COMPLIANCE TEST REPORT

UNIT NO. 2

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:

Ogden Energy Group, Inc.
40 Lane Road
Fairfield, New Jersey 07007

Prepared by:

AirKinetics, Inc.
AKI No.: 10403

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION

AND TESTING SERVICES

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:

Ogden Energy Group, Inc.
40 Lane Road
Fairfield, New Jersey 07007

Prepared by:

AirKinetics, Inc.
AKI No.: 10403

Prepared By: Sakhalin Finnie
Sakhalin Finnie
Report Coordinator

Reviewed By: Sakhalin Finnie for
Shawn Graham
Project Manager

AirKinetics, Inc.
EMISSIONS CHARACTERIZATION
AND TESTING SERVICES

TABLE OF CONTENTS

VOLUME I

(CONTINUED)

TABLE OF CONTENTS (CONTINUED)

Page

APPENDICES

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 Phanh, 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% CO_2 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 O_2, CO_2, and SO_2, 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 $\pm$ 25°F during sampling. Sampling was maintained within $\pm$ 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 - O_2, CO_2, SO_2, 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 SO_2 interference test and a NO_2-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 midget 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 H_2SO_4. 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% HNO_3/10% H_2O_2 in each of the first two impingers, the third remained empty, 4% $KMNO_4$/10% H_2SO_4 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 - O_2, CO_2, SO_2, 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 NO_2-to-NO Converter Efficiency Check

AirKinetics performed a NO_2-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 SO_2 Analyzer Interference Tests

AirKinetics performed an interference response test on the NO_x and SO_2 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 SO_2 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

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

Corrected Conc. = $Cma(\bar{C} - Co)/(Cm - Co)$

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

ppm @12% CO2 = (ppm pollutant) * 12/%CO2

lb/hr = (ppm pollutant)(DSCFM flow)(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 TEST DATE: 04/22/98
SOURCE: UNIT 2 INLET
RUN NUMBER: 2-I-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------ SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	-----FINAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% 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%	118.2	-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%						

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

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

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

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

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
Uncorrected Data:	26.7 ppm SO2	10.9 % O2 8.8 % CO2 NA DSCFM	

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		

Corrected Conc. = $Cma(\bar{C} - Co)/(Cm - Co)$

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

ppm @12% CO2 = (ppm pollutant) * 12/%CO2

lb/hr = (ppm pollutant)(DSCFM flow)(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 TEST DATE: 04/22/98
SOURCE: UNIT 2 INLET
RUN NUMBER: 2-I-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----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	-----FINAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% 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	1.80%	1.82%					
SO2 HIGH	180.0	180.2	0.10%		171.4	-4.40	173.2	-3.50	0.90
O2 ZERO	0.00	0.07	0.28%		0.16	0.36	0.15	0.32	-0.04
O2 MID	8.98	9.16	0.72%	0.37%	9.01	-0.60	9.00	-0.64	-0.04
O2 HIGH	20.04	20.15	0.44%						
CO2 ZERO	0.00	0.03	0.15%		0.14	0.55	0.08	0.25	-0.30
CO2 MID	10.95	10.92	-0.15%	-0.24%	10.85	-0.35	10.84	-0.40	-0.05
CO2 HIGH	17.39	17.40	0.05%						

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

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

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

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

CALCULATION OF AVERAGE SO2 EMISSIONS

COMPANY: OMS - 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
Uncorrected Data:	26.2 ppm SO2	10.4 % O2	
		9.1 % CO2	
		NA DSCFM	

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		

Corrected Conc. = $Cma(\bar{C} - Co)/(Cm - Co)$

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = actual mid or upscale calibration gas concentration

ppm @12% CO2 = (ppm pollutant) * 12/%CO2

lb/hr = (ppm pollutant)(DSCFM flow)(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 TEST DATE: 04/22/98
SOURCE: UNIT 2 INLET
RUN NUMBER: 2-I-COMP-3 (1526-1630)

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----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	-----FINAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% 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	1.80%	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%						

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

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

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

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

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	36,700
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

		2-I-M26-1	2-I-M26-2	2-I-M26-3
	Hydrogen Chloride			
FWt	Formula Weight, Lb/Lb-Mole	36.50	36.50	36.50
mg	Catch Weight, Milligrams	1890	1560	[redacted]
ppmvd	Concentration, Parts Per Million by Volume Dry	585	520	[redacted]
ppmvd@7%02	Concentration, ppmvd @ 7% 02	847	723	606
ppmvd@12%C02	Concentration, ppmvd @ 12% C02	820	702	599
lb/hr	Emission Rate, Pounds per Hour	134	116	95.6
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

		2-1-M4-1 2-1-M2-1	2-1-M4-2 2-1-M2-2	2-1-M4-3 2-1-M2-3
	Test Date	4/22/98	4/22/98	4/22/98
	Run Start Time Run Finish Time	0915 1140	1235 1435	1525 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 H20	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
%H20	Moisture Content, Percent by Volume	12.75	12.88	11.86
%H20sat	Saturated Moisture Content, Percent by Volume	100.0	100.0	100.0
Mfd	Source Gas Dry Mole Fraction	0.873	0.871	0.881
%C02	Source Gas C02 Content, Percent by Dry Volume	8.5	9.1	9.2
%02	Source Gas 02 Content, Percent by Dry Volume	10.6	10.4	10.6
Id	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 H20	-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 H20	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 %I120 and %I120sat was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

	Mercury	2-I-M29-1	2-I-M29-2	2-I-M29-3
FWt	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%02	Concentration, ppmvd @7% 02	0.1375	0.0786	0.0655
ppmvd@12%C02	Concentration, ppmvd @12% C02	0.1439	0.0783	0.0633
ug/DSCM	Concentration, Micrograms per DSCM	850	495	405
ug/DSCM@7%02	Concentration, ug/DSCM @ 7% 02	1147	656	546
ug/DSCM@12%C02	Concentration, ug/DSCM @ 12% C02	1200	653	528
gr/DSCF@12%C02	Concentration, gr/DSCF @ 12% C02	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
	Filterable Particulate			
mg	Catch Weight, Milligrams	4.2	3.9	
gr/DSCF	Concentration, Grains per DSCF	0.000829	0.000797	0.000731
gr/DSCF@7%02	Concentration, gr/DSCF @ 7% 02	0.00142	0.00138	0.00108
gr/DSCF@12%C02	Concentration, gr/DSCF @ 12% C02	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-O-M26-1	4/22/98	HUNG DUONG
2-O-M26-2	4/22/98	HUNG DUONG
2-O-M26-3	4/22/98	HUNG DUONG

		2-O-M26-1	2-O-M26-2	2-O-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 H20	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
%H20	Moisture Content, Percent by Volume	13.90	13.14	13.68
%C02	Source Gas C02 Content, Percent by Dry Volume	6.9	7.1	7.8
%02	Source Gas 02 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 H20	-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 %H20 and %H20sat was used for calculation purposes

FIELD DATA AND RESULTS TABULATION

		2-0-M26-1	2-0-M26-2	2-0-M26-3
	Hydrogen Chloride			
FWt	Formula Weight, Lb/Lb-Mole	36.50	36.50	36.50
mg	Catch Weight, Milligrams	26.8	23.5	[redacted]
ppmvd	Concentration, Parts Per Million by Volume Dry	7.09	6.42	[redacted]
ppmvd@7%02	Concentration, ppmvd @ 7% 02	12.2	11.2	9.71
ppmvd@12%C02	Concentration, ppmvd @ 12% C02	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

		2-0-M29-1	2-0-M29-2	2-0-M29-3
	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	0.216
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
Md	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	67.03
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

		2-0-M29-1	2-0-M29-2	2-0-M29-3
	Mercury			
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%02	Concentration, ppmvd @7% 02	0.00102	0.00225	0.00262
ppmvd@12%C02	Concentration, ppmvd @12% C02	0.00104	0.00229	0.00255
ug/DSCM	Concentration, Micrograms per DSCM	5.30	12.3	14.0
ug/DSCM@7%02	Concentration, ug/DSCM @ 7% 02	8.47	18.7	21.9
ug/DSCM@12%C02	Concentration, ug/DSCM @ 12% C02	8.71	19.1	21.3
gr/DSCF@12%C02	Concentration, gr/DSCF @ 12% C02	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: OMS - 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

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		

Corrected Conc. = Cma($\bar{C}$ - Co)/(Cm - Co)

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = 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-1 (1044-1147)

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----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	-----FINAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% 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	-0.4
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%						

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

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

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

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

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		

Corrected Conc. = $Cma(\bar{C} - Co)/(Cm - Co)$

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = 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 NOx 20 % CO2

	CAL. GAS TAG VALUE	ANALYZER CAL. RESPONSE	ANALYZER CAL. ERROR (% OF SPAN)	ANALYZER LINEARITY (% OF SPAN)	-----INITIAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	-----FINAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% OF SPAN)
SO2 ZERO	0.0	0.2	0.40%		1.0	1.60	0.2	0.00	-1.60
SO2 MID	23.60	23.8	0.40%	0.20%	24.0	0.40	23.4	-0.80	-1.20
SO2 HIGH	47.20	47.2	0.00%						
NOx ZERO	0.0	0.1	0.02%		1.3	0.24	0.9	0.16	-0.08
NOx MID	216.0	223.8	1.56%	1.51%	224.5	0.14	205.4	-3.68	-3.82
NOx 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
O2 ZERO	0.00	0.05	0.20%		0.06	0.04	0.14	0.36	0.3
O2 MID	8.98	9.14	0.64%	0.67%	8.89	-1.00	8.95	-0.76	0.2
O2 HIGH	20.04	19.96	-0.32%						
CO2 ZERO	0.00	0.09	0.45%		0.13	0.20	0.11	0.10	-0.10
CO2 MID	10.95	11.17	1.10%	1.00%	10.90	-1.35	10.83	-1.70	-0.35
CO2 HIGH	17.39	17.37	-0.10%						

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

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

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

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

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		

Corrected Conc. = $Cma(\bar{C} - Co)/(Cm - Co)$

Where: $\bar{C}$ = mean reference measurement
Co = mean zero calibration response
Cm = mean mid or upscale calibration gas response
Cma = 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-3 (1526-1630)

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------ SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	-----FINAL VALUES----- SYSTEM CAL. RESPONSE	SYSTEM CAL. BIAS (% OF SPAN)	DRIFT (% 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%						

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

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

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

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

APPENDIX B

EXAMPLE CALCULATIONS

1.0 PARTICULATE

EXAMPLE CALCULATIONS, RUN 2-0-M5-1

SAMPLED VOLUME OF SOURCE GAS, DRY ACTUAL CUBIC FEET

Vmm = Vm * 0.028317
= 73.159 * 0.028317
= 2.0716

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

Vmstd = [(Tstd + 460)/Pstd] * Y * Vm * (Pbar + Delta-H/13.6) / (460 + tm)
= [(68 + 460)/29.92] * 1.0891 * 73.159 * (29.90 + 1.53/13.6) / (460 + 80)
= 78.191

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC METERS

Vmstdm = Vmstd * 0.028317
= 78.191 * 0.028317
= 2.214

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

Vwstd = 0.002667 * [(Tstd + 460) / Pstd] * Vlc
= 0.002667 * [(68 + 460) / 29.92] * 277.3
= 13.051

MOISTURE CONTENT, PERCENT BY VOLUME

%H2O = Vwstd / (Vwstd + Vmstd)
= 13.051 / (13.051 + 78.191)
= 14.30

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

Mfd = 1 - %H2O/100
= 1 - 14.30/100
= 0.857

DRY MOLECULAR WEIGHT, LB/LB-MOLE

Md = 44*(%CO2/100) + 32*(%O2/100) + 28*{[100-(%CO2+%O2)]/100}
= 44*(6.9/100) + 32*(12.8/100) + 28*{[100-(6.9+12.8)]/100}
= 29.62

WET MOLECULAR WEIGHT, LB/LB-MOLE

Ms = Md*Mfd + 18.0*%H2O/100
= 29.62*0.857 + 18.0*14.30/100
= 27.95

ABSOLUTE PRESSURE, INCHES OF MERCURY

Ps = Pbar + Pg/13.6
= 29.90 + -14.80/13.6
= 28.81

VELOCITY, FEET PER SECOND

vs = 85.49 * Cp * SQRT[Delta-p*(460+ts)/Ps/Ms]
= 85.49 * 0.84 * SQRT[1.0945*(460+280)/28.81/27.95]
= 71.99

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

Qsd = (60/144) * Mfd * vs * A * (Tstd + 460)/(ts + 460) * (Ps/Pstd)
= (60/144) * 0.857 * 71.99 * 2627 * (68 + 460)/(280 + 460) * (28.81/29.92)
= 46417

