Particulate, Sulfuric Acid Mist, and Halide Emission Study Test Report

Sunflower Electric Power Corporation
Holcomb Station
Unit 1 Stack and SDA Inlet
Holcomb, Kansas
August 4 through 6, 2009

Platt Environmental Services, Inc.

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Report Submittal Date
September 25, 2009

Prepared By

Platt Environmental Services

Report No. M093106

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1.0 Introduction

PLATT ENVIRONMENTAL SERVICES, INC. (PES) conducted a Particulate, Sulfuric Acid Mist, and Halide Emissions Test Program for Sunflower Electric Corporation at the Holcomb Station in Holcomb, Kansas on the Unit 1 Stack and SDA Inlet on August 4 through 6, 2009. This report summarizes the results of the test program and test methods used.

The test locations, test dates, and test parameters are summarized below in Table 1.

Table 1

Test Overview

Test Locations	Test Dates	Test Parameters
Unit 1 Stack	August 4, 2009	Total Particulate Matter (PM)
	August 5 and 6, 2009	Sulfuric acid mist (SO_3 as H_2SO_4), Hydrogen Chloride (HCl), Hydrogen Fluoride (HF), Hydrogen Bromide (HBr), Hydrogen Cyanide (HCN)
Unit 1 SDA Inlet	August 5 and 6, 2009	SO_3 as H_2SO_4, HCl, HF, HBr

The identification of individuals associated with the test program is summarized below in Table 2.

Table 2

Test Personnel

Location	Address	Contact
Test Facility	Sunflower Electric Corporation Holcomb Station Holcomb, Kansas	Mr. Wayne Penrod Executive Manager, Environmental Policy wepenrod@sunflower.net
Testing Company Representative	Platt Environmental Services, Inc. 1520 Kensington Rd. Suite 204 Oak Brook, Illinois 60523	Mr. Eric Ehlers Senior Project Manager (630) 521-9400 (phone) eehlers@plattenv.com

The test crew consisted of Messrs. S. Sands, L. Sorce, S. McGough, J. Parker, and E. Ehlers of PES. The purpose of the test program was to demonstrate emission rates during normal load operating conditions.

2.0 Executive Summary

Selected results of the test program are summarized below, in Table 3. A complete summary of emission test results follows the narrative portion of this report.

Table 3

Test Results Summary

Location	Date	Pollutant	lb/hr	lb/mmBtu
Unit 1 Stack	August 4, 2009	Filterable <PM2.5	8.397	0.0024
		Filterable >PM2.5, <PM10	7.336	0.0020
		Filterable >PM10	7.547	0.0021
		PM Condensable	44.507	0.0124
		PM Total[A]	60.240	0.0168
		PM Total (Sulfate Correction)[B]	29.936	0.0084
	August 5 and 6, 2009	Sulfuric Acid Mist (SO_3 as H_2SO_4)	8.73	0.0023
		HCl[C]	0.0969	0.000026
		HF[D]	≤0.1066	≤0.000028
		HBr[D]	≤0.1069	≤0.000029
		HCN	≤0.0047	≤0.000001
Unit 1 SDA Inlet	August 5 and 6, 2009	Sulfuric Acid Mist (SO_3 as H_2SO_4)	16.25[E]	0.0041
		HCl	2.5541[E]	0.000668
		HF	2.6453[E]	0.000667
		HBr[C]	0.2823[E]	0.000074

[A] Total Particulate is considered to be the sum of all fractions <PM10 and condensable PM.
[B] Sulfate correction consists of subtracting sulfate residue from condensable particulate anion scan and adding in SO_3 as H_2SO_4 weights.
[C] Lab results below lowest standard levels, but compound detected in sample.
[D] Lab results non-detect (below detection limit). Results reported as less than or equal to detection limit.
[E] Unit 1 SDA Inlet lb/hr data generated utilizing volumetric flow data from the Unit 1 Stack.

Table 4

Efficiency Summary

Parameter	SDA Inlet, ppm	Stack, ppm	Removal Efficiency, %
Sulfuric Acid Mist (SO_3 as H_2SO_4)	1.28	0.68	46.88
Hydrogen Chloride (HCl)	0.53	0.02	96.23
Hydrogen Fluoride (HF)	1.00	0.04	96.00
Sulfur Dioxide (SO_2), plant monitors	275.4	26.0	90.56

3.0 Test Methodology

Emissions testing was conducted following the methods specified in 40 CFR, Part 60, Appendix A. A schematic of the sampling train used and copies of field data sheets for each test run are included in the Appendix.

The following methodology was used during the test program:

Method 2 Volumetric Flow Rate Determination

Gas velocity was measured following Method 2, for purposes of calculating stack gas volumetric flow rate. An S-type pitot tube, differential pressure gauge, thermocouple and temperature readout were used to determine gas velocity at each sample point. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data is presented in the Appendix.

Method 3A Oxygen (O_2)/Carbon Dioxide (CO_2) Determination

Stack gas molecular weight was determined in accordance with Method 3A. A Servomex analyzer was used to determine stack gas oxygen and carbon dioxide content and, by difference, nitrogen content. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data is presented in the Appendix.

Consol Controlled Condensate Sulfuric Acid Mist (SO_3 as H_2SO_4) Determination

Stack gas sulfuric acid mist (SO_3 as H_2SO_4) concentrations were determined in accordance with the Consol Controlled Condensate Method. An Environmental Supply Company, Inc. sampling train was used to sample stack gas, in the manner specified in the Method.

The flue gas was extracted through a quartz-lined probe fitted with a quartz wool plug to remove particulate matter. SO_3 was then collected as the sample gas passed through a hot water cooled condenser that was also loosely packed with quartz wool. The condenser assembly was maintained at a temperature of 140°F. The sample was then passed through impingers loaded with 3% H_2O_2 to capture the sulfur dioxide (SO_2) passing through the system. The impingers were placed in an ice bath to maintain the exit gas from the last impinger containing silica gel below 68°F. Maintaining the temperature increases the efficiency of the silica gel in drying the metered gas. A leak check of the entire sample train was performed at a vacuum greater than the sampling vacuum after each sampling

run in order to determine if any leakage had occurred during the test run. A leakage rate not in excess of 2% of the average sampling rate is considered acceptable.

Samples were recovered as follows: the quartz wool particulate plug was removed and the probe was rinsed with an 100% IPA solution and placed in one bottle, the quartz wool plug in the condenser coil was removed and the coil was rinsed with 1000% IPA, and the impingers were measured for moisture determination and the H_2O_2 solution was kept for potential analysis for SO_2 concentration.

Method 26 Halide Determination

Stack gas Hydrogen Chloride (HCl), Hydrogen Bromide (HBr), and Hydrogen Fluoride (HF) concentrations and emission rates were determined in accordance with Method 26 (modified). The modifications to the method include sampling utilizing large impingers in order to collect a larger volume of sample and thereby lower detection limits of the method. An Environmental Supply Company sampling train was used to sample stack gas, in the manner specified in the Method. Analyses of the samples collected were conducted by Enthalpy, Inc. of Raleigh, North Carolina. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data is presented in the Appendix.

Method 26A Halide Determination

Stack gas Hydrogen Chloride (HCl), Hydrogen Bromide (HBr), Hydrogen Fluoride (HF), and Hydrogen Cyanide (HCN) concentrations and emission rates were determined in accordance with Method 26A. Stack gas hydrogen chloride concentrations and emission rates were determined in accordance with Method 26A. An Environmental Supply Company, Inc. sampling train was used to collect the sample. A multiple-point sample was extracted isokinetically from the gas stream and passed through dilute (0.1 N) sulfuric acid. In the dilute acid, the HCl dissolved and formed chloride (Cl) ions. The sample train consisted of a Teflon® filter placed on the outlet of a heated borosilicate glass probe liner and five impingers. The first two impingers contained the dilute sulfuric acid, the second two impingers contained a 0.1 N sodium hydroxide (NaOH) scrubber solution to remove any remaining chlorine, and the fifth impinger contained silica gel to absorb any remaining moisture. A DI rinse was performed on each set of two impingers, and samples were stored in glass sample containers for transport.

The dilute sulfuric acid samples were then analyzed for the above halides by Enthalpy, Inc. of Raleigh, North Carolina. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data is presented in the Appendix.

OTM27 Filterable Particulate Determination

Stack gas filterable particulate concentrations and emission rates were determined in accordance with Other Test Method 27 (OTM27) for determination of particulate matter less than 2.5 and less than 10 microns. An Environmental Supply Company, Inc. sampling train was used to sample stack gas at a constant rate, as specified in the Method. Filterable particulate matter was separated into three fractions; one containing less than $PM_{2.5}$, the second greater than $PM_{2.5}$ and less than PM_{10}, and the third fraction greater than PM_{10}. The fractions less than PM_{10} are totaled to represent filterable particulate matter per OTM27.

OTM28 Condensable Particulate Determination

Stack gas condensable particulate concentrations and emission rates were determined in accordance with the dry draft impinger method, in conjunction with OTM27 filterable particulate sampling. Condensable particulate matter was collected in the impinger portion of the OTM27 sampling train.

The condensable particulate matter (CPM) was collected in impingers after filterable particulate material was collected using OTM27. The organic and aqueous fractions were then taken to dryness and weighed. The total of all fractions represents the CPM. Compared to the December 17, 1991 promulgated Method 202, this Method includes the addition of a condenser, followed by a water dropout impinger immediately after the final heated filter. One modified Greenburg Smith impinger and an ambient temperature filter follow the water dropout impinger. A schematic of the sampling train configured with these changes is found in the Appendix.

CPM was collected in the water dropout, modified Greenburg Smith impinger and ambient filter portion of the sampling train as described in this Method. The impinger contents were purged with nitrogen (N_2) immediately after sample collection to remove dissolved sulfur dioxide (SO_2) gases from the impingers. The impinger solution was then extracted with acetone and methylene chloride ($MeCl_2$). The organic and aqueous fractions were dried and the residues weighed. The total of the aqueous, organic, and ambient filter fractions represents the CPM. The samples were analyzed by PES personnel in Des Plaines, Illinois.

4.0 Test Result Summaries

Total Particulate Summary

Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Test Location: Unit 1 Stack
Test Method: OTM27/OTM28
Note: Particulate testing and sample analysis performed as described in OTM27/OTM28
> PM10 not included in total particulate results

Source Condition		High (Normal)		
Date	8/4/09	8/4/09	8/4/09	
Start Time	8:00	10:28	13:08	
End Time	10:15	12:40	15:22	
	Run 1	Run 2	Run 3	Average
Stack Conditions				
Average Gas Temperature, °F	202.1	202.6	203.3	202.7
Flue Gas Moisture, percent by volume	15.7%	15.4%	15.3%	15.5%
Average Flue Pressure, in. Hg	26.53	26.52	26.52	26.52
Gas Sample Volume, dscf	37.137	36.946	36.140	36.741
Average Gas Velocity, ft/sec	112.549	113.307	114.664	113.507
Gas Volumetric Flow Rate, acfm	1,414,859	1,424,398	1,441,457	1,426,905
Gas Volumetric Flow Rate, dscfm	842,948	851,362	861,480	851,930
Average %CO_2 by volume, dry basis	12.7	12.8	12.8	12.8
Average %O_2 by volume, dry basis	6.4	6.3	6.2	6.3
Isokinetic Variance	101.3	99.8	96.5	99.2
Opacity, % (plant monitor)	4.0	4.1	4.1	4.1
Filterable PM, < PM 2.5 (OTM27)				
grains/acf	0.0007	0.0005	0.0008	0.0007
grains/dscf	0.0012	0.0008	0.0014	0.0011
lb/hr	9.006	6.095	10.089	8.397
lb/mmBtu (Calculated Fd Factor)	0.0026	0.0017	0.0028	0.0024
Filterable PM, > PM 2.5, < PM 10 (OTM27)				
grains/acf	0.0005	0.0009	0.0004	0.0006
grains/dscf	0.0008	0.0015	0.0006	0.0010
lb/hr	6.004	11.276	4.729	7.336
lb/mmBtu (Calculated Fd Factor)	0.0017	0.0031	0.0013	0.0020
Filterable PM, > PM 10 (OTM27)				
grains/acf	0.0005	0.0008	0.0005	0.0006
grains/dscf	0.0009	0.0014	0.0008	0.0010
lb/hr	6.604	10.362	5.675	7.547
lb/mmBtu (Calculated Fd Factor)	0.0019	0.0029	0.0016	0.0021
Condensable PM (OTM28)				
grains/acf	0.0036	0.0042	0.0032	0.0037
grains/dscf	0.0060	0.0070	0.0053	0.0061
lb/hr	43.229	51.200	39.093	44.507
lb/mmBtu (Calculated Fd Factor)	0.0123	0.0143	0.0107	0.0124
Total Particulate (OTM27/OTM28)				
grains/acf	0.0048	0.0056	0.0044	0.0049
grains/dscf	0.0080	0.0093	0.0073	0.0082
lb/hr	58.239	68.571	53.911	60.240
lb/mmBtu (Calculated Fd Factor)	0.0166	0.0191	0.0148	0.0168

Sulfate Corrected Total Particulate Summary

Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Test Location: Unit 1 Stack
Test Method: OTM27/OTM28

Note: Particulate testing performed as described in OTM27/OTM28, condensable (OTM28) sample analysis determined by subtracting sulfate weight and adding sulfuric acid mist from controlled condensate sampling.
> PM10 not included in total particulate results

Source Condition		High (Normal)		
Date	8/4/09	8/4/09	8/4/09	
Start Time	8:00	10:28	13:08	
End Time	10:15	12:40	15:22	
	Run 1	Run 2	Run 3	Average
Stack Conditions				
Average Gas Temperature, °F	202.1	202.6	203.3	202.7
Flue Gas Moisture, percent by volume	15.7%	15.4%	15.3%	15.5%
Average Flue Pressure, in. Hg	26.53	26.52	26.52	26.52
Gas Sample Volume, dscf	37.137	36.946	36.140	36.741
Average Gas Velocity, ft/sec	112.549	113.307	114.664	113.507
Gas Volumetric Flow Rate, acfm	1,414,859	1,424,398	1,441,457	1,426,905
Gas Volumetric Flow Rate, dscfm	842,948	851,362	861,480	851,930
Average %CO_2 by volume, dry basis	12.7	12.8	12.8	12.8
Average %O_2 by volume, dry basis	6.4	6.3	6.2	6.3
Isokinetic Variance	101.3	99.8	96.5	99.2
Opacity, % (plant monitor)	4.0	4.1	4.1	4.1
Filterable PM, < PM 2.5 (OTM27)				
grains/acf	0.0007	0.0005	0.0008	0.0007
grains/dscf	0.0012	0.0008	0.0014	0.0011
lb/hr	9.006	6.095	10.089	8.397
lb/mmBtu (Calculated Fd Factor)	0.0026	0.0017	0.0028	0.0024
Filterable PM, > PM 2.5, < PM 10 (OTM27)				
grains/acf	0.0005	0.0009	0.0004	0.0006
grains/dscf	0.0008	0.0015	0.0006	0.0010
lb/hr	6.004	11.276	4.729	7.336
lb/mmBtu (Calculated Fd Factor)	0.0017	0.0031	0.0013	0.0020
Filterable PM, > PM 10 (OTM27)				
grains/acf	0.0005	0.0008	0.0005	0.0006
grains/dscf	0.0009	0.0014	0.0008	0.0010
lb/hr	6.604	10.362	5.675	7.547
lb/mmBtu (Calculated Fd Factor)	0.0019	0.0029	0.0016	0.0021
Sulfate Corrected Condensable PM (OTM28)				
grains/acf	0.0009	0.0015	0.0010	0.0011
grains/dscf	0.0016	0.0025	0.0017	0.0019
lb/hr	11.408	18.591	12.611	14.203
lb/mmBtu (Calculated Fd Factor)	0.0032	0.0052	0.0035	0.0040
Sulfate Corrected Total Particulate (OTM27/OTM28)				
grains/acf	0.0021	0.0029	0.0022	0.0024
grains/dscf	0.0036	0.0048	0.0037	0.0040
lb/hr	26.418	35.962	27.429	29.936
lb/mmBtu (Calculated Fd Factor)	0.0075	0.0100	0.0076	0.0084

Consol Controlled Condensate Titration Results Summary
Sunflower Electric Power
Holcomb Generating Station
Unit 1 SDA Inlet
August 5 and 6, 2009

Gaseous Phase SO_3 as H_2SO_4, 80% IPA Condenser Coil (analyzed by titration)									
Test No.	Time	Volumetric Flow, dscfm	Vm(std) ft^3	Fuel Factor F_d (dscf/mmBtu)	O2 % dry	lb/dscf SO_3 as H_2SO_4	ppm SO_3 as H_2SO_4	lb/hr SO_3 as H_2SO_4	lb/mmBtu SO_3 as H_2SO_4
1	8:00-11:00	832,616	16.933	9320.78	6.5	5.33E-07	2.10	26.64	0.0072
2	11:45-14:45	856,979	16.677	9320.78	6.4	1.14E-07	0.45	5.86	0.0015
3	7:30-8:30	843,856	5.656	9313.86	6.5	2.52E-07	0.99	12.76	0.0034
						Average	**1.28**	**16.25**	**0.0041**

Consol Controlled Condensate Titration Results Summary
Sunflower Electric Power
Holcomb Generating Station
Unit 1 Stack
August 5 and 6, 2009

Gaseous Phase SO_3 as H_2SO_4, 80% IPA Condenser Coil (analyzed by titration)									
Test No.	Time	Volumetric Flow DSCFM	Vm(std) ft^3	Fuel Factor F_d (dscf/mmBtu)	O2 % dry	lb/dscf SO_3 as H_2SO_4	ppm SO_3 as H_2SO_4	lb/hr SO_3 as H_2SO_4	lb/mmBtu SO_3 as H_2SO_4
1	8:00-11:00	832,616	15.853	9320.78	6.5	6.00E-08	0.24	3.00	0.0008
2	11:45-14:45	856,979	15.709	9320.78	6.4	9.08E-08	0.36	4.67	0.0012
3	7:30-8:30	843,856	5.197	9313.86	6.5	3.66E-07	1.44	18.52	0.0049
						Average	**0.68**	**8.73**	**0.0023**

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Test Location: Unit 1 SDA Inlet
Test Method: M26

Source Condition		High (Normal)		
Date	8/5/09	8/5/09	8/6/09	
Start Time	8:00	11:45	7:00	
End Time	10:00	13:45	9:00	
	Run 1	Run 2	Run 3	Average
Stack Conditions				
Average Gas Temperature, °F	298.5	298.2	293.3	296.7
Flue Gas Moisture, percent by volume	13.6%	11.6%	12.5%	12.6%
Average Flue Pressure, in. Hg	26.64	26.64	26.10	26.46
Gas Sample Volume, dscf	78.576	78.612	77.859	78.349
Average Gas Velocity, ft/sec	113.163	113.818	112.821	113.267
Gas Volumetric Flow Rate, acfm	1,422,640	1,430,871	1,418,342	1,423,951
Gas Volumetric Flow Rate, dscfm	832,616	856,979	843,586	844,394
Average %CO_2 by volume, dry basis	13.4	12.0	12.0	12.5
Average %O_2 by volume, dry basis	5.7	6.4	6.5	6.2
Hydrogen Chloride (HCl) Emissions				
ppm	0.61	0.47	0.52	0.53
ug/dscm	926.87	715.30	783.46	808.54
lb/hr	2.8906	2.2961	2.4755	2.5541
lb/mmBtu (Calculated Fd Factor)	0.000742	0.000600	0.000661	0.000668
Hydrogen Bromide Emissions[A]				
ppm	0.02	0.03	0.03	0.03
ug/dscm	71.91	105.57	89.81	89.10
lb/hr	0.2243	0.3389	0.2838	0.2823
lb/mmBtu (Calculated Fd Factor)	0.000058	0.000089	0.000076	0.000074
Hydrogen Fluoride (HF) Emissions				
ppm	0.67	1.07	1.27	1.00
ug/dscm	558.65	886.77	1059.54	834.99
lb/hr	1.7422	2.8465	3.3479	2.6455
lb/mmBtu (Calculated Fd Factor)	0.000447	0.000744	0.000894	0.000695

[A] Lab results below lowest standard levels, but compound detected in sample.

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Test Location: Unit 1 Stack
Test Method: M26A

Source Condition		High (Normal)		
Date	8/5/09	8/5/09	8/6/09	
Start Time	8:00	11:45	7:00	
End Time	10:15	14:00	9:10	
	Run 1	Run 2	Run 3	Average
Stack Conditions				
Average Gas Temperature, °F	198.0	198.0	197.7	197.9
Flue Gas Moisture, percent by volume	17.3%	15.3%	15.1%	15.9%
Average Flue Pressure, in. Hg	26.38	26.38	26.10	26.29
Gas Sample Volume, dscf	75.825	76.160	76.244	76.076
Average Gas Velocity, ft/sec	113.163	113.818	112.821	113.267
Gas Volumetric Flow Rate, acfm	1,422,640	1,430,871	1,418,342	1,423,951
Gas Volumetric Flow Rate, dscfm	832,616	856,979	843,586	844,394
Average %CO_2 by volume, dry basis	12.0	12.0	12.0	12.0
Average %O_2 by volume, dry basis	6.5	6.4	6.5	6.5
Isokinetic Variance	103.4	100.9	102.6	102.3
Hydrogen Chloride Emissions[A]				
ppm	0.02	0.02	0.02	0.02
ug/dscm	30.88	25.73	35.34	30.65
lb/hr	0.0963	0.0826	0.1117	0.0969
lb/mmBtu (Calculated Fd Factor)	0.000026	0.000022	0.000030	0.000026
Hydrogen Bromide Emissions[B]				
ppm	≤0.01	≤0.01	≤0.01	≤0.01
ug/dscm	≤33.67	≤33.99	≤33.77	≤33.81
lb/hr	≤0.1050	≤0.1091	≤0.1067	≤0.1069
lb/mmBtu (Calculated Fd Factor)	≤0.000028	≤0.000029	≤0.000029	≤0.000029
Hydrogen Fluoride (HF) Emissions[B]				
ppm	≤0.04	≤0.04	≤0.04	≤0.04
ug/dscm	≤33.58	≤33.90	≤33.67	≤33.72
lb/hr	≤0.1047	≤0.1088	≤0.1064	≤0.1066
lb/mmBtu (Calculated Fd Factor)	≤0.000028	≤0.000028	≤0.000028	≤0.000028
Hydrogen Cyanide (HCN) Emissions[B]				
ppm	≤0.00124	≤0.00148	≤0.00141	≤0.00138
ug/dscm	≤1.39	≤1.67	≤1.59	≤1.55
lb/hr	≤0.0043	≤0.0054	≤0.0050	≤0.0047
lb/mmBtu (Calculated Fd Factor)	≤0.000001	≤0.000001	≤0.000001	≤0.000001

[A] Lab results below lowest standard levels, but compound detected in sample.
[B] Lab results non-detect (below detection limit). Results reported as less than or equal to detection limit.

5.0 Conclusion and Certification

PLATT ENVIRONMENTAL SERVICES is pleased to have been of service to Sunflower Electric Power Corporation. If you have any questions regarding this test report, please do not hesitate to contact us at 630-521-9400.

CERTIFICATION

As project manager, I hereby certify that this test report represents a true and accurate summary of emissions test results and the methodologies employed to obtain those results, and the test program was performed in accordance with the methods specified in this test report.

PLATT ENVIRONMENTAL SERVICES

Eric L. Ehlers — Project Manager

Scott W. Banach — Quality Assurance

APPENDIX

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 08:00 Through 08/04/2009 10:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	08:00	290.6
08/04/09	08:01	294.5
08/04/09	08:02	294.2
08/04/09	08:03	290.7
08/04/09	08:04	294.3
08/04/09	08:05	293.0
08/04/09	08:06	295.5
08/04/09	08:07	292.2
08/04/09	08:08	290.8
08/04/09	08:09	290.2
08/04/09	08:10	291.8
08/04/09	08:11	290.3
08/04/09	08:12	290.3
08/04/09	08:13	292.3
08/04/09	08:14	292.6
08/04/09	08:15	290.3
08/04/09	08:16	287.4
08/04/09	08:17	288.9
08/04/09	08:18	288.4
08/04/09	08:19	287.4
08/04/09	08:20	290.2
08/04/09	08:21	287.8
08/04/09	08:22	283.7
08/04/09	08:23	287.1
08/04/09	08:24	288.3
08/04/09	08:25	288.9
08/04/09	08:26	288.6
08/04/09	08:27	288.6
08/04/09	08:28	289.4
08/04/09	08:29	287.9
08/04/09	08:30	288.9
08/04/09	08:31	291.1
08/04/09	08:32	290.0
08/04/09	08:33	290.8
08/04/09	08:34	290.4
08/04/09	08:35	288.0
08/04/09	08:36	288.8
08/04/09	08:37	289.6
08/04/09	08:38	289.5
08/04/09	08:39	287.2
08/04/09	08:40	286.8
08/04/09	08:41	288.6
08/04/09	08:42	291.2
08/04/09	08:43	290.2
08/04/09	08:44	289.5
08/04/09	08:45	291.6
08/04/09	08:46	289.6
08/04/09	08:47	287.7
08/04/09	08:48	287.8
08/04/09	08:49	288.5
08/04/09	08:50	289.0
08/04/09	08:51	288.0

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 08:00 Through 08/04/2009 10:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	08:52	288.1
08/04/09	08:53	286.6
08/04/09	08:54	290.2
08/04/09	08:55	291.7
08/04/09	08:56	294.6
08/04/09	08:57	290.3
08/04/09	08:58	287.8
08/04/09	08:59	287.7
08/04/09	09:00	288.4
08/04/09	09:01	288.4
08/04/09	09:02	285.9
08/04/09	09:03	283.0
08/04/09	09:04	286.3
08/04/09	09:05	287.0
08/04/09	09:06	285.0
08/04/09	09:07	287.0
08/04/09	09:08	287.1
08/04/09	09:09	292.3
08/04/09	09:10	289.5
08/04/09	09:11	285.9
08/04/09	09:12	284.9
08/04/09	09:13	284.5
08/04/09	09:14	284.0
08/04/09	09:15	285.3
08/04/09	09:16	282.1
08/04/09	09:17	284.7
08/04/09	09:18	285.1
08/04/09	09:19	285.6
08/04/09	09:20	284.6
08/04/09	09:21	286.2
08/04/09	09:22	285.7
08/04/09	09:23	284.0
08/04/09	09:24	282.9
08/04/09	09:25	282.4
08/04/09	09:26	280.6
08/04/09	09:27	284.6
08/04/09	09:28	282.2
08/04/09	09:29	278.0
08/04/09	09:30	281.0
08/04/09	09:31	284.3
08/04/09	09:32	282.1
08/04/09	09:33	281.5
08/04/09	09:34	279.4
08/04/09	09:35	280.5
08/04/09	09:36	283.7
08/04/09	09:37	286.8
08/04/09	09:38	282.5
08/04/09	09:39	279.3
08/04/09	09:40	285.4
08/04/09	09:41	286.8
08/04/09	09:42	282.5
08/04/09	09:43	284.1

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 08:00 Through 08/04/2009 10:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	09:44	283.5
08/04/09	09:45	281.5I
08/04/09	09:46	167.2I
08/04/09	09:47	39.0I
08/04/09	09:48	2.1I
08/04/09	09:49	0.3I
08/04/09	09:50	87.7I
08/04/09	09:51	245.3I
08/04/09	09:52	267.1
08/04/09	09:53	275.5
08/04/09	09:54	272.1
08/04/09	09:55	272.7
08/04/09	09:56	275.0
08/04/09	09:57	273.8
08/04/09	09:58	276.6
08/04/09	09:59	277.2
08/04/09	10:00	279.6
08/04/09	10:01	279.9
08/04/09	10:02	278.8
08/04/09	10:03	282.4
08/04/09	10:04	280.4
08/04/09	10:05	279.6
08/04/09	10:06	279.5
08/04/09	10:07	282.2
08/04/09	10:08	279.7
08/04/09	10:09	278.5
08/04/09	10:10	278.3
08/04/09	10:11	280.7
08/04/09	10:12	281.3
08/04/09	10:13	285.3
08/04/09	10:14	284.5
08/04/09	10:15	282.7

Average	285.8
Minimum	267.1
Maximum	295.5
Summation	36,866.1
Included Data Points	129
Total number of Data Points	136

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 08:00 Through 08/04/2009 10:15
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09	08:00	11.5	55,492,336.6	373	4.2	16.3
08/04/09	08:01	11.5	55,422,733.3	374	4.2	17.1
08/04/09	08:02	11.5	55,648,608.3	374	4.1	18.2
08/04/09	08:03	11.5	55,340,460.0	373	4.2	18.7
08/04/09	08:04	11.5	55,207,255.0	373	4.2	18.0
08/04/09	08:05	11.5	55,336,330.0	374	4.1	18.5
08/04/09	08:06	11.6	55,254,798.3	374	4.1	19.6
08/04/09	08:07	11.5	55,169,328.3	374	4.1	20.6
08/04/09	08:08	11.5	55,449,280.0	374	4.1	20.3
08/04/09	08:09	11.5	55,606,870.0	373	4.1	19.3
08/04/09	08:10	11.6	55,377,798.3	373	4.1	19.1
08/04/09	08:11	11.5	55,477,806.6	374	4.1	18.8
08/04/09	08:12	11.6	55,475,330.0	373	4.1	19.7
08/04/09	08:13	11.5	55,497,208.3	374	4.1	20.9
08/04/09	08:14	11.5	55,467,885.0	375	4.4	20.9
08/04/09	08:15	11.5	55,280,355.0	375	4.1	21.5
08/04/09	08:16	11.5	55,490,573.3	374	4.0	21.8
08/04/09	08:17	11.5	55,360,688.3	374	4.0	21.6
08/04/09	08:18	11.5	55,433,376.6	372	4.0	21.2
08/04/09	08:19	11.5	55,441,400.0	372	4.0	21.1
08/04/09	08:20	11.5	55,466,823.3	372	4.0	20.9
08/04/09	08:21	11.5	55,655,026.6	372	4.0	20.7
08/04/09	08:22	11.4	54,906,876.6	372	4.0	21.3
08/04/09	08:23	11.4	55,312,500.0	373	4.0	22.1
08/04/09	08:24	11.5	55,314,166.6	373	4.0	22.6
08/04/09	08:25	11.5	55,159,570.0	372	4.0	23.6
08/04/09	08:26	11.5	55,432,898.3	372	4.0	24.4
08/04/09	08:27	11.5	55,169,068.3	372	4.0	24.5
08/04/09	08:28	11.5	55,169,420.0	373	4.0	24.5
08/04/09	08:29	11.6	55,295,321.6	374	4.0	24.8
08/04/09	08:30	11.6	54,961,016.6	374	4.1	25.9
08/04/09	08:31	11.5	55,483,880.0	373	4.1	25.7
08/04/09	08:32	11.5	55,399,966.6	373	4.0	26.5
08/04/09	08:33	11.5	55,191,030.0	372	4.0	27.4
08/04/09	08:34	11.5	55,054,378.3	375	4.0	28.1
08/04/09	08:35	11.5	55,365,320.0	375	4.0	29.1
08/04/09	08:36	11.5	55,350,773.3	374	4.0	30.6
08/04/09	08:37	11.5	54,869,843.3	374	4.0	30.7
08/04/09	08:38	11.5	55,416,670.0	373	4.0	30.6
08/04/09	08:39	11.5	55,362,780.0	372	4.0	30.4
08/04/09	08:40	11.5	55,419,736.6	372	4.1	30.6
08/04/09	08:41	11.5	55,143,653.3	373	4.0	31.4
08/04/09	08:42	11.6	54,879,931.6	375	4.0	34.3
08/04/09	08:43	11.6	54,896,513.3	376	4.0	36.0
08/04/09	08:44	11.5	54,900,408.3	375	4.1	35.8
08/04/09	08:45	11.5	55,093,326.6	373	4.0	35.9
08/04/09	08:46	11.6	54,815,083.3	373	3.9	37.7
08/04/09	08:47	11.6	55,322,351.6	372	4.0	38.8
08/04/09	08:48	11.5	55,452,030.0	371	4.0	38.9
08/04/09	08:49	11.5	55,433,610.0	372	4.1	37.8
08/04/09	08:50	11.6	55,432,550.0	373	4.1	36.9
08/04/09	08:51	11.5	55,061,255.0	374	4.0	35.9

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 08:00 Through 08/04/2009 10:15
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09	08:52	11.5	54,835,060.0	374	4.0	37.4
08/04/09	08:53	11.5	55,143,068.3	374	4.0	38.8
08/04/09	08:54	11.6	55,351,966.6	372	4.0	40.3
08/04/09	08:55	11.6	55,447,003.3	372	3.8	42.3
08/04/09	08:56	11.6	54,976,860.0	373	3.6	43.1
08/04/09	08:57	11.5	55,310,673.3	373	3.5	42.8
08/04/09	08:58	11.5	55,188,435.0	373	3.5	40.7
08/04/09	08:59	11.5	55,441,961.6	373	3.6	40.2
08/04/09	09:00	11.6	55,342,130.0	372	3.6	41.0
08/04/09	09:01	11.6	55,104,156.6	373	3.5	41.3
08/04/09	09:02	11.5	55,451,755.0	372	3.5	42.8
08/04/09	09:03	11.5	55,449,126.6	372	3.6	42.7
08/04/09	09:04	11.5	54,775,333.3	372	3.7	41.2
08/04/09	09:05	11.6	54,824,481.6	373	3.5	41.9
08/04/09	09:06	11.6	54,651,260.0	374	3.6	43.4
08/04/09	09:07	11.6	54,626,025.0	376	3.7	44.5
08/04/09	09:08	11.7	54,644,550.0	375	3.7	44.8
08/04/09	09:09	11.7	54,648,146.6	375	3.7	44.9
08/04/09	09:10	11.7	54,662,151.6	374	3.8	45.7
08/04/09	09:11	11.6	54,646,158.3	375	3.7	46.2
08/04/09	09:12	11.6	54,639,631.6	374	3.8	47.4
08/04/09	09:13	11.6	55,460,836.6	373	3.8	47.8
08/04/09	09:14	11.6	54,791,360.0	373	3.8	46.6
08/04/09	09:15	11.6	54,643,826.6	373	3.8	46.2
08/04/09	09:16	11.5	54,708,485.0	373	3.8	45.0
08/04/09	09:17	11.6	54,487,913.3	373	3.8	43.3
08/04/09	09:18	11.7	54,518,206.6	373	3.9	43.1
08/04/09	09:19	11.7	54,558,626.6	374	4.0	43.2
08/04/09	09:20	11.6	54,781,386.6	373	4.0	43.7
08/04/09	09:21	11.7	55,137,900.0	374	4.1	41.8
08/04/09	09:22	11.7	54,720,726.6	374	4.1	42.1
08/04/09	09:23	11.7	54,649,850.0	374	4.1	42.8
08/04/09	09:24	11.6	54,654,750.0	374	4.2	41.2
08/04/09	09:25	11.6	54,657,650.0	373	4.1	40.0
08/04/09	09:26	11.6	54,782,070.0	372	4.1	39.0
08/04/09	09:27	11.6	54,931,166.6	371	4.1	37.6
08/04/09	09:28	11.6	54,846,846.6	372	4.0	37.2
08/04/09	09:29	11.5	54,765,201.6	372	4.1	37.1
08/04/09	09:30	11.6	12,242,191.6I	373	4.1	36.7
08/04/09	09:31	11.7	1,700.0I	375	4.0	35.2
08/04/09	09:32	11.6	1,700.0I	375	4.0	35.6
08/04/09	09:33	11.6	1,700.0I	374	3.9	36.1
08/04/09	09:34	11.5	1,700.0I	372	3.9	34.7
08/04/09	09:35	11.5	1,700.0I	370	4.0	33.4
08/04/09	09:36	11.6	1,700.0I	370	4.0	33.2
08/04/09	09:37	11.6	1,700.0I	371	3.9	32.8
08/04/09	09:38	11.4	34,851,251.6I	372	3.9	30.7
08/04/09	09:39	11.4	53,929,710.0I	372	4.0	27.6
08/04/09	09:40	11.5	54,889,380.0	372	4.0	25.8
08/04/09	09:41	11.5	55,204,051.6	373	3.9	26.0
08/04/09	09:42	11.5	55,463,565.0	372	3.9	26.6
08/04/09	09:43	11.5	55,609,261.6	371	3.9	25.4

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 08:00 Through 08/04/2009 10:15
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09	09:44	11.5	55,629,118.3	373	4.0	23.8
08/04/09	09:45	9.7I	55,399,468.3	373	3.9	22.7I
08/04/09	09:46	0.1I	55,414,358.3	373	3.9	10.3I
08/04/09	09:47	0.0I	55,514,021.6	372	4.0	0.7I
08/04/09	09:48	0.0I	55,555,650.0	371	3.9	0.0I
08/04/09	09:49	0.1I	55,842,170.0	371	4.0	0.0I
08/04/09	09:50	10.9I	56,127,801.6	372	3.9	6.8I
08/04/09	09:51	11.2I	55,525,083.3	372	3.8	16.4I
08/04/09	09:52	11.3I	55,523,725.0	372	3.9	17.2I
08/04/09	09:53	11.4	55,688,515.0	372	3.8	17.3
08/04/09	09:54	11.4	55,569,790.0	372	3.9	17.2
08/04/09	09:55	11.4	55,434,211.6	373	4.0	17.6
08/04/09	09:56	11.5	55,474,820.0	374	4.0	17.7
08/04/09	09:57	11.4	55,055,030.0	374	4.0	16.4
08/04/09	09:58	11.4	55,093,685.0	374	3.9	15.5
08/04/09	09:59	11.5	54,648,000.0	374	3.9	15.6
08/04/09	10:00	11.5	54,645,670.0	373	3.9	16.8
08/04/09	10:01	11.5	54,671,630.0	374	3.8	17.5
08/04/09	10:02	11.5	54,865,616.6	375	3.9	18.2
08/04/09	10:03	11.6	55,044,988.3	375	3.9	18.1
08/04/09	10:04	11.6	55,615,906.6	375	4.0	17.8
08/04/09	10:05	11.5	55,462,830.0	372	3.9	18.1
08/04/09	10:06	11.4	55,458,038.3	370	3.9	17.9
08/04/09	10:07	11.5	55,592,691.6	370	3.9	16.5
08/04/09	10:08	11.4	55,673,900.0	371	4.0	15.7
08/04/09	10:09	11.4	55,409,120.0	371	4.2	15.6
08/04/09	10:10	11.4	54,976,321.6	373	4.3	15.0
08/04/09	10:11	11.5	54,689,483.3	374	4.3	14.7
08/04/09	10:12	11.6	54,981,010.0	375	4.2	16.1
08/04/09	10:13	11.6	55,105,488.3	375	4.2	17.0
08/04/09	10:14	11.6	54,939,533.3	376	4.3	16.4
08/04/09	10:15	11.6	55,096,568.3	374	4.2	17.3
Average		11.5	55,179,090.8	373	4.0	29.7
Minimum		11.4	54,487,913.3	370	3.5	14.7
Maximum		11.7	56,127,801.6	376	4.4	47.8
Summation		1,476.6	6,952,565,439.6	50,740	539.1	3,798.3
Included Data Points		128	126	136	136	128
Total number of Data Points		136	136	136	136	136

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 10:28 Through 08/04/2009 12:40
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	10:28	281.8
08/04/09	10:29	280.6
08/04/09	10:30	280.4
08/04/09	10:31	278.5
08/04/09	10:32	276.7
08/04/09	10:33	281.2
08/04/09	10:34	281.3
08/04/09	10:35	278.8
08/04/09	10:36	279.9
08/04/09	10:37	284.5
08/04/09	10:38	285.8
08/04/09	10:39	284.8
08/04/09	10:40	280.3
08/04/09	10:41	279.1
08/04/09	10:42	280.2
08/04/09	10:43	282.6
08/04/09	10:44	283.4
08/04/09	10:45	276.1
08/04/09	10:46	279.3
08/04/09	10:47	280.4
08/04/09	10:48	280.5
08/04/09	10:49	278.9
08/04/09	10:50	277.5
08/04/09	10:51	277.1
08/04/09	10:52	280.4
08/04/09	10:53	281.5
08/04/09	10:54	283.8
08/04/09	10:55	285.8
08/04/09	10:56	283.9
08/04/09	10:57	283.4
08/04/09	10:58	287.0
08/04/09	10:59	289.9
08/04/09	11:00	280.9
08/04/09	11:01	279.2
08/04/09	11:02	281.9
08/04/09	11:03	282.9
08/04/09	11:04	281.5
08/04/09	11:05	281.0
08/04/09	11:06	282.1
08/04/09	11:07	279.4
08/04/09	11:08	278.7
08/04/09	11:09	278.4
08/04/09	11:10	278.2
08/04/09	11:11	277.5
08/04/09	11:12	278.0
08/04/09	11:13	281.8
08/04/09	11:14	288.7
08/04/09	11:15	280.9
08/04/09	11:16	275.7
08/04/09	11:17	274.8
08/04/09	11:18	274.9
08/04/09	11:19	275.9

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 10:28 Through 08/04/2009 12:40
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	11:20	278.4
08/04/09	11:21	280.2
08/04/09	11:22	281.9
08/04/09	11:23	283.0
08/04/09	11:24	283.7
08/04/09	11:25	285.5
08/04/09	11:26	283.7
08/04/09	11:27	281.1
08/04/09	11:28	282.1
08/04/09	11:29	284.9
08/04/09	11:30	285.6
08/04/09	11:31	282.5
08/04/09	11:32	278.9
08/04/09	11:33	278.0
08/04/09	11:34	280.4
08/04/09	11:35	277.7
08/04/09	11:36	276.5
08/04/09	11:37	281.1
08/04/09	11:38	282.5
08/04/09	11:39	281.8
08/04/09	11:40	280.1
08/04/09	11:41	279.8
08/04/09	11:42	275.9
08/04/09	11:43	276.3
08/04/09	11:44	276.3
08/04/09	11:45	275.4
08/04/09	11:46	275.1
08/04/09	11:47	274.8
08/04/09	11:48	276.8
08/04/09	11:49	273.1
08/04/09	11:50	270.3
08/04/09	11:51	272.8
08/04/09	11:52	272.2
08/04/09	11:53	273.7
08/04/09	11:54	270.2
08/04/09	11:55	272.7
08/04/09	11:56	273.6
08/04/09	11:57	273.6
08/04/09	11:58	273.1
08/04/09	11:59	269.5
08/04/09	12:00	273.9
08/04/09	12:01	272.5
08/04/09	12:02	269.5
08/04/09	12:03	270.5
08/04/09	12:04	270.1
08/04/09	12:05	268.0
08/04/09	12:06	270.6
08/04/09	12:07	276.6
08/04/09	12:08	273.6
08/04/09	12:09	273.8
08/04/09	12:10	273.7
08/04/09	12:11	272.0

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 10:28 Through 08/04/2009 12:40
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	12:12	275.9
08/04/09	12:13	280.1
08/04/09	12:14	281.5
08/04/09	12:15	F
08/04/09	12:16	277.8
08/04/09	12:17	272.0
08/04/09	12:18	269.7
08/04/09	12:19	269.0
08/04/09	12:20	273.4
08/04/09	12:21	271.0
08/04/09	12:22	273.0
08/04/09	12:23	271.6
08/04/09	12:24	275.9
08/04/09	12:25	275.5
08/04/09	12:26	272.2
08/04/09	12:27	267.7
08/04/09	12:28	265.6
08/04/09	12:29	264.6
08/04/09	12:30	267.2
08/04/09	12:31	266.1
08/04/09	12:32	269.0
08/04/09	12:33	270.0
08/04/09	12:34	268.6
08/04/09	12:35	265.1
08/04/09	12:36	265.8
08/04/09	12:37	267.2
08/04/09	12:38	273.4
08/04/09	12:39	272.3
08/04/09	12:40	271.5

Average	277.0
Minimum	264.6
Maximum	289.9
Summation	36,570.2
Included Data Points	132
Total number of Data Points	133

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 10:28 Through 08/04/2009 12:40
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09 10:28	11.5	56,023,340.0	373	3.9	16.3
08/04/09 10:29	11.5	56,193,736.6	372	4.0	15.0
08/04/09 10:30	11.4	56,718,706.6	370	4.2	14.5
08/04/09 10:31	11.4	56,210,365.0	371	4.2	14.3
08/04/09 10:32	11.5	56,283,018.3	372	4.2	15.0
08/04/09 10:33	11.4	55,935,916.6	372	4.3	16.0
08/04/09 10:34	11.4	55,656,000.0	373	4.3	16.1
08/04/09 10:35	11.5	55,578,763.3	373	4.2	16.8
08/04/09 10:36	11.5	55,471,788.3	373	4.2	17.5
08/04/09 10:37	11.5	55,500,598.3	372	4.2	17.6
08/04/09 10:38	11.5	55,350,753.3	372	4.3	18.2
08/04/09 10:39	11.6	55,621,475.0	373	4.3	19.1
08/04/09 10:40	11.6	55,581,843.3	374	4.3	18.9
08/04/09 10:41	11.5	55,484,385.0	375	4.3	18.3
08/04/09 10:42	11.6	55,451,793.3	374	4.2	18.9
08/04/09 10:43	11.6	55,775,423.3	374	4.2	19.3
08/04/09 10:44	11.5	55,882,840.0	372	4.2	18.8
08/04/09 10:45	11.4	55,817,820.0	372	4.1	19.0
08/04/09 10:46	11.5	56,132,300.0	371	4.1	18.9
08/04/09 10:47	11.5	55,873,750.0	372	4.2	18.6
08/04/09 10:48	11.5	56,165,506.6	372	4.2	18.3
08/04/09 10:49	11.5	55,868,650.0	372	4.2	18.1
08/04/09 10:50	11.4	55,962,133.3	372	4.2	18.0
08/04/09 10:51	11.4	55,892,186.6	371	4.1	17.7
08/04/09 10:52	11.5	56,134,956.6	372	4.2	19.0
08/04/09 10:53	11.5	56,154,508.3	373	4.1	20.9
08/04/09 10:54	11.5	55,668,123.3	375	4.2	22.0
08/04/09 10:55	11.5	55,444,475.0	376	4.2	22.5
08/04/09 10:56	11.4	55,528,501.6	375	4.1	22.5
08/04/09 10:57	11.4	55,446,133.3	373	4.2	22.1
08/04/09 10:58	11.5	55,751,520.0	371	4.2	22.2
08/04/09 10:59	11.5	56,279,121.6	370	4.2	22.5
08/04/09 11:00	11.4	56,338,360.0	371	4.1	22.3
08/04/09 11:01	11.3	56,248,938.3	372	4.1	20.9
08/04/09 11:02	11.4	55,747,190.0	374	4.1	21.1
08/04/09 11:03	11.5	55,843,061.6	374	4.1	21.9
08/04/09 11:04	11.3	56,114,140.0	374	4.1	21.1
08/04/09 11:05	11.4	56,059,973.3	372	4.0	21.3
08/04/09 11:06	11.4	56,363,185.0	370	4.0	22.4
08/04/09 11:07	11.4	56,203,493.3	370	4.1	21.9
08/04/09 11:08	11.4	56,544,145.0	372	4.0	21.2
08/04/09 11:09	11.4	56,333,336.6	372	4.1	21.1
08/04/09 11:10	11.4	56,301,961.6	373	4.1	21.1
08/04/09 11:11	11.4	56,485,400.0	372	4.1	21.5
08/04/09 11:12	11.4	56,637,415.0	372	4.1	22.6
08/04/09 11:13	11.3	56,461,920.0	371	4.1	23.4
08/04/09 11:14	11.4	56,271,730.0	372	4.1	24.4
08/04/09 11:15	11.4	56,235,171.6	373	4.0	25.7
08/04/09 11:16	11.4	56,330,390.0	373	4.0	25.9
08/04/09 11:17	11.3	56,290,625.0	373	4.0	25.2
08/04/09 11:18	11.4	56,154,633.3	373	3.9	24.8
08/04/09 11:19	11.4	55,967,063.3	373	4.0	24.7

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 10:28 Through 08/04/2009 12:40
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09 11:20	11.5	55,489,338.3	375	4.1	25.8
08/04/09 11:21	11.6	55,182,090.0	376	4.0	28.3
08/04/09 11:22	11.6	55,421,070.0	376	4.0	32.5
08/04/09 11:23	11.5	55,230,410.0	375	4.0	34.7
08/04/09 11:24	11.6	55,464,638.3	374	4.0	36.2
08/04/09 11:25	11.6	55,554,295.0	373	3.9	38.5
08/04/09 11:26	11.6	55,728,196.6	374	3.9	40.6
08/04/09 11:27	11.5	55,461,263.3	374	4.0	41.4
08/04/09 11:28	11.5	55,132,826.6	374	4.0	40.6
08/04/09 11:29	11.6	54,939,620.0	375	4.0	40.7
08/04/09 11:30	11.6	55,188,453.3	376	4.1	42.3
08/04/09 11:31	11.5	55,090,530.0	376	4.0	43.3
08/04/09 11:32	11.5	54,828,105.0	375	4.0	43.9
08/04/09 11:33	11.5	55,253,586.6	375	4.0	44.9
08/04/09 11:34	11.6	55,394,553.3	375	4.1	45.3
08/04/09 11:35	11.5	55,353,786.6	374	4.0	46.8
08/04/09 11:36	11.5	55,269,926.6	374	4.0	47.7
08/04/09 11:37	11.5	55,449,173.3	372	4.0	47.9
08/04/09 11:38	11.6	55,462,565.0	373	4.0	47.5
08/04/09 11:39	11.6	55,349,505.0	373	4.1	47.2
08/04/09 11:40	11.6	55,526,573.3	374	4.1	47.4
08/04/09 11:41	11.5	55,460,433.3	375	4.0	45.9
08/04/09 11:42	11.5	55,471,616.6	374	4.0	45.9
08/04/09 11:43	11.5	55,457,176.6	374	4.1	46.6
08/04/09 11:44	11.5	55,390,458.3	374	4.1	46.3
08/04/09 11:45	11.5	55,818,468.3	373	4.0	46.6
08/04/09 11:46	11.5	56,050,123.3	371	4.0	47.2
08/04/09 11:47	11.4	56,280,973.3	370	4.0	45.6
08/04/09 11:48	11.5	56,331,171.6	370	3.9	42.4
08/04/09 11:49	11.4	56,234,841.6	371	3.9	39.7
08/04/09 11:50	11.3	55,994,015.0	371	3.9	38.8
08/04/09 11:51	11.3	55,808,315.0	372	4.0	36.4
08/04/09 11:52	11.4	55,937,913.3	372	4.0	36.5
08/04/09 11:53	11.4	56,024,836.6	371	4.0	37.2
08/04/09 11:54	11.3	56,284,695.0	371	4.0	35.8
08/04/09 11:55	11.4	56,269,753.3	371	4.0	35.2
08/04/09 11:56	11.4	56,178,533.3	373	4.0	35.2
08/04/09 11:57	11.4	56,231,988.3	374	3.9	33.9
08/04/09 11:58	11.4	55,963,625.0	374	4.0	33.5
08/04/09 11:59	11.4	56,452,551.6	373	4.0	32.9
08/04/09 12:00	11.4	56,866,470.0	371	4.1	31.9
08/04/09 12:01	11.4	56,656,628.3	371	4.1	30.3
08/04/09 12:02	11.3	56,313,763.3	372	4.0	29.6
08/04/09 12:03	11.4	56,377,263.3	374	4.0	28.9
08/04/09 12:04	11.3	56,262,693.3	374	4.1	29.0
08/04/09 12:05	11.3	56,223,493.3	373	4.1	28.8
08/04/09 12:06	11.4	56,144,255.0	371	4.0	28.2
08/04/09 12:07	11.4	56,260,370.0	371	4.0	27.5
08/04/09 12:08	11.4	55,738,505.0	373	4.1	26.8
08/04/09 12:09	11.5	55,613,946.6	375	4.1	26.4
08/04/09 12:10	11.5	55,565,008.3	375	4.1	27.8
08/04/09 12:11	11.4	55,604,891.6	375	4.0	28.4

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 10:28 Through 08/04/2009 12:40
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09 12:12	11.5	55,684,410.0	373	4.1	28.7
08/04/09 12:13	11.5	56,244,393.3	373	4.0	28.6
08/04/09 12:14	11.5	56,068,160.0	373	4.0	28.2
08/04/09 12:15	11.5	55,679,905.0	373	4.0	28.3
08/04/09 12:16	F	F	F	F	F
08/04/09 12:17	11.5	55,650,031.6	374	4.1	27.8
08/04/09 12:18	11.4	55,743,086.6	374	4.0	27.3
08/04/09 12:19	11.5	55,873,610.0	374	4.1	26.9
08/04/09 12:20	11.5	55,442,251.6	375	4.1	26.5
08/04/09 12:21	11.5	55,419,406.6	375	4.0	25.3
08/04/09 12:22	11.5	55,045,366.6	375	4.1	24.8
08/04/09 12:23	11.5	55,193,176.6	376	4.0	25.3
08/04/09 12:24	11.5	56,178,718.3	374	4.1	25.4
08/04/09 12:25	11.5	56,421,126.6	372	4.0	26.1
08/04/09 12:26	11.4	56,996,871.6	370	4.0	25.4
08/04/09 12:27	11.3	57,078,918.3	369	4.0	23.5
08/04/09 12:28	11.3	56,856,601.6	371	4.0	21.6
08/04/09 12:29	11.3	56,606,321.6	371	4.6	20.1
08/04/09 12:30	11.3	56,589,381.6	371	4.1	18.9
08/04/09 12:31	11.3	56,507,191.6	371	4.0	17.9
08/04/09 12:32	11.4	56,494,421.6	370	4.0	17.5
08/04/09 12:33	11.4	56,920,373.3	370	4.1	17.4
08/04/09 12:34	11.3	57,054,836.6	370	4.1	17.2
08/04/09 12:35	11.3	56,547,384.7	371	4.0	17.4
08/04/09 12:36	11.3	56,633,268.3	372	4.0	17.4
08/04/09 12:37	11.3	56,720,506.6	370	3.9	17.2
08/04/09 12:38	11.4	57,509,140.0	369	4.0	16.8
08/04/09 12:39	11.4	57,197,921.6	371	4.0	15.6
08/04/09 12:40	11.4	57,270,645.0	372	4.1	15.0
Average	11.4	55,973,024.8	373	4.1	27.6
Minimum	11.3	54,828,105.0	369	3.9	14.3
Maximum	11.6	57,509,140.0	376	4.6	47.9
Summation	1,511.0	7,388,439,275.5	49,199	537.4	3,644.2
Included Data Points	132	132	132	132	132
Total number of Data Points	133	133	133	133	133

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 13:08 Through 08/04/2009 15:22
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	13:08	281.7
08/04/09	13:09	277.6
08/04/09	13:10	278.4
08/04/09	13:11	274.0
08/04/09	13:12	271.9
08/04/09	13:13	274.8
08/04/09	13:14	273.3
08/04/09	13:15	271.7
08/04/09	13:16	270.8
08/04/09	13:17	269.3
08/04/09	13:18	271.2
08/04/09	13:19	274.7
08/04/09	13:20	275.5
08/04/09	13:21	272.0
08/04/09	13:22	271.0
08/04/09	13:23	269.8
08/04/09	13:24	272.6
08/04/09	13:25	272.4
08/04/09	13:26	270.2
08/04/09	13:27	269.0
08/04/09	13:28	267.9
08/04/09	13:29	268.5
08/04/09	13:30	266.9
08/04/09	13:31	268.6
08/04/09	13:32	269.2
08/04/09	13:33	269.4
08/04/09	13:34	270.3
08/04/09	13:35	269.8
08/04/09	13:36	268.7
08/04/09	13:37	270.2
08/04/09	13:38	269.2
08/04/09	13:39	269.9
08/04/09	13:40	268.2
08/04/09	13:41	269.7
08/04/09	13:42	270.2
08/04/09	13:43	271.5
08/04/09	13:44	272.9
08/04/09	13:45	270.8
08/04/09	13:46	272.5
08/04/09	13:47	269.8
08/04/09	13:48	270.0
08/04/09	13:49	270.8
08/04/09	13:50	267.9
08/04/09	13:51	269.2
08/04/09	13:52	271.0
08/04/09	13:53	270.8
08/04/09	13:54	271.1
08/04/09	13:55	271.7
08/04/09	13:56	272.8
08/04/09	13:57	271.4
08/04/09	13:58	272.8
08/04/09	13:59	274.7

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 13:08 Through 08/04/2009 15:22
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	14:00	276.0
08/04/09	14:01	276.2
08/04/09	14:02	274.2
08/04/09	14:03	272.3
08/04/09	14:04	273.6
08/04/09	14:05	273.8
08/04/09	14:06	272.5
08/04/09	14:07	273.2
08/04/09	14:08	272.3
08/04/09	14:09	270.8
08/04/09	14:10	270.3
08/04/09	14:11	271.1
08/04/09	14:12	271.9
08/04/09	14:13	271.7
08/04/09	14:14	274.2
08/04/09	14:15	270.0
08/04/09	14:16	273.0
08/04/09	14:17	267.5
08/04/09	14:18	266.2
08/04/09	14:19	266.5
08/04/09	14:20	267.0
08/04/09	14:21	267.8
08/04/09	14:22	269.6
08/04/09	14:23	270.4
08/04/09	14:24	270.2
08/04/09	14:25	267.6
08/04/09	14:26	265.9
08/04/09	14:27	266.4
08/04/09	14:28	267.1
08/04/09	14:29	268.3
08/04/09	14:30	268.5
08/04/09	14:31	269.1
08/04/09	14:32	264.9
08/04/09	14:33	264.0
08/04/09	14:34	267.9
08/04/09	14:35	272.3
08/04/09	14:36	271.0
08/04/09	14:37	270.6
08/04/09	14:38	270.4
08/04/09	14:39	269.8
08/04/09	14:40	269.7
08/04/09	14:41	265.8
08/04/09	14:42	263.9
08/04/09	14:43	264.3
08/04/09	14:44	266.0
08/04/09	14:45	267.3
08/04/09	14:46	266.5
08/04/09	14:47	269.8
08/04/09	14:48	269.6
08/04/09	14:49	268.6
08/04/09	14:50	267.4
08/04/09	14:51	265.5

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 13:08 Through 08/04/2009 15:22
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/04/09	14:52	265.9
08/04/09	14:53	270.8
08/04/09	14:54	270.4
08/04/09	14:55	269.4
08/04/09	14:56	269.6
08/04/09	14:57	268.1
08/04/09	14:58	270.2
08/04/09	14:59	265.7
08/04/09	15:00	264.9
08/04/09	15:01	264.7
08/04/09	15:02	264.5
08/04/09	15:03	264.7
08/04/09	15:04	264.8
08/04/09	15:05	270.0
08/04/09	15:06	270.3
08/04/09	15:07	266.1
08/04/09	15:08	267.0
08/04/09	15:09	266.9
08/04/09	15:10	265.9
08/04/09	15:11	264.6
08/04/09	15:12	265.9
08/04/09	15:13	267.8
08/04/09	15:14	269.5
08/04/09	15:15	271.1
08/04/09	15:16	269.4
08/04/09	15:17	267.9
08/04/09	15:18	266.5
08/04/09	15:19	267.4
08/04/09	15:20	268.4
08/04/09	15:21	268.1
08/04/09	15:22	268.3

Average	269.7
Minimum	263.9
Maximum	281.7
Summation	36,415.3
Included Data Points	135
Total number of Data Points	135

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 13:08 Through 08/04/2009 15:22
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09	13:08	11.5	56,211,775.0	376	4.0	21.4
08/04/09	13:09	11.5	56,263,710.0	376	4.0	21.5
08/04/09	13:10	11.4	56,169,051.6	375	4.1	21.6
08/04/09	13:11	11.4	56,197,388.3	375	4.1	21.0
08/04/09	13:12	11.4	56,154,638.3	374	4.0	21.6
08/04/09	13:13	11.4	56,276,815.0	373	4.1	22.2
08/04/09	13:14	11.4	56,225,193.3	373	4.1	22.2
08/04/09	13:15	11.4	56,172,730.0	374	4.0	23.0
08/04/09	13:16	11.4	55,702,511.6	373	4.1	23.7
08/04/09	13:17	11.4	55,625,048.3	373	4.1	23.3
08/04/09	13:18	11.4	56,033,891.6	373	4.1	22.9
08/04/09	13:19	11.4	56,058,020.0	373	4.2	23.0
08/04/09	13:20	11.4	56,067,420.0	375	4.1	23.4
08/04/09	13:21	11.4	56,294,613.3	375	4.1	23.2
08/04/09	13:22	11.4	55,749,170.0	374	4.1	23.4
08/04/09	13:23	11.4	55,648,508.3	375	4.0	23.6
08/04/09	13:24	11.4	56,134,541.6	375	4.1	24.1
08/04/09	13:25	11.4	55,741,100.0	375	4.0	26.0
08/04/09	13:26	11.4	55,779,311.6	375	3.9	26.9
08/04/09	13:27	11.4	56,013,550.0	374	4.0	26.5
08/04/09	13:28	11.3	56,125,961.6	372	4.0	25.9
08/04/09	13:29	11.4	55,959,191.6	372	4.2	25.2
08/04/09	13:30	11.3	56,296,300.0	372	4.1	25.4
08/04/09	13:31	11.3	55,717,423.3	372	4.1	25.6
08/04/09	13:32	11.4	55,489,046.6	372	4.1	26.5
08/04/09	13:33	11.4	55,423,211.6	373	4.1	27.7
08/04/09	13:34	11.3	55,422,370.0	373	4.1	27.9
08/04/09	13:35	11.4	55,817,678.3	372	4.1	27.6
08/04/09	13:36	11.4	56,137,218.3	372	4.1	28.3
08/04/09	13:37	11.4	56,213,973.3	373	4.1	29.1
08/04/09	13:38	11.4	56,157,088.3	375	4.1	28.9
08/04/09	13:39	11.4	55,910,646.6	375	4.1	28.6
08/04/09	13:40	11.3	55,762,426.6	374	4.2	28.1
08/04/09	13:41	11.3	55,651,988.3	374	4.2	28.0
08/04/09	13:42	11.3	55,624,746.6	372	4.1	30.4
08/04/09	13:43	11.4	56,264,735.0	372	4.1	31.7
08/04/09	13:44	11.4	55,956,475.0	373	4.2	31.6
08/04/09	13:45	11.3	55,834,860.0	374	4.1	32.7
08/04/09	13:46	11.3	55,417,040.0	374	4.1	33.3
08/04/09	13:47	11.3	55,449,828.3	373	4.1	32.9
08/04/09	13:48	11.3	55,612,991.6	372	4.1	32.7
08/04/09	13:49	11.4	56,160,856.6	371	4.1	32.7
08/04/09	13:50	11.3	56,207,733.3	372	4.3	32.5
08/04/09	13:51	11.3	56,233,366.6	373	4.2	31.8
08/04/09	13:52	11.4	55,617,280.0	373	4.1	32.7
08/04/09	13:53	11.3	55,692,158.3	374	4.1	34.0
08/04/09	13:54	11.3	55,435,396.6	372	4.2	34.7
08/04/09	13:55	11.4	55,974,020.0	371	4.1	35.5
08/04/09	13:56	11.4	56,200,105.0	372	4.1	35.1
08/04/09	13:57	11.4	56,144,036.6	373	4.2	34.3
08/04/09	13:58	11.4	56,120,073.3	373	4.1	33.7
08/04/09	13:59	11.3	56,097,935.0	374	4.2	32.9

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 13:08 Through 08/04/2009 15:22
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09	14:00	11.4	56,016,418.3	372	4.2	32.6
08/04/09	14:01	11.4	55,828,695.0	372	4.1	32.0
08/04/09	14:02	11.4	55,763,630.0	372	4.1	32.3
08/04/09	14:03	11.4	55,914,988.3	372	4.1	33.2
08/04/09	14:04	11.4	55,918,793.3	372	4.1	33.5
08/04/09	14:05	11.4	55,499,820.0	373	4.1	33.5
08/04/09	14:06	11.4	55,892,346.6	372	4.1	33.4
08/04/09	14:07	11.4	55,915,920.0	373	4.1	32.0
08/04/09	14:08	11.5	55,971,598.3	373	4.1	30.9
08/04/09	14:09	11.4	55,882,153.3	373	4.1	30.2
08/04/09	14:10	11.4	55,973,913.3	371	4.1	30.0
08/04/09	14:11	11.4	56,153,341.6	371	4.1	31.1
08/04/09	14:12	11.4	56,237,843.3	372	4.1	32.4
08/04/09	14:13	11.5	56,225,715.0	374	4.1	32.7
08/04/09	14:14	11.4	55,478,128.3	375	4.1	32.4
08/04/09	14:15	11.4	55,392,056.6	375	4.1	31.9
08/04/09	14:16	11.4	55,543,765.0	372	4.1	32.7
08/04/09	14:17	11.4	56,363,456.6	370	4.0	32.3
08/04/09	14:18	11.4	56,591,966.6	370	4.1	31.0
08/04/09	14:19	11.3	56,717,265.0	371	4.2	31.1
08/04/09	14:20	11.3	56,405,000.0	373	4.1	31.4
08/04/09	14:21	11.4	55,666,290.0	376	4.1	30.4
08/04/09	14:22	11.4	55,418,671.6	376	4.1	31.6
08/04/09	14:23	11.5	55,414,641.6	374	4.1	32.1
08/04/09	14:24	11.4	56,129,793.3	372	4.1	31.1
08/04/09	14:25	11.4	56,276,203.3	371	4.1	31.6
08/04/09	14:26	11.4	55,956,341.6	373	4.1	32.3
08/04/09	14:27	11.4	55,441,290.0	374	4.1	31.8
08/04/09	14:28	11.4	55,594,455.0	373	4.1	32.3
08/04/09	14:29	11.4	55,663,703.3	373	4.1	31.6
08/04/09	14:30	11.4	56,033,298.3	373	4.2	30.0
08/04/09	14:31	11.4	56,225,020.0	372	4.1	29.4
08/04/09	14:32	11.3	56,064,090.0	371	4.2	30.0
08/04/09	14:33	11.4	55,669,675.0	371	4.1	29.9
08/04/09	14:34	11.4	55,566,703.3	372	4.2	30.4
08/04/09	14:35	11.5	55,504,081.6	373	4.1	30.7
08/04/09	14:36	11.5	55,288,766.6	374	4.1	30.6
08/04/09	14:37	11.6	55,370,740.0	375	4.1	30.2
08/04/09	14:38	11.5	55,566,888.3	374	4.1	30.1
08/04/09	14:39	11.6	56,146,936.6	372	4.1	30.4
08/04/09	14:40	11.5	56,350,163.3	371	4.1	30.1
08/04/09	14:41	11.4	56,199,443.3	372	4.1	28.6
08/04/09	14:42	11.3	55,754,481.6	372	4.1	28.7
08/04/09	14:43	11.4	55,493,415.0	372	4.1	28.1
08/04/09	14:44	11.4	55,407,808.3	373	4.1	26.5
08/04/09	14:45	11.5	55,474,510.0	373	4.1	26.6
08/04/09	14:46	11.5	55,393,250.0	374	4.1	27.3
08/04/09	14:47	11.6	55,362,041.6	374	4.0	27.4
08/04/09	14:48	11.6	55,510,123.3	375	4.1	27.7
08/04/09	14:49	11.6	55,298,691.6	376	4.1	27.5
08/04/09	14:50	11.6	54,609,178.3	376	4.1	27.2
08/04/09	14:51	11.5	54,671,971.6	376	4.1	27.0

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/04/2009 13:08 Through 08/04/2009 15:22
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/04/09 14:52	11.5	55,193,076.6	374	4.1	28.0
08/04/09 14:53	11.6	55,224,405.0	374	4.1	28.8
08/04/09 14:54	11.5	55,437,463.3	375	4.1	29.1
08/04/09 14:55	11.6	55,302,740.0	376	4.1	30.0
08/04/09 14:56	11.6	55,390,811.6	376	4.1	30.1
08/04/09 14:57	11.5	55,266,245.0	374	4.1	28.8
08/04/09 14:58	11.5	55,427,100.0	372	4.1	26.7
08/04/09 14:59	11.4	56,463,128.3	370	4.1	25.0
08/04/09 15:00	11.3	56,195,486.6	369	4.1	23.7
08/04/09 15:01	11.4	55,924,916.6	369	4.1	22.9
08/04/09 15:02	11.4	55,421,311.6	371	4.1	23.3
08/04/09 15:03	11.4	54,760,825.0	374	4.1	23.4
08/04/09 15:04	11.5	54,657,925.0	375	4.1	23.1
08/04/09 15:05	11.6	54,597,396.6	376	4.1	24.1
08/04/09 15:06	11.6	55,319,500.0	375	4.1	25.3
08/04/09 15:07	11.5	55,798,023.3	373	4.1	24.7
08/04/09 15:08	11.5	56,245,668.3	371	4.1	23.8
08/04/09 15:09	11.5	56,238,543.3	371	4.1	22.9
08/04/09 15:10	11.4	55,877,240.0	370	4.2	22.2
08/04/09 15:11	11.4	55,450,375.0	371	4.1	21.2
08/04/09 15:12	11.4	55,306,673.3	372	4.1	21.1
08/04/09 15:13	11.4	54,958,928.3	372	4.1	20.5
08/04/09 15:14	11.5	55,319,851.6	373	4.2	20.0
08/04/09 15:15	11.6	54,970,866.6	374	4.1	21.7
08/04/09 15:16	11.6	55,162,618.3	375	4.1	23.2
08/04/09 15:17	11.6	55,314,235.0	375	4.1	22.8
08/04/09 15:18	11.5	55,398,850.0	374	4.1	21.6
08/04/09 15:19	11.5	55,609,983.3	372	4.1	20.9
08/04/09 15:20	11.5	56,138,100.0	371	4.1	20.7
08/04/09 15:21	11.5	56,207,736.6	371	4.1	19.9
08/04/09 15:22	11.5	56,111,483.3	372	4.1	19.8
Average	11.4	55,774,430.7	373	4.1	28.0
Minimum	11.3	54,597,396.6	369	3.9	19.8
Maximum	11.6	56,717,265.0	376	4.3	35.5
Summation	1,542.3	7,529,548,139.1	50,363	554.1	3,773.6
Included Data Points	135	135	135	135	135
Total number of Data Points	135	135	135	135	135

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09	08:00	11.5	54,769,228.3	373	4.0	23.0
08/05/09	08:01	11.6	55,150,390.0	373	4.0	23.5
08/05/09	08:02	11.7	55,436,218.3	372	4.0	24.6
08/05/09	08:03	11.6	55,534,190.0	373	4.0	25.5
08/05/09	08:04	11.5	55,566,095.0	373	4.0	24.9
08/05/09	08:05	11.6	55,336,631.6	374	3.9	24.8
08/05/09	08:06	11.6	54,828,475.0	374	3.9	25.0
08/05/09	08:07	11.6	54,909,850.0	374	3.9	24.4
08/05/09	08:08	11.6	55,335,666.6	374	3.9	24.3
08/05/09	08:09	11.6	55,886,800.0	373	4.0	24.6
08/05/09	08:10	11.6	56,287,900.0	372	4.0	24.0
08/05/09	08:11	11.6	55,854,631.6	373	4.0	22.2
08/05/09	08:12	11.4	55,586,020.0	372	3.9	22.1
08/05/09	08:13	11.5	55,576,456.6	371	3.9	21.9
08/05/09	08:14	11.6	55,295,093.3	373	3.9	21.2
08/05/09	08:15	11.6	54,736,960.0	375	3.8	22.4
08/05/09	08:16	11.6	54,794,500.0	375	3.8	24.0
08/05/09	08:17	11.6	55,173,591.6	374	3.9	23.9
08/05/09	08:18	11.6	55,538,878.0	373	3.9	24.2
08/05/09	08:19	11.6	55,779,111.6	373	3.9	24.5
08/05/09	08:20	11.6	56,005,015.0	372	3.9	24.3
08/05/09	08:21	11.5	55,945,128.3	370	3.9	23.9
08/05/09	08:22	11.5	55,956,620.0	370	3.9	24.2
08/05/09	08:23	11.4	56,130,128.3	371	3.8	23.9
08/05/09	08:24	11.5	55,381,736.6	371	3.9	23.1
08/05/09	08:25	11.5	55,257,226.6	373	3.9	23.4
08/05/09	08:26	11.6	55,033,946.6	373	3.8	24.1
08/05/09	08:27	11.6	54,723,240.0	374	3.8	24.4
08/05/09	08:28	11.6	55,288,416.6	373	3.7	24.4
08/05/09	08:29	11.7	55,634,475.0	373	3.7	24.3
08/05/09	08:30	11.6	56,338,901.6	372	3.8	25.5
08/05/09	08:31	11.5	56,046,836.6	371	3.8	25.4
08/05/09	08:32	11.5	55,733,606.6	371	3.8	25.0
08/05/09	08:33	11.5	55,710,346.6	371	3.8	24.4
08/05/09	08:34	11.4	55,167,168.3	372	3.9	23.0
08/05/09	08:35	11.5	55,267,840.6	373	3.8	23.5
08/05/09	08:36	11.6	54,900,506.6	374	3.8	24.7
08/05/09	08:37	11.7	55,390,215.0	375	3.8	26.0
08/05/09	08:38	11.6	55,497,130.0	376	3.8	27.0
08/05/09	08:39	11.6	55,191,588.3	376	3.9	27.7
08/05/09	08:40	11.6	55,319,155.0	376	3.8	28.1
08/05/09	08:41	11.7	55,540,891.6	375	3.8	27.9
08/05/09	08:42	11.6	55,639,226.6	373	3.8	28.5
08/05/09	08:43	11.6	56,235,278.3	373	3.7	28.7
08/05/09	08:44	11.6	56,600,876.6	373	3.8	27.1
08/05/09	08:45	11.5	56,377,586.6	373	3.8	25.8
08/05/09	08:46	11.4	55,673,070.0	372	3.8	24.8
08/05/09	08:47	11.5	55,701,338.3	373	3.8	23.2
08/05/09	08:48	11.5	55,530,566.6	373	3.8	22.6
08/05/09	08:49	11.5	55,861,305.0	372	3.9	23.0
08/05/09	08:50	11.6	56,306,720.0	372	3.9	23.2
08/05/09	08:51	11.5	56,935,716.6	372	3.8	22.6

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09	08:52	11.5	56,350,943.3	372	3.8	22.8
08/05/09	08:53	11.5	56,310,951.6	373	3.7	22.7
08/05/09	08:54	11.4	55,884,585.0	373	3.8	22.6
08/05/09	08:55	11.5	55,587,975.0	373	3.8	22.5
08/05/09	08:56	11.5	55,777,111.6	373	3.7	22.9
08/05/09	08:57	11.5	55,940,670.0	373	3.8	22.8
08/05/09	08:58	11.5	56,025,456.6	372	3.8	22.2
08/05/09	08:59	11.5	56,083,175.0	373	3.8	22.2
08/05/09	09:00	11.5	56,121,336.6	372	3.8	24.1
08/05/09	09:01	11.5	56,039,156.6	372	3.8	25.0
08/05/09	09:02	11.6	56,037,113.3	373	3.8	25.1
08/05/09	09:03	11.5	56,181,321.6	373	3.8	25.0
08/05/09	09:04	11.4	55,871,953.3	373	3.8	24.3
08/05/09	09:05	11.4	56,369,765.0	371	3.7	24.4
08/05/09	09:06	11.5	56,286,880.0	370	3.7	25.3
08/05/09	09:07	11.5	56,320,718.3	371	3.7	25.4
08/05/09	09:08	11.4	56,320,401.6	371	3.7	25.3
08/05/09	09:09	11.4	56,049,115.3	371	3.7	25.2
08/05/09	09:10	11.5	55,723,011.6	372	3.8	25.4
08/05/09	09:11	11.5	55,968,643.3	373	3.7	25.4
08/05/09	09:12	11.6	55,696,898.3	374	3.7	27.7
08/05/09	09:13	11.6	55,545,788.3	375	3.7	30.3
08/05/09	09:14	11.6	55,370,908.3	376	3.7	31.8
08/05/09	09:15	11.5	55,349,205.0	376	3.7	32.1
08/05/09	09:16	11.6	55,530,521.6	374	3.7	32.1
08/05/09	09:17	11.6	55,992,756.6	373	3.7	32.7
08/05/09	09:18	11.6	56,204,906.6	374	3.7	34.0
08/05/09	09:19	11.6	55,640,486.6	374	3.7	34.9
08/05/09	09:20	11.5	55,525,360.0	374	3.7	34.8
08/05/09	09:21	11.6	55,222,166.6	374	3.7	34.4
08/05/09	09:22	11.7	54,905,483.3	375	3.7	36.5
08/05/09	09:23	11.6	55,442,680.0	375	3.7	39.1
08/05/09	09:24	11.6	55,766,666.6	374	3.8	39.3
08/05/09	09:25	11.6	55,747,361.6	374	3.7	39.3
08/05/09	09:26	11.6	55,640,550.0	374	3.7	40.3
08/05/09	09:27	11.6	55,538,815.0	375	3.7	40.3
08/05/09	09:28	11.5	55,268,271.6	374	3.7	39.4
08/05/09	09:29	11.6	55,328,808.3	374	3.7	38.3
08/05/09	09:30	11.6	55,055,041.6	374	3.7	38.5
08/05/09	09:31	11.6	55,264,878.3	375	3.7	39.3
08/05/09	09:32	11.6	55,858,718.3	373	3.7	41.5
08/05/09	09:33	11.6	56,564,088.3	371	3.7	42.7
08/05/09	09:34	11.5	56,594,586.6	371	3.8	41.2
08/05/09	09:35	11.4	56,922,565.0	372	3.7	39.8
08/05/09	09:36	11.4	56,304,750.0	371	3.8	38.2
08/05/09	09:37	11.4	55,551,398.3	372	3.7	36.0
08/05/09	09:38	11.5	55,536,766.6	374	3.8	34.5
08/05/09	09:39	11.5	55,777,650.0	375	3.8	33.9
08/05/09	09:40	11.6	56,347,571.6	375	3.9	34.1
08/05/09	09:41	11.5	56,356,083.3	374	3.9	34.2
08/05/09	09:42	11.4	56,443,448.3	372	3.8	34.0
08/05/09	09:43	11.4	56,328,866.6	370	3.8	33.2

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09 09:44	11.4	56,340,340.0	371	3.9	32.6
08/05/09 09:45	11.4	56,189,565.0	371	3.7	33.4
08/05/09 09:46	11.4	56,293,670.0	372	3.7	33.3
08/05/09 09:47	11.4	56,408,720.0	372	3.7	32.5
08/05/09 09:48	11.4	56,235,098.3	372	3.7	31.5
08/05/09 09:49	11.4	56,188,605.0	372	3.8	30.6
08/05/09 09:50	11.4	56,346,595.0	372	3.7	29.8
08/05/09 09:51	11.4	56,514,255.0	371	3.8	29.4
08/05/09 09:52	11.5	56,760,530.0	372	3.8	29.7
08/05/09 09:53	11.5	56,889,915.0	373	3.8	30.0
08/05/09 09:54	11.4	56,268,360.0	374	3.9	29.4
08/05/09 09:55	11.4	56,021,575.0	374	3.8	29.1
08/05/09 09:56	11.5	55,868,770.0	373	3.8	29.2
08/05/09 09:57	11.6	55,990,620.0	373	3.8	29.7
08/05/09 09:58	11.6	56,245,316.6	374	3.8	30.0
08/05/09 09:59	11.5	56,279,130.0	374	3.8	30.3
08/05/09 10:00	11.4	55,981,171.6	372	3.8	30.7
08/05/09 10:01	11.4	55,661,873.3	373	3.8	29.5
08/05/09 10:02	11.5	55,811,780.0	373	3.8	29.5
08/05/09 10:03	11.5	56,040,083.3	373	3.7	30.5
08/05/09 10:04	11.5	55,778,618.3	374	3.7	30.5
08/05/09 10:05	11.4	55,971,505.0	374	3.7	30.8
08/05/09 10:06	11.5	55,622,728.3	373	3.7	31.1
08/05/09 10:07	11.5	55,808,105.0	374	3.7	30.2
08/05/09 10:08	11.5	55,548,200.0	374	3.7	29.5
08/05/09 10:09	11.6	55,591,080.0	375	3.7	29.6
08/05/09 10:10	11.5	55,690,095.0	374	3.7	29.1
08/05/09 10:11	11.5	56,050,625.0	374	3.7	28.7
08/05/09 10:12	11.5	55,616,333.3	373	3.7	29.4
08/05/09 10:13	11.5	56,297,301.6	374	3.7	28.7
08/05/09 10:14	11.4	55,933,081.6	372	3.7	27.6
08/05/09 10:15	11.5	55,591,801.6	373	3.7	28.2
08/05/09 10:16	11.5	55,557,416.6	375	3.6	28.7
08/05/09 10:17	11.5	55,521,106.6	376	3.7	27.5
08/05/09 10:18	11.4	55,486,735.0	374	3.7	26.1
08/05/09 10:19	11.6	55,501,075.0	374	3.8	25.6
08/05/09 10:20	11.7	55,728,580.0	374	3.8	26.6
08/05/09 10:21	11.5	55,745,628.3	373	3.9	27.4
08/05/09 10:22	11.4	56,134,935.0	373	3.8	27.4
08/05/09 10:23	11.4	56,280,166.6	372	3.8	27.1
08/05/09 10:24	11.4	55,863,013.3	372	3.8	26.3
08/05/09 10:25	11.5	55,576,021.6	374	3.8	25.4
08/05/09 10:26	11.5	54,896,190.0	375	3.7	25.0
08/05/09 10:27	11.6	55,256,946.6	374	3.7	24.8
08/05/09 10:28	11.5	55,888,213.3	374	3.8	25.8
08/05/09 10:29	11.5	56,135,973.3	372	3.8	25.6
08/05/09 10:30	11.5	56,132,560.0	372	3.8	25.6
08/05/09 10:31	11.4	55,976,566.6	372	3.7	25.1
08/05/09 10:32	11.5	55,618,733.3	372	3.7	25.2
08/05/09 10:33	11.5	55,752,403.3	373	3.8	25.5
08/05/09 10:34	11.5	55,831,546.6	374	3.8	24.7
08/05/09 10:35	11.4	55,614,335.0	374	3.7	24.4

