

COMPLIANCE TEST REPORT

UNIT NO. 2

0690046-NA-AC
PSD-FL-113
- ALSO -
0690046-001-AV

Source Location:

Ogden Martin Systems of Lake, Inc.
3830 Rogers Industrial Park
Okahumpka, Florida 34762

Test Date: April 21, 22, and 23, 1998

Issue Date: May 30, 1998

Revision: 0

Prepared for:

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EMISSIONS CHARACTERIZATION
AND TESTING SERVICES

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1.0 SUMMARY

1.1 Source Information

Plant Name and Address: Ogden Martin Systems Of Lake, Inc.
3830 Rogers Industrial Park
Okahumkpa, Florida 34762

Source Tested: Unit No. 2

Permit ID #: A035-193817

Plant Contact: Cecil Boatwright, Facility Manager

Phone Number: (352) 365-1611

1.2 Testing Firm Information

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

Firm Contact: Shawn Graham, Project Manager

Phone Number: (714) 373-0998 Ext. 27

Subcontractor: Quanterra Incorporated, West Sacramento, California

1.3 Test Information

Test Requested By: Ogden Energy Group, Inc.

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

Phone Number: (973) 882-4136

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

Test Methods:

EPA 1	Sampling Point Determination
EPA 2	Velocity and Flow Rate
EPA 3	Molecular Weight
EPA 4	Flue Gas Moisture Content
EPA 5	Particulate
EPA 3A & 6C	O ₂ , CO ₂ & SO ₂
EPA 9	Opacity
EPA 7E & 10	NO _x & CO
EPA 26	Hydrogen Chloride
EPA 29	Mercury

Test Dates: April 21, 22, and 23, 1998

1.4 Test Personnel

Test Coordinator: Joe Aldina, Ogden Energy Group, Inc.

Test Observers: John Pacifici, Malcolm Pirnie
Garry Kuberski, Dept. of Environmental Protection, State of Florida
Larry Simpson, OMS of Lake, Inc.

AirKinetics Test Personnel: Tony Wong, Project Supervisor
Gary Mata, Laboratory Supervisor
Hung Duong, CEM Project Supervisor
Wayne Johnson, Team Leader
Thinh Phan, Field Technician

Visible Emissions: Daniel Beatty, Beatty Environmental

2.0 TEST RESULTS AND DATA PRESENTATION

The results of the testing are summarized in Table 2-1. Results tabulations are presented in Appendix A. Example calculations are given in Appendix B. Field data are given in Appendix C. Analytical data are provided in Appendix D. Calibration data are presented in Appendix E. Sampling train schematics are presented in Appendix F. AirKinetics system performance test results are presented in Appendix G. Complete raw data packages including chromatograms for particulate and hydrogen chloride are in Appendices H and I respectively.

**TABLE 2-1
 TEST RESULTS**

Parameter	Units	Run 1	Run 2	Run 3	Average	Permit Limit
INLET						
Sulfur Dioxide	ppmvd @ 12% CO ₂	108.9	35.0	32.9	58.9	
Hydrogen Chloride	ppmvd @ 7% O ₂	847	723	606	725	
	lb/hr	134	116	95.6	115	
Mercury	lb/hr	0.125	0.0705	0.0575	0.0843	
OUTLET						
Filterable Particulate	gr/dscf @ 12% CO ₂	0.00144	0.00135	0.00112	0.00130	0.015
	gr/dscf @ 7% O ₂	0.00142	0.00138	0.00108	0.00129	0.020
	lb/hr	0.330	0.309	0.263	0.301	NA
Hydrogen Chloride	ppmvd @ 7% O ₂	12.2	11.2	9.71	11.0	50
	lb/hr	1.87	1.65	1.57	1.70	
Mercury	lb/hr	0.000891	0.00203	0.00224	0.00172	
STACK						
Opacity	%	0	0	0	0	15
Sulfur Dioxide	ppmvd @ 12% CO ₂	3.6	3.0	0	2.2	60
Nitrogen Oxides	ppmvd @ 12% CO ₂	331.8	239.1	238.2	269.3	385
Carbon Monoxide	ppmvd @ 7% O ₂	23.4	22.2	16.1	20.7	100
Sulfur Dioxide ^a	% Efficiency	96.7	91.4	100	96.0	70
Hydrogen Chloride ^b		99.3	98.5	98.4	97.9	90
Mercury		99.3	97.1	96.1	97.9	80

^a - Efficiency calculated using ppmvd @ 12% CO₂ results.

^b - Efficiency calculated using lb/hr results.

3.0 INTRODUCTION

On April 21, 22, and 23, 1998 AirKinetics, Inc. conducted source emissions testing for Ogden Energy Group, Inc. at Ogden Martin Systems of Lake, Inc. in Okahumkpa, Florida. The objective of the test program was to perform the yearly compliance test as outlined in the Permit-To-Operate (PTO). The testing was conducted on Unit No. 2. The methods used during this test program were EPA Method 1 for sampling point determination, EPA Method 2 for velocity and flow rate, EPA Method 3 for molecular weight, EPA Method 4 for flue gas moisture content, EPA Method 5 for particulate, EPA Methods 3A and 6C for O₂, CO₂, and SO₂, EPA Methods 7E and 10 for NO_x and CO, EPA Method 9 for opacity, and EPA Method 26 for hydrogen chloride (HCl).

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

**TABLE 3-1
 TEST LOG**

Test Location	Sampling Objective	Sampling Method	Test Date	Run Numbers		
Unit No. 2 Inlet	O ₂ and CO ₂	EPA 3	4/21/98	2-I-M3/29-1	2-I-M3/29-2	2-I-M3/29-3
	Hg	EPA 29		2-I-M29-1	2-I-M29-2	2-I-M29-3
	O ₂ , CO ₂ , and SO ₂	EPA 3A and 6C	4/22/98	2-I-COMP-1	2-I-COMP-2	2-I-COMP-3
	HCl	EPA 26		2-I-M26-1	2-I-M26-2	2-I-M26-3
Unit No. 2 Outlet	O ₂ and CO ₂	EPA 3	4/21/98	2-O-M3/29-1	2-O-M3/29-2	2-O-M3/29-3
	Hg	EPA 29		2-O-M29-1	2-O-M29-2	2-O-M29-3
	O ₂ and CO ₂	EPA 3	4/22/98	2-O-M3/5-1	2-O-M3/5-2	2-O-M3/5-3
	Particulate	EPA 5		2-O-M5-1	2-O-M5-2	2-O-M5-3
	HCl	EPA 26		2-O-M26-1	2-O-M26-2	2-O-M26-3
Stack	O ₂ , CO ₂ , SO ₂ , NO _x , & CO	EPA 3A, 6C, 7E, & 10	4/22/98	2-S-COMP-1	2-S-COMP-2	2-S-COMP-3
	Opacity	EPA 9		U2-M9-1	U2-M9-2	U2-M9-3

4.0 SOURCE PROCESS AND EQUIPMENT DESCRIPTION

4.1 Process Description

The Ogden Martin Systems of Lake solid waste to energy facility has a rated refuse combustion capacity of 528 tons per day. The waste materials combusted is solid municipal waste with mingled biohazardous waste. Each of the two waterwall furnaces has a capacity of 264 tons per day. Waste is combusted at furnace temperatures exceeding 1800 degrees Fahrenheit and reduced to an inert ash residue that is approximately 10% of the original volume. Combustion air is directed through technologically advanced air pollution control equipment including dry flue gas scrubbers and fabric filter baghouses.

4.2 Location Description

The sampling locations for Unit Nos. 1 and 2 outlets are identical. The outlet location ducts are 51.25 by 51.25 inches in diameter. The upstream and downstream distances to the nearest flow disturbance are 213 feet (4.16 equivalent diameters) and 52 feet (1.01 equivalent diameters), respectively. Three four inch test ports were available for sampling. Eight traverse points were sampled per port.

The inlet location ducts are 55 by 55 inches in diameter. The upstream and downstream distances to the nearest flow disturbance are 152 inches (2.76 equivalent diameters) and 209 inches (3.80 equivalent diameters).

5.0 SAMPLING AND ANALYTICAL PROCEDURES

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

5.1 EPA Method 1 - Sampling Point Determination

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

5.2 EPA Method 2 - Flue Gas Velocity and Flow Rate

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

5.3 EPA Method 3 - Flue Gas Molecular Weight

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

Sample Analysis. Analyses were performed by Orsat apparatus. Prior to each series of analyses, the Orsat was leak checked to confirm that there is less than 0.2 ml change in four minutes. Analyses are performed until the dry molecular weight of any three grab samples differ from the mean by no more than 0.3 grams per gram-mole.

5.4 EPA Method 4 - Flue Gas Moisture Content

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

5.5 EPA Method 5 - Particulate

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

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

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

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

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

5.6 EPA Method 9 - Opacity

The procedures outlined in EPA Method 9 were used for the determination of the stack plume opacity. AirKinetics placed a certified, experienced visible emissions observer on site to record plume opacity for 60 minutes during each particulate run.

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

A heated stainless-steel probe was used to draw sample from the duct. A calibration valve was attached at the probe outlet to allow injection of calibration gas through the sample handling system. Approximately 10 feet of heated Teflon sample line was used to transport the sample to a drain down condenser sample conditioning system. A peristaltic pump was used to continuously remove the condensate from the bottom of the condenser.

The dried sample was filtered and pumped to the sample manifold. All sampling system components were constructed of Teflon or 316 stainless-steel. The sampling system was configured to allow the introduction of calibration gases either directly to the analyzers or through the sampling system.

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

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

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

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

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

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

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

Analyzer Type	Manufacturer	Model Number	Detection Principle	Range
O ₂	Teledyne	320P-4	Fuel Cell	0-25%
CO ₂	ACS (Fuji)	3300	Non-Dispersive	0-20%
SO ₂	Western Research	721 AT	Non-Dispersive Ultraviolet	0-50 ppm
	BOVAR	721 M	Non-Dispersive Ultraviolet	0-200 ppm
NO _x	Thermo Environmental	10	Chemiluminescence	0-500 ppm
CO	Thermo Environmental	48	Gas Filter Correlation	0-200 ppm

5.8 EPA Method 26 - Hydrogen Chloride

The sampling and analytical procedures outlined in the EPA Method 26 were followed to determine hydrogen chloride emissions. The midjet impingers described in the method were replaced with standard size impingers.

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

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

Sampling Train Operation. The sample train was operated at constant rate. The entire sample train was leak tested to ensure that leakage did not exceed the lesser of a) 4 percent of the average sampling rate, or b) 0.02 cfm.

The probe exit temperature was maintained above 248°F, and the filter compartment was maintained at 248°F ± 25°F during sampling.

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

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

5.9 EPA Method 29 - Mercury

The EPA Method 29 sampling train was used to determine mercury emissions.

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

Sample Train Operation. The reagents placed in the impingers were as follows: 100 ml of 5% HNO₃/10% H₂O₂ in each of the first two impingers, the third remained empty, 4% KMNO₄/10% H₂SO₄ in the fourth and fifth impingers and 200 grams of silica gel in the sixth impinger. In addition, a low metals quartz filter, Pallflex 2500QAT-UP, was used instead of the normal EPA Method 5 filter. The filter was placed between the probe exit and the first impinger.

Sample Recovery. The filter was removed and placed in container No. 1. The probe liner and nozzle and front half of filter holder of the sampling train were brushed and rinsed 0.1 N nitric acid. These rinses and residues were placed in container No. 2. The contents of impingers 1 and 2 were poured into container No. 3 and weighed for moisture content. The back half of the sampling train and impingers 1 and 2 were then rinsed with nitric acid into container No. 3. The contents of impinger 3 were poured into container No. 4 and weighed for moisture content. Impinger 3 was rinsed with nitric acid into container No. 4. The contents of impingers 4 and 5 were poured in container No. 5 and weighed for moisture content. Impingers 4 and 5 were rinsed with permanganate solution, 100 ml of water and 8N HCl solution. The silica gel was weighed for moisture and discarded.

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

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



6.0 TEST CRITIQUE

6.1 EPA Method 5 - Particulate

No sampling train leaks were observed during testing. The average sampling rate for each test run was within 10% of isokinetic. A minimum sample volume of 60 standard cubic feet was collected for all test runs. An acetone reagent blank was analyzed with 0.1 mg detected.

6.2 EPA Method 9 - Opacity

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

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

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

6.4 EPA Method 26 - Hydrogen Chloride

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

6.5 EPA Method 29 - Mercury

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

A field blank train was analyzed with no Hg detected. A reagent blank was analyzed with no Hg ug detected. A method blank was performed with no Hg detected. Matrix duplicate and duplicate control sample results within acceptable limits.

6.5 NO₂-to-NO Converter Efficiency Check

AirKinetics performed a NO₂-to-NO conversion efficiency check on the NO_x Chemiluminescent analyzer. The conversion efficiency determined was 98.2 % which met the criteria of $\geq 98\%$.

6.6 NO_x and SO₂ Analyzer Interference Tests

AirKinetics performed an interference response test on the NO_x and SO₂ analyzers used for this test program. The NO_x interference response for the analyzer was 0.7 % of span which met the criteria of $< 2\%$. The SO₂ interference responses for the analyzer was 0.5 % of span which met the criteria of $< 2\%$.

APPENDIX A

RESULTS TABULATION

1.0 INLET

- a. OXYGEN, CARBON DIOXIDE, AND SULFUR DIOXIDE**

CALCULATION OF AVERAGE SO2 EMISSIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 INLET
 RUN NUMBER: 2-I-COMP-1 (1044-1147) DATE: 04/22/98

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm SO2	4.7	2.3	3.5
120.0 ppm SO2	118.2	117.7	118.0
0.00 % O2	0.15	0.16	0.16
8.98 % O2	9.00	9.01	9.01
0.00 % CO2	0.06	0.14	0.10
10.95 % CO2	10.90	10.85	10.88
<hr/>			
Uncorrected Data:	78.2 ppm SO2	11.2 % O2 8.6 % CO2	
		NA DSCFM	

CORRECTED RESULTS

78.3 ppm SO2	NA lb SO2/hr	108.9 ppm SO2 @12 %CO2
11.25 % O2		112.8 ppm SO2 @7 %O2
8.63 % CO2		

$$\text{Corrected Conc.} = C_{ma}(\bar{C} - C_o)/(C_m - C_o)$$

Where: \bar{C} = mean reference measurement
 C_o = mean zero calibration response
 C_m = mean mid or upscale calibration gas response
 C_{ma} = actual mid or upscale calibration gas concentration

$$\text{ppm @12\% CO2} = (\text{ppm pollutant}) * 12/\%CO2$$

$$\text{lb/hr} = (\text{ppm pollutant})(\text{DSCFM flow})(\text{Conv. Factor})(60)$$

Where: SO2 Conv. Factor = 1.661E-07 lb SO2/DSCF - ppm SO2

All the above calculations are based on standard conditions of:
 68 deg. F and 29.92 in. Hg.

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

COMPANY: OWS - LAKE RESOURCES RECOVERY SYSTEM

TEST DATE: 04/22/98

SOURCE: UNIT 2 INLET

RUN NUMBER: 2-T-COMP-1 (1044-1147)

SPAN VALUES: 200 ppm SO2

25 % O2

20 % CO2

	CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES-----		-----FINAL VALUES-----		DRIFT (% OF SPAN)
					SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	
SO2 ZERO	0.0	-0.5	-0.25%		4.7	2.60	2.3	1.40	-1.20
SO2 MID	120.0	123.6	1.80%	1.82%	119.2	-2.70	117.7	-2.95	-0.25
SO2 HIGH	180.0	180.2	0.10%						
O2 ZERO	0.00	0.07	0.28%		0.15	0.32	0.16	0.36	0.04
O2 MID	8.98	9.16	0.72%	0.37%	9.00	-0.64	9.01	-0.60	0.04
O2 HIGH	20.04	20.15	0.44%						
CO2 ZERO	0.00	0.03	0.15%		0.06	0.15	0.14	0.55	0.40
CO2 MID	10.95	10.92	-0.15%	-0.24%	10.90	-0.10	10.85	-0.35	-0.25
CO2 HIGH	17.39	17.40	0.05%						

$$\text{ANALYZER CAL. ERROR} = \frac{\text{ANALYZER CAL. RESPONSE} - \text{CAL. GAS TAG VALUE}}{\text{SPAN}} \times 100$$

$$\text{ANALYZER LINEARITY} = \left[\frac{(\text{MID GAS RESPONSE} - \text{ZERO GAS RESPONSE})}{(\text{HIGH GAS RESPONSE} - \text{ZERO GAS RESPONSE})} \times \frac{\text{MID GAS TAG VALUE}}{\text{HIGH GAS TAG VALUE}} \right] \times \frac{100}{\text{SPAN}}$$

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

CALCULATION OF AVERAGE SO2 EMISSIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 INLET
 RUN NUMBER: 2-I-COMP-2 (1236-1343) DATE: 04/22/98

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm SO2	2.3	2.1	2.2
180.0 ppm SO2	171.4	173.2	172.3
0.00 % O2	0.16	0.15	0.16
8.98 % O2	9.01	9.00	9.01
0.00 % CO2	0.14	0.08	0.11
10.95 % CO2	10.85	10.84	10.85
<hr/>			
Uncorrected Data:	26.7 ppm SO2	10.9 % O2 8.8 % CO2	
		NA DSCFM	
<hr/>			
CORRECTED RESULTS			
25.9 ppm SO2	NA lb SO2/hr	35.0 ppm SO2 @12 %CO2	
10.90 % O2		36.0 ppm SO2 @7 %O2	
8.89 % CO2			

$$\text{Corrected Conc.} = C_{ma}(\bar{C} - C_o)/(C_m - C_o)$$

Where: \bar{C} = mean reference measurement
 C_o = mean zero calibration response
 C_m = mean mid or upscale calibration gas response
 C_{ma} = actual mid or upscale calibration gas concentration

$$\text{ppm @12\% CO2} = (\text{ppm pollutant}) * 12/\%CO2$$

$$\text{lb/hr} = (\text{ppm pollutant})(\text{DSCFM flow})(\text{Conv. Factor})(60)$$

Where: SO2 Conv. Factor = 1.661E-07 lb SO2/DSCF - ppm SO2

All the above calculations are based on standard conditions of:
 68 deg. F and 29.92 in. Hg.

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

COMPANY: OHS - LAKE RESOURCES RECOVERY SYSTEM

TEST DATE: 04/22/98

SOURCE: UNIT 2 INLET

RUN NUMBER: 2-1-COMP-2 (1236-1343)

SPAN VALUES: 200 ppm SO2 25 ± O2
20 ± CO2

CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES-----		-----FINAL VALUES-----		DRIFT (% OF SPAN)
				SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	
SO2 ZERO	0.0	-0.5	-0.25%	2.3	1.40	2.1	1.30	-0.10
SO2 MID	120.0	123.6	1.00%	1.82%				
SO2 HIGH	180.0	180.2	0.10%		171.4	-4.40	173.2	-3.50
O2 ZERO	0.00	0.07	0.28%		0.16	0.36	0.15	0.32
O2 MID	8.98	9.16	0.72%	0.37%	9.01	-0.60	9.00	-0.64
O2 HIGH	20.04	20.15	0.44%					
CO2 ZERO	0.00	0.03	0.15%		0.14	0.55	0.08	0.25
CO2 MID	10.95	10.92	-0.15%	-0.24%	10.85	-0.35	10.84	-0.40
CO2 HIGH	17.39	17.40	0.05%					

$$\text{ANALYZER CAL. ERROR} = \frac{\text{ANALYZER CAL. RESPONSE} - \text{CAL. GAS TAG VALUE}}{\text{SPAN}} \times 100$$

$$\text{ANALYZER LINEARITY} = \left[\frac{(\text{MID GAS RESPONSE} - \text{ZERO GAS RESPONSE})}{(\text{HIGH GAS RESPONSE} - \text{ZERO GAS RESPONSE})} \times \frac{\text{HIGH GAS TAG VALUE}}{\text{MID GAS TAG VALUE}} \right] \times 100$$

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

CALCULATION OF AVERAGE SO2 EMISSIONS

COMPANY: DMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 INLET
 RUN NUMBER: 2-I-COMP-3 (1526-1630) DATE: 04/22/98

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm SO2	2.1	2.2	2.2
180.0 ppm SO2	173.2	175.2	174.2
0.00 % O2	0.15	0.15	0.15
8.98 % O2	9.00	9.03	9.02
0.00 % CO2	0.08	0.14	0.11
10.95 % CO2	10.84	10.86	10.85
<hr/>			
Uncorrected Data:	26.2 ppm SO2	10.4 % O2 9.1 % CO2	
		NA DSCFM	
<hr/>			
CORRECTED RESULTS			
25.2 ppm SO2	NA lb SO2/hr	32.9 ppm SO2 @12 %CO2	
10.38 % O2		33.3 ppm SO2 @7 %O2	
9.18 % CO2			

$$\text{Corrected Conc.} = C_{ma}(\bar{C} - C_o)/(C_m - C_o)$$

Where: \bar{C} = mean reference measurement
 C_o = mean zero calibration response
 C_m = mean mid or upscale calibration gas response
 C_{ma} = actual mid or upscale calibration gas concentration

$$\text{ppm @12\% CO2} = (\text{ppm pollutant}) * 12/\%CO2$$

$$\text{lb/hr} = (\text{ppm pollutant})(\text{DSCFM flow})(\text{Conv. Factor})(60)$$

Where: SO2 Conv. Factor = $1.661E-07$ lb SO2/DSCF - ppm SO2

All the above calculations are based on standard conditions of:
 68 deg. F and 29.92 in. Hg.

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 INLET
 RUN NUMBER: 2-I-COMP-3 (1526-1630)

TEST DATE: 04/22/98

SPAN VALUES: 200 ppm SO2 25% O2
 20% CO2

	CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES-----		-----FINAL VALUES-----		DRIFT (% OF SPAN)
					SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	
SO2 ZERO	0.0	-0.5	-0.25%		2.1	1.30	2.2	1.35	0.05
SO2 MID	120.0	123.6	1.00%	1.82%					
SO2 HIGH	180.0	180.2	0.10%		173.2	-3.50	175.2	-2.50	1.00
O2 ZERO	0.00	0.07	0.28%		0.15	0.32	0.15	0.32	0.00
O2 MID	8.98	9.16	0.72%	0.37%	9.00	-0.64	9.03	-0.52	0.12
O2 HIGH	20.04	20.15	0.44%						
CO2 ZERO	0.00	0.03	0.15%		0.08	0.25	0.14	0.55	0.30
CO2 MID	10.95	10.92	-0.15%	-0.24%	10.84	-0.40	10.86	-0.30	0.10
CO2 HIGH	17.39	17.40	0.05%						

$$\text{ANALYZER CAL. ERROR} = \frac{\text{ANALYZER CAL. RESPONSE} - \text{CAL. GAS TAG VALUE}}{\text{SPAN}} * 100$$

$$\text{ANALYZER LINEARITY} = \left[\frac{(\text{MID GAS RESPONSE} - \text{ZERO GAS RESPONSE}) - \frac{(\text{HIGH GAS RESPONSE} - \text{ZERO GAS RESPONSE}) * \text{MID GAS TAG VALUE}}{\text{HIGH GAS TAG VALUE}}}{\text{SPAN}} \right] * 100$$

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} * 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} * 100$$

APPENDIX A
RESULTS TABULATION

1.0 INLET

b. HYDROGEN CHLORIDE

FIELD DATA AND RESULTS TABULATION

Plant: OGDEN MARTIN SYSTEMS OF LAKE, INC., OKAHUMPKA, FLORIDA
 Test Location: UNIT No. 2 INLET

Run Number	Run Date	Operator
2-I-M26-1	4/22/98	THINH PHANH
2-I-M26-2	4/22/98	THINH PHANH
2-I-M26-3	4/22/98	THINH PHANH

		2-I-M26-1	2-I-M26-2	2-I-M26-3
	Run Start Time	915	1235	1525
	Run Stop Time	1140	1435	1726
	Net Sampling/Traversing Points	24	24	24
	Net Run Time, Minutes	120	120	120
Y	Dry Gas Meter Calibration Coefficient	0.9963	0.9963	0.9963
Pbar	Barometric Pressure, Inches Hg	29.90	29.90	29.90
Delta-H	Orifice Average Pressure Differential, Inches H2O	1.463	1.200	1.200
Vm	Sampled Volume of Source Gas, Dry ACF	76.150	71.373	71.761
Vmm	Sampled Volume of Source Gas, Dry ACM	2.16	2.02	2.03
tm	Dry Gas Meter Temperature, Degrees F	74.0	79.3	80.0
Vmstd	Sampled Volume of Source Gas, Dry SCF	75.235	69.784	70.066
Vmstdm	Sampled Volume of Source Gas, Dry SCM	2.130	1.976	1.984
Vlc	Volume of Condensed Liquid, mL	136.9	178.6	195.8
Vwstd	Volume of Water Vapor, SCF	6.443	8.406	9.215
%H2O	Moisture Content, Percent by Volume	7.89	10.75	11.62
%CO2	Source Gas CO2 Content, Percent by Dry Volume	8.56	8.89	9.18
%O2	Source Gas O2 Content, Percent by Dry Volume	11.31	10.90	10.38
Md	Source Gas Dry Molecular Weight, Lb/Lb-Mole	29.8	29.9	29.9
Pg	Source Gas Static Pressure, Inches H2O	-2.9	-2.9	-2.9
Ps	Source Gas Absolute Pressure, Inches Hg	29.7	29.7	29.7
A	Source Cross Sectional Area, Square Inches	3.025	3.025	3.025
Qsd	Source Gas Volumetric Flow Rate, Dry SCFM	40.360	39.100	38.700
Fo	Fuel Factor	1.12	1.12	1.15
%EA	Excess Air, Percent	114.9	106.1	95.6
Fd	F-Factor, DSCF/Million Btu	9,570	9,570	9,570
MMBtu/Hr	Heat Input Rate, Million Btu/Hour	116	117	116

Note:

All standard volumes and flow rates based on 68 Degrees F (20 Degrees C) -- 29.92 Inches of Mercury (Hg)
 The lesser of %H2O and %H2Osat was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

		<u>2-I-M26-1</u>	<u>2-I-M26-2</u>	<u>2-I-M26-3</u>
	<u>Hydrogen Chloride</u>			
Fwt	Formula Weight, Lb/Lb-Mole	36.50	36.50	36.50
mg	Catch Weight, Milligrams	1890	1560	
ppmvd	Concentration, Parts Per Million by Volume Dry	585	520	
ppmvd@7%O2	Concentration, ppmvd @ 7% O2	847	723	606
ppmvd@12%CO2	Concentration, ppmvd @ 12% CO2	820	702	599
lb/hr	Emission Rate, Pounds per Hour	134	116	95.8
lb/MMBtu	Emission Rate, Pounds per Million Btu	1.16	0.986	0.826

FIELD DATA AND RESULTS TABULATION

PLANT: OGDEN MARTIN SYSTEMS OF LAKE, INC.

SAMPLING LOCATION:

UNIT 2 INLET

		2-I-M4-1	2-I-M4-2	2-I-M4-3
		2-I-M2-1	2-I-M2-2	2-I-M2-3

Test Date		4/22/98	4/22/98	4/22/98
	Run Start Time	0915	1235	1525
	Run Finish Time	1140	1435	1726
	Net Traversing Points	24	24	24
Theta	Net Run Time, Minutes	120	120	120
Cp	Pitot Tube Coefficient	0.84	0.84	0.84
Y	Dry Gas Meter Calibration Factor	0.9963	0.9963	0.9963
Pbar	Barometric Pressure, Inches Hg	29.9	29.9	29.9
Vm	Volume of Metered Gas Sample, Dry ACF	76.150	71.373	71.761
tm	Dry Gas Meter Temperature, Degrees F	74.0	79.0	80.0
Delta-H	Average Orifice Setting, Inches H2O	1.463	1.200	1.200
Vmstd	Volume of Metered Gas Sample, Dry SCF*	75.235	69.817	70.066
Vlc	Total Volume of Liquid Collected in Impingers and Silica gel, mL	136.9	178.6	195.8
Vwstd	Volume of Water Vapor, SCF*	6.444	8.407	9.216
%H2O	Moisture Content, Percent by Volume	7.9	10.7	11.6
Mfd	Dry Mole Fraction	0.921	0.893	0.884
%CO2	Carbon Dioxide, Percent by Volume, Dry	8.56	8.89	9.18
%O2	Oxygen, Percent by Volume, Dry	11.31	10.90	10.38
%CO+N2	CO + N2, Percent by Volume, Dry	80.1	80.2	80.4
Md	Gas Molecular Weight, Lb/Lb-Mole, Dry	29.8	29.9	29.9
Ms	Gas Molecular Weight, Lb/Lb-Mole, Wet	28.9	28.6	28.5
Pg	Flue Gas Static Pressure, Inches H2O	-2.9	-2.9	-2.9
Ps	Absolute Flue Gas Pressure, Inches Hg	29.69	29.69	29.69
ts	Flue Gas Temperature, Degrees F	447	446	431
Delta-p	Average Velocity Head, Inches H2O	0.664	0.656	0.578
vs	Flue Gas Velocity, Feet per Second	60.2	60.1	56.0
A	Stack/Duct Area, Square Inches	3.025	3.025	3.025
Qsd	Volumetric Air Flow Rate, Dry SCFM*	4.036E+04	3.910E+04	3.670E+04
Qaw	Volumetric Air Flow Rate, Wet ACFM	7.584E+04	7.573E+04	7.062E+04

* 68 degrees F -- 29.92 Inches Of Mercury (Hg)

APPENDIX A
RESULTS TABULATION

1.0 INLET

c. MERCURY

FIELD DATA AND RESULTS TABULATION

Plant: OGDEN MARTIN SYSTEMS OF LAKE, INC., OKAHUMPKA, FLORIDA
 Test Location: Unit No. 2 Inlet

Run Number	Run Date	Operator
2-I-M29-1	4/21/98	THINH PHANH
2-I-M29-2	4/21/98	THINH PHANH
2-I-M29-3	4/21/98	THINH PHANH

		2-I-M29-1	2-I-M29-2	2-I-M29-3
	Run Start Time	1025	1400	1646
	Run Stop Time	1258	1618	1917
	Net Sampling/Traversing Points	24	24	24
	Net Run Time, Minutes	120	120	120
Dia	Nozzle Diameter, Inches	0.256	0.256	0.256
Cp	Pitot Tube Coefficient	0.84	0.84	0.84
Y	Dry Gas Meter Calibration Coefficient	0.9963	0.9963	0.9963
Pbar	Barometric Pressure, Inches Hg	29.70	29.70	29.70
Delta-H	Orifice Average Pressure Differential, Inches H2O	1.686	1.575	1.543
Vm	Sampled Volume of Source Gas, Dry ACF	79.956	81.570	81.140
Vmm	Sampled Volume of Source Gas, Dry ACM	2.26	2.31	2.30
tm	Dry Gas Meter Temperature, Degrees F	92.7	92.5	92.9
Vmstd	Sampled Volume of Source Gas, Dry SCF	75.856	77.394	76.922
Vmstdm	Sampled Volume of Source Gas, Dry SCM	2.148	2.192	2.178
Vlc	Volume of Condensed Liquid, mL	235.5	243.2	219.9
Vwstd	Volume of Water Vapor, SCF	11.084	11.446	10.350
%H2O	Moisture Content, Percent by Volume	12.75	12.88	11.86
%H2Osat	Saturated Moisture Content, Percent by Volume	100.0	100.0	100.0
Mfd	Source Gas Dry Mole Fraction	0.873	0.871	0.881
%CO2	Source Gas CO2 Content, Percent by Dry Volume	8.5	9.1	9.2
%O2	Source Gas O2 Content, Percent by Dry Volume	10.6	10.4	10.6
ld	Source Gas Dry Molecular Weight, Lb/Lb-Mole	29.78	29.87	29.90
Ms	Source Gas Wet Molecular Weight, Lb/Lb-Mole	28.28	28.34	28.49
Pg	Source Gas Static Pressure, Inches H2O	-2.30	-3.00	-3.00
Ps	Source Gas Absolute Pressure, Inches Hg	29.53	29.48	29.48
ts	Source Gas Temperature, Degrees F	456	441	440
Delta-p	Source Gas Average Velocity Head, Inches H2O	0.6987	0.6460	0.6303
vs	Source Gas Velocity, Feet/Second	62.85	59.94	59.02
A	Source Cross Sectional Area, Square Inches	3, 025	3, 025	3, 025
Qsd	Source Gas Volumetric Flow Rate, Dry SCFM	39, 342	37, 997	37, 904
Qmsd	Source Gas Volumetric Flow Rate, Dry SCMM	1, 114	1, 076	1, 073
Qaw	Source Gas Volumetric Flow Rate, Wet ACFM	79, 212	75, 550	74, 389
Qmaw	Source Gas Volumetric Flow Rate, Wet ACMM	2, 243	2, 139	2, 106
%I	Average Isokinetic Sampling Rate, Percent	94.4	99.8	99.4
Fo	Fuel Factor	1.21	1.15	1.12
%EA	Excess Air, Percent	98.5	95.8	100.3
Fd	F-Factor, DSCF/Million Btu	9, 570	9, 570	9, 570
MMBtu/Hr	Heat Input Rate, Million Btu/Hour	122	120	117

All standard volumes and flow rates based on 68 Degrees F (20 Degrees C) -- 29.92 Inches of Mercury (Hg)
 The lesser of %H2O and %H2Osat was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

		2-I-M29-1	2-I-M29-2	2-I-M29-3
	<u>Mercury</u>			
FWL	Formula Weight, Lb/Lb-Mole	200.59	200.59	200.59
ug	Catch Weight, Micrograms *	1825.7	1085.4	881.5
ppmvd	Concentration, Parts per Million by Volume Dry	0.1019	0.05939	0.0485
ppmvd@7%O2	Concentration, ppmvd @7% O2	0.1375	0.0786	0.0655
ppmvd@12%CO2	Concentration, ppmvd @12% CO2	0.1439	0.0783	0.0633
ug/DSCM	Concentration, Micrograms per DSCM	850	495	405
ug/DSCM@7%O2	Concentration, ug/DSCM @ 7% O2	1147	656	546
ug/DSCM@12%CO2	Concentration, ug/DSCM @ 12% CO2	1200	653	528
gr/DSCF@12%CO2	Concentration, gr/DSCF @ 12% CO2	5.24E-04	2.85E-04	2.31E-04
lb/hr	Emission Rate, Pounds per Hour	0.125	0.0705	0.0575
g/sec	Emission Rate, Grams Per Second	0.0158	0.00888	0.00724
lb/MMBtu	Emission Rate, Pounds per Million Btu	1.03E-03	5.89E-04	4.91E-04

* - The catch weight was corrected for the reagent blank analytical results.

APPENDIX A
RESULTS TABULATION
2.0 OUTLET
a. PARTICULATE

FIELD DATA AND RESULTS TABULATION

Plant: OGDEN MARTIN SYSTEMS OF LAKE, INC., OKAHUMPKA, FLORIDA
 Test Location: UNIT No. 2 OUTLET

Run Number	Run Date	Operator
2-0-M5-1	4/22/98	WAYNE JOHNSON
2-0-M5-2	4/22/98	WAYNE JOHNSON
2-0-M5-3	4/22/98	WAYNE JOHNSON

		2-0-M5-1	2-0-M5-2	2-0-M5-3
	Run Start Time	916	1236	1525
	Run Stop Time	1143	1446	1730
	Net Sampling/Traversing Points	24	24	24
	Net Run Time, Minutes	120	120	120
Dia	Nozzle Diameter, Inches	0.218	0.218	0.218
Cp	Pitot Tube Coefficient	0.84	0.84	0.84
Y	Dry Gas Meter Calibration Coefficient	1.0891	1.0891	1.0891
Pbar	Barometric Pressure, Inches Hg	29.9	29.9	29.9
Delta-H	Orifice Average Pressure Differential, Inches H2O	1.53	1.45	1.25
Vm	Sampled Volume of Source Gas, Dry ACF	73.159	71.211	65.612
Vmm	Sampled Volume of Source Gas, Dry ACM	2.07	2.02	1.86
tm	Dry Gas Meter Temperature, Degrees F	80	84	83
Vmstd	Sampled Volume of Source Gas, Dry SCF	78.19	75.51	69.71
Vmstdm	Sampled Volume of Source Gas, Dry SCM	2.21	2.14	1.97
Vlc	Volume of Condensed Liquid, mL	277.3	250.9	237.9
Vwstd	Volume of Water Vapor, SCF	13.05	11.81	11.20
%H2O	Moisture Content, Percent by Volume	14.30	13.52	13.84
%H2Osat	Saturated Moisture Content, Percent by Volume	100.0	100.0	100.0
Mfd	Source Gas Dry Mole Fraction	0.857	0.865	0.862
%CO2	Source Gas CO2 Content, Percent by Dry Volume	6.9	7.1	7.8
%O2	Source Gas O2 Content, Percent by Dry Volume	12.8	12.9	11.5
Md	Source Gas Dry Molecular Weight, Lb/Lb-Mole	29.62	29.65	29.71
Ms	Source Gas Wet Molecular Weight, Lb/Lb-Mole	28.0	28.1	28.1
Pg	Source Gas Static Pressure, Inches H2O	-14.80	-19.00	-13.00
Ps	Source Gas Absolute Pressure, Inches Hg	28.8	28.5	28.9
ts	Source Gas Temperature, Degrees F	280	283	278
Delta-p	Source Gas Average Velocity Head, Inches H2O	1.095	1.038	0.888
vs	Source Gas Velocity, Feet/Second	72.0	70.5	64.5
A	Source Cross Sectional Area, Square Inches	2,627	2,627	2,627
Qsd	Source Gas Volumetric Flow Rate, Dry SCFM	46,417	45,168	42,075
Qmsd	Source Gas Volumetric Flow Rate, Dry SCMM	1,314	1,279	1,191
Qaw	Source Gas Volumetric Flow Rate, Wet ACFM	78,789	77,113	70,566
Qmaw	Source Gas Volumetric Flow Rate, Wet ACMM	2,231	2,184	1,998
%I	Average Isokinetic Sampling Rate, Percent	98.8	98.0	97.2
Fo	Fuel Factor	1.174	1.127	1.205
%EA	Excess Air, Percent	152.4	156.9	117.3
Fd	F-Factor, DSCF/Million Btu	9,570	9,570	9,570
MMBtu/Hr	Heat Input Rate, Million Btu/Hour	113	108	119

Note:

All standard volumes and flow rates based on 68 Degrees F (20 Degrees C) -- 29.92 Inches of Mercury (Hg)
 The lesser of %H2O and %H2Osat was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

		2-0-M5-1	2-0-M5-2	2-0-M5-3
mg	Filterable Particulate			
	Catch Weight, Milligrams	4.2	3.9	
gr/DSCF	Concentration, Grains per DSCF	0.000829	0.000797	0.000731
gr/DSCF@7%O2	Concentration, gr/DSCF @ 7% O2	0.00142	0.00138	0.00108
gr/DSCF@12%CO2	Concentration, gr/DSCF @ 12% CO2	0.00144	0.00135	0.00112
lb/hr	Emission Rate, Pounds per Hour	0.330	0.309	0.263
lb/MMBtu	Emission Rate, Pounds per Million Btu	0.00292	0.00285	0.00222

APPENDIX A

RESULTS TABULATION

2.0 OUTLET

b. HYDROGEN CHLORIDE

FIELD DATA AND RESULTS TABULATION

Plant: OGDEN MARTIN SYSTEMS OF LAKE, INC., OKAHUMPKA, FLORIDA
 Test Location: UNIT No. 2 OUTLET

Run Number	Run Date	Operator
2-0-M26-1	4/22/98	HUNG DUONG
2-0-M26-2	4/22/98	HUNG DUONG
2-0-M26-3	4/22/98	HUNG DUONG

		2-0-M26-1	2-0-M26-2	2-0-M26-3
	Run Start Time	915	1238	1525
	Run Stop Time	1145	1438	1725
	Net Sampling/Traversing Points	24	24	24
	Net Run Time, Minutes	120	120	120
Y	Dry Gas Meter Calibration Coefficient	1.0138	1.0138	1.0138
Pbar	Barometric Pressure, Inches Hg	29.90	29.90	29.90
Delta-H	Orifice Average Pressure Differential, Inches H2O	1.700	1.700	1.700
Vm	Sampled Volume of Source Gas, Dry ACF	87.165	85.633	86.712
Vmm	Sampled Volume of Source Gas, Dry ACM	2.47	2.42	2.46
tm	Dry Gas Meter Temperature, Degrees F	72.0	80.0	81.0
Vmstd	Sampled Volume of Source Gas, Dry SCF	88.011	85.183	86.097
Vmstdm	Sampled Volume of Source Gas, Dry SCM	2.492	2.412	2.438
Vlc	Volume of Condensed Liquid, mL	301.8	273.8	289.9
Vwstd	Volume of Water Vapor, SCF	14.204	12.886	13.644
%H2O	Moisture Content, Percent by Volume	13.90	13.14	13.68
%CO2	Source Gas CO2 Content, Percent by Dry Volume	6.9	7.1	7.8
%O2	Source Gas O2 Content, Percent by Dry Volume	12.8	12.9	11.5
Md	Source Gas Dry Molecular Weight, Lb/Lb-Mole	29.6	29.7	29.7
Pg	Source Gas Static Pressure, Inches H2O	-14.8	-19.0	-13.0
Ps	Source Gas Absolute Pressure, Inches Hg	28.8	28.5	28.9
A	Source Cross Sectional Area, Square Inches	2,627	2,627	2,627
Qsd	Source Gas Volumetric Flow Rate, Dry SCFM	46,417	45,168	42,075
Fo	Fuel Factor	1.17	1.13	1.21
%EA	Excess Air, Percent	152.4	156.9	117.3
Fd	F-Factor, DSCF/Million Btu	9,570	9,570	9,570
MMBtu/Hr	Heat Input Rate, Million Btu/Hour	113	108	119

Note:

All standard volumes and flow rates based on 68 Degrees F (20 Degrees C) -- 29.92 Inches of Mercury (Hg)

The lesser of %H2O and %H2O_{sat} was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

		<u>2-0-M26-1</u>	<u>2-0-M26-2</u>	<u>2-0-M26-3</u>
	<u>Hydrogen Chloride</u>			
Fwt	Formula Weight, Lb/Lb-Mole	36.50	36.50	36.50
mg	Catch Weight, Milligrams	26.8	23.5	
ppmvd	Concentration, Parts Per Million by Volume Dry	7.09	6.42	
ppmvd@7%O2	Concentration, ppmvd @ 7% O2	12.2	11.2	9.71
ppmvd@12%CO2	Concentration, ppmvd @ 12% CO2	12.3	10.9	10.1
lb/hr	Emission Rate, Pounds per Hour	1.87	1.65	1.57
lb/MMBtu	Emission Rate, Pounds per Million Btu	0.0166	0.0152	0.0132

APPENDIX A
RESULTS TABULATION

2.0 OUTLET

c. MERCURY

FIELD DATA AND RESULTS TABULATION

Plant: OGDEN MARTIN SYSTEMS OF LAKE, INC., OKAHUMPKA, FLORIDA
 Test Location: Unit No. 2 Outlet

	Run Number	Run Date	Operator	
	2-0-M29-1	4/21/98	WAYNE JOHNSON	
	2-0-M29-2	4/21/98	WAYNE JOHNSON	
	2-0-M29-3	4/21/98	WAYNE JOHNSON	
		<u>2-0-M29-1</u>	<u>2-0-M29-2</u>	<u>2-0-M29-3</u>
	Run Start Time	1021	1400	1646
	Run Stop Time	1259	1611	1917
	Net Sampling/Traversing Points	24	24	24
	Net Run Time, Minutes	120	120	120
Dia	Nozzle Diameter, Inches	0.218	0.218	0.218
Cp	Pitot Tube Coefficient	0.84	0.84	0.84
Y	Dry Gas Meter Calibration Coefficient	1.0891	1.0891	1.0891
Pbar	Barometric Pressure, Inches Hg	29.70	29.70	29.70
Delta-H	Orifice Average Pressure Differential, Inches H2O	1.529	1.476	1.311
Vm	Sampled Volume of Source Gas, Dry ACF	73.104	72.540	68.233
Vmm	Sampled Volume of Source Gas, Dry ACM	2.07	2.05	1.93
tm	Dry Gas Meter Temperature, Degrees F	95.3	99.5	98.5
Vmstd	Sampled Volume of Source Gas, Dry SCF	75.431	74.278	69.964
Vmstdm	Sampled Volume of Source Gas, Dry SCM	2.136	2.103	1.981
Vlc	Volume of Condensed Liquid, mL	298.5	286.0	260.2
Vwstd	Volume of Water Vapor, SCF	14.049	13.461	12.246
%H2O	Moisture Content, Percent by Volume	15.70	15.34	14.90
%H2Osat	Saturated Moisture Content, Percent by Volume	100.0	100.0	100.0
Mfd	Source Gas Dry Mole Fraction	0.843	0.847	0.851
%CO2	Source Gas CO2 Content, Percent by Dry Volume	7.3	7.7	7.9
%O2	Source Gas O2 Content, Percent by Dry Volume	12.2	11.8	12.0
Ad	Source Gas Dry Molecular Weight, Lb/Lb-Mole	29.66	29.70	29.74
Ms	Source Gas Wet Molecular Weight, Lb/Lb-Mole	27.83	27.91	27.99
Pg	Source Gas Static Pressure, Inches H2O	-19.60	-17.00	-14.20
Ps	Source Gas Absolute Pressure, Inches Hg	28.26	28.45	28.66
ts	Source Gas Temperature, Degrees F	285	279	280
Delta-p	Source Gas Average Velocity Head, Inches H2O	1.0823	1.0234	0.9441
vs	Source Gas Velocity, Feet/Second	72.74	70.09	67.93
A	Source Cross Sectional Area, Square Inches	2.627	2.627	2.627
Qsd	Source Gas Volumetric Flow Rate, Dry SCFM	44.895	44.115	42.645
Qmsd	Source Gas Volumetric Flow Rate, Dry SCMM	1.271	1.249	1.208
Qaw	Source Gas Volumetric Flow Rate, Wet ACFM	79.604	76.702	73.357
Qmaw	Source Gas Volumetric Flow Rate, Wet ACMM	2.254	2.172	2.077
%I	Average Isokinetic Sampling Rate, Percent	98.5	98.7	98.0
Fo	Fuel Factor	1.19	1.18	1.13
%EA	Excess Air, Percent	134.8	124.8	131.2
Fd	F-Factor, DSCF/Million Btu	9.570	9.570	9.570
MMBtu/Hr	Heat Input Rate, Million Btu/Hour	117	120	114

All standard volumes and flow rates based on 68 Degrees F (20 Degrees C) -- 29.92 Inches of Mercury (Hg)
 The lesser of %H2O and %H2Osat was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

		<u>2-0-M29-1</u>	<u>2-0-M29-2</u>	<u>2-0-M29-3</u>
	<u>Mercury</u>			
FWT	Formula Weight, Lb/Lb-Mole	200.59	200.59	200.59
ug	Catch Weight, Micrograms *	11.3	25.8	27.8
ppmvd	Concentration, Parts per Million by Volume Dry	0.000636	0.00147	0.00168
ppmvd@7%O2	Concentration, ppmvd @7% O2	0.00102	0.00225	0.00262
ppmvd@12%CO2	Concentration, ppmvd @12% CO2	0.00104	0.00229	0.00255
ug/DSCM	Concentration, Micrograms per DSCM	5.30	12.3	14.0
ug/DSCM@7%O2	Concentration, ug/DSCM @ 7% O2	8.47	18.7	21.9
ug/DSCM@12%CO2	Concentration, ug/DSCM @ 12% CO2	8.71	19.1	21.3
gr/DSCF@12%CO2	Concentration, gr/DSCF @ 12% CO2	3.81E-06	8.35E-06	9.30E-06
lb/hr	Emission Rate, Pounds per Hour	0.000891	0.00203	0.00224
g/sec	Emission Rate, Grams Per Second	0.000112	0.000255	0.000282
lb/MMBtu	Emission Rate, Pounds per Million Btu	7.61E-06	1.68E-05	1.97E-05

* - The catch weight was corrected for the reagent blank analytical results.

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

c. STACK

1.0 OPACITY

FIELD DATA AND RESULTS TABULATION

Plant: OGDEN MARTIN SYSTEMS OF LAKE, INC., OKAHUMPKA, FLORIDA
Test Location: UNIT No. 2 STACK

Run No.	2-O-M9-1	2-O-M9-2	2-O-M9-3
Date	04/22/98	04/22/98	04/22/98
Observer:	Daniel Beatty	Daniel Beatty	Daniel Beatty
Unit	2	2	2
Time	0920-1020	1235-1335	1530-1630
Highest Avg.	0	0	0
Highest Reading	0	0	0
In Compliance (Y/N)	Y	Y	Y

APPENDIX A

RESULTS TABULATION

2.0 UNIT NO. 2

c. STACK

**2.0 OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE, NITROGEN OXIDES, AND
CARBON MONOXIDE**

CALCULATION OF AVERAGE SO2, NOx, AND CO EMISSIONS

COMPANY: DMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 STACK
 RUN NUMBER: 2-S-COMP-1 (1044-1147) DATE: 04/22/98

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm SO2	-0.4	1.0	0.3
23.6 ppm SO2	21.7	24.0	22.9
0.0 ppm NOx	0.5	1.3	0.9
216.0 ppm NOx	222.6	224.5	223.6
0.0 ppm CO	0.0	0.0	0.0
180.0 ppm CO	179.1	176.5	177.8
0.00 % O2	0.05	0.06	0.06
8.98 % O2	9.01	8.89	8.95
0.00 % CO2	0.11	0.13	0.12
10.95 % CO2	10.88	10.90	10.89
<hr/>			
Uncorrected Data:	2.5 ppm SO2	11.9 % O2	
	219.6 ppm NOx	7.6 % CO2	
	14.8 ppm CO		
		46.417 DSCFM	

CORRECTED RESULTS

2.3 ppm SO2	1.1 lb SO2/hr	3.6 ppm SO2 @12 %CO2
212.2 ppm NOx	70.5 lb NOx/hr	331.8 ppm NOx @12 %CO2
15.0 ppm CO	3.03 lb CO/hr	23.4 ppm CO @7 %O2
12.00 % O2		
7.67 % CO2		

$$\text{Corrected Conc.} = C_{ma}(\bar{C} - C_o)/(C_m - C_o)$$

Where: \bar{C} = mean reference measurement
 C_o = mean zero calibration response
 C_m = mean mid or upscale calibration gas response
 C_{ma} = actual mid or upscale calibration gas concentration

ppm @12% CO2 = (ppm pollutant)* 12/%CO2
 ppm @7% O2 = (ppm pollutant)*(20.9-7)/(20.9-%O2)
 lb/hr = (ppm pollutant)(DSCFM flow)(Conv. Factor)(60)

Where: SO2 Conv. Factor = 1.661E-07 lb SO2/DSCF - ppm SO2
 NOx Conv. Factor = 1.194E-07 lb NOx/DSCF - ppm NOx
 CO Conv. Factor = 7.267E-08 lb CO/DSCF - ppm CO

All the above calculations are based on standard conditions of:
 68 deg. F and 29.92 in. Hg.
 Flow rate from concurrent EPA Method 5 testing.

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 STACK
 RUN NUMBER: 2-S-COMP-1 (1044-1147)

TEST DATE: 04/22/98

SPAN VALUES: 50 ppm SO2 200 ppm CO 25 % O2
 500 ppm NOx 20 % CO2

	CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES-----		-----FINAL VALUES-----		DRIFT (% OF SPAN)
					SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	
SO2 ZERO	0.0	0.2	0.40%		-0.4	-1.20	1.0	1.60	2.80
SO2 MID	23.60	23.8	0.40%	0.20%	21.7	-4.20	24.0	0.40	4.60
SO2 HIGH	47.20	47.2	0.00%						
NOx ZERO	0.0	0.1	0.02%		0.5	0.08	1.3	0.24	0.16
NOx MID	216.0	223.8	1.56%	1.51%	222.6	-0.24	224.5	0.14	0.38
NOx HIGH	432.0	432.4	0.08%						
CO ZERO	0.0	0.0	0.00%		0.0	0.00	0.0	0.00	0.00
CO MID	120.0	116.7	-1.65%	-1.45%					
CO HIGH	180.0	179.4	-0.30%		179.1	-0.15	176.5	-1.45	-1.30
O2 ZERO	0.00	0.05	0.20%		0.05	0.00	0.06	0.04	0.04
O2 MID	8.98	9.14	0.64%	0.67%	9.01	-0.52	8.89	-1.00	-0.40
O2 HIGH	20.04	19.96	-0.32%						
CO2 ZERO	0.00	0.09	0.45%		0.11	0.10	0.13	0.20	0.10
CO2 MID	10.95	11.17	1.10%	1.00%	10.88	-1.45	10.90	-1.35	0.10
CO2 HIGH	17.39	17.37	-0.10%						

$$\text{ANALYZER CAL. ERROR} = \frac{\text{ANALYZER CAL. RESPONSE} - \text{CAL. GAS TAG VALUE}}{\text{SPAN}} \times 100$$

$$\text{ANALYZER LINEARITY} = \frac{[(\text{MID GAS RESPONSE} - \text{ZERO GAS RESPONSE}) - \frac{(\text{HIGH GAS RESPONSE} - \text{ZERO GAS RESPONSE}) \times \text{MID GAS TAG VALUE}}{\text{HIGH GAS TAG VALUE}}]}{\text{SPAN}} \times 100$$

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

CALCULATION OF AVERAGE SO2, NOx, AND CO EMISSIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM
 SOURCE: UNIT 2 STACK
 RUN NUMBER: 2-S-COMP-2 (1236-1343) DATE: 04/22/98

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm SO2	1.0	0.2	0.6
23.6 ppm SO2	24.0	23.4	23.7
0.0 ppm NOx	1.3	0.9	1.1
216.0 ppm NOx	224.5	205.4	215.0
0.0 ppm CO	0.0	-0.2	-0.1
180.0 ppm CO	176.5	175.1	175.8
0.00 % O2	0.06	0.14	0.10
8.98 % O2	8.89	8.95	8.92
0.00 % CO2	0.13	0.11	0.12
10.95 % CO2	10.90	10.83	10.87

Uncorrected Data: 2.5 ppm SO2 11.8 % O2
 152.2 ppm NOx 7.6 % CO2
 13.9 ppm CO
 45,168 DSCFM

CORRECTED RESULTS

1.9 ppm SO2	0.9 lb SO2/hr	3.0 ppm SO2 @12 %CO2
152.6 ppm NOx	49.4 lb NOx/hr	239.1 ppm NOx @12 %CO2
14.3 ppm CO	2.82 lb CO/hr	22.2 ppm CO @7 %O2
11.91 % O2		
7.66 % CO2		

$$\text{Corrected Conc.} = C_{ma}(\bar{C} - C_o) / (C_m - C_o)$$

Where: \bar{C} = mean reference measurement
 C_o = mean zero calibration response
 C_m = mean mid or upscale calibration gas response
 C_{ma} = actual mid or upscale calibration gas concentration

ppm @12% CO2 = (ppm pollutant) * 12/%CO2
 ppm @7% O2 = (ppm pollutant) * (20.9-7)/(20.9-%O2)
 lb/hr = (ppm pollutant)(DSCFM flow)(Conv. Factor)(60)

Where: SO2 Conv. Factor = 1.661E-07 lb SO2/DSCF - ppm SO2
 NOx Conv. Factor = 1.194E-07 lb NOx/DSCF - ppm NOx
 CO Conv. Factor = 7.267E-08 lb CO/DSCF - ppm CO

All the above calculations are based on standard conditions of:
 68 deg. F and 29.92 in. Hg.
 Flow rate from concurrent EPA Method 5 testing.

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM TEST DATE: 04/22/98
 SOURCE: UNIT 2 STACK
 RUN NUMBER: 2-S-COMP-2 (1236-1343)

SPAN VALUES: 50 ppm SO₂ 200 ppm CO 25 % O₂
 500 ppm NO_x 20 % CO₂

	CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES-----		-----FINAL VALUES-----		DRIFT (% OF SPAN)
					SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	
SO ₂ ZERO	0.0	0.2	0.40%		1.0	1.60	0.2	0.00	-1.60
SO ₂ MID	23.60	23.8	0.40%	0.20%	24.0	0.40	23.4	-0.80	-1.20
SO ₂ HIGH	47.20	47.2	0.00%						
NO _x ZERO	0.0	0.1	0.02%		1.3	0.24	0.9	0.16	-0.08
NO _x MID	216.0	223.8	1.56%	1.51%	224.5	0.14	205.4	-3.68	-3.82
NO _x HIGH	432.0	432.4	0.08%						
CO ZERO	0.0	0.0	0.00%		0.0	0.00	-0.2	-0.10	-0.10
CO MID	120.0	116.7	-1.65%	-1.45%					
CO HIGH	180.0	179.4	-0.30%		176.5	-1.45	175.1	-2.15	-0.70
O ₂ ZERO	0.00	0.05	0.20%		0.06	0.04	0.14	0.36	0.36
O ₂ MID	8.98	9.14	0.64%	0.67%	8.89	-1.00	8.95	-0.76	0.20
O ₂ HIGH	20.04	19.96	-0.32%						
CO ₂ ZERO	0.00	0.09	0.45%		0.13	0.20	0.11	0.10	-0.10
CO ₂ MID	10.95	11.17	1.10%	1.00%	10.90	-1.35	10.83	-1.70	-0.35
CO ₂ HIGH	17.39	17.37	-0.10%						

$$\text{ANALYZER CAL. ERROR} = \frac{\text{ANALYZER CAL. RESPONSE} - \text{CAL. GAS TAG VALUE}}{\text{SPAN}} \times 100$$

$$\text{ANALYZER LINEARITY} = \frac{[(\text{MID GAS RESPONSE} - \text{ZERO GAS RESPONSE}) \times \frac{100}{\text{SPAN}}] - (\text{HIGH GAS RESPONSE} - \text{ZERO GAS RESPONSE}) \times \frac{\text{MID GAS TAG VALUE}}{\text{HIGH GAS TAG VALUE}}}{\text{SPAN}}$$

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

CALCULATION OF AVERAGE SO2, NOx, AND CO EMISSIONS

COMPANY: OMS - LAKE RESOURCES RECOVERY SYSTEM

SOURCE: UNIT 2 STACK

RUN NUMBER: 2-S-COMP-3 (1526-1630)

DATE: 04/22/98

GAS VALUE	INITIAL CAL	FINAL CAL	MEAN CAL
0.0 ppm SO2	0.2	0.0	0.1
23.6 ppm SO2	23.4	23.1	23.3
0.0 ppm NOx	0.9	0.9	0.9
216.0 ppm NOx	205.4	212.6	209.0
0.0 ppm CO	-0.2	-0.2	-0.2
180.0 ppm CO	175.1	178.9	177.0
0.00 % O2	0.14	0.14	0.14
8.98 % O2	8.95	8.94	8.95
0.00 % CO2	0.11	0.14	0.13
10.95 % CO2	10.83	10.82	10.83

Uncorrected Data: 0.0 ppm SO2 11.5 % O2
 151.8 ppm NOx 7.8 % CO2
 10.4 ppm CO
 42.075 DSCFM

CORRECTED RESULTS

-0.1 ppm SO2	-0.0 lb SO2/hr	-0.2 ppm SO2 @12 %CO2
156.6 ppm NOx	47.2 lb NOx/hr	238.2 ppm NOx @12 %CO2
10.8 ppm CO	1.98 lb CO/hr	16.1 ppm CO @7 %O2
11.59 % O2		
7.89 % CO2		

$$\text{Corrected Conc.} = C_{ma}(\bar{C} - C_o)/(C_m - C_o)$$

Where: \bar{C} = mean reference measurement
 C_o = mean zero calibration response
 C_m = mean mid or upscale calibration gas response
 C_{ma} = actual mid or upscale calibration gas concentration

ppm @12% CO2 = (ppm pollutant)* 12/%CO2
 ppm @7% O2 = (ppm pollutant)*(20.9-7)/(20.9-%O2)
 lb/hr = (ppm pollutant)(DSCFM flow)(Conv. Factor)(60)

Where: SO2 Conv. Factor = 1.661E-07 lb SO2/DSCF - ppm SO2
 NOx Conv. Factor = 1.194E-07 lb NOx/DSCF - ppm NOx
 CO Conv. Factor = 7.267E-08 lb CO/DSCF - ppm CO

All the above calculations are based on standard conditions of:
 68 deg. F and 29.92 in. Hg.
 Flow rate from concurrent EPA Method 5 testing.

SYSTEM CALIBRATION BIAS AND DRIFT CALCULATIONS

COMPANY: DMS - LAKE RESOURCES RECOVERY SYSTEM

TEST DATE: 04/22/98

SOURCE: UNIT 2 STACK

RUN NUMBER: 2-S-COMP-3 (1526-1630)

SPAN VALUES: 50 ppm SO2
500 ppm NOx

200 ppm CO

25 % O2
20 % CO2

	CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES-----		-----FINAL VALUES-----		DRIFT (% OF SPAN)
					SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	
SO2 ZERO	0.0	0.2	0.40%		0.2	0.00	0.0	-0.40	-0.40
SO2 MID	23.60	23.8	0.40%	0.20%	23.4	-0.80	23.1	-1.40	-0.60
SO2 HIGH	47.20	47.2	0.00%						
NOx ZERO	0.0	0.1	0.02%		0.9	0.16	0.9	0.16	0.00
NOx MID	216.0	223.8	1.56%	1.51%	205.4	-3.68	212.6	-2.24	1.44
NOx HIGH	432.0	432.4	0.08%						
CO ZERO	0.0	0.0	0.00%		-0.2	-0.10	-0.2	-0.10	0.00
CO MID	120.0	116.7	-1.65%	-1.45%					
CO HIGH	180.0	179.4	-0.30%		175.1	-2.15	178.9	-0.25	1.90
O2 ZERO	0.00	0.05	0.20%		0.14	0.36	0.14	0.36	0.00
O2 MID	8.98	9.14	0.64%	0.67%	8.95	-0.76	8.94	-0.80	-0.04
O2 HIGH	20.04	19.96	-0.32%						
CO2 ZERO	0.00	0.09	0.45%		0.11	0.10	0.14	0.25	0.15
CO2 MID	10.95	11.17	1.10%	1.00%	10.83	-1.70	10.82	-1.75	-0.05
CO2 HIGH	17.39	17.37	-0.10%						

$$\text{ANALYZER CAL. ERROR} = \frac{\text{ANALYZER CAL. RESPONSE} - \text{CAL. GAS TAG VALUE}}{\text{SPAN}} \times 100$$

$$\text{ANALYZER LINEARITY} = \frac{[(\text{MID GAS RESPONSE} - \text{ZERO GAS RESPONSE}) - \frac{(\text{HIGH GAS RESPONSE} - \text{ZERO GAS RESPONSE}) \times \text{MID GAS TAG VALUE}}{\text{HIGH GAS TAG VALUE}}]}{\text{SPAN}} \times 100$$

$$\text{SYSTEM CAL. BIAS} = \frac{\text{SYSTEM CAL. RESPONSE} - \text{ANALYZER CAL. RESPONSE}}{\text{SPAN}} \times 100$$

$$\text{DRIFT} = \frac{\text{FINAL SYSTEM CAL. RESPONSE} - \text{INITIAL CAL. RESPONSE}}{\text{SPAN}} \times 100$$

APPENDIX B
EXAMPLE CALCULATIONS
1.0 PARTICULATE

FIELD DATA AND RESULTS TABULATION

EXAMPLE CALCULATIONS, RUN 2-0-M5-1

SAMPLED VOLUME OF SOURCE GAS, DRY ACTUAL CUBIC FEET

$$\begin{aligned} V_{mm} &= V_m * 0.028317 \\ &= 73.159 * 0.028317 \\ &= 2.0716 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/29.921] * 1.0891 * 73.159 * (29.90 + 1.53/13.6) / (460 + 80) \\ &= 78.191 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC METERS

$$\begin{aligned} V_{mstdm} &= V_{mstd} * 0.028317 \\ &= 78.191 * 0.028317 \\ &= 2.214 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.921] * 277.3 \\ &= 13.051 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 13.051 / (13.051 + 78.191) \\ &= 14.30 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 14.30/100 \\ &= 0.857 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{100 - (\%CO_2 + \%O_2)\}/100\} \\ &= 44 * (6.9/100) + 32 * (12.8/100) + 28 * \{100 - (6.9 + 12.8)\}/100\} \\ &= 29.62 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.62 * 0.857 + 18.0 * 14.30/100 \\ &= 27.95 \end{aligned}$$

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -14.80/13.6 \\ &= 28.81 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \sqrt{\Delta p * (460 + t_s) / P_s / M_s} \\ &= 85.49 * 0.84 * \sqrt{1.0945 * (460 + 280) / 28.81 / 27.95} \\ &= 71.99 \end{aligned}$$

FIELD DATA AND RESULTS TABULATION

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * M_{fd} * v_s * A * (T_{std} + 460)/(t_s + 460) * (P_s/P_{std}) \\ &= (60/144) * 0.857 * 71.99 * 2627 * (68 + 460)/(280 + 460) * (28.81/29.92) \\ &= 46417 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC METER PER MINUTE

$$\begin{aligned} Q_{msd} &= Q_{sd} * 0.028317 \\ &= 46417 * 0.028317 \\ &= 1314 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 71.99 * 2627 \\ &= 78789 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC METER PER MINUTE

$$\begin{aligned} Q_{maw} &= Q_{aw} * 0.028317 \\ &= 78789 * 0.028317 \\ &= 2231 \end{aligned}$$

ISOKINETIC SAMPLING RATE, PERCENT

$$\begin{aligned} \%I &= P_{std}/(T_{std} + 460) * (100/60) * V_{mstd} * (t_s + 460)/(P_s * v_s * M_{fd} * \theta * (\pi * \text{Dia} * \text{Dia}/576)) \\ &= 29.92/(68 + 460) * (100/60) * 78.191 * (280 + 460)/(28.81 * 71.99 * 0.857 * 120.00 * (\pi * 0.218 * 0.218/576)) \\ &= 98.8 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / 20.9 \\ &= (20.9 - 12.8) / 20.9 \\ &= 1.174 \end{aligned}$$

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT

$$\begin{aligned} \text{gr/DSCF} &= 7000 / 453.592 * (\text{Catch/Conversion}) / V_{mstd} \\ &= 7000 / 453.592 * (4.20/1000) / 78.191 \\ &= 0.000829 \end{aligned}$$

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

$$\begin{aligned} \text{gr/DSCF@7\%O}_2 &= \text{gr/DSCF} * (20.9 - 7) / (20.9 - \%O_2) \\ &= 0.00083 * (20.9 - 7) / (20.9 - 12.8) \\ &= 0.001423 \end{aligned}$$

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

$$\begin{aligned} \text{gr/DSCF@12\%CO}_2 &= \text{gr/DSCF} * (12/\%CO_2) \\ &= 0.00083 * (12/6.9) \\ &= 0.001442 \end{aligned}$$

FILTERABLE PARTICULATE EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned} \text{lb/hr} &= 60 * \text{Catch/Conversion} * Q_{sd} / 453.592 / V_{mstd} \\ &= 60 * 4.20/1000 * 46417 / 453.592 / 78.191 \\ &= 0.330 \end{aligned}$$

APPENDIX B

EXAMPLE CALCULATIONS

2.0 HYDROGEN CHLORIDE

SAMPLED VOLUME OF SOURCE GAS, DRY ACTUAL CUBIC FEET

$$\begin{aligned} V_{mm} &= V_m * 0.028317 \\ &= 76.150 * 0.028317 \\ &= 2.16 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= ((T_{std} + 460)/P_{std}) * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= ((68 + 460)/29.92) * 0.9963 * 76.150 * (29.90 + 1.463/13.6) / (460 + 74) \\ &= 75.235 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC METER

$$\begin{aligned} V_{mstdm} &= V_{mstd} * 0.028317 \\ &= 75.235 * 0.028317 \\ &= 2.130 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * ((T_{std} + 460) / P_{std}) * V_{lc} \\ &= 0.002667 * ((68 + 460) / 29.92) * 136.9 \\ &= 6.443 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 6.443 / (6.443 + 75.235) \\ &= 7.89 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{100 - (\%CO_2 + \%O_2)\}/100\} \\ &= 44 * (8.6/100) + 32 * (11.3/100) + 28 * \{100 - (8.6 + 11.3)\}/100\} \\ &= 29.82 \end{aligned}$$

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -2.90/13.6 \\ &= 29.69 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / 20.9 \\ &= (20.9 - 11.3) / 20.9 \\ &= 1.120 \end{aligned}$$

HEAT INPUT RATE, MILLION BTU PER HOUR

$$\begin{aligned} \text{MMBtu/hr} &= 60 * QSD * (20.9 - \%O_2) / 20.9 / F \\ &= 60 * 40360 * (20.9 - 11.3) / 20.9 / 9570 \\ &= 116.1 \end{aligned}$$

FIELD DATA AND RESULTS TABULATION

HYDROGEN CHLORIDE CONCENTRATION, PARTS PER MILLION BY DRY VOLUME

$$\begin{aligned} \text{ppmvd} &= (\text{Catch/Conversion}) * 385.3 * 1,000,000 / 453.592 / \text{Fwt} / \text{Vmstd} \\ &= (1890.00/1000) * 385.3 * 1,000,000 / 453.592 / 36.50 / 75.235 \\ &= 584.63 \end{aligned}$$

HYDROGEN CHLORIDE CONCENTRATION, PPMVD @ 7 % O2

$$\begin{aligned} \text{ppmvd@7\%O2} &= \text{ppmvd} * (20.9-7) / (20.9-\%O2) \\ &= 847.38 * (20.9-7) / (20.9-11.3) \\ &= 847.38 \end{aligned}$$

HYDROGEN CHLORIDE CONCENTRATION, PARTS PER MILLION BY DRY VOLUME

$$\begin{aligned} \text{ppmvd@12\%CO2} &= \text{ppmvd} * 12 / \%CO2 \\ &= 847.38 * 12 / 8.6 \\ &= 819.57 \end{aligned}$$

HYDROGEN CHLORIDE EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned} \text{lb/hr} &= 60 * \text{Catch/Conversion} * Q_{sd} / 453.592 / \text{Vmstd} \\ &= 60 * 1890.00/1000 * 40360 / 453.592 / 75.235 \\ &= 134.11 \end{aligned}$$

HYDROGEN CHLORIDE EMISSION RATE, POUNDS PER MILLION Btu

$$\begin{aligned} \text{lb/MMBtu} &= \text{Catch/Conversion} * F / 453.592 / \text{Vmstd} * (20.9 / (20.9 - \%O2)) \\ &= 60 * 1890.00/1000 * 9570 / 453.592 / 75.235 * (20.9 / (20.9 - 11.3)) \\ &= 1.15509 \end{aligned}$$

APPENDIX B
EXAMPLE CALCULATIONS

3.0 MERCURY

FIELD DATA AND RESULTS TABULATION

EXAMPLE CALCULATIONS, RUN 1-I-M29-1

SAMPLED VOLUME OF SOURCE GAS, DRY ACTUAL CUBIC FEET

$$\begin{aligned} V_{mm} &= V_m * 0.028317 \\ &= 76.473 * 0.028317 \\ &= 2.17 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= ((T_{std} + 460)/P_{std}) * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= ((68 + 460)/29.921) * 0.9963 * 76.473 * (29.90 + 1.43/13.6) / (460 + 68) \\ &= 76.379 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC METER

$$\begin{aligned} V_{mstdm} &= V_{mstd} * 0.028317 \\ &= 76.379 * 0.028317 \\ &= 2.163 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * ((T_{std} + 460) / P_{std}) * V_{lc} \\ &= 0.002667 * ((68 + 460) / 29.921) * 214.0 \\ &= 10.072 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 10.072 / (10.072 + 76.379) \\ &= 11.65 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 11.65/100 \\ &= 0.883 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * (100 - (\%CO_2 + \%O_2))/100 \\ &= 44 * (8.3/100) + 32 * (11.1/100) + 28 * (100 - (8.3 + 11.1))/100 \\ &= 29.77 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.77 * 0.883 + 18.0 * 11.65/100 \\ &= 28.40 \end{aligned}$$

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -2.10/13.6 \\ &= 29.75 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \sqrt{\Delta p * (460 + t_s) / (P_s / M_s)} \\ &= 85.49 * 0.84 * \sqrt{0.5670 * (460 + 379) / (29.75 / 28.40)} \\ &= 53.89 \end{aligned}$$

FIELD DATA AND RESULTS TABULATION

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * Mfd * v_s * A * (T_{std} + 460)/(t_s + 460) * (P_s/P_{std}) \\ &= (60/144) * 0.883 * 53.89 * 3025 * (68 + 460)/(379 + 460) * (29.75/29.92) \\ &= 37545 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC METER PER MINUTE

$$\begin{aligned} Q_{msd} &= Q_{sd} * 0.028317 \\ &= 37545 * 0.028317 \\ &= 1063 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 53.89 * 3025 \\ &= 67920 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC METER PER MINUTE

$$\begin{aligned} Q_{maw} &= Q_{aw} * 0.028317 \\ &= 67920 * 0.028317 \\ &= 1923 \end{aligned}$$

ISOKINETIC SAMPLING RATE, PERCENT

$$\begin{aligned} \%I &= P_{std}/(T_{std} + 460) * (100/60) * V_{mstd} * (t_s + 460)/(P_s * v_s * Mfd * \theta * (\pi * Dia * Dia / 576)) \\ &= 29.92/(68 + 460) * (100/60) * 76.379 * (379 + 460)/(29.75 * 53.89 * 0.883 * 120.00 * (\pi * 0.256 * 0.256 / 576)) \\ &= 99.6 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / 20.9 \\ &= (20.9 - 11.1) / 20.9 \\ &= 1.181 \end{aligned}$$

FIELD DATA AND RESULTS TABULATION

MERCURY: CONCENTRATION, PARTS PER MILLION BY VOLUME DRY

$$\begin{aligned} \text{ppmvd} &= (\text{Catch/Conversion}) * 385.3 * 1,000,000 / 453.592 / \text{FWt} / \text{Vmstd} * (460 + \text{Tstd}) / 528 \\ &= (2177.3/1000000) * 385.3 * 1,000,000 / 453.592 / 200.59 / 76.379 * (460+68) / 528 \\ &= 0.12072 \end{aligned}$$

MERCURY: CONCENTRATION, PARTS PER MILLION BY VOLUME DRY @ 7% O2

$$\begin{aligned} \text{ppm@7\%O2} &= \text{ppmvd} * (20.9-7) / (20.9-\%O2) \\ &= 0.1207 * (20.9-7) / (20.9-11.1) \\ &= 0.17122 \end{aligned}$$

MERCURY: CONCENTRATION, PARTS PER MILLION BY VOLUME DRY @ 12% CO2

$$\begin{aligned} \text{ppm@12\%CO2} &= \text{ppmvd} * 12 / \%CO2 \\ &= 0.1207 * 12 / 8.3 \\ &= 0.17453 \end{aligned}$$

MERCURY: CONCENTRATION, MICROGRAMS PER DRY STANDARD CUBIC METER

$$\begin{aligned} \text{ug/DSCM} &= (\text{Catch/Conversion}) * 1,000,000 / \text{Vmstdm} \\ &= (2177/1000000) * 1,000,000 / 2.163 \\ &= 1006.7 \end{aligned}$$

MERCURY: CONCENTRATION, MICROGRAMS PER DRY STANDARD CUBIC METER @ 7% O2

$$\begin{aligned} \text{ug/DSCM@7\%O2} &= \text{ug/DSCM} * (20.9-7) / (20.9-\%O2) \\ &= (1007 * 1,000,000 / 2.163 * (20.9-7) / (20.9-11.1)) \\ &= 1427.9 \end{aligned}$$

MERCURY: CONCENTRATION, NANOGRAMS PER DRY STANDARD CUBIC METER @ 12% CO2

$$\begin{aligned} \text{ng/DSCM@12\%CO2} &= \text{ug/DSCM} * (12/\%CO2) \\ &= (1007 * (12/8.3)) \\ &= 1455.5 \end{aligned}$$

MERCURY: EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned} \text{lb/hr} &= 60 * (\text{Catch/Conversion}) * \text{Qsd} / 453.592 / \text{Vmstd} \\ &= 60 * (2177/1000000) * 37545 / 453.592 / 76.379 \\ &= 0.14158 \end{aligned}$$

MERCURY: EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned} \text{g/sec} &= (\text{Catch/Conversion}) * \text{Qsd} / 60 / \text{Vmstd} \\ &= 2177.30/1000000 * 37545 / 60 / 76.379 \\ &= 0.017838 \end{aligned}$$

APPENDIX C

FIELD DATA

1.0 PARTICULATE

METHOD 3 (ORSAT) FIELD DATA

Client: OGDEN
 Plant Name: OMS LAKE
 City/State: OKAHUMAKA, FL
 Sampling Location: Unit 2 Outlet

Job No. 10403
 Fuel Type MUN WASTE

Run/Sample No. <u>20-M3/5-1</u> Date: <u>4/22/98</u> Leak ✓ OK? <input checked="" type="checkbox"/>					OPERATOR: <u>LN</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
<u>0916</u>	<u>1350</u>	<u>7.0</u>	<u>19.9</u>	<u>-</u>	<u>12.9</u>	<u>-</u>	
<u>-</u>	<u>1400</u>	<u>6.9</u>	<u>19.7</u>	<u>-</u>	<u>12.8</u>	<u>-</u>	
<u>1143</u>	<u>1410</u>	<u>6.9</u>	<u>19.7</u>	<u>-</u>	<u>12.8</u>	<u>-</u>	
Avg.		<u>6.9</u>		Avg.	<u>12.8</u>	<u>-</u>	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B139</u>		F _o <u>1.17</u>			

Run/Sample No. <u>20-M3/5-2</u> Date: <u>4/22/98</u> Leak ✓ OK? <input checked="" type="checkbox"/>					OPERATOR: <u>LN</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
<u>1236</u>	<u>1625</u>	<u>7.0</u>	<u>20.0</u>	<u>-</u>	<u>13.0</u>	<u>-</u>	
<u>-</u>	<u>1640</u>	<u>7.1</u>	<u>20.0</u>	<u>-</u>	<u>12.9</u>	<u>-</u>	
<u>1446</u>	<u>1700</u>	<u>7.2</u>	<u>20.0</u>	<u>-</u>	<u>12.8</u>	<u>-</u>	
Avg.		<u>7.1</u>		Avg.	<u>12.9</u>	<u>-</u>	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B100</u>		F _o <u>1.13</u>			

Run/Sample No. <u>20-M3/5-3</u> Date: <u>4/22/98</u> Leak ✓ OK? <input checked="" type="checkbox"/>					OPERATOR: <u>LN</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
<u>1525</u>	<u>1845</u>	<u>7.7</u>	<u>19.3</u>	<u>-</u>	<u>11.6</u>	<u>-</u>	
<u>-</u>	<u>1855</u>	<u>7.9</u>	<u>19.4</u>	<u>-</u>	<u>11.5</u>	<u>-</u>	
<u>1731</u>	<u>1903</u>	<u>7.9</u>	<u>19.4</u>	<u>-</u>	<u>11.5</u>	<u>-</u>	
Avg.		<u>7.8</u>		Avg.	<u>11.5</u>	<u>-</u>	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B203</u>		F _o <u>1.21</u>			

Reviewer: _____
 AirKinetics, Inc.

