv)	Square Root COS Area	CS_2 Area (mv)	Square Root CS_2 Area
10		492.05	22.18	826.81	28.75	3148.80	56.11
	17	601.91	24.53	1054.85	32.48	3426.80	58.54
	18	420.74	20.51	774.23	27.82	3025.65	55.01
Average	19	**504.90**	**22.41**	**885.30**	**29.69**	**3200.42**	**56.55**
25	5	5728.86	75.69	6320.70	79.50	13158.06	114.71
	15	5817.94	76.28	7436.97	86.24	14822.24	121.75
	16	5794.03	76.12	7313.80	85.52	14802.95	121.67
Average		**5780.28**	**76.03**	**7023.82**	**83.75**	**14261.08**	**119.37**
50	1	18573.50	136.28	25793.00	160.60	22622.08	150.41
	3	18515.95	136.07	22131.40	148.77	22710.59	150.70
	4	19744.68	140.52	23078.96	151.92	20396.56	142.82
Average		**18944.71**	**137.62**	**23667.79**	**153.76**	**21909.74**	**147.97**
0 ppm							
		0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00
Average		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date: 3/27/2008

Description	File Name	H_2S Area (mv)	Square Root H_2S Area	COS Area (mv)	Square Root COS Area	CS_2 Area (mv)	Square Root CS_2 Area
10	11	502.78	22.42	844.24	29.06	3136.14	56.00
	12	517.40	22.75	867.62	29.46	3154.29	56.16
	13	504.31	22.46	839.46	28.97	3136.35	56.00
Average		**508.16**	**22.54**	**850.44**	**29.16**	**3142.26**	**56.06**
25	7	6397.12	79.98	7090.08	84.20	14935.02	122.21
	8	6254.90	79.09	6840.46	82.71	14866.34	121.93
	9	6345.65	79.66	6956.45	83.41	15047.57	122.67
Average		**6332.56**	**79.58**	**6962.33**	**83.44**	**14949.64**	**122.27**
50	4	20391.53	142.80	25185.68	158.70		0.00
	5	20149.50	141.95	24630.35	156.94		0.00
	6	19892.18	141.04	24318.33	155.94		0.00
Average		**20144.40**	**141.93**	**24711.45**	**157.19**	**#DIV/0!**	**0.00**
0 ppm							
		0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00
Average		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

TRS STANDARDS PRETEST DATA

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 1-3
Compound Analyzed: TRS
Method: USEPA Method 15
Instrument: SRI-9300B
Detector GC-FPD
Units of Detection: ppm

Carbonyl Sulfide Standards			
Standard No	**Concentration**	**Area**	**Sq Rt Area Counts**
1	0.0	0.0	0.0
2	9.8	885.3	29.8
3	24.5	7,023.8	83.8
4	49.0	23,667.8	153.8

Hydrogen Sulfide Standards			
Standard No	**Concentration**	**Area**	**Sq Rt Area Counts**
1	0.0	0.0	0.0
2	10.0	504.9	22.5
3	25.0	5,780.3	76.0
4	50.0	18,944.7	137.6

Carbon Disulfide Standards			
Standard No	**Concentration**	**Area**	**Sq Rt Area Counts**
1	0.0	0.0	0.0
2	9.8	3,200.4	56.6
3	24.6	14,261.1	119.4

TRS STANDARDS POSTTEST DATA

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 1-3
Compound Analyzed: TRS
Method: USEPA Method 15
Instrument: SRI-9300B
Detector GC-FPD
Units of Detection: ppm

Hydrogen Sulfide Standards				Drift
Standard No	Concentration	Area	Sq Rt Area Counts	%
1	0.0	0.0	0.0	0.0
2	10.0	508.2	22.5	-0.3
3	25.0	6,332.6	79.6	-4.7
4	50.0	20,144.4	141.9	-3.1

Carbonyl Sulfide Standards				Drift
Standard No	Concentration	Area	Sq Rt Area Counts	%
1	0.0	0.0	0.0	0.0
2	9.8	850.4	29.2	2.0
3	24.5	6,962.3	83.4	0.4
4	49.0	24,711.5	157.2	-2.2

Carbon Disulfide Standards				Drift
Standard No	Concentration	Area	Sq Rt Area Counts	%
1	0.0	0.0	0.0	0.0
2	9.8	3,142.3	56.1	0.9
3	24.6	14,949.6	122.3	-2.4

Analytical Calculation Summary

Calibration Standards Area Linear Regression Fit

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 1-3
Compound Analyzed: Hydrogen Sulfide
Method: USEPA Method 15
Instrument: SRI-9300B
Detector GC-FPD
Units of Detection: ppm

Calibration Standards

Standard #	Standard Peak Area (mv)	Square Root Peak Area (mv)	Standard Concentration (ppm)
1	0.0	0.0	0.0
2	504.9	22.5	10.0
3	5,780.3	76.0	25.0
4	18,944.7	137.6	50.0

Statistical Analysis Summary

Σxy:	9007.392
Σx:	236.1
Σy:	85
Σx^2:	25230
$\Sigma(x)^2$:	55761
N:	4
m:	0.353375
b:	0.388714

Analytical Calculation Summary

Calibration Standards Area Linear Regression Fit

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 1-3
Compound Analyzed: Carbonyl Sulfide
Method: USEPA Method 15
Instrument: SRI-9300B
Detector GC-FPD
Units of Detection: ppm

Calibration Standards

Standard #	Standard Peak Area (mv)	Square Root Peak Area (mv)	Standard Concentration (ppm)
1	0.0	0.0	0.0
2	885.3	29.8	9.8
3	7,023.8	83.8	24.5
4	23,667.8	153.8	49.0

Statistical Analysis Summary

Σxy:	9884.02
Σx:	267.4
Σy:	83.30677
Σx^2:	31577
$\Sigma(x)^2$:	71506
N:	4
m:	0.314941
b:	-0.22758

Analytical Calculation Summary

Calibration Standards Area Linear Regression Fit

Client: Valero Refining
Location: Corpus Christi, Tx.
Source: Sulften Unit Exhaust
Date sampled: 3/27/2008
Run Number: 1-3
Compound Analyzed: Carbon Disulfide
Method: USEPA Method 15
Instrument: SRI-9300B
Detector GC-FPD
Units of Detection: ppm

Calibration Standards

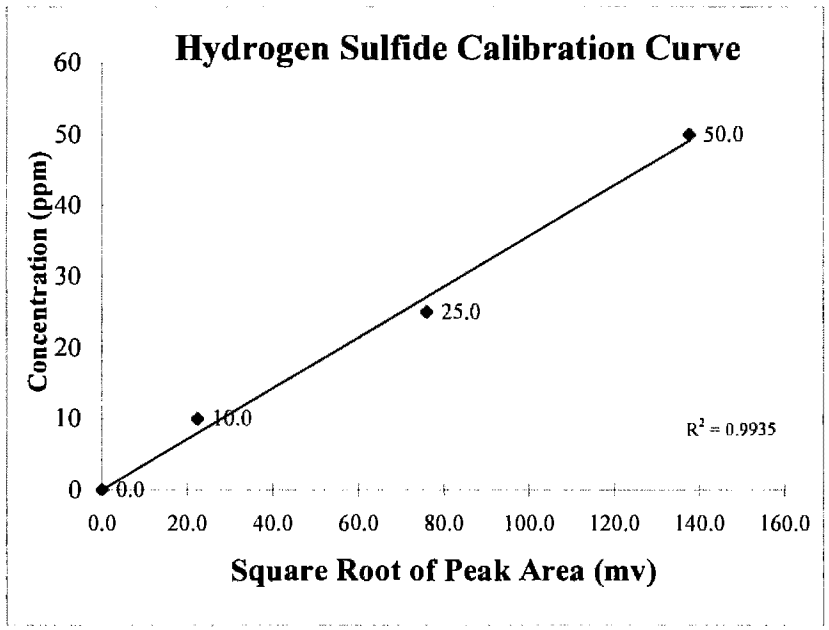
Standard #	Standard Peak Area (mv)	Square Root Peak Area (mv)	Standard Concentration (ppm)
1	0.0	0.0	0.0
2	3,200.4	56.6	9.8
3	14,261.1	119.4	24.6

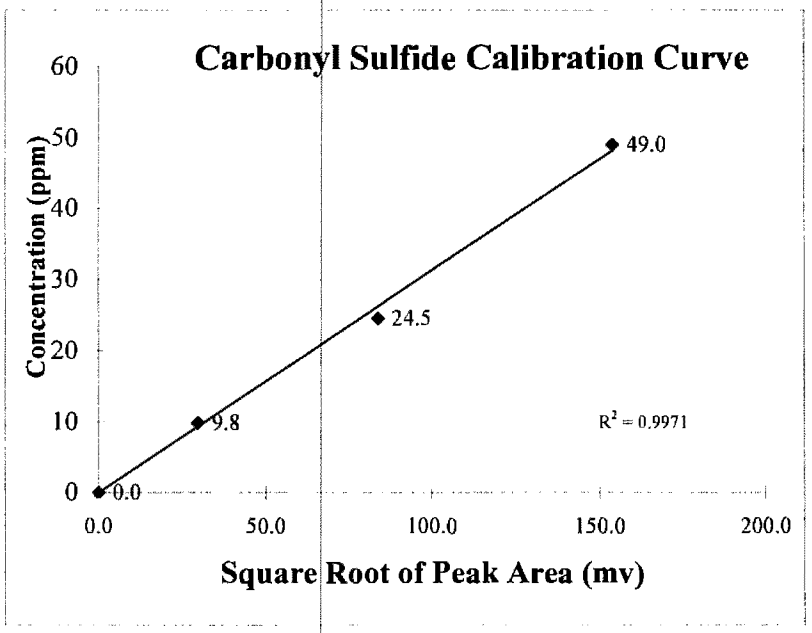
Statistical Analysis Summary

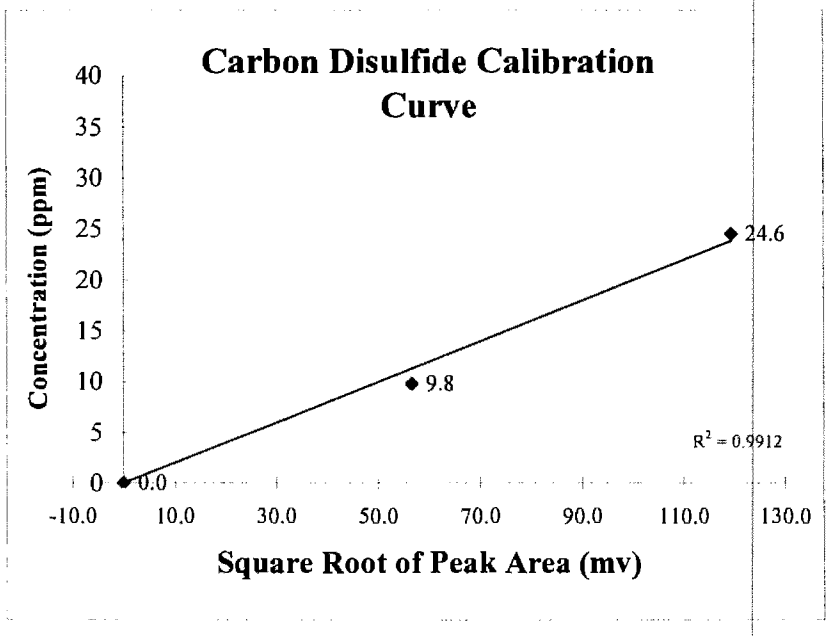
Σxy:	3487.549
Σx:	176.0
Σy:	34.37251
Σx^2:	17462
$\Sigma(x)^2$:	30973
N:	3
m:	0.206123
b:	-0.63449

Calibration Curves

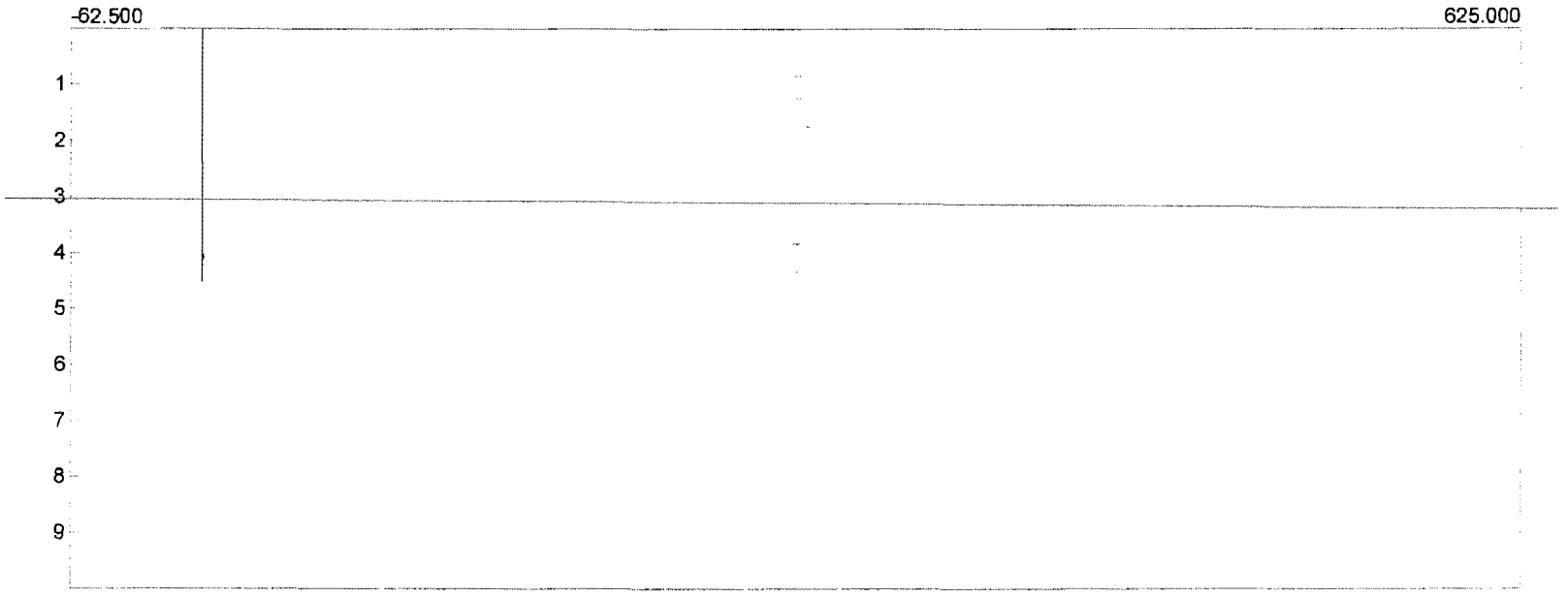
March 27, 2008





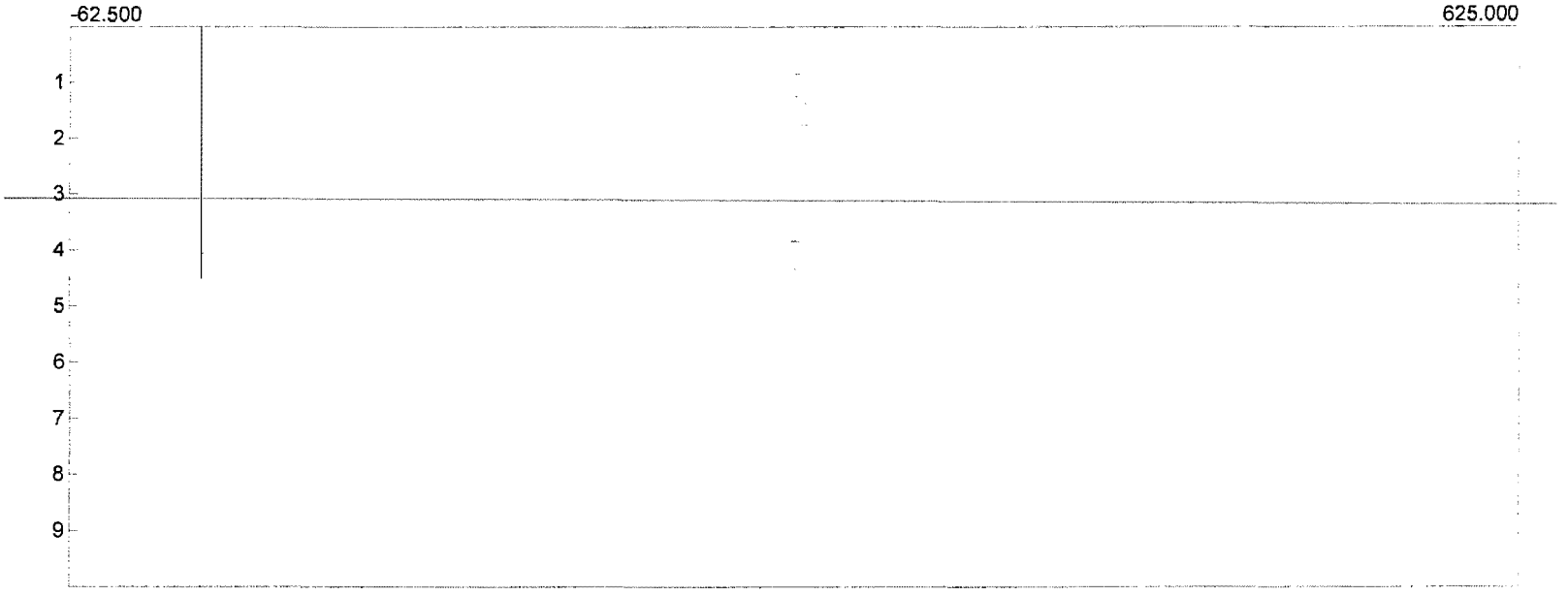


Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal20.CHR ()
Sample: 0 ppm pre cal
Operator: SEY



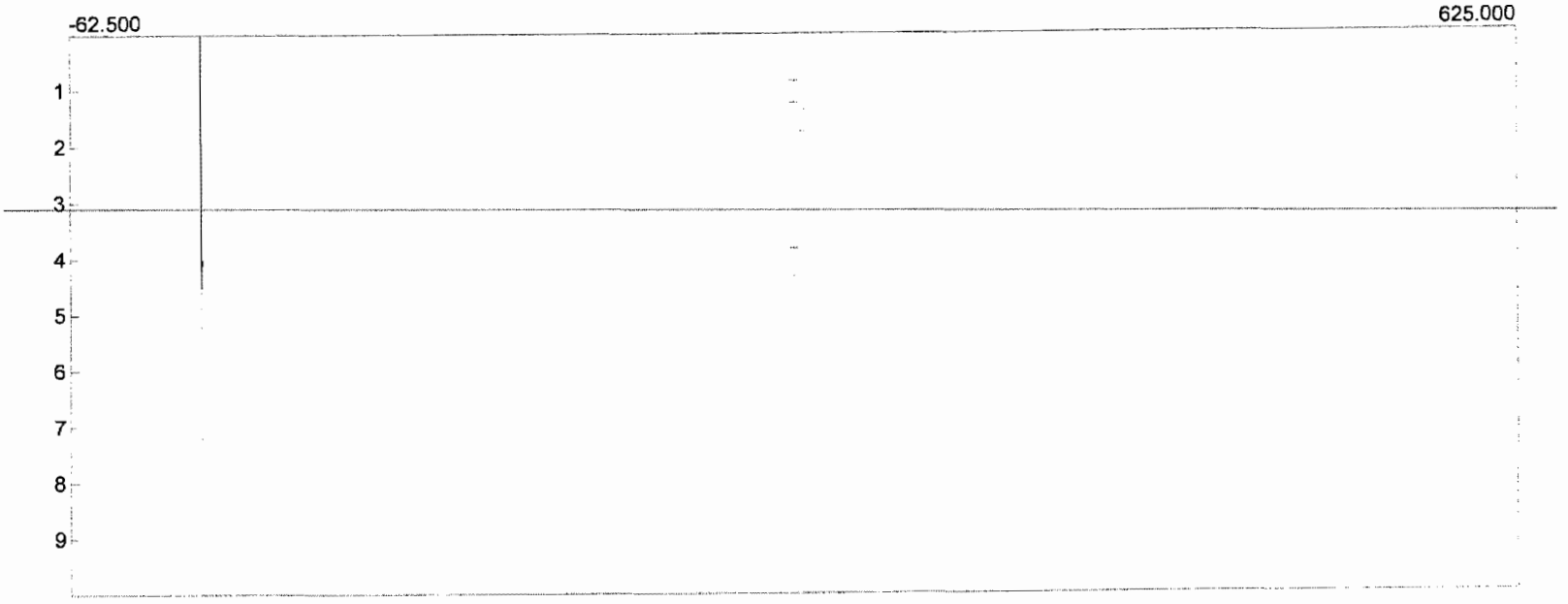
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal21.CHR ()
Sample: 0 ppm pre cal
Operator: SEY



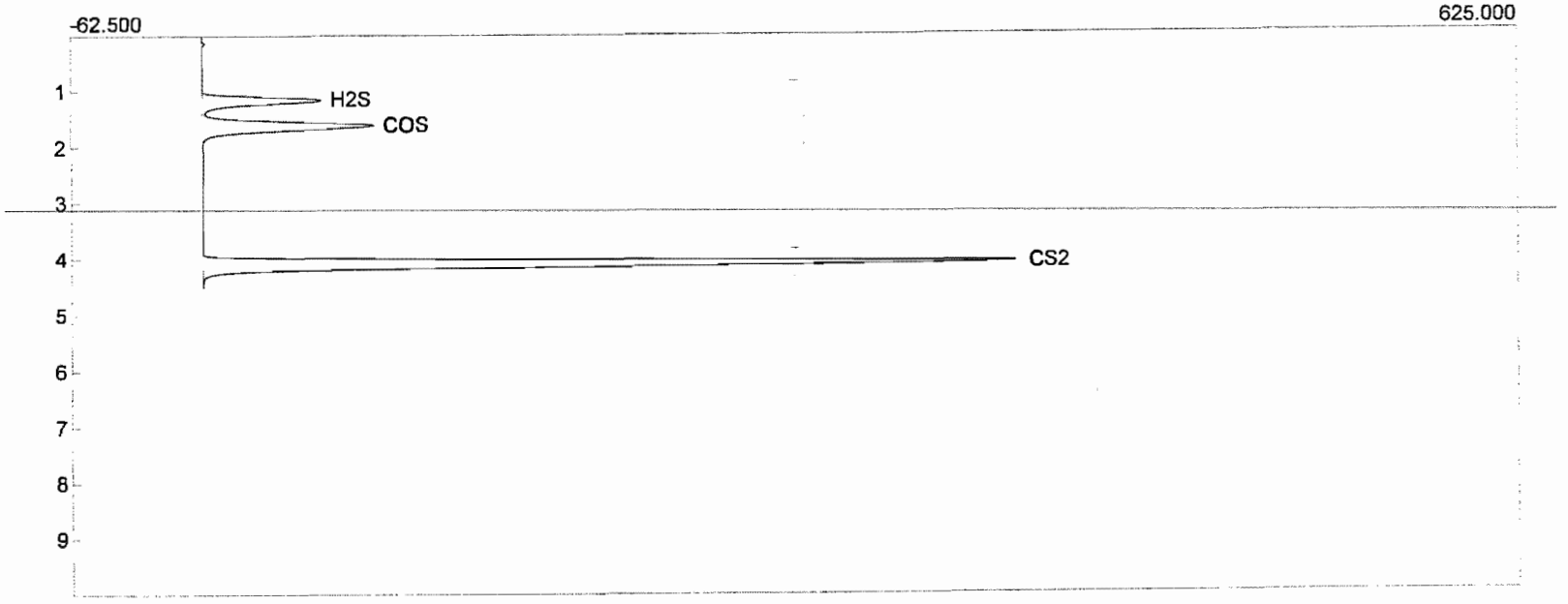
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal22.CHR ()
Sample: 0 ppm pre cal
Operator: SEY



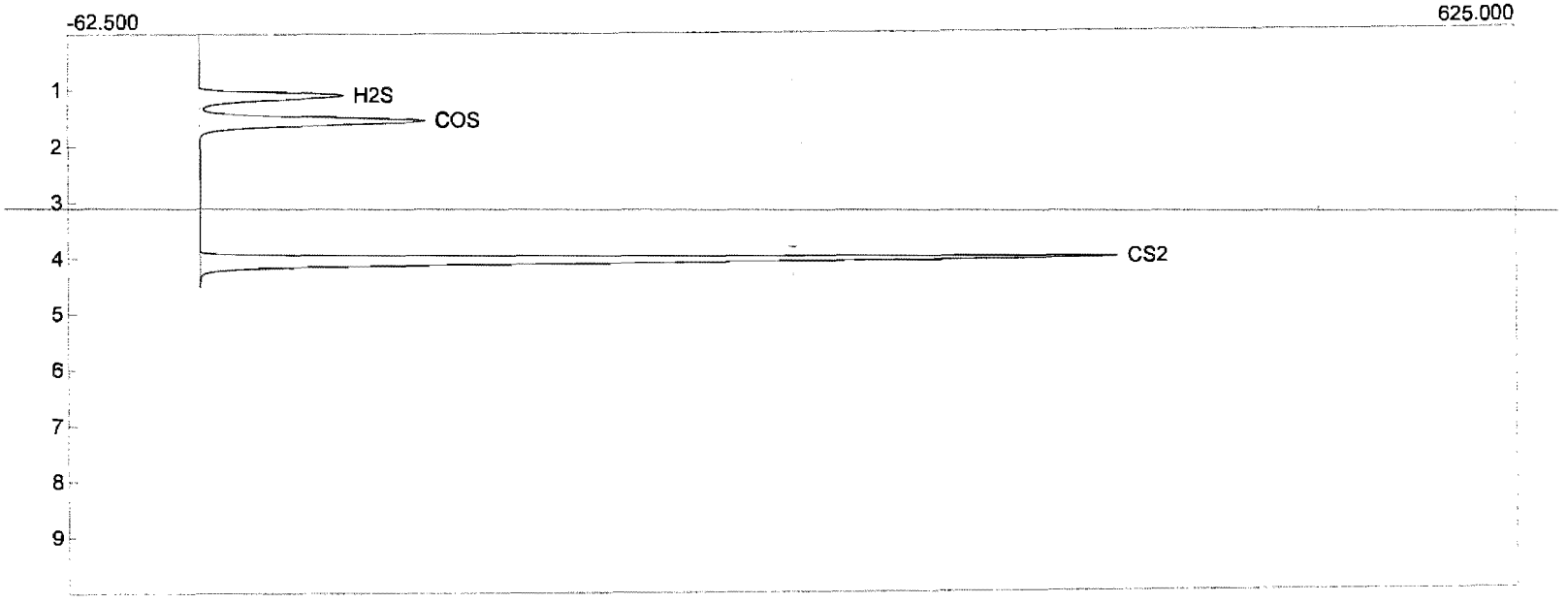
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal17.CHR ()
Sample: 10 ppm pre cal
Operator: SEY



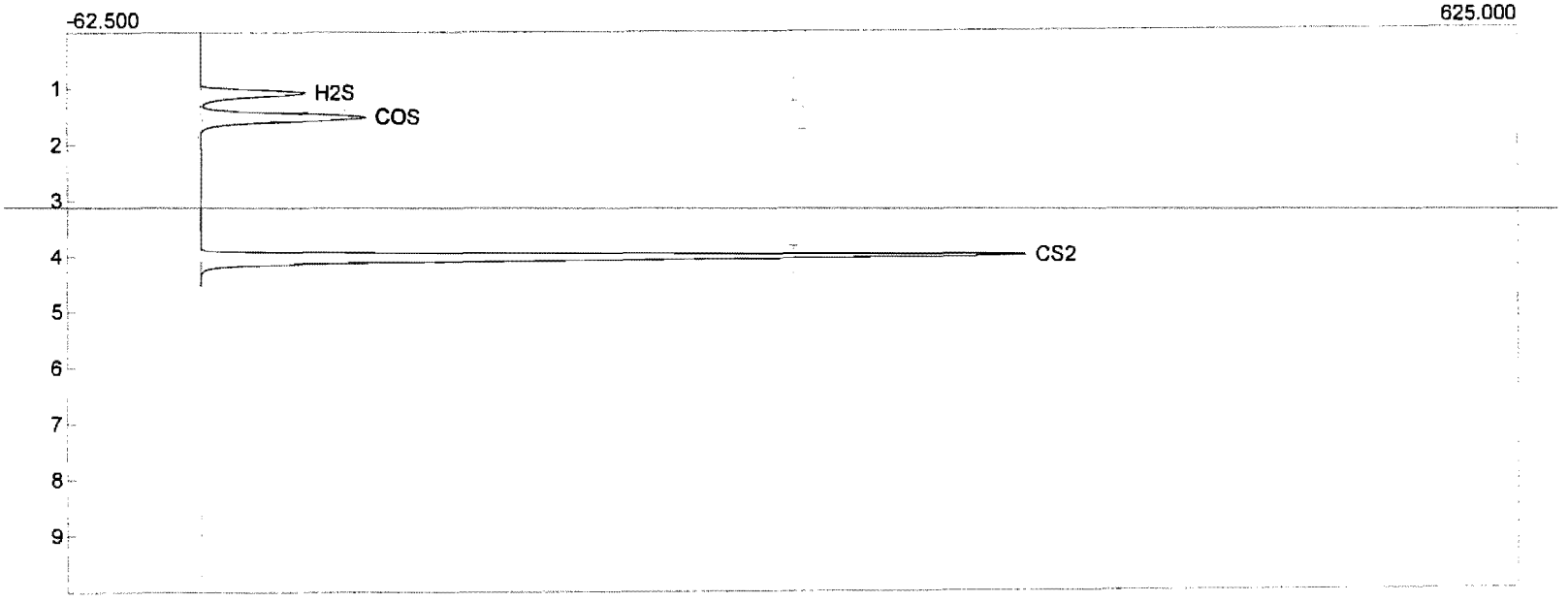
Component	Area
H2S	492.0470
COS	826.8080
CS2	3148.7980
	4467.6530

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal18.CHR ()
Sample: 10 ppm pre cal
Operator: SEY



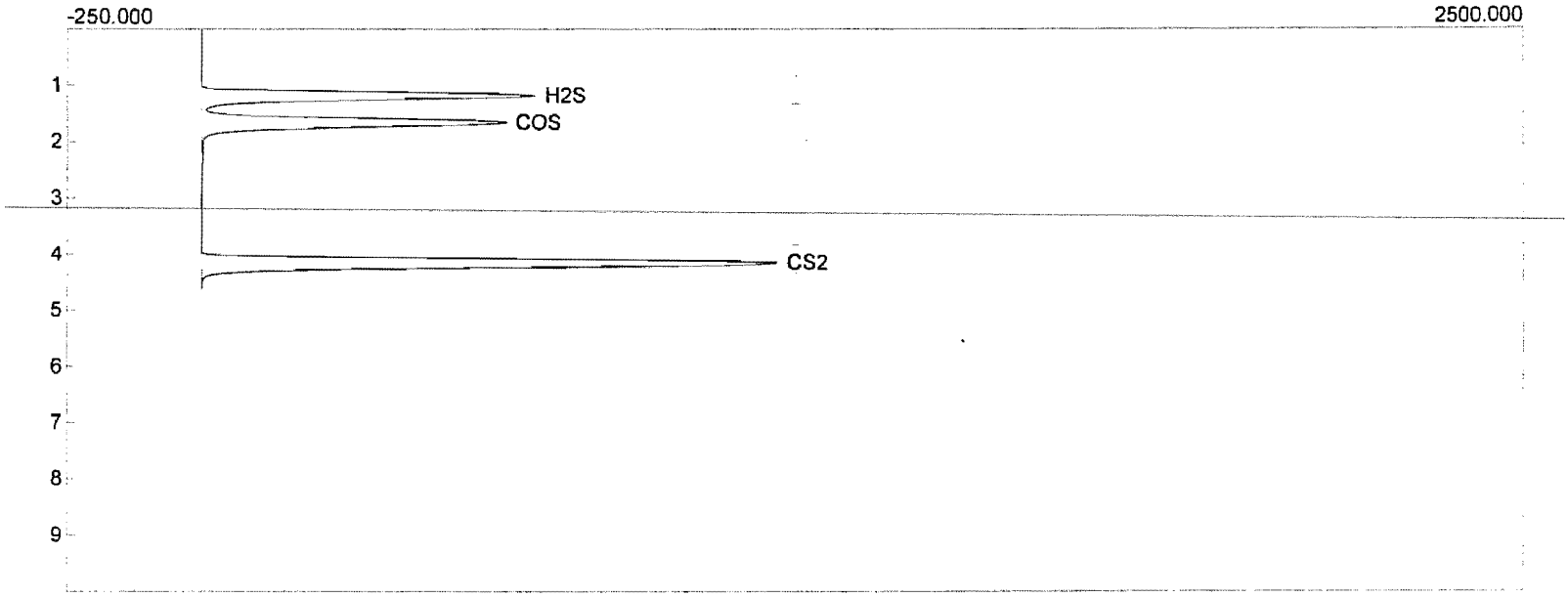
Component	Area
H2S	601.9100
COS	1054.8490
CS2	3426.7990
	5083.5580

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal19.CHR ()
Sample: 10 ppm pre cal
Operator: SEY



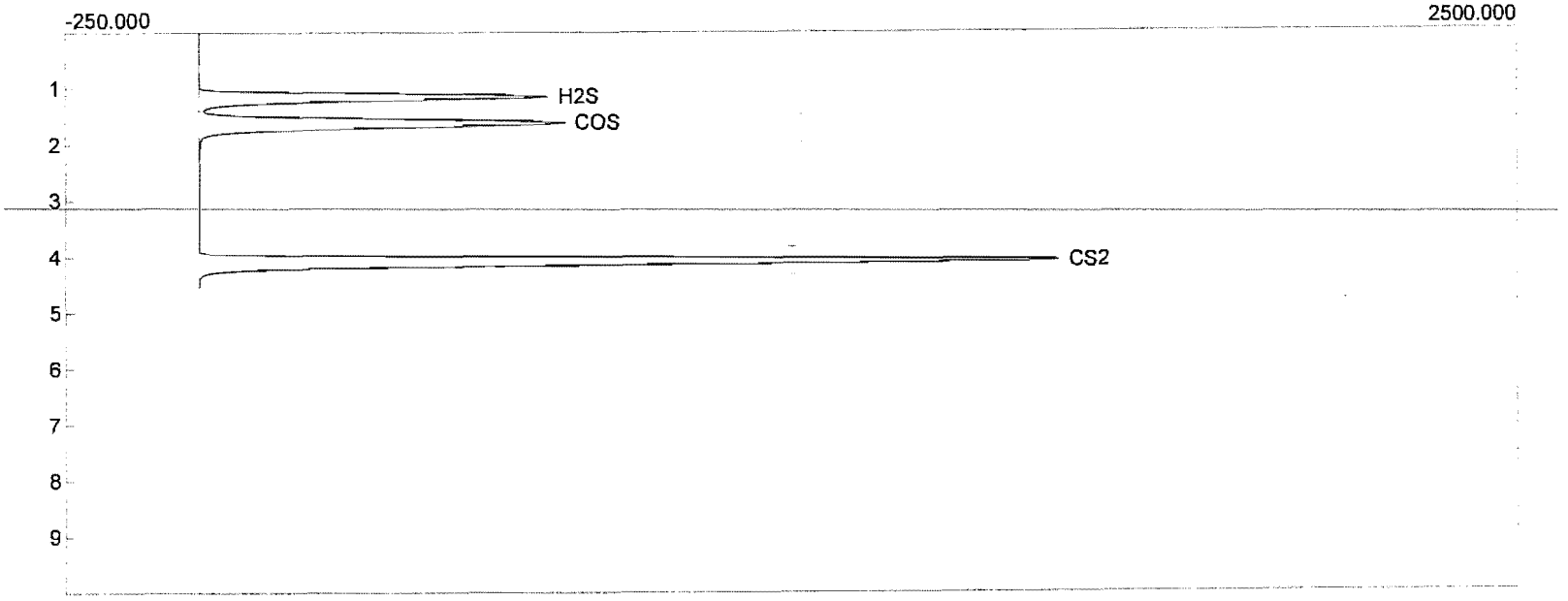
Component	Area
H2S	420.7360
COS	774.2300
CS2	3025.6540
	4220.6200

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal05.CHR ()
Sample: 25 ppm pre cal
Operator: SEY



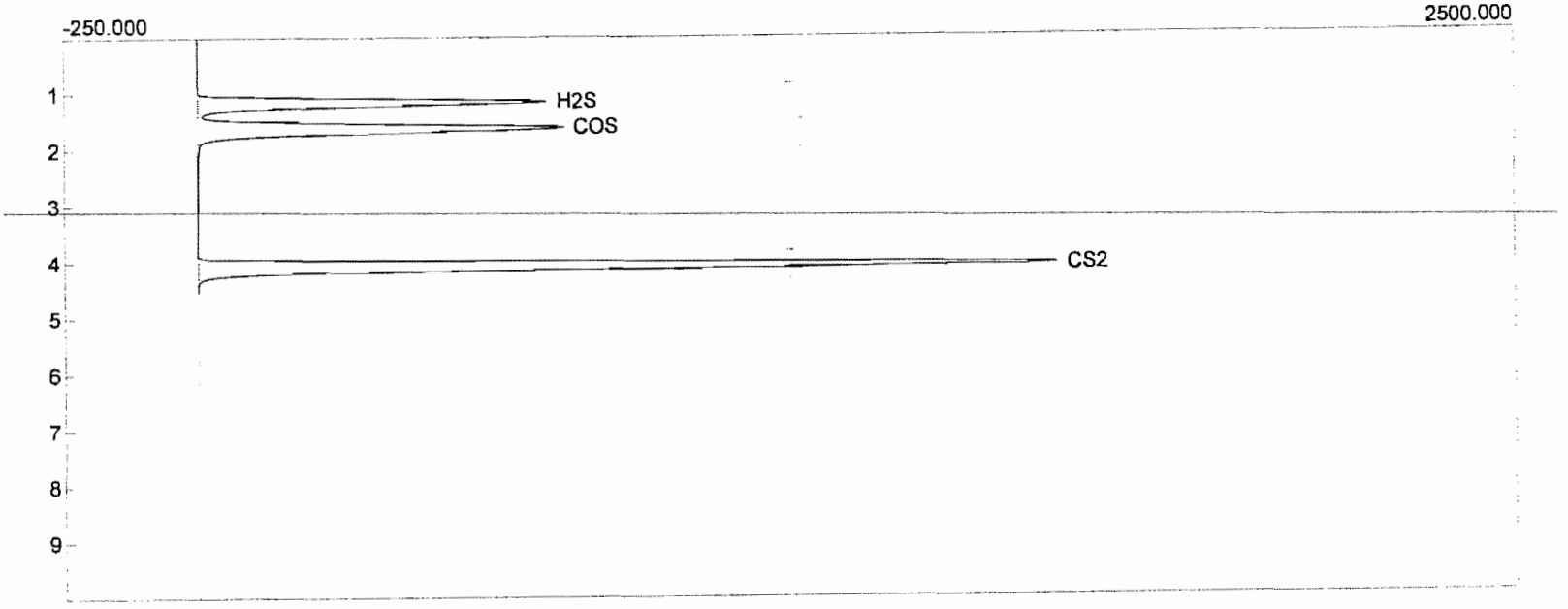
Component	Area
H2S	5728.8570
COS	6320.7020
CS2	11358.6340
	23408.1930

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal15.CHR ()
Sample: 25 ppm pre cal
Operator: SEY



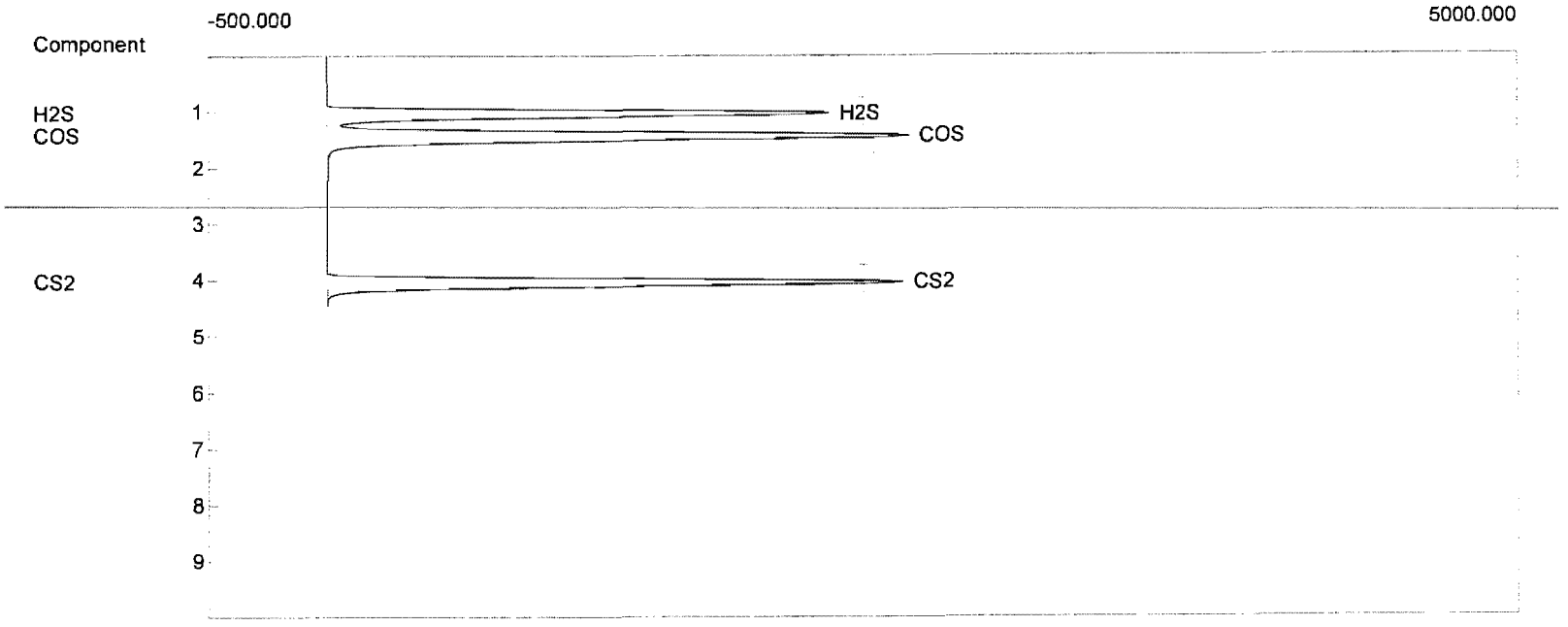
Component	Area
H2S	5817.9420
COS	7436.9720
CS2	14822.2440
	28077.1580

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal16.CHR ()
Sample: 25 ppm pre cal
Operator: SEY