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC METER PER MINUTE

Qmsd = Qsd * 0.028317
= 46417 * 0.028317
= 1314

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

Qaw = (60/144) * vs * A
= (60/144) * 71.99 * 2627
= 78789

VOLUMETRIC FLOW RATE, ACTUAL CUBIC METER PER MINUTE

Qmaw = Qaw * 0.028317
= 78789 * 0.028317
= 2231

ISOKINETIC SAMPLING RATE, PERCENT

%I = Pstd/(Tstd + 460) * (100/60) * Vmstd*(ts + 460)/[Ps*vs*Mfd*Theta*(PI*Dia*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

FUEL FACTOR

Fo = (20.9 - %02) / 20.9
= (20.9 - 12.8) / 20.9
= 1.174

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT

gr/DSCF = 7000 / 453.592 * (Catch/Conversion) / Vmstd
= 7000 / 453.592 * (4.20/1000) / 78.191
= 0.000829

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT @ 7% 02

gr/DSCF@7%02 = gr/DSCF * (20.9-7) / (20.9-%02)
= 0.00083 * (20.9-7) / (20.9-12.8)
= 0.001423

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT @ 12% C02

gr/DSCF@12%C02 = gr/DSCF * (12/%C02)
= 0.00083 * (12/6.9)
= 0.001442

FILTERABLE PARTICULATE EMISSION RATE, POUNDS PER HOUR

lb/hr = 60 * Catch/Conversion * Qsd / 453.592 / Vmstd
= 60 * 4.20/1000 * 46417 / 453.592 / 78.191
= 0.330

APPENDIX B

EXAMPLE CALCULATIONS

2.0 HYDROGEN CHLORIDE

EXAMPLE CALCULATIONS, RUN 2-I-M26-1

SAMPLED VOLUME OF SOURCE GAS, DRY ACTUAL CUBIC FEET
Vmm = Vm * 0.028317
= 76.150 * 0.028317
= 2.16

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET
Vmstd = [(Tstd + 460)/Pstd] * Y * Vm * (Pbar + Delta-H/13.6) / (460 + tm)
= [(68 + 460)/29.92] * 0.9963 * 76.150 * (29.90 + 1.463/13.6) / (460 + 74)
= 75.235

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC METER
Vmstdm = Vmstd * 0.028317
= 75.235 * 0.028317
= 2.130

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET
Vwstd = 0.002667 * [(Tstd + 460) / Pstd] * Vlc
= 0.002667 * [(68 + 460) / 29.92] * 136.9
= 6.443

MOISTURE CONTENT, PERCENT BY VOLUME
%H2O = Vwstd / (Vwstd + Vmstd)
= 6.443 / (6.443 + 75.235)
= 7.89

DRY MOLECULAR WEIGHT, LB/LB-MOLE
Md = 44*(%CO2/100) + 32*(%O2/100) + 28*{[100-(%CO2+%O2)]/100}
= 44*(8.6/100) + 32*(11.3/100) + 28*{[100-(8.6+11.3)]/100}
= 29.82

ABSOLUTE PRESSURE, INCHES OF MERCURY
Ps = Pbar + Pg/13.6
= 29.90 + -2.90/13.6
= 29.69

FUEL FACTOR
Fo = (20.9 - %O2) / 20.9
= (20.9 - 11.3) / 20.9
= 1.120

HEAT INPUT RATE, MILLION BTU PER HOUR
MMBtu/hr = 60 * QSD * (20.9 - %O2) / 20.9 / F
= 60 * 40360 * (20.9 - 11.3) / 20.9 / 9570
= 116.1

HYDROGEN CHLORIDE CONCENTRATION, PARTS PER MILLION BY DRY VOLUME
ppmvd = (Catch/Conversion) * 385.3 * 1, 000, 000 / 453.592 / FWt/ Vmstd
= (1890.00/1000) * 385.3 * 1, 000, 000 / 453.592 / 36.50/ 75.235
= 584.63

HYDROGEN CHLORIDE CONCENTRATION, PPMVD @ 7 % 02
ppmvd@7%02 = ppmvd * (20.9-7) / (20.9-%02)
= 847.38 * (20.9-7) / (20.9-11.3)
= 847.38

HYDROGEN CHLORIDE CONCENTRATION, PARTS PER MILLION BY DRY VOLUME
ppmvd@12%C02 = ppmvd * 12 / %C02
= 847.38 * 12 / 8.6
= 819.57

HYDROGEN CHLORIDE EMISSION RATE, POUNDS PER HOUR
lb/hr = 60 * Catch/Conversion * Qsd / 453.592 / Vmstd
= 60 * 1890.00/1000 * 40360 / 453.592 / 75.235
= 134.11

HYDROGEN CHLORIDE EMISSION RATE, POUNDS PER MILLION Btu
lb/MMBtu = Catch/Conversion * F / 453.592 / Vmstd * (20.9 / (20.9 - %02))
= 60 * 1890.00/1000 * 9570 / 453.592 / 75.235 * (20.9 / (20.9 - 11.3))
= 1.15509

APPENDIX B

EXAMPLE CALCULATIONS

3.0 MERCURY

EXAMPLE CALCULATIONS, RUN 1-I-M29-1

SAMPLED VOLUME OF SOURCE GAS, DRY ACTUAL CUBIC FEET
Vmm = Vm * 0.028317
= 76.473 * 0.028317
= 2.17

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET
Vmstd = [(Tstd + 460)/Pstd] * Y * Vm * (Pbar + Delta-H/13.6) / (460 + tm)
= [(68 + 460)/29.92] * 0.9963 * 76.473 * (29.90 + 1.43/13.6) / (460 + 68)
= 76.379

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC METER
Vmstdm = Vmstd * 0.028317
= 76.379 * 0.028317
= 2.163

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET
Vwstd = 0.002667 * [(Tstd + 460) / Pstd] * Vlc
= 0.002667 * [(68 + 460) / 29.92] * 214.0
= 10.072

MOISTURE CONTENT, PERCENT BY VOLUME
%H2O = Vwstd / (Vwstd + Vmstd)
= 10.072 / (10.072 + 76.379)
= 11.65

DRY MOLE FRACTION, LB-MOLE/LB-MOLE
Mfd = 1 - %H2O/100
= 1 - 11.65/100
= 0.883

DRY MOLECULAR WEIGHT, LB/LB-MOLE
Md = 44*(%CO2/100) + 32*(%O2/100) + 28*{[100-(%CO2+%O2)]/100}
= 44*(8.3/100) + 32*(11.1/100) + 28*{[100-(8.3+11.1)]/100}
= 29.77

WET MOLECULAR WEIGHT, LB/LB-MOLE
Ms = Md*Mfd + 18.0*%H2O/100
= 29.77*0.883 + 18.0*11.65/100
= 28.40

ABSOLUTE PRESSURE, INCHES OF MERCURY
Ps = Pbar + Pg/13.6
= 29.90 + -2.10/13.6
= 29.75

VELOCITY, FEET PER SECOND
vs = 85.49 * Cp * SQRT[Delta-p*(460+ts)/Ps/Ms]
= 85.49 * 0.84 * SQRT[0.5670*(460+379)/29.75/28.40]
= 53.89

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

Qsd = (60/144) * Mfd * vs * A * (Tstd + 460)/(ts + 460) * (Ps/Pstd)
= (60/144) * 0.883 * 53.89 * 3025 * (68 + 460)/(379 + 460) * (29.75/29.92)
= 37545

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC METER PER MINUTE

Qmsd = Qsd * 0.028317
= 37545 * 0.028317
= 1063

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

Qaw = (60/144) * vs * A
= (60/144) * 53.89 * 3025
= 67920

VOLUMETRIC FLOW RATE, ACTUAL CUBIC METER PER MINUTE

Qmaw = Qaw * 0.028317
= 67920 * 0.028317
= 1923

ISOKINETIC SAMPLING RATE, PERCENT

%I = Pstd/(Tstd + 460) * (100/60) * Vmstd*(ts + 460)/[Ps*vs*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

FUEL FACTOR

Fo = (20.9 - %02) / 20.9
= (20.9 - 11.1) / 20.9
= 1.181

MERCURY: CONCENTRATION, PARTS PER MILLION BY VOLUME DRY
ppmvd = (Catch/Conversion) * 385.3 * 1, 000, 000 / 453.592 / FWt/ Vmstd * (460+Tstd) / 528
= (2177.3/1000000) * 385.3 * 1, 000, 000 / 453.592 / 200.59 / 76.379 * (460+68) / 528
= 0.12072

MERCURY: CONCENTRATION, PARTS PER MILLION BY VOLUME DRY @ 7% O2
ppm@7%O2 = ppmvd * (20.9-7) / (20.9-%O2)
= 0.1207 * (20.9-7) / (20.9-11.1)
= 0.17122

MERCURY: CONCENTRATION, PARTS PER MILLION BY VOLUME DRY @ 12% CO2
ppm@12%CO2 = ppmvd * 12 / %CO2
= 0.1207 * 12 / 8.3
= 0.17453

MERCURY: CONCENTRATION, MICROGRAMS PER DRY STANDARD CUBIC METER
ug/DSCM = (Catch/Conversion) * 1, 000, 000 / Vmstdm
= (2177/1000000) * 1, 000, 000 / 2.163
= 1006.7

MERCURY: CONCENTRATION, MICROGRAMS PER DRY STANDARD CUBIC METER @ 7% O2
ug/DSCM@7%O2 = ug/DSCM * (20.9-7) / (20.9-%O2)
= (1007 * 1, 000, 000 / 2.163 * (20.9-7) / (20.9-11.1)
= 1427.9

MERCURY: CONCENTRATION, NANOGRAMS PER DRY STANDARD CUBIC METER @ 12% CO2
ug/DSCM@12%CO2 = ug/DSCM * (12/%CO2)
= (1007 * (12/8.3)
= 1455.5

MERCURY: EMISSION RATE, POUNDS PER HOUR
lb/hr = 60 * (Catch/Conversion) * Qsd / 453.592 / Vmstd
= 60 * (2177/1000000) * 37545 / 453.592 / 76.379
= 0.14158

MERCURY: EMISSION RATE, GRAMS PER SECOND
g/sec = (Catch/Conversion) * Qsd / 60 / Vmstd
= 2177.30/1000000 * 37545 / 60 / 76.379
= 0.017838

APPENDIX C

FIELD DATA

1.0 PARTICULATE

METHOD 3 (ORSAT) FIELD DATA

Client: OGDEN — Job No 10403

Plant Name: OMS LAKE — Fuel Type MUN WASTE

City/State: OKAHUMPKA, FL

Sampling Location: Unit 2 Outlet

Run/Sample No. 2-0-M3/5-1 Date: 4/22/98 Leak √ OK? ✓ OPERATOR: JW

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
0916	1350	7.0	19.9	—	12.9	—	
"	1400	6.9	19.7	—	12.8	—	
1143	1410	6.9	19.7	—	12.8	—	
	Avg.	6.9		Avg.	12.8	—	

Orsat I.D. 4 Tedlar Bag I.D. B139 F_o 1.17

Run/Sample No. 2-0-M3/5-2 Date: 4/22/98 Leak √ OK? ✓ OPERATOR: JW

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
1336	1625	7.0	20.0	—	13.0	—	
"	1640	7.1	20.0	—	12.9	—	
1446	1700	7.2	20.0	—	12.8	—	
	Avg.	7.1		Avg.	12.9	—	

Orsat I.D. 4 Tedlar Bag I.D. B100 F_o 1.13

Run/Sample No. ~~2~~ 2-0-MS/3-3 Date: 4/22/98 Leak √ OK? ✓ OPERATOR: JW

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
1525	1845	7.7	19.3	—	11.6	—	
"	1855	7.9	19.4	—	11.5	—	
1731	1903	7.9	19.4	—	11.5	—	
	Avg.	7.8		Avg.	11.5	—	

Orsat I.D. 4 Tedlar Bag I.D. B203 F_o 1.21

Reviewer: _____

AirKinetics, Inc.