SAMPLING DATA - METHOD (S) EPA MS

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 FF Outlet RUN NO.: 2-0-MS-1
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: -14.8 DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 8 RUN TIME: 0914 - 1143
 LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: WAT

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX		Y	DELTA H@			XAD	WT.	
PITOT	✓	✓	<u>N-30</u>		<u>1.0891</u>	<u>1841</u>					
TC	✓	✓	PITOT ID	<u>PT14</u>	<u>0.84</u>	METER TEMP.	<u>90</u>		<u>AS66</u>	<u>0.5067</u>	
NOZZLE	✓	✓	TC READOUT	<u>6467142</u>	<u>12</u>	EST. % H ₂ O	<u>16</u>				
ORSAT	✓	NA	NOZZLE NO.	<u>GN230</u>	DIA. <u>0.218</u>	"C" FACTOR	<u>0.831</u>				
			SAMPLE BOX	<u>5004</u>	REAGNT. <u>CUO</u>	STACK TEMP.	<u>285</u>				
			UMBILICAL	<u>CU01</u>		REF DELTA-P	<u>1.327</u>				
			ORSAT PUMP	<u>DR1</u>	BAG <u>B203A</u>	"K" FACTOR	<u>1.387</u>				

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E			<u>16.52%</u>

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	A-8	0	919.95	1.25	69	275	1.70	1.764	4	258	600	NA
2	7	5	923.355	1.40	71	301	1.85	1.847	4	249	55.4	
3	6	10	926.624	1.66	73	290	2.15	2.149	5	246	57.0	
4	5	15	930.280	1.40	76	285	1.90	1.902	5	241	65	
	4	20	933.655	1.25	77	288	1.70	1.695	4	252	63	
6	3	25	936.88	1.03	78	283	1.41	1.410	4	245	62	
7	2	30	939.760	0.93	79	279	1.28	1.284	3	245	61	
8	1	35	942.476	0.80	79	272	1.12	1.115	3	243	62	
9	B-8	40	945.105	0.98	78	276	1.36	1.350	4	248	58	
10	7	45	948.455	0.96	80	279	1.34	1.330	4	248	57	
11	6	50	950.946	0.95	80	282	1.32	1.316	4	248	60	
12	5	55	953.795	1.05	81	281	1.46	1.459	4	256	59	
13	4	60	956.790	1.12	81	281	1.56	1.556	4	257	61	
14	3	65	959.87	1.20	82	282	1.67	1.667	4	255	62	
15	2	70	963.010	1.05	82	286	1.45	1.451	4	251	62	
16	1	75	965.578	0.75	82	274	1.05	1.054	4	254	65	
17	C-8	80	968.65	1.20	89	282	1.78	1.780	4	248	64	
18	7	85	972.17	1.15	81	274	1.61	1.612	4	247	63	
19	6	90	975.290	1.25	82	273	1.76	1.758	4	248	65	
20	5	95	978.322	1.12	82	273	1.58	1.575	4	250	66	
21	4	100	981.58	1.11	82	274	1.56	1.554	4	245	64	
22	3	105	984.620	1.08	82	277	1.47	1.468	4	249	62	
23	2	110	987.555	1.03	83	280	1.44	1.438	4	249	61	
24	1	115	990.432	0.84	83	271	1.19	1.187	4	248	60	
25	Enh	120	993.109									

FINAL

120 73.159 1.0945 74 280 1.5267

REVIEWER

ST

SAMPLING DATA - METHOD (S) EPA M5

CLIENT: ODGEN PLANT: OMS LAKE
 CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 FF Outlet RUN NO.: 2-0-M5-2
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: -19 DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 8 8 RUN TIME: 1236 - 1446
 LEAK RATE, CFM: 0.000 0.001 0.000 TEST PERSONS: WAT

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS		NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	DELTA H@		XAD	WT.	
PITOT	✓	✓	<u>N-30</u>	<u>1.0891</u>	<u>1.941</u>		<u>A5067</u>	<u>0.5098</u>	
TC	✓	✓	PITOT ID <u>PT15</u>	Cp <u>0.84</u>	METER TEMP. <u>90</u>				
NOZZLE	✓	✓	TC READOUT <u>6427142</u>	TC <u>22</u>	EST. % H ₂ O <u>16</u>				
ORSAT	✓	NA	NOZZLE NO. <u>GND84</u>	DIA. <u>0.218</u>	"C" FACTOR <u>0.837</u>				
			SAMPLE BOX <u>5B02</u>	REAGNT. <u>Clx</u>	STACK TEMP. <u>285</u>				
			UMBILICAL <u>C1101</u>		REF DELTA-P <u>1.318</u>				
			ORSAT PUMP <u>021</u>	BAG <u>B100B</u>	"K" FACTOR <u>1.397</u>				

LEAK CHECKS	B	E	B	E	B	E	FYRITES	% O ₂	% CO ₂
	<u>1050.435</u>								
	<u>1050.492</u>							<u>6.5780</u>	<u>6.5780</u>

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	A-8	0	993.250	1.25	78	286	1.71	1.708	4	233	64	NA
2	7	5	996.630	1.25	79	289	1.7	1.761	4	245	63	
3	6	10	999.780	1.33	81	289	1.8	1.803	4	249	63	
4	5	15	1003.160	1.23	82	290	1.68	1.681	4	251	63	
	4	20	1006.238	1.15	84	289	1.58	1.579	4	245	60	
6	3	25	1009.205	1.03	84	287	1.42	1.449	4	242	61	
7	2	30	1012.255	0.95	85	283	1.32	1.319	4	246	62	
8	1	35	1015.065	0.66	85	273	0.93	0.929	3	235	62	
9	B-8	40	1017.530	1.06	84	276	1.48	1.484	4	251	65	
10	7	45	1020.672	1.00	85	283	1.39	1.388	4	254	65	
11	6	50	1023.560	0.95	85	282	1.32	1.320	4	256	63	
12	5	55	1026.352	1.00	85	282	1.38	1.383	4	263	64	
13	4	60	1029.278	1.00	86	281	1.31	1.389	4	256	63	
14	3	65	1032.125	1.02	86	278	1.42	1.421	4	253	64	
15	2	70	1034.986	0.96	86	279	1.38	1.385	4	245	64	
16	1	75	1037.872	0.75	86	273	1.05	1.052	3	242	63	
17	C-8	80	1040.435	1.26	83	280	1.74	1.742	4	243	64	
18	7	85	1043.402	1.25	84	291	1.70	1.703	4	241	63	
19	6	90	1047.057	1.25	85	289	1.71	1.711	5	242	64	
20	5	95	1050.31	1.35	85	291	1.84	1.843	5	241	63	
21	4	100	1053.720	1.00	84	290	1.36	1.364	4	238	64	
22	3	105	1056.64	1.05	84	279	1.46	1.455	4	231	63	
23	2	110	1059.560	0.75	84	274	1.05	1.046	3	241	65	
24	1	115	1062.123	0.65	83	268	0.91	0.913	3	238	66	
END		120	1064.98									

FINAL

REVIEWER

SSF

120 71.211 1.0375 84 283 1.445

SAMPLING DATA - METHOD (S) EPA-MS

CLIENT: OGOEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 - FF Outlet RUN NO.: 2-0-MS-3
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: -13.0 DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 15 RUN TIME: 1525 - 1730
 LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: WAT

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX		Y	DELTA H@			XAD	WT.	
PITOT	✓	✓	PITOT ID	<u>N-30</u>	<u>1.0891</u>	<u>1.0891</u>	<u>90</u>		<u>A404</u>	<u>0.5732</u>	
TC	✓	✓	TC READOUT	<u>RTK</u>	<u>0.84</u>	<u>12</u>	<u>16</u>				
NOZZLE	✓	✓	NOZZLE NO.	<u>648742</u>	<u>12</u>	<u>EST. % H₂O</u>	<u>16</u>				
ORSAT	✓	NA	NOZZLE DIA.	<u>60236</u>	<u>0.218</u>	<u>"C" FACTOR</u>	<u>0.837</u>				
			SAMPLE BOX	<u>5804</u>	<u>REAGNT. C100</u>	<u>STACK TEMP.</u>	<u>285</u>				
			UMBILICAL	<u>CU01</u>		<u>REF DELTA-P</u>	<u>1.318</u>				
			ORSAT PUMP	<u>OR1</u>	<u>BAG B203A</u>	<u>"K" FACTOR</u>	<u>1.397</u>				

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E			
						<u>6% Bag</u>	<u>7% Bag</u>

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	A-8	0	64.700	1.10	80	279	1.52	1.522	3	243	60	NA
2	7	5	67.930	1.05	81	279	1.39	1.385	3	245	49	
3	6	10	70.790	1.05	83	280	1.46	1.458	3	245	54	
4	5	15	73.705	1.07	83	282	1.48	1.481	3	237	56	
5	4	20	76.692	1.11	84	284	1.54	1.535	3	238	56	
6	3	25	79.720	1.04	84	289	1.43	1.429	4	241	60	
7	2	30	82.624	0.9	85	287	1.24	1.242	3	249	60	
8	1	35	85.325	0.94	85	275	0.76	0.758	3	239	62	
9	B-8	40	87.45	1.009%	84	275	1.46	1.463	3	240	62	
10	7	45	90.385	0.9	85	274	1.27	1.265	3	238	64	
11	6	50	93.164	0.94	84	272	1.32	1.322	3	241	62	
12	5	55	96.015	0.95	84	274	1.33	1.333	3	242	61	
13	4	60	98.85	1.05	83	278	1.46	1.462	4	243	61	
14	3	65	101.836	0.94	83	278	1.31	1.309	3	253	64	
15	2	70	104.740	0.75	83	274	1.05	1.058	3	250	62	
16	1	75	107.212	0.54	82	268	0.76	0.761	3	252	63	
17	C-8	80	109.322	0.90	80	275	1.25	1.253	3	245	65	
18	7	85	112.277	0.92	80	276	1.25	1.251	3	248	66	
19	6	90	114.915	0.80	81	274	1.12	1.116	3	254	57	
20	5	95	117.375	0.80	81	277	1.11	1.112	3	250	58	
21	4	100	119.950	0.88	81	282	1.23	1.227	3	255	58	
22	3	105	122.660	0.89	81	284	1.24	1.238	3	257	58	
23	2	110	125.365	0.85	82	280	1.18	1.175	3	251	58	
24	1	115	128.02	0.6	82	268	0.85	0.854	3	254	59	
FINAL		120	130.312									

120 65.612 0.888 83 278 1.25

REVIEWER SSF

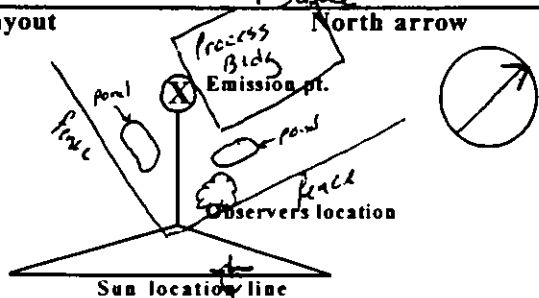
APPENDIX C

FIELD DATA

2.0 OPACITY

Beatty Environmental Services

VISIBLE EMISSION OBSERVATION FORM

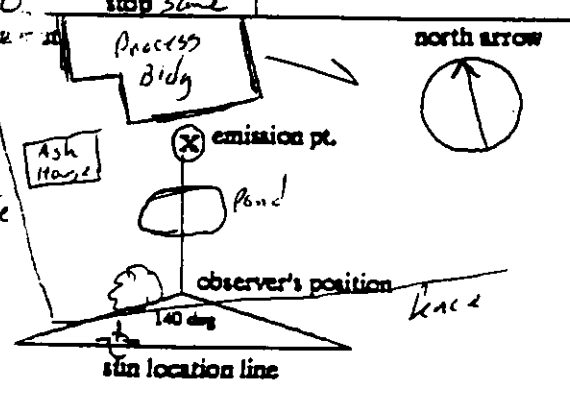
Source Name		Observation Date				Start Time		End Time			
Ogden Martin Systems of Lake		4/22/98				0920		1020			
Facility Name		sec	0	15	30	45	sec	0	15	30	45
Lake County Resource Recovery Facility		min					min				
Facility Address		1	0	0	0	0	31	0	0	0	0
3930 Rogers Industrial Park Rd.		2	0	0	0	0	32	0	0	0	0
City	State	3	0	0	0	0	33	0	0	0	0
OKahumpka	FL	4	0	0	0	0	34	0	0	0	0
Phone	DEP Id. Number	5	0	0	0	0	35	0	0	0	0
(352) 365-1611	A035-193817	6	0	0	0	0	36	0	0	0	0
Process Equipment	Operating Mode	7	0	0	0	0	37	0	0	0	0
Waste to Energy Incineration	Steady State	8	0	0	0	0	38	0	0	0	0
Control Equipment	Operating Mode	9	0	0	0	0	39	0	0	0	0
PECD / AGE C Systems	100%	10	0	0	0	0	40	0	0	0	0
Describe Emission Pt		11	0	0	0	0	41	0	0	0	0
Start Smoke Stack - West Stop same		12	0	0	0	0	42	0	0	0	0
Distance from observer	Direction from observer	13	0	0	0	0	43	0	0	0	0
Start ~575' Stop same	Start 317° Stop same	14	0	0	0	0	44	0	0	0	0
Height above ground	Height relative to observer	15	0	0	0	0	45	0	0	0	0
Start 200' Stop same	Start 190' Stop same	16	0	0	0	0	46	0	0	0	0
Describe emissions		17	0	0	0	0	47	0	0	0	0
Start None Stop same		18	0	0	0	0	48	0	0	0	0
Emission color	Plume type:	19	0	0	0	0	49	0	0	0	0
Start None Stop same	Continuous <input checked="" type="checkbox"/>	20	0	0	0	0	50	0	0	0	0
	Fugitive <input type="checkbox"/> Intermittent <input type="checkbox"/>	21	0	0	0	0	51	0	0	0	0
Point in plume at which opacity was determined		22	0	0	0	0	52	0	0	0	0
Start ~10' above stack Stop same		23	0	0	0	0	53	0	0	0	0
Describe background		24	0	0	0	0	54	0	0	0	0
Start Sky Stop same		25	0	0	0	0	55	0	0	0	0
Background color	Sky conditions	26	0	0	0	0	56	0	0	0	0
Start Blue Stop same	Start Clear Stop same	27	0	0	0	0	57	0	0	0	0
Wind speed	Wind direction	28	0	0	0	0	58	0	0	0	0
Start 3 mph Stop 3-5	Start NW Stop North	29	0	0	0	0	59	0	0	0	0
Ambient temp	Wet bulb temp.	R.H. %	30	0	0	0	60	0	0	0	0
Start 72° Stop 74	65°	69%	Average opacity for highest period		0%		Number of readings above		0 % were 0		
Slant angle	Stop same		Range of opacity readings		0% min 0% max						
Start 18°											
Source layout	North arrow		Observer's name		Daniel R. Beatty		Observer's signature		Daniel R. Beatty		
							Organization		Beatty Environmental Services		
Comments		Verified by		Certified by		Eastern Technical Associates		Date		2/98	
U2-M9-1											

Beatty Environmental Services

VISIBLE EMISSION OBSERVATION FORM

Source Name		Observation Date				Start Time		End Time			
Ogden Martin Systems of Lake		4/22/98				1235		1335			
Facility Name		sec	0	15	30	45	sec	0	15	30	45
Lake County Resource Recovery Facility		min					min				
Facility Address		1	0	15	30	45	31	0	15	30	45
3830 Rogers Industrial Park Rd.		2	0	15	30	45	32	0	15	30	45
City		3	0	15	30	45	33	0	15	30	45
Okahumpka		4	0	15	30	45	34	0	15	30	45
State		5	0	15	30	45	35	0	15	30	45
FL		6	0	15	30	45	36	0	15	30	45
Phone		7	0	15	30	45	37	0	15	30	45
(352) 365-1611		8	0	15	30	45	38	0	15	30	45
DEP Id. Number		9	0	15	30	45	39	0	15	30	45
A035-193817		10	0	15	30	45	40	0	15	30	45
Process Equipment		11	0	15	30	45	41	0	15	30	45
Waste to Energy Incineration		12	0	15	30	45	42	0	15	30	45
Operating Mode		13	0	15	30	45	43	0	15	30	45
Steady State		14	0	15	30	45	44	0	15	30	45
Control Equipment		15	0	15	30	45	45	0	15	30	45
PECD / AGECC Systems		16	0	15	30	45	46	0	15	30	45
Operating Mode		17	0	15	30	45	47	0	15	30	45
100%		18	0	15	30	45	48	0	15	30	45
Describe Emission Pt		19	0	15	30	45	49	0	15	30	45
Start Stack Exit - West Stop same		20	0	15	30	45	50	0	15	30	45
Distance from observer		21	0	15	30	45	51	0	15	30	45
Start 2575' Stop same		22	0	15	30	45	52	0	15	30	45
Direction from observer		23	0	15	30	45	53	0	15	30	45
Start 317° Stop same		24	0	15	30	45	54	0	15	30	45
Height above ground		25	0	15	30	45	55	0	15	30	45
Start 200' Stop same		26	0	15	30	45	56	0	15	30	45
Height relative to observer		27	0	15	30	45	57	0	15	30	45
Start 190' Stop same		28	0	15	30	45	58	0	15	30	45
Describe emissions		29	0	15	30	45	59	0	15	30	45
Start None Stop same		30	0	15	30	45	60	0	15	30	45
Emission color		Average opacity for highest period		0%		Number of readings above 0% were 0					
Start None Stop same		Range of opacity readings		0% min 0% max							
Plume type:		Comments									
Continuous <input checked="" type="checkbox"/>		U2-M9-2									
Fugitive <input type="checkbox"/>		Observer's name		Daniel R. Beatty							
Intermittent <input type="checkbox"/>		Observer's signature		<i>Daniel R. Beatty</i>							
Point in plume at which opacity was determined		Organization		Beatty Environmental Services							
Start 10' above stack exit Stop same		Verified by		Certified by		Eastern Technical Associates		Date 2/98			
Describe background											
Start Sky Stop same											
Background color											
Start Blue Stop same											
Sky conditions											
Start Clear Stop same											
Wind speed											
Start 5-7 mph Stop same											
Wind direction											
Start NNW Stop same											
Ambient temp											
Start 81° Stop 83°											
Wet bulb temp.											
64°											
R.H. %											
38%											
Slant angle											
Start 18° Stop same											

VISIBLE EMISSION OBSERVATION FORM

facility name Ogden Martin Systems of Lake		observation date 4/22/98				start time 1530				end time 1630			
facility name Lake County Resource Recovery Facility		sec 0 15 30 45 min				sec 0 15 30 45 min							
facility address 3830 Rogers Industrial Park Rd		1				31							
city Okahumpka		2				32							
state FL		3				33							
phone (352) 365-1411		4				34							
DEP id number A035-193817		5				35							
process equipment Waste to Energy Incineration		6				36							
operating mode Steady State		7				37							
control equipment PECD/AGEC systems		8				38							
operating mode 100%		9				39							
describe emission pt. start Stack Exit - West		10				40							
stop same		11				41							
distance from observer start 550		12				42							
stop same		13				43							
direction from observer start 013°		14				44							
stop same		15				45							
height above ground start 200'		16				46							
stop same		17				47							
height relative to observer start 190'		18				48							
stop same		19				49							
describe emissions start None		20				50							
stop same		21				51							
emission color start None		22				52							
stop same		23				53							
plume type: continuous <input checked="" type="checkbox"/>		24				54							
fugitive <input type="checkbox"/>		25				55							
intermittent <input type="checkbox"/>		26				56							
point in the plume at which opacity was determined start 10' above stack exit		27				57							
stop same		28				58							
describe background start Sky		29				59							
stop same		30				60							
background color start Blue		sky conditions start scattered				average opacity for highest period 0%				number of readings above 0 % were 0			
stop same		stop scattered				range of opacity readings 0% min 0% max							
wind speed start 7-10 mph		wind direction start West				Observer's Name Daniel R. Beatty							
stop same		stop West				Observer's Signature Daniel R. Beatty							
ambient temp. start 76°		wet bulb temp. 62°				Organization Beatty Environmental Services							
stop same		R.H. % 44%				Certified By Eastern Technical Associates				Date 2/98			
slant angle start 20°		stop same											
stop same													
source location 													
comments U2-M9-3													

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

THIS IS TO CERTIFY THAT

DAN BEATTY has completed the
STATE OF FLORIDA visible emissions evaluation training and is a qualified
observer of visible emissions as specified by EPA reference method 9

THIS CERTIFICATE EXPIRES

Aug 26, 1998

Edward C. Smith
CERTIFICATE OFFICER

Dan Beatty
BEARER'S SIGNATURE

APPENDIX C

FIELD DATA

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

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: INITIAL DIRECT CALIBRATION ERROR FOR UNIT 2

DATE : 04-22-1998 TIME: 06:51 - 07:11

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
11	STACK	ppmNOx	0.0	0.1
11	STACK	ppmNOx	216.0	223.8
11	STACK	ppmNOx	432.0	432.4
9	STACK	%CO2	0.00	0.09
9	STACK	%CO2	10.95	11.17
9	STACK	%CO2	17.39	17.37
8	STACK	%O2	0.00	0.05
8	STACK	%O2	8.98	9.14
8	STACK	%O2	20.04	19.96
10	STACK	ppmSO2	0.0	0.2
10	STACK	ppmSO2	23.6	23.8
10	STACK	ppmSO2	47.2	47.2
3	INLET	ppmSO2	0.0	0.1
3	INLET	ppmSO2	23.6	23.6
3	INLET	ppmSO2	47.2	47.2
1	INLET	%CO2	0.00	0.03
1	INLET	%CO2	10.95	10.92
1	INLET	%CO2	17.39	17.40
2	INLET	%O2	0.00	0.07
2	INLET	%O2	8.98	9.16
2	INLET	%O2	20.04	20.15

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: INITIAL DIRECT CALIBRATION ERROR FOR CO

DATE : 04-22-1998 TIME: 07:11 - 07:19

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
12	STACK	ppmCO	0.0	-0.0
12	STACK	ppmCO	60.0	56.4
12	STACK	ppmCO	120.0	116.7
12	STACK	ppmCO	180.0	179.4

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: EPA 205 VERIFICATION TEST USING ACS-3 CO2 ANALYZER

DATE : 04-22-1998 TIME: 07:19 - 07:30

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
1	INLET	%CO2	0.00	0.02
1	INLET	%CO2	6.00	5.88
1	INLET	%CO2	8.00	7.89
1	INLET	%CO2	10.95	10.93
1	INLET	%CO2	12.00	11.93
1	INLET	%CO2	16.00	15.96

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: SYSTEM BIAS CHECK FOR UNIT 2

DATE : 04-22-1998 TIME: 08:52 - 09:35

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
11	STACK	ppmNOx	0.0	0.5
11	STACK	ppmNOx	216.0	222.6
12	STACK	ppmCO	0.0	-0.0
12	STACK	ppmCO	180.0	179.1
9	STACK	%CO2	0.00	0.11
9	STACK	%CO2	10.95	10.88
8	STACK	%O2	0.00	0.05
8	STACK	%O2	8.98	9.01
10	STACK	ppmSO2	0.0	-0.4
10	STACK	ppmSO2	23.6	21.7

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: INITIAL SYSTEM BIAS AT INLET UNIT 2

DATE : 04-22-1998 TIME: 09:58 - 10:09

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	INLET	ppmSO2	0.0	0.8
3	INLET	ppmSO2	23.6	23.0
1	INLET	%CO2	0.00	0.06
1	INLET	%CO2	10.95	10.90
2	INLET	%O2	0.00	0.15
2	INLET	%O2	8.98	9.00

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: DIRECT CALIBRATION ERROR FOR SO2 INLET UNIT 2

DATE : 04-22-1998 TIME: 10:23 - 10:28

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	INLET	ppmSO2	0.0	-0.5
3	INLET	ppmSO2	120.0	123.6
3	INLET	ppmSO2	180.0	180.2

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: REDO SYSTEM BIAS FOR SO2 INLET UNIT 2

DATE : 04-22-1998 TIME: 10:29 - 10:34

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	INLET	ppmSO2	0.0	4.7
3	INLET	ppmSO2	120.0	118.2

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: DIRECT CALIBRATION ERROR CHECK FOR SO2

DATE : 04-22-1998 TIME: 10:39 - 10:41

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	INLET	ppmSO2	266.0	266.8

OMS OF LAKE - UNIT 2 04-22-1998

TIME	CHAN11 STACK ppmNOx	CHAN12 STACK ppmCO	CHAN 9 STACK %CO2	CHAN 8 STACK %O2	CHAN10 STACK ppmSO2	CHAN 3 INLET ppmSO2	CHAN 1 INLET %CO2	CHAN 2 INLET %O2
10:44	161.4	11.5	7.31	12.19	3.7	160.3	8.08	11.63
10:45	153.1	12.1	7.00	12.57	2.9	152.9	7.63	12.07
10:46	143.9	14.5	6.60	13.05	2.5	138.7	7.75	12.15
10:47	164.0	16.6	7.37	12.17	2.2	139.7	8.70	10.88
10:48	175.0	14.2	7.46	11.93	1.9	112.3	6.42	11.21
10:49	171.6	10.5	7.16	12.30	1.8	93.9	7.38	12.17
10:50	167.4	11.9	6.44	13.21	1.7	83.2	7.53	12.36
10:51	204.5	16.0	6.93	12.75	1.5	81.0	7.94	11.91
10:52	203.1	15.0	7.10	12.60	1.4	77.1	6.57	11.34
10:53	210.7	20.0	7.90	11.58	1.3	84.1	9.11	10.52
10:54	203.5	16.8	8.01	11.32	1.3	82.5	9.10	10.34
10:55	181.8	11.8	7.48	11.86	1.3	73.6	6.25	11.33
10:56	186.4	11.0	7.42	12.00	1.3	77.0	8.42	11.16

OMS OF LAKE - UNIT 2 04-22-1998

TIME	CHAN11 STACK ppmNOx	CHAN12 STACK ppmCO	CHAN 9 STACK %CO2	CHAN 8 STACK %O2	CHAN10 STACK ppmSO2	CHAN 3 INLET ppmSO2	CHAN 1 INLET %CO2	CHAN 2 INLET %O2
10:58	236.0	13.8	8.45	10.81	1.2	81.0	9.21	10.23
10:59	225.4	9.4	7.47	11.97	1.2	73.9	7.93	11.79
11:00	236.7	9.0	7.28	12.32	1.2	72.5	5.81	13.86
11:01	237.5	11.6	7.41	12.19	1.2	66.4	8.78	11.40
11:02	247.8	13.8	7.98	11.55	1.1	81.8	8.75	10.91
11:03	222.4	10.8	7.40	12.28	1.2	75.4	8.93	11.03
11:04	242.5	14.9	8.17	11.28	1.1	91.0	9.00	10.63
11:05	234.5	10.3	7.40	12.16	1.2	75.4	7.94	11.87
11:06	226.2	9.4	7.23	12.42	1.2	73.4	8.89	11.10
11:07	260.4	16.6	8.63	10.78	1.2	93.5	10.03	9.34
11:08	227.7	11.5	7.85	11.49	1.2	69.8	8.10	11.53
11:09	199.0	12.5	7.05	12.60	1.3	64.0	8.36	11.66
11:10	238.6	20.9	8.20	11.34	1.3	75.5	9.51	10.08
11:11	217.6	20.4	7.47	12.09	1.4	61.9	7.97	11.90
11:12	221.6	18.0	7.45	12.31	1.4	69.5	9.57	10.42
11:13	232.5	16.9	8.97	10.40	1.4	70.0	7.42	12.24
11:14	245.9	10.5	8.08	11.36	1.5	48.7	8.60	11.17
11:15	208.4	12.3	7.20	12.48	1.5	48.7	8.19	11.80
11:16	220.7	14.9	7.49	12.22	1.5	52.0	9.04	10.87
11:17	237.8	15.5	8.01	11.48	1.6	49.3	8.77	10.58
11:18	213.1	14.2	7.30	12.33	1.6	44.9	8.11	11.78
11:19	221.7	17.1	7.46	12.21	1.5	49.1	8.59	11.25
11:20	226.4	15.8	7.49	12.12	1.5	51.0	8.57	11.27
11:21	235.2	16.2	8.13	11.44	1.5	64.3	9.93	9.83
11:22	244.6	14.3	8.36	11.00	1.5	72.0	9.11	10.51
11:23	229.0	10.4	7.70	11.81	1.6	71.8	8.47	11.29
11:24	217.4	11.4	7.34	12.31	1.7	76.6	8.42	11.53
11:25	225.5	15.7	7.76	11.86	1.7	86.5	8.76	11.02
11:26	215.3	16.5	7.54	12.05	1.9	83.9	8.41	11.45
11:27	224.5	14.4	7.69	11.94	2.4	89.0	8.89	11.00

← Blow back for Inlet

AVERAGE VALUES FOR THE LAST 30 MINUTES

11:27	231.1	14.0	7.73	11.82	1.4	69.4	8.60	11.19
11:28	237.2	15.7	8.08	11.52	2.7	87.4	9.46	10.38
11:29	236.0	13.8	8.17	11.32	3.3	87.6	9.02	10.68
11:30	211.4	17.7	7.31	12.33	6.4	76.0	7.86	12.08
11:31	232.1	19.5	7.45	12.29	10.9	79.2	8.66	11.29
11:32	248.2	18.1	7.59	12.10	12.1	77.0	8.57	11.45
11:33	242.4	18.7	7.88	11.80	9.5	84.0	9.27	10.72
11:34	247.2	20.6	8.00	11.56	7.0	85.6	8.80	11.06
11:35	239.5	16.9	7.57	12.13	5.4	82.5	8.62	11.44
11:36	261.4	22.5	8.04	11.61	4.3	93.7	7.64	11.69
11:37	257.1	15.1	8.25	11.23	3.7	72.5	8.32	12.47
11:38	230.4	11.8	7.94	11.61	3.2	89.8	9.04	10.85
11:39	225.1	13.4	7.65	11.96	2.8	77.7	8.51	11.41
11:40	212.5	12.7	7.36	12.35	2.6	69.4	8.49	11.53
11:41	214.2	15.8	7.44	12.23	2.3	64.4	8.57	11.44
11:42	231.9	17.0	7.98	11.59	2.1	61.7	9.29	10.53
11:43	209.0	15.9	7.53	12.04	2.0	52.5	8.53	11.35
11:44	179.6	17.6	7.24	12.35	1.9	43.4	8.14	11.66
11:45	170.4	17.5	7.15	12.48	1.9	41.5	8.25	11.69
11:46	185.4	20.3	7.20	12.41	1.9	39.2	8.08	11.83
11:47	199.2	19.2	7.54	12.05	1.9	36.6	8.84	10.95

COMMENTS: END COMPLIANCE RUN 1

(CONTINUED ON THE NEXT PAGE)

PLANT: OMS OF LAKE, INC
CITY/STATE: OKAHUMPKA, FL
UNIT: 2 INLET/OUTLET
TEST DATE: 4/22/98

	TIME	STACK ppmNOx	STACK ppmCO	STACK %CO2	STACK %O2	STACK ppmSO2
RUN 1:	10:44	161.4	11.5	7.31	12.19	3.7
	10:45	153.1	12.1	7.00	12.57	2.9
	10:46	143.9	14.5	6.60	13.05	2.5
	10:47	164.0	18.6	7.37	12.17	2.2
	10:48	175.0	14.2	7.48	11.93	1.9
	10:49	171.6	10.5	7.16	12.30	1.8
	10:50	167.4	11.9	6.44	13.21	1.7
	10:51	204.5	18.0	6.93	12.75	1.5
	10:52	203.1	18.0	7.10	12.60	1.4
	10:53	210.7	20.0	7.90	11.58	1.3
	10:54	203.5	16.8	8.01	11.32	1.3
	10:55	181.8	11.8	7.48	11.86	1.3
	10:56	186.4	11.0	7.42	12.00	1.3
	10:58	236.0	13.8	8.45	10.81	1.2
	10:59	225.4	9.4	7.47	11.97	1.2
	11:00	236.7	9.0	7.28	12.32	1.2
	11:01	237.5	11.6	7.41	12.19	1.2
	11:02	247.8	13.8	7.98	11.55	1.1
	11:03	222.4	10.8	7.40	12.28	1.2
	11:04	242.5	14.9	8.17	11.28	1.1
	11:05	234.5	10.3	7.40	12.16	1.2
	11:06	228.2	9.4	7.23	12.42	1.2
	11:07	260.4	16.6	8.63	10.78	1.2
	11:08	227.7	11.5	7.85	11.49	1.2
	11:09	199.0	12.5	7.05	12.60	1.3
	11:10	238.6	20.9	8.20	11.34	1.3
	11:11	217.6	20.4	7.47	12.09	1.4
	11:12	221.6	18.0	7.45	12.31	1.4
	11:13	292.5	16.9	8.97	10.40	1.4
	11:14	245.9	10.5	8.08	11.36	1.5
	11:15	208.4	12.3	7.20	12.48	1.5
	11:16	220.7	14.9	7.49	12.22	1.5
	11:17	237.8	15.5	8.01	11.48	1.6
	11:18	213.1	14.2	7.30	12.33	1.6
	11:19	221.7	17.1	7.46	12.21	1.5
	11:20	226.4	15.8	7.49	12.12	1.5
	11:21	235.2	16.2	8.13	11.44	1.5

PLANT: OMS OF LAKE, INC
CITY/STATE: OKAHUMPKA, FL
UNIT: 2 INLET/OUTLET
TEST DATE: 4/22/98

TIME	STACK ppmNOx	STACK ppmCO	STACK %CO2	STACK %O2	STACK ppmSO2
11:22	244.6	14.3	8.36	11.00	1.5
11:23	229.0	10.4	7.70	11.81	1.6
11:24	217.4	11.4	7.34	12.31	1.7
11:25	225.5	15.7	7.76	11.86	1.7
11:26	215.3	16.5	7.54	12.05	1.9
11:27	224.5	14.4	7.69	11.94	2.4
11:28	237.2	15.7	8.08	11.52	2.7
11:29	236.0	13.8	8.17	11.32	3.3
11:30	211.4	17.7	7.31	12.33	6.4
11:31	232.1	19.5	7.45	12.29	10.9
11:32	248.2	18.1	7.59	12.10	12.1
11:33	242.4	18.7	7.88	11.80	9.5
11:34	247.2	20.6	8.00	11.56	7.0
11:35	239.5	16.9	7.57	12.13	5.4
11:36	261.4	22.5	8.04	11.61	4.3
11:37	257.1	15.1	8.25	11.23	3.7
11:38	230.4	11.8	7.94	11.61	3.2
11:39	225.1	13.4	7.65	11.96	2.8
11:40	212.5	12.7	7.36	12.35	2.6
11:41	214.2	15.8	7.44	12.23	2.3
11:42	231.9	17.0	7.98	11.59	2.1
11:43	209.0	15.9	7.53	12.04	2.0
11:44	179.6	17.8	7.24	12.35	1.9
Average	219.6	14.8	7.63	11.94	2.5

PLANT: OMS OF LAKE, INC
CITY/STATE: OKAHUMPKA, FL
UNIT: 2 INLET/OUTLET
TEST DATE: 4/22/98

	TIME	INLET ppmSO2	INLET %CO2	INLET %O2
RUN 1:	10:44	160.3	8.08	11.68
	10:45	152.9	7.63	12.07
	10:46	138.7	7.76	12.15
	10:47	138.7	8.70	10.88
	10:48	112.3	8.42	11.21
	10:49	93.9	7.38	12.17
	10:50	83.2	7.53	12.38
	10:51	81.0	7.94	11.91
	10:52	77.1	8.57	11.34
	10:53	84.1	9.11	10.52
	10:54	82.5	9.10	10.34
	10:55	73.8	8.25	11.33
	10:56	77.0	8.42	11.16
	10:58	81.0	9.21	10.23
	10:59	73.9	7.93	11.79
	11:01	66.4	8.78	11.40
	11:02	81.8	8.75	10.91
	11:03	75.4	8.93	11.03
	11:04	91.0	9.00	10.63
	11:05	75.4	7.94	11.87
	11:06	73.4	8.89	11.10
	11:07	93.5	10.03	9.34
	11:08	69.8	8.10	11.53
	11:09	64.0	8.36	11.66
	11:10	75.5	9.51	10.08
	11:11	61.9	7.97	11.90
	11:12	69.5	9.57	10.42
	11:13	70.0	7.42	12.24
	11:14	48.7	8.60	11.17
	11:15	48.7	8.19	11.80
	11:16	52.0	9.04	10.87
	11:17	49.3	8.77	10.88
	11:18	44.9	8.11	11.78
	11:19	49.1	8.59	11.25
	11:20	51.0	8.57	11.27
	11:21	64.3	9.93	9.83
	11:22	72.0	9.11	10.51

PLANT: OMS OF LAKE, INC
CITY/STATE: OKAHUMPKA, FL
UNIT: 2 INLET/OUTLET
TEST DATE: 4/22/98

TIME	INLET ppmSO2	INLET %CO2	INLET %O2
11:23	71.8	8.47	11.29
11:24	76.6	8.42	11.53
11:25	86.5	8.76	11.02
11:26	83.9	8.41	11.45
11:27	89.0	8.89	11.00
11:28	87.4	9.46	10.38
11:29	87.6	9.02	10.68
11:30	76.0	7.86	12.08
11:31	79.2	8.68	11.29
11:32	77.0	8.57	11.45
11:33	84.0	9.27	10.72
11:34	85.6	8.80	11.06
11:35	82.5	8.62	11.44
11:36	93.7	7.64	11.69
11:37	72.5	8.32	12.47
11:38	89.8	9.04	10.85
11:39	77.7	8.51	11.41
11:40	69.4	8.49	11.53
11:41	64.4	8.57	11.44
11:42	61.7	9.29	10.53
11:43	52.5	8.53	11.35
11:44	43.4	8.14	11.66
11:45	41.5	8.25	11.69
Average	78.2	8.57	11.24

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: SYSTEM BIAS CHECK AFTER RUN 1

DATE : 04-22-1998 TIME: 12:03 - 12:06

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
11	STACK	ppmNOx	0.0	1.3
12	STACK	ppmCO	0.0	-0.0
8	STACK	%O2	8.98	8.89
10	STACK	ppmSO2	0.0	1.0
3	INLET	ppmSO2	0.0	2.3
1	INLET	%CO2	0.00	0.09
2	INLET	%O2	0.00	0.16
2	INLET	%O2	8.98	9.01

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: CONTINUING WITH SYSTEM BIAS

DATE : 04-22-1998 TIME: 12:06 - 12:32

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
11	STACK	ppmNOx	0.0	1.3
11	STACK	ppmNOx	216.0	224.5
12	STACK	ppmCO	0.0	-0.0
12	STACK	ppmCO	180.0	176.5
9	STACK	%CO2	0.00	0.13
9	STACK	%CO2	10.95	10.90
8	STACK	%O2	0.00	0.06
10	STACK	ppmSO2	23.6	24.0
3	INLET	ppmSO2	0.0	2.3
3	INLET	ppmSO2	120.0	117.7
3	INLET	ppmSO2	180.0	171.4
1	INLET	%CO2	0.00	0.14
1	INLET	%CO2	10.95	10.85

OBS OF LAKE - UNIT 2 04-22-1998

TIME	CHAN11 STACK ppmNOx	CHAN12 STACK ppmCO	CHAN 9 STACK %CO2	CHAN 8 STACK %O2	CHAN10 STACK ppmSO2	CHAN 3 INLET ppmSO2	CHAN 1 INLET %CO2	CHAN 2 INLET %O2
12:36	216.4	21.9	8.24	11.45	1.6	37.2	9.85	10.14
12:37	227.3	21.3	8.57	10.81	1.7	43.4	10.24	9.46
12:38	215.6	18.7	8.32	11.20	1.7	43.7	6.18	13.69
12:39	207.7	17.7	8.13	11.48	1.6	35.6	9.55	10.36
12:40	222.4	16.4	8.26	11.27	1.6	36.1	9.55	10.11
12:41	208.5	14.3	7.98	11.65	1.7	35.6	9.44	10.52
12:42	193.0	15.8	8.00	11.61	1.8	35.7	9.32	10.59
12:43	203.5	12.7	8.19	11.40	1.9	35.3	9.70	10.19
12:44	192.0	11.9	7.86	11.68	2.0	34.0	9.09	10.72
12:45	179.1	14.3	7.60	12.08	2.2	29.3	8.97	11.11
12:46	194.7	13.4	8.04	11.53	2.5	28.8	9.52	10.34
12:47	178.0	10.6	7.74	11.82	2.6	29.3	9.00	10.85
12:48	168.9	10.6	7.50	12.13	2.7	27.8	8.72	11.21
12:49	186.8	14.3	7.85	11.66	2.9	27.5	9.18	10.52
12:50	170.5	14.6	7.36	12.28	3.1	27.9	8.63	11.36
12:51	179.2	17.3	7.67	11.98	3.0	27.4	8.97	10.87
12:52	183.2	15.2	7.56	12.02	3.0	26.1	8.85	11.03
12:53	198.5	14.5	7.37	11.69	2.7	24.5	9.36	10.52
12:54	198.2	12.8	8.25	11.15	2.6	25.2	9.74	9.95
12:55	187.6	10.1	8.22	11.18	2.4	25.5	9.51	10.02
12:56	182.8	10.6	8.21	11.18	2.2	24.0	7.46	12.63
12:57	174.5	12.8	7.88	11.53	2.2	25.4	9.12	10.53
12:58	157.2	11.2	7.21	12.36	2.1	24.9	8.33	11.54
12:59	181.6	13.9	7.96	11.67	2.0	24.2	9.45	10.39
13:00	170.4	13.5	7.91	11.56	1.9	25.2	9.28	10.51
13:01	153.6	12.2	7.60	11.90	1.9	25.9	8.77	10.98
13:02	142.3	12.5	7.20	12.47	1.8	24.3	8.46	11.58
13:03	160.3	17.7	7.75	11.77	1.8	25.7	9.09	10.68
13:04	159.0	14.9	7.43	12.18	1.7	24.6	8.77	11.21
13:05	165.0	15.0	7.86	11.60	1.7	26.8	9.16	10.57

AVERAGE VALUES FOR THE LAST 30 MINUTES

13:05	185.5	14.5	7.37	11.67	2.2	29.5	9.04	10.81
13:06	147.9	12.7	7.61	11.93	1.6	26.0	8.93	10.93
13:07	159.9	14.0	8.31	11.05	1.6	28.2	9.94	9.75
13:08	159.1	12.6	8.11	11.18	1.7	31.8	9.42	10.15
13:09	142.4	10.9	7.56	11.82	1.9	29.4	8.76	10.94
13:10	129.2	12.9	7.24	12.29	2.3	27.1	8.40	11.44
13:11	145.2	17.1	8.03	11.25	3.0	30.7	9.60	9.95
13:12	133.2	11.4	7.41	12.02	5.0	31.3	8.54	11.21
13:13	122.2	13.7	6.93	12.56	7.9	28.5	7.82	11.85
13:14	114.2	12.8	6.85	12.77	9.4	26.1	8.03	11.94
13:15	159.8	15.0	8.86	10.40	8.5	31.5	10.81	8.61
13:16	145.4	9.4	8.40	10.61	6.5	39.1	10.00	9.25
13:17	118.0	7.9	7.53	11.63	4.3	31.9	8.83	10.52
13:18	105.3	9.7	6.58	12.96	3.7	25.1	7.53	12.29
13:19	105.5	15.1	6.23	13.33	3.0	22.3	6.92	12.83
13:20	91.4	25.6	5.48	14.16	2.6	19.8	6.22	13.77
13:21	93.3	37.6	5.47	14.23	2.4	17.6	6.36	13.73
13:22	135.2	29.6	7.02	12.82	2.1	17.4	8.62	11.33
13:23	152.4	13.6	8.01	11.21	2.0	20.6	9.52	9.96
13:24	152.9	12.6	8.95	10.00	1.9	27.7	10.71	9.39
13:25	134.1	10.9	8.24	10.67	1.9	30.6	9.53	9.59
13:26	109.9	8.7	7.20	11.98	1.8	23.6	8.13	11.24

OMS OF LAKE - UNIT 2 04-22-1998

TIME	CHAN11 STACK ppmNOx	CHAN12 STACK ppmCO	CHAN 9 STACK %CO2	CHAN 8 STACK %O2	CHAN10 STACK ppmSO2	CHAN 3 INLET ppmSO2	CHAN 1 INLET %CO2	CHAN 2 INLET %O2
13:27	105.9	9.0	6.91	12.48	1.8	19.0	8.19	11.50
13:28	121.2	10.6	8.04	11.08	1.8	21.5	9.57	9.74
13:29	104.1	7.6	7.39	11.79	1.7	21.6	8.43	10.97
13:30	96.9	10.3	6.83	12.52	1.7	22.4	6.05	13.30
13:31	93.0	13.3	6.47	12.96	1.6	21.7	7.11	13.02
13:32	107.3	15.4	6.72	12.93	1.6	20.6	8.11	11.95
13:33	150.4	15.2	9.01	10.07	1.5	26.2	10.70	8.44
13:34	126.7	7.5	7.79	11.37	1.5	26.3	8.91	10.59
13:35	100.1	7.3	6.50	12.98	1.6	20.3	7.19	12.53

AVERAGE VALUES FOR THE LAST 30 MINUTES

13:35	125.4	13.7	7.39	11.96	3.0	25.5	8.56	11.06
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COMMENTS: END COMPLIANCE TEST RUN 2

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: SYSTEM BIAS CHECK AFTER RUN 2

DATE : 04-22-1998 TIME: 14:44 - 15:17

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
11	STACK	ppmNOx	0.0	0.9
11	STACK	ppmNOx	216.0	205.4
12	STACK	ppmCO	0.0	-0.2
12	STACK	ppmCO	120.0	114.1
12	STACK	ppmCO	180.0	175.1
9	STACK	%CO2	0.00	0.11
9	STACK	%CO2	10.95	10.83
8	STACK	%O2	0.00	0.14
8	STACK	%O2	8.98	8.95
10	STACK	ppmSO2	0.0	0.2
10	STACK	ppmSO2	23.6	23.4
3	INLET	ppmSO2	0.0	2.1
3	INLET	ppmSO2	180.0	173.2
1	INLET	%CO2	0.00	0.08
1	INLET	%CO2	10.95	10.84
2	INLET	%O2	0.00	0.15
2	INLET	%O2	8.98	9.00

OMS OF LAKE - UNIT 2 04-22-1996

TIME	CHAN11 STACK ppmNOx	CHAN12 STACK ppmCO	CHAN 9 STACK %CO2	CHAN 8 STACK %O2	CHAN10 STACK ppmSO2	CHAN 3 INLET ppmSO2	CHAN 1 INLET %CO2	CHAN 2 INLET %O2
15:26	143.3	11.5	8.46	10.53	0.2	31.7	9.61	9.49
15:27	132.7	8.9	7.68	11.51	0.1	27.9	8.55	10.76
15:28	114.4	7.9	6.92	12.45	-0.0	24.0	7.77	11.74
15:29	131.5	10.6	7.18	12.29	-0.1	23.1	8.97	10.60
15:30	145.5	9.9	7.45	11.95	-0.4	23.4	8.86	10.75
15:31	178.6	10.2	8.30	10.95	-0.4	27.0	10.01	9.22
15:32	164.7	8.2	7.80	11.44	-0.5	27.5	8.82	10.65
15:33	150.3	9.6	7.27	12.18	-0.6	25.1	8.48	11.16
15:34	166.4	10.5	7.65	11.83	-0.7	25.4	9.35	10.29
15:35	193.9	11.6	8.35	11.02	-0.7	27.3	10.36	9.12
15:36	206.6	9.8	8.59	10.59	-0.6	28.9	9.74	9.63
15:37	177.1	7.8	7.75	11.72	-0.7	24.4	8.89	10.88
15:38	174.2	11.3	7.51	12.13	-0.7	22.0	8.97	10.91
15:39	197.9	12.7	8.06	11.51	-0.8	21.7	9.94	9.82
15:40	195.0	11.6	8.18	11.28	-0.6	21.6	9.44	10.27
15:41	179.0	11.1	7.90	11.65	-0.7	20.2	9.49	10.35
15:42	181.7	13.0	8.32	11.18	-0.6	21.1	10.11	9.60
15:43	176.1	12.9	8.16	11.24	-0.7	23.8	9.05	10.61
15:44	165.7	12.8	7.61	11.98	-0.6	20.1	9.03	10.78
15:45	168.1	13.9	7.50	12.13	-0.1	18.6	9.00	10.95
15:46	179.9	15.1	7.99	11.52	0.4	18.7	9.56	10.16
15:47	179.4	14.5	8.12	11.31	0.7	18.9	9.36	10.27
15:48	168.6	9.6	7.60	11.96	0.7	18.4	9.07	10.64
15:49	186.5	13.9	8.74	10.68	0.8	23.3	10.75	8.67
15:50	184.1	11.2	9.12	10.05	1.1	27.7	10.59	8.57
15:51	163.1	9.4	8.18	11.00	1.5	24.9	9.06	10.35
15:52	143.4	12.3	7.43	12.07	1.5	20.1	8.79	10.94
15:53	143.0	12.0	7.43	12.07	1.4	19.3	8.68	11.03
15:54	156.4	15.6	7.88	11.59	1.1	20.0	9.61	10.00
15:55	147.9	11.3	7.61	11.81	0.7	19.4	8.76	10.93

AVERAGE VALUES FOR THE LAST 30 MINUTES

15:55	166.5	11.4	7.89	11.52	0.0	23.2	9.29	10.31
15:56	148.8	13.0	7.42	12.06	0.4	17.9	8.66	11.00
15:57	167.9	15.3	7.39	12.14	0.0	17.1	8.95	10.84
15:58	190.2	15.6	8.17	11.23	-0.2	18.7	10.10	9.40
15:59	184.9	11.7	8.06	11.24	-0.4	21.0	9.03	10.56
16:00	169.5	9.6	7.62	11.88	-0.5	19.4	9.25	10.50
16:01	177.9	11.6	7.95	11.43	-0.6	20.6	9.31	10.27
16:02	162.0	8.4	7.71	11.71	-0.7	19.7	9.23	10.48
16:03	179.9	11.1	8.67	10.64	-0.7	28.1	10.87	8.45
16:04	169.8	10.2	9.03	9.96	-0.6	43.8	10.44	8.60
16:05	154.4	7.2	8.25	10.82	-0.6	35.2	9.56	9.71
16:06	145.6	5.9	7.80	11.44	-0.7	26.6	9.10	10.31
16:07	133.7	7.0	7.41	11.89	-0.7	23.9	8.44	11.09
16:08	139.7	9.9	7.47	11.98	-0.8	23.3	9.48	10.18
16:09	157.3	11.6	8.49	10.56	-0.8	29.9	9.73	9.33
16:10	134.6	6.1	7.64	11.54	-0.8	25.1	8.71	10.72
16:11	129.2	5.6	7.60	11.64	-0.9	24.3	8.96	10.36
16:12	116.6	5.5	7.16	12.11	-1.0	23.0	8.10	11.39
16:13	123.3	7.5	7.39	11.93	-0.9	25.8	9.05	10.31
16:14	124.8	7.1	7.37	11.82	-0.9	26.0	8.04	11.30
16:15	114.7	7.1	6.84	12.61	-0.9	25.7	8.72	11.05
16:16	158.5	12.3	8.89	10.14	-0.9	41.3	10.62	8.22

DMS OF LAKE - UNIT 2 04-22-1998

TIME	CHAN11 STACK ppmNOx	CHAN12 STACK ppmCO	CHAN 9 STACK %CO2	CHAN 8 STACK %O2	CHAN10 STACK ppmSO2	CHAN 3 INLET ppmSO2	CHAN 1 INLET %CO2	CHAN 2 INLET %O2
16:17	140.9	7.1	8.24	10.77	-0.9	35.5	8.00	10.66
16:18	114.5	7.0	7.43	11.82	-0.9	24.6	7.01	13.63
16:19	113.6	8.1	7.40	11.95	-1.0	32.6	8.55	10.96
16:20	109.1	7.9	7.08	12.36	-0.9	30.2	8.52	11.23
16:21	148.5	9.9	6.71	10.58	-0.8	40.1	11.26	7.98
16:22	144.1	9.4	9.55	9.39	-0.5	63.0	10.77	9.07
16:23	123.2	7.3	8.28	10.77	0.0	44.6	9.30	10.06
16:24	105.8	6.5	7.30	12.08	1.2	39.3	7.96	11.67
16:25	100.9	5.6	6.67	12.95	2.5	26.2	7.94	11.99

AVERAGE VALUES FOR THE LAST 30 MINUTES

16:25	142.8	9.0	7.53	11.45	-0.5	28.8	9.12	10.34
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COMMENTS: END COMPLIANCE TEST RUN 3

CALIBRATION SUMMARY

SOURCE: OMS OF LAKE - UNIT 2

REASON: POST TEST SYSTEM BIAS CHECK AT UNIT 2

DATE : 04-22-1998 TIME: 16:52 - 17:15

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
11	STACK	ppmNOx	0.0	0.9
11	STACK	ppmNOx	216.0	212.6
12	STACK	ppmCO	0.0	-0.2
12	STACK	ppmCO	120.0	118.7
12	STACK	ppmCO	180.0	178.9
9	STACK	%CO2	0.00	0.14
9	STACK	%CO2	10.95	10.82
8	STACK	%O2	0.00	0.14
8	STACK	%O2	8.98	8.94
10	STACK	ppmSO2	0.0	0.0
10	STACK	ppmSO2	23.6	23.1
3	INLET	ppmSO2	0.0	2.2
3	INLET	ppmSO2	180.0	175.2
1	INLET	%CO2	0.00	0.14
1	INLET	%CO2	10.95	10.86
2	INLET	%O2	0.00	0.15
2	INLET	%O2	8.98	9.03

APPENDIX C

FIELD DATA

4.0 HYDROGEN CHLORIDE

AIR FLOW RATE DETERMINATIONS

Client Name: 060EN Job No.: 10403
 Plant Name: OMS LAKE Run No.: 2-142-1
 City/State: OKAUMPKA, FL Date: 4/22/98
 Test Location: UNIT No. 2 INLET Personnel: NP
 Barometric Pressure (Pbar) 29.9 In. Hg Static Pressure (Pg) -2.9 In. H₂O
 Pitot/Orifice ID PT-16 Pitot Coefficient (C_p) 0.84 Pressure Gauge Set ID D-2
 Thermocouple ID 39 Duct Depth/Diameter _____ Width _____
 ----Specify inches (") or feet (')----

VELOCITY TRAVERSES		
Start-Finish Times:		
0915 - 1140		
Point	ΔP ("H ₂ O)	Temp (°F)
A-1	0.55	445
2	0.64	451
3	0.67	453
4	0.68	451
5	0.71	449
6	0.73	446
7	0.75	447
8	0.77	445
B-1	0.54	443
2	0.57	442
3	0.60	443
4	0.58	445
5	0.63	444
6	0.68	442
7	0.71	439
8	0.66	437
C-1	0.60	442
2	0.76	448
3	0.78	454
4	0.70	456
5	0.64	454
6	0.63	452
7	0.69	449
8	0.73	445
Avg. *	0.664	447

ORSAT DATA						
Sampling Time	Analysis Time	% CO ₂ (A) Reading	O ₂ (B) Reading	% O ₂ (B-A)	CO (C) Reading	% CO (C-B)
Average						
Orsat ID		Bag ID		F _o		

FYRITE DATA:	% CO ₂				
	% O ₂				

MOISTURE DATA (WET BULB/DRY BULB)					
Port	Time	Dry Bulb °F	Wet Bulb °F	Diff.	% H ₂ O

MOISTURE DATA (STOICHIOMETRIC)	
Free Water in Fuel, %	
Water from Fuel Combustion, %	
Ambient Water, %	
Relative Humidity, %	
Ambient Temperature, °F	
TOTAL %	

VOLUMETRIC AIR FLOW RATES	
Dry at Standard Conditions, Q _{sd} =	DSCFM
Wet at Stack Conditions, Q _{aw} =	ACFM

ADDITIONAL DATA: _____

* ΔP average is square of average square root.

Reviewer: SSA
AirKinetics, Inc.

CLIENT: OGOEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 MPLE LOCATION: Unit 2 Inlet RUN NO.: Z-I-M26-1
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: ~~29.9~~ N/A DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 5 10 RUN TIME: 0915 - 1120
 LEAK RATE, CFM: 0.000 3.000 TEST PERSONS: WP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	DELTA H@	NA	XAD	WT.			
PITOT	NA	NA	PITOT ID	NA	Cp	0.84	METER TEMP.	NA	NA	NA	
TC	↓	↓	TC READOUT	Fuji	TC	NA	EST. % H ₂ O	↓	↓	↓	
NOZZLE	↓	↓	NOZZLE NO.	NA	DIA.	NA	"C" FACTOR	↓	↓	↓	
ORSAT	↓	NA	SAMPLE BOX	31	REAGNT.	618	STACK TEMP.	↓	↓	↓	
			UMBILICAL	11-94			REF DELTA-P	↓	↓	↓	
			ORSAT PUMP	NA	BAG	NA	"K" FACTOR	↓	↓	↓	

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E		NA	NA

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG. ↓	GAS TEMPERATURES, °F		
						ACTUAL	IDEAL		FILTER BOX ✓	IMPINGER EXIT ↓	PROBE OR COND. EXIT
1	0	78.005	NA	71	NA	1.9	NA	4	256	54	NA
2	5	81.655		72		1.9		5	251	55	
3	10	85.21		72		1.9		5.5	254	57	
4	15	88.79		72		1.9		6	252	58	
	20	92.405		72		1.9		7	253	61	
6	25	96.065		72		1.9		7.5	253	63	
7	30	99.675		72		1.9		8	252	62	
8	35	103.28		72		1.9		9	252	59	
9	40	106.92		73		1.9		10	252	59	
10	45	110.02		73		1.2		8	253	58	
11	50	112.93		73		1.2		9	251	56	
12	55	115.855		74		1.2		9.5	253	58	
13	60	118.815		74		1.2		10	253	59	
14	65	121.76		74		1.2		10	253	58	
15	70	124.675		74		1.2		10.5	250	60	
16	75	127.59		74		1.2		11	250	61	
17	80	130.51		74		1.2		11	250	60	
18	85	133.475		75		1.2		12	250	50	
19	90	136.425		76		1.2		12.5	253	51	
20	95	139.385		76		1.2		13	250	49	
21	100	142.38		77		1.2		14	259	52	
22	105	145.36		78		1.2		14.50	255	51	
23	110	148.38		78		1.2		15	250	53	
24	115	151.37		78		1.2		15	250	55	
	120	154.15	↓		↓						↓

FINAL

120 76.150 NA 74.0 NA 1.463

REVIEWER

SSF

AIR FLOW RATE DETERMINATIONS

Client Name: OGDEN Job No.: 10403
 Plant Name: OMS LAKE Run No.: 2-1-M22
 City / State: OKAHUMPKA, FL Date: 4/22/98
 Test Location: UNIT No. 7 INLET Personnel: NP
 Barometric Pressure (Pbar) 29.9 In. Hg Static Pressure (Pg) -2.9 In. H₂O
 Pitot/Orifice ID PT-16 Pitot Coefficient (C_p) 0.84 Pressure Gauge Set ID D-2
 Thermocouple ID 39 Duct Depth/Diameter _____ Width _____
 ----Specify inches (") or feet (')----

VELOCITY TRAVERSES		
Start-Finish Times:		
<u>1235 - 1435</u>		
Point	ΔP ("H ₂ O)	Temp (°F)
A-1	<u>0.52</u>	<u>454</u>
2	<u>0.70</u>	<u>455</u>
3	<u>0.73</u>	<u>458</u>
4	<u>0.73</u>	<u>453</u>
5	<u>0.71</u>	<u>451</u>
6	<u>0.76</u>	<u>450</u>
7	<u>0.72</u>	<u>445</u>
8	<u>0.73</u>	<u>443</u>
B-1	<u>0.56</u>	<u>445</u>
2	<u>0.65</u>	<u>447</u>
3	<u>0.64</u>	<u>451</u>
4	<u>0.57</u>	<u>449</u>
5	<u>0.64</u>	<u>448</u>
6	<u>0.68</u>	<u>446</u>
7	<u>0.73</u>	<u>443</u>
8	<u>0.67</u>	<u>441</u>
C-1	<u>0.61</u>	<u>437</u>
2	<u>0.65</u>	<u>440</u>
3	<u>0.60</u>	<u>443</u>
4	<u>0.56</u>	<u>442</u>
5	<u>0.52</u>	<u>440</u>
6	<u>0.61</u>	<u>439</u>
7	<u>0.69</u>	<u>438</u>
8	<u>0.70</u>	<u>439</u>
Avg. *	<u>0.656</u>	<u>446</u>

ORSAT DATA						
Sampling Time	Analysis Time	% CO ₂ (A) Reading	O ₂ (B) Reading	% O ₂ (B-A)	CO (C) Reading	% CO (C - B)
Average						
Orsat ID		Bag ID		F.		