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09 10:36	11.4	55,761,750.0	373	3.7	24.7
08/05/09 10:37	11.5	56,075,663.3	373	3.7	24.0
08/05/09 10:38	11.5	55,833,400.0	373	3.7	23.9
08/05/09 10:39	11.4	55,858,006.6	371	3.7	24.2
08/05/09 10:40	11.4	56,042,278.3	372	3.8	23.8
08/05/09 10:41	11.4	55,607,263.3	373	3.8	23.8
08/05/09 10:42	11.4	55,824,541.6	373	3.8	24.8
08/05/09 10:43	11.5	55,504,018.3	374	3.8	24.4
08/05/09 10:44	11.5	55,645,121.6	374	3.9	23.7
08/05/09 10:45	11.5	56,061,466.6	374	3.8	24.2
08/05/09 10:46	11.5	55,922,386.6	374	3.8	25.0
08/05/09 10:47	11.5	56,285,933.3	373	3.8	24.6
08/05/09 10:48	11.5	55,721,336.6	372	3.8	23.2
08/05/09 10:49	11.4	55,577,680.0	373	3.8	22.3
08/05/09 10:50	11.5	55,858,190.0	372	3.9	23.3
08/05/09 10:51	11.5	56,259,440.0	372	3.9	23.3
08/05/09 10:52	11.4	56,327,756.6	372	3.8	22.6
08/05/09 10:53	11.4	56,056,371.6	372	3.9	22.3
08/05/09 10:54	11.4	55,750,760.0	371	3.9	21.9
08/05/09 10:55	11.4	55,581,136.6	373	3.8	22.6
08/05/09 10:56	11.5	55,563,096.6	374	3.8	22.6
08/05/09 10:57	11.6	55,526,120.0	375	3.8	23.5
08/05/09 10:58	11.6	55,304,050.0	376	3.8	23.9
08/05/09 10:59	11.5	55,273,086.6	376	3.9	24.1
08/05/09 11:00	11.5	55,646,188.3	374	3.9	23.9
Average	11.5	55,794,328.5	373	3.8	27.5
Minimum	11.4	54,723,240.0	370	3.6	21.2
Maximum	11.7	56,935,716.6	376	4.0	42.7
Summation	2,083.8	10,098,773,459.8	67,527	686.0	4,986.2
Included Data Points	181	181	181	181	181
Total number of Data Points	181	181	181	181	181

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	08:00	11.9	280.0
08/05/09	08:01	11.9	279.4
08/05/09	08:02	11.9	280.3
08/05/09	08:03	11.9	279.6
08/05/09	08:04	11.9	277.5
08/05/09	08:05	11.9	280.0
08/05/09	08:06	12.0	280.7
08/05/09	08:07	11.9	280.3
08/05/09	08:08	11.9	279.9
08/05/09	08:09	11.9	279.1
08/05/09	08:10	11.8	278.8
08/05/09	08:11	11.8	280.1
08/05/09	08:12	11.7	279.4
08/05/09	08:13	11.8	278.2
08/05/09	08:14	11.9	279.7
08/05/09	08:15	11.9	279.5
08/05/09	08:16	11.9	279.3
08/05/09	08:17	11.9	277.1
08/05/09	08:18	11.9	279.4
08/05/09	08:19	11.9	279.2
08/05/09	08:20	11.8	276.2
08/05/09	08:21	11.7	274.8
08/05/09	08:22	11.7	277.5
08/05/09	08:23	11.7	277.3
08/05/09	08:24	11.8	276.2
08/05/09	08:25	11.8	277.3
08/05/09	08:26	11.9	278.7
08/05/09	08:27	11.9	277.4
08/05/09	08:28	12.0	279.0
08/05/09	08:29	12.0	280.2
08/05/09	08:30	11.9	280.1
08/05/09	08:31	11.7	277.6
08/05/09	08:32	11.7	275.1
08/05/09	08:33	11.8	277.2
08/05/09	08:34	11.7	273.4
08/05/09	08:35	11.8	275.0
08/05/09	08:36	11.9	279.6
08/05/09	08:37	12.0	283.6
08/05/09	08:38	11.9	283.8
08/05/09	08:39	11.8	279.2
08/05/09	08:40	11.9	279.6
08/05/09	08:41	12.0	283.4
08/05/09	08:42	11.9	278.2
08/05/09	08:43	11.9	281.2
08/05/09	08:44	11.8	280.7
08/05/09	08:45	11.7	280.2
08/05/09	08:46	11.7	279.5
08/05/09	08:47	11.8	280.0
08/05/09	08:48	11.8	279.3
08/05/09	08:49	11.8	278.1
08/05/09	08:50	11.8	280.0
08/05/09	08:51	11.7	279.6

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	08:52	11.6	274.9
08/05/09	08:53	11.7	275.1
08/05/09	08:54	11.7	278.1
08/05/09	08:55	11.7	275.4
08/05/09	08:56	11.7	277.0
08/05/09	08:57	11.7	275.7
08/05/09	08:58	11.7	273.9
08/05/09	08:59	11.7	275.0
08/05/09	09:00	11.7	275.0
08/05/09	09:01	11.7	273.5
08/05/09	09:02	11.7	274.5
08/05/09	09:03	11.6	273.8
08/05/09	09:04	11.6	272.7
08/05/09	09:05	11.7	272.9
08/05/09	09:06	11.7	274.7
08/05/09	09:07	11.7	273.5
08/05/09	09:08	11.6	272.0
08/05/09	09:09	11.6	270.3
08/05/09	09:10	11.7	273.8
08/05/09	09:11	11.8	277.2
08/05/09	09:12	11.8	278.1
08/05/09	09:13	11.8	278.8
08/05/09	09:14	11.8	279.7
08/05/09	09:15	11.7	275.3
08/05/09	09:16	11.7	274.6
08/05/09	09:17	11.8	276.0
08/05/09	09:18	11.8	277.4
08/05/09	09:19	11.7	275.9
08/05/09	09:20	11.8	274.0
08/05/09	09:21	11.8	279.9
08/05/09	09:22	11.8	280.7
08/05/09	09:23	11.7	279.6
08/05/09	09:24	11.7	276.9
08/05/09	09:25	11.8	276.8
08/05/09	09:26	11.7	277.6
08/05/09	09:27	11.7	277.4
08/05/09	09:28	11.7	276.7
08/05/09	09:29	11.8	275.9
08/05/09	09:30	11.8	278.6
08/05/09	09:31	11.8	277.9
08/05/09	09:32	11.7	276.4
08/05/09	09:33	11.7	276.8
08/05/09	09:34	11.6	279.5
08/05/09	09:35	11.5	274.7
08/05/09	09:36	11.5	272.8
08/05/09	09:37	11.5	274.9
08/05/09	09:38	11.7	277.1
08/05/09	09:39	11.7	278.2
08/05/09	09:40	11.7	282.7
08/05/09	09:41	11.6	278.9
08/05/09	09:42	11.5	275.8
08/05/09	09:43	11.6	276.9

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	09:44	11.6	277.9
08/05/09	09:45	11.5	275.7
08/05/09	09:46	11.5	274.6
08/05/09	09:47	11.6	276.2
08/05/09	09:48	11.6	276.4
08/05/09	09:49	11.5	277.6
08/05/09	09:50	11.5	274.4
08/05/09	09:51	11.6	274.8
08/05/09	09:52	11.6	274.7
08/05/09	09:53	11.6	275.4
08/05/09	09:54	11.5	275.3
08/05/09	09:55	11.6	274.0
08/05/09	09:56	11.7	275.1
08/05/09	09:57	11.8	283.1
08/05/09	09:58	11.7	284.2
08/05/09	09:59	11.6	277.6
08/05/09	10:00	11.6	277.0
08/05/09	10:01	11.6	277.9
08/05/09	10:02	11.6	275.9
08/05/09	10:03	11.7	281.4
08/05/09	10:04	11.6	284.7
08/05/09	10:05	11.5	278.5
08/05/09	10:06	11.7	278.1
08/05/09	10:07	11.6	278.6
08/05/09	10:08	11.7	279.3
08/05/09	10:09	11.7	281.3
08/05/09	10:10	11.6	280.7
08/05/09	10:11	11.7	280.8
08/05/09	10:12	11.6	279.4
08/05/09	10:13	11.6	275.3
08/05/09	10:14	11.7	277.5
08/05/09	10:15	11.7	281.2
08/05/09	10:16	11.6	280.4
08/05/09	10:17	11.6	278.0
08/05/09	10:18	11.7	275.7
08/05/09	10:19	11.8	280.9
08/05/09	10:20	11.8	284.9
08/05/09	10:21	11.6	279.0
08/05/09	10:22	11.6	278.2
08/05/09	10:23	11.5	276.9
08/05/09	10:24	11.5	276.0
08/05/09	10:25	11.7	278.6
08/05/09	10:26	11.6	276.8
08/05/09	10:27	11.7	279.2
08/05/09	10:28	11.7	282.4
08/05/09	10:29	11.7	281.2
08/05/09	10:30	11.6	279.8
08/05/09	10:31	11.6	278.9
08/05/09	10:32	11.6	279.6
08/05/09	10:33	11.7	280.4
08/05/09	10:34	11.6	281.2
08/05/09	10:35	11.6	279.6

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 08:00 Through 08/05/2009 11:00
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	10:36	11.7	280.1
08/05/09	10:37	11.7	280.8
08/05/09	10:38	11.6	281.1
08/05/09	10:39	11.5	277.2
08/05/09	10:40	11.6	277.7
08/05/09	10:41	11.6	278.9
08/05/09	10:42	11.7	278.3
08/05/09	10:43	11.7	279.7
08/05/09	10:44	11.7	282.6
08/05/09	10:45	11.7	280.1
08/05/09	10:46	11.7	279.0
08/05/09	10:47	11.6	279.1
08/05/09	10:48	11.7	280.9
08/05/09	10:49	11.6	276.8
08/05/09	10:50	11.6	278.6
08/05/09	10:51	11.6	280.2
08/05/09	10:52	11.6	279.9
08/05/09	10:53	11.5	277.0
08/05/09	10:54	11.6	279.0
08/05/09	10:55	11.6	277.4
08/05/09	10:56	11.7	280.8
08/05/09	10:57	11.8	282.1
08/05/09	10:58	11.8	284.8
08/05/09	10:59	11.6	280.3
08/05/09	11:00	11.8	280.4
Average		11.7	278.1
Minimum		11.5	270.3
Maximum		12.0	284.9
Summation		2,119.8	50,343.4
Included Data Points		181	181
Total number of Data Points		181	181

F = Unit Offline **E = Exceedance** C = Calibration **S = Substituted**
I = Invalid **M = Maintenance** T = Out Of Control *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09	11:45	11.4	55,668,321.6	375	3.8	21.7
08/05/09	11:46	11.5	55,645,121.6	374	3.8	22.0
08/05/09	11:47	11.4	55,839,253.3	372	3.8	21.6
08/05/09	11:48	11.5	55,960,835.0	372	3.8	20.9
08/05/09	11:49	11.5	56,266,170.0	373	3.8	20.6
08/05/09	11:50	11.4	56,367,795.0	372	3.8	21.0
08/05/09	11:51	11.4	56,378,111.6	373	3.7	20.9
08/05/09	11:52	11.4	56,143,030.0	372	3.8	21.0
08/05/09	11:53	11.5	55,882,121.6	373	3.7	20.7
08/05/09	11:54	11.5	56,142,293.3	374	3.8	20.3
08/05/09	11:55	11.5	55,912,526.6	374	3.8	21.9
08/05/09	11:56	11.4	56,573,108.3	372	3.7	23.9
08/05/09	11:57	11.4	56,881,260.0	372	3.8	22.9
08/05/09	11:58	11.4	57,089,945.0	372	3.8	21.8
08/05/09	11:59	11.4	56,901,403.3	372	3.8	20.5
08/05/09	12:00	11.4	56,355,218.3	373	3.8	19.5
08/05/09	12:01	11.4	56,350,186.6	376	3.8	19.1
08/05/09	12:02	11.4	56,056,056.6	374	3.8	20.0
08/05/09	12:03	11.4	56,598,433.3	372	3.7	19.8
08/05/09	12:04	11.4	57,182,595.0	371	3.8	19.0
08/05/09	12:05	11.3	57,069,131.6	371	3.8	19.9
08/05/09	12:06	11.3	57,176,746.6	372	3.8	20.6
08/05/09	12:07	11.3	56,613,160.0	372	3.8	20.6
08/05/09	12:08	11.3	56,813,930.0	371	3.7	20.8
08/05/09	12:09	11.4	56,350,058.3	372	3.8	19.6
08/05/09	12:10	11.4	56,423,926.6	373	3.8	19.1
08/05/09	12:11	11.4	56,500,248.3	374	3.7	18.9
08/05/09	12:12	11.3	56,680,860.0	372	3.8	19.1
08/05/09	12:13	11.3	56,479,015.0	370	3.8	19.7
08/05/09	12:14	11.4	56,618,256.6	369	3.9	20.4
08/05/09	12:15	11.4	56,875,186.6	370	3.7	22.1
08/05/09	12:16	11.4	56,699,076.6	373	3.8	23.4
08/05/09	12:17	11.4	56,251,171.6	375	3.8	22.9
08/05/09	12:18	11.3	56,429,496.6	374	3.8	22.4
08/05/09	12:19	11.4	56,772,881.6	371	3.8	21.6
08/05/09	12:20	11.4	57,133,283.3	370	3.8	21.9
08/05/09	12:21	11.3	57,212,728.3	371	3.8	22.7
08/05/09	12:22	11.3	56,705,478.3	372	3.8	23.9
08/05/09	12:23	11.3	56,512,935.0	373	3.8	24.8
08/05/09	12:24	11.4	55,538,573.3	374	3.8	25.2
08/05/09	12:25	11.4	55,181,120.0	375	3.8	26.7
08/05/09	12:26	11.6	55,458,670.0	376	3.8	29.0
08/05/09	12:27	11.7	55,548,310.0	376	3.8	31.3
08/05/09	12:28	11.6	56,243,186.6	376	3.8	33.8
08/05/09	12:29	11.5	56,351,771.6	374	3.9	34.4
08/05/09	12:30	11.5	56,698,561.6	373	3.9	35.1
08/05/09	12:31	11.4	56,562,466.6	371	3.9	34.2
08/05/09	12:32	11.3	56,420,955.0	370	3.9	33.4
08/05/09	12:33	11.3	56,318,345.0	370	3.8	32.4
08/05/09	12:34	11.4	55,830,750.0	373	3.9	32.2
08/05/09	12:35	11.5	55,613,823.7	375	3.8	33.7
08/05/09	12:36	11.6	55,410,026.6	376	3.9	36.3

F = Unit Offline **E = Exceedance** C = Calibration **S = Substituted**
I = Invalid **M = Maintenance** T = Out Of Control *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09 12:37	11.6	55,613,998.3	376	3.9	37.6
08/05/09 12:38	11.6	55,915,495.0	376	3.9	39.0
08/05/09 12:39	11.5	56,539,381.6	375	3.9	39.9
08/05/09 12:40	11.4	57,173,363.3	373	4.0	40.4
08/05/09 12:41	11.4	57,130,635.0	372	3.9	39.3
08/05/09 12:42	11.3	56,683,400.0	371	3.9	38.1
08/05/09 12:43	11.3	56,596,546.6	370	3.9	37.4
08/05/09 12:44	11.3	56,215,253.3	370	3.9	36.5
08/05/09 12:45	11.4	55,958,298.3	372	3.9	36.4
08/05/09 12:46	11.5	55,992,253.3	372	3.8	37.6
08/05/09 12:47	11.6	55,655,946.6	373	3.9	38.6
08/05/09 12:48	11.5	55,693,071.6	373	3.8	40.0
08/05/09 12:49	11.5	56,061,141.6	373	3.9	41.3
08/05/09 12:50	11.5	56,420,513.3	373	3.9	42.0
08/05/09 12:51	11.5	56,754,880.0	373	3.9	41.8
08/05/09 12:52	11.5	56,499,083.3	372	3.9	43.7
08/05/09 12:53	11.4	57,112,555.0	371	3.9	43.4
08/05/09 12:54	11.4	57,111,998.3	371	3.9	41.2
08/05/09 12:55	11.4	56,319,246.6	373	3.9	40.7
08/05/09 12:56	11.4	55,709,025.0	373	3.8	40.8
08/05/09 12:57	11.5	55,256,345.0	374	3.8	40.3
08/05/09 12:58	11.6	55,530,840.0	374	3.9	41.7
08/05/09 12:59	11.6	55,808,238.3	374	3.9	43.7
08/05/09 13:00	11.6	56,281,153.3	374	3.9	45.3
08/05/09 13:01	11.6	56,466,671.6	375	3.8	46.0
08/05/09 13:02	11.5	56,590,973.3	374	3.9	47.0
08/05/09 13:03	11.4	56,458,870.0	373	3.9	45.3
08/05/09 13:04	11.4	56,747,490.0	372	4.0	43.0
08/05/09 13:05	11.4	56,246,948.3	372	3.9	42.6
08/05/09 13:06	11.5	56,191,595.0	373	3.8	42.2
08/05/09 13:07	11.5	56,053,238.3	373	3.9	41.0
08/05/09 13:08	11.5	56,303,515.0	374	3.9	41.4
08/05/09 13:09	11.5	56,293,335.0	375	3.9	41.8
08/05/09 13:10	11.5	56,050,740.0	375	3.9	42.0
08/05/09 13:11	11.4	55,492,585.0	375	3.9	41.1
08/05/09 13:12	11.5	55,618,685.0	375	3.9	40.6
08/05/09 13:13	11.5	56,135,476.6	373	3.8	40.4
08/05/09 13:14	11.6	56,299,146.6	373	3.9	39.3
08/05/09 13:15	11.5	56,384,703.3	375	3.9	38.8
08/05/09 13:16	11.4	56,358,135.0	374	3.9	37.5
08/05/09 13:17	11.4	56,286,051.6	373	3.9	34.2
08/05/09 13:18	11.4	56,282,376.6	374	4.0	31.8
08/05/09 13:19	11.4	56,504,571.6	372	4.0	30.9
08/05/09 13:20	11.4	56,980,450.0	371	3.9	30.2
08/05/09 13:21	11.4	57,198,476.6	372	3.9	28.8
08/05/09 13:22	11.4	57,038,785.0	373	3.9	28.0
08/05/09 13:23	11.4	56,466,331.6	373	3.9	27.5
08/05/09 13:24	11.4	56,608,693.3	374	4.0	25.9
08/05/09 13:25	11.4	57,020,338.3	372	3.9	25.5
08/05/09 13:26	11.4	57,034,353.3	370	3.9	25.1
08/05/09 13:27	11.4	57,382,538.3	370	3.9	23.1
08/05/09 13:28	11.3	57,941,171.6	370	3.8	21.5

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09 13:29	11.3	57,302,913.3	370	3.9	20.1
08/05/09 13:30	11.3	56,810,780.0	371	4.0	18.7
08/05/09 13:31	11.4	56,304,438.3	371	3.8	18.2
08/05/09 13:32	11.5	56,516,575.0	372	3.9	18.9
08/05/09 13:33	11.4	57,279,111.6	372	3.8	18.9
08/05/09 13:34	11.5	57,300,881.6	372	3.9	17.7
08/05/09 13:35	11.4	57,024,038.3	374	3.8	17.5
08/05/09 13:36	11.4	56,182,681.6	375	3.8	17.6
08/05/09 13:37	11.4	55,190,478.3	375	3.8	17.4
08/05/09 13:38	11.6	55,318,903.3	375	3.8	17.8
08/05/09 13:39	11.6	55,956,328.3	376	3.9	18.6
08/05/09 13:40	11.7	56,358,535.0	376	3.9	19.5
08/05/09 13:41	11.5	56,327,345.0	376	3.8	19.2
08/05/09 13:42	11.5	55,949,453.3	375	3.9	18.9
08/05/09 13:43	11.5	55,797,498.3	374	3.9	19.0
08/05/09 13:44	11.6	55,745,125.0	374	3.9	19.1
08/05/09 13:45	11.6	56,130,851.6	374	3.9	19.5
08/05/09 13:46	11.6	56,301,750.0	375	3.9	19.8
08/05/09 13:47	11.5	56,319,773.3	375	4.0	19.4
08/05/09 13:48	11.5	56,267,713.3	374	4.0	19.0
08/05/09 13:49	11.5	55,432,233.3	374	4.1	18.7
08/05/09 13:50	11.5	54,742,638.3	374	4.0	18.2
08/05/09 13:51	11.6	54,717,706.6	374	4.0	18.5
08/05/09 13:52	11.7	54,773,413.3	375	3.9	20.2
08/05/09 13:53	11.7	55,139,411.6	377	4.0	21.7
08/05/09 13:54	11.7	55,884,693.3	377	3.9	22.4
08/05/09 13:55	11.6	56,778,773.3	375	3.9	23.2
08/05/09 13:56	11.5	56,939,425.0	372	3.9	23.4
08/05/09 13:57	11.4	57,631,493.3	370	3.9	21.5
08/05/09 13:58	11.3	57,176,151.6	369	3.9	19.6
08/05/09 13:59	11.3	56,666,831.6	369	3.9	17.7
08/05/09 14:00	11.3	55,784,538.3	370	4.0	16.7
08/05/09 14:01	11.4	55,404,283.3	373	3.9	16.4
08/05/09 14:02	11.6	55,474,745.0	375	4.0	18.6
08/05/09 14:03	11.5	55,919,771.6	374	3.9	19.5
08/05/09 14:04	11.6	56,626,206.6	373	4.0	19.2
08/05/09 14:05	11.5	56,865,385.0	373	3.9	20.3
08/05/09 14:06	11.4	56,720,146.6	371	3.9	20.1
08/05/09 14:07	11.4	56,289,893.3	371	3.9	19.0
08/05/09 14:08	11.4	55,982,848.3	373	3.9	18.1
08/05/09 14:09	11.5	55,931,406.6	374	4.0	17.8
08/05/09 14:10	11.5	56,282,130.0	374	4.0	17.3
08/05/09 14:11	11.5	56,367,221.6	374	4.0	16.6
08/05/09 14:12	11.5	56,348,863.3	372	4.0	16.4
08/05/09 14:13	11.4	56,671,556.6	371	4.0	16.5
08/05/09 14:14	11.4	56,583,298.3	372	4.0	16.6
08/05/09 14:15	11.4	56,381,736.6	372	3.9	18.4
08/05/09 14:16	11.4	56,405,843.3	373	3.9	19.1
08/05/09 14:17	11.4	56,569,983.3	374	4.0	18.2
08/05/09 14:18	11.5	56,289,700.0	374	3.9	17.6
08/05/09 14:19	11.4	56,154,906.6	373	4.0	16.5
08/05/09 14:20	11.5	56,372,333.3	372	4.0	16.2

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/05/09 14:21	11.5	56,617,018.3	372	4.0	16.5
08/05/09 14:22	11.4	56,969,046.6	371	4.0	16.8
08/05/09 14:23	11.4	56,934,003.3	372	3.9	17.0
08/05/09 14:24	11.3	56,918,980.0	373	4.0	17.3
08/05/09 14:25	11.3	55,977,158.3	374	3.9	17.4
08/05/09 14:26	11.4	55,660,175.0	374	4.0	17.5
08/05/09 14:27	11.5	56,089,511.6	374	4.0	18.5
08/05/09 14:28	11.6	56,579,881.6	374	3.9	19.3
08/05/09 14:29	11.5	56,909,206.6	373	4.0	18.7
08/05/09 14:30	11.4	57,229,623.3	372	3.9	18.2
08/05/09 14:31	11.3	57,044,470.0	372	3.8	17.1
08/05/09 14:32	11.3	56,973,818.3	371	3.9	17.1
08/05/09 14:33	11.4	56,657,865.0	371	3.9	17.8
08/05/09 14:34	11.5	56,448,738.3	372	4.1	18.0
08/05/09 14:35	11.4	56,607,045.0	372	4.0	18.7
08/05/09 14:36	11.4	56,934,335.0	373	4.0	18.9
08/05/09 14:37	11.4	56,760,200.0	373	4.0	18.4
08/05/09 14:38	11.4	55,638,996.6	374	4.0	18.0
08/05/09 14:39	11.5	55,547,906.6	374	3.9	19.1
08/05/09 14:40	11.6	55,170,903.3	374	4.0	20.9
08/05/09 14:41	11.7	55,154,616.6	375	4.0	22.0
08/05/09 14:42	11.7	55,504,256.6	377	4.0	24.1
08/05/09 14:43	11.7	56,453,661.6	376	4.0	26.4
08/05/09 14:44	11.6	57,047,833.3	374	4.0	26.7
08/05/09 14:45	11.4	57,160,823.3	372	4.1	25.3
Average	11.5	56,341,666.5	373	3.9	25.8
Minimum	11.3	54,717,706.6	369	3.7	16.2
Maximum	11.7	57,941,171.6	377	4.1	47.0
Summation	2,072.8	10,197,841,642.5	67,514	703.5	4,671.1
Included Data Points	181	181	181	181	181
Total number of Data Points	181	181	181	181	181

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	11:45	11.5	275.0
08/05/09	11:46	11.5	274.4
08/05/09	11:47	11.5	271.9
08/05/09	11:48	11.6	273.1
08/05/09	11:49	11.6	275.2
08/05/09	11:50	11.6	273.3
08/05/09	11:51	11.5	272.8
08/05/09	11:52	11.5	271.0
08/05/09	11:53	11.6	272.4
08/05/09	11:54	11.6	273.5
08/05/09	11:55	11.5	274.5
08/05/09	11:56	11.5	272.1
08/05/09	11:57	11.4	275.3
08/05/09	11:58	11.4	272.5
08/05/09	11:59	11.4	273.5
08/05/09	12:00	11.4	273.0
08/05/09	12:01	11.4	274.7
08/05/09	12:02	11.4	273.5
08/05/09	12:03	11.5	275.8
08/05/09	12:04	11.5	275.6
08/05/09	12:05	11.4	274.3
08/05/09	12:06	11.4	272.8
08/05/09	12:07	11.3	271.4
08/05/09	12:08	11.4	271.4
08/05/09	12:09	11.4	272.1
08/05/09	12:10	11.4	275.4
08/05/09	12:11	11.4	274.2
08/05/09	12:12	11.2	269.5
08/05/09	12:13	11.4	265.9
08/05/09	12:14	11.5	271.6
08/05/09	12:15	11.4	272.7
08/05/09	12:16	11.4	272.3
08/05/09	12:17	11.4	270.2
08/05/09	12:18	11.5	268.6
08/05/09	12:19	11.4	272.0
08/05/09	12:20	11.4	269.7
08/05/09	12:21	11.4	271.0
08/05/09	12:22	11.3	268.6
08/05/09	12:23	11.4	269.1
08/05/09	12:24	11.4	268.9
08/05/09	12:25	11.5	270.5
08/05/09	12:26	11.7	276.1
08/05/09	12:27	11.8	283.0
08/05/09	12:28	11.6	280.1
08/05/09	12:29	11.6	275.4
08/05/09	12:30	11.5	276.9
08/05/09	12:31	11.4	272.9
08/05/09	12:32	11.4	271.1
08/05/09	12:33	11.5	271.9
08/05/09	12:34	11.6	275.2
08/05/09	12:35	11.6	276.3
08/05/09	12:36	11.7	280.0

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	12:37	11.7	277.3
08/05/09	12:38	11.7	279.8
08/05/09	12:39	11.6	277.7
08/05/09	12:40	11.6	275.6
08/05/09	12:41	11.4	273.7
08/05/09	12:42	11.4	270.8
08/05/09	12:43	11.5	274.1
08/05/09	12:44	11.5	274.0
08/05/09	12:45	11.5	273.7
08/05/09	12:46	11.6	275.5
08/05/09	12:47	11.7	277.9
08/05/09	12:48	11.6	278.6
08/05/09	12:49	11.5	273.9
08/05/09	12:50	11.6	274.8
08/05/09	12:51	11.6	276.9
08/05/09	12:52	11.5	275.6
08/05/09	12:53	11.4	270.9
08/05/09	12:54	11.5	273.9
08/05/09	12:55	11.5	273.5
08/05/09	12:56	11.5	273.4
08/05/09	12:57	11.6	272.1
08/05/09	12:58	11.7	275.2
08/05/09	12:59	11.6	278.3
08/05/09	13:00	11.7	275.4
08/05/09	13:01	11.6	278.3
08/05/09	13:02	11.5	274.1
08/05/09	13:03	11.4	269.1
08/05/09	13:04	11.5	270.8
08/05/09	13:05	11.5	272.6
08/05/09	13:06	11.5	275.2
08/05/09	13:07	11.6	273.2
08/05/09	13:08	11.6	280.0
08/05/09	13:09	11.5	280.3
08/05/09	13:10	11.5	277.6
08/05/09	13:11	11.5	276.9
08/05/09	13:12	11.6	275.2
08/05/09	13:13	11.6	278.4
08/05/09	13:14	11.6	279.8
08/05/09	13:15	11.5	278.9
08/05/09	13:16	11.4	275.3
08/05/09	13:17	11.5	279.4
08/05/09	13:18	11.4	274.5
08/05/09	13:19	11.4	274.8
08/05/09	13:20	11.4	274.5
08/05/09	13:21	11.4	273.9
08/05/09	13:22	11.4	275.8
08/05/09	13:23	11.4	273.7
08/05/09	13:24	11.5	276.6
08/05/09	13:25	11.5	276.7
08/05/09	13:26	11.5	275.2
08/05/09	13:27	11.4	274.8
08/05/09	13:28	11.3	272.5

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	13:29	11.3	271.7
08/05/09	13:30	11.3	270.9
08/05/09	13:31	11.4	272.8
08/05/09	13:32	11.4	272.0
08/05/09	13:33	11.5	272.2
08/05/09	13:34	11.4	272.9
08/05/09	13:35	11.4	272.1
08/05/09	13:36	11.4	272.0
08/05/09	13:37	11.5	273.0
08/05/09	13:38	11.7	279.7
08/05/09	13:39	11.7	283.7
08/05/09	13:40	11.6	288.3
08/05/09	13:41	11.5	279.6
08/05/09	13:42	11.5	275.3
08/05/09	13:43	11.5	274.9
08/05/09	13:44	11.6	277.2
08/05/09	13:45	11.6	277.5
08/05/09	13:46	11.5	277.4
08/05/09	13:47	11.5	273.6
08/05/09	13:48	11.5	272.6
08/05/09	13:49	11.5	272.2
08/05/09	13:50	11.6	273.1
08/05/09	13:51	11.7	276.9
08/05/09	13:52	11.8	277.0
08/05/09	13:53	11.8	279.2
08/05/09	13:54	11.7	278.9
08/05/09	13:55	11.7	275.6
08/05/09	13:56	11.5	275.6
08/05/09	13:57	11.4	270.4
08/05/09	13:58	11.4	270.1
08/05/09	13:59	11.4	268.9
08/05/09	14:00	11.3	268.9
08/05/09	14:01	11.5	272.2
08/05/09	14:02	11.6	276.2
08/05/09	14:03	11.6	279.5
08/05/09	14:04	11.6	279.4
08/05/09	14:05	11.5	274.6
08/05/09	14:06	11.4	274.3
08/05/09	14:07	11.4	273.4
08/05/09	14:08	11.5	275.8
08/05/09	14:09	11.4	271.4
08/05/09	14:10	11.5	272.4
08/05/09	14:11	11.4	274.2
08/05/09	14:12	11.5	273.4
08/05/09	14:13	11.4	273.1
08/05/09	14:14	11.5	271.0
08/05/09	14:15	11.4	272.3
08/05/09	14:16	11.4	269.2
08/05/09	14:17	11.5	273.6
08/05/09	14:18	11.5	273.0
08/05/09	14:19	11.4	272.0
08/05/09	14:20	11.4	272.0

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/05/2009 11:45 Through 08/05/2009 14:45
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/05/09	14:21	11.4	272.2
08/05/09	14:22	11.3	267.4
08/05/09	14:23	11.3	267.2
08/05/09	14:24	11.3	267.5
08/05/09	14:25	11.4	268.4
08/05/09	14:26	11.5	268.6
08/05/09	14:27	11.6	274.4
08/05/09	14:28	11.6	275.1
08/05/09	14:29	11.5	272.1
08/05/09	14:30	11.4	271.7
08/05/09	14:31	11.4	268.2
08/05/09	14:32	11.4	269.6
08/05/09	14:33	11.5	270.6
08/05/09	14:34	11.4	272.8
08/05/09	14:35	11.3	269.4
08/05/09	14:36	11.3	268.4
08/05/09	14:37	11.3	267.0
08/05/09	14:38	11.4	268.9
08/05/09	14:39	11.5	269.9
08/05/09	14:40	11.6	271.6
08/05/09	14:41	11.7	275.3
08/05/09	14:42	11.7	277.5
08/05/09	14:43	11.6	276.5
08/05/09	14:44	11.5	274.8
08/05/09	14:45	11.3	269.1
Average		11.5	273.9
Minimum		11.2	265.9
Maximum		11.8	288.3
Summation		2,079.8	49,568.4
Included Data Points		181	181
Total number of Data Points		181	181

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 07:00 Through 08/06/2009 09:15
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09 07:00	11.4	55,185,218.3	371	4.2	30.9
08/06/09 07:01	11.4	54,769,486.6	372	4.2	31.3
08/06/09 07:02	11.5	54,620,440.0	374	4.2	32.2
08/06/09 07:03	11.6	55,083,100.0	375	4.3	32.8
08/06/09 07:04	11.6	55,459,616.6	375	4.3	32.5
08/06/09 07:05	11.6	55,802,838.3	374	4.2	33.5
08/06/09 07:06	11.5	56,180,233.3	372	4.2	32.8
08/06/09 07:07	11.5	56,261,051.6	372	4.1	30.9
08/06/09 07:08	11.4	55,858,351.6	371	4.1	29.4
08/06/09 07:09	11.4	55,203,720.0	371	4.1	27.8
08/06/09 07:10	11.5	54,722,988.3	370	4.1	27.0
08/06/09 07:11	11.6	54,719,258.3	371	4.0	28.0
08/06/09 07:12	11.7	54,632,213.3	374	4.1	30.6
08/06/09 07:13	11.7	54,572,845.0	376	4.1	32.7
08/06/09 07:14	11.7	54,657,773.3	377	4.2	33.0
08/06/09 07:15	11.6	54,658,653.3	376	4.2	33.4
08/06/09 07:16	11.6	55,357,001.6	375	4.2	34.0
08/06/09 07:17	11.5	55,636,760.0	373	4.1	33.3
08/06/09 07:18	11.5	55,722,570.0	373	4.2	31.5
08/06/09 07:19	11.5	55,719,770.0	375	4.2	32.1
08/06/09 07:20	11.5	55,126,135.0	375	4.3	31.9
08/06/09 07:21	11.5	54,624,531.6	376	4.3	29.5
08/06/09 07:22	11.6	54,589,396.6	377	4.2	29.7
08/06/09 07:23	11.7	54,694,776.6	377	4.3	30.5
08/06/09 07:24	11.6	54,832,223.3	377	4.2	30.3
08/06/09 07:25	11.6	55,258,833.3	376	4.2	30.7
08/06/09 07:26	11.6	55,477,143.3	373	4.2	29.7
08/06/09 07:27	11.5	55,702,823.3	372	4.2	28.1
08/06/09 07:28	11.5	55,483,776.6	372	4.2	26.1
08/06/09 07:29	11.5	55,409,513.3	372	4.3	24.0
08/06/09 07:30	11.4	55,612,590.0	372	4.2	23.4
08/06/09 07:31	11.5	55,338,556.6	373	4.2	22.7
08/06/09 07:32	11.6	55,283,473.3	373	4.2	22.9
08/06/09 07:33	11.5	55,251,330.0	373	4.2	22.3
08/06/09 07:34	11.5	55,409,726.6	373	4.2	22.0
08/06/09 07:35	11.5	55,997,235.0	372	4.1	22.3
08/06/09 07:36	11.4	55,881,968.3	372	4.1	21.6
08/06/09 07:37	11.4	55,507,706.6	373	4.0	20.2
08/06/09 07:38	11.4	55,336,448.3	374	3.9	18.8
08/06/09 07:39	11.5	55,251,616.6	373	4.0	18.8
08/06/09 07:40	11.4	55,439,266.6	373	4.0	18.3
08/06/09 07:41	11.4	55,840,633.3	372	3.9	17.4
08/06/09 07:42	11.5	56,163,996.6	372	3.9	18.1
08/06/09 07:43	11.4	56,219,050.0	372	3.8	19.0
08/06/09 07:44	11.4	56,332,815.0	372	3.8	18.4
08/06/09 07:45	11.4	56,310,151.6	373	3.8	17.8
08/06/09 07:46	11.3	55,894,290.0	373	3.8	16.9
08/06/09 07:47	11.3	55,742,283.3	371	3.9	14.7
08/06/09 07:48	11.4	56,290,403.3	371	4.0	13.7
08/06/09 07:49	11.5	56,273,505.0	371	4.1	13.7
08/06/09 07:50	11.4	56,271,210.0	372	4.2	12.9
08/06/09 07:51	11.4	55,978,238.3	372	4.1	12.4

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 07:00 Through 08/06/2009 09:15
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09 07:52	11.4	55,855,116.6	373	4.1	13.8
08/06/09 07:53	11.4	55,415,833.3	373	4.0	14.5
08/06/09 07:54	11.4	55,439,991.6	374	4.0	14.3
08/06/09 07:55	11.5	55,607,553.3	373	4.0	16.3
08/06/09 07:56	11.6	55,912,603.3	373	3.9	17.9
08/06/09 07:57	11.5	56,193,180.0	374	3.9	17.1
08/06/09 07:58	11.4	56,086,073.3	375	4.0	15.9
08/06/09 07:59	11.5	55,434,758.3	374	4.1	14.7
08/06/09 08:00	11.4	55,786,698.3	375	4.0	14.4
08/06/09 08:01	11.4	55,563,361.6	374	4.1	14.2
08/06/09 08:02	11.4	55,735,348.3	372	4.1	14.7
08/06/09 08:03	11.4	56,265,440.0	371	4.2	15.2
08/06/09 08:04	11.5	56,266,115.0	373	4.1	15.4
08/06/09 08:05	11.4	56,020,983.3	374	4.0	16.6
08/06/09 08:06	11.4	55,589,445.0	375	4.0	15.7
08/06/09 08:07	11.5	54,606,113.3	376	4.0	15.7
08/06/09 08:08	11.5	54,591,616.6	376	4.0	16.2
08/06/09 08:09	11.6	54,676,115.0	376	4.0	17.1
08/06/09 08:10	11.7	55,409,448.3	377	4.1	18.3
08/06/09 08:11	11.6	56,236,586.6	376	4.1	19.0
08/06/09 08:12	11.5	56,484,503.3	373	4.1	19.8
08/06/09 08:13	11.4	56,693,848.3	371	4.1	18.3
08/06/09 08:14	11.3	56,278,683.3	370	4.1	16.2
08/06/09 08:15	11.3	55,966,991.6	370	4.1	16.0
08/06/09 08:16	11.3	55,529,355.0	371	4.1	15.6
08/06/09 08:17	11.4	56,007,208.3	373	4.0	14.9
08/06/09 08:18	11.4	55,803,270.0	373	4.1	15.7
08/06/09 08:19	11.5	55,572,153.3	373	4.1	15.9
08/06/09 08:20	11.5	56,254,990.0	373	4.1	15.4
08/06/09 08:21	11.4	56,051,133.3	374	4.1	14.7
08/06/09 08:22	11.4	55,701,013.3	373	4.1	15.2
08/06/09 08:23	11.4	55,670,371.6	372	4.1	15.9
08/06/09 08:24	11.4	55,463,305.0	373	4.1	16.4
08/06/09 08:25	11.5	55,060,315.0	374	4.1	17.5
08/06/09 08:26	11.6	54,944,530.0	376	4.0	18.4
08/06/09 08:27	11.5	55,252,271.6	376	4.0	18.7
08/06/09 08:28	11.5	55,486,325.0	374	4.1	19.1
08/06/09 08:29	11.6	55,518,021.6	374	4.1	19.9
08/06/09 08:30	11.5	55,477,860.0	375	4.1	19.8
08/06/09 08:31	11.5	55,422,063.3	375	4.1	19.0
08/06/09 08:32	11.4	55,426,616.6	374	4.0	20.0
08/06/09 08:33	11.5	54,918,691.6	375	4.1	21.0
08/06/09 08:34	11.5	55,225,576.6	375	4.0	21.5
08/06/09 08:35	11.5	55,091,011.6	375	4.0	22.3
08/06/09 08:36	11.5	55,121,871.6	375	4.0	23.2
08/06/09 08:37	11.6	54,847,778.3	375	4.0	24.1
08/06/09 08:38	11.6	55,014,298.3	375	4.0	24.0
08/06/09 08:39	11.5	55,360,345.0	375	4.1	24.9
08/06/09 08:40	11.5	55,501,151.6	374	4.1	24.9
08/06/09 08:41	11.5	55,515,178.3	374	4.0	24.8
08/06/09 08:42	11.5	55,661,588.3	373	4.0	26.7
08/06/09 08:43	11.4	55,393,008.3	372	4.0	27.3

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 07:00 Through 08/06/2009 09:15
Time Online Criteria: 1 minute(s)

Source		H1_STACK				
Parameter (Unit)		CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09	08:44	11.4	55,503,391.6	372	4.0	26.9
08/06/09	08:45	11.5	55,361,996.6	373	3.9	28.1
08/06/09	08:46	11.5	55,208,903.3	374	4.0	29.5
08/06/09	08:47	11.5	54,670,753.3	375	4.0	29.4
08/06/09	08:48	11.6	54,782,015.0	376	4.0	30.1
08/06/09	08:49	11.6	54,742,658.3	376	4.0	30.9
08/06/09	08:50	11.6	54,758,946.6	375	4.0	31.6
08/06/09	08:51	11.5	54,786,055.0	374	4.0	31.3
08/06/09	08:52	11.5	55,130,086.6	373	4.0	32.2
08/06/09	08:53	11.5	55,320,256.6	372	4.0	34.1
08/06/09	08:54	11.6	55,166,990.0	373	3.9	34.6
08/06/09	08:55	11.5	54,781,811.6	374	3.9	36.0
08/06/09	08:56	11.4	54,827,063.3	373	4.0	36.2
08/06/09	08:57	11.5	54,799,595.0	373	4.0	35.2
08/06/09	08:58	11.6	54,922,771.6	373	3.9	35.3
08/06/09	08:59	11.5	54,628,061.6	372	4.0	37.1
08/06/09	09:00	11.6	54,669,056.6	372	4.0	37.9
08/06/09	09:01	11.6	54,670,720.0	373	3.9	37.0
08/06/09	09:02	11.5	55,109,818.3	372	3.9	37.3
08/06/09	09:03	11.5	55,120,455.0	372	4.0	39.3
08/06/09	09:04	11.5	55,147,991.6	372	3.9	39.5
08/06/09	09:05	11.5	55,446,738.3	372	3.9	39.6
08/06/09	09:06	11.5	55,494,925.0	371	3.9	39.7
08/06/09	09:07	11.4	55,505,303.3	371	3.9	38.7
08/06/09	09:08	11.4	55,463,031.6	371	3.9	36.0
08/06/09	09:09	11.5	55,570,406.6	372	3.9	34.1
08/06/09	09:10	11.5	55,488,385.0	372	3.9	33.8
08/06/09	09:11	11.5	55,365,840.0	373	3.9	32.7
08/06/09	09:12	11.6	55,162,636.6	374	3.9	32.9
08/06/09	09:13	11.5	55,001,433.3	374	3.9	33.9
08/06/09	09:14	11.4	55,484,530.0	373	3.9	33.4
08/06/09	09:15	11.5	55,592,340.0	372	3.9	33.3
Average		11.5	55,424,575.1	373	4.1	24.8
Minimum		11.3	54,572,845.0	370	3.8	12.4
Maximum		11.7	56,693,848.3	377	4.3	39.7
Summation		1,562.6	7,537,742,213.7	50,779	551.0	3,370.2
Included Data Points		136	136	136	136	136
Total number of Data Points		136	136	136	136	136

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 07:00 Through 08/06/2009 09:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/06/09	07:00	11.9	279.7
08/06/09	07:01	11.8	275.6
08/06/09	07:02	11.9	275.9
08/06/09	07:03	11.9	276.6
08/06/09	07:04	12.0	278.1
08/06/09	07:05	11.9	279.1
08/06/09	07:06	11.8	276.0
08/06/09	07:07	11.8	275.5
08/06/09	07:08	11.8	275.6
08/06/09	07:09	11.9	277.7
08/06/09	07:10	12.0	278.7
08/06/09	07:11	12.0	280.1
08/06/09	07:12	12.1	280.3
08/06/09	07:13	12.1	280.7
08/06/09	07:14	12.0	279.1
08/06/09	07:15	12.0	278.2
08/06/09	07:16	12.0	278.7
08/06/09	07:17	11.9	277.6
08/06/09	07:18	11.9	284.4
08/06/09	07:19	11.9	288.7
08/06/09	07:20	12.0	287.4
08/06/09	07:21	12.0	283.5
08/06/09	07:22	12.1	284.2
08/06/09	07:23	12.1	286.3
08/06/09	07:24	12.0	283.0
08/06/09	07:25	11.9	279.9
08/06/09	07:26	11.9	279.4
08/06/09	07:27	11.9	277.1
08/06/09	07:28	11.8	275.4
08/06/09	07:29	11.8	277.0
08/06/09	07:30	11.8	274.0
08/06/09	07:31	11.9	275.3
08/06/09	07:32	11.8	278.2
08/06/09	07:33	11.9	275.2
08/06/09	07:34	12.0	281.6
08/06/09	07:35	12.0	283.7
08/06/09	07:36	11.8	278.2
08/06/09	07:37	11.8	274.3
08/06/09	07:38	11.8	273.4
08/06/09	07:39	11.8	276.0
08/06/09	07:40	11.8	274.8
08/06/09	07:41	11.8	273.4
08/06/09	07:42	11.9	275.9
08/06/09	07:43	11.7	276.8
08/06/09	07:44	11.7	278.2
08/06/09	07:45	11.7	276.9
08/06/09	07:46	11.6	275.5
08/06/09	07:47	11.7	272.5
08/06/09	07:48	11.7	274.3
08/06/09	07:49	11.7	272.4
08/06/09	07:50	11.6	273.0
08/06/09	07:51	11.6	268.7

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 07:00 Through 08/06/2009 09:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/06/09	07:52	11.6	267.4
08/06/09	07:53	11.7	270.3
08/06/09	07:54	11.8	272.9
08/06/09	07:55	11.9	278.0
08/06/09	07:56	11.7	277.7
08/06/09	07:57	11.6	274.9
08/06/09	07:58	11.6	273.7
08/06/09	07:59	11.7	274.7
08/06/09	08:00	11.7	275.1
08/06/09	08:01	11.7	274.0
08/06/09	08:02	11.6	272.5
08/06/09	08:03	11.7	273.6
08/06/09	08:04	11.7	274.4
08/06/09	08:05	11.6	273.2
08/06/09	08:06	11.7	273.3
08/06/09	08:07	11.7	276.0
08/06/09	08:08	11.8	273.2
08/06/09	08:09	11.9	277.4
08/06/09	08:10	11.9	278.3
08/06/09	08:11	11.8	273.9
08/06/09	08:12	11.6	272.9
08/06/09	08:13	11.6	271.3
08/06/09	08:14	11.5	271.8
08/06/09	08:15	11.5	266.9
08/06/09	08:16	11.6	269.0
08/06/09	08:17	11.6	270.3
08/06/09	08:18	11.7	269.9
08/06/09	08:19	11.7	273.4
08/06/09	08:20	11.7	272.3
08/06/09	08:21	11.6	270.0
08/06/09	08:22	11.6	269.4
08/06/09	08:23	11.6	269.2
08/06/09	08:24	11.6	269.6
08/06/09	08:25	11.8	269.9
08/06/09	08:26	11.8	272.6
08/06/09	08:27	11.8	273.0
08/06/09	08:28	11.8	271.7
08/06/09	08:29	11.8	276.8
08/06/09	08:30	11.8	274.4
08/06/09	08:31	11.7	274.4
08/06/09	08:32	11.7	270.3
08/06/09	08:33	11.8	270.9
08/06/09	08:34	11.8	271.9
08/06/09	08:35	11.8	272.0
08/06/09	08:36	11.9	274.4
08/06/09	08:37	11.9	277.2
08/06/09	08:38	11.8	275.3
08/06/09	08:39	11.8	273.4
08/06/09	08:40	11.8	271.6
08/06/09	08:41	11.7	271.1
08/06/09	08:42	11.7	269.1
08/06/09	08:43	11.7	269.7

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 07:00 Through 08/06/2009 09:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET	
Parameter (Unit)		CO2C (PERCENT)	SO2PPMC (PPM)
08/06/09	08:44	11.8	273.0
08/06/09	08:45	11.8	272.0
08/06/09	08:46	11.7	269.6
08/06/09	08:47	11.8	271.0
08/06/09	08:48	11.9	275.6
08/06/09	08:49	11.8	275.3
08/06/09	08:50	11.7	273.2
08/06/09	08:51	11.8	272.3
08/06/09	08:52	11.8	272.2
08/06/09	08:53	11.8	272.1
08/06/09	08:54	11.8	269.7
08/06/09	08:55	11.7	268.8
08/06/09	08:56	11.8	268.2
08/06/09	08:57	11.8	271.2
08/06/09	08:58	11.8	270.5
08/06/09	08:59	11.7	268.8
08/06/09	09:00	11.7	268.3
08/06/09	09:01	11.8	271.7
08/06/09	09:02	11.7	268.3
08/06/09	09:03	11.7	268.3
08/06/09	09:04	11.7	268.7
08/06/09	09:05	11.7	270.4
08/06/09	09:06	11.7	269.5
08/06/09	09:07	11.6	268.8
08/06/09	09:08	11.7	269.8
08/06/09	09:09	11.6	268.4
08/06/09	09:10	11.7	268.8
08/06/09	09:11	11.7	270.7
08/06/09	09:12	11.7	272.2
08/06/09	09:13	11.7	270.9
08/06/09	09:14	11.7	270.1
08/06/09	09:15	11.7	269.3
Average		11.8	274.2
Minimum		11.5	266.9
Maximum		12.1	288.7
Summation		1,602.0	37,289.7
Included Data Points		136	136
Total number of Data Points		136	136

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 12:50 Through 08/06/2009 13:50
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09 12:50	11.5	55,612,791.6	371	3.9	17.3
08/06/09 12:51	11.6	55,604,435.0	372	3.9	16.8
08/06/09 12:52	11.6	55,793,398.3	374	3.9	17.6
08/06/09 12:53	11.5	55,688,055.0	375	3.9	19.1
08/06/09 12:54	11.4	55,721,286.6	376	3.9	18.2
08/06/09 12:55	11.5	55,545,366.6	374	3.9	18.1
08/06/09 12:56	11.5	55,876,805.0	373	3.9	18.2
08/06/09 12:57	11.5	55,858,375.0	373	3.9	17.5
08/06/09 12:58	11.5	55,989,630.0	373	3.8	17.6
08/06/09 12:59	11.5	55,413,660.0	374	4.0	17.1
08/06/09 13:00	11.5	55,636,748.3	374	3.9	16.6
08/06/09 13:01	11.6	55,419,575.0	374	3.9	16.7
08/06/09 13:02	11.6	55,414,650.0	375	3.9	17.6
08/06/09 13:03	11.6	55,787,881.6	374	3.9	17.6
08/06/09 13:04	11.5	55,760,568.3	373	3.8	16.5
08/06/09 13:05	11.4	55,612,865.0	372	3.8	16.0
08/06/09 13:06	11.4	55,456,885.0	372	3.9	16.1
08/06/09 13:07	11.4	56,225,970.0	370	3.9	16.6
08/06/09 13:08	11.4	56,099,105.0	370	3.8	17.1
08/06/09 13:09	11.5	56,030,303.3	372	3.9	17.0
08/06/09 13:10	11.5	55,812,273.3	374	3.9	16.9
08/06/09 13:11	11.4	55,372,501.6	376	3.9	16.0
08/06/09 13:12	11.5	55,393,495.0	375	3.9	16.1
08/06/09 13:13	11.5	55,598,321.6	372	3.9	17.4
08/06/09 13:14	11.5	55,641,710.0	370	3.9	18.4
08/06/09 13:15	11.5	55,916,943.3	371	3.9	20.0
08/06/09 13:16	11.4	55,485,223.3	373	3.8	21.0
08/06/09 13:17	11.3	55,412,576.6	372	3.9	20.2
08/06/09 13:18	11.4	55,393,828.3	373	3.9	19.4
08/06/09 13:19	11.5	55,444,506.6	373	3.9	19.8
08/06/09 13:20	11.5	55,762,526.6	373	3.9	22.1
08/06/09 13:21	11.5	56,174,725.0	373	3.9	22.5
08/06/09 13:22	11.5	56,111,361.6	373	3.9	22.9
08/06/09 13:23	11.5	56,202,170.0	373	3.9	23.4
08/06/09 13:24	11.4	56,184,346.6	373	3.8	22.0
08/06/09 13:25	11.3	56,194,780.0	371	3.8	21.1
08/06/09 13:26	11.4	56,111,636.6	370	3.8	21.6
08/06/09 13:27	11.4	56,245,480.0	371	3.8	21.5
08/06/09 13:28	11.3	56,137,213.3	371	3.8	20.6
08/06/09 13:29	11.3	56,140,030.0	372	3.9	20.2
08/06/09 13:30	11.3	56,404,920.0	371	3.8	20.5
08/06/09 13:31	11.3	56,449,575.0	370	3.9	20.4
08/06/09 13:32	11.4	56,361,125.0	371	3.9	20.7
08/06/09 13:33	11.4	56,284,265.0	374	3.9	21.6
08/06/09 13:34	11.3	56,157,388.3	374	4.0	21.6
08/06/09 13:35	11.3	56,187,778.3	374	3.9	22.4
08/06/09 13:36	11.4	56,157,136.6	373	3.9	22.9
08/06/09 13:37	11.4	56,614,296.6	371	3.8	23.0
08/06/09 13:38	11.3	56,595,761.6	370	3.9	22.2
08/06/09 13:39	11.4	57,024,350.0	371	3.9	21.7
08/06/09 13:40	11.3	56,762,393.3	372	3.9	22.3
08/06/09 13:41	11.2	56,517,241.6	372	3.9	22.1

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 12:50 Through 08/06/2009 13:50
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09 13:42	11.3	56,662,511.6	372	4.0	22.3
08/06/09 13:43	11.3	56,889,555.0	372	4.0	24.0
08/06/09 13:44	11.3	56,806,386.6	371	4.0	23.8
08/06/09 13:45	11.3	56,379,288.3	372	4.0	23.8
08/06/09 13:46	11.4	55,810,661.6	374	4.0	24.0
08/06/09 13:47	11.4	55,405,386.6	376	3.9	25.6
08/06/09 13:48	11.4	55,397,235.0	376	4.0	27.2
08/06/09 13:49	11.4	55,677,265.0	374	4.0	28.5
08/06/09 13:50	11.4	56,099,326.6	374	4.0	29.6
Average	11.4	55,966,030.4	373	3.9	20.3
Minimum	11.2	55,372,501.6	370	3.8	16.0
Maximum	11.6	57,024,350.0	376	4.0	29.6
Summation	696.8	3,413,927,851.5	22,734	237.7	1,238.6
Included Data Points	61	61	61	61	61
Total number of Data Points	61	61	61	61	61

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 12:50 Through 08/06/2009 13:50
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/06/09	12:50	279.9
08/06/09	12:51	284.1
08/06/09	12:52	285.0
08/06/09	12:53	279.8
08/06/09	12:54	276.6
08/06/09	12:55	277.8
08/06/09	12:56	276.3
08/06/09	12:57	279.1
08/06/09	12:58	277.1
08/06/09	12:59	275.4
08/06/09	13:00	276.0
08/06/09	13:01	277.8
08/06/09	13:02	277.1
08/06/09	13:03	277.3
08/06/09	13:04	274.9
08/06/09	13:05	271.3
08/06/09	13:06	269.5
08/06/09	13:07	270.2
08/06/09	13:08	269.5
08/06/09	13:09	273.2
08/06/09	13:10	272.0
08/06/09	13:11	272.3
08/06/09	13:12	271.4
08/06/09	13:13	277.2
08/06/09	13:14	282.6
08/06/09	13:15	278.1
08/06/09	13:16	270.4
08/06/09	13:17	269.9
08/06/09	13:18	270.9
08/06/09	13:19	274.9
08/06/09	13:20	278.8
08/06/09	13:21	277.6
08/06/09	13:22	276.8
08/06/09	13:23	275.6
08/06/09	13:24	272.4
08/06/09	13:25	272.3
08/06/09	13:26	271.8
08/06/09	13:27	273.2
08/06/09	13:28	268.1
08/06/09	13:29	268.8
08/06/09	13:30	267.6
08/06/09	13:31	269.3
08/06/09	13:32	271.2
08/06/09	13:33	270.1
08/06/09	13:34	268.1
08/06/09	13:35	270.0
08/06/09	13:36	269.8
08/06/09	13:37	272.7
08/06/09	13:38	270.1
08/06/09	13:39	271.9
08/06/09	13:40	269.0
08/06/09	13:41	265.9

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 12:50 Through 08/06/2009 13:50
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/06/09	13:42	264.9
08/06/09	13:43	267.8
08/06/09	13:44	269.6
08/06/09	13:45	267.8
08/06/09	13:46	267.0
08/06/09	13:47	266.0
08/06/09	13:48	267.9
08/06/09	13:49	271.2
08/06/09	13:50	271.4

Average	273.0
Minimum	264.9
Maximum	285.0
Summation	16,652.2
Included Data Points	61
Total number of Data Points	61

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 14:15 Through 08/06/2009 15:15
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09 14:15	11.3	56,709,080.0	370	3.9	41.7
08/06/09 14:16	11.3	56,491,703.3	371	3.9	41.5
08/06/09 14:17	11.3	56,656,483.3	373	3.9	41.3
08/06/09 14:18	11.3	56,198,180.0	374	3.9	41.6
08/06/09 14:19	11.4	55,998,450.0	375	3.9	43.6
08/06/09 14:20	11.4	56,182,031.6	374	4.0	44.9
08/06/09 14:21	11.4	56,250,831.6	373	3.9	43.9
08/06/09 14:22	11.4	56,261,138.3	372	3.9	44.2
08/06/09 14:23	11.4	56,432,348.3	371	3.9	44.3
08/06/09 14:24	11.3	56,414,371.6	370	3.9	43.2
08/06/09 14:25	11.3	56,774,301.6	370	3.9	44.2
08/06/09 14:26	11.3	56,746,836.6	370	3.9	44.8
08/06/09 14:27	11.3	56,256,531.6	371	3.9	43.3
08/06/09 14:28	11.3	56,197,190.0	373	3.9	41.8
08/06/09 14:29	11.3	56,054,176.6	373	4.0	40.7
08/06/09 14:30	11.4	56,270,661.6	371	3.9	41.0
08/06/09 14:31	11.3	56,679,156.6	371	3.9	41.5
08/06/09 14:32	11.3	56,840,488.3	371	3.9	41.6
08/06/09 14:33	11.2	57,225,086.6	370	3.9	41.1
08/06/09 14:34	11.2	56,833,801.6	371	3.9	39.5
08/06/09 14:35	11.3	57,027,006.6	373	3.8	39.4
08/06/09 14:36	11.4	56,331,748.3	374	3.8	39.4
08/06/09 14:37	11.3	56,646,190.0	373	3.8	38.2
08/06/09 14:38	11.3	56,590,220.0	372	3.9	36.3
08/06/09 14:39	11.3	56,871,000.0	371	4.0	34.5
08/06/09 14:40	11.3	57,188,266.6	370	4.0	32.7
08/06/09 14:41	11.3	57,217,831.6	372	3.9	31.7
08/06/09 14:42	11.3	56,977,050.0	371	3.9	33.3
08/06/09 14:43	11.2	57,133,261.6	372	3.9	33.0
08/06/09 14:44	11.3	57,222,628.3	373	3.9	30.5
08/06/09 14:45	11.3	57,196,303.3	372	3.9	29.7
08/06/09 14:46	11.3	56,550,546.6	372	3.9	28.4
08/06/09 14:47	11.3	56,477,725.0	373	3.9	27.1
08/06/09 14:48	11.3	56,306,078.3	372	3.9	27.3
08/06/09 14:49	11.3	56,719,398.3	371	4.0	26.7
08/06/09 14:50	11.3	56,961,695.0	370	4.1	25.7
08/06/09 14:51	11.3	56,901,650.0	371	4.0	24.5
08/06/09 14:52	11.4	56,852,940.0	373	4.0	24.3
08/06/09 14:53	11.4	56,599,613.3	375	4.1	24.4
08/06/09 14:54	11.4	55,970,186.6	375	4.0	24.4
08/06/09 14:55	11.4	56,159,048.3	375	3.9	25.5
08/06/09 14:56	11.4	56,151,301.6	375	3.9	25.6
08/06/09 14:57	11.4	55,880,748.3	374	4.0	24.7
08/06/09 14:58	11.4	56,041,476.6	373	3.9	24.1
08/06/09 14:59	11.4	56,356,690.0	373	4.0	23.9
08/06/09 15:00	11.4	56,772,206.6	373	4.0	24.5
08/06/09 15:01	11.4	56,189,868.3	374	3.9	23.7
08/06/09 15:02	11.4	56,226,288.3	375	4.0	22.9
08/06/09 15:03	11.4	56,189,538.3	375	4.0	22.6
08/06/09 15:04	11.4	55,929,011.6	375	4.0	22.3
08/06/09 15:05	11.3	56,251,058.3	374	4.1	22.9
08/06/09 15:06	11.4	56,133,421.6	373	4.0	22.5

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted**
I = Invalid **M = Maintenance** **T = Out Of Control** *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 14:15 Through 08/06/2009 15:15
Time Online Criteria: 1 minute(s)

Source	H1_STACK				
Parameter (Unit)	CO2C (PERCENT)	FLOWSCFH (SCFH)	LOAD (MW)	OPACITY (PERCENT)	SO2PPMC (PPM)
08/06/09 15:07	11.4	56,223,550.0	372	4.0	21.3
08/06/09 15:08	11.4	56,171,455.0	373	4.0	20.1
08/06/09 15:09	11.4	56,170,443.3	373	4.1	19.5
08/06/09 15:10	11.4	56,148,405.0	374	4.0	19.6
08/06/09 15:11	11.4	56,026,260.0	374	4.0	19.4
08/06/09 15:12	11.5	56,207,240.0	374	3.9	19.5
08/06/09 15:13	11.4	56,153,563.3	374	4.0	19.8
08/06/09 15:14	11.4	56,142,501.6	374	4.0	19.2
08/06/09 15:15	11.4	55,847,815.0	374	4.0	19.3
Average	11.3	56,468,624.3	373	3.9	31.5
Minimum	11.2	55,847,815.0	370	3.8	19.2
Maximum	11.5	57,225,086.6	375	4.1	44.9
Summation	692.1	3,444,586,079.5	22,730	240.6	1,924.1
Included Data Points	61	61	61	61	61
Total number of Data Points	61	61	61	61	61

F = Unit Offline **E = Exceedance** C = Calibration **S = Substituted**
I = Invalid **M = Maintenance** T = Out Of Control * = Suspect

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 14:15 Through 08/06/2009 15:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/06/09	14:15	267.7
08/06/09	14:16	267.1
08/06/09	14:17	266.9
08/06/09	14:18	270.7
08/06/09	14:19	272.8
08/06/09	14:20	272.2
08/06/09	14:21	268.9
08/06/09	14:22	270.1
08/06/09	14:23	269.5
08/06/09	14:24	267.8
08/06/09	14:25	267.2
08/06/09	14:26	268.2
08/06/09	14:27	266.3
08/06/09	14:28	267.2
08/06/09	14:29	267.0
08/06/09	14:30	270.5
08/06/09	14:31	274.0
08/06/09	14:32	267.8
08/06/09	14:33	266.1
08/06/09	14:34	269.3
08/06/09	14:35	267.9
08/06/09	14:36	267.6
08/06/09	14:37	266.8
08/06/09	14:38	266.6
08/06/09	14:39	267.8
08/06/09	14:40	267.9
08/06/09	14:41	270.1
08/06/09	14:42	270.7
08/06/09	14:43	265.1
08/06/09	14:44	266.9
08/06/09	14:45	265.3
08/06/09	14:46	266.0
08/06/09	14:47	266.5
08/06/09	14:48	267.6
08/06/09	14:49	267.1
08/06/09	14:50	266.2
08/06/09	14:51	268.0
08/06/09	14:52	267.0
08/06/09	14:53	267.9
08/06/09	14:54	269.8
08/06/09	14:55	268.8
08/06/09	14:56	270.4
08/06/09	14:57	269.8
08/06/09	14:58	268.6
08/06/09	14:59	266.3
08/06/09	15:00	269.4
08/06/09	15:01	268.6
08/06/09	15:02	269.6
08/06/09	15:03	269.4
08/06/09	15:04	265.8
08/06/09	15:05	268.2
08/06/09	15:06	268.5

F = Unit Offline **E = Exceedance** C = Calibration **S = Substituted**
I = Invalid **M = Maintenance** T = Out Of Control *** = Suspect**

Average Data

Plant: HOLCOMB
Interval: 1 Minute
Type: Roll
Report Period: 08/06/2009 14:15 Through 08/06/2009 15:15
Time Online Criteria: 1 minute(s)

Source		H1_INLET
Parameter (Unit)		SO2PPMC (PPM)
08/06/09	15:07	269.8
08/06/09	15:08	270.5
08/06/09	15:09	269.0
08/06/09	15:10	269.1
08/06/09	15:11	269.8
08/06/09	15:12	270.7
08/06/09	15:13	269.6
08/06/09	15:14	269.0
08/06/09	15:15	266.6

Average	268.4
Minimum	265.1
Maximum	274.0
Summation	16,373.8
Included Data Points	61
Total number of Data Points	61

F = Unit Offline E = Exceedance C = Calibration S = Substituted
I = Invalid M = Maintenance T = Out Of Control * = Suspect

Hazen Research, Inc.
4601 Indiana Street
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Tel: (303) 279-4501
Fax: (303) 278-1528

Date August 20 2009
HRI Project 009-77
HRI Series No. H40/09-1
Date Rec'd. 08/10/09
Cust. P.O.# 200903455

Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb KS 67851

Sample Identification
As Fired Coal 1 8/4/09

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	25.14	0.00	25.14
Ash	5.77	7.71	5.77
Volatile	41.24	55.09	41.24
Fixed C	27.85	37.20	27.85
Total	100.00	100.00	100.00
Sulfur	0.305	0.407	0.305
Btu/lb (HHV)	8987	12005	8987
MMF Btu/lb	9585	13105	
MAF Btu/lb		13007	
Air Dry Loss (%)			
Ultimate (%)			
Moisture	25.14	0.00	25.14
Carbon	54.60	72.94	54.60
Hydrogen	2.86	3.82	2.86
Nitrogen	0.87	1.16	0.87
Sulfur	0.31	0.41	0.31
Ash	5.77	7.71	5.77
Oxygen*	10.45	13.96	10.45
Total	100.00	100.00	100.00
Chlorine**	0.008	0.011	0.008

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.31	0.41

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu= 0.12
Lb. Ash/MM Btu= 6.42
Lb. SO2/MM Btu= 0.68
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,951

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
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Date	August 20 2009
HRI Project	009-77
HRI Series No.	H40/09-1
Date Rec'd.	08/10/09
Cust. P.O.#	200903455

Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb KS 67851

Sample Identification:
As Fired Coal 1 8/4/09

Elemental Analysis of Ash (%)

SIO2	33.25
AL2O3	16.45
TIO2	1.35
FE2O3	5.77
CAO	22.20
MGO	4.66
NA2O	1.48
K2O	0.42
P2O5	1.13
SO3	12.38
CL	
CO2	
Total	99.09

Ash Fusion Temperatures (Deg F)

	Oxidizing Atmosphere	Reducing Atmosphere
Initial	2153	2069
Softening	2166	2090
Hemispherical	2171	2102
Fluid	2176	2110

Ash Viscosity Calculations *

Base Content (%)	40.35
Acid Content (%)	59.65
Dolomite Ratio	77.79
Base/Acid Ratio	0.68
Silica/Alumina Ratio	2.02
T(cv) (Deg F)	2302
T250 Temperature (Deg F)	2145
Equiv Silica Content (%)	50.47
Viscosity from equiv Silica @ 2600 F (Poise)	9.11
Ash Type	LIGNITE

Slagging Type= SEVERE
Fouling Type= LOW

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

Note: The ash was calcined @ 1380 deg F (750 C) prior to analysis

* 'Fusibility-Viscosity of Lignite-Type Ash'. A.F. Duzy, 1965.
'Coal Ash Deposition Studies and Application to Boiler Design', R.C. Attig and A.F. Duzy, 1969.
'Relationship of Coal-Ash Viscosity to Chemical Composition', W.L. Sage and J.B. McIlroy, 1960.
'Fuel and Ash Characterization and its Effect on the Design of Industrial Boilers', Vecci, et al, 1978.
** OTL=Outside Table Limits. ND=Not Determined.

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Date August 20 2009
HRI Project 009-77
HRI Series No. H40/09-2
Date Rec'd. 08/10/09
Cust. P.O.# 200903455

Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb KS 67851

Sample Identification
As Fired Coal 2 8/5/09

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	26.58	0.00	26.58
Ash	6.22	8.47	6.22
Volatile	39.51	53.81	39.51
Fixed C	27.69	37.72	27.69
Total	100.00	100.00	100.00
Sulfur	0.338	0.460	0.338
Btu/lb (HHV)	8700	11850	8700
MMF Btu/lb	9327	13054	
MAF Btu/lb		12946	
Air Dry Loss (%)			
Ultimate (%)			
Moisture	26.58	0.00	26.58
Carbon	51.24	69.79	51.24
Hydrogen	2.21	3.00	2.21
Nitrogen	1.04	1.42	1.04
Sulfur	0.34	0.46	0.34
Ash	6.22	8.47	6.22
Oxygen*	12.37	16.86	12.37
Total	100.00	100.00	100.00
Chlorine**	<.005	<.005	<.005

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.34	0.46

Water Soluble Alkalies (%)

Na20
K20

Lb. Alkali/MM Btu= 0.15
Lb. Ash/MM Btu= 7.15
Lb. SO2/MM Btu= 0.78
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,319

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
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Date	August 20 2009
HRI Project	009-77
HRI Series No.	H40/09-2
Date Rec'd.	08/10/09
Cust. P.O.#	200903455

Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb KS 67851

Sample Identification:
As Fired Coal 2 8/5/09

Elemental Analysis of Ash (%)

SIO2	34.29
AL2O3	17.05
TIO2	1.33
FE2O3	5.98
CAO	21.90
MGO	4.68
NA2O	1.52
K2O	0.59
P2O5	1.19
SO3	10.70
CL	
CO2	
Total	99.23

Ash Fusion Temperatures (Deg F)

	Oxidizing Atmosphere	Reducing Atmosphere
Initial	2146	2104
Softening	2162	2110
Hemispherical	2170	2118
Fluid	2175	2121

Ash Viscosity Calculations *

Base Content (%)	39.70
Acid Content (%)	60.30
Dolomite Ratio	76.67
Base/Acid Ratio	0.66
Silica/Alumina Ratio	2.01
T(cv) (Deg F)	2318
T250 Temperature (Deg F)	2227
Equiv Silica Content (%)	51.29
Viscosity from equiv Silica @ 2600 F (Poise)	10.06
Ash Type	LIGNITE

Slagging Type= HIGH
Fouling Type= LOW

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

Note: The ash was calcined @ 1380 deg F (750 C) prior to analysis

* 'Fusibility-Viscosity of Lignite-Type Ash'. A.F. Duzy, 1965.
'Coal Ash Deposition Studies and Application to Boiler Design', R.C. Attig and A.F. Duzy, 1969.
'Relationship of Coal-Ash Viscosity to Chemical Composition', W.L. Sage and J.B. McIlroy, 1960.
'Fuel and Ash Characterization and its Effect on the Design of Industrial Boilers', Vecci, et al, 1978.
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Date August 20 2009
HRI Project 009-77
HRI Series No. H40/09-3
Date Rec'd. 08/10/09
Cust. P.O.# 200903455

Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb KS 67851

Sample Identification
As Fired Coal 8/6/09

Reporting Basis >	As Rec'd	Dry	Air Dry
Proximate (%)			
Moisture	27.21	0.00	27.21
Ash	6.43	8.83	6.43
Volatile	39.04	53.63	39.04
Fixed C	27.32	37.54	27.32
Total	100.00	100.00	100.00
Sulfur	0.297	0.408	0.297
Btu/lb (HHV)	8730	11993	8730
MMF Btu/lb	9382	13269	
MAF Btu/lb		13155	
Air Dry Loss (%)			
Ultimate (%)			
Moisture	27.21	0.00	27.21
Carbon	51.34	70.53	51.34
Hydrogen	2.16	2.96	2.16
Nitrogen	0.84	1.15	0.84
Sulfur	0.30	0.41	0.30
Ash	6.43	8.83	6.43
Oxygen*	11.72	16.12	11.72
Total	100.00	100.00	100.00
Chlorine**	0.007	0.010	0.007

Forms of Sulfur (as S,%)

Sulfate		
Pyritic		
Organic		
Total	0.30	0.41

Water Soluble Alkalies (%)

Na20
K20

Lb. Alkali/MM Btu= 0.15
Lb. Ash/MM Btu= 7.37
Lb. SO2/MM Btu= 0.68
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry),DSCF/MM BTU= 9,312

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.
** Not usually reported as part of the ultimate analysis.

Hazen Research, Inc.
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Date	August 20 2009
HRI Project	009-77
HRI Series No.	H40/09-3
Date Rec'd.	08/10/09
Cust. P.O.#	200903455

Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb KS 67851

Sample Identification:
As Fired Coal 8/6/09

Elemental Analysis of Ash (%)

SIO2	33.52
AL2O3	16.95
TIO2	1.33
FE2O3	5.87
CAO	21.50
MGO	4.55
NA2O	1.49
K2O	0.48
P2O5	1.21
SO3	11.88
CL	
CO2	
Total	98.78

Ash Fusion Temperatures (Deg F)

	Oxidizing Atmosphere	Reducing Atmosphere
Initial	2164	2108
Softening	2170	2119
Hemispherical	2173	2125
Fluid	2177	2138

Ash Viscosity Calculations *

Base Content (%)	39.55
Acid Content (%)	60.45
Dolomite Ratio	76.87
Base/Acid Ratio	0.65
Silica/Alumina Ratio	1.98
T(cv) (Deg F)	2325
T250 Temperature (Deg F)	2228
Equiv Silica Content (%)	51.22
Viscosity from equiv Silica @ 2600 F (Poise)	9.97
Ash Type	LIGNITE

Slagging Type= HIGH
Fouling Type= LOW

Report Prepared By:

Gerald H. Cunningham
Fuels Laboratory Supervisor

Note: The ash was calcined @ 1380 deg F (750 C) prior to analysis

* 'Fusibility-Viscosity of Lignite-Type Ash'. A.F. Duzy, 1965.
'Coal Ash Deposition Studies and Application to Boiler Design', R.C. Attig and A.F. Duzy, 1969.
'Relationship of Coal-Ash Viscosity to Chemical Composition', W.L. Sage and J.B. McIlroy, 1960.
'Fuel and Ash Characterization and its Effect on the Design of Industrial Boilers', Vecci, et al, 1978.
** OTL=Outside Table Limits. ND=Not Determined.