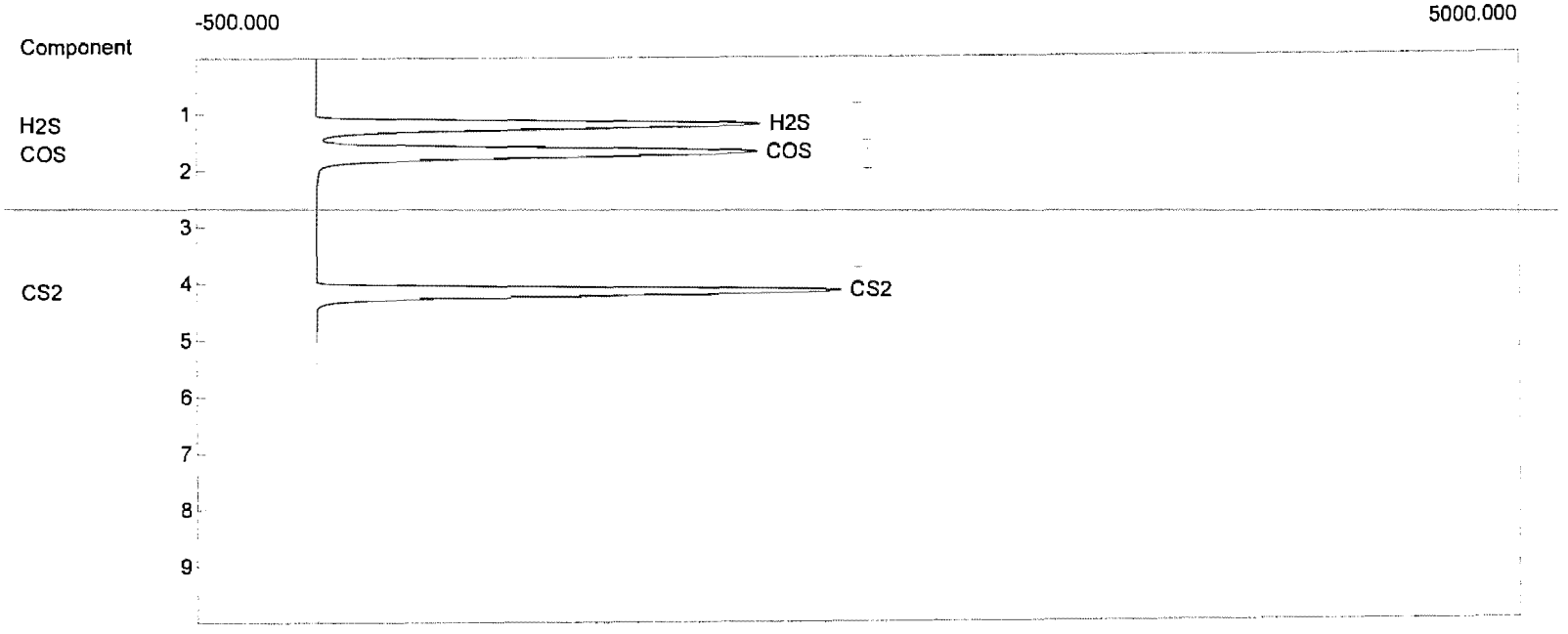
Component	Area
H2S	5794.0260
COS	7313.7970
CS2	14802.9475
	27910.7705

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal01.CHR ()
Sample: 50 ppm pre cal
Operator: SEY



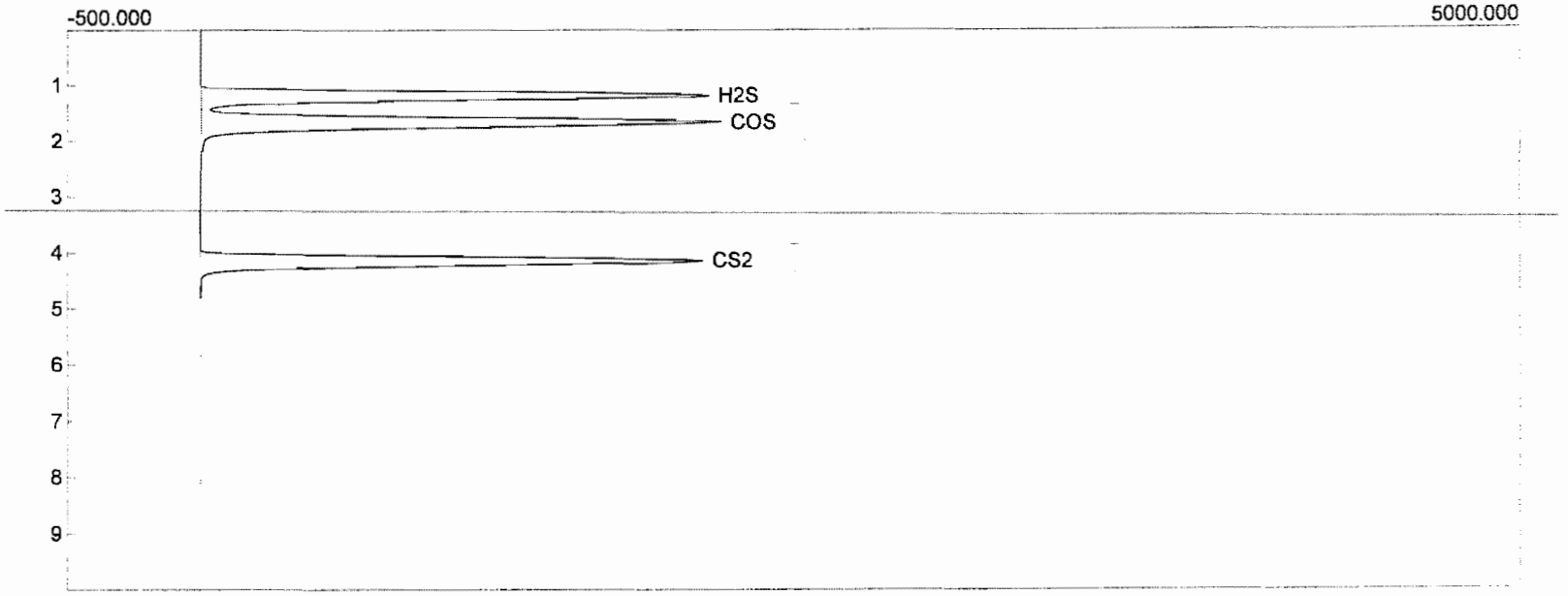
Component	Area
H2S	18573.4955
COS	25793.0010
CS2	22622.0780
	66988.5745

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal03.CHR ()
Sample: 50 ppm pre cal
Operator: SEY



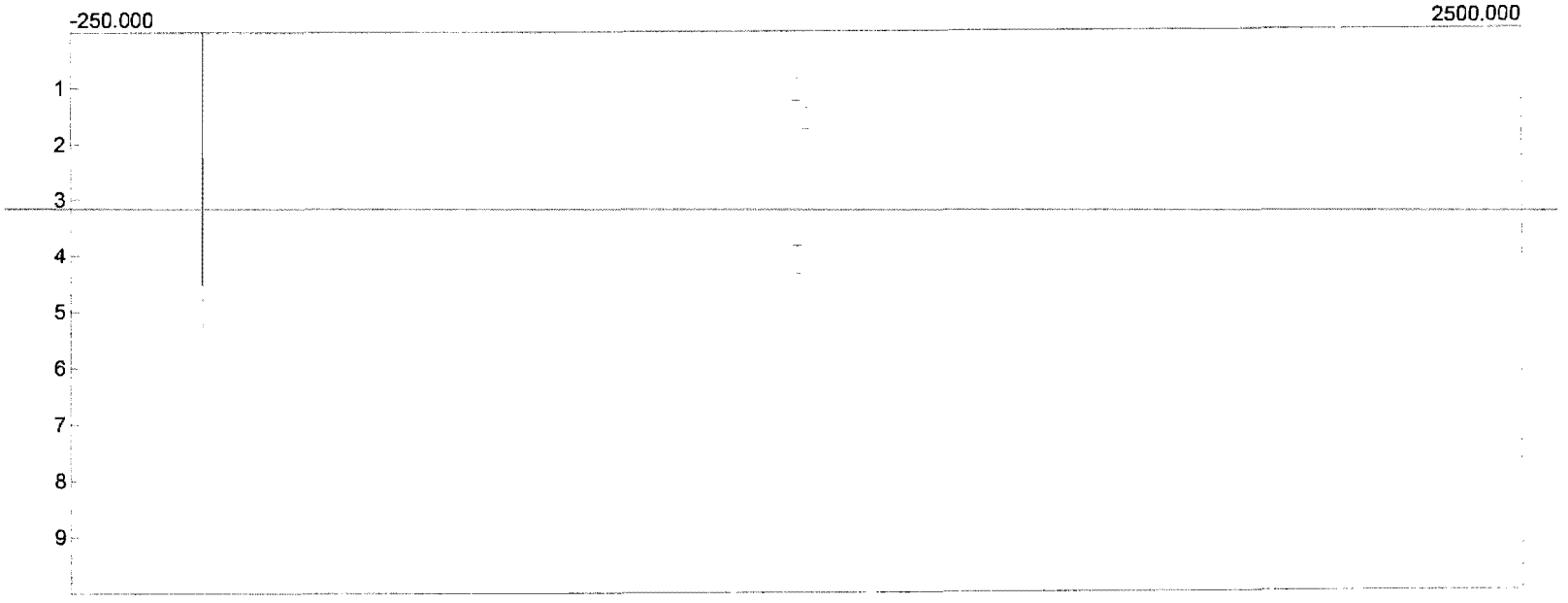
Component	Area
H2S	18515.9455
COS	22131.4025
CS2	22710.5860
	63357.9340

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeroprecal04.CHR ()
Sample: 50 ppm pre cal
Operator: SEY



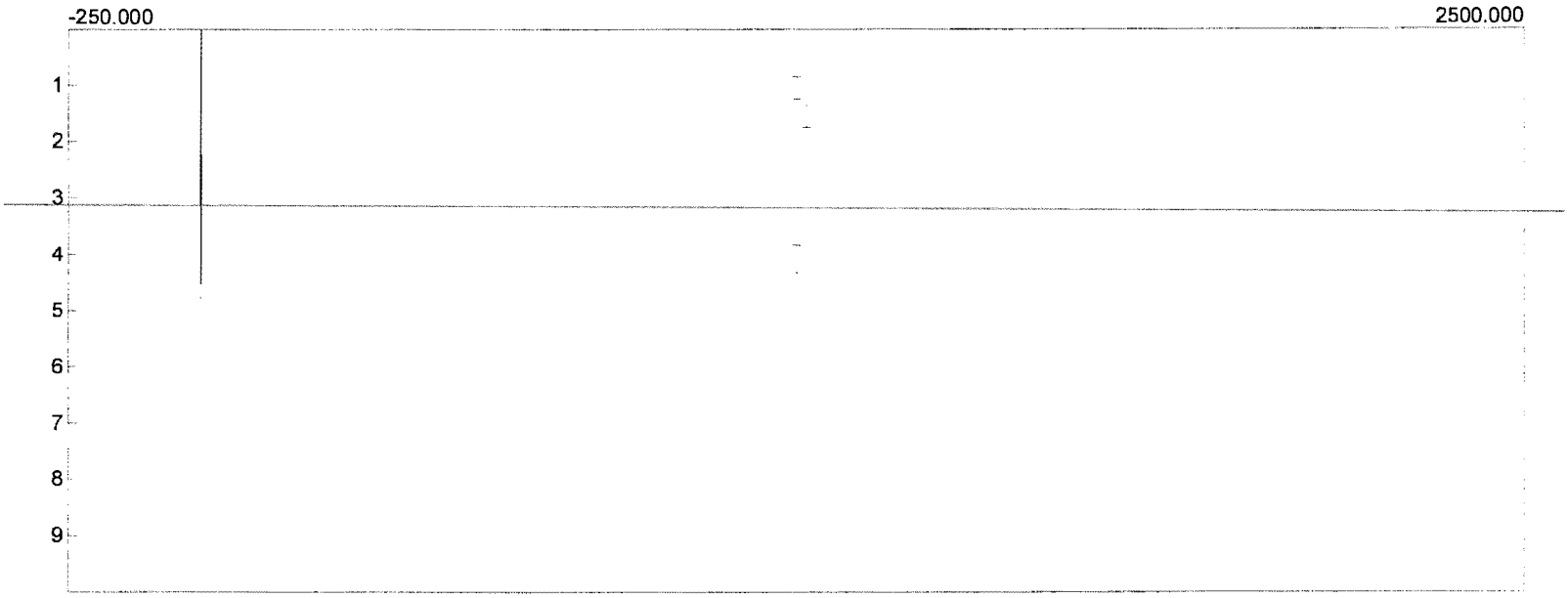
Component	Area
H2S	19744.6800
COS	23078.9850
CS2	20396.5580
	63220.2230

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost01.CHR ()
Sample: 0 ppm post cal
Operator: SEY



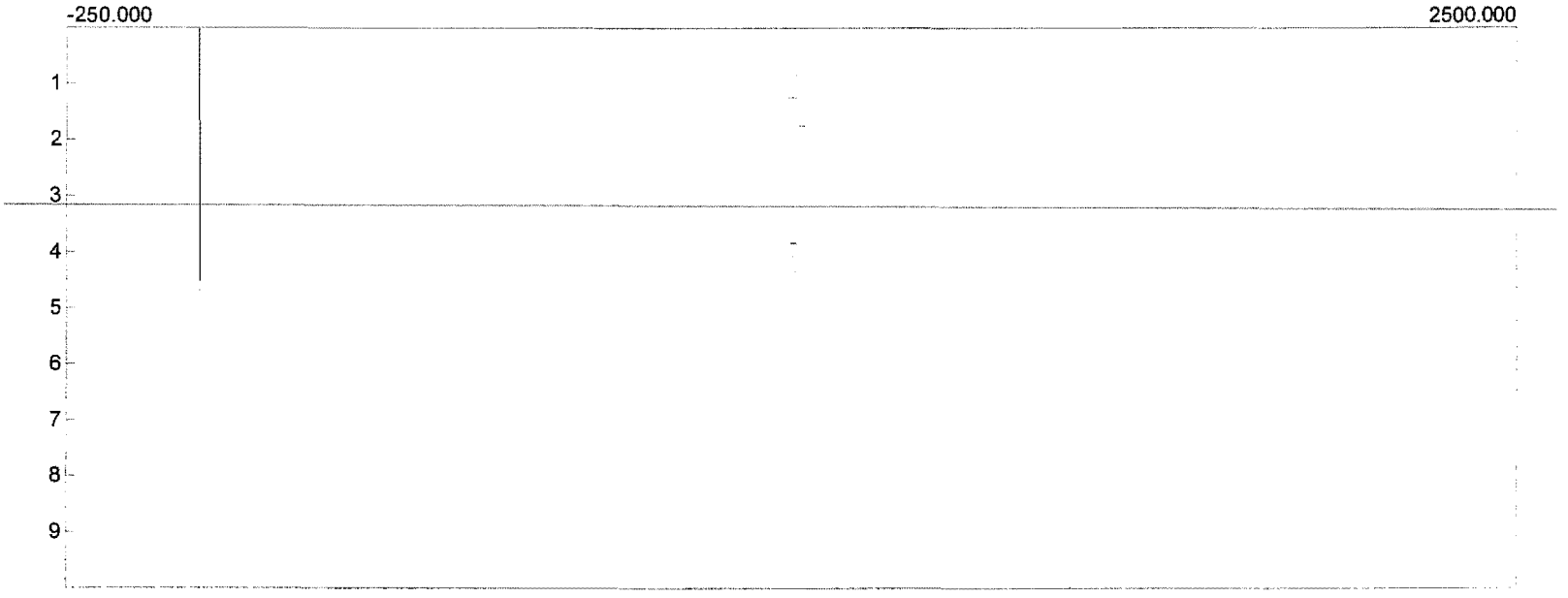
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost02.CHR ()
Sample: 0 ppm post cal
Operator: SEY



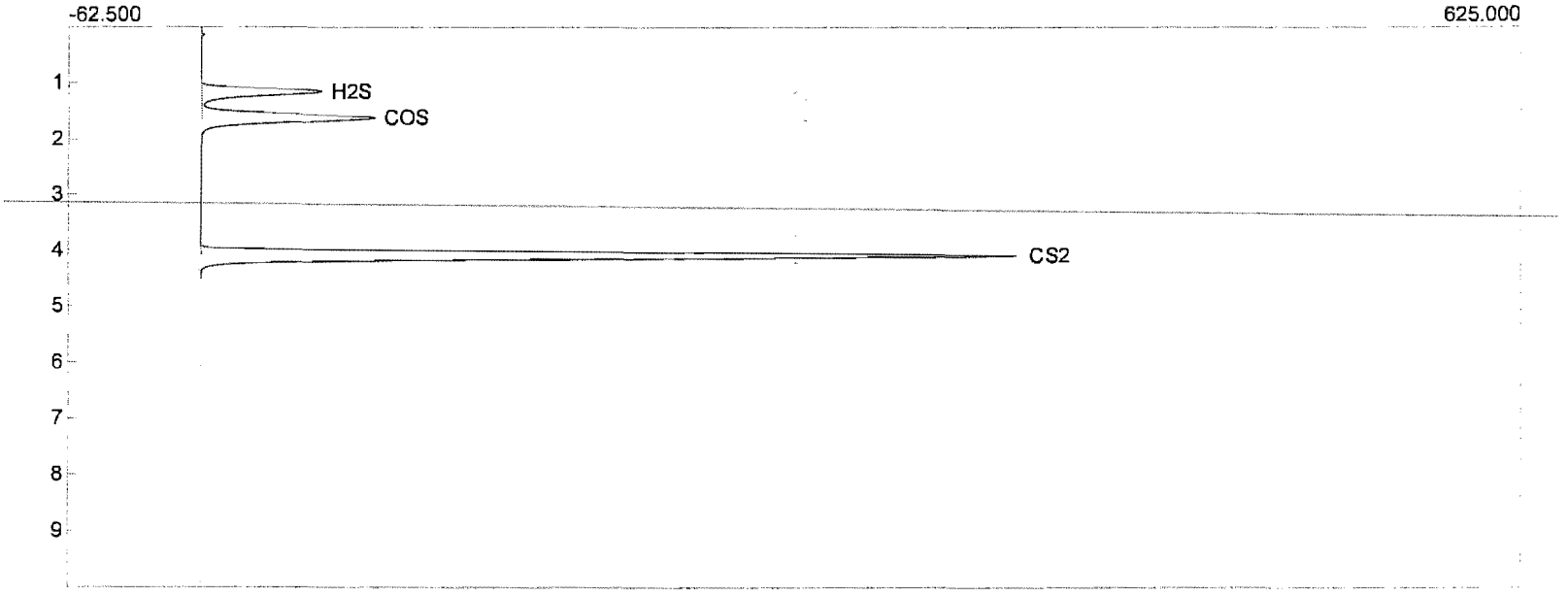
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost03.CHR ()
Sample: 0 ppm post cal
Operator: SEY



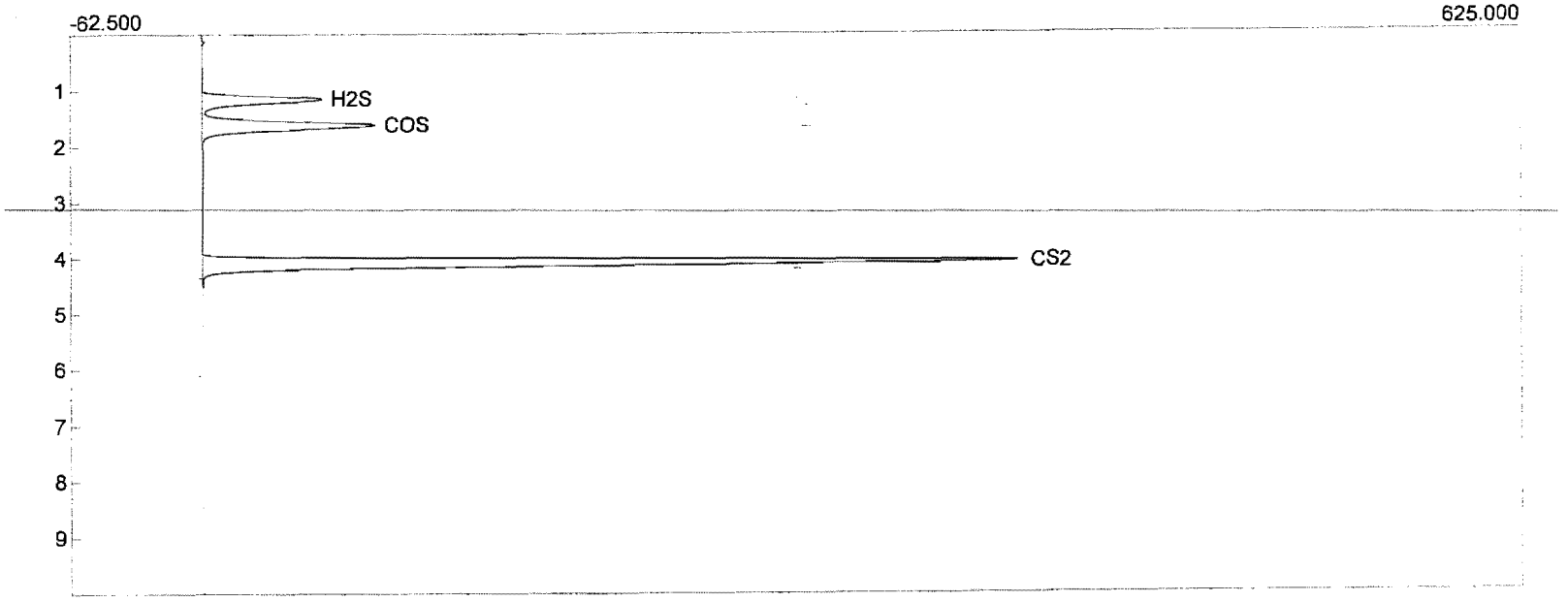
Component	Area
	0.0000

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost11.CHR ()
Sample: 10 ppm post cal
Operator: SEY



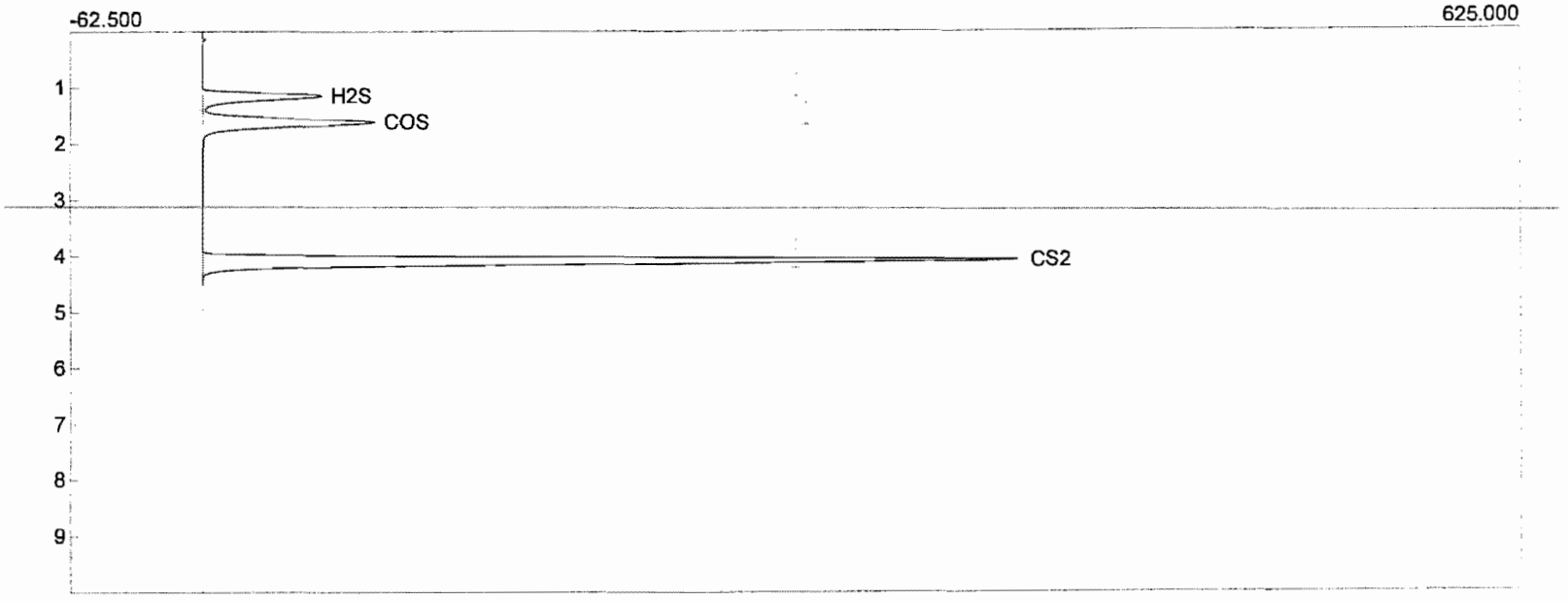
Component	Area
H2S	502.7780
COS	844.2420
CS2	3136.1385
	4483.1585

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost12.CHR ()
Sample: 10 ppm post cal
Operator: SEY



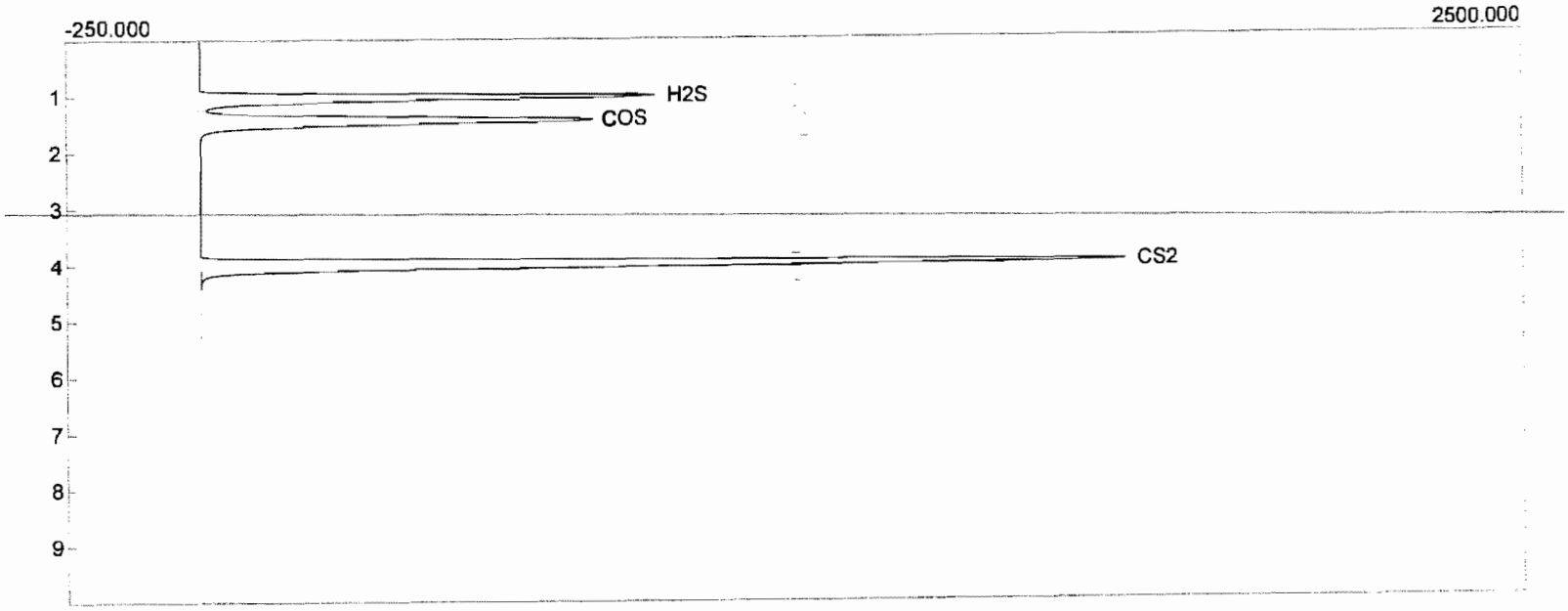
Component	Area
H2S	517.4020
COS	867.6180
CS2	3154.2885
	4539.3085

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost13.CHR ()
Sample: 10 ppm post cal
Operator: SEY



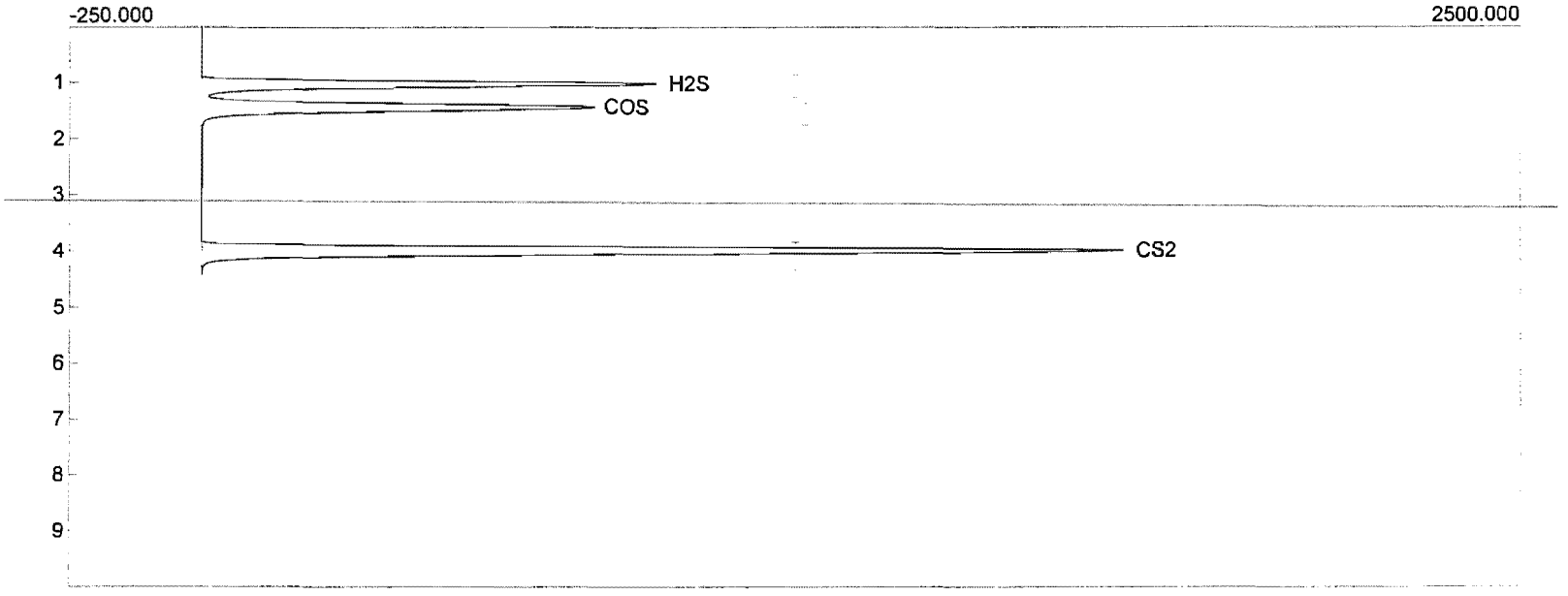
Component	Area
H2S	504.3080
COS	839.4560
CS2	3136.3530
	4480.1170

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost07.CHR ()
Sample: 25 ppm post cal
Operator: SEY



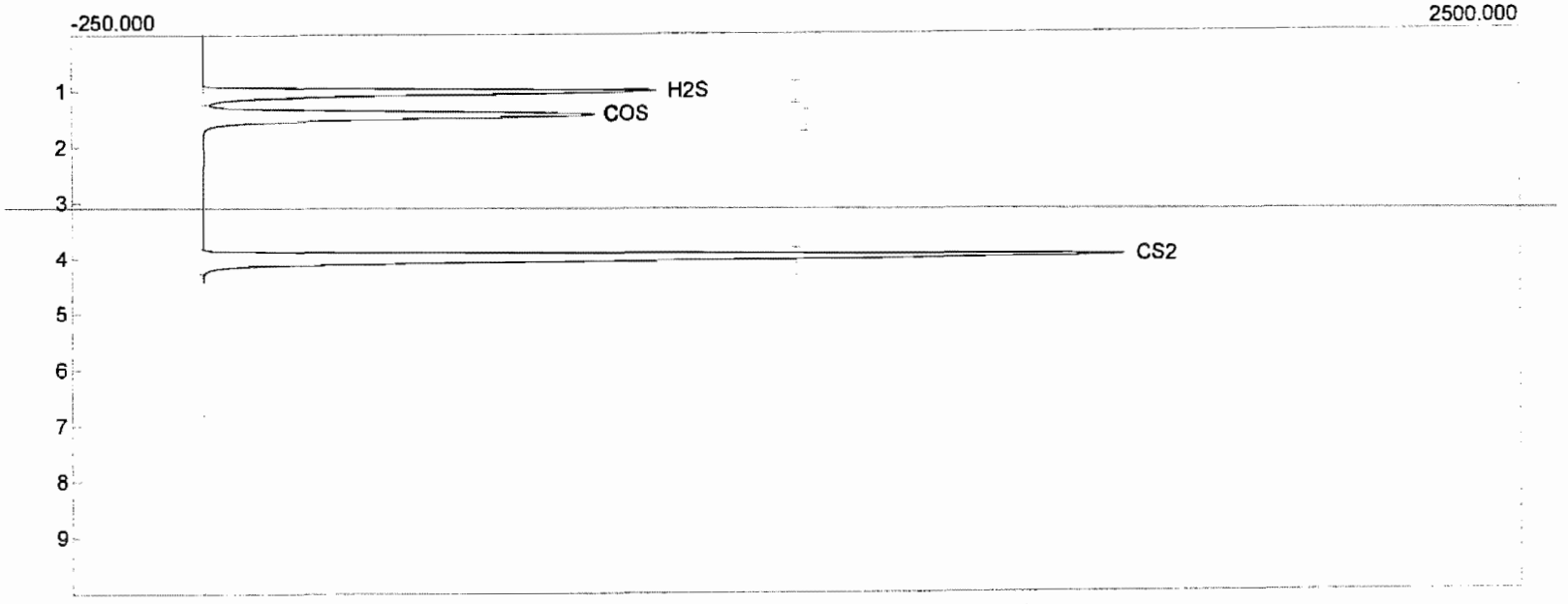
Component	Area
H2S	6397.1200
COS	7090.0845
CS2	14935.0240
	28422.2285

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost08.CHR ()
Sample: 25 ppm post cal
Operator: SEY



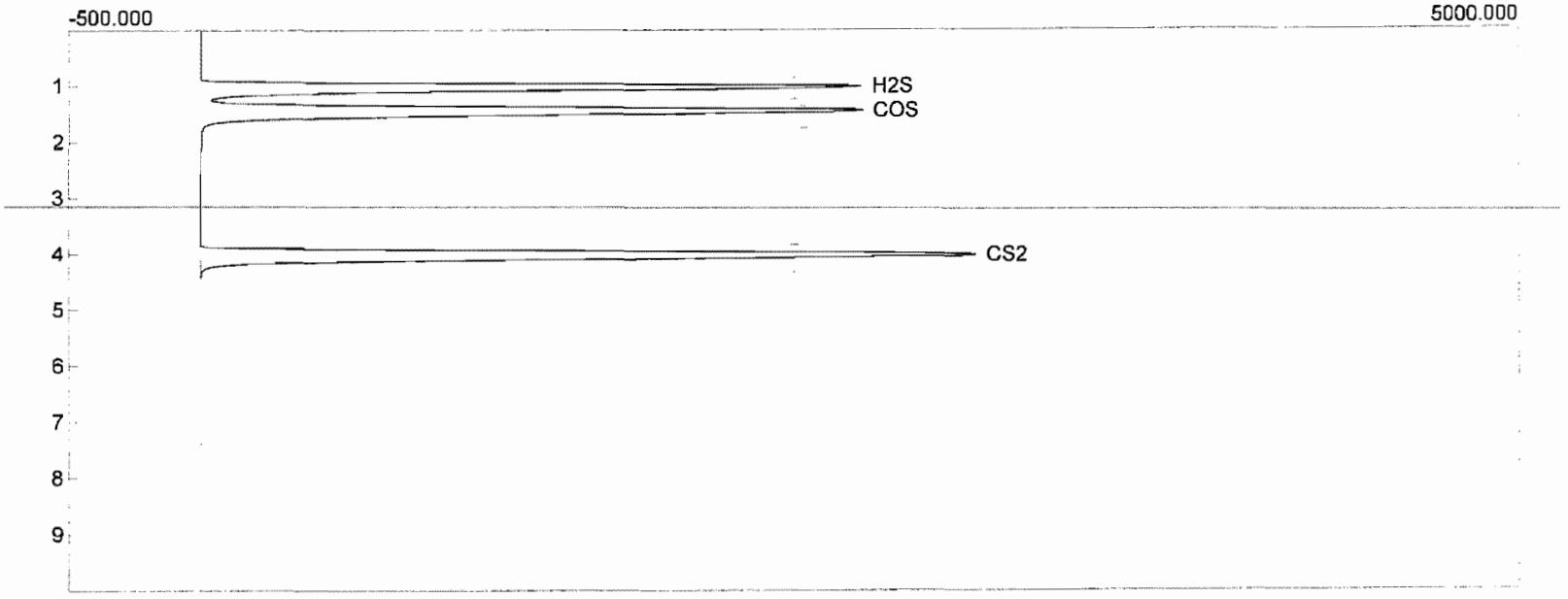
Component	Area
H2S	6254.9000
COS	6840.4590
CS2	14866.3380
	27961.6970

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost09.CHR ()
Sample: 25 ppm post cal
Operator: SEY



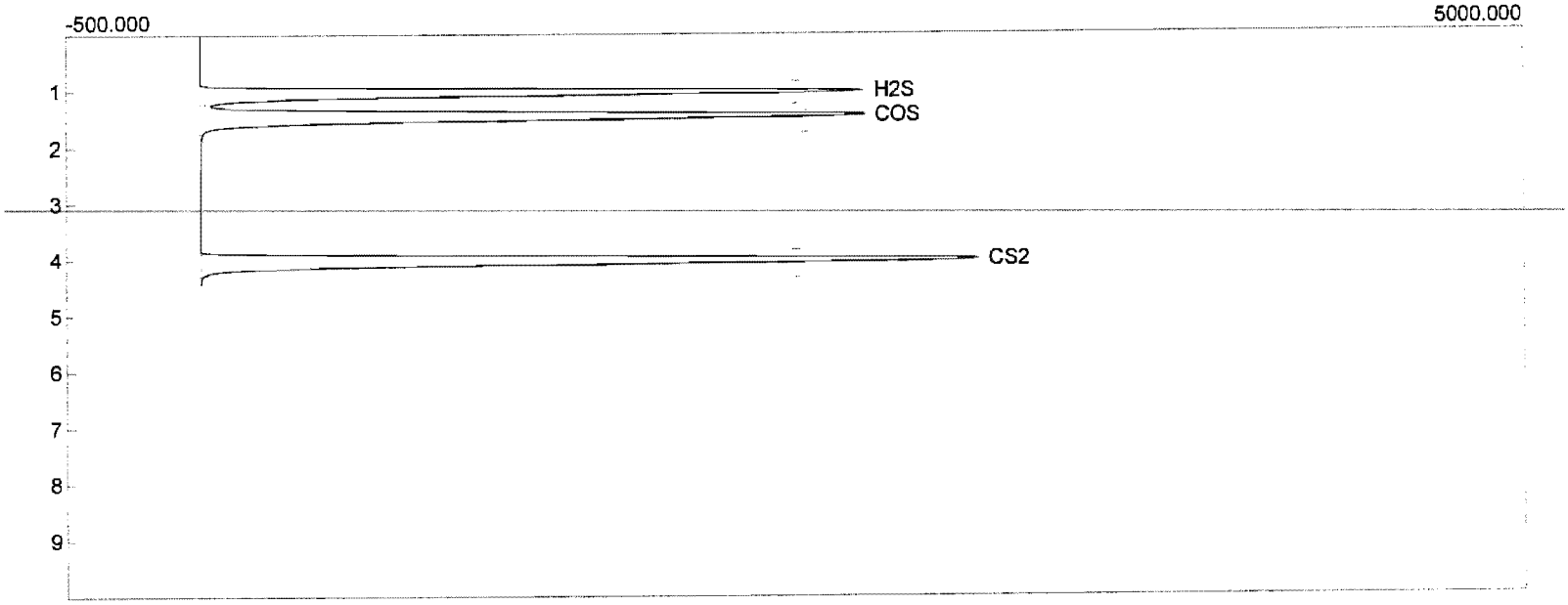
Component	Area
H2S	6345.6500
COS	6956.4455
CS2	15047.5710
	28349.6665

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost04.CHR ()
Sample: 50 ppm post cal
Operator: SEY



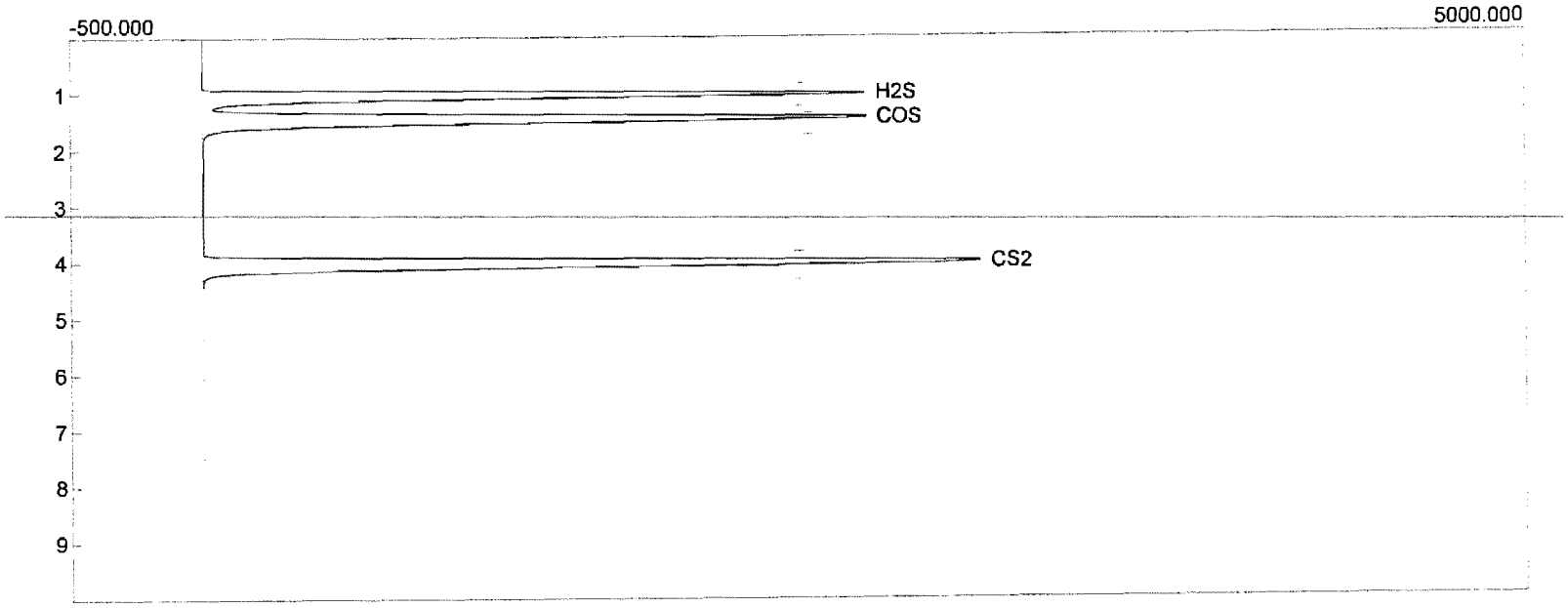
Component	Area
H2S	20391.5320
COS	25185.6830
CS2	28578.6420
	74155.8570

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost05.CHR ()
Sample: 50 ppm post cal
Operator: SEY



Component	Area
H2S	20149.5000
COS	24630.3480
CS2	28245.3810
	73025.2290

Lab name: ARI Environmental, Inc.
Client: Valero Refining
Client ID: Sulften
Collected: 3-27-08
Method: Direct Interface
Description: FPD
Column: RESTEK Sulfur
Carrier: Nitrogen
Data file: valeropost06.CHR ()
Sample: 50 ppm post cal
Operator: SEY



Component	Area
H2S	19892.1800
COS	24318.3300
CS2	28423.4360
	72633.9460

7597

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
	Sulften Compliance

SAMPLERS: *(Signature)* Greg D Burl

LAB NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	NO. OF CON-TAINERS		PM-TCCO					REMARKS
	26723 (~~27772~~)	3/27/08	1645	Sulften Takes Inc. Gh.			X					Probe Rinse Run 1
	25006	↓	1645	↓			X					Filter Run 1 - 715.2
	27772		1645				X					Impinger catch Run 1
	18088		1900				X					Probe Rinse Run 2
	25012		1900				X					Filter Run 2 - 798.0
	18084		1900				X					Impinger Catch Run 2
			2230				X					Probe Rinse Run 3
	25001		2230				X					Filter Run 3 712.4 mg Tare
	18023		2230				X					Impinger Catch Run 3
	18027		NA				X					Acetone Blank
	25015		NA				X					Filter Blank - 741.0 Tare
		↓	NA	↓			X					H_2O Blank