SAMPLING DATA - METHOD (S) EPA M5

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 FF Outlet RUN NO: 2-O-M5-1

BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H_2O: -14.8 DATE: 4/22/98

LEAK ✓ VAC., IN. HG: 15 8 RUN TIME: 0916 - 1143

LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: WAJ

EQUIPMENT CHECKS	PRE	POST
PITOT	✓	✓
TC	✓	✓
NOZZLE	✓	✓
ORSAT	✓	NA

EQUIPMENT I.D. NUMBERS			
METER BOX	N-30	Y	1.0891
PITOT ID	PT14	Cp	0.84
TC READOUT	646742	TC	12
NOZZLE NO.	GN230	DIA.	0.218
SAMPLE BOX	SB04	REAGNT.	C100
UMBILICAL	CU01		
ORSAT PUMP	OR1	BAG	B203A

NOMOGRAPH		
DELTA H@	1.9841	
METER TEMP.	90	
EST. % H_2O	16	
"C" FACTOR	0.831	
STACK TEMP.	285	
REF DELTA-P	1.327	
"K" FACTOR	1.387	

FILTER XAD	TARE WT.
A566	0.5067

LEAK CHECKS					FYRITES	% O_2			
	B	B	B	B		% CO_2	6.5% By		
	E	E	E	E					

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1	A-8	0	919.95	1.25	69	275	1.70	1.704	4	258	60O	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	
5	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	1.416	4	240	62	
7	2	30	939.760	0.93	79	279	1.28	1.284	3	245	61	
8	1	35	942.470	0.80	79	272	1.12	1.115	3	243	62	
9	B-8	40	945.105	0.98	78	276	1.36	1.356	4	248	58	
10	7	45	948.145	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	965.945	0.75	82	274	1.05	1.054	4	254	65	
17	C-8	80	968.65	1.20	89	286	1.66	1.664	4	248	64	
18	7	85	972.17	1.15	81	274	1.61	1.662	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	249	64	
22	3	105	984.620	1.08	82	277	1.47	1.469	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	1.15	1.187	4	248	60	
	End	120	993.109									
	FINAL											
		120	73.159	1.0945	79.7	280	1.5267					

REVIEWER SF

SAMPLING DATA - METHOD (S) EPA M5

CLIENT: OGDEN | PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL | JOB NO.: 10403

SAMPLE LOCATION: Unit 2 FF Outlet | RUN NO: 2-O-M5-2

BAR. PRESS., IN. HG: 29.9 | STATIC PRESSURE, IN. H_2O: -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: WAJ

EQUIPMENT CHECKS	PRE	POST	EQUIPMENT I.D. NUMBERS				NOMOGRAPH		FILTER XAD	TARE WT.
PITOT	✓	✓	METER BOX	N-30	Y	1.0891	DELTA H@	1.941		
TC	✓	✓	PITOT ID	PT15	Cp	0.84	METER TEMP.	90	A567	05098
NOZZLE	✓	✓	TC READOUT	687142	TC	22	EST. % H_2O	16		
ORSAT	✓	NA	NOZZLE NO.	GN284	DIA.	0.218	"C" FACTOR	0.837		
			SAMPLE BOX	SB02	REAGNT.	CuO	STACK TEMP.	285		
			UMBILICAL	CU01			REF DELTA-P	1.318		
			ORSAT PUMP	OR1	BAG	B100B	"K" FACTOR	1.397		

LEAK CHECKS					FYRITES			
	B 1040.435	B	B	B		% O_2		
	E 1040.492	E	E	E		% CO_2	6.5%	6.5%

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1	A-8	0	993.250	1.25	78	286	1.71	1.709	4	233	64	NA
2	7	5	996.636	1.25	79	289	1.7	1.761	4	245	63	
3	6	10	999.785	1.33	81	289	1.8	1.803	4	249	63	
4	5	15	1003.060	1.23	82	290	1.68	1.680	4	251	63	
	4	20	1006.238	1.15	84	289	1.58	1.579	4	245	60	
6	3	25	1009.205	1.63	84	287	1.42	1.415	4	242	61	
7	2	30	102.255	0.95	85	283	1.32	1.319	4	246	62	
8	1	35	1015.065	0.66	85	273	0.93	0.928	3	235	62	
9	B-8	40	1017.53	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	1023.536	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	1029.228	1.00	86	281	1.37	1.387	4	256	63	
14	3	65	1032.125	1.02	86	279	1.42	1.421	4	253	64	
15	2	70	1034.986	0.96	86	279	1.34	1.335	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	1043.902	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	1057.64	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	260	0.91	0.913	3	238	66	
	END	120	1064.98									
	FINAL											
		120	71.211	1.0375	84	283	1.445					

REVIEWER SSF

SAMPLING DATA - METHOD (S) EPA-M5

Page 1 of 1

CLIENT: OGDEN | PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL | JOB NO.: 10403

SAMPLE LOCATION: Unit 2 - FF Outlet | RUN NO: 2-O-M5-3

BAR. PRESS., IN. HG: 29.9 | STATIC PRESSURE, IN. H_2O: -13.0 | DATE: 4/22/98

LEAK ✓ VAC., IN. HG: 15 | 5 | | | RUN TIME: 1525 - 1730

LEAK RATE, CFM: 0.000 | 0.000 | | | TEST PERSONS: WJ/TJ

EQUIPMENT CHECKS	PRE	POST
PITOT	✓	✓
TC	✓	✓
NOZZLE	✓	✓
ORSAT	✓	NA

EQUIPMENT I.D. NUMBERS				
METER BOX	N-30	Y	1.0891	
PITOT ID	PT 14	Cp	0.84	
TC READOUT	6487142	TC	12	
NOZZLE NO.	GN230	DIA.	0.218	
SAMPLE BOX	5804	REAGNT.	C100	
UMBILICAL	CU01			
ORSAT PUMP	OR1	BAG	B203A	

NOMOGRAPH		
DELTA H@	1.0891	
METER TEMP.	90	
EST. % H_2O	16	
"C" FACTOR	0.837	
STACK TEMP.	285	
REF DELTA-P	1.318	
"K" FACTOR	1.397	

FILTER XAD	TARE WT.
A404	0.5732

LEAK CHECKS					FYRITES	% O_2			
	B	B	B	B		% CO_2	6% Bag	7% Bag	7% Bag
	E	E	E	E					

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F 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	1.00	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	1.428	4	241	60	
7	2	30	82.624	0.9	85	287	1.24	1.242	3	249	60	
8	1	35	85.325	0.54	85	275	0.76	0.768	3	239	62	
9	B-8	40	87.45	1.00	84	285	1.40	1.403	3	240	63	
10	7	45	90.385	0.9	85	274	1.27	1.265	3	238	64	
11	6	50	93.1661	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	1.050	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	0.90	80	276	1.50	1.350	3	248	56	
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	290	1.18	1.175	3	251	58	
24	1	115	12802	0.6	82	268	0.85	0.854	3	254	59	
	END	120	130.312									
	FINAL											
		120	65.612	0.888	83	278	1.25					

REVIEWER SSF

APPENDIX C

FIELD DATA

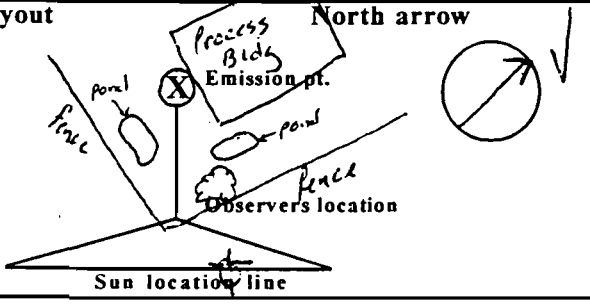
2.0 OPACITY

Beatty Environmental Services

VISIBLE EMISSION OBSERVATION FORM

Source Name Ogden Martin Systems of Lake	**Observation Date** 4/22/98
Facility Name Lake County Resource Recovery facility	**Start Time** 0920
Facility Address 3830 Rogers Industrial Park Rd.	**End Time** 1020
City Okahumpka	**State** FL
Phone (352) 365-1611	**DEP Id. Number** A035-193817
Process Equipment Waste to Energy Incineration	**Operating Mode** Steady State
Control Equipment PECD/AGEC systems	**Operating Mode** 100%
Describe Emission Pt Start SMoke Stack-West	Stop same
Distance from observer Start ≈575'	Stop same
Direction from observer Start 317°	Stop same
Height above ground Start 200'	Stop same
Height relative to observer Start 190'	Stop same
Describe emissions Start None	Stop same
Emission color Start None	Stop same
Plume type: Continuous ☒ Fugitive ☐ Intermittent ☐	
Point in plume at which opacity was determined Start ≈10' above stack	Stop same
Describe background Start Sky	Stop same
Background color Start Blue	Stop same
Sky conditions Start Clear	Stop same
Wind speed Start 1-3mph	Stop 3-5
Wind direction Start NW	Stop North
Ambient temp Start 72°	Stop 74
Wet bulb temp. 65°	**R.H.%** 69%
Slant angle Start 18°	Stop same

Source layout



sec / min	0	15	30	45	sec / min	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Average opacity for highest period 0%

Number of readings above 0 **% were** 0

Range of opacity readings 0% min 0% max

Comments U1-MG-1

Observer's name Daniel R. Beatty

Observer's signature Daniel R. Beatty

Organization Beatty Environmental Services

Verified by

Certified by Eastern Technical Associates

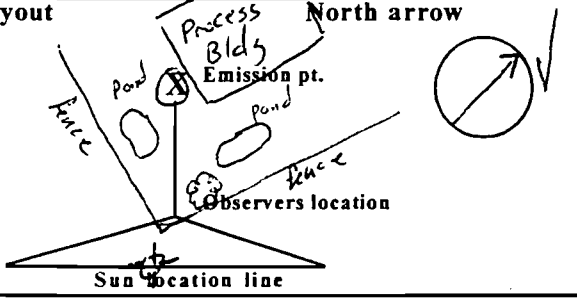
Date 2/98

Beatty Environmental Services

VISIBLE EMISSION OBSERVATION FORM

Source Name Ogden Martin Systems of Lake	**Observation Date** 4/22/98
Facility Name Lake County Resource Recovery Facility	**Start Time** 1235
Facility Address 3830 Rogers Industrial Park Rd.	**End Time** 1335
City Okahumpka	**State** FL
Phone (352) 365-1611	**DEP Id. Number** A035-193817
Process Equipment Waste to Energy Incineration	**Operating Mode** Steady State
Control Equipment PECD/AGEC Systems	**Operating Mode** 100%
Describe Emission Pt Start Stack Exit-West	Stop same
Distance from observer Start ~575'	Stop same
Direction from observer Start 317°	Stop same
Height above ground Start 200'	Stop same
Height relative to observer Start 190'	Stop same
Describe emissions Start None	Stop same
Emission color Start None	Stop same
Plume type: Continuous ☒ Fugitive ☐ Intermittent ☐	
Point in plume at which opacity was determined Start 10' above stack exit	Stop same
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

Source layout



sec/min	0	15	30	45	sec/min	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Average opacity for highest period 0%

Number of readings above 0 **% were** 0

Range of opacity readings 0% min 0% max

Comments U2-M9-2

Observer's name Daniel R. Beatty

Observer's signature Daniel R. Beatty

Organization Beatty Environmental Services

Verified by

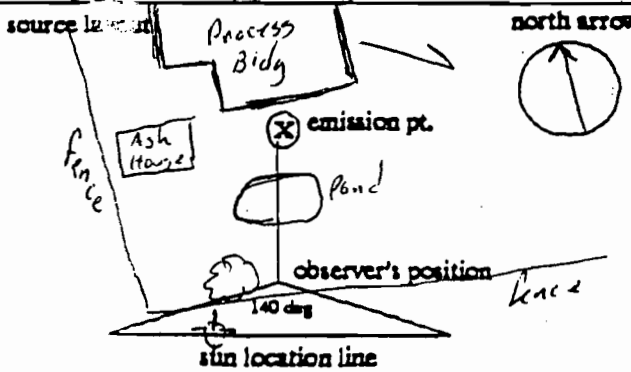
Certified by Eastern Technical Associates

Date 2/98

VISIBLE EMISSION OBSERVATION FORM

source name: Ogden Martin Systems of Lake
facility name: Lake County Resource Recovery Facility
facility address: 3830 Rogers Industrial Park Rd
city: Okahumpka state: FL
phone: (352) 365-1611 DEP id number: A035-193817
process equipment: Waste to Energy Incineration operating mode: Steady State
control equipment: PECD/AGEC Systems operating mode: 100%
describe emission pt. start: Stack Exit - West stop: same
distance from observer start: ~550 stop: same direction from observer start: 013° stop: same
height above ground start: 200' stop: same height relative to observer start: 190' stop: same
describe emissions start: None stop: same
emission color start: None stop: same plume type: continuous [X] fugitive [ ] intermittent [ ]
point in the plume at which opacity was determined start: 10' above stack exit stop: same
describe background start: Sky stop: same
background color: Blue stop: same sky conditions start: scattered stop: same
wind speed start: 7-10 mph stop: same wind direction start: West stop: same
ambient temp. start: 76° stop: same wet bulb temp.: 62° R.H. %: 44%
plant angle start: 20° stop: same

source layout



observation date	start time	end time
4/22/98	1530	1630

sec / min	0	15	30	45	sec / min	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

average opacity for highest period: 0%
number of readings above 0 % were 0
range of opacity readings: 0% min 0% max

comments: U2-M9-3

Observer's Name: Daniel R. Beatty
Observer's Signature: Daniel R. Beatty
Organization: Beatty Environmental Services
Certified By: Eastern Technical Associates Date: 2/98