Hazen Research, Inc.
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Date: August 20, 2009
Project No: 009-77
Control No: H40/09
Received: 08/10/09

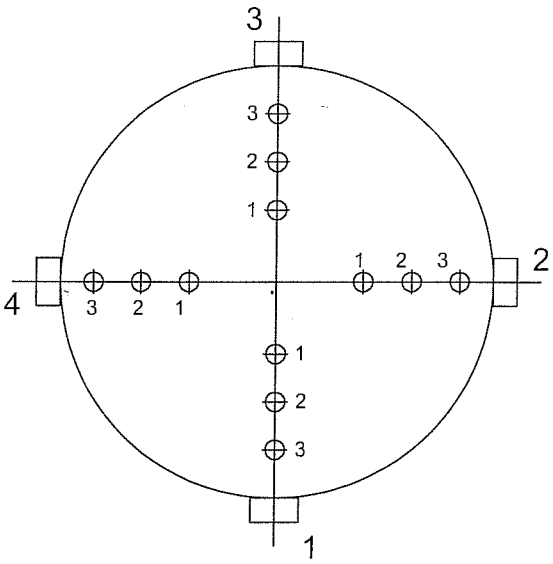
Sunflower Electric Power Corporation
Dave Heiser
PO Box 430
Holcomb, KS 67851

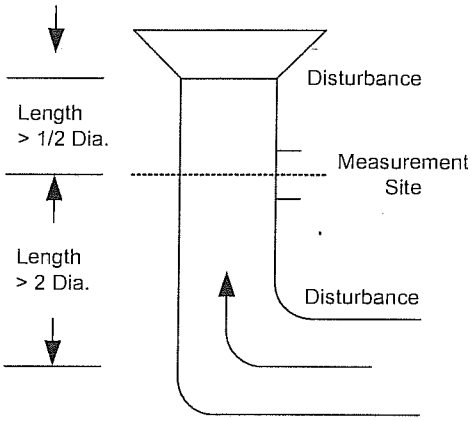
Sample Number: H40/09
Sample Identification: Raw Dredged Material

	-1	-2	-3
Moisture, %	25.14	26.58	27.21
Fluorine (Air Dry Basis), %	0.004	0.004	0.004
Fluorine (Dry Basis), %	0.005	0.005	0.005

By:
Gerard H. Cunningham
Fuel Laboratory Manager

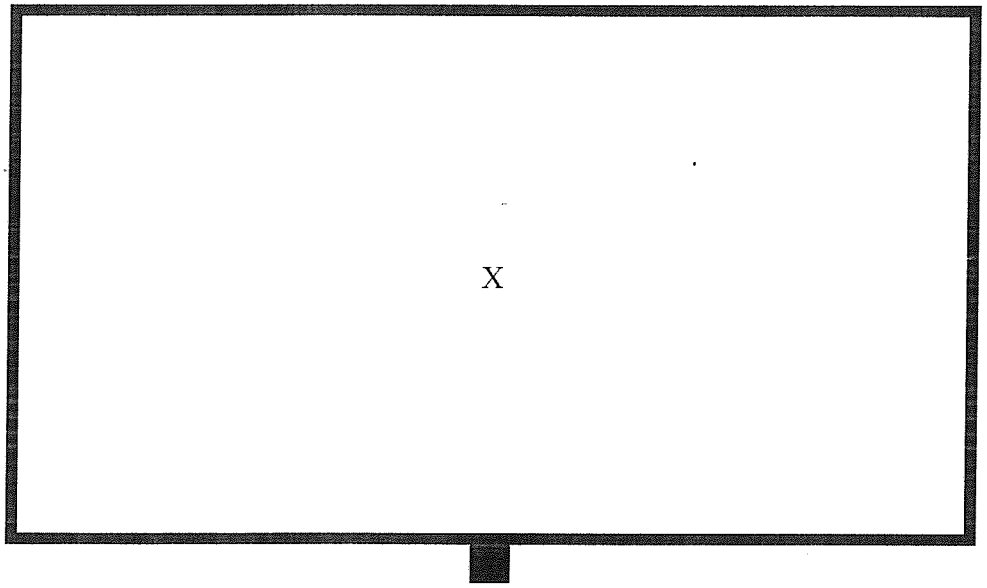
EQUAL AREA TRAVERSE FOR ROUND DUCTS





Job:	Sunflower Electric Corporation – Holcomb, Kansas Facility
Date:	August 4 through 6, 2009
Unit No:	1
Test Location:	Stack
Duct Diameter:	16.33
Duct Area:	209.527 Square Feet
No. Points Across Diameter:	6
No. of Ports:	4
Port Length:	5.50 Inches

GASEOUS TRAVERSE FOR RECTANGULAR DUCTS



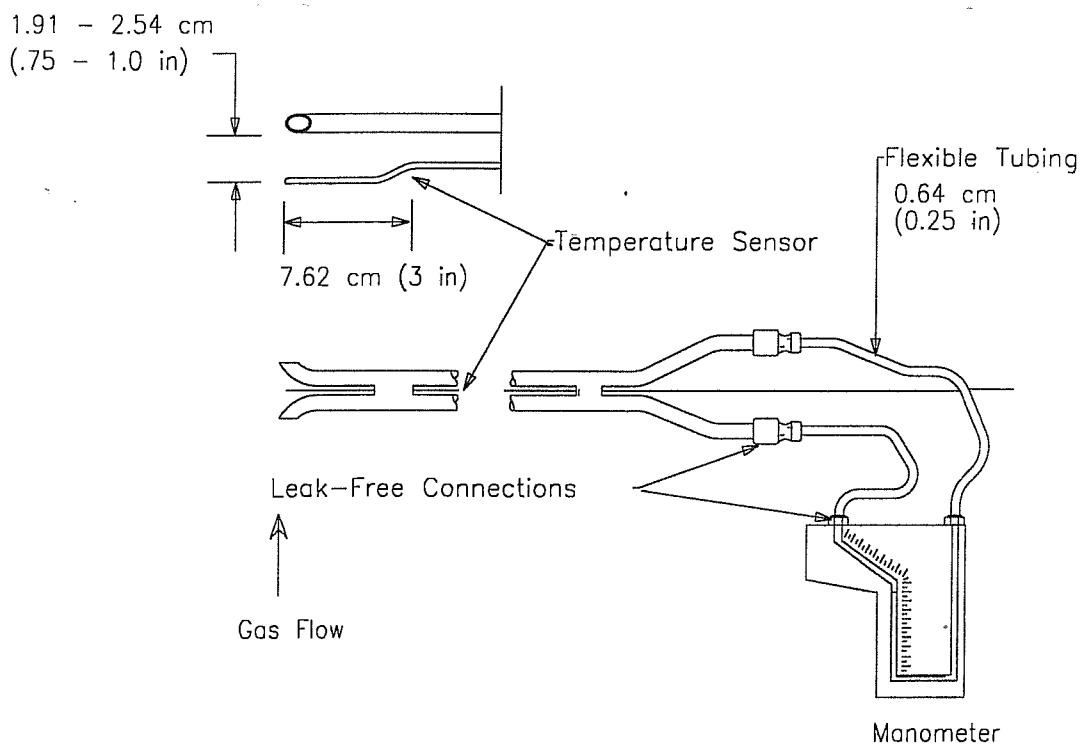
Job: Sunflower Electric Corporation – Holcomb, Kansas Facility

Date: August 5, 2009

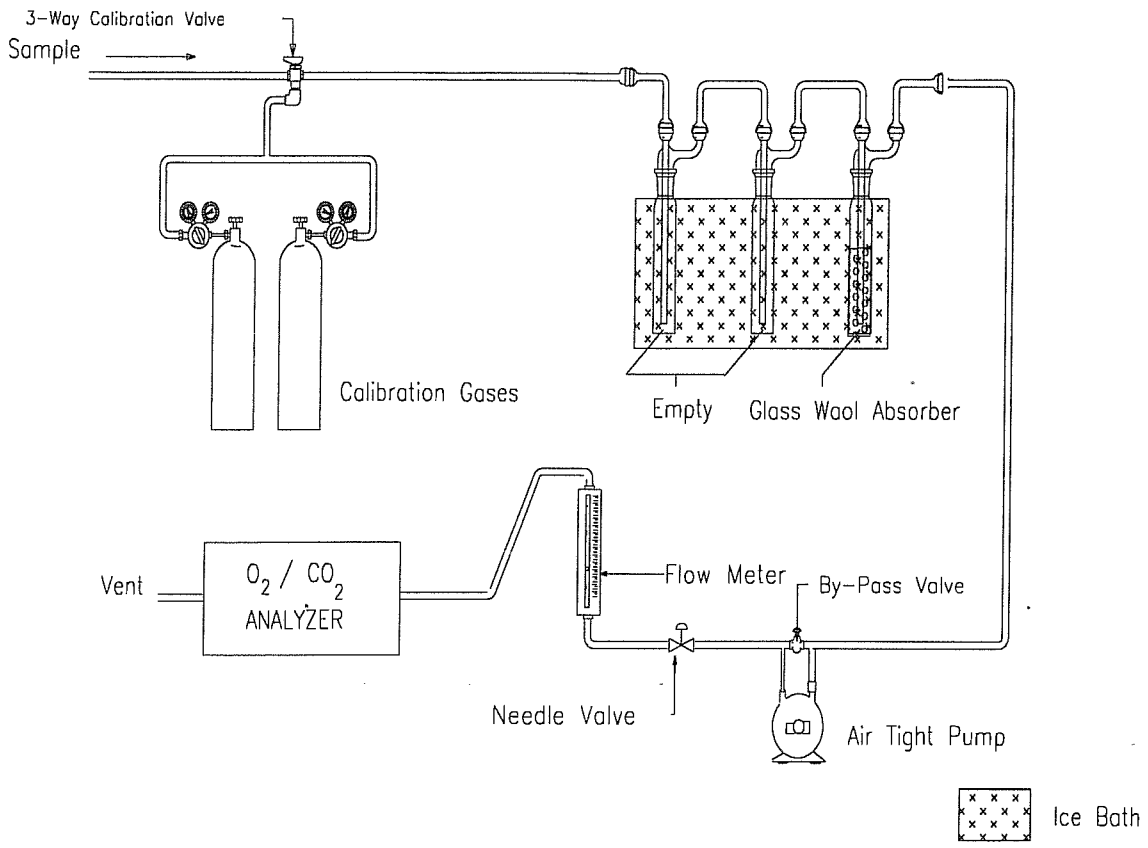
Unit No: 1 SDA Inlet

Tests Points per Port: 1

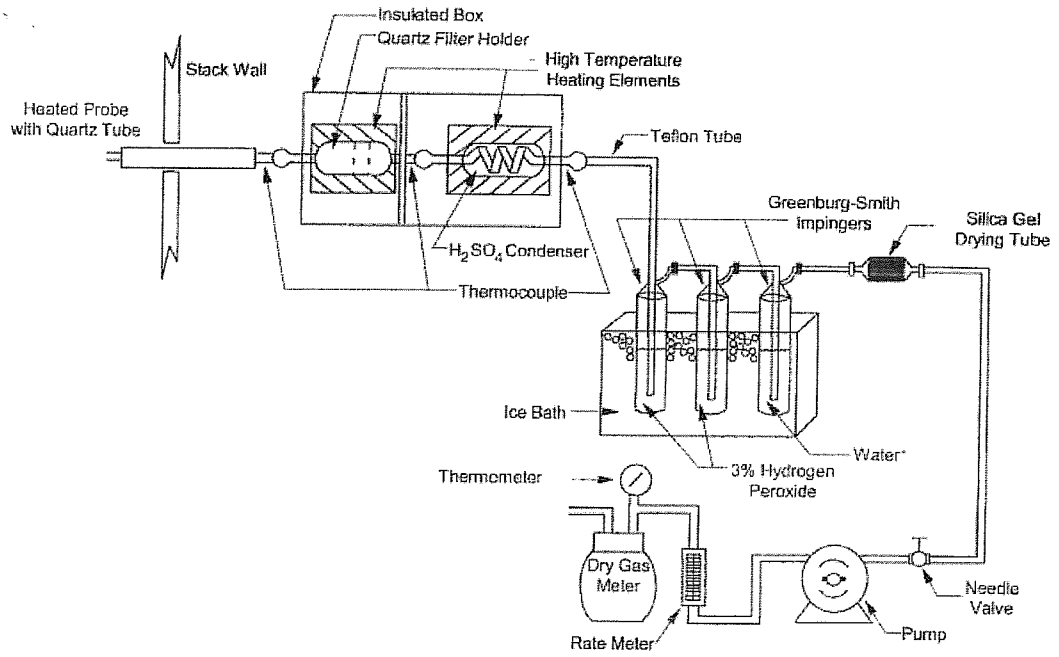
USEPA Method 2 - S-Type Pitot Tube Diagram



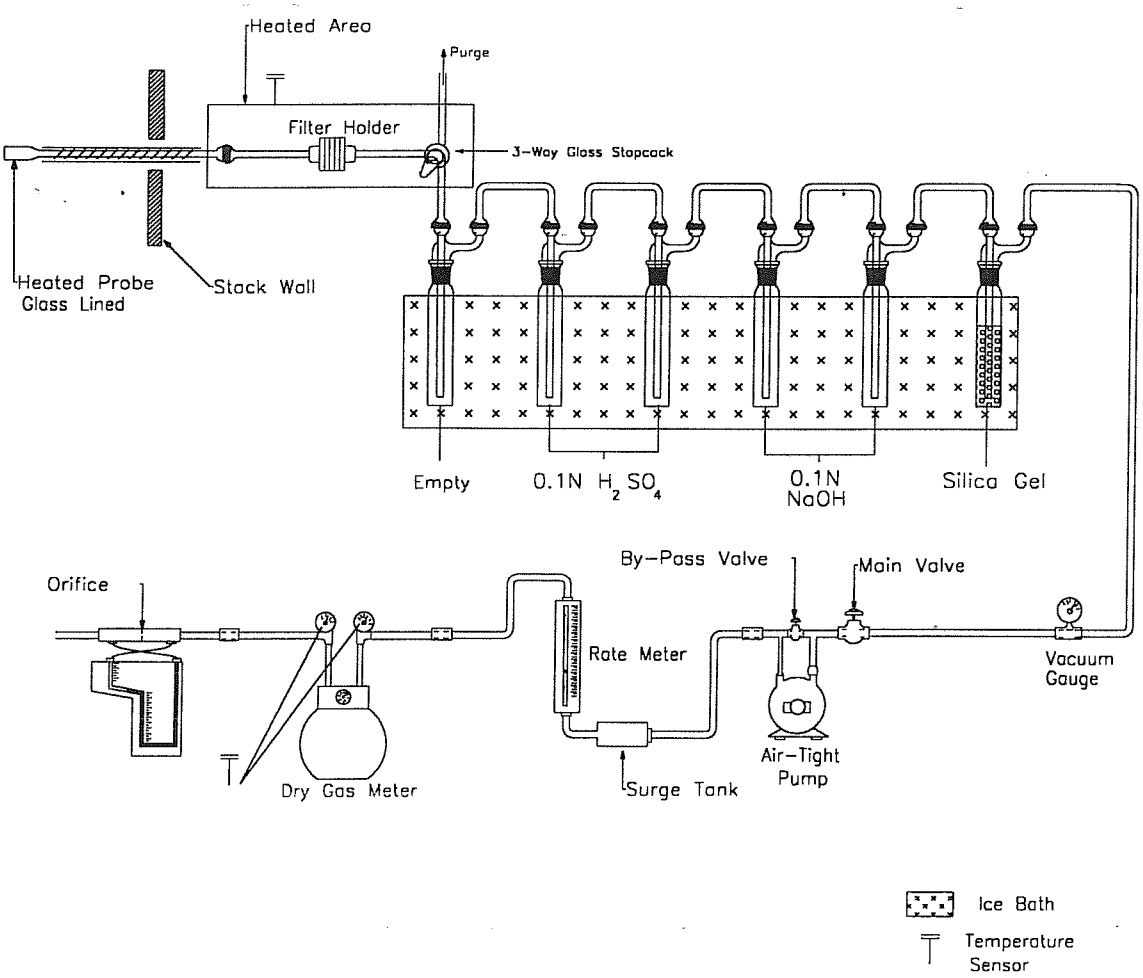
USEPA Method 3A - Oxygen and Carbon Dioxide Sample Train Diagram



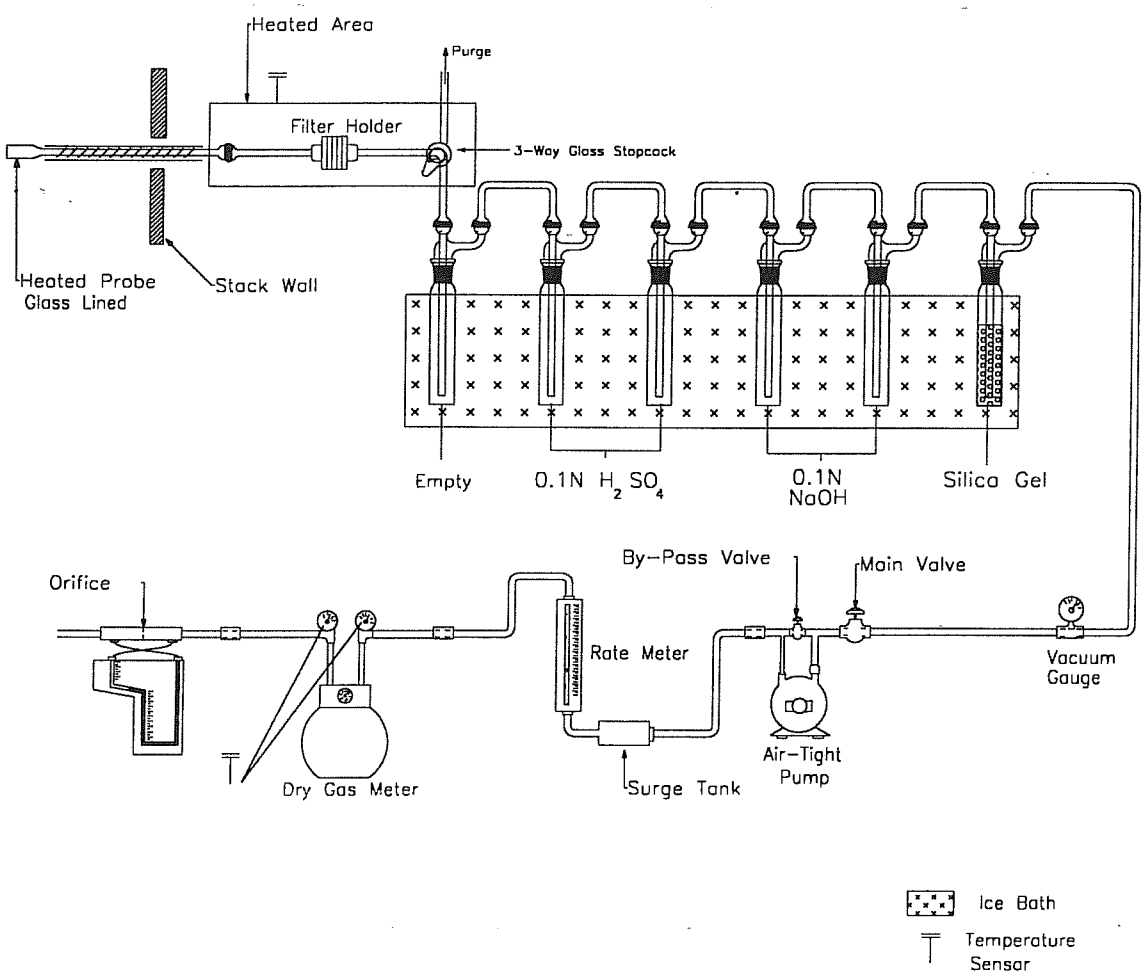
Consol Controlled Condensate – Sulfuric Acid Mist Sample Train Diagram



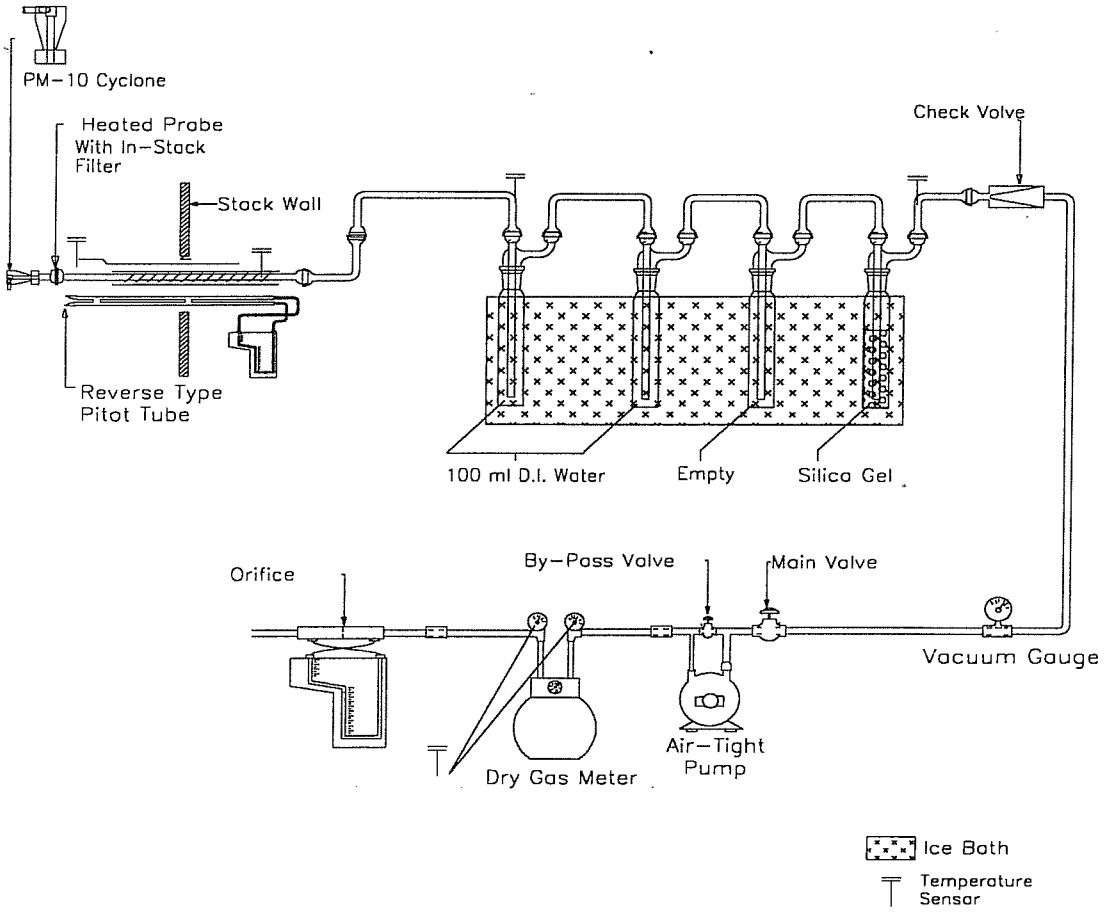
USEPA Method 26A – Halogen Sample Train Diagram



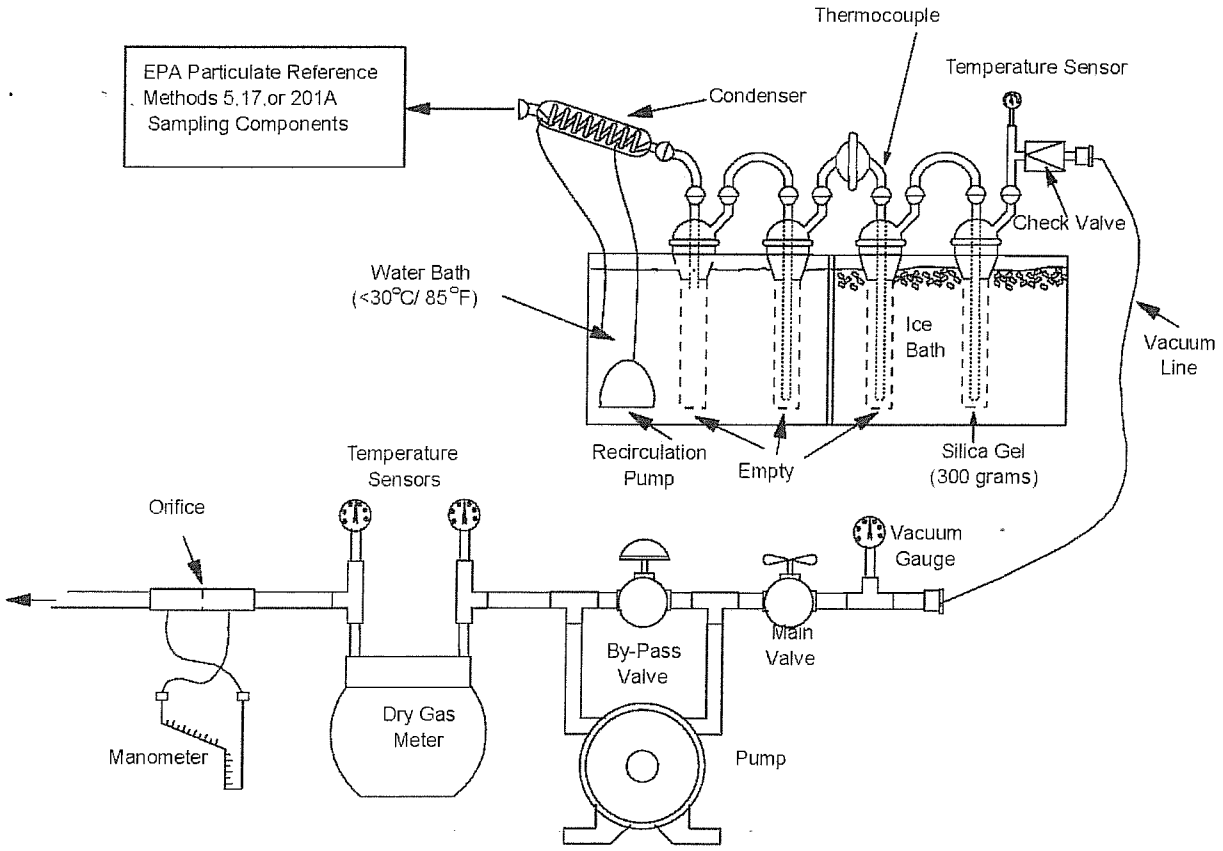
USEPA Method 26 – Halogen Sample Train Diagram



USEPA Other Test Method (OTM) 027 – Particulate by $PM_{2.5}$ Sample Train Diagram



USEPA Other Test Method (OTM) 28- Dry Impinger Method for Determining Condensable Particulate Emissions from Stationary Sources



Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Test Location: Unit 1 Stack
Run: 1
Date: 8/4/2009

Dry Molecular Weight

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

$\%CO_2$ = 12.7 $\%O_2$ = 6.4 $\%N_2$ = 80.9

Md = 30.29

Wet Molecular Weight

$$Ms = Md \times (1-Bws) + (18.0 \times Bws)$$

Md = 30.29 Bws = 0.157

Ms = 28.35

Meter Volume at Standard Conditions

$$Vm(std) = 17.647 \times Y \times Vm \times \frac{(Pbar + DH/13.6)}{Tm}$$

Y = 0.999 Vm = 44.701 Pbar = 26.58
DH = 0.30 Tm = 564.5

Vm(std) = 37.137

Volume of Water Vapor Condensed

$$Vw(std) = 0.0471 \times (\text{net } H_2O \text{ gain})$$

Net H_2O = 147.3

Vw(std) = 6.938

Moisture Content

$$Bws = \frac{Vwc(std)}{Vwc(std) + Vm(std)}$$

Vw(std) = 6.938 Vm(std) = 37.137

Bws = 0.157

Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Test Location: Unit 1 Stack
Run: 1
Date: 8/4/2009

Average Duct Velocity

$$Vs = 85.49 \times Cp \times \text{Sqrt DP (avg)} \times (Ts\ (avg)/(Ps \times Ms))^{1/2}$$

Cp = 0.840 Ts (avg) = 662.1 Sqrt DP (avg): 1.671
Ps = 26.53 Ms = 28.35

Vs = 112.55

Volumetric Flow Rate (Actual Basis)

$$Q = Vs \times A \times 60$$

Vs = 112.55 A = 209.518

Q = 1414859

Volumetric Flow Rate (Standard Basis)

$$Qstd = 17.647 \times Q \times \frac{Ps}{Ts\ (avg)}$$

Q = 1414859 Ps = 26.53 Ts (avg) = 662.1

Qstd = 1000425

Volumetric Flow Rate (Standard Dry Basis)

$$Qstd(dry) = Qstd \times (1-Bws)$$

Qstd = 1000425 Bws = 0.157

Qstd(dry) = 842948

Isokinetic Variation:

$$\%ISO = \frac{0.0945 \times Ts \times Vm(std)}{Vs \times \theta \times An \times Ps \times (1-Bws)}$$

Ts = 662.1 Vm(std) = 37.137 Vs = 112.549
An = 0.0000759 θ = 120.0 Ps = 26.53
Bws = 0.157

%ISO = 101.3

Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Test Location: Unit 1 Stack
Run: 1
Date: 8/4/2009

PM Concentration:
This example represents the filterable fraction. For other fractions, use the obtained m_n for that particulate fraction.

$$Co = \frac{m_n \times 15.43}{Vm(std)}$$

m_n (g) = 0.0030 Vm(std) = 37.137

Co = 0.0012 gr/dscf

PM Emission Rate:

$$ER\ lb/hr = \frac{Co}{7000} \times Qstd(dry) \times 60$$

$$ER\ lb/mmBtu = \frac{Co}{7000} \times Fd\ (dscf/mmBtu) \times \frac{20.9}{20.9 - O2\%}$$

Co = 0.0012 Qstd(dry) = 842948

ER lb/hr = 9.006 lb/hr

ER lb/mmBtu = 0.0026 lb/mmBtu

PLATT ENVIRONMENTAL SERVICES, INC.

Volumetric Flow Nomenclature

A = Cross-sectional area of stack or duct, ft^2

B_{ws} = Water vapor in gas stream, proportion by volume

C_p = Pitot tube coefficient, dimensionless

M_d = Dry molecular weight of gas, lb/lb-mole

M_s = Molecular weight of gas, wet basis, lb/lb-mole

M_w = Molecular weight of water, 18.0 lb/lb-mole

P_{bar} = Barometric pressure at testing site, in. Hg

P_g = Static pressure of gas, in. Hg (in. H_2O/13.6)

P_s = Absolute pressure of gas, in. Hg = $P_{bar} + P_g$

P_{std} = Standard absolute pressure, 29.92 in. Hg

Q_{acfm} = Actual volumetric gas flow rate, acfm

Q_{sd} = Dry volumetric gas flow rate corrected to standard conditions, dscf/hr

R = Ideal gas constant, 21.85 in. Hg-ft^3/°R-lb-mole

T_s = Absolute gas temperature, °R

T_{std} = Standard absolute temperature, 528°R

v_s = Gas velocity, ft/sec

$V_{w(std)}$ = Volume of water vapor in gas sample, corrected to standard conditions, scf

Y = Dry gas meter calibration factor

Δp = Velocity head of gas, in. H_2O

K_1 = 17.647 °R/in. Hg

%EA = Percent excess air

$\%CO_2$ = Percent carbon dioxide by volume, dry basis

$\%O_2$ = Percent oxygen by volume, dry basis

$\%N_2$ = Percent nitrogen by volume, dry basis

0.264 = Ratio of O_2 to N_2 in air, v/v

0.28 = Molecular weight of N_2 or CO, divided by 100

0.32 = Molecular weight of O_2 divided by 100

0.44 = Molecular weight of CO_2 divided by 100

13.6 = Specific gravity of mercury (Hg)

PLATT ENVIRONMENTAL SERVICES, INC.

Volumetric Air Flow Calculations

$$Vm\,(std) = 17.647 \times Vm \times \left[\frac{(P_{bar} + (\frac{DH}{13.6}))}{(460 + Tm)} \right] \times Y$$

$$Vw\,(std) = 0.0471 \times Vlc$$

$$Bws = \left[\frac{Vw\,(std)}{Vw\,(std) + Vm\,(std)} \right]$$

$$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + [0.28 \times (100 - \%CO_2 - \%O_2)]$$

$$Ms = Md \times (1 - Bws) + (18 \times Bws)$$

$$Vs = \sqrt{\frac{(Ts + 460)}{Ms \times Ps}} \times \sqrt{DP} \times Cp \times 85.49$$

$$Acfm = Vs \times \text{Area (of stack or duct)} \times 60$$

$$Scfm = Acfm \times 17.647 \times \left[\frac{Ps}{(460 + Ts)} \right]$$

$$Scfh = Scfm \times 60 \frac{min}{hr}$$

acfm = actual cubic feet per minute
scfm = standard cubic feet per minute
scfh = standard cubic feet per hour

Cp = pitot tube correction factor
Ps = absolute flue gas pressure
Ms = molecular weight of gas (lb/lb mole)
Md = dry molecular weight of gas (lb/lb mole)
Bws = water vapor in gas stream proportion by volume

PLATT ENVIRONMENTAL SERVICES, INC.

Particulate Nomenclature

A = Cross-sectional area of stack or duct, square feet
A_n = Cross-sectional area of nozzle, square feet
B_{ws} = Water vapor in gas stream, by volume
C_a = Acetone blank residue concentration, g/g
C_{acf} = Concentration of particulate matter in gas stream at actual conditions, gr/acf
C_p = Pitot tube coefficient
C_s = Concentration of particulate matter in gas stream, dry basis, corrected to standard conditions, gr/dscf
IKV = Isokinetic sampling variance, must be 90.0 % ≤ IKV ≤ 110.0%
M_d = Dry molecular weight of gas, lb/lb-mole
M_s = Molecular weight of gas, wet basis, lb/lb-mole
M_w = Molecular weight of water, 18.0 lb/lb-mole
m_a = Mass of residue of acetone after evaporation, grams
P_{bar} = Barometric pressure at testing site, inches mercury
P_g = Static pressure of gas, inches mercury (inches water/13.6)
P_s = Absolute pressure of gas, inches mercury = $P_{bar} + P_g$
P_{std} = Standard absolute pressure, 29.92 inches mercury
Q_{acfm} = Actual volumetric gas flow rate, acfm
Q_{sd} = Dry volumetric gas flow rate corrected to standard conditions, dscfh
R = Ideal gas constant, 21.85 inches mercury cubic foot/°R-lb-mole
T_m = Dry gas meter temperature, °R
T_s = Gas temperature, °R
T_{std} = Absolute temperature, 528°R
V_a = Volume of acetone blank, ml
V_{aw} = Volume of acetone used in wash, ml
W_a = Weight of residue in acetone wash, grams
m_n = Total amount of particulate matter collected, grams
V_{1c} = Total volume of liquid collected in impingers and silica gel, ml
V_m = Volume of gas sample as measured by dry gas meter, dcf
$V_{m(std)}$ = Volume of gas sample measured by dry gas meter, corrected to standard conditions, dscf
v_s = Gas velocity, ft/sec
$V_{w(std)}$ = Volume of water vapor in gas sample, corrected to standard conditions, scf
Y = Dry gas meter calibration factor
ΔH = Average pressure differential across the orifice meter, inches water
Δp = Velocity head of gas, inches water
ρ_a = Density of acetone, 0.7855 g/ml (average)
ρ_w = Density of water, 0.002201 lb/ml
θ = Total sampling time, minutes
K_1 = 17.647 °R/in. Hg
K_2 = 0.04707 ft^3/ml
K_4 = 0.09450/100 = 0.000945
K_p = Pitot tube constant, $85.49 \frac{\text{ft}}{\text{sec}} \left[\frac{(\text{lb/lb} - \text{mole})(\text{in. Hg})}{(^\circ\text{R})(\text{in. H}_2\text{O})} \right]^{1/2}$
%EA = Percent excess air
$\%CO_2$ = Percent carbon dioxide by volume, dry basis
$\%O_2$ = Percent oxygen by volume, dry basis
%CO = Percent carbon monoxide by volume, dry basis
$\%N_2$ = Percent nitrogen by volume, dry basis
0.264 = Ratio of O_2 to N_2 in air, v/v
28 = Molecular weight of N_2 or CO
32 = Molecular weight of O_2
44 = Molecular weight of CO_2
13.6 = Specific gravity of mercury (Hg)

PLATT ENVIRONMENTAL SERVICES, INC.

Particulates Calculation Formulas

1. $V_{w(std)} = V_{lc}\left(\frac{\rho_w}{M_w}\right)\left(\frac{RT_{std}}{P_{std}}\right) = K_2 V_{lc}$

2. $V_{m(std)} = V_m Y \left(\frac{T_{std}}{T_m}\right)\left(\frac{(P_{bar} + (\frac{\Delta H}{13.6}))}{P_{std}}\right) = K_1 V_m Y \frac{(P_{bar} + (\frac{\Delta H}{13.6}))}{T_m}$

3. $B_{ws} = \frac{V_{w(std)}}{(V_{m(std)} + V_{w(std)})}$

4. $M_d = 0.44(\%CO_2) + 0.32(\%O_2) + 0.28(\%N_2)$

5. $M_s = M_d(1 - B_{ws}) + 18.0(B_{ws})$

6. $C_a = \frac{m_a}{V_a \rho_a}$

7. $W_a = C_a V_{aw} \rho_a$

8. $C_{acf} = 15.43 K_i \left(\frac{m_n P_s}{V_{w(std)} + V_{m(std)}\ T_s}\right)$

9. $C_S = (15.43 \text{ grains/gram})\ (m_n / V_{m(std)})$

10. $v_s = K_p C_p \sqrt{\frac{\Delta P\ T_s}{P_s M_s}}$

11. $Q_{acfm} = v_s A(60_{sec/min})$

12. $Q_{sd} = (3600_{sec/hr})(1 - B_{ws})\ v_s \left(\frac{T_{std} P_s}{T_s P_{std}}\right) A$

13. E (emission rate, lbs/hr) $= Q_{std}(C_s / 7000 \text{ grains/lb})$

14. $IKV = \frac{T_s V_{m(std)} P_{std}}{T_{std} v_s \theta A_n P_s 60(1 - B_{ws})} = K_4 \frac{T_s V_{m(std)}}{P_s v_s A_n \theta (1 - B_{ws})}$

15. $\%EA = \left(\frac{\%O_2 - (0.5\ \%CO)}{0.264\ \%N_2 - (\%O_2 - 0.5\ \%CO)}\right) \times 100$

PLATT ENVIRONMENTAL SERVICES, INC.

Coal Emission Rate Calculations

A pollutant emission rate (E), expressed as pounds of pollutant per million Btu heat input from the fuel combusted can be calculated by several methods as follows:

A. $C = C_s/7000$ where, C = pollutant concentration, lb/dscf
c_s = pollutant concentration, grains/dscf

B. If fuel flow is monitored and the fuel combusted during the test is sampled and analyzed for gross calorific value, then:

$$E = \frac{Q_{sd} C}{\text{fuel flow rate (lb/hr) GCV}} \times 10^6$$

where, E = lbs per million Btu
GCV = gross calorific value, Btu/lb
Q_{sd} = dry volumetric gas flow at standard conditions, dscf/hr

C. If an integrated gas sample is taken during the test and analyzed for $\%CO_2$ or $\%O_2$, dry basis by volume, with an approved USEPA Method 3 or 3A gas analyzer, then

$$E = C F_c \frac{100}{(\%CO_2)} \text{ or, } E = C F \frac{20.9}{(20.9 - \%O_2)} \quad \text{where,}$$

$\%CO_2$ and $\%O_2$ are expressed as percent values:

F_c = a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted, 1840 scf CO_2/million Btu for sub-bituminous or 1800 scf/million Btu for bituminous.
F = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted, 9820 dscf/million Btu for sub-bituminous or 9780 dscf/million Btu for bituminous.

D. If fuel sample increments are taken and composited during the test and an ultimate analysis is performed and the GCV is determined, then

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV} \text{ where, } \%C = \text{carbon content by weight expressed as percent}$$

$$F = \frac{[3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O_2)]}{GCV} \times 10^6$$

1. H = Hydrogen, percent
2. C = Carbon, percent
3. S = Sulfur, percent
4. N = Nitrogen, percent
5. O = Oxygen, percent

PLATT ENVIRONMENTAL SERVICES, INC.

Calculations for Hydrogen Chloride By Method 26 or 26A

Concentration

$$\frac{\text{lbs HCl}}{\text{dscf}} = \frac{\mu\text{g HCl in sample}}{4.536 \times 10^8 \times \text{dscf}}$$

where:

$4.536 \times 10^8 = \mu\text{g/lb}$

dscf = Volume of gas sampled

$$\mu\text{g/lb HCl} = \mu\text{g Cl} \times \frac{36.453}{35.453}$$

Parts Per Million

$$\text{ppm HCl} = \frac{\text{lbs HCl}}{\text{dscf}} \div \frac{36.453}{385 \times 10^6}$$

where:

385 = Volume of 1 lb mole of gas at 68°F and 29.92 in. Hg

10^6 = Conversion of ppm v/v

Emission Rate

lbs HCl/dscf × dscfm × 60 min/hr = lbs/hr HCl

PLATT ENVIRONMENTAL SERVICES, INC.

Derivation of Factors Used in Sulfuric Acid Mist Calculations

Factors for calculating from lb/dscf to parts per million:

Using 22.414 liters of gas per gram-mole at 0°C and 1 atmosphere pressure,

One pound-mole of gas is contained in 359.04765 ft^3 at 32°F and 29.92 in. Hg, or 385.31943 ft^3 at 68°F and 29.92 in. Hg

$$\text{ppm} = \frac{\text{M lb/lb–mole}}{385.31943 \text{ dscf/lb–mole} \times 10^6} = 2.5952494 \times 10^{-9} \text{ M lb/dscf}$$

Where M = pollutant molecular weight; H_2SO_4 = 98.076 lb/lb-mole

$$\text{Factor for ppm } H_2SO_4 = \frac{1}{98.076 \times 2.5952 \times 10^{-9}} = 3.9289 \times 10^6 \text{ dscf/lb}$$

<u>Use 3.9289×10^6</u>

Factor for converting ppm to lbs/hr

$$\text{ppm } H_2SO_4 \times 2.545 \times 10^{-7} = \frac{\text{lbs } H_2SO_4}{\text{dscf}}$$

$$\frac{\text{lbs } H_2SO_4}{\text{dscf}} \times \frac{\text{dscf}}{\text{min}} \times \frac{60\text{min}}{\text{hr}} = \frac{\text{lbs } H_2SO_4}{\text{hr}}$$

PLATT ENVIRONMENTAL SERVICES, INC.

Calculations for Sulfuric Acid Mist

$$V_{m(std)} = 17.647\ V_m\ Y \frac{P_{bar} + \frac{\Delta H}{13.6}}{T_m}$$

$$C_{H_2SO_4} = 1.0811 \times 10^{-4} \frac{(V_t - V_{tb})\ N \left(\frac{V_{soln}}{V_a}\right)}{V_{m(std)}}$$

$$\text{ppm } H_2SO_4 = 3.9289 \times 10^6\, C_{H_2SO_4} \quad (\text{expressed as } H_2SO_4)$$

Where:

$C_{H_2SO_4}$ = Concentration of sulfuric acid (including sulfur trioxide), dry basis, corrected to standard conditions, lb/dscf

N = Normality of barium chloride titrant, meq/ml

P_{bar} = Barometric pressure at the exit of the dry gas meter, inches of mercury

P_{std} = Standard pressure, 29.92 inches of mercury

T_{std} = Standard temperature, 528 °R

17.647 = T_{std}/P_{std}

V_a = Volume of sample aliquot titrated, ml

T_m = Dry gas meter average temperature, °R

V_m = Dry gas volume measured by dry gas meter, dcf

$V_{m(std)}$ = Dry gas volume measured by dry gas meter, corrected to standard conditions, dscf

V_{soln} = Total volume of solution in which the sulfuric acid sample is contained, ml

V_t = Volume of barium perchlorate titrant used for the sample, ml

V_{tb} = Volume of barium perchlorate titrant used for the blank, ml

Y = Dry gas meter calibration factor

ΔH = Average pressure differential across the orifice meter, inches of water

13.6 = Specific gravity of mercury

1.0811×10^{-4} = Equivalent weight of sulfuric acid, lb/g-meq

3.9289×10^6 = $\frac{\text{dscf}}{\text{lb}}$ of sulfuric acid

Platt Environmental Services, Inc.

Chain-of-Custody Form

Project Number: M093106	Date Results Required:
Client: Sunflower Electric	TAT Required:
Plant/Test Location: Holcomb Generating Station/Unit 1	Project Supervisor: ELE

Sample Number	Sample Date	Sample Point Identification	# of Conts	Sub Lab	Analysis Required	Volume, mls
001	08/04/09	Test 1 Stack - OTM27/28 Front half	4		OTM27	
002	08/04/09	Test 1 Stack - OTM27/28 Back Half	3		OTM28	
003	08/04/09	Test 2 Stack - OTM27/28 Front Half	4		OTM27	
004	08/04/09	Test 2 Stack – OTM27/28 Back Half	3		OTM28	
005	08/04/09	Test 3 Stack – OTM27/28 Front Half	4		OTM27	
006	08/04/09	Test 3 Stack – OTM27/28 Back Half	3		OTM28	
007	08/05/09	Test 1 Stack M26A 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
008	08/05/09	Test 2 Stack M26A 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
009	08/06/09	Test 3 Stack M26A 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
010	08/05/09	Test 1 Stack M26A 0.6N NaOH Imps	1	ENT	HCN	230
011	08/05/09	Test 2 Stack M26A 0.6N NaOH Imps	1	ENT	HCN	230
012	08/06/09	Test 3 Stack M26A 0.6N NaOH Imps	1	ENT	HCN	240
013	08/05/09	Test 1 SDA Inlet M26 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	465
014	08/05/09	Test 2 SDA Inlet M26 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
015	08/06/09	Test 3 SDA Inlet M26 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
016	08/05/09	Test 1 SDA Inlet M26 0.6N NaOH Imps	1		Hold @ PES	
017	08/05/09	Test 2 SDA Inlet M26 0.6N NaOH Imps	1		Hold @ PES	
018	08/06/09	Test 3 SDA Inlet M26 0.6N NaOH Imps	1		Hold @ PES	
019	08/05/09	Test 1 Stack CCS IPA Rinse, H2O2 Imps	2	TEI	SO2/SO3	
020	08/05/09	Test 2 Stack CCS IPA Rinse, H2O2 Imps	2	TEI	SO2/SO3	

Delivered to Lab by:	Date/Time:	Received by:	Date/Time:	Processed by:	Date/Time:
Andrew Szczepanski	8-12-09	[illegible]	8-12-09/0823		

Laboratory Notes:

Platt Environmental Services, Inc

Chain-of-Custody Form

Project Number: M093106	Date Results Required:
Client: Sunflower Electric	TAT Required:
Plant/Test Location: Holcomb Generating Station/Unit 1	Project Supervisor: ELE

Sample Number	Sample Date	Sample Point Identification	# of Conts	Sub Lab	Analysis Required	Volume, mls
021	08/06/09	Test 3 Stack CCS IPA Rinse, H2O2 Imps	2	TEI	SO2/SO3	
022	08/05/09	Test 1 SDA Inlet CCS IPA Rinse, H2O2 Imps	2	TEI	SO2/SO3	
023	08/05/09	Test 2 SDA Inlet IPA Rinse, H2O2 Imps	2	TEI	SO2/SO3	
024	08/06/09	Test 3 SDA Inlet IPA Rinse, H2O2 Imps	2	TEI	SO2/SO3	
025	08/06/09	Test 4 Stack CCS	2		SO2/SO3	
026	08/06/09	Test 5 Stack CCS	2		SO2/SO3	
027	08/06/09	Test 1 Stack NCASI 8A	2		SO2/SO3	
028	08/06/09	Test 2 Stack NCASI 8A	2		SO2/SO3	
029	08/05/09	0.1N H2SO4 Reagent Blank	1	ENT	HCl/HF/HBr	200
030	08/05/09	0.6N NaOH Reagent Blank	1	ENT	HCN	200
031	08/05/09	DI Water Blank	1	ENT	HCl/HF/HBr/HCN	200
032	08/05/09	OTM28 Field Blank	3		OTM28	
033	08/05/09	IPA Blank	1	TEI		
034	08/05/09	DI Blank	1	TEI		
035						
036						
037						
038						
039						
040						

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Laboratory Notes:

LABORATORY REPORT

TEI Analytical, Inc.
7177 N. Austin
Niles, IL 60714-4617
847-647-1345

PREPARED FOR:

Jim Platt
Platt Environmental Services Inc.
1905 Mount Prospect Rd, Ste C
Des Plaines, IL 60018

Report #: 81895
Report Date: 9/4/2009
Sample Received:
8/27/09 12:00

M093106

TEI Number: 81895 Sample: 041, 3431

TEST	RESULTS		DATE PERFORMED
Bromide (D4327-03)	<0.005	mg	9/2/2009
Chloride (D4327-03)	0.014	mg	9/2/2009
Fluoride (D4327-03)	0.005	mg	9/2/2009
Nitrate (D4327-03)	0.007	mg	9/2/2009
Nitrite (D4327-03)	<0.005	mg	9/2/2009
Phosphate (D4327-03)	<0.010	mg	9/2/2009
Sulfate (D4327-03)	10.6	mg	9/3/2009
Water Extraction			8/31/2009

TEI Number: 81896 Sample: 042, 3432

TEST	RESULTS		DATE PERFORMED
Bromide (D4327-03)	<0.005	mg	9/2/2009
Chloride (D4327-03)	0.017	mg	9/2/2009
Fluoride (D4327-03)	0.010	mg	9/2/2009
Nitrate (D4327-03)	<0.005	mg	9/2/2009
Nitrite (D4327-03)	<0.005	mg	9/2/2009
Phosphate (D4327-03)	<0.01	mg	9/2/2009
Sulfate (D4327-03)	10.7	mg	9/3/2009
Water Extraction			8/31/2009

G. E. O'Neill

Gayle E. O'Neill, Ph.D.

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LABORATORY REPORT

TEI Analytical, Inc.
7177 N. Austin
Niles, IL 60714-4617
847-647-1345

PREPARED FOR:

Jim Platt
Platt Environmental Services Inc.
1905 Mount Prospect Rd, Ste C
Des Plaines, IL 60018

Report #: 81895
Report Date: 9/4/2009
Sample Received:
8/27/09 12:00

M093106

TEI Number: 81897 Sample: 043, 3433

TEST	RESULTS		DATE PERFORMED
Bromide (D4327-03)	<0.005	mg	9/2/2009
Chloride (D4327-03)	0.011	mg	9/2/2009
Fluoride (D4327-03)	0.005	mg	9/2/2009
Nitrate (D4327-03)	<0.005	mg	9/2/2009
Nitrite (D4327-03)	<0.005	mg	9/2/2009
Phosphate (D4327-03)	<0.01	mg	9/2/2009
Sulfate (D4327-03)	8.39	mg	9/3/2009
Water Extraction			8/31/2009

G. E. O'Neill

Gayle E. O'Neill, Ph.D.

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Platt Environmental Services, Inc

Chain-of-Custody Form

Project Number: M093106	Date Results Required:
Client: Sunflower Electric	TAT Required:
Plant/Test Location: Holcomb Generating Station/ Unit 1	Project Supervisor: ELE

Sample Number	Sample Date	Sample Point Identification	# of Conts	Sub Lab	Analysis Required	Volume, mls
041	8/4/09	Test 1 DI Pan 3431	1	TEI	Anion Scan	
042	8/4/09	Test 2 DI Pan 3432	1	TEI	Anion Scan	
043	8/4/09	Test 3 DI Pan 3433	1	TEI	Anion Scan	
044						
045						
046						
047						
048						
049						
050						
051						
052						
053						
054						
055						
056						
057						
058						
059						
060						

Delivered to Lab by:	Date/Time:	Received by:	Date/Time:	Processed by:	Date/Time:
[signature]	8/27/09 1200	[signature]	8-27-09 / 1200		

Laboratory Notes:

Client:	Sunflower Electric Power		
Facility:	Holcomb Generating Station		
Test Location:	Unit 1 Stack		
Analysis Date:	8/11/2009	**Analyst:**	JM

Non-Sulfate Corrected

Description	ID#	vol.	Initial Weight	Final Weight	Net Weight Gain
Test No. 1					
<PM2.5 Acetone Wash	3746	29 mls	2.5722	2.5730	0.0008
PM2.5 Filter	453		7.4481	7.4503	0.0022
Acetone Blank					0.0000
Total Front Half <PM2.5					**0.0030**
>PM2.5, <PM10 Acetone	3749	52 mls	2.5943	2.5963	0.0020
Acetone Blank					0.0000
Total >PM2.5, <PM10					**0.0020**
>PM10 Acetone Wash	3743	51 mls	2.6038	2.6060	0.0022
Acetone Blank					0.0000
Total >PM10 Weight					**0.0022**
Condensable Fraction					
Acetone/MeCl2 Wash	3486	252 mls	2.6103	2.6121	0.0018
DI Wash	3431	310 mls	5.2329	5.2488	0.0159
NH_4OH		1.6 mls			0.0030
Field Blank					**0.0003**
Total Back Half Weight					**0.0144**
Total Weight					**0.0216**
Test No. 2					
Filterable Fraction					
<PM2.5 Acetone Wash	3747	14 mls	2.5990	2.5998	0.0008
PM2.5 Filter	479		7.4795	7.4807	0.0012
Acetone Blank					0.0000
Total Front Half <PM2.5					**0.0020**
>PM2.5, <PM10 Acetone	3750	71 mls	2.6099	2.6136	0.0037
Acetone Blank					0.0000
Total >PM2.5, <PM10					**0.0037**
>PM10 Acetone Wash	3744	62 mls	2.5944	2.5978	0.0034
Acetone Blank					0.0000
Total >PM10 Weight					**0.0034**
Condensable Fraction					
Acetone/MeCl2 Wash	3776	277 mls	2.6282	2.6322	0.0040
DI Wash	3432	255 mls	5.1923	5.2080	0.0157
NH_4OH		1.4 mls			0.0026
Field Blank					**0.0003**
Total Back Half Weight					**0.0168**
Total Weight					**0.0259**
Test No. 3					
Filterable Fraction					
<PM2.5 Acetone Wash	3748	20 mls	2.6027	2.6042	0.0015
PM2.5 Filter	470		7.4779	7.4796	0.0017
PM2.5 Filter					
Acetone Blank					0.0000
Total Front Half <PM2.5					**0.0032**
>PM2.5, <PM10 Acetone	3751	31 mls	2.6101	2.6116	0.0015
Acetone Blank					0.0000
Total >PM2.5, <PM10					**0.0015**
>PM10 Acetone Wash	3745	36 mls	2.5928	2.5946	0.0018
Acetone Blank					0.0000
Total >PM10 Weight					**0.0018**
Condensable Fraction					
Acetone/MeCl2 Wash	3487	290 mls	2.6259	2.6288	0.0029
DI Wash	3433	255 mls	5.2080	5.2206	0.0126
NH_4OH		1.5 mls			0.0028
Field Blank					**0.0003**
Total Back Half Weight					**0.0124**
Total Weight					**0.0189**
Condensable Fraction					
Acetone/MeCl2 Wash	3777	205 mls	2.6263	2.6266	0.0003
DI Wash	3434	325 mls	5.2711	5.2713	0.0002
NH_4OH		0.1 mls			0.0002
Field Blank					**0.0003**
Total Weight					
Normality of NH4OH					0.1096
Blank Summary					
DI Wash	985	100 mls	74.3496	74.3496	0.0000
MeCl2 Wash	986	50 mls	70.3905	70.3906	0.0001
Acetone Wash	2484	100 mls	5.2441	5.2441	0.0000

Client:	**Sunflower Electric Power**		
Facility:	**Holcomb Generating Station**		
Test Location:	**Unit 1 Stack**		
Analysis Date:	**8/11/2009**	**Analyst:**	**JM**

Sulfate Corrected

Description	ID#	vol.	Initial Weight	Final Weight	Net Weight Gain
Test No. 1					
<PM2.5 Acetone Wash	3746	29 mls	2.5722	2.5730	0.0008
PM2.5 Filter	453		7.4481	7.4503	0.0022
Acetone Blank					0.0000
Total Front Half <PM2.5					**0.0030**
>PM2.5, <PM10 Acetone	3749	52 mls	2.5943	2.5963	0.0020
Acetone Blank					0.0000
Total >PM2.5, <PM10					**0.0020**
>PM10 Acetone Wash	3743	51 mls	2.6038	2.6060	0.0022
Acetone Blank					0.0000
Total >PM10 Weight					**0.0022**
Condensable Fraction					
Acetone/MeCl2 Wash	3486	252 mls	2.6103	2.6121	0.0018
DI Wash	3431	310 mls	5.2329	5.2382	0.0053
NH_4OH		1.6 mls			0.0030
Field Blank					**0.0003**
Total Back Half Weight					**0.0038**
Total Weight					**0.0110**
Test No. 2					
Filterable Fraction					
<PM2.5 Acetone Wash	3747	14 mls	2.5990	2.5998	0.0008
PM2.5 Filter	479		7.4795	7.4807	0.0012
Acetone Blank					0.0000
Total Front Half <PM2.5					**0.0020**
>PM2.5, <PM10 Acetone	3750	71 mls	2.6099	2.6136	0.0037
Acetone Blank					0.0000
Total >PM2.5, <PM10					**0.0037**
>PM10 Acetone Wash	3744	62 mls	2.5944	2.5978	0.0034
Acetone Blank					0.0000
Total >PM10 Weight					**0.0034**
Condensable Fraction					
Acetone/MeCl2 Wash	3776	277 mls	2.6282	2.6322	0.0040
DI Wash	3432	255 mls	5.1923	5.1973	0.0050
NH_4OH		1.4 mls			0.0026
Field Blank					**0.0003**
Total Back Half Weight					**0.0061**
Total Weight					**0.0152**
Test No. 3					
Filterable Fraction					
<PM2.5 Acetone Wash	3748	20 mls	2.6027	2.6042	0.0015
PM2.5 Filter	470		7.4779	7.4796	0.0017
PM2.5 Filter					
Acetone Blank					0.0000
Total Front Half <PM2.5					**0.0032**
>PM2.5, <PM10 Acetone	3751	31 mls	2.6101	2.6116	0.0015
Acetone Blank					0.0000
Total >PM2.5, <PM10					**0.0015**
>PM10 Acetone Wash	3745	36 mls	2.5928	2.5946	0.0018
Acetone Blank					0.0000
Total >PM10 Weight					**0.0018**
Condensable Fraction					
Acetone/MeCl2 Wash	3487	290 mls	2.6259	2.6288	0.0029
DI Wash	3433	255 mls	5.2080	5.2122	0.0042
NH_4OH		1.5 mls			0.0028
Field Blank					**0.0003**
Total Back Half Weight					**0.0040**
Total Weight					**0.0105**
Condensable Fraction					
Acetone/MeCl2 Wash	3777	205 mls	2.6263	2.6266	0.0003
DI Wash	3434	325 mls	5.2711	5.2713	0.0002
NH_4OH		0.1 mls			0.0002
Field Blank					**0.0003**
Total Weight					
Normality of NH4OH					0.1096
Blank Summary					
DI Wash	985	100 mls	74.3496	74.3496	0.0000
MeCl2 Wash	986	50 mls	70.3905	70.3906	0.0001
Acetone Wash	2484	100 mls	5.2441	5.2441	0.0000

Barium-Thorin Titrations

Project/Project Number: _____ Analyst: _____ Date:

Barium Titrant Standardization	Run No. 1	Run No. 2	Run No. 3
Volume 0.01 N H_2SO_4 titrated (ml)	20mL	20.0mL	
Volume $BaCl_2$ added (ml)	10.5	18.3	
Calculated $BaCl_2$ normality	.011	0.011	

Average $BaCl_2$ normality = 0.011 N
Standardization Blank (25 ml Water + 100 ml isopropanol) = _____ ml ; Must be <0.5 ml.

Sample Number	Sample Date	Sample Description	Total Volume	Sample Aliquot	Titrant Volume for Sample Final Reading - Initial Reading = V_t ml	Titrant Volume Corrected for Blank (V_t - V_{tb}) ml
Ammonium Sulfate Controls		Inlet Test #1 IPA Coil	200	25	1.1 - 0 = 1.2 - 0 = Average =	
		Inlet Test #2 IPA Coil	200	25	1.9 - 1.5 = .4 2.3 - 1.9 = .4 Average =	
		Inlet Test #3 IPA Coil	200	25	2.7 - 2.3 = .4 3.0 - 2.7 = .3 Average =	
		Stack Test #1 IPA Coil	200	25	3.3 - 3.0 = .3 3.6 - 3.0 = .3 Average =	
		Stack Test #2 IPA Coil	200	25	.35 - 0 = .35 .7 - .35 = .35 Average = .35	
		Stack Test #3 IPA Coil	200	25	1.1 - .7 = .4 1.5 - 1.1 = .4 Average =	
		H_2O_2 Reagent Blank			- = - = Average =	V_{tb}

* All titrations must be performed in replicate with agreement of 0.1% or 0.2 ml, whichever is larger.

Platt Environmental Services

1520 Kensington Road, Suite 204
Oak Brook, IL 60523

Sunflower Electric
Holcomb Generating Station: Unit 1

Client # M093106

Analytical Report
(0809-59)

EPA Method 26A

Hydrogen Bromide, Hydrogen Chloride, Hydrogen Fluoride

EPA CTM-033

Hydrogen Cyanide

Enthalpy Analytical, Inc.

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
2202 Ellis Road Durham, NC 27703 - 5518

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)
- This analytical report was prepared in Portable Document Format (.PDF) and contains 146 pages.

Bonnie L Evans

QA Review Performed by – Bonnie L Evans

Summary of Results

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

Compound	Sample ID / Catch Weight (ug)		
		Stack	
	Test 1	***Test 2***	***Test 3***
	007	***008***	***009***
Hydrogen Fluoride	72.1 ND	73.1 ND	72.7 ND
Hydrogen Chloride	110 J	99.2 J	120 J
Hydrogen Bromide	72.3 ND	73.3 ND	72.9 ND
		SDA Inlet	
	Test 1	***Test 2***	***Test 3***
	013	***014***	***015***
Hydrogen Fluoride	1,243	1,974	2,336
Hydrogen Chloride	2,106	1,636	1,771
Hydrogen Bromide	160 J	235 J	198 J
	H2SO4 Rgt Blank	***DI Water Blank***	
	029	***031***	
Hydrogen Fluoride	29.5 ND	7.19 ND	
Hydrogen Chloride	43.7 J	5.48 ND	
Hydrogen Bromide	29.6 ND	7.21 ND	

Company	Platt Environmental
Analyst	KHB
Parameters	EPA CTM-033
# Samples	3 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	9/9/2009

Compound	Sample ID / Catch Weight (ug)		
	Test 1	***Test 2***	***Test 3***
	010	***011***	***012***
Hydrogen Cyanide	2.99 ND	3.60 ND	3.43 ND
	0.6N NaOH Blank	***DI Water Blank***	
	030	***031***	
Hydrogen Cyanide	2.70 ND	2.82 ND	

Results

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

MDL 0.0365 (ug/mL)
LOQ 0.230 (ug/mL)
Compound Hydrogen Fluoride

Lower Curve Limit 0.230 (ug/mL)
Upper Curve Limit 6.87 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
007	011-1101.D	011-1102.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4	494	72.1	ND
008	012-1201.D	012-1202.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4	501	73.1	ND
009	013-1301.D	013-1302.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4	498	72.7	ND
013	014-1401.D	014-1402.D	0809-59A.M	2.80	2.80	0.2	0.698	0.650	3.5	0.674	4	461	1,243	
014	015-1501.D	015-1502.D	0809-59A.M	2.81	2.80	0.2	0.932	0.916	0.9	0.924	4	534	1,974	
015	016-1601.D	016-1602.D	0809-59A.M	2.81	2.80	0.1	1.12	1.09	1.2	1.10	4	529	2,336	
029	017-1701.D	017-1702.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4.1	197	29.5	ND
031	021-2001.D	021-2002.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	1	197	7.19	ND
H2SO4 Rgt Bk	008-0801.D	008-0802.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	1	1.00	0.0365	ND
DI H2O Rgt Bk	009-0901.D	009-0902.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	1	1.00	0.0365	ND
Method Blank	010-1001.D	010-1002.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4.1	1.00	0.150	ND

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

MDL 0.0365 (ug/mL)
LOQ 0.230 (ug/mL)
Compound Hydrogen Fluoride

Lower Curve Limit 0.230 (ug/mL)
Upper Curve Limit 6.87 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
Method Blank	010-3301.D	010-3302.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4.1	1.00	0.150	ND
Method Blank	010-5701.D	010-5702.D	0809-59A.M	NA	NA	NA	0.0365	0.0365	0.0	0.0365	4.1	1.00	0.150	ND
MS / 007	022-2101.D	022-2102.D	0809-59A.M	2.80	2.80	0.1	1.21	1.21	0.2	1.21	1	0.525	0.635	
												Spike Amount (ug)	0.663	
												Native Amount (ug)	0.00	
												Spike Recovery (%)	95.8%	
MSD / 007	023-2201.D	023-2202.D	0809-59A.M	2.80	2.80	0.1	1.22	1.20	1.0	1.21	1	0.525	0.634	
												Spike Amount (ug)	.0.663	
												Native Amount (ug)	0.00	
												Spike Recovery (%)	95.6%	
hplc44pg106 #LCS	007-0701.D	007-0702.D	0809-59A.M	2.81	2.80	0.3	4.19	4.14	0.7	4.17	1	1.00	4.17	
												Tag Amount (ug)	4.24	
												Recovery (%)	98.3%	
hplc44pg106 #LCS	007-3201.D	007-3202.D	0809-59A.M	2.81	2.81	0.2	4.19	4.17	0.2	4.18	1	1.00	4.18	
												Tag Amount (ug)	4.24	
												Recovery (%)	98.7%	
hplc44pg106 #LCS	007-5601.D	007-5602.D	0809-59A.M	2.81	2.80	0.3	4.22	4.18	0.4	4.20	1	1.00	4.20	
												Tag Amount (ug)	4.24	
												Recovery (%)	99.1%	

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

MDL 0.0278 (ug/mL)
LOQ 0.446 (ug/mL)
Compound Hydrogen Chloride

Lower Curve Limit 0.446 (ug/mL)
Upper Curve Limit 13.3 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
007	011-1101.D	011-1102.D	0809-59A.M	4.09	4.04	1.4	0.0566	0.0543	2.1	0.0555	4	494	110	J
008	012-1201.D	012-1202.D	0809-59A.M	4.09	4.02	1.8	0.0508	0.0482	2.6	0.0495	4	501	99.2	J
009	013-1301.D	013-1302.D	0809-59A.M	4.12	4.05	1.7	0.0618	0.0584	2.9	0.0601	4	498	120	J
013	014-1401.D	014-1402.D	0809-59A.M	4.09	4.03	1.5	1.17	1.12	2.2	1.14	4	461	2,106	
014	015-1501.D	015-1502.D	0809-59A.M	4.09	4.03	1.5	0.772	0.760	0.8	0.766	4	534	1,636	
015	016-1601.D	016-1602.D	0809-59A.M	4.09	4.02	1.6	0.845	0.829	0.9	0.837	4	529	1,771	
029	017-1701.D	017-1702.D	0809-59A.M	4.25	4.30	1.1	0.0558	0.0525	3.1	0.0541	4.1	197	43.7	J
031	021-2001.D	021-2002.D	0809-59A.M	NA	NA	NA	0.0278	0.0278	0.0	0.0278	1	197	5.48	ND
H2SO4 Rgt Bk	008-0801.D	008-0802.D	0809-59A.M	NA	NA	NA	0.0278	0.0278	0.0	0.0278	1	1.00	0.0278	ND
DI H2O Rgt Bk	009-0901.D	009-0902.D	0809-59A.M	NA	NA	NA	0.0278	0.0278	0.0	0.0278	1	1.00	0.0278	ND
Method Blank	010-1001.D	010-1002.D	0809-59A.M	NA	NA	NA	0.0278	0.0278	0.0	0.0278	4.1	1.00	0.114	ND

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

MDL 0.0278 (ug/mL)
LOQ 0.446 (ug/mL)
Compound Hydrogen Chloride

Lower Curve Limit 0.446 (ug/mL)
Upper Curve Limit 13.3 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
Method Blank	010-3301.D	010-3302.D	0809-59A.M	NA	NA	NA	0.0278	0.0278	0.0	0.0278	4.1	1.00	0.114	ND
Method Blank	010-5701.D	010-5702.D	0809-59A.M	NA	NA	NA	0.0278	0.0278	0.0	0.0278	4.1	1.00	0.114	ND
MS / 007	022-2101.D	022-2102.D	0809-59A.M	4.08	4.02	1.5	2.49	2.38	2.2	2.44	1	0.525	1.28	
												Spike Amount (ug)	1.29	
												Native Amount (ug)	0.0277	
												Spike Recovery (%)	97.5%	
MSD / 007	023-2201.D	023-2202.D	0809-59A.M	4.07	4.01	1.5	2.46	2.36	2.0	2.41	1	0.525	1.27	
												Spike Amount (ug)	1.29	
												Native Amount (ug)	0.0277	
												Spike Recovery (%)	96.4%	
hplc44pg106 #LCS	007-0701.D	007-0702.D	0809-59A.M	4.08	4.02	1.5	3.97	3.91	0.7	3.94	1	1.00	3.94	
												Tag Amount (ug)	4.11	
												Recovery (%)	95.9%	
hplc44pg106 #LCS	007-3201.D	007-3202.D	0809-59A.M	4.07	4.01	1.5	3.97	3.95	0.3	3.96	1	1.00	3.96	
												Tag Amount (ug)	4.11	
												Recovery (%)	96.3%	
hplc44pg106 #LCS	007-5601.D	007-5602.D	0809-59A.M	4.09	4.03	1.5	3.97	3.96	0.2	3.97	1	1.00	3.97	
												Tag Amount (ug)	4.11	
												Recovery (%)	96.5%	

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

MDL 0.0366 (ug/mL)
LOQ 0.439 (ug/mL)
Compound Hydrogen Bromide

Lower Curve Limit 0.439 (ug/mL)
Upper Curve Limit 13.1 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
007	011-1101.D	011-1102.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4	494	72.3	ND
008	012-1201.D	012-1202.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4	501	73.3	ND
009	013-1301.D	013-1302.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4	498	72.9	ND
013	014-1401.D	014-1402.D	0809-59A.M	6.03	5.88	2.4	0.0984	0.0754	13.2	0.0869	4	461	160	J
014	015-1501.D	015-1502.D	0809-59A.M	6.03	5.94	1.4	0.117	0.103	6.2	0.110	4	534	235	J
015	016-1601.D	016-1602.D	0809-59A.M	6.06	5.90	2.7	0.104	0.0832	11.2	0.0937	4	529	198	J
029	017-1701.D	017-1702.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4.1	197	29.6	ND
031	021-2001.D	021-2002.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	1	197	7.21	ND
H2SO4 Rgt Bk	008-0801.D	008-0802.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	1	1.00	0.0366	ND
DI H2O Rgt Bk	009-0901.D	009-0902.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	1	1.00	0.0366	ND
Method Blank	010-1001.D	010-1002.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4.1	1.00	0.150	ND

Company	Platt Environmental
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	8/24/2009

MDL 0.0366 (ug/mL)
LOQ 0.439 (ug/mL)
Compound Hydrogen Bromide

Lower Curve Limit 0.439 (ug/mL)
Upper Curve Limit 13.1 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
Method Blank	010-3301.D	010-3302.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4.1	1.00	0.150	ND
Method Blank	010-5701.D	010-5702.D	0809-59A.M	NA	NA	NA	0.0366	0.0366	0.0	0.0366	4.1	1.00	0.150	ND
MS / 007	022-2101.D	022-2102.D	0809-59A.M	6.01	5.87	2.4	2.44	2.35	1.9	2.39	1	0.525	1.26	
												Spike Amount (ug)	1.27	
												Native Amount (ug)	0.00	
												Spike Recovery (%)	99.3%	
MSD / 007	023-2201.D	023-2202.D	0809-59A.M	6.00	5.86	2.5	2.41	2.31	2.1	2.36	1	0.525	1.24	
												Spike Amount (ug)	1.27	
												Native Amount (ug)	0.00	
												Spike Recovery (%)	97.9%	
hplc44pg106 #LCS	007-0701.D	007-0702.D	0809-59A.M	6.04	5.91	2.3	3.97	3.85	1.5	3.91	1	1.00	3.91	
												Tag Amount (ug)	4.05	
												Recovery (%)	96.5%	
hplc44pg106 #LCS	007-3201.D	007-3202.D	0809-59A.M	5.97	5.82	2.5	3.98	3.91	0.8	3.95	1	1.00	3.95	
												Tag Amount (ug)	4.05	
												Recovery (%)	97.4%	
hplc44pg106 #LCS	007-5601.D	007-5602.D	0809-59A.M	6.07	5.94	2.2	3.96	3.87	1.2	3.91	1	1.00	3.91	
												Tag Amount (ug)	4.05	
												Recovery (%)	96.6%	

Company	Platt Environmental
Analyst	KHB
Parameters	EPA CTM-033
# Samples	3 runs & 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	9/9/2009

MDL 0.0143 (ug/mL)
LOQ 0.104 (ug/mL)
Compound Hydrogen Cyanide

Lower Curve Limit 0.104 (ug/mL)
Upper Curve Limit 2.08 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Analysis Method	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
010	008-0801.D	008-0802.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	209	2.99	ND
LD / 010	009-0901.D	009-0902.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	209	2.99	ND
												% Difference	NA	
011	010-1001.D	010-1002.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	252	3.60	ND
012	011-1301.D	011-1302.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	240	3.43	ND
030	012-1401.D	012-1402.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	189	2.70	ND
031	013-1501.D	013-1502.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	197	2.82	ND
NaOH Blank	007-0701.D	007-0702.D	0809-53A.M	NA	NA	NA	0.0143	0.0143	0.0	0.0143	1	1.00	0.0143	ND
MS / 010	014-1701.D	014-1702.D	0809-53A.M	7.65	7.67	0.2	0.474	0.473	0.2	0.473	1	1.025	0.485	
												Spike Amount (ug)	0.520	
												Native Amount (ug)	0.00	
												Spike Recovery (%)	93.3%	
MSD / 010	015-1801.D	015-1802.D	0809-53A.M	7.61	7.67	0.7	0.464	0.471	0.7	0.467	1	1.025	0.479	
												Spike Amount (ug)	0.520	
												Native Amount (ug)	0.00	
												Spike Recovery (%)	92.1%	

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Platt Environmental Services
Analyst	MDS
Parameters	EPA Method 26A
# Samples	6 runs and 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	August 25, 2009

Custody

Erin Ortiz received the samples on 8/12/09 after being relinquished by Platt Environmental Services. The samples were received at 19.1 °C in good condition. Prior to and during analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for hydrogen bromide, hydrogen chloride, and hydrogen fluoride using the analytical procedures in EPA Method 26A, Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources Isokinetic Method (40 CFR Part 60, Appendix A).

The samples were analyzed following the procedures in Section 11.0, Analytical Procedures. All samples and standards are prepared, stored, and analyzed using high-density polyethylene containers.

The Agilent Model 1100, High Performance Liquid Chromatograph ("Gonzo") was equipped with a Dionex CD20 Conductivity Detector and two Dionex Ion Pac AS14A, 4 x 250 mm columns (S/N 006461 and 006531).

Calibration

The calibration curves are located in the back of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

The acquisition method (COLSWTCH.M) is included in the Calibration Curve Chromatograms section of this report.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes

As required in Section 7.2.2, Absorbing Solution Blanks, client-provided reagent blanks were analyzed. Additionally, a quality control check sample was analyzed at the same time as the blanks and samples. All method required acceptance criteria were met.

All sample preparation and analytical holding times specified in the method were met. Section 13.2, Sample Stability, specifies an analytical holding time of four weeks.

Reporting Notes

The H2SO4 matrix samples were analyzed for Cl-, F-, and Br- but are reported as HCl, HF, and HBr. The peaks listed in the "Sample Chromatograms" section are labeled hydrogen chloride, hydrogen fluoride, and hydrogen bromide. The additional molecular weight contribution from the H+ is included in the results listed on each chromatogram and throughout the report.

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical, Inc. is accredited to perform this method for compliance purposes by the National Environmental Laboratory Accreditation Conference (NELAC) through the Louisiana Environmental Laboratory Accreditation Program (LELAP), certificate number 04010.

Enthalpy Analytical Narrative Summary

Company	Platt Environmental Services
Analyst	KHB
Parameters	EPA CTM-033
# Samples	3 runs and 2 blanks

Client #	M093106
Job #	0809-59
PO #	Verbal
Report Date	September 9, 2009

Custody

Erin Ortiz received the samples on 8/12/09 after being relinquished by Platt Environmental Services. The samples were received at 19.1 °C in good condition. Prior to and during analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for hydrogen cyanide using the analytical procedures in EPA Conditional Test Method 033, Sampling and Analysis for Hydrogen Cyanide Emissions from Stationary Sources.

The samples were analyzed following the procedures in Section 11.0, Analytical Procedures.

The DIONEX Model 500, High Performance Liquid Chromatograph ("Grandmama") was equipped with a DIONEX ED40 Electrochemical Detector and a Dionex Ion Pac AS7, 4 x 250 mm column (S/N 011780).

Calibration

The calibration curve is located in the back of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

The acquisition method (CTM-033.M) is included in the Calibration Curve Chromatograms section of this report.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes

As required in Section 9.0, Quality Control, a client-provided field blank and reagent blank were analyzed. In the laboratory the following QC samples were analyzed: method blank, Matrix Spike/Matrix Spike Duplicate, and a replicate analysis. All method required acceptance criteria were met.

All sample preparation specified in the method were met. The samples were analyzed 35 days from the sampling collection date which is outside the method specified analytical holding time of 30 days as specified in Section 11.1.2.

Reporting Notes

The results presented in this report are representative of the samples as provided to the laboratory.

The sample volumes as measured by the laboratory are being used for reporting purposes.

Enthalpy Analytical, Inc. is accredited to perform this method for compliance purposes by the National Environmental Laboratory Accreditation Conference (NELAC) through the Louisiana Environmental Laboratory Accreditation Program (LELAP), certificate number 04010.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. reports, unless specifically noted otherwise.

- The symbol ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The symbol ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The symbol ***ND*** following a value indicates a non-detect or analytical result below the MDL.
- The symbol ***J*** following a value indicates an analytical result between the MDL and the LOQ. A J flag indicates that the laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The symbol ***E*** following a value indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The symbol ***DF*** represents a Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to get final results.
- The Sample ID ***MS*** represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. This shows what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix prohibits analysis for the analyte(s).
- The Sample ID ***MSD*** represents a Matrix Spike Duplicate. Prepared in the same manner as an MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times. Most methods performed by Enthalpy do not require analysis of an MSD.
- The Sample ID ***LD*** represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results for the duplicate analysis are compared to the initial result. The result should have a % difference value of 10% or less, though either aliquot receiving a 'J-flagged' result makes the pair exempt from this criteria.
- The Sample ID ***AD*** represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our clients more spikes are prepared than needed. The extras (randomly chosen) are kept in-house at the appropriate temperature conditions. When the spike samples come back from the client for analysis, the LCSs (usually two are saved) are analyzed to confirm that the analyte could be recovered from the media, separate from the spike samples which were used on the project and which may have had issues caused during collection and/or transport.

General Reporting Notes

(continued)

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations. The peak was not integrated by the software "NI", the peak was integrated incorrectly by the software "II" or the wrong peak was integrated by the software "WP". These codes will accompany the analyst's manual integration stamp placed next to the compound name.

Sample Custody

Platt Environmental Services, Inc.