FYRITE DATA:	% CO ₂				

MOISTURE DATA (WET BULB/DRY BULB)					
Port	Time	Dry Bulb °F	Wet Bulb °F	Diff.	% H ₂ O

MOISTURE DATA (STOICHIOMETRIC)	
Free Water in Fuel, %	
Water from Fuel Combustion, %	
Ambient Water, %	
Relative Humidity, %	
Ambient Temperature, °F	
TOTAL %	

VOLUMETRIC AIR FLOW RATES	
Dry at Standard Conditions, Q _{sd} =	DSCFM
Wet at Stack Conditions, Q _{aw} =	ACFM

ADDITIONAL DATA:

Reviewer: SSF
AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M26

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 INLET RUN NO.: 2-I-M-26-2
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: -2.9 DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 10 RUN TIME: 1235 - 1235
 LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: NP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS			NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y		DELTA H@		XAD	WT.	
PITOT	NA	NA	<u>2106</u>	<u>0.9963</u>		NA		NA	NA	
TC	↓	↓	PITOT ID <u>NA</u>	Cp <u>0.87</u>		METER TEMP.		↓	↓	
NOZZLE	↓	↓	TC READOUT <u>Full</u>	TC <u>NA</u>		EST. % H ₂ O		↓	↓	
ORSAT	✓	NA	NOZZLE NO. <u>NA</u>	DIA <u>NA</u>		"C" FACTOR		↓	↓	
			SAMPLE BOX <u>51</u>	REAGNTY <u>218</u>		STACK TEMP.		↓	↓	
			UMBILICAL <u>M-94</u>	BAG <u>NA</u>		REF DELTA-P		↓	↓	
			ORSAT PUMP <u>NA</u>			"K" FACTOR		↓	↓	

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E			

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F		
						ACTUAL	IDEAL		FILTER BOX ✓	IMPINGING EXIT ✓	PROBE OR COND. EXIT
1	0	154.792	NA	78	NA	1.2	NA	3.0	250	63	NA
2	5	157.80		79		1.2		3.0	255	60	
3	10	160.765		80		1.2		4.0	250	61	
4	15	163.76		80		1.2		4.0	261	60	
	20	166.695		80		1.2		5.0	255	61	
6	25	169.69		79		1.2		5	250	61	
7	30	172.685		79		1.2		6	254	61	
8	35	175.62		79		1.2		6	250	57	
9	40	178.604		79		1.2		7	259	53	
10	45	181.645		79		1.2		7.5	258	50	
11	50	184.60		79		1.2		8	255	51	
12	55	187.583		79		1.2		8.5	260	52	
13	60	190.585		80		1.2		9	250	52	
14	65	193.50		80		1.2		9	252	55	
15	70	196.444		80		1.2		10.5	251	56	
16	75	199.405		79		1.2		11	256	58	
17	80	202.39		79		1.2		12	251	60	
18	85	205.35		79		1.2		12	250	59	
19	90	208.31		79		1.2		13	250	61	
20	95	211.275		79		1.2		13	251	61	
21	100	214.25		79		1.2		14	260	61	
22	105	217.20		79		1.2		14	255	57	
23	110	220.19		79		1.2		14.5	259	56	
24	115	223.175		80		1.2		15	255	57	
	120	226.165									

FINAL

120 71.373 NA 79.3 79.0 NA 1.2

REVIEWER SSF

AIR FLOW RATE DETERMINATIONS

Client Name: OGDEN Job No.: 10403 ID
 Plant Name: OMS LAKE Run No.: 2-I-M-26-2
 City / State: OKAUCHUA, FL Date: 4/27/98
 Test Location: UNIT NO. INLET Personnel: NP
 Barometric Pressure (Pbar) 29.9 In. Hg Static Pressure (Pg) -2.9 In. H₂O
 Pitot/Orifice ID PT-10 Pitot Coefficient (C_p) 0.84 Pressure Gauge Set ID D-2
 Thermocouple ID 39 Duct Depth/Diameter _____ Width _____
 ----Specify inches (") or feet (')----

VELOCITY TRAVERSES		
Start-Finish Times:		
<u>1525 - 1726</u>		
Point	ΔP ("H ₂ O)	Temp (°F)
A 1	0.58	432
2	0.64	436
3	0.67	438
4	0.70	439
5	0.73	437
6	0.75	437
7	0.74	437
8	0.77	438
B-1	0.51	438
2	0.57	439
3	0.55	439
4	0.49	437
5	0.56	438
6	0.61	435
7	0.65	433
8	0.59	430
C-1	0.44	420
2	0.51	422
3	0.49	424
4	0.45	423
5	0.44	422
6	0.49	418
7	0.51	417
8	0.54	415
Avg. *	0.578	431

ORSAT DATA						
Sampling Time	Analysis Time	% CO ₂ (A) Reading	O ₂ (B) Reading	% O ₂ (B-A)	CO (C) Reading	% CO (C-B)
Average						
Orsat ID _____		Bag ID _____		F _o _____		

FYRITE DATA:					
% CO ₂					
% O ₂					

MOISTURE DATA (WET BULB/DRY BULB)					
Port	Time	Dry Bulb °F	Wet Bulb °F	Diff.	% H ₂ O

MOISTURE DATA (STOICHIOMETRIC)	
Free Water in Fuel, %	
Water from Fuel Combustion, %	
Ambient Water, %	
Relative Humidity, %	
Ambient Temperature, °F	
TOTAL %	

VOLUMETRIC AIR FLOW RATES	
Dry at Standard Conditions, Q _{sd} =	DSCFM
Wet at Stack Conditions, Q _{aw} =	ACFM

ADDITIONAL DATA: _____

* ΔP average is square of average square root.

Reviewer: SSF
AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M26

CLIENT: 060EN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 Inlet RUN NO.: 2-E-M26-3
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: -2.9 DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 8 RUN TIME: 1525 - 1726
 LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: NP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
PRE	POST	METER BOX	<u>2106</u>	Y	<u>0.9963</u>	DELTA H@	<u>NA</u>		XAD	WT.	
PITOT	<u>NA</u>	PITOT ID	<u>NA</u>	Cp	<u>0.87</u>	METER TEMP.			<u>NA</u>	<u>NA</u>	
TC		TC READOUT	<u>Fuji</u>	TC	<u>NA</u>	EST. % H ₂ O					
NOZZLE		NOZZLE NO.	<u>NA</u>	DIA.	<u>NA</u>	"C" FACTOR					
ORSAT	<u>NA</u>	SAMPLE BOX	<u>31</u>	REAGNT.	<u>618</u>	STACK TEMP.					
		UMBILICAL	<u>11-94</u>			REF DELTA-P					
		ORSAT PUMP	<u>NA</u>	BAG	<u>NA</u>	"K" FACTOR					

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂		
	E	E	E	E		% CO ₂		

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG. ✓	GAS TEMPERATURES, °F		
						ACTUAL	IDEAL		FILTER BOX ✓	IMPINGER EXIT ✓	PROBE OR COND. EXIT
1	0	226.354	NA	78	NA	1.2	NA	3	250	63	NA
2	5	229.37		79		1.2		3	256	61	
3	10	232.315		80		1.2		3.5	255	59	
4	15	235.30		80		1.2		4	258	57	
	20	238.245		80		1.2		4.5	251	57	
6	25	241.240		80		1.2		5	250	59	
7	30	244.235		80		1.2		5	252	59	
8	35	247.22		80		1.2		5.5	257	60	
9	40	250.18		80		1.2		6	251	62	
10	45	253.14		80		1.2		6.5	250	62	
11	50	256.11		80		1.2		7	257	63	
12	55	259.12		80		1.2		7.5	252	63	
13	60	262.10		80		1.2		7.5	250	60	
14	65	265.125		79		1.2		8	251	58	
15	70	268.09		79		1.2		8	250	56	
16	75	271.05		79		1.2		9	251	58	
17	80	274.08		78		1.2		9.5	255	58	
18	85	277.12		78		1.2		9.5	260	59	
19	90	280.115		80		1.2		10	254	60	
20	95	283.12		80		1.2		10.5	251	61	
21	100	286.10		80		1.2		11	261	61	
22	105	289.115		80		1.2		11	250	63	
23	110	292.105		80		1.2		12	257	63	
24	115	295.10		80		1.2		12.5	255	63	
	120	298.115									

FINAL

REVIEWER

SSF

120 71.761 NA 80.0 NA 1.2

SAMPLING DATA - METHOD (S) M26

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 Outlet RUN NO.: 2-0-M26-1
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: NA DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 16 10 RUN TIME: 0915 - 1145
 LEAK RATE, CFM: 0.002 0.070 TEST PERSONS: HDD

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	1.0138	DELTA H@	NA		XAD	WT.	
PITOT	NA	NA	PITOT ID	NA	Cp	0.84	METER TEMP.		NA	NA	
TC	↓	↓	TC READOUT	NA	TC	NA	EST. % H ₂ O				
NOZZLE	↓	↓	NOZZLE NO.	NA	DIA	NA	"C" FACTOR				
ORSAT	↓	NA	SAMPLE BOX	29	REAGNT.	618	STACK TEMP.				
			UMBILICAL				REF DELTA-P				
			ORSAT PUMP	NA	BAG	NA	"K" FACTOR				

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E		NA	NA

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F		
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT
1	0	368.075	NA	68	NA	1.7	NA	5	257	60	NA
2	5	371.77		68		1.7		5	256	54	
3	10	375.39		69		1.7		5	256	60	
4	15	378.99		70		1.7		5	257	64	
5	20	382.59		70		1.7		5	256	67	
6	25	386.22		70		1.7		5	257	67	
7	30	389.83		70		1.7		5	257	65	
8	35	393.49		71		1.7		5	255	65	
9	40	400.13		71		1.7		5	256	64	
10	45	403.77		71		1.7		5	256	64	
11	50	407.42		71		1.7		5	256	65	
12	55	410.07		72		1.7		5	257	65	
13	60	411.79		72		1.7		5	257	65	
14	65	415.37		72		1.7		5	255	64	
15	70	418.46		73		1.7		5	255	65	
16	75	422.58		73		1.7		5	258	64	
17	80	426.13		73		1.7		5	265	61	
18	85	429.70		73		1.7		5	268	62	
19	90	433.34		73		1.7		5	268	62	
20	95	437.00		73		1.7		5	266	63	
21	100	440.63		73		1.7		5	263	66	
22	105	444.28		75		1.7		5	261	66	
23	110	447.83		75		1.7		5	260	67	
24	115	451.54	↓	75	↓	1.7	↓	5	266	67	↓
	120	455.24									
FINAL	120										
	120	87.165	NA	72	NA	1.7					

REVIEWER SSF

SAMPLING DATA - METHOD (S) M26

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 Outlet RUN NO.: 2-0-M26-2
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: NA DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 RUN TIME: 1238 - 1438
 LEAK RATE, CFM: 0.007 0.000 TEST PERSONS: JW, NJS

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	<u>7108</u>	Y	<u>1.0138</u>	DELTA H@	<u>NA</u>		XAD	WT.
PITOT	<u>NA</u>	<u>NA</u>	PITOT ID	<u>NA</u>	Cp	<u>0.87</u>	METER TEMP.			<u>NA</u>	<u>NA</u>
TC	↓		TC READOUT	<u>NA</u>	TC	<u>NA</u>	EST. % H ₂ O				
NOZZLE	↓		NOZZLE NO.	<u>NA</u>	DIA	<u>NA</u>	"C" FACTOR				
ORSAT	↓	<u>NA</u>	SAMPLE BOX		REAGNT.		STACK TEMP.				
			UMBILICAL	<u>488</u>			REF DELTA-P				
			ORSAT PUMP	<u>NA</u>	BAG	<u>NA</u>	"K" FACTOR				

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E			

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F		
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT
1	0	455.862	NA	77	NA	1.7	NA	6.0	253	60	NA
2	5	459.56		77		1.7		6.0	249	55	
3	10	463.20		78		1.7		6.0	255	58	
4	15	466.82		78		1.7		6.0	252	60	
	20	470.44		78		1.7		6.0	260	63	
6	25	474.065		78		1.7		6.0	258	65	
7	30	477.68		78		1.7		6.0	260	66	
8	35	480.84		78		1.7		6.0	256	66	
9	40	484.96		78		1.7		6.0	251	67	
10	45	488.64		79		1.7		6.0	260	66	
11	50	492.30		79		1.7		6.0	258	64	
12	55	496.06		80		1.7		6.0	258	62	
13	60	500.47		81		1.7		6.0	255	63	
14	65	503.285		80		1.7		6.0	255	63	
15	70	506.945		80		1.7		6.0	250	64	
16	75	510.66		81		1.7		6.0	251	65	
17	80	514.20		82		1.7		6.0	252	64	
18	85	516.36		81		1.7		6.0	261	66	
19	90	519.99		81		1.7		6.0	258	67	
20	95	523.68		81		1.7		6.0	258	67	
21	100	527.30		82		1.7		6.0	257	68	
22	105	530.41		82		1.7		6.0	252	68	
23	110	534.08		82		1.7		6.0	258	68	
24	115	537.87		81		1.7		6.0	257	68	
	120	541.495									

FINAL

REVIEWER

SEF

120 85.633 NA 80 NA 1.7

SAMPLING DATA - METHOD (S) M26

CLIENT: OGOEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 Outlet RUN NO.: 2-0-M26-3
 BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H₂O: NA DATE: 4/22/98
 LEAK ✓ VAC., IN. HG: 15 12 RUN TIME: 1525 - 1725
 LEAK RATE, CFM: .002 .000 TEST PERSONS: JW, WAT, HDD

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	1.0138	DELTA H@	NA	NA	XAD	WT.	
PITOT	NA	NA	PITOT ID	NA	Cp 0.84	METER TEMP.			NA	NA	
TC	↓	↓	TC READOUT	NA	TC NA	EST. % H ₂ O					
NOZZLE	↓	↓	NOZZLE NO.	NA	DIA NA	"C" FACTOR					
ORSAT	↓	NA	SAMPLE BOX		REAGNT.	STACK TEMP.					
			UMBILICAL	488		REF DELTA-P					
			ORSAT PUMP	NA	BAG NA	"K" FACTOR	↓	↓	↓	↓	

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	NA		
	E	E	E	E		% CO ₂	NA		

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F		
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT
1	0	542.00	NA	80	NA	1.7	NA	4	233	63	NA
2	5	545.48		80		1.7		4	235	60	
3	10	549.31		81		1.7		4	247	62	
4	15	552.92		80		1.7		5	253	67	
	20	556.49		80		1.7		5	252	64	
	25	560.07		80		1.7		5	252	60	
7	30	563.71		81		1.7		5	255	58	
8	35	567.205		82		1.7		5	254	56	
9	40	570.916		82		1.7		5	254	55	
10	45	574.325		82		1.7		5	256	57	
11	50	577.92		83		1.7		5	258	61	
12	55	581.65		80		1.7		5	254	62	
13	60	585.205		80		1.7		5	257	64	
14	65	588.855		79		1.7		5	257	63	
15	70	593.230		79		1.7		5	252	62	
16	75	596.195		80		1.7		5	255	64	
17	80	599.81		79		1.7		5	254	64	
18	85	603.20		80		1.7		5	259	60	
19	90	606.93		80		1.7		5	248	60	
20	95	610.82		81		1.7		5	253	62	
21	100	614.39		81		1.7		5	252	64	
22	105	617.90		81		1.7		5	258	67	
23	110	621.703		81		1.7		5	253	67	
24	115	625.48	↓	81	↓	1.7	↓	5	253	68	↓
	120	628.712		81		1.7		5	252	63	
FINAL											
	120	86.712	NA	81	NA	1.7					

REVIEWER CSF

APPENDIX C

FIELD DATA

5.0 MERCURY

METHOD 3 (ORSAT) FIELD DATA

Client: OGDEN
 Plant Name: OMS LAKE
 City/State: OKAUCHAMA, FL
 Sampling Location: Unit 2 Inlet

Job No 10403
 Fuel Type MUN WASTE

Run/Sample No. <u>2-I-M3/29-1</u> Date: <u>4/21/98</u> Leak <input checked="" type="checkbox"/> OK? <input checked="" type="checkbox"/>					OPERATOR: <u>JW</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
1025	1330	8.5	19.1	—	10.6	—	
-	1340	8.4	19.0	—	10.6	—	
1255	1350	8.5	19.2	—	10.7	—	
Avg.		8.5	Avg.		10.6	—	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B139A</u>		F _o <u>1.21</u>			

Run/Sample No. <u>2-I-M3/29-2</u> Date: <u>4/21/98</u> Leak <input checked="" type="checkbox"/> OK? <input checked="" type="checkbox"/>					OPERATOR: <u>JW</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
1400	1945	9.2	19.7	—	10.5	—	
-	1953	9.0	19.4	—	10.4	—	
1605	2002	9.2	19.6	—	10.4	—	
Avg.		9.1	Avg.		10.4	—	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B100</u>		F _o <u>1.15</u>			

Run/Sample No. <u>2-I-M3/29-3</u> Date: <u>4/21/98</u> Leak <input checked="" type="checkbox"/> OK? <input checked="" type="checkbox"/>					OPERATOR: <u>JW</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
1646	2038	9.3	19.9	—	10.6	—	
-	2045	9.1	19.9	—	10.6	—	
1915	2050	9.2	19.8	—	10.6	—	
Avg.		9.2	Avg.		10.6	—	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B202</u>		F _o <u>1.12</u>			

Reviewer: _____
 AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M29

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKLAHOMA, FL JOB NO.: 10403
 SAMPLE LOCATION: UNIT 2 INLET RUN NO.: 2-I-M29-1
 BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H₂O: -2.3 DATE: 4/21/98
 LEAK ✓ VAC., IN. HG: 15 13 18 15 10 RUN TIME: 1025 - 1258
 LEAK RATE, CFM: .000 .000 .000 .000 .000 TEST PERSONS: HDD/NP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS		NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	DELTA H@		XAD	WT.	
PITOT	✓		<u>2106</u>	<u>.9963</u>	<u>1.948</u>		<u>NA</u>	<u>U/A</u>	
TC	✓	✓	PITOT ID <u>PT-7</u>	Cp <u>0.87</u>	METER TEMP. <u>95</u>				
NOZZLE	✓	✓	TC READOUT <u>Fuji</u>	TC <u>7</u>	EST. % H ₂ O <u>12.0</u>				
ORSAT	✓	NA	NOZZLE NO. <u>GN 2007</u>	DIA. <u>0.256"</u>	"C" FACTOR <u>0.932</u>				
			SAMPLE BOX <u>10</u>	REAGNT. <u>219</u>	STACK TEMP. <u>460</u>				
			UMBILICAL <u>U94</u>		REF DELTA-P <u>0.768</u>				
			ORSAT PUMP <u>#902-2</u>	BAG <u>B139</u>	"K" FACTOR <u>2.397</u>				

LEAK CHECKS	B	E	B	E	B	E	FYRITES	% O ₂	% CO ₂
	<u>848.90</u>	<u>849.0</u>	<u>849.00</u>	<u>849.00</u>	<u>848.00</u>	<u>848.13</u>			<u>8.5%</u>

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP. °F	STACK TEMP. °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F		
							ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT
1	C-8	0	821.6	0.82	78	458	1.7	1.705	4	251	65	NA
2	7	5	825.135	0.76	82	454	1.8	1.78	5	251	52	
3	6	10	828.43	0.77	88	467	1.8	1.8	5	253	57	
	5	15	831.975	0.63	86	462	1.5	1.48	6	254	59	
	4	20	835.23	0.73	88	465	1.72	1.717	8	259	60	
6	3	25	838.69	0.71	90	462	1.68	1.681	9	251	51	
7	2	30	842.15	0.70	91	459	1.70	1.665	10	250	51	
8	1	35	845.634	0.61	92	457	1.5	1.457	11	252	51	
9	B-8	40	848.90	1.05	91	459	2.5	2.50	12	251	55	
10	7	45	853.28	0.87	92	460	2.0	2.067	15	254	57	
11	6	50	857.06	0.72	95	456	1.7	1.73	15	253	61	
12	5	55	860.7	0.63	95	452	1.5	1.521	15	252	62	
13	4	60	864.1	0.61	95	456	1.48	1.473	15	253	64	
14	3	65	867.40	0.67	96	458	1.60	1.611	16	250	50	
15	2	70	870.79	0.75	96	467	1.80	1.785	17.5	252	55	
16	1	75	874.39	0.65	102	467	1.60	1.563	18	252	54	
17	A-8	80	877.88	0.78	93	450	1.90	1.882	4	249	52	
18	7	85	881.89	0.68	94	447	1.65	1.647	4	255	50	
19	6	90	885.38	0.65	95	443	1.6	1.585	4.5	254	50	
20	5	95	888.80	0.72	97	451	1.75	1.747	5	253	51	
21	4	100	892.38	0.60	96	446	1.50	1.461	5.5	253	53	
22	3	105	895.67	0.59	103	448	1.5	1.453	6	252	55	
23	2	110	899.04	0.55	95	443	1.3	1.342	7	253	54	
	1	115	902.15	0.60	95	445	1.46	1.461	7	253	55	
	END	120	905.396									

120 79.956 0.6987 92.87 455.5 1.6663

REVIEWER WJ

SAMPLING DATA - METHOD (S) M29

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKAUCHUKA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 Inlet RUN NO.: 2-I-M29-2
 BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H₂O: -3.0 DATE: 4/21/98
 LEAK / VAC., IN. HG: 15 12 16 15 14 RUN TIME: 1400 - 1618
 LEAK RATE, CFM: .002 .000 .000 .000 .000 TEST PERSONS: HDD + NP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS			NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX		Y	DELTA H@		XAD	WT.	
PITOT	✓	✓	<u>2106</u>		<u>0.9963</u>	<u>1.913</u>		<u>N/A</u>	<u>N/A</u>	
TC	✓	✓	PITOT ID <u>PT-7</u>		<u>0.87</u>	METER TEMP. <u>95</u>				
NOZZLE	✓	✓	TC READOUT <u>Fuji</u>		<u>25</u>	EST. % H ₂ O <u>12</u>				
ORSAT	✓	NA	NOZZLE NO. <u>6N2008</u>		DIA. <u>0.256"</u>	"C" FACTOR <u>0.931</u>				
			SAMPLE BOX <u>06</u>	REAGNT. <u>219</u>		STACK TEMP. <u>460</u>				
			UMBILICAL <u>U94</u>			REF DELTA-P <u>0.769</u>				
			ORSAT PUMP <u>OR-2</u>	BAG <u>B100</u>		"K" FACTOR <u>2.393</u>				

LEAK CHECKS	B 933.427	B 954.342	B 954.420	B	FYRITES	% O ₂	% CO ₂
	E 933.521	E 954.420	E 954.525	E			<u>8.5%</u>

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	C-8	0	905.758	0.64	90	439	1.55	1.554	4	251	52	NA
2	7	5	909.101	0.65	92	440	1.58	1.580	4	251	48	
3	6	10	912.465	0.70	93	446	1.57	1.693	5	252	49	
	5	15	916.025	0.77	92	461	1.83	1.828	6	253	49	
	4	20	911.474	0.81	93	473	1.90	1.901	7	252	50	
6	3	25	923.365	0.78	91	468	1.8	1.834	8	252	51	
7	2	30	927.01	0.59	92	455	1.4	1.409	8	253	55	
8	1	35	930.25	0.57	92	448	1.4	1.374	8	252	56	
9	B-8	40	933.427	0.71	91	420	1.76	1.762	8.5	253	61	
10	7	45	936.986	0.68	93	434	1.67	1.666	11	252	54	
11	6	50	940.52	0.68	94	436	1.67	1.666	11	252	54	
12	7	55	944.02	0.61	94	441	1.50	1.486	12	252	52	
13	4	60	947.41	0.56	95	439	1.4	1.370	12	254	54	
14	3	65	950.65	0.59	90	441	1.44	1.043	13	253	56	
15	2	70	953.93	0.68	95	456	1.60	1.633	13.4	254	56	
16	1	75	957.59	0.53	91	419	1.3	1.316	4	253	59	
17	A-8	80	960.723	0.64	92	417	1.6	1.597	5	251	55	
18	7	85	964.125	0.66	92	434	1.6	1.615	5.5	253	51	
19	6	90	967.53	0.68	91	430	1.7	1.657	6.5	253	50	
20	5	95	971.06	0.63	91	435	1.54	1.537	7	252	50	
21	4	100	974.445	0.57	93	435	1.40	1.390	7	253	51	
22	3	105	977.615	0.55	92	434	1.35	1.346	7.5	253	52	
23	2	110	980.855	0.61	92	437	1.5	1.488	8.5	256	55	
	1	115	984.21	0.66	93	443	1.6	1.602	9	254	58	
	END	120	986.625									
FINAL			987.605									

120 81.57 0.12160 92.5 441.1 1.5746

REVIEWER uj

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKAHOPEKA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 inlet RUN NO.: 2-E-M29-3
 BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H₂O: -3.0 DATE: 4/21/98
 LEAK ✓ VAC., IN. HG: 15 12 15 15 RUN TIME: 1646-1917
 LEAK RATE, CFM: 0.000 .000 .000 .002 TEST PERSONS: FDD & NP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	DELTA H@				XAD	WT.	
PITOT	✓	✓	2106	0.9963	1.913				N/A	N/A	
TC	✓	✓	PITOT ID	Cp	METER TEMP.						
NOZZLE	✓	✓	TC READOUT	TC	EST. % H ₂ O						
ORSAT		NA	NOZZLE NO.	DIA.	"C" FACTOR						
			SAMPLE BOX	REAGNT.	STACK TEMP.						
			UMBILICAL		REF DELTA-P						
			ORSAT PUMP	BAG	"K" FACTOR						

LEAK CHECKS	B	E	B	E	B	E	FYRITES	% O ₂	% CO ₂
	1016.7	1016.782	1016.782	1016.900					8%

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	C-8	0	989.74	0.59	89	410	1.5	1.477	4	251	55	NA
2	7	5	993.26	0.60	90	432	1.5	1.466	4.5	253	57	
3	6	10	996.56	0.58	90	435	1.4	1.413	5	255	57	
	8	15	999.82	0.59	90	439	1.43	1.431	5	254	56	
	4	20	1003.08	0.61	91	446	1.5	1.471	6	252	58	
6	3	25	1006.4	0.64	91	443	1.95	1.548	7	252	51	
7	2	30	1009.78	0.70	91	450	1.7	1.680	8	250	52	
8	1	35	1013.28	0.67	91	454	1.6	1.60	8.5	253	55	
9	B-8	40	1016.7	0.75	87	419	1.85	1.849	5	255	63	1753 Restab
10	7	45	1020.615	0.71	90	433	1.70	1.732	5	252	51	
11	6	50	1024.11	0.68	91	434	1.66	1.66	5	251	50	
12	5	55	1027.61	0.60	94	448	1.45	1.45	5	251	49	
13	4	60	1030.85	0.54	91	439	1.30	1.312	6	253	50	
14	3	65	1034	0.58	95	443	1.4	1.413	7	251	50	
15	2	70	1037.225	0.64	92	449	1.54	1.541	7.5	253	52	
16	1	75	1040.57	0.62	92	450	1.50	1.49	8	254	52	
17	A-8	80	1043.897	0.70	93	433	1.72	1.72	7.75	252	60	
18	7	85	1047.435	0.66	95	439	1.6	1.614	10	253	62	
19	6	90	1050.89	0.65	97	441	1.6	1.592	10.5	251	63	
20	5	95	1054.33	0.61	97	441	1.5	1.494	11	252	63	
21	4	100	1057.68	0.62	98	444	1.52	1.517	11	250	50	
22	3	105	1061.0	0.61	98	445	1.5	1.491	12	252	49	
23	2	110	1064.395	0.60	99	446	1.5	1.467	12.5	251	50	
	1	115	1067.74	0.6	98	444	1.5	1.468	14	251	52	
END		120	1071.08									

FINAL 120 81.14 0.6203 929 439.9 1.5425 REVIEWER (signature)

METHOD 3 (ORSAT) FIELD DATA

Client: OGDEN
 Plant Name: OMS LAKE
 City/State: OKLAHOMA, FL
 Sampling Location: Unit 2 Outlet

Job No 10403
 Fuel Type MUN WASTE

Run/Sample No. <u>2-0-M3/29-1</u> Date: <u>4/21/98</u> Leak <input checked="" type="checkbox"/> OK?					OPERATOR: <u>JW</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
<u>1071</u>	<u>1400</u>	<u>7.4</u>	<u>19.6</u>	<u>-</u>	<u>12.2</u>	<u>-</u>	
<u>-</u>	<u>1410</u>	<u>7.3</u>	<u>19.5</u>	<u>-</u>	<u>12.2</u>	<u>-</u>	
<u>1259</u>	<u>1422</u>	<u>7.3</u>	<u>19.6</u>	<u>-</u>	<u>12.3</u>	<u>-</u>	
Avg.		<u>7.3</u>		Avg.	<u>12.2</u>	<u>-</u>	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B148</u>		F _o <u>1.19</u>			

Run/Sample No. <u>2-0-M3/29-2</u> Date: <u>4/21/98</u> Leak <input checked="" type="checkbox"/> OK?					OPERATOR: _____		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
<u>1400</u>	<u>1725</u>	<u>7.6</u>	<u>19.3</u>	<u>-</u>	<u>11.7</u>	<u>-</u>	
<u>-</u>	<u>1735</u>	<u>7.7</u>	<u>19.5</u>	<u>-</u>	<u>11.8</u>	<u>-</u>	
<u>1611</u>	<u>1745</u>	<u>7.7</u>	<u>19.5</u>	<u>-</u>	<u>11.8</u>	<u>-</u>	
Avg.		<u>7.7</u>		Avg.	<u>11.8</u>	<u>-</u>	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B203</u>		F _o <u>1.18</u>			

Run/Sample No. <u>2-0-M3/29-3</u> Date: <u>4/21/98</u> Leak <input checked="" type="checkbox"/> OK?					OPERATOR: <u>JW</u>		
Time of Sample Collection	Time Of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	CO Reading (C)	% O ₂ (B-A)	% CO (C-B)	Concurrent Runs to Share Orsat Data
<u>1646</u>	<u>2010</u>	<u>7.9</u>	<u>19.8</u>	<u>-</u>	<u>11.9</u>	<u>-</u>	
<u>-</u>	<u>2023</u>	<u>7.9</u>	<u>19.9</u>	<u>-</u>	<u>12.0</u>	<u>-</u>	
<u>1917</u>	<u>2030</u>	<u>7.8</u>	<u>19.8</u>	<u>-</u>	<u>12.0</u>	<u>-</u>	
Avg.		<u>7.9</u>		Avg.	<u>12.0</u>	<u>-</u>	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B139</u>		F _o <u>1.13</u>			

Reviewer: SSF
 AirKinetics, Inc.

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKAHOPEKA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 - FF Outlet RUN NO.: 2-0-M29-1
 BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H₂O: -19.6 DATE: 4/21/98
 LEAK / VAC., IN. HG: 15 8 5 RUN TIME: 1021 - 1259
 LEAK RATE, CFM: 0.000 0.000 0.000 TEST PERSONS: WAT

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	DELTA H@		XAD	WT.			
PITOT	✓	✓	<u>N-36</u>	<u>1.0891</u>	<u>1.941</u>						
TC	✓	✓	PITOT ID <u>PTU</u>	Cp <u>0.84</u>	METER TEMP. <u>90</u>		<u>NA</u>	<u>NA</u>			
NOZZLE	✓	<u>NA</u>	TC READOUT <u>E39</u>	TC <u>22</u>	EST. % H ₂ O <u>16</u>						
ORSAT	✓	<u>NA</u>	NOZZLE NO. <u>GND297</u>	DIA. <u>0.218</u>	"C" FACTOR <u>0.836</u>						
			SAMPLE BOX <u>5130</u>	REAGNT. <u>207</u>	STACK TEMP. <u>285</u>						
			UMBILICAL <u>C101</u>		REF DELTA-P <u>1.318</u>						
			ORSAT PUMP <u>OR1</u>	BAG <u>8148</u>	"K" FACTOR <u>1.366</u>						

LEAK CHECKS	B	<u>729.88%</u>	B		B		B		FYRITES % O ₂		
	E	<u>729.90%</u>	E		E		E		% CO ₂	<u>7.6%</u>	<u>7.6%</u>

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	A-8	0	705.4	1.40	81	297	1.90	1.897	4	261	60	NA
2	7	5	708.99	1.25	83	309	1.67	1.670	4	258	60	
3	6	10	712.055	1.10	86	298	1.50	1.50	4	260	60	
	5	15	714.978	1.35	88	296	1.85	1.854	4	254	62	
	4	20	718.290	1.20	91	285	1.68	1.680	4	252	63	
6	3	25	721.427	1.13	93	271	1.60	1.601	4	251	61	
7	2	30	724.490	0.95	95	274	1.36	1.360	4	249	60	
8	1	35	727.35	0.75	96	270	1.08	1.082	4	249	59	
9	B-8	40	729.88%	1.20	94	295	1.67	1.670	4	247	64	
10	7	45	733.322	1.25	96	297	1.71	1.735	4	249	61	
11	6	50	736.50	1.25	97	297	1.76	1.764	4	249	62	
12	5	55	739.812	1.20	99	285	1.69	1.696	4	250	63	
13	4	60	743.185	1.08	100	283	1.53	1.528	4	251	65	
14	3	65	746.197	0.98	100	285	1.38	1.384	4	251	66	
15	2	70	749.185	0.95	100	284	1.34	1.344	4	248	57	
16	1	75	752.08%	0.75	100	275	1.07	1.074	3.548	248	56	
17	C-8	80	754.68%	1.35	94	285	1.89	1.888	4	232	59	
18	7	85	758.36%	1.20	96	288	1.67	1.671	4	242	61	
19	6	90	761.52%	1.10	98	286	1.55	1.545	4	244	64	
20	5	95	764.66%	1.27	99	285	1.71	1.710	4	245	62	
21	4	100	768.01%	1.05	100	285	1.48	1.482	4	243	62	
22	3	105	771.045	1.00	100	280	1.42	1.422	4	244	61	
23	2	110	774.08	0.7	101	272	1.00	1.008	4	240	62	
24	1	115	776.035	0.75	100	270	1.08	1.082	4	249	63	
END		120	778.58									

FINAL 73.104 1.0823 90.3 2854 1.5212 REVIEWER (Signature)

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKAUCHUKA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 EF Outlet RUN NO.: 2-0-M29-2
 BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H₂O: -17 DATE: 4/21/98
 LEAK ✓ VAC., IN. HG: 15 8 RUN TIME: 1400 - 1611
 LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: WAT

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	<u>N-30</u>	Y	<u>1.0891</u>	DELTA H@	<u>1.941</u>		XAD	WT.
PITOT	✓	✓	PITOT ID	<u>PT1</u>	Cp	<u>0.87</u>	METER TEMP.	<u>95</u>		NA	NA
TC	✓	✓	TC READOUT	<u>6487412</u>	TC	<u>12</u>	EST. % H ₂ O	<u>16</u>			
NOZZLE	✓	✓	NOZZLE NO.	<u>GN284</u>	DIA.	<u>0.218</u>	"C" FACTOR	<u>0.844</u>			
ORSAT	✓	NA	SAMPLE BOX	<u>58-09</u>	REAGNT.	<u>207</u>	STACK TEMP.	<u>285</u>			
			UMBILICAL	<u>CU01</u>			REF DELTA-P	<u>1.306</u>			
			ORSAT PUMP	<u>021</u>	BAG	<u>B203</u>	"K" FACTOR	<u>1.409</u>			

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E			<u>6.5% by 16500 70</u>

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F		
							ACTUAL	IDEAL		FILTER BOX	IN/PIPING EXIT	PROBE OR COND. EXIT
1	A-8	0	778.700	1.15	88	274	1.63	1.636	4	260	61	NA
2	7	5	782.000	1.20	90	276	1.70	1.665	4	250	52	
3	6	10	785.167	1.18	92	279	1.67	1.666	4	250	55	
	5	15	788.340	1.35	93	285	1.89	1.894	4	247	54	
	4	20	791.75	1.32	95	293	1.81	1.831	4	250	55	
6	3	25	795.115	1.17	96	292	1.64	1.635	4	249	58	
7	2	30	798.370	0.98	97	285	1.22	1.216	4	250	63	
8	1	35	801.010	0.65	97	276	0.93	0.931	3	248	56	
9	B-8	40	803.320	1.00	96	276	1.43	1.431	3	249	52	
10	7	45	806.402	0.94	97	271	1.35	1.349	3	249	51	
11	6	50	809.307	0.92	99	276	1.22	1.221	3	255	52	
12	5	55	812.005	0.98	100	279	1.41	1.405	4	253	57	
13	4	60	814.980	0.95	101	281	1.36	1.361	4	252	58	
14	3	65	817.820	0.98	102	281	1.41	1.406	4	253	60	
15	2	70	820.782	1.00	104	281	1.44	1.440	4	245	64	
16	1	75	823.815	0.96	103	273	1.31	1.308	4	247	61	
17	C-8	80	826.845	1.20	102	275	1.71	1.736	4	250	63	
18	7	85	830.182	1.13	104	276	1.64	1.637	4	252	64	
19	6	90	833.350	1.10	105	275	1.66	1.599	4	250	65	
20	5	95	836.457	1.10	105	275	1.60	1.599	4	247	64	
21	4	100	839.635	1.10	105	280	1.59	1.588	4	250	65	
22	3	105	842.806	1.60	105	281	1.44	1.442	9	253	64	
23	2	110	846.810	0.95	106	281	1.37	1.373	4	251	65	
	1	115	849.665	0.68	106	273	0.993	0.993	4	251	66	
	END	120	857.240									

FINAL 120 72.34 1.0234 99.5 279.0 1.476 REVIEWER WJ

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE
 CITY/STATE: OKAHOUMA, FL JOB NO.: 10403
 SAMPLE LOCATION: Unit 2 - FF Outlet RUN NO.: 2-0-M29-3
 BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H₂O: -14.2 DATE: 4/21/98
 LEAK ✓ VAC., IN. HG: 12 8 RUN TIME: 11:46 - 1917
 LEAK RATE, CFM: 0.006 0.000 TEST PERSONS: WAS, TW

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	Y	DELTA H@		XAD	WT.			
PITOT	✓	✓	<u>N-30</u>	<u>1:0891</u>	<u>1.941</u>		<u>NA</u>	<u>NA</u>			
TC	✓	✓	PITOT ID <u>PT15</u>	Cp <u>0.84</u>	METER TEMP. <u>95</u>						
NOZZLE	✓	✓	TC READOUT <u>6487142</u>	TC <u>22</u>	EST. % H ₂ O <u>16</u>						
ORSAT	✓	NA	NOZZLE NO. <u>GW254</u>	DIA. <u>0.216</u>	"C" FACTOR <u>0.844</u>						
			SAMPLE BOX <u>SB-02</u>	REAGNT. <u>207</u>	STACK TEMP. <u>285</u>						
			UMBILICAL <u>CU61</u>		REF DELTA-P <u>1.305</u>						
			ORSAT PUMP <u>OR-1</u>	BAG <u>B139</u>	"K" FACTOR <u>1.308</u>						

LEAK CHECKS	B	B	B	B	FYRITES	% O ₂	% CO ₂
	E	E	E	E			
						<u>6.5%</u>	<u>4.5%</u>

PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H ₂ O	DGM TEMP. °F	STACK TEMP. °F	ORIFICE SETTING, IN. H ₂ O		GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F			
						ACTUAL	IDEAL		FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT	
1	A-8	0	851.40	1.10	94	277	1.51	1.509	3	258	66	NA
2	7	5	857.598	1.00	94	281	1.36	1.368	3	247	62	
3	6	10	857.495	0.96	96	283	1.31	1.310	3	249	63	
	5	15	860.330	0.95	96	286	1.29	1.291	3	253	63	
	4	20	863.116	0.96	97	289	1.30	1.302	3	244	64	
6	3	25	865.935	0.90	98	287	1.23	1.226	3	249	64	
7	2	30	868.677	0.89	99	286	1.22	1.216	3	251	65	
8	1	35	871.390	0.62	99	272	0.86	0.864	3	246	57	
9	B-8	40	873.788	1.00	92	276	1.37	1.369	3	233	65	
10	7	45	876.570	0.95	93	281	1.29	1.293	3	242	65	
11	6	50	879.655	0.90	94	282	1.23	1.225	3	250	66	
12	5	55	882.44	0.90	95	284	1.23	1.233	3	251	66	
13	4	60	885.13	0.97	96	282	1.2	1.198	3	255	66	
14	3	65	887.80	0.89	96	282	1.23	1.225	3	253	65	
15	2	70	890.55	0.92	97	281	1.27	1.271	3	252	63	
16	1	75	893.30	0.65	98	275	0.91	0.909	3	257	61	
17	C-8	80	895.68	1.27	99	285	1.75	1.752	3	250	59	
18	7	85	899.13	1.15	102	282	1.60	1.598	3	254	59	
19	6	90	902.18	1.06	104	279	1.49	1.485	3	253	61	
20	5	95	905.19	1.02	104	278	1.43	1.431	3	254	62	
21	4	100	908.12	1.03	105	277	1.45	1.450	3	256	63	
22	3	105	911.115	1.02	105	279	1.43	1.432	3	266	65	
23	2	110	914.10	0.96	106	278	1.35	1.352	3	268	66	
	1	115	916.97	0.81	106	268	1.16	1.157	3	268	67	
	END	120	919.633									

FINAL 120 68.293 0.944 985 280.3 1.3113 REVIEWER WJ

APPENDIX D
ANALYTICAL DATA
1.0 PARTICULATE

MOISTURE ANALYTICAL RESULTS

Plant Name OMS-LAKE Job No. 10403
 City / State OKAHUMPKA, FL Sampling Loc. UNIT No. 2 OUTLET

Run Number	<u>2-0-MS-1</u>	<u>2-0-MS-2</u>	<u>2-0-MS-3</u>
Sampling Date	<u>4/22/98</u>	<u>4/22/98</u>	<u>4/22/98</u>
Analysis Date	<u>4/22/98</u>	<u>4/22/98</u>	<u>4/22/98</u>
Analyst	<u>(u)</u>	<u>(u)</u>	<u>(u)</u>

<u>Reagent 1 (DI H₂O)</u>			
Final Weight, g	<u>840.6</u>	<u>818.7</u>	<u>796.8</u>
Tared Weight, g	<u>583.3</u>	<u>585.3</u>	<u>575.7</u>
Water Catch, g	<u>257.3</u>	<u>233.4</u>	<u>221.1</u>
<u>Reagent 2 (_____)</u>			
Final Weight, g	_____	_____	_____
Tared Weight, g	_____	_____	_____
Water Catch, g	_____	_____	_____
<u>Reagent 3 (_____)</u>			
Final Weight, g	_____	_____	_____
Tared Weight, g	_____	_____	_____
Water Catch, g	_____	_____	_____
CONDENSED WATER, g	<u>257.3</u>	<u>233.4</u>	<u>221.1</u>
<u>Silica Gel</u>			
Final Weight, g	<u>220.0</u>	<u>217.5</u>	<u>216.8</u>
Tared Weight, g	<u>200.0</u>	<u>200.0</u>	<u>200.0</u>
Water Catch, g	<u>20.0</u>	<u>17.5</u>	<u>16.8</u>
TOTAL WATER COLLECTED, g	<u>277.3</u> ✓	<u>250.9</u> ✓	<u>237.9</u> ✓

Balance No. CA002 Type (✓) Triple Beam Electronic _____ Reagent Box C100
 Balance located in stable, draft-free area (✓)? Yes No _____ (If "No," explain below.)

Comments _____ D 2

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C100 Assembly Date 4-16-98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OMS-LAKE City / State OKAHUMPKA, FL
 Sampling Location UNIT No. 2 OUTLET Method EPA 5
 Individual Tare of Reagent 200 (ml) (gm) of DI H₂O
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____
 Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
2-0-MS-1	4/24/98	A566	0.5067	YES	(C)	4/24/98	70	YES	(C)
					Filter Appearance*				
					<u>clean</u>				
					Reagent Appearance*				
					<u>clean</u>				
2-0-MS-2	4/24/98	A567	0.5098	YES	(C)	4/24/98	60	YES	(C)
					Filter Appearance*				
					<u>clean</u>				
					Reagent Appearance*				
					<u>clean</u>				
2-0-MS-3	4/24/98	A404	0.5132	YES	(C)	4/24/98	60	YES	(R)
					Filter Appearance*				
					<u>clean</u>				
					Reagent Appearance*				
					<u>clean</u>				
					Filter Appearance*				
					Reagent Appearance*				

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. C100

Client OGDEN MARTIN SYSTEMS

Job No. 10403

Plant Name OMS - LAKE

City/State OKAHUMPKA, FL

Sampling Method (s) EPA 5 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box Cooler Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0002088	4/16/98	16:20	S	<i>Harry Mito</i>	
	4/21/98	10:36	B	<i>Harry Mito</i>	LABEL JARS
0002653	4/23/98	0902	S	<i>Harry Mito</i>	
	5/4/98	11:52	B	<i>Harry Mito</i>	Reg-in Samples
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody * S = Sealed By; B = Broken ** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact? **		
_____	_____	_____	Yes	No	N/A
Signature	Date	Time			

As Applicable:
All liquid levels at mark (✓) Yes ___ No ___ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:
TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

ANALYTICAL NARRATIVE

Plant Name: OMS-LAKE Co.

Analyst: GARY MATA Date Rec'd. in Lab: APRIL 22, 1998

Analysis Method & Analytes: EPA METHOD 5 - PARTICULATE MATTER

Sample Matrix & Components: FRONT HALF RINSES (ACETONE) ; TARED GLASS MAT FILTERS

Summary of Sample Prep (added rinse in lab, final volume, pH adjusted, etc.): SAMPLES WERE DESICCATED > 24 HOURS PRIOR TO 1ST WEIGHING. 2ND WEIGHINGS WERE PERFORMED > 6 HOURS LATER.

Summary of Instrumentation: METTLER AT800 (#L98007) - ANALYTICAL BALANCE

Minimum Detectable Limit: 0.1 mg

Summary of QA/QC sample analysis: ACETONE BLANK < 1.0 mg

Spikes (describe spikes and % recovery): N/A

Specific Comments Regarding Sample Analysis (Note unusual catch weights, interference's, odd sample behavior, and steps taken to confirm unusual results. Also note any deviations from standard analytical procedures, together with justification and possible affect on results. Specify run number(s) when applicable)

NONE

CONFIRMATION OF DATA REVIEW

Lab Manager Signature: [Signature]

Date: 5/5/98

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lake County AKI Ref# 10403
 Sampling Location: Unit No. 2 Outlet
 Date Received: April 22, 1998

Run Number 2-O-M5-1 2-O-M5-2 2-O-M5-3

Sample ID/Container #	init.	date	F / 228	date	F / 231	date	F / 230
GM		05/05/98	3.9381	05/05/98	3.9519	05/05/98	3.9508
GM		05/05/98	@ 3.9379	05/05/98	@ 3.9517	05/05/98	@ 3.9506
Baggie Tare Wt., g.			3.4292		3.4399		3.4347
Filter Tare Wt., g.		A566	0.5067	A567	0.5098	A404	0.5132
FILTER SAMPLE WT., g.			0.0020		0.0020		0.0027

Sample ID/Container #	init.	date	R / 229	date	R / 232	date	R / 226
GM		05/05/98	@ 3.4435	05/05/98	3.3986	05/05/98	3.5310
GM		05/05/98	@ 3.4435	05/05/98	@ 3.3985	05/05/98	@ 3.5307
Tare Wt., g.		(75 ml)	3.4412	(75 ml)	3.3965	(100 ml)	3.5300
RINSE SAMPLE WT., g.			0.0023		0.0020		0.0007

Filter Catch, mg.	2.0	2.0	2.7
Rinse Catch, mg.	2.3	2.0	0.7
Rinse Blank Residue, mg.	0.1	0.1	0.1
Net Rinse Catch, mg.	2.2	1.9	0.6
FILTERABLE PARTICULATE, mg.	4.2	3.9	3.3

Blank Beaker #	B / 233	--Legend--		Sample Description		
Final wt., g.	3.3432	@ = Final Weight		Run #	Color	Loading
Tare wt., g.	3.3429	F = Filter	R = Rinse			
Residue, mg.	0.3			2-O-M5-1	1	1
Volume, ml.	200	1 = Light		2-O-M5-2	1	1
Density, mg/ml	785.0	2 = Medium		2-O-M5-3	1	1
Conc., mg/mg	1.911E-06 <--	3 = Heavy or Dark				
Upper Limit, mg/mg	1.000E-05					

Notes and comments:
 Predominate color of samples is: Clean
 Date of full balance span: May 4, 1998

Printing Date: 05-May-98 Printing Time: 05:18 PM

REAGENT BLANK(S) LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lake County

AKI Ref #

10403

Sampling Location: N/A

Date Received: April 22, 1998

Run Number

Acetone

Sample ID/Container #

init.

date

B / 233

GM

05/05/98

@

3.3432

GM

05/05/98

3.3433

Tare Wt., g.

(200 ml)

3.3429

SAMPLE WT., g.

0.0003

Notes and comments:

Predominate color of samples is:

N/A

Date of full balance span

May 4, 1998

Printing Date

05-May-98

Printing Time

05:16 PM

APPENDIX D

ANALYTICAL DATA

2.0 HYDROGEN CHLORIDE

MOISTURE ANALYTICAL RESULTS

Plant Name OMS-LAKE Job No. 10403

City / State OKAHUMPKA, FL Sampling Loc. UNIT No. 2 INLET

Run Number	<u>2-I-M26-1</u>	<u>2-I-M26-2</u>	<u>2-I-M26-3</u>
Sampling Date	<u>4/20/98</u>	<u>4/20/98</u>	<u>4/20/98</u>
Analysis Date	<u>4/20/98</u>	<u>4/20/98</u>	<u>4/20/98</u>
Analyst	<u>Ⓢ</u>	<u>Ⓢ</u>	<u>Ⓢ</u>

<u>Reagent 1 (0.1N H₂SO₄)</u>			
Final Weight, g	<u>700.3</u>	<u>744.7</u>	<u>761.0</u>
Tared Weight, g	<u>584.2</u>	<u>582.3</u>	<u>581.8</u>
Water Catch, g	<u>116.1</u>	<u>162.4</u>	<u>179.2g</u>
<u>Reagent 2 (_____)</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
<u>Reagent 3 (_____)</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
CONDENSED WATER, g	<u>116.1</u>	<u>162.4</u>	<u>179.2g</u>
<u>Silica Gel</u>			
Final Weight, g	<u>220.8</u>	<u>216.2</u>	<u>216.6</u>
Tared Weight, g	<u>200.0</u>	<u>200.0</u>	<u>200.0</u>
Water Catch, g	<u>20.8</u>	<u>16.2</u>	<u>16.6</u>
TOTAL WATER COLLECTED, g	<u>136.9</u> ✓	<u>178.6</u> ✓	<u>195.8</u> ✓

Balance No. CA002 Type (✓) Triple Beam Electronic _____ Reagent Box 618

Balance located in stable, draft-free area (✓)? Yes No _____ (If "No," explain below.)

Comments _____ D 9

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 618 Assembly Date 4-16-98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OMS-LAKE City / State OKAHUMPKA, FL
 Sampling Location UNIT No. 2 INLET Method _____

Individual Tare of Reagent 200 (mg) (gm) of 0.1N H2SO4
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____
 Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
<u>2-I-M26-1</u>	<u>4/22/98</u>	<u>N/A</u>	<u>N/A</u>	<u>YES</u>	<u>e</u>	<u>4/22/98</u>	<u>60</u>	<u>YES</u>	<u>e</u>
				Filter Appearance* <u>N/A</u>					
				Reagent Appearance* <u>Clear</u>					
<u>2-I-M26-2</u>	<u>4/22/98</u>	<u>N/A</u>	<u>N/A</u>	<u>YES</u>	<u>e</u>	<u>4/22/98</u>	<u>35</u>	<u>YES</u>	<u>e</u>
				Filter Appearance* <u>N/A</u>					
				Reagent Appearance* <u>Clear</u>					
<u>2-I-M26-3</u>	<u>4/22/98</u>	<u>N/A</u>	<u>N/A</u>	<u>YES</u>	<u>e</u>	<u>4/22/98</u>	<u>60</u>	<u>YES</u>	<u>e</u>
				Filter Appearance* <u>N/A</u>					
				Reagent Appearance* <u>Clear</u>					
				Filter Appearance* _____					
				Reagent Appearance* _____					

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

MOISTURE ANALYTICAL RESULTS

Plant Name OMS-LAKE Job No. 10403
 City / State OKAHUMPKA, FL Sampling Loc. UNIT No. 2 OUTLET

Run Number	<u>2-0-M26-1</u>	<u>2-0-M26-2</u>	<u>2-0-M26-3</u>
Sampling Date	<u>4/20/98</u>	<u>4/20/98</u>	<u>4/20/98</u>
Analysis Date	<u>4/20/98</u>	<u>4/20/98</u>	<u>4/20/98</u>
Analyst	<u>(C)</u>	<u>(C)</u>	<u>(C)</u>

Reagent 1 (<u>0.1N H₂SO₄</u>)			
Final Weight, g	<u>863.3</u>	<u>831.6</u>	<u>852.2</u>
Tared Weight, g	<u>583.2</u>	<u>578.9</u>	<u>584.1</u>
Water Catch, g	<u>280.1</u>	<u>252.7</u>	<u>268.1</u>
Reagent 2 (_____)			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
Reagent 3 (_____)			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
CONDENSED WATER, g	<u>280.1</u>	<u>252.7</u>	<u>268.1</u>
Silica Gel			
Final Weight, g	<u>221.7</u>	<u>221.1</u>	<u>221.8</u>
Tared Weight, g	<u>200.0</u>	<u>200.0</u>	<u>200.0</u>
Water Catch, g	<u>21.7</u>	<u>21.1</u>	<u>21.8</u>
TOTAL WATER COLLECTED, g	<u>301.8</u> ✓	<u>231.6 273.8</u> ✓	<u>289.9</u> ✓

Balance No. CA002 Type (✓) Triple Beam Electronic _____ Reagent Box 618

Balance located in stable, draft-free area (✓)? Yes No _____ (If "No," explain below.)

Comments _____ D 11

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 618 Assembly Date 4-16-98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OMS-LAKE City / State OKAHUMPKA, FL
 Sampling Location UNIT No. 2 OUTLET Method _____

Individual Tare of Reagent 200 (m) (gm) of 0.1N H₂SO₄
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____
 Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
2-0-M26-1	4/21/98	N/A	N/A	YES	(C)	4/21/98	65	YES	(C)
				Filter Appearance* N/A					
				Reagent Appearance* Clear					
2-0-M26-2	4/21/98	N/A	N/A	YES	(C)	4/21/98	60	YES	(C)
				Filter Appearance* N/A					
				Reagent Appearance* Clear					
2-0-M26-3	4/21/98	N/A	N/A	YES	(C)	4/21/98	60	YES	(C)
				Filter Appearance* N/A					
				Reagent Appearance* Clear					
Filter Appearance* _____									
Reagent Appearance* _____									

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

Client OGDEN MARTIN SYSTEMS

Job No. 10403

Plant Name OMS - LAKE

City/State OKAHUMPKA, FL

Sampling Method (s) EPA 26 (EPA, NIOSH, etc.)

Container Type (v) Reagent Box Cooler Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0002723	4/16/98	1605	S	<i>[Signature]</i>	
	4/24/98	1026	B	<i>[Signature]</i>	Label Torn ^(w)
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody * S = Sealed By; B = Broken ** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact? **		
_____	_____	_____	Yes	No	N/A
Signature	Date	Time			

As Applicable:
All liquid levels at mark (v) Yes No (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:
TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

MOISTURE ANALYTICAL RESULTS

Plant Name OMS-LAKE Job No. 10403

City / State OKAHUMPKA, FL Sampling Loc. UNIT No. 2

Run Number M26-RB

Sampling Date 4/22/98

Analysis Date 4/22/98

Analyst GM

<u>Reagent 1 (0.1N H₂SO₄)</u>			
Final Weight, g	<u>587.5</u>		
Tared Weight, g	<u>N/A</u>		
Water Catch, g			
<u>Reagent 2 ()</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
<u>Reagent 3 ()</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
CONDENSED WATER, g	<u>N/A</u>		
<u>Silica Gel</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
TOTAL WATER COLLECTED, g	<u>N/A</u>		

Balance No. CA002 Type (✓) Triple Beam Electronic Reagent Box 0569

Balance located in stable, draft-free area (✓)? Yes No (If "No," explain below)

Comments _____ D 14

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 0569 Assembly Date 4-16-98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OMS-LAKE City / State OKAHUMPKA, FL
 Sampling Location UNIT No. 2 Method EPA 26
 Individual Tare of Reagent 800 (ml) (gm) of 0.1N H₂SO₄
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____
 Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
M26-RB	4/22/98	N/A	N/A	YES	Ⓢ	4/22/98	N/A	YES	Ⓢ
				Filter Appearance* <u>N/A</u>					
				Reagent Appearance* <u>N/A</u>					
				Filter Appearance* _____					
				Reagent Appearance* _____					
				Filter Appearance* _____					
				Reagent Appearance* _____					
				Filter Appearance* _____					
				Reagent Appearance* _____					

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____ D 15

RECORD OF CUSTODY, CONTAINER No. 0569

Client OGDEN MARTIN SYSTEMS

Job No. 10403

Plant Name OMS - LAKE

City/State OKAHUMPKA, FL

Sampling Method (s) EPA 26 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box Cooler Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0002974	4/16/98	16:05	S	<i>[Signature]</i>	
	4/22/98	09:20	B	<i>[Signature]</i>	LABEL TARS
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody * S = Sealed By; B = Broken ** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact? **	
_____	_____	_____	Yes ___	No ___ N/A ___
Signature	Date	Time		

As Applicable:
All liquid levels at mark (✓) Yes ___ No ___ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:
TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

Quanterra Incorporated
880 Riverside Parkway
West Sacramento, California 95605

916 373-5600 Telephone
916 372-1059 Fax

May 11, 1998

QUANTERRA INCORPORATED PROJECT NUMBER: 098821

PO NUMBER: 715-GM

Gary Mata
AirKinetics, Inc.
5932 Bolsa Avenue
Suite 105
Huntington Beach, CA 92649

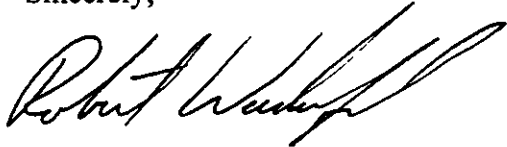
Dear Mr. Mata:

This report contains the analytical results for the thirteen airtrain samples which were received under chain of custody by Quanterra Incorporated on 24 and 25 April 1998.

The case narrative is an integral part of this report.

If you have any questions, please feel free to call.

Sincerely,



Robert Weidenfeld
Project Manager
Advanced Technology

RW/rr

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QUANTERRA INCORPORATED PROJECT NUMBER 098821

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Includes Sample: 1 through 7

Sample Data

Sample and QC Summary Sheets

Inorganics Acids by Ion Chromatography

Sample Preparation

Instrument Logs

Metals Emission from Stationary Sources

Includes Sample: 8 through 13

Sample Data

Inorganics Raw Data Package

Mercury

Instrument Logs

Sample Preparation/ Digestion Log Copies

CASE NARRATIVE

QUANTERRA INCORPORATED PROJECT NUMBER 098821

Mecury-The percent recovery for the matrix spike performed on sample -0013 was not calculated due to the high level of analyte in the sample compared to the spike concentration (greater than 4X).

HCl-Due to an instrument scheduling error, there were 11 injections between bracketing CCVs instead of the usual 10. All QC associated with this run are in control. The additional injection should not have an adverse impact on data quality.

There were no additional anomalies associated with this report.

QUANTERRA INCORPORATED QUALITY CONTROL PROGRAM

Quanterra has implemented an extensive Quality Control (QC) program to ensure the production of scientifically sound, legally defensible data of known documentable quality. This QC program is based upon requirements in "Test Methods for Evaluating Solid Waste", USEPA SW-846, Third Edition. It applies whenever SW-846 analytical methods are used. It also applies in whole or in part whenever project requirements fail to specify some aspect of QC practices described here. It does not apply when other well defined QC programs (e.g. CLP or CLP-like) are specified. This is Quanterra's base QC program for environmental analysis.

Definitions:

Quality Control Batch. The quality control (QC) batch is a set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.

Surrogate. A surrogate (or internal standard) is an organic compound similar in chemical behavior to the target analyte, but not normally found in environmental samples. Surrogates (or IS) are added to all samples in a batch to monitor the effects of both the matrix and the analytical process on accuracy.

Method Blank. A method blank (MB) is a control sample prepared using the same reagents used for the samples. As part of the QC batch, it accompanies the samples through all steps of the sample extraction and cleanup procedure. The method blank is used to monitor the level of contamination introduced to a batch of samples as a result of processing in the laboratory.

Laboratory Control Sample. A laboratory control sample (LCS) is prepared using a well characterized matrix (e.g., reagent water or Ottawa sand) that is spiked with known amounts of representative analytes. Alternate matrices (e.g., glass beads) may be used for soil analyses when Ottawa sand is not appropriate. As part of a QC batch, it accompanies the samples through all steps of the sample extraction and cleanup process. The LCS is used to monitor the accuracy of the analytical process independent of possible interference effects due to sample matrix.

Duplicate Control Sample. A duplicate laboratory control sample (DCS) consists of a pair of LCSs analyzed within the same QC batch to monitor precision and accuracy independent of sample matrix effects.

SAMPLE DESCRIPTION INFORMATION
for
AirKinetics, Inc.

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
098821-0001-SA	2-O-M26-1	AIRTRAIN	22 APR 98		24 APR 98
098821-0002-SA	2-O-M26-2	AIRTRAIN	22 APR 98		24 APR 98
098821-0003-SA	2-O-M26-3	AIRTRAIN	22 APR 98		24 APR 98
098821-0004-SA	2-I-M26-1	AIRTRAIN	22 APR 98		24 APR 98
098821-0005-SA	2-I-M26-2	AIRTRAIN	22 APR 98		24 APR 98
098821-0006-SA	2-I-M26-3	AIRTRAIN	22 APR 98		24 APR 98
098821-0007-SA	M26-RB	AIRTRAIN	22 APR 98		24 APR 98
098821-0008-SA	1-O-M29-1	AIRTRAIN	23 APR 98		24 APR 98
098821-0009-SA	1-O-M29-2	AIRTRAIN	23 APR 98		24 APR 98
098821-0010-SA	1-I-M29-1	AIRTRAIN	23 APR 98		24 APR 98
098821-0011-SA	1-I-M29-2	AIRTRAIN	23 APR 98		24 APR 98
098821-0012-SA	1-I-M29-3	AIRTRAIN	23 APR 98		25 APR 98
098821-0013-SA	1-O-M29-3	AIRTRAIN	23 APR 98		25 APR 98
098821-0013-MS	1-O-M29-3	AIRTRAIN	23 APR 98		25 APR 98



Environmental
Services

Volume

Method

Client Name: AirKinetics, Inc.
Matrix: AIRTRAIN
Units: ml

Received: 24 APR 98
Authorized: 24 APR 98

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed
098821-0001-SA	2-0-M26-1	700	NA	NA	05 APR 98
098821-0002-SA	2-0-M26-2	600	NA	NA	05 APR 98
098821-0003-SA	2-0-M26-3	700	NA	NA	05 APR 98
098821-0004-SA	2-I-M26-1	500	NA	NA	05 APR 98
098821-0005-SA	2-I-M26-2	600	NA	NA	05 MAY 98
098821-0006-SA	2-I-M26-3	700	NA	NA	05 APR 98
098821-0007-SA	M26-RB	198	NA	NA	01 MAY 98

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.

Rev 230787

D 22

0000020

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-I-M26-1
Lab ID: 098821-0004-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98
Prepared: See Below

Received: 24 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	1890	mg/sample	128	EPA 26A (MOD)	NA	05 MAY 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-I-M26-2
Lab ID: 098821-0005-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98 Received: 24 APR 98
Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	1560	mg/sample	154	EPA 26A (MOD)	NA	05 MAY 98

Note 0 : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-I-M26-3
Lab ID: 098821-0006-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98
Prepared: See Below

Received: 24 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	1380	mg/sample	180	EPA 26A (MOD)	NA	05 MAY 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-0-M26-1
Lab ID: 098821-0001-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98
Prepared: See Below

Received: 24 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	26.8	mg/sample	1.8	EPA 26A (MOD)	NA	05 MAY 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-0-M26-2
Lab ID: 098821-0002-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98
Prepared: See Below

Received: 24 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	23.5	mg/sample	3.1	EPA 26A (MOD)	NA	05 MAY 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-O-M26-3
Lab ID: 098821-0003-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98 Received: 24 APR 98
Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	24.3	mg/sample	1.8	EPA 26A (MOD)	NA	05 MAY 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: M26-RB
Lab ID: 098821-0007-SA
Matrix: AIRTRAIN
Authorized: 24 APR 98

Sampled: 22 APR 98
Prepared: See Below

Received: 24 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Chloride, as HCl	ND	mg/sample	0.10	EPA 26A (MOD)	NA	05 MAY 98

ND = Not detected
NA = Not applicable

Reported By: Kuldip Hundal

Approved By: Josefina Jones

The cover letter is an integral part of this report.
Rev 230787

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: 715 - GM JOB NAME: OMS - Lake
 LABORATORY: Quanterra Environ. Services JOB No.: 10403
 DATE SAMPLES WERE TRANSMITTED: 23-Apr-98 EXPECTED DATE OF RESULTS: 14-May-98
 SAMPLE MATRIX: 0.1N H2SO4

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 26 for HCl. Please use the volumes listed below for each sample. A full data package is required for this project. Please return shipping containers in a timely manner.

Sample / Run ID #	Sample Collection Date	Sample Components	Samples Volumes To	Condition of Samples
2-O-M26-1	04/22/98	Imp. Contents	700ml	<i>Rec'd in good condition</i>
2-O-M26-2	04/22/98	Imp. Contents	600ml	
2-O-M26-3	04/22/98	Imp. Contents	700ml	
2-I-M26-1	04/22/98	Imp. Contents	500ml	
2-I-M26-2	04/22/98	Imp. Contents	600ml	
2-I-M26-3	04/22/98	Imp. Contents	700ml	
M26-RB	04/22/98	Imp. Contents	need to volume	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: *Hay Mts* Date/Time: 04/23/98 17:00

Transported by: FedEx Date/Time: 04/23/98

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: *McD...* Date/Time: 04/24/98 @ 1135

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (LCS/BLANK)
098821-0001-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A
098821-0002-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A
098821-0003-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A
098821-0004-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A
098821-0005-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A
098821-0006-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A
098821-0007-SA	AQUEOUS	E26-IC-AIR	05 MAY 98-AX	05 MAY 98-A

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 098821

Test: EPA26-ACIDS-IC-AIR
Method: EPA 26A (MOD)
Matrix: AQUEOUS
QC Lot: 05 MAY 98-AX
Analyzed: 05 MAY 98

Inorganic Acids by Ion Chromatography

QC Run: 05 MAY 98-A
Time: 12:42

Analyte	Result	Units	Reporting Limit	Qualifier
Chloride, as HCl	ND	mg/sample	0.51	

ND = Not Detected

LABORATORY CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 098821

Category: E26-IC-AIR Ion Chromatography Inorganics

Test: EPA26-ACIDS-IC-AIR

Matrix: AQUEOUS

QC Lot: 05 MAY 98-AX

QC Run: 05 MAY 98-A

Concentration Units: mg/L

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	LCS	Limits
Chloride	5.00	4.83	97	85-115

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
 W. Chemistry Analysis and Preparation
 Project: 098821

Category: E26-IC-AIR Ion Chromatography Inorganics
 Test : EPA26-ACIDS-IC-AIR
 Matrix : AQUEOUS
 Sample : 098821-0002
 MS Run : 05 MAY 98-AA
 Units : mg/sample

Method: EPA 26A (MOD)

Analyte	-----Concentration-----		Amount Spiked		%Recovery		%RPD		Acceptance
	Sample Result	MS Result	MSD Result	MS	MSD	MS	MSD	RPD	Limit Recov. RPD
Chloride	23.5 o	56.3	56.2	30.8	30.8	106	106	0.18	85-115 15

o = Reporting limit(s) raised due to high level of analyte present in sample.

C. Calculations are performed before rounding to avoid round-off errors in calculated results.

APPENDIX D
ANALYTICAL DATA
3.0 MERCURY

MOISTURE ANALYTICAL RESULTS

Plant Name OGDEN - LAKE Job No. 10403
 City / State OKAHUMPKA, FL Sampling Loc. UNIT No. 2 ^(W) INLET

Run Number	<u>2-I-M29-1</u>	<u>2-I-M29-2</u>	<u>2-I-M29-3</u>
Sampling Date	<u>4/21/98</u>	<u>4/21/98</u>	<u>4/21/98</u>
Analysis Date	<u>4/21/98</u>	<u>4/21/98</u>	<u>4/21/98</u>
Analyst	<u>(W)</u>	<u>(W) : TW</u>	<u>(W)</u>

<u>Reagent 1 (5% HNO₃ / 10% H₂O₂)</u>			
Final Weight, g	<u>488.0</u>	<u>496.3</u>	<u>467.2</u>
Tared Weight, g	<u>273.2</u>	<u>271.5</u>	<u>271.0</u>
Water Catch, g	<u>214.8</u>	<u>224.8</u>	<u>196.2</u>
<u>Reagent 2 (4% K₂Cr₂O₇ / 10% H₂SO₄)</u>			
Final Weight, g	<u>601.0</u>	<u>613.5</u>	<u>615.1</u>
Tared Weight, g	<u>600.9</u>	<u>613.5</u>	<u>611.9</u>
Water Catch, g	<u>0.1</u>	<u>0</u>	<u>3.2</u>
<u>Reagent 3 (EMPTY IMPINGER)</u>			
Final Weight, g	<u>35.0</u>	<u>33.7</u>	<u>36.2</u>
Tared Weight, g	<u>30.4</u>	<u>30.3</u>	<u>30.3</u>
Water Catch, g	<u>4.6</u>	<u>3.4</u>	<u>5.9</u>
CONDENSED WATER, g	<u>219.5</u>	<u>228.2</u>	<u>205.3</u>
<u>Silica Gel</u>			
Final Weight, g	<u>216.0</u>	<u>215.0</u>	<u>214.6</u>
Tared Weight, g	<u>200.0</u>	<u>200.0</u>	<u>200.0</u>
Water Catch, g	<u>16.0</u>	<u>15.0</u>	<u>14.6</u>
TOTAL WATER COLLECTED, g	<u>235.5</u>	<u>243.2</u>	<u>219.9</u>

Balance No. CA002 Type Triple Beam Electronic Reagent Box 219
 Balance located in stable, draft-free area (✓)? Yes No (If "No," explain below.)

Comments _____

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FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 219 Assembly Date 4/9/98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OGDEN - LAKE City / State OKA HUMPKA, FL
 Sampling Location UNIT No. 2 INLET Method EPA 29
 Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂
 Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____
 Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
2-I-1129-1	4/21/98	N/A	N/A	YES	(C)	4/21/98	80	YES	(C)
				Filter Appearance*					
				<u>heavy Particulate</u>					
				Reagent Appearance*					
				<u>Clear, 5 Purple</u>					
2-I-1129-2	4/21/98	N/A	N/A	YES	(C)	4/21/98	75%	Yes	JW
				Filter Appearance*					
				<u>heavy Particulate</u>					
				Reagent Appearance*					
				<u>Clear + Purple</u>					
2-I-1129-3	4/21/98	N/A	N/A	YES	(C)	4/21/98	80	YES	(C)
				Filter Appearance*					
				<u>heavy Particulate</u>					
				Reagent Appearance*					
				<u>Clear + Purple</u>					
				Filter Appearance*					
				Reagent Appearance*					

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 37

Client OGDEN MARTIN SYSTEMS

Job No. 10403

Plant Name OMS-LAKE

City/State OKAHUMPKA, FL

Sampling Method (s) EPA 29 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box Cooler Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0002297	4/9/98	13:54	S	<i>Harry Mote</i>	
	4/20/98	17:43	B	<i>Harry Mote</i>	Change train
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody * S = Sealed By; B = Broken ** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?***		
_____	_____	_____	Yes	No	N/A
Signature	Date	Time			

As Applicable:
All liquid levels at mark (✓) Yes ___ No ___ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:
TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

MOISTURE ANALYTICAL RESULTS

Plant Name OGDEN - LAKE Job No. 10403
 City / State OKAHUMPKA, FL Sampling Loc. UNIT No. 2 OUTLET

Run Number	<u>2-0-M29-1</u>	<u>2-0-M29-2</u>	<u>2-0-M29-3</u>
Sampling Date	<u>4/21/98</u>	<u>4/21/98</u>	<u>4/21/98</u>
Analysis Date	<u>4/21/98</u>	<u>4/21/98</u>	<u>4/21/98</u>
Analyst	<u>W</u>	<u>W:TW</u>	<u>JW:GM</u>

<u>Reagent 1 (5% HNO₃ / 10% H₂O₂)</u>			
Final Weight, g	<u>553.8</u>	<u>535.6</u>	<u>518.3</u> <u>496.5</u>
Tared Weight, g	<u>272.0</u>	<u>269.5</u>	<u>273.9</u>
Water Catch, g	<u>281.8</u>	<u>266.1</u>	<u>272.4</u> <u>244.4</u>
<u>Reagent 2 (4% KMnO₄ / 10% H₂SO₄)</u>			
Final Weight, g	<u>610.2</u>	<u>604.9</u>	<u>610.2</u>
Tared Weight, g	<u>610.2</u>	<u>604.7</u>	<u>610.0</u>
Water Catch, g	<u>0.0</u>	<u>0.2</u>	<u>0.2</u>
<u>Reagent 3 (EMPTY IMPINGER)</u>			
Final Weight, g	<u>34.5</u>	<u>29.9</u>	<u>34.1</u>
Tared Weight, g	<u>29.6</u>	<u>29.9</u>	<u>30.0</u>
Water Catch, g	<u>4.9</u>	<u>0</u>	<u>4.1</u>
CONDENSED WATER, g	<u>286.7</u>	<u>266.3</u>	<u>248.7</u>
<u>Silica Gel</u>			
Final Weight, g	<u>211.8</u>	<u>219.7</u>	<u>211.5</u>
Tared Weight, g	<u>200.0</u>	<u>200.0</u>	<u>200.0</u>
Water Catch, g	<u>11.8</u>	<u>19.7</u>	<u>11.5</u>
TOTAL WATER COLLECTED, g	<u>298.5</u>	<u>286.0</u>	<u>260.2</u>

Balance No. CA002 Type (✓) Triple Beam Electronic _____ Reagent Box 207
 Balance located in stable, draft-free area (✓)? Yes No _____ (If "No," explain below.)