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by:	Date / Time

REMARKS:

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ARI ENVIRONMENTAL INC.
951 Old Rand Road, Unit 106
Wauconda, IL 60084
Telephone (847) 487-1580
Fax (847) 487-1587

PRINT FILE COPY - WHITE   RECORD FILE COPY - CANARY   RETAIN COPY - PINK   CUSTOMER COPY - GOLDENROD

APPENDIX D

ARI Reference Method Monitoring Data

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 6:42:30	0.18	-0.07	0.00	5.6	
3/27/08 6:42:45	0.14	-0.07	0.00	5.6	
3/27/08 6:43:00	0.05	-0.07	0.00	5.3	
3/27/08 6:43:15	0.05	-0.07	0.00	5.0	
3/27/08 6:43:30	0.04	-0.07	0.00	5.6	
3/27/08 6:43:45	0.04	-0.07	0.00	5.6	
3/27/08 6:44:00	0.04	-0.07	0.01	6.2	
3/27/08 6:44:15	0.04	-0.07	0.00	3.2	Calibration Error
3/27/08 6:44:30	**0.04**	**-0.07**	**0.00**	**2.6**	O_2 CE Zero = 0.04
3/27/08 6:44:45	**0.04**	**-0.07**	**0.00**	**3.0**	CO_2 CE Zero = -0.07
3/27/08 6:45:00	**0.03**	**-0.07**	**0.00**	**3.2**	NO_x CE Zero = 0.0
3/27/08 6:45:15	**0.04**	**-0.07**	**0.01**	**3.2**	CO CE Zero = 3.0
3/27/08 6:45:30	0.03	-0.07	0.26	3.2	
3/27/08 6:45:45	0.13	-0.07	0.04	3.2	
3/27/08 6:46:00	3.57	-0.06	0.03	3.2	
3/27/08 6:46:15	8.31	-0.06	0.02	3.2	
3/27/08 6:46:30	9.52	-0.06	0.00	3.2	
3/27/08 6:46:45	9.61	-0.06	0.00	3.1	
3/27/08 6:47:00	9.68	-0.06	0.01	3.1	
3/27/08 6:47:15	9.82	-0.06	0.00	3.1	
3/27/08 6:47:30	9.93	-0.06	0.02	3.1	
3/27/08 6:47:45	9.98	-0.06	0.01	3.1	
3/27/08 6:48:00	10.00	-0.06	0.01	3.1	Calibration Error
~~3/27/08 6:48:15~~	~~10.01~~	~~-0.06~~	~~0.01~~	~~3.1~~	~~O_2 CE Span = 10.02~~
3/27/08 6:48:30	**10.02**	-0.06	0.00	3.2	
3/27/08 6:48:45	**10.02**	-0.06	0.00	3.2	
3/27/08 6:49:00	**10.03**	-0.06	0.00	3.1	
3/27/08 6:49:15	10.03	-0.06	0.22	3.1	
3/27/08 6:49:30	10.03	-0.06	0.14	3.1	
3/27/08 6:49:45	9.07	-0.06	0.02	3.1	
3/27/08 6:50:00	6.12	-0.06	0.00	3.4	
3/27/08 6:50:15	5.15	-0.06	0.00	3.7	Calibration Error
3/27/08 6:50:30	**5.05**	-0.06	0.00	3.4	O_2 CE Mid = 5.05
3/27/08 6:50:45	**5.05**	-0.06	0.00	3.1	
3/27/08 6:51:00	**5.05**	-0.06	0.00	3.1	
3/27/08 6:51:15	**5.05**	-0.06	0.00	3.6	
3/27/08 6:51:30	5.05	-0.06	0.02	3.7	
3/27/08 6:51:45	5.17	-0.06	0.09	3.3	
3/27/08 6:52:00	7.47	2.61	0.01	1.1	
3/27/08 6:52:15	5.21	8.57	0.00	0.8	
3/27/08 6:52:30	1.45	13.20	0.00	0.8	
3/27/08 6:52:45	0.24	16.27	0.00	0.8	
3/27/08 6:53:00	0.05	17.37	0.00	0.8	
3/27/08 6:53:15	0.03	17.59	0.00	0.8	
3/27/08 6:53:30	0.02	17.63	0.00	0.8	
3/27/08 6:53:45	0.02	17.65	0.00	0.8	
3/27/08 6:54:00	0.01	17.66	0.00	0.8	
3/27/08 6:54:15	0.01	17.67	0.00	0.8	
3/27/08 6:54:30	0.01	17.67	0.00	0.8	
3/27/08 6:54:45	0.01	17.68	0.00	0.8	
3/27/08 6:55:00	0.01	17.72	0.00	1.1	
3/27/08 6:55:15	0.00	17.84	0.00	1.4	Calibration Error
3/27/08 6:55:30	0.00	**17.84**	0.00	0.8	CO_2 CE Span = 17.84
3/27/08 6:55:45	0.00	**17.84**	0.00	0.8	
3/27/08 6:56:00	0.00	**17.84**	0.00	1.1	
3/27/08 6:56:15	0.00	**17.85**	0.00	1.4	
3/27/08 6:56:30	0.00	17.85	0.00	1.4	
3/27/08 6:56:45	0.00	17.81	0.00	1.4	
3/27/08 6:57:00	0.01	14.62	0.00	1.7	
3/27/08 6:57:15	0.02	10.45	0.00	2.0	
3/27/08 6:57:30	0.02	9.07	0.00	2.0	
3/27/08 6:57:45	0.02	8.97	0.00	2.0	Calibration Error
3/27/08 6:58:00	0.02	**8.96**	0.00	2.0	CO_2 CE Mid = 8.95
3/27/08 6:58:15	0.02	**8.95**	0.00	2.0	
3/27/08 6:58:30	0.02	**8.95**	0.01	2.0	
3/27/08 6:58:45	0.02	**8.95**	0.00	2.0	
3/27/08 6:59:00	0.02	8.95	0.00	2.0	
3/27/08 6:59:15	0.02	8.95	0.00	2.0	
3/27/08 6:59:30	0.02	8.94	0.03	2.3	
3/27/08 6:59:45	1.27	8.14	1.82	2.6	
3/27/08 7:00:00	5.15	4.17	17.10	3.2	
3/27/08 7:00:15	2.10	1.44	53.53	3.6	
3/27/08 7:00:30	0.39	0.27	91.93	3.8	
3/27/08 7:00:45	0.18	0.04	90.45	3.7	
3/27/08 7:01:00	0.09	0.00	96.42	4.3	
3/27/08 7:01:15	0.06	-0.01	93.51	4.3	
3/27/08 7:01:30	0.05	-0.01	92.36	3.7	
3/27/08 7:01:45	0.04	-0.02	91.73	3.7	
3/27/08 7:02:00	0.04	-0.02	91.27	4.3	
3/27/08 7:02:15	0.04	-0.02	90.96	4.3	
3/27/08 7:02:30	0.04	-0.02	90.70	4.2	
3/27/08 7:02:45	0.04	-0.03	90.52	3.7	
3/27/08 7:03:00	0.04	-0.03	90.32	4.3	
3/27/08 7:03:15	0.04	-0.03	90.20	4.3	
3/27/08 7:03:30	0.04	-0.03	90.09	4.3	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 7:03:45	0.04	-0.04	89.96	3.9	Calibration Error
3/27/08 7:04:00	0.04	-0.04	**89.83**	4.3	NO_x CE Span = 89.8
3/27/08 7:04:15	0.04	-0.04	**89.82**	4.3	
3/27/08 7:04:30	0.04	-0.04	**89.79**	4.3	
3/27/08 7:04:45	0.04	-0.04	**89.70**	4.3	
3/27/08 7:05:00	0.04	-0.04	89.67	4.3	
3/27/08 7:05:15	0.04	-0.04	63.15	4.3	
3/27/08 7:05:30	0.04	-0.04	50.22	4.3	
3/27/08 7:05:45	0.04	-0.04	50.20	4.3	
3/27/08 7:06:00	0.04	-0.04	50.18	4.3	
3/27/08 7:06:15	0.04	-0.04	50.17	4.3	
3/27/08 7:06:30	0.04	-0.04	50.21	4.3	
3/27/08 7:06:45	0.04	-0.04	50.23	4.3	
3/27/08 7:07:00	0.04	-0.04	45.84	4.3	
3/27/08 7:07:15	0.04	-0.04	45.32	4.4	
3/27/08 7:07:30	0.04	-0.04	45.31	4.3	
3/27/08 7:07:45	0.04	-0.04	45.27	4.3	Calibration Error
3/27/08 7:08:00	0.04	-0.04	**45.25**	4.3	NO_x CE Mid = 45.2
3/27/08 7:08:15	0.04	-0.04	**45.22**	4.3	
3/27/08 7:08:30	0.04	-0.04	**45.19**	4.3	
3/27/08 7:08:45	0.04	-0.04	**45.21**	4.3	
3/27/08 7:09:00	0.04	-0.04	47.69	4.5	
3/27/08 7:09:15	0.04	-0.04	27.03	5.0	
3/27/08 7:09:30	3.77	-0.04	36.43	4.3	
3/27/08 7:09:45	14.62	-0.04	40.46	4.4	
3/27/08 7:10:00	19.52	-0.04	41.76	4.4	
3/27/08 7:10:15	20.21	-0.04	42.41	4.3	
3/27/08 7:10:30	20.28	-0.04	42.78	4.3	
3/27/08 7:10:45	20.28	-0.04	43.05	4.3	
3/27/08 7:11:00	20.29	-0.04	43.28	4.3	
3/27/08 7:11:15	20.30	-0.04	43.45	4.3	
3/27/08 7:11:30	20.30	-0.04	43.56	4.3	
3/27/08 7:11:45	20.30	-0.04	43.65	4.4	
3/27/08 7:12:00	20.31	-0.04	43.74	4.4	NO_2 Converter Eff. Test
3/27/08 7:12:15	20.31	-0.04	43.83	4.4	Cyl AAL8272
3/27/08 7:12:30	17.87	-0.03	43.92	4.4	Concentration = 48.9
3/27/08 7:12:45	21.90	1.38	43.98	4.8	
3/27/08 7:13:00	20.32	-0.05	44.00	4.4	
3/27/08 7:13:15	20.32	-0.05	44.07	4.4	
3/27/08 7:13:30	20.32	-0.05	44.10	4.4	
3/27/08 7:13:45	20.32	-0.05	44.16	4.8	
3/27/08 7:14:00	20.33	-0.05	44.20	4.8	
3/27/08 7:14:15	20.33	-0.05	44.22	4.4	
3/27/08 7:14:30	20.33	-0.05	44.24	162.9	
3/27/08 7:14:45	20.33	-0.05	44.25	4.8	
3/27/08 7:15:00	20.34	-0.05	**44.28**	5.0	Response = 44.29
3/27/08 7:15:15	20.34	-0.05	**44.28**	4.5	Eff. = 90.6%
3/27/08 7:15:30	20.34	-0.05	**44.28**	4.3	
3/27/08 7:15:45	20.34	-0.05	**44.31**	4.3	
3/27/08 7:16:00	20.34	-0.05	44.35	5.0	
3/27/08 7:16:15	20.35	-0.05	30.23	16.7	
3/27/08 7:16:30	20.00	-0.03	2.15	556.8	
3/27/08 7:16:45	11.60	0.08	0.79	1337.0	
3/27/08 7:17:00	2.14	-0.01	0.61	1592.2	
3/27/08 7:17:15	0.28	-0.05	0.53	1579.5	
3/27/08 7:17:30	0.15	-0.05	0.46	1572.2	
3/27/08 7:17:45	0.13	-0.05	0.40	1531.3	
3/27/08 7:18:00	0.11	-0.05	0.37	1494.5	
3/27/08 7:18:15	0.10	-0.05	0.33	1491.6	
3/27/08 7:18:30	0.10	-0.05	0.28	1494.1	Calibration Error
3/27/08 7:18:45	0.09	-0.05	0.25	**1498.8**	CO CE Span = 1498
3/27/08 7:19:00	0.09	-0.05	0.24	**1496.5**	
3/27/08 7:19:15	0.09	-0.05	0.22	**1497.4**	
3/27/08 7:19:30	0.09	-0.05	0.21	**1499.4**	
3/27/08 7:19:45	0.08	-0.04	0.21	1499.9	
3/27/08 7:20:00	0.08	-0.04	0.18	1496.2	
3/27/08 7:20:15	0.08	-0.04	0.17	1352.7	
3/27/08 7:20:30	0.08	-0.04	0.15	993.0	
3/27/08 7:20:45	0.08	-0.04	0.16	773.9	
3/27/08 7:21:00	0.08	-0.04	0.16	734.2	
3/27/08 7:21:15	0.08	-0.04	0.15	731.4	Calibration Error
3/27/08 7:21:30	0.06	-0.04	0.15	**731.6**	CO CE Mid = 732
3/27/08 7:21:45	0.08	-0.03	0.15	**732.9**	
3/27/08 7:22:00	0.08	-0.04	0.14	**733.1**	
3/27/08 7:22:15	0.08	-0.04	0.12	**731.7**	
3/27/08 7:22:30	0.08	-0.04	0.29	732.5	
3/27/08 7:22:45	0.11	-0.05	1.17	638.4	
3/27/08 7:23:00	3.38	-0.02	2.85	413.1	
3/27/08 9:10:45	20.70	0.01	2.23	6.8	
3/27/08 9:11:00	19.44	0.02	0.49	11.6	
3/27/08 9:11:15	10.28	0.03	0.23	10.3	
3/27/08 12:25:15	4.66	4.10	12.46	473.8	
3/27/08 12:25:30	4.61	4.12	12.33	539.0	
3/27/08 12:25:45	4.56	4.13	12.53	554.0	
3/27/08 12:26:00	4.60	4.12	12.61	508.4	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
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Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 12:26:15	4.71	4.10	12.53	474.1	
3/27/08 12:26:30	4.75	4.09	12.52	465.3	
3/27/08 12:26:45	4.76	4.08	12.59	458.0	
3/27/08 12:27:00	4.79	4.08	12.38	442.6	
3/27/08 12:27:15	4.85	4.06	11.72	475.4	
3/27/08 12:27:30	4.86	4.07	11.60	611.5	
3/27/08 12:27:45	4.73	4.11	12.04	706.9	
3/27/08 12:28:00	4.70	4.12	12.31	635.3	
3/27/08 12:28:15	4.78	4.08	5.46	491.0	
3/27/08 12:28:30	4.86	3.81	0.88	267.7	
3/27/08 12:28:45	4.00	1.55	0.31	78.2	
3/27/08 12:29:00	4.52	0.22	0.26	17.3	
3/27/08 12:29:15	5.01	0.02	0.21	6.2	
3/27/08 12:29:30	5.08	-0.01	0.19	5.1	
3/27/08 12:29:45	5.06	-0.01	0.18	5.0	
3/27/08 12:30:00	5.05	-0.02	0.16	5.0	
3/27/08 12:30:15	5.07	-0.02	0.15	5.0	
3/27/08 12:30:30	5.09	-0.02	0.14	5.0	System Bias
3/27/08 12:30:45	**5.11**	**-0.03**	**0.15**	**5.0**	O_2 Bias 1 Mid = 5.12
3/27/08 12:31:00	**5.12**	**-0.03**	**0.12**	**5.0**	CO_2 Bias 1 Zero = -0.03
3/27/08 12:31:15	**5.13**	**-0.03**	**0.12**	**5.0**	NO_x Bias 1 Zero = 0.1
3/27/08 12:31:30	**5.13**	**-0.03**	**0.12**	**5.0**	CO Bias 1 Zero = 5.0
3/27/08 12:31:45	5.14	-0.03	0.12	4.7	
3/27/08 12:32:00	5.14	-0.03	0.14	4.5	
3/27/08 12:32:15	5.14	-0.04	0.11	5.0	
3/27/08 12:32:30	5.14	-0.04	5.77	20.7	
3/27/08 12:32:45	5.14	0.10	6.59	112.0	
3/27/08 12:33:00	5.07	1.96	0.24	140.5	
3/27/08 12:33:15	3.76	4.50	0.15	67.7	
3/27/08 12:33:30	1.33	7.28	0.12	17.9	
3/27/08 12:33:45	0.30	8.21	0.11	4.1	
3/27/08 12:34:00	0.14	8.65	0.11	3.0	
3/27/08 12:34:15	0.12	8.82	0.11	2.6	
3/27/08 12:34:30	0.11	8.85	0.11	3.0	
3/27/08 12:34:45	0.11	8.87	0.13	3.2	
3/27/08 12:35:00	0.11	8.87	0.09	3.2	
3/27/08 12:35:15	0.06	4.60	0.03	0.9	
3/27/08 12:35:30	0.01	0.33	0.03	0.7	System Bias
3/27/08 12:35:45	0.10	**8.89**	0.09	2.9	CO_2 Bias 1 Mid = 8.89
3/27/08 12:36:00	0.10	**8.89**	0.09	3.2	
3/27/08 12:36:15	0.10	**8.89**	0.09	3.2	
3/27/08 12:36:30	0.10	**8.89**	0.09	2.7	
3/27/08 12:36:45	0.10	8.90	0.08	2.6	
3/27/08 12:37:00	0.10	8.90	0.07	3.0	
3/27/08 12:37:15	0.10	8.90	6.60	17.8	
3/27/08 12:37:30	0.19	8.72	7.54	139.9	
3/27/08 12:37:45	2.03	6.57	1.17	194.7	
3/27/08 12:38:00	2.52	3.96	15.64	92.3	
3/27/08 12:38:15	0.68	1.19	24.40	17.9	
3/27/08 12:38:30	0.19	0.28	27.13	6.2	
3/27/08 12:38:45	0.14	0.07	27.73	4.7	
3/27/08 12:39:00	0.14	0.03	39.92	4.3	
3/27/08 12:39:15	0.14	0.01	44.88	4.3	
3/27/08 12:39:30	0.13	0.01	44.06	4.5	
3/27/08 12:39:45	0.12	0.00	43.65	4.7	
3/27/08 12:40:00	0.12	0.00	43.38	4.4	
3/27/08 12:40:15	0.12	-0.01	43.17	4.4	
3/27/08 12:40:30	0.12	-0.01	43.03	4.3	System Bias
3/27/08 12:40:45	0.12	-0.01	**42.91**	4.7	O_2 Bias 1 Zero = 0.12
3/27/08 12:41:00	0.12	-0.02	**42.79**	4.5	NO_x Bias 1 mid = 42.8
3/27/08 12:41:15	0.12	-0.02	**42.72**	4.3	
3/27/08 12:41:30	0.12	-0.02	**42.61**	4.3	
3/27/08 12:41:45	0.12	-0.02	42.56	4.3	
3/27/08 12:42:00	0.12	-0.03	31.81	30.8	
3/27/08 12:42:15	0.36	0.34	19.01	164.4	
3/27/08 12:42:30	1.81	1.59	1.15	398.3	
3/27/08 12:42:45	0.91	0.52	0.76	651.1	
3/27/08 12:43:00	0.21	0.04	0.61	710.0	
3/27/08 12:43:15	0.13	-0.02	0.54	720.1	System Bias
3/27/08 12:43:30	0.12	-0.03	0.46	**720.4**	CO Bias 1 Mid = 720
3/27/08 12:43:45	0.12	-0.03	0.43	**720.1**	
3/27/08 12:44:00	0.12	-0.04	0.40	**720.4**	
3/27/08 12:44:15	0.12	-0.04	0.36	**720.4**	
3/27/08 12:44:30	0.12	-0.04	1.25	720.8	
3/27/08 12:44:45	0.11	-0.04	11.50	682.6	
3/27/08 12:45:00	0.81	0.88	12.51	577.6	
3/27/08 12:45:15	3.46	3.18	12.58	471.5	
3/27/08 12:45:30	4.71	3.93	12.09	455.9	
3/27/08 12:45:45	4.91	4.04	11.78	524.8	
3/27/08 14:21:15	4.52	4.13	11.90	776.6	
3/27/08 14:21:30	4.57	4.12	12.01	719.2	
3/27/08 14:21:45	4.65	4.09	12.02	639.0	
3/27/08 14:22:00	4.78	4.06	12.22	548.4	
3/27/08 14:22:15	4.89	4.01	12.22	449.1	
3/27/08 14:22:30	4.98	4.00	12.19	444.0	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
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Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 14:22:45	4.91	4.02	12.12	462.2	
3/27/08 14:23:00	4.87	4.02	12.05	451.4	
3/27/08 14:23:15	4.91	4.01	11.81	479.2	
3/27/08 14:23:30	4.89	4.01	11.85	537.1	
3/27/08 14:23:45	4.82	4.02	11.81	559.1	
3/27/08 14:24:00	4.82	4.01	11.92	533.1	
3/27/08 14:24:15	4.84	4.00	11.85	488.8	
3/27/08 14:24:30	4.91	3.98	11.92	475.6	
3/27/08 14:24:45	4.91	3.98	11.79	453.2	
3/27/08 14:25:00	4.96	3.96	11.73	464.2	
3/27/08 14:25:15	4.93	3.95	11.77	479.4	
3/27/08 14:25:30	4.92	3.96	11.45	484.3	
3/27/08 14:25:45	4.93	3.96	11.46	590.4	
3/27/08 14:26:00	4.83	3.99	11.52	665.6	
3/27/08 14:26:15	4.75	4.01	11.27	668.4	
3/27/08 14:26:30	4.76	4.00	11.41	673.4	
3/27/08 14:26:45	4.74	4.00	11.29	633.9	
3/27/08 14:27:00	4.85	3.96	11.10	623.5	
3/27/08 14:27:15	4.90	3.97	10.72	726.6	
3/27/08 14:27:30	4.84	4.00	11.04	892.4	
3/27/08 14:27:45	4.67	4.06	11.03	979.7	
3/27/08 14:28:00	4.63	4.07	10.96	936.2	
3/27/08 14:28:15	4.69	4.05	10.90	893.1	
3/27/08 14:28:30	4.72	4.04	10.91	885.3	
3/27/08 14:28:45	4.75	4.03	17.77	879.9	
3/27/08 14:29:00	4.78	4.02	10.83	867.4	
3/27/08 14:29:15	4.81	4.01	10.89	840.3	
3/27/08 14:29:30	4.85	4.00	10.99	813.1	
3/27/08 14:29:45	4.89	4.00	11.10	783.8	
3/27/08 14:30:00	4.92	4.00	11.08	761.5	
3/27/08 14:30:15	4.97	3.99	11.19	704.1	
3/27/08 14:30:30	5.02	3.98	11.30	666.3	
3/27/08 14:30:45	5.02	3.98	11.30	666.3	Run 1
3/27/08 14:31:00	**5.01**	**4.00**	**11.56**	**574.1**	
3/27/08 14:31:15	**5.04**	**4.00**	**11.50**	**530.2**	
3/27/08 14:31:30	**5.08**	**4.00**	**11.48**	**519.9**	
3/27/08 14:31:45	**5.07**	**4.01**	**11.46**	**515.7**	
3/27/08 14:32:00	**5.10**	**4.01**	**11.50**	**512.7**	
3/27/08 14:32:15	**5.12**	**4.01**	**11.41**	**506.0**	
3/27/08 14:32:30	**5.12**	**4.00**	**11.43**	**503.5**	
3/27/08 14:32:45	**5.12**	**4.00**	**11.57**	**496.3**	
3/27/08 14:33:00	**5.15**	**4.02**	**11.68**	**479.8**	
3/27/08 14:33:15	**5.19**	**4.02**	**11.78**	**442.1**	
3/27/08 14:33:30	**5.23**	**4.01**	**11.64**	**418.1**	
3/27/08 14:33:45	**5.26**	**4.00**	**11.54**	**418.2**	
3/27/08 14:34:00	**5.25**	**4.00**	**11.71**	**427.1**	
3/27/08 14:34:15	**5.21**	**4.00**	**11.81**	**457.5**	
3/27/08 14:34:30	**5.25**	**4.00**	**11.81**	**405.0**	
3/27/08 14:34:45	**5.28**	**4.01**	**11.76**	**359.0**	
3/27/08 14:35:00	**5.28**	**4.01**	**11.62**	**394.7**	
3/27/08 14:35:15	**5.29**	**4.01**	**11.72**	**390.7**	
3/27/08 14:35:30	**5.29**	**4.00**	**11.55**	**394.2**	
3/27/08 14:35:45	**5.31**	**4.01**	**11.24**	**473.6**	
3/27/08 14:36:00	**5.22**	**4.04**	**11.34**	**546.8**	
3/27/08 14:36:15	**5.14**	**4.06**	**11.12**	**601.1**	
3/27/08 14:36:30	**5.15**	**4.07**	**11.58**	**628.8**	
3/27/08 14:36:45	**5.08**	**4.08**	**11.39**	**578.0**	
3/27/08 14:37:00	**5.11**	**4.07**	**11.61**	**536.4**	
3/27/08 14:37:15	**5.12**	**4.07**	**11.95**	**496.9**	
3/27/08 14:37:30	**5.11**	**4.07**	**11.82**	**483.7**	
3/27/08 14:37:45	**5.14**	**4.07**	**11.93**	**437.7**	
3/27/08 14:38:00	**5.11**	**4.08**	**11.99**	**432.3**	
3/27/08 14:38:15	**5.11**	**4.07**	**11.94**	**426.9**	
3/27/08 14:38:30	**5.10**	**4.07**	**12.16**	**437.8**	
3/27/08 14:38:45	**5.05**	**4.07**	**12.21**	**414.4**	
3/27/08 14:39:00	**5.10**	**4.05**	**12.28**	**381.4**	
3/27/08 14:39:15	**5.13**	**4.05**	**12.13**	**370.6**	
3/27/08 14:39:30	**5.11**	**4.05**	**12.24**	**400.9**	
3/27/08 14:39:45	**5.02**	**4.08**	**11.99**	**453.5**	
3/27/08 14:40:00	**4.92**	**4.11**	**12.35**	**509.3**	
3/27/08 14:40:15	**4.85**	**4.12**	**12.59**	**525.9**	
3/27/08 14:40:30	**4.83**	**4.12**	**12.67**	**485.7**	
3/27/08 14:40:45	**4.87**	**4.11**	**12.70**	**433.7**	
3/27/08 14:41:00	**4.90**	**4.12**	**12.76**	**446.3**	
3/27/08 14:41:15	**4.79**	**4.16**	**12.41**	**510.8**	
3/27/08 14:41:30	**4.67**	**4.19**	**12.46**	**610.0**	
3/27/08 14:41:45	**4.59**	**4.21**	**12.53**	**598.7**	
3/27/08 14:42:00	**4.50**	**4.24**	**12.85**	**597.8**	
3/27/08 14:42:15	**4.50**	**4.23**	**12.93**	**572.1**	
3/27/08 14:42:30	**4.67**	**4.18**	**12.81**	**465.1**	
3/27/08 14:42:45	**4.77**	**4.15**	**12.91**	**458.3**	
3/27/08 14:43:00	**4.75**	**4.15**	**12.74**	**460.8**	
3/27/08 14:43:15	**4.75**	**4.14**	**12.61**	**496.4**	
3/27/08 14:43:30	**4.71**	**4.16**	**13.06**	**592.9**	
3/27/08 14:43:45	**4.56**	**4.20**	**13.19**	**588.4**	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 14:44:00	4.56	4.19	13.48	524.0	
3/27/08 14:44:15	4.58	4.18	13.49	482.0	
3/27/08 14:44:30	4.57	4.19	13.45	435.9	
3/27/08 14:44:45	4.59	4.19	13.31	390.3	
3/27/08 14:45:00	4.69	4.18	13.21	381.2	
3/27/08 14:45:15	4.70	4.17	13.20	387.3	
3/27/08 14:45:30	4.73	4.16	12.83	420.4	
3/27/08 14:45:45	4.72	4.16	12.83	526.9	
3/27/08 14:46:00	4.60	4.19	12.84	581.8	
3/27/08 14:46:15	4.60	4.20	12.70	569.0	
3/27/08 14:46:30	4.65	4.19	12.51	582.4	
3/27/08 14:46:45	4.63	4.20	12.35	712.5	
3/27/08 14:47:00	4.49	4.25	12.47	749.7	
3/27/08 14:47:15	4.49	4.25	12.47	749.7	
3/27/08 14:47:30	4.49	4.25	12.47	749.7	
3/27/08 14:47:45	4.49	4.25	12.47	749.7	
3/27/08 14:48:00	4.44	4.25	12.66	717.0	
3/27/08 14:48:15	4.44	4.24	12.67	675.5	
3/27/08 14:48:30	4.44	4.24	12.67	675.5	
3/27/08 14:48:45	4.66	4.18	12.72	489.9	
3/27/08 14:49:00	4.77	4.14	12.60	462.0	
3/27/08 14:49:15	4.81	4.14	12.28	494.3	
3/27/08 14:49:30	4.78	4.15	12.16	664.0	
3/27/08 14:49:45	4.62	4.21	12.51	829.1	
3/27/08 14:50:00	4.47	4.24	12.68	714.7	
3/27/08 14:50:15	4.62	4.18	12.81	515.1	
3/27/08 14:50:30	4.80	4.13	12.62	439.6	
3/27/08 14:50:45	4.84	4.12	12.68	419.9	
3/27/08 14:51:00	4.85	4.12	12.35	403.7	
3/27/08 14:51:15	4.91	4.11	12.26	442.5	
3/27/08 14:51:30	4.84	4.13	12.12	482.3	
3/27/08 14:51:45	4.85	4.13	12.17	522.3	
3/27/08 14:52:00	4.84	4.13	12.20	511.1	
3/27/08 14:52:15	4.84	4.11	11.71	542.2	
3/27/08 14:52:30	4.80	4.12	11.85	712.0	
3/27/08 14:52:45	4.62	4.16	11.82	818.5	
3/27/08 14:53:00	4.56	4.18	12.03	775.7	
3/27/08 14:53:15	4.59	4.16	11.89	712.8	
3/27/08 14:53:30	4.62	4.16	12.19	653.5	
3/27/08 14:53:45	4.69	4.14	12.27	567.3	
3/27/08 14:54:00	4.83	4.10	12.13	526.0	
3/27/08 14:54:15	4.84	4.11	11.80	626.2	
3/27/08 14:54:30	4.70	4.16	12.15	855.7	
3/27/08 14:54:45	4.46	4.23	12.35	898.7	
3/27/08 14:55:00	4.45	4.22	12.41	801.0	
3/27/08 14:55:15	4.50	4.20	12.34	738.6	
3/27/08 14:55:30	4.56	4.17	12.18	656.8	
3/27/08 14:55:45	4.71	4.12	12.08	589.9	
3/27/08 14:56:00	4.79	4.09	12.00	566.4	
3/27/08 14:56:15	4.81	4.08	12.24	604.2	
3/27/08 14:56:30	4.76	4.09	12.06	616.5	
3/27/08 14:56:45	4.75	4.09	12.30	571.1	
3/27/08 14:57:00	4.83	4.06	12.25	510.7	
3/27/08 14:57:15	4.90	4.04	12.31	485.6	
3/27/08 14:57:30	4.92	4.04	12.11	503.9	
3/27/08 14:57:45	4.83	4.05	12.34	548.1	
3/27/08 14:58:00	4.77	4.07	11.92	584.9	
3/27/08 14:58:15	4.72	4.09	11.92	633.0	
3/27/08 14:58:30	4.71	4.47	11.98	617.2	
3/27/08 14:58:45	4.80	4.08	11.67	576.7	
3/27/08 14:59:00	4.91	4.07	11.23	630.7	
3/27/08 14:59:15	4.86	4.08	11.26	793.6	
3/27/08 14:59:30	4.74	4.11	11.30	848.9	
3/27/08 14:59:45	4.72	4.12	11.30	762.8	
3/27/08 15:00:00	4.77	4.10	11.37	697.6	
3/27/08 15:00:15	4.82	4.09	11.37	665.8	
3/27/08 15:00:30	4.89	4.07	11.66	605.8	
3/27/08 15:00:45	5.02	4.05	11.52	514.0	
3/27/08 15:01:00	5.15	4.02	11.56	482.4	
3/27/08 15:01:15	5.15	4.02	11.71	477.4	
3/27/08 15:01:30	5.15	4.02	11.44	451.0	
3/27/08 15:01:45	5.18	4.01	11.03	488.5	
3/27/08 15:02:00	5.14	4.03	11.26	579.4	
3/27/08 15:02:15	5.05	4.04	11.10	598.8	
3/27/08 15:02:30	5.09	4.03	11.29	590.7	
3/27/08 15:02:45	5.10	4.03	11.32	557.9	
3/27/08 15:03:00	5.14	4.02	11.23	512.8	
3/27/08 15:03:15	5.19	4.01	11.31	510.4	
3/27/08 15:03:30	5.17	4.02	11.25	499.7	
3/27/08 15:03:45	5.21	4.01	11.13	476.9	
3/27/08 15:04:00	5.25	4.00	10.83	498.5	
3/27/08 15:04:15	5.21	4.00	10.25	639.8	
3/27/08 15:04:30	4.50	4.04	10.84	815.7	
3/27/08 15:04:45	4.99	4.06	10.83	770.1	
3/27/08 15:05:00	5.10	4.03	10.83	677.6	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 15:05:15	5.13	4.02	10.80	685.1	
3/27/08 15:05:30	5.11	4.02	11.09	666.7	
3/27/08 15:05:45	5.15	4.00	10.95	615.1	
3/27/08 15:06:00	5.18	4.00	10.72	665.5	
3/27/08 15:06:15	5.07	4.03	11.01	777.8	
3/27/08 15:06:30	4.98	4.05	11.40	756.6	
3/27/08 15:06:45	5.01	4.03	11.46	597.7	
3/27/08 15:07:00	5.15	3.99	11.49	477.9	
3/27/08 15:07:15	5.21	3.98	11.51	471.5	
3/27/08 15:07:30	5.19	3.98	11.49	502.0	
3/27/08 15:07:45	5.14	3.98	11.38	528.9	
3/27/08 15:08:00	5.12	3.99	11.56	571.7	
3/27/08 15:08:15	5.04	4.01	11.66	536.8	
3/27/08 15:08:30	5.07	4.01	11.71	476.9	
3/27/08 15:08:45	5.15	3.99	11.69	456.4	
3/27/08 15:09:00	5.14	3.99	11.61	445.2	
3/27/08 15:09:15	5.18	3.98	11.60	449.0	
3/27/08 15:09:30	5.17	3.98	11.53	457.1	
3/27/08 15:09:45	5.16	3.98	11.21	499.2	
3/27/08 15:10:00	5.12	3.99	11.14	603.3	
3/27/08 15:10:15	5.00	4.02	11.08	723.2	
3/27/08 15:10:30	4.89	4.04	11.23	790.5	
3/27/08 15:10:45	4.83	4.06	11.47	770.5	
3/27/08 15:11:00	4.84	4.06	11.66	700.8	
3/27/08 15:11:15	4.86	4.06	11.75	599.5	
3/27/08 15:11:30	4.93	4.04	11.69	532.3	
3/27/08 15:11:45	4.96	4.04	11.55	512.5	
3/27/08 15:12:00	4.96	4.04	11.16	580.4	
3/27/08 15:12:15	4.88	4.08	11.35	784.5	
3/27/08 15:12:30	4.66	4.14	11.79	837.6	
3/27/08 15:12:45	4.68	4.12	11.65	694.8	
3/27/08 15:13:00	4.68	4.12	11.65	694.8	
3/27/08 15:13:15	4.81	4.08	12.00	573.4	
3/27/08 15:13:30	4.87	4.07	11.93	511.8	
3/27/08 15:13:45	4.94	4.06	12.16	503.2	
3/27/08 15:14:00	4.90	4.07	12.19	479.8	
3/27/08 15:14:15	4.93	4.06	12.29	446.5	
3/27/08 15:14:30	4.93	4.06	12.22	429.5	
3/27/08 15:14:45	4.91	4.07	12.20	474.3	
3/27/08 15:15:00	4.77	4.11	12.07	554.8	
3/27/08 15:15:15	4.65	4.15	12.31	582.5	
3/27/08 15:15:30	4.66	4.15	12.34	519.5	
3/27/08 15:15:45	4.77	4.12	12.20	512.4	
3/27/08 15:16:00	4.68	4.13	12.11	596.7	
3/27/08 15:16:15	4.55	4.16	12.08	621.9	
3/27/08 15:16:30	4.47	4.18	12.20	709.7	
3/27/08 15:16:45	4.54	4.17	12.13	689.8	
3/27/08 15:17:00	4.56	4.17	12.16	686.2	
3/27/08 15:17:15	4.53	4.17	12.01	678.6	
3/27/08 15:17:30	4.59	4.16	12.01	692.3	
3/27/08 15:17:45	4.55	4.17	12.06	687.2	
3/27/08 15:18:00	4.55	4.17	12.09	710.2	
3/27/08 15:18:15	4.57	4.18	12.11	849.9	
3/27/08 15:18:30	4.40	4.24	11.96	926.1	
3/27/08 15:18:45	4.37	4.22	18.75	842.6	
3/27/08 15:19:00	4.56	4.18	11.90	882.7	
3/27/08 15:19:15	4.51	4.18	11.84	946.5	
3/27/08 15:19:30	4.46	4.19	11.89	875.9	
3/27/08 15:19:45	4.58	4.14	11.98	790.7	
3/27/08 15:20:00	4.66	4.12	11.98	695.6	
3/27/08 15:20:15	4.78	4.09	11.97	615.9	
3/27/08 15:20:30	4.87	4.06	11.45	624.8	
3/27/08 15:20:45	4.87	4.06	11.53	811.2	
3/27/08 15:21:00	4.73	4.11	11.98	946.5	
3/27/08 15:21:15	4.67	4.14	18.58	837.9	
3/27/08 15:21:30	4.78	4.10	12.08	732.8	
3/27/08 15:21:45	4.79	4.10	25.30	687.8	
3/27/08 15:22:00	4.87	4.08	11.52	758.4	
3/27/08 15:22:15	4.78	4.11	11.39	860.7	
3/27/08 15:22:30	4.72	4.12	11.45	865.1	
3/27/08 15:22:45	4.77	4.10	11.20	835.2	
3/27/08 15:23:00	4.82	4.09	11.34	807.7	
3/27/08 15:23:15	4.85	4.08	11.24	771.9	
3/27/08 15:23:30	4.92	4.07	11.23	743.8	
3/27/08 15:23:45	4.95	4.06	11.62	717.5	
3/27/08 15:24:00	4.97	4.04	11.67	630.3	
3/27/08 15:24:15	5.06	4.01	11.81	539.3	
3/27/08 15:24:30	5.11	4.00	11.86	477.2	
3/27/08 15:24:45	5.16	3.99	11.98	439.9	
3/27/08 15:25:00	5.18	3.98	11.72	438.1	
3/27/08 15:25:15	5.15	4.00	11.14	528.6	
3/27/08 15:25:30	5.04	4.03	10.99	728.9	
3/27/08 15:25:45	4.86	4.08	11.62	841.1	
3/27/08 15:26:00	4.80	4.09	11.58	711.4	
3/27/08 15:26:15	4.95	4.04	11.50	592.9	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 15:26:30	5.01	4.02	11.46	577.7	
3/27/08 15:26:45	5.00	4.01	11.42	619.8	
3/27/08 15:27:00	4.96	4.03	11.51	636.0	
3/27/08 15:27:15	4.99	4.03	11.46	576.8	
3/27/08 15:27:30	5.10	4.01	11.45	532.3	
3/27/08 15:27:45	5.14	3.99	10.89	562.2	
3/27/08 15:28:00	5.09	4.01	10.77	793.7	
3/27/08 15:28:15	4.86	4.08	11.27	1003.4	
3/27/08 15:28:30	4.67	4.13	11.17	930.3	
3/27/08 15:28:45	4.75	4.09	11.14	820.4	
3/27/08 15:29:00	4.82	4.06	11.40	775.0	
3/27/08 15:29:15	4.90	4.03	11.50	680.8	
3/27/08 15:29:30	5.00	4.00	11.50	585.0	
3/27/08 15:29:45	5.09	3.98	11.35	552.1	
3/27/08 15:30:00	5.10	3.98	10.81	651.3	
3/27/08 15:30:15	4.97	4.02	11.08	941.7	
3/27/08 15:30:30	4.67	4.11	11.32	1028.0	
3/27/08 15:30:45	4.63	4.11	11.39	880.8	
3/27/08 15:31:00	4.75	4.06	11.59	737.5	
3/27/08 15:31:15	4.85	4.04	11.64	605.5	
3/27/08 15:31:30	5.01	4.00	11.33	521.6	
3/27/08 15:31:45	5.12	3.98	11.45	570.5	
3/27/08 15:32:00	5.03	4.01	11.52	595.3	
3/27/08 15:32:15	5.01	4.00	11.48	561.3	
3/27/08 15:32:30	5.08	3.98	11.56	556.3	
3/27/08 15:32:45	5.09	3.98	11.71	542.1	
3/27/08 15:33:00	5.04	3.98	11.72	498.4	
3/27/08 15:33:15	5.06	3.97	11.45	478.1	
3/27/08 15:33:30	5.11	3.96	11.71	526.7	
3/27/08 15:33:45	5.04	3.98	11.74	528.2	
3/27/08 15:34:00	5.07	3.98	11.39	501.5	
3/27/08 15:34:15	5.11	3.98	11.20	565.9	
3/27/08 15:34:30	4.99	4.00	11.00	716.0	
3/27/08 15:34:45	4.83	4.05	11.13	832.4	
3/27/08 15:35:00	4.77	4.07	11.04	841.0	
3/27/08 15:35:15	4.80	4.07	11.08	795.6	
3/27/08 15:35:30	4.85	4.04	10.93	725.1	
3/27/08 15:35:45	4.96	4.01	11.13	657.3	
3/27/08 15:36:00	5.03	3.99	10.99	591.4	
3/27/08 15:36:15	5.13	3.97	11.13	562.6	
3/27/08 15:36:30	5.16	3.96	11.05	550.2	
3/27/08 15:36:45	5.21	3.95	10.77	562.6	
3/27/08 15:37:00	5.23	3.96	10.27	695.0	
3/27/08 15:37:15	5.14	4.00	10.59	928.8	
3/27/08 15:37:30	4.97	4.04	10.62	1023.0	
3/27/08 15:37:45	4.95	4.05	10.75	997.8	
3/27/08 15:38:00	4.88	4.06	10.94	928.3	
3/27/08 15:38:15	4.87	4.06	10.89	842.3	
3/27/08 15:38:30	4.94	4.04	10.98	788.4	
3/27/08 15:38:45	4.97	4.04	11.09	759.4	
3/27/08 15:39:00	4.99	4.04	11.14	725.2	
3/27/08 15:39:15	5.03	4.03	11.32	614.6	
3/27/08 15:39:30	5.19	3.99	11.32	493.4	
3/27/08 15:39:45	5.34	3.95	11.36	439.6	
3/27/08 15:40:00	5.39	3.94	11.38	426.6	
3/27/08 15:40:15	5.36	3.94	11.41	422.0	
3/27/08 15:40:30	5.36	3.94	11.32	419.6	
3/27/08 15:40:45	5.37	3.95	11.23	421.7	
3/27/08 15:41:00	5.35	3.95	10.99	467.5	
3/27/08 15:41:15	5.31	3.97	10.81	575.9	
3/27/08 15:41:30	5.16	4.00	11.15	718.1	
3/27/08 15:41:45	5.05	4.03	11.35	700.0	
3/27/08 15:42:00	5.05	4.02	11.29	601.9	
3/27/08 15:42:15	5.07	4.01	11.23	585.2	
3/27/08 15:42:30	5.06	4.02	11.38	620.9	
3/27/08 15:42:45	5.05	4.02	11.50	591.1	
3/27/08 15:43:00	5.10	4.01	11.54	544.0	
3/27/08 15:43:15	5.10	4.02	11.63	532.5	
3/27/08 15:43:30	5.07	4.03	11.27	570.2	
3/27/08 15:43:45	5.02	4.06	11.27	843.1	
3/27/08 15:44:00	4.73	4.16	11.43	1132.4	
3/27/08 15:44:15	4.47	4.22	11.72	988.4	
3/27/08 15:44:30	4.66	4.14	11.68	768.2	
3/27/08 15:44:45	4.83	4.10	11.61	772.5	
3/27/08 15:45:00	4.74	4.13	11.65	796.4	
3/27/08 15:45:15	4.76	4.13	11.56	788.8	
3/27/08 15:45:30	4.76	4.12	11.77	748.9	
3/27/08 15:45:45	4.80	4.09	11.78	651.6	
3/27/08 15:46:00	4.95	4.06	11.54	652.1	
3/27/08 15:46:15	4.91	4.07	12.02	717.8	
3/27/08 15:46:30	4.84	4.09	12.08	630.7	
3/27/08 15:46:45	4.97	4.05	11.81	517.1	
3/27/08 15:47:00	5.06	4.03	11.71	525.7	
3/27/08 15:47:15	5.00	4.05	11.80	598.8	
3/27/08 15:47:30	4.91	4.07	11.97	651.6	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 15:47:45	4.87	4.08	12.10	608.5	
3/27/08 15:48:00	4.93	4.06	12.16	546.3	
3/27/08 15:48:15	4.92	4.06	12.11	526.1	
3/27/08 15:48:30	4.88	4.07	12.17	529.2	
3/27/08 15:48:45	4.88	4.07	12.27	520.4	
3/27/08 15:49:00	4.90	4.07	12.07	471.5	
3/27/08 15:49:15	5.01	4.06	11.97	441.1	
3/27/08 15:49:30	5.06	4.05	11.83	479.3	
3/27/08 15:49:45	4.98	4.07	11.59	542.3	
3/27/08 15:50:00	4.90	4.08	11.72	598.0	
3/27/08 15:50:15	4.85	4.09	11.93	595.6	
3/27/08 15:50:30	4.88	4.08	11.95	579.6	
3/27/08 15:50:45	4.89	4.08	11.83	584.7	
3/27/08 15:51:00	4.86	4.09	11.80	616.5	
3/27/08 15:51:15	4.87	4.09	12.09	618.9	
3/27/08 15:51:30	4.89	4.09	12.33	563.8	
3/27/08 15:51:45	4.95	4.07	12.07	485.0	
3/27/08 15:52:00	4.99	4.06	12.06	471.4	
3/27/08 15:52:15	4.94	4.08	12.07	499.5	
3/27/08 15:52:30	4.88	4.09	11.72	503.1	
3/27/08 15:52:45	4.94	4.09	11.88	536.4	
3/27/08 15:53:00	4.92	4.10	11.80	549.1	
3/27/08 15:53:15	4.95	4.09	12.05	527.5	
3/27/08 15:53:30	4.97	4.09	12.04	471.3	
3/27/08 15:53:45	5.05	4.08	12.04	428.9	
3/27/08 15:54:00	5.12	4.07	11.92	425.3	
3/27/08 15:54:15	5.10	4.07	12.00	440.4	
3/27/08 15:54:30	5.03	4.08	12.11	460.1	
3/27/08 15:54:45	4.97	4.11	11.89	471.6	
3/27/08 15:55:00	4.93	4.12	11.99	514.1	
3/27/08 15:55:15	4.84	4.14	12.20	534.4	