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

CERTIFICATE OFFICER

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	11.68
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	7.76	12.15
10:47	164.0	18.6	7.37	12.17	2.2	138.7	8.70	10.88
10:48	175.0	14.2	7.48	11.93	1.9	112.3	8.42	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	12.38
10:51	204.5	18.0	6.93	12.75	1.5	81.0	7.94	11.91
10:52	203.1	18.0	7.10	12.60	1.4	77.1	8.57	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	73.8	8.25	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	228.2	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	292.5	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	10.98
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
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	8.68	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	17.8	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)

← Blow back for Inlet

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

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
12:36	218.4	21.9	8.24	11.45	1.8	37.2	9.85	10.14
12:37	227.3	21.3	8.67	10.81	1.7	43.4	10.24	9.46
12:38	215.8	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	33.6	9.55	10.38
12:40	222.4	16.4	8.26	11.27	1.6	36.1	9.65	10.11
12:41	208.5	14.3	7.98	11.65	1.7	35.6	9.44	10.52
12:42	199.0	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	8.87	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	14.8	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	17.8	7.67	11.88	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	7.87	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	7.86	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	7.87	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	11.06	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	7.58	11.82	1.8	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	8.08	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	11.86
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	11.68	4.8	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	12.62	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	8.39
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	1.9	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	8.81	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

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	-0.8	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	166.7	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	16.1	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	11.98	0.7	18.4	9.07	10.84
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	10.09
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	36.2	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

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
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	11.28
16:21	148.5	9.9	8.71	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	8.07
16:23	123.2	7.3	8.28	10.77	0.0	44.8	9.30	10.06
16:24	105.8	6.5	7.30	12.08	1.2	30.3	7.96	11.67
16:25	100.9	8.6	6.67	12.96	2.5	26.2	7.94	11.99
AVERAGE VALUES FOR THE LAST 30 MINUTES								
16:25	142.8	9.0	7.83	11.45	-0.5	28.8	9.12	10.34

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: OGDEN | Job No.: 10403
Plant Name: OMS LAKE | Run No.: 2-1 M2-1
City / State: OKAHUMPKA, 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. H_2O
Pitot/Orifice ID PT-16 | Pitot Coefficient (C_p) 0.84 | Pressure Gauge Set ID D-2
Thermocouple ID 39 | Duct Depth/Diameter _____ Width _____
----Specifiy inches (") or feet (')---

VELOCITY TRAVERSES

Start-Finish Times: 0915 - 1140

Point	ΔP ("H_2O)	Temp (°F)
A-1	0.55	445
2	0.64	451
3	0.67	453
4	0.64	451
5	0.71	449
6	0.73	446
7	0.75	447
8	0.74	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	448
Avg. *	0.664	447

* ΔP average is square of average square root.

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_2O

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, Qsd =	DSCFM
Wet at Stack Conditions, Qaw =	ACFM

ADDITIONAL DATA:

Reviewer: SSF
AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M26 Page 1 of 1

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Inlet. RUN NO: 2-I-M26-1

AR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H_2O: ~~29.9~~ N/A DATE: 4/22/98

LEAK ✓ VAC., IN. HG: .5 10 RUN TIME: 0915 - 1140

LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: WP

EQUIPMENT CHECKS			EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
	PRE	POST	METER BOX	2106	Y	0.9763	DELTA H@	NA		XAD	WT.
PITOT	NA	NA	PITOT ID	NA	Cp	0.84	METER TEMP.			NA	NA
TC			TC READOUT	Fuji	TC	NA	EST. % H_2O				
NOZZLE			NOZZLE NO.	NA	DIA.	NA	"C" FACTOR				
ORSAT		NA	SAMPLE BOX	31	REAGNT.	618	STACK TEMP.				
			UMBILICAL	U-94			REF DELTA-P				
			ORSAT PUMP	NA	BAG	NA	"K" FACTOR				

LEAK CHECKS					FYRITES	% O_2	NA		
	B	B	B	B		% CO_2	NA		
	E	E	E	E					

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1		0	78.055	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	115.655		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	256	61	
17		80	130.51		74		1.2		11	250	60	
18		85	133.475		75		1.2		12	256	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	148.385		78		1.2		15	250	53	
24		115	151.37		78		1.2		15	250	55	
		120	154.15									
FINAL		120	76.158	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. 2 INLET | Personnel: NP
Barometric Pressure (Pbar) 29.9 In. Hg | Static Pressure (Pg) -2.9 In. H_2O
Pitot/Orifice ID PT-16 | Pitot Coefficient (C_p) 0.84 | Pressure Gauge Set ID D-2
Thermocouple ID 39 | Duct Depth/Diameter ____ | Width ____
----Specifiy inches (") or feet (')---

VELOCITY TRAVERSES

Start-Finish Times: 1235 - 1435

Point	ΔP ("H_2O)	Temp (°F)
A-1	0.69	454
2	0.70	455
3	0.73	458
4	0.73	453
5	0.71	451
6	0.76	450
7	0.72	445
8	0.73	443
B-1	0.56	445
2	0.65	447
3	0.64	451
4	0.57	449
5	0.64	448
6	0.68	446
7	0.73	443
8	0.67	441
C-1	0.61	437
2	0.65	440
3	0.60	443
4	0.56	442
5	0.52	440
6	0.61	439
7	0.69	438
8	0.70	439
Avg. *	0.656	446

* ΔP average is square of average square root.

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_2O

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, Qsd =	DSCFM
Wet at Stack Conditions, Qaw =	ACFM

ADDITIONAL DATA:

Reviewer: SSF
AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M26 Page 1 of 1

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 INLET RUN NO: 2-I-M26-2

BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H_2O: -2.9 DATE: 4/22/98

LEAK ✓ VAC., IN. HG: ✓ 15 10 RUN TIME: 1235 - 1435

LEAK RATE, CFM: ✓ 0.000 0.000 TEST PERSONS: NP

EQUIPMENT CHECKS	PRE	POST	EQUIPMENT I.D. NUMBERS			NOMOGRAPH		FILTER	TARE
			METER BOX	2106	Y 0.9963	DELTA H@	NA	XAD	WT.
PITOT	NA	NA	PITOT ID	NA	Cp 0.84	METER TEMP.		NA	NA
TC			TC READOUT	Fuji	TC NA	EST. % H_2O			
NOZZLE			NOZZLE NO.	NA	DIA NA	"C" FACTOR			
ORSAT		NA	SAMPLE BOX ✓	31	REAGNT ✓ 618	STACK TEMP.			
			UMBILICAL	M-94		REF DELTA-P			
			ORSAT PUMP	NA	BAG NA	"K" FACTOR			

LEAK CHECKS					FYRITES				
	B	B	B	B		% O_2			
	E	E	E	E		% CO_2			

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET ✓	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG. ✓	GAS TEMPERATURES, °F FILTER BOX ✓	GAS TEMPERATURES, °F IMPINGER EXIT ✓	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1		0	154.792	NA	78	NA	1.2 (ND)	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 (N)	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					79.3 (SP)							
		120	71.373	NA	79.0	NA	1.2					

REVIEWER SSF

H:\JOBS\FORMS\SAMP13.DOC3-01-97

A0013

AirKinetics, Inc.

T 38

AIR FLOW RATE DETERMINATIONS

Client Name: OGDEN | Job No.: 10403 (MD)
Plant Name: OMS LAKE | Run No.: 2-I-M~~6~~-3
City / State: OKAHUMPKA, 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. H_2O
Pitot/Orifice ID PT-16 | Pitot Coefficient (C_p) 0.84 | Pressure Gauge Set ID D-2
Thermocouple ID 39 | Duct Depth/Diameter ____ | Width ____
----Specifiy inches (") or feet (')---

VELOCITY TRAVERSES

Start-Finish Times: 1525 - 1726

Point	ΔP ("H_2O)	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

* ΔP average is square of average square root.

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_2O

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, Qsd =	DSCFM
Wet at Stack Conditions, Qaw =	ACFM

ADDITIONAL DATA:

Reviewer: SSF
AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M26

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Inlet. RUN NO: 2-I-M26-3

BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H_2O: -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	PRE	POST	EQUIPMENT I.D. NUMBERS				NOMOGRAPH		FILTER	TARE
			METER BOX	2106	Y	0.9963	DELTA H@	NA	XAD	WT.
PITOT	NA	NA	PITOT ID	NA	Cp	0.84	METER TEMP.		NA	NA
TC			TC READOUT	Fuji	TC	NA	EST. % H_2O			
NOZZLE			NOZZLE NO.	NA	DIA	NA	"C" FACTOR			
ORSAT		NA	SAMPLE BOX	31	REAGNT.	618	STACK TEMP.			
			UMBILICAL	4-94			REF DELTA-P			
			ORSAT PUMP	NA	BAG	NA	"K" FACTOR			

LEAK CHECKS					FYRITES	% O_2			
	B	B	B	B		% CO_2			
	E	E	E	E					

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG. ✓	GAS TEMPERATURES, °F FILTER BOX ✓	GAS TEMPERATURES, °F IMPINGER EXIT ✓	GAS TEMPERATURES, °F 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	257	58	
15		70	268.09		79		1.2		8	250	56	
16		75	271.105		79		1.2		9	257	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	01	
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		120	71.761	NA	80.0	NA	1.2					

REVIEWER SSF

SAMPLING DATA - METHOD (S) M26

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Outlet RUN NO: 2-0-M26-1

BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H_2O: NA DATE: 4/22/98

LEAK ✓ VAC., IN. HG: 16 10 RUN TIME: 0915 - 1145

LEAK RATE, CFM: 0.002 0.010 TEST PERSONS: HDD

EQUIPMENT CHECKS	PRE	POST	EQUIPMENT I.D. NUMBERS				NOMOGRAPH		FILTER	TARE
			METER BOX	2108	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_2O			
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					FYRITES	% O_2	NA		
	B	B	B	B		% CO_2	NA		
	E	E	E	E					

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F: FILTER BOX	GAS TEMPERATURES, °F: IMPINGER EXIT	GAS TEMPERATURES, °F: 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	
		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	418.96		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: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Outlet RUN NO: 2-0-M26-2

BAR. PRESS., IN. HG: 29.9 STATIC PRESSURE, IN. H_2O: NA DATE: 4/22/98

LEAK ✓ VAC., IN. HG: 15 11 RUN TIME: 1238 - 1438

LEAK RATE, CFM: 0.007 0.000 TEST PERSONS: JW, MAJ

EQUIPMENT CHECKS	PRE	POST
PITOT	NA	NA
TC		
NOZZLE		
ORSAT	✓	NA

EQUIPMENT I.D. NUMBERS			
METER BOX	2108	Y	1.0138
PITOT ID	NA	Cp	0.84
TC READOUT	NA	TC	NA
NOZZLE NO.	NA	DIA.	NA
SAMPLE BOX		REAGNT.	
UMBILICAL	488		
ORSAT PUMP	NA	BAG	NA

NOMOGRAPH			FILTER	TARE
DELTA H@	NA		XAD	WT.
METER TEMP.	↓		NA	NA
EST. % H_2O			↓	↓
"C" FACTOR				
STACK TEMP.				
REF DELTA-P				
"K" FACTOR	↓			

LEAK CHECKS					FYRITES				
	B	B	B	B		% O_2			
	E	E	E	E		% CO_2			

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1		0	455.867	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	(HW) 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	527.80	(HW)	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	259	68	↓
		120	541.495									
	FINAL											
		120	85.633	NA	80	NA	1.7					

REVIEWER SSF

SAMPLING DATA - METHOD (S) M26

CLIENT: OGDEN | PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL | JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Outlet | RUN NO: 2-0-M26-3

BAR. PRESS., IN. HG: 29.9 | STATIC PRESSURE, IN. H_2O: NA | DATE: 4/22/98

LEAK ✓ VAC., IN. HG: 15 | 12 | | | RUN TIME: 1525 - 1725

LEAK RATE, CFM: .002 | .000 | | | TEST PERSONS: TW, WAJ, HDD

EQUIPMENT CHECKS	PRE	POST	EQUIPMENT I.D. NUMBERS				NOMOGRAPH			FILTER	TARE
			METER BOX	2408	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_2O	↓	↓	↓	↓
NOZZLE	↓	↓	NOZZLE NO.	NA	DIA.	NA	"C" FACTOR	↓	↓	↓	↓
ORSAT	↓	NA	SAMPLE BOX		REAGNT.		STACK TEMP.	↓	↓	↓	↓
			UMBILICAL	H88			REF DELTA-P	↓	↓	↓	↓
			ORSAT PUMP	NA	BAG	NA	"K" FACTOR	↓	↓	↓	↓

LEAK CHECKS					FYRITES	% O_2	NA		
	B	B	B	B		% CO_2	NA		
	E	E	E	E					

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1		0	542.00	NA	80	NA	1.7	NA	4	233	63	NA
2		5	545.68	↓	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	
6		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	254	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	60	
	FINAL											
		120	86.712	NA	81	NA	1.7					