Comments _____ B 39

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 207 Assembly Date 4/19/98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OGDEN - LAKE City / State OKA HUMPKA, FL
 Sampling Location UNIT No. 2 OUTLET Method EPA 29
 Individual Tare of Reagent 200 (ml) (gm) of 52 HNO₃ / 102 H₂O₂
 Individual Tare of Reagent 200 (ml) (gm) of 42 KMnO₄ / 102 H₂SO₄
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____ Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
2-0-m29-1	4/21/98	N/A	N/A	YES	Ⓢ	4/21/98	80	YES	Ⓢ
				Filter Appearance*					
				<u>Clean</u>					
				Reagent Appearance*					
				<u>Clear & Purple</u>					
2-0-m29-2	4/21/98	N/A	N/A	YES	Ⓢ	4/21/98	75	YES	Ⓢ
				Filter Appearance*					
				<u>Clean</u>					
				Reagent Appearance*					
				<u>Clear & Purple</u>					
2-0-m29-3	4/21/98	N/A	N/A	YES	Ⓢ	4/21/98	80	YES	Ⓢ
				Filter Appearance*					
				<u>Clean</u>					
				Reagent Appearance*					
				<u>Clear & Purple</u>					
				Filter Appearance*					
				Reagent Appearance*					

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. 207

Client OGDEN MARTIN SYSTEMS

Job No. 10403

Plant Name OMS-LAKE

City/State OKAHUMPKA, FL

Sampling Method (s) EPA 29 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box Cooler Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0002182	4/9/98	13:59	S	<i>Harry Mote</i>	
	4/20/98	17:34	B	<i>Harry Mote</i>	Change trains
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody * S = Sealed By; B = Broken ** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact? **		
_____	_____	_____	Yes	No	N/A
Signature	Date	Time			

As Applicable:
All liquid levels at mark (✓) Yes ___ No ___ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:
TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

MOISTURE ANALYTICAL RESULTS

Plant Name OMS-LAKE Job No. 10403
 City / State OKAHUMPKA, FL Sampling Loc. N/A

Run Number	<u>M29-FB</u>	<u>M29-RB</u>	
Sampling Date	<u>4/21/98</u>	<u>4/21/98</u>	
Analysis Date	<u>4/21/98</u>	<u>4/21/98</u>	
Analyst	<u>GM</u>	<u>GM</u>	

<u>Reagent 1 (5% HNO₃ / 10% H₂O₂)</u>			
Final Weight, g			
Tared Weight, g	<u>269.5</u>	<u>270.0</u>	
Water Catch, g	<u>N/A</u>	<u>N/A</u>	
<u>Reagent 2 (4% KMnO₄ / 10% H₂SO₄)</u>			
Final Weight, g			
Tared Weight, g	<u>598.5</u>	<u>602.8</u>	
Water Catch, g	<u>N/A</u>	<u>N/A</u>	
<u>Reagent 3 (EMPTY IMPINGER)</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g	<u>N/A</u>	<u>N/A</u>	
CONDENSED WATER, g	<u>N/A</u>	<u>N/A</u>	
<u>Silica Gel</u>			
Final Weight, g			
Tared Weight, g			
Water Catch, g	<u>N/A</u>	<u>N/A</u>	
TOTAL WATER COLLECTED, g	<u>N/A</u>	<u>N/A</u>	

Balance No. CA002 Type Triple Beam Electronic Reagent Box C17
 Balance located in stable, draft-free area Yes No (If "No," explain below.)

Comments _____

D 42

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C17 Assembly Date 4-16-98 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10403
 Plant OMS-LAKE City / State OKAHUMPKA, FL
 Sampling Location N/A Method EPA 29

Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂
 Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____
 Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
M29-FB	4/21/98	N/A	N/A	YES	Ⓢ	4/21/98	N/A	YES	Ⓢ

Filter Appearance*

N/A

Reagent Appearance*

N/A

M29-RB	4/21/98	N/A	N/A	YES	Ⓢ	4/21/98	N/A	YES	Ⓢ
--------	---------	-----	-----	-----	---	---------	-----	-----	---

Filter Appearance*

N/A

Reagent Appearance*

N/A

--	--	--	--	--	--	--	--	--	--

Filter Appearance*

Reagent Appearance*

--	--	--	--	--	--	--	--	--	--

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

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RECORD OF CUSTODY, CONTAINER No. C17

Client OGDEN MARTIN SYSTEMS Job No. 10403

Plant Name OMS - LAKE

City/State OKAHUMPKA, FL

Sampling Method (s) EPA 29 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box Cooler Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0002318	4/16/98	16:17	S	<i>[Signature]</i>	
	4/21/98	07:09	B	<i>[Signature]</i>	Change trains
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody * S = Sealed By; B = Broken ** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?***	
_____	_____	_____	Yes ___	No ___ N/A ___
Signature	Date	Time		

As Applicable:
All liquid levels at mark (✓) Yes ___ No ___ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:
TUBE SAMPLES put in freezer by _____ Date _____ Time _____
CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

SAMPLE DESCRIPTION INFORMATION
for
AirKinetics, Inc.

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
098755-0001-SA	M29-FB	AIRTRAIN	21 APR 98		22 APR 98
098755-0002-SA	M29-RB	AIRTRAIN	21 APR 98		22 APR 98
098755-0003-SA	2-0-M29-1	AIRTRAIN	21 APR 98		22 APR 98
098755-0004-SA	2-0-M29-2	AIRTRAIN	21 APR 98		22 APR 98
098755-0004-MS	2-0-M29-2	AIRTRAIN	21 APR 98		22 APR 98
098755-0005-SA	2-I-M29-1	AIRTRAIN	21 APR 98		22 APR 98
098755-0006-SA	2-I-M29-2	AIRTRAIN	21 APR 98		22 APR 98
098755-0007-SA	2-I-M29-3	AIRTRAIN	21 APR 98		23 APR 98
098755-0008-SA	2-0-M29-3	AIRTRAIN	21 APR 98		23 APR 98

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
 Client ID: 2-I-M29-1
 Lab ID: 098755-0005-SA
 Matrix: AIRTRAIN
 Authorized: 22 APR 98

Sampled: 21 APR 98
 Prepared: See Below

Received: 22 APR 98
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, FH	411	ug/sample	15.0	7471	23 APR 98	24 APR 98 o
Mercury, BH	1400	ug/Sample	60.1	7471	22 APR 98	23 APR 98 o
Mercury, HCL	0.85	ug/Sample	0.10	7471	27 APR 98	27 APR 98
Mercury, Condensate	5.5	ug/sample	0.20	7471	22 APR 98	23 APR 98 o
Mercury, KMNO4	8.3	ug/Sample	0.20	7471	23 APR 98	24 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
 NA = Not applicable

Reported By: Marilyn Toomey

Approved By: Mei Lai

The cover letter is an integral part of this report.
 Rev 230787

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-I-M29-2
Lab ID: 098755-0006-SA
Matrix: AIRTRAIN
Authorized: 22 APR 98

Sampled: 21 APR 98
Prepared: See Below

Received: 22 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, FH	174	ug/sample	6.0	7471	23 APR 98	24 APR 98 o
Mercury, BH	890	ug/Sample	61.4	7471	22 APR 98	23 APR 98 o
Mercury, HCL	1.6	ug/Sample	0.10	7471	23 APR 98	24 APR 98
Mercury, Condensate	6.9	ug/sample	0.21	7471	22 APR 98	23 APR 98 o
Mercury, KMNO4	12.9	ug/Sample	0.50	7471	22 APR 98	23 APR 98 o

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
NA = Not applicable

Reported By: Marilyn Toomey

Approved By: Barry Votaw

The cover letter is an integral part of this report.
Rev 230787

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
 Client ID: 2-I-M29-3
 Lab ID: 098755-0007-SA
 Matrix: AIRTRAIN
 Authorized: 22 APR 98

Sampled: 21 APR 98
 Prepared: See Below

Received: 23 APR 98
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, FH	95.2	ug/sample	3.0	7471	23 APR 98	24 APR 98 o
Mercury, BH	777	ug/Sample	22.1	7471	23 APR 98	24 APR 98 o
Mercury, HCL	2.0	ug/Sample	0.10	7471	27 APR 98	27 APR 98
Mercury, Condensate	4.4	ug/sample	0.10	7471	23 APR 98	24 APR 98 o
Mercury, KMNO4	2.9	ug/Sample	0.10	7471	23 APR 98	24 APR 98

Note o : Reporting limit(s) raised due to high level of analyte present in sample.

ND = Not detected
 NA = Not applicable

Reported By: Marilyn Toomey

Approved By: Mei Lai

The cover letter is an integral part of this report.
 Rev 230787



Environmental
Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-0-M29-1
Lab ID: 098755-0003-SA
Matrix: AIRTRAIN
Authorized: 22 APR 98

Sampled: 21 APR 98
Prepared: See Below

Received: 22 APR 98
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, FH	0.045	ug/sample	0.030	7471	23 APR 98	24 APR 98
Mercury, BH	11.0	ug/Sample	1.4	7471	22 APR 98	23 APR 98
Mercury, HCL	ND	ug/Sample	0.10	7471	27 APR 98	27 APR 98
Mercury, Condensate	0.026	ug/sample	0.020	7471	22 APR 98	23 APR 98
Mercury, KMNO4	0.15	ug/Sample	0.10	7471	23 APR 98	24 APR 98

ND = Not detected
NA = Not applicable

Reported By: Marilyn Toomey

Approved By:

The cover letter is an integral part of this report.

Rev 230787

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
 Client ID: 2-0-M29-2
 Lab ID: 098755-0004-SA
 Matrix: AIRTRAIN
 Authorized: 22 APR 98

Sampled: 21 APR 98
 Prepared: See Below

Received: 22 APR 98
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, FH	0.047	ug/sample	0.030	7471	23 APR 98	24 APR 98
Mercury, BH	25.4	ug/Sample	1.3	7471	22 APR 98	23 APR 98
Mercury, HCL	0.12	ug/Sample	0.10	7471	23 APR 98	24 APR 98
Mercury, Condensate	ND	ug/sample	0.019	7471	22 APR 98	23 APR 98
Mercury, KMNO4	0.21	ug/Sample	0.10	7471	22 APR 98	23 APR 98

ND = Not detected
 NA = Not applicable

Reported By: Marilyn Toomey

Approved By: Barry Votaw

The cover letter is an integral part of this report.
 Rev 230787

Metals Emissions From Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-O-M29-2
Lab ID: 098755-0004-MS
Matrix: AIRTRAIN
Authorized: 22 APR 98

Sampled: 21 APR 98 Received: 22 APR 98
Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, BH	30.9	ug/Sample	6.5	7471	22 APR 98	23 APR 98

ND = Not detected
NA = Not applicable

Reported By: Marilyn Toomey

Approved By: Mei Lai

The cover letter is an integral part of this report.
Rev 230787

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
 Client ID: 2-0-M29-3
 Lab ID: 098755-0008-SA
 Matrix: AIRTRAIN
 Authorized: 22 APR 98

Sampled: 21 APR 98
 Prepared: See Below

Received: 23 APR 98
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Mercury, FH	0.061	ug/sample	0.030	7471	23 APR 98	24 APR 98
Mercury, BH	27.4	ug/Sample	1.3	7471	23 APR 98	24 APR 98 G
Mercury, HCL	0.13	ug/Sample	0.10	7471	27 APR 98	27 APR 98
Mercury, Condensate	0.063	ug/sample	0.020	7471	23 APR 98	24 APR 98
Mercury, KMN04	0.11	ug/Sample	0.10	7471	23 APR 98	24 APR 98

Note G : Reporting limit(s) raised due to matrix interference.

ND = Not detected
 NA = Not applicable

Reported By: Marilyn Toomey

Approved By: Mei Lai

The cover letter is an integral part of this report.
 Rev 230787

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (LCS/BLANK)
098755-0001-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0001-SA	AQUEOUS	HG-TRC-G	22 APR 98-T	22 APR 98-T
098755-0002-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0002-SA	AQUEOUS	HG-TRC-G	22 APR 98-T	22 APR 98-T
098755-0003-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0003-SA	AQUEOUS	HG-TRC-G	22 APR 98-T	22 APR 98-T
098755-0003-SA	AQUEOUS	HG-TRC-G	27 APR 98-T	27 APR 98-T
098755-0004-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0004-SA	AQUEOUS	HG-TRC-G	22 APR 98-T	22 APR 98-T
098755-0005-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0005-SA	AQUEOUS	HG-TRC-G	22 APR 98-T	22 APR 98-T
098755-0005-SA	AQUEOUS	HG-TRC-G	27 APR 98-T	27 APR 98-T
098755-0006-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0006-SA	AQUEOUS	HG-TRC-G	22 APR 98-T	22 APR 98-T
098755-0007-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0007-SA	AQUEOUS	HG-TRC-G	27 APR 98-T	27 APR 98-T
098755-0008-SA	AQUEOUS	HG-TRC-G	23 APR 98-T	23 APR 98-T
098755-0008-SA	AQUEOUS	HG-TRC-G	27 APR 98-T	27 APR 98-T

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: HG-CVAA-FH-AIRTRAIN Matrix: AIRTRAIN QC Lot: 23 APR 98-T QC Run: 23 APR 98-T			
Mercury, FH	ND	ug/sample	0.20
Test: HG-CVAA-BH-AIRTRAIN Matrix: AIRTRAIN QC Lot: 22 APR 98-T QC Run: 22 APR 98-T			
Mercury, BH	ND	ug/Sample	0.20
Test: HG-CVAA-COND-AIRTR Matrix: AIRTRAIN QC Lot: 22 APR 98-T QC Run: 22 APR 98-T			
Mercury, Condensate	ND	ug/sample	0.20
Test: HG-CVAA-KMNO4-AIRTRA Matrix: AIRTRAIN QC Lot: 22 APR 98-T QC Run: 22 APR 98-T			
Mercury, KMNO4	ND	ug/Sample	0.20
Test: HG-CVAA-HCL-AIRTRAIN Matrix: AIRTRAIN QC Lot: 23 APR 98-T QC Run: 23 APR 98-T			
Mercury, HCL	ND	ug/Sample	0.20
Test: HG-CVAA-KMNO4-AIRTRA Matrix: AIRTRAIN QC Lot: 23 APR 98-T QC Run: 23 APR 98-T			
Mercury, KMNO4	ND	ug/Sample	0.20

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)

Analyte	Result	Units	Reporting Limit
Test: HG-CVAA-HCL-AIRTRAIN Matrix: AIRTRAIN QC Lot: 27 APR 98-T QC Run: 27 APR 98-T			
Mercury, HCL	ND	ug/Sample	0.20
Test: HG-CVAA-BH-AIRTRAIN Matrix: AIRTRAIN QC Lot: 23 APR 98-T QC Run: 23 APR 98-T			
Mercury, BH	ND	ug/Sample	0.20
Test: HG-CVAA-COND-AIRTR Matrix: AIRTRAIN QC Lot: 23 APR 98-T QC Run: 23 APR 98-T			
Mercury, Condensate	ND	ug/sample	0.20

DUPLICATE CONTROL SAMPLE REPORT
 Metals Analysis and Preparation

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1	DCS2		DCS	Limits	DCS	Limit
Category: HG-TRC-G								
Matrix: AQUEOUS								
QC Lot: 23 APR 98-T								
Concentration Units: ug/L								
Mercury	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, BH	1.0	1.02	1.06	1.04	104	80-120	3.7	20.0
Mercury, Condensate	1.0	1.02	1.06	1.04	104	80-120	3.7	20.0
Mercury, FH	1.0	1.02	1.06	1.04	104	80-120	3.7	20.0
Mercury, FHBH	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, HCL	1.0	1.02	1.06	1.04	104	80-120	3.7	20.0
Mercury, KMNO4	1.0	1.02	1.06	1.04	104	80-120	3.7	20.0

Category: HG-TRC-G
 Matrix: AQUEOUS
 QC Lot: 22 APR 98-T
 Concentration Units: ug/L

Mercury	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, BH	1.0	1.02	1.00	1.01	101	80-120	2.5	20.0
Mercury, Condensate	1.0	1.02	1.00	1.01	101	80-120	2.5	20.0
Mercury, FH	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, FHBH	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, HCL	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, KMNO4	1.0	1.02	1.00	1.01	101	80-120	2.5	20.0

Category: HG-TRC-G
 Matrix: AQUEOUS
 QC Lot: 27 APR 98-T
 Concentration Units: ug/L

Mercury	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, BH	1.0	1.04	1.01	1.03	103	80-120	3.1	20.0
Mercury, Condensate	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, FH	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, FHBH	1.0	NA	NA	NC	NC	80-120	NC	20.0
Mercury, HCL	1.0	1.04	1.01	1.03	103	80-120	3.1	20.0
Mercury, KMNO4	1.0	1.04	1.01	1.03	103	80-120	3.1	20.0

The analyte was positively identified, the quantitation is an estimation.

NC = Not calculated, calculation not applicable.

The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria.

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
Metals Analysis and Preparation

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX SPIKE	HG-CVAA-BH-AIRTRAIN	098755-0004-MS	22 APR 98-T

MATRIX SPIKE REPORT
Metals Analysis and Preparation

Analyte	Sample	Concentration Matrix Spike	Amount Spiked	% Rec
Test: HG-CVAA-BH-AIRTRAIN				
Matrix AIRTRAIN				
Sample: 098755-0004				
Units: ug/Sample				
Mercury, BH	25.4	30.9	6.5	84.6

All calculations are performed before rounding to avoid round-off errors in calculated results.

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: 715 - GM JOB NAME: OMS - Lake

LABORATORY: Quanterra Environ. Services JOB No.: 10403

DATE SAMPLES WERE TRANSMITTED: 21-Apr-98 EXPECTED DATE OF RESULTS: 23-Apr-98

SAMPLE MATRIX: 5% HNO3/10% H2O2, 4% KMnO4/10% H2SO4, 0.1N HNO3 and 8N HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for mercury only. A quick turnaround time of 24 hours is requested (please contact Robert Weidenfeld for details). A full data package will be required with final results. Please return shipping boxes in a timely manner.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-O-M29-1	04/21/98	Front Half Rinse	0.1N HNO3	good ↓ NOT rec'd with 4/22 shipment. good
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
		8N HCl Rinse	8N HCl w/DI H2O	
2-O-M29-2	04/21/98	Front Half Rinse	0.1N HNO3	good ↓ NOT rec'd with 4/22 shipment. good
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
		8N HCl Rinse	8N HCl w/DI H2O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: [Signature] Date/Time: 4/21/98 18:25

Transported by: FedEx Date/Time: 4/21/98

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: [Signature] Date/Time: 042298 @ 1135

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: 715 - GM JOB NAME: OMS - Lake

LABORATORY: Quanterra Environ. Services JOB No.: 10403

DATE SAMPLES WERE TRANSMITTED: 21-Apr-98 EXPECTED DATE OF RESULTS: 23-Apr-98

SAMPLE MATRIX: 5% HNO3/10% H2O2, 4% KMnO4/10% H2SO4, 0.1N HNO3 and 8N HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for mercury only. A quick turnaround time of 24 hours is requested (please contact Robert Weidenfeld for details). A full data package will be required with final results. Please return shipping boxes in a timely manner.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
M29 - FB	04/21/98	Front Half Rinse	0.1N HNO3	good
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
8N HCl Rinse	8N HCl w/DI H2O			
M29 - RB	04/21/98	Front Half Rinse	0.1N HNO3	
		Filter	Filter	
		Back Half	HNO3/H2O2	
		KMnO4	KMnO4/H2SO4	
		8N HCl Rinse	8N HCl w/DI H2O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: *Nancy M...* Date/Time: 4/21/98 18:25

Transported by: FedEx Date/Time: 4/21/98

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: *[Signature]* Date/Time: 042298 @ 1135

B 60

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: 715 - GM JOB NAME: OMS - Lake

LABORATORY: Quanterra Environ. Services JOB No.: 10403

DATE SAMPLES WERE TRANSMITTED: 21-Apr-98 EXPECTED DATE OF RESULTS: 23-Apr-98

SAMPLE MATRIX: 5% HNO3/10% H2O2, 4% KMnO4/10% H2SO4, 0.1N HNO3 and 8N HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for mercury only. A quick turnaround time of 24 hours is requested (please contact Robert Weidenfeld for details). A full data package will be required with final results. Please return shipping boxes in a timely manner.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-1-M29-1	04/21/98	Front Half Rinse	0.1N HNO3	Good ↓ Not rec'd with 4/22 shipment Good ↓ MCA 04/22/98
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
2-1-M29-2	04/21/98	8N HCl Rinse	8N HCl w/DI H2O	
		Front Half Rinse	0.1N HNO3	
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
		8N HCl Rinse	8N HCl w/DI H2O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: [Signature] Date/Time: 4/21/98 18:25

Transported by: FedEx Date/Time: 4/21/98

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: [Signature] Date/Time: 042298 @ 1135

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: 715 - GM JOB NAME: OMS - Lake

LABORATORY: Quanterra Environ. Services JOB No.: 10403

DATE SAMPLES WERE TRANSMITTED: 22-Apr-98 EXPECTED DATE OF RESULTS: 24-Apr-98

SAMPLE MATRIX: 5% HNO3/10% H2O2, 4% KMnO4/10% H2SO4, 0.1N HNO3 and 8N HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for mercury only. A quick turnaround time of 24 hours is requested (please contact Robert Weidenfeld for details). A full data package will be required with final results. Please return shipping boxes in a timely manner.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-I-M29-3	04/21/98	Front Half Rinse	0.1N HNO3	
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
		8N HCl Rinse	8N HCl w/DI H2O	
2-O-M29-3	04/21/98	Front Half Rinse	0.1N HNO3	
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
		8N HCl Rinse	8N HCl w/DI H2O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: *Harry M...* Date/Time: 04/22/98 17:00

Transported by: FedEx Date/Time: 04/28/98

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: _____ Date/Time: _____

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

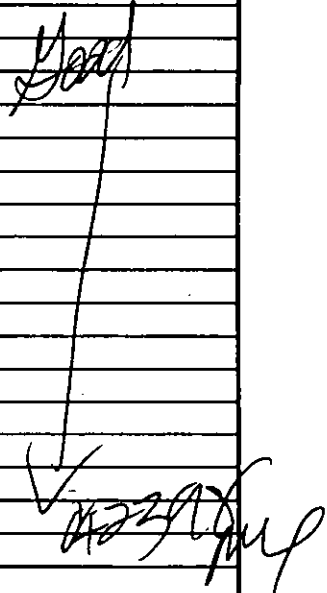
PURCHASE ORDER No.: 715 - GM JOB NAME: OMS - Lake

LABORATORY: Quanterra Environ. Services JOB No.: 10403

DATE SAMPLES WERE TRANSMITTED: 22-Apr-98 EXPECTED DATE OF RESULTS: 24-Apr-98

SAMPLE MATRIX: 5% HNO3/10% H2O2, 4% KMnO4/10% H2SO4, 0.1N HNO3 and 8N HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for mercury only. A quick turnaround time of 24 hours is requested (please contact Robert Weidenfeld for details). A full data package will be required with final results. Please return shipping boxes in a timely manner.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-I-M29-3	04/21/98	Front Half Rinse	0.1N HNO3	
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
8N HCl Rinse	8N HCl w/DI H2O			
2-O-M29-3	04/21/98	Front Half Rinse	0.1N HNO3	
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	
8N HCl Rinse	8N HCl w/DI H2O			

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by:  Date/Time: 04/22/98 17:00

Transported by: FedEx Date/Time: 04/28/98

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by:  Date/Time: 042398 10:45

Reed in good

APPENDIX E
EQUIPMENT CALIBRATION RECORDS

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS INC,

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE GMIS	vs. 2745	282185	14.01 %

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	CARBON DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E	S/N A12-730
ANALYTICAL PRINCIPLE	NDIR			LAST CALIBRATION DATE	03/13/98
FIRST ANALYSIS DATE	03/27/98			SECOND ANALYSIS DATE	
Z 0.00	R 14.00	C 10.94	CONC. 10.95	Z	R C CONC.
R 14.01	Z 0.00	C 10.94	CONC. 10.94	R	Z C CONC.
Z 0.00	C 10.94	R 13.98	CONC. 10.96	Z	C R CONC.
U/M %		MEAN TEST ASSAY	10.95 %	U/M %	MEAN TEST ASSAY

Values not valid below 150 psig

THIS CYLINDER NO.	SA 17866	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R97/121	CARBON DIOXIDE 10.95 %
OF TRACEABILITY PROTOCOL NO.	Rev. 9/97	NITROGEN BALANCE
PROCEDURE	G1	
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE	
CYLINDER PRESSURE	2000 PSIG	
CERTIFICATION DATE	03/27/98	
EXPIRATION DATE	03/27/01	TERM 36 MONTHS

ANALYZED BY

JOSEPH CHARLES

CERTIFIED BY

PHU TIEN NGUYEN

IMPORTANT

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.



Praxair
 5700 South Alameda Street
 Los Angeles, CA 90058
 Telephone: (213) 585-2154
 Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER 621-WJ

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE GMIS	vs 2745	282185	14.01 %

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	CARBON DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E	S/N A12-730
ANALYTICAL PRINCIPLE			LAST CALIBRATION DATE		
FIRST ANALYSIS DATE			SECOND ANALYSIS DATE		
Z 0.00	R 14.00	C 17.38	CONC. 17.39 %	Z	R
R 14.01	Z 0.00	C 17.40	CONC. 17.40 %	R	Z
Z 0.00	C 17.48	R 14.08	CONC. 17.39 %	Z	C
U/M %	MEAN TEST ASSAY		17.39 %	U/M %	MEAN TEST ASSAY

Values not valid below 150 psig

THIS CYLINDER NO. SA 19710	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R93/224	CARBON DIOXIDE 17.39 %
OF TRACEABILITY PROTOCOL NO. Rev. 9/93	NITROGEN BALANCE
PROCEDURE G1	
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE	
CYLINDER PRESSURE 2000 PSIG	
CERTIFICATION DATE 12/09/97	
EXPIRATION DATE 12/09/00 TERM 36 MONTHS	

ANALYZED BY

Joseph Charles
 JOSEPH CHARLES

CERTIFIED BY

Phu Tien Nguyen
 PHU TIEN NGUYEN

IMPORTANT

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CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN GMIS	vs 2658a	SA 9818	10.02%

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

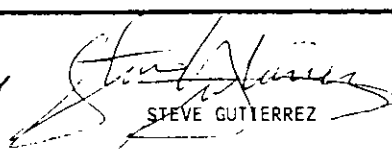
C=GAS CANDIDATE

1. COMPONENT	OXYGEN	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Oxymat 5E	S/N A12-839		
ANALYTICAL PRINCIPLE			Paramagnetic	LAST CALIBRATION DATE	02/12/98		
FIRST ANALYSIS DATE			02/23/98	SECOND ANALYSIS DATE			
Z 0.00	R 10.02	C 8.98	CONC. 8.98 %	Z	R	C	CONC.
R 10.02	Z 0.00	C 8.98	CONC. 8.98 %	R	Z	C	CONC.
Z 0.00	C 8.98	R 10.02	CONC. 8.98 %	Z	C	R	CONC.
U/M %		MEAN TEST ASSAY	8.98 %	U/M %		MEAN TEST ASSAY	

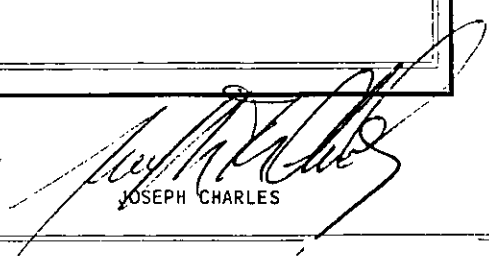
Values not valid below 150 psig

THIS CYLINDER NO.	CC 81487	CERTIFIED CONCENTRATION	
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R97/121	OXYGEN	8.98 %
OF TRACEABILITY PROTOCOL NO.	Rev. 9/97	NITROGEN	BALANCE
PROCEDURE	G1		
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE		
CYLINDER PRESSURE	2000 PSIG		
CERTIFICATION DATE	02/23/98		
EXPIRATION DATE	02/23/01	TERM	36 MONTHS

ANALYZED BY


STEVE GUTIERREZ

CERTIFIED BY


JOSEPH CHARLES

IMPORTANT

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E A

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT
 OXYGEN GMIS

NIST SRM NO.
 vs 2659a

CYLINDER NO.
 SA 19981

CONCENTRATION
 20.94%

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	OXYGEN	GMIS	ANALYZER MAKE-MODEL-S/N			Siemens Oxymat 5E S/N A12-839		
ANALYTICAL PRINCIPLE			Paramagnetic			LAST CALIBRATION DATE	11/10/97	
FIRST ANALYSIS DATE			12/09/97			SECOND ANALYSIS DATE		
Z 0.00	R 20.94	C 20.04	CONC. 20.04 %	Z	R	C	CONC.	
R 20.94	Z 0.00	C 20.04	CONC. 20.04 %	R	Z	C	CONC.	
Z 0.00	C 20.04	R 20.94	CONC. 20.04 %	Z	C	R	CONC.	
U/M %			MEAN TEST ASSAY 20.04 %	U/M %			MEAN TEST ASSAY	

Values not valid below 150 psig

THIS CYLINDER NO.	CC 72825	CERTIFIED CONCENTRATION	
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R93/224	OXYGEN	20.04 %
OF TRACEABILITY PROTOCOL NO.	REV. 9/93	NITROGEN	BALANCE
PROCEDURE	G1		
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE		
CYLINDER PRESSURE	2000 PSIG		
CERTIFICATION DATE	12/09/97		
EXPIRATION DATE	12/09/00	TERM	36 MONTHS

ANALYZED BY


 JOSEPH CHARLES

CERTIFIED BY


 PHO TIEN NGUYEN

IMPORTANT

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS**CUSTOMER AIRKINICS****P.O NUMBER****REFERENCE STANDARD****COMPONENT
NITRIC OXIDE****NIST SRM NO.
NTRM 81686****CYLINDER NO.
SA 19475****CONCENTRATION
496 ppm****ANALYZER READINGS****R=REFERENCE STANDARD****Z=ZERO GAS****C=GAS CANDIDATE**

1. COMPONENT	NITRIC OXIDE	ANALYZER MAKE-MODEL-S/N	Beckman 951A	S/N 0101354		
ANALYTICAL PRINCIPLE	Chemiluminescence		LAST CALIBRATION DATE	08/25/97		
FIRST ANALYSIS DATE	09/03/97		SECOND ANALYSIS DATE	09/15/97		
Z 0	R 443	C 385	CONC. 431 ppm	Z 0	R 491	C 424
R 446	Z 0	C 387	CONC. 430 ppm	R 494	Z 0	C 427
Z 0	C 388	R 450	CONC. 428 ppm	Z 0	C 428	R 497
U/M ppm		MEAN TEST ASSAY	430 ppm	U/M ppm		MEAN TEST ASSAY
						428 ppm

Values not valid below 150 psig
NOx values for reference only

THIS CYLINDER NO.	SA 12628	CERTIFIED CONCENTRATION	
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R93/224	NITRIC OXIDE	429 ppm
OF TRACEABILITY PROTOCOL NO.	Rev. 9/93	NITROGEN	BALANCE
PROCEDURE	G1	NOx	432 ppm
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE		
CYLINDER PRESSURE	2000 PSIG		
CERTIFICATION DATE	09/15/97		
EXPIRATION DATE	09/15/99	TERM	24 MONTHS

ANALYZED BY

STEVE GUTIERREZ

CERTIFIED BY

SAHAR ALAMY

IMPORTANT

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

E 6

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIR KINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT

NIST SRM NO.

CYLINDER NO.

CONCENTRATION

SULFUR DIOXIDE GMIS

vs. R1693a

SA16968

53.1 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

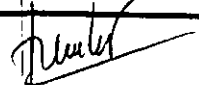
C=GAS CANDIDATE

1. COMPONENT	SULFUR DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Thermo Env. 43C S/N 43C/F-55848-305
ANALYTICAL PRINCIPLE		Pulsed Fluorescence		LAST CALIBRATION DATE 03/22/97
FIRST ANALYSIS DATE		05-28-97		SECOND ANALYSIS DATE 06-04-97
Z 0	R 52.0	C 46.2	CONC. 47.2	Z 0 R 52.3 C 46.4 CONC. 47.1
R 51.8	Z 0	C 46.2	CONC. 47.4	R 52.3 Z 0 C 46.4 CONC. 47.1
Z 0	C 46.1	R 51.7	CONC. 47.3	Z 0 C 46.4 R 52.3 CONC. 47.1
U/M ppm		MEAN TEST ASSAY 47.3		U/M ppm MEAN TEST ASSAY 47.1

Values not valid below 150 psig

THIS CYLINDER NO. SA 7672	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R93/224	SULFUR DIOXIDE 47.2 ppm
OF TRACEABILITY PROTOCOL NO. Rev. 9/93	NITROGEN BALANCE
PROCEDURE G1	
CERTIFIED ACCURACY ± 2 % NIST TRACEABLE	
CYLINDER PRESSURE 2000 PSIG	
CERTIFICATION DATE 06/04/97	
EXPIRATION DATE 06/04/99 TERM 24 MONTHS	

ANALYZED BY



PHU TIEN NGUYEN

CERTIFIED BY



VINCEN TO

IMPORTANT

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.



Praxair
 5700 South Alameda Street
 Los Angeles, CA 90058
 Telephone: (213) 585-2154
 Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIR KINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
SULFUR DIOXIDE GMIS	vs.R1662a	SA 5688	244 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

I. COMPONENT	SULFUR DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E	S/N C1-009			
	ANALYTICAL PRINCIPLE	NDIR		LAST CALIBRATION DATE	03/09/98			
	FIRST ANALYSIS DATE	03/20/98		SECOND ANALYSIS DATE	03/27/98			
	Z 0	R 244.5	C 267.0	CONC. 266	Z 0	R 244.5	C 267.0	CONC. 266
	R 244.0	Z 0	C 266.0	CONC. 266	R 244.5	Z 0	C 267.0	CONC. 266
	Z 0	C 265.5	R 244.5	CONC. 265	Z 0	C 267.5	R 244.5	CONC. 267
	U/M ppm		MEAN TEST ASSAY	266	U/M ppm		MEAN TEST ASSAY	266

Values not valid below 150 psig.

THIS CYLINDER NO. SA 7787	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121	SULFUR DIOXIDE 266 ppm
OF TRACEABILITY PROTOCOL NO. Rev. 9/97	NITROGEN BALANCE
PROCEDURE G1	
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE	
CYLINDER PRESSURE 2000 PSIG	
CERTIFICATION DATE 03/27/98	
EXPIRATION DATE 03/27/00 TERM 24 MONTHS	

ANALYZED BY

PHU TIEN NGUYEN

CERTIFIED BY

MICHAEL PEREZ

IMPORTANT

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.



Scott Specialty Gases

2600 CAJON BOULEVARD, SAN BERNARDINO, CA 92411 (909) 887-2571 FAX: (909) 887-0549

CERTIFICATE OF ANALYSIS: EPA Protocol Gas

Customer
AIRKINETICS, INC
5932 BOLSA AVE
SUITE 105
HUNTINGTON BEACH, CA 92649

Assay Laboratory
Scott Specialty Gases
2600 Cajon Boulevard
San Bernardino, CA 92411

Purchase Order: 107-WAJ
Scott Project #: 44302.002
CGA Fitting: 350

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability for Assay and Certification of Gaseous Calibration Standards; Procedure G1; September 1993.

Cylinder Number: ALM036923
Cylinder Pressure: 1950 PSIG

Certification Date: 02/02/96
Previous Certification Date: None

Exp. Date: 02/02/99
Bin No.: 4

ANALYZED CYLINDER

Components
CARBON MONOXIDE

Certified Concentration
262.0 PPM

Analytical Uncertainty*
±1% NIST TRACEABLE

Nitrogen (Oxygen Free)

Balance Gas

*Analytical uncertainty is inclusive of usual known error sources which at least include the precision of the measurement processes.

REFERENCE STANDARD

Type/SRM Sample No.
NTRM 1681

Expiration Date
07/31/97

Cylinder Number
ALM019969

Concentration
978 PPM CO/N2

INSTRUMENTATION

Instrument/Model/Serial#
Horiba/OPE-135D/56565502

Last Date Calibrated
01/17/96

Analytical Principle
NDIR

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

Components	First Triad Analysis	Second Triad Analysis	Calibration Curve
CARBON MONOXIDE	Date: 01/26/96 Response Units: mv Z1=0.00 R1=96.1 T1=35.9 R2=96.1 Z2=0.00 T2=35.9 Z3=0.00 T3=35.9 R3=96.1 Avg. Conc. of Cust Cyl. 283.1 PPM	Date: 02/02/96 Response Units: mv Z1=0.00 R1=96.1 T1=35.6 R2=96.1 Z2=0.00 T2=35.7 Z3=0.00 T3=35.6 R3=96.1 Avg. Conc. of Cust Cyl. 280.9 PPM	Concentration=Ax3+Bx2+Cx+Dx A=0.0002231 B=0.01817 C=6.402 D=-0.4613 r=0.99999
	Date: Response Units: mv Z1= R1= T1= R2= Z2= T2= Z3= T3= R3= Avg. Conc. of Cust Cyl.	Date: Response Units: mv Z1= R1= T1= R2= Z2= T2= Z3= T3= R3= Avg. Conc. of Cust Cyl.	Concentration=
	Date: Response Units: mv Z1= R1= T1= R2= Z2= T2= Z3= T3= R3= Avg. Conc. of Cust Cyl.	Date: Response Units: mv Z1= R1= T1= R2= Z2= T2= Z3= T3= R3= Avg. Conc. of Cust Cyl.	Concentration=

Special Notes: Do not use when cylinder pressure is below 150 psig.

Reviewed and Approved by:

Diana Hardin

Isokinetic Meterbox Post-Test Calibration

Job Name: EG&G
Calibrated by: AG
Date: 5/7/98
Full-Test Date: 3/19/98

Job Number: 10367
Meterbox: 2106
Delta H_{@init}: 1.913
Gamma Y_{init}: 0.9963

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	55	55	55
SCRIT K' Factor	0.4657	0.4657	0.4657
Min. SCRIT Vac., V _{cr} in. Hg	14	14	14
Amb Temp, t _{amb} °F	74	74	74
Bar. Pressure, P _b in. Hg	30.05	30.05	30.05
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	1.25	1.25	1.25
Initial MB Vol. Reading, V _{di} acf	734.100	746.200	754.300
Final MB Vol. Reading, V _{df} acf	746.120	754.037	759.749
Difference ≥ 5.0 cf?	12:020	7.837	5.449
Initial MB Temp, t _{di} °F	74	76	77
Final MB Temp, t _{df} °F	76	77	78
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	20	13	9
Time, Seconds (S)	0	0	0
DGM Factor, Y _i	1.0133	1.0131	1.0106
Post-Test Average Y_{i(avg)}			1.0123
Deviation From Full-Test: < ± 5.0%?			1.6%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.906	1.901	1.897
Post-Test Average Delta H_{@i(avg)}			1.901
Deviation From Full-Test: < ± 10%?			-0.6%

QC Check

Completeness Legibility Accuracy Specifications Reasonableness

Checked By: Sakhalin Finnie 5/11/98
 QA Administrator (Signature/Date)

Isokinetic Meterbox Full-Test Calibration

Meterbox ID: 2106
Calibrated by: GM
Date: 03/19/98

Range Run No.	Low			Low Medium			Medium			High		
	1A	1B	1C	1A	1B	1C	2A	2B	2C	3A	3B	3C
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V _{di} in. Hg	16	16	16	16	16	16	15	15	15	15	15	15
Amb Temp, t _{amb} °F	74	72	72	70	69	68	74	74	74	70	70	70
Bar. Pressure, P _b in. Hg	29.93	29.93	29.93	29.96	29.96	29.96	29.93	29.93	29.93	29.96	29.96	29.96
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.70	0.70	0.70	1.25	1.25	1.25	2.10	2.10	2.10	3.95	3.95	3.95
Initial MB Vol. Reading, V _{di} acf	632.900	638.900	644.700	689.900	698.700	706.200	651.500	660.000	668.400	717.500	728.500	740.000
Final MB Vol. Reading, V _{df} acf	638.475	644.463	650.261	698.299	705.905	713.422	659.468	667.971	676.378	728.272	739.304	750.813
Difference ≥ 5.0 ccf?	5.575	5.563	5.561	8.399	7.205	7.222	7.968	7.971	7.978	10.772	10.804	10.813
Initial MB Temp, t _{di} °F	76	77	77	70	71	72	78	79	80	74	76	76
Final MB Temp, t _{df} °F	77	77	78	71	72	73	79	80	81	76	77	77
Pump Vac (P _v in. HG?)	20	20	20	20	20	20	20	20	20	18	18	18
Time, Minutes (M)	12	12	12	14	12	12	10	10	10	10	10	10
Time, Seconds (S)	0	0	0	0	0	0	0	0	0	0	0	0
Calculations												
M5 DGM Factor, Y _i	0.99557	0.99865	1.00182	1.00558	1.00665	1.01289	0.98287	0.98432	0.98527	0.99421	0.99405	0.99322
Average, Y _{ab(avg)}		0.9987			1.0084			0.9842			0.9938	
Diff = Y _{i(avg)} - Y _{ab(avg)} (≤ ± 0.02)?	-0.002		ok	-0.012		ok	0.012		ok	0.002		ok
Delta H _{di}	1.866	1.857	1.855	1.914	1.906	1.899	1.953	1.949	1.946	1.941	1.935	1.937
Average, Delta H _{di@ab(avg)}		1.859			1.906			1.949			1.937	
Diff = Delta H _{di@i(avg)} - Delta H _{di@ab(avg)} (≤ ± 0.20)?	0.054		ok	0.007		ok	-0.036		ok	-0.024		ok

Y _{i(avg)}	0.9963
SCAQMD Delta H _{di@i(avg)}	1.942
EPA Delta H _{di@i(avg)}	1.913

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{di} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness Legibility Accuracy Specifications Reasonableness

Checked By: Sarahlin Finnie 3/30/98
 QA Administrator (Signature/Date)

Isokinetic Meterbox Post-Test Calibration

Job Name: OMS LAKE
 Calibrated by: AG
 Date: 5/8/98
 Full-Test Date: 3/10/98

Job Number: 10403
 Meterbox: 2108
 Delta H_{@init}: 1.712
 Gamma Y_{init}: 1.0138

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	55	55	55
SCRIT K' Factor	0.4657	0.4657	0.4657
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15
Amb Temp, t _{amb} °F	72	72	72
Bar. Pressure, P _b in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	1.1	1.1	1.1
Initial MB Vol. Reading, V _{di} acf	976.000	981.000	986.000
Final MB Vol. Reading, V _{df} acf	981.000	986.000	991.650
Difference ≥ 5.0 cf?	5.000	5.000	5.650
Initial MB Temp, t _{di} °F	71	73	75
Final MB Temp, t _{df} °F	73	75	76
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	8	8	9
Time, Seconds (S)	18.37	17.16	19.66
DGM Factor, Y _i	1.0083	1.0096	1.0086
Post-Test Average Y_{i(avg)}			1.0088
Deviation From Full-Test: < ± 5.0%?			-0.5%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.683	1.676	1.672
Post-Test Average Delta H_{@(avg)}			1.677
Deviation From Full-Test: < ± 10%?			-2.1%

QC Check

Completeness Legibility Accuracy Specifications Reasonableness

Checked By: Sakhalis Finne 5/11/98
 QA Administrator (Signature/Date)

Isokinetic Meterbox Full-Test Calibration

Meterbox ID: 2108
Calibrated by: AG
Date: 3/10/98

Range Run No.	Low			Low Medium			Medium			High		
	1A	1B	1C	1A	1B	1C	2A	2B	2C	3A	3B	3C
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V _{cr} in. Hg	16	16	16	14	14	14	16	16	16	15	15	15
Amb Temp, t _{amb} °F	69	69	69	69	69	69	69	69	69	69	69	69
Bar. Pressure, P _b in. Hg	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H2O	0.62	0.62	0.62	1.15	1.15	1.15	2.00	2.00	2.00	3.70	3.70	3.70
Initial MB Vol. Reading, V _{di} acf	173.000	178.459	183.941	220.845	228.225	235.600	191.100	200.665	210.206	245.003	250.509	256.020
Final MB Vol. Reading, V _{df} acf	178.459	183.941	189.440	228.225	235.600	242.991	200.665	210.206	219.900	250.509	256.020	261.530
Difference ≥ 5.0 cft?	5.459	5.482	5.499	7.380	7.375	7.391	9.565	9.541	9.694	5.506	5.511	5.510
Initial MB Temp, t _{di} °F	74	77	87	89	90	92	83	84	87	93	93	95
Final MB Temp, t _{df} °F	77	81	84	90	93	93	84	87	90	93	95	96
Pump Vac (> V _{cr} in. HG?)	19	19	19	18	18	18	18	18	18	18	18	18
Time, Minutes (M)	12	12	12	12	12	12	12	12	12	5	5	5
Time, Seconds (S)	0	0	0	0	0	0	0	0	0	0	0	0
Calculations												
M5 DGM Factor, Y _i	1.01983	1.02219	1.03131	1.02214	1.02656	1.02620	0.99659	1.00277	0.99237	1.00687	1.00777	1.01069
Average, Y _{ab(avg)}		1.0244			1.0250			0.9972			1.0084	
Diff = Y _{i(avg)} - Y _{ab(avg)} (≤ ± 0.02)?	-0.011		ok	-0.011		ok	0.017		ok	0.005		ok
Delta H _{di}	1.630	1.620	1.601	1.688	1.682	1.679	1.815	1.808	1.798	1.746	1.743	1.742
Average, Delta H _{di@ab(avg)}		1.617			1.683			1.807			1.742	
Diff = Delta H _{di@di} - Delta H _{di@ab(avg)} (≤ ± 0.20)?	0.095		ok	0.029		ok	-0.095		ok	-0.030		ok

Y _{i(avg)}	1.0138
SCAQMD Delta H _{di@avg}	1.739
EPA Delta H _{di@avg}	1.712

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{di} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check
 Completeness Legibility Accuracy Specifications Reasonableness

Checked By: Sakhalin Finnie
 QA Administrator (Signature/Date)

Isokinetic Meterbox Post-Test Calibration

Job Name: OMS LAKE
Calibrated by: AG
Date: 5/8/98
Full-Test Date: 4/1/98

Job Number: 10403
Meterbox: N30
Delta H_{@init}: 1.941
Gamma Y_{init}: 1.0891

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	55	55	55
SCRIT K' Factor	0.4657	0.4657	0.4657
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15
Amb Temp, t _{amb} °F	73	73	73
Bar. Pressure, P _b in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	1.35	1.35	1.35
Initial MB Vol. Reading, V _{di} acf	336.050	342.900	347.900
Final MB Vol. Reading, V _{df} acf	342.900	347.900	352.900
Difference ≥ 5.0 cf?	6.850	5.000	5.000
Initial MB Temp, t _{di} °F	86	94	98
Final MB Temp, t _{df} °F	94	98	100
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	12	8	8
Time, Seconds (S)	11.35	47.87	44.6
DGM Factor, Y _i	1.1148	1.1144	1.1135
Post-Test Average Y_{i(avg)}			1.1143
Deviation From Full-Test: < ± 5.0%?			2.3%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _@	2.002	1.981	1.970
Post-Test Average Delta H_{@i(avg)}			1.985
Deviation From Full-Test: < ± 10%?			2.2%

QC Check

Completeness Legibility Accuracy Specifications Reasonableness

Checked By: Sakhalin Finnie 5/11/98
 QA Administrator (Signature/Date)

Isokinetic Meterbox Full-Test Calibration

Meterbox ID:
Calibrated by:
Date:

N30
AG
4/1/98

Range Run No.	Low			Low Medium			Medium			High		
	1A	1B	1C	1A	1B	1C	2A	2B	2C	3A	3B	3C
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15	15	15	15	14	14	14	13	13	13
Amb Temp, t _{amb} °F	61	61	61	61	61	61	61	61	61	61	61	61
Bar. Pressure, P _b in. Hg	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.80	0.80	0.80	1.40	1.40	1.40	2.10	2.10	2.10	4.10	4.10	4.10
Initial MB Vol. Reading, V _{di} acf	636.200	641.323	646.456	653.010	658.809	664.620	620.000	625.304	630.563	672.000	677.245	683.550
Final MB Vol. Reading, V _{df} acf	641.323	646.456	651.836	658.809	664.620	670.451	625.245	630.563	635.860	677.245	683.550	688.819
Difference ≥ 5.0 cff?	5.123	5.133	5.380	5.799	5.811	5.831	5.245	5.259	5.297	5.245	6.305	5.269
Initial MB Temp, t _{di} °F	83	85	88	92	94	95	84	88	90	95	97	99
Final MB Temp, t _{df} °F	85	88	91	94	95	95	88	90	91	97	99	101
Pump Vac (> V _{cr} in. HG?)	18	18	18	18	18	18	18	18	18	15	15	15
Time, Minutes (M)	12	12	12	10	10	10	7	7	7	5	6	5
Time, Seconds (S)	0	0	30	0	0	0	0	0	0	0	0	0
Calculations												
M5 DGM Factor, Y _i	1.11193	1.11486	1.11408	1.09880	1.09931	1.09653	1.07294	1.07597	1.07117	1.06983	1.07181	1.07262
Average, Y _{ab(avg)}		1.1136			1.0981			1.0734			1.0714	
Diff = Y _{i(avg)} - Y _{ab(avg)} (≤ ± 0.02)?	-0.024		Fails	-0.009		ok	0.016		ok	0.018		ok
Delta H _{@i}	2.034	2.024	2.013	2.006	2.000	1.998	1.862	1.852	1.847	1.891	1.884	1.884
Average, Delta H _{@ab(avg)}		2.024			2.001			1.854				1.884
Diff=Delta H _{@i(avg)} - Delta H _{@ab(avg)} (≤ ± 0.20)?	-0.083		ok	-0.061		ok	0.087		ok	0.057		ok

Y _{i(avg)}	1.0891
SCAQMD Delta H _{@i(avg)}	1.971
EPA Delta H _{@i(avg)}	1.941

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

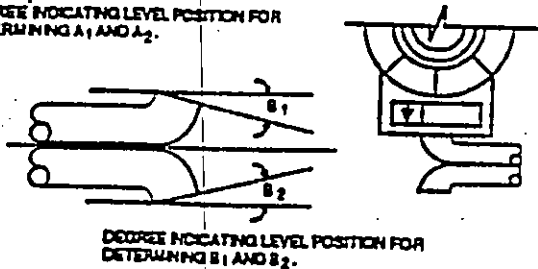
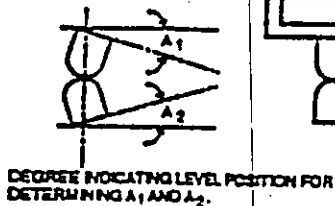
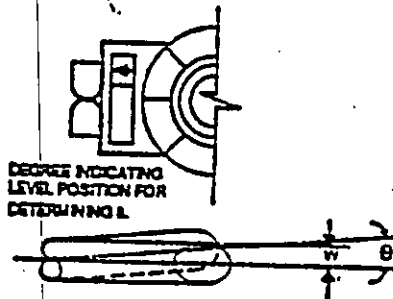
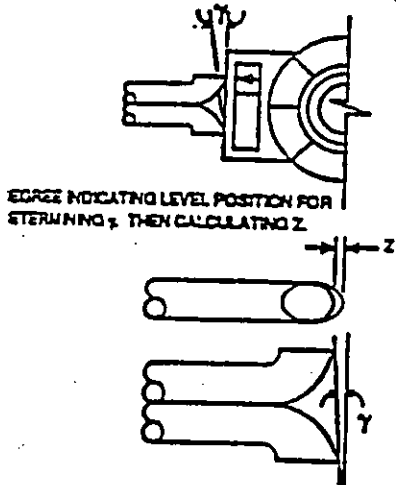
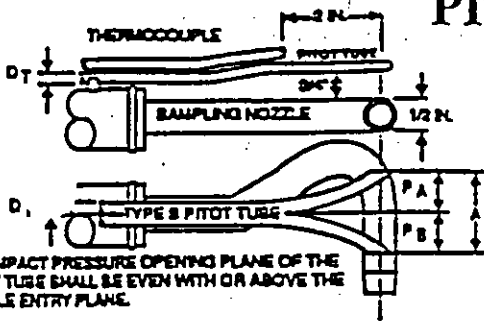
$$\Delta H_{@i} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness Legibility Accuracy Specifications Reasonableness

Checked By: Sakhia Fenise 5/4/98
QA Administrator (Signature/Date)

PITOT TUBE INSPECTION



level?	✓
obstructions?	✓
damaged?	✓
$-10^\circ < \alpha_1 < +10^\circ$	1°
$-10^\circ < \alpha_2 < +10^\circ$	0°
$-5^\circ < \beta_1 < +5^\circ$	4°
$-5^\circ < \beta_2 < +5^\circ$	3
γ	2°
θ	1°
A	0.489
$1.05 D_T < P_a < 1.5 D_T$	0.5
$1.05 D_T < P_b < 1.5 D_T$	0.489
$3/16" < D_T < 3/8"$	0.374
$Z = A \tan \gamma < 0.125"$	0.0342
$W = A \tan \theta < 0.03125"$	0.01746
$P_a = P_b \pm 0.063"$	0.011

$D_T = 0.374$

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments: _____

I certify that pitot tube/probe number PT-1 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

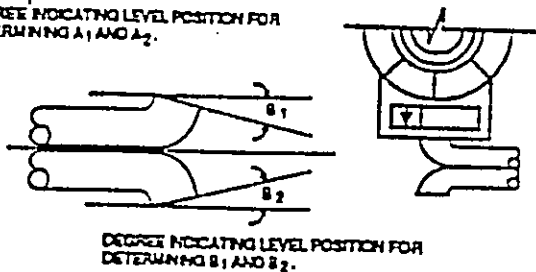
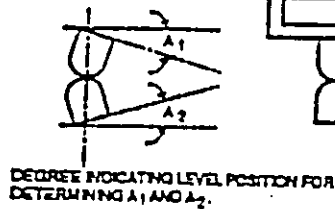
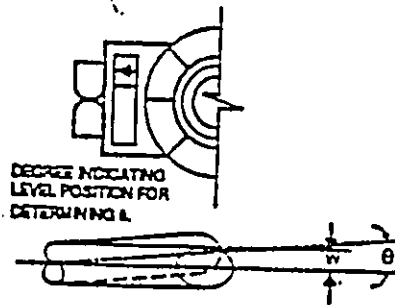
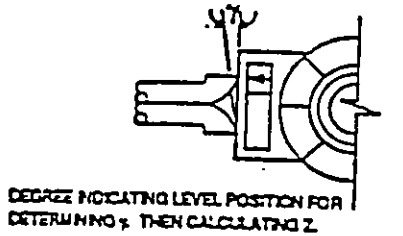
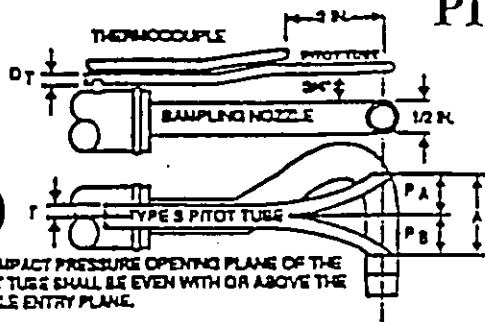
Signature: A. J. F. J. J.

Date: 10/6/97

AIRKINETICS

E 21

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	0°
$-10^\circ < \alpha_2 < +10^\circ$	0°
$-5^\circ < \beta_1 < +5^\circ$	10
$-5^\circ < \beta_2 < +5^\circ$	40
γ	2°
θ	0°
A	1.00
$1.05 D_T < P_s < 1.5 D_T$	0.513
$1.05 D_T < P_b < 1.5 D_T$	0.487
$3/16'' < D_T < 3/8''$	0.375
$Z = A \tan \gamma < 0.125''$	0.03492
$W = A \tan \theta < 0.03125''$	0
$P_s = P_b \pm 0.063''$	0.026

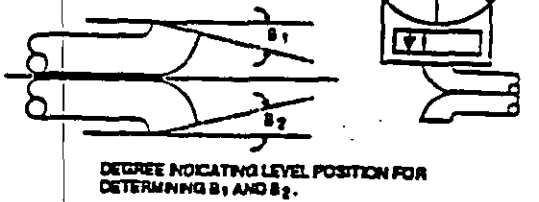
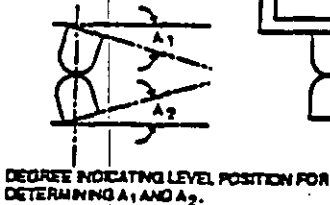
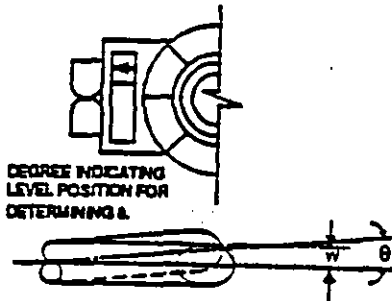
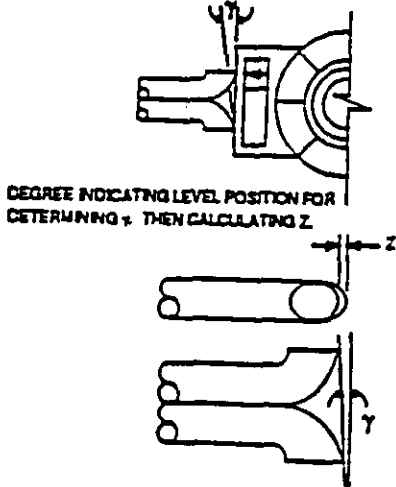
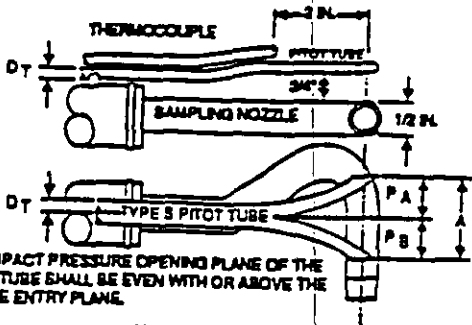
See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments: _____

I certify that pitot tube/probe number PT-7 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature: *April Gorman*
 Date: 10-8-97

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	4°
$-10^\circ < \alpha_2 < +10^\circ$	1°
$-5^\circ < B1 < +5^\circ$	2°
$-5^\circ < B2 < +5^\circ$	1°
γ	0
θ	0
A	0.921
$1.05 D_1 < P_1 < 1.5 D_1$	0.471
$1.05 D_2 < P_2 < 1.5 D_2$	0.451
$3/16^\circ < D_1 < 3/8^\circ$	0.375
$A \tan \gamma < 0.125^\circ$	0
$A \tan \theta < 0.03125^\circ$	0
$P_1 = P_2 \pm 0.053^\circ$	0.019

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

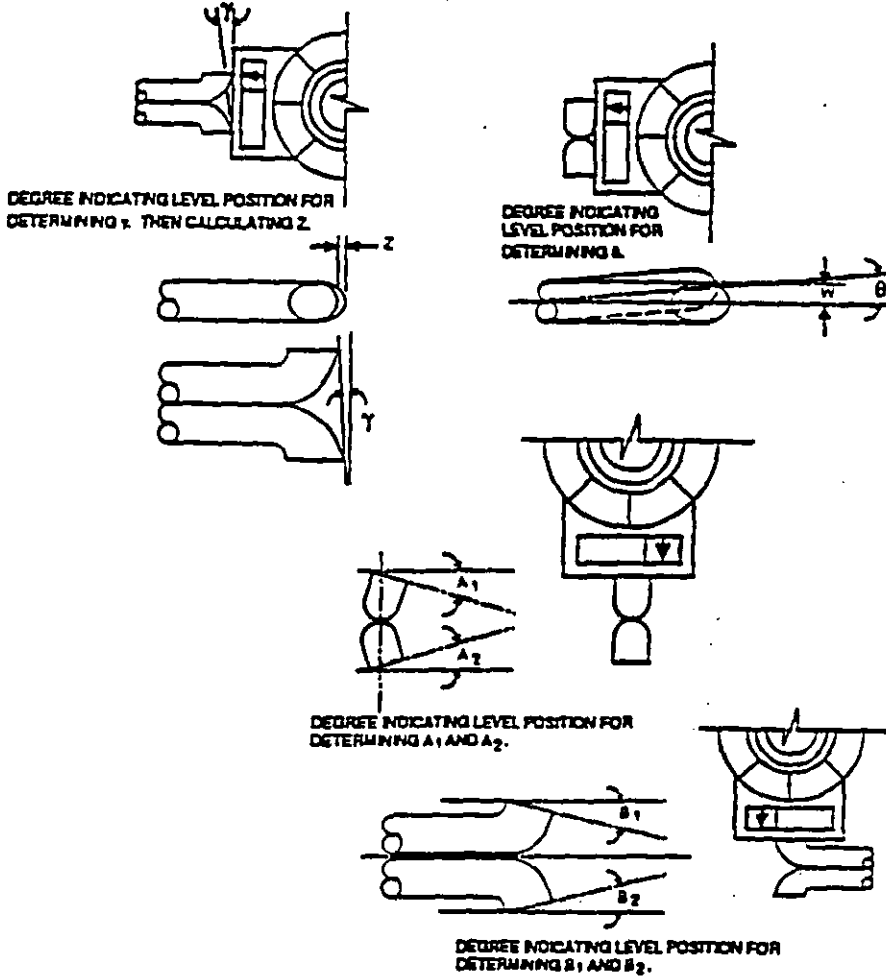
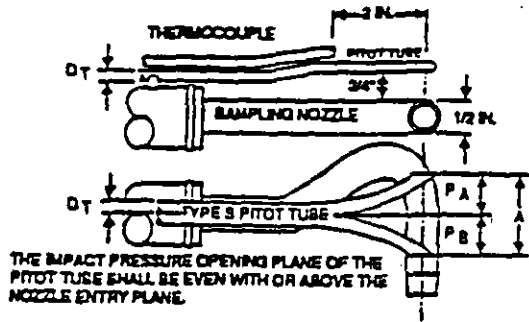
Comments: _____

I certify that pitot tube/probe number PT 12 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature Alfred Gurner
 Date 10-31-97

028 rev. 3/90

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	-36
$-10^\circ < \alpha_2 < +10^\circ$	0
$-5^\circ < B_1 < +5^\circ$	30
$-5^\circ < B_2 < +5^\circ$	0
γ	0
θ	0
A	1.003
$1.05 D_1 < P_1 < 1.5 D_1$	0.51
$1.05 D_2 < P_2 < 1.5 D_2$	0.493
$3/16^\circ < D_1 < 3/8^\circ$	0.375
$A \tan \gamma < 0.125^\circ$	0
$A \tan \theta < 0.03125^\circ$	0
$P_1 = P_2 \pm 0.063^\circ$	0.023

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments: _____

6-34

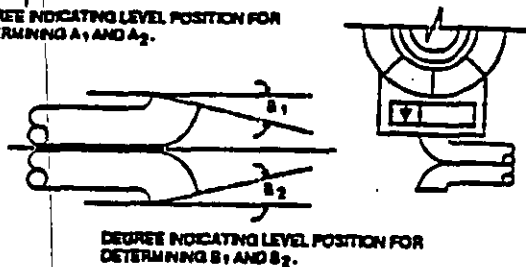
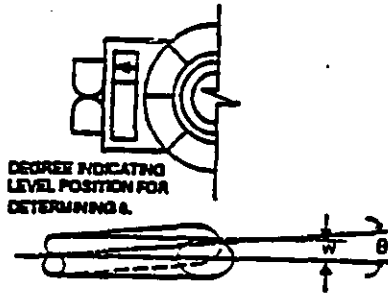
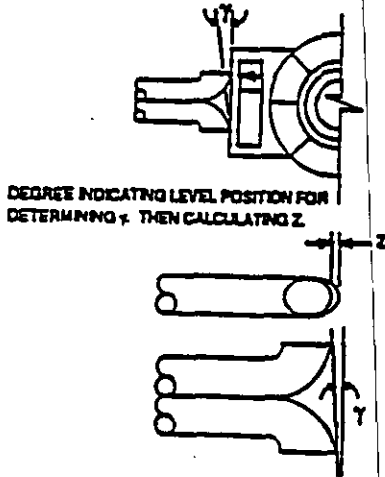
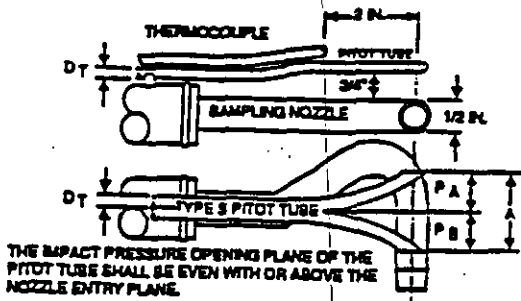
I certify that pitot tube/probe number PT-14 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature [Signature]

Date 10-31-97

7028 rev. 3/90

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	-40
$-10^\circ < \alpha_2 < +10^\circ$	0°
$-5^\circ < B_1 < +5^\circ$	20
$-5^\circ < B_2 < +5^\circ$	30
γ	20
θ	10
A	0.9870
$1.05 D_1 < P_1 < 1.5 D_1$	0.481
$1.05 D_2 < P_2 < 1.5 D_2$	0.506
$3/16^\circ < D_1 < 3/8^\circ$	0.375
$A \tan \gamma < 0.125^\circ$	0.0344
$A \tan \theta < 0.03125^\circ$	0.01722
$P_1 = P_2 \pm 0.063^\circ$	0.025

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

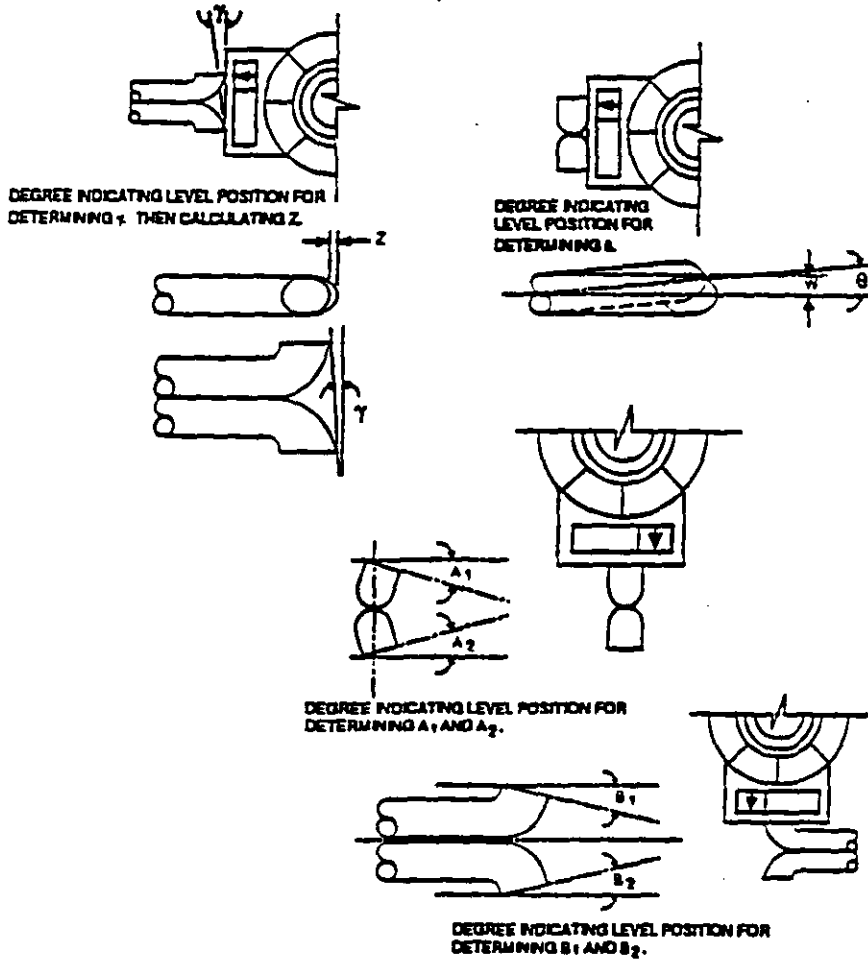
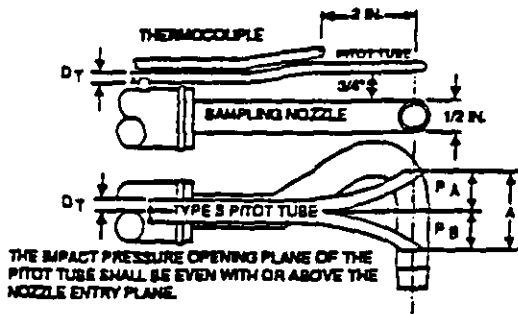
Comments: _____

I certify that pitot tube/probe number PT-15 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature Alfred Busner
 Date 10-31-97

R-0028 rev. 3/90

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	0
$-10^\circ < \alpha_2 < +10^\circ$	0
$-5^\circ < B_1 < +5^\circ$	0
$-5^\circ < B_2 < +5^\circ$	0
γ	0
θ	2°
A	0.878
$1.05 D_1 < P_1 < 1.5 D_1$	0.433
$1.05 D_2 < P_2 < 1.5 D_2$	0.445
$3/16" < D_1 < 3/8"$	0.375
$A \tan \gamma < 0.125^\circ$	0
$A \tan \theta < 0.03125^\circ$	0.03060
$P_1 = P_2 \pm 0.063^\circ$	0.012

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments: _____

I certify that pitot tube/probe number PT-110 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature Alfhusman

Date 10/31/97

R-0028 rev. 3/90

THERMOCOUPLE CALIBRATION

Thermocouple No.: 7

Date: 2/24/98

Calibrated By: ag

Barometric Pressure, in. Hg: 29.9

Ambient Temperature, °F: 61

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: < 1.5%)
ICE BATH	5002	32	F74	32	0.00
		32		32	0.00
		33		32	0.20
BOILING WATER	5002	212	F74	213	-0.15
		212		213	-0.15
		212		213	-0.15
BOILING OIL	1008	460	F74	458	0.22
		458		455	0.33
		456		454	0.22

$$\text{Temperature Difference} = \frac{T_t - T_r}{T_r + 460} \cdot 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnie 2/25/98
 QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 12