3/27/08 15:55:30	4.77	4.15	12.24	517.2	
3/27/08 15:55:45	4.78	4.15	12.37	470.5	
3/27/08 15:56:00	4.87	4.13	12.35	423.4	
3/27/08 15:56:15	4.94	4.11	12.56	402.5	
3/27/08 15:56:30	4.95	4.10	12.45	397.5	
3/27/08 15:56:45	4.93	4.10	12.30	418.3	
3/27/08 15:57:00	4.86	4.11	12.02	495.5	
3/27/08 15:57:15	4.72	4.14	12.08	627.0	
3/27/08 15:57:30	4.61	4.17	12.17	648.9	
3/27/08 15:57:45	4.67	4.16	12.23	607.6	
3/27/08 15:58:00	4.71	4.15	12.34	570.4	
3/27/08 15:58:15	4.70	4.15	12.34	540.3	
3/27/08 15:58:30	4.69	4.15	12.32	521.5	
3/27/08 15:58:45	4.70	4.14	12.32	502.7	
3/27/08 15:59:00	4.77	4.12	12.16	439.4	
3/27/08 15:59:15	4.81	4.11	12.17	494.4	
3/27/08 15:59:30	4.77	4.11	12.26	482.6	
3/27/08 15:59:45	4.83	4.10	19.02	449.3	
3/27/08 16:00:00	4.90	11.84	25.63	522.4	
3/27/08 16:00:15	4.91	4.08	12.03	472.7	
3/27/08 16:00:30	4.85	4.09	11.86	496.5	
3/27/08 16:00:45	4.79	4.09	11.85	542.9	
3/27/08 16:01:00	4.74	4.10	11.90	575.3	
3/27/08 16:01:15	4.67	4.12	11.87	583.7	
3/27/08 16:01:30	4.64	4.12	11.81	616.3	
3/27/08 16:01:45	4.61	4.15	11.76	673.0	
3/27/08 16:02:00	4.57	4.17	11.64	698.0	
3/27/08 16:02:15	4.58	4.19	11.70	704.1	
3/27/08 16:02:30	4.58	4.19	11.59	701.9	
3/27/08 16:02:45	4.60	4.18	11.86	659.9	
3/27/08 16:03:00	4.68	4.15	11.96	557.4	
3/27/08 16:03:15	4.86	4.09	11.82	484.8	
3/27/08 16:03:30	4.99	4.06	11.59	471.2	
3/27/08 16:03:45	5.05	4.05	11.47	499.5	
3/27/08 16:04:00	5.04	4.06	11.41	560.2	
3/27/08 16:04:15	4.98	4.08	11.27	603.0	
3/27/08 16:04:30	4.91	4.09	11.76	627.1	
3/27/08 16:04:45	4.92	4.09	11.80	574.9	
3/27/08 16:05:00	5.02	4.07	11.74	499.9	
3/27/08 16:05:15	5.09	4.06	11.59	486.6	
3/27/08 16:05:30	5.05	4.08	11.69	495.6	
3/27/08 16:05:45	5.04	4.08	11.71	476.8	
3/27/08 16:06:00	5.11	4.07	11.28	477.7	
3/27/08 16:06:15	5.09	4.08	11.17	558.7	
3/27/08 16:06:30	4.93	4.10	11.36	647.4	
3/27/08 16:06:45	4.86	4.12	11.41	662.3	
3/27/08 16:07:00	4.90	4.12	11.45	643.9	
3/27/08 16:07:15	4.93	4.12	11.59	622.2	
3/27/08 16:07:30	4.95	4.13	11.44	589.6	
3/27/08 16:07:45	5.03	4.12	11.39	575.6	
3/27/08 16:08:00	5.03	4.12	11.71	590.9	
3/27/08 16:08:15	4.96	4.14	11.65	552.5	
3/27/08 16:08:30	5.01	4.12	11.47	529.1	
3/27/08 16:08:45	5.02	4.12	11.78	544.7	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 16:09:00	4.97	4.12	11.55	534.3	
3/27/08 16:09:15	4.99	4.11	11.71	536.1	
3/27/08 16:09:30	4.99	4.11	11.71	535.2	
3/27/08 16:09:45	4.99	4.11	11.71	535.2	
3/27/08 16:10:00	5.02	4.09	11.87	511.7	
3/27/08 16:10:15	5.03	4.09	11.99	487.0	
3/27/08 16:10:30	5.06	4.08	11.98	456.8	
3/27/08 16:10:45	5.05	4.08	11.90	450.9	
3/27/08 16:11:00	5.04	4.08	11.88	456.8	
3/27/08 16:11:15	5.06	4.06	11.19	492.0	
3/27/08 16:11:30	5.02	4.07	11.07	697.7	
3/27/08 16:11:45	4.83	4.13	11.32	866.1	
3/27/08 16:12:00	4.73	4.15	11.50	763.9	
3/27/08 16:12:15	4.88	4.09	11.30	604.3	
3/27/08 16:12:30	5.03	4.04	11.40	552.1	
3/27/08 16:12:45	5.08	4.02	11.16	552.9	
3/27/08 16:13:00	5.12	4.01	11.64	558.6	
3/27/08 16:13:15	5.11	4.02	11.75	499.7	
3/27/08 16:13:30	5.17	4.00	11.67	441.8	
3/27/08 16:13:45	5.19	3.99	11.71	436.7	
3/27/08 16:14:00	5.14	4.00	11.75	435.3	
3/27/08 16:14:15	5.14	3.99	11.47	465.4	
3/27/08 16:14:30	5.11	4.01	11.48	572.0	
3/27/08 16:14:45	4.93	4.05	11.57	624.2	
3/27/08 16:15:00	4.86	4.06	11.85	647.9	
3/27/08 16:15:15	4.80	4.08	11.82	673.5	
3/27/08 16:15:30	4.71	4.09	11.53	699.0	
3/27/08 16:15:45	4.71	4.08	11.68	756.3	
3/27/08 16:16:00	4.65	4.10	11.45	829.7	
3/27/08 16:16:15	4.54	4.12	11.65	808.7	
3/27/08 16:16:30	4.60	4.10	11.71	729.1	
3/27/08 16:16:45	4.74	4.07	11.71	701.7	
3/27/08 16:17:00	4.77	4.07	11.89	640.3	
3/27/08 16:17:15	4.84	4.05	11.90	559.3	
3/27/08 16:17:30	4.95	4.03	12.06	496.3	
3/27/08 16:17:45	4.99	4.02	11.83	483.9	
3/27/08 16:18:00	4.97	4.03	11.78	566.1	
3/27/08 16:18:15	4.84	4.07	11.72	679.4	
3/27/08 16:18:30	4.75	4.11	12.15	728.3	
3/27/08 16:18:45	4.68	4.13	12.14	647.9	
3/27/08 16:19:00	4.71	4.12	12.14	564.0	
3/27/08 16:19:15	4.75	4.11	12.15	533.3	
3/27/08 16:19:30	4.78	4.10	12.25	510.8	
3/27/08 16:19:45	4.82	4.09	12.27	471.5	
3/27/08 16:20:00	4.90	4.08	12.36	435.7	
3/27/08 16:20:15	4.98	4.08	12.42	412.1	
3/27/08 16:20:30	4.99	4.10	12.42	409.0	
3/27/08 16:20:45	4.95	4.11	12.26	428.7	
3/27/08 16:21:00	4.88	4.12	12.13	464.5	
3/27/08 16:21:15	4.82	4.13	11.67	581.5	
3/27/08 16:21:30	4.73	4.17	12.17	765.2	
3/27/08 16:21:45	4.59	4.22	12.30	728.5	
3/27/08 16:22:00	4.65	4.19	12.30	589.0	
3/27/08 16:22:15	4.76	4.16	12.31	516.8	
3/27/08 16:22:30	4.82	4.15	12.34	476.8	
3/27/08 16:22:45	4.91	4.13	12.33	436.5	
3/27/08 16:23:00	4.99	4.11	12.31	422.1	
3/27/08 16:23:15	4.98	4.11	12.35	447.2	
3/27/08 16:23:30	4.88	4.14	12.43	439.3	
3/27/08 16:23:45	4.89	4.13	12.28	413.3	
3/27/08 16:24:00	4.95	4.13	12.20	442.9	
3/27/08 16:24:15	4.94	4.13	12.24	506.3	
3/27/08 16:24:30	4.84	4.15	12.22	507.6	
3/27/08 16:24:45	4.87	4.13	12.12	530.5	
3/27/08 16:25:00	4.81	4.15	12.13	543.2	
3/27/08 16:25:15	4.80	4.14	12.03	519.5	
3/27/08 16:25:30	4.86	4.13	12.02	486.2	
3/27/08 16:25:45	4.95	4.11	12.00	477.3	
3/27/08 16:26:00	4.96	4.10	11.72	497.2	
3/27/08 16:26:15	4.94	4.10	12.00	547.4	
3/27/08 16:26:30	4.91	4.11	11.71	530.6	
3/27/08 16:26:45	5.00	4.09	11.86	564.0	
3/27/08 16:27:00	4.96	4.11	11.96	550.6	
3/27/08 16:27:15	4.87	4.09	11.84	511.7	
3/27/08 16:27:30	5.00	4.08	12.22	514.4	
3/27/08 16:27:45	4.96	4.09	12.30	475.9	
3/27/08 16:28:00	4.99	4.07	12.20	435.1	
3/27/08 16:28:15	5.01	4.07	12.22	428.4	
3/27/08 16:28:30	5.00	4.07	12.26	420.5	
3/27/08 16:28:45	5.01	4.07	12.16	415.9	
3/27/08 16:29:00	5.01	4.06	12.19	435.8	
3/27/08 16:29:15	4.98	4.06	11.86	460.5	
3/27/08 16:29:30	4.96	4.06	11.75	523.5	
3/27/08 16:29:45	4.88	4.07	11.92	571.8	
3/27/08 16:30:00	4.85	4.07	12.04	550.3	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 16:30:15	**4.88**	**4.05**	**12.10**	**499.2**	
3/27/08 16:30:30	**4.94**	**4.03**	**12.18**	**459.8**	
3/27/08 16:30:45	**5.03**	**4.02**	**12.16**	**440.1**	
3/27/08 16:31:00	5.05	4.02	12.32	442.9	
3/27/08 16:31:15	4.99	4.03	12.08	489.8	
3/27/08 16:31:30	4.85	4.07	7.70	659.8	
3/27/08 16:31:45	4.60	3.99	2.66	566.7	
3/27/08 16:32:00	3.88	1.95	0.57	227.3	
3/27/08 16:32:15	4.32	0.30	0.41	37.7	
3/27/08 16:32:30	4.96	0.03	0.34	9.0	
3/27/08 16:32:45	5.06	0.00	0.29	6.2	System Bias
3/27/08 16:33:00	**5.04**	**-0.01**	**0.27**	**5.8**	O_2 Bias 2 Mid = 5.04
3/27/08 16:33:15	**5.03**	**-0.01**	**0.24**	**5.6**	CO_2 Bias 2 Zero = -0.01
3/27/08 16:33:30	**5.04**	**-0.02**	**0.21**	**5.6**	NO_x Bias 2 Zero = 0.2
3/27/08 16:33:45	**5.07**	**-0.02**	**0.21**	**5.6**	CO Bias 2 Zero = 5.6
3/27/08 16:34:00	5.09	-0.02	0.18	5.6	
3/27/08 16:34:15	5.10	-0.02	0.18	5.0	
3/27/08 16:34:30	5.11	-0.02	0.18	5.0	
3/27/08 16:34:45	5.12	-0.02	7.05	24.0	
3/27/08 16:35:00	5.11	0.27	1.81	105.2	
3/27/08 16:35:15	4.81	2.46	0.26	102.5	
3/27/08 16:35:30	2.54	5.81	0.19	44.2	
3/27/08 16:35:45	0.66	7.72	0.15	7.5	
3/27/08 16:36:00	0.18	8.36	0.15	3.9	
3/27/08 16:36:15	0.12	8.71	0.14	3.6	
3/27/08 16:36:30	0.11	8.79	0.12	3.1	
3/27/08 16:36:45	0.11	8.81	0.14	3.1	System Bias
3/27/08 16:37:00	0.11	**8.82**	0.12	3.1	CO_2 Bias 2 Mid = 8.83
3/27/08 16:37:15	0.11	**8.83**	0.12	3.1	
3/27/08 16:37:30	0.11	**8.83**	0.13	3.1	
3/27/08 16:37:45	0.10	**8.84**	0.12	3.1	
3/27/08 16:38:00	0.10	8.84	0.12	3.1	
3/27/08 16:38:15	0.10	8.84	0.12	3.1	
3/27/08 16:38:30	0.10	8.85	4.69	12.6	
3/27/08 16:38:45	0.18	8.70	8.95	97.2	
3/27/08 16:39:00	1.34	6.34	8.37	90.1	
3/27/08 16:39:15	0.86	2.29	21.02	28.9	
3/27/08 16:39:30	0.23	0.49	23.68	9.1	
3/27/08 16:39:45	0.15	0.11	25.34	5.0	
3/27/08 16:40:00	0.15	0.03	30.71	5.0	
3/27/08 16:40:15	0.15	0.01	42.76	5.0	
3/27/08 16:40:30	0.14	0.00	42.03	5.0	System Bias
3/27/08 16:40:45	**0.13**	0.00	**41.55**	5.0	O_2 Bias 2 Zero = 0.12
3/27/08 16:41:00	**0.12**	-0.01	**41.25**	5.0	NO_x Bias 2 mid = 41.2
3/27/08 16:41:15	**0.12**	-0.01	**41.02**	5.0	
3/27/08 16:41:30	**0.12**	-0.01	**40.83**	5.0	
3/27/08 16:41:45	0.12	-0.02	40.72	5.0	
3/27/08 16:42:00	0.12	-0.02	40.55	5.0	
3/27/08 16:42:15	0.12	-0.02	40.48	5.0	
3/27/08 16:42:30	0.12	-0.02	40.42	5.0	
3/27/08 16:42:45	0.12	-0.02	40.31	5.0	
3/27/08 16:43:00	0.12	-0.02	40.23	5.0	
3/27/08 16:43:15	0.12	-0.02	40.24	5.0	
3/27/08 16:43:30	0.12	-0.02	41.38	5.0	
3/27/08 16:43:45	0.12	-0.02	43.34	5.0	
3/27/08 16:44:00	0.12	-0.02	42.95	5.0	
3/27/08 16:44:15	0.12	-0.03	32.43	21.3	
3/27/08 16:44:30	0.30	0.27	23.38	121.7	
3/27/08 16:44:45	1.81	1.61	1.36	431.5	
3/27/08 16:45:00	1.04	0.63	0.87	620.2	
3/27/08 16:45:15	0.23	0.06	0.67	714.3	
3/27/08 16:45:30	0.13	-0.02	0.59	719.8	
3/27/08 16:45:45	0.12	-0.03	0.53	721.1	System Bias
3/27/08 16:46:00	0.12	-0.03	0.47	**721.8**	CO Bias 2 Mid = 722
3/27/08 16:46:15	0.12	-0.03	0.43	**722.7**	
3/27/08 16:46:30	0.12	-0.03	0.39	**722.4**	
3/27/08 16:46:45	0.12	-0.03	0.36	**721.0**	
3/27/08 16:47:00	0.12	-0.03	0.33	721.5	
3/27/08 16:47:15	0.12	-0.03	1.54	722.0	
3/27/08 16:47:30	0.12	-0.03	11.77	723.6	
3/27/08 16:47:45	0.89	1.04	12.73	658.6	
3/27/08 17:32:45	4.87	4.08	12.66	592.5	
3/27/08 17:33:00	4.78	4.10	12.60	624.1	
3/27/08 17:33:15	4.76	4.10	12.56	637.1	
3/27/08 17:33:30	4.79	4.10	12.75	703.9	
3/27/08 17:33:45	4.67	4.14	12.76	762.8	
3/27/08 17:34:00	4.61	4.15	12.59	669.8	
3/27/08 17:34:15	4.77	4.10	12.36	594.9	
3/27/08 17:34:30	4.87	4.08	12.07	661.3	
3/27/08 17:34:45	4.83	4.09	12.11	803.7	
3/27/08 17:35:00	4.79	4.11	11.87	913.0	
3/27/08 17:35:15	4.69	4.14	12.36	907.9	
3/27/08 17:35:30	4.75	4.11	12.36	747.1	
3/27/08 17:35:45	4.99	4.04	12.08	607.0	
3/27/08 17:36:00	5.06	4.02	12.08	720.0	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 17:36:15	4.93	4.08	12.12	943.1	
3/27/08 17:36:30	4.73	4.13	12.38	935.4	
3/27/08 17:36:45	4.76	4.10	12.37	797.8	
3/27/08 17:37:00	4.81	4.08	12.43	711.5	
3/27/08 17:37:15	4.90	4.06	12.06	728.0	
3/27/08 17:37:30	4.82	4.08	12.12	811.1	
3/27/08 17:37:45	4.74	4.10	12.02	793.7	
3/27/08 17:38:00	4.87	4.06	12.22	727.6	
3/27/08 17:38:15	4.94	4.03	11.88	627.1	
3/27/08 17:38:30	5.04	4.00	11.74	694.5	
3/27/08 17:38:45	4.96	4.04	11.73	921.5	
3/27/08 17:39:00	4.77	4.09	12.20	960.0	
3/27/08 17:39:15	4.74	4.09	12.35	717.1	
3/27/08 17:39:30	4.99	4.01	12.18	543.9	
3/27/08 17:39:45	5.19	3.97	12.29	494.2	Begin Run 2
3/27/08 17:40:00	5.18	3.99	12.13	490.0	
3/27/08 17:40:15	5.19	3.98	12.00	517.7	
3/27/08 17:40:30	5.13	4.00	11.80	566.0	
3/27/08 17:40:45	5.05	4.01	12.09	603.5	
3/27/08 17:41:00	5.03	4.01	12.03	575.9	
3/27/08 17:41:15	5.09	4.00	12.15	530.2	
3/27/08 17:41:30	5.12	3.99	12.28	513.0	
3/27/08 17:41:45	5.12	4.00	12.17	478.2	
3/27/08 17:42:00	5.16	4.00	12.04	474.1	
3/27/08 17:42:15	5.16	4.00	11.54	527.5	
3/27/08 17:42:30	5.12	4.01	11.81	667.1	
3/27/08 17:42:45	5.02	4.05	11.83	718.6	
3/27/08 17:43:00	5.03	4.03	11.43	682.0	
3/27/08 17:43:15	5.04	4.03	11.37	813.3	
3/27/08 17:43:30	4.87	4.08	11.70	929.9	
3/27/08 17:43:45	4.71	4.12	11.77	913.9	
3/27/08 17:44:00	4.72	4.11	11.95	868.7	
3/27/08 17:44:15	4.76	4.09	12.06	800.5	
3/27/08 17:44:30	4.80	4.08	12.31	696.9	
3/27/08 17:44:45	4.95	4.04	12.25	588.5	
3/27/08 17:45:00	5.01	4.04	11.68	635.0	
3/27/08 17:45:15	4.91	4.07	11.85	824.4	
3/27/08 17:45:30	4.76	4.10	12.09	890.5	
3/27/08 17:45:45	4.76	4.11	12.06	798.9	
3/27/08 17:46:00	4.82	4.09	12.12	755.0	
3/27/08 17:46:15	4.85	4.08	12.26	786.3	
3/27/08 17:46:30	4.76	4.09	12.24	761.6	
3/27/08 17:46:45	4.80	4.08	12.48	698.4	
3/27/08 17:47:00	4.82	4.08	12.24	663.9	
3/27/08 17:47:15	4.85	4.07	12.39	634.7	
3/27/08 17:47:30	4.87	4.06	12.38	593.6	
3/27/08 17:47:45	4.93	4.04	12.42	533.9	
3/27/08 17:48:00	5.01	4.02	12.38	506.7	
3/27/08 17:48:15	5.07	4.00	12.44	471.6	
3/27/08 17:48:30	5.15	3.99	12.26	448.1	
3/27/08 17:48:45	5.20	3.98	12.30	447.1	
3/27/08 17:49:00	5.16	3.98	12.06	466.6	
3/27/08 17:49:15	5.13	3.99	11.71	592.4	
3/27/08 17:49:30	5.01	4.03	11.94	837.0	
3/27/08 17:49:45	4.73	4.12	11.83	977.4	
3/27/08 17:50:00	4.67	4.13	11.98	885.9	
3/27/08 17:50:15	4.74	4.11	12.00	729.3	
3/27/08 17:50:30	4.82	4.09	11.96	634.4	
3/27/08 17:50:45	4.94	4.07	11.56	578.0	
3/27/08 17:51:00	5.03	4.04	11.51	662.4	
3/27/08 17:51:15	4.97	4.06	11.64	730.8	
3/27/08 17:51:30	4.96	4.05	11.92	668.1	
3/27/08 17:51:45	5.05	4.03	11.65	590.1	
3/27/08 17:52:00	5.14	4.01	11.52	613.1	
3/27/08 17:52:15	5.07	4.03	11.67	663.8	
3/27/08 17:52:30	5.02	4.04	11.95	650.6	
3/27/08 17:52:45	5.06	4.03	11.80	574.0	
3/27/08 17:53:00	5.11	4.01	11.87	537.1	
3/27/08 17:53:15	5.14	4.01	11.82	510.3	
3/27/08 17:53:30	5.16	4.01	11.48	519.1	
3/27/08 17:53:45	5.17	4.02	11.44	606.5	
3/27/08 17:54:00	5.09	4.05	11.17	642.7	
3/27/08 17:54:15	5.14	4.05	10.92	728.3	
3/27/08 17:54:30	5.13	4.06	10.71	858.9	
3/27/08 17:54:45	5.01	4.10	11.20	962.7	
3/27/08 17:55:00	4.94	4.11	11.31	891.4	
3/27/08 17:55:15	5.00	4.08	11.27	762.3	
3/27/08 17:55:30	5.07	4.07	11.24	753.9	
3/27/08 17:55:45	5.05	4.07	11.59	776.4	
3/27/08 17:56:00	5.04	4.07	11.59	711.4	
3/27/08 17:56:15	5.15	4.04	11.86	583.9	
3/27/08 17:56:30	5.21	4.03	11.86	523.3	
3/27/08 17:56:45	5.27	4.02	11.88	478.3	
3/27/08 17:57:00	5.30	4.01	11.54	489.9	
3/27/08 17:57:15	5.28	4.02	11.59	571.0	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 17:57:30	5.16	4.04	11.79	608.8	
3/27/08 17:57:45	5.13	4.04	12.03	590.1	
3/27/08 17:58:00	5.14	4.03	12.14	549.9	
3/27/08 17:58:15	5.16	4.02	12.06	520.9	
3/27/08 17:58:30	5.17	4.02	12.02	519.8	
3/27/08 17:58:45	5.14	4.02	12.12	521.0	
3/27/08 17:59:00	5.12	4.03	12.25	517.4	
3/27/08 17:59:15	5.11	4.03	12.50	498.5	
3/27/08 17:59:30	5.14	4.02	12.46	462.1	
3/27/08 17:59:45	5.19	4.01	12.54	421.8	
3/27/08 18:00:00	5.18	4.01	12.60	412.7	
3/27/08 18:00:15	5.19	4.01	12.42	419.3	
3/27/08 18:00:30	5.15	4.02	12.14	457.7	
3/27/08 18:00:45	5.07	4.03	12.00	600.8	
3/27/08 18:01:00	4.92	4.07	11.94	710.5	
3/27/08 18:01:15	4.79	4.10	11.91	762.1	
3/27/08 18:01:30	4.77	4.09	11.90	757.7	
3/27/08 18:01:45	4.76	4.08	11.85	737.2	
3/27/08 18:02:00	4.76	4.08	12.07	720.3	
3/27/08 18:02:15	4.77	4.08	12.29	656.7	
3/27/08 18:02:30	4.83	4.07	12.51	596.9	
3/27/08 18:02:45	4.90	4.05	12.69	516.1	
3/27/08 18:03:00	4.96	4.04	12.60	472.0	
3/27/08 18:03:15	5.02	4.03	12.57	459.5	
3/27/08 18:03:30	4.99	4.05	12.30	479.6	
3/27/08 18:03:45	4.94	4.07	12.22	530.9	
3/27/08 18:04:00	4.85	4.09	12.34	564.6	
3/27/08 18:04:15	4.84	4.09	12.39	564.3	
3/27/08 18:04:30	4.87	4.07	12.47	539.2	
3/27/08 18:04:45	4.91	4.07	12.54	498.5	
3/27/08 18:05:00	4.97	4.06	12.46	475.6	
3/27/08 18:05:15	5.00	4.06	12.49	464.7	
3/27/08 18:05:30	4.98	4.06	12.47	458.9	
3/27/08 18:05:45	5.01	4.07	12.32	469.8	
3/27/08 18:06:00	4.97	4.08	12.42	496.6	
3/27/08 18:06:15	4.90	4.10	12.40	508.5	
3/27/08 18:06:30	4.91	4.10	12.35	530.5	
3/27/08 18:06:45	4.84	4.13	11.97	633.5	
3/27/08 18:07:00	4.71	4.16	12.26	708.3	
3/27/08 18:07:15	4.66	4.17	12.25	688.9	
3/27/08 18:07:30	4.72	4.15	12.41	648.6	
3/27/08 18:07:45	4.73	4.14	12.37	607.3	
3/27/08 18:08:00	4.74	4.14	12.49	583.8	
3/27/08 18:08:15	4.77	4.13	12.56	530.3	
3/27/08 18:08:30	4.87	4.11	12.50	481.3	
3/27/08 18:08:45	5.00	4.09	12.60	442.3	
3/27/08 18:09:00	5.05	4.09	12.39	437.1	
3/27/08 18:09:15	5.09	4.09	12.33	449.9	
3/27/08 18:09:30	5.09	4.09	12.27	480.4	
3/27/08 18:09:45	5.02	4.11	11.91	546.5	
3/27/08 18:10:00	4.98	4.12	12.18	584.7	
3/27/08 18:10:15	4.96	4.11	12.33	557.5	
3/27/08 18:10:30	4.97	4.10	12.31	525.4	
3/27/08 18:10:45	5.00	4.09	12.34	491.4	
3/27/08 18:11:00	5.07	4.07	12.43	476.7	
3/27/08 18:11:15	5.10	4.07	12.31	458.3	
3/27/08 18:11:30	5.16	4.06	12.07	467.2	
3/27/08 18:11:45	5.16	4.06	12.20	526.0	
3/27/08 18:12:00	5.08	4.08	12.22	531.1	
3/27/08 18:12:15	5.09	4.08	12.36	518.5	
3/27/08 18:12:30	5.09	4.08	12.49	503.8	
3/27/08 18:12:45	5.06	4.07	12.43	474.1	
3/27/08 18:13:00	5.09	4.06	12.48	469.3	
3/27/08 18:13:15	5.06	4.06	12.51	455.3	
3/27/08 18:13:30	5.11	4.05	12.21	463.3	
3/27/08 18:13:45	5.11	4.06	12.14	491.3	
3/27/08 18:14:00	5.06	4.06	12.30	505.5	
3/27/08 18:14:15	5.03	4.06	12.21	523.2	
3/27/08 18:14:30	4.98	4.06	11.95	516.2	
3/27/08 18:14:45	5.06	4.04	11.50	567.1	
3/27/08 18:15:00	5.01	4.05	11.76	660.2	
3/27/08 18:15:15	4.86	4.08	12.01	725.1	
3/27/08 18:15:30	4.83	4.07	12.18	701.0	
3/27/08 18:15:45	4.84	4.06	12.36	623.2	
3/27/08 18:16:00	4.90	4.05	12.37	574.5	
3/27/08 18:16:15	4.95	4.05	12.23	558.2	
3/27/08 18:16:30	4.93	4.05	12.00	572.7	
3/27/08 18:16:45	4.90	4.06	12.30	625.9	
3/27/08 18:17:00	4.85	4.07	12.40	584.2	
3/27/08 18:17:15	4.97	4.03	12.43	495.2	
3/27/08 18:17:30	5.05	4.00	12.31	473.5	
3/27/08 18:17:45	5.06	4.00	12.21	506.3	
3/27/08 18:18:00	4.96	4.02	12.08	545.4	
3/27/08 18:18:15	4.92	4.03	12.21	563.0	
3/27/08 18:18:30	4.96	4.03	12.25	537.5	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 18:18:45	5.03	4.02	12.22	522.6	
3/27/08 18:19:00	5.00	4.03	12.25	534.7	
3/27/08 18:19:15	4.99	4.04	12.33	527.7	
3/27/08 18:19:30	4.99	4.03	12.31	492.9	
3/27/08 18:19:45	5.04	4.02	12.25	463.3	
3/27/08 18:20:00	5.07	4.02	12.17	465.5	
3/27/08 18:20:15	5.10	4.01	11.66	522.0	
3/27/08 18:20:30	5.05	4.02	11.58	712.2	
3/27/08 18:20:45	4.83	4.10	11.93	907.6	
3/27/08 18:21:00	4.68	4.13	12.30	841.2	
3/27/08 18:21:15	4.76	4.11	12.26	703.2	
3/27/08 18:21:30	4.82	4.10	12.04	671.7	
3/27/08 18:21:45	4.86	4.09	12.04	692.3	
3/27/08 18:22:00	4.85	4.09	12.17	699.9	
3/27/08 18:22:15	4.87	4.08	12.21	619.4	
3/27/08 18:22:30	4.96	4.05	12.01	581.4	
3/27/08 18:22:45	5.01	4.05	11.37	738.2	
3/27/08 18:23:00	4.88	4.09	11.82	947.1	
3/27/08 18:23:15	4.68	4.14	11.84	926.7	
3/27/08 18:23:30	4.78	4.11	11.98	806.8	
3/27/08 18:23:45	4.89	4.08	11.71	767.2	
3/27/08 18:24:00	4.90	4.08	11.86	797.5	
3/27/08 18:24:15	4.87	4.09	11.96	805.4	
3/27/08 18:24:30	4.84	4.11	12.05	747.5	
3/27/08 18:24:45	4.90	4.08	12.15	622.7	
3/27/08 18:25:00	5.06	4.04	12.08	569.1	
3/27/08 18:25:15	5.15	4.03	11.63	576.9	
3/27/08 18:25:30	5.16	4.03	11.08	711.7	
3/27/08 18:25:45	5.03	4.08	11.60	944.6	
3/27/08 18:26:00	4.85	4.14	11.81	947.6	
3/27/08 18:26:15	4.63	4.14	12.09	883.4	
3/27/08 18:26:30	4.83	4.08	11.93	811.9	
3/27/08 18:26:45	4.84	4.08	12.08	802.5	
3/27/08 18:27:00	4.86	4.08	11.97	733.5	
3/27/08 18:27:15	5.01	4.04	11.86	681.0	
3/27/08 18:27:30	5.05	4.02	11.51	689.8	
3/27/08 18:27:45	5.05	4.02	12.00	706.2	
3/27/08 18:28:00	5.03	4.01	11.67	672.4	
3/27/08 18:28:15	5.09	4.00	11.72	707.8	
3/27/08 18:28:30	5.04	4.02	11.81	765.2	
3/27/08 18:28:45	4.99	4.03	12.06	738.5	
3/27/08 18:29:00	5.04	4.01	12.01	651.1	
3/27/08 18:29:15	5.11	3.98	11.51	640.4	
3/27/08 18:29:30	5.07	4.00	11.70	789.2	
3/27/08 18:29:45	4.88	4.05	11.97	916.7	
3/27/08 18:30:00	4.81	4.07	11.97	855.9	
3/27/08 18:30:15	4.87	4.06	11.87	770.5	
3/27/08 18:30:30	4.88	4.05	12.02	743.4	
3/27/08 18:30:45	4.92	4.04	12.12	665.2	
3/27/08 18:31:00	5.03	4.01	12.40	585.2	
3/27/08 18:31:15	5.14	3.97	12.48	475.3	
3/27/08 18:31:30	5.25	3.93	12.02	453.8	
3/27/08 18:31:45	5.25	3.94	12.13	520.9	
3/27/08 18:32:00	5.11	3.96	12.11	551.4	
3/27/08 18:32:15	5.09	3.96	12.40	576.6	
3/27/08 18:32:30	5.06	3.98	12.38	558.7	
3/27/08 18:32:45	5.09	3.97	12.72	523.7	
3/27/08 18:33:00	5.10	3.97	12.68	486.7	
3/27/08 18:33:15	5.18	3.97	12.81	432.0	
3/27/08 18:33:30	5.20	3.97	12.71	418.1	
3/27/08 18:33:45	5.14	3.99	12.68	434.5	
3/27/08 18:34:00	5.09	4.00	12.41	452.0	
3/27/08 18:34:15	5.08	3.99	11.57	587.1	
3/27/08 18:34:30	4.99	4.02	12.08	831.7	
3/27/08 18:34:45	4.72	4.09	12.14	922.9	
3/27/08 18:35:00	4.72	4.09	12.25	819.1	
3/27/08 18:35:15	4.80	4.08	12.28	722.2	
3/27/08 18:35:30	4.81	4.08	12.59	677.1	
3/27/08 18:35:45	4.86	4.06	12.41	590.4	
3/27/08 18:36:00	4.97	4.04	12.30	592.7	
3/27/08 18:36:15	4.89	4.05	12.19	626.0	
3/27/08 18:36:30	4.86	4.05	12.25	730.8	
3/27/08 18:36:45	4.76	4.11	12.01	852.5	
3/27/08 18:37:00	4.64	4.13	12.08	889.3	
3/27/08 18:37:15	4.62	4.14	12.28	907.5	
3/27/08 18:37:30	4.59	4.14	12.48	847.5	
3/27/08 18:37:45	4.64	4.11	12.16	740.7	
3/27/08 18:38:00	4.71	4.09	12.15	748.8	
3/27/08 18:38:15	4.71	4.10	12.11	785.9	
3/27/08 18:38:30	4.66	4.11	12.19	719.7	
3/27/08 18:38:45	4.83	4.08	12.43	619.7	
3/27/08 18:39:00	4.89	4.07	12.49	560.8	
3/27/08 18:39:15	4.95	4.05	12.55	475.6	
3/27/08 18:39:30	5.03	4.03	12.27	455.0	
3/27/08 18:39:45	5.03	4.02	11.87	571.0	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 18:40:00	4.91	4.06	12.10	725.0	
3/27/08 18:40:15	4.73	4.11	12.27	761.0	
3/27/08 18:40:30	4.73	4.10	12.46	663.3	
3/27/08 18:40:45	4.83	4.06	12.37	541.2	
3/27/08 18:41:00	4.94	4.03	12.52	518.3	
3/27/08 18:41:15	4.95	4.03	12.59	490.6	
3/27/08 18:41:30	4.99	4.03	12.42	461.5	
3/27/08 18:41:45	5.06	4.01	12.17	481.3	
3/27/08 18:42:00	5.00	4.03	12.19	555.3	
3/27/08 18:42:15	4.88	4.05	12.37	637.1	
3/27/08 18:42:30	4.84	4.07	12.37	606.8	
3/27/08 18:42:45	4.92	4.05	12.32	542.0	
3/27/08 18:43:00	4.99	4.04	12.23	560.5	
3/27/08 18:43:15	4.96	4.06	11.95	619.4	
3/27/08 18:43:30	4.90	4.07	11.85	704.0	
3/27/08 18:43:45	4.84	4.09	12.27	753.1	
3/27/08 18:44:00	4.83	4.08	12.47	649.3	
3/27/08 18:44:15	4.97	4.04	12.30	505.9	
3/27/08 18:44:30	5.08	4.00	12.34	490.0	
3/27/08 18:44:45	5.09	4.00	12.36	501.8	
3/27/08 18:45:00	5.07	4.00	12.18	507.6	
3/27/08 18:45:15	5.06	4.00	12.18	543.7	
3/27/08 18:45:30	5.02	4.01	12.35	548.9	
3/27/08 18:45:45	5.03	4.00	12.29	511.6	
3/27/08 18:46:00	5.10	3.99	12.30	520.2	
3/27/08 18:46:15	5.02	4.01	12.28	552.2	
3/27/08 18:46:30	4.97	4.02	12.51	558.4	
3/27/08 18:46:45	4.99	4.03	12.47	526.1	
3/27/08 18:47:00	4.99	4.03	12.40	522.3	
3/27/08 18:47:15	4.93	4.04	12.01	529.9	
3/27/08 18:47:30	4.96	4.02	11.61	624.5	
3/27/08 18:47:45	4.90	4.05	11.97	837.2	
3/27/08 18:48:00	4.77	4.08	12.17	804.1	
3/27/08 18:48:15	4.87	4.05	12.30	614.9	
3/27/08 18:48:30	5.02	4.01	11.98	551.5	
3/27/08 18:48:45	5.05	4.00	11.24	603.6	
3/27/08 18:49:00	4.99	4.02	11.64	789.8	
3/27/08 18:49:15	4.79	4.08	12.19	951.5	
3/27/08 18:49:30	4.67	4.10	11.85	895.7	
3/27/08 18:49:45	4.71	4.08	11.95	767.9	
3/27/08 18:50:00	4.80	4.05	12.09	711.3	
3/27/08 18:50:15	4.89	4.03	12.19	653.2	
3/27/08 18:50:30	4.93	4.01	12.25	602.3	
3/27/08 18:50:45	4.98	3.99	12.44	540.3	
3/27/08 18:51:00	5.04	3.98	12.45	495.9	
3/27/08 18:51:15	5.11	3.97	12.34	452.5	
3/27/08 18:51:30	5.16	3.97	12.32	442.5	
3/27/08 18:51:45	5.17	3.97	12.27	439.2	
3/27/08 18:52:00	5.20	3.97	12.25	442.5	
3/27/08 18:52:15	5.19	3.97	11.98	487.4	
3/27/08 18:52:30	5.10	3.99	11.66	594.5	
3/27/08 18:52:45	4.98	4.03	11.76	758.1	
3/27/08 18:53:00	4.86	4.06	11.69	794.5	
3/27/08 18:53:15	4.84	4.06	11.59	797.8	
3/27/08 18:53:30	4.87	4.05	11.99	758.8	
3/27/08 18:53:45	4.95	4.03	12.01	630.6	
3/27/08 18:54:00	5.09	4.01	11.98	561.7	
3/27/08 18:54:15	5.14	4.00	11.81	528.3	
3/27/08 18:54:30	5.14	4.00	11.06	584.9	
3/27/08 18:54:45	5.05	4.03	11.37	843.9	
3/27/08 18:55:00	4.82	4.10	11.83	930.6	
3/27/08 18:55:15	4.75	4.10	11.93	837.9	
3/27/08 18:55:30	4.85	4.07	12.06	775.7	
3/27/08 18:55:45	4.88	4.07	12.09	714.4	
3/27/08 18:56:00	4.92	4.06	12.28	673.6	
3/27/08 18:56:15	4.96	4.06	12.77	580.9	
3/27/08 18:56:30	5.04	4.04	12.63	493.0	
3/27/08 18:56:45	5.14	4.02	12.63	425.7	
3/27/08 18:57:00	5.17	4.01	12.37	425.4	
3/27/08 18:57:15	5.17	4.02	12.27	472.6	
3/27/08 18:57:30	5.10	4.03	12.48	493.0	
3/27/08 18:57:45	5.09	4.03	12.16	467.3	
3/27/08 18:58:00	5.24	4.01	12.11	489.3	
3/27/08 18:58:15	5.22	4.03	12.36	538.4	
3/27/08 18:58:30	5.13	4.04	12.41	541.9	
3/27/08 18:58:45	5.10	4.05	12.61	533.9	
3/27/08 18:59:00	5.06	4.06	12.72	493.5	
3/27/08 18:59:15	5.10	4.05	12.81	447.6	
3/27/08 18:59:30	5.11	4.05	12.86	451.4	
3/27/08 18:59:45	5.04	4.07	12.49	482.6	
3/27/08 19:00:00	4.98	4.09	11.99	547.2	
3/27/08 19:00:15	4.94	4.10	12.22	728.6	
3/27/08 19:00:30	4.81	4.15	12.35	791.2	
3/27/08 19:00:45	4.71	4.17	12.82	721.7	
3/27/08 19:01:00	4.78	4.14	12.76	589.3	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 19:01:15	4.92	4.10	12.87	494.0	
3/27/08 19:01:30	4.91	4.10	12.69	487.6	
3/27/08 19:01:45	4.89	4.11	12.77	479.5	
3/27/08 19:02:00	4.93	4.10	12.88	453.2	
3/27/08 19:02:15	5.02	4.08	12.87	413.4	
3/27/08 19:02:30	5.07	4.08	12.85	410.6	
3/27/08 19:02:45	5.04	4.08	12.89	437.5	
3/27/08 19:03:00	4.97	4.10	12.64	443.6	
3/27/08 19:03:15	4.96	4.10	12.61	501.9	
3/27/08 19:03:30	4.90	4.12	12.69	558.4	
3/27/08 19:03:45	4.78	4.14	12.73	588.5	
3/27/08 19:04:00	4.73	4.15	12.82	613.4	
3/27/08 19:04:15	4.66	4.17	12.83	623.0	
3/27/08 19:04:30	4.64	4.17	12.67	563.5	
3/27/08 19:04:45	4.76	4.14	12.56	554.8	
3/27/08 19:05:00	4.76	4.15	12.43	607.9	
3/27/08 19:05:15	4.68	4.17	12.65	681.0	
3/27/08 19:05:30	4.67	4.17	12.66	694.1	
3/27/08 19:05:45	4.61	4.17	12.69	685.5	
3/27/08 19:06:00	4.65	4.16	12.67	630.7	
3/27/08 19:06:15	4.74	4.13	12.91	510.0	
3/27/08 19:06:30	4.93	4.08	12.67	463.6	
3/27/08 19:06:45	5.03	4.07	12.81	476.1	
3/27/08 19:07:00	4.97	4.08	12.73	495.3	
3/27/08 19:07:15	4.94	4.08	12.88	494.6	
3/27/08 19:07:30	4.94	4.08	12.70	462.7	
3/27/08 19:07:45	5.01	4.06	12.69	456.0	
3/27/08 19:08:00	4.97	4.07	12.64	502.8	
3/27/08 19:08:15	4.87	4.08	12.66	592.5	
3/27/08 19:08:30	4.78	4.10	12.60	624.1	
3/27/08 19:08:45	4.76	4.10	12.56	637.1	
3/27/08 19:09:00	4.79	4.10	12.75	703.9	
3/27/08 19:09:15	4.67	4.14	12.76	762.8	
3/27/08 19:09:30	4.61	4.15	12.59	669.8	
3/27/08 19:09:45	4.77	4.10	12.36	594.9	
3/27/08 19:10:00	4.87	4.08	12.07	661.3	
3/27/08 19:10:15	4.83	4.09	12.11	803.7	
3/27/08 19:10:30	4.79	4.11	11.87	913.0	
3/27/08 19:10:45	4.69	4.14	12.36	907.9	
3/27/08 19:11:00	4.75	4.11	12.36	747.1	
3/27/08 19:11:15	4.99	4.04	12.08	607.0	
3/27/08 19:11:30	5.06	4.02	12.08	720.0	
3/27/08 19:11:45	4.93	4.08	12.12	943.1	
3/27/08 19:12:00	4.73	4.13	12.38	935.4	
3/27/08 19:12:15	4.76	4.10	12.37	797.8	
3/27/08 19:12:30	4.81	4.08	12.43	711.5	
3/27/08 19:12:45	4.90	4.06	12.06	728.0	
3/27/08 19:13:00	4.82	4.08	12.12	811.1	
3/27/08 19:13:15	4.74	4.10	12.02	793.7	
3/27/08 19:13:30	4.87	4.06	12.22	727.6	
3/27/08 19:13:45	4.94	4.03	11.88	627.1	
3/27/08 19:14:00	5.04	4.00	11.74	694.5	
3/27/08 19:14:15	4.96	4.04	11.73	921.5	
3/27/08 19:14:30	4.77	4.09	12.20	960.0	
3/27/08 19:14:45	4.74	4.09	12.35	717.1	
3/27/08 19:15:00	4.99	4.01	12.18	543.9	
3/27/08 19:15:15	5.19	3.97	12.29	494.2	
3/27/08 19:15:30	5.18	3.99	12.13	490.0	
3/27/08 19:15:45	5.19	3.98	12.00	517.7	
3/27/08 19:16:00	5.13	4.00	11.80	566.0	
3/27/08 19:16:15	5.05	4.01	12.09	603.5	
3/27/08 19:16:30	5.03	4.01	12.03	575.9	
3/27/08 19:16:45	5.09	4.00	12.15	530.2	
3/27/08 19:17:00	5.12	3.99	12.28	513.0	
3/27/08 19:17:15	5.12	4.00	12.17	478.2	
3/27/08 19:17:30	5.16	4.00	12.04	474.1	
3/27/08 19:17:45	5.16	4.00	11.54	527.5	
3/27/08 19:18:00	5.12	4.01	11.81	667.1	
3/27/08 19:18:15	5.02	4.05	11.83	718.6	
3/27/08 19:18:30	5.03	4.03	11.43	682.0	
3/27/08 19:18:45	5.04	4.03	11.37	813.3	
3/27/08 19:19:00	4.87	4.08	11.70	929.9	
3/27/08 19:19:15	4.71	4.12	11.77	913.9	
3/27/08 19:19:30	4.72	4.11	11.95	868.7	
3/27/08 19:19:45	4.76	4.09	12.06	800.5	
3/27/08 19:20:00	4.80	4.08	12.31	696.9	
3/27/08 19:20:15	4.95	4.04	12.25	588.5	
3/27/08 19:20:30	5.01	4.04	11.68	635.0	
3/27/08 19:20:45	4.91	4.07	11.85	824.4	
3/27/08 19:21:00	4.76	4.10	12.09	890.5	
3/27/08 19:21:15	4.76	4.11	12.06	798.9	
3/27/08 19:21:30	4.82	4.09	12.12	755.0	
3/27/08 19:21:45	4.85	4.08	12.26	786.3	
3/27/08 19:22:00	4.76	4.09	12.24	761.6	
3/27/08 19:22:15	4.80	4.08	12.48	698.4	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 19:22:30	4.82	4.08	12.24	663.9	
3/27/08 19:22:45	4.85	4.07	12.39	634.7	
3/27/08 19:23:00	4.87	4.06	12.38	593.6	
3/27/08 19:23:15	4.93	4.04	12.42	533.9	
3/27/08 19:23:30	5.01	4.02	12.38	506.7	
3/27/08 19:23:45	5.07	4.00	12.44	471.6	
3/27/08 19:24:00	5.15	3.99	12.26	448.1	
3/27/08 19:24:15	5.20	3.98	12.30	447.1	
3/27/08 19:24:30	5.16	3.98	12.06	466.6	
3/27/08 19:24:45	5.13	3.99	11.71	592.4	
3/27/08 19:25:00	5.01	4.03	11.94	837.0	
3/27/08 19:25:15	4.73	4.12	11.83	977.4	
3/27/08 19:25:30	4.67	4.13	11.98	885.9	
3/27/08 19:25:45	4.74	4.11	12.00	729.3	
3/27/08 19:26:00	4.82	4.09	11.96	634.4	
3/27/08 19:26:15	4.94	4.07	11.56	578.0	
3/27/08 19:26:30	5.03	4.04	11.51	662.4	
3/27/08 19:26:45	4.97	4.06	11.64	730.8	
3/27/08 19:27:00	4.96	4.05	11.92	668.1	