REVIEWER SST

APPENDIX C

FIELD DATA

5.0 MERCURY

METHOD 3 (ORSAT) FIELD DATA

Client: OGDEN — Job No 10403

Plant Name: OMS LAKE — Fuel Type MUN WASTE

City/State: OKAHUMPKA, FL

Sampling Location: Unit 2 Inlet

Run/Sample No. 2-I-M3/29-1 Date: 4/21/98 Leak √ OK? ✓ OPERATOR: JW

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. 4 Tedlar Bag I.D. B139A F_o 1.21

Run/Sample No. 2-I-M3/29-2 Date: 4/21/98 Leak √ OK? ✓ OPERATOR: JW

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. 4 Tedlar Bag I.D. B100 F_o 1.15

Run/Sample No. 2-I-M3/29-3 Date: 4/21/98 Leak √ OK? ✓ OPERATOR: JW

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. 4 Tedlar Bag I.D. B202 F_o 1.12

Reviewer: _____

AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M29

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

IPLE LOCATION: UNIT 2 INLET RUN NO: 2-I-M29-1

AR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H_2O: -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	PRE	POST	EQUIPMENT I.D. NUMBERS				NOMOGRAPH		FILTER	TARE
									XAD	WT.
PITOT	✓		METER BOX	2106	Y	.9963	DELTA H@	1.948	NA	N/A
TC	✓	✓	PITOT ID	PT-7	Cp	0.84	METER TEMP.	95		
NOZZLE	✓	✓	TC READOUT	Fuji	TC	7	EST. % H_2O	12.0		
ORSAT	✓	NA	NOZZLE NO.	GN 2007	DIA.	0.256"	"C" FACTOR	0.932		
			SAMPLE BOX	10	REAGNT.	219	STACK TEMP.	460		
			UMBILICAL	U94			REF DELTA-P	0.768		
			ORSAT PUMP	~~#4002~~ ND-2	BAG	B139	"K" FACTOR	2.397		

LEAK CHECKS				FYRITES		
B 848.90	B ~~849~~ 885	B 878.00	B		% O_2	
E 849.0	E 878.00	E 878.13	E		% CO_2	8.5%

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	FILTER BOX	IMPINGER EXIT	PROBE OR COND. EXIT
1	C-8	0	821.6	0.82	78	458	1.73	1.73	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	56	
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	6	253	54	
	1	115	902.15	0.60	95	445	1.46	1.461	7	253	55	
	END	120	905.396									
	FINAL											

Restart 1116

-1218

120 79.956 0.6987 92.87 455.5 1.6863

REVIEWER WJ

H:\JOBS\FORMS\SAMP13.DOC3-01-97

A0013

C 46 AirKinetics, Inc.

SAMPLING DATA - METHOD (S) M29

Page 1 of 1

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Inlet RUN NO: 2-I-M29-2

BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H_2O: -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	PRE	POST
PITOT	✓	✓
TC	✓	✓
NOZZLE	✓	✓
ORSAT	✓	NA

EQUIPMENT I.D. NUMBERS			
METER BOX	2106	Y	0.9963
PITOT ID	PT-7	Cp	0.84
TC READOUT	Fuji	TC	25
NOZZLE NO.	SN 2008	DIA	0.256"
SAMPLE BOX	06	REAGNT.	219
UMBILICAL	1194		
ORSAT PUMP	OR-2	BAG	B100

NOMOGRAPH	
DELTA H@	1.913
METER TEMP.	95
EST. % H_2O	12
"C" FACTOR	0.931
STACK TEMP.	460
REF DELTA-P	0.769
"K" FACTOR	2.393

FILTER XAD	TARE WT.
N/A	N/A

LEAK CHECKS									
	B 933.427	B 954.342	B 954.420	B	FYRITES	% O_2			
	E 933.521	E 954.420	E 954.525	E		% CO_2	8.5%		

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F 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	1.7	1.693	5	252	49	
	5	15	916.025	0.77	92	461	1.83	1.828	6	253	49	
	4	20	919.44 (NP)	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	5	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	1.443	13	253	56	1526 Restart.
15	2	70	953.93	0.68	95	456	1.60	1.633	14 (NP)	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	436	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	977.695	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 (NP)									
	FINAL		987.605									
		120	81.57	0.62460	92.5	441.1	1.5746					

REVIEWER

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 Inlet RUN NO: 2-I-M29-3

BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H_2O: -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: HDD & ND

EQUIPMENT CHECKS	PRE	POST
PITOT	✓	✓
TC	✓	✓
NOZZLE	✓	✓
ORSAT		NA

EQUIPMENT I.D. NUMBERS			
METER BOX	2106	Y	0.9963
PITOT ID	PT-7	Cp	0.84
TC READOUT	Fuji	TC	7
NOZZLE NO.	GN2007	DIA.	0.256
SAMPLE BOX	SB-10	REAGNT.	219
UMBILICAL	U-94		
ORSAT PUMP	OR-2	BAG	B202

NOMOGRAPH		
DELTA H@	1.913	
METER TEMP.	95	
EST. % H_2O	12	
"C" FACTOR	0.931	
STACK TEMP.	460	
REF DELTA-P	0.769	
"K" FACTOR	2.393	

FILTER	TARE
XAD	WT.
N/A	N/A

LEAK CHECKS				
B	1016.7	B 1016.782	B	B
E	1016.782	E 1016.900	E	E

FYRITES % O_2 8%, % CO_2

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F 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	
	5	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	1.85	1.548	7	252	51	
7	2	30	1009.78	0.70	91	450	1.7	1.680	8	250	52	
8	1	35	1013.276	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	~~1.718~~ 8	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	0.6303	929	439.9	1.5425					

REVIEWER

METHOD 3 (ORSAT) FIELD DATA

Client: OGDEN Job No 10403

Plant Name: OMS LAKE Fuel Type MUN WASTE

City/State: OKAHUMPKA, FL

Sampling Location: Unit 2 Outlet

Run/Sample No. 2-O-M3/29-1 Date: 4/21/98 Leak √ OK? ✓ OPERATOR: JW

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
1021	1400	7.4	19.6	—	(JW) ~~12.8~~ 12.2	—	
-	1410	7.3	19.5	—	12.2	—	
1259	1422	7.3	19.6	—	12.3	—	
	Avg.	7.3		Avg.	12.2	—	

Orsat I.D. 4 Tedlar Bag I.D. B148 F_o 1.19

Run/Sample No. 2-O-M3/29-2 Date: 4/21/98 Leak √ 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
1400	1725	7.6	19.3	—	11.7	—	
-	1735	7.7	19.5	—	11.8	—	
1611	1745	7.7	19.5	—	11.8	—	
	Avg.	7.7		Avg.	11.8	—	

Orsat I.D. 4 Tedlar Bag I.D. B203 F_o 1.18

Run/Sample No. 2-O-M3/29-3 Date: 4/21/98 Leak √ OK? ✓ OPERATOR: JW

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	2010	7.9	19.8	—	11.9	—	
-	2023	7.9	19.9	—	12.0	—	
1917	2030	7.8	19.8	—	12.0	—	
	Avg.	7.9		Avg.	12.0	—	

Orsat I.D. 4 Tedlar Bag I.D. B139 F_o 1.13

Reviewer: SSF

AirKinetics, Inc.

SAMPLING DATA - METHOD (S) EPA M29

Page 1 of 1

CLIENT: OGDEN | PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL | JOB NO.: 10403

SAMPLE LOCATION: Omi 2-FF Outlet | RUN NO: 2-O-M29-1

BAR. PRESS., IN. HG: 29.7 | STATIC PRESSURE, IN. H_2O: -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: WAS

EQUIPMENT CHECKS	PRE	POST	EQUIPMENT I.D. NUMBERS				NOMOGRAPH		FILTER XAD	TARE WT.
PITOT	✓	✓	METER BOX	N-36	Y	1.0891	DELTA H@	1.941		
TC	✓	✓	PITOT ID	PT5	Cp	0.84	METER TEMP.	90	NA	NA
NOZZLE	✓	✓	TC READOUT	E39	TC	22	EST. % H_2O	16		
ORSAT	✓	NA	NOZZLE NO.	GW297	DIA.	0.218	"C" FACTOR	0.836		
			SAMPLE BOX	5(90)	REAGNT.	207	STACK TEMP.	285		
			UMBILICAL	CU01			REF DELTA-P	1.318		
			ORSAT PUMP	OR1	BAG	B148	"K" FACTOR	1.346		

LEAK CHECKS					FYRITES			
B	729.886	B	B	B		% O_2		
E	729.700	E	E	E		% CO_2	7.6 Avg	7.8 Avg

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F: FILTER BOX	GAS TEMPERATURES, °F: IMPINGER EXIT	GAS TEMPERATURES, °F: 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	1.56	1.556	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	279	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	729.886	1.20	94	295	1.67	1.670	4	247	64	
10	7	45	733.322	1.25	96	297	1.74	1.738	4	249	61	
11	6	50	736.350	1.25	97	287	1.76	1.764	4	249	62	
12	5	55	739.863	1.20	99	285	1.69	1.688	4	250	63	
13	4	60	743.185	1.09	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	752.086	0.75	100	275	1.07	1.074	3.5	248	56	
17	C-8	80	754.688	1.35	94	285	1.89	1.880	4	232	59	
18	7	85	758.366	1.20	96	288	1.67	1.671	4	242	61	
19	6	90	761.582	1.10	98	286	1.55	1.545	4	244	64	
20	5	95	764.664	1.27	99	285	1.71	1.790	4	245	62	
21	4	100	768.016	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	774.008	0.7	101	272	1.00	1.008	4	250	62	
24	1	115	776.035	0.75	100	270	1.08	1.082	4	249	63	
	END	120	778.568									
	FINAL		~~73.165~~									
		120	73.104	1.0823	95.3	285.4	1.5292					

REVIEWER

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

SAMPLE LOCATION: Unit 2 EF Outlet RUN NO: 2-O-M29-2

BAR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H_2O: -17 DATE: 4/21/98

LEAK ✓ VAC., IN. HG: 15 8 RUN TIME: 1400 - 1611

LEAK RATE, CFM: 0.000 0.000 TEST PERSONS: WAJ

EQUIPMENT CHECKS	PRE	POST
PITOT	✓	✓
TC	✓	✓
NOZZLE	✓	✓
ORSAT	✓	NA

EQUIPMENT I.D. NUMBERS			
METER BOX	N-30	Y	1.0891
PITOT ID	PT1	Cp	0.84
TC READOUT	648742	TC	12
NOZZLE NO.	GN284	DIA.	0.218
SAMPLE BOX	SB09	REAGNT.	207
UMBILICAL	CU01		
ORSAT PUMP	021	BAG	B203

NOMOGRAPH		
DELTA H@	1.941	
METER TEMP.	95	
EST. % H_2O	16	
"C" FACTOR	0.844	
STACK TEMP.	285	
REF DELTA-P	1.306	
"K" FACTOR	1.4109	

FILTER	TARE
XAD	WT.
NA	NA

LEAK CHECKS					FYRITES				
	B	B	B	B	% O_2				
	E	E	E	E	% CO_2	6.5% Bias	6.5% Bias	7.0	

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F PROBE OR COND. EXIT
1	A-8	0	778.700	1.15	88	274	1.63	1.626	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	791.715	1.32	95	293	1.854	1.838	4	250	55	
6	3	25	795.115	1.17	96	292	1.64	1.635	4	249	58	
7	2	30	798.310	0.86	97	285	1.22	1.216	4	253	63	
8	1	35	801.010	0.65	97	276	0.93	0.931	3	248	56	
9	B-8	40	803.380	1.00	96	276	1.43	1.431	3	249	52	
10	7	45	806.432	0.94	97	271	1.35	1.349	3	249	51	
11	6	50	809.307	0.85	99	276	1.22	1.221	3	255	52	
12	5	55	812.085	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	1.309	4	247	61	
17	C-8	80	826.845	1.20	102	275	1.74	1.736	4	250	63	
18	7	85	830.182	1.13	104	276	1.64	1.637	4	252	64	
19	6	90	833.356	1.10	105	275	1.60	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	4	253	64	
23	2	110	845.810	0.95	106	281	1.37	1.373	4	254	65	
	1	115	848.665	0.68	106	273	0.993	0.993	4	251	66	
	END	120	851.240									
	FINAL											
		120	72.54	1.0234	99.5	279.0	1.476					