Chain-of-Custody Form

Project Number: M093106	Date Results Required:
Client: Sunflower Electric	TAT Required:
Plant/Test Location: Holcomb Generating Station/Unit 1	Project Supervisor: ELE

Sample Number	Sample Date	Sample Point Identification	# of Conts	Sub Lab	Analysis Required	Volume, mls
001	08/04/09	Test 1 Stack - OTM27/28 Front half	4		OTM27	
002	08/04/09	Test 1 Stack - OTM27/28 Back Half	3		OTM28	
003	08/04/09	Test 2 Stack - OTM27/28 Front Half	4		OTM27	
004	08/04/09	Test 2 Stack – OTM27/28 Back Half	3		OTM28	
005	08/04/09	Test 3 Stack – OTM27/28 Front Half	4		OTM27	
006	08/04/09	Test 3 Stack – OTM27/28 Back Half	3		OTM28	
007	08/05/09	Test 1 Stack M26A 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
008	08/05/09	Test 2 Stack M26A 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
009	08/06/09	Test 3 Stack M26A 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
010	08/05/09	Test 1 Stack M26A 0.6N NaOH Imps	1	ENT	HCN	230
011	08/05/09	Test 2 Stack M26A 0.6N NaOH Imps	1	ENT	HCN	230
012	08/06/09	Test 3 Stack M26A 0.6N NaOH Imps	1	ENT	HCN	240
013	08/05/09	Test 1 SDA Inlet M26 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	465
014	08/05/09	Test 2 SDA Inlet M26 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
015	08/06/09	Test 3 SDA Inlet M26 0.1N H2SO4 Imps	1	ENT	26A (HCl/HF/HBr)	500
016	08/05/09	Test 1 SDA Inlet M26 0.6N NaOH Imps	1		Hold @ PES	
017	08/05/09	Test 2 SDA Inlet M26 0.6N NaOH Imps	1		Hold @ PES	
018	08/06/09	Test 3 SDA Inlet M26 0.6N NaOH Imps	1		Hold @ PES	
019	08/05/09	Test 1 Stack CCS	2		SO2/SO3	
020	08/05/09	Test 2 Stack CCS	2		SO2/SO3	

DMR EO 8.12.09

DMR EO 8.12.09

Delivered to Lab by: Date/Time:	Received by: Date/Time:	Processed by: Date/Time:
	8.12.09 938 AM	

Laboratory Notes: T=19.1°C

Platt Environmental Services, Inc

Chain-of-Custody Form

Project Number: M093106	Date Results Required:
Client: Sunflower Electric	TAT Required:
Plant/Test Location: Holcomb Generating Station/Unit 1	Project Supervisor: ELE

Sample Number	Sample Date	Sample Point Identification	# of Conts	Sub Lab	Analysis Required	Volume, mls
021	08/06/09	Test 3 Stack CCS	2		SO2/SO3	
022	08/05/09	Test 1 SDA Inlet CCS	2		SO2/SO3	
023	08/05/09	Test 2 SDA Inlet	2		SO2/SO3	
024	08/06/09	Test 3 SDA Inlet	2		SO2/SO3	
025	08/06/09	Test 4 Stack CCS	2		SO2/SO3	
026	08/06/09	Test 5 Stack CCS	2		SO2/SO3	
027	08/06/09	Test 1 Stack NCASI 8A	2		SO2/SO3	
028	08/06/09	Test 2 Stack NCASI 8A	2		SO2/SO3	
029	08/05/09	0.1N H2SO4 Reagent Blank	1	ENT	HCl/HF/HBr	200
030	08/05/09	0.6N NaOH Reagent Blank	1	ENT	HCN	200
031	08/05/09	DI Water Blank	1	ENT	HCl/HF/HBr/HCN	200
032	08/05/09	OTM28 Field Blank	3		OTM28	
033						
034						
035						
036						
037						
038						
039						
040						

MR EO 8/7/09

ONR 8.12.09 EO

Delivered to Lab by:	Date/Time:	Received by:	Date/Time:	Processed by:	Date/Time:
Jenna Macchione	8/11/09 11:00am	[illegible]	8.12.09 9:38am		

Laboratory Notes: T=19.1°C

Sample Chromatograms

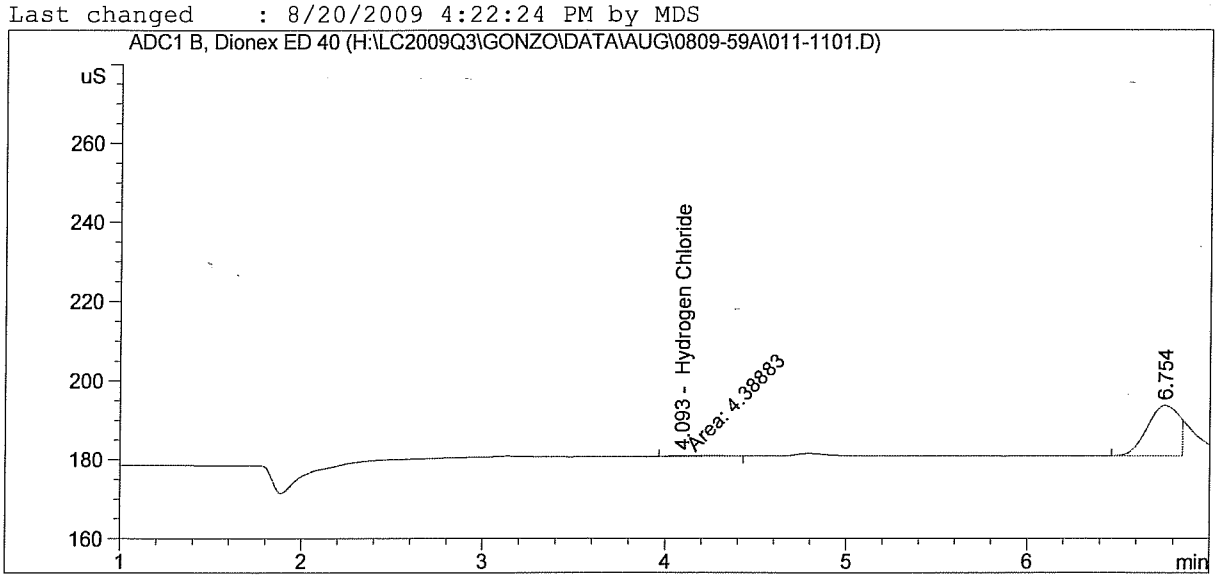
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\011-1101.D
Sample Name: 0809-59 007*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 4:23:54 PM

Seq. Line : 11
Location : Vial 11
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.093	MM	4.38883	1.29028e-2	5.66282e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 5.66282e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

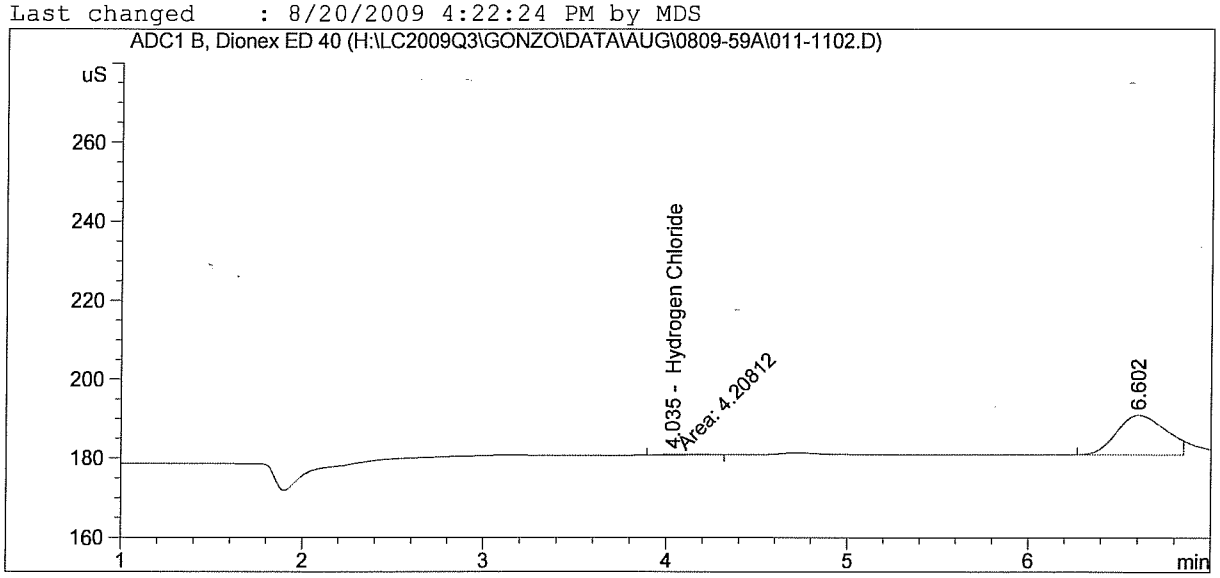
==========

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\011-1102.D
Sample Name: 0809-59 007*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 4:32:52 PM
Seq. Line : 11
Location : Vial 11
Inj : 2
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.035	MM	4.20812	1.29028e-2	5.42964e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 5.42964e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

*** End of Report ***

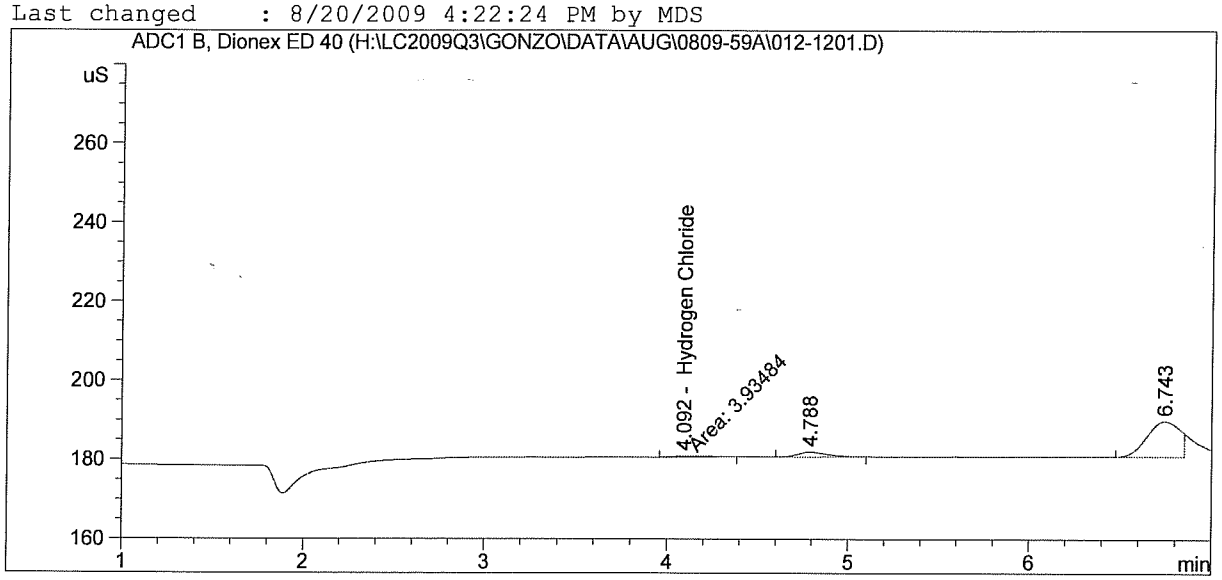
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\012-1201.D
Sample Name: 0809-59 008*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 4:41:40 PM

Seq. Line : 12
Location : Vial 12
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.092	MM	3.93484	1.29028e-2	5.07704e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 5.07704e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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*** End of Report ***

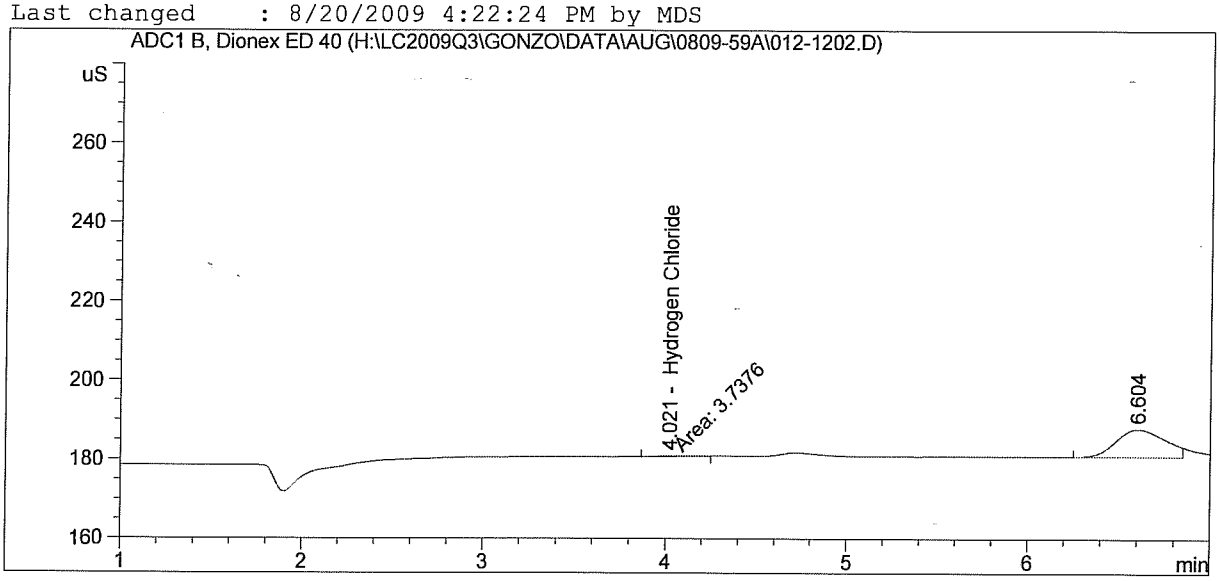
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\012-1202.D
Sample Name: 0809-59 008*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 4:50:40 PM

Seq. Line : 12
Location : Vial 12
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.021	MM	3.73760	1.29028e-2	4.82254e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 4.82254e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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*** End of Report ***

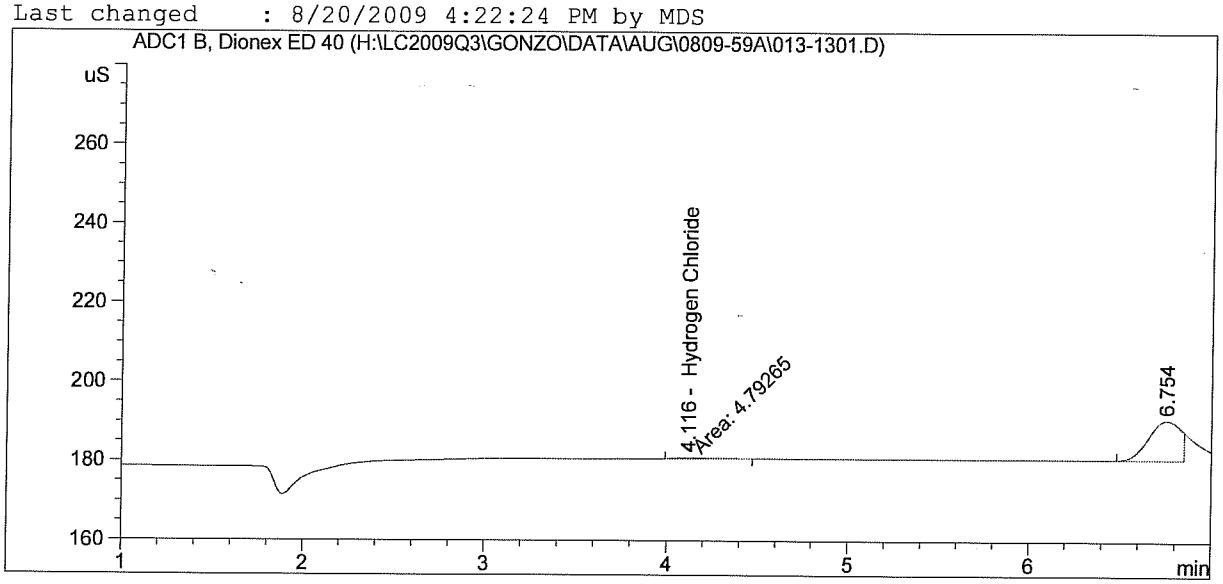
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\013-1301.D
Sample Name: 0809-59 009*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 4:59:40 PM

Seq. Line : 13
Location : Vial 13
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.116	MM	4.79265	1.29028e-2	6.18385e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide
Totals :				6.18385e-2		

Manual Int. "NI" (MDS)

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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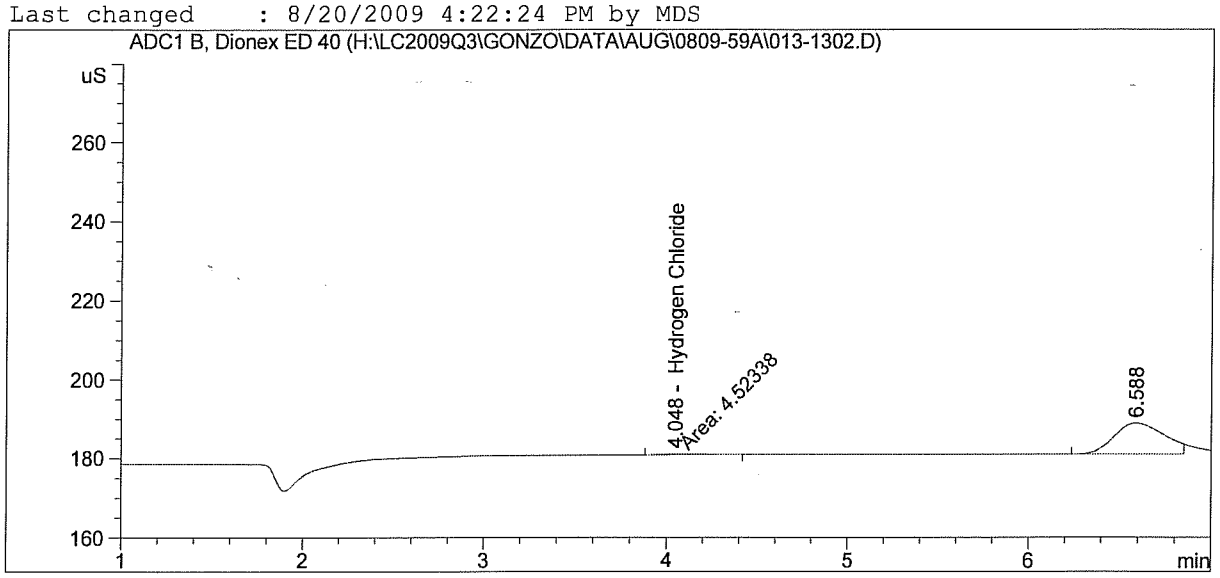
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\013-1302.D
Sample Name: 0809-59 009*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 5:08:38 PM
Seq. Line : 13
Location : Vial 13
Inj : 2
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.048	MM	4.52338	1.29028e-2	5.83642e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 5.83642e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

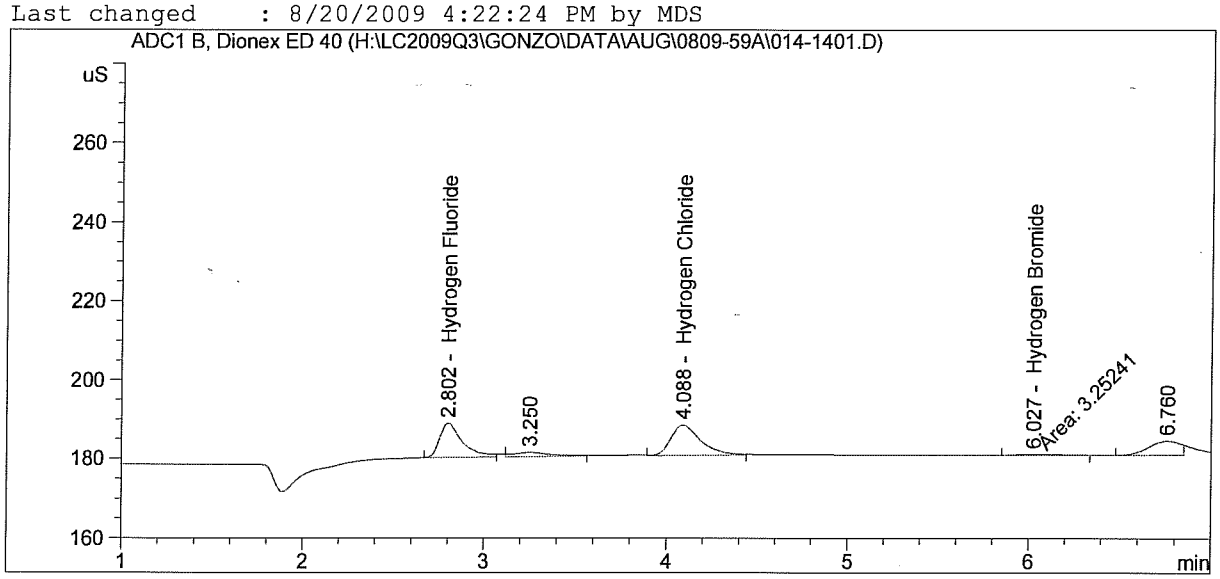
==========

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\014-1401.D
Sample Name: 0809-59 013*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 5:17:36 PM
Seq. Line : 14
Location : Vial 14
Inj : 1
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.802	BB	75.86557	9.19959e-3	6.97932e-1		Hydrogen Fluoride
4.088	BB	87.55845	1.33370e-2	1.16777		Hydrogen Chloride
6.027	MM	3.25241	3.02429e-2	9.83625e-2		Hydrogen Bromide
Totals :				1.96406		

Manual Int. "NI" (MDS)

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*** End of Report ***

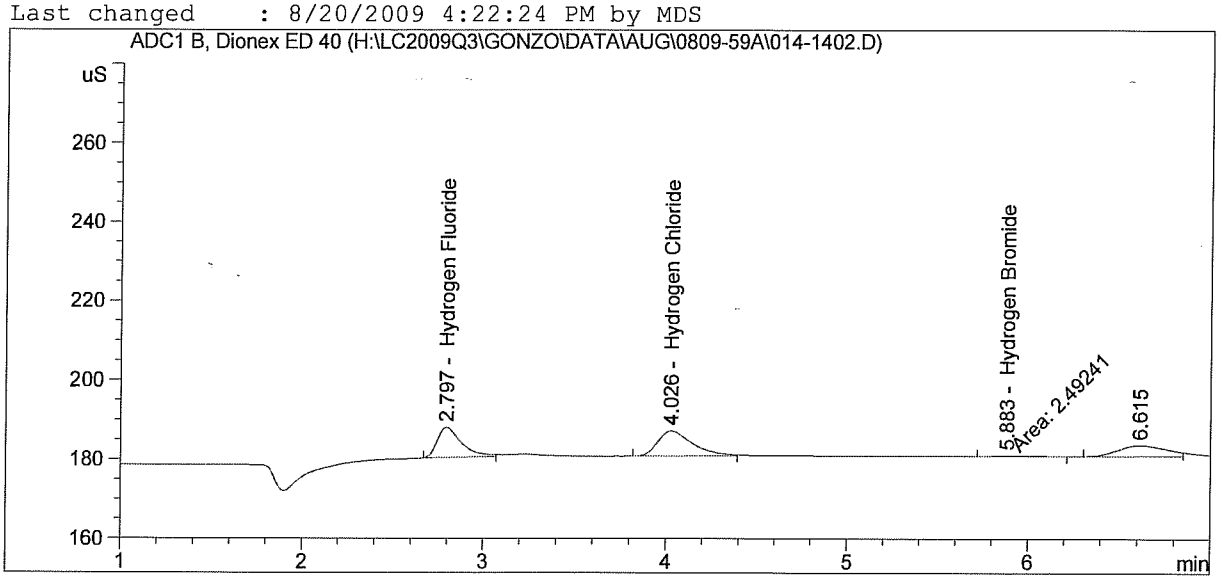
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\014-1402.D
Sample Name: 0809-59 013*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 5:26:34 PM

Seq. Line : 14
Location : Vial 14
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.797	BB	70.91115	9.16959e-3	6.50226e-1		Hydrogen Fluoride
4.026	BB	83.81401	1.33244e-2	1.11677		Hydrogen Chloride
5.883	MM	2.49241	3.02429e-2	7.53778e-2		Hydrogen Bromide
Totals :				1.84237		

Manual Int. "NI" (MDS)

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*** End of Report ***

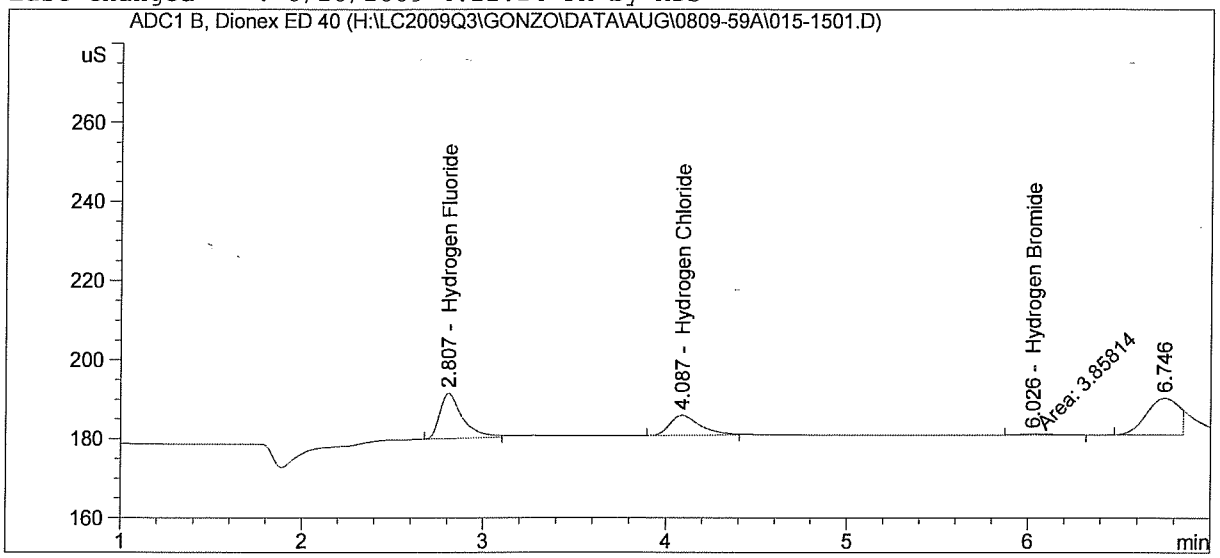
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\015-1501.D
Sample Name: 0809-59 014*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 5:35:24 PM

Seq. Line : 15
Location : Vial 15
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.807	BB	100.21144	9.30391e-3	9.32358e-1		Hydrogen Fluoride
4.087	BB	58.48289	1.31962e-2	7.71752e-1		Hydrogen Chloride
6.026	MM	3.85814	3.02429e-2	1.16682e-1		Hydrogen Bromide
Totals :				1.82079		

Manual Int. "NI" (MDS)

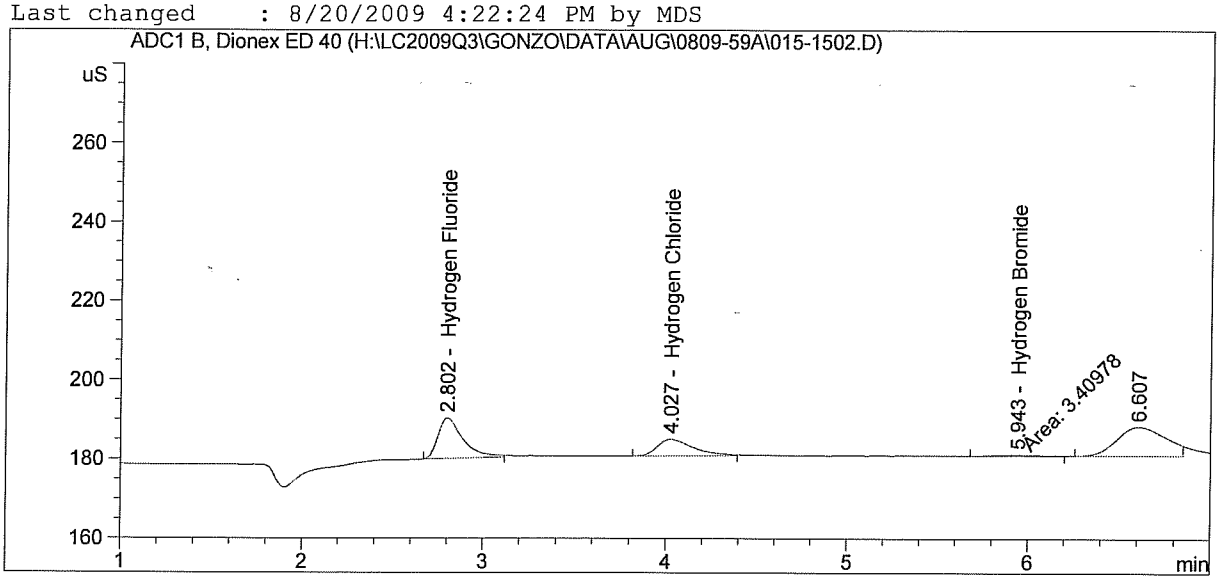
==========

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\015-1502.D
Sample Name: 0809-59 014*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 5:44:17 PM
Seq. Line : 15
Location : Vial 15
Inj : 2
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.802	BB	98.53207	9.29837e-3	9.16188e-1		Hydrogen Fluoride
4.027	BB	57.62767	1.31899e-2	7.60104e-1		Hydrogen Chloride
5.943	MM	3.40978	3.02429e-2	1.03122e-1		Hydrogen Bromide
Totals :				1.77941		

Manual Int. "NI" (MDS)

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*** End of Report ***

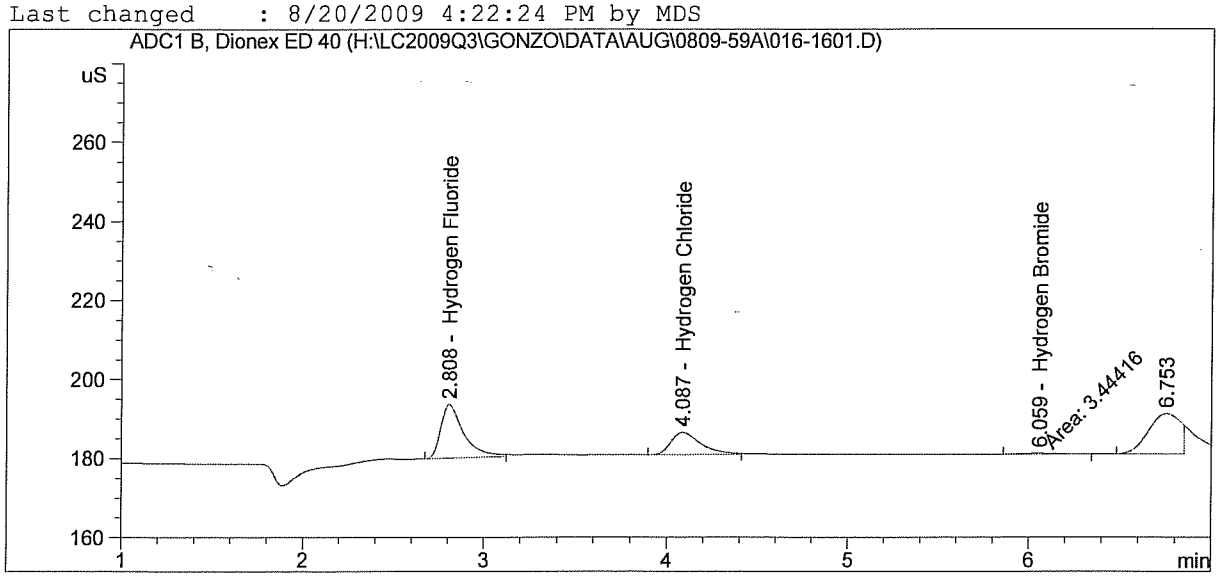
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\016-1601.D
Sample Name: 0809-59 015*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 5:53:12 PM

Seq. Line : 16
Location : Vial 16
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.808	BB	119.45218	9.35627e-3	1.11763		Hydrogen Fluoride
4.087	BB	63.85056	1.32319e-2	8.44862e-1		Hydrogen Chloride
6.059	MM	3.44416	3.02429e-2	1.04162e-1		Hydrogen Bromide
Totals :				2.06665		

Manual Int. "NI" (MDS)

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*** End of Report ***

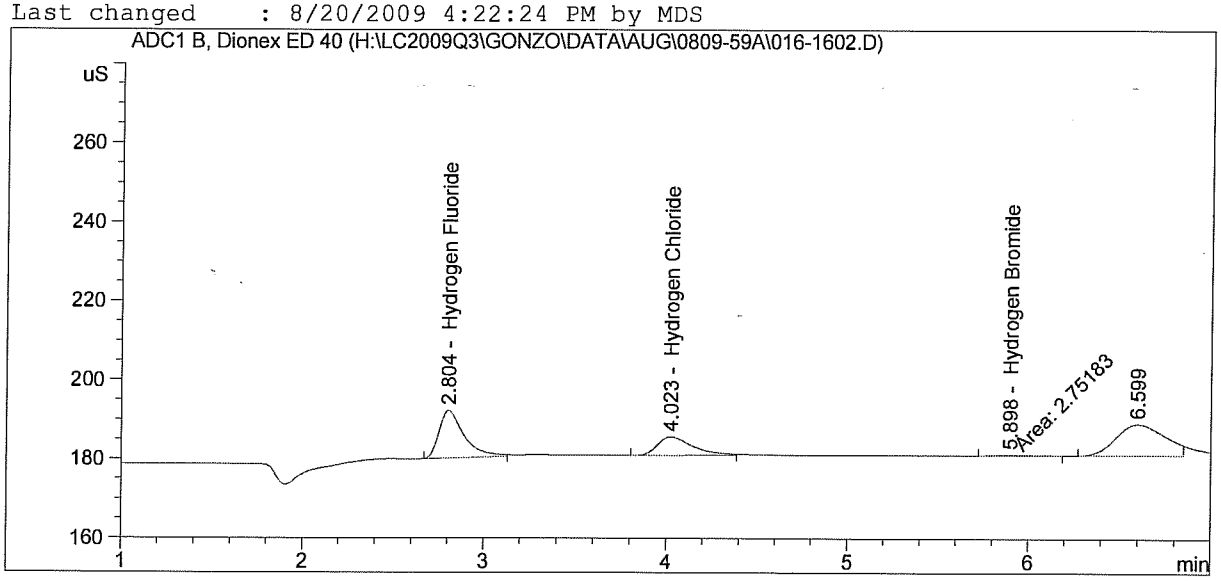
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\016-1602.D
Sample Name: 0809-59 015*4

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 6:02:07 PM

Seq. Line : 16
Location : Vial 16
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.804	BB	116.59863	9.34960e-3	1.09015		Hydrogen Fluoride
4.023	BB	62.70094	1.32247e-2	8.29203e-1		Hydrogen Chloride
5.898	MM	2.75183	3.02429e-2	8.32233e-2		Hydrogen Bromide
Totals :				2.00258		

Manual Int. "NI" (MDS)

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*** End of Report ***

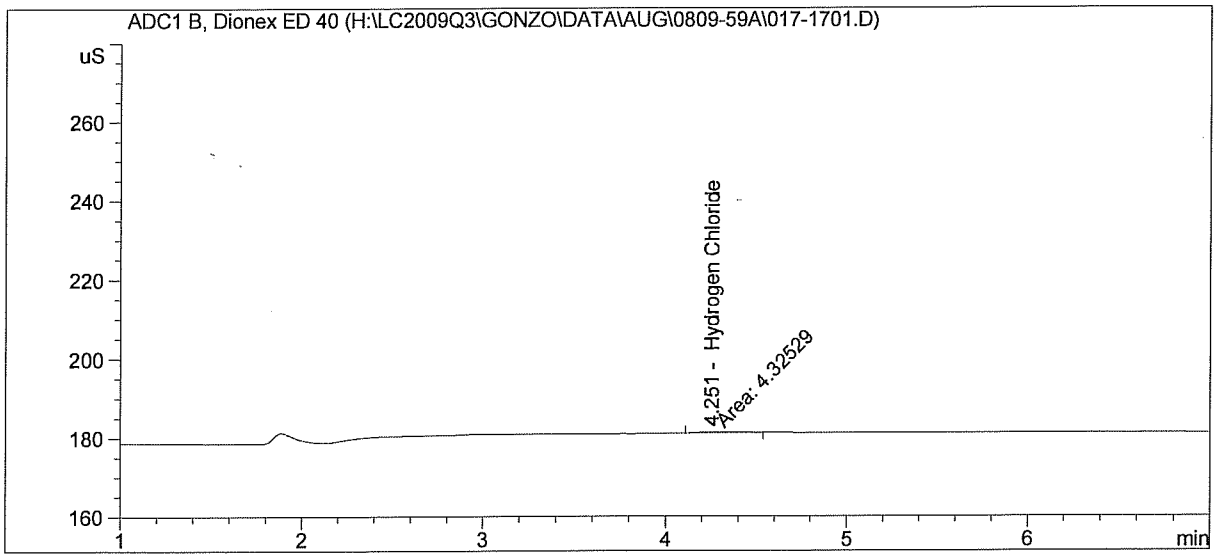
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\017-1701.D
Sample Name: 0809-59 029*4.1

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 6:11:04 PM

Seq. Line : 17
Location : Vial 17
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : Sample Blank



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.251	MM	4.32529	1.29028e-2	5.58083e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 5.58083e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

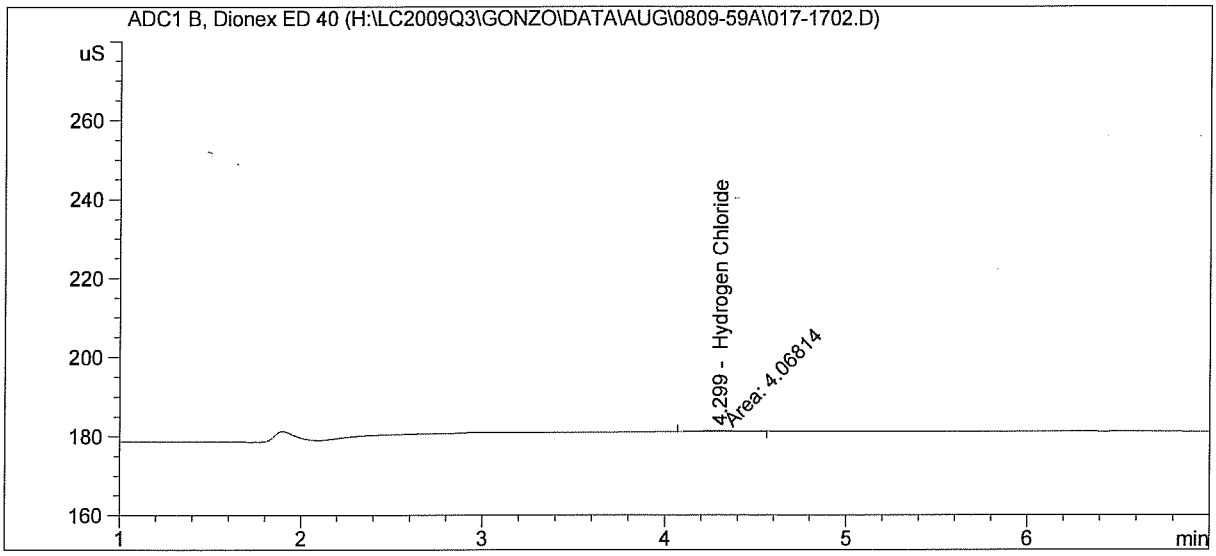
==========

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\017-1702.D
Sample Name: 0809-59 029*4.1

Acq. Operator	: MDS	Seq. Line	: 17
Acq. Instrument	: Gonzo	Location	: Vial 17
Injection Date	: 8/19/2009 6:20:02 PM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : Sample Blank



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.299	MM	4.06814	1.29028e-2	5.24903e-2		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 5.24903e-2

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

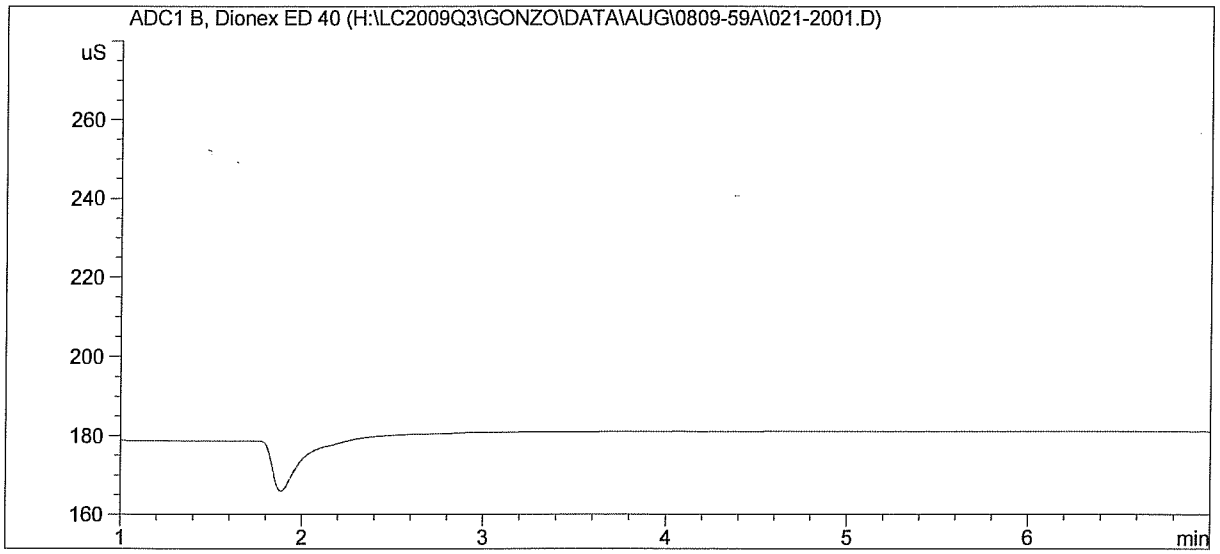
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\021-2001.D
Sample Name: 0809-59 031

==========

Acq. Operator	: MDS	Seq. Line	: 20
Acq. Instrument	: Gonzo	Location	: Vial 21
Injection Date	: 8/19/2009 7:04:43 PM	Inj	: 1
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : Sample Blank



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

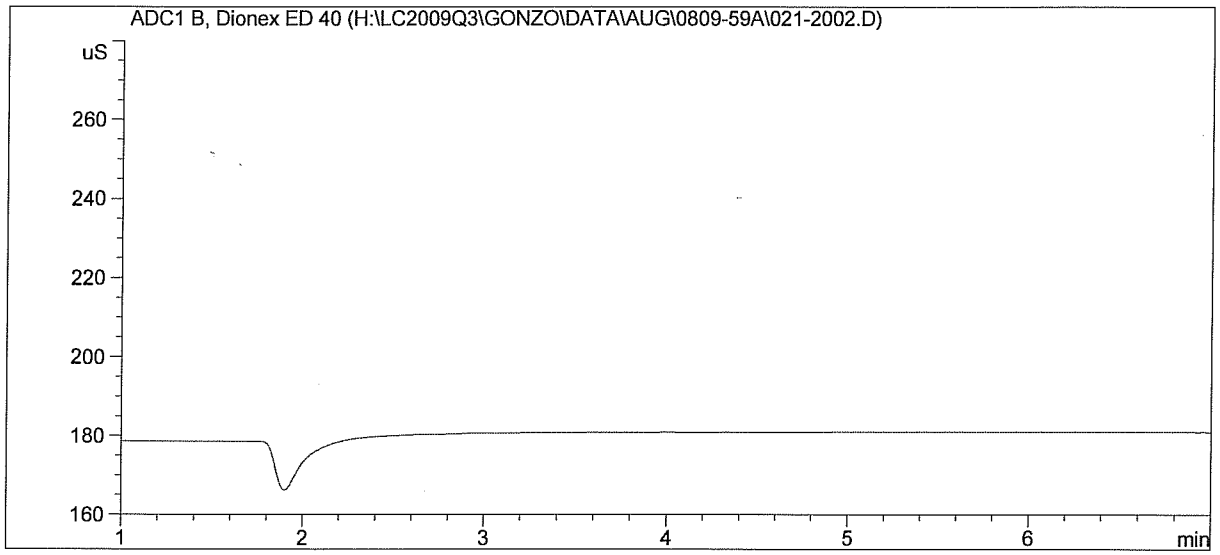
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\021-2002.D
Sample Name: 0809-59 031

Acq. Operator	: MDS	Seq. Line	: 20
Acq. Instrument	: Gonzo	Location	: Vial 21
Injection Date	: 8/19/2009 7:13:49 PM	Inj	: 2
		Inj Volume	: 25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: Sample Blank		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

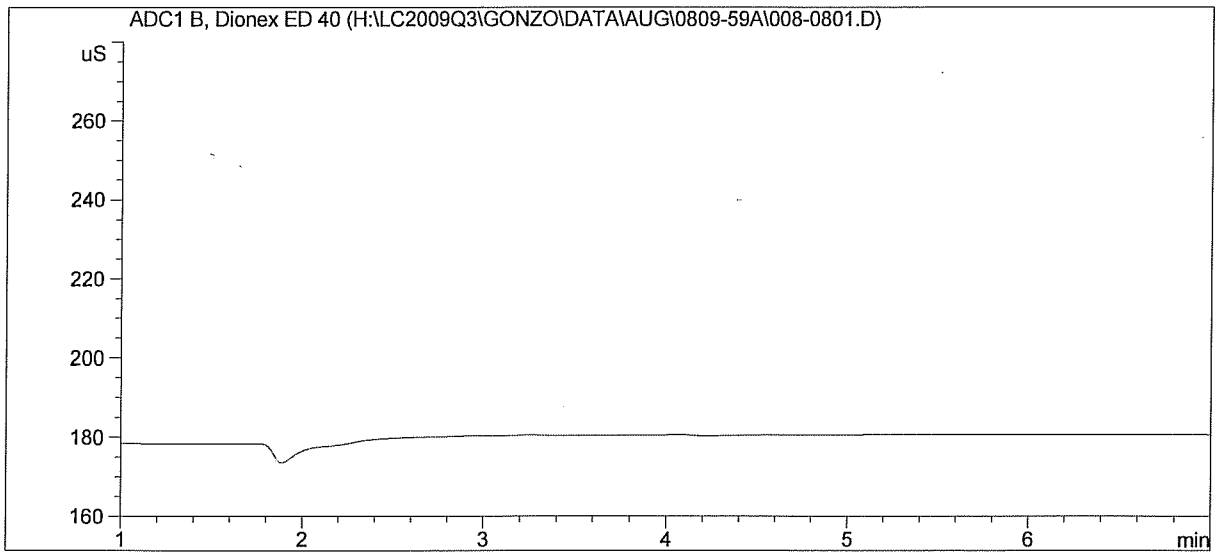
Warning : Calibrated compound(s) not found

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\008-0801.D
Sample Name: H2SO4 Rgt Bk

==========

Acq. Operator	: MDS	Seq. Line :	8
Acq. Instrument	: Gonzo	Location :	Vial 8
Injection Date	: 8/19/2009 3:30:01 PM	Inj :	1
		Inj Volume :	25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : 0.01N H2SO4, used to prepare standards



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

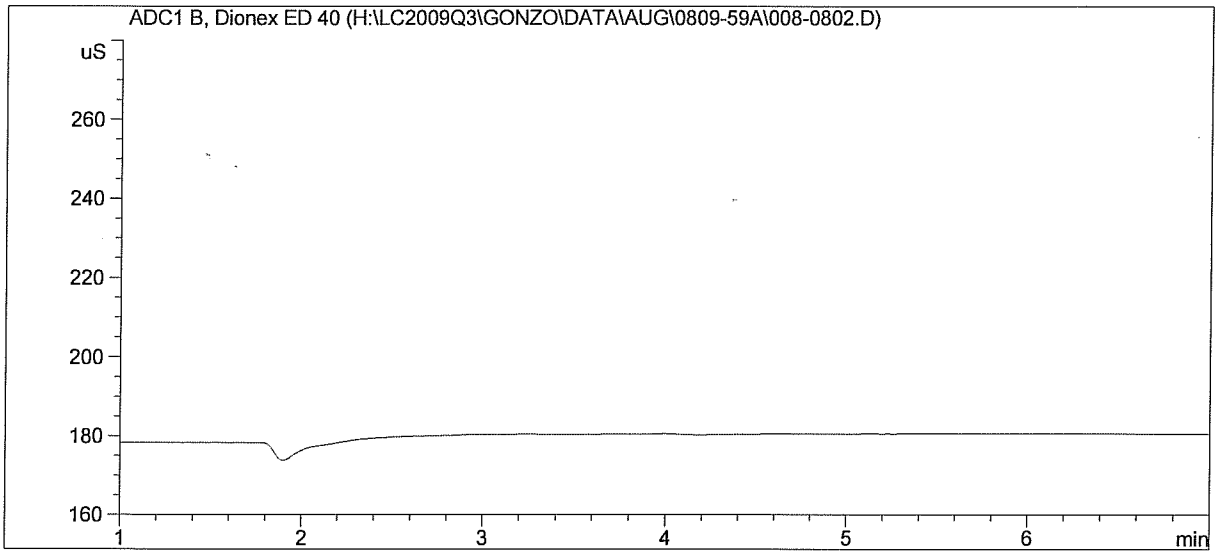
Warning : Calibrated compound(s) not found

==========

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\008-0802.D
Sample Name: H2SO4 Rgt Bk

==========

Acq. Operator : MDS
Seq. Line : 8
Acq. Instrument : Gonzo
Location : Vial 8
Injection Date : 8/19/2009 3:38:57 PM
Inj : 2
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : 0.01N H2SO4, used to prepare standards



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

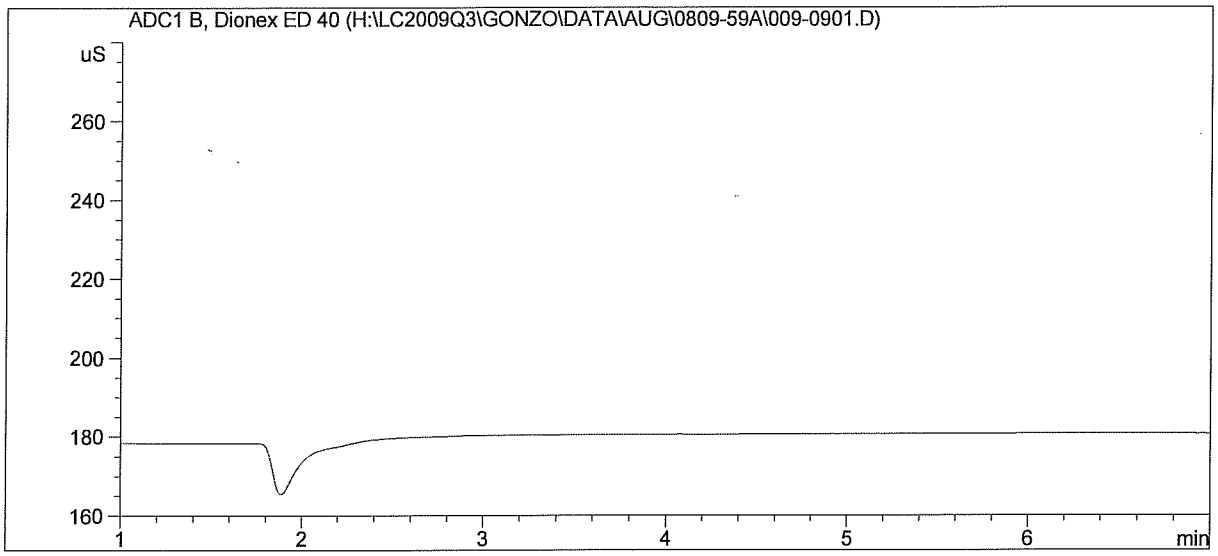
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\009-0901.D
Sample Name: DI H2O Rgt Bk

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 3:47:45 PM

Seq. Line : 9
Location : Vial 9
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : used to dilute samples



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

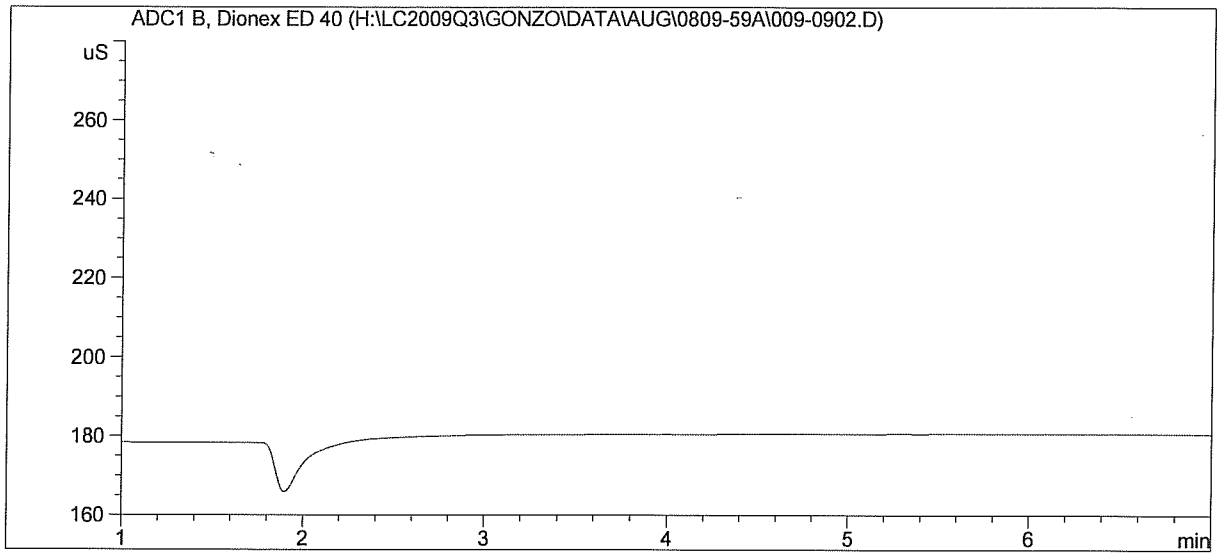
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\009-0902.D
Sample Name: DI H2O Rgt Bk

Acq. Operator	: MDS	Seq. Line :	9
Acq. Instrument	: Gonzo	Location :	Vial 9
Injection Date	: 8/19/2009 3:56:48 PM	Inj :	2
		Inj Volume :	25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: used to dilute samples		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

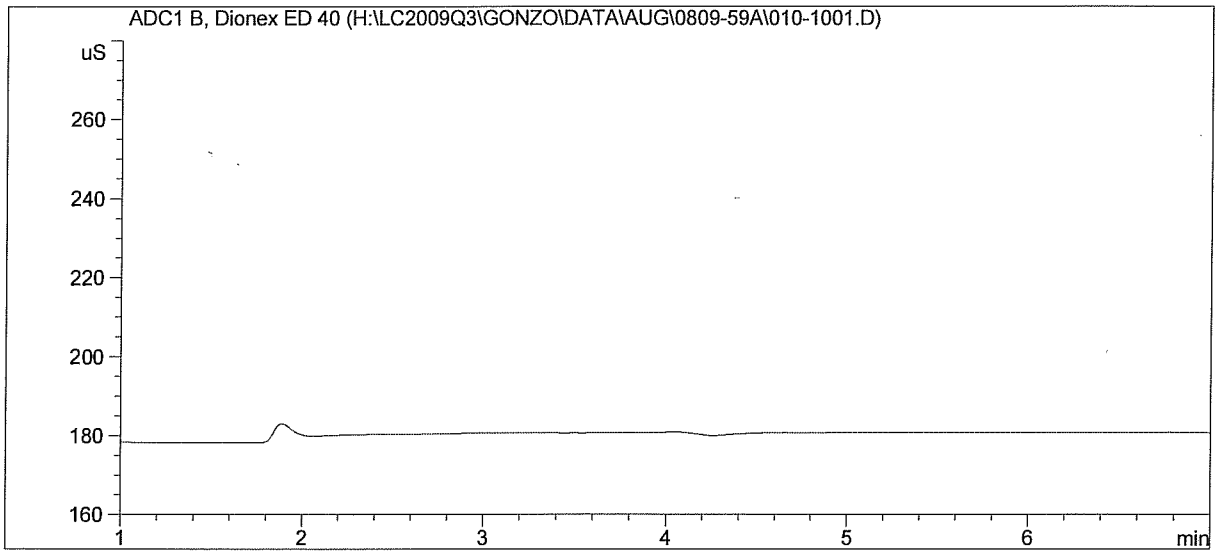
Warning : Calibrated compound(s) not found

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\010-1001.D
Sample Name: Method Blank*4.1

==========

Acq. Operator	: MDS	Seq. Line	: 10
Acq. Instrument	: Gonzo	Location	: Vial 10
Injection Date	: 8/19/2009 4:05:56 PM	Inj	: 1
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : 0.1N H2SO4, pH-adjusted



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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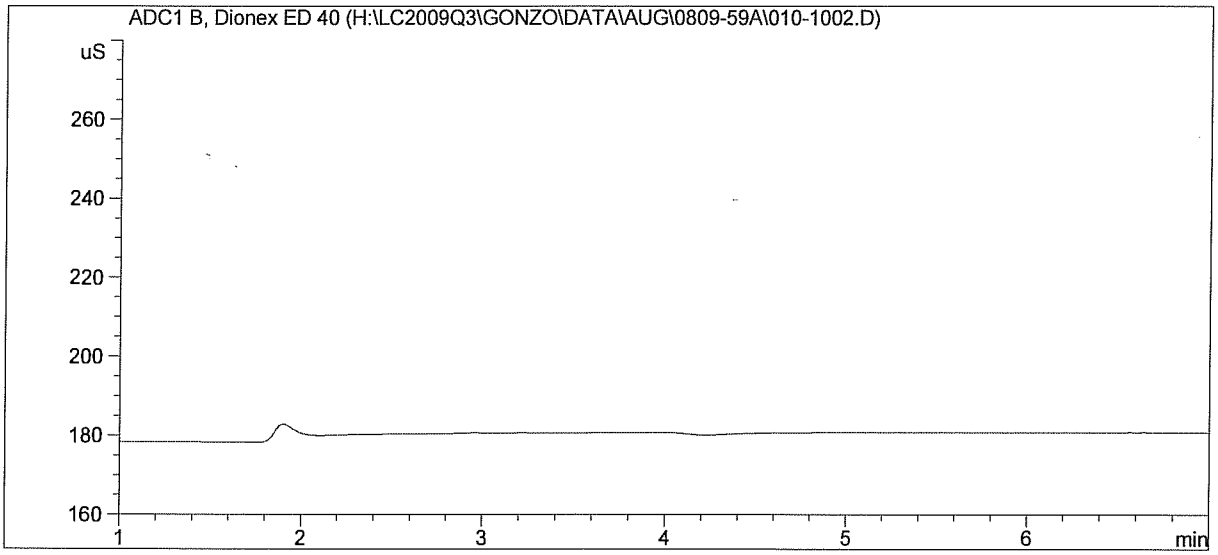
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\010-1002.D
Sample Name: Method Blank*4.1

Acq. Operator	: MDS	Seq. Line :	10
Acq. Instrument	: Gonzo	Location :	Vial 10
Injection Date	: 8/19/2009 4:15:02 PM	Inj :	2
		Inj Volume :	25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: 0.1N H2SO4, pH-adjusted		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

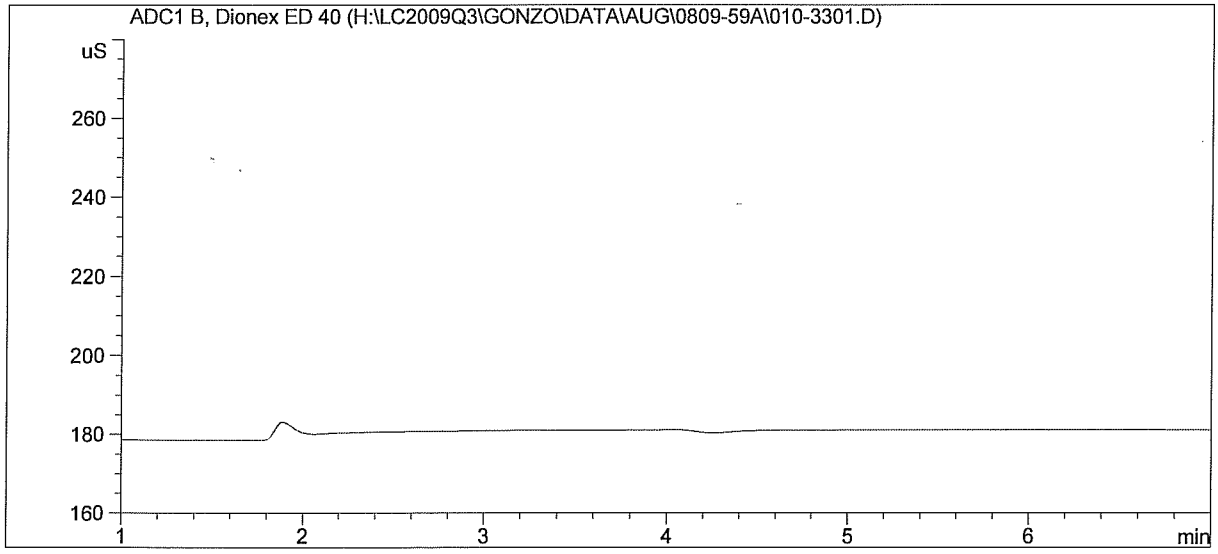
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\010-3301.D
Sample Name: Method Blank*4.1

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 10:57:23 PM
Seq. Line : 33
Location : Vial 10
Inj : 1
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : 0.1N H2SO4, pH-adjusted



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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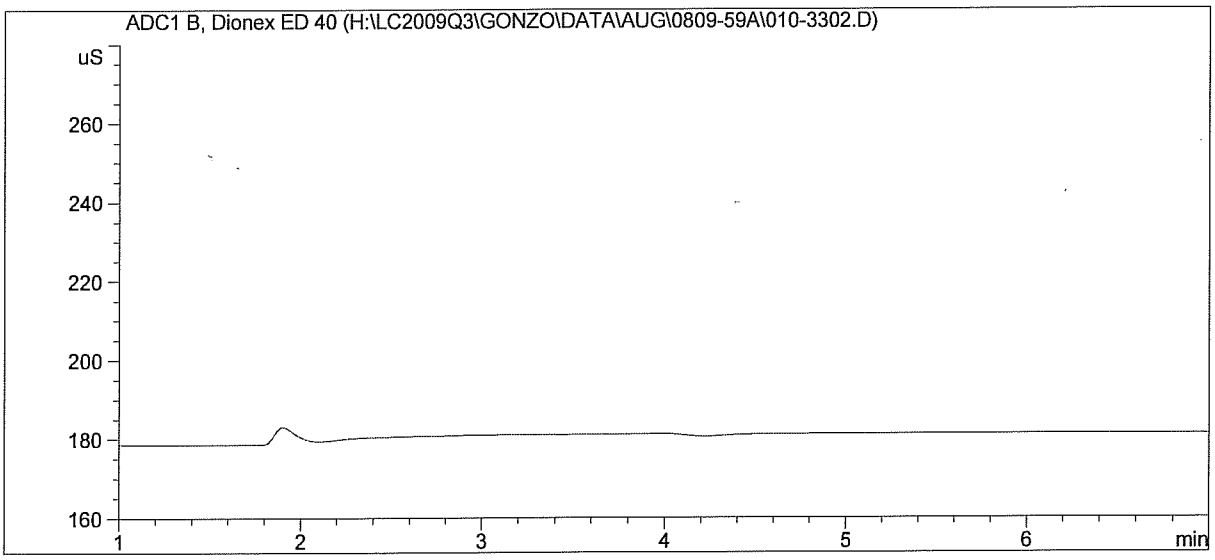
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\010-3302.D
Sample Name: Method Blank*4.1

Acq. Operator	: MDS	Seq. Line :	33
Acq. Instrument	: Gonzo	Location :	Vial 10
Injection Date	: 8/19/2009 11:06:21 PM	Inj :	2
		Inj Volume :	25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : 0.1N H2SO4, pH-adjusted



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

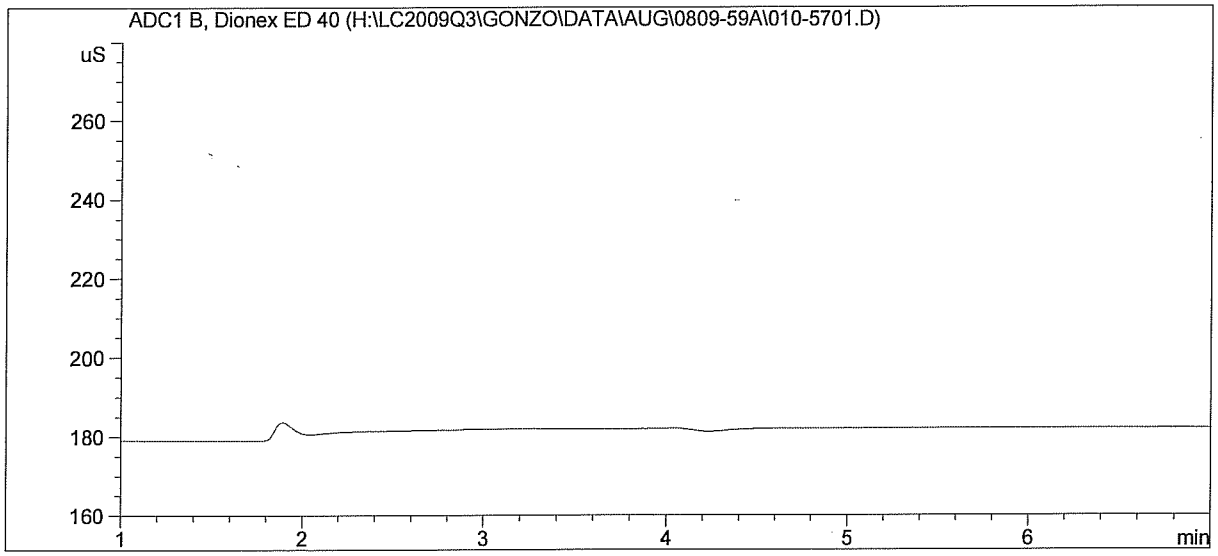
Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\010-5701.D
Sample Name: Method Blank*4.1

Acq. Operator	: MDS	Seq. Line :	57
Acq. Instrument	: Gonzo	Location :	Vial 10
Injection Date	: 8/20/2009 6:07:56 AM	Inj :	1
		Inj Volume :	25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: 0.1N H2SO4, pH-adjusted		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Thursday, August 20, 2009 4:22:22 PM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

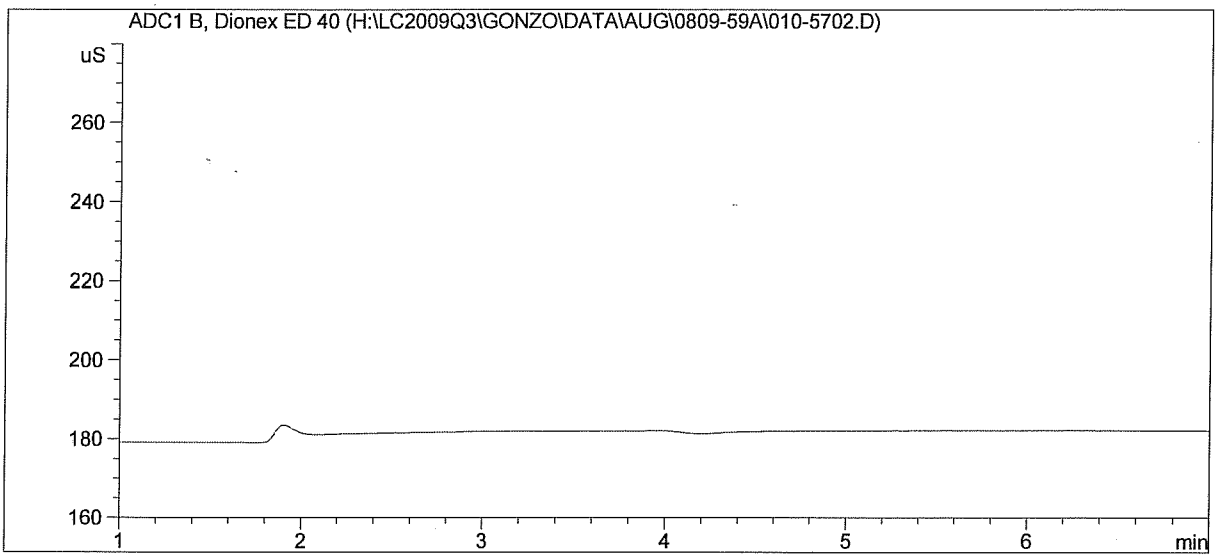
Warning : Calibrated compound(s) not found

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\010-5702.D
Sample Name: Method Blank*4.1

==========

Acq. Operator	: MDS	Seq. Line	: 57
Acq. Instrument	: Gonzo	Location	: Vial 10
Injection Date	: 8/20/2009 6:17:03 AM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : 0.1N H2SO4, pH-adjusted



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795		-	-	-		Hydrogen Fluoride
4.028		-	-	-		Hydrogen Chloride
5.937		-	-	-		Hydrogen Bromide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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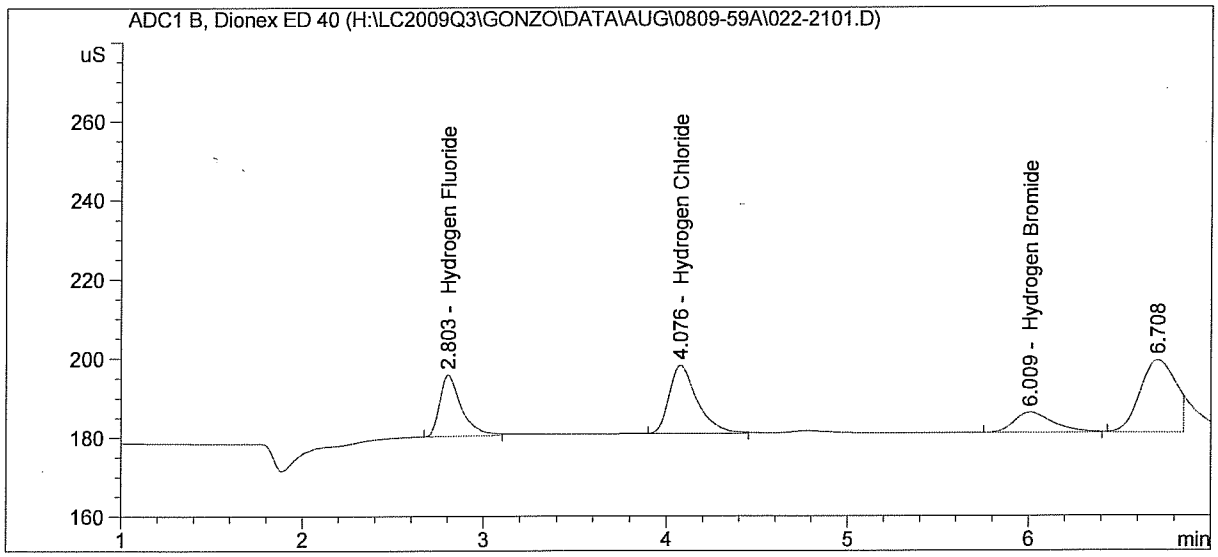
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\022-2101.D
Sample Name: MS/0809-59 007

Acq. Operator	: MDS	Seq. Line	: 21
Acq. Instrument	: Gonzo	Location	: Vial 22
Injection Date	: 8/19/2009 7:22:35 PM	Inj	: 1
		Inj Volume	: 25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: Matrix Spike		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Thursday, August 20, 2009 4:22:22 PM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.803	BB	129.11150	9.37668e-3	1.21064		Hydrogen Fluoride
4.076	BB	184.83376	1.34861e-2	2.49269		Hydrogen Chloride
6.009	BB	77.04389	3.16278e-2	2.43673		Hydrogen Bromide

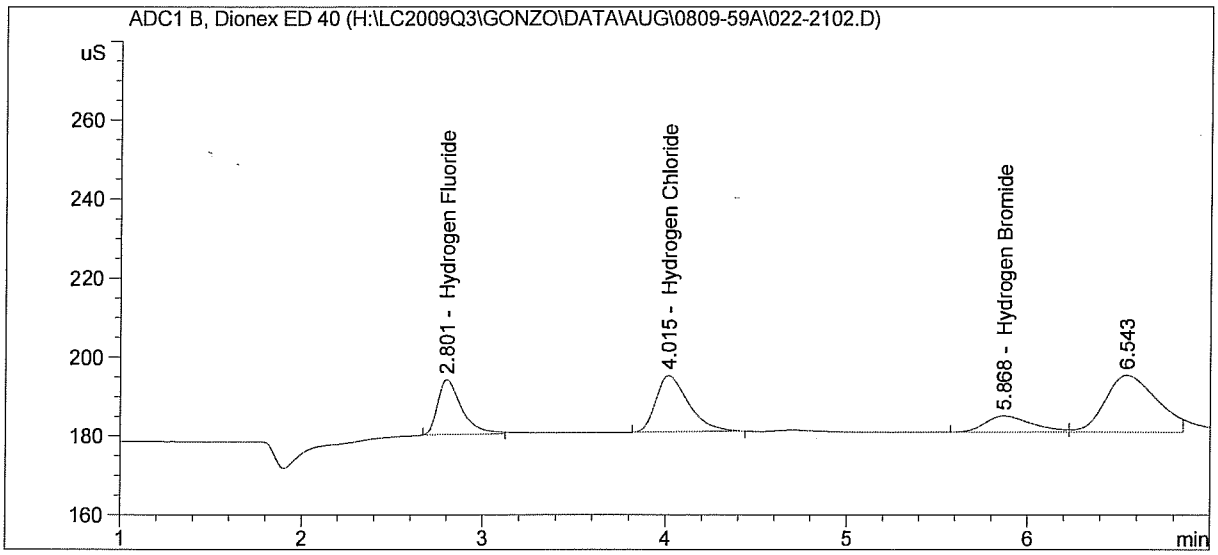
Totals : 6.14005

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\022-2102.D
Sample Name: MS/0809-59 007

Acq. Operator	: MDS	Seq. Line	: 21
Acq. Instrument	: Gonzo	Location	: Vial 22
Injection Date	: 8/19/2009 7:31:32 PM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : Matrix Spike



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

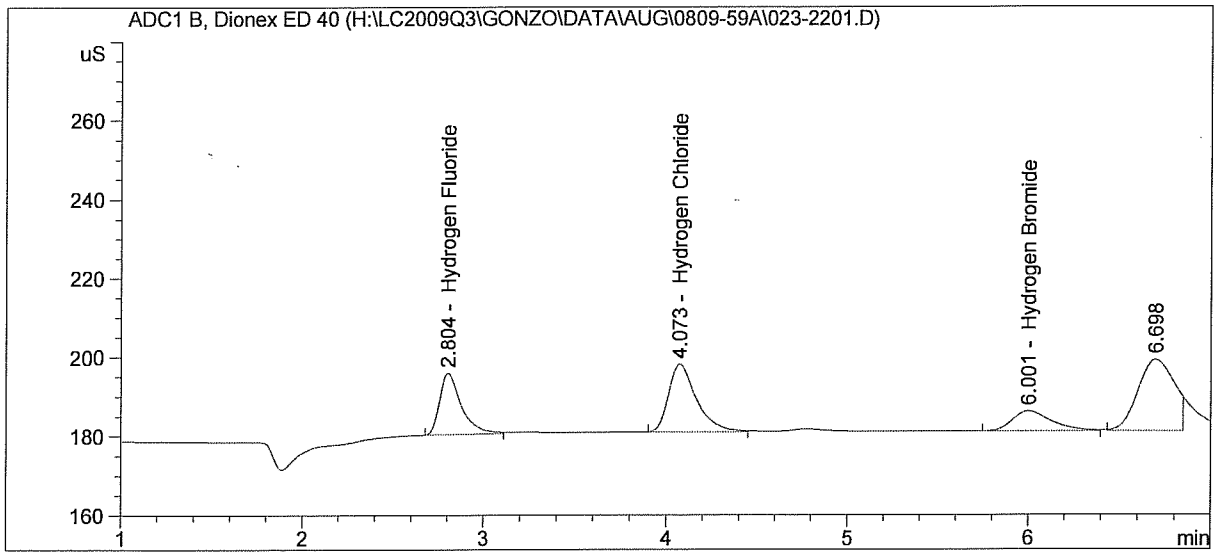
RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.801	BB	128.69698	9.37586e-3	1.20665		Hydrogen Fluoride
4.015	BB	176.85960	1.34801e-2	2.38408		Hydrogen Chloride
5.868	BV	74.23067	3.16156e-2	2.34685		Hydrogen Bromide

Totals : 5.93757

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\023-2201.D
Sample Name: MSD/0809-59 007

Acq. Operator	: MDS	Seq. Line :	22
Acq. Instrument	: Gonzo	Location :	Vial 23
Injection Date	: 8/19/2009 7:40:24 PM	Inj :	1
		Inj Volume :	25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: Matrix Spike Duplicate		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Thursday, August 20, 2009 4:22:22 PM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

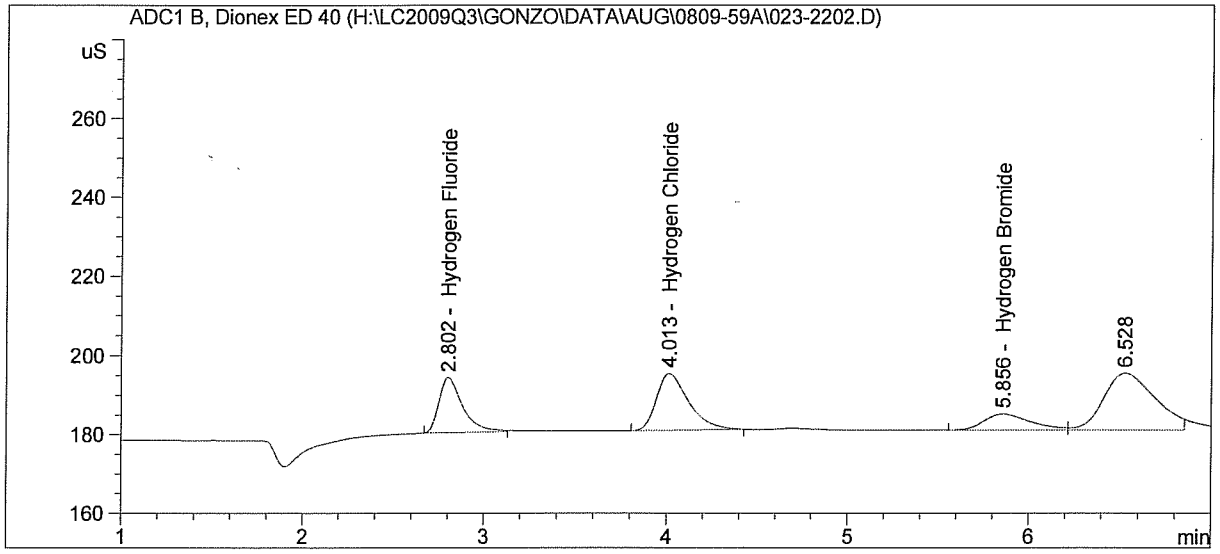
RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.804	BB	129.92477	9.37825e-3	1.21847		Hydrogen Fluoride
4.073	BB	182.56299	1.34844e-2	2.46176		Hydrogen Chloride
6.001	BB	76.10224	3.16238e-2	2.40664		Hydrogen Bromide

Totals : 6.08687

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\023-2202.D
Sample Name: MSD/0809-59 007

Acq. Operator	: MDS	Seq. Line	: 22
Acq. Instrument	: Gonzo	Location	: Vial 23
Injection Date	: 8/19/2009 7:49:21 PM	Inj	: 2
		Inj Volume	: 25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		
Sample Info	: Matrix Spike Duplicate		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.802	BB	127.53489	9.37356e-3	1.19546		Hydrogen Fluoride
4.013	BB	175.39816	1.34789e-2	2.36417		Hydrogen Chloride
5.856	BV	73.04597	3.16102e-2	2.30900		Hydrogen Bromide

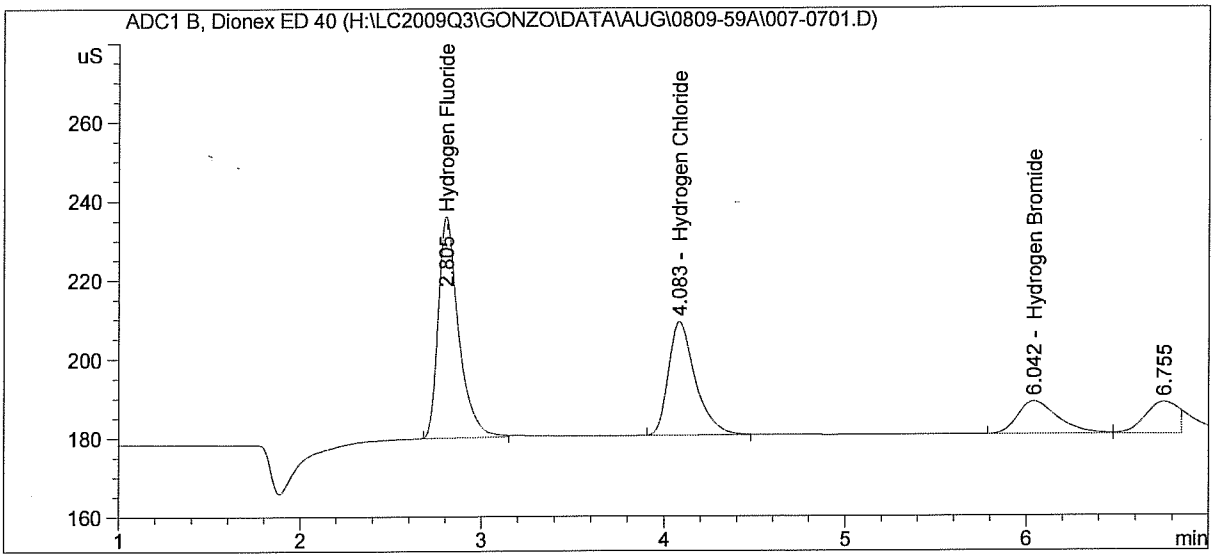
Totals : 5.86862

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\007-0701.D
Sample Name: hplc44pg106 #LCS

Acq. Operator	: MDS	Seq. Line :	7
Acq. Instrument	: Gonzo	Location :	Vial 7
Injection Date	: 8/19/2009 3:12:13 PM	Inj :	1
		Inj Volume :	25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : LCS/Second Source



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.805	BB	439.02884	9.55479e-3	4.19483		Hydrogen Fluoride
4.083	BB	293.22162	1.35357e-2	3.96896		Hydrogen Chloride
6.042	BB	124.96777	3.17511e-2	3.96786		Hydrogen Bromide
Totals :				12.13165		

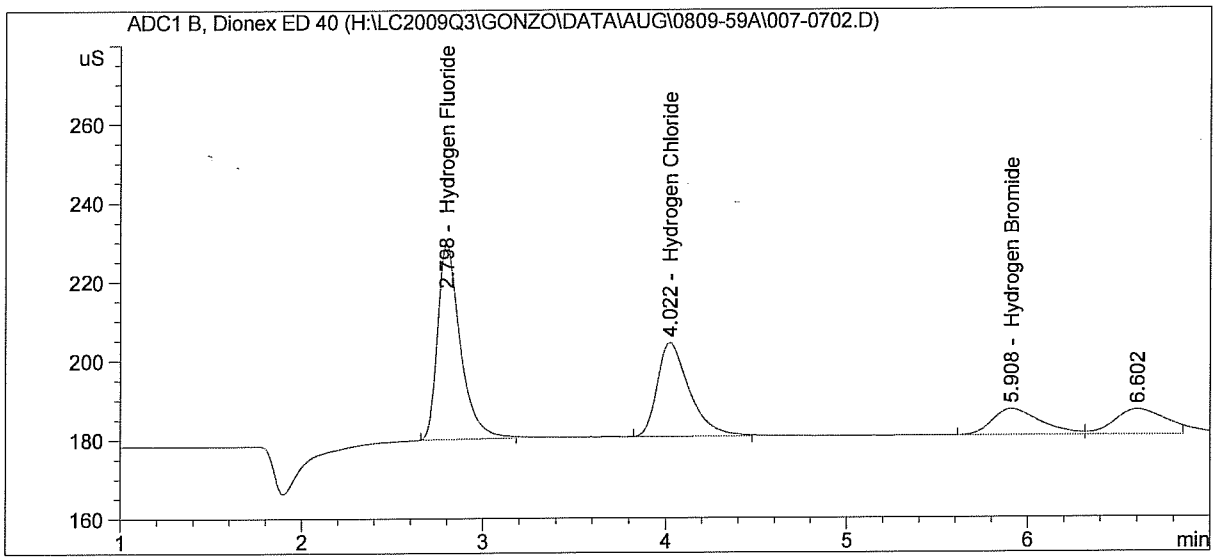
tag values:
4.24ug/mL
4.11 ug/mL
4.05 ug/mL

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\007-0702.D
Sample Name: hplc44pg106 #LCS

Acq. Operator	: MDS	Seq. Line :	7
Acq. Instrument	: Gonzo	Location :	Vial 7
Injection Date	: 8/19/2009 3:21:06 PM	Inj :	2
		Inj Volume :	25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : LCS/Second Source