3/27/08 19:27:15	5.05	4.03	11.65	590.1	
3/27/08 19:27:30	5.14	4.01	11.52	613.1	
3/27/08 19:27:45	5.07	4.03	11.67	663.8	
3/27/08 19:28:00	5.02	4.04	11.95	650.6	
3/27/08 19:28:15	5.06	4.03	11.80	574.0	
3/27/08 19:28:30	5.11	4.01	11.87	537.1	
3/27/08 19:28:45	5.14	4.01	11.82	510.3	
3/27/08 19:29:00	5.16	4.01	11.48	519.1	
3/27/08 19:29:15	5.17	4.02	11.44	606.5	
3/27/08 19:29:30	5.09	4.05	11.17	642.7	
3/27/08 19:29:45	5.14	4.05	10.92	728.3	
3/27/08 19:30:00	5.13	4.06	10.71	858.9	
3/27/08 19:30:15	5.01	4.10	11.20	962.7	
3/27/08 19:30:30	4.94	4.11	11.31	891.4	
3/27/08 19:30:45	5.00	4.08	11.27	762.3	
3/27/08 19:31:00	5.07	4.07	11.24	753.9	
3/27/08 19:31:15	5.05	4.07	11.59	776.4	
3/27/08 19:31:30	5.04	4.07	11.59	711.4	
3/27/08 19:31:45	5.15	4.04	11.86	583.9	
3/27/08 19:32:00	5.21	4.03	11.86	523.3	
3/27/08 19:32:15	5.27	4.02	11.88	478.3	
3/27/08 19:32:30	5.30	4.01	11.54	489.9	
3/27/08 19:32:45	5.28	4.02	11.59	571.0	
3/27/08 19:33:00	5.16	4.04	11.79	608.8	
3/27/08 19:33:15	5.13	4.04	12.03	590.1	
3/27/08 19:33:30	5.14	4.03	12.14	549.9	
3/27/08 19:33:45	5.16	4.02	12.06	520.9	
3/27/08 19:34:00	5.17	4.02	12.02	519.8	
3/27/08 19:34:15	5.14	4.02	12.12	521.0	
3/27/08 19:34:30	5.12	4.03	12.25	517.4	
3/27/08 19:34:45	5.11	4.03	12.50	498.5	
3/27/08 19:35:00	5.14	4.02	12.46	462.1	
3/27/08 19:35:15	5.19	4.01	12.54	421.8	
3/27/08 19:35:30	5.18	4.01	12.60	412.7	
3/27/08 19:35:45	5.19	4.01	12.42	419.3	
3/27/08 19:36:00	5.15	4.02	12.14	457.7	
3/27/08 19:36:15	5.07	4.08	12.00	500.8	
3/27/08 19:36:30	4.96	4.13	12.79	517.8	
3/27/08 19:36:45	4.87	4.13	12.68	499.7	
3/27/08 19:37:00	4.74	4.12	12.78	496.2	
3/27/08 19:37:15	4.77	4.12	12.58	515.5	
3/27/08 19:37:30	4.76	4.12	12.82	516.3	
3/27/08 19:37:45	4.76	4.12	12.25	498.9	
3/27/08 19:38:00	4.85	4.11	12.10	567.3	
3/27/08 19:38:15	4.73	4.15	12.43	628.3	
3/27/08 19:38:30	4.65	4.16	12.63	598.1	
3/27/08 19:38:45	4.73	4.14	12.54	537.2	
3/27/08 19:39:00	4.80	4.12	12.46	500.5	
3/27/08 19:39:15	4.84	4.11	12.63	488.6	
3/27/08 19:39:30	4.86	4.10	12.46	478.6	
3/27/08 19:39:45	4.89	4.10	12.51	451.2	
3/27/08 19:40:00	4.97	4.08	12.44	420.3	
3/27/08 19:40:15	5.03	4.07	12.38	416.6	
3/27/08 19:40:30	5.04	4.07	12.36	438.6	
3/27/08 19:40:45	4.99	4.08	12.00	469.4	
3/27/08 19:41:00	4.96	4.09	11.69	531.0	
3/27/08 19:41:15	4.90	4.12	11.79	627.8	
3/27/08 19:41:30	4.78	4.15	11.95	666.9	
3/27/08 19:41:45	4.77	4.15	12.03	617.2	
3/27/08 19:42:00	4.83	4.12	12.26	560.8	
3/27/08 19:42:15	4.89	4.10	12.38	522.3	
3/27/08 19:42:30	4.92	4.10	12.44	475.7	
3/27/08 19:42:45	4.97	4.08	12.54	434.7	
3/27/08 19:43:00	5.01	4.07	12.61	403.5	
3/27/08 19:43:15	5.06	4.05	12.42	392.0	
3/27/08 19:43:30	5.07	4.05	12.36	409.2	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 19:43:45	4.99	4.06	12.37	442.4	
3/27/08 19:44:00	4.94	4.07	12.56	484.2	
3/27/08 19:44:15	4.89	4.09	12.51	505.2	
3/27/08 19:44:30	4.84	4.10	12.51	496.0	
3/27/08 19:44:45	4.85	4.10	12.57	479.2	
3/27/08 19:45:00	4.85	4.10	12.58	466.9	
3/27/08 19:45:15	4.89	4.08	12.58	451.7	
3/27/08 19:45:30	4.96	4.07	12.44	438.9	
3/27/08 19:45:45	4.97	4.06	11.92	485.5	
3/27/08 19:46:00	4.93	4.07	12.12	618.1	
3/27/08 19:46:15	4.77	4.11	12.52	639.6	
3/27/08 19:46:30	4.78	4.10	12.45	560.5	
3/27/08 19:46:45	4.86	4.08	12.31	557.2	
3/27/08 19:47:00	4.77	4.10	12.74	616.3	
3/27/08 19:47:15	4.64	4.13	13.05	603.7	
3/27/08 19:47:30	4.62	4.14	13.30	539.1	
3/27/08 19:47:45	4.62	4.13	13.48	481.3	
3/27/08 19:48:00	4.60	4.13	13.45	450.8	
3/27/08 19:48:15	4.58	4.13	13.41	424.2	
3/27/08 19:48:30	4.61	4.11	13.42	387.8	
3/27/08 19:48:45	4.71	4.08	13.23	385.1	
3/27/08 19:49:00	4.75	4.07	13.35	417.6	
3/27/08 19:49:15	4.68	4.08	13.05	433.0	
3/27/08 19:49:30	4.69	4.08	13.20	456.5	
3/27/08 19:49:45	4.67	4.10	13.19	486.0	
3/27/08 19:50:00	4.61	4.11	13.20	495.4	
3/27/08 19:50:15	4.59	4.11	7.93	488.1	
3/27/08 19:50:30	4.51	3.87	2.69	373.5	
3/27/08 19:50:45	3.69	1.64	0.61	155.1	
3/27/08 19:51:00	4.39	0.23	0.46	30.5	
3/27/08 19:51:15	4.99	0.02	0.41	9.9	
3/27/08 19:51:30	5.06	-0.01	0.33	7.1	
3/27/08 19:51:45	5.05	-0.01	0.31	6.8	System Bias
3/27/08 19:52:00	**5.04**	**-0.02**	**0.25**	**6.8**	O_2 Bias 3 Mid = 5.07
3/27/08 19:52:15	**5.06**	**-0.02**	**0.23**	**6.8**	CO_2 Bias 3 Zero = -0.02
3/27/08 19:52:30	**5.08**	**-0.02**	**0.23**	**6.5**	NO_x Bias 3 Zero = 0.2
3/27/08 19:52:45	**5.10**	**-0.02**	**0.23**	**6.2**	CO Bias 3 Zero = 6.6
3/27/08 19:53:00	5.11	-0.02	0.21	6.2	
3/27/08 19:53:15	5.11	-0.02	0.21	6.3	
3/27/08 19:53:30	5.12	-0.03	1.12	6.5	
3/27/08 19:53:45	5.12	-0.02	7.10	65.8	
3/27/08 19:54:00	5.07	0.84	0.43	138.4	
3/27/08 19:54:15	3.99	3.75	0.21	83.0	
3/27/08 19:54:30	1.53	6.95	0.18	23.0	
3/27/08 19:54:45	0.35	8.06	0.15	6.9	
3/27/08 19:55:00	0.16	8.56	0.16	4.4	
3/27/08 19:55:15	0.13	8.75	0.15	4.4	System Bias
3/27/08 19:55:30	0.13	**8.79**	0.15	4.4	CO_2 Bias 3 Mid = 8.80
3/27/08 19:55:45	0.12	**8.80**	0.13	4.4	
3/27/08 19:56:00	0.12	**8.81**	0.14	4.3	
3/27/08 19:56:15	0.12	**8.82**	0.12	4.3	
3/27/08 19:56:30	0.12	8.82	0.17	4.3	
3/27/08 19:56:45	0.12	8.82	6.50	57.1	
3/27/08 19:57:00	0.37	8.42	10.16	173.2	
3/27/08 19:57:15	1.71	5.57	10.11	127.8	
3/27/08 19:57:30	0.83	1.84	23.09	39.1	
3/27/08 19:57:45	0.23	0.42	24.99	10.8	
3/27/08 19:58:00	0.16	0.10	25.91	6.5	
3/27/08 19:58:15	0.15	0.04	31.35	6.2	
3/27/08 19:58:30	0.15	0.02	44.63	6.2	
3/27/08 19:58:45	0.15	0.01	44.05	6.2	
3/27/08 19:59:00	0.14	0.00	43.60	6.2	System Bias
3/27/08 19:59:15	**0.13**	0.00	**43.29**	6.2	O_2 Bias 3 Zero = 0.13
3/27/08 19:59:30	**0.13**	-0.01	**43.08**	6.2	NO_x Bias 3 mid = 43.0
3/27/08 19:59:45	**0.13**	-0.01	**42.96**	6.2	
3/27/08 20:00:00	**0.13**	-0.01	**42.81**	6.2	
3/27/08 20:00:15	0.13	-0.02	42.78	6.2	
3/27/08 20:00:30	0.13	-0.02	42.67	6.2	
3/27/08 20:00:45	0.13	-0.02	41.64	8.0	
3/27/08 20:01:00	0.13	-0.02	29.93	65.0	
3/27/08 20:01:15	0.77	0.76	11.74	266.4	
3/27/08 20:01:30	2.09	1.61	1.14	525.2	
3/27/08 20:01:45	0.71	0.36	0.81	678.2	
3/27/08 20:02:00	0.19	0.02	0.66	723.9	System Bias
3/27/08 20:02:15	0.14	-0.02	0.57	**727.8**	CO Bias 3 Mid = 728
3/27/08 20:02:30	0.13	-0.03	0.49	**727.7**	
3/27/08 20:02:45	0.13	-0.03	0.45	**727.6**	
3/27/08 20:03:00	0.13	-0.03	0.40	**728.2**	
3/27/08 20:03:15	0.13	-0.03	0.37	728.6	
3/27/08 20:03:30	0.13	-0.03	3.48	726.3	
3/27/08 20:03:45	0.15	0.01	12.31	658.5	
3/27/08 20:04:00	1.57	1.56	12.30	565.5	
3/27/08 20:04:15	4.06	3.50	12.33	521.9	
3/27/08 20:04:30	4.80	3.94	12.27	483.9	
3/27/08 20:04:45	5.01	3.98	12.18	468.1	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 20:05:00	5.07	3.98	12.24	488.7	
3/27/08 20:05:15	5.00	4.00	12.10	493.1	
3/27/08 20:05:30	5.01	4.00	12.25	514.9	
3/27/08 20:05:45	4.96	4.02	12.12	560.5	
3/27/08 20:06:00	4.86	4.05	12.21	584.7	
3/27/08 20:06:15	4.79	4.05	11.90	620.5	
3/27/08 20:06:30	4.77	4.06	12.13	694.0	
3/27/08 20:06:45	4.68	4.08	12.18	743.5	
3/27/08 20:07:00	4.62	4.10	12.12	744.3	
3/27/08 20:07:15	4.58	4.10	12.17	698.4	
3/27/08 20:07:30	4.64	4.08	12.24	616.3	
3/27/08 20:07:45	4.77	4.04	12.25	565.8	
3/27/08 20:08:00	4.82	4.03	12.13	551.4	
3/27/08 20:08:15	4.82	4.02	11.68	594.7	
3/27/08 20:08:30	4.84	4.02	12.07	684.4	
3/27/08 20:08:45	4.76	4.04	12.11	662.3	
3/27/08 20:09:00	4.81	4.02	12.17	584.9	
3/27/08 20:09:15	4.89	4.00	12.17	539.4	
3/27/08 20:09:30	4.93	3.99	12.15	501.9	
3/27/08 20:09:45	5.01	3.97	12.12	488.5	
3/27/08 20:10:00	5.02	3.96	12.20	503.7	
3/27/08 20:10:15	4.96	3.98	12.19	534.2	
3/27/08 20:10:30	4.92	3.99	12.34	553.8	
3/27/08 20:10:45	4.85	4.01	12.06	571.7	
3/27/08 20:11:00	4.79	4.02	12.02	630.1	
3/27/08 20:11:15	4.75	4.03	11.85	669.6	
3/27/08 20:11:30	4.79	4.02	11.95	676.4	
3/27/08 20:11:45	4.84	4.02	11.52	702.7	
3/27/08 20:12:00	4.83	4.03	11.93	725.2	
3/27/08 20:12:15	4.84	4.03	11.96	655.3	
3/27/08 20:12:30	4.93	4.00	12.32	546.2	
3/27/08 20:12:45	5.07	3.96	12.02	488.7	
3/27/08 20:13:00	5.14	3.96	12.08	503.2	
3/27/08 20:13:15	5.06	3.97	12.06	555.3	
3/27/08 20:13:30	4.99	3.99	12.32	595.8	
3/27/08 20:13:45	4.94	4.00	12.33	564.0	
3/27/08 20:14:00	5.00	3.99	12.24	519.6	
3/27/08 20:14:15	5.00	4.00	12.18	507.9	
3/27/08 20:14:30	4.96	4.01	12.22	512.0	
3/27/08 20:14:45	4.99	4.00	12.17	509.9	
3/27/08 20:15:00	5.01	3.99	12.30	500.7	
3/27/08 20:15:15	5.01	3.99	12.39	473.2	
3/27/08 20:15:30	5.03	3.99	12.36	435.2	
3/27/08 20:15:45	5.09	3.98	12.17	440.3	
3/27/08 20:16:00	5.04	4.00	11.97	483.7	
3/27/08 20:16:15	4.97	4.02	11.98	578.5	
3/27/08 20:16:30	4.86	4.06	11.98	626.1	
3/27/08 20:16:45	4.88	4.05	11.96	624.4	
3/27/08 20:17:00	4.94	4.05	11.62	682.2	
3/27/08 20:17:15	4.83	4.09	11.85	785.3	
3/27/08 20:17:30	4.68	4.13	12.06	794.4	
3/27/08 20:17:45	4.66	4.13	12.10	751.0	
3/27/08 20:18:00	4.70	4.11	11.96	739.3	
3/27/08 20:18:15	4.69	4.11	12.08	731.2	
3/27/08 20:18:30	4.65	4.11	12.24	712.2	
3/27/08 20:18:45	4.65	4.11	12.24	693.7	
3/27/08 20:19:00	4.64	4.12	12.27	673.5	
3/27/08 20:19:15	4.65	4.11	12.34	647.2	
3/27/08 20:19:30	4.68	4.10	12.50	601.0	
3/27/08 20:19:45	4.74	4.07	12.28	540.2	
3/27/08 20:20:00	**4.84**	**4.05**	**12.43**	**530.7**	**Run 3**
3/27/08 20:20:15	**4.80**	**4.05**	**12.38**	**531.3**	
3/27/08 20:20:30	**4.82**	**4.05**	**12.38**	**509.4**	
3/27/08 20:20:45	**4.87**	**4.03**	**12.08**	**493.0**	
3/27/08 20:21:00	**4.95**	**4.02**	**12.21**	**500.1**	
3/27/08 20:21:15	**4.92**	**4.02**	**12.20**	**511.2**	
3/27/08 20:21:30	**4.91**	**4.02**	**12.19**	**540.0**	
3/27/08 20:21:45	**4.84**	**4.03**	**12.25**	**571.4**	
3/27/08 20:22:00	**4.80**	**4.04**	**12.26**	**572.2**	
3/27/08 20:22:15	**4.80**	**4.04**	**12.32**	**568.8**	
3/27/08 20:22:30	**4.78**	**4.04**	**11.98**	**594.5**	
3/27/08 20:22:45	**4.71**	**4.05**	**12.13**	**676.0**	
3/27/08 20:23:00	**4.59**	**4.08**	**12.09**	**759.7**	
3/27/08 20:23:15	**4.52**	**4.10**	**12.47**	**712.8**	
3/27/08 20:23:30	**4.61**	**4.08**	**12.39**	**607.3**	
3/27/08 20:23:45	**4.77**	**4.05**	**12.21**	**570.1**	
3/27/08 20:24:00	**4.79**	**4.05**	**11.71**	**614.6**	
3/27/08 20:24:15	**4.76**	**4.06**	**11.80**	**762.9**	
3/27/08 20:24:30	**4.58**	**4.11**	**12.18**	**812.4**	
3/27/08 20:24:45	**4.60**	**4.10**	**12.14**	**675.1**	
3/27/08 20:25:00	**4.85**	**4.03**	**11.97**	**576.9**	
3/27/08 20:25:15	**4.92**	**4.01**	**11.73**	**616.5**	
3/27/08 20:25:30	**4.86**	**4.02**	**11.91**	**752.5**	
3/27/08 20:25:45	**4.79**	**4.05**	**12.07**	**732.8**	
3/27/08 20:26:00	**4.82**	**4.03**	**12.16**	**618.5**	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 20:26:15	4.90	4.01	12.20	555.9	
3/27/08 20:26:30	4.95	4.00	12.21	534.7	
3/27/08 20:26:45	4.98	4.00	12.12	530.0	
3/27/08 20:27:00	4.97	4.01	12.11	526.5	
3/27/08 20:27:15	4.97	4.01	11.99	524.5	
3/27/08 20:27:30	4.98	4.02	11.97	520.1	
3/27/08 20:27:45	5.01	4.01	11.95	516.1	
3/27/08 20:28:00	5.08	3.99	11.85	492.9	
3/27/08 20:28:15	5.13	3.98	11.92	490.5	
3/27/08 20:28:30	5.12	3.99	11.89	489.4	
3/27/08 20:28:45	5.13	3.99	11.61	520.6	
3/27/08 20:29:00	5.07	4.01	11.65	605.2	
3/27/08 20:29:15	5.03	4.03	11.47	650.0	
3/27/08 20:29:30	5.05	4.04	11.79	658.7	
3/27/08 20:29:45	5.02	4.04	11.82	597.4	
3/27/08 20:30:00	5.12	4.01	11.66	539.8	
3/27/08 20:30:15	5.13	4.02	11.70	569.7	
3/27/08 20:30:30	5.05	4.04	11.39	670.3	
3/27/08 20:30:45	4.94	4.07	11.67	777.9	
3/27/08 20:31:00	4.85	4.09	11.88	742.9	
3/27/08 20:31:15	4.91	4.05	12.11	629.3	
3/27/08 20:31:30	4.99	4.03	12.06	529.2	
3/27/08 20:31:45	5.04	4.01	12.12	506.2	
3/27/08 20:32:00	5.04	4.01	12.03	500.6	
3/27/08 20:32:15	5.03	4.01	12.06	496.6	
3/27/08 20:32:30	5.04	4.01	12.28	457.9	
3/27/08 20:32:45	5.12	3.99	12.25	421.3	
3/27/08 20:33:00	5.17	3.98	12.28	406.8	
3/27/08 20:33:15	5.14	3.99	12.35	402.5	
3/27/08 20:33:30	5.10	3.99	12.32	400.8	
3/27/08 20:33:45	5.08	4.00	12.09	442.6	
3/27/08 20:34:00	4.96	4.03	12.02	619.4	
3/27/08 20:34:15	4.77	4.07	12.18	751.9	
3/27/08 20:34:30	4.61	4.11	12.18	809.4	
3/27/08 20:34:45	4.56	4.11	12.39	793.8	
3/27/08 20:35:00	4.53	4.11	12.24	741.2	
3/27/08 20:35:15	4.55	4.11	12.27	700.0	
3/27/08 20:35:30	4.60	4.09	12.36	659.5	
3/27/08 20:35:45	4.62	4.09	12.53	644.9	
3/27/08 20:36:00	4.64	4.08	12.81	571.2	
3/27/08 20:36:15	4.74	4.05	12.95	485.0	
3/27/08 20:36:30	4.88	4.01	12.83	417.9	
3/27/08 20:36:45	4.92	4.01	12.48	423.9	
3/27/08 20:37:00	4.88	4.02	12.72	510.7	
3/27/08 20:37:15	4.75	4.05	12.35	574.3	
3/27/08 20:37:30	4.67	4.06	12.66	613.9	
3/27/08 20:37:45	4.66	4.05	12.55	574.6	
3/27/08 20:38:00	4.73	4.03	12.42	520.2	
3/27/08 20:38:15	4.79	4.01	12.56	508.2	
3/27/08 20:38:30	4.83	3.99	12.49	510.5	
3/27/08 20:38:45	4.83	3.99	12.47	527.4	
3/27/08 20:39:00	4.77	4.01	12.36	583.6	
3/27/08 20:39:15	4.69	4.04	12.39	659.8	
3/27/08 20:39:30	4.60	4.07	12.35	737.1	
3/27/08 20:39:45	4.56	4.09	12.44	741.4	
3/27/08 20:40:00	4.53	4.11	12.50	683.4	
3/27/08 20:40:15	4.56	4.11	12.41	610.9	
3/27/08 20:40:30	4.71	4.09	12.09	536.9	
3/27/08 20:40:45	4.83	4.07	11.66	552.3	
3/27/08 20:41:00	4.85	4.07	11.81	668.0	
3/27/08 20:41:15	4.77	4.09	12.01	701.9	
3/27/08 20:41:30	4.78	4.08	12.17	627.7	
3/27/08 20:41:45	4.85	4.06	12.17	566.9	
3/27/08 20:42:00	4.91	4.04	12.26	518.1	
3/27/08 20:42:15	4.93	4.04	12.34	500.9	
3/27/08 20:42:30	4.93	4.04	12.20	473.5	
3/27/08 20:42:45	4.97	4.02	12.30	445.7	
3/27/08 20:43:00	5.06	4.01	12.13	435.6	
3/27/08 20:43:15	5.07	4.02	12.14	454.4	
3/27/08 20:43:30	5.00	4.04	11.83	492.9	
3/27/08 20:43:45	4.97	4.05	11.99	529.0	
3/27/08 20:44:00	4.97	4.05	11.97	533.8	
3/27/08 20:44:15	5.00	4.04	12.03	506.9	
3/27/08 20:44:30	5.05	4.03	11.93	482.4	
3/27/08 20:44:45	5.06	4.03	12.10	494.8	
3/27/08 20:45:00	5.00	4.04	11.82	507.6	
3/27/08 20:45:15	5.02	4.04	11.86	527.2	
3/27/08 20:45:30	5.02	4.05	11.52	606.8	
3/27/08 20:45:45	4.96	4.08	11.74	694.2	
3/27/08 20:46:00	4.83	4.11	11.60	741.1	
3/27/08 20:46:15	4.79	4.12	11.62	738.3	
3/27/08 20:46:30	4.75	4.13	11.82	716.8	
3/27/08 20:46:45	4.75	4.13	11.88	701.6	
3/27/08 20:47:00	4.78	4.12	11.90	701.0	
3/27/08 20:47:15	4.79	4.11	12.11	707.6	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 20:47:30	4.77	4.11	12.44	650.1	
3/27/08 20:47:45	4.81	4.10	12.29	564.2	
3/27/08 20:48:00	4.92	4.07	12.23	512.0	
3/27/08 20:48:15	4.92	4.07	12.24	545.9	
3/27/08 20:48:30	4.87	4.08	12.43	626.4	
3/27/08 20:48:45	4.76	4.11	12.60	617.5	
3/27/08 20:49:00	4.78	4.08	12.69	543.3	
3/27/08 20:49:15	4.82	4.06	12.67	511.6	
3/27/08 20:49:30	4.83	4.05	12.69	501.2	
3/27/08 20:49:45	4.83	4.05	12.74	501.2	
3/27/08 20:50:00	4.82	4.06	12.66	492.0	
3/27/08 20:50:15	4.81	4.06	12.61	472.6	
3/27/08 20:50:30	4.88	4.04	12.63	482.5	
3/27/08 20:50:45	4.87	4.04	12.46	490.5	
3/27/08 20:51:00	4.85	4.04	12.09	564.4	
3/27/08 20:51:15	4.81	4.05	11.95	725.1	
3/27/08 20:51:30	4.63	4.10	12.20	864.0	
3/27/08 20:51:45	4.52	4.11	12.21	800.6	
3/27/08 20:52:00	4.59	4.08	12.40	687.5	
3/27/08 20:52:15	4.61	4.07	12.66	642.6	
3/27/08 20:52:30	4.62	4.07	12.61	558.9	
3/27/08 20:52:45	4.73	4.04	12.50	539.5	
3/27/08 20:53:00	4.71	4.05	12.37	655.5	
3/27/08 20:53:15	4.53	4.10	12.64	749.4	
3/27/08 20:53:30	4.40	4.13	12.53	705.8	
3/27/08 20:53:45	4.50	4.10	12.45	642.1	
3/27/08 20:54:00	4.61	4.06	12.37	565.0	
3/27/08 20:54:15	4.73	4.02	12.26	503.4	
3/27/08 20:54:30	4.92	3.98	12.20	459.5	
3/27/08 20:54:45	4.99	3.96	12.03	476.6	
3/27/08 20:55:00	4.94	3.99	11.97	527.5	
3/27/08 20:55:15	4.90	4.00	12.07	564.6	
3/27/08 20:55:30	4.90	4.01	12.06	556.0	
3/27/08 20:55:45	4.92	4.01	12.13	536.3	
3/27/08 20:56:00	4.92	4.01	12.29	511.8	
3/27/08 20:56:15	4.93	4.00	12.09	499.2	
3/27/08 20:56:30	4.91	4.00	12.02	501.4	
3/27/08 20:56:45	4.91	4.01	11.78	514.7	
3/27/08 20:57:00	4.93	4.01	11.64	571.8	
3/27/08 20:57:15	4.94	4.02	11.49	633.6	
3/27/08 20:57:30	4.91	4.03	11.58	751.7	
3/27/08 20:57:45	4.78	4.06	11.83	762.3	
3/27/08 20:58:00	4.76	4.06	11.82	664.2	
3/27/08 20:58:15	4.82	4.05	12.05	603.8	
3/27/08 20:58:30	4.83	4.04	12.08	528.0	
3/27/08 20:58:45	4.91	4.02	12.12	480.3	
3/27/08 20:59:00	4.98	4.01	12.18	448.9	
3/27/08 20:59:15	4.99	4.00	12.20	444.3	
3/27/08 20:59:30	4.98	4.00	11.95	481.5	
3/27/08 20:59:45	4.92	4.03	11.91	528.5	
3/27/08 21:00:00	4.85	4.04	12.17	555.8	
3/27/08 21:00:15	4.87	4.03	12.00	544.4	
3/27/08 21:00:30	4.91	4.01	12.08	530.5	
3/27/08 21:00:45	4.92	4.01	12.02	522.9	
3/27/08 21:01:00	4.93	4.01	12.13	518.9	
3/27/08 21:01:15	4.96	4.00	12.02	525.3	
3/27/08 21:01:30	4.95	4.01	11.85	546.6	
3/27/08 21:01:45	4.91	4.02	11.69	583.6	
3/27/08 21:02:00	4.93	4.02	11.76	652.7	
3/27/08 21:02:15	4.93	4.04	11.92	648.9	
3/27/08 21:02:30	4.98	4.03	12.00	579.0	
3/27/08 21:02:45	5.03	4.02	11.99	554.8	
3/27/08 21:03:00	5.00	4.03	12.12	534.4	
3/27/08 21:03:15	5.00	4.03	12.00	509.6	
3/27/08 21:03:30	5.03	4.03	11.99	493.9	
3/27/08 21:03:45	5.01	4.02	12.08	475.4	
3/27/08 21:04:00	5.07	4.01	12.04	435.2	
3/27/08 21:04:15	5.12	3.99	11.94	425.4	
3/27/08 21:04:30	5.11	3.99	11.95	464.8	
3/27/08 21:04:45	5.04	3.99	11.68	503.8	
3/27/08 21:05:00	4.97	4.00	11.96	562.8	
3/27/08 21:05:15	4.89	4.02	11.78	583.4	
3/27/08 21:05:30	4.82	4.03	11.91	638.0	
3/27/08 21:05:45	4.73	4.06	11.88	695.4	
3/27/08 21:06:00	4.64	4.09	12.00	724.5	
3/27/08 21:06:15	4.63	4.09	11.90	712.4	
3/27/08 21:06:30	4.64	4.09	11.78	694.0	
3/27/08 21:06:45	4.64	4.09	11.70	686.3	
3/27/08 21:07:00	4.66	4.08	11.86	650.4	
3/27/08 21:07:15	4.76	4.06	11.78	614.2	
3/27/08 21:07:30	4.88	4.04	11.85	578.4	
3/27/08 21:07:45	4.92	4.03	11.53	589.1	
3/27/08 21:08:00	4.90	4.04	11.53	715.3	
3/27/08 21:08:15	4.75	4.09	11.67	792.9	
3/27/08 21:08:30	4.69	4.10	11.87	736.3	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 21:08:45	4.75	4.07	12.05	635.2	
3/27/08 21:09:00	4.88	4.03	11.99	519.7	
3/27/08 21:09:15	5.00	4.01	12.02	468.7	
3/27/08 21:09:30	5.06	4.00	11.81	469.3	
3/27/08 21:09:45	5.04	4.02	11.59	507.2	
3/27/08 21:10:00	4.94	4.04	11.72	577.8	
3/27/08 21:10:15	4.92	4.05	11.84	582.6	
3/27/08 21:10:30	5.01	4.02	11.66	542.6	
3/27/08 21:10:45	5.05	4.01	11.36	588.0	
3/27/08 21:11:00	4.95	4.05	11.56	805.6	
3/27/08 21:11:15	4.76	4.11	11.80	878.6	
3/27/08 21:11:30	4.68	4.13	11.67	792.8	
3/27/08 21:11:45	4.72	4.12	11.81	733.1	
3/27/08 21:12:00	4.72	4.12	11.82	684.0	
3/27/08 21:12:15	4.77	4.11	11.88	648.8	
3/27/08 21:12:30	4.85	4.09	12.05	608.3	
3/27/08 21:12:45	4.88	4.08	12.12	551.1	
3/27/08 21:13:00	4.99	4.05	12.17	463.6	
3/27/08 21:13:15	5.09	4.02	12.32	426.3	
3/27/08 21:13:30	5.14	4.01	12.22	406.2	
3/27/08 21:13:45	5.14	4.00	12.32	416.0	
3/27/08 21:14:00	5.09	4.01	12.06	472.1	
3/27/08 21:14:15	5.01	4.03	12.14	548.7	
3/27/08 21:14:30	4.91	4.05	12.26	594.5	
3/27/08 21:14:45	4.88	4.05	12.23	566.3	
3/27/08 21:15:00	4.90	4.04	12.19	547.9	
3/27/08 21:15:15	4.87	4.04	11.94	584.9	
3/27/08 21:15:30	4.83	4.06	12.15	652.1	
3/27/08 21:15:45	4.77	4.07	12.26	655.7	
3/27/08 21:16:00	4.78	4.06	12.15	635.3	
3/27/08 21:16:15	4.79	4.06	12.13	616.7	
3/27/08 21:16:30	4.81	4.06	12.18	573.2	
3/27/08 21:16:45	4.87	4.04	12.22	535.2	
3/27/08 21:17:00	4.95	4.03	12.10	502.5	
3/27/08 21:17:15	4.98	4.01	12.35	494.5	
3/27/08 21:17:30	5.00	4.00	12.37	452.6	
3/27/08 21:17:45	5.08	3.98	12.17	425.9	
3/27/08 21:18:00	5.11	3.97	12.17	455.9	
3/27/08 21:18:15	5.04	3.99	12.01	497.1	
3/27/08 21:18:30	4.94	4.02	12.32	553.2	
3/27/08 21:18:45	4.87	4.03	12.42	554.6	
3/27/08 21:19:00	4.83	4.03	12.54	501.3	
3/27/08 21:19:15	4.84	4.03	12.52	463.9	
3/27/08 21:19:30	4.84	4.02	12.47	454.1	
3/27/08 21:19:45	4.83	4.03	12.47	451.1	
3/27/08 21:20:00	4.83	4.03	12.25	482.2	
3/27/08 21:20:15	4.80	4.04	12.26	551.5	
3/27/08 21:20:30	4.67	4.06	12.40	571.7	
3/27/08 21:20:45	4.71	4.05	12.46	536.4	
3/27/08 21:21:00	4.76	4.04	12.31	513.5	
3/27/08 21:21:15	4.73	4.05	12.30	530.9	
3/27/08 21:21:30	4.71	4.06	12.39	554.1	
3/27/08 21:21:45	4.69	4.07	12.35	548.6	
3/27/08 21:22:00	4.72	4.07	12.48	528.7	
3/27/08 21:22:15	4.75	4.07	12.52	515.8	
3/27/08 21:22:30	4.72	4.08	12.26	512.0	
3/27/08 21:22:45	4.69	4.09	12.30	509.4	
3/27/08 21:23:00	4.70	4.09	12.26	504.3	
3/27/08 21:23:15	4.76	4.07	12.25	506.4	
3/27/08 21:23:30	4.78	4.07	12.37	489.6	
3/27/08 21:23:45	4.82	4.07	12.46	485.2	
3/27/08 21:24:00	4.87	4.07	12.47	440.0	
3/27/08 21:24:15	4.87	4.08	12.35	432.4	
3/27/08 21:24:30	4.86	4.08	11.78	494.5	
3/27/08 21:24:45	4.83	4.09	11.70	629.9	
3/27/08 21:25:00	4.66	4.14	12.38	727.6	
3/27/08 21:25:15	4.62	4.15	12.41	638.2	
3/27/08 21:25:30	4.72	4.12	12.45	520.2	
3/27/08 21:25:45	4.78	4.10	12.28	491.4	
3/27/08 21:26:00	4.82	4.09	12.41	483.0	
3/27/08 21:26:15	4.86	4.08	12.40	480.2	
3/27/08 21:26:30	4.88	4.07	12.44	475.5	
3/27/08 21:26:45	4.89	4.07	12.50	455.5	
3/27/08 21:27:00	4.95	4.05	12.45	422.6	
3/27/08 21:27:15	5.03	4.04	12.26	413.9	
3/27/08 21:27:30	5.06	4.03	12.00	448.4	
3/27/08 21:27:45	5.03	4.04	11.97	505.5	
3/27/08 21:28:00	4.94	4.07	12.16	558.5	
3/27/08 21:28:15	4.90	4.08	12.12	538.3	
3/27/08 21:28:30	4.98	4.06	11.86	553.8	
3/27/08 21:28:45	4.98	4.07	12.04	636.0	
3/27/08 21:29:00	4.86	4.10	12.22	627.8	
3/27/08 21:29:15	4.90	4.09	12.14	539.2	
3/27/08 21:29:30	5.01	4.07	12.14	492.1	
3/27/08 21:29:45	5.01	4.08	12.05	505.5	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 21:30:00	4.99	4.08	12.20	510.3	
3/27/08 21:30:15	4.98	4.08	12.24	493.6	
3/27/08 21:30:30	4.99	4.06	12.39	445.7	
3/27/08 21:30:45	5.07	4.04	12.21	412.0	
3/27/08 21:31:00	5.12	4.02	12.42	420.2	
3/27/08 21:31:15	5.09	4.02	12.32	441.4	
3/27/08 21:31:30	5.02	4.03	12.31	472.6	
3/27/08 21:31:45	4.97	4.05	12.32	497.0	
3/27/08 21:32:00	4.90	4.06	12.52	494.7	
3/27/08 21:32:15	4.87	4.08	12.48	482.6	
3/27/08 21:32:30	4.85	4.09	12.54	481.8	
3/27/08 21:32:45	4.84	4.10	12.41	497.5	
3/27/08 21:33:00	4.77	4.11	12.24	531.6	
3/27/08 21:33:15	4.73	4.11	12.47	566.4	
3/27/08 21:33:30	4.70	4.11	12.68	532.7	
3/27/08 21:33:45	4.80	4.08	12.68	469.7	
3/27/08 21:34:00	4.89	4.06	12.70	424.8	
3/27/08 21:34:15	4.86	4.07	12.48	447.4	
3/27/08 21:34:30	4.77	4.10	12.27	528.0	
3/27/08 21:34:45	4.67	4.13	12.75	586.9	
3/27/08 21:35:00	4.60	4.15	12.80	556.8	
3/27/08 21:35:15	4.62	4.13	12.91	507.1	
3/27/08 21:35:30	4.64	4.13	12.98	469.3	
3/27/08 21:35:45	4.64	4.14	12.98	443.5	
3/27/08 21:36:00	4.69	4.12	13.01	404.6	
3/27/08 21:36:15	4.77	4.10	12.94	395.1	
3/27/08 21:36:30	4.80	4.09	12.98	429.5	
3/27/08 21:36:45	4.69	4.12	12.89	468.1	
3/27/08 21:37:00	4.58	4.14	13.06	510.5	
3/27/08 21:37:15	4.52	4.16	13.14	501.0	
3/27/08 21:37:30	4.51	4.16	13.03	474.3	
3/27/08 21:37:45	4.52	4.15	13.06	471.1	
3/27/08 21:38:00	4.55	4.14	13.19	460.0	
3/27/08 21:38:15	4.59	4.13	13.16	429.5	
3/27/08 21:38:30	4.71	4.10	13.09	401.4	
3/27/08 21:38:45	4.76	4.09	12.90	420.5	
3/27/08 21:39:00	4.69	4.11	12.83	466.0	
3/27/08 21:39:15	4.65	4.11	12.74	522.7	
3/27/08 21:39:30	4.59	4.14	12.68	565.8	
3/27/08 21:39:45	4.58	4.13	12.57	555.6	
3/27/08 21:40:00	4.67	4.11	12.59	563.2	
3/27/08 21:40:15	4.70	4.11	12.44	587.3	
3/27/08 21:40:30	4.65	4.12	12.59	580.3	
3/27/08 21:40:45	4.64	4.11	12.64	532.0	
3/27/08 21:41:00	4.73	4.08	12.48	479.2	
3/27/08 21:41:15	4.81	4.06	12.56	470.7	
3/27/08 21:41:30	4.81	4.06	12.50	476.4	
3/27/08 21:41:45	4.80	4.06	12.53	490.6	
3/27/08 21:42:00	4.78	4.07	12.61	500.1	
3/27/08 21:42:15	4.77	4.07	12.47	486.3	
3/27/08 21:42:30	4.78	4.06	12.35	480.0	
3/27/08 21:42:45	4.81	4.05	11.79	542.4	
3/27/08 21:43:00	4.71	4.08	11.98	642.7	
3/27/08 21:43:15	4.66	4.08	11.76	656.2	
3/27/08 21:43:30	4.73	4.06	11.78	636.5	
3/27/08 21:43:45	4.78	4.04	11.70	606.9	
3/27/08 21:44:00	4.90	4.02	11.57	634.5	
3/27/08 21:44:15	4.86	4.04	11.70	720.3	
3/27/08 21:44:30	4.73	4.07	11.93	772.2	
3/27/08 21:44:45	4.67	4.08	12.05	753.5	
3/27/08 21:45:00	4.65	4.08	11.95	728.8	
3/27/08 21:45:15	4.64	4.08	12.03	701.0	
3/27/08 21:45:30	4.70	4.06	12.05	664.2	
3/27/08 21:45:45	4.74	4.06	12.05	628.1	
3/27/08 21:46:00	4.76	4.04	11.95	567.6	
3/27/08 21:46:15	4.85	4.02	11.88	548.7	
3/27/08 21:46:30	4.90	4.01	11.78	544.4	
3/27/08 21:46:45	4.91	4.00	11.90	543.6	
3/27/08 21:47:00	4.89	3.99	11.92	541.0	
3/27/08 21:47:15	4.88	4.00	11.89	539.5	
3/27/08 21:47:30	4.86	4.01	11.86	543.7	
3/27/08 21:47:45	4.88	4.00	11.81	551.0	
3/27/08 21:48:00	4.87	4.01	11.83	560.3	
3/27/08 21:48:15	4.83	4.02	11.93	572.3	
3/27/08 21:48:30	4.80	4.02	11.68	622.3	
3/27/08 21:48:45	4.75	4.04	11.51	702.5	
3/27/08 21:49:00	4.64	4.08	11.72	747.5	
3/27/08 21:49:15	4.65	4.08	11.87	666.5	
3/27/08 21:49:30	4.85	4.02	11.75	536.0	
3/27/08 21:49:45	5.01	3.98	11.67	512.5	
3/27/08 21:50:00	5.05	3.97	11.71	527.4	
3/27/08 21:50:15	5.03	3.97	11.67	518.8	
3/27/08 21:50:30	5.08	3.97	11.07	534.8	
3/27/08 21:50:45	5.06	3.98	11.44	609.8	
3/27/08 21:51:00	4.92	4.02	11.56	639.3	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 21:51:15	4.91	4.01	11.75	600.6	
3/27/08 21:51:30	4.92	4.00	11.74	535.8	
3/27/08 21:51:45	4.97	3.98	11.70	510.6	
3/27/08 21:52:00	4.99	3.97	11.61	519.0	
3/27/08 21:52:15	5.00	3.97	11.43	537.7	
3/27/08 21:52:30	4.98	3.97	11.50	552.3	
3/27/08 21:52:45	5.01	3.96	11.62	544.9	
3/27/08 21:53:00	5.04	3.95	11.57	513.3	
3/27/08 21:53:15	5.12	3.94	11.49	496.3	
3/27/08 21:53:30	5.16	3.93	11.06	514.9	
3/27/08 21:53:45	5.15	3.94	10.63	602.5	
3/27/08 21:54:00	5.04	3.97	10.81	787.4	
3/27/08 21:54:15	4.94	4.01	10.99	802.3	
3/27/08 21:54:30	4.96	3.99	10.92	726.0	
3/27/08 21:54:45	5.01	3.98	11.14	691.9	
3/27/08 21:55:00	5.00	3.98	11.03	688.6	
3/27/08 21:55:15	4.98	3.99	11.02	695.1	
3/27/08 21:55:30	4.96	3.99	11.24	680.1	
3/27/08 21:55:45	4.99	3.98	11.34	616.9	
3/27/08 21:56:00	5.14	3.94	11.27	528.6	
3/27/08 21:56:15	5.25	3.92	11.03	520.7	
3/27/08 21:56:30	5.28	3.93	11.24	553.2	
3/27/08 21:56:45	5.25	3.93	11.09	548.4	
3/27/08 21:57:00	5.30	3.92	11.16	559.4	
3/27/08 21:57:15	5.26	3.93	11.27	562.8	
3/27/08 21:57:30	5.21	3.94	11.41	546.4	
3/27/08 21:57:45	5.19	3.95	11.55	530.8	
3/27/08 21:58:00	5.17	3.96	11.63	519.5	
3/27/08 21:58:15	5.17	3.96	11.50	519.5	
3/27/08 21:58:30	5.15	3.97	11.54	523.0	
3/27/08 21:58:45	5.11	3.99	11.50	526.7	
3/27/08 21:59:00	5.10	4.00	11.46	546.4	
3/27/08 21:59:15	5.07	4.00	11.17	582.5	
3/27/08 21:59:30	5.06	4.01	11.43	642.1	
3/27/08 21:59:45	5.05	4.01	11.53	615.8	
3/27/08 22:00:00	5.12	4.00	11.34	587.3	
3/27/08 22:00:15	5.12	4.01	11.08	655.6	
3/27/08 22:00:30	4.96	4.05	11.51	770.8	
3/27/08 22:00:45	4.83	4.09	11.61	761.8	
3/27/08 22:01:00	4.82	4.09	11.75	725.8	
3/27/08 22:01:15	4.80	4.09	12.03	720.0	
3/27/08 22:01:30	4.76	4.09	12.04	686.0	
3/27/08 22:01:45	4.77	4.09	12.19	637.9	
3/27/08 22:02:00	4.82	4.08	12.21	549.3	
3/27/08 22:02:15	4.91	4.05	12.12	508.4	
3/27/08 22:02:30	4.98	4.03	12.34	509.0	
3/27/08 22:02:45	4.93	4.03	12.13	503.4	
3/27/08 22:03:00	4.96	4.03	12.28	534.1	
3/27/08 22:03:15	4.88	4.04	12.33	550.4	
3/27/08 22:03:30	4.80	4.06	12.47	542.1	
3/27/08 22:03:45	4.77	4.06	12.43	534.6	
3/27/08 22:04:00	4.76	4.06	12.38	544.3	
3/27/08 22:04:15	4.70	4.07	12.10	585.3	
3/27/08 22:04:30	4.65	4.08	12.10	697.9	
3/27/08 22:04:45	4.57	4.11	12.11	754.0	
3/27/08 22:05:00	4.55	4.11	12.19	716.9	
3/27/08 22:05:15	4.64	4.08	12.11	644.4	
3/27/08 22:05:30	4.75	4.05	12.23	546.3	
3/27/08 22:05:45	4.86	4.01	11.91	512.5	
3/27/08 22:06:00	4.91	4.00	11.52	604.1	
3/27/08 22:06:15	4.81	4.03	11.77	774.4	
3/27/08 22:06:30	4.59	4.10	11.94	820.2	
3/27/08 22:06:45	4.57	4.09	12.19	727.8	
3/27/08 22:07:00	4.68	4.06	12.26	615.4	
3/27/08 22:07:15	4.71	4.05	12.33	552.1	
3/27/08 22:07:30	4.79	4.01	12.20	482.4	
3/27/08 22:07:45	4.93	3.93	12.38	445.9	
3/27/08 22:08:00	5.02	3.89	12.17	424.5	
3/27/08 22:08:15	5.09	3.88	12.01	443.7	
3/27/08 22:08:30	5.06	3.90	11.82	497.7	
3/27/08 22:08:45	5.00	3.92	11.83	548.5	
3/27/08 22:09:00	4.98	3.93	11.91	552.6	
3/27/08 22:09:15	5.01	3.93	11.81	516.5	
3/27/08 22:09:30	5.07	3.94	11.84	489.1	
3/27/08 22:09:45	5.09	3.95	11.82	493.1	
3/27/08 22:10:00	5.10	3.96	11.67	528.0	
3/27/08 22:10:15	5.02	3.99	11.56	592.4	
3/27/08 22:10:30	4.90	4.02	11.78	703.3	
3/27/08 22:10:45	4.77	4.06	11.70	744.8	
3/27/08 22:11:00	4.70	4.08	11.98	734.4	
3/27/08 22:11:15	4.66	4.08	11.81	695.5	
3/27/08 22:11:30	4.69	4.08	11.74	686.4	
3/27/08 22:11:45	4.67	4.10	11.70	714.3	
3/27/08 22:12:00	4.62	4.12	11.67	755.3	
3/27/08 22:12:15	4.59	4.13	11.78	774.8	