REVIEWER WJ

SAMPLING DATA - METHOD (S) EPA M29

CLIENT: OGDEN PLANT: OMS LAKE

CITY/STATE: OKAHUMPKA, FL JOB NO.: 10403

IPLE LOCATION: Unit 2 - FF Outlet RUN NO: 2-O-M29-3

AR. PRESS., IN. HG: 29.7 STATIC PRESSURE, IN. H_2O: -14.2 DATE: 4/21/98

LEAK ✓ VAC., IN. HG: 12 8 RUN TIME: 1646 - 1917

LEAK RATE, CFM: 0.006 0.000 TEST PERSONS: WAS, TW

EQUIPMENT CHECKS	PRE	POST
PITOT	✓	✓
TC	✓	✓
NOZZLE	✓	✓
ORSAT	✓	NA

EQUIPMENT I.D. NUMBERS				
METER BOX	N-30	Y	1.0891	
PITOT ID	PT15	Cp	0.84	
TC READOUT	6487142	TC	22	
NOZZLE NO.	GW254	DIA.	0.216	
SAMPLE BOX	SB-02	REAGNT.	207	
UMBILICAL	CU61			
ORSAT PUMP	OR-1	BAG	B139	

NOMOGRAPH		
DELTA H@	1.941	
METER TEMP.	95	
EST. % H_2O	16	
"C" FACTOR	0.844	
STACK TEMP.	285	
REF DELTA-P	1.355	
"K" FACTOR	1.308	

FILTER	TARE
XAD	WT.
NA	NA

LEAK CHECKS					FYRITES	% O_2		
	B	B	B	B		% CO_2	6.5 6.0	4.5
	E	E	E	E				

	PT. NO.	ELAPSED TIME, MINUTES	DGM READING, CUBIC FEET	PITOT READING, IN. H_2O	DGM TEMP, °F	STACK TEMP, °F	ORIFICE SETTING, IN. H_2O ACTUAL	ORIFICE SETTING, IN. H_2O IDEAL	GAUGE VACUUM, IN. HG.	GAS TEMPERATURES, °F FILTER BOX	GAS TEMPERATURES, °F IMPINGER EXIT	GAS TEMPERATURES, °F 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	853.598	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	248	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	865.985	0.90	98	287	1.23	1.226	3	249	64	
7	2	30	868.657	0.89	99	286	1.22	1.216	3	257	65	
8	1	35	871.390	0.62	99	272	0.86	0864	3	246	57	
9	B-8	40	873.788	1.00	92	276	1.37	1.369	3	233	65	
10	7	45	876.870	0.95	93	281	1.29	1.293	3	242	65	
11	6	50	879.665	0.90	94	282	1.23	1.225	3	280	66	
12	5	55	882.44	0.90	95	284	1.23	1.233	3	252	66	
13	4	60	885.13	0.87	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	273	0.91	0.909	3	257	61	
17	C-8	80	895.68	1.27	99	285	1.75	1.757	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	608.233	0.9441	985	280.3	1.3113					

REVIEWER

APPENDIX D

ANALYTICAL DATA

1.0 PARTICULATE

BEST AVAILABLE COPY

MOISTURE ANALYTICAL RESULTS

Plant Name: OMS-LAKE Job No.: 10403

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

	Run Number	2-0-MS-1	2-0-MS-2	2-0-MS-3
	Sampling Date	4/21/98	4/21/98	4/22/98
	Analysis Date	4/21/98	4/21/98	4/22/98
	Analyst	@	@	@
Reagent 1 (DI H_2O)	Final Weight, g	840.6	818.7	796.8
	Tared Weight, g	583.3	585.3	575.7
	Water Catch, g	257.3	233.4	221.1
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		257.3	233.4	221.1
Silica Gel	Final Weight, g	220.0	217.5	216.8
	Tared Weight, g	200.0	200.0	200.0
	Water Catch, g	20.0	17.5	16.8
TOTAL WATER COLLECTED, g		277.3 ✓	250.9 ✓	237.9 ✓

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

Air Kinetics, inc

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

REMARKS _____

D 3

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	[signature]	
	4/24/98	10:36	B	[signature]	LABEL JARS
0002653	4/23/98	0902	S	[signature]	
	5/4/98	11:52	B	[signature]	Rot-in Samples
			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?**
Signature	Date	Time	Yes ___ No ___ N/A ___

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 AT200 (#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 #			F / 228		F / 231		F / 230
	init.	date		date		date	
	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 #			R / 229		R / 232		R / 226
	init.	date		date		date	
	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			
Tare wt., g.	3.3429	F = Filter R = Rinse	Run #	Color	Loading
Residue, mg.	0.3				
Volume, ml.	200	1 = Light	2-O-M5-1	1	1
Density, mg/ml	785.0	2 = Medium	2-O-M5-2	1	1
Conc., mg/mg	1.911E-06 <–	3 = Heavy or Dark	2-O-M5-3	1	1
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 05:16 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 #				*B / 233*
	init.	*date*		
	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	2-I-M26-1	2-I-M26-2	2-I-M26-3
	Sampling Date	4/22/98	4/22/98	4/22/98
	Analysis Date	4/22/98	4/22/98	4/22/98
	Analyst	C	C	C
Reagent 1 (0.1N H_2SO_4)	Final Weight, g	700.3	744.7	761.0
	Tared Weight, g	584.2	582.3	581.8
	Water Catch, g	116.1	162.4	179.2g
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		116.1	162.4	179.2g
Silica Gel	Final Weight, g	220.8	216.2	216.6
	Tared Weight, g	200.0	200.0	200.0
	Water Catch, g	20.8	16.2	16.6
TOTAL WATER COLLECTED, g		136.9 ✓	178.6 ✓	195.8 ✓

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 (ml) ~~(gm)~~ of 0.1N H_2SO_4

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 Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-I-M26-1	4/21/98	N/A	N/A	YES	[illegible]	4/21/98	60	YES	[illegible]
					Filter Appearance* N/A				
					Reagent Appearance* Clear				
2-I-M26-2	4/21/98	N/A	N/A	YES	[illegible]	4/21/98	35	YES	[illegible]
					Filter Appearance* N/A				
					Reagent Appearance* Clear				
2-I-M26-3	4/21/98	N/A	N/A	YES	[illegible]	4/21/98	60	YES	[illegible]
					Filter Appearance* N/A				
					Reagent Appearance* Clear				
					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 need

REMARKS

MOISTURE ANALYTICAL RESULTS

Plant Name: OMS-LAKE Job No.: 10403

City / State: OKAHUMPKA, FL Sampling Loc.: UNIT NO. 2 OUTLET

	Run Number	2-0-M26-1	2-0-M26-2	2-0-M26-3
	Sampling Date	4/24/98	4/24/98	4/24/98
	Analysis Date	4/24/98	4/24/98	4/24/98
	Analyst	@	@	@
Reagent 1 (0.1N H_2SO_4)	Final Weight, g	863.3	831.6	852.2
	Tared Weight, g	583.2	578.9	584.1
	Water Catch, g	280.1	252.7	268.1
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		280.1	252.7	268.1
Silica Gel				
	Final Weight, g	221.7	221.1	221.8
	Tared Weight, g	200.0	200.0	200.0
	Water Catch, g	21.7	21.1	21.8
TOTAL WATER COLLECTED, g		301.8 ✓	~~231.6~~ @ 273.8 ✓	289.9 ✓

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

Air Kinetics, inc

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 618 Assembly Date 4-16-98 Assembled By G. MATH

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 (ml) ~~(gm)~~ of 0.1N H_2SO_4

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 Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-0-M26-1	4/24/98	N/A	N/A	YES		4/24/98	65	YES	
2-0-M26-2	4/24/98	N/A	N/A	YES		4/24/98	60	YES	
2-0-M26-3	4/24/98	N/A	N/A	YES		4/24/98	60	YES	

Filter Appearance*: N/A

Reagent Appearance*: Clear

Filter Appearance*: N/A

Reagent Appearance*: Clear

Filter Appearance*: N/A

Reagent Appearance*: clear

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 12

RECORD OF CUSTODY, CONTAINER No. 618

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**
0002723	4/16/98	1605	S	Harry Mott	
	4/24/98	1026	B	Harry Mott	Label Torn (W)
			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?**
Signature	Date	Time	Yes ___ No ___ N/A ___

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 ____

AirKinetics, Inc.

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		
Reagent 1 (0.1N H_2SO_4)			
Final Weight, g			
Tared Weight, g	587.5		
Water Catch, g	N/A		
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	N/A		
Silica Gel			
Final Weight, g			
Tared Weight, g			
Water Catch, g			
TOTAL WATER COLLECTED, g	N/A		

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 H_2SO_4

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 Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
M26-RB	4/22/98	N/A	N/A	YES	C	4/22/98	N/A	YES	C

Filter Appearance* N/A

Reagent Appearance* N/A

Run Number	Run Date	Filter or XAD Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials

Filter Appearance*

Reagent Appearance*

Run Number	Run Date	Filter or XAD Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials

Filter Appearance*

Reagent Appearance*

Run Number	Run Date	Filter or XAD Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials

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

AirKinetics, inc.

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	Harry Mott	
	4/22/98	09:26	B	Harry Mott	LABEL JARS
			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?**
Signature	Date	Time	Yes ___ No ___ N/A ___

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 Environmental Services

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

Quanterra
Environmental Services

TABLE OF CONTENTS

QUANTERRA INCORPORATED PROJECT NUMBER 098821

Quanterra
Environmental Services

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
Environmental Services

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.

Quanterra
Environmental Services

SAMPLE DESCRIPTION INFORMATION
for
AirKinetics, Inc.

Lab ID	Client ID	Matrix	Sampled Date	Sampled 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

Quanterra
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-O-M26-1	700	NA	NA	05 APR 98
098821-0002-SA	2-O-M26-2	600	NA	NA	05 APR 98
098821-0003-SA	2-O-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

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-I-M26-1
Lab ID: 098821-0004-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 24 APR 98 Prepared: See Below 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

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-I-M26-2
Lab ID: 098821-0005-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 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 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

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-I-M26-3
Lab ID: 098821-0006-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 24 APR 98 Prepared: See Below 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

D 25

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-O-M26-1
Lab ID: 098821-0001-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 24 APR 98 Prepared: See Below 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

D 26

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-O-M26-2
Lab ID: 098821-0002-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 24 APR 98 Prepared: See Below 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

D 27

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: 2-O-M26-3
Lab ID: 098821-0003-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 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

D 28

Quanterra
Environmental Services

Inorganic Acids by Ion Chromatography

Client Name: AirKinetics, Inc.
Client ID: M26-RB
Lab ID: 098821-0007-SA
Matrix: AIRTRAIN Sampled: 22 APR 98 Received: 24 APR 98
Authorized: 24 APR 98 Prepared: See Below 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

D 29

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 Volumed To	Condition of Samples *
2-O-M26-1	04/22/98	Imp. Contents	700ml	Rec'd in good condition
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: [signature] 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: [signature] Date/Time: 042498@1135

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

Quanterra
Environmental Services

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

Quanterra
Environmental Services

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 098821

Test: EPA26-ACIDS-IC-AIR Inorganic Acids by Ion Chromatography
Method: EPA 26A (MOD)
Matrix: AQUEOUS
QC Lot: 05 MAY 98-AX QC Run: 05 MAY 98-A
Analyzed: 05 MAY 98 Time: 12:42

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

ND = Not Detected

Quanterra
Environmental Services

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

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

Quanterra
Environmental Services

M IX 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 Method: EPA 26A (MOD)
Matrix : AQUEOUS
Sample : 098821-0002
MS Run : 05 MAY 98-AA
Units : mg/sample

Analyte	Sample Result		MS Result	MSD Result	Amount Spiked MS	Amount Spiked MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit 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 lations 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 @ INLET

	Run Number	2-I-M29-1	2-I-M29-2	2-I-M29-3
	Sampling Date	4/21/98	4/21/98	4/21/98
	Analysis Date	4/21/98	4/21/98	4/21/98
	Analyst	@	@ : TW	@
Reagent 1 (5% HNO_3 / 10% H_2O_2)	Final Weight, g	488.0	496.3	467.2
	Tared Weight, g	273.2	271.5	271.0
	Water Catch, g	214.8	224.8	196.2
Reagent 2 (4% $KMnO_4$ / 10% H_2SO_4)	Final Weight, g	601.0	613.5	615.1
	Tared Weight, g	600.9	613.5	611.9
	Water Catch, g	0.1	0	3.2
Reagent 3 (EMPTY IMPINGER)	Final Weight, g	35.0	33.7	36.2
	Tared Weight, g	30.4	30.3	30.3
	Water Catch, g	4.6	3.4	5.9
CONDENSED WATER, g		219.5	228.2	205.3
Silica Gel	Final Weight, g	216.0	215.0	214.6
	Tared Weight, g	200.0	200.0	200.0
	Water Catch, g	16.0	15.0	14.6
TOTAL WATER COLLECTED, g		235.5	243.2	219.9

Balance No.: CA002 — Type (✓) Triple Beam ✓ Electronic ____ — Reagent Box 219

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

Comments: ____

D 36

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 OKAHUMPKA, FL

Sampling Location UNIT NO. 2 INLET Method EPA 29

Individual Tare of Reagent 200 (ml) ~~(gm)~~ of 5% HNO_3 / 10% H_2O_2

Individual Tare of Reagent 200 (ml) ~~(gm)~~ of 4% $KMnO_4$ / 10% H_2SO_4

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____ Other (specify)