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

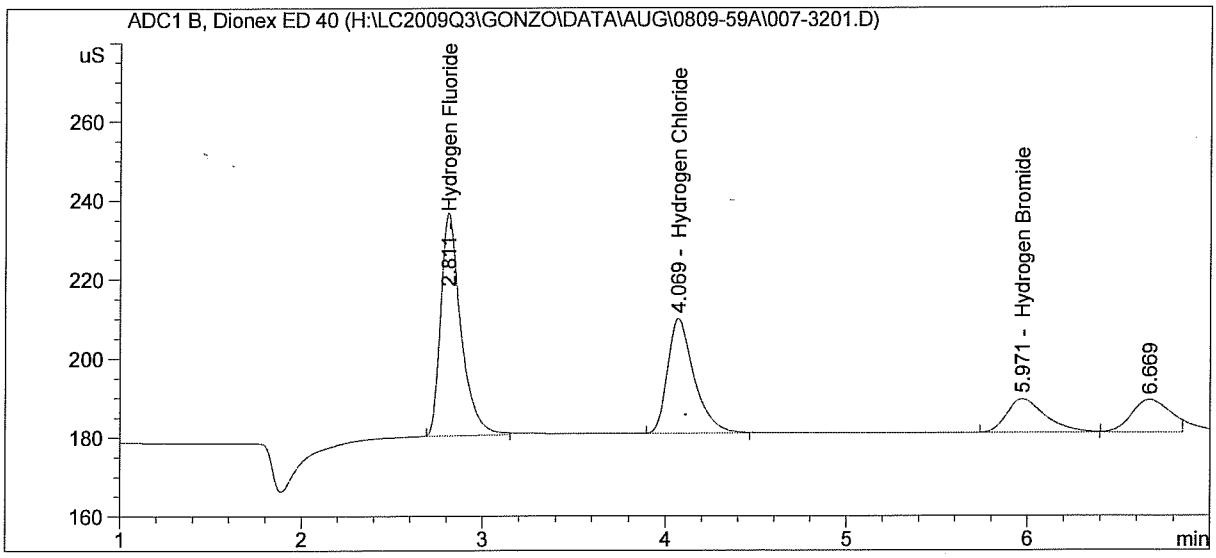
RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name	tag values:
2.798	BB	433.02127	9.55376e-3	4.13698		Hydrogen Fluoride	4.24ug/mL
4.022	BB	289.01346	1.35345e-2	3.91165		Hydrogen Chloride	4.11 ug/mL
5.908	BV	121.34703	3.17451e-2	3.85218		Hydrogen Bromide	4.05 ug/mL
Totals :				11.90081			

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\007-3201.D
Sample Name: hplc44pg106 #LCS

Acq. Operator	: MDS	Seq. Line	: 32
Acq. Instrument	: Gonzo	Location	: Vial 7
Injection Date	: 8/19/2009 10:39:21 PM	Inj	: 1
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : LCS/Second Source



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.811	BB	438.92474	9.55477e-3	4.19383		Hydrogen Fluoride
4.069	BB	293.15576	1.35357e-2	3.96806		Hydrogen Chloride
5.971	BB	125.31207	3.17516e-2	3.97886		Hydrogen Bromide
Totals :				12.14075		

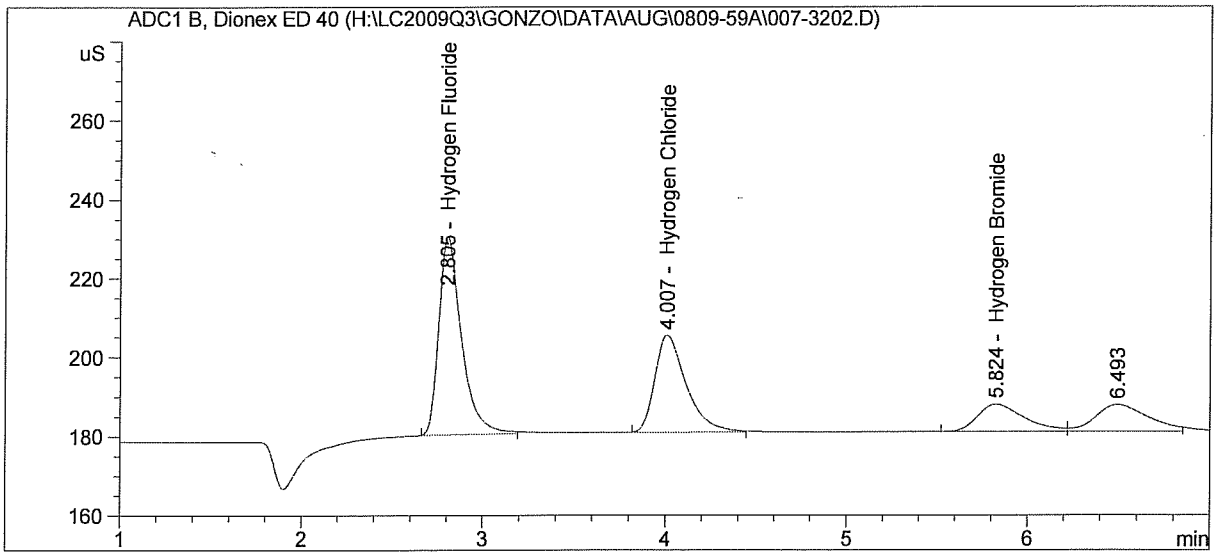
tag values:
4.24ug/mL
4.11 ug/mL
4.05 ug/mL

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\007-3202.D
Sample Name: hplc44pg106 #LCS

Acq. Operator	: MDS	Seq. Line	: 32
Acq. Instrument	: Gonzo	Location	: Vial 7
Injection Date	: 8/19/2009 10:48:15 PM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : LCS/Second Source



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.805	BB	436.95520	9.55444e-3	4.17486		Hydrogen Fluoride
4.007	BB	291.63828	1.35352e-2	3.94740		Hydrogen Chloride
5.824	BV	123.21545	3.17482e-2	3.91187		Hydrogen Bromide
Totals :				12.03413		

tag values:
4.24ug/mL
4.11 ug/mL
4.05 ug/mL

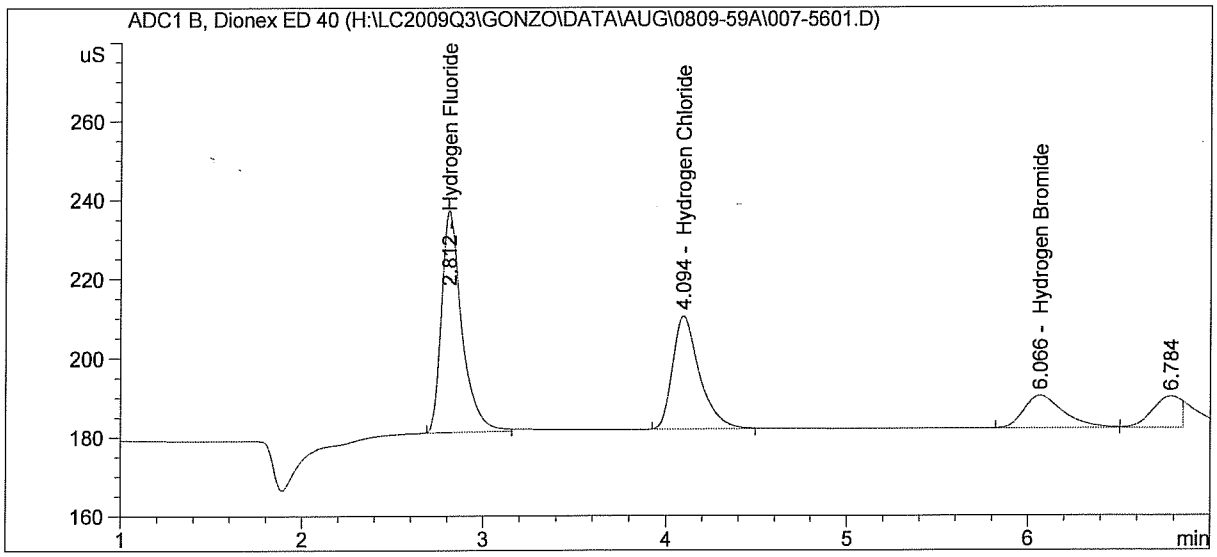
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\007-5601.D
Sample Name: hplc44pg106 #LCS

==========

Acq. Operator	: MDS	Seq. Line	: 56
Acq. Instrument	: Gonzo	Location	: Vial 7
Injection Date	: 8/20/2009 5:49:59 AM	Inj	: 1
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : LCS/Second Source



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.812	BB	441.32632	9.55517e-3	4.21695		Hydrogen Fluoride
4.094	BB	293.66446	1.35358e-2	3.97499		Hydrogen Chloride
6.066	BB	124.71314	3.17507e-2	3.95972		Hydrogen Bromide
Totals :				12.15167		

tag values:
4.24ug/mL
4.11 ug/mL
4.05 ug/mL

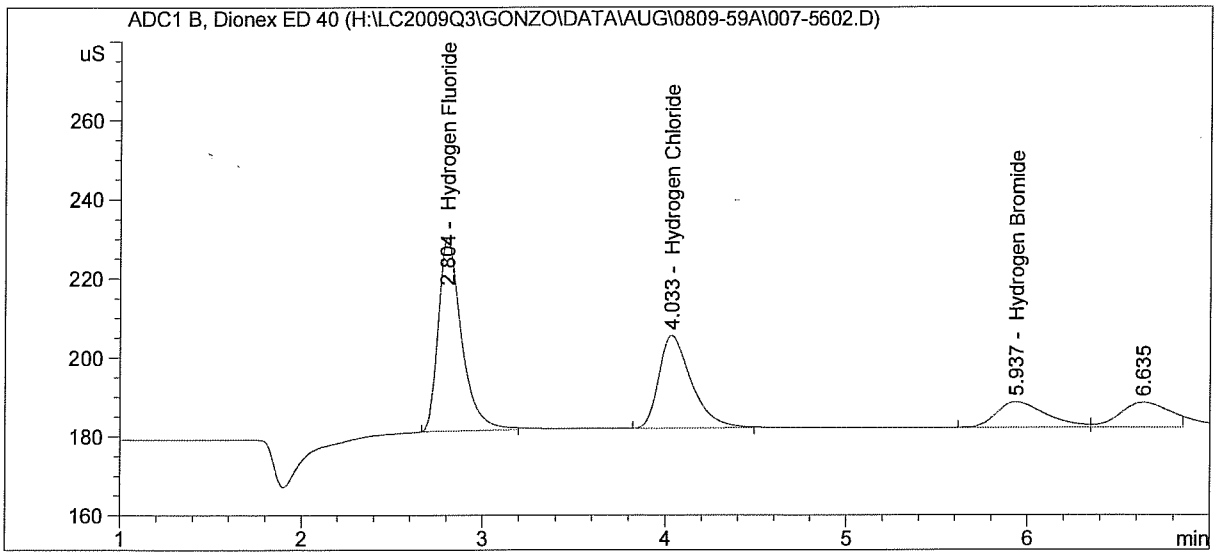
==========

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\007-5602.D
Sample Name: hplc44pg106 #LCS

Acq. Operator	: MDS	Seq. Line	: 56
Acq. Instrument	: Gonzo	Location	: Vial 7
Injection Date	: 8/20/2009 5:58:51 AM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS
Sample Info : LCS/Second Source



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.804	BB	437.99744	9.55461e-3	4.18490		Hydrogen Fluoride
4.033	BB	292.43289	1.35355e-2	3.95822		Hydrogen Chloride
5.937	BV	121.77163	3.17459e-2	3.86574		Hydrogen Bromide
Totals :				12.00886		

tag values:
4.24ug/mL
4.11 ug/mL
4.05 ug/mL

*** End of Report ***

Calibration Curve Chromatograms

Calibration Table

Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 20.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 20.000 %
Abs. Non-ref. Window : 0.000 min
Use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Linear (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

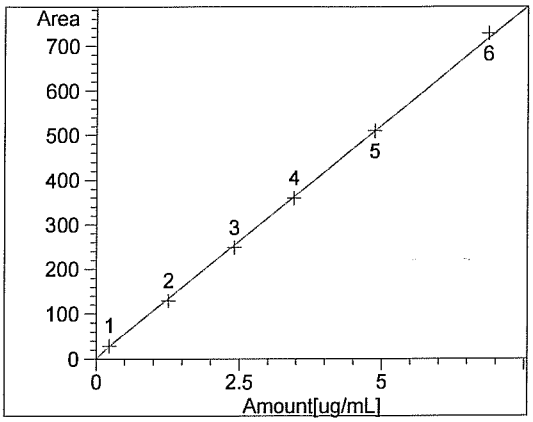
Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Lvl Sig		Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
2.795	1	1	2.30000e-1	28.37951	8.10444e-3			Hydrogen Fluoride
		2	1.26000	129.73932	9.71178e-3			
		3	2.41000	248.47185	9.69929e-3			
		4	3.46000	359.90108	9.61375e-3			
		5	4.87000	510.05443	9.54800e-3			
		6	6.87000	727.34630	9.44529e-3			
4.028	1	1	4.46000e-1	37.37757	1.19323e-2			Hydrogen Chloride
		2	2.45000	169.52461	1.44522e-2			
		3	4.67000	332.47621	1.40461e-2			
		4	6.70000	488.59614	1.37128e-2			
		5	9.44000	696.19456	1.35594e-2			
		6	13.30000	1003.73236	1.32505e-2			
5.937	1	1	4.39000e-1	14.97294	2.93196e-2			Hydrogen Bromide
		2	2.41000	73.97328	3.25793e-2			
		3	4.60000	142.96119	3.21766e-2			
		4	6.60000	207.16966	3.18579e-2			
		5	9.29000	292.07890	3.18065e-2			
		6	13.10000	414.02281	3.16408e-2			

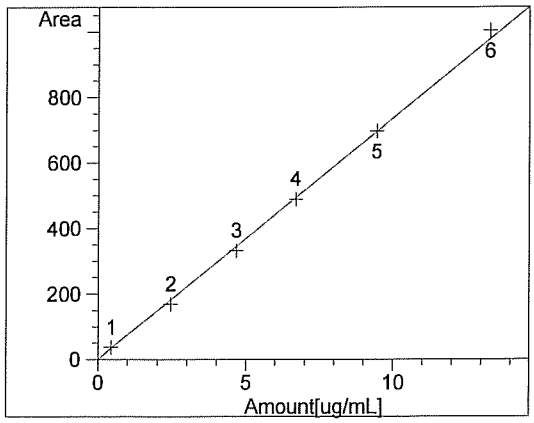
Peak Sum Table

No Entries in table

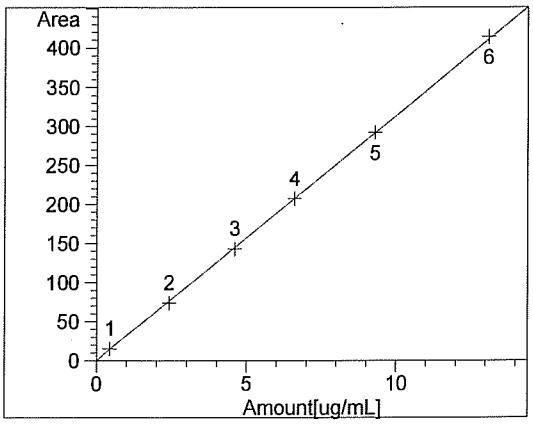
Calibration Curves



Hydrogen Fluoride at exp. RT: 2.795
ADC1 B, Dionex ED 40
Correlation: 0.99982
Residual Std. Dev.: 6.46754
Formula: y = mx + b
m: 103.85305
b: 3.38319
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.18254
Level 3 : 0.095436
Level 4 : 0.066474
Level 5 : 0.047228
Level 6 : 0.033479



Hydrogen Chloride at exp. RT: 4.028
ADC1 B, Dionex ED 40
Correlation: 0.99941
Residual Std. Dev.: 15.65211
Formula: y = mx + b
m: 73.41987
b: 1.82093
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.182041
Level 3 : 0.095503
Level 4 : 0.066567
Level 5 : 0.047246
Level 6 : 0.033534



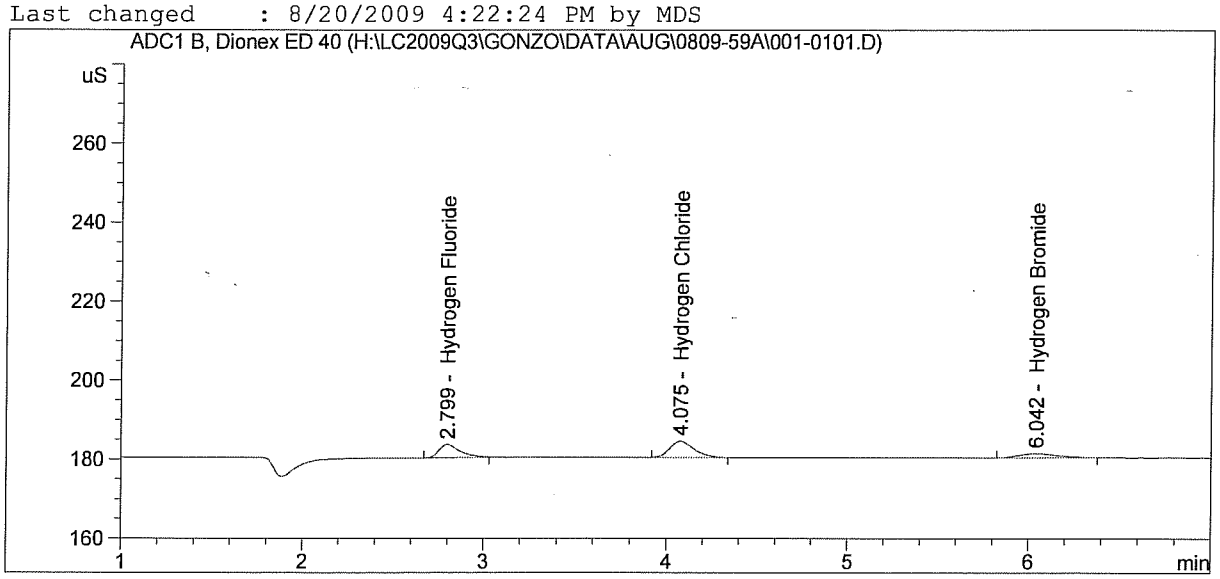
Hydrogen Bromide at exp. RT: 5.937
ADC1 B, Dionex ED 40
Correlation: 0.99992
Residual Std. Dev.: 2.18580
Formula: y = mx + b
m: 31.29963
b: 7.75242e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.182158
Level 3 : 0.095435
Level 4 : 0.066515
Level 5 : 0.047255
Level 6 : 0.033511

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\001-0101.D
Sample Name: hplc44pg106 #1

==========

Acq. Operator : MDS
Seq. Line : 1
Acq. Instrument : Gonzo
Location : Vial 1
Injection Date : 8/19/2009 1:24:46 PM
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.799	BB	27.70428	8.45312e-3	2.34187e-1		Hydrogen Fluoride
4.075	BB	37.77999	1.29638e-2	4.89773e-1		Hydrogen Chloride
6.042	BB	14.93322	3.02906e-2	4.52337e-1		Hydrogen Bromide

Totals : 1.17630

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*** End of Report ***

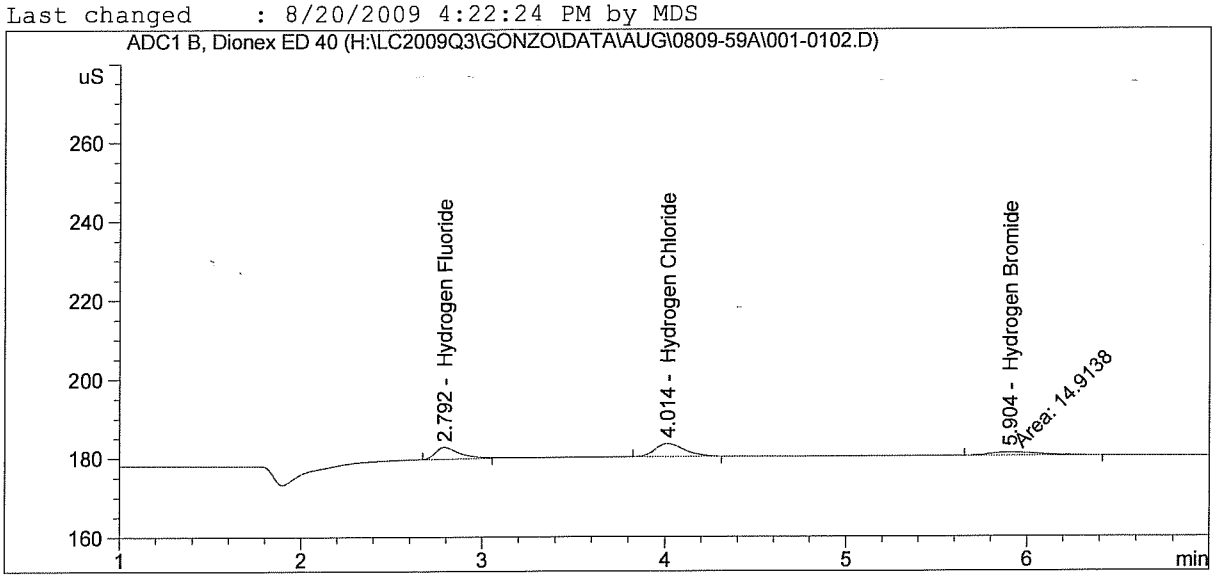
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\001-0102.D
Sample Name: hplc44pg106 #1

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 1:33:36 PM

Seq. Line : 1
Location : Vial 1
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.792	BB	27.69463	8.45271e-3	2.34095e-1		Hydrogen Fluoride
4.014	BB	37.06314	1.29511e-2	4.80009e-1		Hydrogen Chloride
5.904	MM	14.91380	3.02885e-2	4.51716e-1		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 1.16582

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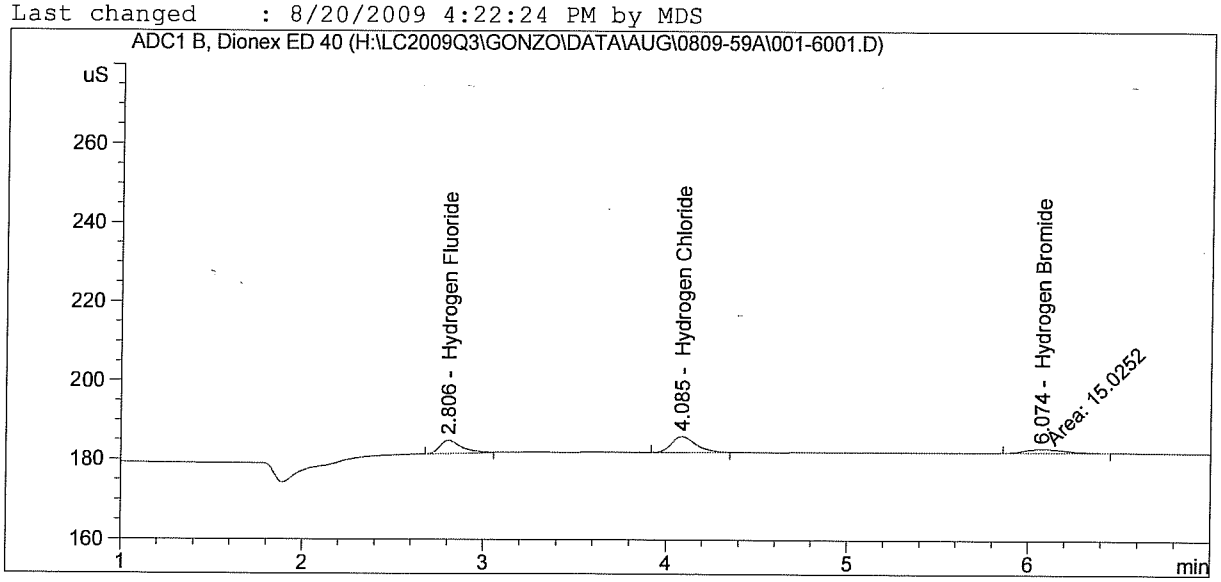
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\001-6001.D
Sample Name: hplc44pg106 #1

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:01:28 AM
Seq. Line : 60
Location : Vial 1
Inj : 1
Inj Volume : 25 µl
Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.806	BB	29.18881	8.51292e-3	2.48482e-1		Hydrogen Fluoride
4.085	BB	37.66150	1.29618e-2	4.88159e-1		Hydrogen Chloride
6.074	MM	15.02524	3.03008e-2	4.55277e-1		Hydrogen Bromide
Totals :				1.19192		

Manual Int. "NI" (MDS)

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*** End of Report ***

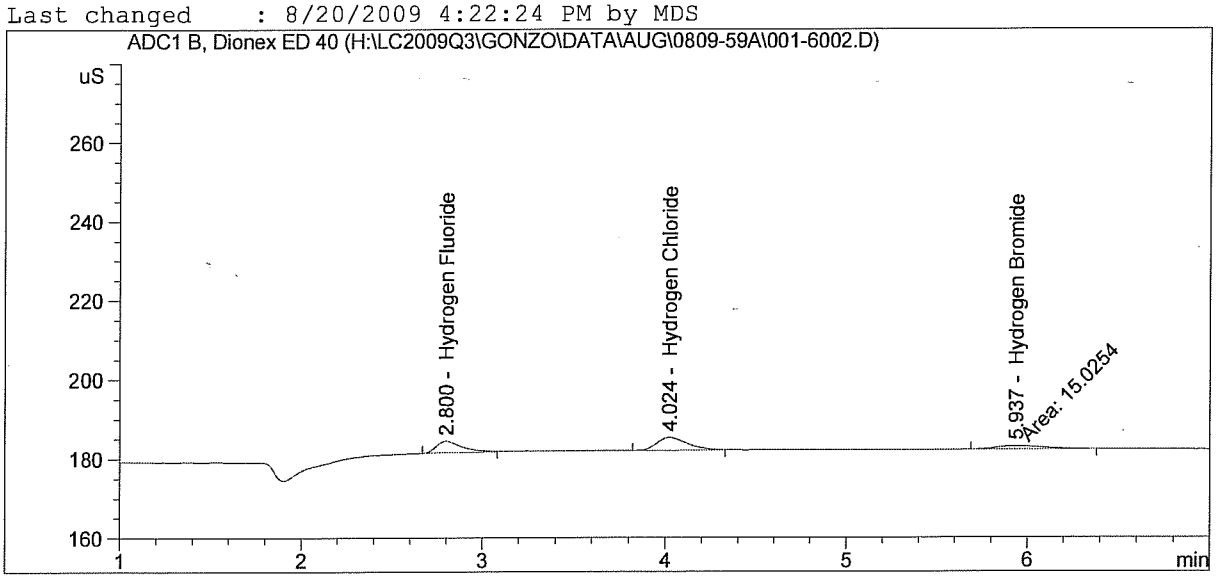
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\001-6002.D
Sample Name: hplc44pg106 #1

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:10:25 AM

Seq. Line : 60
Location : Vial 1
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.800	BB	28.93033	8.50295e-3	2.45993e-1		Hydrogen Fluoride
4.024	BB	37.00563	1.29501e-2	4.79226e-1		Hydrogen Chloride
5.937	MM	15.02536	3.03008e-2	4.55281e-1		Hydrogen Bromide

Manual Int. "NI" (MDS)

Totals : 1.18050

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*** End of Report ***

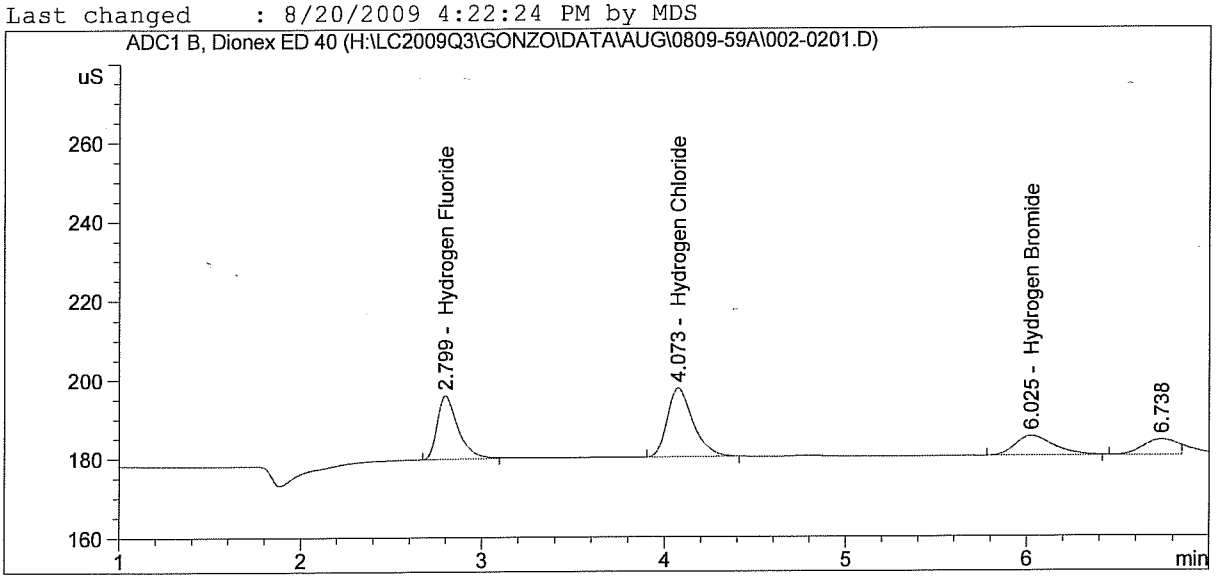
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\002-0201.D
Sample Name: hplc44pg106 #2

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 1:42:42 PM

Seq. Line : 2
Location : Vial 2
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.799	BB	129.43733	9.37731e-3	1.21377		Hydrogen Fluoride
4.073	BB	170.30826	1.34747e-2	2.29485		Hydrogen Chloride
6.025	BB	74.56551	3.16171e-2	2.35754		Hydrogen Bromide

Totals : 5.86616

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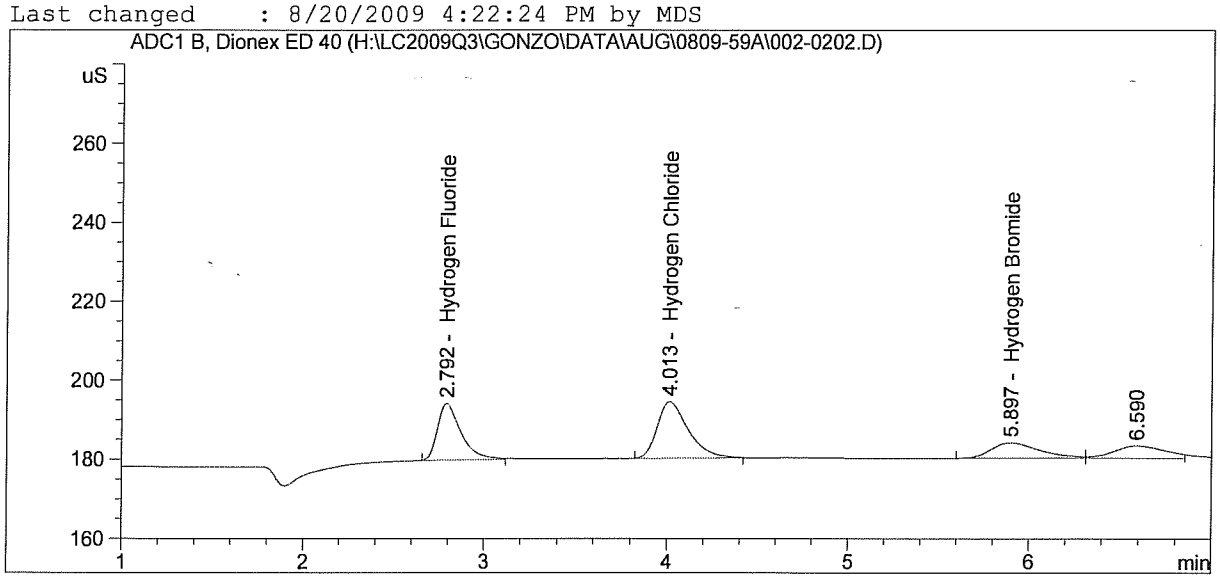
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\002-0202.D
Sample Name: hplc44pg106 #2

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 1:51:33 PM
Seq. Line : 2
Location : Vial 2
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.792	BB	127.97870	9.37444e-3	1.19973		Hydrogen Fluoride
4.013	BB	168.30504	1.34729e-2	2.26756		Hydrogen Chloride
5.897	BV	72.35561	3.16069e-2	2.28694		Hydrogen Bromide

Totals : 5.75423

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*** End of Report ***

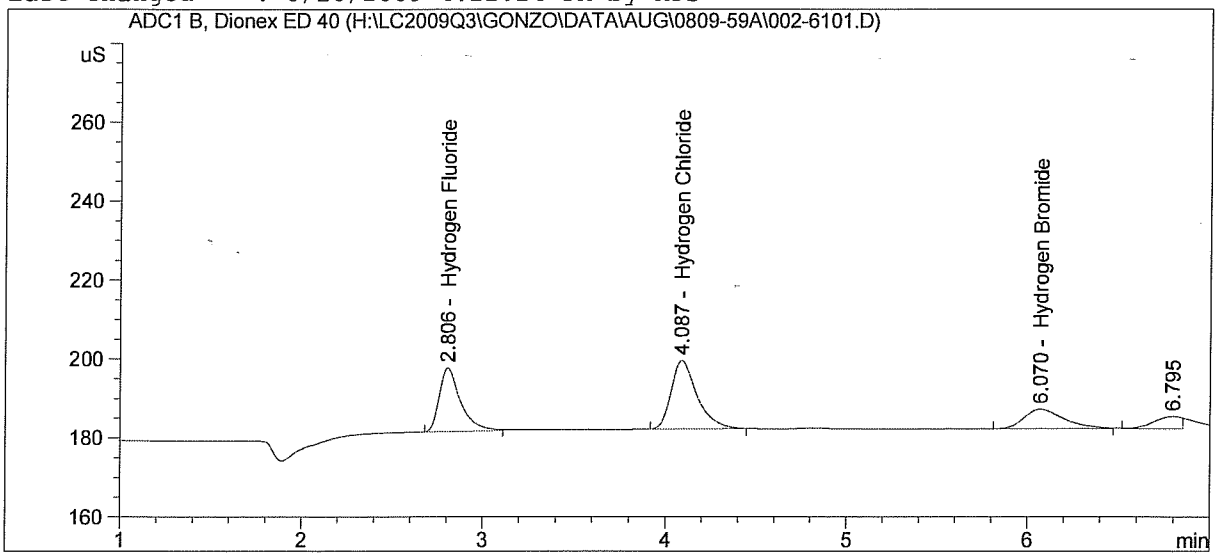
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\002-6101.D
Sample Name: hplc44pg106 #2

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:19:26 AM

Seq. Line : 61
Location : Vial 2
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.806	BB	131.10199	9.38051e-3	1.22980		Hydrogen Fluoride
4.087	BB	170.95583	1.34752e-2	2.30367		Hydrogen Chloride
6.070	BB	75.62753	3.16218e-2	2.39147		Hydrogen Bromide

Totals : 5.92494

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*** End of Report ***

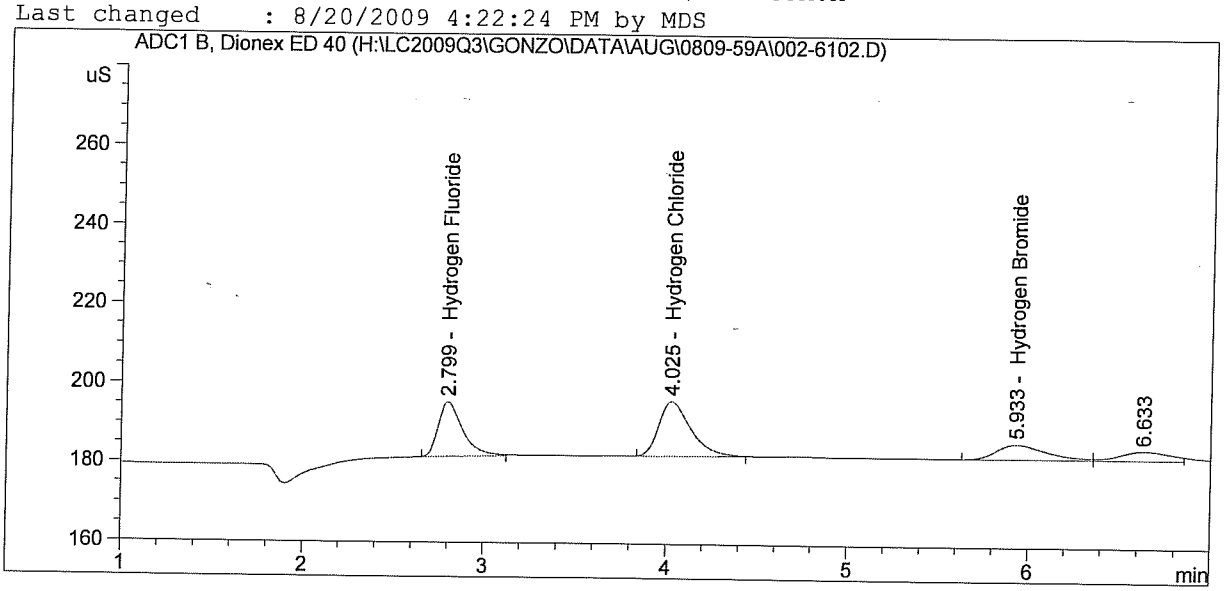
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\002-6102.D
Sample Name: hplc44pg106 #2

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:28:23 AM

Seq. Line : 61
Location : Vial 2
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.799	BB	130.43925	9.37924e-3	1.22342		Hydrogen Fluoride
4.025	BB	168.52931	1.34731e-2	2.27062		Hydrogen Chloride
5.933	BV	73.34449	3.16116e-2	2.31853		Hydrogen Bromide
Totals :				5.81257		

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*** End of Report ***

Instrument 3 8/20/2009 4:24:57 PM MDS

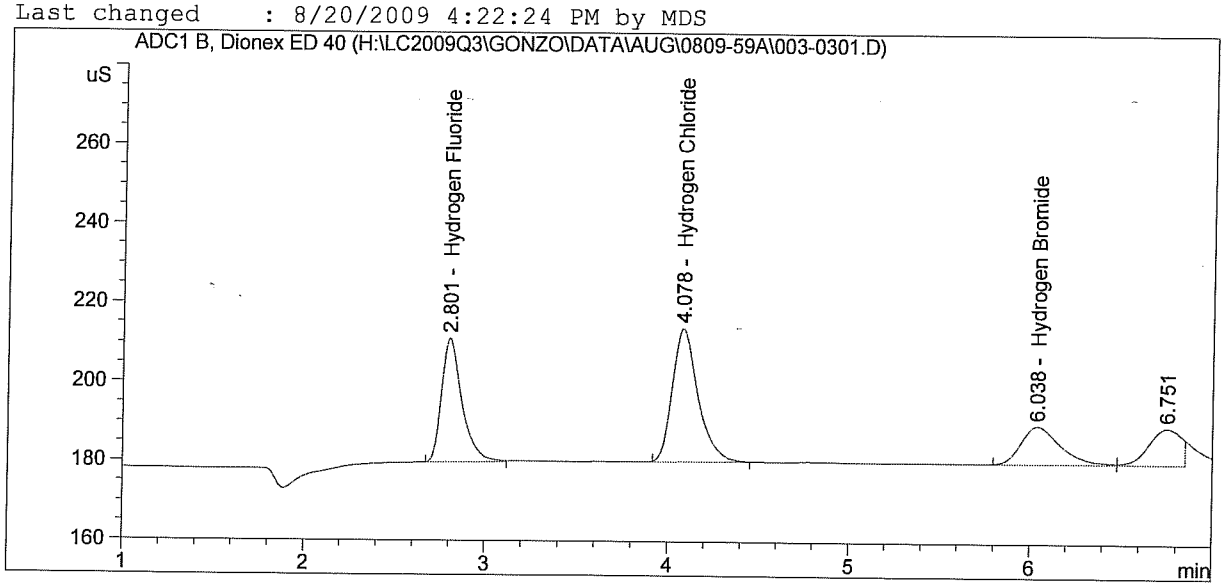
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-0301.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 2:00:40 PM

Seq. Line : 3
Location : Vial 3
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.801	BB	246.11418	9.49663e-3	2.33725		Hydrogen Fluoride
4.078	BB	330.51593	1.35453e-2	4.47692		Hydrogen Chloride
6.038	BB	143.68629	3.17769e-2	4.56590		Hydrogen Bromide
Totals :				11.38008		

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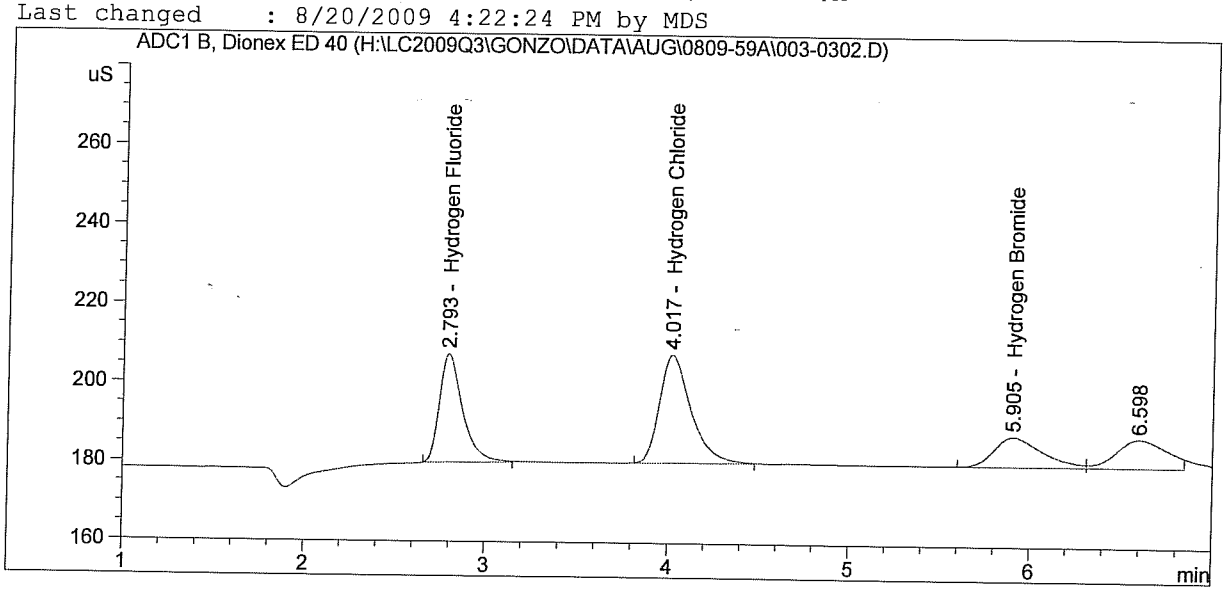
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-0302.D
Sample Name: hplc44pg106 #3

Acq. Operator	: MDS	Seq. Line	: 3
Acq. Instrument	: Gonzo	Location	: Vial 3
Injection Date	: 8/19/2009 2:09:36 PM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.793	BB	244.28529	9.49563e-3	2.31964		Hydrogen Fluoride
4.017	BB	328.15619	1.35447e-2	4.44478		Hydrogen Chloride
5.905	BV	140.02495	3.17724e-2	4.44892		Hydrogen Bromide
Totals :				11.21335		

*** End of Report ***

Instrument 3 8/20/2009 4:25:16 PM MDS

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-6201.D
Sample Name: hplc44pg106 #3

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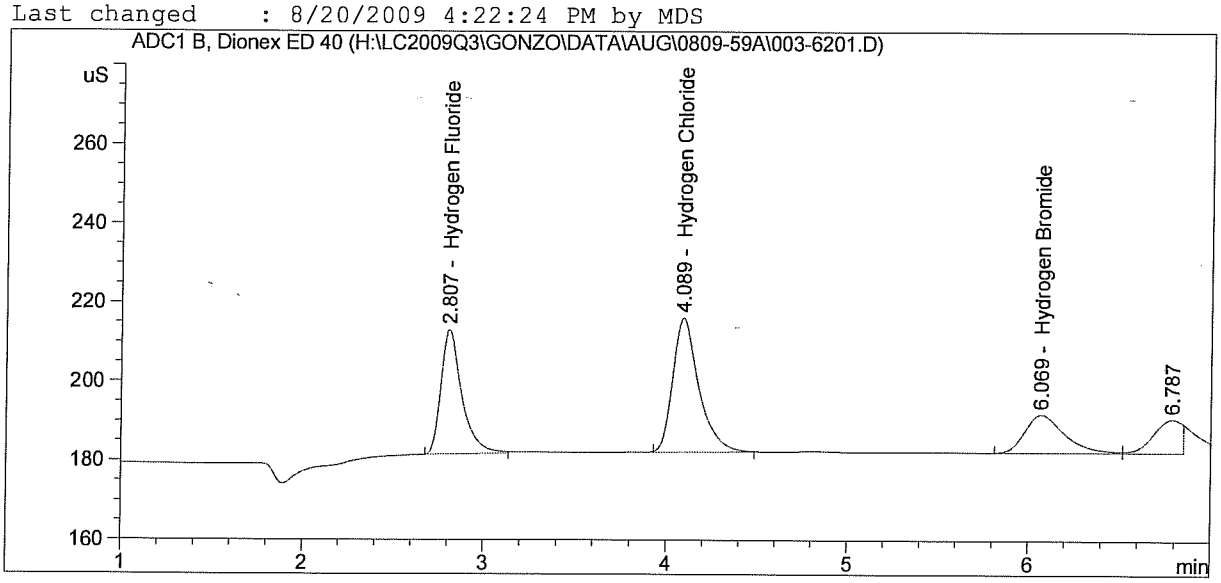
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:37:18 AM

Seq. Line : 62
Location : Vial 3
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.807	BB	252.67972	9.50006e-3	2.40047		Hydrogen Fluoride
4.089	BB	337.36777	1.35468e-2	4.57025		Hydrogen Chloride
6.069	BB	146.93848	3.17807e-2	4.66981		Hydrogen Bromide

Totals : 11.64053

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*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-6202.D
Sample Name: hplc44pg106 #3

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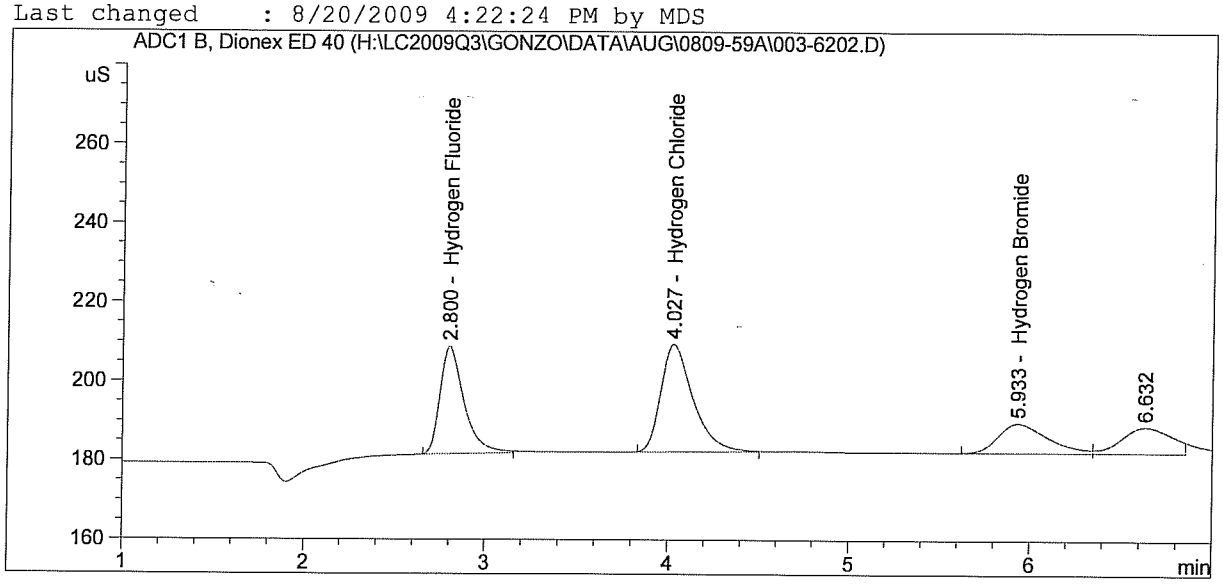
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:46:15 AM

Seq. Line : 62
Location : Vial 3
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.800	BB	250.80821	9.49910e-3	2.38245		Hydrogen Fluoride
4.027	BB	333.86496	1.35460e-2	4.52254		Hydrogen Chloride
5.933	BV	141.19502	3.17738e-2	4.48631		Hydrogen Bromide

Totals : 11.39130

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*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\004-0401.D
Sample Name: hplc44pg106 #4

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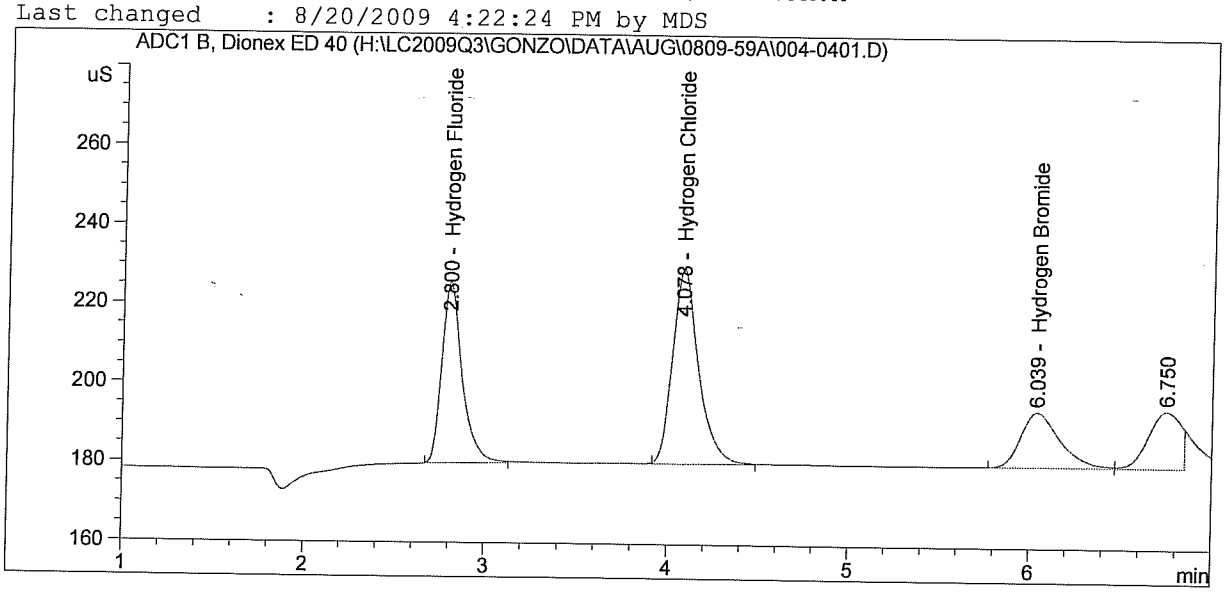
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 2:18:35 PM

Seq. Line : 4
Location : Vial 4
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.800	BB	358.33337	9.53808e-3	3.41781		Hydrogen Fluoride
4.078	BB	486.82690	1.35693e-2	6.60592		Hydrogen Chloride
6.039	BV	209.03923	3.18308e-2	6.65388		Hydrogen Bromide
Totals :				16.67761		

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*** End of Report ***

nstrument 3 8/20/2009 4:27:13 PM MDS

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\004-0402.D
Sample Name: hplc44pg106 #4

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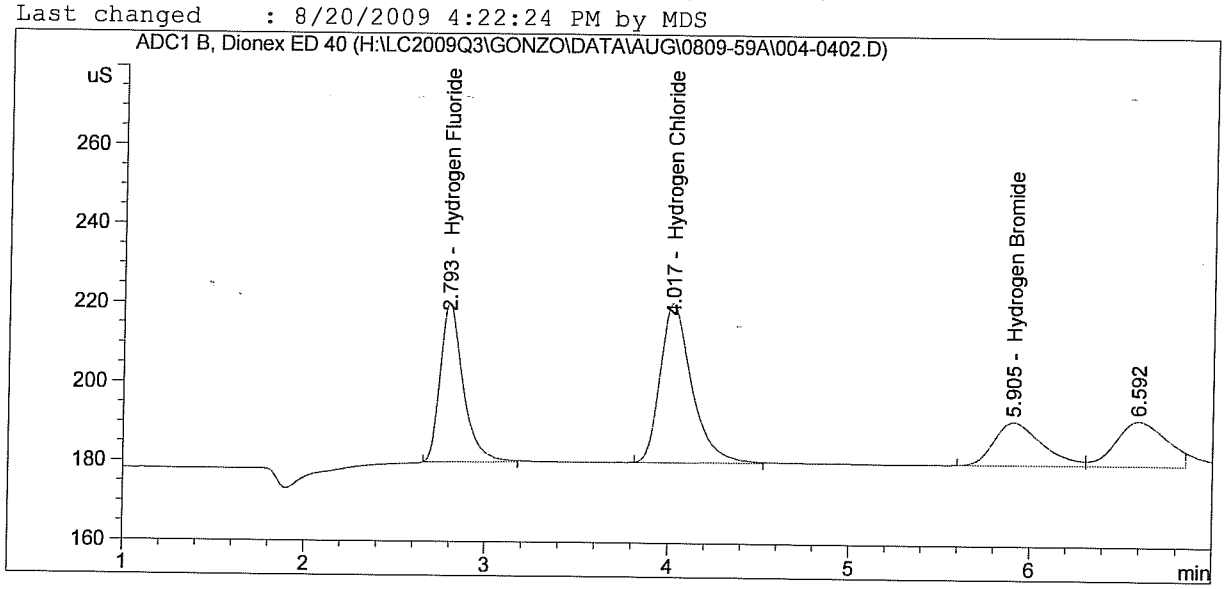
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 2:27:30 PM

Seq. Line : 4
Location : Vial 4
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.793	BB	354.78888	9.53717e-3	3.38368		Hydrogen Fluoride
4.017	BB	482.48535	1.35689e-2	6.54679		Hydrogen Chloride
5.905	BV	202.85666	3.18272e-2	6.45635		Hydrogen Bromide
Totals :				16.38682		

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*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\004-6301.D
Sample Name: hplc44pg106 #4

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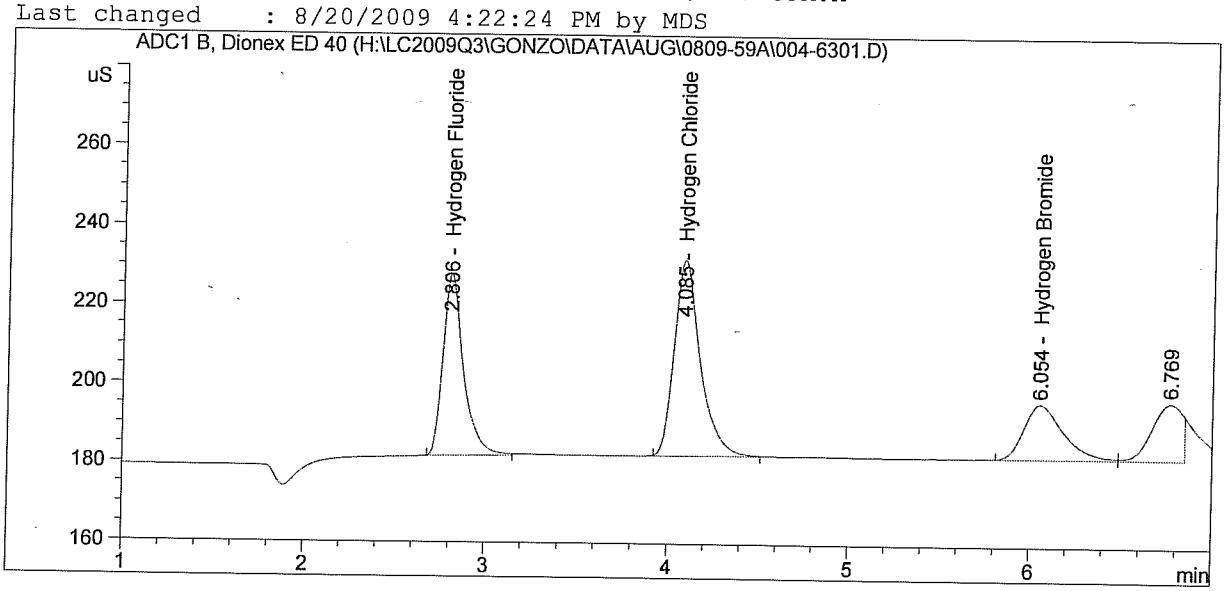
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 7:55:27 AM

Seq. Line : 63
Location : Vial 4
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.806	BB	363.71292	9.53942e-3	3.46961		Hydrogen Fluoride
4.085	BB	495.30310	1.35702e-2	6.72137		Hydrogen Chloride
6.054	BV	211.40367	3.18321e-2	6.72942		Hydrogen Bromide

Totals : 16.92040

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*** End of Report ***

Instrument 3 8/20/2009 4:27:34 PM MDS

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\004-6302.D
Sample Name: hplc44pg106 #4

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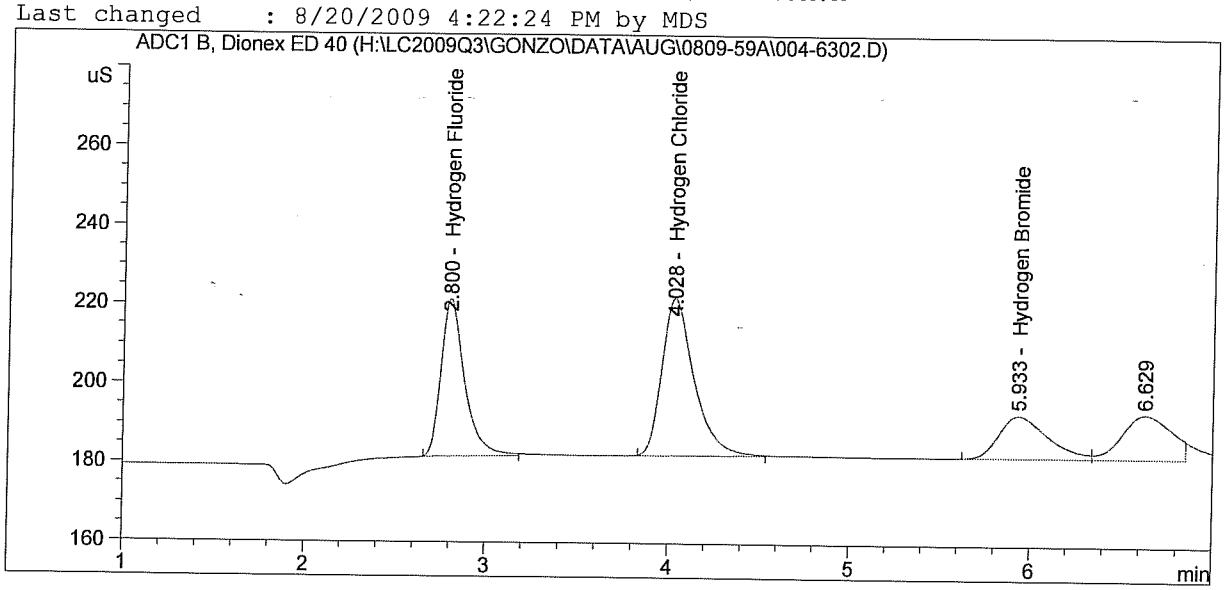
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 8:04:22 AM

Seq. Line : 63
Location : Vial 4
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.800	BB	362.76913	9.53919e-3	3.46052		Hydrogen Fluoride
4.028	BB	489.76920	1.35697e-2	6.64600		Hydrogen Chloride
5.933	BV	205.37909	3.18287e-2	6.53694		Hydrogen Bromide

Totals : 16.64346

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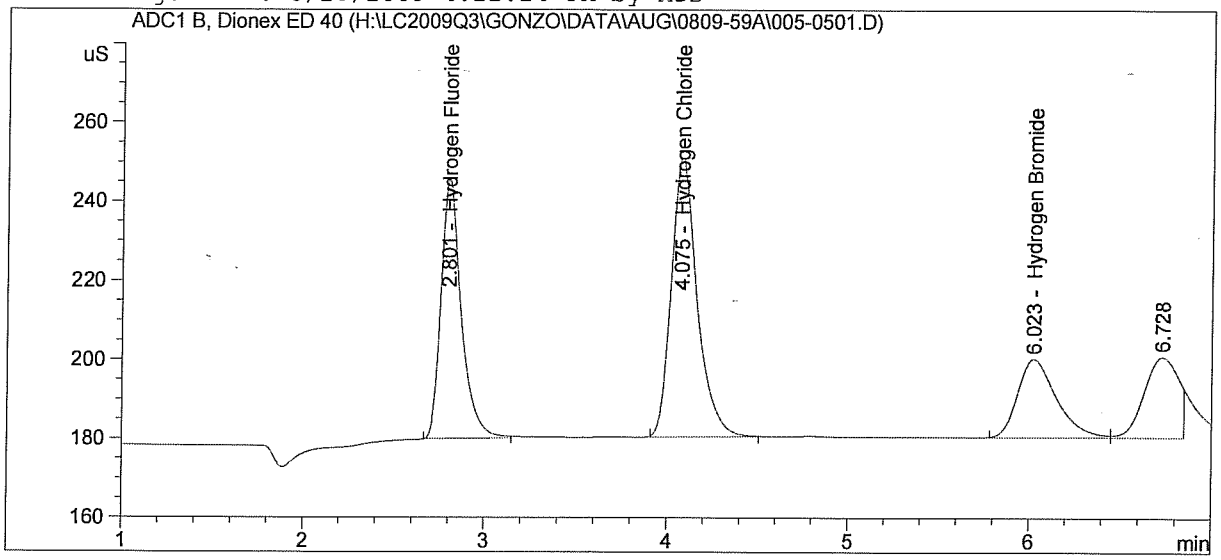
*** End of Report ***

Instrument 3 8/20/2009 4:27:42 PM MDS

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\005-0501.D
Sample Name: hplc44pg106 #5

Acq. Operator	: MDS	Seq. Line :	5
Acq. Instrument	: Gonzo	Location :	Vial 5
Injection Date	: 8/19/2009 2:36:16 PM	Inj :	1
		Inj Volume :	25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Thursday, August 20, 2009 4:22:22 PM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.801	BB	511.45303	9.56530e-3	4.89220		Hydrogen Fluoride
4.075	BB	697.43359	1.35847e-2	9.47445		Hydrogen Chloride
6.023	BV	295.04770	3.18653e-2	9.40179		Hydrogen Bromide
Totals :				23.76843		

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\005-0502.D
Sample Name: hplc44pg106 #5

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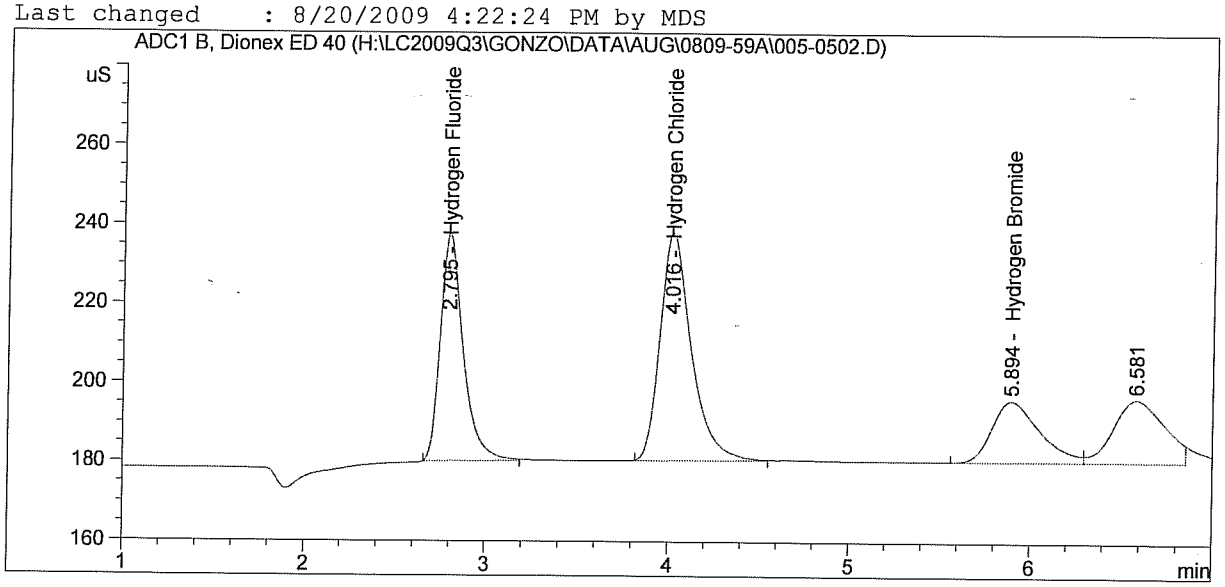
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 2:45:17 PM

Seq. Line : 5
Location : Vial 5
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.795	BB	502.84042	9.56420e-3	4.80927		Hydrogen Fluoride
4.016	BB	688.53400	1.35843e-2	9.35323		Hydrogen Chloride
5.894	BV	286.06302	3.18627e-2	9.11473		Hydrogen Bromide

Totals : 23.27723

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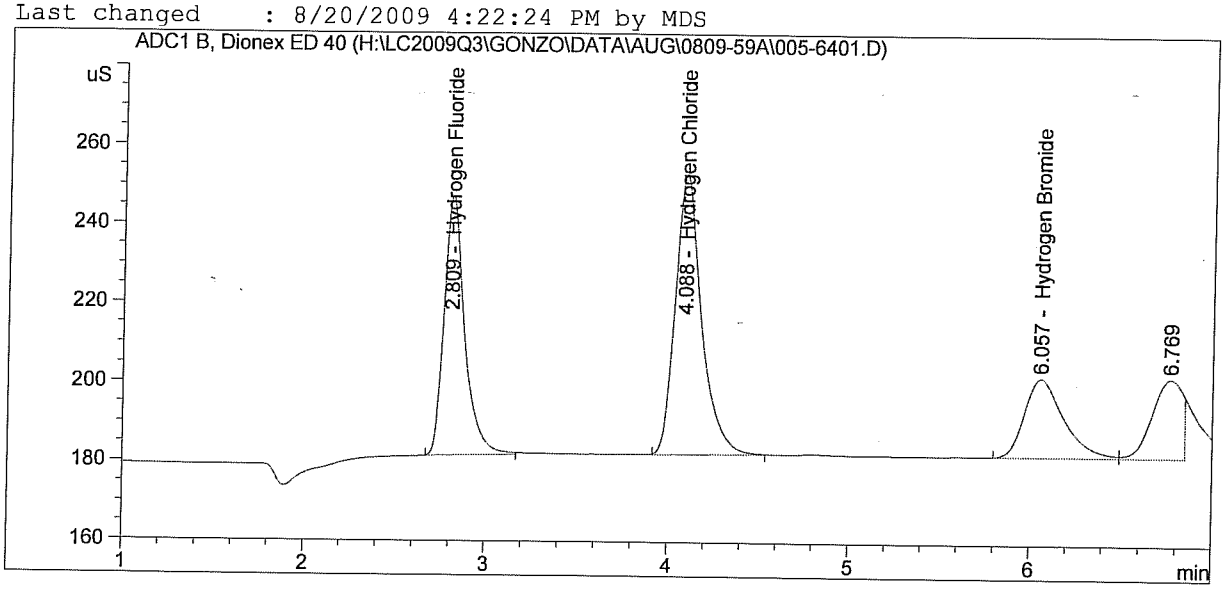
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\005-6401.D
Sample Name: hplc44pg106 #5

Acq. Operator	: MDS	Seq. Line	: 64
Acq. Instrument	: Gonzo	Location	: Vial 5
Injection Date	: 8/20/2009 8:13:13 AM	Inj	: 1
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.809	BB	517.89716	9.56609e-3	4.95425		Hydrogen Fluoride
4.088	BB	705.90045	1.35852e-2	9.58977		Hydrogen Chloride
6.057	BV	299.31784	3.18665e-2	9.53821		Hydrogen Bromide
Totals :				24.08223		

*** End of Report ***

Instrument 3 8/20/2009 4:28:05 PM MDS

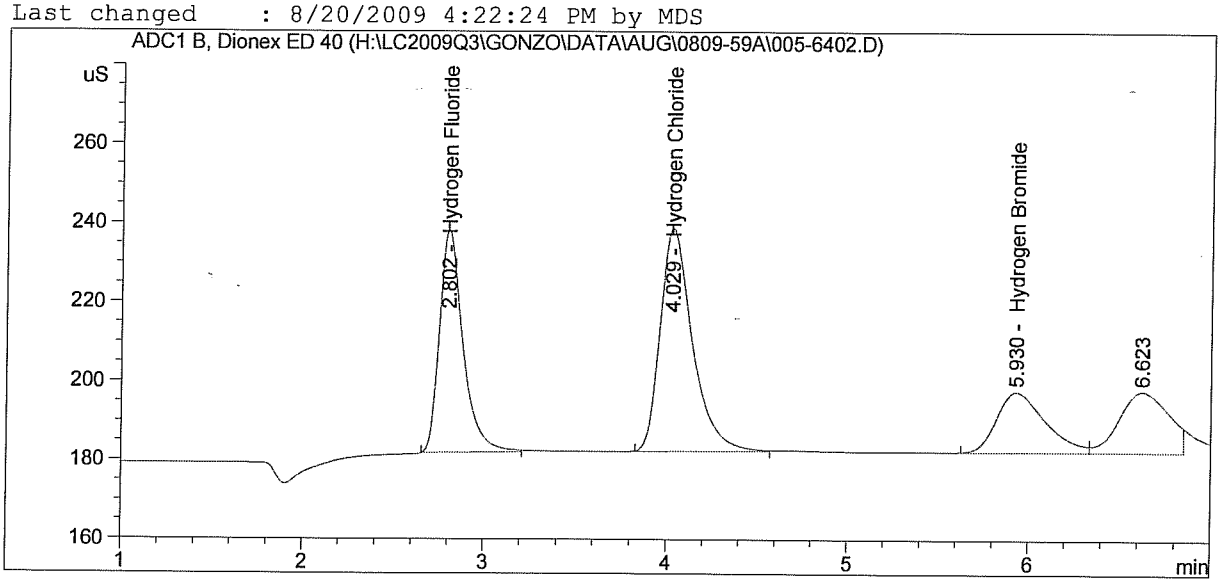
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\005-6402.D
Sample Name: hplc44pg106 #5

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 8:22:19 AM

Seq. Line : 64
Location : Vial 5
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.802	BB	508.02710	9.56487e-3	4.85921		Hydrogen Fluoride
4.029	BB	692.91022	1.35845e-2	9.41284		Hydrogen Chloride
5.930	BV	287.88705	3.18632e-2	9.17301		Hydrogen Bromide

Totals : 23.44506

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*** End of Report ***

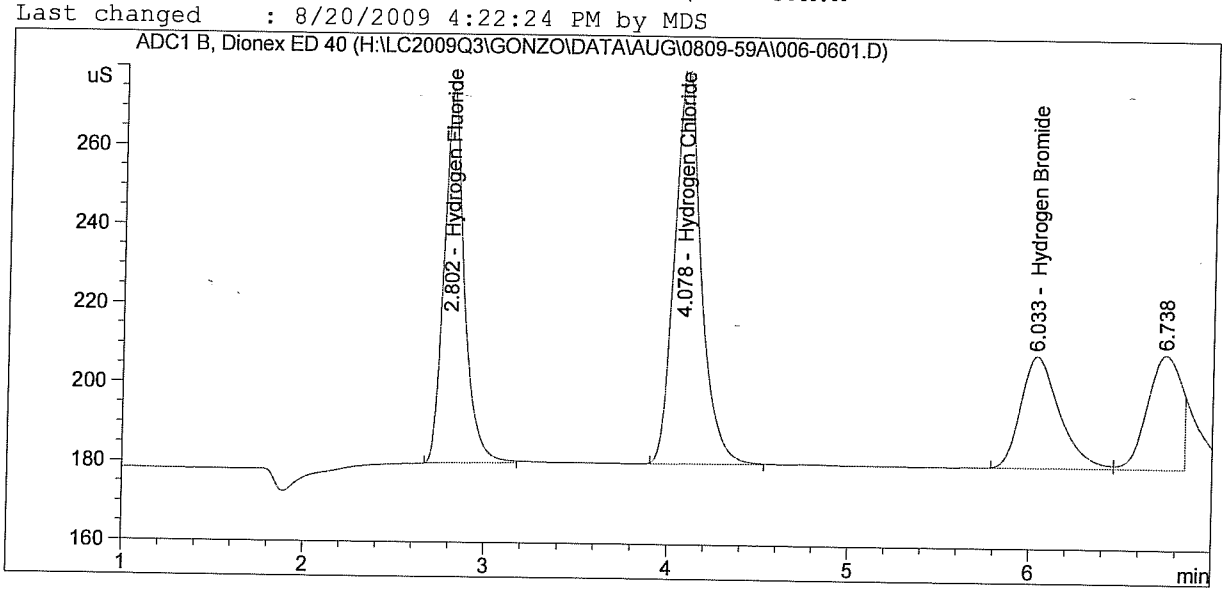
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\006-0601.D
Sample Name: hplc44pg106 #6

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 2:54:16 PM

Seq. Line : 6
Location : Vial 6
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.802	BB	733.71198	9.58459e-3	7.03233		Hydrogen Fluoride
4.078	BB	1010.85712	1.35958e-2	13.74337		Hydrogen Chloride
6.033	BV	420.78601	3.18904e-2	13.41903		Hydrogen Bromide
Totals :				34.19473		

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*** End of Report ***

Instrument 3 8/20/2009 4:28:21 PM MDS

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\006-0602.D
Sample Name: hplc44pg106 #6

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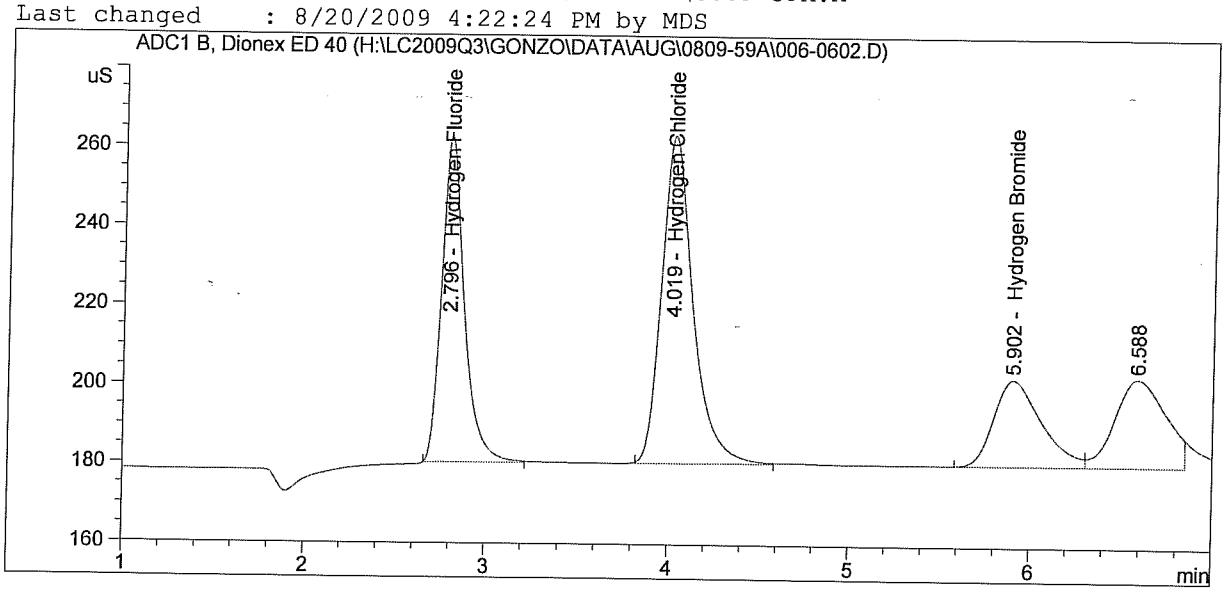
Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 3:03:14 PM

Seq. Line : 6
Location : Vial 6
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.796	BB	715.06586	9.58343e-3	6.85279		Hydrogen Fluoride
4.019	BB	988.42401	1.35952e-2	13.43782		Hydrogen Chloride
5.902	BV	404.73221	3.18881e-2	12.90612		Hydrogen Bromide
Totals :				33.19673		

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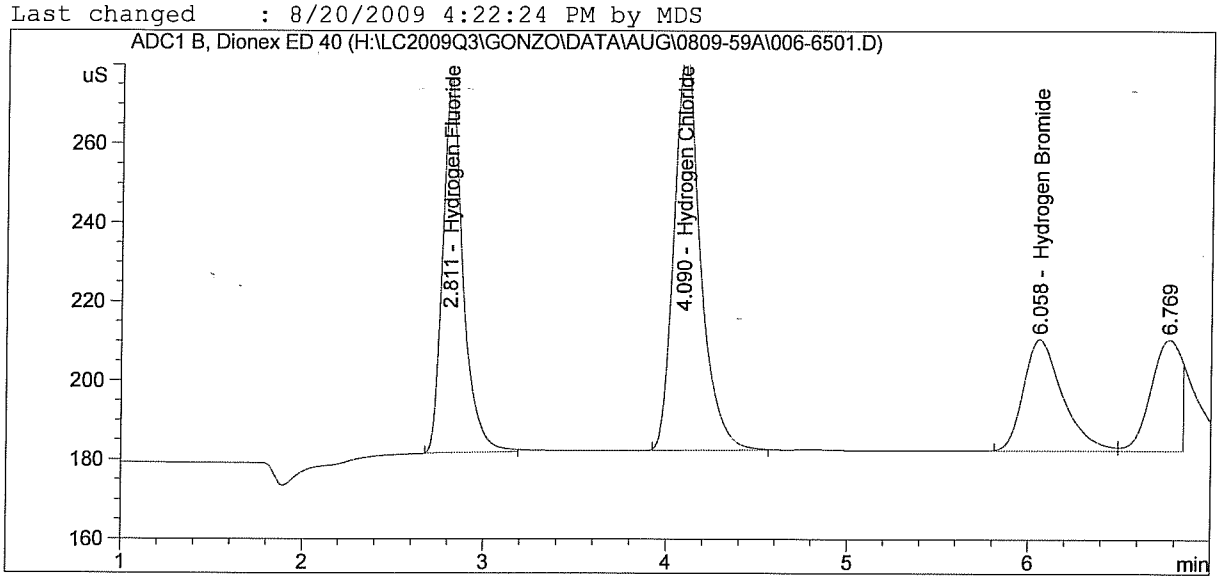
*** End of Report ***

Instrument 3 8/20/2009 4:28:29 PM MDS

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\006-6501.D
Sample Name: hplc44pg106 #6

Acq. Operator	: MDS	Seq. Line	: 65
Acq. Instrument	: Gonzo	Location	: Vial 6
Injection Date	: 8/20/2009 8:31:13 AM	Inj	: 1
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

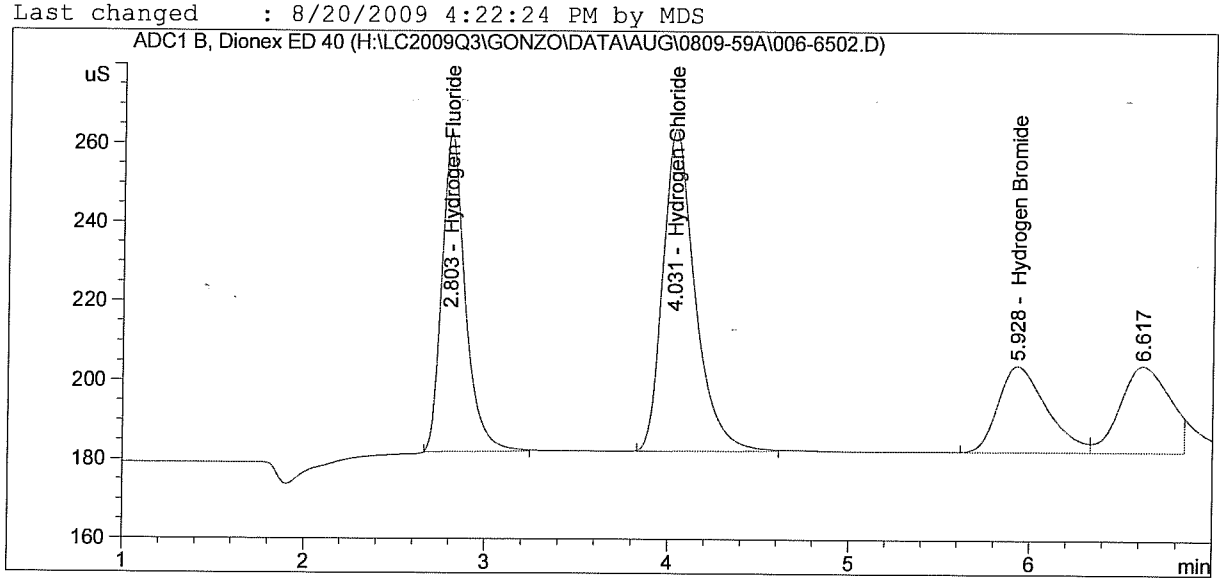
RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.811	BB	738.57880	9.58488e-3	7.07919		Hydrogen Fluoride
4.090	BB	1017.79211	1.35959e-2	13.83782		Hydrogen Chloride
6.058	BV	422.87680	3.18907e-2	13.48583		Hydrogen Bromide
Totals :				34.40284		