Velero Refining - Texas LP, Corpus Christi, Texas
Sulften Unit - Tailgas Incinerator Exhaust
ARI Reference Method Monitoring Data

Date/Time	O_2 % db by vol.	CO_2 % db by vol.	NO_x ppmv db	CO ppmv db	Comments
3/27/08 22:12:30	4.59	4.13	11.73	771.1	
3/27/08 22:12:45	4.62	4.11	11.72	765.4	
3/27/08 22:13:00	4.63	4.11	12.02	742.7	
3/27/08 22:13:15	4.66	4.11	12.11	689.0	
3/27/08 22:13:30	4.74	4.09	11.96	629.0	
3/27/08 22:13:45	4.79	4.09	11.98	721.2	
3/27/08 22:14:00	4.63	4.14	12.09	924.5	
3/27/08 22:14:15	4.42	4.18	11.90	914.6	
3/27/08 22:14:30	4.46	4.15	12.21	820.0	
3/27/08 22:14:45	4.54	4.12	12.20	783.1	
3/27/08 22:15:00	4.53	4.13	12.19	747.5	
3/27/08 22:15:15	4.53	4.12	12.22	670.8	
3/27/08 22:15:30	4.66	4.08	11.98	568.2	
3/27/08 22:15:45	4.81	4.03	12.22	556.3	
3/27/08 22:16:00	4.84	4.02	12.09	517.0	
3/27/08 22:16:15	4.94	4.00	11.93	538.8	
3/27/08 22:16:30	4.89	4.02	12.08	631.7	
3/27/08 22:16:45	4.76	4.05	12.12	623.8	
3/27/08 22:17:00	4.77	4.05	12.04	572.6	
3/27/08 22:17:15	4.82	4.03	12.08	549.2	
3/27/08 22:17:30	4.87	4.02	12.01	533.2	
3/27/08 22:17:45	4.89	4.01	12.00	531.8	
3/27/08 22:18:00	4.91	4.00	11.81	535.2	
3/27/08 22:18:15	4.92	3.99	11.70	543.7	
3/27/08 22:18:30	4.91	3.99	11.54	571.2	
3/27/08 22:18:45	4.90	3.99	11.48	632.4	
3/27/08 22:19:00	4.89	4.01	11.42	742.7	
3/27/08 22:19:15	4.80	4.03	11.15	774.8	
3/27/08 22:19:30	4.76	4.04	11.30	757.7	
3/27/08 22:19:45	4.78	4.03	11.37	722.1	
3/27/08 22:20:00	4.87	4.01	11.38	628.3	
3/27/08 22:20:15	5.02	3.97	10.51	579.3	
3/27/08 22:20:30	5.10	3.95	6.40	559.4	
3/27/08 22:20:45	4.71	3.24	1.06	361.2	
3/27/08 22:21:00	3.67	0.83	0.59	85.8	
3/27/08 22:21:15	4.70	0.11	0.46	21.1	
3/27/08 22:21:30	5.05	0.01	0.40	8.5	
3/27/08 22:21:45	5.08	-0.01	0.34	7.5	System Bias
3/27/08 22:22:00	5.07	-0.01	0.30	7.3	O_2 Bias 4 Mid = 5.08
3/27/08 22:22:15	5.07	-0.01	0.27	7.4	CO_2 Bias 4 Zero = -0.01
3/27/08 22:22:30	5.08	-0.02	0.26	7.3	NO_x Bias 4 Zero = 0.3
3/27/08 22:22:45	5.10	-0.02	0.24	6.9	CO Bias 4 Zero = 7.2
3/27/08 22:23:00	5.11	-0.02	0.23	7.1	
3/27/08 22:23:15	5.12	-0.02	3.75	7.8	
3/27/08 22:23:30	5.13	0.04	3.46	114.6	
3/27/08 22:23:45	5.02	1.63	0.29	132.5	
3/27/08 22:24:00	3.11	5.14	0.23	55.7	
3/27/08 22:24:15	0.94	7.64	0.21	15.3	
3/27/08 22:24:30	0.25	8.37	0.18	5.9	
3/27/08 22:24:45	0.16	8.68	0.17	5.6	
3/27/08 22:25:00	0.15	8.76	0.17	5.0	System Bias
3/27/08 22:25:15	0.15	8.78	0.17	5.0	CO_2 Bias 4 Mid = 8.79
3/27/08 22:25:30	0.14	8.79	0.15	5.6	
3/27/08 22:25:45	0.15	8.80	0.14	5.6	
3/27/08 22:26:00	0.15	8.80	0.15	5.0	
3/27/08 22:26:15	0.15	8.80	0.14	5.0	
3/27/08 22:26:30	0.15	8.80	0.15	5.3	
3/27/08 22:26:45	0.15	8.81	0.34	6.9	
3/27/08 22:27:00	0.66	8.44	12.13	11.5	
3/27/08 22:27:15	4.63	4.74	10.76	12.3	
3/27/08 22:27:30	2.19	1.51	25.62	9.5	
3/27/08 22:27:45	0.37	0.38	27.57	7.7	
3/27/08 22:28:00	0.17	0.09	28.36	6.8	
3/27/08 22:28:15	0.16	0.03	33.29	6.8	
3/27/08 22:28:30	0.16	0.01	44.96	6.8	
3/27/08 22:28:45	0.16	0.00	44.11	6.8	System Bias
3/27/08 22:29:00	0.15	0.00	43.54	6.8	O_2 Bias 4 Zero = 0.15
3/27/08 22:29:15	0.15	-0.01	43.25	6.8	NO_x Bias 4 mid = 43.2
3/27/08 22:29:30	0.15	-0.01	43.00	6.8	
3/27/08 22:29:45	0.14	-0.01	42.89	6.8	
3/27/08 22:30:00	0.14	-0.01	42.78	6.8	
3/27/08 22:30:15	0.14	-0.02	42.64	6.8	
3/27/08 22:30:30	0.14	-0.02	42.61	6.8	
3/27/08 22:30:45	0.14	-0.02	27.83	6.8	
3/27/08 22:31:00	1.18	-0.02	16.23	108.3	
3/27/08 22:31:15	6.17	0.06	1.20	376.5	
3/27/08 22:31:30	2.73	0.06	0.83	650.2	
3/27/08 22:31:45	0.40	-0.01	0.67	719.9	System Bias
3/27/08 22:32:00	0.16	-0.02	0.58	729.4	CO Bias 4 Mid = 730
3/27/08 22:32:15	0.15	-0.03	0.52	730.0	
3/27/08 22:32:30	0.14	-0.03	0.47	729.2	
3/27/08 22:32:45	0.14	-0.03	0.42	729.8	
3/27/08 22:33:00	0.14	-0.03	0.39	730.8	
3/27/08 22:33:15	0.14	-0.03	0.35	730.7	
3/27/08 22:33:30	0.14	-0.03	0.36	729.4	

APPENDIX E

Calibration Data

CEMS CALIBRATION DATA

Plant Name	Valero
Sampling Location	Sulften Unit
Date	3/27/2008
Run Number	Run 1
Start Time	3/27/08 14:31
Stop Time	3/27/08 16:31

Plant Rep.	O. Garza
Team Leader	Greg Burch
CEM Operator	Greg Burch

Analyzer Span Values (% or ppm)		
CO	1,500	ppm
CO_2	18	%
O_2	10	%
THC		ppm
NO_x	90.0	ppm
SO_2	95.0	ppm

	CALIBRATION ERROR - 6:44 hrs				SYSTEM BIAS CHECK					Calibration
					Pretest: 12:30		Posttest: 16:33 hrs			Correction
	Cylinder Value (% or ppm)	Cylinder Number	Analyzer Calibration Response	Difference (% of Span)	System Response	Syst. Bias (% of Span)	System Response	Syst. Bias (% of Span)	Drift (% of Span)	Factors
CO Zero	0.0		3.0	0.2	5.0	0.1	5.6	0.2	0.0	Co=
CO Low		Diluted from								**5.32**
~~CO Mid~~	~~750.0~~	~~EB0001619~~	~~732.3~~	~~-1.2~~	~~720.3~~	~~-0.8~~	~~722.0~~	~~-0.7~~	~~0.1~~	~~Cm=~~
CO High	1,500.0	2000 ppm	1,498.0	-0.1						**721.13**
CO_2 Zero	0.00		-0.07	-0.4	-0.03	0.2	-0.01	0.3	0.1	Co=
CO_2 Low		Diluted from								**-0.022**
CO_2 Mid	9.00	ALM018595	8.95	-0.3	8.89	-0.4	8.83	-0.7	-0.3	Cm=
CO_2 High	18.00	25.0 %	17.84	-0.9						**8.861**
O_2 Zero	0.00		0.04	0.4	0.12	0.8	0.12	0.9	0.0	Co=
O_2 Low		Diluted from								**0.121**
O_2 Mid	5.00	EB0005305	5.05	0.5	5.12	0.7	5.04	0.0	-0.8	Cm=
O_2 High	10.00	24.9 %	10.02	0.2						**5.082**
NO_x Zero	0.0		0.0	0.0	0.1	0.1	0.2	0.3	0.1	Co=
NO_x Low		Diluted from								**0.18**
NO_x Mid	45.0	EB0004890	45.2	0.2	42.8	-2.7	41.2	-4.5	-1.8	Cm=
NO_x High	90.0	1996 ppm	89.8	-0.2						**41.96**

CEMS CALIBRATION DATA

Plant Name	Valero
Sampling Location	Sulften Unit
Date	3/27/2008
Run Number	2
Start Time	3/27/08 17:40
Stop Time	3/27/08 19:40

Plant Rep.	O. Garza
Team Leader	Greg Burch
CEM Operator	Greg Burch

Analyzer Span Values (% or ppm)		
CO	1,500	ppm
CO_2	18	%
O_2	10	%
THC		ppm
NO_x	90	ppm
SO_2	95	ppm

	CALIBRATION ERROR - 6:44 hrs				SYSTEM BIAS CHECK					Calibration
					Pretest: 16:33		Posttest: 19:52 hrs			Correction
	Cylinder Value (% or ppm)	Cylinder Number	Analyzer Calibration Response	Difference (% of Span)	System Response	Syst. Bias (% of Span)	System Response	Syst. Bias (% of Span)	Drift (% of Span)	Factors
CO Zero	0.0		3.0	0.2	5.6	0.2	6.6	0.2	0.1	Co=
CO Low		Diluted from								**6.11**
~~CO Mid~~	~~750.0~~	~~EB0001619~~	~~732.3~~	~~-1.2~~	~~722.0~~	~~-0.7~~	~~727.8~~	~~-0.3~~	~~0.4~~	~~Cm=~~
CO High	1,500.0	2000.0	1,498.0	-0.1						**724.91**
CO_2 Zero	0.00		-0.07	-0.4	-0.01	0.3	-0.02	0.3	0.0	Co=
CO_2 Low		Diluted from								**-0.017**
CO_2 Mid	9.00	ALM018595	8.95	-0.3	8.83	-0.7	8.80	-0.8	-0.1	Cm=
CO_2 High	18.00	25.0	17.84	-0.9						**8.818**
O_2 Zero	0.00		0.04	0.4	0.12	0.9	0.13	1.0	0.1	Co=
O_2 Low		Diluted from								**0.128**
O_2 Mid	5.00	EB0005305	5.05	0.5	5.04	0.0	5.07	0.2	0.2	Cm=
O_2 High	10.00	24.9	10.02	0.2						**5.056**
NO_x Zero	0.0		0.0	0.0	0.2	0.3	0.2	0.3	0.0	Co=
NO_x Low		Diluted from								**0.23**
NO_x Mid	45.0	EB0004890	45.2	0.2	41.2	-4.5	43.0	-2.4	2.1	Cm=
NO_x High	90.0	1996.0	89.8	-0.2						**42.10**

CEMS CALIBRATION DATA

Plant Name	Valero
Sampling Location	Sulften Unit
Date	3/27/2008
Run Number	2
Start Time	3/27/08 17:40
Stop Time	3/27/08 19:40

Plant Rep.	O. Garza
Team Leader	Greg Burch
CEM Operator	Greg Burch

Analyzer Span Values (% or ppm)		
CO	1,500	ppm
CO_2	18	%
O_2	10	%
THC		ppm
NO_x	90	ppm
SO_2	95	ppm

	CALIBRATION ERROR - 6:44 hrs				SYSTEM BIAS CHECK					Calibration
					Pretest: 16:33		Posttest: 22:22 hrs			Correction
	Cylinder Value (% or ppm)	Cylinder Number	Analyzer Calibration Response	Difference (% of Span)	System Response	Syst. Bias (% of Span)	System Response	Syst. Bias (% of Span)	Drift (% of Span)	Factors
CO Zero	0.0		3.0	0.2	5.6	0.2	6.6	0.2	0.1	Co=
CO Low		Diluted from								**6.11**
~~CO Mid~~	~~750.0~~	~~EB0001619~~	~~732.3~~	~~-1.2~~	~~722.0~~	~~-0.7~~	~~727.8~~	~~-0.3~~	~~0.4~~	~~Cm=~~
CO High	1,500.0	2000.0	1,498.0	-0.1						**724.91**
CO_2 Zero	0.00		-0.07	-0.4	-0.01	0.3	-0.02	0.3	0.0	Co=
CO_2 Low		Diluted from								**-0.017**
CO_2 Mid	9.00	ALM018595	8.95	-0.3	8.83	-0.7	8.80	-0.8	-0.1	Cm=
CO_2 High	18.00	25.0	17.84	-0.9						**8.818**
O_2 Zero	0.00		0.04	0.4	0.12	0.9	0.13	1.0	0.1	Co=
O_2 Low		Diluted from								**0.128**
O_2 Mid	5.00	EB0005305	5.05	0.5	5.04	0.0	5.07	0.2	0.2	Cm=
O_2 High	10.00	24.9	10.02	0.2						**5.056**
NO_x Zero	0.0		0.0	0.0	0.2	0.3	0.2	0.3	0.0	Co=
NO_x Low		Diluted from								**0.23**
NO_x Mid	45.0	EB0004890	45.2	0.2	41.2	-4.5	43.0	-2.4	2.1	Cm=
NO_x High	90.0	1996.0	89.8	-0.2						**42.10**

Instrument: 3901 MFC: 1

MAX Flow: 10,000.00 CCM
Cal Date: 10/18/2007 , 15:18:21
Reference Gas: NITROGEN
Description: Factory MFC #1 Calibration Table

Set Flow	True Flow	- Table is selected
500.00	524.30	
1,000.00	1,051.84	
2,000.00	2,119.50	
3,000.00	3,182.80	
4,000.00	4,197.70	
5,000.00	5,218.77	
6,000.00	6,236.30	
7,000.00	7,244.20	
8,000.00	8,270.53	
9,000.00	9,322.40	
10,000.00	104,930.00	

Instrument: 3901 MFC: 2

MAX Flow: 10,000.00 CCM
Cal Date: 10/18/2007 , 15:45:24
Reference Gas: NITROGEN
Description: Factory MFC #2 Calibration Table

Set Flow	True Flow	- Table is selected
500.00	529.44	
1,000.00	1,057.12	
2,000.00	2,116.90	
3,000.00	3,160.81	
4,000.00	4,202.98	
5,000.00	5,246.03	
6,000.00	6,302.27	
7,000.00	7,354.12	
8,000.00	8,428.30	
9,000.00	9,524.65	
10,000.00	10,623.98	

Instrument: 3901 MFC: 3

MAX Flow: 1,000.00 CCM
Cal Date: 10/18/2007 , 16:21:11
Reference Gas: NITROGEN
Description: Factory MFC #3 Calibration Table

Set Flow	True Flow	- Table is selected
50.00	54.83	
100.00	109.05	

200.00	214.77
300.00	320.13
400.00	427.69
500.00	531.02
600.00	637.26
700.00	741.57
800.00	849.61
900.00	956.86
1,000.00	1,079.11

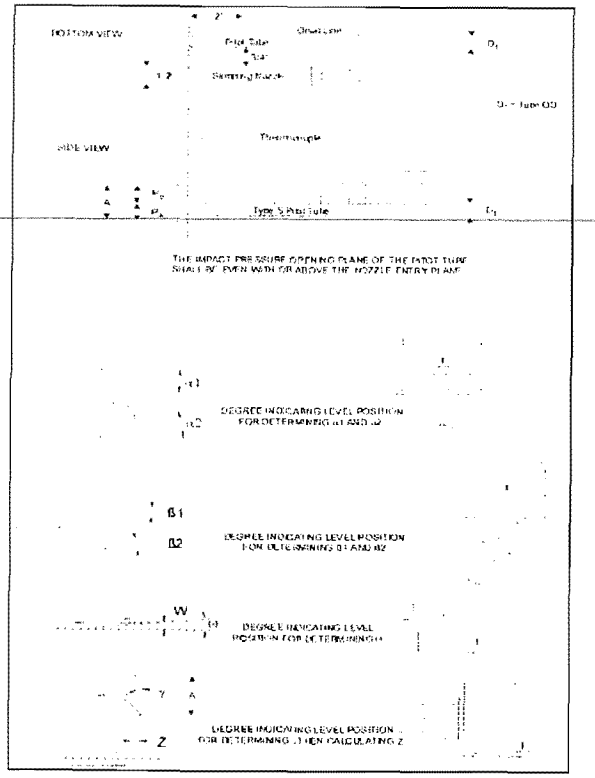
Instrument: 3901 **MFC: 4**

MAX Flow: 100.00 CCM
Cal Date: 10/18/2007 , 16:46:37
Reference Gas: NITROGEN
Description: Factory MFC #4 Calibration Table

Set Flow	True Flow
5.00	5.17
10.00	10.75
20.00	21.74
30.00	32.71
40.00	43.96
50.00	54.25
60.00	64.82
70.00	77.49
80.00	86.03
90.00	96.57
100.00	106.86

- Table is selected

Type S Pitot Tube Inspection Form



PITOT TUBE/PROBE # P93

Parameter	Value	Allowable Range	Check
Assembly Level?	Y	Yes	OK
Ports Damaged?	N	No	OK
$\alpha 1$	0	$-10° < \alpha 1 < +10°$	OK
$\alpha 2$	0	$-10° < \alpha 2 < +10°$	OK
$\beta 1$	0	$-5° < b1 < +5°$	OK
$\beta 2$	2	$-5° < \beta 2 < +5°$	OK
γ	1		
θ	0		
$Z = A \tan \gamma$	0.011	$Z \leq .125"$	OK
$W = A \tan \theta$	0.000	$W \leq .031"$	OK
Dt	0.25	.188" to .375"	OK
A/2Dt	1.3	$1.05 \leq P_A/D_t \leq 1.5$	OK
A	0.650	$2.1D_t \leq A \leq 3D_t$	OK

Certification

I certify that pitot tube/probe number P93 meets or exceeds all specifications,
criteria and/or applicable design features and is hereby assigned a pitot tube certification factor of 0.84.
See 40 CFR Pt. 60, App. A, EPA Method 2.

Certified by: _____ 4/11/08
Personnel (Signature/Date)

_____
Team Leader (Signature/Date)

P93

BAROMETER CALIBRATION LOG

BAROMETER NO.	004852	EB833-1	EB833-4	EB833-2			

PRETEST

BAROMETER READING	29.74	29.74	29.88	29.59			
REFERENCE BAROMETER READING	29.75	29.75	29.75	29.73			
DIFFERENCE	0.01	0.01	0.13	0.14			
DATE	2-23-08	2-22-08	2-23-08	4/11/08			
CALIBRATOR	SKM	ACH	SKM	ZRM			

POST –TEST

BAROMETER READING	29.71	29.68					
REERENCE BAROMETER READING	29.73	29.73					
DIFFERENCE	0.02	0.05					
DATE	4/11/08	4/11/08					
CALIBRATOR	ZRM	ZRM					

*Allowable difference in post barometer calibration is 0.2 in.

ARI Environmental, Inc.
EPA METHOD 5
Post-test Meter Box Calibration

Model #: Apex 522
Serial #: 801005
Pretest Y: 1.025
Pretest ΔH@: 1.68

Operator: DWM
Date: 3/31/2008

Post-Test, Orifice Method
English Units

Barometric Pressure: 29.77 in.Hg

ΔH	Time		DRY GAS METER VOLUME			METER TEMPERATURE		ORIFICE		VAC.	AMBIENT TEMPERATURE		
						INLET	OUTLET						
						Initial	Initial						
	Minutes	Seconds	Initial	Final	Total[1]	Final	Final	Number	K factor	in. Hg[2]	Inital	Final	Avg.
						72	73						
1.60	10	22	143.600	151.100	7.500	75	72	AJ63	0.5720	18.2	71	72	71.5
						75	72						
1.60	10	16	151.100	158.500	7.400	79	73	AJ63	0.5720	18.5	72	72	72.0
						79	73						
1.60	11	1	158.500	166.501	8.001	80	75	AJ63	0.5720	18.5	72	73	72.5

METER FLOW (cubic feet)	ORIFICE FLOW (cubic feet)	METER CALIBRATION FACTOR, Yc[3]	DH @[4]
7.422	7.657	1.0317	1.640
7.299	7.580	1.0385	1.636
7.862	8.130	1.0340	1.632

AVG. POST-TEST METER CALIBRATION FACTOR =	**1.035**	**1.64**

PERCENT DIFFERENCE FROM PRETEST Y= 0.95
MAXIMUM ALLOWABLE DIFFERENCE= 5.00

1 Must pull at least 5 cubic feet per orifice
2 Vaccum must be 15" of Hg or greater
3 Individual Ys can not vary from +/-0.02Y of the average
4 Delta H@ can not be more than +/- 0.15 of average dealta H

ARI ENVIRONMENTAL, INC.
EPA METHOD 5
THERMOCOUPLE DIGITIAL INDICATOR CALIBRATION DATA SHEET

Operator: DWM
Date: 3/31/2008

Meterbox No.: 801005
Calibrator No.: CL-300-21001

Calibrator	Digital Temperature Readout									
Setting	PROBE		STACK		FILTER		EXIT		AUX	
° F	Acutal	Diff.	Acutal	Diff.	Acutal	Diff.	Acutal	Diff.	Acutal	Diff.
0	-3	0.65	-3	0.65	-3	0.65	-3	0.65	-3	0.65
200	198	0.30	198	0.30	198	0.30	198	0.30	198	0.30
400	395	0.58	395	0.58	395	0.58	395	0.58	395	0.58
600	598	0.19	598	0.19	598	0.19	598	0.19	598	0.19
800	800	0.00	800	0.00	800	0.00	800	0.00	800	0.00
1000	1000	0.00	1000	0.00	1000	0.00	1000	0.00	1000	0.00
1200	1198	0.12	1198	0.12	1198	0.12	1198	0.12	1198	0.12
1400	1397	0.16	1397	0.16	1397	0.16	1397	0.16	1397	0.16
1600	1600	0.00	1600	0.00	1600	0.00	1600	0.00	1600	0.00
1800	1798	0.09	1798	0.09	1798	0.09	1798	0.09	1798	0.09

Actual Maximum Difference = 0.65 %
Allowable Maximum Difference = 1.50 %

ARI Environmental, Inc.
EPA METHOD 5
Initial Meter Box Calibration

Model No: Jenco 765 · Operator: AH Pre-Test, Orifice Method
Serial No. 801005 Date: 10/8/2007 English Units

Barometric Pressure: 29.83 in.Hg

ΔH	Time		DRY GAS METER VOLUME			METER TEMPERATURE		ORIFICE		VAC.	AMBIENT TEMPERATURE		
						INLET	OUTLET						
						Initial	Initial						
in. H2O	Minutes	Seconds	Initial	Final	Total[1]	Final	Final	Number	K factor	in. Hg[2]	Inital	Final	Avg.
						85	85						
0.52	15	45	640.900	647.500	6.600	87	87	AJ47	0.3234	21.0	81	82	81.5
						85	85						
0.97	11	49	647.800	654.600	6.800	88	86	AJ55	0.4400	19.0	82	84	83.0
						89	87						
1.70	10	15	655.000	662.600	7.600	95	88	AJ63	0.5720	19.0	84	85	84.5
						94	88						
3.10	13	7	663.200	676.500	13.300	107	91	AJ73	0.7781	16.0	85	87	86.0
						101	91						
4.60	10	10	677.400	689.900	12.500	112	93	AJ81	0.9528	14.0	87	88	87.5

METER FLOW (cubic feet)	ORIFICE FLOW (cubic feet)	METER CALIBRATION FACTOR, Yc[3]	DH @[4]
6.371	6.529	1.0248	1.630
6.572	6.656	1.0128	1.667
7.308	7.495	1.0256	1.728
12.711	13.029	1.0250	1.703
11.899	12.349	1.0378	1.690

AVG. PRETEST METER CALIBRATION FACTOR: Y[5] = 1.025 ΔH@[6] = 1.68

1 Must pull at least 5 cubic feet per orifice
2 Vaccum must be 15" of Hg or greater
3 Individual Ys can not vary from +/-0.02Y of the average
4 Delta H@ can not be more than +/- 0.15 of average delta H
5 Ideal Y is 1.000 and can vary no more than +/- 0.05
6 Ideal Delta H@ is 1.84 and should not vary more than 0.2

ARI ENVIRONMENTAL, INC.
EPA METHOD 5
THERMOCOUPLE DIGITIAL INDICATOR CALIBRATION DATA SHEET

Operator: AH
Date: 10/8/2007

Meterbox No.: 801005
Calibrator No.: CL-300-21001

Calibrato	Digital Temperature Readout									
Setting	PROBE		STACK		FILTER		EXIT		AUX	
° F	Acutal	Diff.	Acutal	Diff.	Acutal	Diff.	Acutal	Diff.	Acutal	Diff.
0	-1	0.22	-1	0.22	1	0.22	1	0.22	1	0.22
200	200	0.00	200	0.00	200	0.00	201	0.15	201	0.15
400	396	0.47	396	0.47	396	0.47	397	0.35	396	0.47
600	598	0.19	598	0.19	599	0.09	599	0.09	599	0.09
800	799	0.08	799	0.08	799	0.08	800	0.00	800	0.00
1000	998	0.14	998	0.14	999	0.07	999	0.07	998	0.14
1200	1196	0.24	1196	0.24	1197	0.18	1197	0.18	1196	0.24
1400	1393	0.38	1394	0.32	1394	0.32	1395	0.27	1395	0.27
1600	1596	0.19	1597	0.15	1597	0.15	1598	0.10	1598	0.10
1800	1795	0.22	1797	0.13	1796	0.18	1796	0.18	1796	0.18

Actual Maximum Difference = 0.47 %
Allowable Maximum Difference = 1.50 %

COASTAL
Specialty Gas

COASTAL SPECIALTY GAS
25 NORTH FOURTH STREET
BEAUMONT, TX 77071
409-838-3757

Customer:	Coastal Welding	Protocol:	Reference #	Lot#
Cylinder Number:	EB0005305	G2		30183
Cylinder Pressure:	1950 PSIG			
Last Analysis Date:	5/22/2007			
Expiration Date:	5/22/2010			

DO NOT USE THIS CYLINDER WHEN THE PRESSURE FALLS BELOW 150 PSIG

REPLICATE RESPONSES

Component: OXYGEN
Mean Conc: 24.9% +/- 2% rel
BALANCE GAS: Nitrogen

REFERENCE STANDARDS:

Component: OXYGEN
Reference Standard: NTRM
Cylinder #: EB0000798
Concentration: 9.984%
Exp. Date: 1/1/2010

CERTIFICATION INSTRUMENTS

Component: OXYGEN
Make/Model: Horiba MPA-510
Serial Number: 576022023
asurement Principle: PM
Last Calibration: 4/30/2007

Notes:

This Certification was performed according to EPA Traceability Protocol for Assay & Certification of Gaseous Calibration Standards September 1997, using procedure G1 and/or G2.

Analyst: _____ Date: 5/22/2007
Ling Wen

Manufactured By Specialty Gas Products, a Matheson Tri-Gas Company, Pasadena, Texas.

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1290 COMBERMERE STREET,TROY,MI 48083 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.: 03-083-07
Project No.: 05-59478-003

Customer

ARI ENVIRONMENTAL, INC.
GREG BURCH
1710 C PRESTON RD
PASADENA TX 77503

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: ALM018595 **Certification Date:** 16Oct2007 **Exp. Date:** 15Oct2010

Cylinder Pressure*:** 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
CARBON DIOXIDE	25	%	+/- 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 2300	01Nov2010	ID002807	23.04 %	CARBON DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/10693	03Oct2007	THERMAL CONDUCTIVITY

ANALYZER READINGS

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

First Triad Analysis | **Second Triad Analysis** | **Calibration Curve**

CARBON DIOXIDE

First Triad Analysis		
Date: 18Oct2007	Response Unit:AREA	
Z1=0.00000	R1=1156610.	T1=1254482.
R2=1156383.	Z2=0.00000	T2=1254896.
Z3=0.00000	T3=1254538.	R3=1156630.
Avg. Concentration:	25.00 %	

Second Triad Analysis

Calibration Curve	
Concentration=A+Bx+Cx2+Dx3+Ex4	
r=0.999997	
Constants:	A=-0.008703
B=0.000020	C=0
D=0	E=0

APPROVED BY: _____

COASTAL
Specialty Gas

COASTAL SPECIALTY GAS
25 NORTH FOURTH STREET
BEAUMONT, TX 77071
409-838-3757

Customer:	Coastal Welding	Protocol:	Reference #	Lot#
Cylinder Number:	EB0004890	G1		30376
Cylinder Pressure:	1900 PSIG			
Last Analysis Date:	6/8/2007			
Expiration Date:	6/8/2009			

DO NOT USE THIS CYLINDER WHEN THE PRESSURE FALLS BELOW 150 PSIG

REPLICATE RESPONSES

		Date: 6/1/2007	Date: 6/8/2007
Component:	Nitric Oxide	1988	1988
Mean Conc:	1988 ppm +/- 1% rel	1989	1985
		1990	1988
BALANCE GAS:	Nitrogen		

NOx: 1996 ppm

REFERENCE STANDARDS:

Component:	Nitric Oxide
Reference Standard:	GMIS
Cylinder #:	EB0000102
Concentration:	1929 ppm
Exp. Date:	3/23/2009

CERTIFICATION INSTRUMENTS

Component:	Nitric Oxide
Make/Model:	Horiba CLA-510
Serial Number:	42312910013
asurement Principle:	CHEMI
Last Calibration:	5/17/2007

Notes:

This Certification was performed according to EPA Traceability Protocol for Assay & Certification of Gaseous Calibration Standards September 1997, using procedure G1 and/or G2.

Analyst: _____ Date: 6/8/2007

MICHAEL TANG

Manufactured By Specialty Gas Products, a Matheson Tri-Gas Company, Pasadena, Texas.

COASTAL
Specialty Gas

COASTAL SPECIALTY GAS
25 NORTH FOURTH STREET
BEAUMONT, TX 77071
409-838-3757

Customer:	Coastal Welding	Protocol:	Reference #	Lot#
Cylinder Number:	EB0001619	G1		25949
Cylinder Pressure:	1900 PSIG			
Last Analysis Date:	11/14/2006			
Expiration Date:	11/14/2009			

DO NOT USE THIS CYLINDER WHEN THE PRESSURE FALLS BELOW 150 PSIG

REPLICATE RESPONSES

Component:	Carbon Monoxide	Date:	11/7/2006	Date:	11/14/2006
Mean Conc:	2000 ppm +/- 1% rel		2001.5		1999.3
			2001.8		1995.5
BALANCE GAS:	Nitrogen		2003.7		1986.2

REFERENCE STANDARDS:

Component:	Carbon Monoxide
Reference Standard:	GMIS
Cylinder #:	CC38906
Concentration:	2483 ppm
Exp. Date:	7/11/2007

CERTIFICATION INSTRUMENTS

Component:	Carbon Monoxide
Make/Model:	Horiba VIA-510
Serial Number:	42321590022
asurement Principle:	NDIR
Last Calibration:	11/09/2006

Notes:

This Certification was performed according to EPA Traceability Protocol for Assay & Certification of Gaseous Calibration Standards September 1997, using procedure G1 and/or G2.

Analyst: _____ Date: 11/14/2006

Manufactured By Specialty Gas Products, a Matheson Tri-Gas Company, Pasadena, Texas.

AIR LIQUIDE Scott Specialty Gases
Air Liquide America Specialty Gases LLC

COMPLIANCE CLASS

Dual-Analyzed Calibration Standard

500 WEAVER PARK RD, LONGMONT, CO 80501 Phone: 888-253-1635 Fax: 303-772-7673

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
500 WEAVER PARK RD
LONGMONT, CO 80501

P.O. No.: 03-108
Project No.: 08-57189-001

Customer

ARI ENVIRONMENTAL, INC.
GREG BURCH
1710 C PRESTON RD
PASADENA TX 77503

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: AAL8272 **Certification Date:** 28Dec2007 **Exp. Date:** 27Jun2008
Cylinder Pressure*:** 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
NITROGEN DIOXIDE	48.9	PPM	+/- 2%	GMIS
AIR		BALANCE		

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

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
GMIS NO2/AIR	20Mar2009	ALM010232	98.60 PPM	NITROGEN DIOXIDE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
NONOX/CLA-220/41528750062	07Dec2007	CHEMILUMINESCENT

APPROVED BY: JW
JON WITZAK

AIR LIQUIDE

CERTIFICATE of ANALYSIS

Interference-Free Multi-Component EPA Protocol Gases

NOTE: Analytical uncertainty and NIST traceability are in compliance with EPA-600/R-97/121

Section 2.2 Procedure: G-1

Cyl. Number: CC203039

Customer:	ARI ENVIRONMENTAL	**Shipping Order #:**	17667733
P.O. Number:	34-039-05	**Transfer #:**	17667733
Item Number:	ARI023	**LOT #:**	LPX125522
Notes:		**Valve**	CGA580
		Cyl. Pressure:*	1900psig
Assay Date:	13-Sep-05	**Expiration Date: 12-Sep-08**	*Cylinder should not be used when gas pressure is below 150 psig

Component	Requested Concentration	Assay Concentration
Carbon Dioxide	**7.5 %**	**7.43 ±0.10 %**
Nitrogen	**Balance**	**Balance**

Reference Standard(s) Employed For Analysis:

Std name	Std #	Conc.	Units	Std. Error	Comp.	Balance	Cyl. No.	Exp. Date	Sample No.
GMIS301	GMIS301	14.0	%	0.1	CO2	N2	CC71493	08/24/207	N.A.