Run Number	Run Date	Filter or XAD Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-I-M29-1	4/21/98	N/A	N/A	YES	CO	4/21/98	80	YES	CO
						Filter Appearance* Heavy Particulate			
						Reagent Appearance* Clear & Purple			
2-I-M29-2	4/21/98	N/A	N/A	YES	CO	4/21/98	75%	Yes	JW
						Filter Appearance* Heavy Particulate			
						Reagent Appearance* Clear + purple			
2-I-M29-3	4/21/98	N/A	N/A	YES	CO	4/21/98	80	YES	CO
						Filter Appearance* Heavy Particulate			
						Reagent Appearance* Clear & Purple			
						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

RECORD OF CUSTODY, CONTAINER No. 219

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	Gary Mott	
	4/20/98	17:43	B	Gary Mott	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?**
Signature	Date	Time	Yes ___ No ___ N/A ___

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	2-O-M29-1	2-O-M29-2	2-O-M29-3
	Sampling Date	4/21/98	4/21/98	4/21/98
	Analysis Date	4/21/98	4/21/98	4/21/98
	Analyst	CW	CW ; TW	JW ; GM
Reagent 1 (5% HNO_3 / 10% H_2O_2)	Final Weight, g	553.8	535.6	518.3 JW ~~496.3~~
	Tared Weight, g	272.0	269.5	273.9
	Water Catch, g	281.8	266.1	JW ~~222.4~~ 244.4
Reagent 2 (4% $KMnO_4$ / 10% H_2SO_4)	Final Weight, g	610.2	604.9	610.2
	Tared Weight, g	610.2	604.7	610.0
	Water Catch, g	0.0	0.2	0.2
Reagent 3 (EMPTY IMPINGER)	Final Weight, g	34.5	29.9	34.1
	Tared Weight, g	29.6	29.9	30.0
	Water Catch, g	4.9	0	4.1
CONDENSED WATER, g		286.7	266.3	248.7
Silica Gel	Final Weight, g	211.8	219.7	211.5
	Tared Weight, g	200.0	200.0	200.0
	Water Catch, g	11.8	19.7	11.5
TOTAL WATER COLLECTED, g		298.5	286.0	260.2

Balance No.: CA002 Type (✓) Triple Beam ✓ Electronic ____ Reagent Box: 207

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

Comments: ____

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 207 Assembly Date 4/9/98 Assembled By G. MATA

Client OGDEN MARTIN SYSTEMS Job No. 10403

Plant OGDEN - LAKE City / State OKAHUMPKA, FL

Sampling Location UNIT No. 2 OUTLET Method EPA 29

Individual Tare of Reagent 200 (ml) (~~gm~~) of 5% HNO_3 / 10% H_2O_2

Individual Tare of Reagent 200 (ml) (~~gm~~) of 4% $KMnO_4$ / 10% H_2SO_4

Individual Tare of Reagent ____ (ml) (gm) of ____

Individual Tare of Silca Gel 200 gm ____ Other (specify)

Run Number	Run Date	Filter or XAD Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-0-M29-1	4/21/98	N/A	N/A	YES	e	4/21/98	80	YES	e
				Filter Appearance*: Clear					
				Reagent Appearance*: Clear & Purple					
2-0-M29-2	4/21/98	N/A	N/A	YES	e	4/21/98	75	YES	e
				Filter Appearance*: Clear					
				Reagent Appearance*: Clear & Purple					
2-0-M29-3	4/21/98	N/A	N/A	YES	e	4/21/98	80	YES	e
				Filter Appearance*: Clear					
				Reagent Appearance*: Clear & Purple					
				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	Mary Mott	
	4/20/98	17:34	B	Mary Mott	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?**
Signature	Date	Time	Yes ___ No ___ N/A ___

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		
	M29-FB	M29-RB	
Sampling Date	4/21/98	4/21/98	
Analysis Date	4/21/98	4/21/98	
Analyst	GM	GM	
Reagent 1 (5% HNO_3 / 10% H_2O_2)			
Final Weight, g			
Tared Weight, g	269.5	270.0	
Water Catch, g	N/A	N/A	
Reagent 2 (4% $KMnO_4$ / 10% H_2SO_4)			
Final Weight, g			
Tared Weight, g	598.5	602.8	
Water Catch, g	N/A	N/A	
Reagent 3 (EMPTY IMPINGER)			
Final Weight, g			
Tared Weight, g			
Water Catch, g	N/A	N/A	
CONDENSED WATER, g	N/A	N/A	
Silica Gel			
Final Weight, g			
Tared Weight, g			
Water Catch, g	N/A	N/A	
TOTAL WATER COLLECTED, g	N/A	N/A	

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

BEST AVAILABLE COPY

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% HNO_3 / 10% H_2O_2

Individual Tare of Reagent 200 (ml) ~~(gm)~~ of 4% $KMnO_4$ / 10% H_2SO_4

Individual Tare of Reagent ____ (ml) (gm) of ____

Individual Tare of Silca Gel 200 gm ____ Other (specify)

Run Number	Run Date	Filter or XAD Number	Filter or XAD Tare, grams	Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
M29-FB	4/21/98	N/A	N/A	YES	[illegible]	4/21/98	N/A	YES	[illegible]
							Filter Appearance* N/A		
							Reagent Appearance* N/A		
M29-RB	4/21/98	N/A	N/A	YES	[illegible]	4/21/98	N/A	YES	[illegible]
							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 ____

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	Harry Mott	
	4/21/98	07:09	B	Harry Mott	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?**
Signature	Date	Time	Yes ___ No ___ N/A ___

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
Environmental Services

SAMPLE DESCRIPTION INFORMATION
for
AirKinetics, Inc.

Lab ID	Client ID	Matrix	Sampled Date	Sampled 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-O-M29-1	AIRTRAIN	21 APR 98		22 APR 98
098755-0004-SA	2-O-M29-2	AIRTRAIN	21 APR 98		22 APR 98
098755-0004-MS	2-O-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-O-M29-3	AIRTRAIN	21 APR 98		23 APR 98

Quanterra
Environmental Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-I-M29-1
Lab ID: 098755-0005-SA
Matrix: AIRTRAIN Sampled: 21 APR 98 Received: 22 APR 98
Authorized: 22 APR 98 Prepared: See Below 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

Quanterra
Environmental Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-I-M29-2
Lab ID: 098755-0006-SA
Matrix: AIRTRAIN
Sampled: 21 APR 98
Received: 22 APR 98
Authorized: 22 APR 98
Prepared: See Below
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

Quanterra
Environmental Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-I-M29-3
Lab ID: 098755-0007-SA
Matrix: AIRTRAIN Sampled: 21 APR 98 Received: 23 APR 98
Authorized: 22 APR 98 Prepared: See Below 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

Quanterra
Environmental Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-O-M29-1
Lab ID: 098755-0003-SA
Matrix: AIRTRAIN Sampled: 21 APR 98 Received: 22 APR 98
Authorized: 22 APR 98 Prepared: See Below 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

Quanterra
Environmental Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-O-M29-2
Lab ID: 098755-0004-SA
Matrix: AIRTRAIN Sampled: 21 APR 98 Received: 22 APR 98
Authorized: 22 APR 98 Prepared: See Below 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

Quanterra
Environmental Services

Metals Emissions From Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-O-M29-2
Lab ID: 098755-0004-MS
Matrix: AIRTRAIN Sampled: 21 APR 98 Received: 22 APR 98
Authorized: 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

Quanterra
Environmental Services

Metals Emissions from Stationary Sources

Client Name: AirKinetics, Inc.
Client ID: 2-O-M29-3
Lab ID: 098755-0008-SA
Matrix: AIRTRAIN Sampled: 21 APR 98 Received: 23 APR 98
Authorized: 22 APR 98 Prepared: See Below 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, KMNO4	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

Quanterra
Environmental Services

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

Quanterra
Environmental Services

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

Quanterra
Environmental Services

'ETHOD BLANK REPORT
,etals 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

Quanterra
Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision 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.

Quanterra
Environmental Services

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

Quanterra
Environmental Services

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
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	NOT recd with 4/22 shipment.
		8N HCl Rinse	8N HCl w/DI H2O	Good
2-O-M29-2	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	

* 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	

MW 042298

* 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

D 60

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: 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
		Filter	Filter	
		Back Half	HNO3/H2O2	
		Empty Impinger	0.1N HNO3	
		KMnO4	KMnO4/H2SO4	Not rec'd with 4/22 shipment
		8N HCl Rinse	8N HCl w/DI H2O	Good
2-1-M29-2	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: [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

D 6

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 Constituents	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: [signature] 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: Gary Mott

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

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

Received in good

APPENDIX E

EQUIPMENT CALIBRATION RECORDS

PRAXAIR

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 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

PRAXAIR

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*

I. COMPONENT CARBON DIOXIDE GMIS ANALYZER MAKE-MODEL-S/N Siemens Ultramat 5E S/N A12-730

ANALYTICAL PRINCIPLE NDIR LAST CALIBRATION DATE 11/10/97

FIRST ANALYSIS DATE 12/09/97 SECOND ANALYSIS DATE

Z 0.00	R 14.00	C 17.38	CONC.	17.39 %	Z	R	C	CONC.
R 14.01	Z 0.00	C 17.40	CONC.	17.40 %	R	Z	C	CONC.
Z 0.00	C 17.48	R 14.08	CONC.	17.39 %	Z	C	R	CONC.
U/M %		MEAN TEST ASSAY		17.39 %	U/M %		MEAN TEST ASSAY	

Values not valid below 150 psig

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

CERTIFIED CONCENTRATION

CARBON DIOXIDE	17.39 %
NITROGEN	BALANCE

ANALYZED BY JOSEPH CHARLES

CERTIFIED BY PHU TIEN NGUYEN

PRAXAIR

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

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

E A

PRAXAIR

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

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN GMIS	vs 2659a	SA 19981	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

PRAXAIR

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

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINICS **P.O NUMBER**

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE	NTRM 81686	SA 19475	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	CONC. 428 ppm
R 446	Z 0	C 387	CONC. 430 ppm	R 494	Z 0	C 427	CONC. 429 ppm
Z 0	C 388	R 450	CONC. 428 ppm	Z 0	C 428	R 497	CONC. 427 ppm
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

E 6

PRAXAIR

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. 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

E 7

PRAXAIR

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*

1. 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

HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121

OF TRACEABILITY PROTOCOL NO. Rev. 9/97

PROCEDURE G1

CERTIFIED ACCURACY ± 1 % NIST TRACEABLE

CYLINDER PRESSURE 2000 PSIG

CERTIFICATION DATE 03/27/98

EXPIRATION DATE 03/27/00 TERM 24 MONTHS

CERTIFIED CONCENTRATION

SULFUR DIOXIDE	266 ppm
NITROGEN	BALANCE

ANALYZED BY PHU TIEN NGUYEN

CERTIFIED BY MICHAEL PEREZ

E 8

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 **Certification Date:** 02/02/96 **Exp. Date:** 02/02/99
Cylinder Pressure: 1950 PSIG **Previous Certification Date:** None **Bin No.:** 4

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
CARBON MONOXIDE	262.0 PPM	±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 measurment processes.

REFERENCE STANDARD

Type/SRM Sample No.	Expiration Date	Cylinder Number	Concentration
NTRM 1681	07/31/97	ALM019969	978 PPM CO/N2

INSTRUMENTATION

Instrument/Model/Serial#	Last Date Calibrated	Analytical Principle
Horiba/OPE-135D/56565502	01/17/96	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. 263.1 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. 260.9 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.