*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\006-6502.D
Sample Name: hplc44pg106 #6

Acq. Operator	: MDS	Seq. Line	: 65
Acq. Instrument	: Gonzo	Location	: Vial 6
Injection Date	: 8/20/2009 8:40:11 AM	Inj	: 2
		Inj Volume	: 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



External Standard Report

Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.803	BB	722.02856	9.58387e-3	6.91983		Hydrogen Fluoride
4.031	BB	997.85620	1.35954e-2	13.56629		Hydrogen Chloride
5.928	BV	407.69623	3.18885e-2	13.00082		Hydrogen Bromide
Totals :				33.48694		

*** End of Report ***

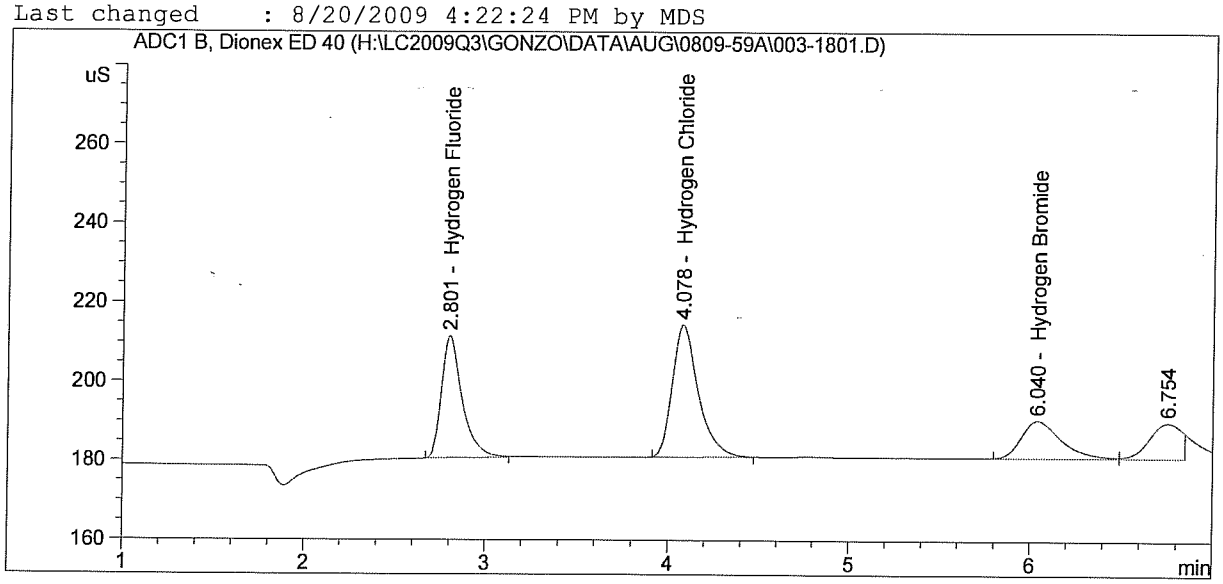
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-1801.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 6:29:03 PM

Seq. Line : 18
Location : Vial 3
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.801	BB	248.09094	9.49768e-3	2.35629		Hydrogen Fluoride
4.078	BB	333.15396	1.35458e-2	4.51285		Hydrogen Chloride
6.040	BB	145.80936	3.17794e-2	4.63373		Hydrogen Bromide

Totals : 11.50287

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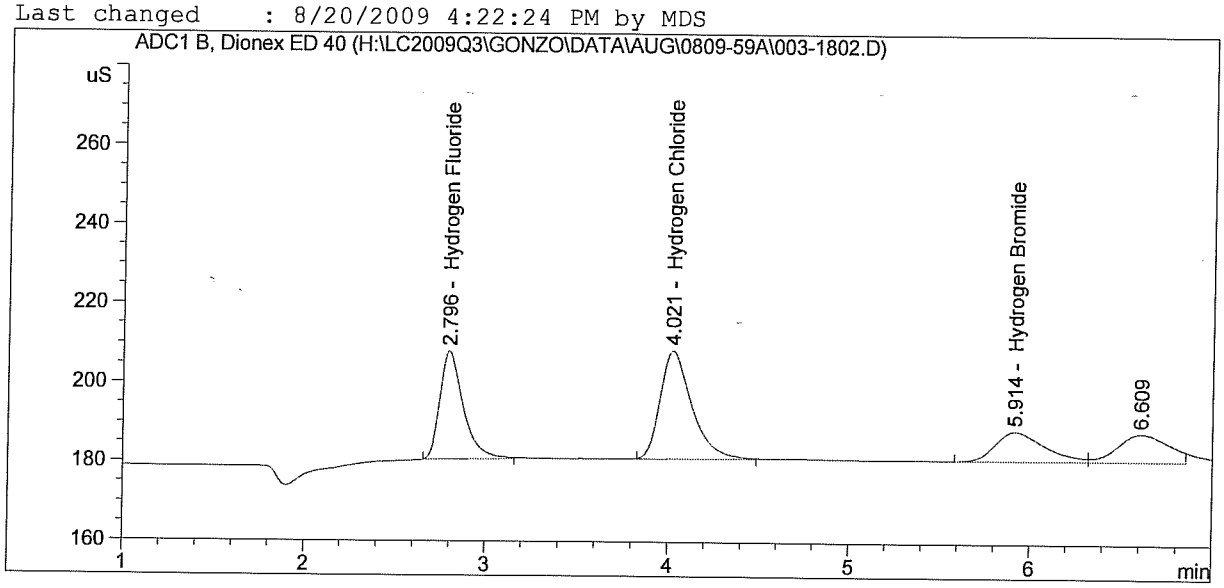
*** End of Report ***

Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-1802.D
Sample Name: hplc44pg106 #3

Acq. Operator	: MDS	Seq. Line :	18
Acq. Instrument	: Gonzo	Location :	Vial 3
Injection Date	: 8/19/2009 6:37:58 PM	Inj :	2
		Inj Volume :	25 µl
Acq. Method	: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M		
Last changed	: 7/9/2009 4:16:06 PM by MDS		
Analysis Method	: H:\LC2009Q3\GONZO\METHODS\0809-59A.M		
Last changed	: 8/20/2009 4:22:24 PM by MDS		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Thursday, August 20, 2009 4:22:22 PM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.796	BB	246.40404	9.49678e-3	2.34005		Hydrogen Fluoride
4.021	BB	330.75464	1.35453e-2	4.48017		Hydrogen Chloride
5.914	BV	141.72446	3.17745e-2	4.50322		Hydrogen Bromide
Totals :				11.32344		

*** End of Report ***

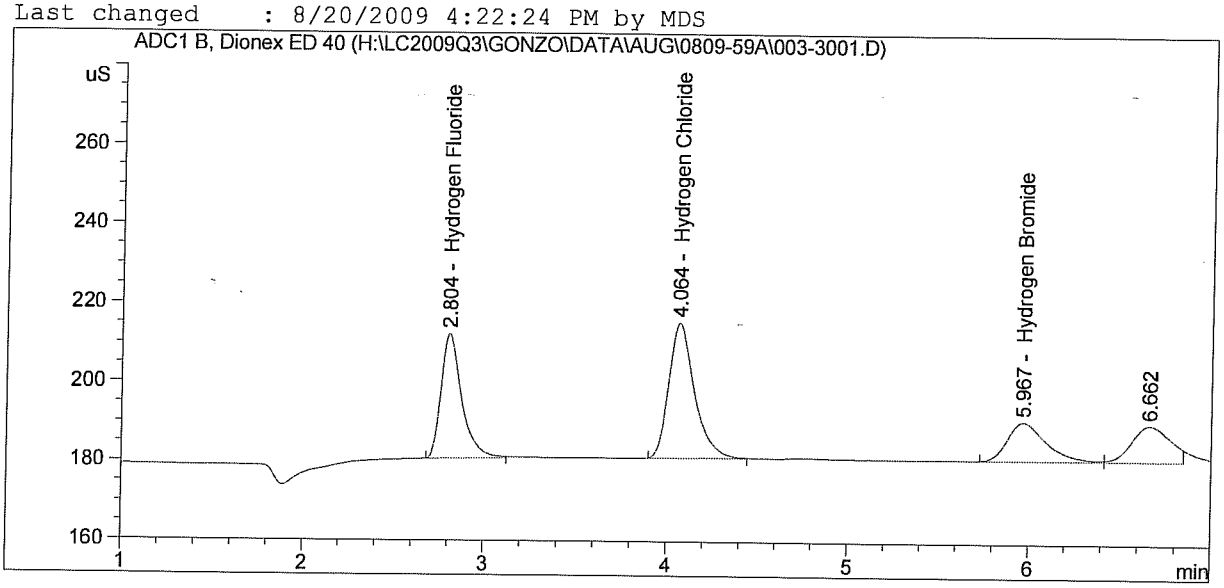
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-3001.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 10:03:35 PM

Seq. Line : 30
Location : Vial 3
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.804	BB	249.72285	9.49854e-3	2.37200		Hydrogen Fluoride
4.064	BB	334.66901	1.35462e-2	4.53349		Hydrogen Chloride
5.967	BB	146.14827	3.17798e-2	4.64456		Hydrogen Bromide
Totals :				11.55005		

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*** End of Report ***

Instrument 3 8/20/2009 4:25:45 PM MDS

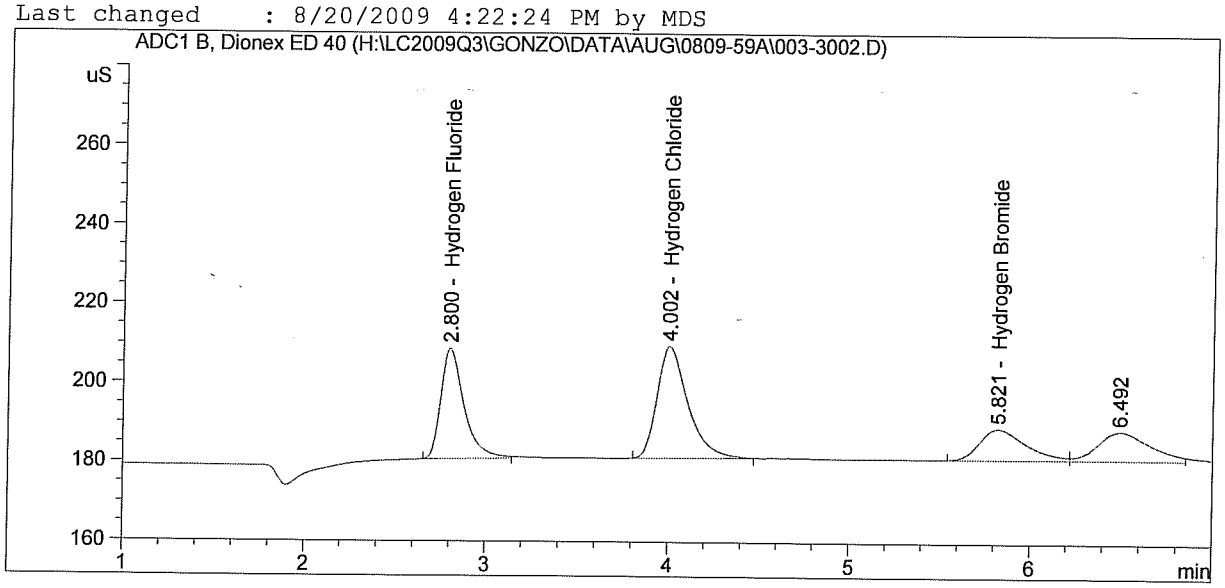
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-3002.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/19/2009 10:12:32 PM

Seq. Line : 30
Location : Vial 3
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.800	BB	248.19710	9.49774e-3	2.35731		Hydrogen Fluoride
4.002	BB	332.85263	1.35458e-2	4.50875		Hydrogen Chloride
5.821	BV	141.96988	3.17748e-2	4.51106		Hydrogen Bromide

Totals : 11.37712

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*** End of Report ***

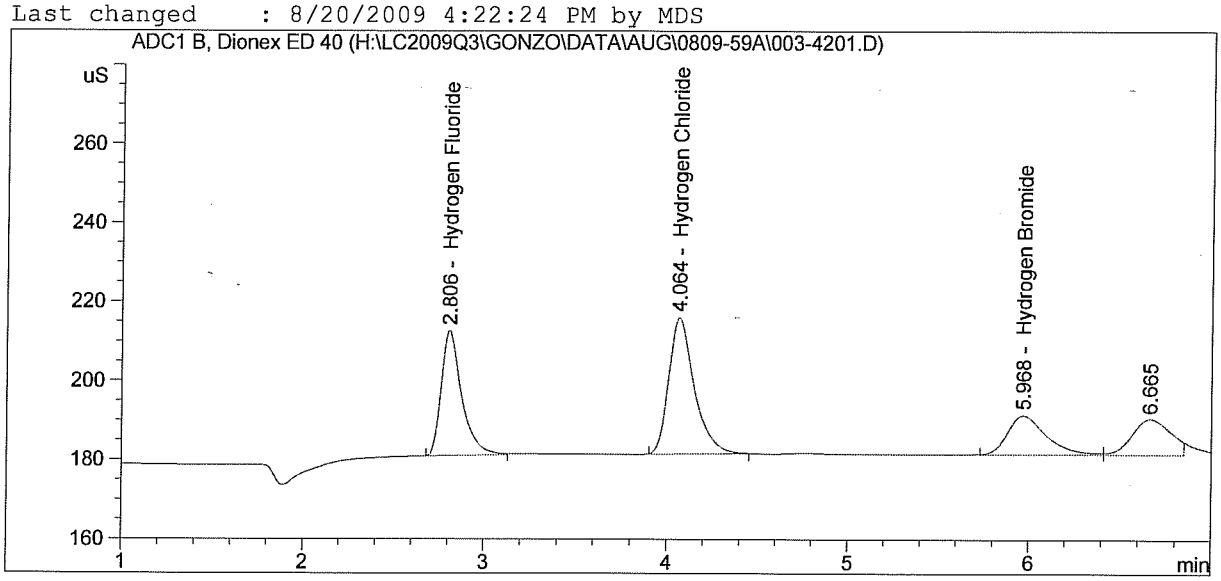
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-4201.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 1:38:46 AM

Seq. Line : 42
Location : Vial 3
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.806	BB	250.26944	9.49882e-3	2.37727		Hydrogen Fluoride
4.064	BB	336.07184	1.35465e-2	4.55259		Hydrogen Chloride
5.968	BB	146.87592	3.17806e-2	4.66781		Hydrogen Bromide

Totals : 11.59767

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*** End of Report ***

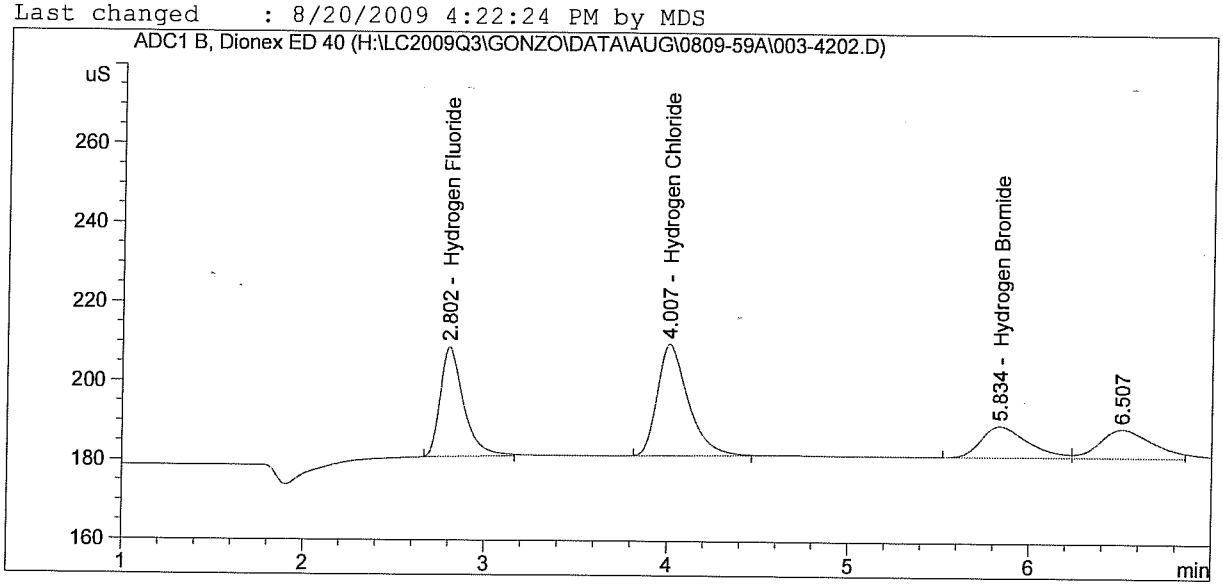
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-4202.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 1:47:45 AM

Seq. Line : 42
Location : Vial 3
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.802	BB	248.31967	9.49780e-3	2.35849		Hydrogen Fluoride
4.007	BB	332.18326	1.35456e-2	4.49963		Hydrogen Chloride
5.834	BV	142.93652	3.17760e-2	4.54195		Hydrogen Bromide

Totals : 11.40007

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*** End of Report ***

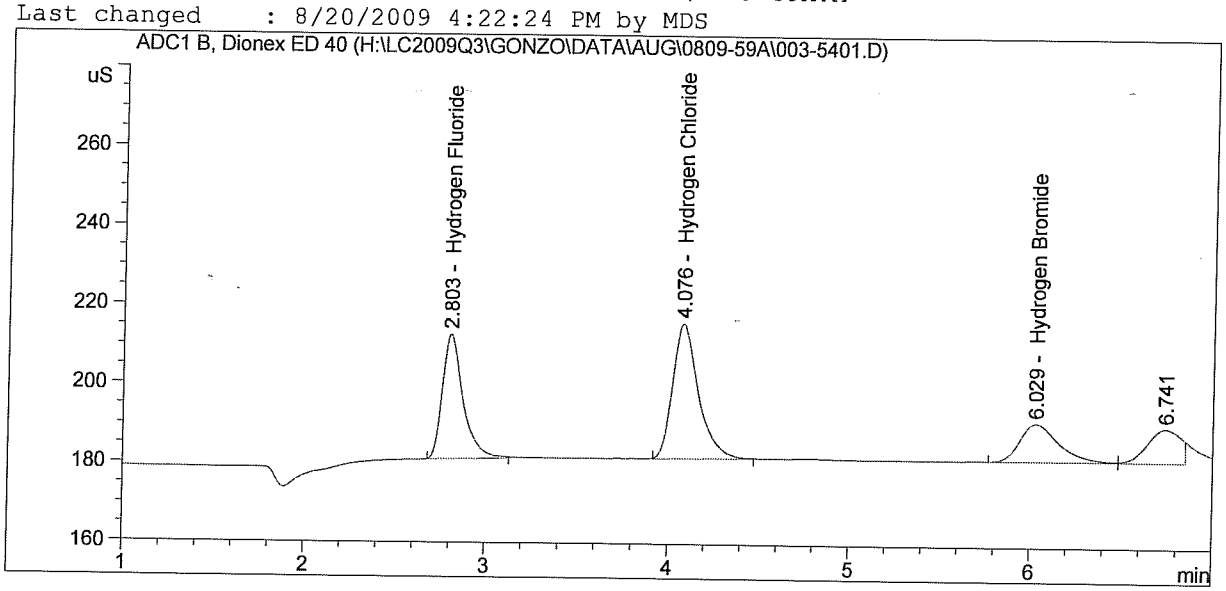
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-5401.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 5:14:08 AM

Seq. Line : 54
Location : Vial 3
Inj : 1
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.803	BB	251.23459	9.49932e-3	2.38656		Hydrogen Fluoride
4.076	BB	335.90540	1.35465e-2	4.55033		Hydrogen Chloride
6.029	BB	145.42648	3.17789e-2	4.62150		Hydrogen Bromide
Totals :				11.55839		

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*** End of Report ***

Instrument 3 8/20/2009 4:26:36 PM MDS

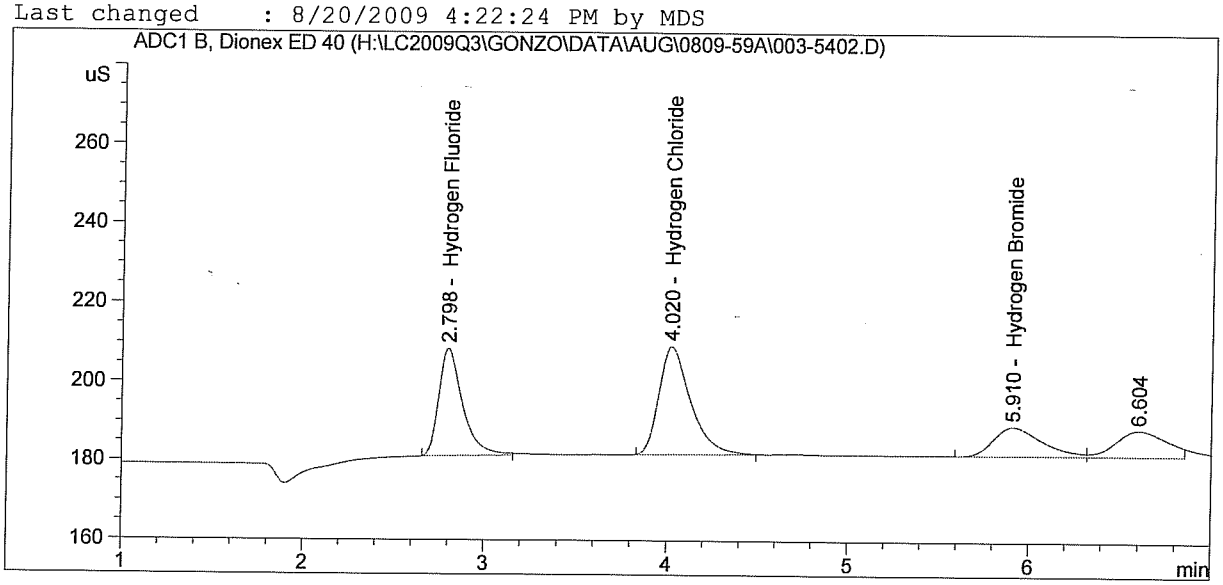
Data File H:\LC2009Q3\GONZO\DATA\AUG\0809-59A\003-5402.D
Sample Name: hplc44pg106 #3

==========

Acq. Operator : MDS
Acq. Instrument : Gonzo
Injection Date : 8/20/2009 5:23:03 AM

Seq. Line : 54
Location : Vial 3
Inj : 2
Inj Volume : 25 µl

Acq. Method : H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Last changed : 7/9/2009 4:16:06 PM by MDS
Analysis Method : H:\LC2009Q3\GONZO\METHODS\0809-59A.M
Last changed : 8/20/2009 4:22:24 PM by MDS



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Thursday, August 20, 2009 4:22:22 PM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 B, Dionex ED 40

RetTime [min]	Type	Area [uS*s]	Amt/Area	Amount [ug/mL]	Grp	Name
2.798	BB	249.37587	9.49836e-3	2.36866		Hydrogen Fluoride
4.020	BB	333.70486	1.35460e-2	4.52036		Hydrogen Chloride
5.910	BV	141.20023	3.17738e-2	4.48647		Hydrogen Bromide

Totals : 11.37549

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*** End of Report ***

Method Information

Method: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Modified: 7/9/2009 at 4:16:06 PM

Dionex IonPac AS-14A 4-mm analytical (4x250mm) column.
Flow rate 1.2 mL/min
8mM Na2CO3/1mM NaHCO3 mobile phase
Suppressed anion conductivity detection

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ANALOG DIGITAL CONVERTER

==========

	Signal 1
Description:	Dionex ED 40
Source:	Signal
Unit:	uS
Units/Volt:	1000.000
Peakwidth (Data Rate):	0.027 Min (10.00 Hz)
Stop Time:	No Limit
Data Storage:	All

Start Signal Source: External Device Will Start 35900

Timed Event Table:
<no events>

Agilent 1100/1200 Quaternary Pump 1

Control

Column Flow	:	1.200 ml/min
Stoptime	:	7.00 min
Posttime	:	Off

Solvents

Solvent A	:	100.0 % (8.0mM Na2CO3/1.0mM NaHCO3)
Solvent B	:	Off
Solvent C	:	0.0 % (8.0mM Na2CO3/1.0mM NaHCO3)
Solvent D	:	Off

PressureLimits

Minimum Pressure	:	0 bar
Maximum Pressure	:	400 bar

Auxiliary

Maximal Flow Ramp	:	100.00 ml/min^2
Primary Channel	:	Auto
Compressibility	:	83*10^-6/bar
Minimal Stroke	:	Auto

Store Parameters

Store Ratio A	:	Yes
Store Ratio B	:	Yes
Store Ratio C	:	Yes
Store Ratio D	:	Yes
Store Flow	:	Yes
Store Pressure	:	Yes

Agilent Contacts Option

Contact 1	:	Open
Contact 2	:	Open
Contact 3	:	Open
Contact 4	:	Open

Agilent 1100/1200 Quaternary Pump 2

Control

Column Flow	:	1.200 ml/min
Stoptime	:	7.00 min
Posttime	:	Off

Solvents

Solvent A	:	0.0 % ( )
Solvent B	:	Off
Solvent C	:	Off
Solvent D	:	100.0 % (8mMNa2CO3\1mMNaHCO3)

PressureLimits

Minimum Pressure	:	0 bar
Maximum Pressure	:	400 bar

method: H:\LC2009Q3\GONZO\METHODS\COLSWTCH.M
Modified on: 7/9/2009 at 4:16:06 PM

Auxiliary

Maximal Flow Ramp	:	100.00 ml/min^2
Primary Channel	:	Auto
Compressibility	:	100*10^-6/bar
Minimal Stroke	:	Auto

Store Parameters

Store Ratio A	:	Yes
Store Ratio B	:	Yes
Store Ratio C	:	Yes
Store Ratio D	:	Yes
Store Flow	:	Yes
Store Pressure	:	Yes

Agilent Contacts Option
==========

Contact 1	:	Open
Contact 2	:	Open
Contact 3	:	Open
Contact 4	:	Open

==========
Agilent 1100 Autosampler 1
==========

Injection

Injection Mode	:	Needle Wash
Injector volume	:	25.00 µl
Wash Vial	:	100
Optimization	:	none

Auxiliary

Drawspeed	:	100 µl/min
Ejectspeed	:	1000 µl/min
Draw position	:	2.0 mm

Time

Stoptime	:	As Pump
Posttime	:	Off

==========
Agilent 1100/1200 Column Thermostat 1
==========

Temperature settings

Left temperature	:	30.0°C
Right temperature	:	Same as left
Enable analysis	:	When Temp. is within setpoint +/- 0.8°C
Store left temperature	:	No
Store right temperature	:	No

Time

Stoptime	:	As pump
Posttime	:	Off

Column Switching Valve : Use current

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
1	Vial 1	hplc44pg106 #1	COLSWTCH	2	Sample	
2	Vial 2	hplc44pg106 #2	COLSWTCH	2	Sample	
3	Vial 3	hplc44pg106 #3	COLSWTCH	2	Sample	
4	Vial 4	hplc44pg106 #4	COLSWTCH	2	Sample	
5	Vial 5	hplc44pg106 #5	COLSWTCH	2	Sample	
6	Vial 6	hplc44pg106 #6	COLSWTCH	2	Sample	
7	Vial 7	hplc44pg106 #LCS	COLSWTCH	2	Sample	
8	Vial 8	H2SO4 Rgt Bk	COLSWTCH	2	Sample	
9	Vial 9	DI H2O Rgt Bk	COLSWTCH	2	Sample	
10	Vial 10	Method Blank*4.1	COLSWTCH	2	Sample	
11	Vial 11	0809-59 007*4	COLSWTCH	2	Sample	
12	Vial 12	0809-59 008*4	COLSWTCH	2	Sample	
13	Vial 13	0809-59 009*4	COLSWTCH	2	Sample	
14	Vial 14	0809-59 013*4	COLSWTCH	2	Sample	
15	Vial 15	0809-59 014*4	COLSWTCH	2	Sample	
16	Vial 16	0809-59 015*4	COLSWTCH	2	Sample	
17	Vial 17	0809-59 029*4.1	COLSWTCH	2	Sample	
18	Vial 3	hplc44pg106 #3	COLSWTCH	2	Sample	
~~19~~	~~Vial 4~~	~~hplc44pg106 #4~~	~~COLSWTCH~~	~~2~~	~~Sample~~	
20	Vial 21	0809-59 031	COLSWTCH	2	Sample	
21	Vial 22	MS/0809-59 007	COLSWTCH	2	Sample	
22	Vial 23	MSD/0809-59 007	COLSWTCH	2	Sample	
~~23~~	~~Vial 24~~	~~0709-101 KR6694-58*4~~	~~COLSWTCH~~	~~2~~	~~Sample~~	
24	Vial 25	0709-101 KR6694-59*4	COLSWTCH	2	Sample	
25	Vial 26	0709-101 KR6694-60*4	COLSWTCH	2	Sample	
26	Vial 27	0709-101 KR6694-61*4.1	COLSWTCH	2	Sample	
~~27~~	~~Vial 28~~	~~0709-101 KR6694-62~~	~~COLSWTCH~~	~~2~~	~~Sample~~	

Sequence: H:\LC2009Q3\GONZO\SEQUENCE\0809-59A.S

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
28	Vial 29	MS/0709-101 KR6694-58	COLSWTCH	2	Sample	
29	Vial 30	MSD/0709-101 KR6694-58	COLSWTCH	2	Sample	
30	Vial 3	hplc44pg106 #3	COLSWTCH	2	Sample	
31	Vial 4	hplc44pg106 #4	COLSWTCH	2	Sample	
32	Vial 7	hplc44pg106 #LCS	COLSWTCH	2	Sample	
33	Vial 10	Method Blank*4.1	COLSWTCH	2	Sample	
34	Vial 31	0809-10 HCl-HF R1*4	COLSWTCH	2	Sample	
35	Vial 32	0809-10 HCl-HF R2*4	COLSWTCH	2	Sample	
36	Vial 33	0809-10 HCl-HF R3*4	COLSWTCH	2	Sample	
37	Vial 34	0809-10 HF Blank*4.1	COLSWTCH	2	Sample	
38	Vial 35	MS/0809-10 HCl-HF R1	COLSWTCH	2	Sample	
39	Vial 36	MSD/0809-10 HCl-HF R1	COLSWTCH	2	Sample	
40	Vial 37	0809-78 M26A-R1-I1&2*4	COLSWTCH	2	Sample	
41	Vial 38	0809-78 M26A-R2-I1&2*4	COLSWTCH	2	Sample	
42	Vial 3	hplc44pg106 #3	COLSWTCH	2	Sample	
43	Vial 4	hplc44pg106 #4	COLSWTCH	2	Sample	
44	Vial 41	0809-78 M26A-R3-I1&2*4	COLSWTCH	2	Sample	
45	Vial 42	0809-78 M26A-H2SO4 Blank*4.1	COLSWTCH	2	Sample	
46	Vial 43	0809-78 M26A-H2O Blank	COLSWTCH	2	Sample	
47	Vial 44	MS/0809-78 M26A-R1-I1&2	COLSWTCH	2	Sample	
48	Vial 45	MSD/0809-78 M26A-R1-I1&2	COLSWTCH	2	Sample	
49	Vial 46	0809-85 C3 T1*50	COLSWTCH	2	Sample	
50	Vial 47	0809-85 C3 T2*50	COLSWTCH	2	Sample	
51	Vial 48	0809-85 C3 T3*50	COLSWTCH	2	Sample	
52	Vial 49	0809-85 C6 H2SO4 Bk*4.1	COLSWTCH	2	Sample	
53	Vial 50	0809-85 C8 H2O Bk	COLSWTCH	2	Sample	
54	Vial 3	hplc44pg106 #3	COLSWTCH	2	Sample	
55	Vial 4	hplc44pg106 #4	COLSWTCH	2	Sample	
56	Vial 7	hplc44pg106 #LCS	COLSWTCH	2	Sample	
57	Vial 10	Method Blank*4.1	COLSWTCH	2	Sample	

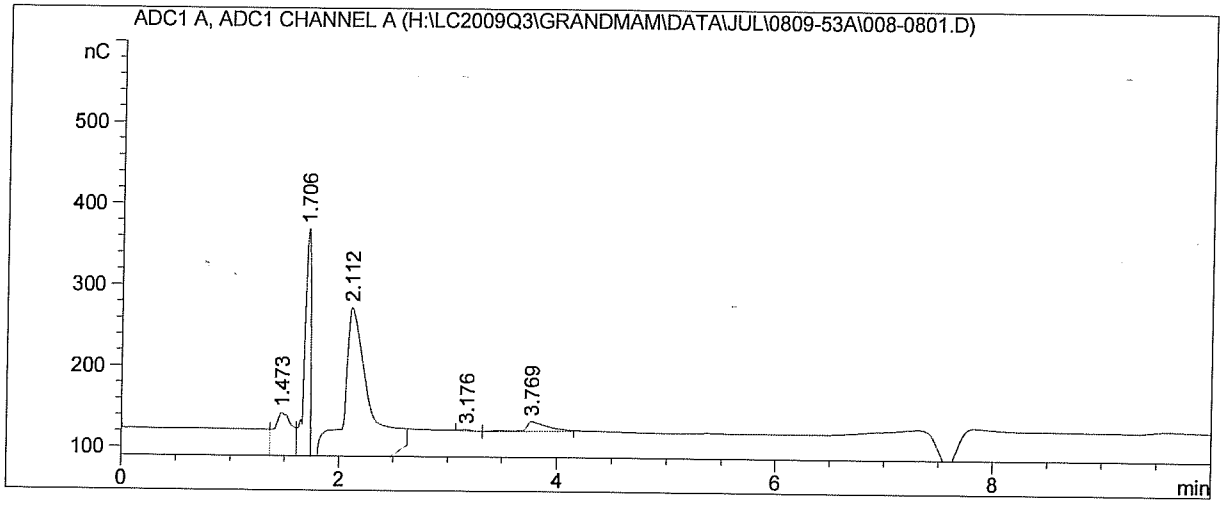
Sequence: H:\LC2009Q3\GONZO\SEQUENCE\0809-59A.S

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
~~58~~	~~Vial 51~~	~~MS/0809-85 C3 T1~~	~~COLSWTCH~~	~~2~~	~~Sample~~	
~~59~~	~~Vial 52~~	~~MSD/0809-85 C3 T1~~	~~COLSWTCH~~	~~2~~	~~Sample~~	
60	Vial 1	hplc44pg106 #1	COLSWTCH	2	Sample	
61	Vial 2	hplc44pg106 #2	COLSWTCH	2	Sample	
62	Vial 3	hplc44pg106 #3	COLSWTCH	2	Sample	
63	Vial 4	hplc44pg106 #4	COLSWTCH	2	Sample	
64	Vial 5	hplc44pg106 #5	COLSWTCH	2	Sample	
65	Vial 6	hplc44pg106 #6	COLSWTCH	2	Sample	
~~66~~	~~Vial 9~~	~~DI H2O Rgt Bk~~	~~PUMPX2~~	~~2~~	~~Sample~~	

Sample Chromatograms

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\008-0801.D
Sample Name: 010 0809-59

Acq. Operator	: KHB	Seq. Line :	8
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 7:52:05 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide
Totals :				0.00000		

1 Warnings or Errors :

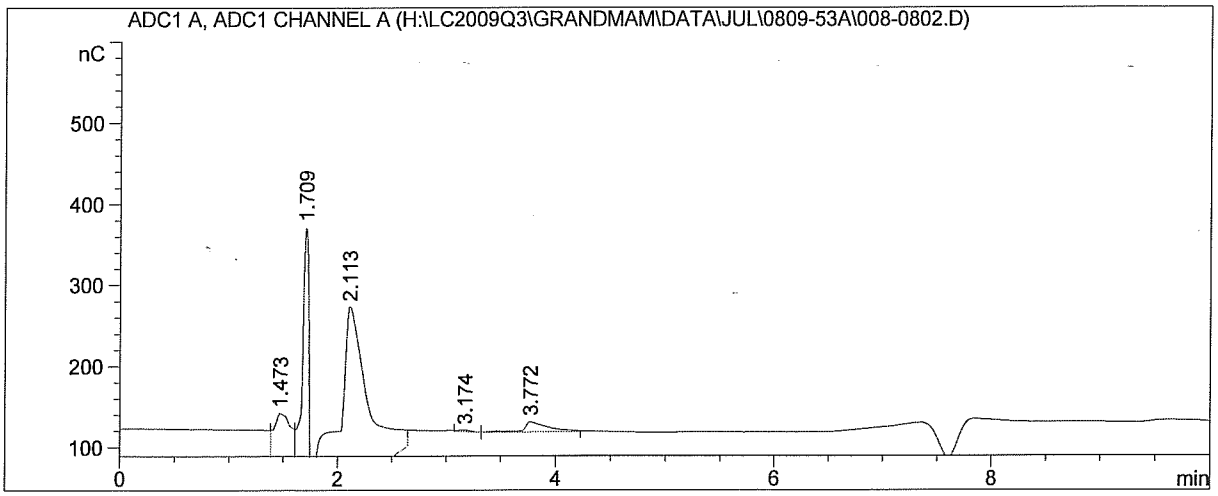
Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\008-0802.D
Sample Name: 010 0809-59

Acq. Operator	: KHB	Seq. Line :	8
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 8:03:21 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

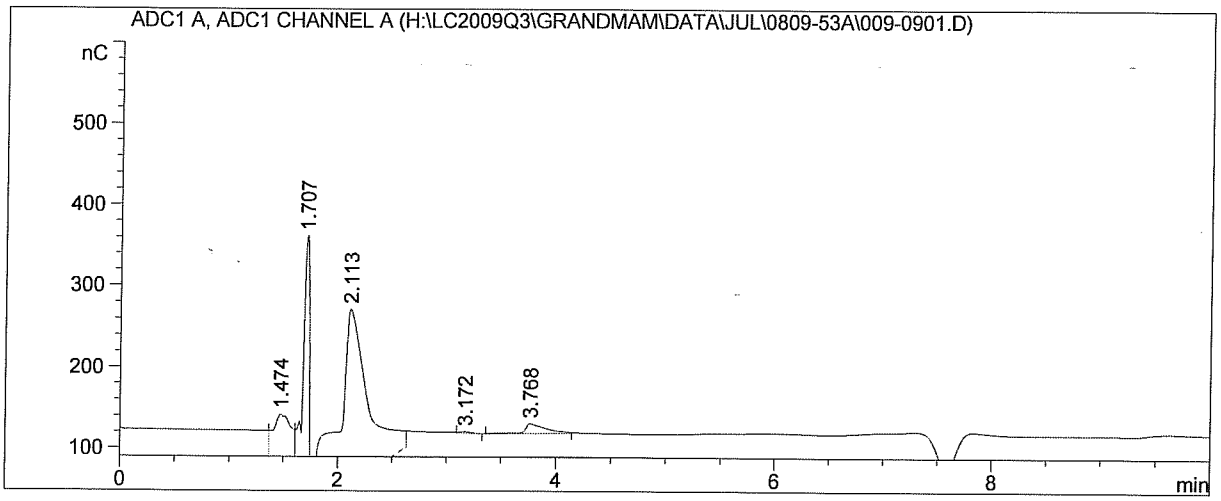
Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\009-0901.D
Sample Name: LD/010 0809-59

Acq. Operator	: KHB	Seq. Line :	9
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 8:14:38 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

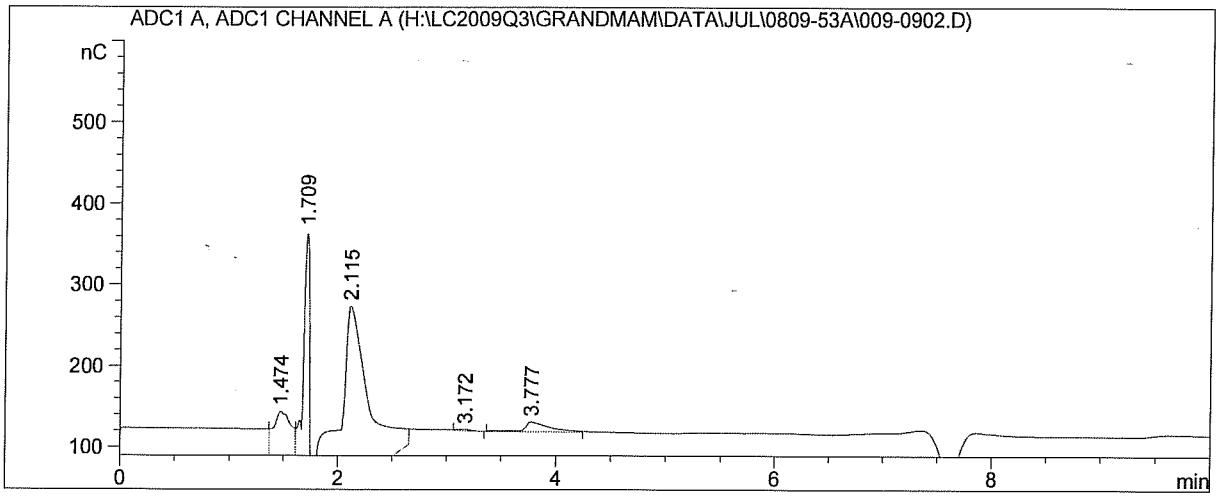
Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\009-0902.D
Sample Name: LD/010 0809-59

Acq. Operator	: KHB	Seq. Line :	9
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 8:25:54 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

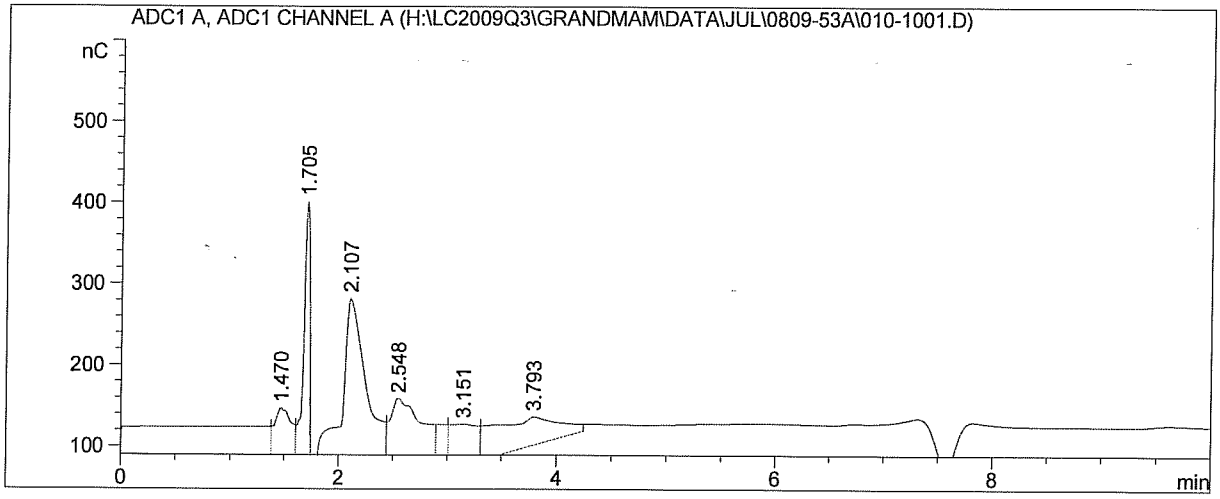
Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\010-1001.D
Sample Name: 011 0809-59

Acq. Operator	: KHB	Seq. Line :	10
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 8:37:12 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

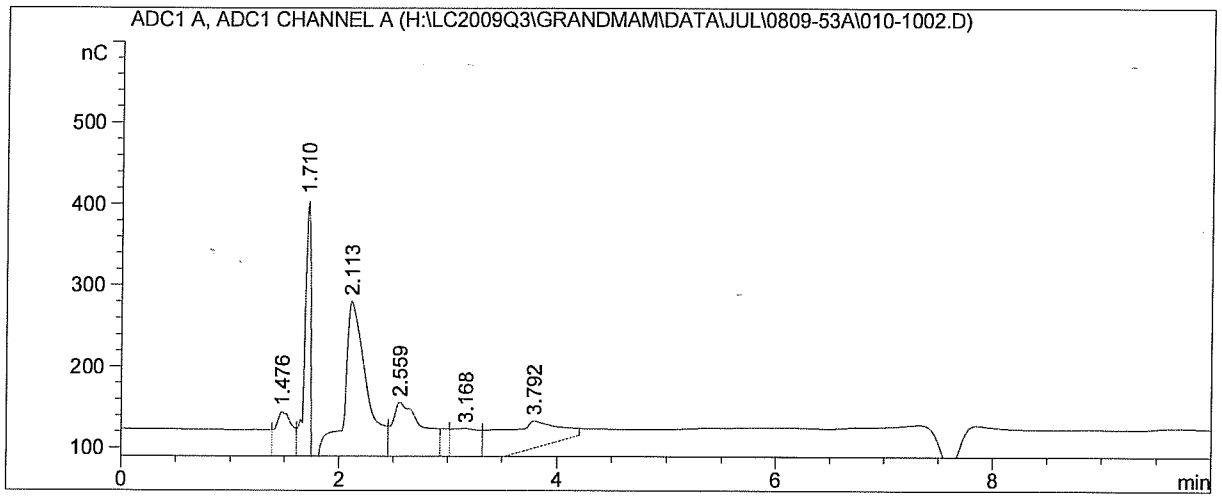
Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\010-1002.D
Sample Name: 011 0809-59

Acq. Operator	: KHB	Seq. Line :	10
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 8:48:27 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\011-1301.D
Sample Name: 012 0809-59

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Acq. Operator : KHB Seq. Line : 13
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 9:44:50 AM Inj : 1
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB

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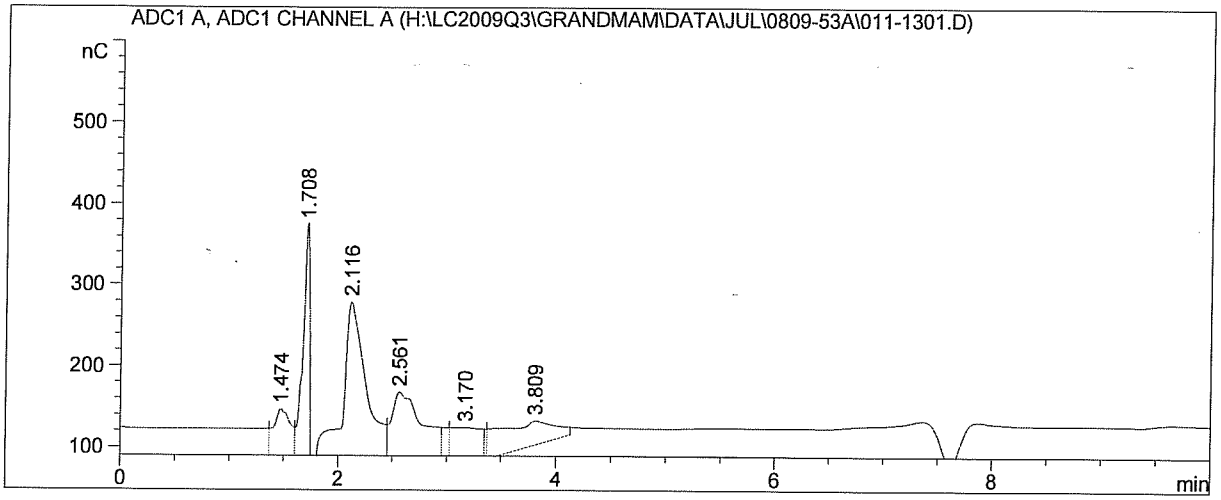

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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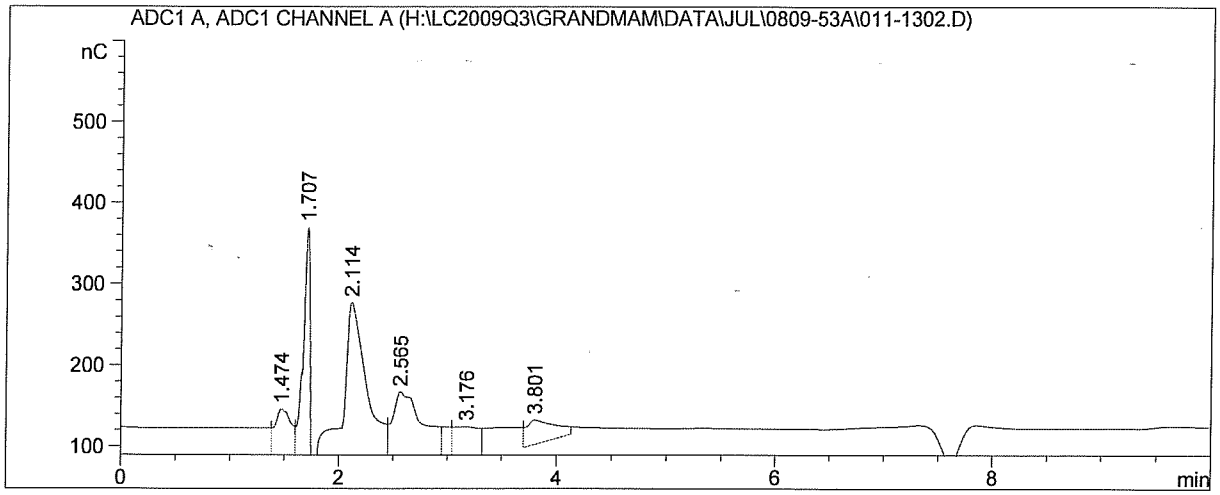
Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\011-1302.D
Sample Name: 012 0809-59

Acq. Operator	: KHB	Seq. Line :	13
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 9:56:06 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Area Percent Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\012-1401.D
Sample Name: 030 0809-59

==========

Acq. Operator : KHB Seq. Line : 14
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 10:07:23 AM Inj : 1
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Sample Blank

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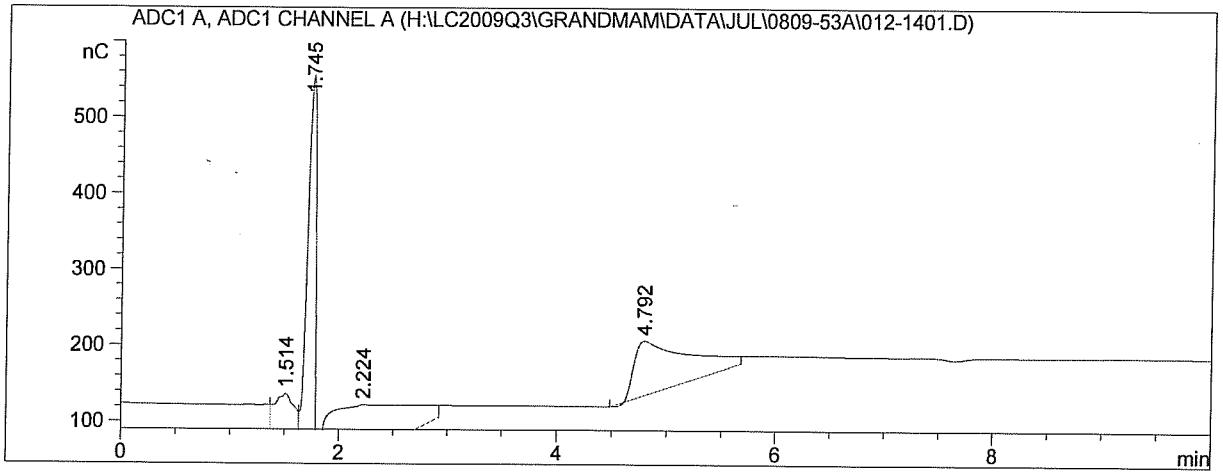

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\012-1402.D
Sample Name: 030 0809-59

==========

Acq. Operator : KHB Seq. Line : 14
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 10:18:39 AM Inj : 2
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Sample Blank

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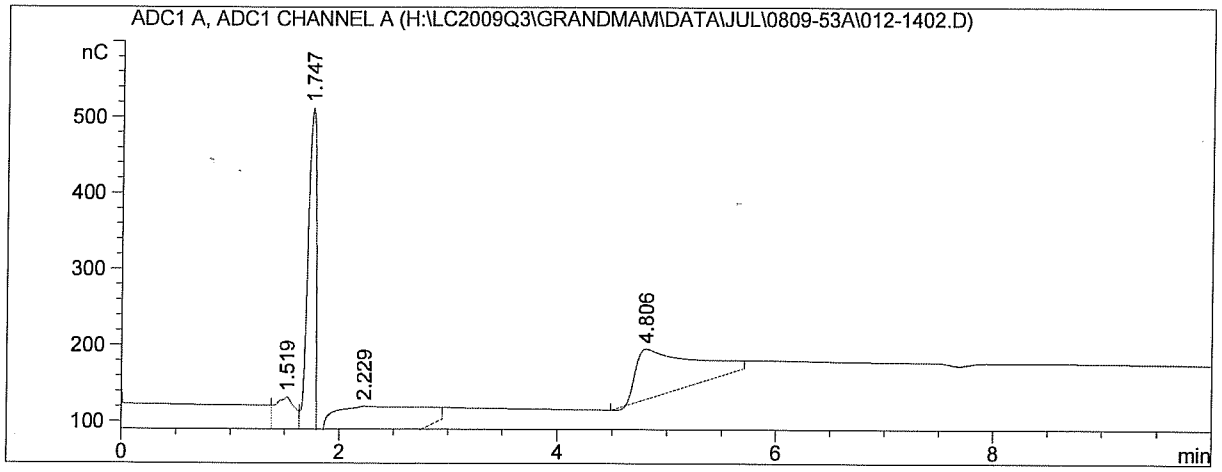

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\013-1501.D
Sample Name: 031 0809-59

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Acq. Operator : KHB Seq. Line : 15
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 10:29:56 AM Inj : 1
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Sample Blank

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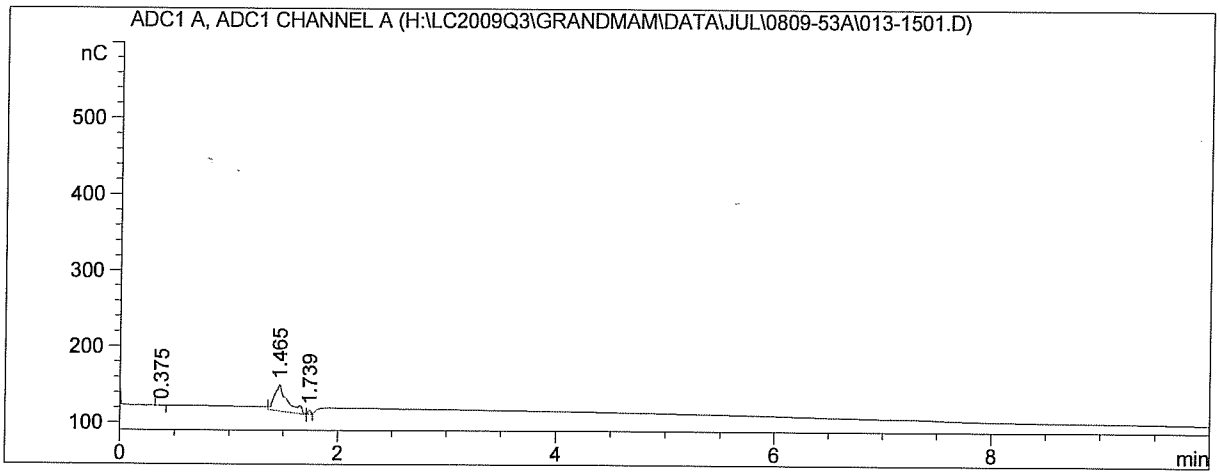

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\013-1502.D
Sample Name: 031 0809-59

==========

Acq. Operator : KHB Seq. Line : 15
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 10:41:12 AM Inj : 2
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Sample Blank

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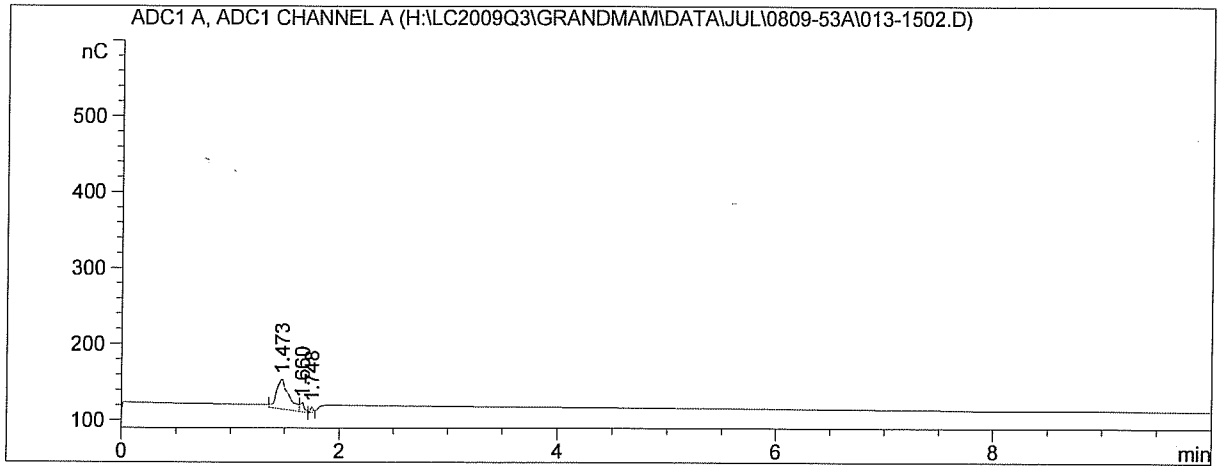

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\007-0701.D
Sample Name: 0.1N NaOH

==========

Acq. Operator : KHB Seq. Line : 7
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 7:29:33 AM Inj : 1
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Reagent Blank 0.1N NaOH

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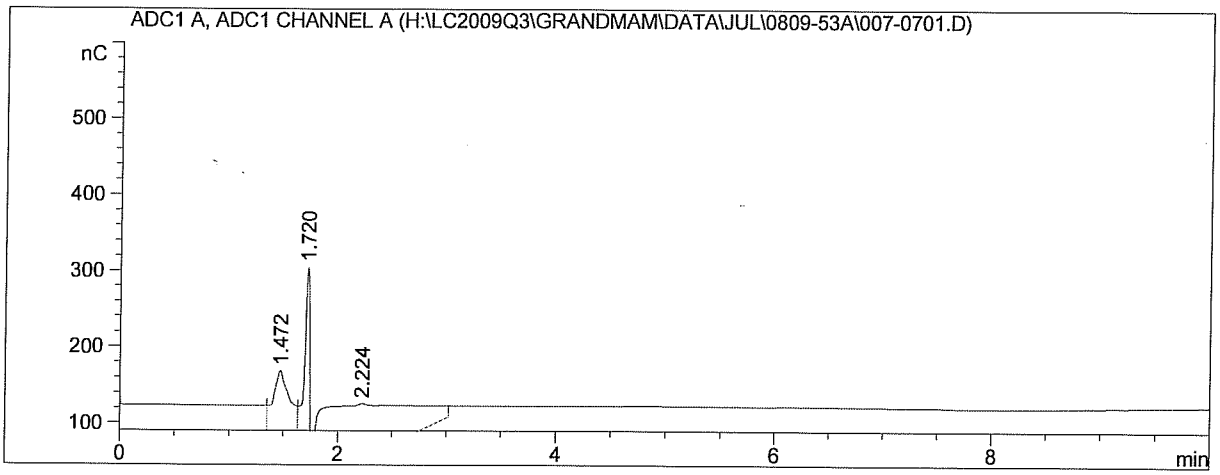

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\007-0702.D
Sample Name: 0.1N NaOH

==========

Acq. Operator	: KHB	Seq. Line :	7
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 7:40:48 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		
Sample Info	: Reagent Blank 0.1N NaOH		

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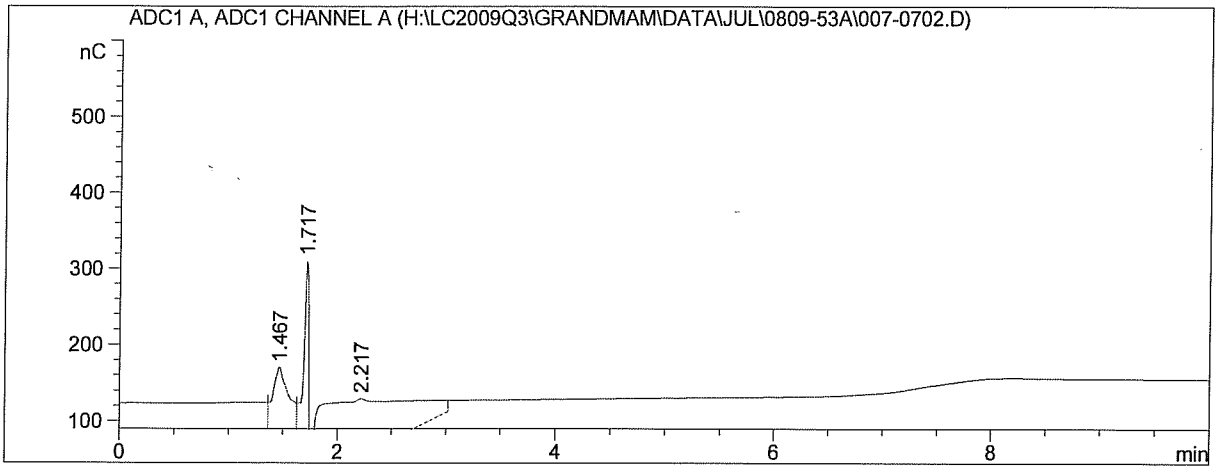

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.591		-	-	-		Hydrogen Cyanide

Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\014-1701.D
Sample Name: MS/010 0809-59

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Acq. Operator	: KHB	Seq. Line :	17
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 11:15:02 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		
Sample Info	: Matrix Spike		

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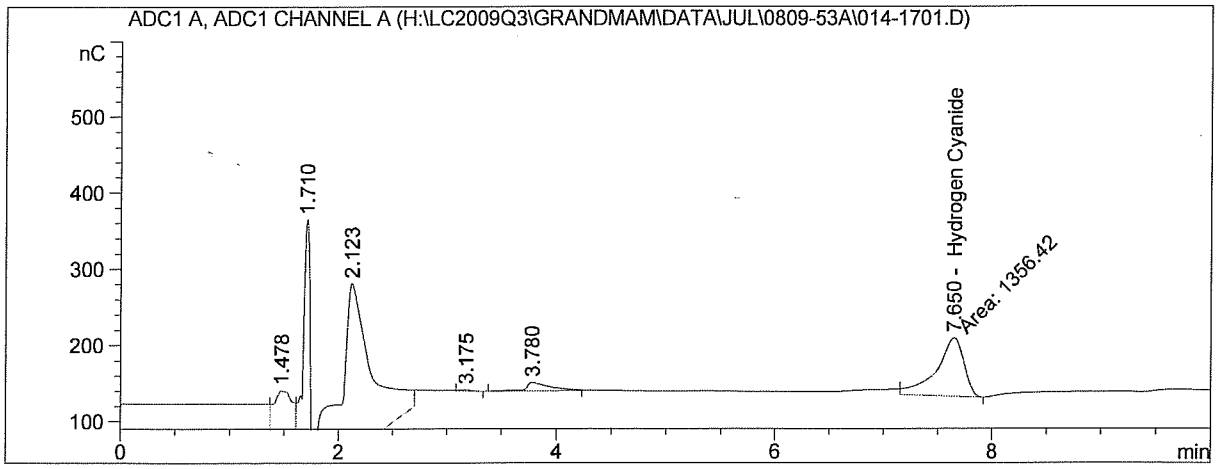

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.650	FM	1356.41650	3.49574e-4	4.74168e-1		Hydrogen Cyanide **Manual Int. "II" (KHB)**

Totals : 4.74168e-1

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*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\014-1702.D
Sample Name: MS/010 0809-59

==========

Acq. Operator : KHB Seq. Line : 17
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 11:26:18 AM Inj : 2
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Matrix Spike

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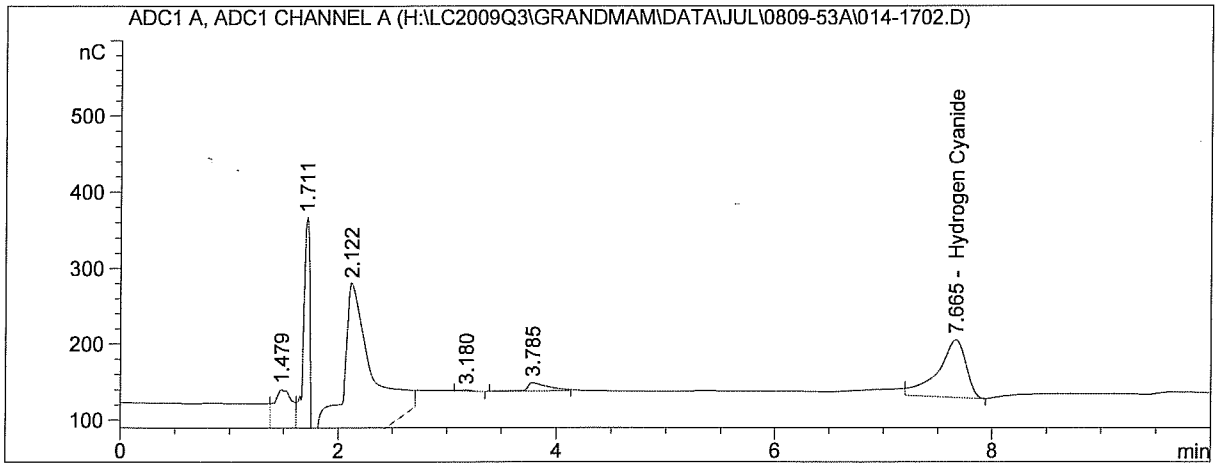

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.665	BV	1352.27026	3.49549e-4	4.72685e-1		Hydrogen Cyanide

Totals : 4.72685e-1

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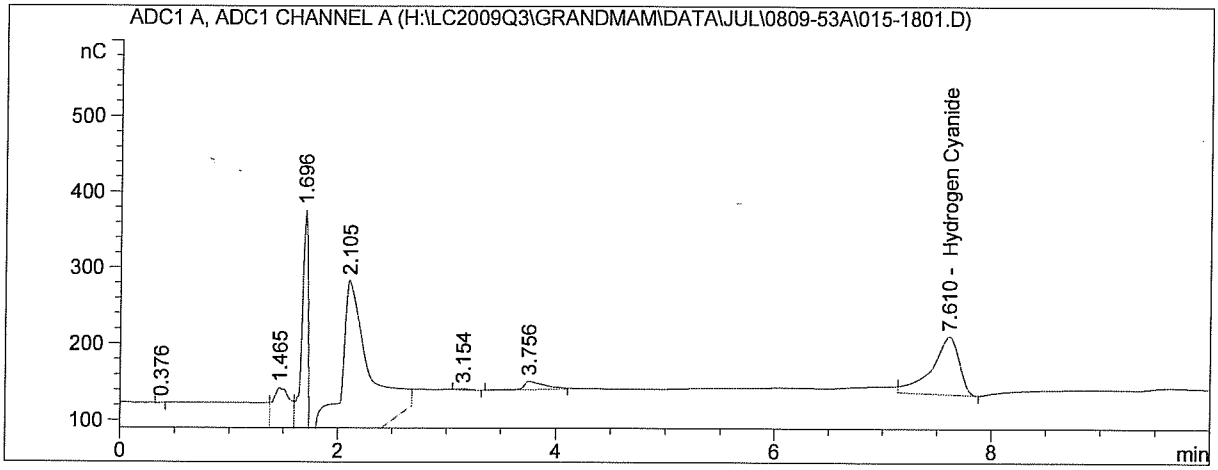
*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\015-1801.D
Sample Name: MSD/010 0809-59

Acq. Operator	: KHB	Seq. Line :	18
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 11:37:35 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		
Sample Info	: Matrix Spike Duplicate		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.610	BV	1328.89111	3.49404e-4	4.64320e-1		Hydrogen Cyanide

Totals : 4.64320e-1

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\015-1802.D
Sample Name: MSD/010 0809-59

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Acq. Operator : KHB Seq. Line : 18
Acq. Instrument : Grandmama Location : -
Injection Date : 9/9/2009 11:48:51 AM Inj : 2
Acq. Method : H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M
Last changed : 9/4/2009 10:37:35 AM
Analysis Method : H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M
Last changed : 9/9/2009 11:45:32 AM by KHB
Sample Info : Matrix Spike Duplicate

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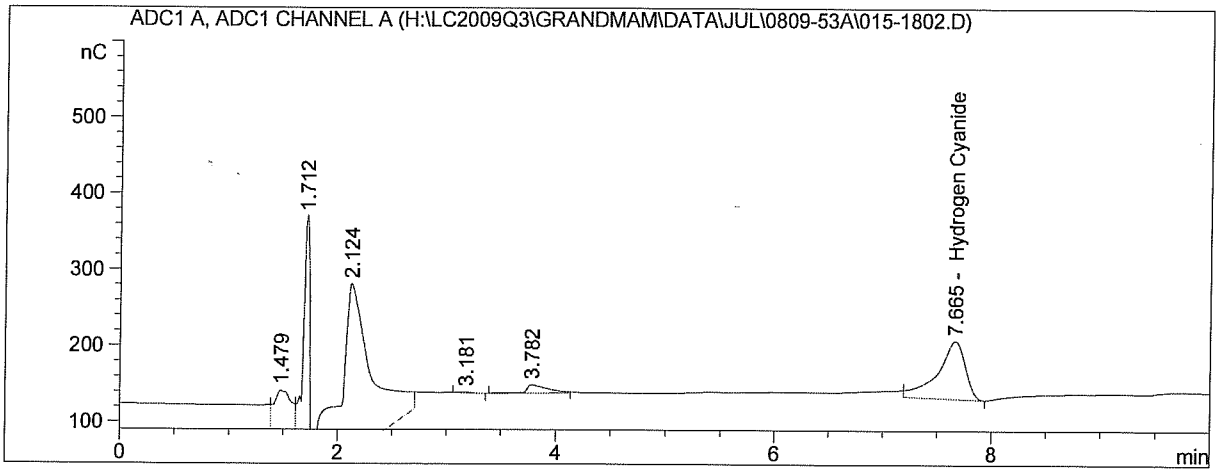

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.665	BV	1346.54529	3.49514e-4	4.70636e-1		Hydrogen Cyanide

Totals : 4.70636e-1

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*** End of Report ***

Calibration Curve Chromatograms

Calibration Table

Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 10.000 %
Abs. Reference Window : 0.300 min
Rel. Non-ref. Window : 10.000 %
Abs. Non-ref. Window : 0.300 min
Use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Linear (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Lvl Sig		Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
7.591	1	1	1.03500e-1	297.49821	3.47901e-4			Hydrogen Cyanide
		2	5.07300e-1	1514.23615	3.35020e-4			
		3	9.90500e-1	2967.56787	3.33775e-4			
		4	1.54100	4482.77173	3.43761e-4			
		5	2.08000	5489.73657	3.78889e-4			

Peak Sum Table

No Entries in table

==========

Calibration Curves

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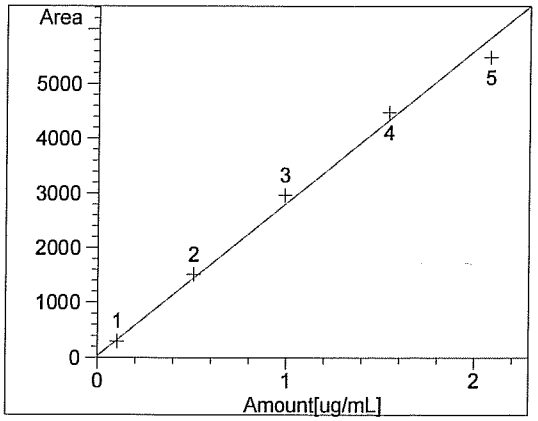

Hydrogen Cyanide at exp. RT: 7.591
ADC1 A, ADC1 CHANNEL A
Correlation: 0.99783
Residual Std. Dev.: 244.87339
Formula: y = mx + b
m: 2794.96487
b: 31.13309
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.204021
Level 3 : 0.104493
Level 4 : 0.067164
Level 5 : 0.04976

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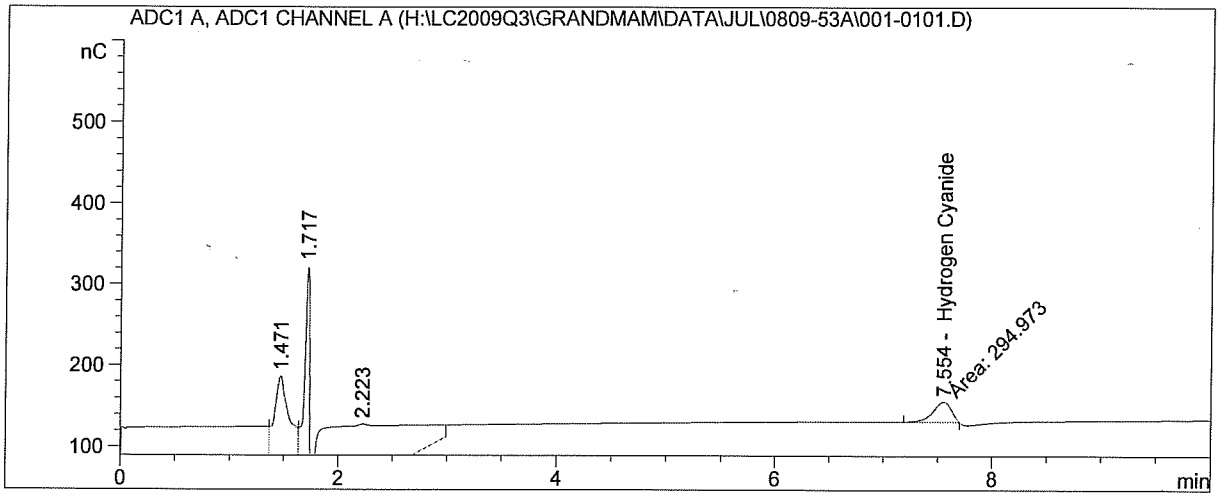
Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\001-0101.D
Sample Name: hplc35pg154 #1

Acq. Operator	: KHB	Seq. Line :	1
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 5:14:14 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

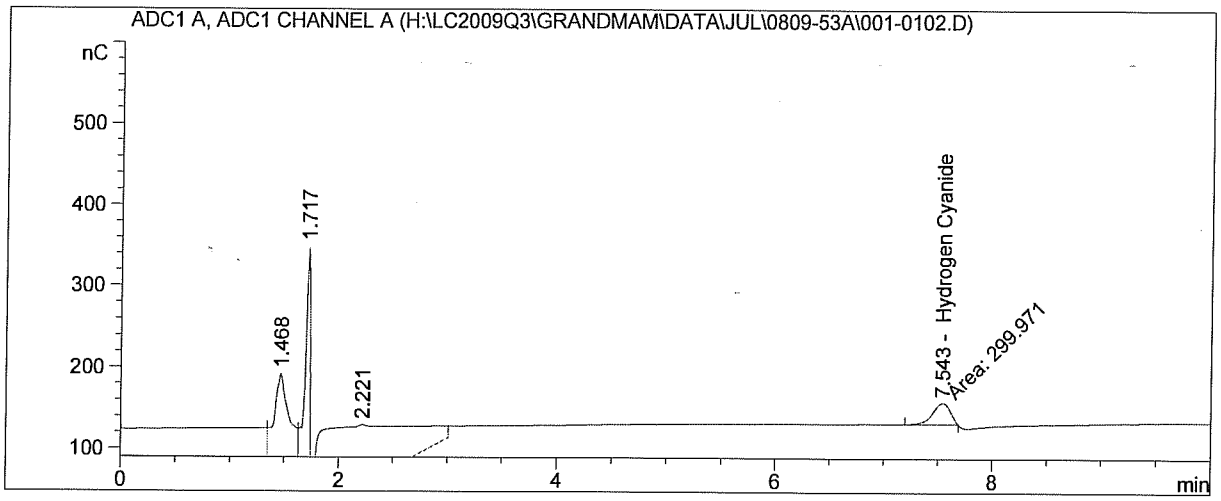
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.554	FM	294.97278	3.20023e-4	9.43982e-2		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				9.43982e-2		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\001-0102.D
Sample Name: hplc35pg154 #1

Acq. Operator	: KHB	Seq. Line :	1
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 5:25:31 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.543	FM	299.97110	3.20653e-4	9.61865e-2		Hydrogen Cyanide

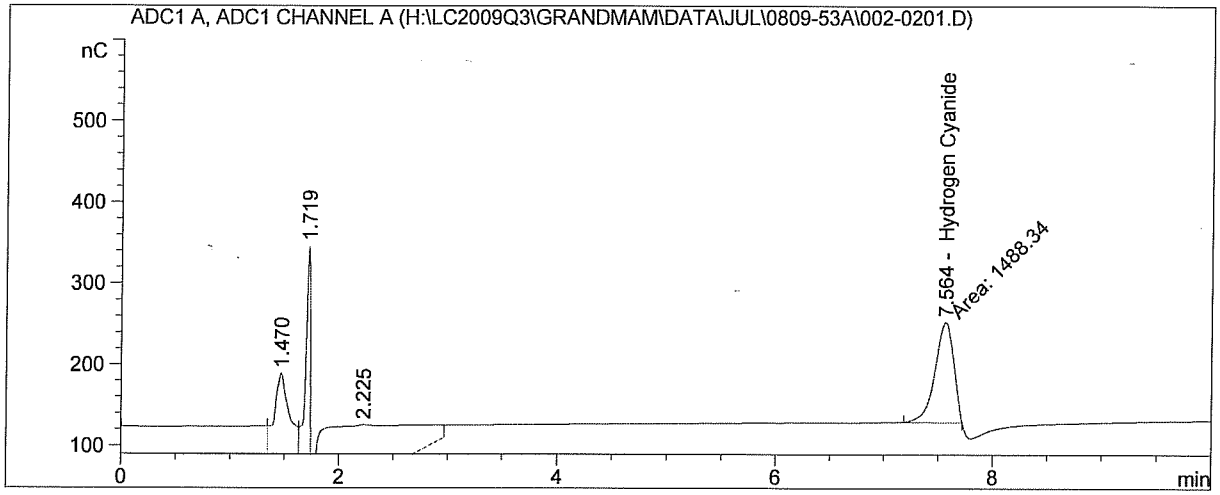
Manual Int. "II" (KHB)

Totals : 9.61865e-2

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\002-0201.D
Sample Name: hplc35pg154 #2

Acq. Operator	: KHB	Seq. Line :	2
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 5:36:47 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.564	FM	1488.34180	3.50302e-4	5.21369e-1		Hydrogen Cyanide

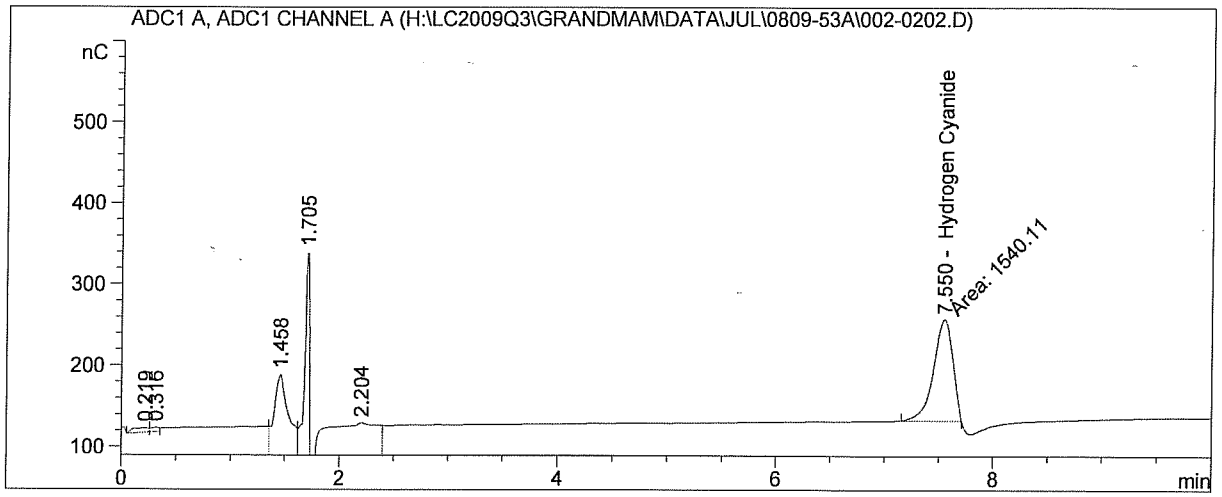
Manual Int. "II" (KHB)