Date: ~~JULY 4TH 1997~~ ST 7/2/97

Calibrated By: AJG

Barometric Pressure, in. Hg: # 29.75

Ambient Temperature, °F: 78

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	1	32	F66	32.6	-0.12
		32		31.8	0.04
		32		31.8	0.04
BOILING WATER	5002	212	F66	211.4	0.09
		212		211.4	0.09
		212		211.6	0.06
BOILING OIL	1008	361	F66	360.6	0.05
		361		360.4	0.07
		361		360.2	0.10

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \cdot 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnie 7/3/97
 QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 22

Date: 4/24/97

Calibrated By: AJG

Barometric Pressure, in. Hg: # 29.7

Ambient Temperature, °F: 71

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	1000	32	1	32	0.00
		32		32	0.00
		32		32.2	-0.04
BOILING WATER	1001	212	1	213	-0.15
		212		213.2	-0.18
		212		213	-0.15
BOILING OIL	1008	422	1	422.8	-0.09
		422		421.4	0.07
		422		422.2	-0.02

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \cdot 100$$

QA/QC Check

Completeness: ✓

Legibility: ✓

Accuracy: ✓

Specifications: ✓

Reasonableness: ✓

Checked By:

Sakhalin Finnie 4/24/97
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: TC25

Date: 4/23/97

Calibrated By: KS

Barometric Pressure, in. Hg: 29.85

Ambient Temperature, °F: 70

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤1.5%)
ICE BATH	1000	32	1	32.2	-0.04
		32		32.2	-0.04
		32		32.4	-0.08
BOILING WATER	1002	211	1	211.4	-0.06
		211		210.8	0.03
		211		211	0.00
BOILING OIL	1008	424	1	423.6	0.05
		424		424.8	-0.09
		424		424.4	-0.05

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} * 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnic 4/24/97
 QA Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 39

Date: ~~JULY 4TH 1997~~ 7/2/97

Calibrated By: AJG

Barometric Pressure, in. Hg: # 29.75

Ambient Temperature, °F: 78

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	1	32	F66	30	0.41
		32		30.4	0.33
		32		31.4	0.12
BOILING WATER	5002	212	F66	211.2	0.12
		212		211	0.15
		212		210.8	0.18
BOILING OIL	1008	370	F66	368.6	0.17
		370		369	0.12
		370		369.4	0.07

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \cdot 100$$

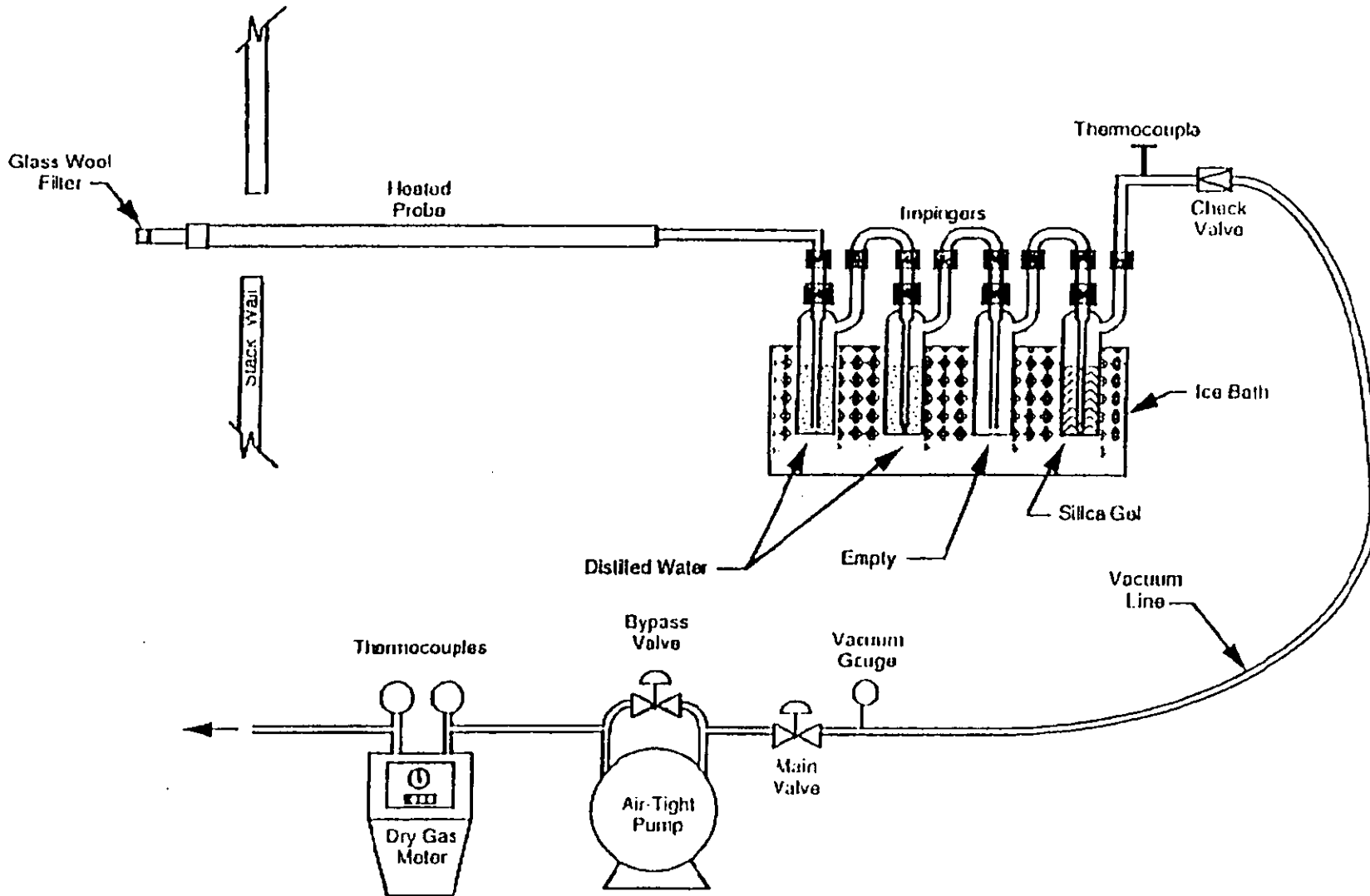
QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

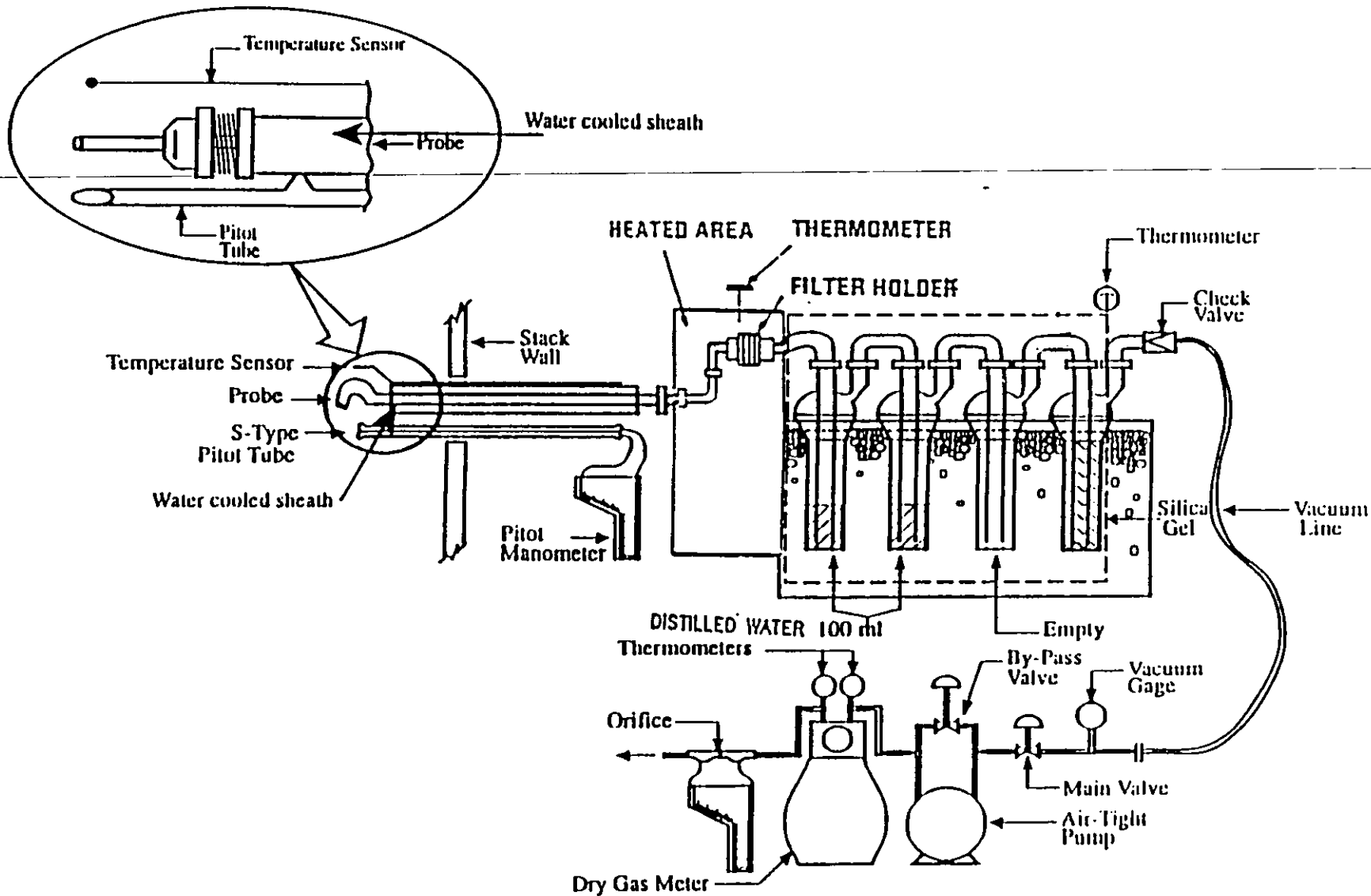
Checked By: Sakhalin Finnie, 7/3/97
 QC Administrator (Signature / Date)

APPENDIX F
SAMPLING TRAIN SCHEMATICS

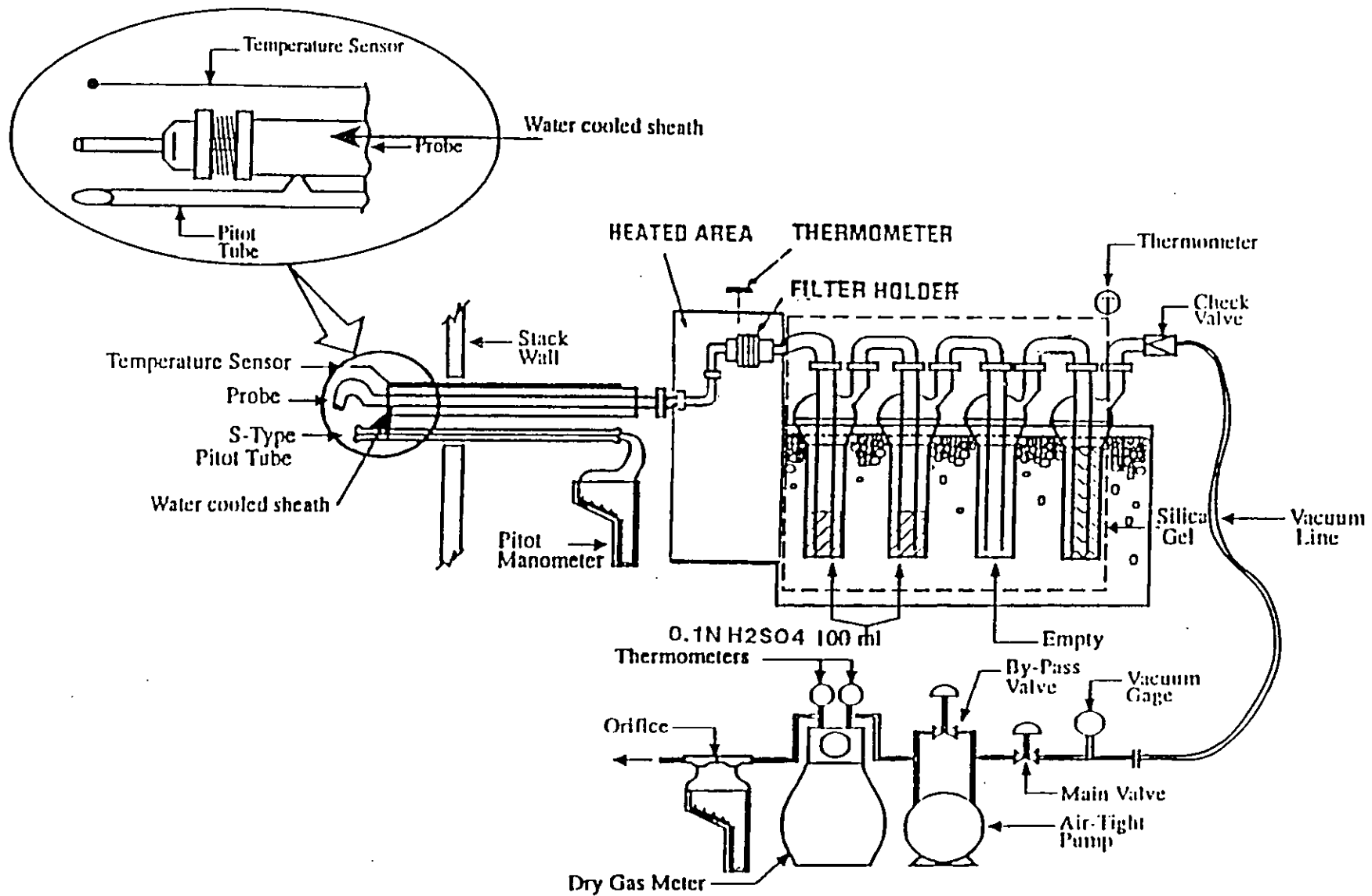


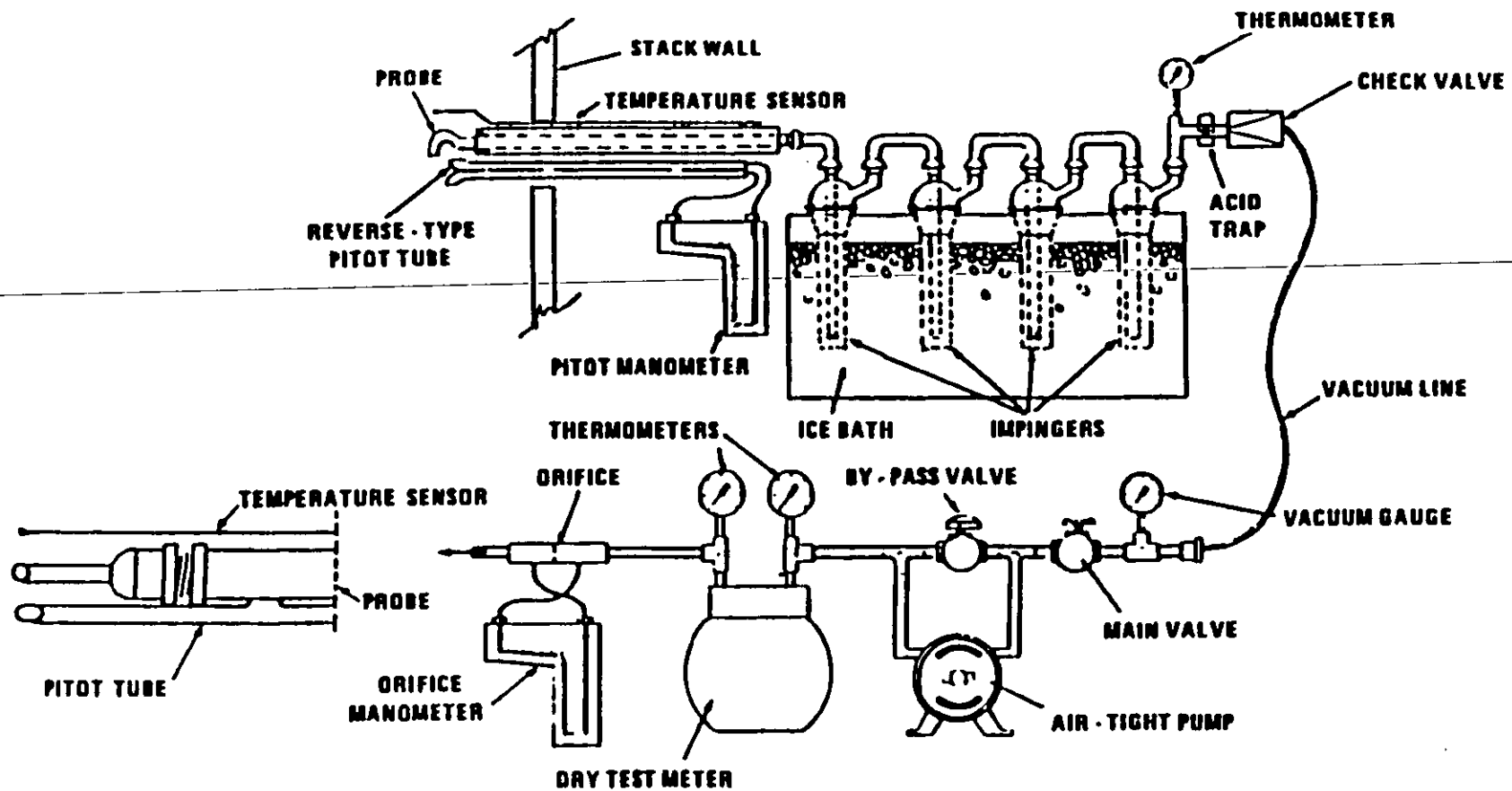
F
2

EPA Method 4 Sampling Train



F
3





F
S

EPA METHOD 29 SAMPLING TRAIN

APPENDIX G

AIRKINETICS SYSTEM PERFORMANCE TEST RESULTS

1.0 NO₂-to-NO CONVERTER EFFICIENCY TEST

CALIBRATION SUMMARY

SOURCE: AirKinetics - NOx Converter Efficiency Check

REASON: DIRECT CALIBRATION PRIOR TO NOX CONVERTER EFFICIENCY TEST

DATE : 09-06-1997 ^{wd} TIME: 15:19 - 15:24

<u>A/D CHAN</u>	<u>MONITOR DESCRIPTION</u>	<u>UNITS</u>	<u>GAS VALUE</u>	<u>MONITOR RESPONSE</u>
3	10S-2	ppmNOx	0.0	0.2
3	10S-2	ppmNOx	89.6	91.7
3	10S-2	ppmNOx	161.9	162.2

AirKinetics - NOx Converter Efficiency Check

09-06-1997

TIME	CHAN 3 10S-2 ppmNOx	CHAN 1 TELE10 % O2	CHAN 2 ANARD1 % CO2
14:30	55.0	-0.02	-0.24
	55.2	-0.02	-0.26
	55.4	-0.02	-0.22
	55.6	-0.02	-0.24
	55.7	-0.02	-0.24
	55.8	-0.03	-0.23
	55.8	-0.02	-0.25
	55.9	-0.02	-0.25
	56.0	-0.02	-0.23
	56.0	-0.03	-0.24
	55.9	-0.02	-0.24
	56.0	-0.03	-0.26
	55.9	-0.02	-0.24
	55.9	-0.02	-0.24
	55.9	-0.03	-0.24
	55.9	-0.03	-0.24
	55.9	-0.02	-0.25
	55.8	-0.02	-0.25
	55.8	-0.02	-0.26
	55.9	-0.03	-0.23
	55.8	-0.02	-0.25
	55.7	-0.02	-0.23
	55.7	-0.03	-0.23
	55.7	-0.02	-0.25
	55.7	-0.03	-0.24
	55.6	-0.02	-0.25
	55.6	-0.02	-0.25
	55.7	-0.02	-0.24
14:59	55.6	-0.03	-0.24

AVERAGE VALUES FOR THE LAST 30 MINUTES

23:59	55.7	-0.02	-0.24
-------	------	-------	-------

COMMENTS: END OF CONVERTER EFFICIENCY TEST

$$C.E. = \left| \frac{56.0 - 55.0}{56.0} \right| \times 100$$

$$C.E. = \left| \frac{1.0}{56.0} \right| \times 100$$

$$C.E. = 1.78\% \quad \leq \pm 2\%$$

CALIBRATION SUMMARY

SOURCE: AirKinetics - NOx Converter Efficiency Check

REASON: CALIBRATION FOR DRIFT POST CONVERTER EFFICIENCY CHECK

DATE : 09-06-1997₃₀ TIME: 14:59 - 15:07

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	10S-2	ppmNOx	0.0	-0.2
3	10S-2	ppmNOx	89.3	90.4

APPENDIX G

AIRKINETICS SYSTEM PERFORMANCE TEST RESULTS

2.0 NO_x AND SO₂ ANALYZER INTERFERENCE TESTS

INTERFERENCE RESPONSE

Analyzer Type THELMO ENVIRONMENTAL #2 Span 100
 Serial Number 10AR 20667 192 Date of Test JULY 14, 1992

GAS TYPE	CONCENTRATION	ANALYZER RESPONSE PPM NO	% OF SPAN ¹
CO/N ₂	683.9 ppm	0.1	0.1%
SO ₂ /N ₂	240 ppm	0.1	0.4%
CO ₂ /N ₂	11.06 %	0.1	0.1%
O ₂ /N ₂	20.5 %	0.1	0.1%
Totals			0.7% ²

¹ % SPAN = $\frac{\text{ANALYZER RESPONSE}}{\text{INSTRUMENT SPAN}} \times 100$

² SPECIFICATION (EPA METHOD 20): SUM OF INTERFERENCE RESPONSES MUST NOT EXCEED 2% OF SPAN

INTERFERENCE TEST PROCEDURES

ENTROPY followed the manufacturer's recommended set-up procedures contained in the analyzer manual. After the initial set-up procedures were completed the electronics of the analyzer were adjusted according to the manufacturer's guidelines. The analyzer was calibrated by flowing NO calibration gases into the instrument. The SO₂, CO, CO₂, and O₂ calibration gases listed above were injected into the analyzer and the responses were recorded on a strip chart, which was analyzed to determine if the gases caused interference (i.e., deviations from a zero reading) in the NO analyzer.

INTERFERENCE RESPONSE

Analyzer Type WESTERN RESEARCH #3 SO₂ Span 100 ppm
 Serial Number 90-721 AT2-7702-1 Date of Test JULY 14, 1993

GAS TYPE	CONCENTRATION	ANALYZER RESPONSE PPM SO ₂	% OF SPAN ¹
CO/N ₂	683.9 ppm	-0.1	0.1
NO/N ₂	244 ppm	-0.1	0.1
CO ₂ /N ₂	10.85%	0.0	0.0
O ₂ /N ₂	21.4%	-0.3	0.3
TOTALS			0.5²

¹ % SPAN = $\frac{\text{ANALYZER RESPONSE}}{\text{INSTRUMENT SPAN}} \times 100$

² SPECIFICATION (EPA METHOD 20): SUM OF INTERFERENCE RESPONSES MUST NOT EXCEED 2% OF SPAN.

INTERFERENCE TEST PROCEDURES

ENTROPY followed the manufacturer's recommended set-up procedures contained in the analyzer manual. After the initial set-up procedures were completed, the electronics of the monitor were adjusted according to the manufacturer's guidelines. The monitor was calibrated by flowing SO₂ calibration gases into the instrument. The NO, CO, CO₂, and O₂ calibration gases listed above were injected into the monitor and the responses were recorded on a strip chart, which was analyzed to determine if the gases caused interference (i.e. deviations from a zero reading) in the SO₂ monitor.

CHAN 3
WR #3

TIME ppmSO2

13:51 0.1
13:52 0.1
13:53 0.1
13:54 0.1

Zero

13:55 0.1
13:56 -0.0
13:57 -0.1

CO₂ 10.85% CO₂

13:58 0.1
13:59 -0.1
14:00 -0.1
14:01 -0.2

NO_x 244 NO/245 NO_x

14:02 -0.1
14:03 -0.1
14:04 -0.1

CO 683.9 ppm CO

14:05 -0.2
14:06 -0.3
14:07 -0.3
14:08 -0.3
14:09 -0.3

O₂ 21.4% O₂

14:10 -0.2
14:11 -0.4
14:12 -0.3
14:13 -0.4
14:14 -0.4

Zero

APPENDIX H
PARTICULATE ACID RAW ANALYTICAL DATA

APPENDIX I

HYDROGEN CHLORIDE RAW ANALYTICAL DATA

PRELIMINARY PARTICULATE RESULTS

Plant Name: OMS-LAKE AKI Ref.# 10403
 Sampling Location: UNIT No. 2 OUTLET
 Date Received: 4/22/98 Processed By: G. MATA

Run Number 2-0-M5-1 2-0-M5-2 2-0-M5-3

Sample ID/Container #	<u>F1228</u>		<u>F1231</u>		<u>F1230</u>				
	initials	date	initials	date	initials	date			
GM		5/5	3.9381	5/5	3.9519	5/5	3.9508		
GM		5/5	3.9379 ✓	5/5	3.9517 ✓	5/5	3.9506 ✓		
GM		4/23	3.9382	4/23	3.9515	4/23	3.9504		
Baggie Tare, g.			3.4292		3.4399		3.4347		
Filter No. & Tare, g.	#	<u>A566</u>	<u>0.5067</u>	#	<u>A567</u>	<u>0.5098</u>	#	<u>A404</u>	<u>0.5132</u>
SAMPLE WT., g.			<u>0.0023</u>		<u>0.0018</u>			<u>0.0025</u>	

Sample ID/Container #	<u>R1229</u>		<u>R1232</u>		<u>R1226</u>		
	initials	date	initials	date	initials	date	
GM		5/5	3.4435 ✓	5/5	3.3986	5/5	3.5310
GM		5/5	3.4435 ✓	5/5	3.3985 ✓	5/5	3.5307 ✓
GM		4/23	3.4437	4/23	3.3986	4/23	3.5311
Baggie Tare, g.			3.4412		3.3965		3.5307
SAMPLE Wt., g.	(75 ml)		<u>0.0025</u>	(75 ml)	<u>0.0021</u>	(100 ml)	<u>0.0011</u>

Reagent Blank	<u>B1233</u>		--Legend--		
	initials	date			
GM		5/5	3.3432 ✓	F = Filter	R = Rinse
GM		5/5	3.3433	1 = Light	
GM		4/23	3.3434	2 = Medium	
GM		4/23	3.3434	3 = Heavy or Dark	
Baggie Tare, g.		(200 ml)	3.3429		
SAMPLE Wt., g.			<u>0.0005</u>		

Sample Description 4.8 mg 3.9 mg 3.6 mg

Run #	Color	Loading
<u>2-0-M5-1</u>	<u>① 2 3</u>	<u>① 2 3</u>
<u>2-0-M5-2</u>	<u>① 2 3</u>	<u>① 2 3</u>
<u>2-0-M5-3</u>	<u>① 2 3</u>	<u>① 2 3</u>

Notes and Comments:

Predominant Color of samples is: clean
 Date of Full Balance Span: MAY 4, 1998

DATE: MAY 4, 1998
 LAB. TEMP.: 72.8°F
 BAR. PRESS.: 29.97" Hg
 REL. HUM.: 52%
 INITIALS: GM
 TIME: 16:15

ACTUAL	BALANCE (g)	% DEV.
2mg	0.0020	—
10mg	0.0100	—
50mg	0.0500	—
100mg	0.1000	—
500mg	0.5000	—
1g	1.0001	0.0100 0.0000 5/4/98 Amy MAs
5g	5.0001	0.0020 Amy MAs 5/4/98
10g	10.0000	—
50g	50.0001	0.0002
100g	100.0001	0.0001

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

May 1998						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

5

May 1998						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

4

LAB. TEMP.: 72.1°F 70.6°F
 BAR. PRESS.: 29.96" Hg 29.99" Hg
 REL. HUM.: 50% 50%
 GM GM
 8:06 14:48

LAB. TEMP.: 72.8°F
 BAR. PRESS.: 29.97" Hg
 REL. HUM.: 52%
 GM
 16:15

$S_g = 5.0000g$

$S_g = 5.0001g$

$S_g = 5.0001g$

April 1998							June 1998						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4							
5	6	7	8	9	10	11	7	8	9	10	11	12	13
12	13	14	15	16	17	18	14	15	16	17	18	19	20
19	20	21	22	23	24	25	21	22	23	24	25	26	27
26	27	28	29	30			28	29	30				

125

Tuesday, May 5

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April 1998							June 1998						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4							
5	6	7	8	9	10	11	7	8	9	10	11	12	13
12	13	14	15	16	17	18	14	15	16	17	18	19	20
19	20	21	22	23	24	25	21	22	23	24	25	26	27
26	27	28	29	30			28	29	30				

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Monday, May 4

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PROJECT _____

Continued From Page _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE :	APRIL 6, 1998	APRIL 7, 1998
LAB. TEMP. :	71.5°F	71.2°F
BAR. PRESS. :	30.04" Hg	30.04" Hg
REL. HUM. :	45%	43%
TIME :	14:59	07:18
INITIALS :	GM	GM

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>
226	3.5303	3.5300 ✓
227	3.5306	3.5303 ✓
228	3.4293	3.4292 ✓
229	3.4412 ✓	3.4412 ✓
230	3.4347 ✓	3.4347 ✓
231	3.4399 ✓	3.4400
232	3.3967	3.3965 ✓
233	3.3430	3.3429 ✓
234	3.5781	3.5778 ✓
235	3.4241 ✓	3.4241 ✓
236	3.3637 ✓	3.3637 ✓
237	3.4105	3.4104 ✓
238	3.4513 ✓	3.4513 ✓
239	3.4962 ✓	3.4963
240	3.3373 ✓	3.3373 ✓
241	3.2316	3.2314 ✓
242	3.4056 ✓	3.4056 ✓
243	3.4671 ✓	3.4671 ✓
244	3.3719	3.3717 ✓
245	3.3288 ✓	3.3288
246	3.4426 ✓	3.4426 ✓
247	3.4674 ✓	3.4675
248	3.5293 ✓	3.5294
249	3.3620 ✓	3.3620 ✓

Continued on Page _____

Read and Understood By _____

FILTER DIMENSIONS: 85 mm	FILTERS DESICCATED 24 HOURS PRIOR TO 1 ST WEIGHING: YES	
ST No.: 103510		
	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
LAB. TEMP.:	74.07°F	74.14°F
BAR. PRESS.:	29.88" Hg	29.88" Hg
REL. HUM.:	48.29%	56.56%
INITIALS:	27-54 GM	GM
TIME:	07:54	14:03
DATE:	AUG. 1, 1996	AUG. 1, 1996

<u>FILTER #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>
A399	0.5104 ✓	0.5107
A400	0.5102 ✓	0.5103
A401	0.5071 ✓	0.5071 ✓
A402	0.5092 ✓	0.5093
A403	0.5095 ✓	0.5095 ✓
A404	0.5132 ✓	0.5133
A405	0.5103 ✓	0.5103 ✓
A406	0.5057 ✓	0.5058
A407	0.5081 ✓	0.5082
A408	0.5080 ✓	0.5082
A409	0.5081 ✓	0.5083
A410	0.5099	0.5098 ✓
A411	0.5106 ✓	0.5106 ✓
A412	0.5097 ✓	0.5098
A413	0.5095 ✓	0.5096
A414	0.5110 ✓	0.5110 ✓
A415	0.5080 ✓	0.5080 ✓
A416	0.5102 ✓	0.5103
A417	0.5095 ✓	0.5095 ✓
A418	0.5111 ✓	0.5113
A419	0.5127	0.5126 ✓
A420	0.5094 ✓	0.5095

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

PROJECT FILTER TYPE: GLASS MAT

Continued From Page _____

FILTER DIMENSIONS: 85 mm		FILTERS DESICCATED 24 HOURS PRIOR TO	
IT No.: 191140		1 ST WEIGHING: YES	
<u>1ST WEIGHING</u>		<u>2ND WEIGHING</u>	
LAB. TEMP.:	74.56°F		70.79°F
BAR. PRESS.:	29.80" Hg		29.91" Hg
REL. HUM.:	48.62%		50.87%
INITIALS:	GM		GM
TIME:	08:20		11:30
DATE:	JULY 10, 1997		JULY 11, 1997

FILTER #	1 ST WEIGHING (g)	2 ND WEIGHING (g)
A553	0.5102 ✓	0.5102 ✓
A554	0.5122 ✓	0.5122 ✓
A555	0.5127 ✓	0.5128
A556	0.5129 ✓	0.5129 ✓
A557	0.5135 ✓	0.5136
A558	0.5149	0.5149
A559	0.5119 ✓	0.5119 ✓
A560	0.5128 ✓	0.5128 ✓
A561	0.5127 ✓	0.5128
A562	0.5137	0.5136 ✓
A563	0.5140 ✓	0.5142
A564	0.5157 ✓	0.5157 ✓
A565	0.5149 ✓	0.5149 ✓
A566	0.5067 ✓	0.5068
A567	0.5099	0.5098 ✓
A568	0.5105 ✓	0.5107
A569	0.5103 ✓	0.5104
A570	0.5143 ✓	0.5144
A571	0.5129 ✓	0.5130
A572	0.5102 ✓	0.5104
A573	0.5075 ✓	0.5077
A574	0.5087 ✓	0.5088

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

NC DEPARTMENT OF AGRICULTURE STANDARDS LABORATORY REPORT OF CALIBRATION

SUBMITTED BY:

Entropy Environmental, Incorporated
9001 Glenwood Avenue
Raleigh, NC 27612

DATE: February 16, 1995
PO NUMBER: 4856MAXWELL

TEST NO: NC0295C016

WEIGHT DESCRIPTION: One (1) Set of Fisher (brand) Weights
Serial Number 3622

ASSUMED WEIGHT DENSITY: 100 g - 1 g = 7.84 g/cc (stainless steel)
500 mg - 50 mg = 8.0 g/cc (stainless steel)
20 mg - 1 mg = 2.7 g/cc (aluminum)

DESCRIPTION	TRUE MASS	APP MASS CORRECTIONS		UNCERTAINTY
	CORRECTION	VS 8.0 g/cc	VS BRASS	
100g	0.57 mg	0.27 mg	-0.43 mg	0.16 mg
50g	0.319 mg	0.166 mg	-0.183 mg	0.081 mg
20g	0.156 mg	0.095 mg	-0.045 mg	0.062 mg
20g	0.143 mg	0.082 mg	-0.058 mg	0.062 mg
10g	0.060 mg	0.029 mg	-0.041 mg	0.031 mg
5g	0.028 mg	0.013 mg	-0.022 mg	0.023 mg
2g	0.063 mg	0.057 mg	0.043 mg	0.016 mg
2g	0.045 mg	0.039 mg	0.025 mg	0.016 mg
1g	0.038 mg	0.035 mg	0.028 mg	0.013 mg
500 mg	-0.017 mg	-0.017 mg	-0.021 mg	0.011 mg
200 mg	-0.0013 mg	-0.0013 mg	-0.0027 mg	0.0062 mg
200 mg	0.0271 mg	0.0271 mg	0.0257 mg	0.0062 mg
100 mg	0.0084 mg	0.0084 mg	0.0077 mg	0.0051 mg
50 mg	0.0155 mg	0.0155 mg	0.0151 mg	0.0090 mg
20 mg	0.0029 mg	-0.0030 mg	-0.0031 mg	0.0043 mg
20 mg	0.0160 mg	0.0101 mg	0.0100 mg	0.0043 mg
10 mg	-0.0122 mg	-0.0152 mg	-0.0152 mg	0.0086 mg
2 mg	0.0082 mg	0.0076 mg	0.0076 mg	0.0021 mg
2 mg	0.0127 mg	0.0121 mg	0.0121 mg	0.0021 mg
1 mg	0.0084 mg	0.0081 mg	0.0081 mg	0.0014 mg

The items described above have been compared with the standards of the State of North Carolina, and are traceable to the National Institute of Standards and Technology, NIST, via the test number shown above. All tests were performed in the North Carolina Standards Laboratory. Environmental conditions are maintained at a temperature of 22°C ± 2°C and a relative humidity of 50% ± 10%.



METROLOGIST

L.F. Eason Sherry Teachey Sharon Denning Van Hyder Karen Bryan

United States Department of Commerce National Institute of Standards and Technology

Certificate of Accreditation

*Scope of Accreditation

Tolerance Testing

Mass

Weights \leq 1000 lb

Weights $>$ 1000 lb

Volume

Small, intermediate and
large standards

Calibration

Mass

Weights \leq 3 kg

Weights $>$ 3 kg

Length

Steel tapes, rigid rules

Volume

Small glassware

Metal standards

Temperature

Liquid in glass
thermometers

North Carolina

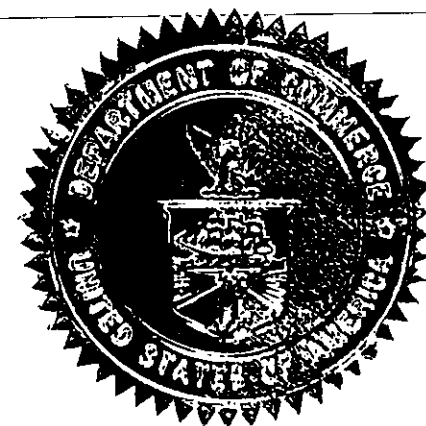
is accredited* under the
State Laboratory Metrology Program
for satisfactory compliance with
documented criteria for the period:

1995 - 1996

The State Standards are traceable
to the National Institute of
Standards and Technology

Carroll S. Brickenkamp
For the National Institute of Standards and Technology

January 1, 1995
Effective Date



Certificate OF WEIGHT TRACEABILITY

Company: AIRKINETICS INC

Room: _____ Department: _____

Address: 5932 BOLSA AVE #105

City: HUNTINGTON BEACH State: CA Zip: 92649

This is to certify that the weights used are traceable to the National Institute of Standards and Technology and are in compliance with MIL-STD-45662 and Z-540-1.

	Analytical	Precision
METTLER TOLEDO Identification Number of Test Weights	404	150
	1/26/97	11/30/95
METTLER TOLEDO Calibration Date of Test Weights	822/257177-96	822/255443-95
National Institute of Standards and Technology Test Number	_____	_____
Test Weight Calibration Due	1 year from date	2 years from date

Model	Serial Number	Serv.	Cal.	Model	Serial Number	Serv.	Cal.
<u>AT200</u>	<u>L98007</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>

Robert Montanez
Mettler Toledo Service Technician

7-8-97
Date of Issue

METTLER TOLEDO



From: SACLIM::JJONES "Josie P. Jones, Think Good Thoughts'" 8-MAY-1998 15:02:00.61
To: JJONES

C: Anomaly_file-> PJCAT\$ANOMALY:098821_EPA26-ACIDS-IC-AIR_JJONES.ANOMALY

The bracketing CCV for samples 2SD, 3, 4, 5, and 6 showed failed recovery due to the schedule being one position off. Sample 6DU was analyzed and recognized based on the schedule to be a CCV. CCB thereafter showed 4.718ppm which is actually a CCV with 94% recovery. With this entry error, there is 11 injections between 2 bracketing CCV instead of 10 injections. Problem isolated and found to have not impact on the reported results. Samples 4-6 were reanalyzed towards the end of the run with good bracketing CCVs.

All associated QC, MB and MS/SD were all within acceptance criteria. No further corrective action required.

Jones, 5/8/98

Holding Time Report

Project: 098821

Client: AirKinetics, Inc.

Date: 08 MAY 98

Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Prep - Mercury, Cold Vapor AA (Front Half - Airtrain)							Prep: n/a	Total: 6				
1	1-O-M29-1	098821-0008-SA	P-HG-CVAA-COND-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
2	1-O-M29-2	098821-0009-SA	P-HG-CVAA-COND-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
3	1-I-M29-1	098821-0010-SA	P-HG-CVAA-COND-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
4	1-I-M29-2	098821-0011-SA	P-HG-CVAA-COND-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
5	1-I-M29-3	098821-0012-SA	P-HG-CVAA-COND-AIRTR	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
6	1-O-M29-3	098821-0013-SA	P-HG-CVAA-COND-AIRTR	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
Test: Prep - Mercury, Cold Vapor AA (Front Half - Airtrain)							Prep: n/a	Total: 6				
1	1-O-M29-1	098821-0008-SA	P-HG-CVAA-FH-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
2	1-O-M29-2	098821-0009-SA	P-HG-CVAA-FH-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
3	1-I-M29-1	098821-0010-SA	P-HG-CVAA-FH-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
4	1-I-M29-2	098821-0011-SA	P-HG-CVAA-FH-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
5	1-I-M29-3	098821-0012-SA	P-HG-CVAA-FH-AIRTR	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
6	1-O-M29-3	098821-0013-SA	P-HG-CVAA-FH-AIRTR	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
Test: Prep - Mercury, Cold Vapor AA (HCL-Fraction-Airtrain)							Prep: n/a	Total: 6				
1	1-O-M29-1	098821-0008-SA	P-HG-CVAA-HCL-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
2	1-O-M29-2	098821-0009-SA	P-HG-CVAA-HCL-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
3	1-I-M29-1	098821-0010-SA	P-HG-CVAA-HCL-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
4	1-I-M29-2	098821-0011-SA	P-HG-CVAA-HCL-AIRTR	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
5	1-I-M29-3	098821-0012-SA	P-HG-CVAA-HCL-AIRTR	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
6	1-O-M29-3	098821-0013-SA	P-HG-CVAA-HCL-AIRTR	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
Test: Prep - Mercury, Cold Vapor AA (KMNO4-Fraction-Airtrain)							Prep: n/a	Total: 6				
1	1-O-M29-1	098821-0008-SA	P-HG-CVAA-KMNO4-AIRT	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
2	1-O-M29-2	098821-0009-SA	P-HG-CVAA-KMNO4-AIRT	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
3	1-I-M29-1	098821-0010-SA	P-HG-CVAA-KMNO4-AIRT	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
4	1-I-M29-2	098821-0011-SA	P-HG-CVAA-KMNO4-AIRT	CVAA	23 APR 98	24 APR 98	27 APR 98	n/a	4	3	n/a	
5	1-I-M29-3	098821-0012-SA	P-HG-CVAA-KMNO4-AIRT	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
6	1-O-M29-3	098821-0013-SA	P-HG-CVAA-KMNO4-AIRT	CVAA	23 APR 98	25 APR 98	27 APR 98	n/a	4	2	n/a	
Test: EPA 26A (Modified) - Inorganic Acids by Ion Chromatography							Prep: n/a	Total: 7				
1	2-O-M26-1	098821-0001-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
2	2-O-M26-2	098821-0002-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
3	2-O-M26-3	098821-0003-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
4	2-I-M26-1	098821-0004-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
5	2-I-M26-2	098821-0005-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
6	2-I-M26-3	098821-0006-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
7	M26-RB	098821-0007-SA	EPA26-ACIDS-IC-AIR	EPA 26A (MOD)	22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
Test: Total Volume							Prep: n/a	Total: 7				
1	2-O-M26-1	098821-0001-SA	VOL-A		22 APR 98	24 APR 98	n/a	05 APR 98	17	19	n/a	* Anlzd b4 Coll
2	2-O-M26-2	098821-0002-SA	VOL-A		22 APR 98	24 APR 98	n/a	05 APR 98	17	19	n/a	* Anlzd b4 Coll
3	2-O-M26-3	098821-0003-SA	VOL-A		22 APR 98	24 APR 98	n/a	05 APR 98	17	19	n/a	* Anlzd b4 Coll
4	2-I-M26-1	098821-0004-SA	VOL-A		22 APR 98	24 APR 98	n/a	05 APR 98	17	19	n/a	* Anlzd b4 Coll
5	2-I-M26-2	098821-0005-SA	VOL-A		22 APR 98	24 APR 98	n/a	05 MAY 98	13	11	n/a	
6	2-I-M26-3	098821-0006-SA	VOL-A		22 APR 98	24 APR 98	n/a	05 APR 98	17	19	n/a	* Anlzd b4 Coll
7	M26-RB	098821-0007-SA	VOL-A		22 APR 98	24 APR 98	n/a	01 MAY 98	9	7	n/a	

CTA = Number of Days from Collected to Analyzed.

RTA = Number of Days from Received to Analyzed.

ETA = Number of Days from Extraction to Analyzed.

HTV = Holding Time Violation (Y=Yes, blank=No)

0000034

Sample and QC Summary Sheets
(General Chemistry-Airtoxics)

Inorganic Acids by Ion Chromatography
(H₂SO₄ matrix)

**LEVEL 1&2 REVIEW CHECKLIST
GENERAL CHEMISTRY**

PROJECT ID'S: 48821

ANALYSIS: HCL DATE: 5/19/98 ANALYST: KMUNDA

LEVEL 1 RUN REVIEW:	YES	NO	NA
1. Samples are properly preserved and verified	✓	—	—
2. Run set-up meets standard criteria (Curve, ICV, ICB, REF...CCV,CCB...)	✓	—	—
3. Calibration criteria met	✓	—	—
4. Calibration verifications and second source reference are in control	✓	—	—
5. Batch QC are in control (Blank, LCS, MSQC, LCS dup when necessary)	✓	—	—
6. Calculations have been checked	✓	—	—
7. QAS +/-or QAPP was consulted and followed for client specifics	✓	—	—
8. Standard tracking # noted on benchsheet +/-or runlog	✓	—	—
9. Manual integration performed, documented and approved	—	—	✓

LEVEL 1 DATA REVIEW:	YES	NO	NA
1. Benchsheet complete	✓	—	—
2. QAS consulted and followed for client specifics for data entry	✓	—	—
3. Data entered properly	✓	—	—
4. Copy of prep sheet and prep checklist attached to run	—	—	—
5. Analyst observations, HTV's, Anomalies properly documented and attached to run.	—	—	✓

Completed By & Date: Kmunndal 5/19/98

LEVEL 2 REVIEW:	YES	NO	NA
1. Level 1 checklist complete and verified	✓	—	—
2. Deviations, Anomalies, Holding times checked and approved	✓	—	—
3. Reprep/Reanalysis documented and chemist notified	✓	—	—
4. Client specific criteria met	✓	—	—
5. Data entry checked and released in LIMS	✓	—	—
6. Indication on benchsheet on review and release (dated & signed)	✓	—	—
7. Manual integration reviewed, approved, and properly documented	—	—	✓

Comments: _____ Completed By & Date: Jones 5/18/98

QA-0159 LU 11/14/96

Analyzed by: KULDIP HUNDAL

Date: 5/5/98

Schedule ID: 980505K

QUANTERRA ENVIRONMENTAL SERVICES
WEST SACRAMENTO
AIR TOXICS METHOD 26A
H2SO4 FRACTION
Duplicate

Analyte = HF, HCl, HBr, Cl

Analyst:	KULDIP HUNDAL		Method:	EPA METHOD 26		Dir:		Reporting Limit (mg/Sample)	
Date:	5/5/98		File:	980505K		Flag		Result (mg/Sample)	
Sample	Analyte	Volume (ml)	Dilution Factor	Sample Conc. (mg/L)	Duplicate Conc. (mg/L)	Average Conc. (mg/L)	%RPD	Flag	Result (mg/Sample)
8821-1	HCL	✓ 700.0	✓ 5	✓ 37.021	✓ 37.371	37.196	0.9		✓ 1.799 ✓ 26.766
8821-2	HCL	✓ 600.0	✓ 10	✓ 38.227	✓ 38.046	38.137	0.5		3.084 ✓ 23.523
-2MS	HCL	600.0	✓ 10	✓ 91.429	✓ 91.223	91.326	0.2		3.084 56.330
-2SD	HCL	600.0	✓ 10	✓ 91.588	✓ 90.739	91.164	0.9		3.084 56.230
8821-3	HCL	✓ 700.0	✓ 5	✓ 33.572	✓ 33.910	33.741	1.0		1.799 24.280
8821-4	HCL	✓ 500.0	500	✓ 3692.753	✓ 3675.737	3684.245	0.5		128.500 1893.702
8821-5	HCL	✓ 600.0	500	✓ 2521.843	✓ 2543.195	2532.519	0.8		154.200 1562.058
8821-6	HCL	✓ 700.0	500	✓ 1923.892	✓ 1922.374	1923.133	0.1		179.900 1383.887
8821-7	HCL	198.0	1	ND	✓ ND	ND			0.102 ND

Spike Value for MS/SD

$$= 5 \times 10 \times 0.60 \times 1.028 = 30.84 \text{ mg/sample}$$

% Rec. MS = 108%

SD = 106%

For samples from 1-6 samples wt used for calculation was provided by the client.

Amount 576197

Jones 5/8/98

NC Do not Calculate when result < 5X reporting limit.

Entered by: Kuldip Hundal

Date: 5/6/98

Reviewed by: Jones 5/8/98
QA-279 jib 08/18/95

DIONEX SCHEDULE - C:\DX\SCHEDULE\980505K.SCH

In#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	AUTOCAL1	..\LINH2SO4	980505K	1	1	1
2	AUTOCAL2	..\LINH2SO4	980505K	1	1	1
3	AUTOCAL3	..\LINH2SO4	980505K	1	1	1
4	AUTOCAL4	..\LINH2SO4	980505K	1	1	1
5	AUTOCAL5	..\LINH2SO4	980505K	1	1	1
6	ICV 879-WC-57-6	..\LINH2SO4	980505K	1	1	1
7	ICB	..\LINH2SO4	980505K	1	1	1
8	REF 879-WC-57-11	..\LINH2SO4	980505K	1	1	1
9	REF DUP	..\LINH2SO4	980505K	1	1	1
10	98821-1 5X	..\LINH2SO4	980505K	1	5	1
11	98821-1 DUP 5X	..\LINH2SO4	980505K	1	5	1
12	98821-2 10X	..\LINH2SO4	980505K	1	10	1
13	98821-2 DUP 10X	..\LINH2SO4	980505K	1	10	1
14	98821-2 MS 10X	..\LINH2SO4	980505K	1	10	1
15	98821-2 MS DUP 10X	..\LINH2SO4	980505K	1	10	1
16	CCV	..\LINH2SO4	980505K	1	1	1
17	CCB	..\LINH2SO4	980505K	1	1	1
18	98821-2 SD 10X	..\LINH2SO4	980505K	1	10	1
19	98821-2 SD DUP 10X	..\LINH2SO4	980505K	1	10	1
20	98821-3 5X	..\LINH2SO4	980505K	1	5	1
21	98821-3 DUP 5X	..\LINH2SO4	980505K	1	5	1
22	98821-4 500X 50X	..\LINH2SO4	980505K	1	50	1
23	98821-4 DUP 500X 50X	..\LINH2SO4	980505K	1	50	1
24	98821-5 500X 50X	..\LINH2SO4	980505K	1	50	1
25	98821-5 DUP 500X 50X	..\LINH2SO4	980505K	1	50	1
26	98821-6 500X	..\LINH2SO4	980505K	1	500	1
27	98821-6 DUP 500 X	..\LINH2SO4	980505K	1	500	1
28	CCV	..\LINH2SO4	980505K	1	1	1
29	CCB	..\LINH2SO4	980505K	1	1	1
30	98821-7	..\LINH2SO4	980505K	1	1	1
31	98821-7 DUP	..\LINH2SO4	980505K	1	1	1
32	98821-4 500X	..\LINH2SO4	980505K	1	500	1
33	98821-4 DUP 500X	..\LINH2SO4	980505K	1	500	1
34	98821-5 500X	..\LINH2SO4	980505K	1	500	1
35	98821-5 DUP 500X	..\LINH2SO4	980505K	1	500	1
36	98821-6 200X 500X	..\LINH2SO4	980505K	1	200 500	1
37	98821 6 DUP 200X 500X	..\LINH2SO4	980505K	1	200 500	1
38	CCV	..\LINH2SO4	980505K	1	1	1
39	CCB	..\LINH2SO4	980505K	1	1	1
40	STD 1	..\LINH2SO4	980505K	1	1	1
41	STD 2	..\LINH2SO4	980505K	1	1	1
42	STD 3	..\LINH2SO4	980505K	1	1	1
43	STD 4	..\LINH2SO4	980505K	1	1	1
44	STD 5	..\LINH2SO4	980505K	1	1	1
45	OFF	..\DXSHTDN.	980505K	1	1	1

*Ref & Ref Dup
was replaced
because of low
recovery*

*50X
500X*

*200 500
200-500*

*Known
5/6/98*

Comment:

[Signature]
*Added standard
5/6/98*

*RTR
5/8/98*

```

=====
Sample Name: AUTOCAL1                               Date: Tue May 05 11:40:54 1998
File       : C:\DX\DATA\980505K1.D01
Method     : C:\DX\METHOD\LINH2SO4.met           Calibration Level: 1
ACI Address: 2      System : 1      Inject#: 1      Detector: COND
=====
    
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.02	3

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
2	CHLORIDE	1.25	1.15	1.15	0.000e+000	7.547e+004	7.547e+004

```

=====
Sample Name: AUTOCAL1                               Date: 05/05/1998 11:40:54
Data File  : C:\DX\DATA\980505K1.D01
Method     : C:\DX\METHOD\LINH2SO4.met
Address    : 2 System: 1 Inject#: 1                Detector:COND
Analyst    :                                       Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1 2250 5Hz 0.00 7.50          1000

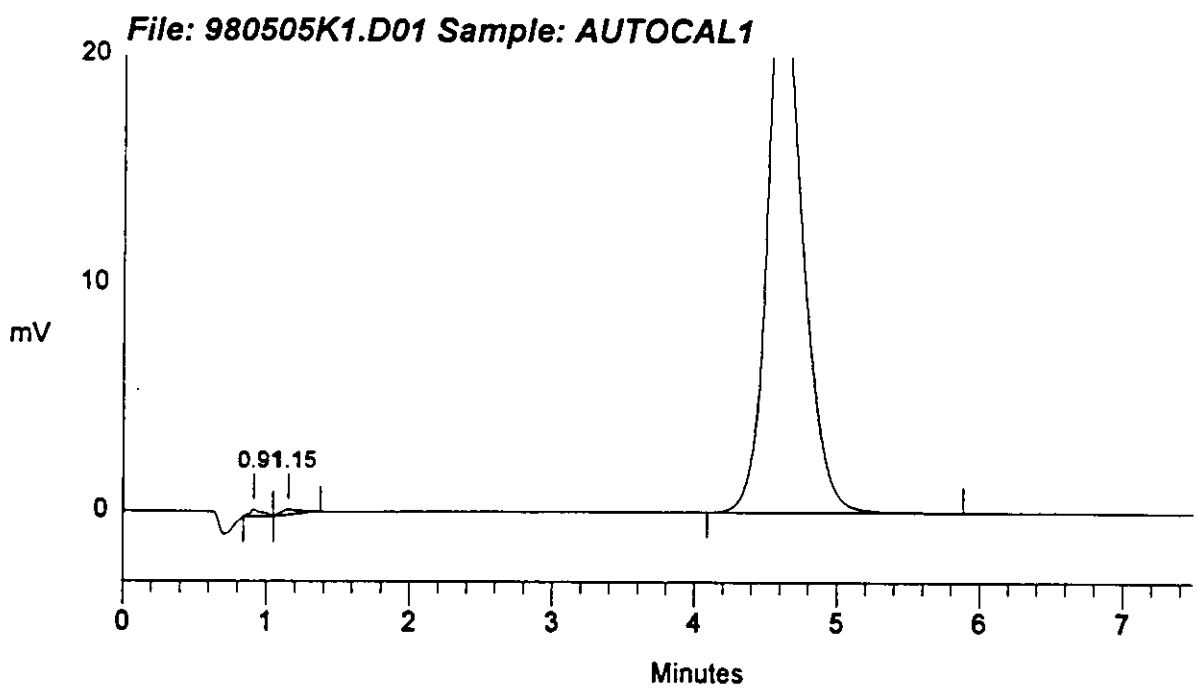
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.02	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10804	67171	1	
2	1.15	CHLORIDE ✓	0.000	7938	75470	1	0.00
3	4.58		0.000	812584	13975399	1	
Totals			0.000	831326	14118041		



***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Sample Name: AUTOCAL2                               Date: Tue May 05 11:51:07 1998
Raw File   : C:\DX\DATA\980505K1.D02
Method     : C:\DX\METHOD\LINH2SO4.met           Calibration Level: 2
ACI Address: 2      System : 1      Inject#: 2      Detector: COND
=====
    
```

***** Components Not Found In This Run *****

name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.02	3

***** COMPONENTS FOUND IN THIS RUN *****

OMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
2	CHLORIDE	1.15	1.21	1.21	1.197e+005	3.898e+005	3.898e+005


```

=====
Sample Name: AUTOCAL2                               Date: 05/05/1998 11:51:07
Data File  : C:\DX\DATA\980505K1.D02
Method     : C:\DX\METHOD\LINH2SO4.met
Cell Address: 2 System: 1 Inject#: 2                Detector: COND
Analyst    :                                         Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1  2250  5Hz  0.00  7.50      1000
-----

```

***** Components Not Found In This Run *****

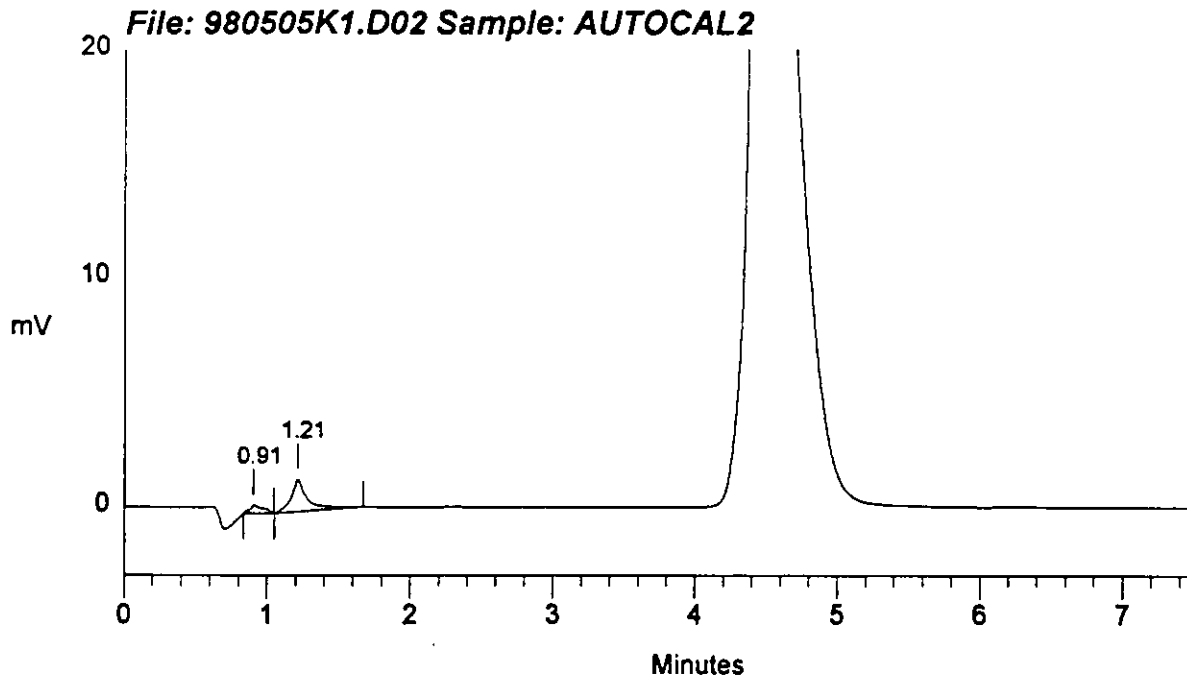
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85           1
BROMIDE        2.02           3
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11791	81117	1	
2	1.21	CHLORIDE ✓	0.500	46461	✓389761	1	0.00
Totals			0.500	58252	470878		



***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Sample Name: AUTOCAL3                               Date: Tue May 05 12:01:19 1998
Raw File   : C:\DX\DATA\980505K1.D03
Method     : C:\DX\METHOD\LINH2SO4.met             Calibration Level: 3
ACI Address: 2      System : 1      Inject#: 3      Detector: COND
=====
    
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.02	3

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
2	CHLORIDE	1.21	1.20	1.20	2.819e+005	8.778e+005	8.778e+005

```

=====
Sample Name: AUTOCAL3                               Date: 05/05/1998 12:01:19
Data File  : C:\DX\DATA\980505K1.D03
Method     : C:\DX\METHOD\LINH2SO4.met
Cell Address: 2 System: 1 Inject#: 3                Detector:COND
Analyst    :                                         Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1 2250 5Hz 0.00 7.50      1000
-----

```

***** Components Not Found In This Run *****

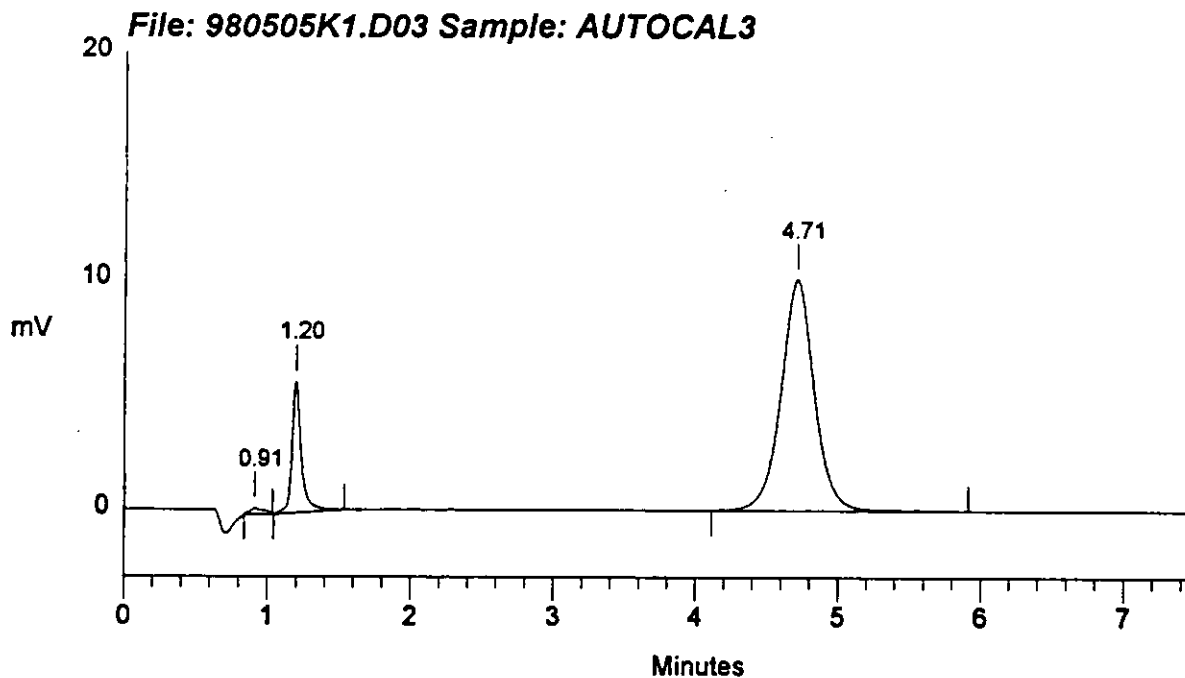
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85                1
BROMIDE        2.02                3
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	9693	61125	1	
2	1.20	CHLORIDE	✓ 2.000	191547	877824	1	0.00
3	4.71		0.000	334762	5490641	1	
Totals			2.000	536002	6429590		



***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Sample Name: AUTOCAL4                               Date: Tue May 05 12:11:31 1998
Raw File   : C:\DX\DATA\980505K1.D04
Method     : C:\DX\METHOD\LINH2SO4.met           Calibration Level: 4
ACI Address: 2      System : 1      Inject#: 4      Detector: COND
=====
    
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
2	CHLORIDE	1.20	1.22	1.22	7.552e+005	2.448e+006	2.448e+006
3	BROMIDE	2.02	2.02	2.02	2.696e+005	4.228e+003	4.228e+003

```

=====
Sample Name: AUTOCAL4                               Date: 05/05/1998 12:11:31
Data File  : C:\DX\DATA\980505K1.D04
Method     : C:\DX\METHOD\LINH2SO4.met
Sample Address: 2 System: 1 Inject#: 4
Analyst    :                                         Column:
Detector: COND
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           1 2250 5Hz 0.00 7.50      1000
-----

```

***** Components Not Found In This Run *****

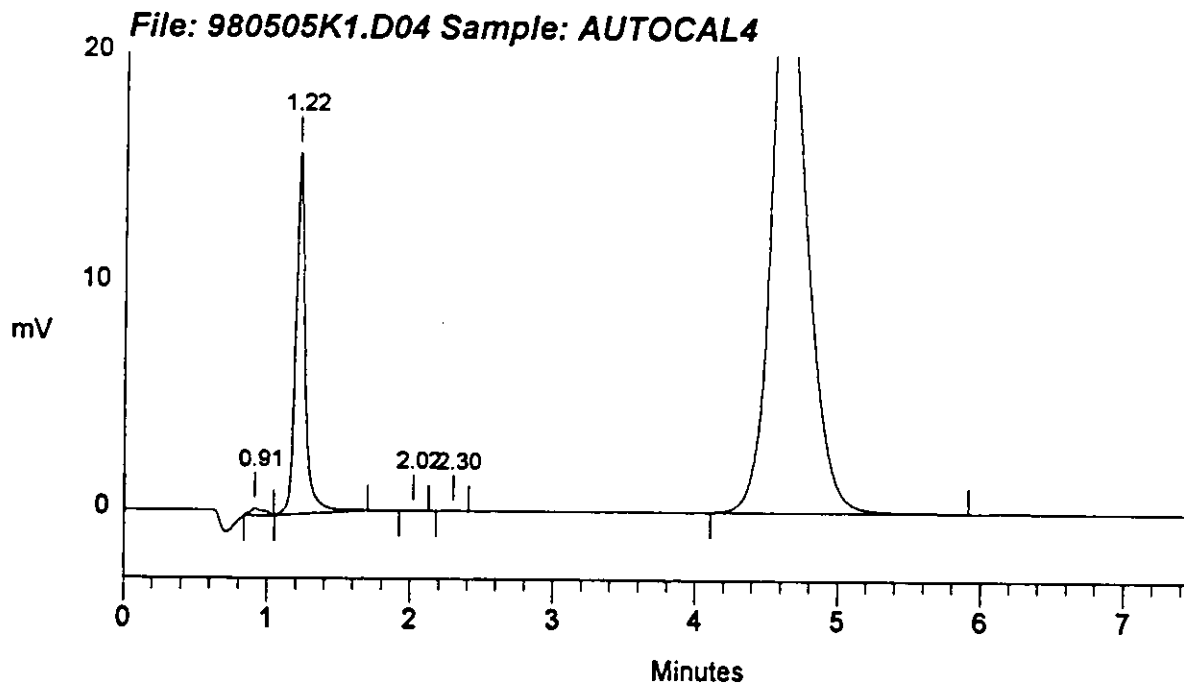
```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE 0.85 1
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11300	72873	1	
2	1.22	CHLORIDE	✓ 5.000	527133	2447681	1	0.00
3	2.02	BROMIDE	5.000	799	4228	1	0.00
4	2.30		0.000	508	2964	1	
5	4.61		0.000	870165	14602977	1	
Totals			10.000	1409904	17130722		



***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Sample Name: AUTOCAL5                               Date: Tue May 05 12:21:45 1998
Raw File   : C:\DX\DATA\980505K1.D05
Method     : C:\DX\METHOD\LINH2SO4.met           Calibration Level: 5
ACI Address: 2                               System : 1       Inject#: 5       Detector: COND
=====
    
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
2	CHLORIDE	1.22	1.23	1.23	1.581e+006	5.090e+006	5.090e+006
3	BROMIDE	2.02	2.01	2.01	5.834e+005	1.035e+004	1.035e+004

DIONEX METHOD PARAMETERS - LINH2SO4.MET

Component Table -- Last Modified: 12:22 on Tue, 05 May 1998

Component # 1 FLUORIDE Retention Time 0.85
 Reference Comp. FLUORIDE Window Size 5.00 %
 Amount = K0 + K1*Area
 K0 = 3.52586E-001
 K1 = 5.80132E-006

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	21661	4274
3	2.00000E+000	223279	59045
4	5.00000E+000	792607	209262
5	1.00000E+001	1675125	431876

Not calibrated on 5/5/98

Component # 2 CHLORIDE Retention Time 1.23
 Reference Comp. CHLORIDE Window Size 8.00 %
 Amount = K0 + K1*Area
 K0 = -4.15775E-002
 K1 = 1.99386E-006

Level	Amount	Area	Height
1	0.00000E+000 ✓	75470 ✓	7938
2	5.00000E-001 ✓	389761 ✓	46461
3	2.00000E+000 ✓	877824 ✓	191547
4	5.00000E+000 ✓	2447681 ✓	527133
5	1.00000E+001 ✓	5090482 ✓	1150215

2 → 0.99860

low 5/5/98

Component # 3 BROMIDE Retention Time 2.01
 Reference Comp. BROMIDE Window Size 8.00 %
 Amount = K0 + K1*Area
 K0 = 4.06954E+000
 K1 = -2.13720E-005

Level	Amount	Area	Height
1	0.00000E+000	0	0
2	5.00000E-001	21880	4114
3	2.00000E+000	96790	17489
4	5.00000E+000	4228	799
5	1.00000E+001	10346	1978

Not calibrated on 5/5/98

Cal STD 2D - 879-WC-57-6

Ref 2D - 879-WC-57-11

5/8/98

Sample Name: AUTOCAL5 Date: 05/05/1998 12:21:45
 Data File : C:\DX\DATA\980505K1.D05
 Method : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 5 Detector: COND
 Analyst : Column:

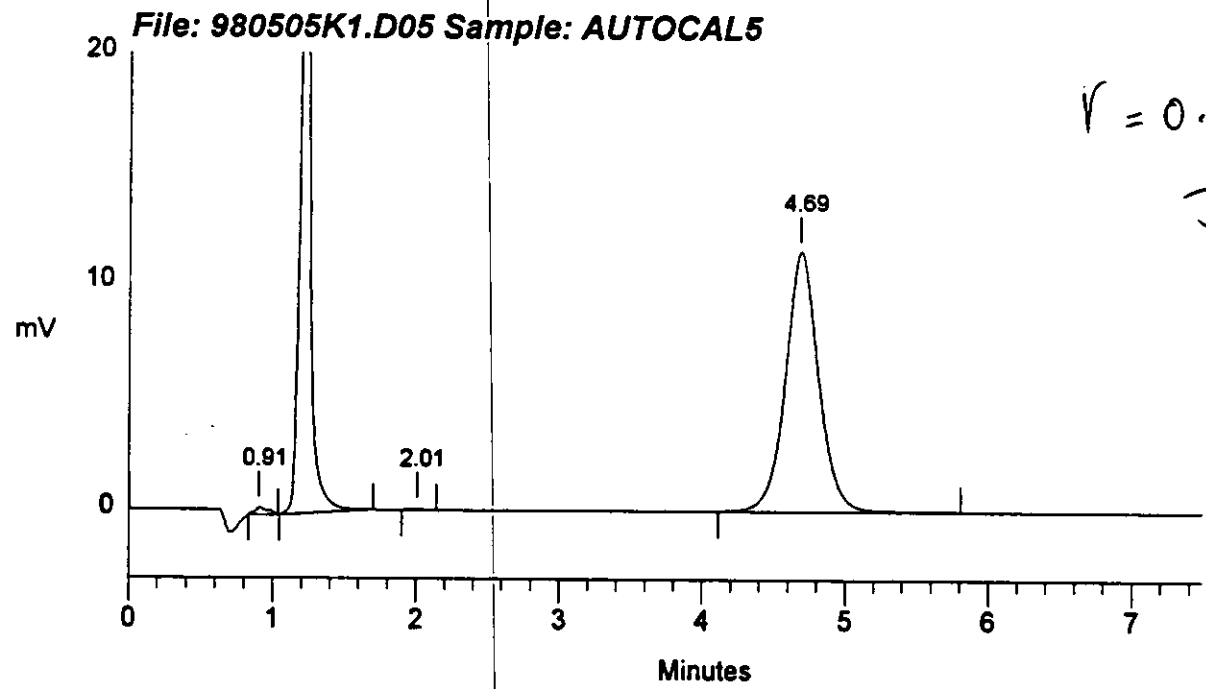
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10769	70359	1	
2	1.23	CHLORIDE	10.000 ✓	1150215	5090482	1	0.00
3	2.01	BROMIDE	10.000	1978	10346	1	0.00
4	4.69		0.000	379969	6161463	1	
Totals			20.000	1542931	11332650		