Analysis Information:

Component 1:	Carbon Dioxide										
Analyzer Information			First Triad Analysis On:		9/13/2005			Second Triad Analysis On:			
Manufacturer:	KVB/Analect		Trial 1	Trial 2	Trial 3	Units		Trial 1	Trial 2	Trial 3	Units
Model Number:	EN3024	Zero	0.31	0.26	0.20		Zero				
Serial Number:	3024	Reference	13.36	13.48	13.51		Reference				
Analytical Principle:	FTIR	Candidate	7.24	7.26	7.28		Candidate				
MPC Calibrated:	08/18/05	Result	7.41	7.43	7.46	%	Result				
				Mean Result:	7.43	%			Mean Result:		

Analyst Signature: _____ M. Adnane

Calculated by: _____ M. Adnane

Mix Assayed At: Air Liquide America 11426 Fairmont Pkwy, La Porte, TX, 77571 Phone:(281)474-8400 Fax:(281)474-8419

Instrument: 3901 **MFC:** 1

MAX Flow: 10,000.00 CCM
Cal Date: 10/18/2007 , 15:18:21
Reference Gas: NITROGEN
Description: Factory MFC #1 Calibration Table

Set Flow	True Flow	- Table is selected
500.00	524.30	
1,000.00	1,051.84	
2,000.00	2,119.50	
3,000.00	3,182.80	
4,000.00	4,197.70	
5,000.00	5,218.77	
6,000.00	6,236.30	
7,000.00	7,244.20	
8,000.00	8,270.53	
9,000.00	9,322.40	
10,000.00	104,930.00	

Instrument: 3901 **MFC:** 2

MAX Flow: 10,000.00 CCM
Cal Date: 10/18/2007 , 15:45:24
Reference Gas: NITROGEN
Description: Factory MFC #2 Calibration Table

Set Flow	True Flow	- Table is selected
500.00	529.44	
1,000.00	1,057.12	
2,000.00	2,116.90	
3,000.00	3,160.81	
4,000.00	4,202.98	
5,000.00	5,246.03	
6,000.00	6,302.27	
7,000.00	7,354.12	
8,000.00	8,428.30	
9,000.00	9,524.65	
10,000.00	10,623.98	

Instrument: 3901 **MFC:** 3

MAX Flow: 1,000.00 CCM
Cal Date: 10/18/2007 , 16:21:11
Reference Gas: NITROGEN
Description: Factory MFC #3 Calibration Table

Set Flow	True Flow	- Table is selected
50.00	54.83	
100.00	109.05	

200.00	214.77
300.00	320.13
400.00	427.69
500.00	531.02
600.00	637.26
700.00	741.57
800.00	849.61
900.00	956.86
1,000.00	1,079.11

Instrument: 3901 **MFC:** 4

MAX Flow: 100.00 CCM
Cal Date: 10/18/2007 , 16:46:37
Reference Gas: NITROGEN
Description: Factory MFC #4 Calibration Table

Set Flow	True Flow - Table is selected
5.00	5.17
10.00	10.75
20.00	21.74
30.00	32.71
40.00	43.96
50.00	54.25
60.00	64.82
70.00	77.49
80.00	86.03
90.00	96.57
100.00	106.86

ARI REFERENCE METHOD CEMS DATA
USEPA METHOD 205
DILUTION SYSTEM VERIFICATION

Company: Valero
Location: Corpus Christi, Texas
Source: Sulften Unit
Dilution System ID: 3901
Dilution Flow Rate: 5.0 Lpm
Verification date: 3/25/2008

Analyzer Info

Monitor type: CO_2
Monitor range: 20%
Monitor Serial No.: X1440D1/46

Initial Calibration Data

Calibration Concentration		Calibration results		% Difference	
Zero:	0.00	Zero:	-0.10	Zero:	0.49
Low:		Low:		Low:	
Mid:	9.00	Mid:	8.92	Mid:	0.38
High:	18.00	High:	17.78	High:	1.12

Dilution System Verification

Mid level gas type: EPA Protocol 1
Mid level concentration: 7.43
Mid level tank serial #: CC203039

High level dilution gas type: CO_2/N_2
High level concentration: 25.0 %
High level tank serial #: ALM018595
Target concentration No. 1: 7.50
Target concentration No. 2: 15.00

Dilution System Results

Target Concentration No. 1			Target Concentration No. 2		
	Instrument Response	% difference from average*		Instrument Response	% difference from average*
Trial No. 1:	7.56	0.02	Trial No. 1:	14.74	0.04
Trial No. 2:	7.57	0.17	Trial No. 2:	14.73	0.07
Trial No. 3:	7.54	0.15	Trial No. 3:	14.76	0.11
Average:	7.556		Average:	14.745	

% Difference from target concentration: 0.75%

% Difference from target concentration: 1.70%

Mid Level Calibration Gas Results

	Instrument Response
Trial No. 1:	7.44
Trial No. 2:	7.47
Trial No. 3:	7.45

Mid Level calibration gas concentration: 7.43%
Average analyzer response: 7.45
Percent difference: 0.31 *

* Must be less than 2 %

USEPA Method 205 Dilution System Verification
15-second data

Date/Time	CO_2 % db by vol.	Comments
3/25/08 15:30:00	0.14	
3/25/08 15:30:15	0.14	
3/25/08 15:30:30	0.14	
3/25/08 15:30:45	0.14	
3/25/08 15:31:00	0.13	
3/25/08 15:31:15	0.13	
3/25/08 15:31:30	0.13	
3/25/08 15:31:45	0.14	
3/25/08 15:32:00	0.53	
3/25/08 15:32:15	0.36	
3/25/08 15:32:30	0.05	
3/25/08 15:32:45	-0.01	
3/25/08 15:33:00	-0.02	
3/25/08 15:33:15	-0.03	
3/25/08 15:33:30	-0.06	Calibration Error
3/25/08 15:33:45	**-0.10**	**CO_2 CE Zero = -0.10**
3/25/08 15:34:00	**-0.10**	
3/25/08 15:34:15	**-0.10**	
3/25/08 15:34:30	**-0.10**	
3/25/08 15:34:45	-0.10	
3/25/08 15:35:00	3.88	
3/25/08 15:35:15	10.93	
3/25/08 15:35:30	15.22	
3/25/08 15:35:45	17.15	
3/25/08 15:36:00	17.57	
3/25/08 15:36:15	17.64	
3/25/08 15:36:30	17.65	
3/25/08 15:36:45	17.66	
3/25/08 15:37:00	17.76	Calibration Error
3/25/08 15:37:15	**17.77**	**CO_2 CE Span = 17.78**
3/25/08 15:37:30	**17.78**	
3/25/08 15:37:45	**17.78**	
3/25/08 15:38:00	**17.78**	
3/25/08 15:38:15	17.79	
3/25/08 15:38:30	17.79	
3/25/08 15:38:45	17.75	
3/25/08 15:39:00	14.57	
3/25/08 15:39:15	10.42	
3/25/08 15:39:30	9.04	
3/25/08 15:39:45	8.93	Calibration Error
3/25/08 15:40:00	**8.93**	**CO_2 CE Mid = 8.92**
3/25/08 15:40:15	**8.92**	
3/25/08 15:40:30	**8.92**	
3/25/08 15:40:45	**8.92**	
3/25/08 15:41:00	8.92	
3/25/08 15:41:15	8.92	
3/25/08 15:41:30	8.92	
3/25/08 15:41:45	8.76	
3/25/08 15:42:00	7.89	
3/25/08 15:42:15	7.57	Target Concentration No. 1; Trial No. 1
3/25/08 15:42:30	**7.55**	**Mid Level Trial 1 = 7.56**
3/25/08 15:42:45	**7.56**	
3/25/08 15:43:00	**7.56**	
3/25/08 15:43:15	**7.56**	
3/25/08 15:43:30	7.56	
3/25/08 15:43:45	7.74	
3/25/08 15:44:00	10.73	
3/25/08 15:44:15	13.71	
3/25/08 15:44:30	14.62	
3/25/08 15:44:45	14.72	
3/25/08 15:45:00	14.73	Target Concentration No. 2; Trial No. 1
3/25/08 15:45:15	**14.74**	**High Level Trial 1 = 14.74**
3/25/08 15:45:30	**14.74**	
3/25/08 15:45:45	**14.74**	
3/25/08 15:46:00	**14.74**	
3/25/08 15:46:15	14.71	
3/25/08 15:46:30	14.66	
3/25/08 15:46:45	11.30	
3/25/08 15:47:00	5.65	
3/25/08 15:47:15	3.36	
3/25/08 15:47:30	4.01	
3/25/08 15:47:45	6.12	
3/25/08 15:48:00	7.06	
3/25/08 15:48:15	7.35	
3/25/08 15:48:30	7.42	Mid-Level Concentration; Trial No. 1
3/25/08 15:48:45	**7.43**	**Mid Std. Trial 1 = 7.44**
3/25/08 15:49:00	**7.44**	
3/25/08 15:49:15	**7.44**	
3/25/08 15:49:30	**7.44**	
3/25/08 15:49:45	7.45	
3/25/08 15:50:00	7.47	
3/25/08 15:50:15	8.86	
3/25/08 15:50:30	12.45	
3/25/08 15:50:45	14.30	
3/25/08 15:51:00	14.66	

USEPA Method 205 Dilution System Verification
15-second data

Date/Time	CO_2 % db by vol.	Comments
3/25/08 15:51:15	14.72	Target Concentration No. 2; Trial No. 2
3/25/08 15:51:30	**14.73**	High Level Trial 2 = 14.73
3/25/08 15:51:45	**14.74**	
3/25/08 15:52:00	**14.73**	
3/25/08 15:52:15	**14.74**	
3/25/08 15:52:30	14.74	
3/25/08 15:52:45	14.74	
3/25/08 15:53:00	13.48	
3/25/08 15:53:15	9.53	
3/25/08 15:53:30	7.79	
3/25/08 15:53:45	7.58	Target Concentration No. 1; Trial No. 2
3/25/08 15:54:00	**7.57**	Mid Level Trial 2 = 7.57
3/25/08 15:54:15	**7.57**	
3/25/08 15:54:30	**7.57**	
3/25/08 15:54:45	**7.57**	
3/25/08 15:55:00	7.56	
3/25/08 15:55:15	7.56	
3/25/08 15:55:30	7.44	
3/25/08 15:55:45	7.42	
3/25/08 15:56:00	7.42	
3/25/08 15:56:15	7.41	
3/25/08 15:56:30	7.43	
3/25/08 15:56:45	7.45	
3/25/08 15:57:00	7.46	Mid-Level Concentration; Trial No. 2
3/25/08 15:57:15	**7.46**	Mid Std. Trial 2 = 7.47
3/25/08 15:57:30	**7.46**	
3/25/08 15:57:45	**7.46**	
3/25/08 15:58:00	**7.48**	
3/25/08 15:58:15	7.39	
3/25/08 15:58:30	6.44	
3/25/08 15:58:45	6.96	
3/25/08 15:59:00	7.46	
3/25/08 15:59:15	7.52	
3/25/08 15:59:30	7.52	Target Concentration No. 1; Trial No. 3
3/25/08 15:59:45	**7.53**	Mid Level Trial 3 = 7.54
3/25/08 16:00:00	**7.55**	
3/25/08 16:00:15	**7.55**	
3/25/08 16:00:30	**7.55**	
3/25/08 16:00:45	7.55	
3/25/08 16:01:00	7.55	
3/25/08 16:01:15	7.55	
3/25/08 16:01:30	7.79	
3/25/08 16:01:45	10.90	
3/25/08 16:02:00	13.81	
3/25/08 16:02:15	14.66	
3/25/08 16:02:30	14.75	Target Concentration No. 2; Trial No. 3
3/25/08 16:02:45	**14.76**	High Level Trial 3 = 14.76
3/25/08 16:03:00	**14.76**	
3/25/08 16:03:15	**14.76**	
3/25/08 16:03:30	**14.76**	
3/25/08 16:03:45	14.77	
3/25/08 16:04:00	14.76	
3/25/08 16:04:15	13.33	
3/25/08 16:04:30	9.40	
3/25/08 16:04:45	7.69	
3/25/08 16:05:00	7.45	Mid-Level Concentration; Trial No. 3
3/25/08 16:05:15	**7.43**	Mid Std. Trial 3 = 7.45
3/25/08 16:05:30	**7.45**	
3/25/08 16:05:45	**7.46**	
3/25/08 16:06:00	**7.47**	
3/25/08 16:06:15	7.47	
3/25/08 16:06:30	7.47	
3/25/08 16:06:45	7.47	
3/25/08 16:07:00	7.47	
3/25/08 16:07:15	7.47	
3/25/08 16:07:30	7.46	
3/25/08 16:07:45	7.46	

APPENDIX F

Process Data

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 12:30	66.48	613.62	38.90	45.09	329.05	174.96	276.70	4.35	952.07
3/27/2008 12:31	66.05	613.62	38.97	45.13	328.04	176.82	280.12	4.49	946.14
3/27/2008 12:32	65.04	616.08	38.96	45.29	327.10	176.82	280.12	4.49	944.62
3/27/2008 12:33	65.04	617.70	39.06	45.52	327.85	176.82	280.12	4.49	946.14
3/27/2008 12:34	65.80	621.00	38.99	45.81	327.06	179.77	278.40	4.42	940.04
3/27/2008 12:35	65.66	623.46	38.97	46.05	325.23	174.80	276.93	4.30	941.56
3/27/2008 12:36	66.50	623.46	38.97	46.26	325.83	177.89	276.45	4.37	940.75
3/27/2008 12:37	65.04	621.00	38.93	46.60	326.84	188.44	287.66	4.05	956.66
3/27/2008 12:38	66.55	620.16	39.02	46.87	325.49	178.52	288.01	4.45	959.71
3/27/2008 12:39	66.31	619.38	39.00	46.78	324.84	180.06	279.38	4.32	961.24
3/27/2008 12:40	66.24	616.92	39.02	46.54	324.80	184.55	286.25	4.37	962.68
3/27/2008 12:41	64.99	617.70	38.88	46.65	325.17	196.64	293.14	3.82	968.79
3/27/2008 12:42	65.59	611.23	39.03	46.34	325.19	190.61	290.04	4.21	975.52
3/27/2008 12:43	65.56	608.77	38.96	46.13	325.57	186.72	286.78	4.30	969.50
3/27/2008 12:44	65.09	604.55	39.07	46.08	324.71	188.28	293.11	4.16	969.50
3/27/2008 12:45	65.37	597.94	39.00	45.89	325.92	206.39	315.35	4.16	975.52
3/27/2008 12:46	65.73	593.72	39.04	45.83	325.88	204.69	321.25	4.33	978.58
3/27/2008 12:47	64.70	586.83	38.97	45.69	325.75	204.84	320.59	4.33	974.00
3/27/2008 12:48	65.77	589.43	39.07	45.64	325.85	204.84	320.59	4.32	962.68
3/27/2008 12:49	65.66	590.27	39.04	46.11	325.96	185.33	291.84	4.53	955.13
3/27/2008 12:50	64.80	590.27	38.90	46.36	326.24	196.17	302.11	4.40	949.02
3/27/2008 12:51	64.82	590.27	39.00	46.51	325.81	187.81	298.40	4.39	946.86
3/27/2008 12:52	64.68	593.72	38.87	46.99	325.25	181.93	291.72	4.70	946.86
3/27/2008 12:53	64.87	594.56	39.06	47.10	324.52	191.99	307.17	4.34	948.39
3/27/2008 12:54	65.98	592.88	39.00	47.08	323.81	178.05	282.81	4.40	954.41
3/27/2008 12:55	65.77	592.88	39.00	47.11	325.06	179.45	287.34	4.64	955.94
3/27/2008 12:56	65.13	588.59	39.00	46.74	324.74	189.67	295.57	4.27	962.68
3/27/2008 12:57	65.39	585.98	39.04	46.35	324.61	189.82	283.18	3.85	964.92
3/27/2008 12:58	64.95	583.45	39.07	46.27	323.10	180.37	287.17	4.54	963.39
3/27/2008 12:59	63.71	580.01	38.97	46.18	323.66	191.05	293.30	4.26	964.92
3/27/2008 13:00	**65.37**	**580.85**	**38.97**	**46.08**	**322.29**	**176.97**	**290.45**	**4.55**	**956.66**
3/27/2008 13:01	**64.95**	**678.26**	**39.02**	**46.78**	**322.76**	**176.60**	**281.45**	**4.60**	**954.41**
3/27/2008 13:02	**65.80**	**580.85**	**38.94**	**45.89**	**323.98**	**176.50**	**281.95**	**4.60**	**948.39**
3/27/2008 13:03	**64.77**	**682.61**	**39.06**	**46.06**	**323.68**	**176.50**	**281.96**	**4.60**	**942.28**
3/27/2008 13:04	**64.89**	**589.43**	**39.00**	**46.04**	**322.95**	**191.99**	**306.52**	**4.63**	**938.51**
3/27/2008 13:05	**65.16**	**592.88**	**38.94**	**46.26**	**323.73**	**196.48**	**311.60**	**4.70**	**935.54**
3/27/2008 13:06	**65.04**	**591.96**	**39.04**	**46.42**	**324.05**	**196.23**	**312.73**	**4.62**	**937.07**
3/27/2008 13:07	**64.27**	**594.66**	**38.96**	**46.75**	**323.68**	**201.89**	**324.77**	**4.46**	**943.09**
3/27/2008 13:08	**64.63**	**595.41**	**38.97**	**46.95**	**322.67**	**193.22**	**305.37**	**4.34**	**943.09**
3/27/2008 13:09	**64.61**	**598.78**	**39.02**	**47.04**	**323.63**	**190.90**	**306.13**	**4.40**	**942.28**
3/27/2008 13:10	**65.59**	**600.40**	**39.04**	**46.95**	**322.48**	**187.34**	**295.21**	**4.54**	**940.04**
3/27/2008 13:11	**64.41**	**599.65**	**38.87**	**46.93**	**322.31**	**195.10**	**307.85**	**4.21**	**949.83**
3/27/2008 13:12	**66.24**	**600.40**	**38.96**	**46.71**	**322.27**	**187.03**	**297.19**	**4.40**	**954.41**
3/27/2008 13:13	**64.25**	**601.24**	**39.04**	**46.64**	**323.00**	**183.79**	**306.19**	**4.78**	**948.39**
3/27/2008 13:14	**66.17**	**604.65**	**39.02**	**46.51**	**322.37**	**177.60**	**280.02**	**4.28**	**946.14**
3/27/2008 13:15	**66.23**	**603.77**	**38.96**	**46.22**	**321.66**	**189.20**	**294.18**	**4.20**	**949.02**
3/27/2008 13:16	**64.92**	**605.39**	**38.93**	**45.94**	**320.78**	**188.89**	**300.16**	**4.50**	**953.60**
3/27/2008 13:17	**65.11**	**606.23**	**39.02**	**45.72**	**321.21**	**189.04**	**299.26**	**4.49**	**956.66**
3/27/2008 13:18	**63.94**	**604.55**	**38.93**	**45.85**	**321.30**	**189.04**	**299.49**	**4.49**	**957.46**
3/27/2008 13:19	**63.74**	**604.55**	**38.99**	**45.96**	**321.11**	**182.23**	**292.19**	**4.54**	**950.55**
3/27/2008 13:20	**65.18**	**607.92**	**38.94**	**46.10**	**320.53**	**184.10**	**291.89**	**4.57**	**945.34**
3/27/2008 13:21	**63.77**	**608.77**	**38.97**	**46.26**	**319.60**	**193.54**	**298.81**	**4.40**	**962.07**
3/27/2008 13:22	**64.05**	**607.92**	**39.00**	**46.55**	**317.45**	**188.13**	**300.37**	**4.61**	**955.13**
3/27/2008 13:23	**63.57**	**606.23**	**39.03**	**46.77**	**318.87**	**192.30**	**316.29**	**4.88**	**950.65**
3/27/2008 13:24	**64.77**	**607.92**	**39.10**	**47.03**	**318.79**	**183.32**	**296.17**	**4.68**	**943.09**
3/27/2008 13:25	**64.61**	**610.38**	**39.04**	**47.20**	**319.62**	**193.54**	**296.64**	**4.14**	**938.51**
3/27/2008 13:26	**64.95**	**612.07**	**38.92**	**47.10**	**319.67**	**195.70**	**307.38**	**4.38**	**944.62**
3/27/2008 13:27	**64.82**	**612.77**	**38.94**	**47.06**	**317.88**	**206.07**	**314.45**	**3.81**	**949.02**
3/27/2008 13:28	**64.30**	**612.77**	**39.04**	**46.83**	**319.32**	**194.94**	**311.04**	**4.27**	**957.46**
3/27/2008 13:29	**65.39**	**612.77**	**39.08**	**46.72**	**320.31**	**192.30**	**304.67**	**4.25**	**964.20**
3/27/2008 13:30	**65.25**	**607.92**	**39.00**	**46.52**	**321.77**	**203.46**	**318.73**	**4.49**	**970.31**
3/27/2008 13:31	**65.25**	**604.55**	**39.02**	**46.40**	**320.03**	**200.35**	**311.19**	**4.23**	**973.37**
3/27/2008 13:32	**65.73**	**602.93**	**38.96**	**46.32**	**319.67**	**200.35**	**311.37**	**4.23**	**973.37**
3/27/2008 13:33	**64.97**	**597.09**	**38.96**	**46.11**	**320.25**	**200.20**	**310.96**	**4.23**	**976.33**
3/27/2008 13:34	**63.96**	**591.96**	**38.94**	**46.16**	**321.45**	**188.13**	**301.45**	**4.55**	**968.79**
3/27/2008 13:35	**62.32**	**592.88**	**38.92**	**46.41**	**319.49**	**193.22**	**302.89**	**4.22**	**956.66**
3/27/2008 13:36	**64.70**	**591.12**	**38.96**	**46.52**	**319.02**	**185.33**	**306.74**	**4.72**	**951.36**

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 13:37	64.80	597.09	39.03	46.72	318.12	185.80	296.62	4.73	943.09
3/27/2008 13:38	63.98	596.25	39.03	47.08	317.60	182.54	292.64	4.51	937.07
3/27/2008 13:39	63.94	605.39	39.03	47.35	317.13	176.35	284.82	4.98	934.02
3/27/2008 13:40	64.13	605.39	38.90	47.65	318.08	184.24	280.76	4.29	934.02
3/27/2008 13:41	65.28	609.61	39.02	47.59	316.49	182.07	289.08	4.56	936.26
3/27/2008 13:42	64.51	612.07	38.96	47.65	317.63	187.19	288.52	4.22	943.09
3/27/2008 13:43	64.80	612.77	39.06	47.27	317.07	185.64	287.05	4.26	950.55
3/27/2008 13:44	64.13	607.92	38.99	47.06	318.76	184.24	290.20	4.40	956.66
3/27/2008 13:45	64.75	607.08	39.00	46.82	319.11	196.80	302.17	4.22	963.39
3/27/2008 13:46	64.41	603.77	39.03	46.60	319.13	196.64	305.78	4.24	966.45
3/27/2008 13:47	64.77	601.24	39.10	46.50	318.94	196.48	305.78	4.24	967.26
3/27/2008 13:48	64.85	597.94	39.02	46.30	318.25	196.48	305.78	4.26	964.92
3/27/2008 13:49	64.59	598.78	38.90	46.22	319.56	194.32	308.91	4.61	949.83
3/27/2008 13:50	63.40	600.40	38.92	46.38	318.48	198.50	323.22	4.71	943.81
3/27/2008 13:51	64.56	607.08	39.04	46.60	317.58	193.69	315.90	4.81	930.96
3/27/2008 13:52	64.37	612.77	39.02	46.95	318.25	192.30	303.95	4.74	926.29
3/27/2008 13:53	63.94	616.08	39.06	47.12	319.00	190.61	312.66	4.88	924.76
3/27/2008 13:54	64.99	625.08	38.97	47.33	319.64	193.22	312.71	4.73	924.76
3/27/2008 13:55	65.66	633.02	39.00	47.69	317.09	189.98	302.68	4.29	927.82
3/27/2008 13:56	63.86	631.41	38.99	47.75	317.54	193.22	303.54	4.08	937.07
3/27/2008 13:57	64.89	632.18	39.11	47.77	318.16	190.29	298.24	4.31	943.09
3/27/2008 13:58	65.20	631.41	38.90	47.38	317.56	189.67	289.02	4.04	957.46
3/27/2008 13:59	64.39	627.40	39.04	47.27	316.68	197.25	307.95	4.10	964.92
3/27/2008 14:00	64.73	623.46	38.94	47.14	316.06	187.03	293.48	4.33	971.84
3/27/2008 14:01	65.49	620.16	38.99	46.76	315.82	191.68	299.39	4.30	972.56
3/27/2008 14:02	63.40	618.54	39.06	46.75	316.21	191.52	299.22	4.31	971.03
3/27/2008 14:03	64.59	617.70	38.94	46.44	315.18	191.52	299.22	4.31	957.46
3/27/2008 14:04	64.39	622.62	39.02	46.55	316.55	185.49	294.96	4.58	951.36
3/27/2008 14:05	63.06	622.62	39.04	46.48	315.76	185.33	300.21	4.71	946.86
3/27/2008 14:06	64.08	626.55	38.93	46.76	315.54	184.39	292.91	4.57	944.62
3/27/2008 14:07	63.11	629.79	38.87	47.02	315.76	186.11	300.47	4.57	943.09
3/27/2008 14:08	62.64	628.17	38.94	47.36	315.26	183.01	295.41	4.56	945.34
3/27/2008 14:09	63.64	629.02	39.06	47.64	315.39	203.91	311.54	4.17	958.99
3/27/2008 14:10	64.51	624.23	39.08	47.89	313.11	201.74	309.39	4.11	973.37
3/27/2008 14:11	64.32	615.23	39.00	48.04	314.55	193.69	303.75	4.45	976.33
3/27/2008 14:12	64.30	610.38	38.87	47.87	315.13	203.46	318.11	4.43	979.30
3/27/2008 14:13	64.68	607.08	39.00	47.67	315.07	193.85	309.45	4.33	977.77
3/27/2008 14:14	63.91	602.93	38.99	47.51	314.19	210.41	319.94	4.13	982.35
3/27/2008 14:15	64.37	597.09	39.07	47.41	315.30	198.65	319.73	4.57	985.41
3/27/2008 14:16	64.51	593.72	39.08	47.20	315.46	198.50	313.01	4.43	979.30
3/27/2008 14:17	63.11	591.12	38.87	47.38	312.71	198.34	312.83	4.42	967.26
3/27/2008 14:18	64.39	591.12	38.87	46.92	313.80	198.50	312.83	4.42	953.60
3/27/2008 14:19	64.13	591.96	39.00	46.70	314.92	187.34	301.07	4.92	946.86
3/27/2008 14:20	63.16	588.59	39.04	46.77	312.94	192.15	304.08	4.16	952.88
3/27/2008 14:21	65.28	589.43	38.92	46.81	312.08	194.16	291.05	4.28	958.99
3/27/2008 14:22	64.18	581.77	39.00	46.85	312.21	196.17	303.26	4.31	965.73
3/27/2008 14:23	62.54	581.77	39.06	47.12	311.12	181.46	292.34	4.54	970.31
3/27/2008 14:24	65.37	577.41	39.08	47.13	310.84	182.85	288.87	4.47	966.45
3/27/2008 14:25	64.41	573.89	38.92	47.39	312.13	180.06	296.52	4.78	965.73
3/27/2008 14:26	65.18	574.73	39.06	47.54	312.43	179.92	284.98	4.61	959.71
3/27/2008 14:27	64.95	572.98	38.90	47.08	312.23	190.45	297.97	4.43	958.18
3/27/2008 14:28	65.04	572.06	39.08	46.83	312.06	195.86	306.86	4.40	957.46
3/27/2008 14:29	65.06	571.22	39.04	46.57	311.76	198.65	313.01	4.46	961.96
3/27/2008 14:30	64.13	569.53	39.02	46.35	312.83	197.40	310.74	4.23	961.96
3/27/2008 14:31	64.59	570.45	39.04	46.05	312.60	196.17	307.46	4.37	953.60
3/27/2008 14:32	63.71	572.06	39.00	45.85	314.40	196.17	307.54	4.35	947.58
3/27/2008 14:33	64.95	577.41	39.03	45.72	312.04	196.02	307.29	4.35	940.04
3/27/2008 14:34	63.94	583.45	38.97	45.65	312.86	187.03	301.45	4.98	927.01
3/27/2008 14:35	63.47	586.83	39.07	45.54	312.79	187.03	305.63	5.20	920.81
3/27/2008 14:36	64.75	592.88	39.04	45.83	312.43	187.19	308.55	5.05	912.27
3/27/2008 14:37	63.74	600.40	38.92	46.04	311.87	196.48	319.73	4.83	906.07
3/27/2008 14:38	64.99	610.38	38.92	45.40	312.36	188.28	308.71	4.92	904.55
3/27/2008 14:39	64.08	614.46	39.03	45.66	311.76	190.29	302.81	4.72	907.60
3/27/2008 14:40	64.05	625.08	38.92	46.96	311.42	184.39	293.30	4.48	912.27
3/27/2008 14:41	64.37	632.18	38.93	47.27	311.44	188.59	304.59	4.63	919.28
3/27/2008 14:42	63.16	635.41	39.02	47.25	311.03	195.39	301.09	3.99	934.73
3/27/2008 14:43	64.49	632.18	39.00	47.12	310.06	191.68	312.21	4.47	941.56

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 14:44	63.94	640.05	39.03	46.94	309.50	191.68	294.00	4.14	949.83
3/27/2008 14:45	64.37	636.19	38.88	46.64	309.96	187.34	301.00	4.29	964.20
3/27/2008 14:46	64.22	635.41	38.96	46.62	310.02	186.72	286.74	4.07	968.79
3/27/2008 14:47	63.06	631.41	39.03	46.32	309.55	186.72	286.80	4.06	970.31
3/27/2008 14:48	64.27	626.55	39.07	46.28	308.69	186.88	286.80	4.06	976.33
3/27/2008 14:49	62.93	622.62	38.99	46.03	308.67	199.12	307.99	4.23	982.35
3/27/2008 14:50	62.88	618.54	39.08	45.93	308.43	199.57	306.88	4.33	982.35
3/27/2008 14:51	63.89	613.62	39.00	45.93	309.91	189.67	303.38	4.57	983.88
3/27/2008 14:52	62.86	608.77	38.90	46.32	308.95	190.29	302.83	4.65	976.33
3/27/2008 14:53	64.70	605.39	39.08	46.44	309.07	202.05	309.18	4.18	974.80
3/27/2008 14:54	62.41	601.24	38.99	46.62	310.56	197.25	302.85	4.20	975.52
3/27/2008 14:55	64.32	593.72	38.90	47.03	308.45	206.39	315.63	4.26	977.05
3/27/2008 14:56	63.23	588.59	39.03	47.10	309.38	205.31	330.68	4.55	983.16
3/27/2008 14:57	64.05	585.98	39.11	47.30	308.45	203.46	326.95	4.40	982.35
3/27/2008 14:58	63.84	680.01	39.02	47.26	309.55	195.10	304.28	4.25	980.11
3/27/2008 14:59	64.75	574.73	39.07	46.88	310.06	204.53	325.29	4.54	980.82
3/27/2008 15:00	63.62	566.86	38.93	46.94	309.44	205.94	325.88	4.33	977.77
3/27/2008 15:01	61.79	563.27	38.97	46.49	310.84	201.89	315.23	4.30	977.05
3/27/2008 15:02	63.81	563.27	38.94	46.29	310.92	201.89	315.23	4.30	964.20
3/27/2008 15:03	64.25	563.27	39.10	46.04	311.31	201.89	315.06	4.30	958.18
3/27/2008 15:04	63.40	559.69	38.97	45.82	310.32	182.54	301.76	4.86	944.62
3/27/2008 15:05	66.13	566.86	39.03	45.54	310.45	193.07	299.57	4.51	938.51
3/27/2008 15:06	63.16	568.69	38.88	45.65	311.61	188.73	301.19	4.67	934.02
3/27/2008 15:07	64.37	571.22	38.96	45.61	310.46	187.81	302.97	4.54	932.49
3/27/2008 15:08	64.54	575.65	39.08	45.82	309.96	178.83	293.36	4.90	932.49
3/27/2008 15:09	64.10	684.37	39.07	46.23	310.17	177.60	288.14	4.77	931.77
3/27/2008 15:10	63.77	582.61	38.97	46.38	309.98	176.35	291.23	4.75	930.24
3/27/2008 15:11	63.79	586.83	38.93	46.56	308.43	189.67	300.00	4.42	927.01
3/27/2008 15:12	64.08	590.27	39.07	46.64	308.17	183.32	298.61	4.60	934.02
3/27/2008 15:13	62.76	594.56	38.88	46.55	308.88	194.00	298.52	4.38	939.23
3/27/2008 15:14	63.74	596.25	39.07	46.65	308.71	188.44	301.11	4.37	941.56
3/27/2008 15:15	64.41	599.55	38.93	46.63	308.77	187.03	301.27	4.70	943.09
3/27/2008 15:16	63.50	599.55	38.99	46.38	309.01	186.72	296.70	4.53	946.14
3/27/2008 15:17	64.00	597.94	38.94	46.15	307.74	186.72	296.70	4.53	954.41
3/27/2008 15:18	64.73	598.78	39.02	46.25	308.28	186.72	296.70	4.54	970.31
3/27/2008 15:19	63.86	592.88	38.99	46.17	309.18	216.46	324.22	3.86	977.77
3/27/2008 15:20	62.96	582.61	38.90	45.92	307.61	216.46	333.28	4.26	990.62
3/27/2008 15:21	63.43	579.16	38.90	45.94	308.82	200.66	322.11	4.57	984.69
3/27/2008 15:22	65.06	573.89	39.07	45.71	309.05	203.30	317.62	4.12	981.63
3/27/2008 16:23	62.98	569.53	38.97	45.78	309.42	202.36	316.06	4.24	981.63
3/27/2008 15:24	64.51	566.86	38.90	46.07	309.14	199.88	317.99	4.63	978.58
3/27/2008 15:25	62.71	564.19	38.94	46.04	308.26	187.81	301.88	4.82	964.20
3/27/2008 15:26	64.69	663.27	39.03	46.38	308.39	192.15	296.66	4.40	958.18
3/27/2008 15:27	63.16	562.36	39.03	46.82	308.64	188.89	295.45	4.68	955.94
3/27/2008 15:28	63.23	562.36	38.94	46.77	307.74	186.43	300.63	4.98	952.07
3/27/2008 15:29	64.66	561.52	39.10	47.09	306.78	198.81	316.27	4.50	954.41
3/27/2008 15:30	62.49	561.52	38.96	47.11	307.94	187.66	303.77	4.71	953.60
3/27/2008 15:31	63.71	560.60	38.94	46.84	307.48	184.10	298.67	4.79	955.13
3/27/2008 15:32	64.44	560.60	38.94	46.76	307.33	184.39	298.50	4.79	954.41
3/27/2008 15:33	62.71	561.52	38.96	46.63	306.60	184.24	298.50	4.79	960.55
3/27/2008 15:34	62.79	556.17	38.87	46.30	306.80	184.39	298.36	4.85	945.34
3/27/2008 15:35	62.93	560.60	39.00	46.06	308.06	191.21	300.49	4.34	943.81
3/27/2008 15:36	62.93	560.60	38.94	45.89	307.70	191.05	308.38	4.67	948.39
3/27/2008 15:37	64.00	562.36	38.92	45.82	308.19	185.18	296.84	4.86	943.09
3/27/2008 15:38	63.86	562.36	39.00	45.68	306.78	202.99	321.91	4.59	943.09
3/27/2008 15:39	64.10	562.36	39.08	45.80	307.23	198.65	325.86	4.71	946.14
3/27/2008 15:40	61.96	568.69	39.07	45.89	307.68	186.43	315.27	5.05	940.04
3/27/2008 15:41	63.84	572.06	38.93	46.10	306.63	183.16	302.95	5.02	928.63
3/27/2008 15:42	63.71	581.77	39.00	46.36	306.45	199.43	318.34	4.60	923.23
3/27/2008 15:43	63.74	586.83	39.06	46.60	307.79	198.03	321.05	4.98	924.76
3/27/2008 15:44	63.67	589.43	38.97	46.80	306.45	195.39	311.58	4.66	927.01
3/27/2008 15:45	63.81	592.88	39.00	46.90	306.11	205.16	319.16	4.29	940.75
3/27/2008 15:46	63.55	592.88	38.93	46.85	306.97	205.47	321.37	4.32	946.86
3/27/2008 15:47	63.43	592.88	38.96	46.85	306.47	205.78	321.19	4.31	948.39
3/27/2008 15:48	63.03	595.41	38.97	46.36	308.49	205.63	321.62	4.32	949.02
3/27/2008 15:49	62.66	593.72	39.13	46.13	307.40	194.63	306.15	4.54	954.41
3/27/2008 15:50	63.43	593.72	39.02	45.94	307.63	189.67	306.25	4.50	953.60

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 15:51	63.67	596.25	38.99	45.76	308.11	196.80	313.44	4.54	954.41
3/27/2008 15:52	63.45	595.41	39.06	45.53	307.61	194.00	321.68	4.75	958.18
3/27/2008 15:53	62.91	597.09	38.88	45.48	309.14	187.81	303.63	4.80	956.66
3/27/2008 15:54	62.49	597.94	39.06	45.98	309.07	186.88	306.31	4.67	953.60
3/27/2008 15:55	63.11	601.24	38.94	46.09	307.85	188.89	299.34	4.26	947.58
3/27/2008 15:56	63.71	602.09	39.02	46.16	308.26	191.68	300.47	4.25	947.58
3/27/2008 15:57	63.01	604.55	39.06	46.30	309.91	189.67	303.38	4.31	947.58
3/27/2008 15:58	63.47	602.93	39.03	46.41	308.90	201.74	310.33	4.26	953.60
3/27/2008 15:59	63.40	598.78	38.96	46.56	309.42	200.51	315.98	4.31	960.52
	64.11	595.90	38.99	46.58	313.60	192.17	304.57	4.48	952.79
3/27/2008 16:00	63.40	596.25	38.92	46.62	309.61	198.81	315.39	4.53	964.92
3/27/2008 16:01	64.41	593.72	38.79	46.83	309.50	197.25	313.16	4.50	965.73
3/27/2008 16:02	64.63	592.88	39.00	46.54	309.93	197.40	312.93	4.50	967.26
3/27/2008 16:03	63.08	586.83	39.07	46.19	310.99	197.40	312.73	4.49	973.37
3/27/2008 16:04	63.77	581.77	38.92	46.03	310.92	198.81	326.04	4.78	974.80
3/27/2008 16:05	62.29	581.77	38.99	45.82	311.39	204.38	321.52	4.70	970.31
3/27/2008 16:06	63.77	581.77	39.02	45.57	310.69	198.81	313.91	4.50	964.92
3/27/2008 16:07	64.51	582.61	39.07	45.59	312.25	203.77	327.01	4.55	958.18
3/27/2008 16:08	63.38	583.45	39.10	45.57	311.27	200.20	322.91	4.42	952.07
3/27/2008 16:09	63.43	584.37	38.93	45.59	311.74	192.15	315.29	4.82	949.83
3/27/2008 16:10	61.74	582.61	38.96	45.86	311.89	192.46	308.73	4.62	945.34
3/27/2008 16:11	65.13	585.21	39.04	46.10	310.00	191.37	303.05	4.71	942.28
3/27/2008 16:12	63.16	586.83	39.04	46.33	309.22	195.55	308.55	4.39	940.04
3/27/2008 16:13	62.49	585.98	39.04	46.67	307.38	187.50	309.39	4.67	939.23
3/27/2008 16:14	62.88	592.88	39.03	46.95	308.64	184.71	297.48	4.55	933.21
3/27/2008 16:15	64.46	596.25	39.03	47.11	308.13	189.51	299.82	4.76	930.96
3/27/2008 16:16	64.39	598.78	38.87	47.00	308.39	190.61	305.63	4.64	937.79
3/27/2008 16:17	64.18	599.55	39.00	46.67	307.38	190.76	305.57	4.66	947.58
3/27/2008 16:18	63.52	599.55	39.00	46.57	307.63	190.76	306.00	4.66	952.88
3/27/2008 16:19	63.89	600.40	38.99	46.37	307.87	201.13	311.78	4.31	951.36
3/27/2008 16:20	63.71	602.09	39.00	46.36	308.95	196.64	313.85	4.61	953.60
3/27/2008 16:21	63.64	602.93	39.07	46.07	309.53	190.90	305.57	4.57	952.88
3/27/2008 16:22	63.50	602.09	39.07	45.84	309.59	208.87	325.23	4.33	949.83
3/27/2008 16:23	64.34	602.93	39.08	45.67	311.24	199.73	320.72	4.67	952.88
3/27/2008 16:24	63.13	603.77	39.03	45.56	310.06	197.56	315.39	4.54	951.36
3/27/2008 16:25	63.11	603.77	39.06	45.82	309.46	198.03	319.18	4.54	951.36
3/27/2008 16:26	62.59	601.24	38.93	45.89	308.95	199.12	316.04	4.51	955.94
3/27/2008 16:27	63.74	598.78	38.96	46.13	309.63	197.40	321.37	4.71	956.66
3/27/2008 16:28	63.13	601.24	38.96	46.47	309.78	196.64	314.24	4.66	954.41
3/27/2008 16:29	62.76	601.24	38.97	46.56	311.39	191.05	302.40	4.57	947.58
3/27/2008 16:30	64.08	603.77	39.04	46.71	309.85	189.20	304.69	4.55	945.34
3/27/2008 16:31	63.81	604.55	39.04	46.91	309.76	190.61	302.50	4.51	946.14
3/27/2008 16:32	64.32	607.92	38.97	46.85	308.15	190.61	302.50	4.51	948.39
3/27/2008 16:33	64.08	605.39	39.00	45.66	308.39	190.76	302.58	4.50	955.94
3/27/2008 16:34	63.64	604.55	39.02	46.42	307.76	193.07	300.47	4.21	961.96
3/27/2008 16:35	64.56	602.93	39.11	46.10	308.49	183.48	293.75	4.52	959.71
3/27/2008 16:36	64.99	604.55	39.00	45.97	309.10	189.51	298.34	4.49	957.46
3/27/2008 16:37	63.69	601.24	38.99	46.05	308.28	185.64	303.09	4.75	958.18
3/27/2008 16:38	63.79	600.40	38.96	46.12	307.96	186.27	296.23	4.59	955.94
3/27/2008 16:39	63.89	600.40	39.00	46.04	307.33	191.84	304.90	4.52	954.41
3/27/2008 16:40	62.91	601.24	39.04	46.14	307.91	188.28	304.55	4.39	949.83
3/27/2008 16:41	64.18	603.77	39.03	46.26	308.17	191.68	303.20	4.49	948.39
3/27/2008 16:42	63.98	602.93	39.04	46.41	308.49	192.77	307.09	4.52	948.39
3/27/2008 16:43	63.62	604.55	38.90	46.75	307.61	195.70	303.69	4.57	949.83
3/27/2008 16:44	63.38	603.77	38.93	46.83	307.72	200.04	306.99	4.30	956.66
3/27/2008 16:45	63.16	602.93	38.99	47.09	307.98	194.16	303.98	4.41	959.71
3/27/2008 16:46	64.70	599.55	38.92	47.05	308.97	195.23	307.44	4.39	962.68
3/27/2008 16:47	63.32	597.09	38.97	46.96	308.88	195.10	306.56	4.39	968.79
3/27/2008 16:48	63.16	590.27	39.04	46.95	307.94	195.10	306.56	4.37	971.84
3/27/2008 16:49	63.32	585.21	38.94	46.73	307.74	212.58	324.41	3.87	974.80
3/27/2008 16:50	63.64	576.49	39.02	46.53	307.72	199.28	324.73	4.71	980.82
3/27/2008 16:51	62.93	580.01	38.96	46.16	307.65	205.31	319.88	4.41	976.33
3/27/2008 16:52	63.64	572.06	39.02	46.23	307.81	191.99	311.46	4.67	974.00
3/27/2008 16:53	62.21	573.89	39.04	46.08	305.98	187.66	309.22	5.10	965.73
3/27/2008 16:54	64.37	572.06	39.06	46.22	306.97	183.95	295.47	4.73	959.71