Totals : 5.21369e-1

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\002-0202.D
Sample Name: hplc35pg154 #2

Acq. Operator	: KHB	Seq. Line :	2
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 5:48:03 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.550	MM	1540.10999	3.50554e-4	5.39891e-1		Hydrogen Cyanide

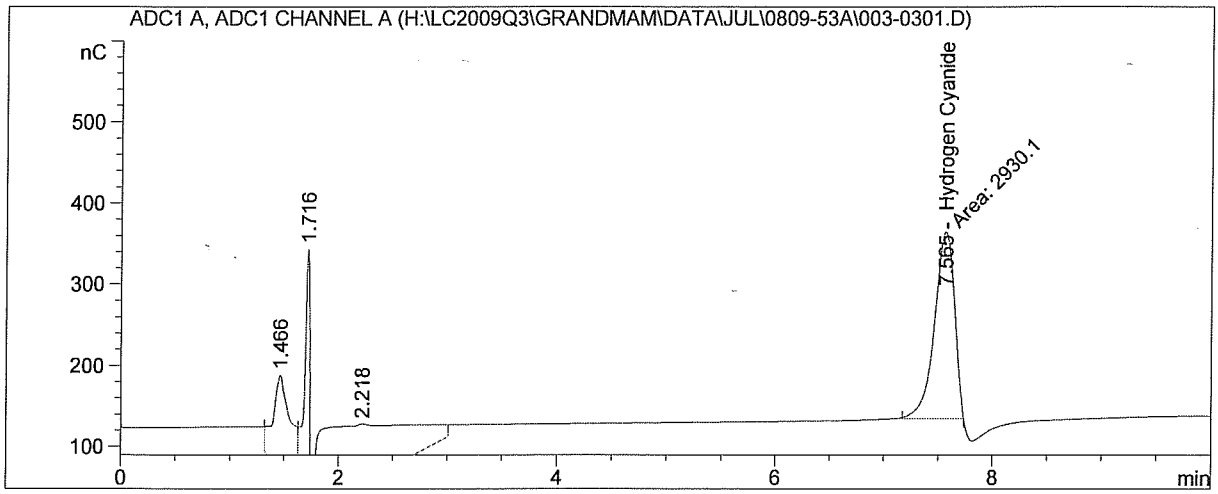
Manual Int. "II" (KHB)

Totals : 5.39891e-1

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-0301.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	3
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 5:59:20 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

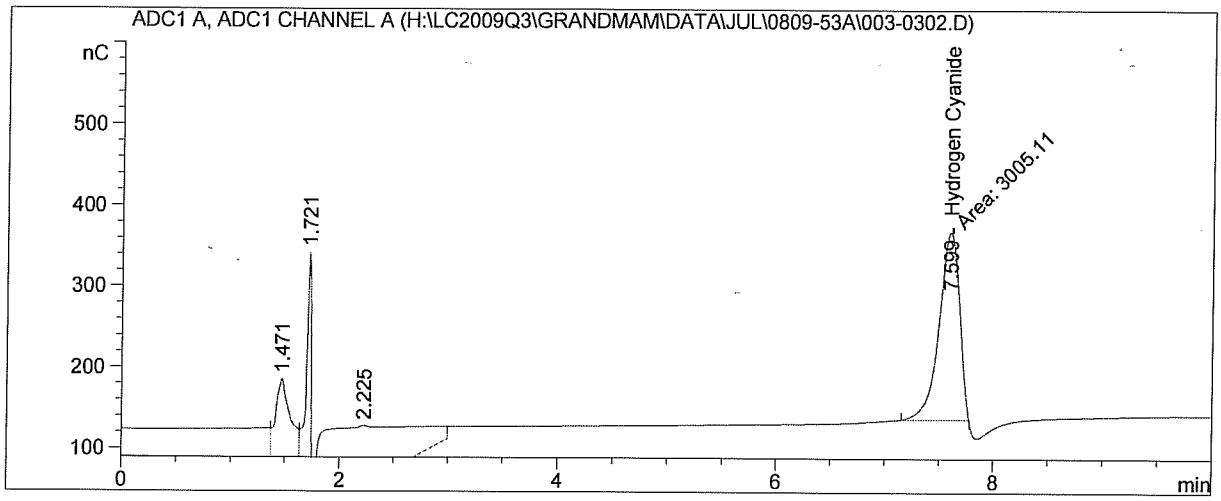
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.565	FM	2930.09741	3.53985e-4	1.03721		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				1.03721		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-0302.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	3
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 6:10:36 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

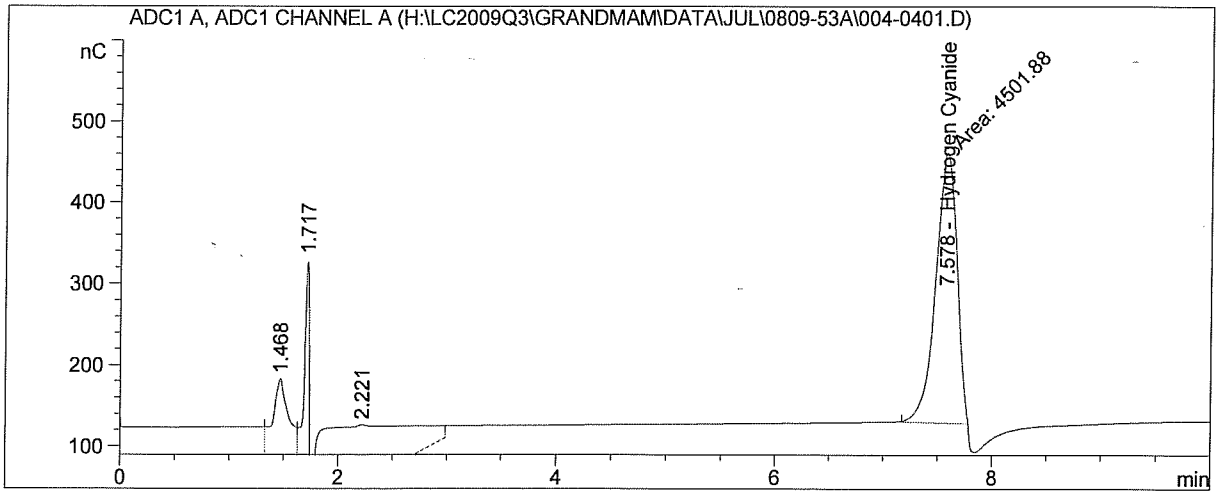
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.599	FM	3005.10962	3.54080e-4	1.06405		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				1.06405		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\004-0401.D
Sample Name: hplc35pg154 #4

Acq. Operator	: KHB	Seq. Line :	4
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 6:21:54 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

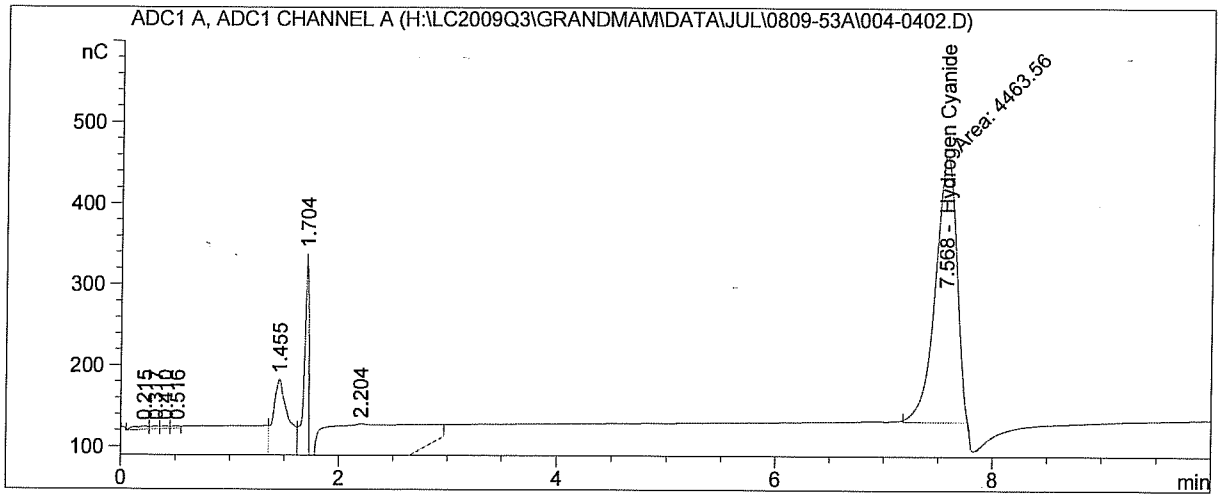
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.578	FM	4501.88184	3.55312e-4	1.59957		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				1.59957		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\004-0402.D
Sample Name: hplc35pg154 #4

Acq. Operator	: KHB	Seq. Line :	4
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 6:33:10 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

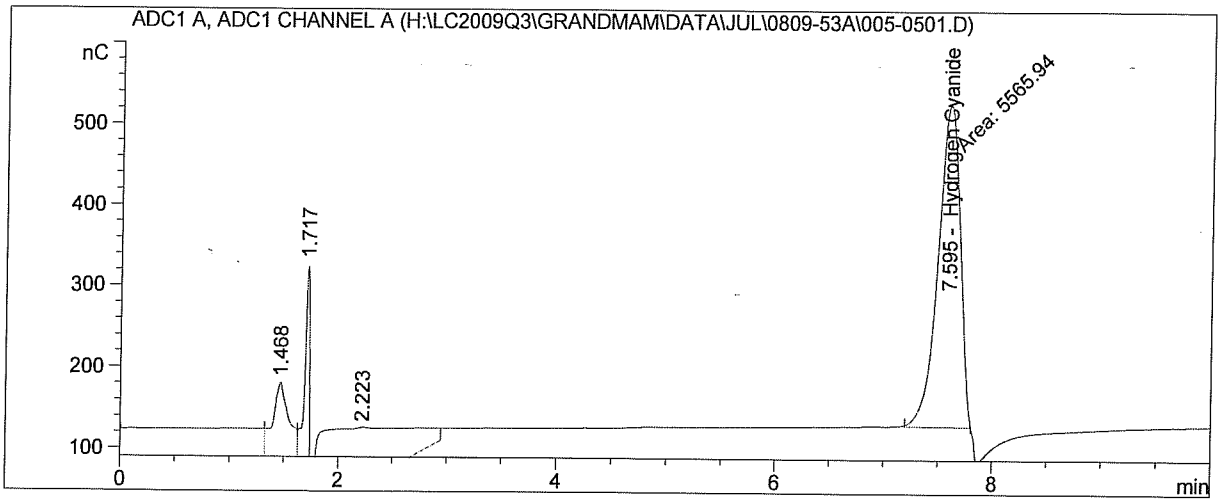
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.568	FM	4463.55859	3.55291e-4	1.58586		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				1.58586		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\005-0501.D
Sample Name: hplc35pg1454 #5

Acq. Operator	: KHB	Seq. Line :	5
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 6:44:27 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By : Signal
Calib. Data Modified : Wednesday, September 09, 2009 11:44:41 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

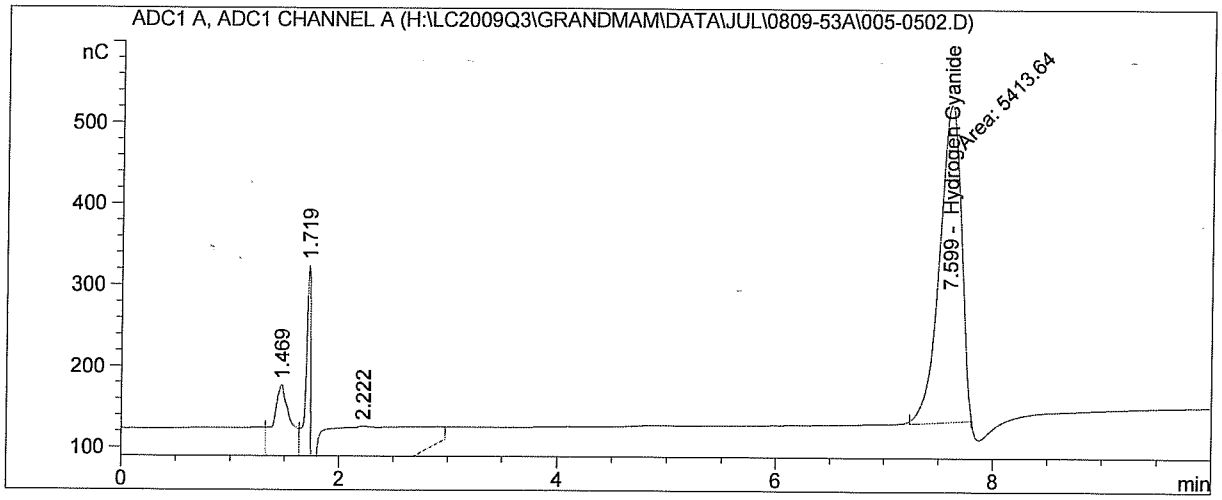
RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.595	FM	5565.93604	3.55785e-4	1.98028		Hydrogen Cyanide
Totals :				1.98028		

Manual Int. "II" (KHB)

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\005-0502.D
Sample Name: hplc35pg1454 #5

Acq. Operator	: KHB	Seq. Line :	5
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 6:55:43 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

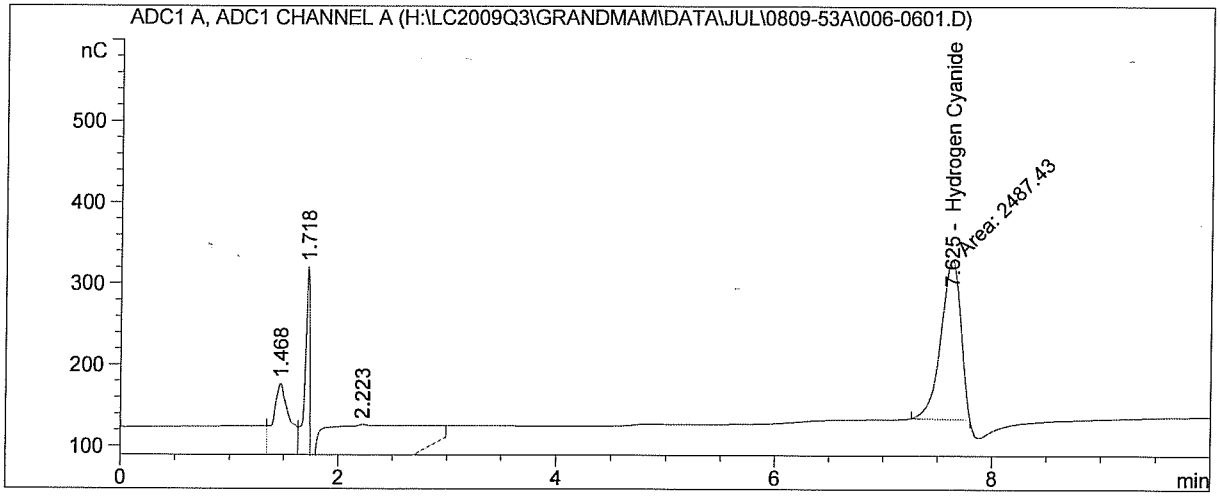
RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.599	FM	5413.64258	3.55729e-4	1.92579		Hydrogen Cyanide
Totals :				1.92579		

Manual Int. "II" (KHB)

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\006-0601.D
Sample Name: hplc35pg154 #LCS

Acq. Operator	: KHB	Seq. Line :	6
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 7:06:59 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.625	MF	2487.42603	3.53308e-4	8.78828e-1		Hydrogen Cyanide

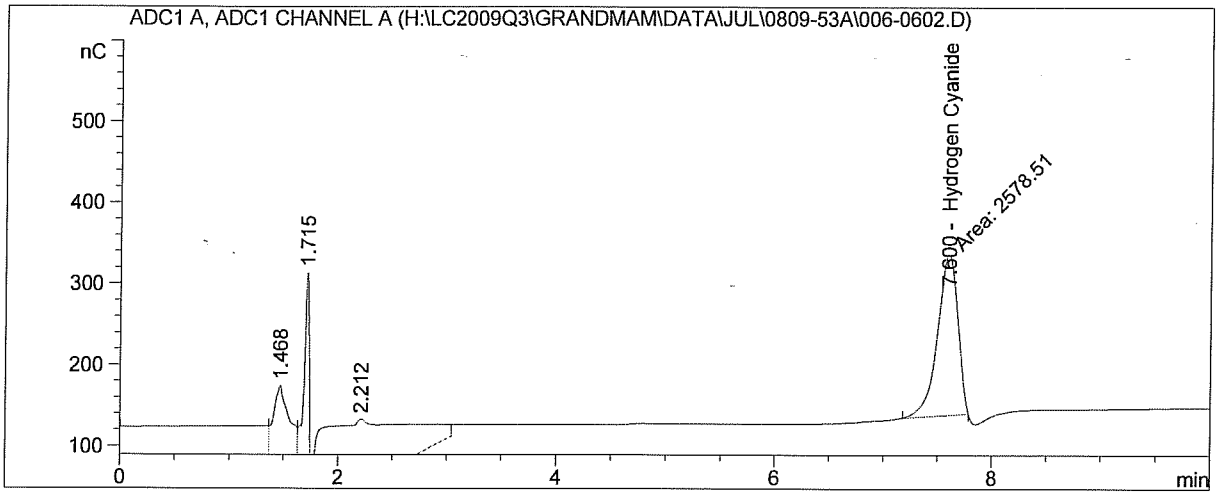
Manual Int. "II" (KHB)

Totals : 8.78828e-1

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\006-0602.D
Sample Name: hplc35pg154 #LCS

Acq. Operator	: KHB	Seq. Line :	6
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 7:18:16 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

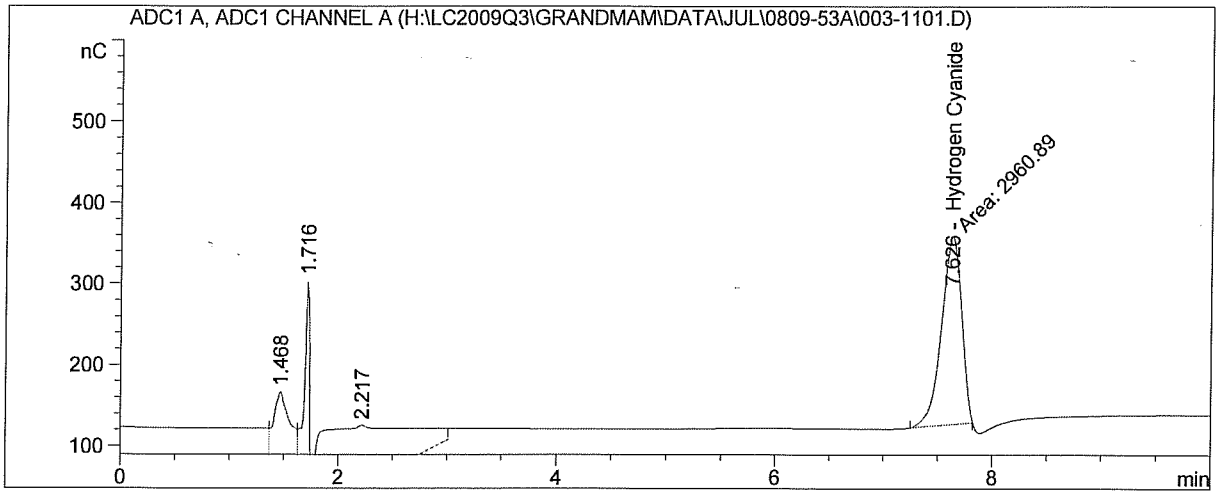
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.600	MF	2578.51465	3.53466e-4	9.11418e-1		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				9.11418e-1		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-1101.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	11
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 8:59:44 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

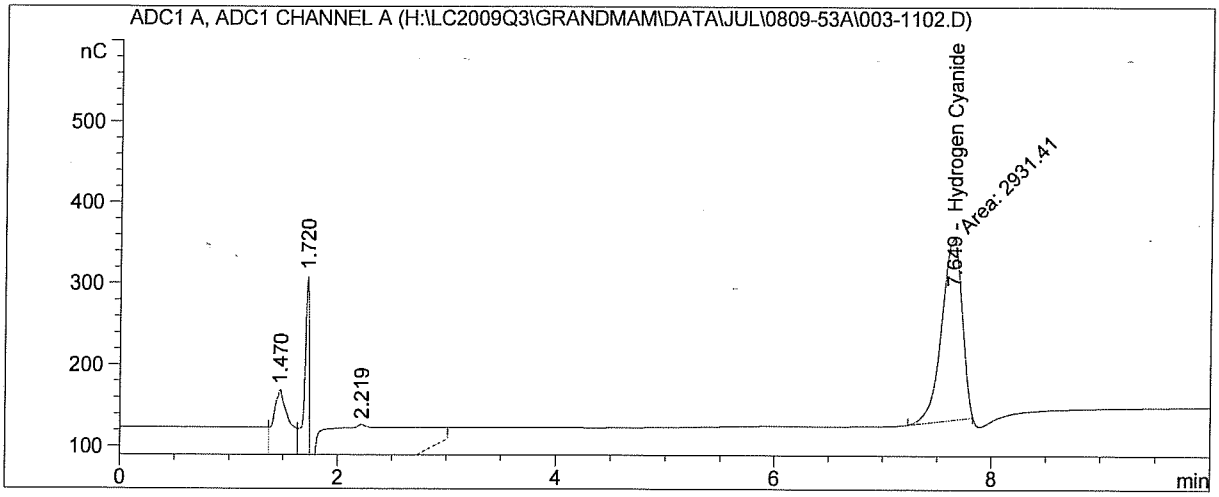
RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.626	MF	2960.89160	3.54024e-4	1.04823		Hydrogen Cyanide
Totals :				1.04823		

Manual Int. "II" (KHB)

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-1102.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	11
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 9:11:00 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

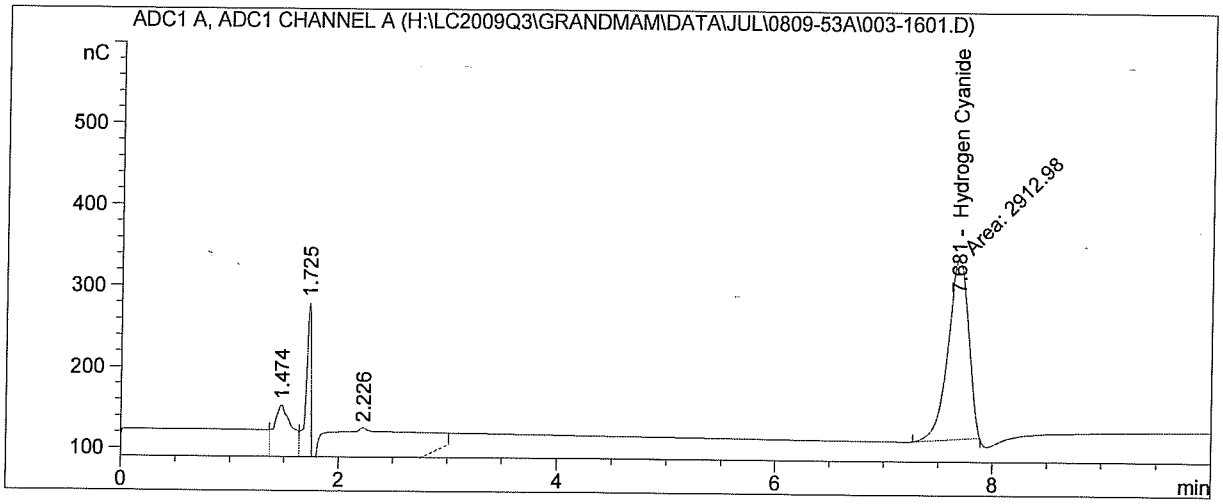
RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.649	MF	2931.41211	3.53986e-4	1.03768		Hydrogen Cyanide
Totals :				1.03768		

Manual Int. "II" (KHB)

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-1601.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	16
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 10:52:29 AM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.681	MF	2912.98047	3.53962e-4	1.03109		Hydrogen Cyanide
Totals :				1.03109		

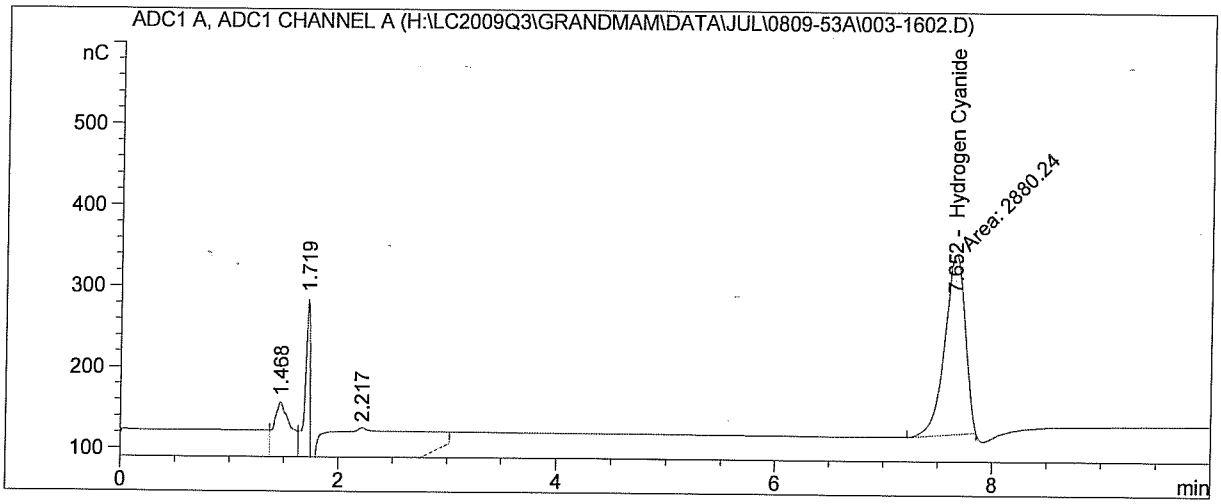
Manual Int. "II" (KHB)

*** End of Report ***

Instrument 3 9/9/2009 4:09:15 PM KHB

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-1602.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	16
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 11:03:45 AM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.652	MF	2880.23853	3.53919e-4	1.01937		Hydrogen Cyanide
Totals :				1.01937		

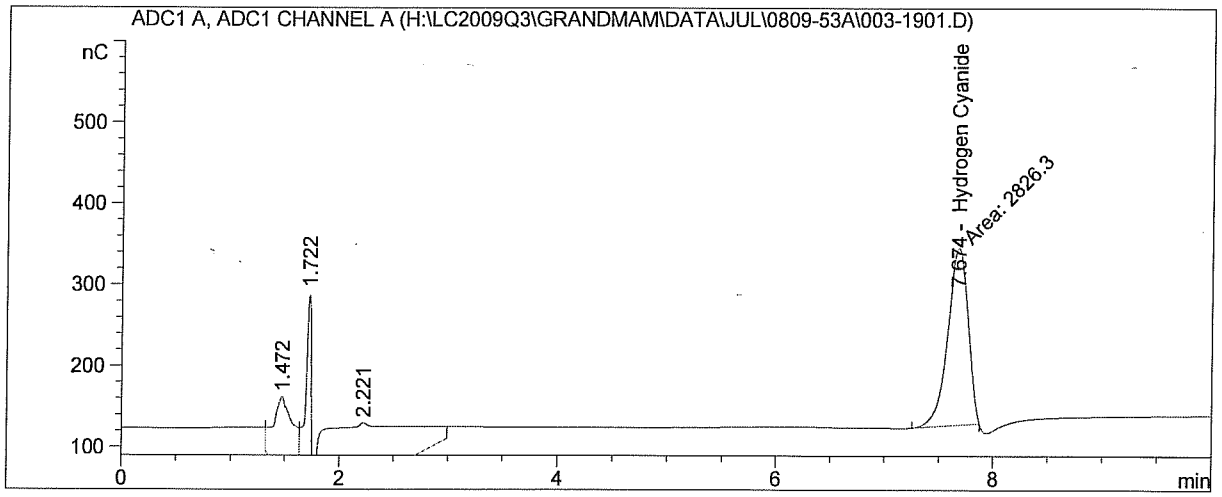
Manual Int. "II" (KHB)

*** End of Report ***

Instrument 3 9/9/2009 4:09:31 PM KHB

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-1901.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	19
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 12:00:08 PM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

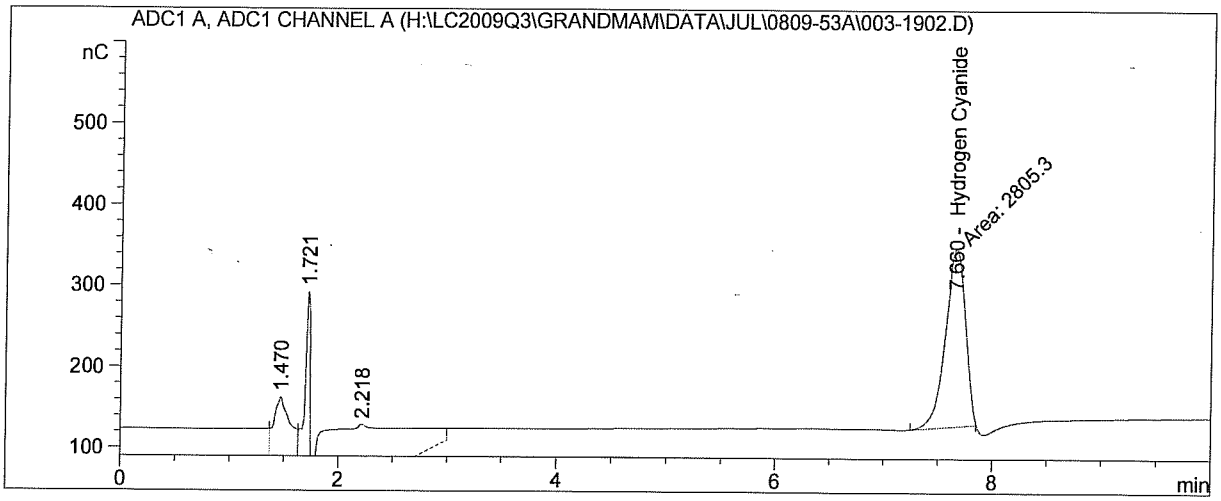
Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.674	MM	2826.30347	3.53845e-4	1.00007		Hydrogen Cyanide **Manual Int. "II" (KHB)**
Totals :				1.00007		

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-1902.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	19
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 12:11:25 PM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

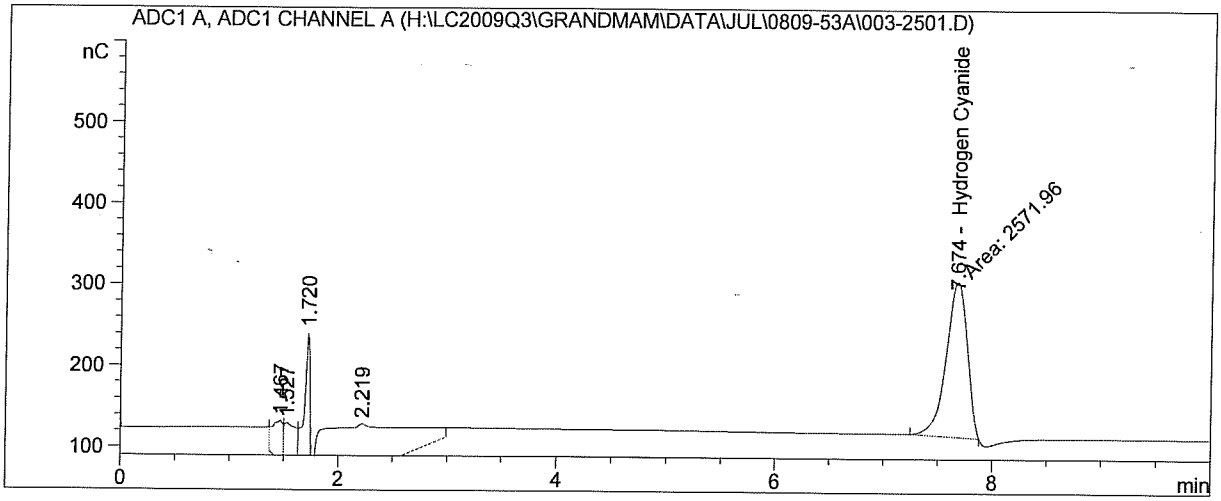
RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.660	MM	2805.29565	3.53816e-4	9.92557e-1		Hydrogen Cyanide
Totals :				9.92557e-1		

Manual Int. "II" (KHB)

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-2501.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	25
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 2:15:26 PM	Inj :	1
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

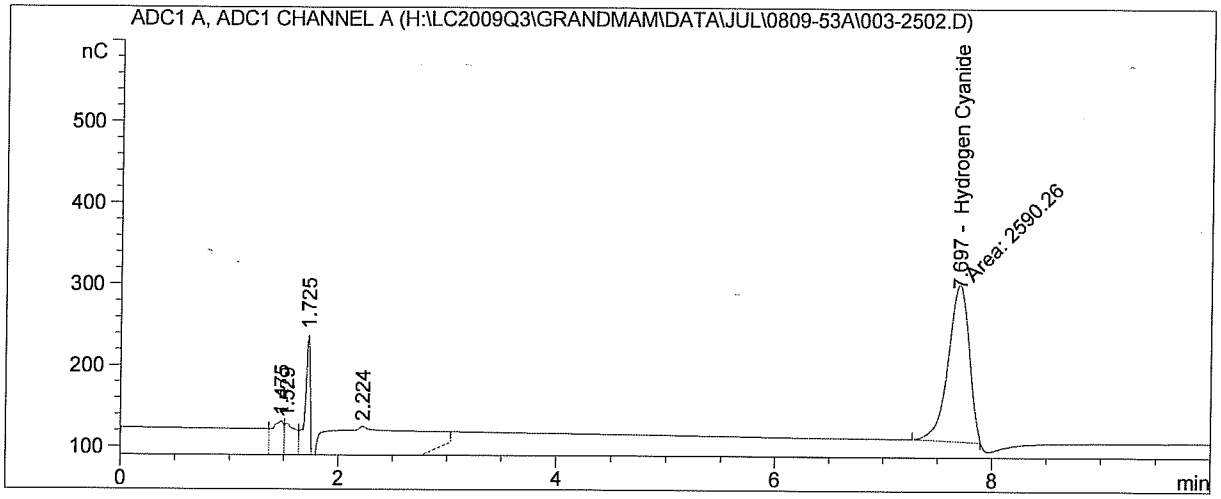
RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.674	MM	2571.95630	3.53455e-4	9.09072e-1		Hydrogen Cyanide
Totals :				9.09072e-1		

Manual Int. "II" (KHB)

*** End of Report ***

Data File H:\LC2009Q3\GRANDMAM\DATA\JUL\0809-53A\003-2502.D
Sample Name: hplc35pg154 #3

Acq. Operator	: KHB	Seq. Line :	25
Acq. Instrument	: Grandmama	Location :	-
Injection Date	: 9/9/2009 2:26:42 PM	Inj :	2
Acq. Method	: H:\LC2009Q3\GRANDMAM\METHODS\CTM033.M		
Last changed	: 9/4/2009 10:37:35 AM		
Analysis Method	: H:\LC2009Q3\GRANDMAM\METHODS\0809-53A.M		
Last changed	: 9/9/2009 11:45:32 AM by KHB		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	Wednesday, September 09, 2009 11:44:41 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: ADC1 A, ADC1 CHANNEL A

RetTime [min]	Type	Area [nC*s]	Amt/Area	Amount [ug/mL]	Grp	Name
7.697	MM	2590.25610	3.53486e-4	9.15619e-1		Hydrogen Cyanide
Totals :				9.15619e-1		

Manual Int. "II" (KHB)

*** End of Report ***

Method Information

Method: H:\LC2009Q1\GRANDMAM\METHODS\CTM033.M
Modified: 2/23/2009 at 4:18:28 PM

Column: Dionex Ionpac AS7 4 X 250mm w/ AG7 guard column
Eluent: 0.5M Sodium Acetate/0.1M NaOH/0.5% v/v Ethylenediamine
Detection: Integrated Amperometry w/ 1 sec waveform
Flow rate: 1.0 mL/min
Run Time: 10 min

==========

ANALOG DIGITAL CONVERTER

==========

	Signal 1
Description:	ADC1 CHANNEL A
Source:	Signal
Unit:	nC
Units/Volt:	1000.000
Peakwidth (Data Rate):	0.133 Min (2.00 Hz)
Stop Time:	10.01 Min
Data Storage:	All

Start Signal Source: External Device Will Start 35900

Timed Event Table:
<no events>

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName DataFile	Method AutoBalance	Inj LimsID	SampleType	InjVolume
1	Vial 1	hplc35pg154 #1	CTM033	2	Sample	
2	Vial 2	hplc35pg154 #2	CTM033	2	Sample	
3	Vial 3	hplc35pg154 #3	CTM033	2	Sample	
4	Vial 4	hplc35pg154 #4	CTM033	2	Sample	
5	Vial 5	hplc35pg1454 #5	CTM033	2	Sample	
6	Vial 6	hplc35pg154 #LCS	CTM033	2	Sample	
7	Vial 7	0.1N NaOH	CTM033	2	Sample	
8	Vial 8	010 0809-59	CTM033	2	Sample	
9	Vial 9	LD/010 0809-59	CTM033	2	Sample	
10	Vial 10	011 0809-59	CTM033	2	Sample	
11	Vial 3	hplc35pg154 #3	CTM033	2	Sample	
~~12~~	~~Vial 4~~	~~hplc35pg154 #4~~	~~CTM033~~	~~2~~	~~Sample~~	
13	Vial 11	012 0809-59	CTM033	2	Sample	
14	Vial 12	030 0809-59	CTM033	2	Sample	
15	Vial 13	031 0809-59	CTM033	2	Sample	
16	Vial 3	hplc35pg154 #3	CTM033	2	Sample	
17	Vial 14	MS/010 0809-59	CTM033	2	Sample	
18	Vial 15	MSD/010 0809-59	CTM033	2	Sample	
19	Vial 3	hplc35pg154 #3	CTM033	2	Sample	
~~20~~	~~Vial 4~~	~~hplc35pg154 #4~~	~~CTM033~~	~~2~~	~~Sample~~	
~~21~~	~~Vial 16~~	~~K3-CTM033-FB imp 1&2 0809-53 CTM033~~		~~2~~	~~Sample~~	
~~22~~	~~Vial 17~~	~~K3-CTM033-FB imp 3 0809-53 CTM033~~		~~2~~	~~Sample~~	
~~23~~	~~Vial 18~~	~~CTM033-NaOH Blk 0809-53 CTM033~~		~~2~~	~~Sample~~	
~~24~~	~~Vial 19~~	~~CTM033 Spike 1 1&2 0809-53 CTM033~~		~~2~~	~~Sample~~	
25	Vial 3	hplc35pg154 #3	CTM033	2	Sample	
~~26~~	~~Vial 4~~	~~hplc35pg154 #4~~	~~CTM033~~	~~2~~	~~Sample~~	

This Is The Last Page Of This Report.

Client:	Sunflower Electric Power	
Facility:	Holcomb Generating Station	
Test Location:	Unit 1 Stack	
Project #:	M093106	
Test Method:	OTM27/OTM28	
Test Engineer:	STS	
Test Technician:	JPARK	
lb/mmBtu Emissions by:	Calculated	
Type of Fuel Firing:	Coal, Sub-Bituminous	
Calculated Fuel Factor Fd, dscf/mmBtu:	9952.14	
Temp ID:	CM-10	
Meter ID:	CM-10	
Pitot ID:	100A	
Pitot Tube Coefficient:	0.840	
Probe Length:	7.0	**ft**
Probe Liner Material:	Glass	
Nozzle Diameter:	0.118	**in.**
Nozzle Kit ID Number and Material:		
Meter Calibration Factor (Y):	0.999	
Meter Orifice Setting (Delta H):	1.539	
Sample Plane:	Horizontal	
Port Length:	5.50	**in.**
Port Size (diameter):	6.00	**in.**
Port Type:	Flange	
Duct Shape:	Circular	
Diameter	16.333	**ft**
Duct Area:	209.518	**Sq. Ft.**
Upstream Diameters:	8.000	
Downstream Diameters:	8.000	
Number of Ports Sampled:	4	
Number of Points per Port:	3	
Minutes per Point:	10.0	
Total Number of Traverse Points:	12	
Test Length:	120	**min.**
Train Type:	Anderson Box	
Source Condition:	High (Normal)	
# of Runs	3	

Run 1-Method OTM27/OTM28

Client: Sunflower Electric Power | **Date: 8/4/09**
Facility: Holcomb Generating Station | **Start Time: 8:00**
Test Location: Unit 1 Stack | **End Time: 10:15**
Source Condition: High (Normal)

DRY GAS METER CONDITIONS			STACK CONDITIONS		
ΔH:	0.30	in. H_2O	Static Pressure	-0.70	in. H_2O
Meter Temperature, Tm:	104.5	°F	Flue Pressure (Ps):	26.53	in. Hg. abs.
Sqrt ΔP:	1.671	in. H_2O	Carbon Dioxide:	12.70	%
Stack Temperature, Ts:	202.1	°F	Oxygen:	6.40	%
Meter Volume, Vm:	44.701	ft^3	Nitrogen:	80.90	%
Meter Volume, Vmstd:	37.137	dscf	Gas Weight dry, Md:	30.288	lb/lb mole
Meter Volume, Vwstd:	6.938	wscf	Gas Weight wet, Ms:	28.354	lb/lb mole
Isokinetic Variance:	101.3	%I	Excess Air:	42.788	%
Calculated Fuel Factor Fd:	9,952.14	dscf/mmBtu	Gas Velocity, Vs:	112.549	fps
Test Length	120.00	in mins.	Volumetric Flow:	1,414,859	acfm
Nozzle Diameter	0.118	in inches	Volumetric Flow:	842,948	dscfm
Barometric Pressure	26.58	in Hg	Volumetric Flow:	1,000,425	scfm
Calculated Fo:	1.14		Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	100.0	ml	Silica Initial Wt.	221.2
Final Impinger Content:	236.0	ml	Silica Final Wt.	232.5
Difference:	136.0		Difference:	11.3

Total Water Gain: 147.3 Moisture, Bws: 0.157

Port-Point No.	Clock Time	Velocity Head Δp in. H2O	Orifice ΔH in. H2O	Actual Meter Vol. ft^3	Sqrt. Δp	Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	Point Vel ft/sec
1-1	8:00:00	3.10	0.30	46.512	1.761	203	100	100	1.708	118.623
1-1	8:05:45	3.00	0.30	48.220	1.732	203	100	100	2.070	116.694
1-2	8:11:00	2.90	0.30	50.290	1.703	202	100	100	1.870	114.733
1-2	8:16:00	2.80	0.30	52.160	1.673	202	100	100	2.050	112.737
1-3	8:21:00	2.40	0.30	54.210	1.549	202	100	101	1.800	104.375
1-3	8:25:30	2.40	0.30	56.010	1.549	202	100	101	1.865	104.375
	8:30:00			57.875						
2-1	8:34:00	3.10	0.30	57.875	1.761	202	103	103	2.046	118.623
2-1	8:39:15	3.20	0.30	59.921	1.789	202	104	103	1.869	120.521
2-2	8:44:30	2.90	0.30	61.790	1.703	202	105	104	1.850	114.733
2-2	8:49:30	2.90	0.30	63.640	1.703	202	106	104	1.850	114.733
2-3	8:54:30	2.40	0.30	65.490	1.549	202	106	104	1.890	104.375
2-3	8:59:00	2.20	0.30	67.380	1.483	203	106	104	1.602	99.931
	9:03:30			68.982						
3-1	9:08:00	3.10	0.30	68.982	1.761	201	106	105	1.828	118.623
3-1	9:13:15	3.00	0.30	70.810	1.732	201	106	105	1.890	116.694
3-2	9:18:30	2.90	0.30	72.700	1.703	202	107	106	1.840	114.733
3-2	9:23:45	2.90	0.30	74.540	1.703	202	107	106	1.850	114.733
3-3	9:29:00	2.40	0.30	76.390	1.549	202	107	106	1.850	104.375
3-3	9:33:30	2.40	0.30	78.240	1.549	202	107	106	1.771	104.375
	9:38:00			80.011						
4-1	9:43:00	3.20	0.30	80.011	1.789	202	108	106	1.809	120.521
4-1	9:48:30	3.20	0.30	81.820	1.789	203	107	107	1.960	120.521
4-2	9:54:00	3.00	0.30	83.780	1.732	202	108	107	1.810	116.694
4-2	9:59:15	3.00	0.30	85.590	1.732	202	108	107	1.720	116.694
4-3	10:04:30	2.40	0.30	87.310	1.549	202	108	107	1.910	104.375
4-3	10:09:45	2.40	0.30	89.220	1.549	202	108	107	1.993	104.375
	10:15:00			91.213						
Total				44.701			104.9	104.1	44.701	
Average			0.30		1.671	202.1	104.5			

Run 2-Method OTM27/OTM28

Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Location: Unit 1 Stack
Source Condition: High (Normal)

Date: 8/4/09
Start Time: 10:28
End Time: 12:40

DRY GAS METER CONDITIONS			STACK CONDITIONS		
ΔH:	0.30	In. H_2O	Static Pressure	-0.80	in. H_2O
Meter Temperature, Tm:	109.6	°F	Flue Pressure (Ps):	26.52	in. Hg. abs.
Sqrt ΔP:	1.683	In. H_2O	Carbon Dioxide:	12.80	%
Stack Temperature, Ts:	202.6	°F	Oxygen:	6.30	%
Meter Volume, Vm:	44.877	cf	Nitrogen:	80.9	%
Meter Volume, Vmstd:	36.946	dscf	Gas Weight dry, Md:	30.300	lb/lb mole
Meter Volume, Vwstd:	6.716	wscf	Gas Weight wet, Ms:	28.408	lb/lb mole
Isokinetic Variance:	99.8	%I	Excess Air:	41.839	%
Calculated Fuel Factor Fd:	9,952.14	dscf/mmBtu	Gas Velocity, Vs:	113.307	fps
Test Length	120.00	in mins.	Volumetric Flow:	1,424,398	acfm
Nozzle Diameter	0.118	in inches	Volumetric Flow:	851,362	dscfm
Barometric Pressure	26.58	in Hg	Volumetric Flow:	1,006,131	scfm
Calculated Fo:	1.14		Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	100.0	ml	Silica Initial Wt.	217.8
Final Impinger Content:	232.0	ml	Silica Final Wt.	228.4
Difference:	132.0		Difference:	10.6
Total Water Gain:	142.6		Moisture, Bws:	0.154

Port-Point No.	Clock Time	Velocity Head Δp in. H2O	Orifice ΔH in. H2O	Actual Meter Vol. ft^3	Sqrt. Δp	Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	Point Vel ft/sec
1-1	10:28:00	3.10	0.30	91.401	1.761	202	108	107	1.829	118.571
1-1	10:33:45	3.00	0.30	93.230	1.732	202	109	107	1.870	116.643
1-2	10:39:00	2.90	0.30	95.100	1.703	203	109	107	2.100	114.683
1-2	10:44:00	2.90	0.30	97.200	1.703	203	109	107	1.610	114.683
1-3	10:49:00	2.50	0.30	98.810	1.581	200	109	108	2.010	106.480
1-3	10:53:45	2.50	0.30	100.820	1.581	200	109	108	1.890	106.480
	10:58:30			102.710						
2-1	11:02:00	3.10	0.30	102.710	1.761	203	109	108	1.850	118.571
2-1	11:07:15	3.20	0.30	104.560	1.789	203	109	108	1.950	120.469
2-2	11:12:30	2.90	0.30	106.510	1.703	203	110	109	1.780	114.683
2-2	11:17:00	2.90	0.30	108.290	1.703	203	110	109	1.890	114.683
2-3	11:22:00	2.50	0.30	110.180	1.581	200	110	109	1.920	106.480
2-3	11:26:45	2.40	0.30	112.100	1.549	200	110	109	1.821	104.329
	11:31:15			113.921						
3-1	11:36:00	3.10	0.30	113.921	1.761	202	110	109	1.889	118.571
3-1	11:41:30	3.10	0.30	115.810	1.761	202	110	109	1.840	118.571
3-2	11:47:00	2.90	0.30	117.650	1.703	203	110	109	1.760	114.683
3-2	11:52:00	3.00	0.30	119.410	1.732	203	111	109	1.820	116.643
3-3	11:57:15	2.50	0.30	121.230	1.581	203	111	109	1.870	106.480
3-3	12:02:00	2.40	0.30	123.100	1.549	203	111	110	1.974	104.329
	12:06:30			125.074						
4-1	12:10:00	3.10	0.30	125.074	1.761	204	111	111	1.856	118.571
4-1	12:15:15	3.10	0.30	126.930	1.761	204	111	111	1.820	118.571
4-2	12:20:30	3.00	0.30	128.750	1.732	203	112	111	1.860	116.643
4-2	12:25:45	3.00	0.30	130.610	1.732	205	112	111	1.850	116.643
4-3	12:30:45	2.60	0.30	132.460	1.612	204	112	112	1.860	108.589
4-3	12:35:30	2.40	0.30	134.320	1.549	204	112	112	1.958	104.329
	12:40:00			136.278						
Total				44.877			110.2	109.1	44.877	
Average			0.30		1.683	202.6	109.6			

Run 3-Method OTM27/OTM28

Client: Sunflower Electric Power
Facility: Holcomb Generating Station
Location: Unit 1 Stack
Source Condition: High (Normal)

Date: 8/4/09
Start Time: 13:08
End Time: 15:22

DRY GAS METER CONDITIONS

ΔH:	0.30	In. H_2O
Meter Temperature, Tm:	115.4	°F
Sqrt ΔP:	1.702	In. H_2O
Stack Temperature, Ts:	203.3	°F
Meter Volume, Vm:	44.342	cf
Meter Volume, Vmstd:	36.140	dscf
Meter Volume, Vwstd:	6.528	wscf
Isokinetic Variance:	96.5	%I
Calculated Fuel Factor Fd:	9,952.14	dscf/mmBtu
Test Length	120.00	in mins.
Nozzle Diameter	0.118	in inches
Barometric Pressure	26.58	in Hg
Calculated Fo:	1.15	

STACK CONDITIONS

Static Pressure	-0.80	in. H_2O
Flue Pressure (Ps):	26.52	in. Hg. abs.
Carbon Dioxide:	12.80	%
Oxygen:	6.20	%
Nitrogen:	81	%
Gas Weight dry, Md:	30.296	lb/lb mole
Gas Weight wet, Ms:	28.415	lb/lb mole
Excess Air:	40.832	%
Gas Velocity, Vs:	114.664	fps
Volumetric Flow:	1,441,457	acfm
Volumetric Flow:	861,480	dscfm
Volumetric Flow:	1,017,093	scfm
Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	100.0	ml	Silica Initial Wt.	217.8
Final Impinger Content:	228.0	ml	Silica Final Wt.	228.4
Difference:	128.0		Difference:	10.6
Total Water Gain:	138.6		Moisture, Bws:	0.153

Port-Point No.	Clock Time	Velocity Head Δp in. H2O	Orifice ΔH in. H2O	Actual Meter Vol. ft^3	Sqrt. Δp	Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	Point Vel ft/sec
1-1	13:08:00	3.20	0.30	141.190	1.789	204	113	111	1.910	120.518
1-1	13:13:45	3.20	0.30	143.100	1.789	204	114	113	1.770	120.518
1-2	13:19:15	3.00	0.30	144.870	1.732	204	115	114	1.850	116.692
1-2	13:24:15	3.00	0.30	146.720	1.732	204	115	115	1.890	116.692
1-3	13:29:30	2.40	0.30	148.610	1.549	204	115	115	1.790	104.372
1-3	13:34:00	2.40	0.30	150.400	1.549	204	115	115	2.010	104.372
	13:39:30			152.410						
2-1	13:43:00	3.20	0.30	152.410	1.789	204	115	114	1.770	120.518
2-1	13:48:15	3.30	0.30	154.180	1.817	204	116	116	1.940	122.387
2-2	13:53:45	2.90	0.30	156.120	1.703	204	116	116	1.850	114.730
2-2	13:58:45	3.00	0.30	157.970	1.732	205	116	116	1.780	116.692
2-3	14:04:45	2.60	0.30	159.750	1.612	203	116	116	1.900	108.634
2-3	14:09:30	2.40	0.30	161.650	1.549	200	116	116	1.974	104.372
	14:14:15			163.624						
3-1	14:17:00	3.30	0.30	163.624	1.817	203	115	116	1.736	122.387
3-1	14:22:30	3.10	0.30	165.360	1.761	203	115	116	1.830	118.620
3-2	14:27:30	3.00	0.30	167.190	1.732	203	116	115	1.910	116.692
3-2	14:32:30	3.00	0.30	169.100	1.732	203	116	115	1.692	116.692
3-3	14:37:30	2.60	0.30	170.792	1.612	203	116	115	1.850	108.634
3-3	14:42:15	2.60	0.30	172.642	1.612	203	116	115	1.859	108.634
	14:49:00			174.501						
4-1	14:52:00	3.10	0.30	174.501	1.761	203	116	115	1.809	118.620
4-1	14:57:00	3.20	0.30	176.310	1.789	203	116	115	1.900	120.518
4-2	15:02:30	3.00	0.30	178.210	1.732	203	116	115	1.800	116.692
4-2	15:07:30	3.00	0.30	180.010	1.732	203	117	117	1.890	116.692
4-3	15:12:30	2.60	0.30	181.900	1.612	203	117	117	1.780	108.634
4-3	15:17:15	2.60	0.30	183.680	1.612	202	117	117	1.852	108.634
	15:22:00			185.532						
Total				44.342			115.6	115.2	44.342	
Average			0.30		1.702	203.3	115.4			

CONSOL CONTROLLED CONDENSATE TEST RESULTS

Date:	8/5-6/09	Condition:	Normal
Project:	Sunflower Electric Power	Data Taken By:	STS
Location:	Stack		
Source:	Unit 1		

Test Number:	1	Time:	8:00-11:00
Pressure, Barometric(Hg"):	26.440		
Pressure, Static(H_2O"):	-0.50	Water Vapor in Flue Gas (Bws):	0.164
Pressure, Stack(Hg"):	26.403		
Initial Volume (cu.ft.)	89.193		
Final Volume (cu.ft.)	108.203		
Meter Temperature (°F)	99.30		
Meter Volume (dscf)	15.844		
Meter Calibration (Y)	0.999		
Initial Wt. (grms or mls)	2862.9		
Final Wt. (grms or mls)	2928.9		
Average Delta H (ΔH)	0.025		

Test Number:	2	Time:	11:45-14:45
Pressure, Barometric(Hg"):	26.440		
Pressure, Static(H_2O"):	-0.50	Water Vapor in Flue Gas (Bws):	0.147
Pressure, Stack(Hg"):	26.403		
Initial Volume (cu.ft.)	8.29		
Final Volume (cu.ft.)	27.296		
Meter Temperature (°F)	103.15		
Meter Volume (dscf)	15.732		
Meter Calibration (Y)	0.999		
Initial Wt. (grms or mls)	2212.9		
Final Wt. (grms or mls)	2270.4		
Average Delta H (ΔH)	0.025		

Test Number:	3	Time:	7:30-08:30
Pressure, Barometric(Hg"):	26.160		
Pressure, Static(H_2O"):	-0.50	Water Vapor in Flue Gas (Bws):	0.139
Pressure, Stack(Hg"):	26.123		
Initial Volume (cu.ft.)	27.42		
Final Volume (cu.ft.)	33.707		
Meter Temperature (°F)	99.92		
Meter Volume (dscf)	5.179		
Meter Calibration (Y)	0.999		
Initial Wt. (grms or mls)	2767.4		
Final Wt. (grms or mls)	2785.2		
Average Delta H (ΔH)	0.030		

CONSOL CONTROLLED CONDENSATE TEST RESULTS

Date:	8/5-6/09	Condition:	High
Project:	Sunflower Electric Power	Data Taken By:	LS
Location:	SDA Inlet		
Source:	Unit 1		

Test Number:	1	Time:	8:00-11:00
Pressure, Barometric(Hg"):	26.640		
Pressure, Static(H_2O"):	-18.00	Water Vapor in Flue Gas (Bws):	0.120
Pressure, Stack(Hg"):	25.315		
Initial Volume (cu.ft.)	9.45		
Final Volume (cu.ft.)	28.927		
Meter Temperature (°F)	75.13		
Meter Volume (dscf)	16.993		
Meter Calibration (Y)	0.993		
Initial Wt. (grms or mls)	2797.3		
Final Wt. (grms or mls)	2846.6		
Average Delta H (ΔH)	0.038		

Test Number:	2	Time:	11:45-14:45
Pressure, Barometric(Hg"):	26.640		
Pressure, Static(H_2O"):	-18.00	Water Vapor in Flue Gas (Bws):	0.156
Pressure, Stack(Hg"):	25.315		
Initial Volume (cu.ft.)	0.003		
Final Volume (cu.ft.)	19.283		
Meter Temperature (°F)	82.75		
Meter Volume (dscf)	16.684		
Meter Calibration (Y)	0.999		
Initial Wt. (grms or mls)	2724.3		
Final Wt. (grms or mls)	2789.7		
Average Delta H (ΔH)	0.029		

Test Number:	3	Time:	08:00-11:00
Pressure, Barometric(Hg"):	26.360		
Pressure, Static(H_2O"):	-18.00	Water Vapor in Flue Gas (Bws):	0.165
Pressure, Stack(Hg"):	25.035		
Initial Volume (cu.ft.)	9.778		
Final Volume (cu.ft.)	16.204		
Meter Temperature (°F)	68.00		
Meter Volume (dscf)	5.656		
Meter Calibration (Y)	0.999		
Initial Wt. (grms or mls)	2752.2		
Final Wt. (grms or mls)	2775.9		
Average Delta H (ΔH)	0.030		

Client:	Sunflower Electric Power Corporation	
Facility:	Holcomb Station	
Test Location:	Unit 1 SDA Inlet	
Project #:	M093106	
Test Method:	M26	
Test Engineer:	S. McGough	
Test Technician:	J. Parker	
lb/mmBtu Emissions by:	Calculated	
Type of Fuel Firing:	Coal, Sub-Bituminous	
Calculated Fuel Factor Fd, dscf/mmBtu:	9318.47	
Temp ID:	CM13	
Meter ID:	CM13	
Pitot ID:	91	
Pitot Tube Coefficient:	0.840	
Probe Length:	6.0	**ft**
Probe Liner Material:	Glass	
Nozzle Diameter:		**in.**
Nozzle Kit ID Number and Material:	Glass	
Meter Calibration Factor (Y):	1.015	
Meter Orifice Setting (Delta H):	1.433	
Sample Plane:	Horizontal	
Port Type:	Flange	
Duct Shape:	Rectangular	
Number of Ports Sampled:	1	
Number of Points per Port:	1	
Minutes per Point:	120.0	
Total Number of Traverse Points:	1	
Test Length:	120	**min.**
Train Type:	Hot Box	
Source Condition:	High (Normal)	
# of Runs	3	

Run 1-Method M26

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Test Location: Unit 1 SDA Inlet
Source Condition: High (Normal)

Date: 8/5/09
Start Time: 8:00
End Time: 10:00

DRY GAS METER CONDITIONS

ΔH:	1.50	in. H_2O
Meter Temperature, Tm:	83.1	°F
Stack Temperature, Ts:	298.5	°F
Meter Volume, Vm:	89.068	ft^3
Meter Volume, Vmstd:	78.576	dscf
Meter Volume, Vwstd:	12.392	wscf
Calculated Fuel Factor Fd:	9,320.78	dscf/mmBtu
Test Length	120.00	in mins.
Nozzle Diameter	0.000	in inches
Barometric Pressure	26.64	in Hg
Calculated Fo:	1.13	

STACK CONDITIONS

Flue Pressure (Ps):	26.64	in. Hg. abs.
Carbon Dioxide:	13.40	%
Oxygen:	5.70	%
Nitrogen:	80.90	%
Gas Weight dry, Md:	30.372	lb/lb mole
Gas Weight wet, Ms:	28.687	lb/lb mole
Excess Air:	36.404	%
Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	2810.0	ml	Silica Initial Wt.	756.6
Final Impinger Content:	3049.1	ml	Silica Final Wt.	780.6
Difference:	239.1		Difference:	24.0
Total Water Gain:	263.1		Moisture, Bws:	0.136

Port-Point No.	Clock Time		Orifice ΔH in. H2O	Actual Meter Vol. ft^3		Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	
1-1	8:00:00		1.50	60.232		296	75	74	3.750	
1-1	8:05:00		1.50	63.982		296	78	75	3.008	
1-1	8:10:00		1.50	66.990		299	79	75	4.272	
1-1	8:15:00		1.50	71.262		299	81	76	3.758	
1-1	8:20:00		1.50	75.020		299	83	77	3.530	
1-1	8:25:00		1.50	78.550		299	83	78	3.668	
1-1	8:30:00		1.50	82.218		297	84	79	3.714	
1-1	8:35:00		1.50	85.932		299	84	79	3.697	
1-1	8:40:00		1.50	89.629		297	85	80	3.685	
1-1	8:45:00		1.50	93.314		299	85	81	3.730	
1-1	8:50:00		1.50	97.044		298	86	81	3.718	
1-1	8:55:00		1.50	100.762		298	86	82	3.703	
1-1	9:00:00		1.50	104.465		300	86	83	3.766	
1-1	9:05:00		1.50	108.231		300	86	83	3.729	
1-1	9:10:00		1.50	111.960		301	87	83	3.711	
1-1	9:15:00		1.50	115.671		298	89	84	3.710	
1-1	9:20:00		1.50	119.381		300	89	84	3.710	
1-1	9:25:00		1.50	123.091		299	89	84	3.730	
1-1	9:30:00		1.50	126.821		297	88	84	3.743	
1-1	9:35:00		1.50	130.564		300	88	84	3.743	
1-1	9:40:00		1.50	134.307		299	88	85	3.731	
1-1	9:45:00		1.50	138.038		298	88	85	3.744	
1-1	9:50:00		1.50	141.782		299	88	85	3.753	
1-1	9:55:00		1.50	145.54		298	89	85	3.765	
	10:00:00			149.300						
Total				89.068			85.2	81.1	89.068	
Average			1.50		#DIV/0!	298.5	83.1			

Run 2-Method M26

Client:	Sunflower Electric Power Corporation	Date:	8/5/09
Facility:	Holcomb Station	Start Time:	11:45
Location:	Unit 1 SDA Inlet	End Time:	13:45
Source Condition:	High (Normal)		

DRY GAS METER CONDITIONS

ΔH:	1.50	In. H_2O
Meter Temperature, Tm:	91.5	°F
Stack Temperature, Ts:	298.2	°F
Meter Volume, Vm:	90.490	cf
Meter Volume, Vmstd:	78.612	dscf
Meter Volume, Vwstd:	10.353	wscf
Calculated Fuel Factor Fd:	9,320.78	dscf/mmBtu
Test Length	120.00	in mins.
Nozzle Diameter	0.000	in inches
Barometric Pressure	26.64	in Hg
Calculated Fo:	1.21	

STACK CONDITIONS

Flue Pressure (Ps):	26.64	in. Hg. abs.
Carbon Dioxide:	12.00	%
Oxygen:	6.40	%
Nitrogen:	81.6	%
Gas Weight dry, Md:	30.176	lb/lb mole
Gas Weight wet, Ms:	28.759	lb/lb mole
Excess Air:	42.265	%
Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	2923.9	ml	Silica Initial Wt.	823.1
Final Impinger Content:	3122.6	ml	Silica Final Wt.	844.2
Difference:	198.7		Difference:	21.1
Total Water Gain:	219.8		Moisture, Bws:	0.116

Port-Point No.	Clock Time		Orifice ΔH in. H2O	Actual Meter Vol. ft^3		Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	
1-1	11:45:00		1.50	50.935		298	87	87	3.845	
1-1	11:50:00		1.50	54.780		300	89	87	3.752	
1-1	11:55:00		1.50	58.532		299	91	87	3.740	
1-1	12:00:00		1.50	62.272		298	92	88	3.778	
1-1	12:05:00		1.50	66.050		298	93	88	3.750	
1-1	12:10:00		1.50	69.800		298	93	89	3.720	
1-1	12:15:00		1.50	73.520		297	93	89	3.780	
1-1	12:20:00		1.50	77.300		298	93	89	3.761	
1-1	12:25:00		1.50	81.061		299	93	89	3.750	
1-1	12:30:00		1.50	84.811		297	93	90	3.769	
1-1	12:35:00		1.50	88.580		297	93	90	3.730	
1-1	12:40:00		1.50	92.310		297	93	90	3.756	
1-1	12:45:00		1.50	96.066		296	93	90	3.751	
1-1	12:50:00		1.50	99.817		295	93	90	3.738	
1-1	12:55:00		1.50	103.555		300	93	90	3.757	
1-1	13:00:00		1.50	107.312		297	94	90	3.770	
1-1	13:05:00		1.50	111.082		297	94	90	3.779	
1-1	13:10:00		1.50	114.861		298	95	90	3.781	
1-1	13:15:00		1.50	118.642		300	95	91	3.794	
1-1	13:20:00		1.50	122.436		297	95	91	3.768	
1-1	13:25:00		1.50	126.204		298	95	91	3.767	
1-1	13:30:00		1.50	129.971		299	96	91	3.801	
1-1	13:35:00		1.50	133.772		301	96	91	3.821	
1-1	13:40:00		1.50	137.593		301	96	92	3.832	
	13:45:00		1.50	141.425		300	97	92		
Total				90.490			93.4	89.7	90.490	
Average			1.50		#DIV/0!	298.2	91.5			

Run 3-Method M26

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Location: Unit 1 SDA Inlet
Source Condition: High (Normal)

Date: 8/6/09
Start Time: 7:00
End Time: 9:00

DRY GAS METER CONDITIONS

ΔH:	1.50	In. H_2O
Meter Temperature, Tm:	75.6	°F
Stack Temperature, Ts:	293.3	°F
Meter Volume, Vm:	88.617	cf
Meter Volume, Vmstd:	77.859	dscf
Meter Volume, Vwstd:	11.163	wscf
Calculated Fuel Factor Fd:	9,313.86	dscf/mmBtu
Test Length	120.00	in mins.
Nozzle Diameter	0.000	in inches
Barometric Pressure	26.16	in Hg
Calculated Fo:	1.20	

STACK CONDITIONS

Static Pressure	-0.80	in. H_2O
Flue Pressure (Ps):	26.10	in. Hg. abs.
Carbon Dioxide:	12.00	%
Oxygen:	6.50	%
Nitrogen:	81.5	%
Gas Weight dry, Md:	30.180	lb/lb mole
Gas Weight wet, Ms:	28.653	lb/lb mole
Excess Air:	43.287	%
Gas Velocity, Vs:		
Volumetric Flow:		
Volumetric Flow:		
Volumetric Flow:		
Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	2852.4	ml	Silica Initial Wt.	844.2
Final Impinger Content:	3079.4	ml	Silica Final Wt.	854.2
Difference:	227.0		Difference:	10.0
Total Water Gain:	237.0		Moisture, Bws:	0.125

Port-Point No.	Clock Time		Orifice ΔH in. H2O	Actual Meter Vol. ft^3		Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	
1-1	7:00:00		1.50	42.667		291	69	68	3.662	
1-1	7:05:00		1.50	46.329		293	71	69	3.704	
1-1	7:10:00		1.50	50.033		293	73	70	3.670	
1-1	7:15:00		1.50	53.703		292	75	71	3.691	
1-1	7:20:00		1.50	57.394		294	76	71	3.678	
1-1	7:25:00		1.50	61.072		293	78	72	3.671	
1-1	7:30:00		1.50	64.743		293	79	73	3.693	
1-1	7:35:00		1.50	68.436		294	79	73	3.699	
1-1	7:40:00		1.50	72.135		293	79	74	3.706	
1-1	7:45:00		1.50	75.841		296	78	74	3.662	
1-1	7:50:00		1.50	79.503		295	78	74	3.689	
1-1	7:55:00		1.50	83.192		293	77	74	3.688	
1-1	8:00:00		1.50	86.880		295	77	74	3.673	
1-1	8:05:00		1.50	90.553		294	77	74	3.700	
1-1	8:10:00		1.50	94.253		293	77	74	3.690	
1-1	8:15:00		1.50	97.943		295	77	74	3.709	
1-1	8:20:00		1.50	101.652		294	77	74	3.691	
1-1	8:25:00		1.50	105.343		294	78	74	3.709	
1-1	8:30:00		1.50	109.052		292	79	74	3.682	
1-1	8:35:00		1.50	112.734		294	80	75	3.704	
1-1	8:40:00		1.50	116.438		292	81	75	3.710	
1-1	8:45:00		1.50	120.148		292	83	76	3.705	
1-1	8:50:00		1.50	123.853		292	84	77	3.709	
1-1	8:55:00		1.50	127.562		292	84	77	3.722	
	9:00:00			131.284						
Total				88.617			77.8	73.4	88.617	
Average			1.50		#DIV/0!	293.3	75.6			

Client:	Sunflower Electric Power Corporation	
Facility:	Holcomb Station	
Test Location:	Unit 1 Stack	
Project #:	M093106	
Test Method:	M26A	
Test Engineer:	S. Sands	
Test Technician:	J Parker	
lb/mmBtu Emissions by:	Calculated	
Type of Fuel Firing:	Coal, Sub-Bituminous	
Calculated Fuel Factor Fd, dscf/mmBtu:	9318.47	
Temp ID:	CM16	
Meter ID:	CM16	
Pitot ID:	91	
Pitot Tube Coefficient:	0.840	
Probe Length:	7.0	**ft**
Probe Liner Material:	Glass	
Nozzle Diameter:	0.168	**in.**
Nozzle Kit ID Number and Material:	Glass	
Meter Calibration Factor (Y):	1.014	
Meter Orifice Setting (Delta H):	1.519	
Sample Plane:	Horizontal	
Port Length:	6.00	**in.**
Port Size (diameter):	4.00	**in.**
Port Type:	Flange	
Duct Shape:	Circular	
Diameter	16.33333333	**ft**
Duct Area:	209.527	**Sq. Ft.**
Upstream Diameters:	>2	
Downstream Diameters:	>8	
Number of Ports Sampled:	4	
Number of Points per Port:	3	
Minutes per Point:	10.0	
Total Number of Traverse Points:	12	
Test Length:	120	**min.**
Train Type:	Anderson Box	
Source Condition:	Normal	
# of Runs	3	

Run 1-Method M26A

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Test Location: Unit 1 Stack
Source Condition: High (Normal)

Date: 8/5/09
Start Time: 8:00
End Time: 10:15

DRY GAS METER CONDITIONS

ΔH:	1.28	in. H_2O
Meter Temperature, Tm:	98.8	°F
Sqrt ΔP:	1.672	in. H_2O
Stack Temperature, Ts:	198.0	°F
Meter Volume, Vm:	89.232	ft^3
Meter Volume, Vmstd:	75.825	dscf
Meter Volume, Vwstd:	15.840	wscf
Isokinetic Variance:	103.4	%I
Calculated Fuel Factor Fd:	9,320.78	dscf/mmBtu
Test Length	120.00	in mins.
Nozzle Diameter	0.168	in inches
Barometric Pressure	26.44	in Hg
Calculated Fo:	1.20	

STACK CONDITIONS

Static Pressure	-0.80	in. H_2O
Flue Pressure (Ps):	26.38	in. Hg. abs.
Carbon Dioxide:	12.00	%
Oxygen:	6.50	%
Nitrogen:	81.50	%
Gas Weight dry, Md:	30.180	lb/lb mole
Gas Weight wet, Ms:	28.075	lb/lb mole
Excess Air:	43.287	%
Gas Velocity, Vs:	113.163	fps
Volumetric Flow:	1,422,640	acfm
Volumetric Flow:	832,616	dscfm
Volumetric Flow:	1,006,547	scfm
Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	2943.4	ml	Silica Initial Wt.	761.4
Final Impinger Content:	3252.5	ml	Silica Final Wt.	788.6
Difference:	309.1		Difference:	27.2

Total Water Gain: 336.3 Moisture, Bws: 0.173 Supersaturation Value, Bws: 0.854

Port-Point No.	Clock Time	Velocity Head Δp in. H2O	Orifice ΔH in. H2O	Actual Meter Vol. ft^3	Sqrt. Δp	Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	Point Vel ft/sec
1-1	8:00:00	3.00	1.40	98.526	1.732	198	97	97	3.784	117.235
1-1	8:05:00	3.20	1.50	102.310	1.789	198	97	97	3.700	121.080
1-2	8:10:00	2.90	1.30	106.010	1.703	198	99	96	4.000	115.265
1-2	8:15:00	2.90	1.30	110.010	1.703	198	101	96	3.790	115.265
1-3	8:20:00	2.40	1.10	113.800	1.549	198	101	96	3.210	104.859
1-3	8:25:00	2.40	1.10	117.010	1.549	198	101	97	3.579	104.859
	8:30:00			120.589						
2-1	8:35:00	3.20	1.50	120.589	1.789	198	99	96	3.531	121.080
2-1	8:40:00	3.20	1.50	124.120	1.789	198	100	96	4.190	121.080
2-2	8:45:00	3.00	1.40	128.310	1.732	198	101	98	3.890	117.235
2-2	8:50:00	3.00	1.40	132.200	1.732	198	101	98	3.940	117.235
2-3	8:55:00	2.10	0.97	136.140	1.449	198	103	96	2.870	98.086
2-3	9:00:00	2.30	1.00	139.010	1.517	198	103	96	3.652	102.651
	9:05:00			142.662						
3-1	9:10:00	3.40	1.60	142.662	1.844	198	100	96	3.928	124.807
3-1	9:15:00	3.30	1.50	146.590	1.817	198	101	96	4.130	122.958
3-2	9:20:00	3.00	1.30	150.720	1.732	198	101	96	3.780	117.235
3-2	9:25:00	3.00	1.40	154.500	1.732	198	103	96	4.110	117.235
3-3	9:30:00	2.40	1.10	158.610	1.549	198	103	96	3.280	104.859
3-3	9:35:00	2.30	1.00	161.890	1.517	198	103	96	3.752	102.651
	9:40:00			165.642						
4-1	9:45:00	3.10	1.40	165.642	1.761	198	97	97	3.808	119.173
4-1	9:50:00	3.00	1.40	169.450	1.732	198	97	97	3.560	117.235
4-2	9:55:00	2.80	1.20	173.01	1.673	198	103	97	4.200	113.260
4-2	10:00:00	2.90	1.30	177.210	1.703	198	103	98	3.660	115.265
4-3	10:05:00	2.30	1.00	180.870	1.517	198	103	98	3.150	102.651
4-3	10:10:00	2.30	1.00	184.020	1.517	198	103	98	3.738	102.651
	10:15:00			187.758						
Total				89.232			100.8	96.7	89.232	
Average			1.28		1.672	198.0	98.8			

Run 2-Method M26A

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Location: Unit 1 Stack
Source Condition: High (Normal)

Date: 8/5/09
Start Time: 11:45
End Time: 14:00

DRY GAS METER CONDITIONS

ΔH:	1.32	In. H_2O
Meter Temperature, Tm:	101.7	°F
Sqrt ΔP:	1.688	In. H_2O
Stack Temperature, Ts:	198.0	°F
Meter Volume, Vm:	90.092	cf
Meter Volume, Vmstd:	76.160	dscf
Meter Volume, Vwstd:	13.810	wscf
Isokinetic Variance:	100.9	%I
Calculated Fuel Factor Fd:	9,320.78	dscf/mmBtu
Test Length	120.00	in mins.
Nozzle Diameter	0.168	in inches
Barometric Pressure	26.44	in Hg
Calculated Fo:	1.21	

STACK CONDITIONS

Static Pressure	-0.80	in. H_2O
Flue Pressure (Ps):	26.38	in. Hg. abs.
Carbon Dioxide:	12.00	%
Oxygen:	6.40	%
Nitrogen:	81.6	%
Gas Weight dry, Md:	30.176	lb/lb mole
Gas Weight wet, Ms:	28.307	lb/lb mole
Excess Air:	42.265	%
Gas Velocity, Vs:	113.818	fps
Volumetric Flow:	1,430,871	acfm
Volumetric Flow:	856,979	dscfm
Volumetric Flow:	1,012,371	scfm
Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	2966.2	ml	Silica Initial Wt.	788.6
Final Impinger Content:	3245.3	ml	Silica Final Wt.	802.7
Difference:	279.1		Difference:	14.1

Total Water Gain: 293.2 Moisture, Bws: 0.153 Supersaturation Value, Bws: 0.854

Port-Point No.	Clock Time	Velocity Head Δp in. H2O	Orifice ΔH in. H2O	Actual Meter Vol. ft^3	Sqrt. Δp	Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	Point Vel ft/sec
1-1	11:45:00	3.40	1.60	187.920	1.844	198	96	97	4.200	124.295
1-1	11:50:00	3.30	1.50	192.120	1.817	198	98	96	3.770	122.453
1-2	11:55:00	2.90	1.30	195.890	1.703	198	100	96	3.820	114.792
1-2	12:00:00	3.00	1.40	199.710	1.732	198	101	97	3.830	116.755
1-3	12:05:00	2.40	1.10	203.540	1.549	197	102	97	3.470	104.428
1-3	12:10:00	2.40	1.10	207.010	1.549	195	102	97	3.402	104.428
	12:15:00			210.412						
2-1	12:20:00	3.10	1.40	210.412	1.761	198	101	98	3.788	118.684
2-1	12:25:00	3.10	1.40	214.200	1.761	198	103	98	4.110	118.684
2-2	12:30:00	3.00	1.40	218.310	1.732	198	104	98	3.780	116.755
2-2	12:35:00	3.00	1.40	222.090	1.732	197	104	99	3.920	116.755
2-3	12:40:00	2.10	0.98	226.010	1.449	195	106	99	3.390	97.684
2-3	12:45:00	2.10	0.98	229.400	1.449	195	106	99	3.015	97.684
	12:50:00			232.415						
3-1	12:55:00	3.40	1.60	232.415	1.844	198	106	99	3.985	124.295
3-1	13:00:00	3.40	1.60	236.400	1.844	199	106	100	4.080	124.295
3-2	13:05:00	3.00	1.40	240.480	1.732	199	107	100	4.100	116.755
3-2	13:10:00	3.00	1.40	244.580	1.732	199	107	100	4.040	116.755
3-3	13:15:00	2.40	1.10	248.620	1.549	199	107	101	3.490	104.428
3-3	13:20:00	2.40	1.10	252.110	1.549	200	108	100	3.100	104.428
	13:25:00			255.210						
4-1	13:30:00	3.30	1.50	255.210	1.817	200	105	100	3.810	122.453
4-1	13:35:00	3.30	1.50	259.020	1.817	200	106	100	4.190	122.453
4-2	13:40:00	3.00	1.40	263.210	1.732	200	107	100	3.910	116.755
4-2	13:45:00	3.00	1.40	267.120	1.732	198	108	101	3.790	116.755
4-3	13:50:00	2.40	1.10	270.910	1.549	198	108	102	3.500	104.428
4-3	13:55:00	2.40	1.10	274.410	1.549	197	109	102	3.602	104.428
	14:00:00			278.012						
Total				90.092			104.5	99.0	90.092	
Average			1.32		1.688	198.0	101.7			

Run 3-Method M26A

Client: Sunflower Electric Power Corporation
Facility: Holcomb Station
Location: Unit 1 Stack
Source Condition: High (Normal)

Date: 8/6/09
Start Time: 7:00
End Time: 9:10

DRY GAS METER CONDITIONS			STACK CONDITIONS		
ΔH:	1.26	In. H_2O	Static Pressure	-0.80	in. H_2O
Meter Temperature, Tm:	97.7	°F	Flue Pressure (Ps):	26.10	in. Hg. abs.
Sqrt ΔP:	1.666	In. H_2O	Carbon Dioxide:	12.00	%
Stack Temperature, Ts:	197.7	°F	Oxygen:	6.50	%
Meter Volume, Vm:	90.513	cf	Nitrogen:	81.5	%
Meter Volume, Vmstd:	76.244	dscf	Gas Weight dry, Md:	30.180	lb/lb mole
Meter Volume, Vwstd:	13.537	wscf	Gas Weight wet, Ms:	28.344	lb/lb mole
Isokinetic Variance:	102.6	%I	Excess Air:	43.287	%
Calculated Fuel Factor Fd:	9,320.78	dscf/mmBtu	Gas Velocity, Vs:	112.821	fps
Test Length	120.00	in mins.	Volumetric Flow:	1,418,342	acfm
Nozzle Diameter	0.168	in inches	Volumetric Flow:	843,586	dscfm
Barometric Pressure	26.16	in Hg	Volumetric Flow:	993,359	scfm
Calculated Fo:	1.20		Fo Validity:	Pass	

MOISTURE DETERMINATION

Initial Impinger Content:	2963.9	ml	Silica Initial Wt.	802.7
Final Impinger Content:	3241.8	ml	Silica Final Wt.	812.2
Difference:	277.9		Difference:	9.5

Total Water Gain: 287.4 Moisture, Bws: 0.151 Supersaturation Value, Bws: 0.857

Port-Point No.	Clock Time	Velocity Head Δp in. H2O	Orifice ΔH in. H2O	Actual Meter Vol. ft^3	Sqrt. Δp	Stack Temp °F	Meter Temp Inlet °F	Meter Temp Outlet °F	Collected Vol. ft^3	Point Vel ft/sec
1-1	7:00:00	3.10	1.40	80.512	1.761	197	94	94	3.928	119.212
1-1	7:05:00	3.20	1.40	84.440	1.789	197	94	94	3.790	121.120
1-2	7:10:00	2.90	1.30	88.230	1.703	197	96	94	4.250	115.303
1-2	7:15:00	3.00	1.30	92.480	1.732	197	97	94	3.730	117.274
1-3	7:20:00	2.40	1.10	96.210	1.549	197	97	94	3.670	104.893
1-3	7:25:00	2.30	1.00	99.880	1.517	198	97	94	3.270	102.684
	7:30:00			103.150						
2-1	7:33:00	3.20	1.50	103.150	1.789	198	97	94	3.940	121.120
2-1	7:38:00	3.20	1.50	107.090	1.789	198	97	94	3.950	121.120
2-2	7:43:00	2.90	1.30	111.040	1.703	198	97	94	4.110	115.303
2-2	7:48:00	2.90	1.30	115.150	1.703	198	100	94	3.870	115.303
2-3	7:53:00	2.30	1.00	119.020	1.517	198	101	95	3.280	102.684
2-3	7:58:00	2.30	1.00	122.300	1.517	198	101	95	3.514	102.684
	8:03:00			125.814						
3-1	8:06:00	3.10	1.40	125.814	1.761	198	100	96	3.886	119.212
3-1	8:11:00	3.10	1.40	129.700	1.761	198	101	96	4.060	119.212
3-2	8:16:00	2.80	1.30	133.760	1.673	198	101	96	3.650	113.297
3-2	8:21:00	2.80	1.30	137.410	1.673	198	102	96	3.680	113.297
3-3	8:26:00	2.40	1.10	141.090	1.549	198	102	96	3.822	104.893
3-3	8:31:00	2.40	1.10	144.912	1.549	198	102	96	3.499	104.893
	8:36:00			148.411						
4-1	8:40:00	3.20	1.50	148.411	1.789	198	102	96	4.029	121.120
4-1	8:45:00	3.20	1.50	152.440	1.789	198	103	97	3.990	121.120
4-2	8:50:00	2.80	1.30	156.430	1.673	198	103	97	3.890	113.297
4-2	8:55:00	2.80	1.30	160.320	1.673	197	105	98	3.870	113.297
4-3	9:00:00	2.30	1.00	164.190	1.517	197	105	98	3.510	102.684
4-3	9:05:00	2.30	1.00	167.700	1.517	197	105	98	3.325	102.684
	9:10:00			171.025						
Total				90.513			100.0	95.4	90.513	
Average			1.26		1.666	197.7	97.7			

PLATT ENVIRONMENTAL SERVICES, INC.