$r = 0.9986$
 JS/8/98

Sample Name: ICV 879-WC-57-6 Date: 05/05/1998 12:31:52
 Data File : C:\DX\DATA\980505K1.D06
 Method : C:\DX\METHOD\LINH2SO4.met
 VCI Address: 2 System: 1 Inject#: 6 Detector: COND
 Analyst : Column:

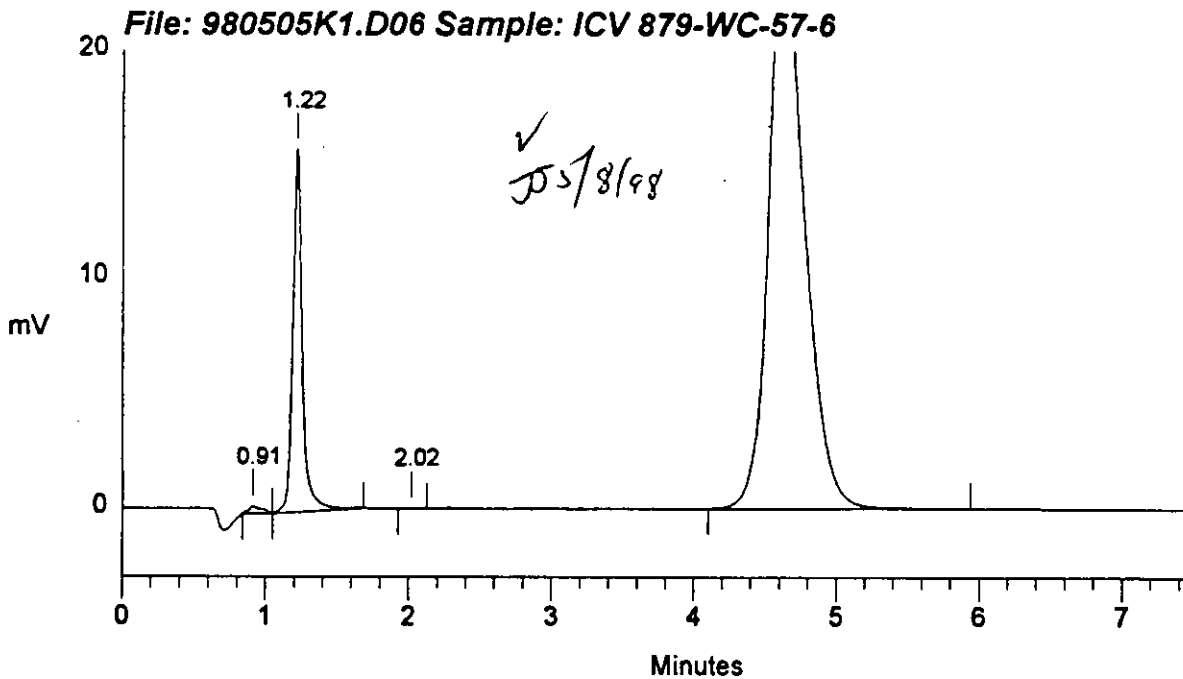
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name Adjusted Ret Time Reference Peak
 FLUORIDE 0.85 1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11388	72501	1	
2	1.22	CHLORIDE	4.827	528551	2441897	1	0.00
3	2.02	BROMIDE	3.985	773	3942	1	0.00
4	4.61		0.000	863440	14635325	1	
Totals			8.813	1404153	17153665		



```

=====
Sample Name: ICB                               Date: 05/05/1998 12:42:02
Data File  : C:\DX\DATA\980505K1.D07
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 7           Detector: COND
Analyst    :                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1  2250 5Hz  0.00  7.50      1000

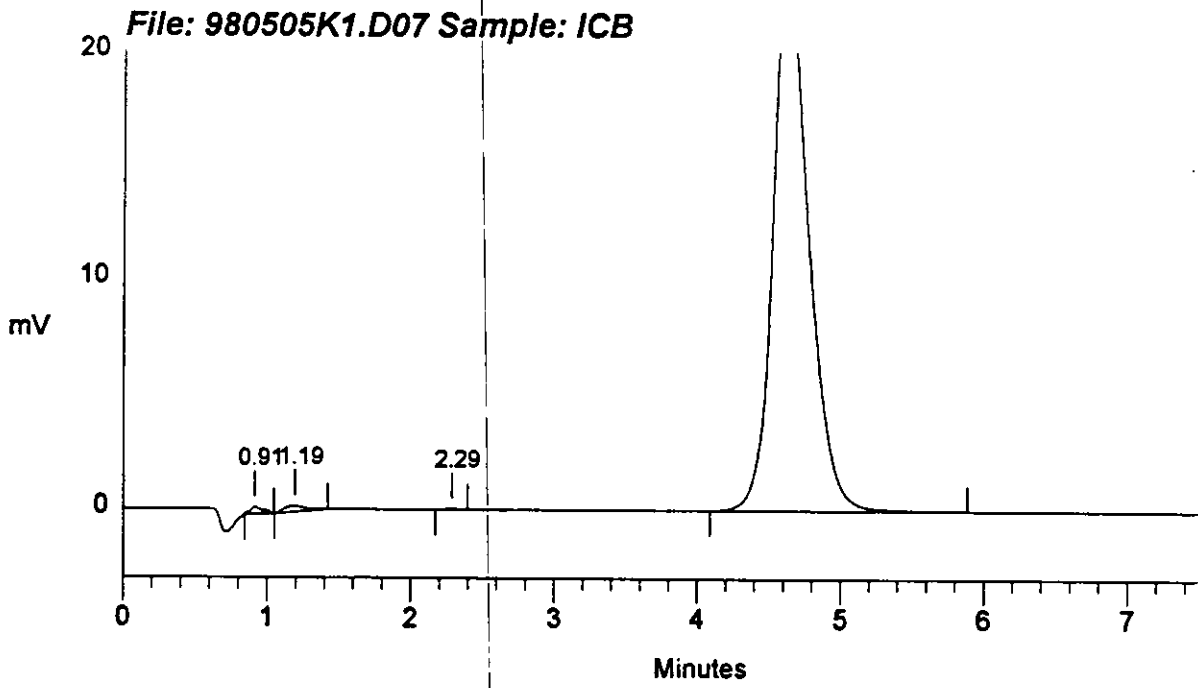
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10461	64639	1	
2	1.19	CHLORIDE	0.150 ✓ ND	8874	96020	1	0.00
3	2.29		0.000	642	3694	1	
4	4.61		0.000	815042	13792488	1	
Totals			0.150	835019	13956842		



Sample Name: REF 879-WC-57-11 Date: 05/05/1998 12:52:11
 Data File : C:\DX\DATA\980505K1.D08
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 8 Detector: COND
 Analyst : Column:

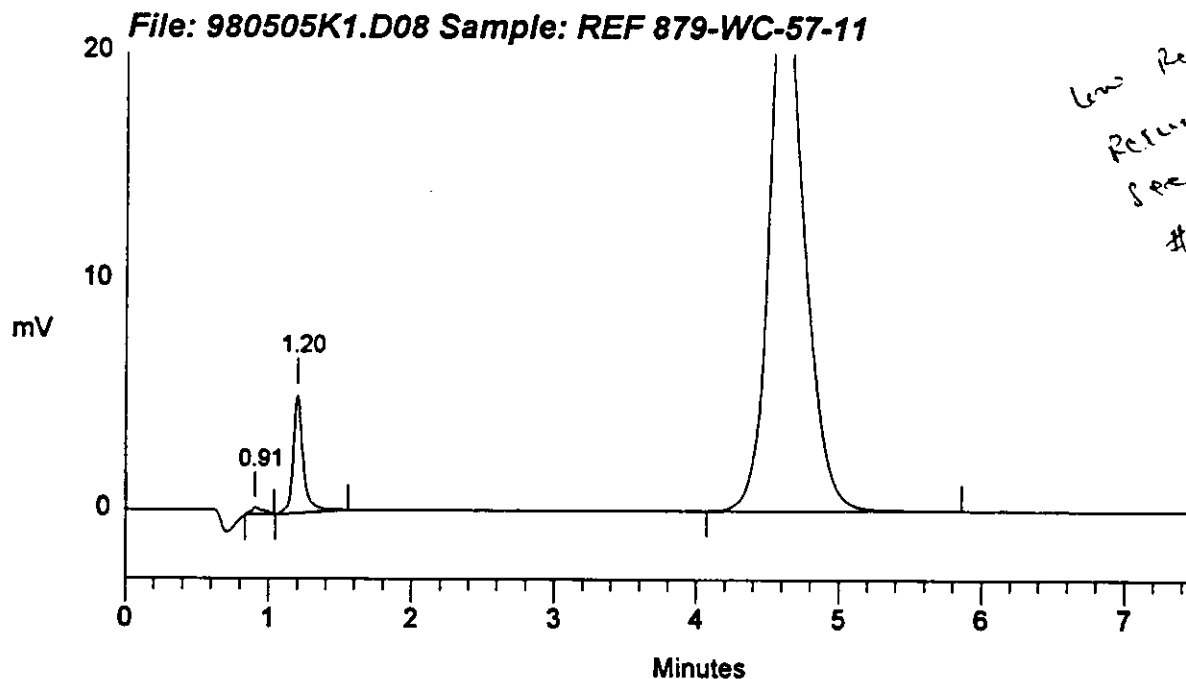
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11144	68707	1	
2	1.20	CHLORIDE	1.651 <i>TV: 2.01</i>	83% 171798	848873	1	0.00
3	4.58		0.000	809999	13735620	1	
Totals			1.651	992941	14653200		



*low recovery
 Return
 see analysis
 # 8 @ 13:14
 Khandel
 5/11/98*

Sample Name: REF DUP

Date: 05/05/1998 13:02:19

Data File : C:\DX\DATA\980505K1.D09

Method : C:\DX\METHOD\LINH2SO4.met

Cell Address: 2 System: 1 Inject#: 9

Detector: COND

Analyst :

Column:

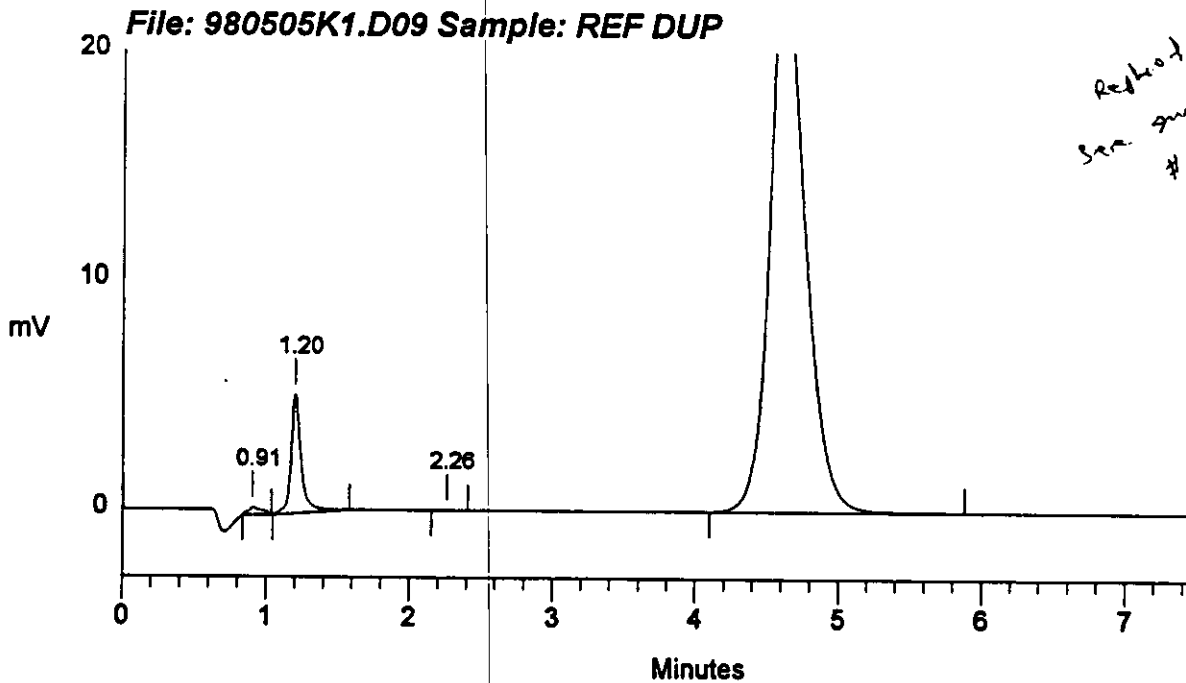
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	2250	5Hz	0.00	7.50		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11167	69337	1	
2	1.20	CHLORIDE	1.682	172675	864426	1	0.00
3	2.26		0.000	738	4354	1	
4	4.61		0.000	831894	13858929	1	
Totals			1.682	1016474	14797047		



```

=====
Sample Name: REF 879-WC-57-11          Date: 05/05/1998 13:14:17
Data File  : C:\DX\DATA\980505L1.D08
Method     : C:\DX\METHOD\LINH2SO4.met
Injection  : 2 System: 1 Inject#: 8    Detector: COND
Analyst    :                          Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           1 2250 5Hz 0.00 7.50      1000
-----

```

***** Components Not Found In This Run *****

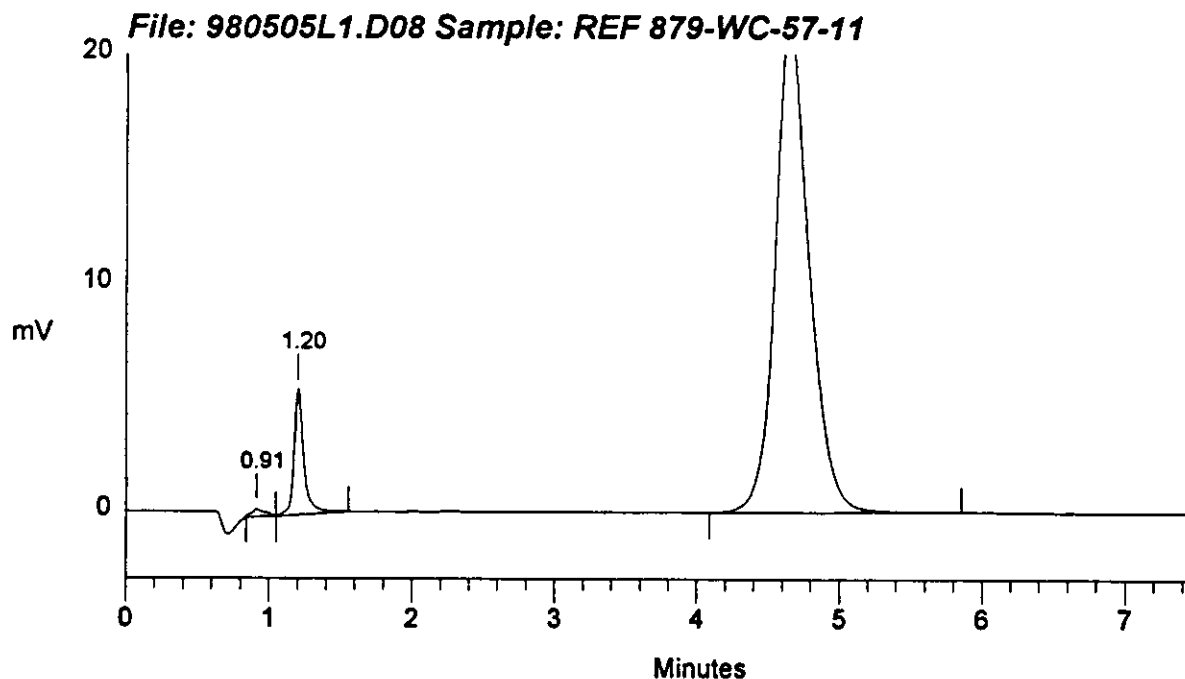
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85           1
BROMIDE        2.01           3
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10875	68306	1	
2	1.20	CHLORIDE	1.743 <i>2x 87%</i>	183603	895167	1	0.00
3	4.63		0.000	715943	11910524	1	
Totals			1.743	910420	12873996		



Sample Name: REF DUP Date: 05/05/1998 13:24:26
 Data File : C:\DX\DATA\980505L1.D09
 .hod : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 9 Detector: COND
 Analyst : Column:

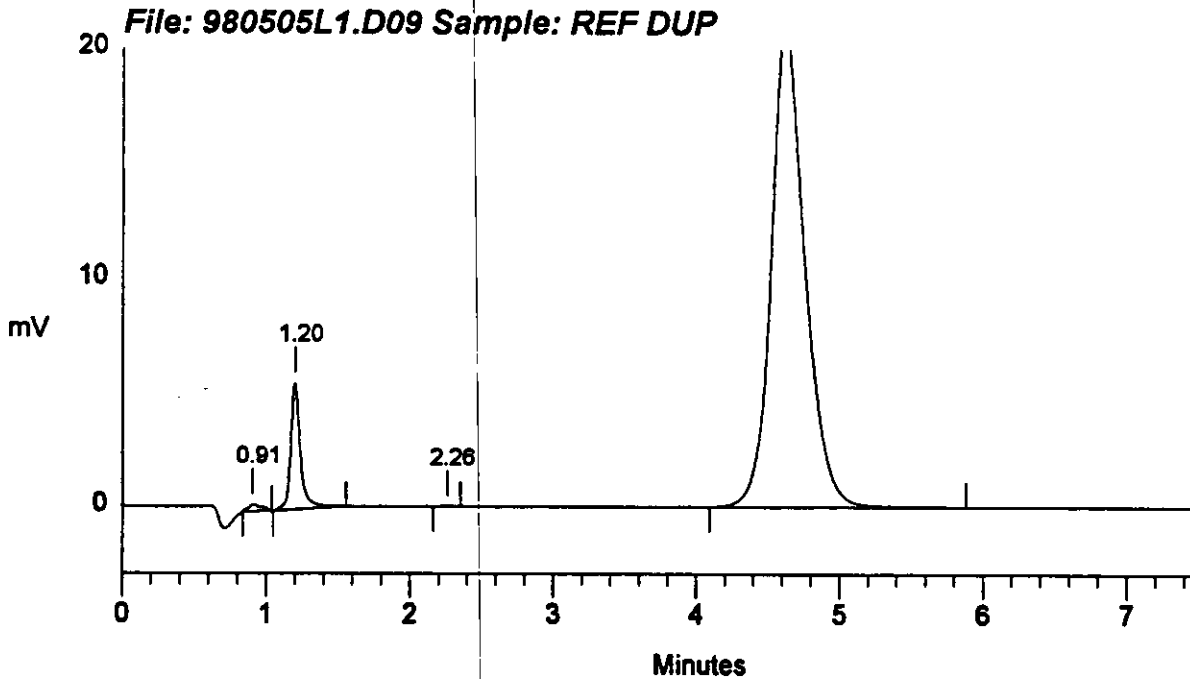
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	2250	5Hz	0.00	7.50		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10827	67443	1	
2	1.20	CHLORIDE	1.741 <i>TV 2.0177</i>	187750 <i>87%</i>	894100	1	0.00
3	2.26		0.000	548	3010	1	
4	4.61		0.000	689986	11531612	1	
Totals			1.741	889110	12496164		



```

=====
Sample Name: 98821-1 5X                               Date: 05/05/1998 13:34:34
Data File  : C:\DX\DATA\980505K1.D10
Method     : C:\DX\METHOD\LINH2SO4.met
Address: 2 System: 1 Inject#: 10                      Detector:COND
Analyst    :                                           Column:
=====

```

```

-----
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1             5  2250  5Hz  0.00  7.50      1000
-----

```

***** Components Not Found In This Run *****

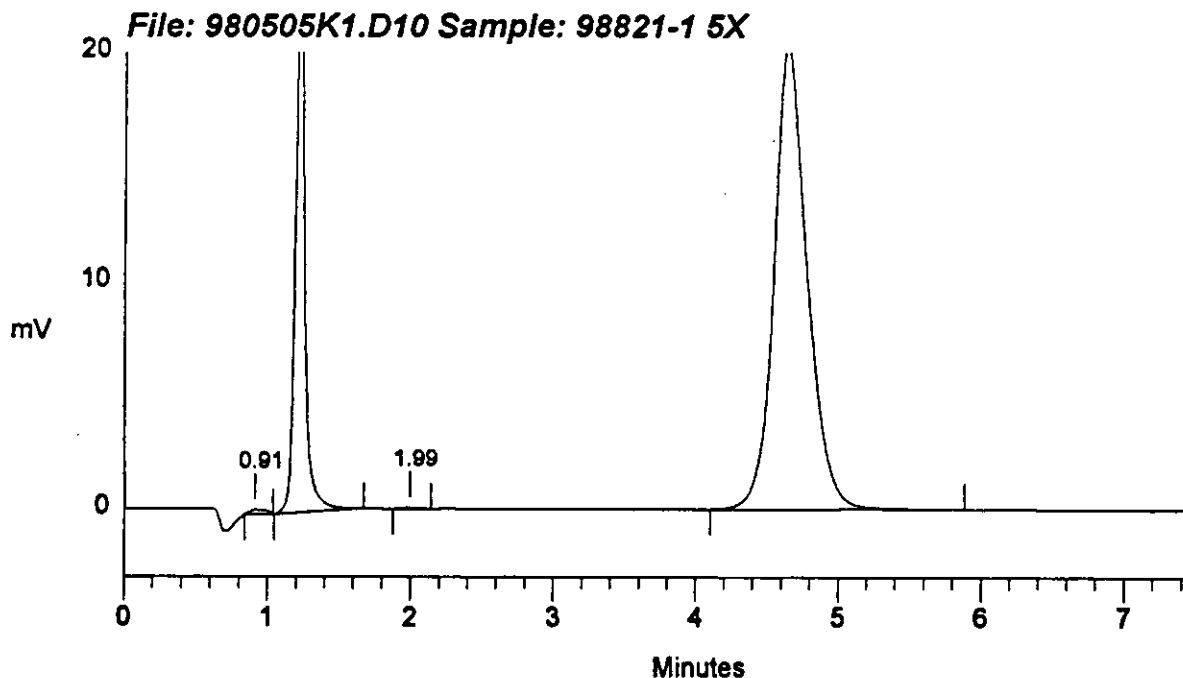
```

-----
Name                Adjusted Ret Time  Reference Peak
-----
FLUORIDE            0.85                1
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	7403	55538	1	
2	1.23	CHLORIDE	37.021 ✓	826914	3734310	1	0.00
3	1.99	BROMIDE	19.297	1832	9835	1	0.00
4	4.63		0.000	672272	11041158	1	
Totals			56.317	1508421	14840841		



```

Sample Name: 98821-1 DUP 5X      Date: 05/05/1998 13:44:44
Data File  : C:\DX\DATA\980505K1.D11
Method     : C:\DX\METHOD\LINH2SO4.met
Acq Address: 2 System: 1 Inject#: 11
Analyst    :                      Column:
Detector: COND
  
```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           5   2250  5Hz   0.00  7.50      1000
  
```

***** Components Not Found In This Run *****

```

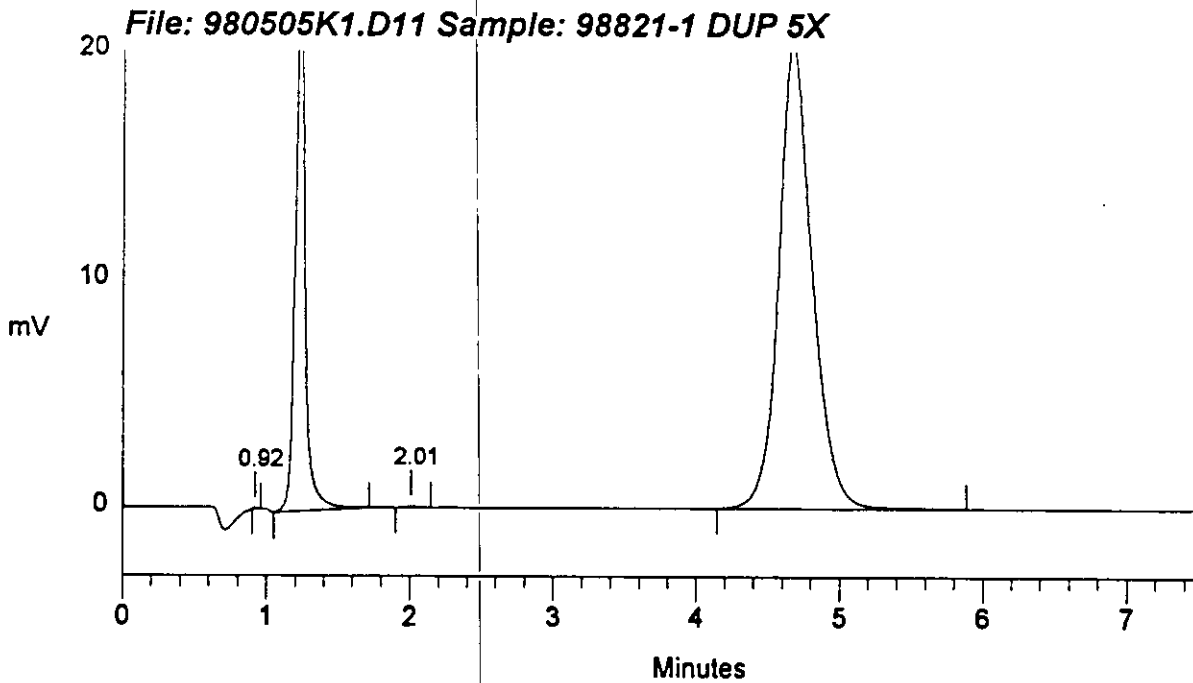
Name Adjusted Ret Time Reference Peak
-----
  
```

```

FLUORIDE          0.85              1
  
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.92		0.000	1435	2663	1	
2	1.23	CHLORIDE	37.371 ✓	824561	3769511	1	0.00
3	2.01	BROMIDE	19.308	1831	9730	1	0.00
4	4.66		0.000	677298	11086820	1	
Totals			56.679	1505125	14868724		




```

=====
Sample Name: 98821-2 10X                               Date: 05/05/1998 13:54:54
Data File  : C:\DX\DATA\980505K1.D12
Method     : C:\DX\METHOD\LINH2SO4.met
Address    : 2 System: 1 Inject#: 12
Analyst    :                                           Column:
Detector: COND
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           10 2250 5Hz 0.00 7.50          1000

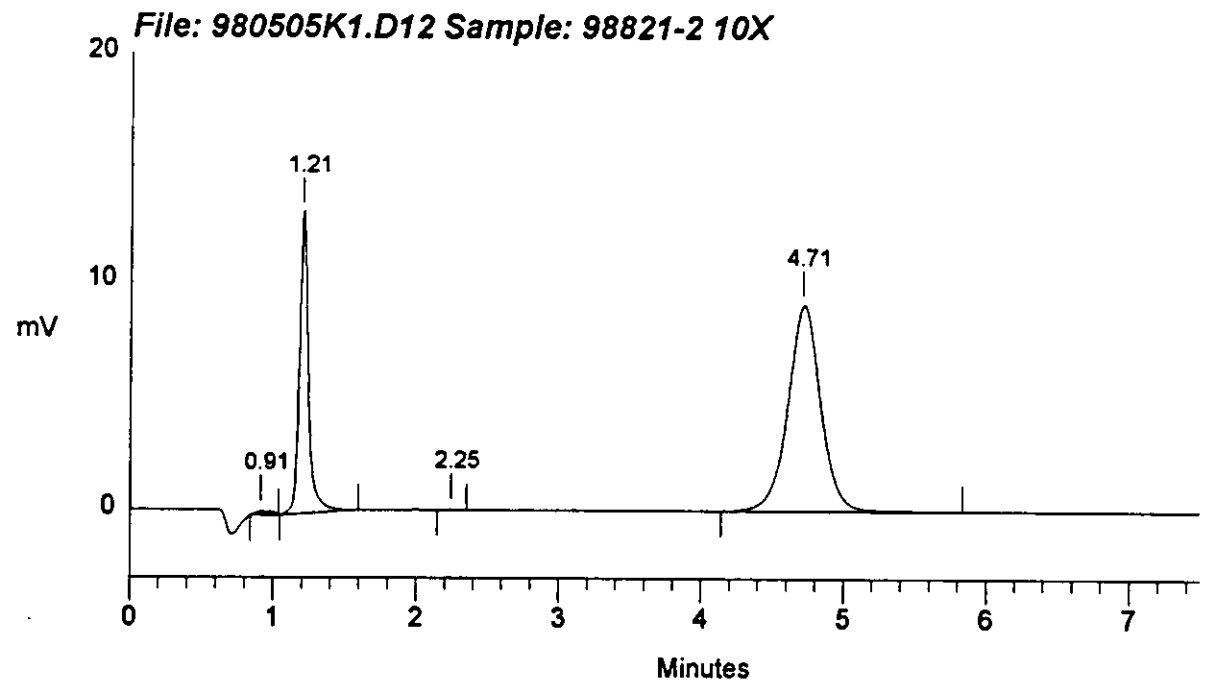
```

***** Components Not Found In This Run *****

name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	5353	45835	1	
2	1.21	CHLORIDE	38.227 ✓	438670	1938093	1	0.00
3	2.25		0.000	783	4476	1	
4	4.71		0.000	298758	4836075	1	
Totals			38.227	743565	6824479		



```

Sample Name: 98821-2 DUP 10X                               Date: 05/05/1998 14:05:02
Data File  : C:\DX\DATA\980505K1.D13
Method     : C:\DX\METHOD\LINH2SO4.met
Sample Address: 2 System: 1 Inject#: 13
Analyst    :                                               Column:
Detector: COND
  
```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           10  2250  5Hz  0.00  7.50      1000
  
```

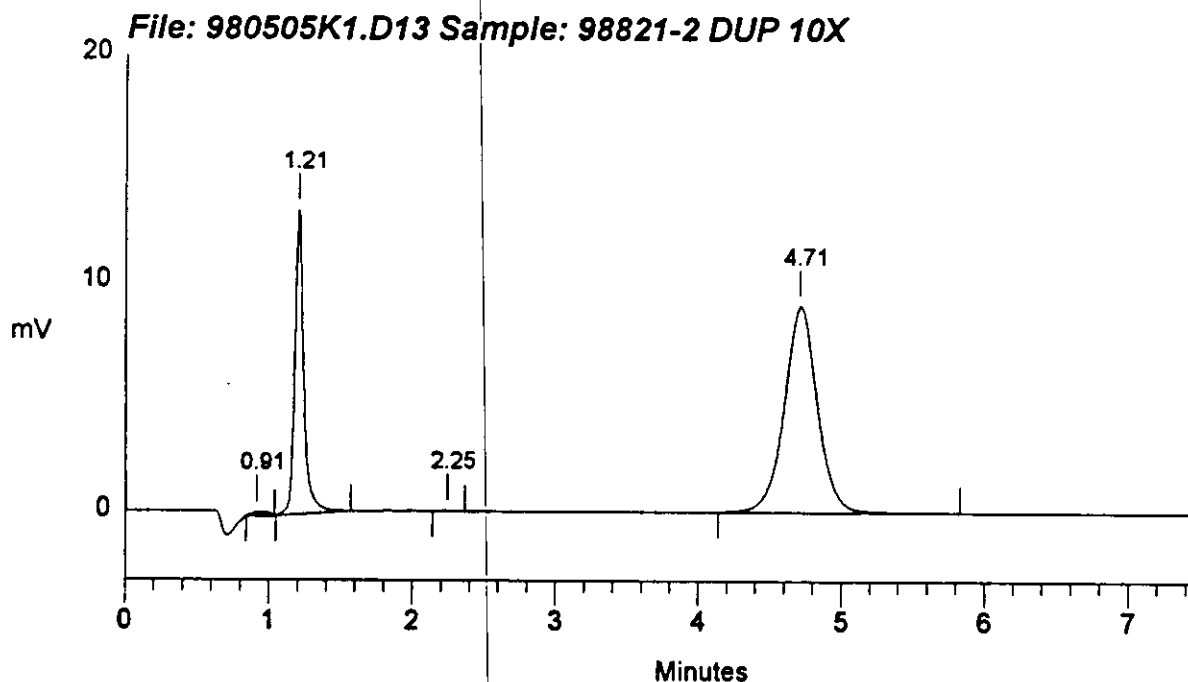
***** Components Not Found In This Run *****

```

Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85           1
BROMIDE        2.01           3
  
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	5368	44885	1	
2	1.21	CHLORIDE	38.046 ✓	443833	1929018	1	0.00
3	2.25		0.000	691	4132	1	
4	4.71		0.000	298154	4808184	1	
Totals			38.046	748047	6786218		



```

=====
Sample Name: 98821-2 MS 10X                               Date: 05/05/1998 14:15:11
Data File  : C:\DX\DATA\980505K1.D14
Method     : C:\DX\METHOD\LINH2SO4.met
Address: 2 System: 1 Inject#: 14                          Detector: COND
Analyst    :                                               Column:
=====

```

```

-----
Calibration Volume  Dilution Points Rate Start Stop Area Reject
-----
External           1           10 2250 5Hz 0.00 7.50      1000
-----

```

***** Components Not Found In This Run *****

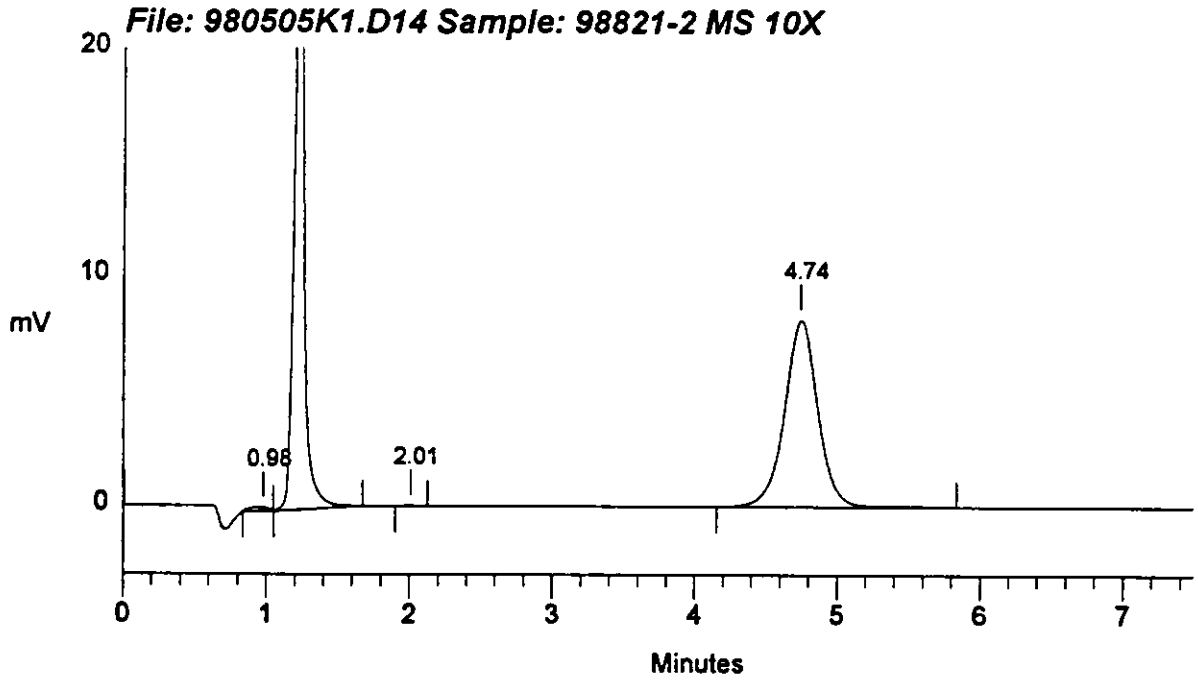
```

-----
Name                Adjusted Ret Time Reference Peak
-----
FLUORIDE            0.85                1
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	5704	51639	1	
2	1.23	CHLORIDE	91.429 ✓	1053570	4606365	1	0.00
3	2.01	BROMIDE	39.901	733	3718	1	0.00
4	4.74		0.000	270278	4415350	1	
Totals			131.329	1330284	9077072		



```

=====
Sample Name: 98821-2 MS DUP 10X          Date: 05/05/1998 14:25:19
Data File  : C:\DX\DATA\980505K1.D15
             : C:\DX\METHOD\LINH2SO4.met
Acq Address: 2 System: 1 Inject#: 15      Detector: COND
Analyst    :                             Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           10  2250 5Hz  0.00  7.50      1000

```

***** Components Not Found In This Run *****

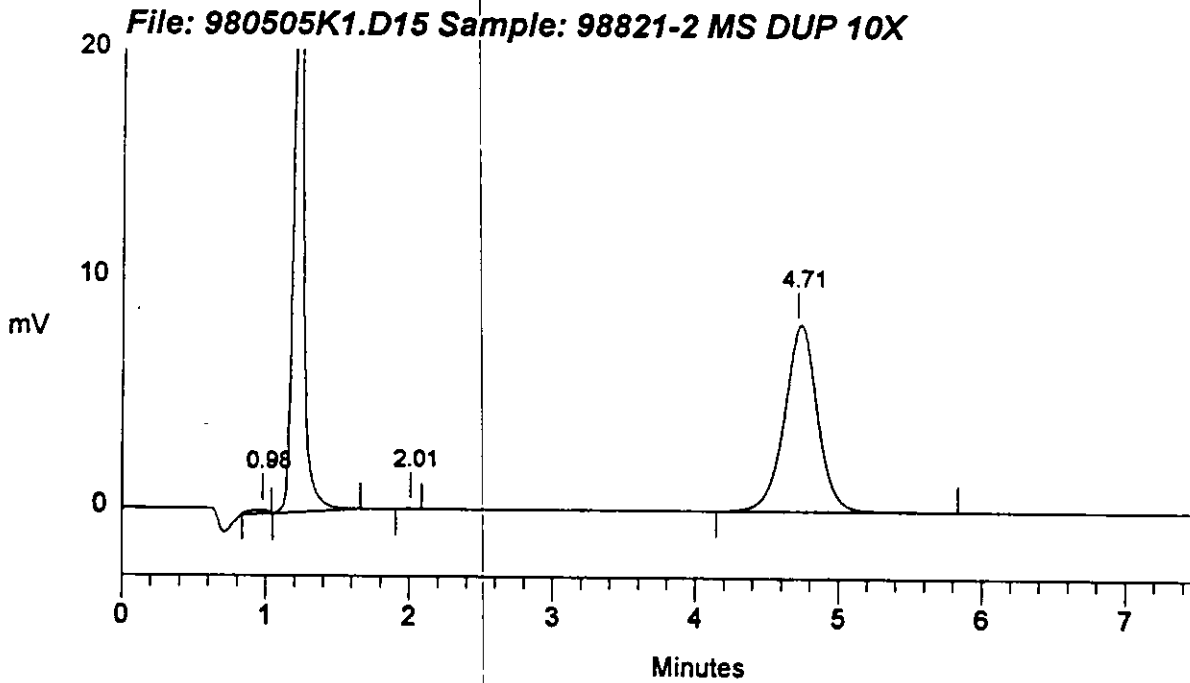
```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE 0.85 1

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	5533	49043	1	
2	1.22	CHLORIDE	91.223 ✓	1030553	4596039	1	0.00
3	2.01	BROMIDE	39.952	689	3480	1	0.00
4	4.71		0.000	265127	4400458	1	
Totals			131.174	1301902	9049021		



```

=====
Sample Name: CCV                               Date: 05/05/1998 14:35:28
Data File  : C:\DX\DATA\980505K1.D16
Method     : C:\DX\METHOD\LINH2SO4.met
Unit Address: 2 System: 1 Inject#: 16         Detector: COND
Analyst    :                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1 2250 5Hz 0.00 7.50      1000
-----

```

***** Components Not Found In This Run *****

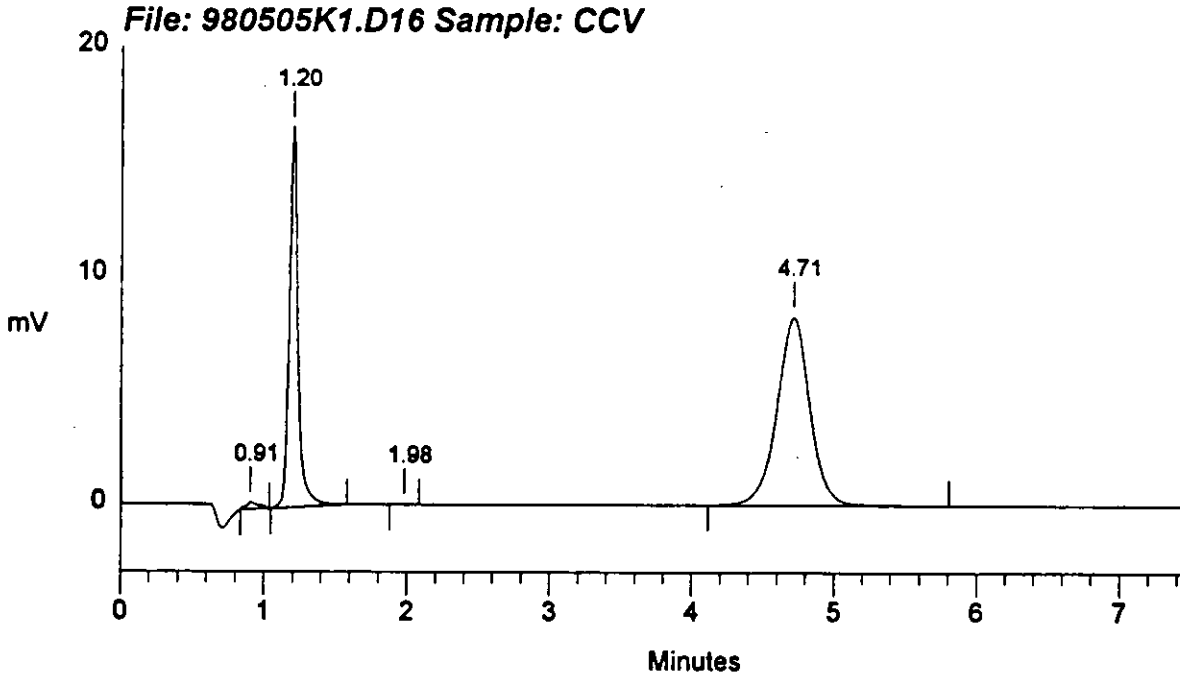
```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE 0.85 1
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10335	64376	1	
2	1.20	CHLORIDE	4.665	553369	2360591	1	0.00
3	1.98	BROMIDE	3.987	763	3856	1	0.00
4	4.71		0.000	273736	4439708	1	
Totals			8.652	838203	6868532		



```

=====
Sample Name: CCB                               Date: 05/05/1998 14:45:36
Data File  : C:\DX\DATA\980505K1.D17
Method     : C:\DX\METHOD\LINH2SO4.met
Unit Address: 2 System: 1 Inject#: 17         Detector:COND
Analyst    :                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1    2250  5Hz   0.00  7.50      1000
-----

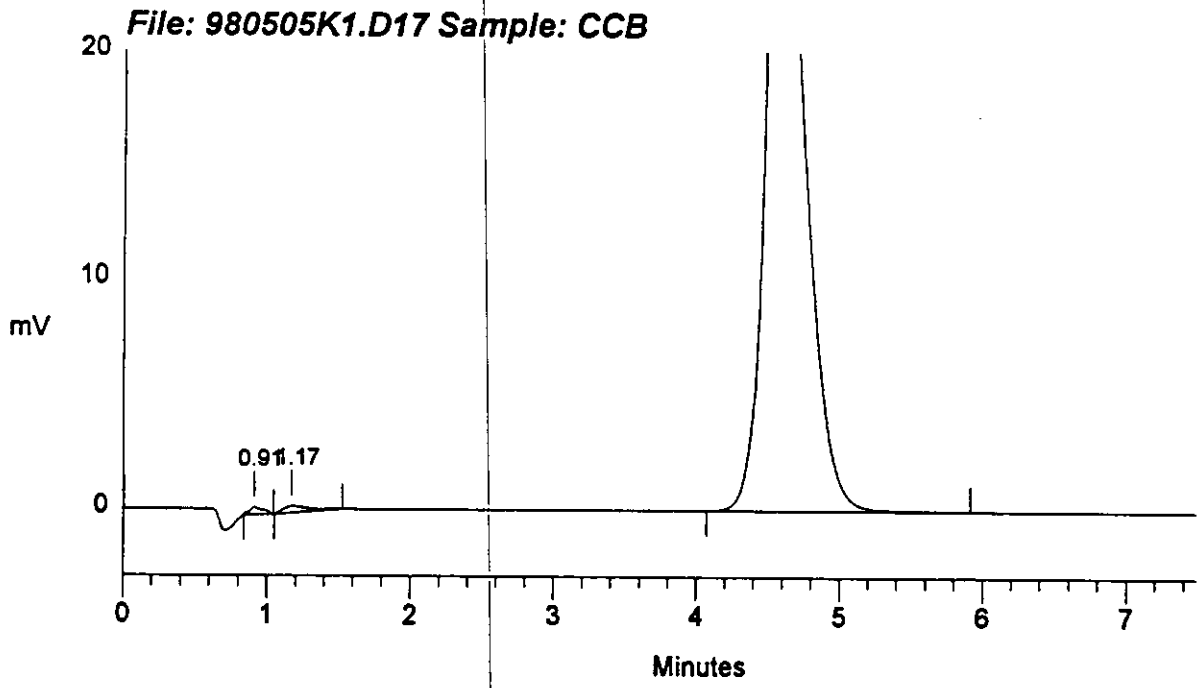
```

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11131	71690	1	
2	1.17	CHLORIDE	0.229 <i>nd</i>	10939	135465	1	0.00
3	4.55		0.000	1146507	20414425	1	
Totals			0.229	1168577	20621580		



```

=====
Sample Name: 98821-2 SD 10X                               Date: 05/05/1998 14:55:45
Data File  : C:\DX\DATA\980505K1.D18
Method     : C:\DX\METHOD\LINH2SO4.met
Cell Address: 2 System: 1 Inject#: 18                      Detector:COND
Analyst    :                                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           10  2250  5Hz  0.00  7.50       1000

```

***** Components Not Found In This Run *****

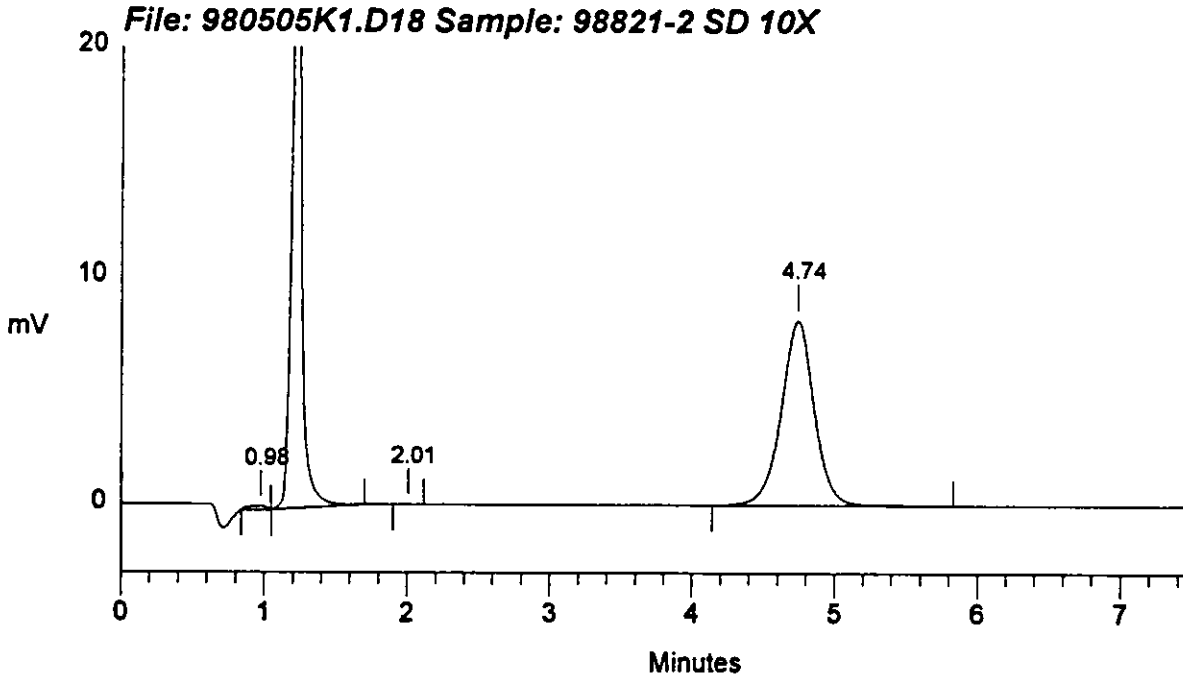
```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE           0.85           1

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	5585	49123	1	
2	1.23	CHLORIDE	91.588 ✓	1055571	4614346	1	0.00
3	2.01	BROMIDE	39.886	718	3785	1	0.00
4	4.74		0.000	272670	4423560	1	
Totals			131.474	1334545	9090814		



Sample Name: 98821-2 SD DUP 10X Date: 05/05/1998 15:05:50
 Data File : C:\DX\DATA\980505K1.D19
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 19 Detector: COND
 Analyst : Column:

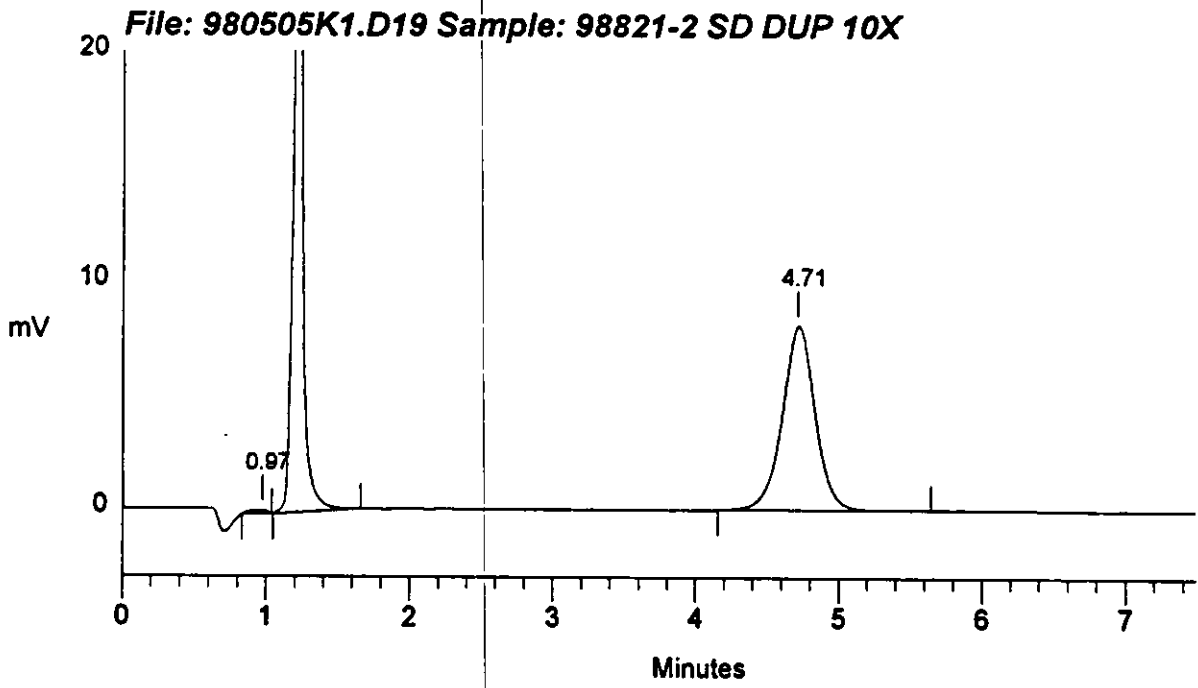
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 10 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.97		0.000	5656	50375	1	
2	1.22	CHLORIDE	90.739 ✓	1048722	4571798	1	0.00
3	4.71		0.000	270082	4380699	1	
Totals			90.739	1324460	9002872		




```

=====
Sample Name: 98821-3 5X                               Date: 05/05/1998 15:15:58
Data File  : C:\DX\DATA\980505K1.D20
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 20                 Detector: COND
Analyst    :                                           Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           5   2250  5Hz  0.00  7.50      1000
-----

```

***** Components Not Found In This Run *****

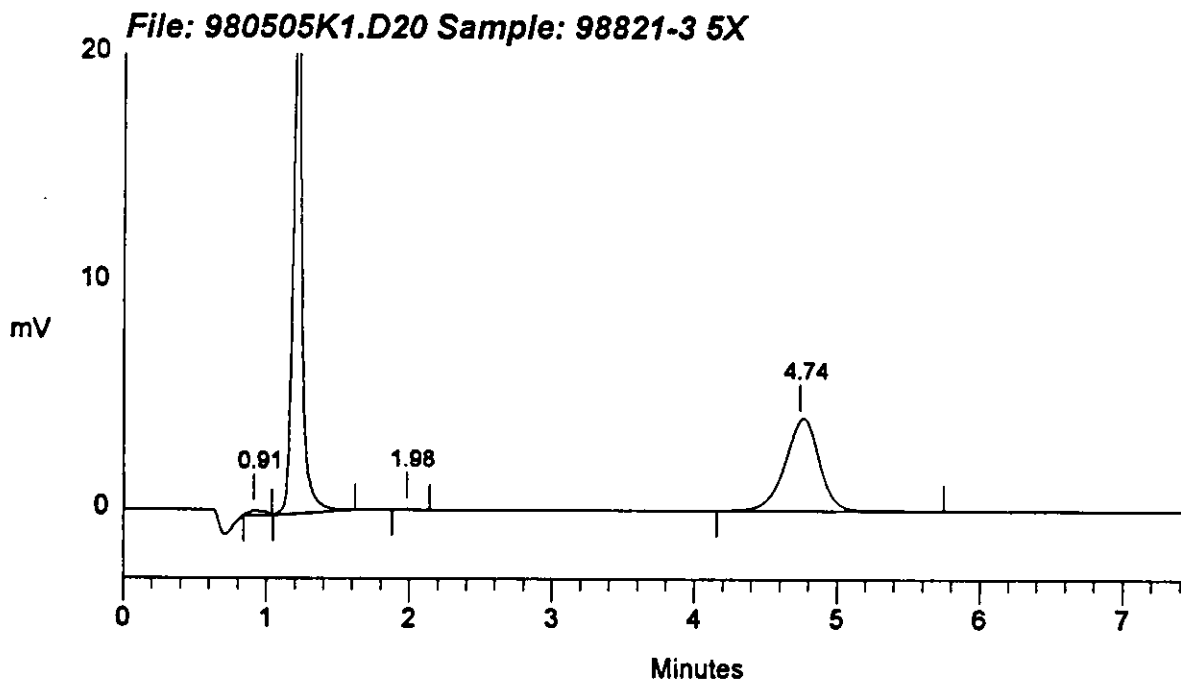
```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE           0.85             1
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	7081	51894	1	
2	1.21	CHLORIDE	33.572 ✓	796761	3388389	1	0.00
3	1.98	BROMIDE	19.475	1488	8168	1	0.00
4	4.74		0.000	131125	2268653	1	
Totals			53.047	936455	5717104		



Sample Name: 98821-7 DUP
 Data File : C:\DX\DATA\980505L1.D31
 Method : C:\DX\METHOD\LINH2SO4.met
 Acq Address: 2 System: 1 Inject#: 31
 Analyst :

Date: 05/05/1998 17:48:39

Detector: COND
 Column:

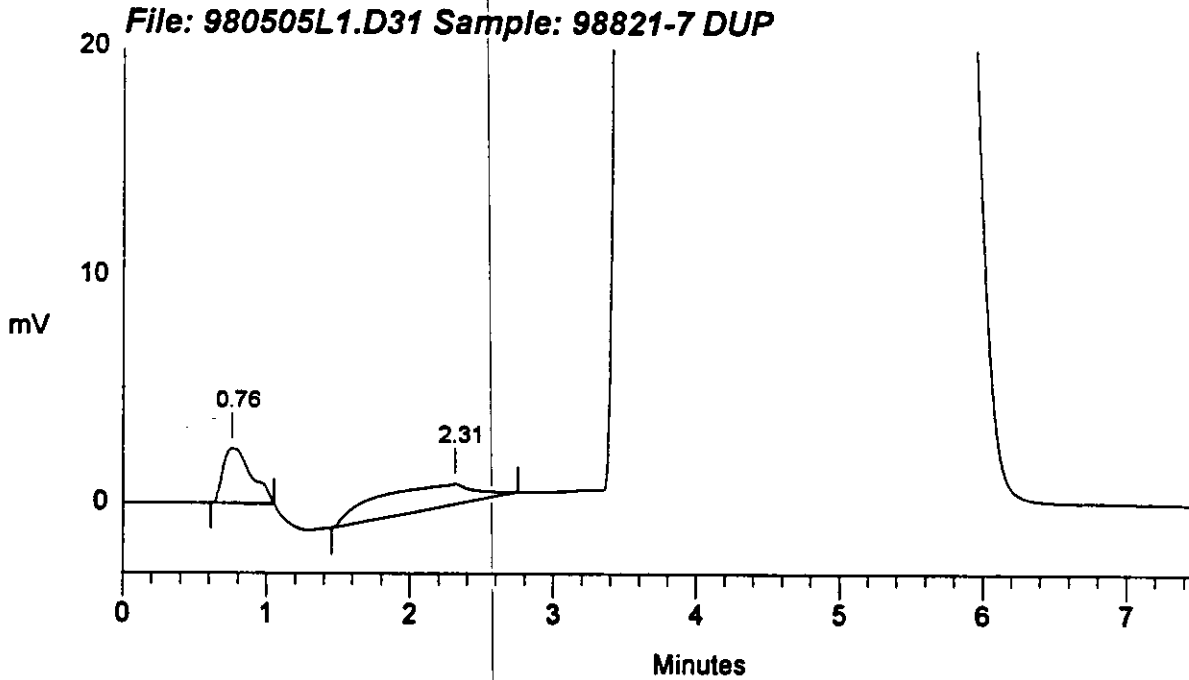
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	2250	5Hz	0.00	7.50		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
CHLORIDE	1.23	2
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.76		0.000	80172	1106431	1	
2	2.31		0.000	29883	1763827	1	
Totals			0.000	110055	2870258		



```

=====
Sample Name: 98821-3 DUP 5X                               Date: 05/05/1998 15:26:07
Data File  : C:\DX\DATA\980505K1.D21
Method     : C:\DX\METHOD\LINH2SO4.met
Cell Address: 2 System: 1 Inject#: 21                     Detector:COND
Analyst    :                                             Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           5  2250  5Hz  0.00  7.50      1000

```

***** Components Not Found In This Run *****

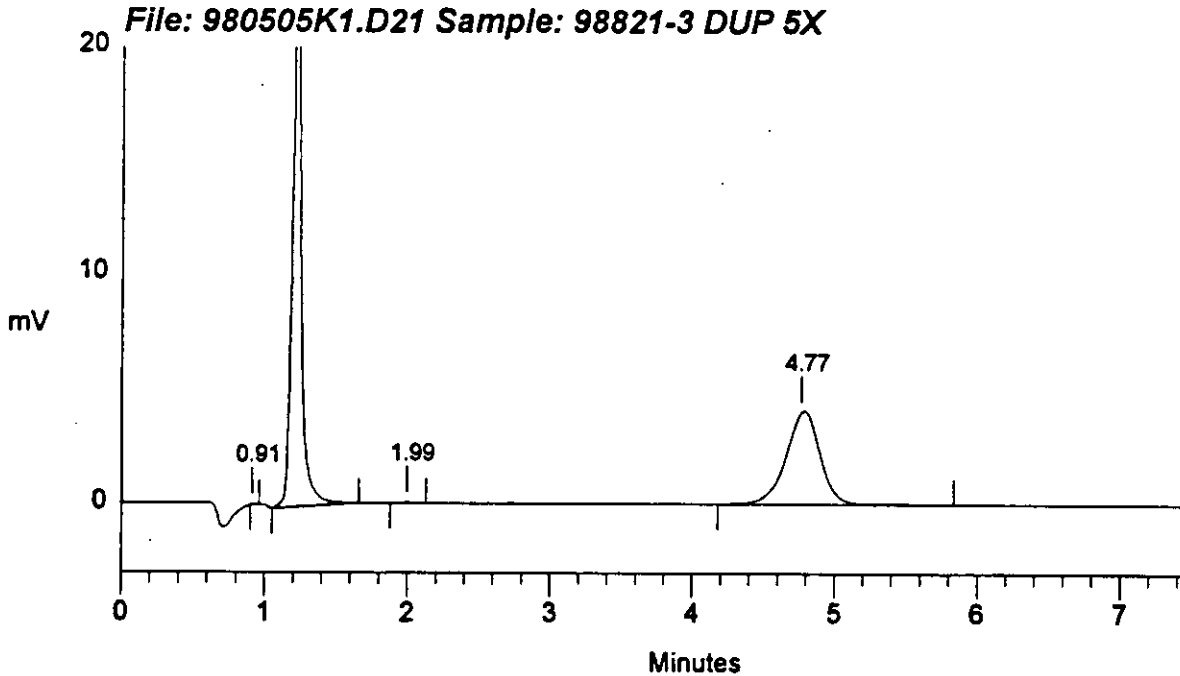
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85                1

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	1145	2144	1	
2	1.22	CHLORIDE	33.910✓	796954	3422279	1	0.00
3	1.99	BROMIDE	19.557	1379	7404	1	0.00
4	4.77		0.000	132472	2274498	1	
Totals			53.466	931950	5706324		



Sample Name: 98821-4 500X Date: 05/05/1998 15:36:16
 Data File : C:\DX\DATA\980505K1.D22
 Method : C:\DX\METHOD\LINH2SO4.met
 Lab Address: 2 System: 1 Inject#: 22 Detector: COND
 Analyst : Column:

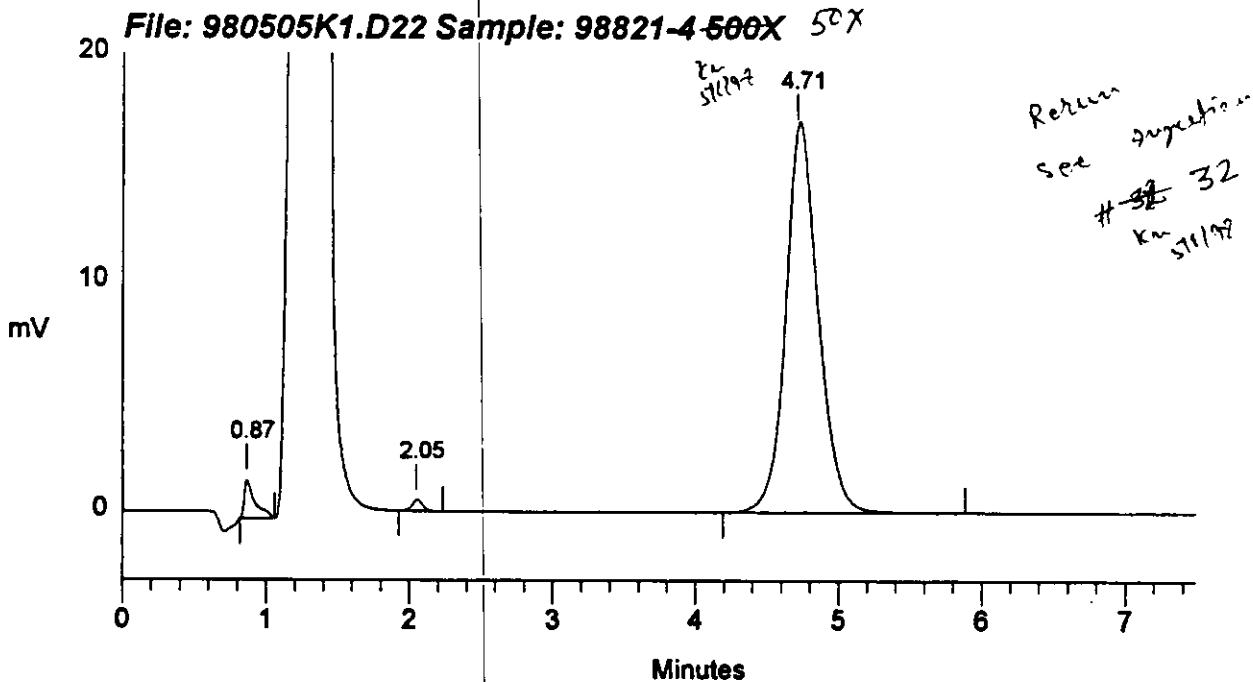
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	500	2250	5Hz	0.00	7.50		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	1.23	2

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.87	FLUORIDE	1040.056	56161	297782	1	0.00
2	2.05	BROMIDE	1126.560	15694	84991	1	0.00
3	4.71		0.000	557271	9016995	1	
Totals			2166.616	629127	9399767		



Sample Name: 98821-4 DUP 500X Date: 05/05/1998 15:46:25
 Data File : C:\DX\DATA\980505K1.D23
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 23 Detector: COND
 Analyst : Column:

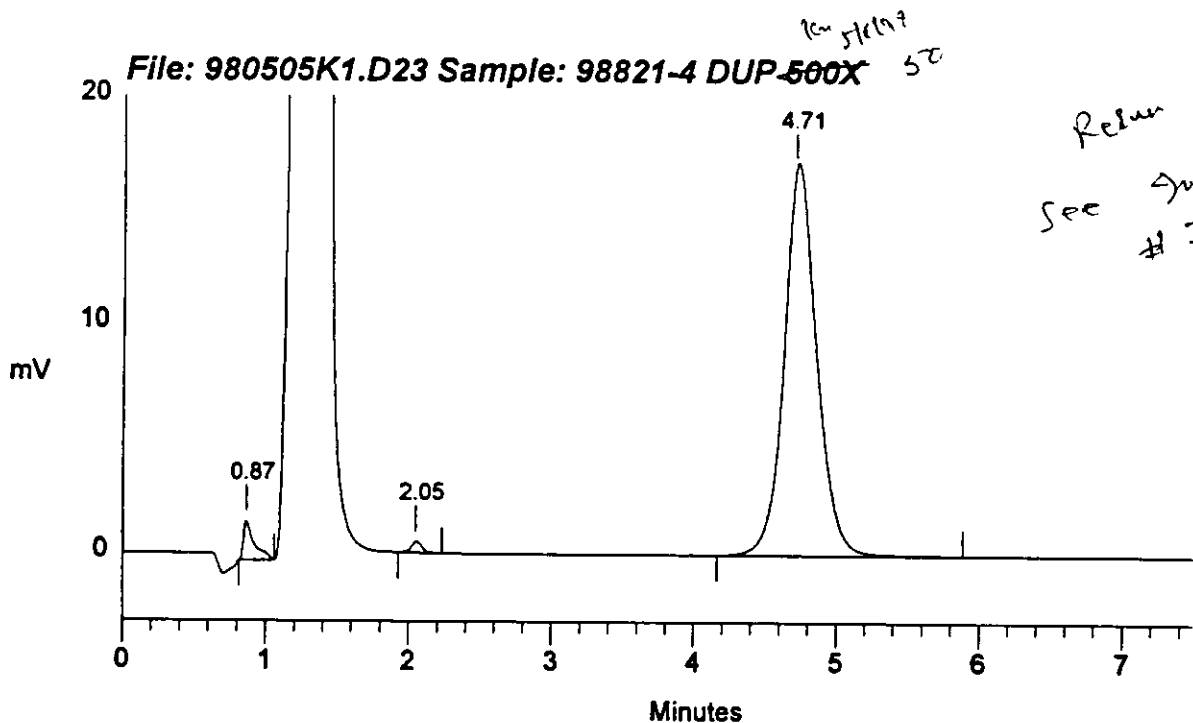
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 500 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name Adjusted Ret Time Reference Peak
 FLUORIDE 1.23 2

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.87	FLUORIDE	1054.403	56727	302728	1	0.00
2	2.05	BROMIDE	1128.381	15901	84820	1	0.00
3	4.71		0.000	562733	9054301	1	
Totals			2182.784	635362	9441849		



```

=====
Sample Name: 98821-5 500X                               Date: 05/05/1998 15:56:35
Data File  : C:\DX\DATA\980505K1.D24
Method     : C:\DX\METHOD\LINH2SO4.met
Address: 2 System: 1 Inject#: 24                         Detector: COND
Analyst   :                                             Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          500    2250  5Hz   0.00  7.50      1000

```

***** Components Not Found In This Run *****

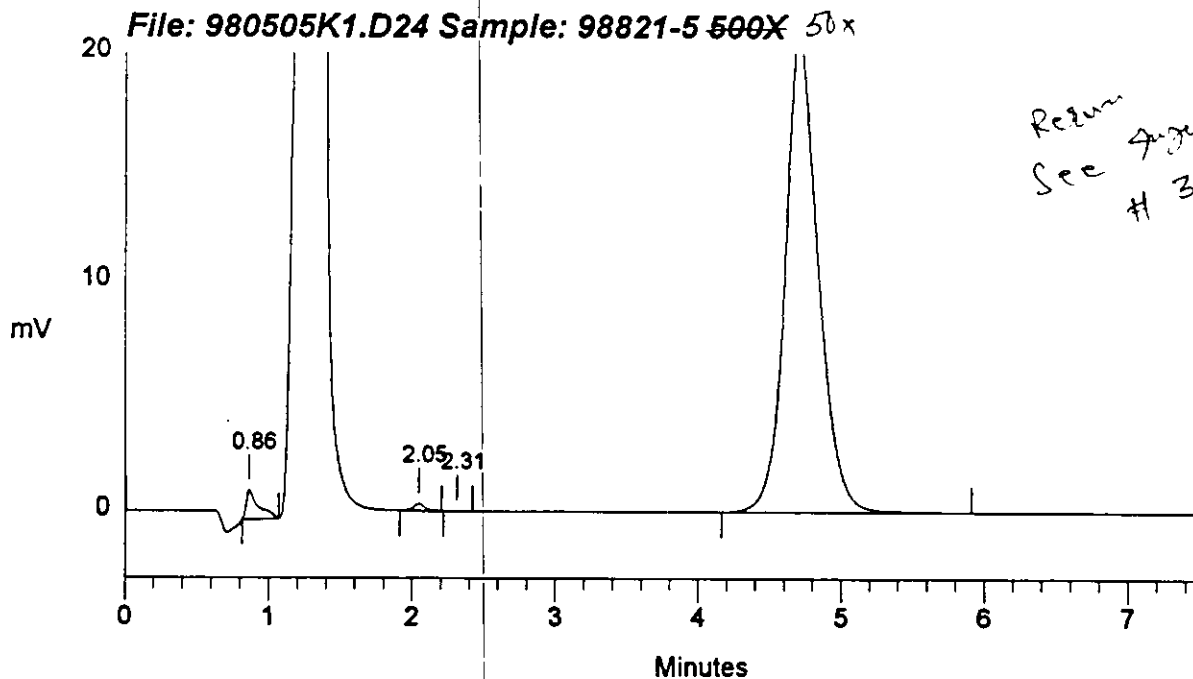
```