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 16:55	64.63	573.89	38.99	46.11	306.90	192.62	301.45	4.33	954.41
3/27/2008 16:56	62.96	574.73	39.04	46.11	305.49	183.32	300.21	4.57	953.60
3/27/2008 16:57	64.15	574.73	39.00	46.47	307.14	181.00	294.53	4.62	947.58
3/27/2008 16:58	63.81	575.65	39.02	46.69	305.62	179.92	298.32	4.78	940.75
3/27/2008 16:59	63.45	579.16	39.02	46.89	305.64	181.62	286.17	4.45	939.23
3/27/2008 17:00	63.77	581.77	39.00	47.11	306.65	197.87	314.14	4.36	944.62
3/27/2008 17:01	62.61	580.01	38.99	47.30	308.39	195.23	307.38	4.39	947.58
3/27/2008 17:02	64.08	578.25	38.97	47.33	306.47	195.23	306.97	4.39	955.94
3/27/2008 17:03	62.98	577.41	38.97	46.96	307.48	195.39	307.03	4.38	967.98
3/27/2008 17:04	63.35	579.16	39.00	46.90	307.44	198.34	317.48	4.36	966.45
3/27/2008 17:05	63.28	574.73	39.03	46.65	307.66	206.23	318.14	4.40	963.39
3/27/2008 17:06	62.86	570.45	39.03	46.30	308.21	197.71	317.89	4.26	961.96
3/27/2008 17:07	63.08	570.45	38.99	46.12	308.34	198.34	315.23	4.70	958.99
3/27/2008 17:08	62.84	570.45	38.97	46.10	308.34	199.43	320.00	4.50	955.94
3/27/2008 17:09	65.09	569.53	39.16	45.95	308.47	198.18	314.84	4.50	955.94
~~3/27/2008 17:10~~	~~64.05~~	~~569.53~~	~~38.94~~	~~45.93~~	~~308.02~~	~~191.05~~	~~305.72~~	~~4.77~~	~~952.07~~
3/27/2008 17:11	63.08	571.22	39.03	46.18	306.95	188.73	302.48	4.62	949.02
3/27/2008 17:12	63.81	572.06	39.02	46.46	306.75	190.45	307.81	4.54	946.14
3/27/2008 17:13	63.38	573.89	38.96	46.45	306.37	196.17	309.28	4.64	945.34
3/27/2008 17:14	63.23	573.89	38.99	46.69	306.71	194.16	300.49	4.42	946.34
3/27/2008 17:15	64.39	574.73	39.11	46.93	306.93	197.11	306.62	4.33	951.36
3/27/2008 17:16	63.23	573.89	38.99	46.95	306.24	194.63	311.95	4.62	952.07
3/27/2008 17:17	63.43	577.41	38.97	46.85	307.12	194.79	311.70	4.62	940.75
3/27/2008 17:18	62.16	579.16	39.00	46.78	307.42	194.79	311.95	4.63	943.81
3/27/2008 17:19	64.22	584.37	39.02	46.66	305.14	186.11	307.50	4.70	940.04
3/27/2008 17:20	63.74	585.21	39.02	46.64	307.33	197.11	307.60	4.47	942.28
3/27/2008 17:21	63.91	585.21	39.03	46.54	305.89	196.17	315.98	4.61	946.86
3/27/2008 17:22	62.76	587.67	39.02	46.15	305.87	185.18	297.99	4.81	943.81
3/27/2008 17:23	64.20	591.96	39.06	45.83	305.40	190.45	303.01	4.52	938.51
3/27/2008 17:24	62.61	595.41	38.99	45.70	305.94	192.46	308.26	4.64	931.77
3/27/2008 17:25	63.64	597.94	38.99	46.78	306.84	194.32	307.42	4.76	935.54
3/27/2008 17:26	63.45	600.40	38.97	46.94	306.69	195.23	313.30	4.60	944.62
3/27/2008 17:27	61.99	601.24	38.99	46.48	305.04	190.76	306.56	4.64	947.58
3/27/2008 17:28	63.84	602.93	38.96	46.62	304.73	190.76	311.04	4.65	945.34
3/27/2008 17:29	63.71	603.77	39.10	46.81	305.01	197.87	309.53	4.28	951.36
3/27/2008 17:30	63.69	601.24	39.02	47.03	303.85	198.34	311.99	4.50	957.46
3/27/2008 17:31	62.12	599.55	39.04	47.05	305.12	196.64	303.87	4.16	964.20
3/27/2008 17:32	63.60	597.94	39.00	47.07	305.59	196.64	303.87	4.15	964.20
3/27/2008 17:33	64.85	597.94	39.00	46.75	305.49	196.64	303.69	4.16	962.68
3/27/2008 17:34	63.62	594.56	38.99	46.59	304.11	196.80	302.27	4.27	961.96
3/27/2008 17:35	63.21	592.88	38.93	46.45	303.98	194.47	305.08	4.44	967.26
3/27/2008 17:36	62.59	585.98	38.92	46.23	304.46	192.77	318.77	4.74	971.03
3/27/2008 17:37	62.81	586.83	39.02	46.21	302.09	208.71	310.37	4.20	967.98
3/27/2008 17:38	63.13	683.45	39.02	45.94	303.51	195.10	304.67	4.51	966.46
3/27/2008 17:39	62.69	580.01	39.11	46.08	302.87	188.73	301.33	4.67	967.98
3/27/2008 17:40	63.98	577.41	38.99	46.14	301.28	181.15	292.71	4.64	964.20
3/27/2008 17:41	62.69	578.25	39.04	46.23	303.12	184.24	290.33	4.72	958.18
3/27/2008 17:42	62.12	579.16	39.06	46.53	300.65	182.38	293.67	4.89	953.60
3/27/2008 17:43	63.94	580.01	38.92	46.54	303.29	190.76	303.54	4.76	952.07
3/27/2008 17:44	62.61	580.01	38.97	46.83	302.63	198.18	311.89	4.47	949.83
3/27/2008 17:45	62.93	578.25	39.03	46.85	303.19	197.71	316.48	4.64	954.41
3/27/2008 17:46	63.89	575.65	38.97	46.90	303.36	194.16	309.59	4.57	958.99
3/27/2008 17:47	62.81	572.98	38.94	46.78	302.91	194.16	309.10	4.57	964.92
3/27/2008 17:48	62.81	570.45	39.07	46.62	303.68	194.16	309.28	4.57	966.45
3/27/2008 17:49	63.52	568.69	38.93	46.37	305.46	192.93	311.50	4.70	962.68
3/27/2008 17:50	63.91	568.69	38.92	46.15	304.50	207.17	315.06	4.13	958.18
3/27/2008 17:51	62.71	563.27	39.03	45.83	304.54	197.87	323.65	4.62	964.20
3/27/2008 17:52	62.61	562.36	38.97	45.51	304.80	198.18	319.67	4.67	965.73
3/27/2008 17:53	63.69	563.27	38.96	45.59	305.19	192.77	316.56	4.81	960.52
3/27/2008 17:54	63.62	559.69	39.00	45.61	304.67	187.50	303.40	4.71	957.46
3/27/2008 17:55	63.38	564.19	38.90	45.61	304.95	196.95	314.12	4.53	950.55
3/27/2008 17:56	63.21	565.95	39.04	45.52	305.98	191.68	305.74	4.70	947.58
3/27/2008 17:57	62.71	568.69	39.03	45.78	305.77	178.67	299.06	4.93	944.62
3/27/2008 17:58	62.84	572.98	38.97	45.84	305.21	180.06	295.80	4.85	938.51
3/27/2008 17:59	62.76	576.49	39.10	46.22	303.98	178.67	292.99	4.77	934.02
3/27/2008 18:00	63.18	578.25	39.08	46.45	304.33	178.52	286.07	4.66	931.77
3/27/2008 18:01	62.56	580.85	38.90	46.54	303.90	176.19	284.65	4.75	930.96

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 18:02	64.10	584.37	39.06	46.48	306.25	176.50	284.65	4.75	939.23
3/27/2008 18:03	65.16	584.37	39.03	46.42	304.54	176.50	284.90	4.75	945.34
3/27/2008 18:04	63.40	584.37	39.10	46.15	304.91	187.34	300.74	4.68	949.02
3/27/2008 18:05	61.89	585.98	39.04	46.05	304.26	193.69	302.48	4.37	952.07
3/27/2008 18:06	64.10	688.59	39.02	45.75	304.18	191.52	300.96	4.55	961.36
3/27/2008 18:07	64.15	588.69	38.97	45.85	304.07	195.10	305.20	4.27	951.36
3/27/2008 18:08	63.08	588.59	38.99	45.50	304.76	201.89	316.70	4.53	958.18
3/27/2008 18:09	64.27	584.37	39.06	45.33	305.96	195.86	316.37	4.50	965.73
3/27/2008 18:10	61.84	583.45	39.03	45.26	304.76	196.70	311.89	4.64	967.26
3/27/2008 18:11	63.25	583.45	39.02	45.49	304.69	196.64	312.73	4.60	963.39
3/27/2008 18:12	62.24	582.61	38.97	45.60	305.59	189.82	311.66	4.66	959.71
3/27/2008 18:13	61.94	582.61	38.96	46.09	305.16	190.14	313.11	4.91	953.60
3/27/2008 18:14	63.01	582.61	38.99	46.36	304.71	190.14	307.48	4.67	946.86
3/27/2008 18:15	62.37	581.77	38.94	46.47	303.17	189.51	302.40	4.60	946.86
3/27/2008 18:16	64.08	582.61	38.96	46.72	303.60	189.67	304.96	4.68	950.55
~~3/27/2008 18:17~~	~~61.79~~	~~583.45~~	~~38.94~~	~~46.47~~	~~302.41~~	~~189.51~~	~~304.96~~	~~4.68~~	~~953.60~~
3/27/2008 18:18	62.04	583.45	38.94	46.61	307.03	189.51	304.71	4.68	954.41
3/27/2008 18:19	63.60	585.21	39.03	46.19	308.24	183.79	296.46	4.78	954.41
3/27/2008 18:20	62.91	585.21	38.94	46.21	307.23	182.54	290.68	4.37	952.07
3/27/2008 18:21	62.39	587.67	38.97	45.95	307.85	190.14	297.01	4.50	949.02
3/27/2008 18:22	62.84	585.98	39.03	45.72	308.43	191.21	301.76	4.42	953.60
3/27/2008 18:23	63.55	585.21	39.08	45.42	306.43	186.27	301.27	4.56	959.71
3/27/2008 18:24	63.01	584.37	39.03	45.44	308.15	193.69	306.72	4.58	961.96
3/27/2008 18:25	62.04	579.16	38.97	45.46	306.00	190.45	309.71	4.61	963.39
3/27/2008 18:26	64.00	578.25	39.02	45.56	307.89	192.30	302.38	4.39	958.18
3/27/2008 18:27	63.55	582.61	39.04	45.70	307.08	192.30	312.87	4.82	956.66
3/27/2008 18:28	63.40	578.25	38.97	45.91	306.63	181.16	291.95	5.01	951.36
3/27/2008 18:29	62.88	680.86	39.08	46.06	305.66	193.85	304.39	4.93	944.62
3/27/2008 18:30	61.49	583.45	38.97	46.35	306.86	179.14	303.13	5.15	938.51
3/27/2008 18:31	62.64	587.67	38.97	46.64	306.24	179.77	295.12	4.96	937.79
3/27/2008 18:32	63.23	589.43	39.02	46.73	307.31	179.61	295.12	4.97	946.14
3/27/2008 18:33	62.14	589.43	39.03	46.80	307.48	179.77	295.39	4.96	952.88
3/27/2008 18:34	63.18	588.59	39.04	46.49	307.10	186.18	304.80	4.51	959.71
3/27/2008 18:36	62.84	585.21	38.99	46.23	307.31	190.90	295.00	4.47	962.68
3/27/2008 18:36	62.74	583.45	39.03	45.94	307.25	186.88	305.68	4.54	966.45
3/27/2008 18:37	63.71	579.16	39.02	45.70	308.04	179.77	287.62	4.53	967.98
3/27/2008 18:38	64.08	579.16	39.03	45.64	309.05	188.89	290.00	4.23	966.45
3/27/2008 18:39	63.96	573.89	39.13	45.58	308.26	177.13	288.98	4.50	967.98
3/27/2008 18:40	62.44	574.73	38.92	45.56	306.54	178.36	293.59	4.98	963.39
3/27/2008 18:41	62.51	572.98	38.92	45.45	307.33	171.70	283.65	4.71	952.07
3/27/2008 18:42	62.19	575.65	39.02	45.52	306.69	178.83	282.54	4.95	946.14
3/27/2008 18:43	63.23	576.49	39.06	45.70	306.52	178.98	282.83	4.77	942.28
3/27/2008 18:44	62.04	580.85	39.00	45.97	306.65	189.98	295.55	4.72	947.58
3/27/2008 18:45	61.54	581.77	39.00	46.38	305.89	183.32	295.10	4.67	949.83
3/27/2008 18:46	62.24	581.77	38.92	46.41	306.26	184.39	298.79	4.78	949.02
3/27/2008 18:47	61.41	580.85	39.03	46.40	306.73	184.39	298.79	4.77	953.60
3/27/2008 18:48	61.31	579.16	39.02	46.62	307.68	184.39	298.61	4.78	960.52
3/27/2008 18:49	62.54	579.16	39.06	46.29	306.04	196.95	306.37	4.44	963.39
3/27/2008 18:50	62.41	572.98	39.03	46.13	306.82	196.64	308.48	4.48	962.68
3/27/2008 18:51	61.72	672.06	39.03	45.69	306.65	193.54	308.44	4.98	959.71
3/27/2008 18:52	63.45	573.89	39.08	45.61	306.99	189.20	314.32	4.95	953.60
3/27/2008 18:53	62.86	574.73	39.08	45.48	306.65	190.61	304.84	4.82	946.86
3/27/2008 18:54	62.44	577.41	39.02	45.13	306.09	190.45	304.55	4.77	943.09
3/27/2008 18:55	64.75	581.77	39.00	44.45	301.38	185.18	306.99	4.65	940.75
3/27/2008 18:56	64.05	581.77	38.99	44.58	304.33	183.48	295.41	4.75	938.51
3/27/2008 18:57	63.38	587.67	38.99	44.87	305.10	179.45	299.32	4.99	928.63
3/27/2008 18:58	63.60	598.78	38.93	45.17	305.87	176.35	291.58	4.64	920.09
3/27/2008 18:59	63.89	603.77	38.97	45.41	305.14	186.43	297.79	4.40	915.33
	63.29	585.27	39.00	46.22	306.74	191.35	305.62	4.59	953.47
3/27/2008 19:00	64.22	612.77	39.02	45.63	304.15	183.16	300.20	4.63	923.23
3/27/2008 19:01	64.13	612.07	39.08	45.66	304.86	180.68	285.33	4.46	933.21
3/27/2008 19:02	63.98	612.07	39.07	45.99	304.95	180.53	285.49	4.47	939.23
3/27/2008 19:03	65.16	612.07	38.99	45.94	304.76	180.53	285.49	4.47	952.88
3/27/2008 19:04	63.57	608.77	38.94	45.85	305.62	192.15	289.08	4.05	965.73
3/27/2008 19:05	63.11	603.77	38.90	45.40	304.09	192.77	308.89	4.51	969.50
3/27/2008 19:06	64.59	604.55	38.99	45.31	305.79	183.63	296.45	4.54	965.73

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 19:07	64.08	603.77	39.04	45.11	305.89	182.70	292.46	4.61	959.71
3/27/2008 19:08	63.28	605.39	39.07	45.16	306.32	194.94	294.67	4.47	956.66
3/27/2008 19:09	63.98	604.55	38.92	44.83	305.70	194.63	303.98	4.42	957.46
3/27/2008 19:10	65.18	606.23	38.84	44.71	305.66	188.13	297.75	4.71	954.41
3/27/2008 19:11	62.51	607.08	39.06	44.69	306.64	200.04	300.20	4.16	952.88
3/27/2008 19:12	62.84	601.24	38.92	44.52	306.71	197.87	306.11	4.23	958.99
3/27/2008 19:13	63.23	602.93	38.93	44.72	305.77	186.88	304.84	4.35	962.68
3/27/2008 19:14	64.08	599.55	38.97	44.87	305.49	189.82	303.03	4.54	964.92
3/27/2008 19:15	62.81	695.41	39.04	45.17	305.59	185.80	297.44	4.47	970.31
3/27/2008 19:16	63.91	594.56	39.04	45.46	306.60	183.32	292.38	4.57	966.73
3/27/2008 19:17	64.44	591.12	39.07	45.53	305.81	183.32	291.97	4.66	961.96
3/27/2008 19:18	64.41	590.27	38.92	45.49	306.52	183.63	292.13	4.57	958.18
3/27/2008 19:19	64.22	591.12	38.99	45.42	306.86	179.30	280.14	4.63	956.66
3/27/2008 19:20	63.40	589.43	39.04	45.22	307.14	176.66	291.97	4.56	953.60
3/27/2008 19:21	63.55	590.27	38.96	45.09	307.59	185.96	286.07	4.23	962.07
3/27/2008 19:22	63.69	594.56	38.90	45.01	306.82	184.10	297.68	4.45	947.58
3/27/2008 19:23	64.15	594.56	38.96	44.77	306.07	179.61	290.41	4.67	949.02
3/27/2008 19:24	63.55	597.09	38.96	44.67	306.99	176.50	284.04	4.61	945.34
3/27/2008 19:25	64.63	598.78	38.97	44.61	307.70	174.65	278.59	4.38	943.81
3/27/2008 19:26	65.32	602.93	38.99	44.36	307.01	171.39	278.98	4.64	939.23
3/27/2008 19:27	63.21	603.77	38.97	44.15	308.13	180.21	285.29	4.44	936.26
3/27/2008 19:28	64.56	606.23	39.03	44.33	307.85	178.20	287.25	4.59	934.73
3/27/2008 19:29	64.27	610.38	38.90	44.49	307.74	179.77	286.64	4.43	934.73
3/27/2008 19:30	62.86	612.07	38.99	44.75	308.13	184.71	288.46	4.66	942.28
3/27/2008 19:31	64.18	610.38	39.03	45.01	307.12	184.10	291.19	4.46	945.34
3/27/2008 19:32	63.40	613.62	39.03	45.25	307.31	184.10	290.98	4.46	943.81
3/27/2008 19:33	64.95	616.08	38.99	45.33	309.44	183.95	290.98	4.46	948.39
3/27/2008 19:34	64.34	618.54	38.97	45.57	308.04	186.88	300.51	4.78	947.58
3/27/2008 19:35	64.75	621.00	39.02	45.27	308.92	191.99	297.97	4.27	944.62
3/27/2008 19:36	64.22	621.84	38.87	44.99	309.31	194.94	307.81	4.54	946.86
3/27/2008 19:37	63.45	621.84	38.99	44.98	308.24	196.02	303.14	4.06	962.07
3/27/2008 19:38	65.32	620.16	38.94	44.75	308.34	193.22	302.54	4.38	958.18
3/27/2008 19:39	64.25	617.70	39.00	44.49	309.91	189.20	299.49	4.43	959.71
3/27/2008 19:40	64.15	616.92	38.93	44.37	309.83	185.80	305.25	4.44	967.46
3/27/2008 19:41	63.30	619.38	38.92	44.05	309.31	181.31	292.27	4.55	952.07
3/27/2008 19:42	63.55	622.62	39.04	44.04	310.47	187.03	293.13	4.06	946.86
3/27/2008 19:43	63.74	623.46	39.08	44.21	308.45	180.37	290.66	4.51	945.34
3/27/2008 19:44	64.85	628.17	38.94	44.27	307.31	174.02	282.81	4.72	939.23
3/27/2008 19:45	62.88	629.02	38.94	44.46	308.49	175.72	277.85	4.65	939.23
3/27/2008 19:46	63.96	630.63	38.99	44.69	307.31	173.55	277.56	4.61	940.75
3/27/2008 19:47	64.13	636.19	39.03	45.10	307.16	173.65	277.56	4.61	941.56
3/27/2008 19:48	63.25	636.19	38.93	45.18	306.63	173.55	277.40	4.61	946.86
3/27/2008 19:49	64.00	636.19	39.04	45.39	306.82	179.45	278.42	4.47	959.71
3/27/2008 19:50	63.89	633.80	38.97	45.35	306.35	181.62	283.26	4.34	962.68
3/27/2008 19:51	63.74	629.79	39.00	45.42	307.18	189.04	286.13	4.12	965.73
3/27/2008 19:52	63.69	623.46	39.02	45.10	305.77	190.14	297.44	4.28	972.56
3/27/2008 19:53	63.38	616.92	38.97	44.96	306.28	189.67	292.46	4.03	978.58
3/27/2008 19:54	63.69	613.62	39.07	45.05	305.79	190.61	304.10	4.37	982.35
3/27/2008 19:55	64.22	609.61	39.03	44.81	307.03	185.64	295.20	4.27	983.16
3/27/2008 19:56	64.39	602.93	38.97	44.74	305.16	189.51	294.69	4.40	977.05
3/27/2008 19:57	64.82	602.09	38.99	44.58	306.97	195.86	302.42	4.59	971.03
3/27/2008 19:58	64.20	602.09	38.94	44.58	307.38	196.33	309.59	4.39	969.50
3/27/2008 19:59	62.34	597.94	38.97	44.63	305.92	190.90	311.64	4.73	964.92
3/27/2008 20:00	65.46	596.25	39.08	44.54	306.73	186.11	301.84	4.77	958.99
3/27/2008 20:01	64.13	597.09	39.04	44.51	307.48	185.49	300.10	4.80	952.88
3/27/2008 20:02	63.64	598.78	39.02	44.79	307.36	185.49	301.17	4.79	951.36
3/27/2008 20:03	63.62	597.09	39.06	45.00	306.93	185.64	301.17	4.79	949.83
3/27/2008 20:04	64.49	596.25	38.96	45.03	305.87	179.45	288.65	4.75	949.83
3/27/2008 20:05	64.51	596.25	39.00	45.22	306.69	176.66	278.03	4.71	946.86
3/27/2008 20:06	62.44	600.40	39.03	45.14	307.03	176.97	280.82	4.61	943.81
3/27/2008 20:07	63.47	604.55	38.90	45.04	309.83	182.85	285.21	4.12	942.28
3/27/2008 20:08	63.64	600.40	39.03	44.92	307.29	176.04	285.74	4.37	954.41
3/27/2008 20:09	64.15	597.09	39.00	44.69	307.48	178.20	277.85	4.46	961.24
3/27/2008 20:10	63.98	596.25	39.02	44.67	307.66	169.53	279.49	4.78	955.94
3/27/2008 20:11	62.76	597.94	39.07	44.51	307.12	171.86	273.83	4.89	954.41
3/27/2008 20:12	62.71	599.55	38.97	44.47	307.57	179.45	285.31	4.49	955.94
3/27/2008 20:13	62.93	597.94	39.06	44.41	305.34	172.17	277.19	4.92	956.66

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4126
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD – AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 20:14	64.27	600.40	39.06	44.26	305.62	174.65	269.38	4.46	950.55
3/27/2008 20:15	63.35	601.24	38.94	44.22	306.24	174.18	279.06	4.85	947.58
3/27/2008 20:16	62.86	602.93	39.03	44.31	306.17	174.96	278.81	4.57	941.56
3/27/2008 20:17	64.05	606.23	39.03	44.30	306.09	174.96	278.98	4.67	940.04
3/27/2008 20:18	64.61	607.92	39.07	44.45	306.26	175.12	278.81	4.57	944.62
3/27/2008 20:19	64.18	608.77	39.03	44.55	305.89	197.25	302.40	4.15	949.83
3/27/2008 20:20	62.66	604.55	38.94	44.83	307.59	192.62	305.76	4.30	965.94
3/27/2008 20:21	64.75	603.77	39.03	45.04	305.89	187.03	301.68	4.64	959.71
3/27/2008 20:22	64.49	605.39	39.14	45.20	307.36	188.59	299.67	4.47	957.46
3/27/2008 20:23	64.46	604.55	38.96	45.13	305.21	189.98	295.86	4.40	965.94
3/27/2008 20:24	64.44	601.24	38.92	45.11	305.38	189.67	302.71	4.45	961.96
3/27/2008 20:25	64.68	599.55	39.03	44.72	305.81	191.62	287.99	4.47	968.79
3/27/2008 20:26	63.57	596.25	38.84	44.70	306.65	190.61	298.63	4.37	964.20
3/27/2008 20:27	64.63	595.41	38.99	44.50	307.40	177.44	291.09	4.71	962.68
3/27/2008 20:28	64.49	595.41	38.97	44.29	306.45	175.59	272.11	4.71	965.94
3/27/2008 20:29	64.39	598.78	39.10	44.23	306.21	171.09	278.24	4.54	943.09
3/27/2008 20:30	63.01	605.39	39.08	44.20	306.75	175.88	279.49	4.84	937.79
3/27/2008 20:31	64.05	606.23	39.04	44.16	305.36	170.78	277.07	4.79	936.26
3/27/2008 20:32	63.79	610.38	38.90	44.22	307.05	170.78	277.07	4.79	935.54
3/27/2008 20:33	63.55	615.23	39.02	44.61	305.62	170.78	276.89	4.80	934.73
3/27/2008 20:34	63.43	617.70	38.92	44.80	305.06	167.52	273.57	4.85	933.21
3/27/2008 20:35	64.87	620.16	38.93	44.90	305.34	184.71	283.34	4.06	931.77
3/27/2008 20:36	62.09	620.16	38.97	45.17	304.18	182.23	291.27	4.21	953.60
3/27/2008 20:37	64.49	618.54	38.92	45.29	305.29	177.13	280.53	4.60	958.18
3/27/2008 20:38	62.34	616.92	39.03	45.28	306.47	184.55	285.84	4.30	959.71
3/27/2008 20:39	64.30	614.46	38.97	44.98	305.53	182.54	287.93	4.34	962.68
3/27/2008 20:40	64.39	612.07	39.04	44.83	305.68	194.32	293.48	4.44	963.39
3/27/2008 20:41	64.20	607.08	38.94	44.58	306.28	186.72	300.27	4.50	966.45
3/27/2008 20:42	62.12	607.92	38.96	44.71	305.83	190.14	300.04	4.56	966.45
3/27/2008 20:43	63.74	605.39	39.00	44.45	304.95	184.39	300.72	4.72	960.52
3/27/2008 20:44	63.84	606.23	38.94	44.41	305.85	186.72	293.16	4.60	954.41
3/27/2008 20:45	64.03	610.38	39.02	44.27	306.35	185.02	296.74	4.53	948.39
3/27/2008 20:46	64.30	611.23	38.97	44.24	307.16	186.72	294.47	4.44	943.81
3/27/2008 20:47	65.09	612.77	39.00	44.13	306.50	186.72	294.77	4.44	946.14
3/27/2008 20:48	62.79	613.62	38.97	44.44	306.39	186.88	295.02	4.44	950.55
3/27/2008 20:49	62.07	612.07	39.02	44.78	305.57	186.43	296.37	4.61	949.83
3/27/2008 20:50	63.11	612.07	38.92	44.84	305.46	180.21	283.83	4.63	951.36
3/27/2008 20:51	63.43	611.23	38.84	45.02	304.61	176.60	288.79	4.39	952.88
3/27/2008 20:52	63.57	610.38	38.97	45.05	306.09	189.82	281.89	4.44	954.41
3/27/2008 20:53	62.71	609.61	38.93	45.04	306.04	176.04	284.18	4.54	960.52
3/27/2008 20:54	62.56	604.55	39.11	44.83	306.26	184.71	283.11	4.13	972.56
3/27/2008 20:55	62.54	600.40	38.94	44.67	306.28	170.47	282.03	4.47	973.37
3/27/2008 20:56	63.86	599.55	38.97	44.61	305.25	171.23	274.82	4.44	966.45
3/27/2008 20:57	52.69	593.72	38.94	44.42	306.54	170.47	273.63	4.44	961.24
3/27/2008 20:58	62.32	599.55	39.00	44.19	307.72	179.45	279.22	4.13	960.52
3/27/2008 20:59	62.46	597.09	39.08	44.04	306.58	174.80	277.60	4.60	958.99
3/27/2008 21:00	63.28	597.94	39.02	44.08	306.04	174.65	277.66	4.48	957.46
3/27/2008 21:01	63.52	595.41	38.94	44.02	306.47	178.20	282.23	4.47	955.94
3/27/2008 21:02	63.96	595.41	38.99	44.28	307.29	178.36	282.23	4.47	953.60
3/27/2008 21:03	63.52	597.09	39.03	44.52	307.94	178.52	282.48	4.48	949.83
3/27/2008 21:04	64.80	597.94	38.90	44.80	307.12	185.18	292.34	4.48	947.58
3/27/2008 21:05	64.22	598.78	39.00	45.04	307.27	183.32	297.29	4.66	941.56
3/27/2008 21:06	62.98	601.24	38.99	45.04	307.31	192.46	304.86	4.44	942.28
3/27/2008 21:07	64.18	601.24	38.99	45.04	308.90	193.86	306.23	4.41	948.39
3/27/2008 21:08	63.03	600.40	39.00	44.96	307.85	191.37	306.23	4.62	955.94
3/27/2008 21:09	63.74	601.24	39.04	44.76	306.71	194.63	305.47	4.20	955.13
3/27/2008 21:10	64.34	600.40	38.93	44.55	306.78	178.67	288.11	4.71	956.66
3/27/2008 21:11	64.75	603.77	38.99	44.33	308.30	182.70	291.46	4.48	949.83
3/27/2008 21:12	62.46	603.77	39.03	44.26	308.28	187.81	292.54	4.22	944.62
3/27/2008 21:13	63.62	606.23	38.96	44.04	307.87	180.06	294.96	4.69	949.02
3/27/2008 21:14	64.56	608.77	38.94	43.95	307.51	168.61	271.60	4.63	943.81
3/27/2008 21:15	63.13	610.38	39.04	43.96	308.15	176.19	281.82	4.31	940.75
3/27/2008 21:16	63.89	613.62	39.00	44.10	307.68	174.80	273.42	4.31	942.28
3/27/2008 21:17	63.67	612.77	39.07	44.14	307.18	174.65	273.26	4.31	946.14
3/27/2008 21:18	62.71	612.77	38.97	44.34	307.38	174.80	273.42	4.32	943.09
3/27/2008 21:19	65.11	612.77	38.94	44.33	307.89	173.87	268.24	4.39	942.28
3/27/2008 21:20	63.18	614.46	38.97	44.60	307.05	174.34	280.23	4.38	945.34

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
3/27/2008 21:21	65.30	617.70	38.94	44.80	308.06	183.01	286.05	4.26	950.55
3/27/2008 21:22	64.22	616.08	38.97	44.77	308.64	186.88	287.23	4.16	953.60
3/27/2008 21:23	64.13	617.70	39.06	44.67	308.90	185.18	291.93	4.32	956.66
3/27/2008 21:24	63.30	620.16	39.00	44.43	308.02	185.18	294.24	4.47	957.46
3/27/2008 21:25	63.47	619.38	39.02	44.33	310.38	186.11	285.84	4.33	955.94
3/27/2008 21:26	63.74	617.70	38.93	44.04	308.90	187.34	292.54	4.34	956.66
3/27/2008 21:27	63.62	616.08	39.00	44.03	308.64	185.64	293.05	4.50	953.60
3/27/2008 21:28	64.03	617.70	39.00	43.88	308.64	179.92	288.79	4.47	950.55
3/27/2008 21:29	63.16	621.84	38.97	43.98	310.17	185.80	284.67	4.69	944.62
3/27/2008 21:30	64.77	624.23	39.00	44.20	308.43	179.92	289.10	4.74	942.28
3/27/2008 21:31	63.69	626.56	39.10	44.28	308.62	179.45	284.80	4.50	938.51
3/27/2008 21:32	63.79	629.79	38.97	44.35	308.39	179.45	284.65	4.51	934.02
3/27/2008 21:33	64.70	630.63	38.96	44.54	308.30	179.30	284.39	4.51	937.07
3/27/2008 21:34	63.45	634.57	39.07	44.91	307.68	179.30	286.60	4.38	945.34
3/27/2008 21:35	63.47	635.41	39.03	44.98	306.71	177.60	278.81	4.37	951.36
3/27/2008 21:36	64.30	633.80	38.97	45.17	307.46	179.30	277.30	4.15	957.46
3/27/2008 21:37	63.60	633.80	38.94	45.11	306.86	174.80	276.58	4.24	960.52
3/27/2008 21:38	64.54	631.41	39.00	44.98	306.63	176.97	272.23	3.99	969.60
3/27/2008 21:39	63.60	625.08	39.02	44.82	306.17	173.55	270.02	4.32	974.80
3/27/2008 21:40	64.34	619.38	39.07	44.57	305.01	179.92	276.74	4.32	976.33
3/27/2008 21:41	63.71	614.46	38.97	44.36	304.84	179.45	283.57	4.39	979.30
3/27/2008 21:42	63.60	610.38	38.92	44.14	306.45	173.11	279.14	4.27	981.63
3/27/2008 21:43	64.18	607.92	39.03	43.94	306.15	173.87	273.98	4.59	977.77
3/27/2008 21:44	63.86	601.24	38.97	43.95	306.67	181.15	279.38	4.33	977.77
3/27/2008 21:45	63.45	595.41	38.93	43.99	305.42	186.56	288.98	4.52	976.33
3/27/2008 21:46	63.84	593.72	38.96	44.08	304.93	187.97	297.30	4.43	977.77
3/27/2008 21:47	62.81	587.67	38.92	44.20	304.88	188.13	296.66	4.43	977.77
3/27/2008 21:48	64.20	580.85	39.03	44.37	305.53	188.13	296.41	4.44	975.52
3/27/2008 21:49	63.86	584.37	39.10	44.48	303.55	190.45	293.38	4.39	972.56
3/27/2008 21:50	63.38	579.16	39.00	44.63	305.46	187.19	309.94	4.69	974.00
3/27/2008 21:51	63.38	577.41	38.86	44.77	305.51	183.32	294.57	4.59	967.98
3/27/2008 21:52	62.98	572.06	38.99	44.92	306.23	183.01	294.73	4.51	961.96
3/27/2008 21:53	63.55	673.89	38.90	44.61	305.44	182.85	285.72	4.59	955.94
3/27/2008 21:54	63.60	572.06	39.00	44.47	305.92	178.36	285.06	4.64	949.83
3/27/2008 21:55	63.89	572.98	39.04	44.24	303.72	181.46	293.30	4.48	945.34
3/27/2008 21:56	64.15	573.89	38.94	44.11	305.72	180.68	290.68	4.72	943.81
3/27/2008 21:57	62.54	578.25	38.93	43.98	305.79	174.49	286.37	4.77	936.26
3/27/2008 21:58	63.98	582.61	39.02	43.83	305.62	172.01	279.75	4.81	929.43
3/27/2008 21:59	64.37	590.27	38.86	43.91	306.41	171.09	273.30	6.08	923.95
3/27/2008 22:00	64.32	593.72	39.08	43.88	305.42	174.34	281.68	4.65	922.43
3/27/2008 22:01	63.25	601.24	38.96	43.88	305.77	174.02	282.68	4.81	921.62
3/27/2008 22:02	64.44	606.23	38.96	44.08	305.10	174.18	282.50	4.81	928.63
3/27/2008 22:03	63.21	607.92	38.93	44.30	305.34	174.34	282.50	4.81	935.54
3/27/2008 22:04	63.11	607.08	38.92	44.64	303.49	178.83	272.50	4.17	939.23
3/27/2008 22:05	63.13	609.61	39.06	44.87	303.25	185.96	278.40	4.22	951.36
3/27/2008 22:06	63.28	607.92	39.04	44.88	304.30	180.06	291.45	4.74	957.46
3/27/2008 22:07	63.38	608.77	38.87	45.18	299.51	186.27	285.16	4.42	959.71
3/27/2008 22:08	63.35	607.92	39.02	44.96	302.03	174.49	287.07	4.49	961.96
3/27/2008 22:09	63.64	607.92	38.93	44.70	303.92	174.02	270.82	4.76	956.66
3/27/2008 22:10	63.38	608.77	38.99	44.47	306.00	175.88	287.21	4.75	949.02
3/27/2008 22:11	63.64	610.38	38.94	44.25	304.61	185.49	287.19	4.48	945.34
3/27/2008 22:12	63.52	611.23	38.99	44.10	304.63	187.34	292.52	4.07	955.94
3/27/2008 22:13	63.55	610.38	38.96	43.96	305.68	192.30	300.39	4.33	961.96
3/27/2008 22:14	64.49	608.77	39.10	43.85	304.73	193.22	305.49	4.71	964.20
3/27/2008 22:15	64.44	601.24	38.94	43.92	305.51	201.89	309.53	4.13	970.31
3/27/2008 22:16	64.00	597.94	39.00	43.86	304.54	200.35	311.19	4.23	976.33
3/27/2008 22:17	63.55	591.96	39.03	44.39	305.68	200.35	311.19	4.23	977.05
3/27/2008 22:18	63.94	587.67	39.04	44.51	305.14	200.35	311.19	4.23	971.84
3/27/2008 22:19	62.74	588.59	38.99	44.64	304.99	180.84	286.09	4.47	969.50
3/27/2008 22:20	62.44	585.98	38.97	44.91	305.16	184.10	293.61	4.24	967.26
3/27/2008 22:21	62.39	583.45	39.06	45.25	305.21	175.59	279.73	4.66	963.39
3/27/2008 22:22	63.01	582.61	38.99	44.98	304.93	175.12	278.65	4.42	956.66
3/27/2008 22:23	63.69	585.21	38.92	44.75	305.31	170.31	272.89	4.86	950.56
3/27/2008 22:24	64.25	586.83	38.96	44.49	304.80	166.13	273.11	4.78	944.62
3/27/2008 22:25	62.39	592.88	38.90	44.31	304.99	165.51	261.82	4.59	938.51
3/27/2008 22:26	64.46	601.24	38.97	44.33	304.91	170.31	278.83	4.57	938.51
3/27/2008 22:27	63.79	601.24	38.93	44.13	304.58	168.46	262.85	4.54	937.07

Valero Bill Greehey Refinery - West Plant Sulften Stack Test March 27, 2008 Production Data

Tag Name	FI-9593	FIC-4116	FIC-4114	FCI-4101	FCI-4105	AI-4106A	ACI-4106A	AI-4106B	TI-4125
Units	MLB/HR	LB/HR	MLB/HR			PPM	PPM	%	Deg F
Description	ABS OVERHEAD RATE	FUEL GAS TO T.G.	COMBUSTION AIR TO T.G.	CALC LTPD -- AMMONIA	CALC LTPD - AMINE	SULFTEN SO2	Corrected SULFTEN SO2	SULFTEN O2	BURNER FIREBOX
Time	Value	Value	Value	Value	Value	Value	Value	Value	Value
	63.76	**605.96**	**38.99**	**44.65**	**306.46**	**182.14**	**288.53**	**4.49**	**953.79**
3/27/2008 22:28	64.49	598.78	39.04	43.96	304.39	176.19	285.76	4.16	946.14
3/27/2008 22:29	63.16	598.78	39.04	43.84	304.73	171.86	280.31	4.52	950.55
3/27/2008 22:30	62.59	597.94	39.00	44.12	305.10	168.14	269.00	4.77	948.39
3/27/2008 22:31	63.64	603.77	38.92	44.04	304.65	170.16	276.05	4.83	945.34
3/27/2008 22:32	62.41	601.24	38.97	44.37	305.08	170.00	276.46	4.85	946.86
3/27/2008 22:33	63.25	602.09	39.13	44.51	304.69	170.00	276.80	4.85	948.39
3/27/2008 22:34	63.43	601.24	39.00	44.74	304.82	187.50	288.42	4.20	950.55
3/27/2008 22:35	63.91	602.93	38.99	45.04	304.97	195.70	307.99	4.32	952.07
3/27/2008 22:36	64.25	602.93	39.08	44.85	304.43	186.88	299.28	4.61	955.94
3/27/2008 22:37	63.74	603.77	38.96	44.77	303.96	176.50	282.73	4.53	957.46
3/27/2008 22:38	63.55	602.93	39.00	44.72	304.91	179.92	284.51	4.39	958.99
3/27/2008 22:39	63.52	597.09	39.14	44.57	304.82	181.62	288.52	4.36	964.92
3/27/2008 22:40	63.81	597.09	39.08	44.26	304.48	180.06	293.14	4.50	965.73
3/27/2008 22:41	64.13	593.72	39.02	44.29	306.00	178.98	279.20	3.96	964.20
3/27/2008 22:42	63.74	592.88	38.97	43.95	305.19	182.54	289.32	4.10	967.98
3/27/2008 22:43	62.71	585.98	39.07	43.99	305.87	176.82	280.59	4.68	967.98
3/27/2008 22:44	62.76	587.67	38.90	43.79	305.21	167.05	271.54	4.54	962.68
3/27/2008 22:45	64.66	585.98	38.97	43.99	304.91	167.83	266.43	4.68	958.18
3/27/2008 22:46	64.54	585.98	39.07	44.20	304.73	167.99	267.79	4.57	952.07
3/27/2008 22:47	63.67	588.59	38.94	44.26	305.36	167.99	267.71	4.57	947.58
3/27/2008 22:48	63.60	591.12	39.04	44.49	304.69	167.99	267.54	4.56	946.14
3/27/2008 22:49	62.96	591.96	39.02	44.75	304.67	177.89	280.68	4.61	945.34
3/27/2008 22:50	62.91	592.88	39.00	44.84	305.12	171.09	279.26	4.71	940.04
3/27/2008 22:51	64.10	597.09	39.03	44.98	305.44	180.37	279.57	4.52	940.75
3/27/2008 22:52	62.91	596.25	39.00	44.88	305.96	180.21	283.65	4.49	943.81
3/27/2008 22:53	64.89	600.40	38.88	44.67	305.89	185.02	287.42	4.26	946.14
3/27/2008 22:54	63.62	599.55	39.02	44.63	306.09	186.72	297.97	4.47	952.07
3/27/2008 22:55	63.30	599.55	38.97	44.52	304.54	181.15	280.39	4.76	954.41
3/27/2008 22:56	64.41	600.40	38.99	44.40	305.06	178.36	291.64	4.33	952.07
3/27/2008 22:57	63.35	600.40	38.94	44.25	305.06	184.24	295.00	4.48	952.88
3/27/2008 22:58	64.18	602.93	39.03	44.13	305.77	187.97	290.66	4.29	952.88
3/27/2008 22:59	62.96	599.55	39.02	43.99	306.24	179.61	294.75	4.75	954.41

APPENDIX G

Test Personnel Resumes

Greg Burch

Mr. Burch is ARI's Source Testing Division South Central Regional Manager. He has accumulated in-depth experience in conducting compliance emission tests and CEMS certification for a wide variety of industries including petrochemical and petroleum refineries. Mr. Burch has over 17 years experience in conducting on-site emissions testing with a strong background in all aspects of source testing evaluations.

Shawn Moody

Mr. Moody is a Source Sampling Field Technician. Mr. Moody is well versed in the operation and maintenance of manual source sampling equipment and has performed these functions on numerous tests for various clients throughout the Gulf Coast Region.

Mr. Moody's responsibilities include field sampling, sample analysis, data reduction and interpretation, and maintenance and calibration of continuous and manual source sampling equipment.

Dustin Manthei

Mr. Manthei is a Source Sampling Field Technician. Mr. Hensley is well versed in the operation and maintenance of manual source sampling equipment and has performed these functions on numerous tests for various clients.

Mr. Manthei responsibilities include field sampling, sample analysis, data reduction and interpretation, and maintenance and calibration of continuous and manual source sampling equipment.

Steven Yuchs, PhD.

Dr. Yuchs has 11 years experience in environmental analysis and research and development. His experience includes industrial, academic and governmental laboratory management, with an emphasis in the environmental remediation sector. He is currently the Analytical Services section manager, and is responsible for all laboratory activities for ARI. He is also responsible for coordinating and developing laboratory analysis procedures, laboratory quality assurance, new methods of laboratory analysis, and laboratory data reduction.

Jeff Goldfine

Mr. Goldfine is a field technician specializing in sampling equipment preparation, maintenance and calibration, equipment setup, field sampling, sample recovery, and posttest equipment clean up.