Procedures for Calibration

Dry Gas Meters

The test meters are calibrated according to Method 5, Section 5.3 and "Procedures for Calibrating and Using Dry Gas Volume Meters as Calibration Standards" by P.R. Westlin and R.T. Shigehara, March 10, 1978.

Analytical Balance

The accuracy of the analytical balance is checked with Class S, Stainless Steel Type 303 weights manufactured by F. Hopken and Son, Jersey City, New Jersey.

Temperature Sensing Devices

The potentiometer and thermocouples are calibrated utilizing a NBS traceable millivolt source.

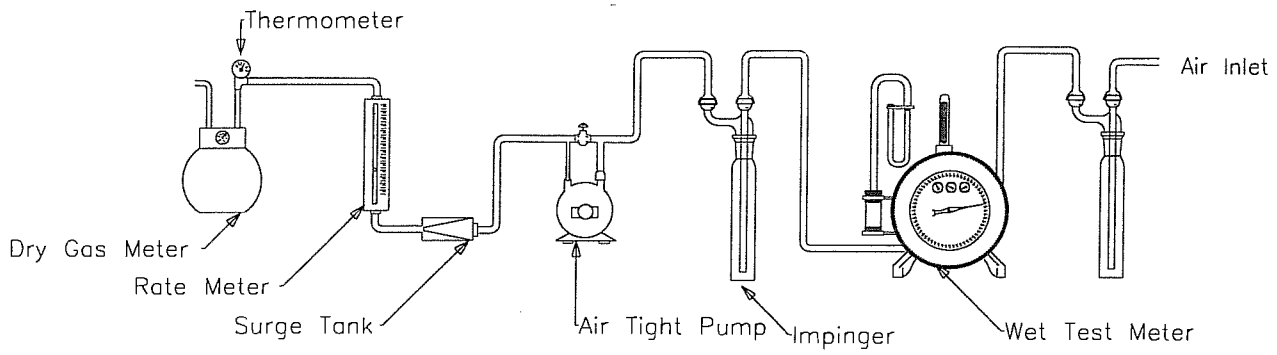
Nozzles

The nozzles are measured according to Method 5, Section 5.1.

Pitot Tubes

The pitot tubes used during this test program are fabricated according to the specification described and illustrated in the Code of Federal Regulations, Title 40, Part 60, Appendix A, Methods 1 through 5 as published in the Federal Register, Volume 42, No. 160; hereafter referred to by the appropriate method number. The pitot tubes comply with the alignment specifications in Method 2, Section 4; and the pitot tube assemblies are in compliance with specifications in the same section.

Dry Gas Meter Calibration Sample Train Diagram



Meter Box Calibration

Dry Gas Meter No.	CM 10	Date:	July 24, 2009
Standard Meter No.	4319699	Calibrated By:	M. Platt
Standard Meter (Y)	1.0008	Barometric Pressure:	29.29

Run Number	Orifice Setting in H_2O Chg (H)	Standard Meter Gas Volume vr	Dry Gas Meter Gas Volume vd	Standard Meter Temp. F° tr	Dry Gas Meter Inlet Temp. F° tdi	Dry Gas Meter Outlet Temp. F° tdo	Dry Gas Meter Avg. Temp. F° td	Time Min	Time Sec	Y	Chg (H)
Final		53.720	81.272	75	80	78					
Initial		47.149	74.674	75	81	77					
Difference 1	0.20	6.571	6.598	75	81	78	79	22	32	1.003	1.351
Final		62.136	89.816	75	82	79					
Initial		54.013	81.617	76	80	79					
Difference 2	0.50	8.123	8.199	76	81	79	80	18	12	0.998	1.442
Final		94.840	122.875	77	85	82					
Initial		62.306	89.975	77	81	81					
Difference 3	0.70	32.534	32.900	77	83	82	82	62	57	0.997	1.507
Final		107.199	135.275	77	85	82					
Initial		101.977	129.991	77	82	81					
Difference 4	0.90	5.222	5.284	77	84	82	83	9	11	0.996	1.600
Final		113.610	41.878	77	85	82					
Initial		107.199	35.385	77	84	81					
Difference 5	1.20	6.411	6.493	77	85	82	83	9	58	0.995	1.666
Final		46.970	74.485	74	84	78					
Initial		40.414	67.917	75	82	77					
Difference 6	2.00	6.556	6.568	75	83	78	80	7	55	1.004	1.668
								Average		**0.999**	**1.539**

Stack Temperature Sensor Calibration

Meter Box # : CM 10 *Name :* M. Platt

Ambient Temperature : 75.6 °F *Date :* July 24, 2009

Calibrator Model # : CL23A

Serial # : T-249465

Date Of Certification : September 22, 2006

Primary Standards Directly Traçeable National Institute of Standards and Technology (NIST).

Reference Source Temperature (°F)	Test Thermometer Temperature (°F)	Temperature Difference %
0	2	0.4
250	254	0.6
600	606	0.6
1200	1214	0.8

$$\frac{(\text{Ref. Temp., °F} + 460) - (\text{Test Therm. Temp., °F} + 460)}{\text{Ref. Temp., °F} + 460} * 100 <= 1.5\ \%$$

Meter Box Calibration

Dry Gas Meter No.	CM 13	Date:	July 6, 2009
Standard Meter No.	9605804	Calibrated By:	JEA
Standard Meter (Y)	0.9938	Barometric Pressure:	29.99

Run Number	Orifice Setting in H_2O Chg (H)	Standard Meter Gas Volume vr	Dry Gas Meter Gas Volume vd	Standard Meter Temp. F° tr	Dry Gas Meter Inlet Temp. F° tdi	Dry Gas Meter Outlet Temp. F° tdo	Dry Gas Meter Avg. Temp. F° td	Time Min	Time Sec	Y	Chg (H)
Final		56.706	59.643	80	80	81					
Initial		49.440	52.495	79	79	79					
Difference 1	0.20	7.266	7.148	80	80	80	80	24	49	1.016	1.329
Final		64.887	67.697	80	81	80					
Initial		56.977	59.910	80	80	80					
Difference 2	0.50	7.910	7.787	80	81	80	80	17	23	1.015	1.377
Final		72.752	75.439	80	81	80					
Initial		65.086	67.890	80	80	80					
Difference 3	0.70	7.666	7.549	80	81	80	80	15	22	1.014	1.604
Final		82.104	84.647	80	81	81					
Initial		72.903	75.591	80	81	80					
Difference 4	0.90	9.201	9.056	80	81	81	81	15	13	1.015	1.402
Final		88.915	91.363	80	81	82					
Initial		82.234	84.773	80	80	81					
Difference 5	1.20	6.681	6.590	80	81	82	81	9	22	1.013	1.343
Final		49.244	52.304	79	80	79					
Initial		41.207	44.411	78	79	78					
Difference 6	2.00	8.037	7.893	79	80	79	79	9	22	1.014	1.544
									Average	**1.015**	**1.433**

Stack Temperature Sensor Calibration

Meter Box # : CM 13 *Name :* JEA

Ambient Temperature : 74 °F *Date :* July 6, 2009

Calibrator Model # : CL23A

Serial # : T-249465

Date Of Certification : September 22, 2006

Primary Standards Directly Traceable National Institute of Standards and Technology (NIST)

Reference Source Temperature (°F)	Test Thermometer Temperature (°F)	Temperature Difference %
0	5	1.1
250	255	0.7
600	604	0.4
1200	1205	0.3

$$\frac{(\text{Ref. Temp., °F} + 460) - (\text{Test Therm. Temp., °F} + 460)}{\text{Ref. Temp., °F} + 460} * 100 <= 1.5\ \%$$

Meter Box Calibration

Dry Gas Meter No.	CM16	Date:	July 24, 2009
Standard Meter No.	9605804	Calibrated By:	M .Platt
Standard Meter (Y)	0.9938	Barometric Pressure:	29.29

Run Number		Orifice Setting in H_2O Chg (H)	Standard Meter Gas Volume vr	Dry Gas Meter Gas Volume vd	Standard Meter Temp. F° tr	Dry Gas Meter Inlet Temp. F° tdi	Dry Gas Meter Outlet Temp. F° tdo	Dry Gas Meter Avg. Temp. F° td	Time Min	Time Sec	Y	Chg (H)
Final			52.119	42.240	72	77	76					
Initial			45.715	35.883	72	78	75					
Difference	1	0.20	6.404	6.357	72	78	76	77	22	40	1.015	1.430
Final			60.260	50.321	72	79	76					
Initial			52.354	42.469	73	77	76					
Difference	2	0.50	7.906	7.852	73	78	76	77	18	20	1.014	1.536
Final			66.285	56.304	73	80	77					
Initial			60.378	50.434	73	78	76					
Difference	3	0.70	5.907	5.870	73	79	77	78	11	26	1.013	1.498
Final			99.255	89.139	73	82	78					
Initial			66.419	56.435	73	79	77					
Difference	4	0.90	32.836	32.704	73	81	78	79	56	30	1.013	1.519
Final			106.881	96.741	73	83	78					
Initial			99.394	89.271	73	81	78					
Difference	5	1.20	7.487	7.470	73	82	78	80	11	11	1.012	1.523
Final			45.529	35.706	72	82	75					
Initial			39.749	29.977	72	81	74					
Difference	6	2.00	5.780	5.729	72	82	75	78	6	52	1.015	1.606
									Average		**1.014**	**1.519**

Stack Temperature Sensor Calibration

Meter Box # : CM16 *Name :* M .Platt

Ambient Temperature : 75.6 °F *Date :* July 24, 2009

Calibrator Model # : CL23A

Serial # : T-276953

Date Of Certification : November 3, 2008

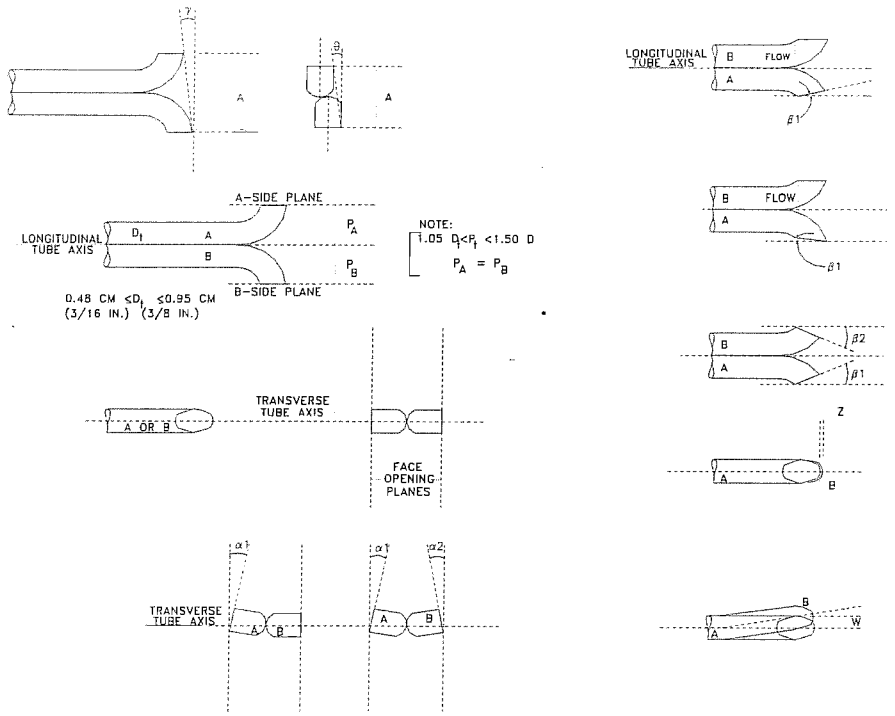
Primary Standards Directly Traceable National Institute of Standards and Technology (NIST)

Reference Source Temperature (° F)	Test Thermometer Temperature (° F)	Temperature Difference %
0	1	0.2
250	251	0.1
600	600	0.0
1200	1203	0.2

$$\frac{(\text{Ref. Temp., }^{\circ}\text{F} + 460) - (\text{Test Therm. Temp., }^{\circ}\text{F} + 460)}{\text{Ref. Temp., }^{\circ}\text{F} + 460} * 100 <= 1.5\ \%$$

S TYPE PITOT TUBE INSPECTION FORM

Pitot Tube Nc 91 Date: 7/30/2009 Inspectors Name: JHOW



Pitot tube assembly level? x yes _____ no

Pitot tube openings damaged? _____ yes (explain below) x no

a_1 = 1 ° (<10°), a_2 = 0 ° (<10°) z = A sin g = 0.016 (in.); (<0.125 in.)

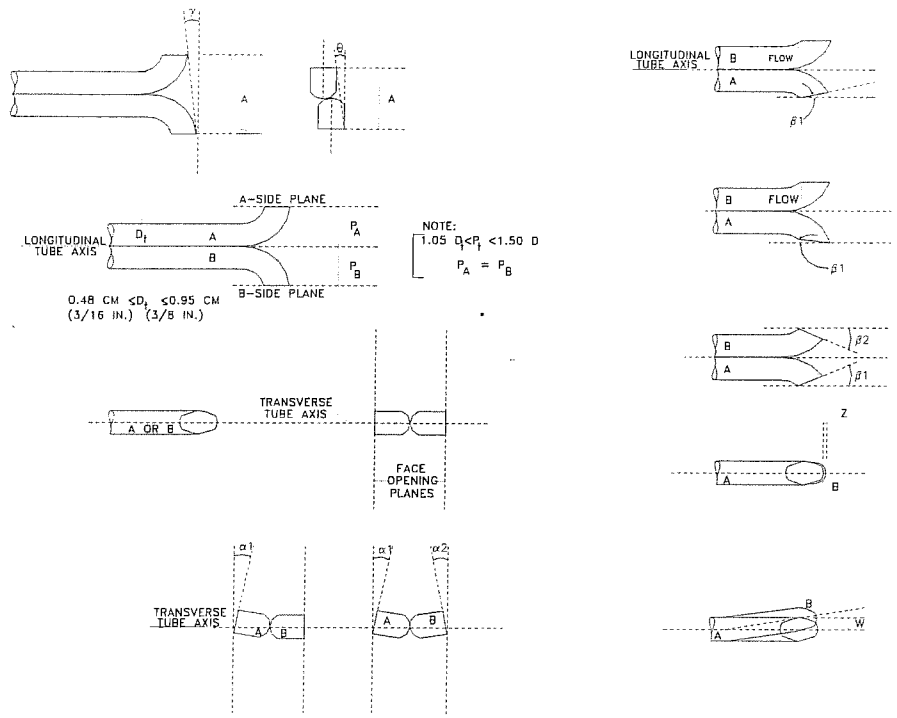
b_1 = 1 ° (<5°), b_2 = 0 ° (<5°) w = A sin q = 0.016 (in.); (<0.03125 in.)

γ = 1 °, θ = 1 °, A = 0.930 (in.) P_A = 0.467 (in.), P_B = 0.467 (in.), D_t = 0.375 (in.)

Calibration required? _____ yes x no

S TYPE PITOT TUBE INSPECTION FORM

Pitot Tube Nc 100 Date: 3/13/2009 Inspectors Name: SD



Pitot tube assembly level? x yes _____ no

Pitot tube openings damaged? _____ yes (explain below) x no

a_1 = 1 ° (<10°), a_2 = 1 ° (<10°) z = A sin g = 0.000 (in.); (<0.125 in.)

b_1 = 1 ° (<5°), b_2 = 1 ° (<5°) w = A sin q = 0.017 (in.); (<0.03125 in.)

γ = 0 °, θ = 1 °, A = 0.953 (in.) P_A = 0.477 (in.), P_B = 0.476 (in.), D_t = 0.375 (in.)

Calibration required? _____ yes x no

Platt Environmental Services, Inc.

1520 Kensington Road, Suite 204
Oak Brook, IL 60523-2141
630-521-9400
630-521-9494 fax

Nozzle Calibration Sheet
Set No. 4 Glass

Nominal Diameter	.120	.175	.230	.250	.275	.300	.310	.375	.425	.500	Other
Nozzle Diameter	.128	.168	.235	.251	.274		.310	.367	.418	.495	.569
Nozzle Identification Number											.488 .566

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI89E15A0345	Reference Number:	54-124122174-2
Cylinder Number:	XC026444B	Cylinder Volume:	150 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Jan 18, 2008	Valve Outlet:	580

Expiration Date: Jan 18, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procadures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainity
CARBON DIOXIDE	11.00 %	11.14 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CO2	970511	SG9168274BAL	13.837% CARBON DIOXIDE/NITROGEN	May 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	Jan 02, 2008

Triad Data Available Upon Request

Notes:

QA Approval

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI59E15A3452	Reference Number:	54-124156833-1
Cylinder Number:	CC72408	Cylinder Volume:	159 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Nov 05, 2008	Valve Outlet:	590

Expiration Date: Nov 05, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	19.60 %	19.68 %	G1	+/- 1% NIST Traceable
OXYGEN	22.60 %	21.03 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/O2	60606	CC206134	22.51% OXYGEN/NITROGEN	May 01, 2010
NTRM/CO2	40604	XC0342530	19.84% CARBON DIOXIDE/	Dec 15, 2008

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
HORIBA 510	NDIR	Oct 08, 2008
(P-1) CAI-110	Paramagnetic	Oct 08, 2008

Triad Data Available Upon Request

Notes:

QA Approval

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI88E15A2212	Reference Number:	54-124148533-2
Cylinder Number:	CC33722	Cylinder Volume:	145 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Aug 21, 2008	Valve Outlet:	590

Expiration Date: Aug 21, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Remitted Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	12.00 %	12.00 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/O2	52658	SG9168304BAL	16.04% OXYGEN/	Jan 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
CAI-110	Paramagnetic	Aug 04, 2008

Triad Data Available Upon Request

Notes:

QA Approval

Platt Environmental Services, Inc.

H_2SO_4 VAPOR FIELD DATA SHEET
For Controlled Condensate (CCS)
(NCASI Method 8A)

Project/Project Number: M093106 / Sunflower Electric Date: 8/5/09

Sampling Location: Unit 1 Stack

Source Condition: Normal

Dry Gas Meter No. CM10 Y = 0.999

Barometric Pressure: 26.44 in. Hg

Leak Check: Pre-sampling 0.001 cfm @ 10 in. Hg vacuum

Post-sampling 0.005 cfm @ 10 in. Hg vacuum

Clock Time (24 hrs.)	Meter Volume (V_m) ft^3	Orifice Gauge Pressure (ΔH) in. H_2O	Temperature						
			Stack (°F)	> 500° Probe (°F)	Filter > 500° Outlet (°F)	140 Condenser Water (°F)	140° Coil Exit (°F)	Dry Gas Meter Inlet (°F)	Dry Gas Meter Outlet (°F)
0800	89.193	0.025	198	501	503	140	140	97	97
0820	91.396		198	501	501	140	140	97	97
0840	93.589		198	502	504	140	140	98	98
0900	95.716		198	501	503	140	140	99	99
0920	97.870		198	501	501	140	140	100	99
0940	100.165		198	501	502	140	140	100	99
1000	102.223		198	502	501	140	140	101	100
1020	104.482		198	503	501	140	140	101	100
1040	106.465		198	501	502	140	140	101	101
1100	108.203		198	501	501	140	140	101	101
Avg.									

Operator: J Parker

Platt Environmental Services, Inc.

H_2SO_4 VAPOR FIELD DATA SHEET
For Controlled Condensate (CCS)
(NCASI Method 8A)

Project/Project Number: M093106/Sunflower Electric Date: 8/5/09

Sampling Location: Unit 1 Stack

Source Condition: Normal

Dry Gas Meter No. GM10 Y = 0.999

Barometric Pressure: 26.44 in. Hg

Leak Check: Pre-sampling 0.005 cfm @ 10 in. Hg vacuum

Post-sampling 0.005 cfm @ 10 in. Hg vacuum

Clock Time (24 hrs.)	Meter Volume (V_m) ft^3	Orifice Gauge Pressure (ΔH) in. H_2O	Temperature						
			Stack (°F)	> 500° Probe (°F)	Filter > 500° Outlet (°F)	Condenser Water (°F)	140° Coil Exit (°F)	Dry Gas Meter Inlet (°F)	Dry Gas Meter Outlet (°F)
1145	8.290	0.025	198	502	504	140	140	100	100
1205	10.689		198	503	501	140	140	100	100
1225	12.878		198	502	502	140	140	101	101
1245	15.322		198	502	503	140	140	102	102
1305	17.273		198	501	503	140	140	103	103
1325	19.327		198	501	503	140	140	104	103
1345	21.416		199	501	501	140	140	105	104
1405	23.479		197	502	501	140	140	106	105
1425	25.582		198	501	502	140	140	106	106
1445	27.296		198	501	501	140	140	106	106
Avg.									

Operator: J Parker

Platt Environmental Services, Inc.

H_2SO_4 VAPOR FIELD DATA SHEET
For Controlled Condensate (CCS)
(NCASI Method 8A)

Project/Project Number: M09 3106 Date: 8/6/09

Sampling Location: Unit 1 Stack

Source Condition: Normal

Dry Gas Meter No. CM10 Y = 0.997

Barometric Pressure: 26.16 in. Hg

Leak Check: Pre-sampling 0.05 cfm @ 10 in. Hg vacuum

Post-sampling 0.02 cfm @ 10 in. Hg vacuum

Clock Time (24 hrs.)	Meter Volume (V_m) ft^3	Orifice Gauge Pressure (ΔH) in. H_2O	Temperature						
			Stack (°F)	> 500° Probe (°F)	Filter > 500° Outlet (°F)	Condenser Water (°F)	140° Coil Exit (°F)	Dry Gas Meter Inlet (°F)	Dry Gas Meter Outlet (°F)
0730	27.420	0.025	197	504	501	145	140	98	97
0735	27.919		197	505	501	145	140	98	98
0740	28.465		198	503	501	148	140	98	98
0745	29.002		198	503	501	149	141	98	98
0750	29.538		198	501	502	150	140	98	98
0755	30.055		198	501	500	152	141	98	98
0800	30.581		198	501	503	154	141	98	98
0805	31.113		198	501	501	155	140	98	98
0810	31.640		198	502	501	159	141	98	98
0815	32.160		198	502	501	163	142	98	98
0820	32.654		198	501	502	166	144	99	98
0825	33.189		198	501	501	169	144	99	99
0830	33.707		198	501	501	168	143	99	99
Avg.									

Operator: J Parker

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric Power/Holcomb Generating Station

UNIT NO: 1

LOCATION: Stack

DATE: 8/5/09

TEST NO: 1

METHOD: CCS/8A

WEIGHED/MEASURED BY: CE

BALANCE ID: S10-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	736.3	686.3		
IMPINGER 2	713.2	711.7		
IMPINGER 3	643.3	643.1		
IMPINGER 4	836.1	821.8		
IMPINGER 5				
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

2928.9	2862.9	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Smithland Electric / Holcomb Generating Station

UNIT NO: 1

LOCATION: Steele

DATE: 8/5/09

TEST NO: 2

METHOD: CCS 18A

WEIGHED/MEASURED BY: CRE

BALANCE ID: S10-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	759.7	708.3		
IMPINGER 2	668.8	664.7		
IMPINGER 3	616.2	609.1		
IMPINGER 4	234.7	230.8		
IMPINGER 5				
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

2270.4	2212.9	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric / Holcomb Generating Station

UNIT NO: 1

LOCATION: Stack

DATE: 8/18/09

TEST NO: 3

METHOD: CCS 18A

WEIGHED/MEASURED BY: CC

BALANCE ID: S 10-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	708.9	694.2		
IMPINGER 2	699.6	699.5		
IMPINGER 3	561.7	561.3		
IMPINGER 4	815.0	812.4		
IMPINGER 5		~~812.~~4		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

2785.2	2767.4	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

Platt Environmental Services, Inc.

H_2SO_4 VAPOR FIELD DATA SHEET
For Controlled Condensate (CCS)
(NCASI Method 8A)

M093106

Project/Project Number: Sunflower Holcomb Date: 08-05-09

Sampling Location: Unit 1 SDA Inlet Duct

Source Condition: HIGH LOAD

Dry Gas Meter No. CM7 Y = 0.993 ΔH = 1.504

Barometric Pressure: 26.64 in. Hg

Leak Check: Pre-sampling 0.00 cfm @ 8.0 in. Hg vacuum

Post-sampling 0.00 cfm @ 10.0 in. Hg vacuum

Clock Time (24 hrs.)	Meter Volume (V_m) ft^3	Orifice Gauge Pressure (ΔH) in. H_2O	Temperature						
			Stack (°F)	≥ 500° Probe (°F)	Filter ≥ 500° Outlet (°F)	Condenser Water (°F)	Coil Exit (°F)	Dry Gas Meter Inlet (°F)	Dry Gas Meter Outlet (°F)
0800	9.450	0.02	296	500	500	140	98	68	68
0815	11.047	0.04	296	500	500	141	106	71	69
0830	12.643	0.04	296	500	500	141	104	72	71
0845	14.312	0.04	296	500	500	140	104	75	73
0900	15.937	0.04	296	500	500	140	104	77	75
0915	17.541	0.04	296	500	500	140	108	78	76
0930	19.196	0.04	296	500	500	140	109	78	76
0945	20.812	0.04	298	500	500	140	112	78	77
1000	22.439	0.04	298	500	500	140	110	79	77
1015	24.066	0.04	299	500	500	140	111	78	77
1030	25.678	0.04	299	500	500	140	111	78	77
1045	27.301	0.04	299	500	500	140	110	78	77
1100	28.927								
Avg.				500	500	140.2	107.3		

Operator: [signature] A.L. Sorce

Platt Environmental Services, Inc.

H_2SO_4 VAPOR FIELD DATA SHEET
For Controlled Condensate (CCS)
(NCASI Method 8A)

M 093106

Project/Project Number: Sunflower Holcomb Date: 08-05-09

Sampling Location: Unit 1 SDA Inlet Duct

Source Condition: HIGH LOAD

Dry Gas Meter No. Cm-7 Y = 0.993 ΔH = 1.504

Barometric Pressure: 26.64 in. Hg

Leak Check: Pre-sampling 0.00 cfm @ 12.0 in. Hg vacuum

Post-sampling 0.00 cfm @ 12.0 in. Hg vacuum

Clock Time (24 hrs.)	Meter Volume (V_m) ft^3	Orifice Gauge Pressure (ΔH) in. H_2O	Temperature						
			Stack (°F)	≥ 500° Probe (°F)	Filter ≥ 500° Outlet (°F)	Condenser Water (°F)	Coil Exit (°F)	Dry Gas Meter Inlet (°F)	Dry Gas Meter Outlet (°F)
1145	0.003	0.02	299	500	500	140	105	81	79
1200	1.598	0.03	299	500	500	140	107	82	81
1215	3.192	0.03	299	500	500	141	108	83	81
1230	4.789	0.03	299	500	500	140	109	83	81
1245	6.386	0.03	299	500	500	140	108	82	81
1300	8.012	0.03	299	500	500	140	107	82	81
1315	9.608	0.03	299	500	500	140	109	82	81
1330	11.212	0.03	299	500	500	140	108	84	82
1345	12.836	0.03	299	500	500	140	108	85	83
1400	14.458	0.03	299	500	500	140	108	86	84
1415	16.061	0.03	299	500	500	140	108	86	84
1430	17.672	0.03	299	500	500	140	108	87	85
1445	19.283								
Avg.									

Operator: A. L. Sorce

Platt Environmental Services, Inc.

H_2SO_4 VAPOR FIELD DATA SHEET
For Controlled Condensate (CCS)
(NCASI Method 8A)

M093106

Project/Project Number: Sunflower Holcomb Date: 08-06-09

Sampling Location: Unit 1 SDA Inlet Duct

Source Condition: High Load

Dry Gas Meter No. CM-7 Y = 0.993 ΔH = 1.504

Barometric Pressure: 26.36 in. Hg

Leak Check: Pre-sampling 0.00 cfm @ 12.0 in. Hg vacuum

Post-sampling 0.00 cfm @ 12.0 in. Hg vacuum

Clock Time (24 hrs.)	Meter Volume (V_m) ft^3	Orifice Gauge Pressure (ΔH) in. H_2O	Temperature: Stack (°F)	≥ 500° Probe (°F)	Filter ≥ 500° Outlet (°F)	Condenser Water (°F)	~~140°~~ Coil Exit (°F)	Dry Gas Meter Inlet (°F)	Dry Gas Meter Outlet (°F)
0730	9.778	0.02 ~~9.778~~	295	500	500	140	99	66	66
0735	10.311	0.02	295	500	500	140	104	68	66
0740	10.845	0.03	295	500	500	141	108	67	66
0745	11.379	0.04	295	500	500	140	109	68	66
0750	11.913	0.04	295	500	500	140	108	68	66
0755	12.448	0.03	295	500	500	140	109	67	66
0800	12.986	0.03	295	500	500	140	108	67	65
0805	13.521	0.03	295	500	500	141	107	67	66
0810	14.059	0.03	295	500	500	141	105	67	65
0815	14.597	0.03	295	500	500	140	108	67	66
0820	15.133	0.03	295	500	500	140	110	67	66
0825	15.670	0.03	295	500	500	140	110	68	66
0830	16.204								
Avg.									

Operator: A.L. Sorce

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric / Holcomb Generating Station

UNIT NO: 1

LOCATION: SDA Inlet

DATE: 8/5/09

TEST NO: 1

METHOD: CCS / 8A

WEIGHED/MEASURED BY: LTS

BALANCE ID: S10-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	714.4	671.5		
IMPINGER 2	692.2	680.7		
IMPINGER 3	631.5	631.0		
IMPINGER 4	818.5	814.1		
IMPINGER 5				
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

2846.6	2797.3	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric / Holcomb Generating Station

UNIT NO: 1

LOCATION: SDA Inlet

DATE: 8/8/09

TEST NO: 2

METHOD: CCS / 8A

WEIGHED/MEASURED BY: CC

BALANCE ID: 510-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	759.3	666.6		
IMPINGER 2	608.4	640.2		
IMPINGER 3	637.4	636.9		
IMPINGER 4	784.6	780.6		
IMPINGER 5				
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

2789.7	2724.3	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric/Holcomb Generating Station

UNIT NO: 1

LOCATION: SDA Inlet

DATE: 8/6/09

TEST NO: 3

METHOD: CCS/8A

WEIGHED/MEASURED BY: LZS

BALANCE ID: 510-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	668.6	655.1		
IMPINGER 2	675.6	675.5		
IMPINGER 3	637.9	637.6		
IMPINGER 4	793.8	784.0		
IMPINGER 5				
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

2775.9	2752.2	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

Isokinetic Sampling Cover Sheet

Plant Information

Run Number: 1
Test Location: Unit 1 SDA Inlet
Duct Shape: Circular or Rectangular
Source Condition: High Load
Port Type:

Date: Aug 5, 09
Client Name: SunFlower Electric
Length: _____ Width: _____ or
Test Method: M26
Port Length:

Project Number: M093106
Plant Name: Holcomb
Diameter:
Flue Area:
Port Diameter:

Meter and Probe Data

Operator: SMcG Test Tech:
Pitot ID:
Probe Liner: Glass
Filter Number/Weight:
Pre-Test Nozzle Leak Check: ✓ OK @ 14 "Hg
Pre-Test Pitot Leak Check: "H_2O

Meter ID: CM13
Pitot Coefficient: .840
Nozzle Diameter: NA
Thimble Number/Weight:

Meter Y Value: 1.015 ΔH Value: 1.433
Probe Length: 6'
Train Type: Hot Box
Post-Test Nozzle Leak Check: ✓ OK @ 14 "Hg
Post-Test Pitot Leak Check: "H_2O

Traverse Data

Ports Sampled: 1
Total Points: 1

Points/Port: 1
Total Test Time: 120 MIN

Min./Point: 120/pt
Sample Plane: Horizontal or Vertical

Stack Parameters

Barometric Pressure: 26.64
Static Pressure:
CO_2 %: 13.4 / / / Avg. 13.4 O_2 %: 5.7 / / /Avg. 5.7 Determined by: Method 3 or Method 3A
Initial Imp. Volume or Weight: 2810.0 Final Imp. Volume or Weight: 3049.1 Imp. Volume or Weight Gain: 239.1
Initial Silica Weight: 756.6 Final Silica Weight: 780.6 Silica Weight Gain: 24.0
Balance used for impingers and/or silica weights (Model and S/N): S10-16 Nozzle Kit ID

Comments:

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: SunFlower Electric
Plant: Holcomb

Date: Aug 5, 09
Test Location: Unit 1 SDA Inlet
Test Method: 26

Test Number: 1
Operator: SMcG
Test Tech:
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F
1-1	8:00		1.5	60.232					296	75	74	7.0	253	250	62
1	8:05		1.5	63.982					296	78	75	7.5	249	250	62
1	8:10		1.5	66.990					299	79	75	8.0	250	250	63
1	8:15		1.5	71.262					299	81	76	9.0	250	250	64
1	8:20		1.5	75.020					299	83	77	10.0	250	250	64
1	8:25		1.5	78.550					299	83	78	11.0	250	249	63
1	8:30		1.5	82.218					297	84	79	12.5	250	250	62
1	8:35		1.5	85.932					299	84	79	13.0	251	250	62
1	8:40		1.5	89.629					297	85	80	13.0	250	250	63
1	8:45		1.5	93.314					299	85	81	13.5	250	250	63
1	8:50		1.5	97.044					298	86	81	13.5	250	250	64
1	8:55		1.5	100.762					298	86	82	14.0	250	250	64
1	9:00		1.5	104.465					300	86	83	14.5	250	250	64
1	9:05		1.5	108.231					300	86	83	7.5	252	230	64
1	9:10		1.5	111.960					301	87	83	8.0	249	254	63
1	9:15		1.5	115.671					298	89	84	8.5	250	253	64
1	9.20		1.5	119.381					300	89	84	9.0	250	249	63
1	9:25		1.5	123.091					299	89	84	9.0	249	249	64
1	9:30		1.5	126.821					297	88	84	9.5	250	250	64
1	9:35		1.5	130.564					300	88	84	10.0	250	251	65
1	9:40		1.5	134.307					299	88	85	10.0	251	250	64
1	9:45		1.5	138.038					298	88	85	10.0	250	250	65
1	9:50		1.5	141.782					299	88	85	10.5	250	249	65
1	9:55		1.5	145.535					298	89	85	11.0	250	251	66
1	10:00		1.5	149.300					298	89	85	11.0	250	250	66

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric / Holcomb Generating Station

UNIT NO: 1

LOCATION: SDA Inlet

DATE: 8/5/09

TEST NO: 1

METHOD: 26

WEIGHED/MEASURED BY: LTE

BALANCE ID: 510-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	891.2	693.5		
IMPINGER 2	748.6	715.7		
IMPINGER 3	672.8	668.1		
IMPINGER 4	736.5	732.7		
IMPINGER 5	780.6	756.6		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				
	3849.1 780.6 FINAL TOTAL	2810 756.6 INITIAL TOTAL	TOTAL GAIN	

Isokinetic Sampling Cover Sheet

Plant Information

Run Number: 2
Test Location: Unit 1 SDA Inlet
Duct Shape: Circular or Rectangular
Source Condition: High Load
Port Type:

Date: Aug 5, 09
Client Name: SunFlower Electric
Length: _____ Width: _____ or
Test Method: M26
Port Length:

Project Number: M093106
Plant Name: Holcomb
Diameter:
Flue Area:
Port Diameter:

Meter and Probe Data

Operator: SMCG Test Tech:
Pitot ID:
Probe Liner: Glass
Filter Number/Weight:
Pre-Test Nozzle Leak Check: ✓ OK @ 14 "Hg
Pre-Test Pitot Leak Check: "H_2O

Meter ID: CM13
Pitot Coefficient:
Nozzle Diameter: NA
Thimble Number/Weight:
Post-Test Nozzle Leak Check: ✓ OK @ 14 "Hg
Post-Test Pitot Leak Check: "H_2O

Meter Y Value: 1.015 ΔH Value: 1.433
Probe Length: 6'
Train Type: Hot Box

Traverse Data

Ports Sampled: 1
Total Points: 1

Points/Port: 1
Total Test Time: 120 MIN

Min./Point: 120/pt
Sample Plane: Horizontal or Vertical

Stack Parameters

Barometric Pressure: 26.64
Static Pressure:
CO_2 %: _____/_____/_____/ Avg. 12.0
O_2 %: _____/_____/_____/Avg. 6.4
Determined by: Method 3 or Method 3A
Initial Imp. Volume or Weight: 2923.9
Final Imp. Volume or Weight: 3122.6
Imp. Volume or Weight Gain: 198.7
Initial Silica Weight: 823.1
Final Silica Weight: 844.2
Silica Weight Gain: 21.1
Balance used for impingers and/or silica weights (Model and S/N):
Nozzle Kit ID

Comments:

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb

Date: Aug 5, 09
Test Location: Unit 1 SDA Inlet
Test Method: 26

Test Number: 2
Operator: SMcG
Test Tech:
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F
1-1	11:45		1.5	50.935					298	87	87	5.0	254	254	66
1	11:50		1.5	54.780					300	89	87	5.0	250	251	65
1	11:55		1.5	58.532					299	91	87	5.0	250	251	65
1	12:00		1.5	62.272					298	92	88	5.5	250	250	65
1	12:05		1.5	66.050					298	93	88	6.0	250	250	65
1	12:10		1.5	69.800					298	93	89	6.0	250	250	66
1	12:15		1.5	73.520					297	93	89	6.0	251	251	66
1	12:20		1.5	77.300					298	93	89	6.5	250	250	66
1	12:25		1.5	81.061					299	93	89	6.5	250	250	66
1	12:30		1.5	84.811					297	93	90	6.5	250	250	66
1	12:35		1.5	88.580					297	93	90	6.5	250	250	66
1	12:40		1.5	92.310					297	93	90	6.5	250	250	66
1	12:45		1.5	96.066					296	93	90	7.0	250	250	67
1	12:50		1.5	99.817					295	93	90	7.0	250	250	67
1	12:55		1.5	103.555					300	93	90	7.0	250	250	67
1	13:00		1.5	107.312					297	94	90	7.0	249	250	67
1	13:05		1.5	111.082					297	94	90	7.0	249	250	66
1	13:10		1.5	114.861					298	95	90	7.0	250	251	66
1	13:15		1.5	118.642					300	95	91	7.5	250	250	66
1	13:20		1.5	122.436					297	95	91	7.5	249	250	66
1	13:25		1.5	126.204					298	95	91	7.5	250	250	66
1	13:30		1.5	129.971					299	96	91	7.5	250	251	67
1	13:35		1.5	133.772					301	96	91	7.5	250	250	67
1	13:40		1.5	137.593					301	96	92	7.5	250	250	67
1	13:45		1.5	141.425					300	97	92	7.5	250	250	67

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric

UNIT NO: 1

LOCATION: SDA Inlet

DATE: 8/5/09

TEST NO: 2

METHOD: 26

WEIGHED/MEASURED BY: LTC

BALANCE ID: S10-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	963.1	731.2		
IMPINGER 2	759.9	704.0		
IMPINGER 3	740.2	736.6		
IMPINGER 4	659.4	752.1		
IMPINGER 5	844.2	823.1		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				
	3122.6 844.2 FINAL TOTAL	2923.9 823.1 INITIAL TOTAL	TOTAL GAIN	

Isokinetic Sampling Cover Sheet

Test Engineer: SMcG
Test Technician:

Plant Information

Run Number: 3
Test Location: Unit 1 SDA Inlet
Duct Shape: Circular or Rectangular
Flue Area:
Port Type:
Test Method: M26

Date: Aug 6, 09
Client Name: SunFlower Electric
Length: Width: or Diameter:
Upstream Diameters:
Port Length:
Source Condition: High Load

Project Number: M093106
Plant Name: Holcomb
Downstream Diameters:
Port Diameter:

Meter and Probe Data

Meter ID: CM13
Pitot ID:
Nozzle Kit ID
Probe Length:
Pre-Test Nozzle Leak Check: ✓ OK @ 14 "Hg
Pre-Test Pitot Leak Check: "H_2O

Meter Y Value: 1.015
Pitot Coefficient:
Nozzle Diameter: NA
Probe Liner: Glass

ΔH Value: 1.433
Train Type: Hot Box
Filter Number/Weight:
Thimble Number/Weight:
Post-Test Nozzle Leak Check: @ "Hg
Post-Test Pitot Leak Check: "H_2O

Traverse Data

Ports Sampled: 1
Total Points: 1

Points/Port: 1
Total Test Time: 120 MIN

Min/Point: 120/pt
Sample Plane: Horizontal or Vertical

Stack Parameters

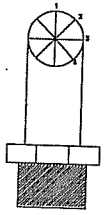
Barometric Pressure: 36
CO_2 %: / / / Avg.
Imp and/or silica balance Model and S/N:
Initial Imp. Volume or Weight: 2852.4
Initial Silica Weight: 844.2

Static Pressure:
O_2 %: / / /Avg.
Final Imp. Volume or Weight: 3079.4
Final Silica Weight: 854.2

Determined by: Method 3 or Method 3A
Servomex Serial #:
Imp. Volume or Weight Gain:
Silica Weight Gain:

Comments:

Post-Test Nozzle Verification:



1)____ 2)____ 3)____ 4)____

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb

Date: Aug 6, 09
Test Location: Unit 1 SDA Inlet
Test Method: M26

Test Number: 3
Operator: SMcG
Test Tech:
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F
1-1	7:00		1.5	42.667					291	69	68	4.5	250	250	65
1	7:05		1.5	46.329					293	71	69	5.0	251	251	58
1	7:10		1.5	50.033					293	73	70	5.0	250	251	56
1	7:15		1.5	53.703					292	75	71	5.0	251	251	56
1	7:20		1.5	57.394					294	76	71	5.5	250	250	55
1	7:25		1.5	61.072					293	78	72	5.5	250	251	55
1	7:30		1.5	64.743					293	79	73	5.5	250	250	55
1	7:35		1.5	68.436					294	79	73	6.0	249	250	55
1	7:40		1.5	72.135					293	79	74	6.0	251	251	55
1	7:45		1.5	75.841					296	78	74	6.0	250	250	56
1	7:50		1.5	79.503					295	78	74	6.5	251	251	57
1	7:55		1.5	83.192					293	77	74	6.5	249	249	57
1	8:00		1.5	86.880					295	77	74	6.5	250	250	57
1	8:05		1.5	90.553					294	77	74	6.5	250	250	58
1	8:10		1.5	94.253					293	77	74	7.0	251	250	58
1	8:15		1.5	97.943					295	77	74	7.0	250	250	58
1	8:20		1.5	101.652					294	77	74	7.0	250	250	58
1	8:25		1.5	105.343					294	78	74	7.0	251	250	58
1	8:30		1.5	109.052					292	79	74	7.0	250	250	57
1	8:35		1.5	112.734					294	80	75	7.0	250	250	58
1	8:40		1.5	116.438					292	81	75	7.0	251	250	57
1	8:45		1.5	120.148					292	83	76	7.5	250	250	57
1	8:50		1.5	123.853					292	84	77	7.5	250	250	58
1	8:55		1.5	127.562					292	84	77	7.5	250	250	58
1	9:00		1.5	131.284					292	85	78	7.5	250	250	59

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT:

UNIT NO:

LOCATION: SDA Inlet

DATE:

TEST NO: 3

METHOD: ~~5/8A~~ 26A

WEIGHED/MEASURED BY:

BALANCE ID:

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	946.4	738.3		
IMPINGER 2	724.1	707.8		
IMPINGER 3	730.5	729.7		
IMPINGER 4	~~676.6~~ 678.4	676.6		
IMPINGER 5	~~844.2~~ 854.3	844.2		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				

3079.4 854.3	2852.4 844.2	
FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN

Isokinetic Sampling Cover Sheet

Test Engineer: STS
Test Technician: J Parker

Plant Information

Run Number: 1
Test Location: Unit 1 Stack
Duct Shape: Circular or Rectangular
Flue Area: 209.53
Port Type: Flange
Test Method: M 26 HCL

Date: 8/5/09
Client Name: Sunflower
Length: _____ Width: N/A or Diameter: 16.333
Upstream Diameters: 72
Port Length: 6"
Source Condition: Normal

Project Number: M093106
Plant Name: Holcomb Station
Downstream Diameters: >8
Port Diameter: 4"

Meter and Probe Data

Meter ID: Cm16
Pitot ID: 091
Nozzle Kit ID: Glass #
Probe Length: 7'
Pre-Test Nozzle Leak Check: .001 @ 10 "Hg
Pre-Test Pitot Leak Check: ✓ @ 5" "H_2O

Meter Y Value: 1.014
Pitot Coefficient: .84
Nozzle Diameter: .168
Probe Liner: Glass

ΔH Value: 1.519
Train Type: Anderson
Filter Number/Weight: _____
Thimble Number/Weight: _____
Post-Test Nozzle Leak Check: .001 @ 10 "Hg
Post-Test Pitot Leak Check: ✓ @ 5" "H_2O

Traverse Data

Ports Sampled: 4
Total Points: 12

Points/Port: 3
Total Test Time: 120

Min/Point: 10
Sample Plane: Horizontal or Vertical

Stack Parameters

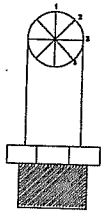
Barometric Pressure: 26.44
CO_2 %: ____/____/____/ Avg. 12.0
Imp and/or silica balance Model and S/N: S10-16
Initial Imp. Volume or Weight: 2943.4
Initial Silica Weight: 761.4

Static Pressure: -.8
O_2 %: ____/____/____/Avg. 6.5
Final Imp. Volume or Weight: 3252.5
Final Silica Weight: 788.6

Determined by: Method 3 or Method 3A
Servomex Serial #: _____
Imp. Volume or Weight Gain: 309.1
Silica Weight Gain: 27.2

Comments:

Post-Test Nozzle Verification:



1) ✓ 2) ✓ 3) ✓ 4) ✓

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb Station

Date: 8/5/09
Test Location: Unit 1 Stack
Test Method: M 26

Test Number: 1
Operator: STS
Test Tech: J Parical
Page Number: 1 of 4

Cems Port-Point #.	Time Time	(ΔP)	.450 Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	.946 Meter Rate, Cubic Feet/Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F
1-1	8:00	3.0	1.4	98.526	1.732	.761	3.851		198	97	97	3	250	250	60
1	8 05	3.2	1.5	102.31	1.789	.782	3.914	102.377	198	97	97	3	250	251	60
2	8:10	2.9	1.3	106.01	1.703	.7578	3.789	106.291	198	99	96	3	250	249	60
2	8:15	2.9	1.3	110.01	1.703	.7578	3.788	110.081	198	101	96	3	250	250	60
3	8:20	2.4	1.1	113.80	1.549	.690	3.454	113.877	198	101	96	3	250	250	60
3	8:25	2.4	1.1	117.01	1.549	.690	3.457	117.331	198	101	97	3	247	250	60
	8:30			120.589				120.787							
2-1	8 35	3.2	1.5	120.589	1.789	.796	3.981		198	99	96	3	243	250	60
1	8 40	3.2	1.5	124.12	1.789	.796	3.980	124.570	198	100	96	3	245	250	61
2	8 45	3.0	1.4	128.31	1.732	.772	3.864	128.545	198	101	98	3	250	249	61
2	8 50	3.0	1.4	132.20	1.732	.772	3.864	132.409	198	101	98	3	250	250	61
3	8 55	2.1	.97	136.14	1.449	.644	3.223	136.273	198	103	96	3	250	249	61
3	9 00	2.3	1.0	139.010	1.517	.676	3.383	139.505	198	103	96	3	250	249	61
	9 05			142.062				142.888							
3-1	9 10	3.4	1.6	146.662	1.844	.820	4.102		198	100	96	3	250	250	61
-1	9 15	3.3	1.5	142.590	1.817	.809	4.045	146.764	198	100	96	3	250	251	61
2	9 20	3.0	1.3	150.72	1.732	.771	3.857	150.809	198	101	96	3	250	251	60
2	9 25	3.0	1.4	154.50	1.732	.771	3.864	154.666	198	103	96	3	250	250	60
3	9 20	2.4	1.1	158.61	1.549	.691	3.456	158.53	198	103	96	3	250	250	60
3	9 35	2.3	1.6	161.89	1.517	.676	3.383	161.986	198	103	96	3	250	250	60
	9 40			165.642				165.369							
4-1	9 45	3.1	1.4	165.642	1.761	.782	3.910		198	97	97	3	251	250	60
1	9 50	3.0	1.4	169.45	1.732	.7728	3.864	169.552	198	97	97	3	251	251	60
2	9 55	2.8	1.2	173.01	1.673	.761	3.736	173.416	198	103	97	3	250	250	60
2	10 00	2.9	1.3	177.21	1.703	.760	3.802	177.152	198	103	98	3	250	249	61
3	10 05	2.3	1.0	180.87	1.517	.677	3.389	180.954	198	103	98	3	250	249	61
3	10 10	2.3	1.0	184.02	1.517	.677	3.389	184.343	198	103	98	3	250	249	62
	10 15			187.758											

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Sunflower Electric / Holcomb Generating Station

UNIT NO: 1

LOCATION: Stack

DATE: 8/19/09

TEST NO: 1

METHOD: 26A

WEIGHED/MEASURED BY: LE

BALANCE ID: 510-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	949.2	735.1		
IMPINGER 2	892.2	719.6		
IMPINGER 3	751.7	736.6		
IMPINGER 4	759.4	752.1		
IMPINGER 5	788.0	761.4		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				
	3252.5	2948.4	309.1	
	788.0	761.4	27.6	
	FINAL TOTAL	INITIAL TOTAL	TOTAL GAIN	

Isokinetic Sampling Cover Sheet

Test Engineer: STS
Test Technician: J Park

Plant Information

Run Number: 2
Test Location: Unit 1 Stack
Duct Shape: Circular or Rectangular
Flue Area: 209.53
Port Type: Flange
Test Method: M26

Date: 8/5/09
Client Name: Sunflower Electric
Length: _____ Width: N/A or Diameter: 16.333
Upstream Diameters: >2
Port Length: 6"
Source Condition: Normal

Project Number: M093106
Plant Name: Holcomb Station
Downstream Diameters: >8
Port Diameter: 4"

Meter and Probe Data

Meter ID: CM16
Pitot ID: 091
Nozzle Kit ID: Glass #
Probe Length: 7'
Pre-Test Nozzle Leak Check: .020 @ 10 "Hg
Pre-Test Pitot Leak Check: ✓ @ 5" "H_2O

Meter Y Value: 1.014
Pitot Coefficient: .84
Nozzle Diameter: .168
Probe Liner: Glass

ΔH Value: 1.513
Train Type: Anderson
Filter Number/Weight: —
Thimble Number/Weight: —
Post-Test Nozzle Leak Check: .005 @ 10 "Hg
Post-Test Pitot Leak Check: ✓ @ 5" "H_2O

Traverse Data

Ports Sampled: 4
Total Points: 12

Points/Port: 3
Total Test Time: 120

Min/Point: 10
Sample Plane: Horizontal or Vertical

Stack Parameters

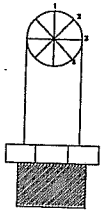
Barometric Pressure: 26.44
CO_2 %: ___/___/___/ Avg. 12.0
Imp and/or silica balance Model and S/N: S10-16
Initial Imp. Volume or Weight: 2966.2
Initial Silica Weight: 788.6

Static Pressure: -.8
O_2 %: ___/___/___/Avg. 6.40
Servomex Serial #: _____
Final Imp. Volume or Weight: 3245.3
Final Silica Weight: 802.7

Determined by: Method 3 or Method 3A
Imp. Volume or Weight Gain: 279.1
Silica Weight Gain: 14.1

Comments:

Post-Test Nozzle Verification:



1) ✓ 2) ✓ 3) ✓ 4) ✓

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb Station
Date: 8/5/09
Test Location: Unit 1 Stack
Test Method: M26
Test Number: 2
Operator: STS
Test Tech: J Park
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	.465 Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	.447 Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F
1-1	11:45	3.4	1.6	187.92	1.844	.819	4.096		198	96	97	4	249	250	61
1	11:50	3.3	1.5	192.12	1.817	.807	4.039	192.016	198	98	96	4	249	250	61
2	11:55	2.9	1.3	195.89	1.703	.758	3.793	196.055	198	100	96	4	250	249	61
2	12:00	3.0	1.4	199.71	1.732	.773	3.865	199.847	198	101	97	4	249	249	64
3	12:05	2.4	1.1	203.54	1.549	.692	3.462	203.712	197	102	97	4	250	249	63
3	12:10	2.4	1.1	207.01	1.549	.692	3.462	207.174	195	102	97	4	249	250	63
	12:15			210.412				210.636							
2-1	12:20	3.1	1.4	210.412	1.761	.786	3.932		198	101	98	4	250	251	63
1	12:25	3.1	1.4	214.20	1.761	.786	3.932	214.344	198	103	98	4	249	249	62
2	12:30	3.0	1.4	218.31	1.732	.775	3.874	218.283	198	104	98	4	249	249	62
2	12:35	3.0	1.4	222.09	1.732	.775	3.885	222.168	197	104	99	4	250	251	62
3	12:40	2.1	0.98	226.01	1.449	.652	3.261	226.047	195	106	99	4	251	250	63
3	12:45	2.1	0.98	229.40	1.449	.652	3.261	229.307	195	106	99	4	250	250	63
	12:50			232.415				232.569							
3-1	12:55	3.4	1.6	232.415	1.844	.828	4.140		198	106	99	4	250	249	63
1	13:00	3.4	1.6	236.40	1.844	.828	4.140	236.55	199	106	100	4	249	250	63
2	13:05	3.0	1.4	240.49	1.732	.775	3.893	240.69	199	107	100	4	250	249	63
2	13:10	3.0	1.4	244.59	1.732	.775	3.893	244.598	199	107	100	4	249	250	63
3	13:15	2.4	1.1	248.607	1.549	.697	3.485	248.481	199	107	101	4	250	250	64
3	13:20	2.4	1.1	252.11	1.549	.697	3.485	251.966	200	108	100	4	251	250	64
	13:25			255.21				255.449							
4-1	13:30	3.3	1.5	255.21	1.817	.814	4.072		200	105	100	4	251	250	64
1	13:35	3.3	1.5	259.02	1.817	.814	4.072	259.269	200	106	100	4	250	250	64
2	13:40	3.0	1.4	263.21	1.732	.779	3.897	263.359	200	107	100	4	249	250	64
2	13:45	3.0	1.4	267.12	1.732	.779	3.897	267.255	198	108	101	4	250	249	63
3	13:50	2.4	1.1	270.91	1.549	.696	3.484	271.159	198	108	102	4	249	250	63
3	13:55	2.4	1.1	274.41	1.549	.696	3.484	274.65	197	109	102	4	250	249	63
	14:00			278.012				278.151							

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: SunPower Electric

UNIT NO: 1

LOCATION: Stack

DATE: 8/5/09

TEST NO: 2

METHOD: 26A

WEIGHED/MEASURED BY: LTS

BALANCE ID: S10-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	972.1	744.1		
IMPINGER 2	772.5	725.5		
IMPINGER 3	746.6	749.6		
IMPINGER 4	754.1	752.0		
IMPINGER 5	802.7	788.6		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				
	3245.5 802.7 FINAL TOTAL	2966.8 788.6 INITIAL TOTAL	279.1 14.1 TOTAL GAIN	

729.0
745.5
738.4
751.0
802.7

Isokinetic Sampling Cover Sheet

Test Engineer: STS
Test Technician: J Parker

Plant Information

Run Number: 3
Test Location: Unit 1 Stack
Duct Shape: Circular or Rectangular
Flue Area: 209.53 ft2
Port Type: Flange
Test Method: 26

Date: 8/6/09
Client Name: Sunflower Electric
Length: N/A Width: N/A or
Upstream Diameters: >2
Port Length: 6
Source Condition: Normal

Project Number: M093106
Plant Name: Holcomb Station
Diameter: 16.333
Downstream Diameters: >8
Port Diameter: 4"

Meter and Probe Data

Meter ID: CM 16
Pitot ID: 091
Nozzle Kit ID: Glass
Probe Length: 7'
Pre-Test Nozzle Leak Check: .001 @ 10 "Hg
Pre-Test Pitot Leak Check: ✓ @ 5" "H_2O

Meter Y Value: 1.014
Pitot Coefficient: .84
Nozzle Diameter: .168
Probe Liner: Glass
Post-Test Nozzle Leak Check: .001 @ 10 "Hg
Post-Test Pitot Leak Check: ✓ @ 5" "H_2O

ΔH Value: 1.519
Train Type: Anderson
Filter Number/Weight: —
Thimble Number/Weight: —

Traverse Data

Ports Sampled: 4
Total Points: 12

Points/Port: 3
Total Test Time: 120

Min/Point: 10
Sample Plane: Horizontal or Vertical

Stack Parameters

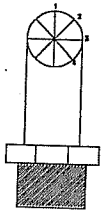
Barometric Pressure: 26.16
CO_2 %: / / / Avg. 12
Imp and/or silica balance Model and S/N: S10-16
Initial Imp. Volume or Weight: 2963.9
Initial Silica Weight: 802.7

Static Pressure: -.8
O_2 %: / / / /Avg. 16.5
Final Imp. Volume or Weight: 5241.8
Final Silica Weight: 812.2

Determined by: Method 3 or Method 3A
Servomex Serial #:
Imp. Volume or Weight Gain: 277.9
Silica Weight Gain: 9.5

Comments:

Post-Test Nozzle Verification:



1) ✓ 2) ✓ 3) ✓ 4) ✓

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb Station

Date: 8/6/09
Test Location: Unit 1 Stack
Test Method: M26

Test Number: 3
Operator: STS
Test Tech: J Parker
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F
1-1	7:00	3.1	1.4	80.512	1.761	.798	3.990		197	94	94	4	256	250	60
1	7:05	3.2	1.4	84.44	1.789	.810	4.053	84.502	197	94	94	4	250	250	60
2	7:10	2.9	1.3	88.23	1.703	.773	3.866	88.555	197	96	94	4	250	250	60
2	7:15	3.0	1.3	92.48	1.732	.787	3.935	92.421	197	97	94	4	250	250	60
3	7:20	2.4	1.1	96.21	1.549	.704	3.520	96.356	197	97	94	4	250	250	60
3	7:25	2.3	1.0	99.88	1.517	.688	3.443	99.876	198	97	94	4	249	250	60
	7:30			103.150				103.319							
2-1	7:33	3.2	1.5	103.15	1.789	.810	4.061		198	97	94	4	250	250	60
1	7:38	3.2	1.5	107.09	1.789	.810	4.061	107.211	198	97	94	4	250	249	61
2	7:43	2.9	1.3	111.04	1.703	.773	3.873	111.290	198	97	94	4	250	250	60
2	7:48	2.9	1.3	115.15	1.703	.773	3.873	115.153	198	100	94	4	250	250	60
3	7:53	2.3	1.0	119.02	1.517	.688	3.877	119.030	198	101	95	4	250	250	60
3	7:58	2.3	1.0	122.30	1.517	.688	3.459	122.488	198	101	95	4	250	250	60
	8:03			125.814				125.947							
3-1	8:06	3.1	1.4	125.814	1.761	.798	4.015		198	100	96	4	250	250	61
1	8:11	3.1	1.4	129.76	1.741	.798	4.019	129.829	198	101	96	4	249	250	61
2	8:16	2.8	1.3	133.76	1.673	.760	3.819	133.848	198	101	96	4	250	251	61
2	8:21	2.8	1.3	137.41	1.673	.760	3.823	137.468	198	102	96	4	251	251	60
3	8:26	2.4	1.1	141.09	1.549	.704	3.539	141.491	198	102	96	4	250	251	61
3	8:31	2.4	1.1	144.912	1.549	.704	3.539	145.030	198	102	96	4	250	251	61
	8:36			148.411											
4-1	8:40	3.2	1.5	148.411	1.789	.810	4.087		198	102	96	4	249	250	61
1	8:45	3.2	1.5	152.440	1.789	.810	4.094	152.498	198	103	97	4	249	250	61
2	8:50	2.8	1.3	156.43	1.673	.760	3.830	156.592	198	103	97	4	250	250	62
2	8:55	2.8	1.3	160.32	1.673	.760	3.843	160.422	197	105	98	4	249	250	64
3	9:00	2.30	1.0	164.19	1.517	.688	3.483	164.265	197	105	98	4	250	250	64
3	9:05	2.3	1.0	167.70	1.517	.688	3.483	167.748	197	105	98	4	250	250	64
	9:10			171.025				171.231							

PLATT ENVIRONMENTAL SERVICES INC.

IMPINGER WEIGHT SHEET

PLANT: Holcomb Station

UNIT NO: Unit 1

LOCATION: Stack

DATE: 8/6/09

TEST NO: 3

METHOD: 26A

WEIGHED/MEASURED BY: ELE

BALANCE ID: SID-16

Circle One:	FINAL WEIGHT MLS / GRAMS	INITIAL WEIGHT MLS / GRAMS	IMPINGER GAIN	IMPINGER CONTENTS
IMPINGER 1	949.7	729.0		
IMPINGER 2	791.0	745.5		
IMPINGER 3	741.5	735.4		
IMPINGER 4	756.6	751.0		
IMPINGER 5	812.2	802.7		
IMPINGER 6				
IMPINGER 7				
IMPINGER 8				
	3241.8 812.2 FINAL TOTAL	2963.9 802.7 INITIAL TOTAL	277.9 9.5 TOTAL GAIN	

Isokinetic Sampling Cover Sheet

Test Engineer: STS
Test Technician: J Paik

Plant Information

Run Number: 1
Test Location: Unit 1 Stack
Duct Shape: Circular or Rectangular
Flue Area: 209.53
Port Type: Flange
Test Method: OTM27 / OTM28

Date: 8/4/09
Client Name: Sunflower Electric
Length: N/A Width: N/A or Diameter: 16.333'
Upstream Diameters: >2
Port Length: 8"
Source Condition: Normal

Project Number: M09 3104
Plant Name: Holcomb Station
Downstream Diameters: >8
Port Diameter: 6"

Meter and Probe Data

Meter ID: CM10
Pitot ID: 100A
Nozzle Kit ID
Probe Length: 7'
Pre-Test Nozzle Leak Check: .001 @ 16 "Hg
Pre-Test Pitot Leak Check: ✓ @ 5in "H_2O

Meter Y Value: 0.999
Pitot Coefficient: .84
Nozzle Diameter: .118
Probe Liner: Glass

ΔH Value: 1.539
Train Type: Anderson
Filter Number/Weight:
Thimble Number/Weight:
Post-Test Nozzle Leak Check: .001 @ 12 "Hg
Post-Test Pitot Leak Check: ✓ @ "H_2O

Traverse Data

Ports Sampled: 4
Total Points: 12

Points/Port: 3
Total Test Time: 120

Min/Point: 10
Sample Plane: Horizontal or Vertical

Stack Parameters

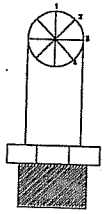
Barometric Pressure: 26.58
CO_2 %: 12.7 / / / Avg.
Imp and/or silica balance Model and S/N: SIO -
Initial Imp. Volume or Weight: 100
Initial Silica Weight: 221.2

Static Pressure: -.7
O_2 %: 6.4 / / / Avg.
Final Imp. Volume or Weight: 236
Final Silica Weight:

Determined by: Method 3 or Method 3A
Servomex Serial #:
Imp. Volume or Weight Gain:
Silica Weight Gain:

Comments:

Post-Test Nozzle Verification:



1) ✓ 2) ✓ 3) ✓ 4) ✓

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb Station

Date: 8/4/09
Test Location: Unit 1 STACK
Test Method: OTM 27 / OTM 28

Test Number: 1
Operator: STS
Test Tech: J Parker
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH) 1.85	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F	TC well
1-1	800	3.1	.30	46.512					203	100	100	3	258	250	63	80
1-1	8 ~~05~~:45	3.0	.30	48.44					203	100	100	2	250	250	63	80
-2	8 11	2.9		50.290					202	100	100	2	250	250	63	80
-2	8 16	2.8		52.16					202	100	100	2	256	250	64	80
-3	8 21	2.4		54.21					202	100	101	2	250	250	64	80
-3	8 25:30	2.4		56.01												
	830			57.875												
2-1	834	3.1	.3	57.875					202	103	103	2	250	249	64	81
-1	839:15	3.2		59.921					202	104	103	2	250	254	64	80
-2	844:30	2.9		61.79					202	105	104	2	250	250	64	80
-2	849:30	2.9		63.64					202	106	104	2	250	249	64	80
-3	854:30	2.4		65.49					202	106	104	2	249	250	64	80
-3	859	2.2		67.38					203	106	104	2	249	250	64	80
	903:30			68.982												
3-1	908	3.1	.30	68.982					201	106	105	2	250	249	64	80
-1	913:15	3.0		70.81					201	106	105	2	249	250	64	80
-2	918:30	2.9		72.70					202	107	106	2	249	250	64	81
-2	923:45	2.9		74.54					202	107	106	2	250	250	64	81
-3	929	2.4		76.39					202	107	106	2	250	251	64	80
-3	933:30	2.4		78.24					202	107	106	2	250	249	64	80
	938			80.011												
4-1	943	3.2	.30	80.011					202	108	106	2	250	250	64	81
-1	948:30	3.2		81.82					203	107	107	2	250	250	64	81
-2	954	3.0		83.78					202	108	107	2	250	249	64	80
-2	9:59:15	3.0		85.59					202	108	107	2	250	249	64	80
-3	10:04:30	2.4		87.31					202	108	107	2	250	249	64	80
-3	10:09:45	2.4		89.22					202	108	107	2	250	249	64	80
	1015			91.213												
				44.701												

Rinse Nozzle & Head

Isokinetic Sampling Cover Sheet

Test Engineer: STS
Test Technician: J Park

Plant Information

Run Number: 2
Test Location: Unit 1 Stack
Duct Shape: Circular or Rectangular
Flue Area: 209.53
Port Type: Flange
Test Method: MOTM37128

Date: 8/4/09
Client Name: Sunflower Electric
Length: N/A Width: N/A or Diameter: 16.333'
Upstream Diameters: >2
Port Length: 8"
Source Condition: Normal

Project Number: M09 3106
Plant Name: Holcomb Station
Downstream Diameters: >8
Port Diameter: 6"

Meter and Probe Data

Meter ID: CM 16
Pitot ID: 101
Nozzle Kit ID
Probe Length: 7'
Pre-Test Nozzle Leak Check: .001 @ 10 "Hg
Pre-Test Pitot Leak Check: ✓ @ 5" "H_2O

Meter Y Value: 0.999
Pitot Coefficient: .84
Nozzle Diameter: .118
Probe Liner: Glass

ΔH Value: 1.539
Train Type: Anderson
Filter Number/Weight: —
Thimble Number/Weight:
Post-Test Nozzle Leak Check: 0.003 @ 10 "Hg
Post-Test Pitot Leak Check: ✓ @ "H_2O

Traverse Data

Ports Sampled: 4
Total Points: 12

Points/Port: 3
Total Test Time: 120

Min/Point: 10
Sample Plane: Horizontal or Vertical

Stack Parameters

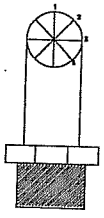
Barometric Pressure: ~~28.05~~ 26.58
CO_2 %: 12.8 / / / Avg.
Imp and/or silica balance Model and S/N: S10-
Initial Imp. Volume or Weight: 100
Initial Silica Weight: 217.8

Static Pressure: -.8
O_2 %: 6.3 / / / Avg.
Servomex Serial #:
Final Imp. Volume or Weight: 232
Final Silica Weight:

Determined by: Method 3 or Method 3A
Imp. Volume or Weight Gain:
Silica Weight Gain:

Comments:

Post-Test Nozzle Verification:



1) ✓ 2) ✓ 3) ✓ 4) ✓

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower
Plant: Holcomb Station

Date: 8/4/09
Test Location: Unit 1 Stack
Test Method: OTM 27/OTM 28

Test Number: 2
Operator: STS
Test Tech: J Park
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/ Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F	
1-1	1028	3.1	.3	91.401	1.761				202	108	107	2	250	249	63	81
1-1	1033:45	3.0		93.21	1.732				202	109	107	2	250	249	63	81
1-2	1039	2.9		95.10					203	109	107	2	250	249	63	81
1-2	1044	2.9		97.200					203	109	107	2	250	250	63	81
1-3	1049	2.5		98.81					200	109	108	2	250	249	63	81
1-3	1053:45	2.5		100.82					200	109	108	2	249	250	63	81
	1058:30			102.71												
2-1	1102	3.1		102.71					203	109	108	2	250	249	64	80
2-1	1107:15	3.2		104.56					203	109	108	2	250	249	64	80
2-2	1112:30	2.9		106.51					203	110	109	2	249	250	64	80
2-2	1117:00	2.9		108.29					203	110	109	2	249	250	64	80
2-3	1122:0	2.5		110.18					200	110	109	2	250	249	64	80
2-3	1126:45	2.4		112.10					200	110	109	2	250	249	64	80
	1131:15			113.921												
3-1	1136	3.1		113.921					202	110	109	2	250	249	63	80
3-1	1141:30	3.1		115.81					202	110	109	2	250	249	63	80
3-2	1147	2.9		117.65					203	110	109	2	250	249	63	80
3-2	1152	3.0		119.41					203	111	109	2	250	249	63	80
3-3	1157:15	2.5		121.23					203	111	109	2	239	248	63	80
3-3	1202	2.4		123.10					203	111	110	2	241	252	63	80
	1206:30			125.074												
4-1	1210	3.1		125.074					204	111	111	2	256	251	64	80
4-1	1215:15	3.1		126.93					204	111	111	2	250	250	64	80
4-2	1220:30	3.0		128.75					203	112	111	2	250	249	64	80
4-2	1225:45	3.0		130.61					205	112	111	2	250	249	64	80
4-3	1230:45	2.6		132.46					204	112	112	2	250	249	64	80
4-3	1235:30	2.4		134.32					204	112	112	2	250	249	64	80
	1240			136.278												
				44.773												

Isokinetic Sampling Cover Sheet

Test Engineer: STS
Test Technician: J Park

Plant Information

Run Number: 3
Test Location: Unit 1 Stack
Duct Shape: Circular or Rectangular
Flue Area: 209.53
Port Type: Flange
Test Method: OTM28/27

Date: 8/4/09
Client Name: Sunflower Electric
Length: N/a Width: N/a or Diameter: 16.333'
Upstream Diameters: >2
Port Length: 8"
Source Condition: Normal

Project Number: M093106
Plant Name: Holcomb Station
Downstream Diameters: >8
Port Diameter: 6"

Meter and Probe Data

Meter ID: Cm10
Pitot ID: 100
Nozzle Kit ID
Probe Length: 7'
Pre-Test Nozzle Leak Check: .001 @ 12 "Hg
Pre-Test Pitot Leak Check: ✓ @ 5" "H_2O

Meter Y Value: 0.999
Pitot Coefficient: .84
Nozzle Diameter: .118
Probe Liner: Glass

ΔH Value: 1.539
Train Type: Anderson
Filter Number/Weight:
Thimble Number/Weight:
Post-Test Nozzle Leak Check: .002 @ 8 "Hg
Post-Test Pitot Leak Check: ✓ @ 5" "H_2O

Traverse Data

Ports Sampled: 4
Total Points: 12

Points/Port: 3
Total Test Time: 120

Min/Point: 90
Sample Plane: Horizontal or Vertical

Stack Parameters

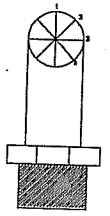
Barometric Pressure: 26.58
CO_2 %: 12.8 / / / Avg.
Imp and/or silica balance Model and S/N: 510-
Initial Imp. Volume or Weight: 100
Initial Silica Weight:

Static Pressure: -.8
O_2 %: 6.2 / / / Avg.
Final Imp. Volume or Weight: 228
Final Silica Weight:

Determined by: Method 3 or Method 3A
Servomex Serial #:
Imp. Volume or Weight Gain:
Silica Weight Gain:

Comments:

Post-Test Nozzle Verification:



1) ✓ 2) ✓ 3) ✓ 4) ✓

Isokinetic Sampling Field Data Sheet

Project Number: M093106
Client: Sunflower Electric
Plant: Holcomb Station
Date: 8/4/09
Test Location: Unit 1 Stack
Test Method: OTM 27/28
Test Number: 3
Operator: STS
Test Tech: J Park
Page Number: 1 of 1

Port-Point #.	Time	(ΔP)	Orifice Setting (ΔH)	Meter Volume (V_m) ft^3, Actual	Square Root, ΔP	Meter Rate, Cubic Feet/Min.	Theoretical Meter Volume, (V_m) ft^3, per point	Theoretical Meter Volume, (V_m) ft^3, total	Stack Temp, °F	Meter Temp Inlet, °F	Meter Temp Outlet, °F	Pump Vacuum, " Hg	Probe Temp. °F	Filter Temp. °F	Impinger Outlet Well Temp °F	
1-1	1308	3.2	.30	141.190												
1-1	1313:45	3.2		143.10					204	113	111	2	250	254	64	80
1-2	1319:15	3.0		144.87					204	114	113	2	250	250	64	80
1-2	1324:15	3.0		146.72					204	115	114	2	249	250	64	80
1-3	1329:30	2.4		148.61					204	115	115	2	250	249	64	80
1-3	1334	2.4		150.40					204	115	115	2	250	250	64	80
	1339:30			152.41					204	115	115	2	250	250	64	80
2-1	1343	3.2		152.41												
2-1	1348:45	3.3		154.18					204	115	114	2	250	249	64	80
2-2	1353:45	2.9		156.12					204	116	116	2	250	250	64	80
2-2	1358:45	3.0		157.97					204	116	116	2	250	250	64	81
2-3	1404:45	2.6		159.75					205	116	116	2	249	250	64	81
2-3	1409:30	2.6		161.65					203	116	116	2	250	250	64	81
	1414:15			163.624					200	116	116	2	250	248	64	80
3-1	14:17	3.3		163.624												
3-1	1422:30	3.1		165.36					203	115	116	2	250	249	64	80
3-2	1427:30	3.0		167.19					203	115	116	2	246	250	64	80
3-2	1432:30	3.0		169.10					203	116	115	2	250	251	64	80
3-3	1437:30	2.6		170.792					203	116	115	2	251	250	64	80
3-3	1442:15	2.6		172.642					203	116	115	2	251	250	64	80
	1449:00			174.501					203	116	115	2	251	250	64	80
4-1	1452	3.1		174.501												
4-1	1457	3.2		176.31					203	116	115	2	250	251	64	80
4-2	1502:30	3.0		178.21					203	116	115	2	250	251	64	80
4-2	1507:30	3.0		180.01					203	116	115	2	250	251	64	80
4-3	1512:30	2.6		181.90					203	117	117	2	250	250	64	80
4-3	1517:15	2.6		183.688					203	117	117	2	250	249	64	80
	1522			185.532					202	117	117	2	250	249	64	80
				44.342												

Volumetric Flow Rate Determination Field Data Sheet

Project Number: M09 3106
Client: Sunflower Electric
Test Location: Unit 1 Stack
Source Condition: Normal
Test Engineer: STS

Date: 8/4/09
Test Number: 1
Start Time: 742
End Time: 750
Test Tech: J Parker

Duct Diameter 16.333 ft
Flue Area 209.53 ft²
Port Length 8 "
P_{bar} 29.1 "Hg
Static -.6 "H_2O
Static _____ "Hg
P_s _____ "Hg

CO_2 % _____
O_2 % _____
N_2 % _____
Meter No. Cm 10

Upstream Disturbance, Diameters >2
Downstream Disturbance, Diameters >8
Pitot ID _____ Pitot Coefficient (C_p) _____
Wet Bulb Temp _____
Dry Bulb Temp _____
B_{ws} _____

Leak Checks
Pre ✓
Post ✓

Port-Point #	ΔP	Temp. °F	$\sqrt{\Delta P}$	Null Point Angle, Degrees	Port-Point #	ΔP	Temp. °F	$\sqrt{\Delta P}$	Null Point Angle, Degrees
1-1	3.8	196							
2	3.3	198							
3	2.3	197							
2-1	3.4	196							
2	3.2	196							
3	2.1	196							
3-1	3.6	196							
2	3.1	196							
3	2.0	196							
4-1	3.2	196							
2	3.1	195							
3	2.1	196							
Average									

28.89 .44 x CO_2% + .32 x O_2% + .28 x N_2% = _____(Md)

(_____Md x _____1-Bws) + (18 x_____Bws) = _____(Ms)

(28.871.8116 -.99) 84.6357

85.49 x ____Cp x $\sqrt{\frac{(____ - ____)Ts\ °R}{____Ms \times ____Ps}}$ x ____ $\sqrt{\Delta P}$ = ____ ft/sec (V_s)

_____ Vs x _____ Flue Area x 60 = _____acfm

17.647 x _____acfm x $\frac{Ps}{Ts\ °R}$ = _____ scfm x 60 = _____ scfh