-----
Name Adjusted Ret Time Reference Peak
-----
CHLORIDE          1.23              2

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.86	FLUORIDE	908.087	42196	252286	1	0.00
2	2.05	BROMIDE	1451.727	10292	54561	1	0.00
3	2.31		0.000	814	4264	1	
4	4.69		0.000	681953	11177301	1	
Totals			2359.814	735254	11488412		



*Return
See Analysis
34*

```

=====
Sample Name: 98821-5 DUP 500X          Date: 05/05/1998 16:06:44
Data File  : C:\DX\DATA\980505K1.D25
Method     : C:\DX\METHOD\LINH2SO4.met
Address: 2 System: 1 Inject#: 25      Detector: COND
Analyst    :                          Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           500  2250  5Hz   0.00  7.50      1000
-----

```

***** Components Not Found In This Run *****

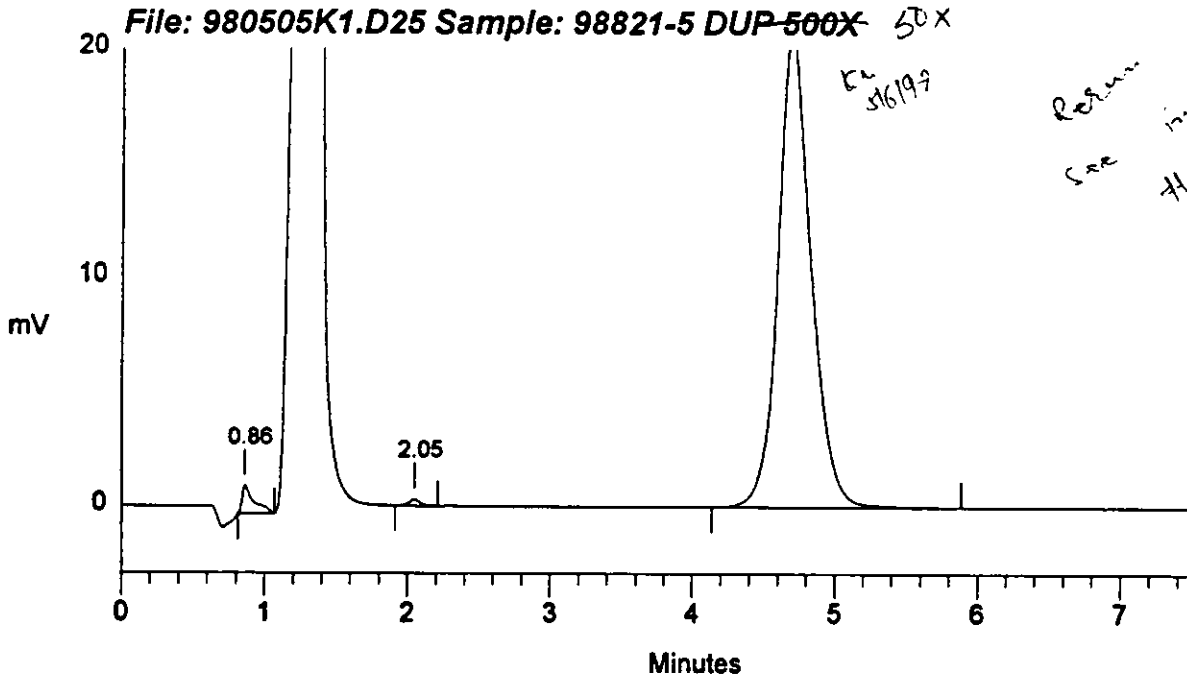
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       1.23                2
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.86	FLUORIDE	892.267	41735	246831	1	0.00
2	2.05	BROMIDE	1453.825	10294	54365	1	0.00
3	4.69		0.000	691107	11147546	1	
Totals			2346.092	743137	11448743		



Sample Name: 98821-6 500X Date: 05/05/1998 16:19:02
 Data File : C:\DX\DATA\980505K1.D26
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 26 Detector: COND
 Analyst : Column:

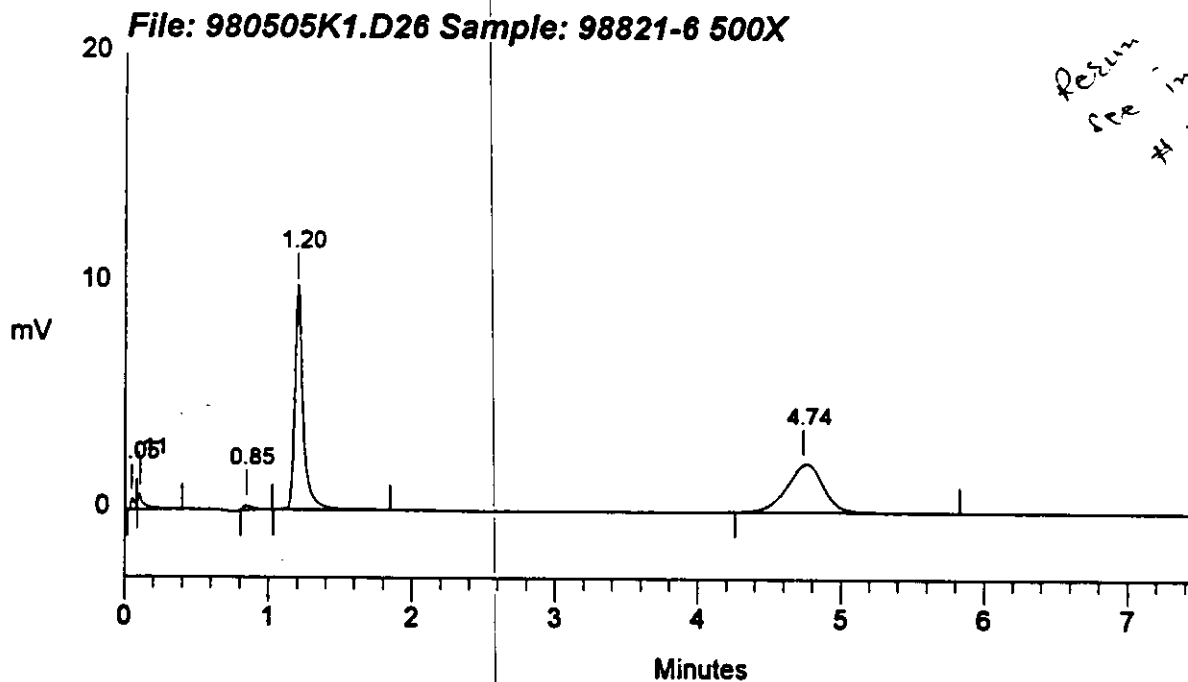
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 500 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FORMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.05		0.000	15551	32278	2	
2	0.11		0.000	21199	74827	2	
3	0.85	FLUORIDE	271.881	6633	32954	1	0.00
4	1.20	CHLORIDE	1341.792	323693	1366778	1	0.00
5	4.74		0.000	70291	1311386	1	
Totals			1613.672	437367	2818222		



Return
 see injection
 # 36


```

=====
Sample Name: 98821-6 DUP 500                               Date: 05/05/1998 16:29:11
Data File  : C:\DX\DATA\980505K1.D27
Method     : C:\DX\METHOD\LINH2SO4.met
Injection  : 2 System: 1 Inject#: 27                      Detector: COND
Analyst    :                                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           500  2250  5Hz   0.00  7.50      1000
-----

```

***** Components Not Found In This Run *****

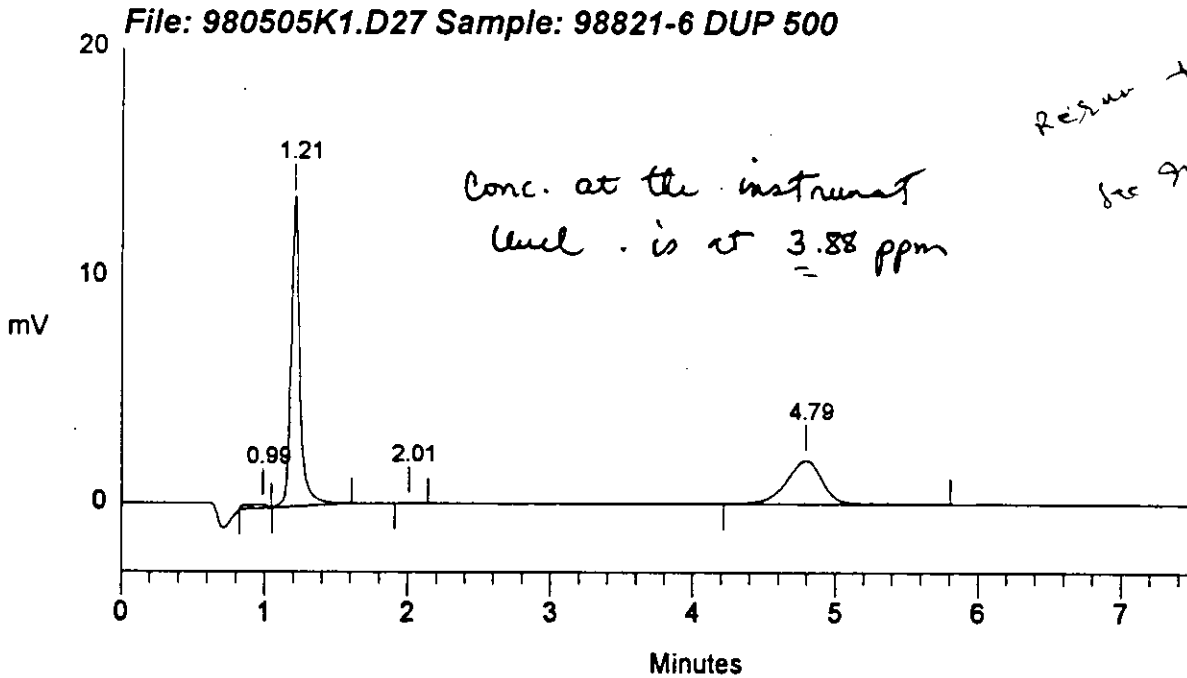
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85                1
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	5369	55951	1	
2	1.21	CHLORIDE	1941.100	449009	1967932	1	0.00
3	2.01	BROMIDE	1985.225	880	4636	1	0.00
4	4.79		0.000	64240	1134660	1	
Totals			3926.325	519498	3163179		



Sample Name: CCV
 Data File : C:\DX\DATA\980505K1.D28
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 28
 Analyst :

Date: 05/05/1998 16:39:19

Detector: COND
 Column:

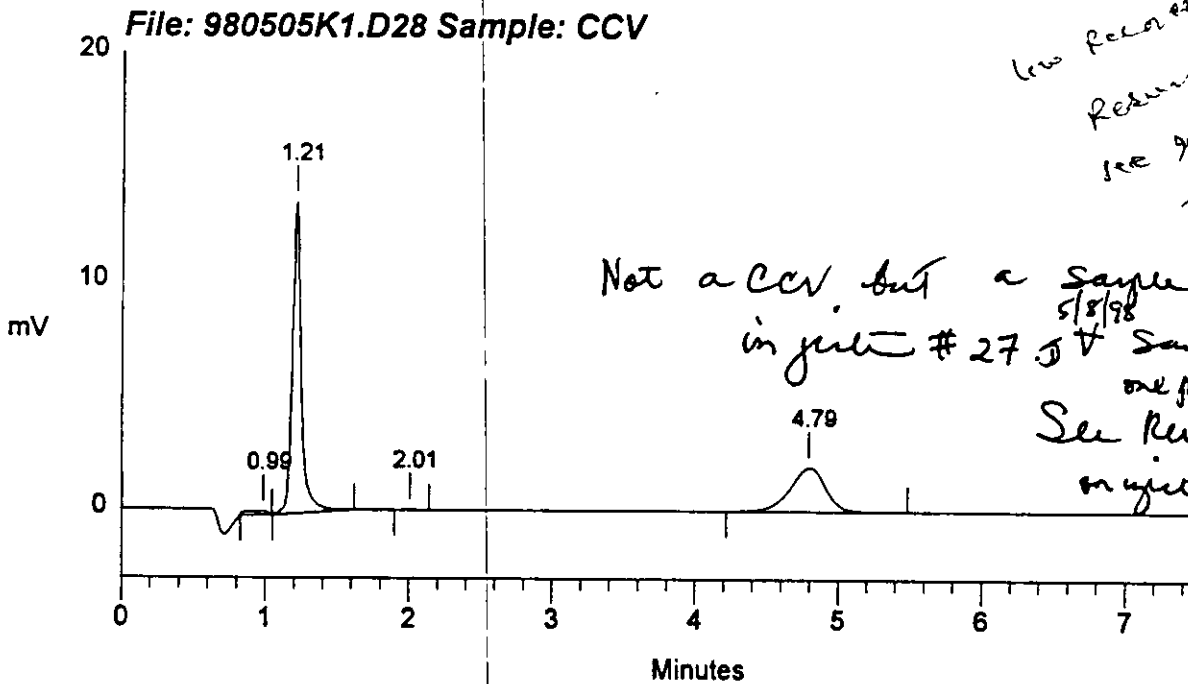
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name Adjusted Ret Time Reference Peak
 FLUORIDE 0.85 1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	5189	53917	1	
2	1.21	CHLORIDE	3.899	78% 455949	1976131	1	0.00
3	2.01	BROMIDE	3.958	976	5242	1	0.00
4	4.79		0.000	63902	1129255	1	
Totals			7.856	526016	3164544		



*low retention
 Return
 see 9/9/98
 # 2A*

*Not a CCV, but a sample Dup of
 5/8/98
 in jett # 27. Sample vial mix,
 one pointer off.
 See Return
 on jett 37*

12-51198

Sample Name: ~~CCB~~ *CCV* Date: 05/05/1998 16:49:25
 Data File : C:\DX\DATA\980505K1.D29
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 29 Detector: COND
 Analyst : Column:

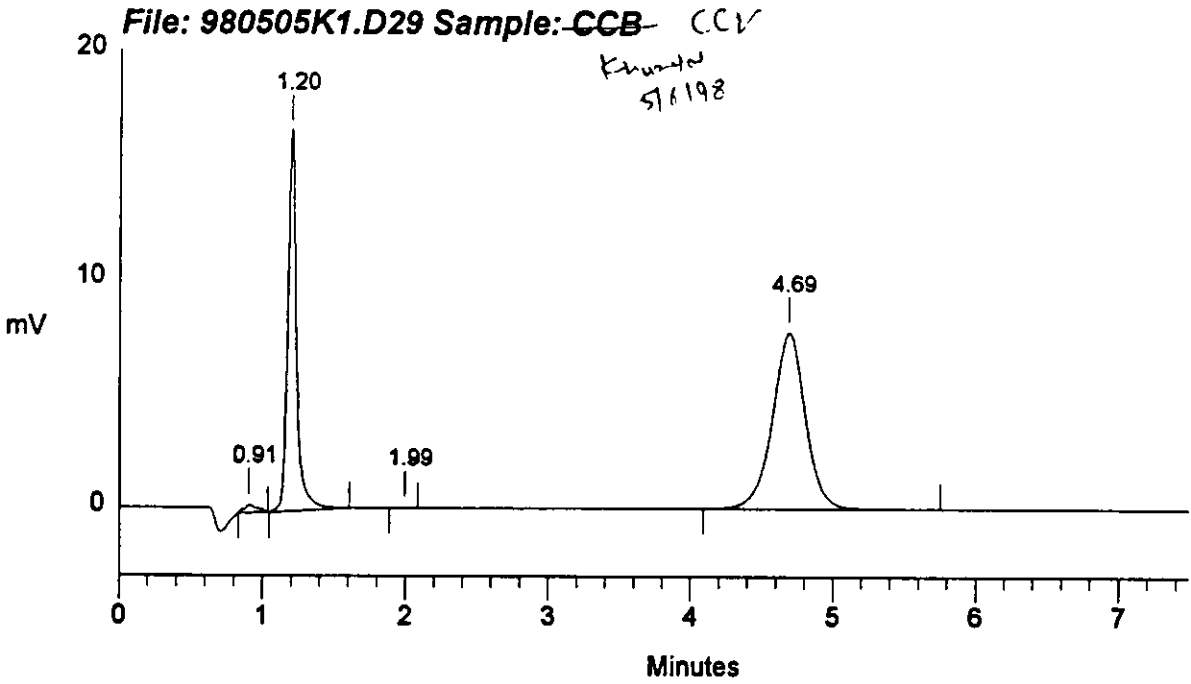
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name Adjusted Ret Time Reference Peak
 FLUORIDE 0.85 1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	11858	75432	1	
2	1.20	CHLORIDE	4.718 <i>TV 5.0 ppm</i>	554371 <i>94%</i>	2387326	1	0.00
3	1.99	BROMIDE	3.998	635	3336	1	0.00
4	4.69		0.000	255525	4136380	1	
Totals			8.717	822389	6602474		



Sample Name: CCB
 Data File : C:\DX\DATA\980505L1.D29
 Method : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 29
 Analyst : Column:

Date: 05/05/1998 17:00:14

Detector:COND

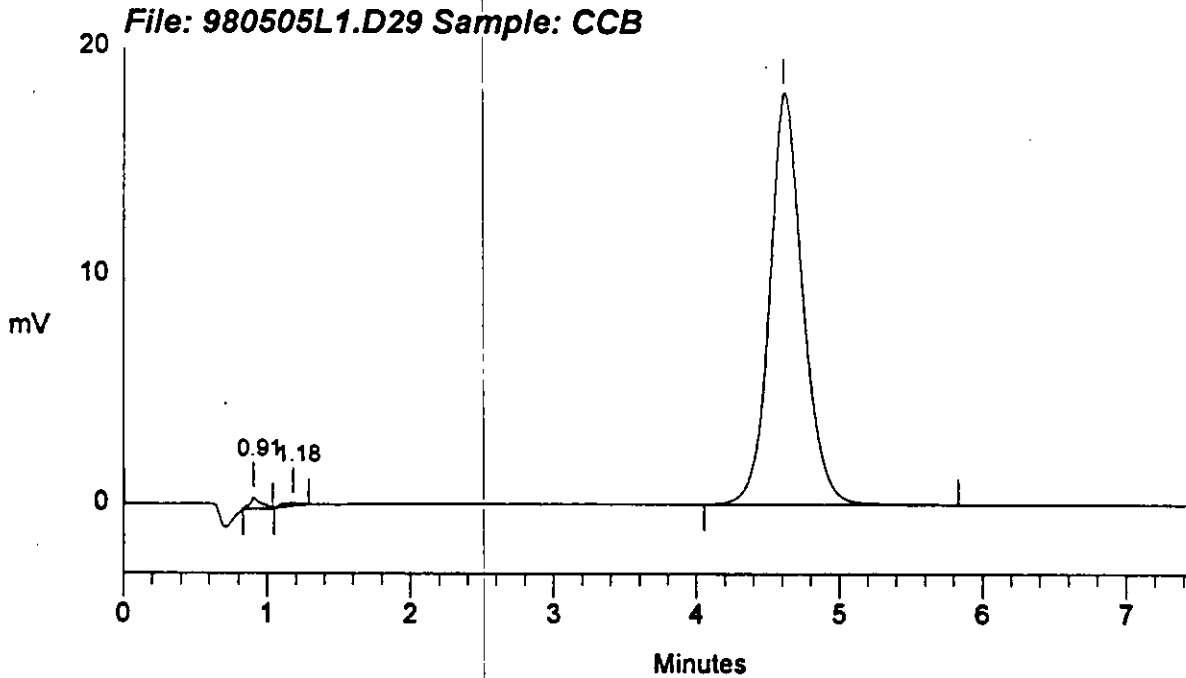
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	2250	5Hz	0.00	7.50		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	16358	87318	1	
2	1.18	CHLORIDE	0.042 ✓ ND	3930	41890	1	0.00
3	4.61		0.000	598248	9691818	1	
Totals			0.042	618537	9821026		



Sample Name: 98821-7 Date: 05/05/1998 17:10:22
 Data File : C:\DX\DATA\980505K1.D30
 Method : C:\DX\METHOD\LINH2SO4.met
 Address: 2 System: 1 Inject#: 30 Detector: COND
 Analyst : Column:

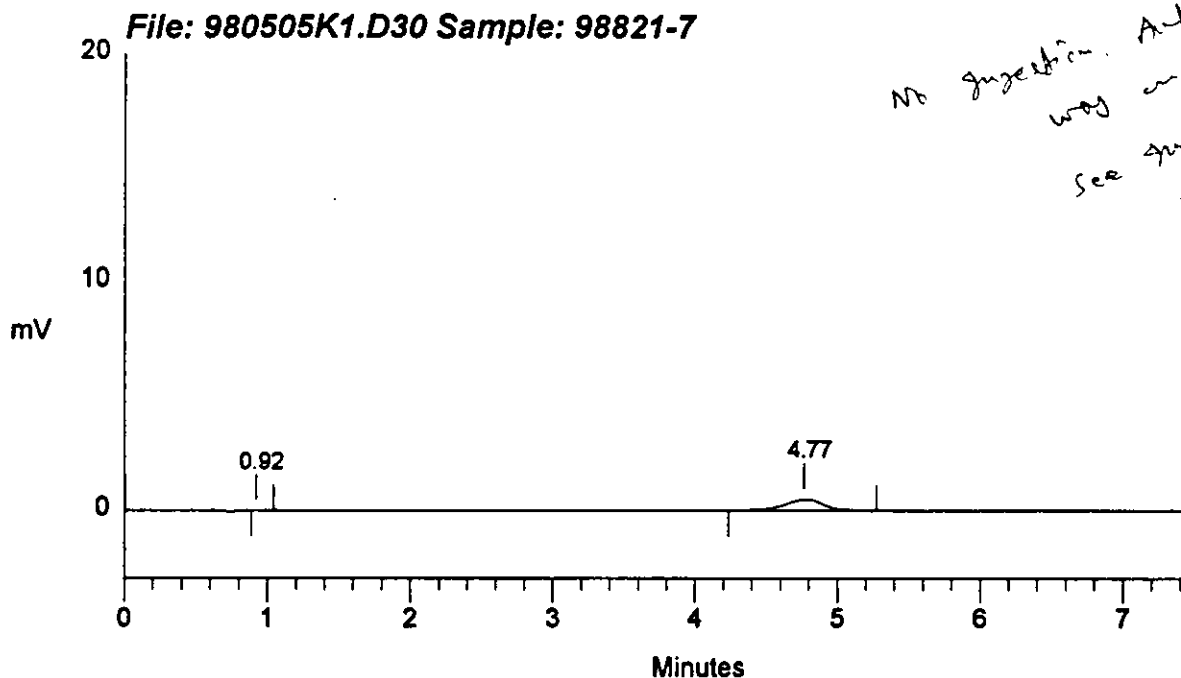
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
CHLORIDE	1.23	2
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
2	4.77		0.000	16387	307504	1	
Totals			0.000	16387	307504		



*No injection. Auto Sampled
 way in Method.
 See injection
 # 30 @ 17:38
 Bunker
 5/6/98*

Sample Name: 98821-7 DUP Date: 05/05/1998 17:20:30
 Data File : C:\DX\DATA\980505K1.D31
 Method : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 31 Detector: COND
 Analyst : Column:

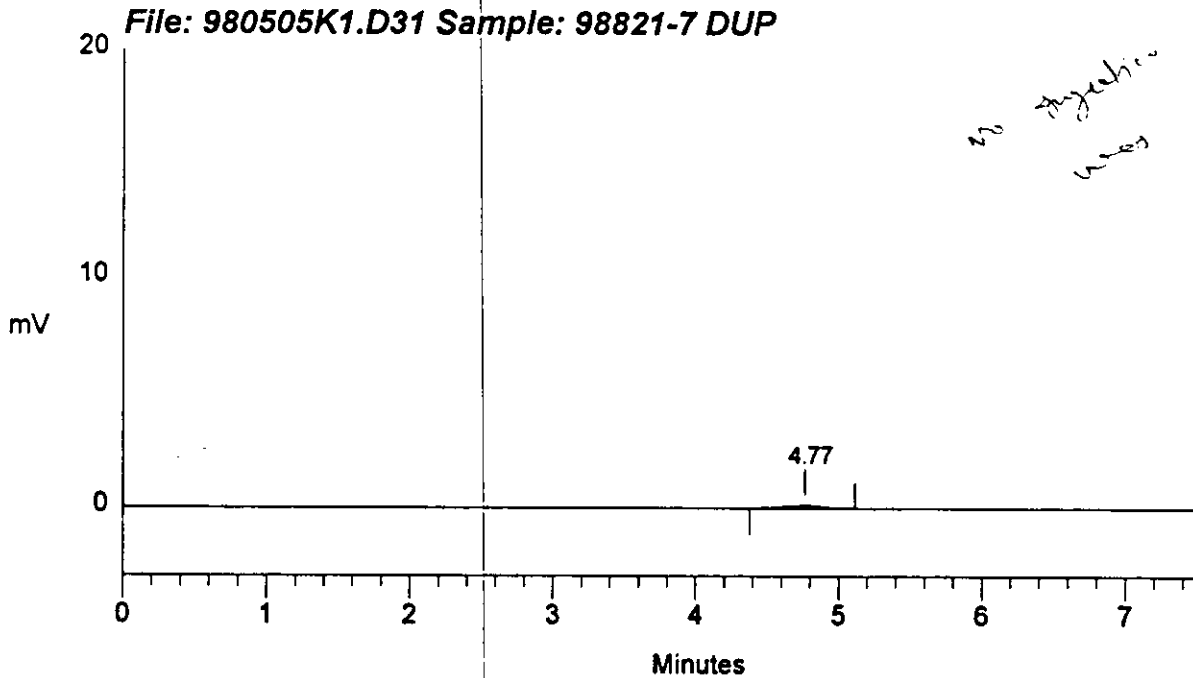
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	2250	5Hz	0.00	7.50		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
CHLORIDE	1.23	2
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	4.77		0.000	4189	74396	1	
Totals			0.000	4189	74396		



```

=====
Sample Name: 98821-7                               Date: 05/05/1998 17:38:30
Data File  : C:\DX\DATA\980505L1.D30
Method     : C:\DX\METHOD\LINH2SO4.met
PCI Address: 2 System: 1 Inject#: 30              Detector:COND
Analyst    :                                       Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1  2250  5Hz  0.00  7.50      1000
-----

```

***** Components Not Found In This Run *****

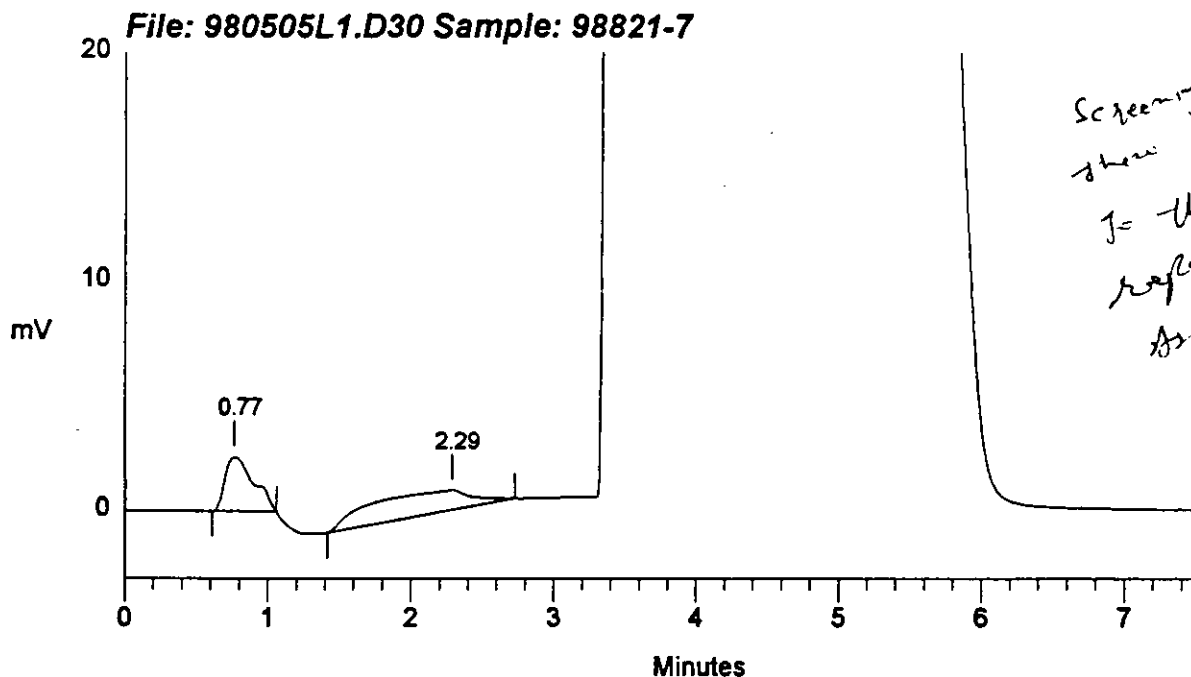
```

-----
Name                Adjusted Ret Time Reference Peak
-----
FLUORIDE            0.85                1
CHLORIDE            1.23                2
BROMIDE             2.01                3
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.77		0.000	80370	1133766	1	
2	2.29		0.000	29698	1743878	1	
Totals			0.000	110068	2877644		



```

=====
Sample Name: 98821-4 500X                               Date: 05/05/1998 17:58:48
Data File  : C:\DX\DATA\980505K1.D32
:  hod     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 32                    Detector:COND
Analyst    :                                           Column:
=====

```

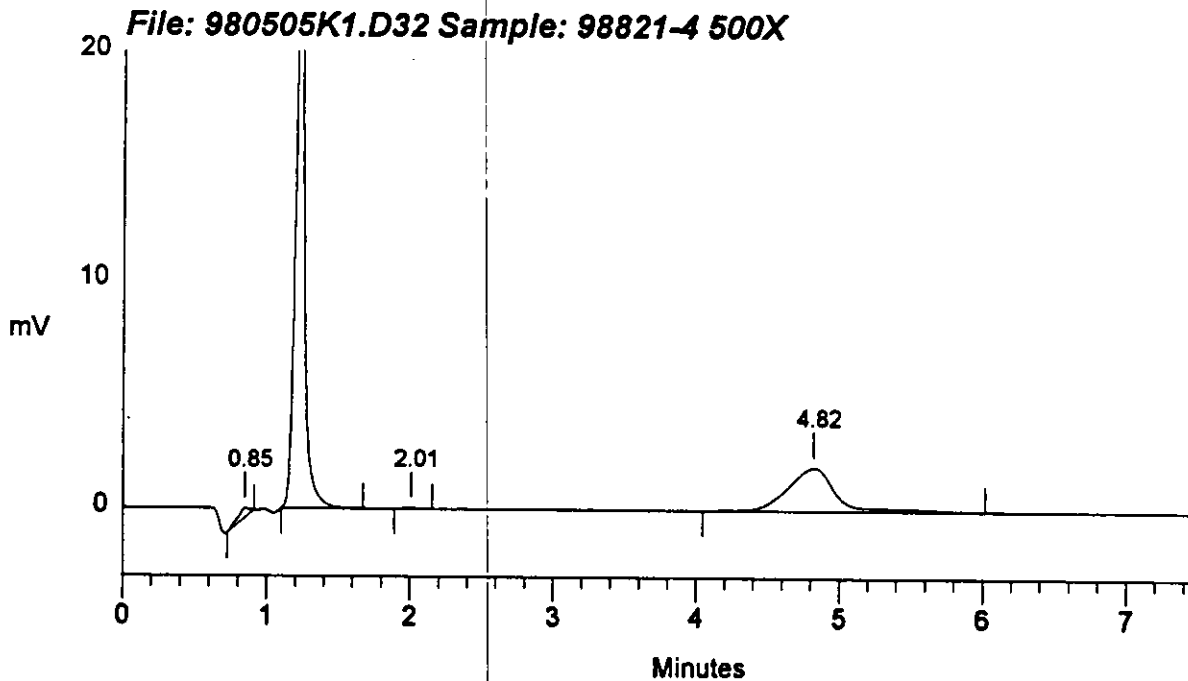
```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1         500   2250  5Hz   0.00  7.50         1000
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.85	FLUORIDE	399.168	14153	76836	1	0.00
2	1.23	CHLORIDE	3692.753 ✓	868168	3724981	1	0.00
3	2.01	BROMIDE	1947.608	1350	8157	1	0.00
4	4.82		0.000	63784	1522603	1	
Totals			6039.529	947455	5332577		




```

=====
Sample Name: 98821-4 DUP 500X                               Date: 05/05/1998 18:08:57
Data File  : C:\DX\DATA\980505K1.D33
Method     : C:\DX\METHOD\LINH2SO4.met
Acq Address: 2 System: 1 Inject#: 33                        Detector:COND
Analyst    :                                               Column:
=====

```

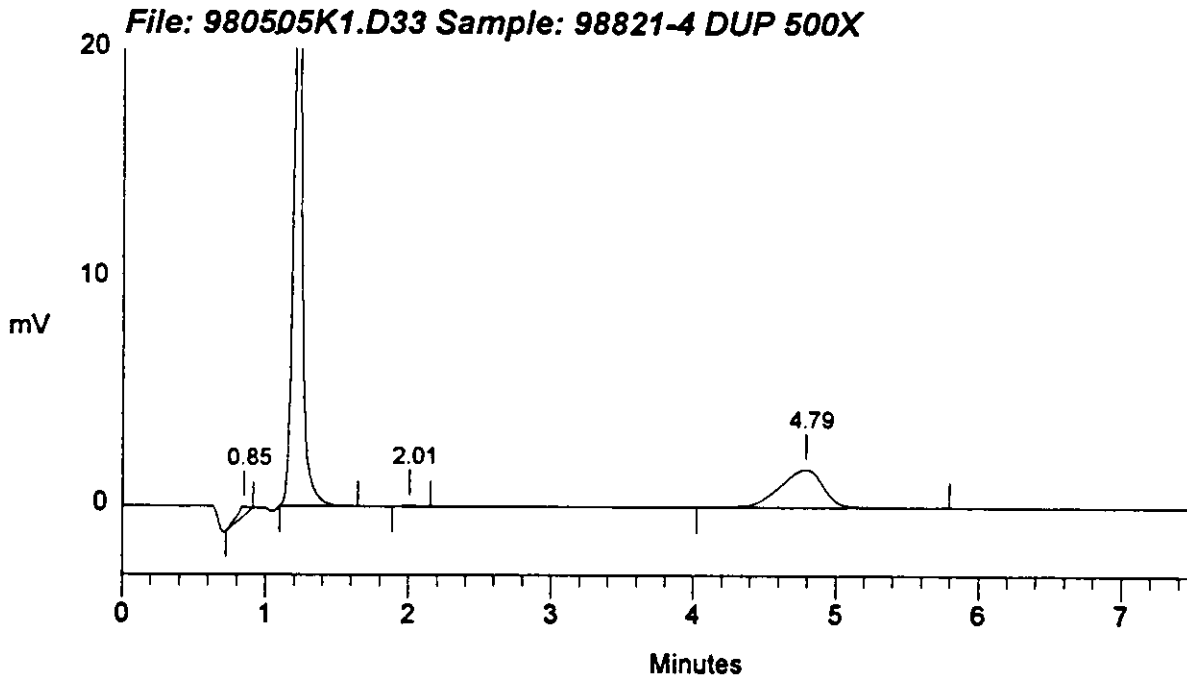
```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          500  2250  5Hz   0.00  7.50      1000
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.85	FLUORIDE	401.795	13948	77742	1	0.00
2	1.22	CHLORIDE	3675.737 ✓	866923	3707912	1	0.00
3	2.01	BROMIDE	1949.730	1394	7958	1	0.00
4	4.79		0.000	55750	1210420	1	
Totals			6027.262	938015	5004032		



```

=====
Sample Name: 98821-5 500X                               Date: 05/05/1998 18:19:05
Data File  : C:\DX\DATA\980505K1.D34
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 34                    Detector:COND
Analyst    :                                             Column:
=====

```

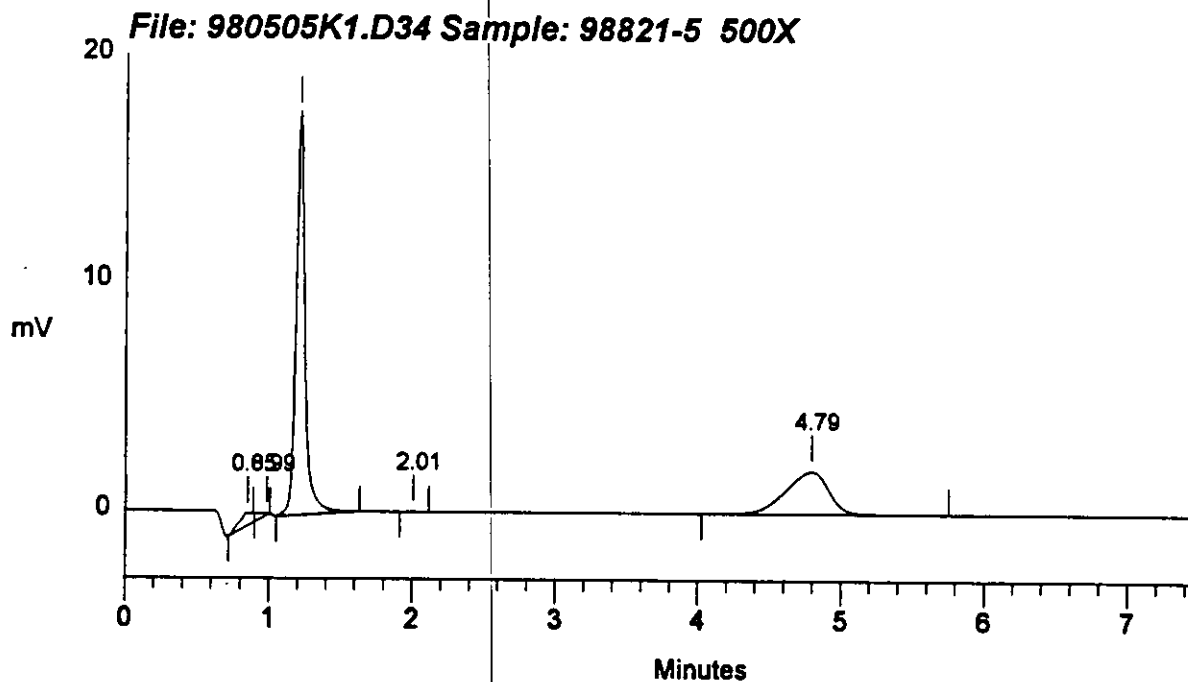
```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           500    2250  5Hz   0.00  7.50      1000
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	Δ
1	0.85	FLUORIDE	649.617	18731	163178	3	0.00
2	0.99		0.000	964	3930	4	
3	1.21	CHLORIDE	2521.843 ✓	586830	2550464	1	0.00
4	2.01	BROMIDE	1989.524	803	4234	1	0.00
5	4.79		0.000	62033	1325768	1	
Totals			5160.984	669362	4047574		



```

=====
Sample Name: 98821-5 DUP 500X                               Date: 05/05/1998 18:29:14
Sample File : C:\DX\DATA\980505K1.D35
Method      : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 35                       Detector: COND
Analyst    :                                               Column:
=====

```

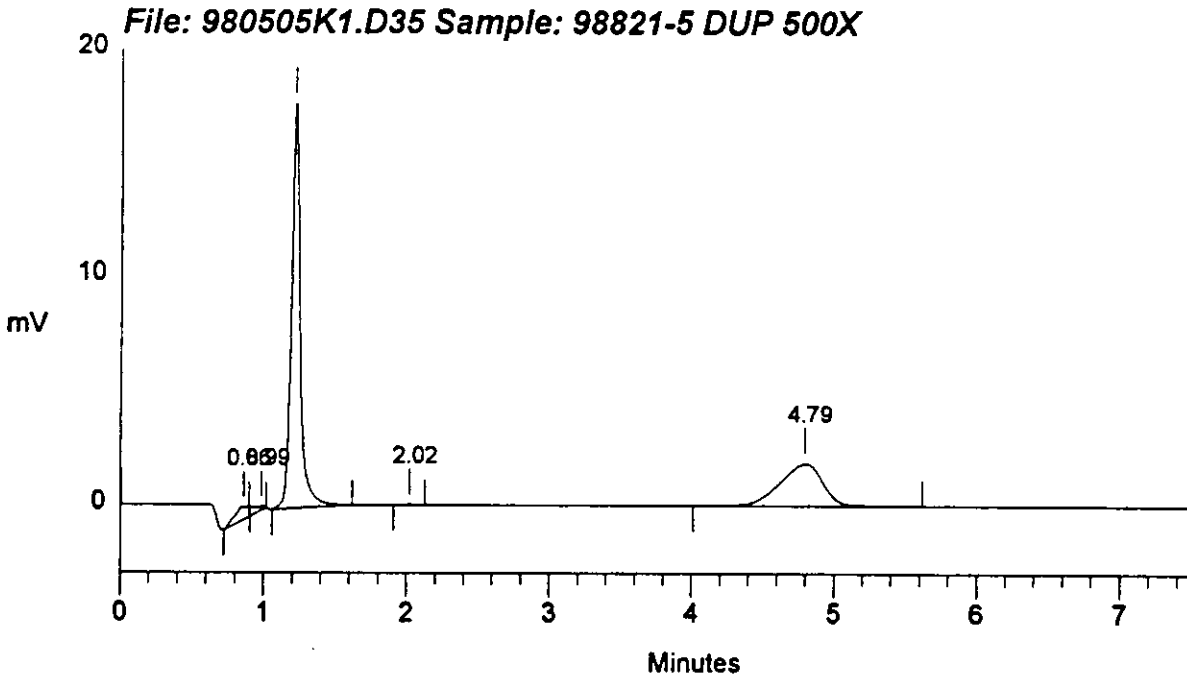
```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           500   2250  5Hz   0.00  7.50      1000
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.86	FLUORIDE	536.948	18384	124335	2	0.00
2	0.99		0.000	4515	47151	2	
3	1.22	CHLORIDE	2543.195 ✓	592188	2571882	1	0.00
4	2.02	BROMIDE	1987.131	812	4458	1	0.00
5	4.79		0.000	61970	1322970	1	
Totals			5067.274	677869	4070797		



Sample Name: 98821-6 200X Date: 05/05/1998 18:39:22
 Data File : C:\DX\DATA\980505K1.D36
 Method : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 36 Detector: COND
 Analyst : Column:

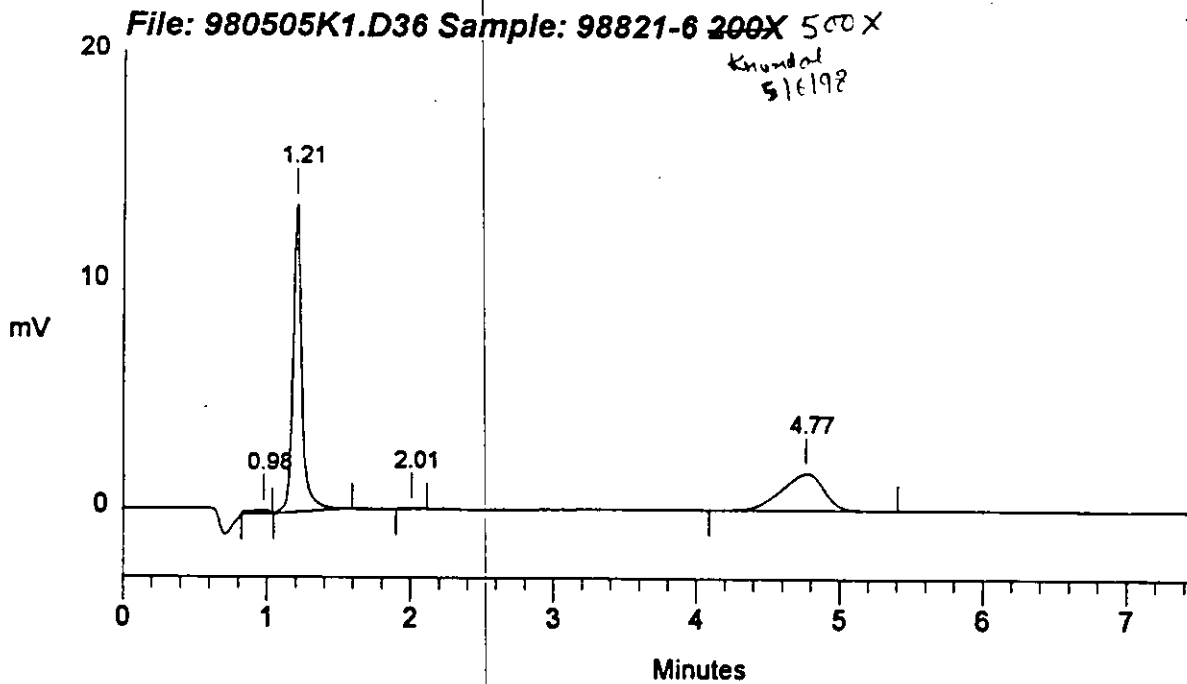
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 ~~200~~⁵⁰⁰ 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name Adjusted Ret Time Reference Peak
 FLUORIDE 0.85 1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	4805	48992	1	
2	1.21	CHLORIDE	1923.892	449130	1950671	1	0.00
3	2.01	BROMIDE	796.876	753	3985	1	0.00
4	4.77		0.000	54310	1145048	1	
Totals			1566.433	508999	3148696		



Sample Name: 98821 6 DUP 200X Date: 05/05/1998 18:49:31
 File : C:\DX\DATA\980505K1.D37
 Method : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 37 Detector: COND
 Analyst : Column:

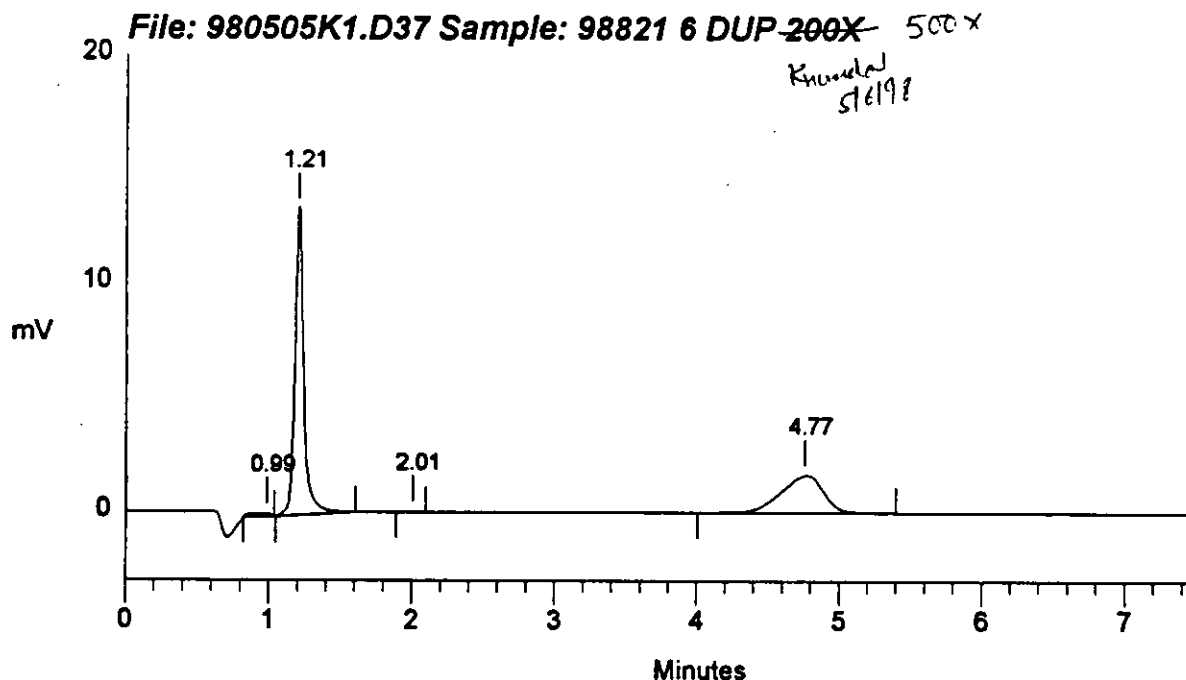
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 ~~200~~ ⁵⁰⁰ 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name Adjusted Ret Time Reference Peak
 FLUORIDE 0.85 1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	4829	49924	1	
2	1.21	CHLORIDE	1922.374	446467	1949149	1	0.00
3	2.01	BROMIDE	794.941	811	4437	1	0.00
4	4.77		0.000	54136	1151026	1	
Totals			1563.890	506244	3154537		



```

=====
Sample Name: CCV                               Date: 05/05/1998 18:59:40
Data File  : C:\DX\DATA\980505K1.D38
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 38          Detector: COND
Analyst    :                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1    2250  5Hz   0.00  7.50    1000

```

***** Components Not Found In This Run *****

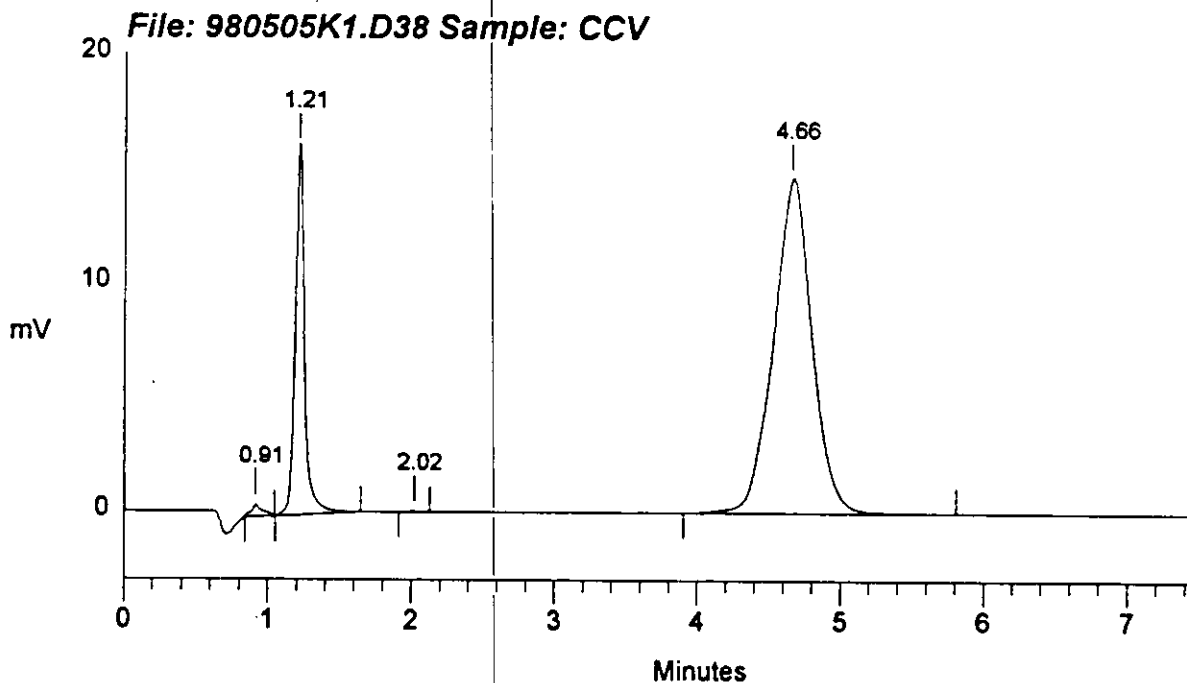
```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE           0.85             1

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	17207	92263	1	
2	1.21	CHLORIDE	✓ 97% 4.826 ✓	533023	2441335	1	0.00
3	2.02	BROMIDE	3.988	683	3813	1	0.00
4	4.66		0.000	485649	9206815	1	
Totals			8.814	1036562	11744225		



```

=====
Sample Name: CCB                               Date: 05/05/1998 19:09:49
Data File  : C:\DX\DATA\980505K1.D39
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 39          Detector:COND
Analyst    :                               Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1 2250 5Hz 0.00 7.50          1000

```

***** Components Not Found In This Run *****

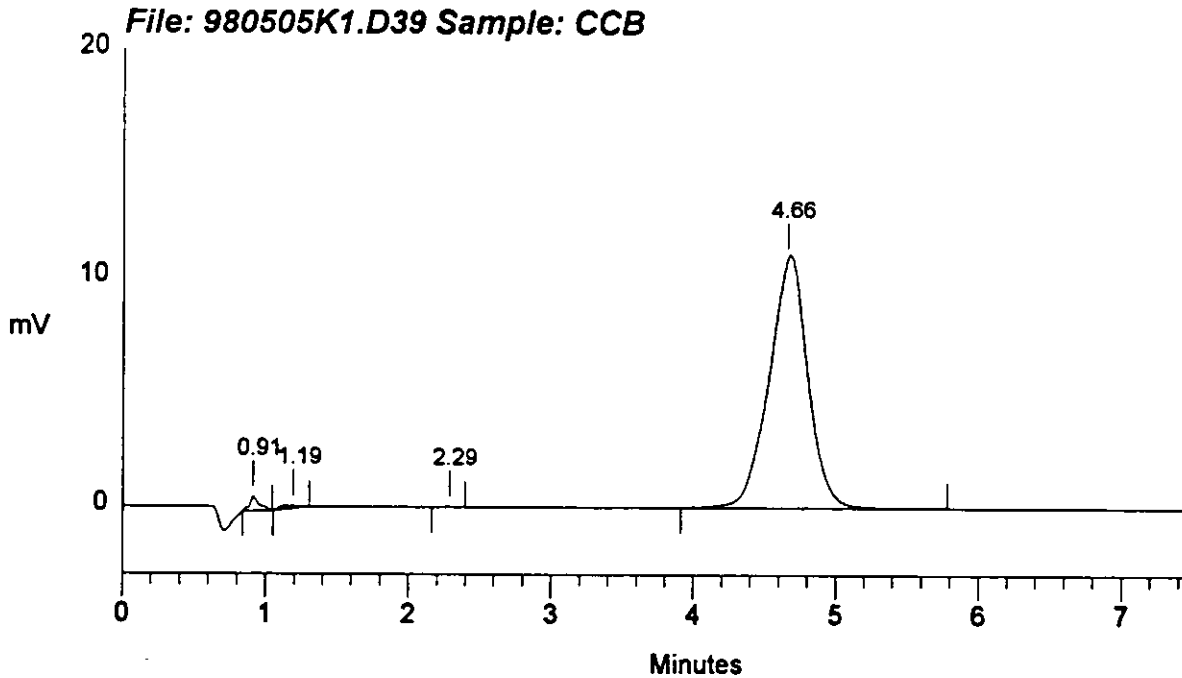
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85           1
BROMIDE        2.01           3

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	21269	101998	1	
2	1.19	CHLORIDE	0.048 ✓ ND	4148	45001	1	0.00
3	2.29		0.000	412	2724	1	
4	4.66		0.000	363127	6980639	1	
Totals			0.048	388957	7130362		



```

Sample Name: STD 1
Date: 05/05/1998 19:19:58
File : C:\DX\DATA\980505K1.D40
Method : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 40
Analyst : Column:
Detector: COND

```

```

Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External 1 1 2250 5Hz 0.00 7.50 1000

```

***** Components Not Found In This Run *****

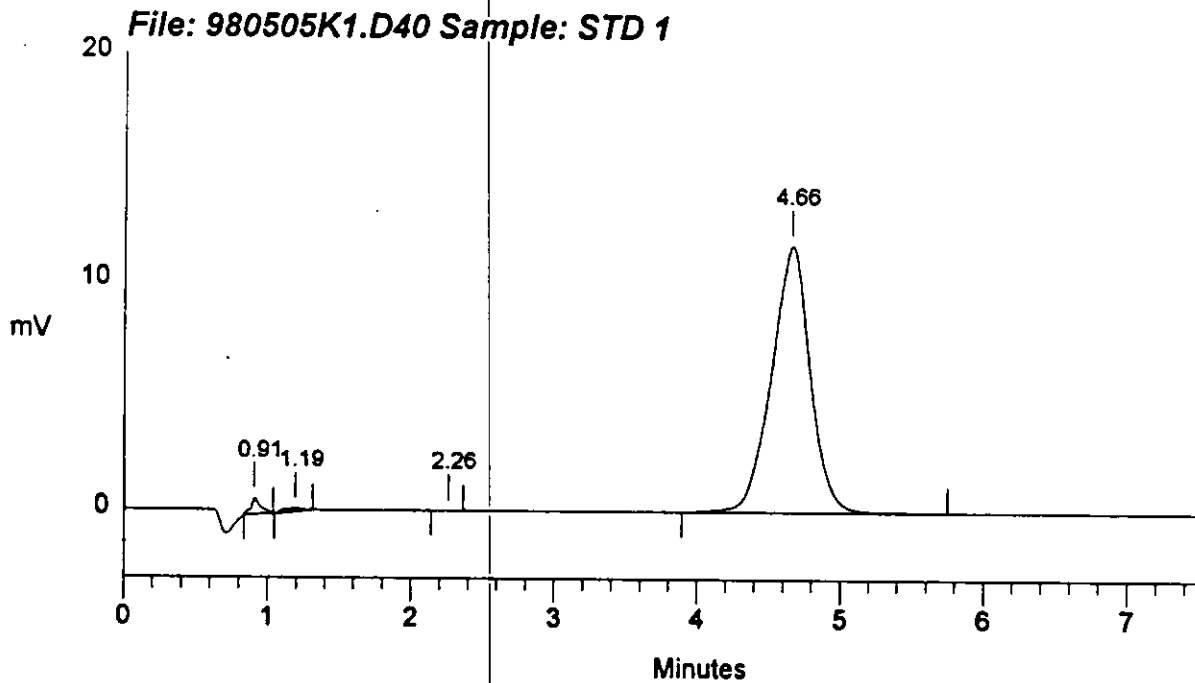
```

Name Adjusted Ret Time Reference Peak
-----
FLUORIDE 0.85 1
BROMIDE 2.01 3

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	22632	110852	1	
2	1.19	CHLORIDE	0.062	5172	✓ 51885	1	0.00
3	2.26		0.000	566	3700	1	
4	4.66		0.000	387234	7345823	1	
Totals			0.062	415603	7512260		




```

=====
Sample Name: STD 2                               Date: 05/05/1998 19:30:06
Data File  : C:\DX\DATA\980505K1.D41
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 41           Detector: COND
Analyst    :                                   Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1 2250 5Hz 0.00 7.50      1000

```

***** Components Not Found In This Run *****

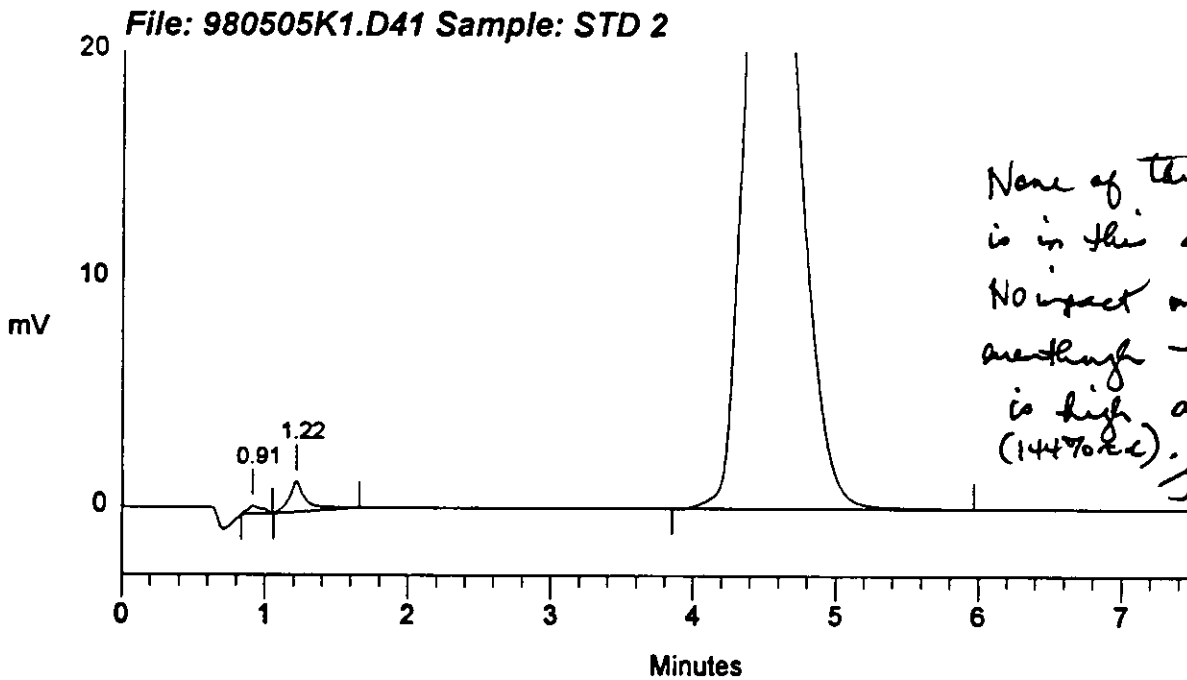
```

-----
Name                Adjusted Ret Time Reference Peak
-----
FLUORIDE            0.85                1
BROMIDE             2.01                3

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	12120	83408	1	
2	1.22	CHLORIDE	0.720	45337	381798	1	0.00
3	4.53		0.000	1231014	30210554	1	
Totals			0.720	1288471	30675760		



Sample Name: STD 3 Date: 05/05/1998 19:40:15
 Data File : C:\DX\DATA\980505K1.D42
 Method : C:\DX\METHOD\LINH2SO4.met
 ACI Address: 2 System: 1 Inject#: 42 Detector: COND
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

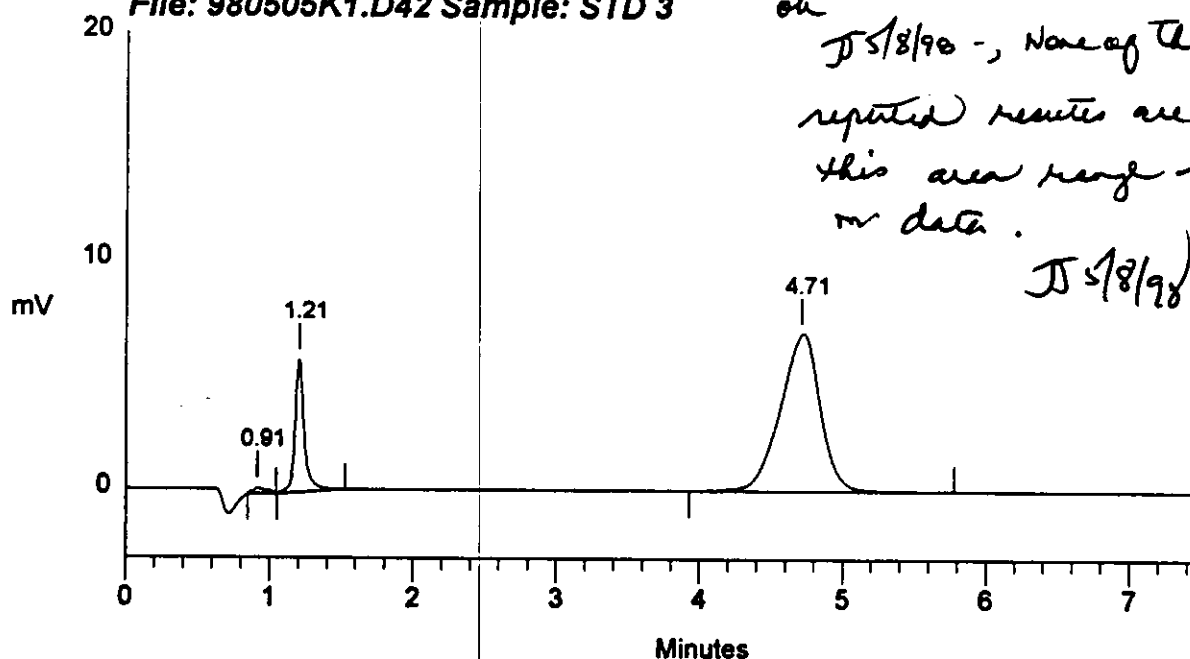
Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
BROMIDE	2.01	3

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	9251	58730	1	
2	1.21	CHLORIDE	1.705	191473	876131	1	0.00
3	4.71		0.000	226519	4468310	1	
Totals			1.705	427243	5403171		

87% rec.

File: 980505K1.D42 Sample: STD 3



ok
 5/8/98 - None of the
 reported results are within
 this area range - NO impact
 on data.
 5/8/98

```

=====
Sample Name: STD 4                               Date: 05/05/1998 19:50:23
Data File  : C:\DX\DATA\980505K1.D43
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 43           Detector: COND
Analyst    :                                   Column:
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           1 2250 5Hz 0.00 7.50          1000

```

***** Components Not Found In This Run *****

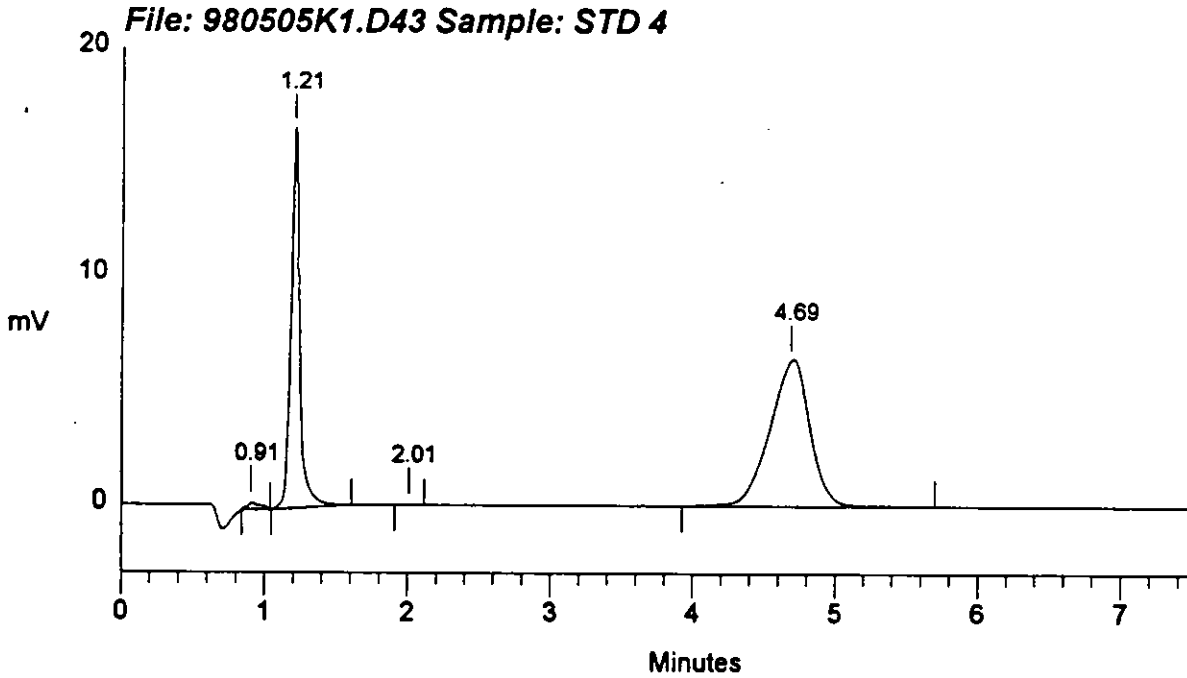
```

-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85                1

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10150	63382	1	
2	1.21	CHLORIDE	4.727	550742	2391677	1	0.00
3	2.01	BROMIDE	3.993	664	3587	1	0.00
4	4.69		0.000	209846	4159196	1	
Totals			8.720	771402	6617842		



Sample Name: STD 5 Date: 05/05/1998 20:00:32
 Data File : C:\DX\DATA\980505K1.D44
 Method : C:\DX\METHOD\LINH2SO4.met
 AC1 Address: 2 System: 1 Inject#: 44 Detector: COND
 Analyst : Column:

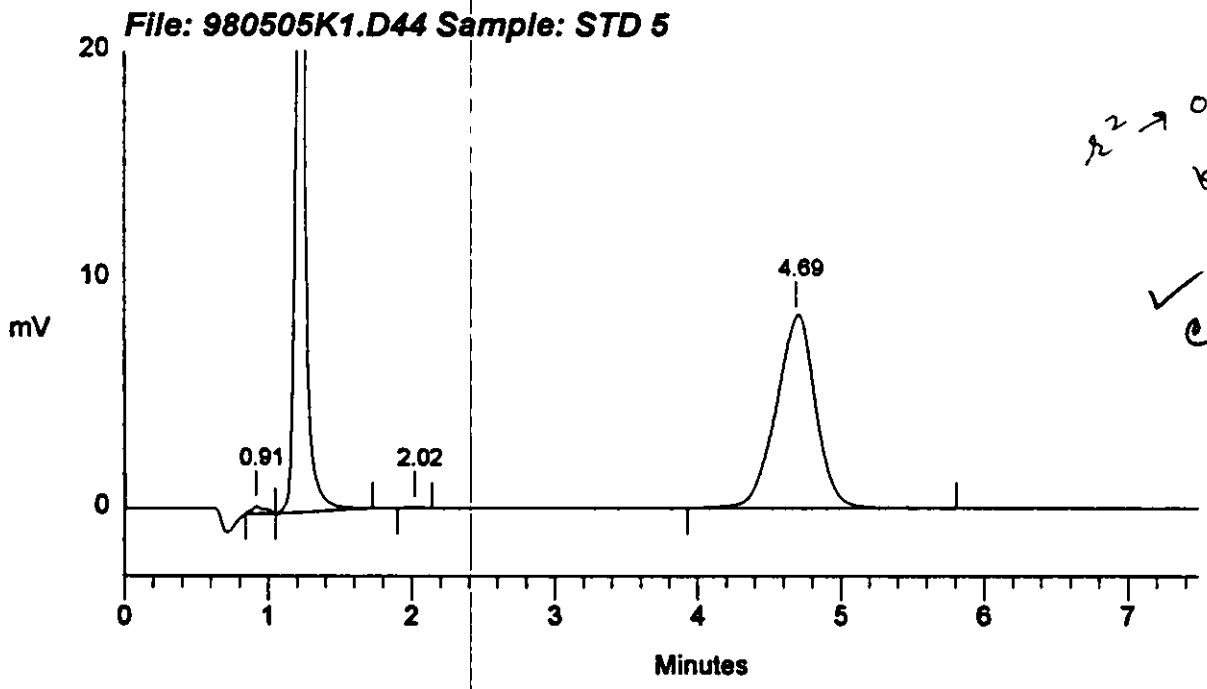
Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2250 5Hz 0.00 7.50 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91		0.000	10645	69484	1	
2	1.23	CHLORIDE	10.147	1142197	5109992	1	0.00
3	2.02	BROMIDE	3.861	1797	9737	1	0.00
4	4.69		0.000	276596	5426593	1	
Totals			14.008	1431234	10615806		



h2 → 0.9983
Known
5/6/98
 ✓ *checked*
5/8/98

Sample Preparation
(Includes Sample Screening and Volume Measurements)

QUANTERRA INCORPORATED
West Sacramento

Book Number: 798
Page Number: 096
IC System #: 2X100

Chromatography Run

DATE	CAL PROJECT ID	MATRIX	INITIALS	COMMENTS/MAINTENANCE
5/1/98	ICV	BICAL	KR	SAMPLE 20
	98624-5 5			VI. PH
	-2 6			98821-1 650ml <2
	-3 7			-2 550ml <2
	-4 8			-3 650ml <2
	H2O BLK	H2O		-4 485ml <2
	Water BLANK			-5 580ml <2
	98821-1 5X	H2O		-6 680ml <2
	-2 5X			-7 198ml <2
	-3 5X			98624-5 295ml <7
	-4 5X			-6 320ml <8
	-5 5X			-7 315ml <8
	-6 5X			-8 196ml <1
	-7 5X			
	Water BLANK	H2O		
	Water BLANK			
	98624-5 10X	BICAL		
	-6 10X			
	-7 10X			
	Water BLANK	H2O		
	98821-4 1000X	H2O		
	-5 1000X			
	-6 1000X			
	OFF			

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5/1/98

DIONEX SCHEDULE - C:\DX\SCHEDULE\980501K.SCH

nj#	Sample Name	Method	Data File	Vol.	Dil.	Int.Std.
1	CV	..\LINELU.m	980501K	1	1	1
2	98624-5	..\LINELU.m	980501K	1	1	1
3	98624-6	..\LINELU.m	980501K	1	1	1
4	98624-7	..\LINELU.m	980501K	1	1	1
5	98624-8	..\LINELU.m	980501K	1	1	1
6	WATER BLANK	..\LINELU.m	980501K	1	1	1
7	WATER BLANK	..\LINELU.m	980501K	1	1	1
8	98821-1	..\LINELU.m	980501K	1	5	1
9	98821-2	..\LINELU.m	980501K	1	5	1
10	98821-3	..\LINELU.m	980501K	1	5	1
11	98821-4	..\LINELU.m	980501K	1	5	1
12	98821-5	..\LINELU.m	980501K	1	5	1
13	98821-6	..\LINELU.m	980501K	1	5	1
14	98821-7	..\LINELU.m	980501K	1	5	1
15	WATER BLANK	..\LINELU.m	980501K	1	1	1
16	WATER BLANK	..\LINELU.m	980501K	1	1	1
17	98624-5 10X	..\LINELU.m	980501K	1	10	1
18	98624-6 10X	..\LINELU.m	980501K	1	10	1
19	98624-7 10X	..\LINELU.m	980501K	1	10	1
20	WATER BLANK	..\LINELU.m	980501K	1	1	1
21	98821-4 1000X	..\LINELU.m	980501K	1	1000	1
22	98821-5 1000X	..\LINELU.m	980501K	1	1000	1
23	98821-6 1000X	..\LINELU.m	980501K	1	1000	1
24	OFF	..\DXSHTDN.	980501K	1	1	1

Comment:

Screening

Sample Name: ICV
 Data File : C:\DX\DATA\980501K1.D01
 Method : C:\DX\METHOD\LINELU.met
 ACI Address: 2 System: 1 Inject#: 1
 Analyst :

Date: 05/01/1998 11:35:59

Detector: COND
 Column:

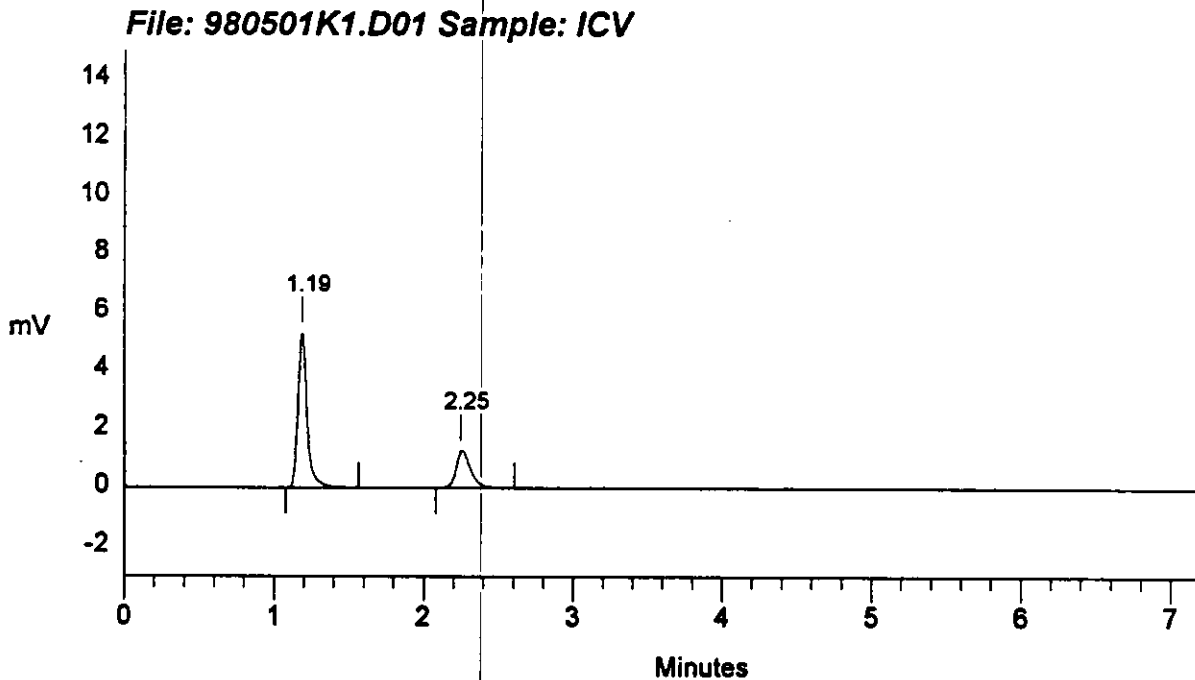
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	2160	5Hz	0.00	7.20		1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
CHLORIDE	0.85	0
NITRATE	5.03	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.19	CHLORIDE	4.665	175772	743056	1	-3.52
2	2.25	NITRATE	1.088	41603	289000	1	-5.60
Totals			5.754	217375	1032056		




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=====
Sample Name: 98624-5                               Date: 05/01/1998 11:45:49
Data File  : C:\DX\DATA\980501K1.D02
Method     : C:\DX\METHOD\LINELU.met
PCI Address: 2 System: 1 Inject#: 2                Detector:COND
Analyst    :                                       Column:
=====

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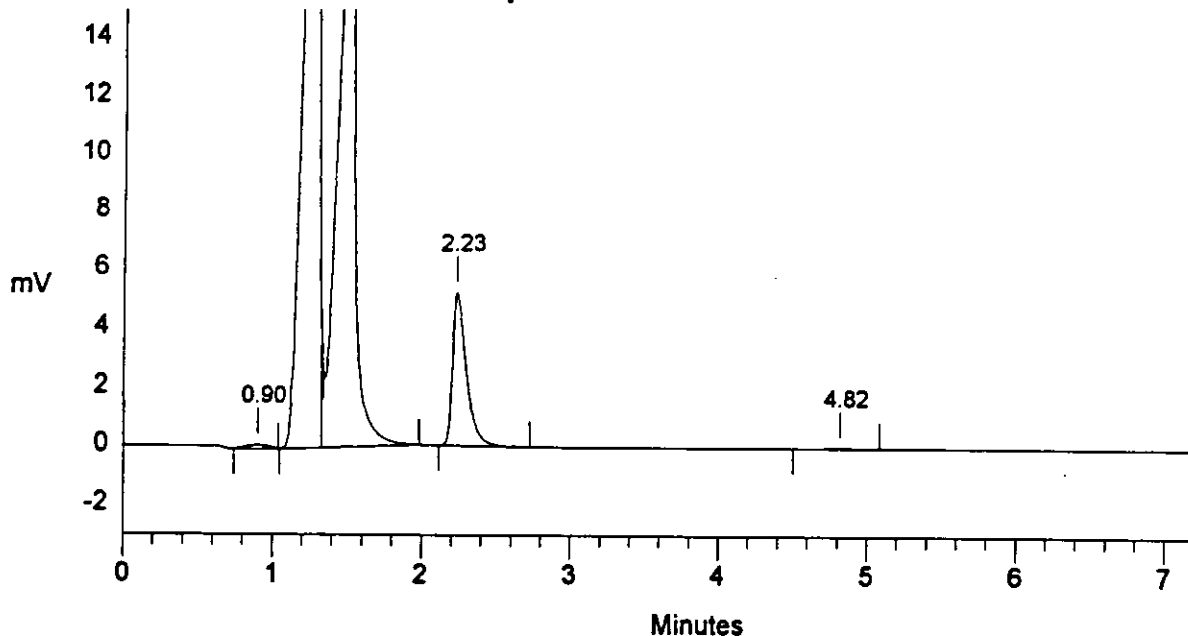
-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1 2160 5Hz 0.00 7.20          1000
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.90	FLUORIDE	0.157	4748	47557	1	5.88
2	1.26	CHLORIDE	36.278	790436	6018813	2	2.44
3	1.50		0.000	678912	5455737	2	
4	2.23	NITRATE	2.602	173402	1117262	1	-6.16
5	4.82	SULFATE	0.409	616	10591	1	-4.17
Totals			39.446	1648114	12649960		

File: 980501K1.D02 Sample: 98624-5



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=====
Sample Name: 98624-6                               Date: 05/01/1998 11:55:40
Data File  : C:\DX\DATA\980501K1.D03
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 3                     Detector:COND
Analyst    :                                         Column:
=====

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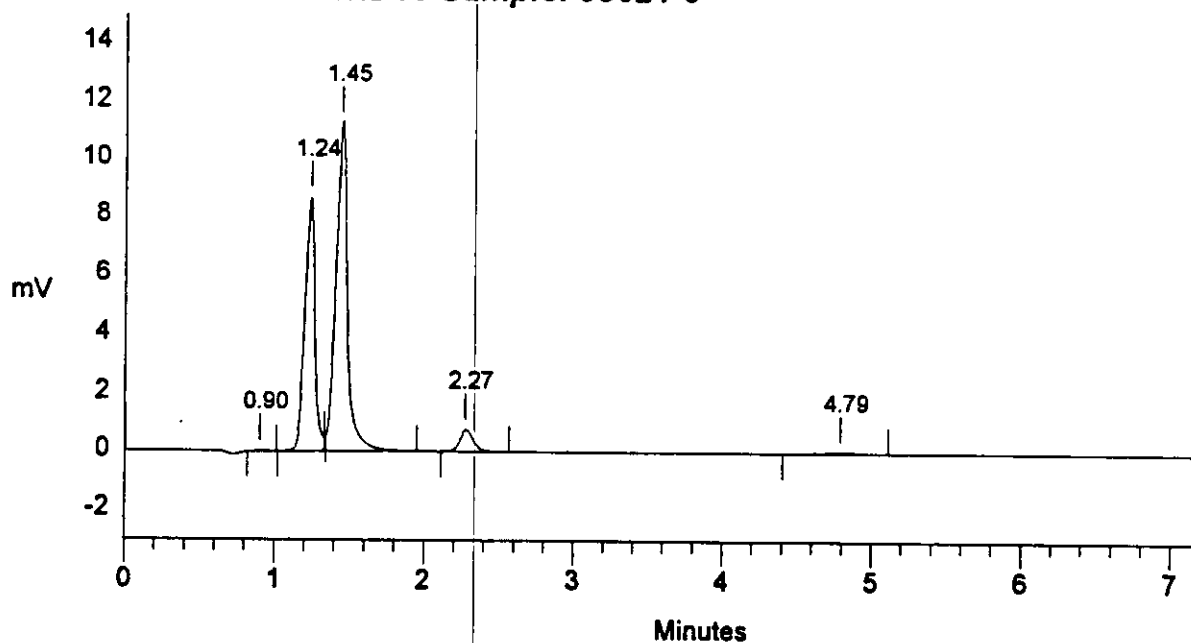
-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1    2160  5Hz   0.00  7.20      1000
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.90	FLUORIDE	0.061	1164	7104	1	5.88
2	1.24	CHLORIDE	8.425	288294	1370460	2	0.81
3	1.45		0.000	373744	2027852	2	
4	2.27	NITRATE	0.847	24481	156773	1	-4.48
5	4.79	SULFATE	0.506	1626	29677	1	-4.71
Totals			9.839	689308	3591867		

File: 980501K1.D03 Sample: 98624-6



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=====
Sample Name: 98624-7                               Date: 05/01/1998 12:05:29
Data File  : C:\DX\DATA\980501K1.D04
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 4                     Detector: COND
Analyst    :                                         Column:
=====

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-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           1    2160  5Hz   0.00  7.20      1000

```

***** Components Not Found In This Run *****

```

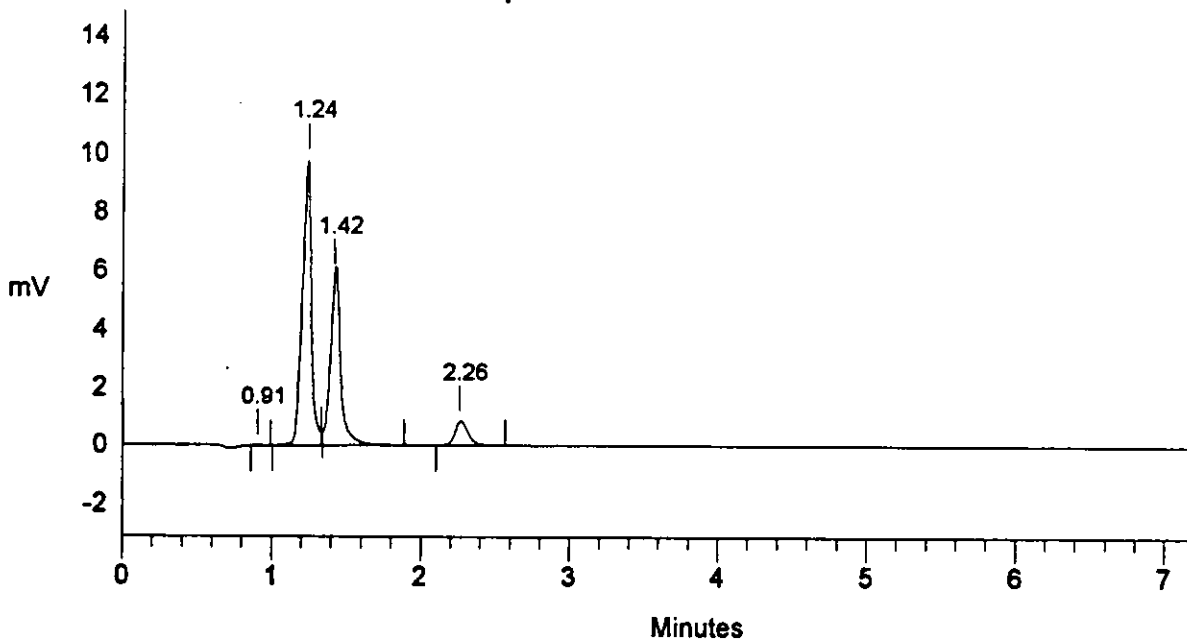
-----
Name Adjusted Ret Time Reference Peak
-----
SULFATE          5.03              0

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.91	FLUORIDE	0.050	570	2504	1	6.67
2	1.24	CHLORIDE	8.494	326384	1382087	2	0.81
3	1.42		0.000	195706	974088	2	
4	2.26	NITRATE	0.879	27425	174611	1	-5.04
Totals			9.424	550085	2533290		

File: 980501K1.D04 Sample: 98624-7



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=====
Sample Name: 98624-8                               Date: 05/01/1998 12:15:19
Data File  : C:\DX\DATA\980501K1.D05
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 5                     Detector:COND
Analyst    :                                         Column:
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-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1          1    2160 5Hz  0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

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-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85                0
CHLORIDE       1.23                0
NITRATE        2.38                0
SULFATE        5.03                0
-----

```

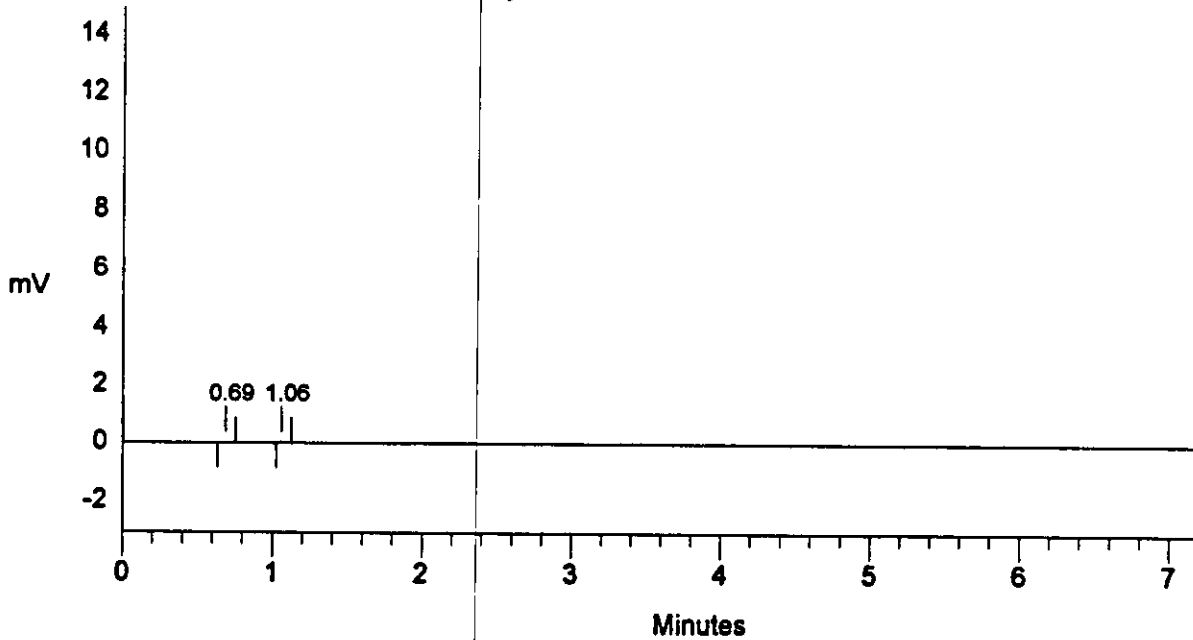
***** Peak Report: All Peaks *****

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-----
Pk.  Ret Component      Concentration   Height   Area  Bl. %Delta
Num  Time Name           ppm
-----
  1   0.69                0.000     537    1965   1
  2   1.06                0.000     367    1193   1
-----
Totals                0.000     903    3158
-----

```

File: 980501K1.D05 Sample: 98624-8



Sample Name: WATER BLANK
 Data File : C:\DX\DATA\980501K1.D06
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 6
 Analyst : Column:

Date: 05/01/1998 12:25:08

Detector: COND

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 2160 5Hz 0.00 7.20 1000

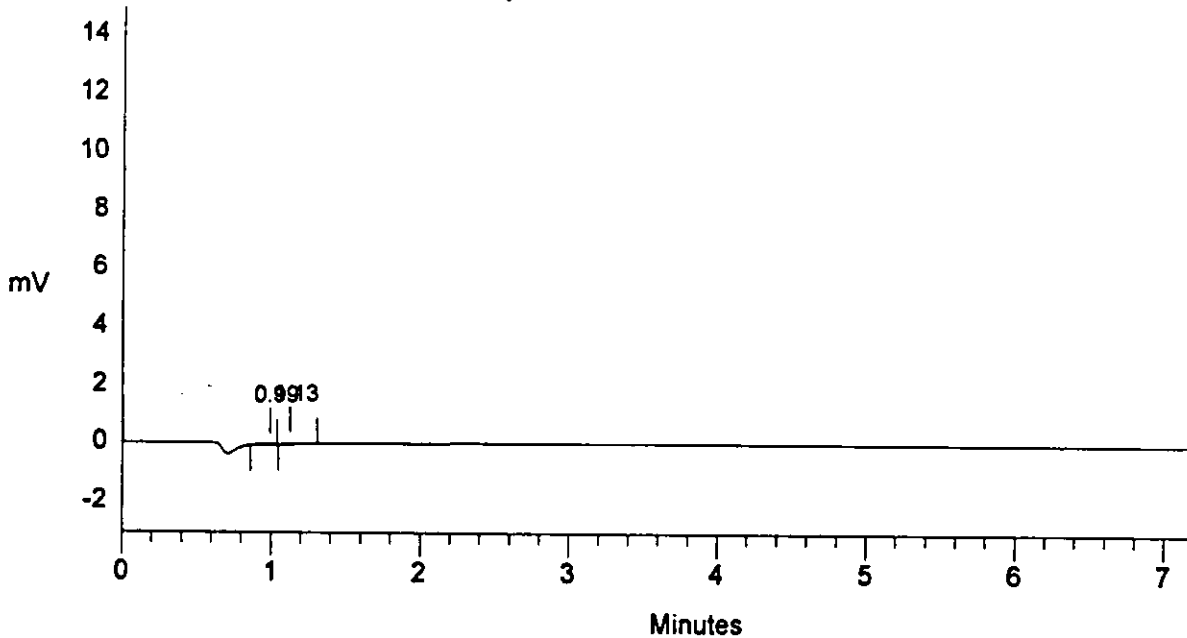
***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	0
NITRATE	2.38	0
SULFATE	5.03	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1414	9727	1	
2	1.13	CHLORIDE	0.291	1602	13086	1	-8.40
Totals			0.291	3016	22814		

File: 980501K1.D06 Sample: WATER BLANK



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=====
Sample Name: WATER BLANK                               Date: 05/01/1998 12:34:57
Data File  : C:\DX\DATA\980501K1.D07
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 7                       Detector: COND
Analyst    :                                           Column:
=====

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-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external      1      1      2160 5Hz   0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

```

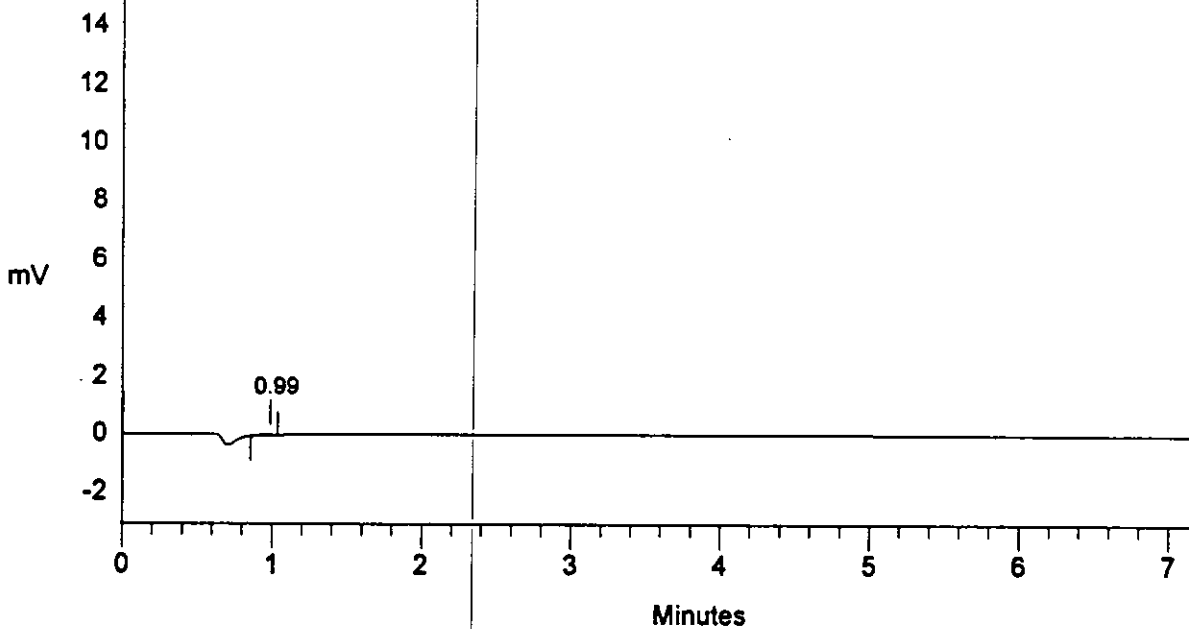
-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85           0
CHLORIDE       1.23           0
NITRATE        2.38           0
SULFATE        5.03           0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1460	9963	1	
Totals			0.000	1460	9963		

File: 980501K1.D07 Sample: WATER BLANK



```

=====
Sample Name: 98821-1                               Date: 05/01/1998 12:44:46
Data File  : C:\DX\DATA\980501K1.D08
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 8                    Detector: COND
Analyst    :                                       Column:
=====

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-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           5   2160  5Hz  0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

```

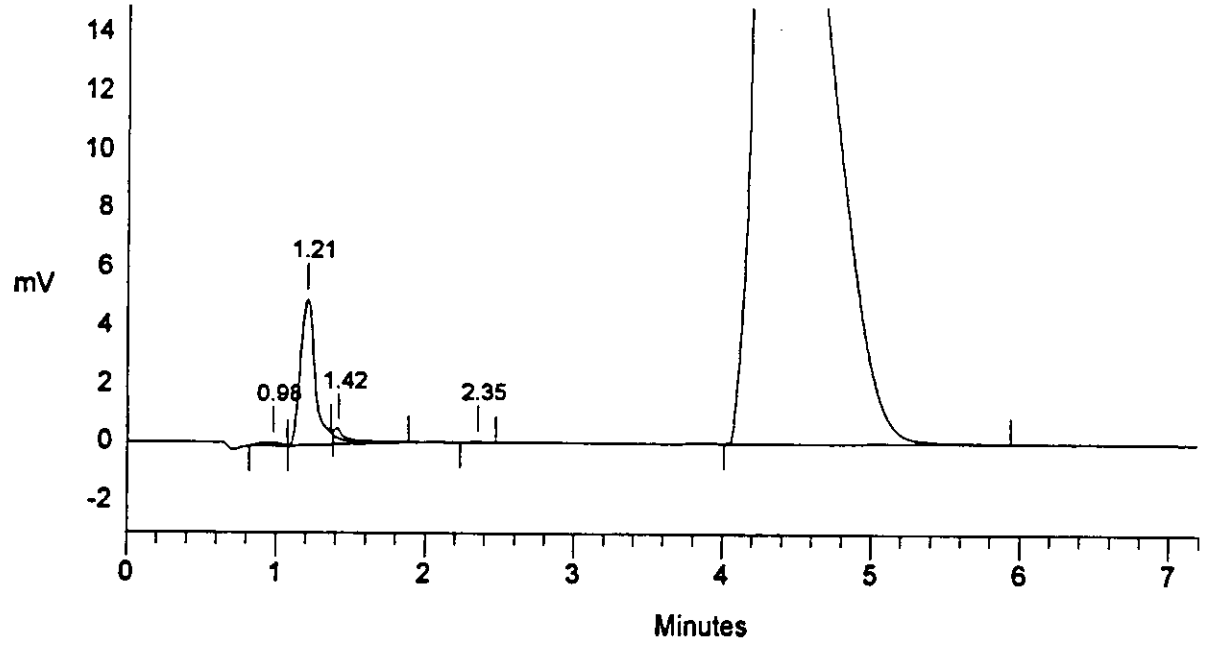
-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE          0.85           0
SULFATE           5.03           0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	3794	38090	1	
2	1.21	CHLORIDE	37.867	167439	1228376	3	-1.90
3	1.42		0.000	10015	58336	4	
4	2.35	NITRATE	2.839	660	4198	1	-1.12
5	4.29		0.000	1217124	33626671	1	
Totals			40.706	1399033	34955672		

File: 980501K1.D08 Sample: 98821-1



Sample Name: 98821-2
 Data File : C:\DX\DATA\980501K1.D09
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 9
 Analyst : Column:

Date: 05/01/1998 12:54:36

Detector:COND

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 5 2160 5Hz 0.00 7.20 1000

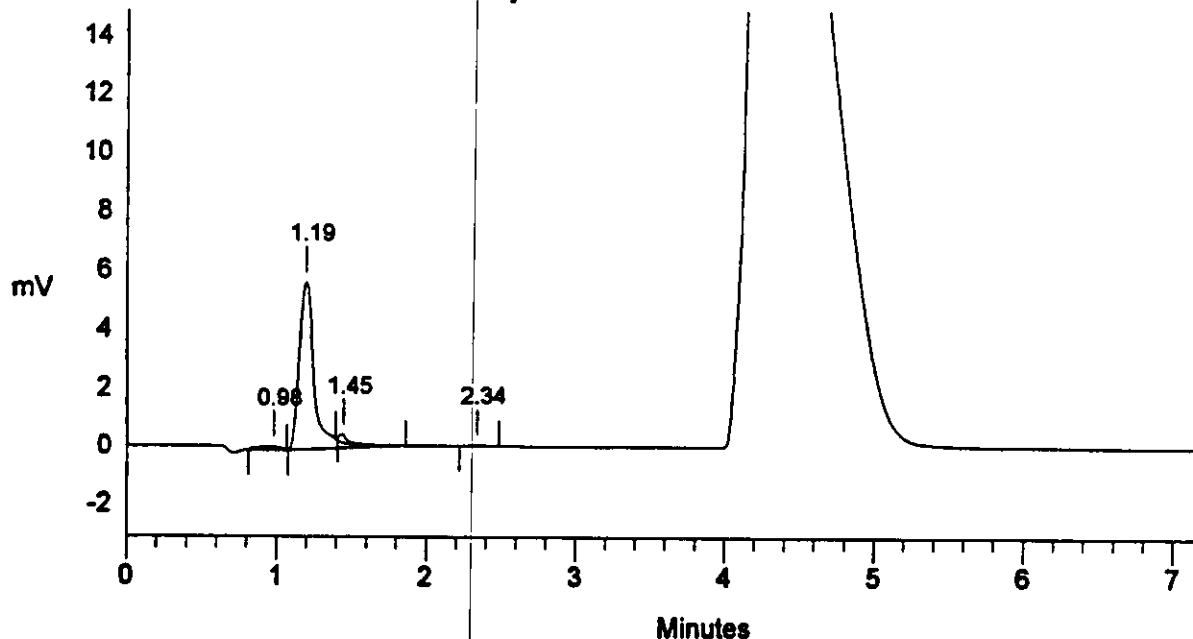
***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	0
SULFATE	5.03	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	3772	39243	1	
2	1.19	CHLORIDE	41.489	189401	1349276	3	-2.98
3	1.45		0.000	8985	51490	4	
4	2.34	NITRATE	2.875	1231	8084	1	-1.68
Totals			44.364	203388	1448093		

File: 980501K1.D09 Sample: 98821-2




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=====
Sample Name: 98821-3                               Date: 05/01/1998 13:04:27
Data File  : C:\DX\DATA\980501K1.D10
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 10                   Detector: COND
Analyst    :                                       Column:
=====

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-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           5    2160  5Hz   0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

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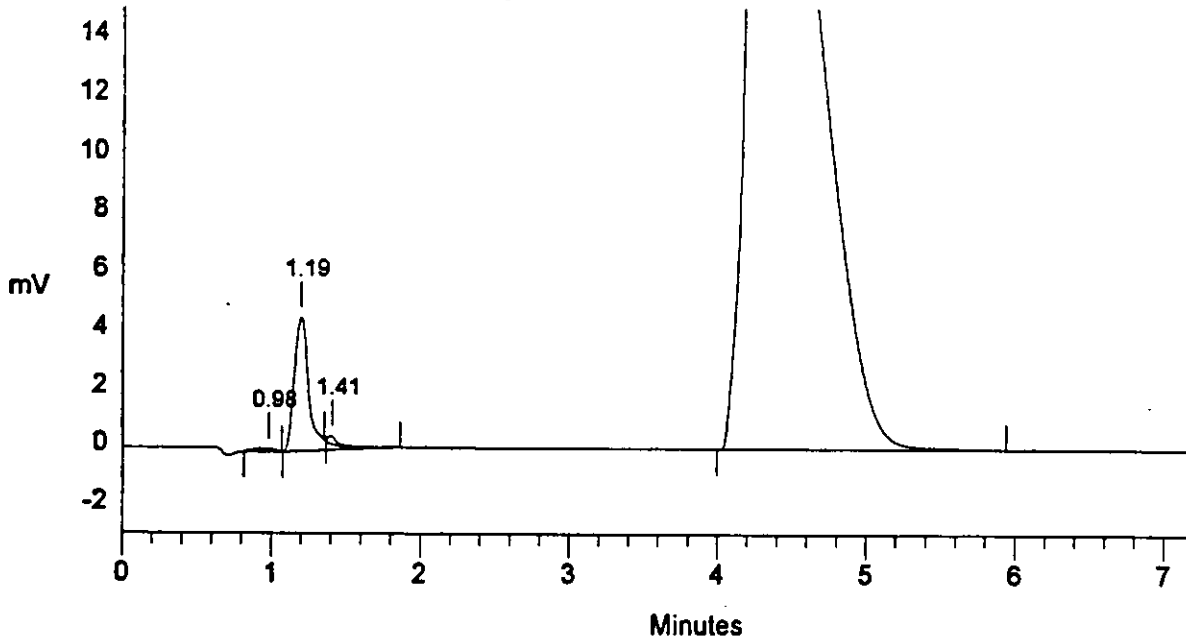
-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85                0
NITRATE        2.38                0
SULFATE        5.03                0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.98		0.000	3755	36919	1	
2	1.19	CHLORIDE	33.907	152750	1096191	3	-2.98
3	1.41		0.000	9465	53453	4	
4	4.27		0.000	1203014	32954393	1	
Totals			33.907	1368985	34140956		

File: 980501K1.D10 Sample: 98821-3



Sample Name: 98821-4
 Data File : C:\DX\DATA\980501K1.D11
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 11
 Analyst :

Date: 05/01/1998 13:14:18

Detector: COND

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 5 2160 5Hz 0.00 7.20 1000

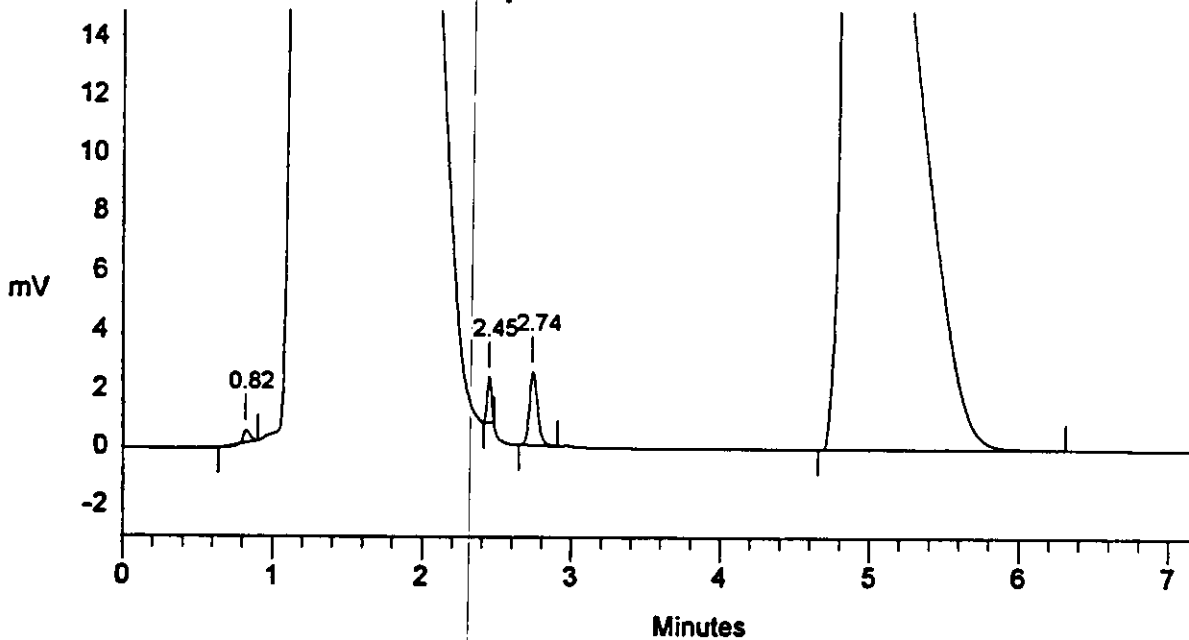
***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	1.23	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.82	FLUORIDE	0.704	14495	40712	1	-3.53
2	2.45	NITRATE	3.771	50923	106187	1	2.80
3	2.74		0.000	82951	322795	1	
4	4.87	SULFATE	824.550	1201286	32250047	1	-3.11
Totals			829.025	1349656	32719741		

File: 980501K1.D11 Sample: 98821-4



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=====
Sample Name: 98821-5                               Date: 05/01/1998 13:24:10
Data File  : C:\DX\DATA\980501K1.D12
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 12                   Detector: COND
Analyst    :                                       Column:
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```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           5   2160  5Hz   0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

```

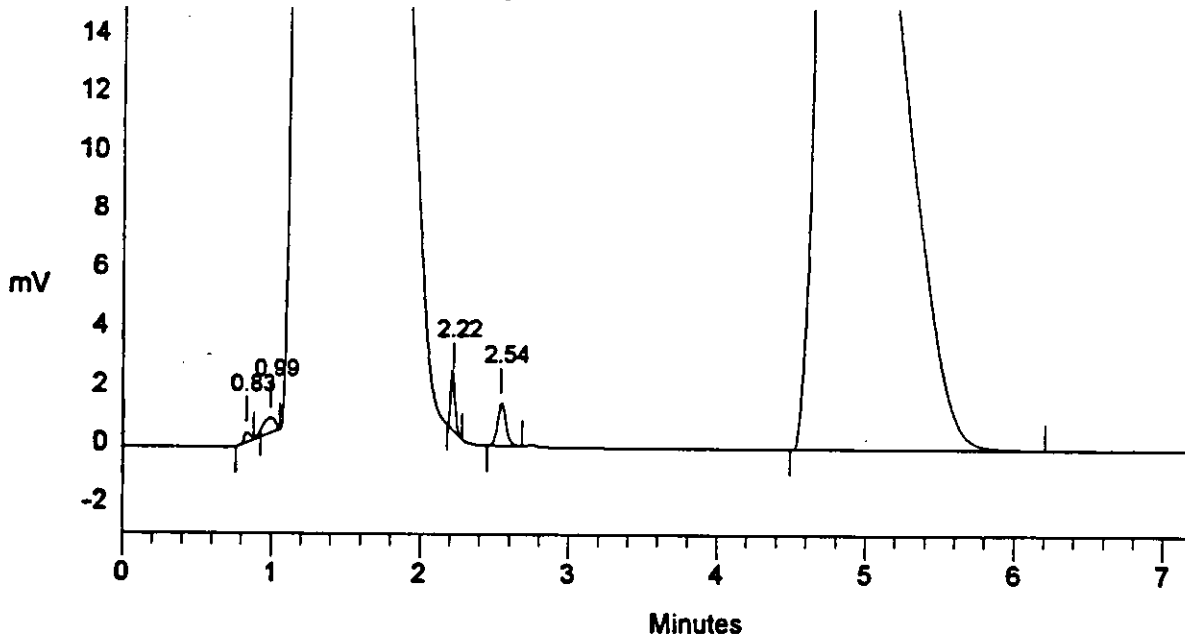
-----
ame           Adjusted Ret Time Reference Peak
-----
HLORIDE      1.23                0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.83	FLUORIDE	0.586	11171	30737	2	-1.96
2	0.99		0.000	17106	94841	2	
3	2.22	NITRATE	4.038	58667	135369	1	-6.72
4	2.54		0.000	47331	191772	1	
5	4.79	SULFATE	988.449	1230921	38674362	1	-4.71
Totals			993.073	1365196	39127081		

File: 980501K1.D12 Sample: 98821-5



Sample Name: 98821-6
 Data File : C:\DX\DATA\980501K1.D13
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 13
 Analyst :

Date: 05/01/1998 13:34:02

Detector: COND
 Column:

 Calibration Volume Dilution Points Rate Start Stop Area Reject

 External 1 5 2160 5Hz 0.00 7.20 1000

***** Components Not Found In This Run *****

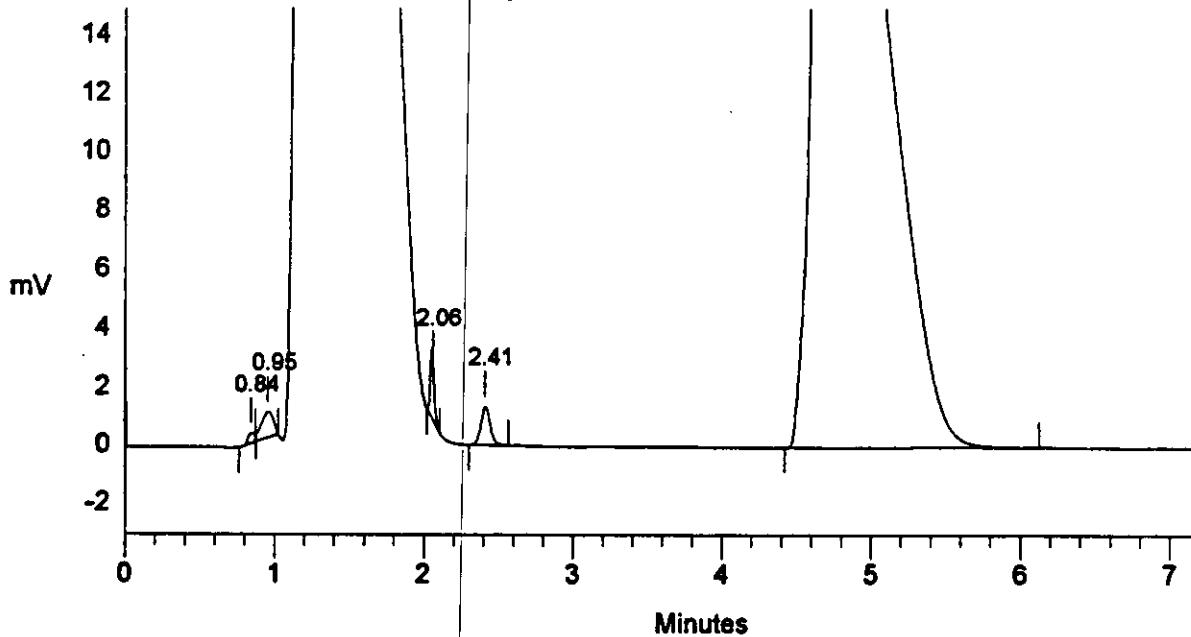
 Name Adjusted Ret Time Reference Peak

 FLUORIDE 1.23 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.84	FLUORIDE	0.610	11980	32790	2	-1.18
2	0.95		0.000	29892	171661	2	
3	2.06		0.000	59863	138769	1	
4	2.41	NITRATE	4.562	44024	192710	1	1.12
5	4.69	SULFATE	860.663	1215341	33665565	1	-6.83
Totals			865.835	1361100	34201495		

File: 980501K1.D13 Sample: 98821-6



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=====
Sample Name: 98821-7                               Date: 05/01/1998 13:43:54
Data File  : C:\DX\DATA\980501K1.D14
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 14                   Detector: COND
Analyst    :                                       Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           5   2160  5Hz   0.00  7.20         1000
-----

```

***** Components Not Found In This Run *****

```

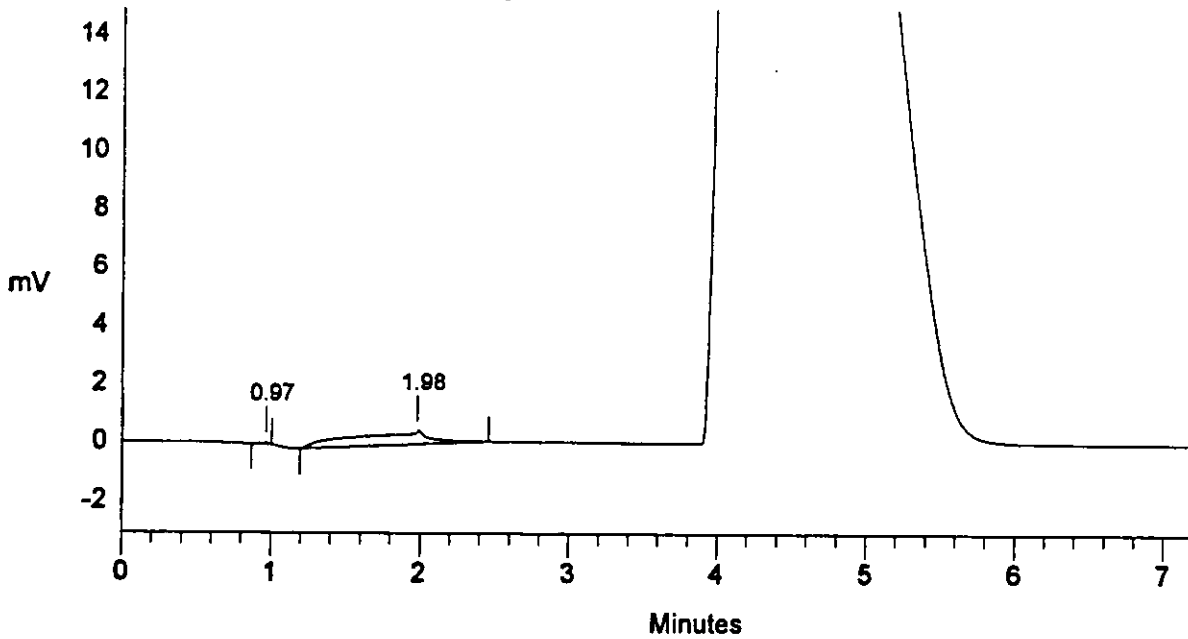
-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE          0.85           0
CHLORIDE          1.23           0
NITRATE           2.38           0
SULFATE           5.03           0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.97		0.000	1435	7162	1	
2	1.98		0.000	14217	585365	1	
Totals			0.000	15652	592526		

File: 980501K1.D14 Sample: 98821-7



```

=====
Sample Name: WATER BLANK                               Date: 05/01/1998 13:53:44
Data File  : C:\DX\DATA\980501K1.D15
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 15                      Detector: COND
Analyst    :                                           Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           1    2160  5Hz  0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

```

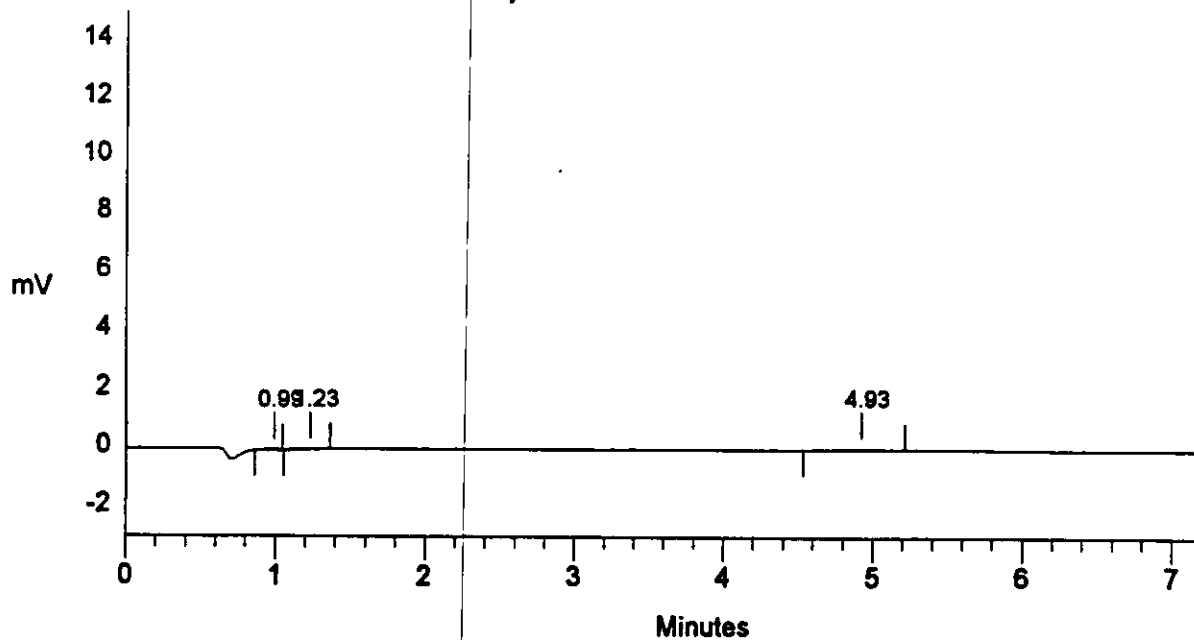
-----
Name           Adjusted Ret Time Reference Peak
-----
FLUORIDE       0.85           0
NITRATE        2.38           0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1439	10126	1	
2	1.23	CHLORIDE	0.314	1053	16873	1	0.27
3	4.93	SULFATE	0.466	1240	21868	1	-2.05
Totals			0.780	3732	48867		

File: 980501K1.D15 Sample: WATER BLANK



```

=====
Sample Name: WATER BLANK                               Date: 05/01/1998 14:03:34
Data File  : C:\DX\DATA\980501K1.D16
Method     : C:\DX\METHOD\LINELU.met
Address: 2  System: 1  Inject#: 16                    Detector: COND
Analyst   :                                           Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           1  2160  5Hz  0.00  7.20          1000
-----

```

***** Components Not Found In This Run *****

```

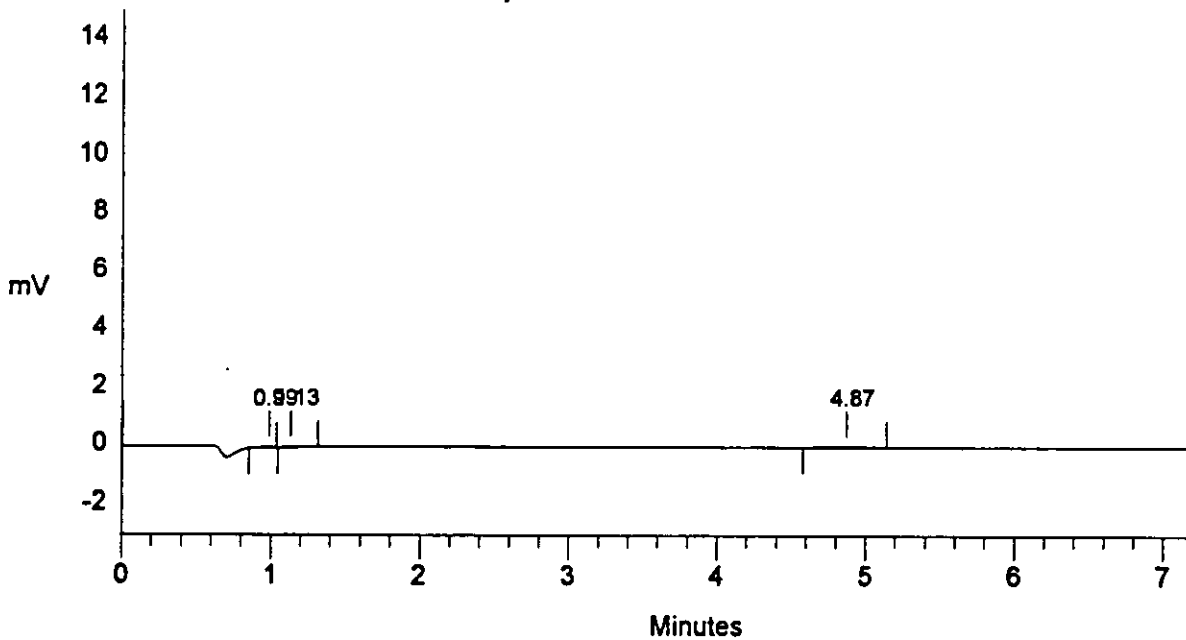
-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE          0.85           0
NITRATE           2.38           0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1442	10227	1	
2	1.13	CHLORIDE	0.294	1573	13532	1	-7.86
3	4.87	SULFATE	0.397	484	8309	1	-3.11
Totals			0.691	3499	32068		

File: 980501K1.D16 Sample: WATER BLANK



Sample Name: 98624-5 10X
 Data File : C:\DX\DATA\980501K1.D17
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 17
 Analyst :

Date: 05/01/1998 14:13:23

Detector: COND

Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 10 2160 5Hz 0.00 7.20 1000

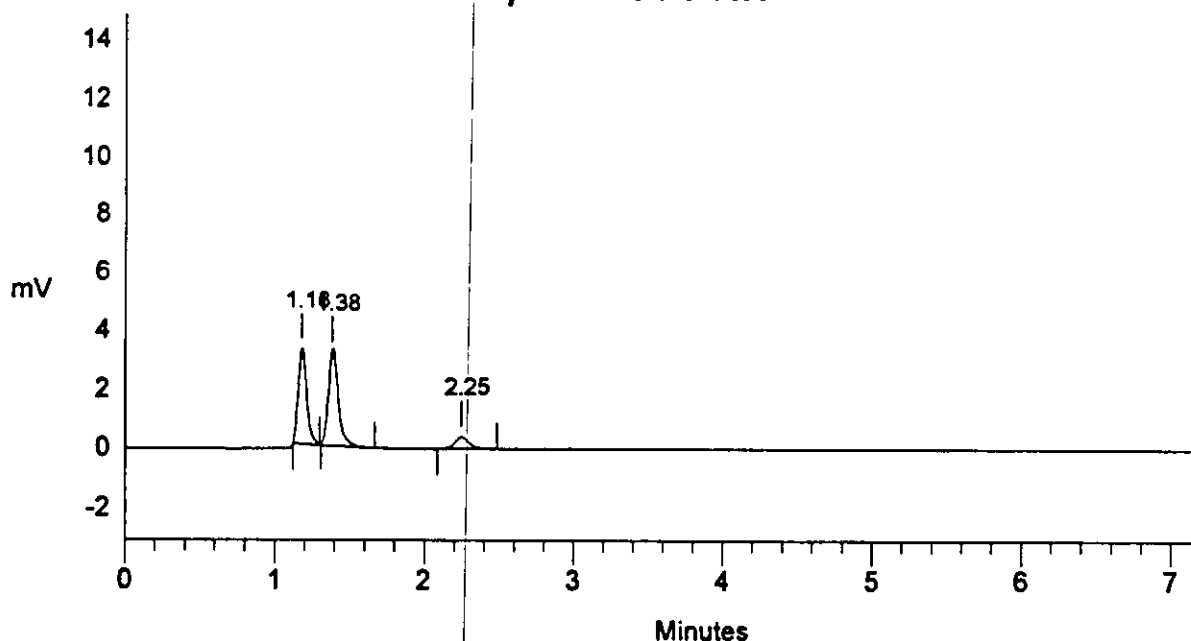
***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	0
SULFATE	5.03	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.18	CHLORIDE	27.752	107263	427628	2	-4.07
2	1.38		0.000	104852	502773	2	
3	2.25	NITRATE	7.164	12916	85463	1	-5.60
Totals			34.916	225031	1015864		

File: 980501K1.D17 Sample: 98624-5 10X




```

=====
Sample Name: 98624-6 10X                               Date: 05/01/1998 14:23:13
Data File  : C:\DX\DATA\980501K1.D18
  Method   : C:\DX\METHOD\LINELU.met
Cell Address: 2 System: 1 Inject#: 18                 Detector: COND
Analyst    :                                           Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           10  2160  5Hz  0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

```

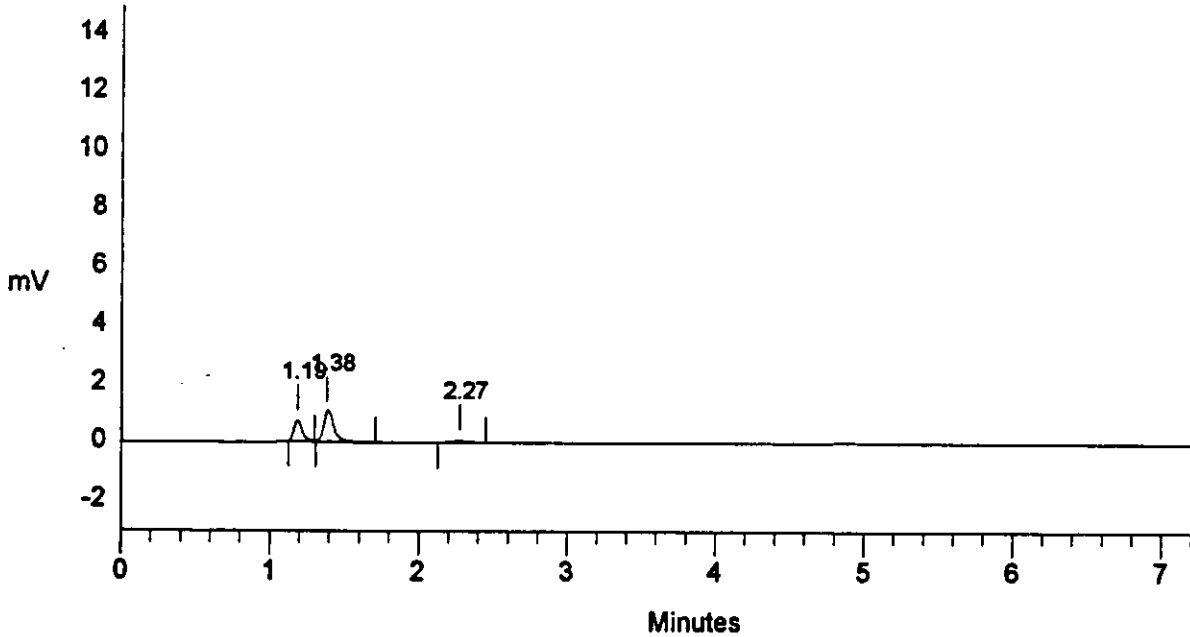
-----
Name Adjusted Ret Time Reference Peak
-----
CHLORIDE          0.85           0
NITRATE           5.03           0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.19	CHLORIDE	7.731	23651	93494	2	-3.52
2	1.38		0.000	33209	169033	2	
3	2.27	NITRATE	5.872	2218	14760	1	-4.48
Totals			13.602	59078	277287		

File: 980501K1.D18 Sample: 98624-6 10X



```

=====
Sample Name: 98624-7 10X                               Date: 05/01/1998 14:33:02
Data File  : C:\DX\DATA\980501K1.D19
Method     : C:\DX\METHOD\LINELU.met
Address    : 2 System: 1 Inject#: 19                    Detector: COND
Analyst    :                                           Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1         10   2160 5Hz  0.00  7.20      1000
-----

```

***** Components Not Found In This Run *****

```

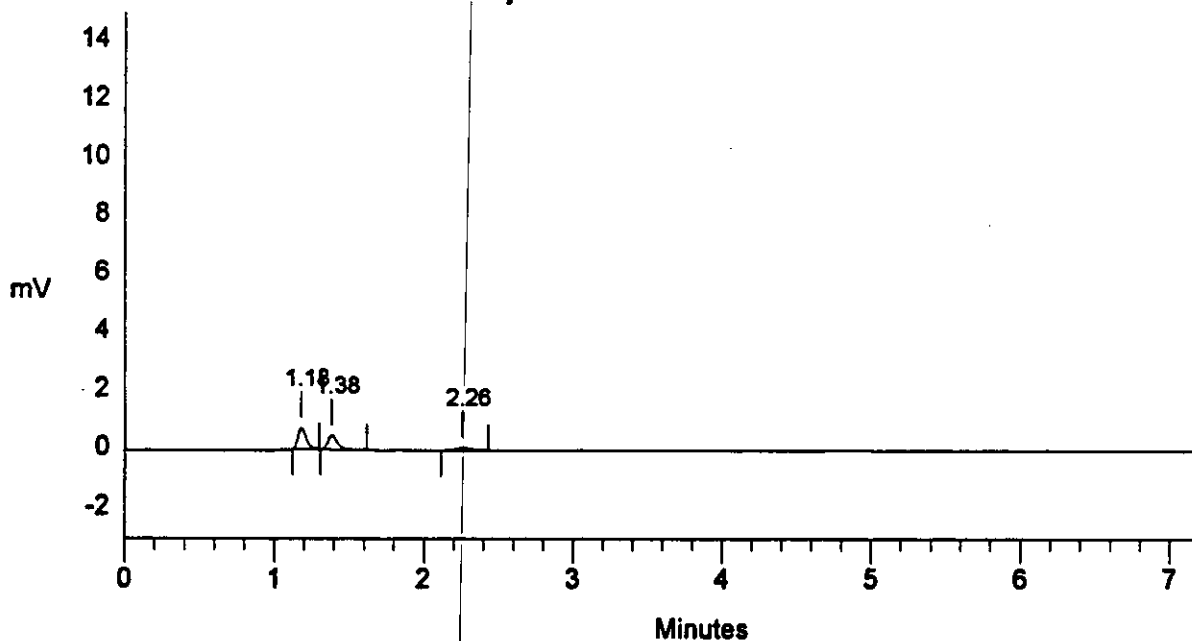
-----
ame           Adjusted Ret Time Reference Peak
-----
FLUORIDE      0.85                0
SULFATE       5.03                0
-----

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	1.18	CHLORIDE	7.846	23854	95414	2	-4.07
2	1.38		0.000	15850	74973	2	
3	2.26	NITRATE	5.908	2544	16759	1	-5.04
Totals			13.754	42247	187146		

File: 980501K1.D19 Sample: 98624-7 10X



```

=====
Sample Name: WATER BLANK                               Date: 05/01/1998 14:42:51
Data File  : C:\DX\DATA\980501K1.D20
Method     : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 20                      Detector:COND
Analyst    :                                           Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1           1 2160 5Hz 0.00 7.20      1000
-----

```

***** Components Not Found In This Run *****

```

-----
Name Adjusted Ret Time Reference Peak
-----
FLUORIDE          0.85           0
CHLORIDE          1.23           0
NITRATE           2.38           0
SULFATE           5.03           0
-----

```

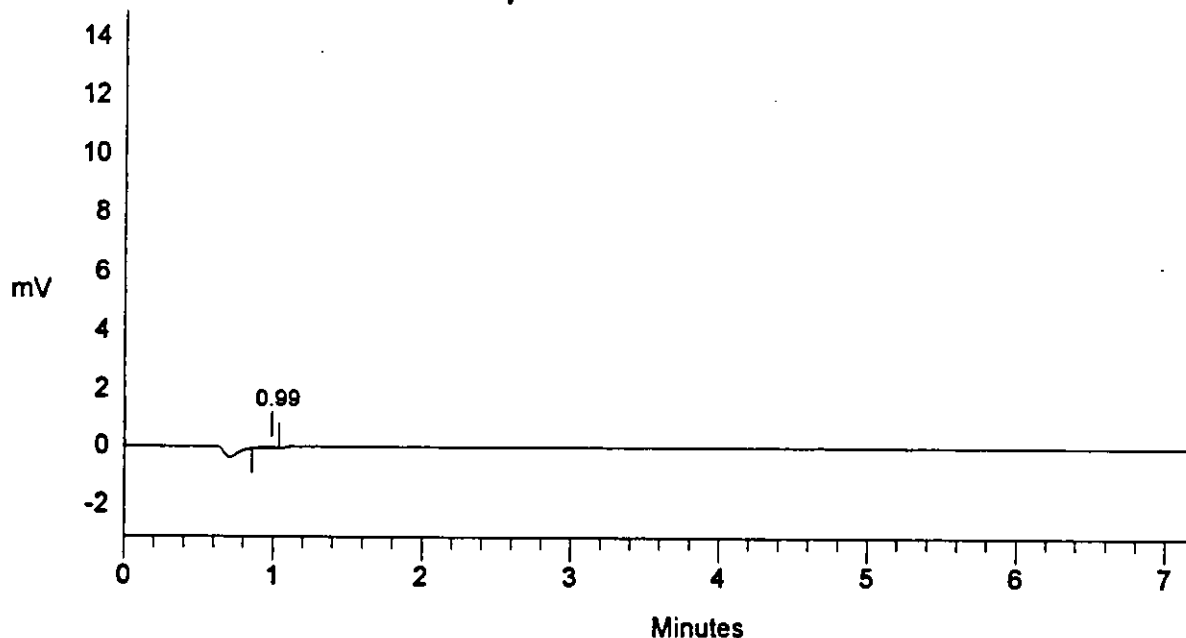
***** Peak Report: All Peaks *****

```

-----
Pk. Ret Component Concentration Height Area Bl. %Delta
Num Time Name ppm
-----
 1  0.99                0.000    1441    9991    1
-----
Totals                0.000    1441    9991
-----

```

File: 980501K1.D20 Sample: WATER BLANK



Sample Name: 98821-4 1000X
 Data File : C:\DX\DATA\980501K1.D21
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 21
 Analyst : Column:

Date: 05/01/1998 14:52:40

Detector: COND

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1000 2160 5Hz 0.00 7.20 1000

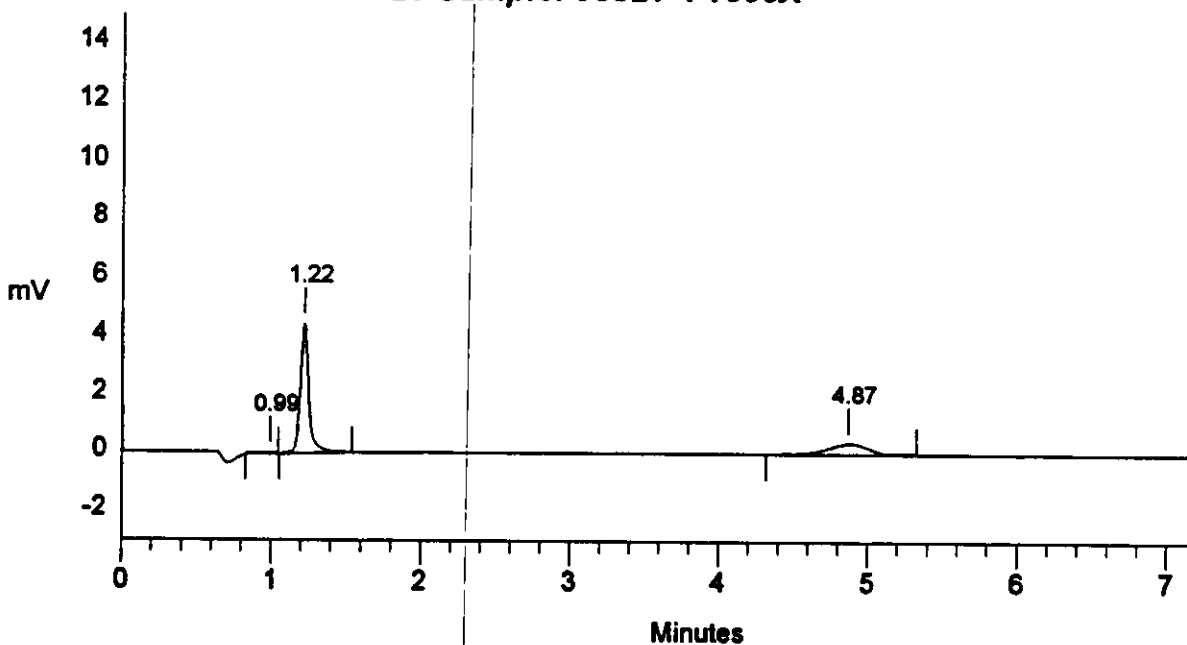
***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	0
NITRATE	2.38	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1598	16244	1	
2	1.22	CHLORIDE	3786.596	148920	596410	1	-0.81
3	4.87	SULFATE	1529.505	12208	230204	1	-3.11
Totals			5316.101	162726	842858		

File: 980501K1.D21 Sample: 98821-4 1000X



```

=====
Sample Name: 98821-5 1000X                               Date: 05/01/1998 15:02:30
Data File  : C:\DX\DATA\980501K1.D22
Method     : C:\DX\METHOD\LINELU.met
Address    : 2 System: 1 Inject#: 22                     Detector: COND
Analyst    :                                             Column:
=====

```

```

-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external      1      1000   2160 5Hz   0.00  7.20      1000

```

***** Components Not Found In This Run *****

```

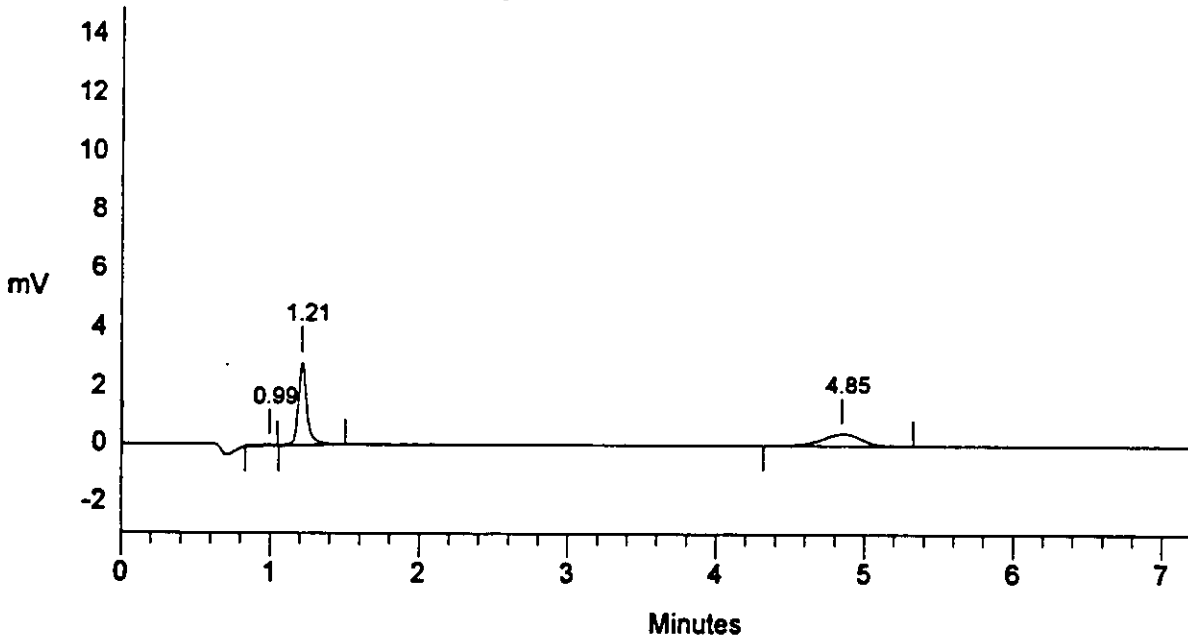
-----
ame           Adjusted Ret Time Reference Peak
-----
LUORIDE       0.85                0
ITRATE       2.38                0

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1595	14162	1	
2	1.21	CHLORIDE	2564.879	95358	392521	1	-1.36
3	4.85	SULFATE	1626.390	13398	249192	1	-3.64
Totals			4191.268	110351	655875		

File: 980501K1.D22 Sample: 98821-5 1000X



Sample Name: 98821-6 1000X
 Data File : C:\DX\DATA\980501K1.D23
 Method : C:\DX\METHOD\LINELU.met
 Address: 2 System: 1 Inject#: 23
 Analyst : Column:

Date: 05/01/1998 15:12:20

Detector: COND

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1000 2160 5Hz 0.00 7.20 1000

***** Components Not Found In This Run *****

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	0
NITRATE	2.38	0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.99		0.000	1491	12454	1	
2	1.21	CHLORIDE	2048.916	74007	306414	1	-1.90
3	4.85	SULFATE	1475.652	11777	219650	1	-3.64
Totals			3524.568	87274	538518		

File: 980501K1.D23 Sample: 98821-6 1000X