E 9

Reviewed and Approved by: Diana Hardin

Isokinetic Meterbox Post-Test Calibration

Job Name:	EG&G	**Job Number:**	**10367**
Calibrated by:	AG	**Meterbox:**	**2106**
Date:	5/7/98	**Delta $H_{@init}$:**	1.913
Full-Test Date:	3/19/98	**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, Pb 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_2O	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
For Y_i and Delta $H_@$ equations, see accompanying Full-Test Calibration.	**Post-Test Average $Y_{i(avg)}$**		**1.0123**
	Deviation From Full-Test: < ± ***5.0%?***		1.6%

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	Low			Low Medium			Medium			High		
Run No.	1A		1B	1A		1B	2A		2B	3A		3B
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	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, Pb 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. H2O	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 cf?*	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 *(> V_{cr} 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		
Delta $H_{@i}$	1.866	1.857	1.855	1.914	1.906	1.899	1.953	1.949	1.946	1.941	1.935	1.9
Average, Delta $H_{@ab(avg)}$		1.859			1.906			1.949			1.937	
Diff=Delta $H_{@i(avg)}$ - Delta $H_{@ab(avg)}$ *(≤ ± 0.20)?*	0.054		ok	0.007		ok	-0.036		ok	-0.024		ok

$Y_{i(avg)}$	0.9963
SCAQMD Delta $H_{@i(avg)}$	1.942
EPA Delta $H_{@i(avg)}$	1.913

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

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

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

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

E 11

Isokinetic Meterbox Post-Test Calibration

Job Name:	OMS LAKE	**Job Number:**	**10403**
Calibrated by:	AG	**Meterbox:**	**2108**
Date:	5/8/98	**Delta $H_{@init}$:**	1.712
Full-Test Date:	3/10/98	**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, Pb in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? ***(Y or N)***	Y	Y	Y
Post-test Orifice Delta H in. H_2O	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**
For Y_i and Delta $H_@$ equations, see accompanying Full-Test Calibration.	Deviation From Full-Test: < ± ***5.0%?***		-0.5%

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 $H_{@i(avg)}$		**1.677**
	Deviation From Full-Test: < ± ***10%?***		-2.1%

QC Check

Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked By: Sakhalin Finnie 5/11/98

QA Administrator (Signature/Date)

E 12

Isokinetic Meterbox Full-Test Calibration

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

Range	Low			Low Medium			Medium			High		
Run No.	1A		1B	1A		1B	2A		2B	3A		3B
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, Pb 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 cf?*	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		
Delta $H_{@i}$	1.630	1.620	1.601	1.688	1.682	1.679	1.815	1.808	1.798	1.746	1.743	1.
Average, Delta $H_{@ab(avg)}$		1.617			1.683			1.807			1.742	
Diff=Delta $H_{@i(avg)}$ - Delta $H_{@ab(avg)}$	0.095		ok	0.029		ok	-0.095		ok	-0.030		ok
(≤ ± 0.20)?												

$Y_{I(avg)}$	1.0138
SCAQMD Delta $H_{@I(avg)}$	1.739
EPA Delta $H_{@I(avg)}$	1.712

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

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

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

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

E 13

Isokinetic Meterbox Post-Test Calibration

Job Name:	OMS LAKE	**Job Number:**	**10403**
Calibrated by:	AG	**Meterbox:**	**N30**
Date:	5/8/98	**Delta $H_{@init}$:**	1.941
Full-Test Date:	4/1/98	**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, Pb in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? ***(Y or N)***	Y	Y	Y
Post-test Orifice Delta H in. H_2O	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**
For Y_i and Delta $H_@$ equations, see accompanying Full-Test Calibration.	Deviation From Full-Test: < ± ***5.0%?***		2.3%

Note: M5 does not require a post-test calibration check on Delta H@.			
Delta $H_{@i}$	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)

E 14

Isokinetic Meterbox Full-Test Calibration

Meterbox ID: **N30**
Calibrated by: AG
Date: 4/1/98

Range	Low			Low Medium			Medium			High		
Run No.	1A		1B	1A		1B	2A		2B	3A		3B
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, Pb 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. H2O	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 cf?*	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	1.09860	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		
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	7
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

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

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

QA/QC Check
Completeness ✓ Legibility ✓ Accuracy ✓ Specifications ✓ Reasonableness ✓

Checked By: Lakhalin Fennie 5/4/98
QA Administrator (Signature/Date)

NOZZLE CALIBRATION

NOZZLE NUMBER GN230

Date	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average
5/19/96	SCG	0.218	0.218	0.218	0.218	0.217	0.218

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

R-0033 rev. 3-90

FIGURE 2 NOZZLE CALIBRATION FORM R-0033

NOZZLE CALIBRATION

NOZZLE NUMBER GN254

Date	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average
3/4/94	mhc	.214	.217	.217	.215	.216	.216

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

R-0033 rev. 1-90

FIGURE 2 NOZZLE CALIBRATION FORM R-0033

NOZZLE CALIBRATION

NOZZLE NUMBER GN#264

Date	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average
4-21-97	ASG	.219	.218	.217	.218	.218	.1218

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

R-0033 rev. 1-90

FIGURE 2 NOZZLE CALIBRATION FORM R-0033

NOZZLE CALIBRATION

NOZZLE NUMBER GN 297

Data	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average
6-5-97	AG	0.218	0.218	0.218	0.219	0.218	0.218

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer:_____

AirKinetics, Inc.

NOZZLE CALIBRATION

NOZZLE NUMBER GW2007

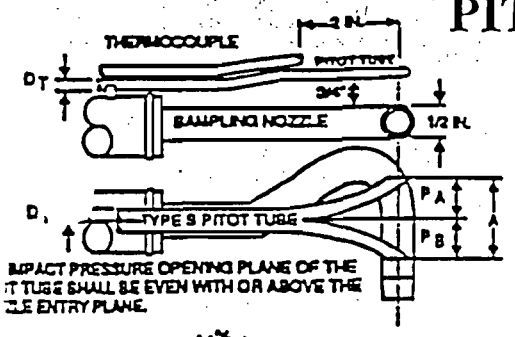
Data	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average
2-26-96	AG	0.256	0.255	0.255	0.256	0.256	0.256

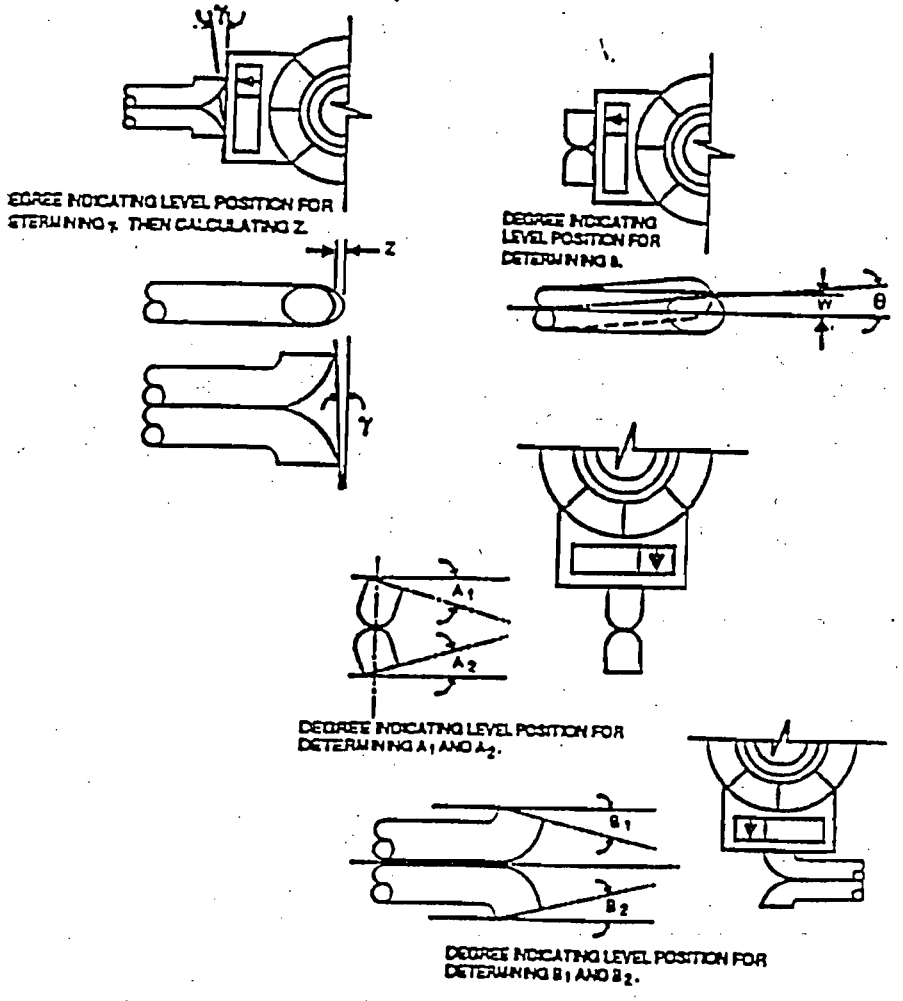
Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer:_____

AirKinetics, Inc.

PITOT TUBE INSPECTION





level ?	U
obstructions?	U
damaged?	Y
$-10° < \alpha_1 < +10°$	1°
$-10° < \alpha_2 < +10°$	0°
$-5° < \beta_1 < +5°$	4°
$-5° < \beta_2 < +5°$	3
γ	2°
θ	1°
A	0.484
$1.05\ D_T < P_a < 1.5\ D_T$	0.5
$1.05\ D_T < P_b < 1.5\ D_T$	0489
$3/16" < D_T < 3/8"$	0.374
$Z = A \tan \gamma < 0.125"$	0.03492
$W = A \tan \theta < 0.03125"$	0.01746
$P_a = P_b \pm 0.063"$	0.011

$D_T = 0.374$

Pa 0.5 Pb 0.489

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.

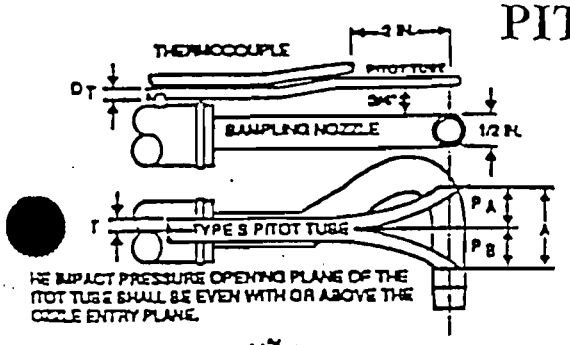
Comments: _____

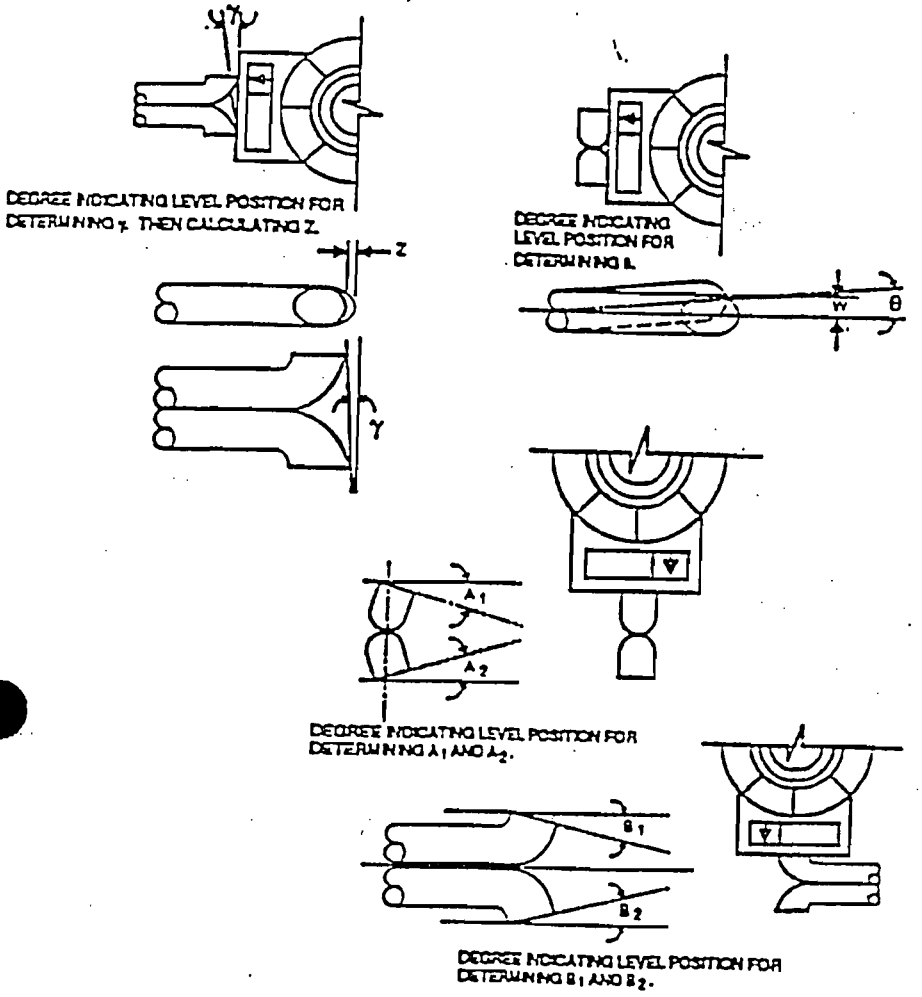
I certify that pitot tube/probe number PT-1 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature: _____

Date: 10/6/97

PITOT TUBE INSPECTION





level ?	Y
obstructions?	N
damaged?	N
$-10° < \alpha_1 < +10°$	0^6
$-10° < \alpha_2 < +10°$	0^6
$-5° < \beta_1 < +5°$	10
$-5° < \beta_2 < +5°$	$+4^0$
γ	2^0
θ	0^0
A	1.00
$1.05\ D_T < P_a < 1.5\ D_T$	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
$P_a = P_b \pm 0.063"$	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.

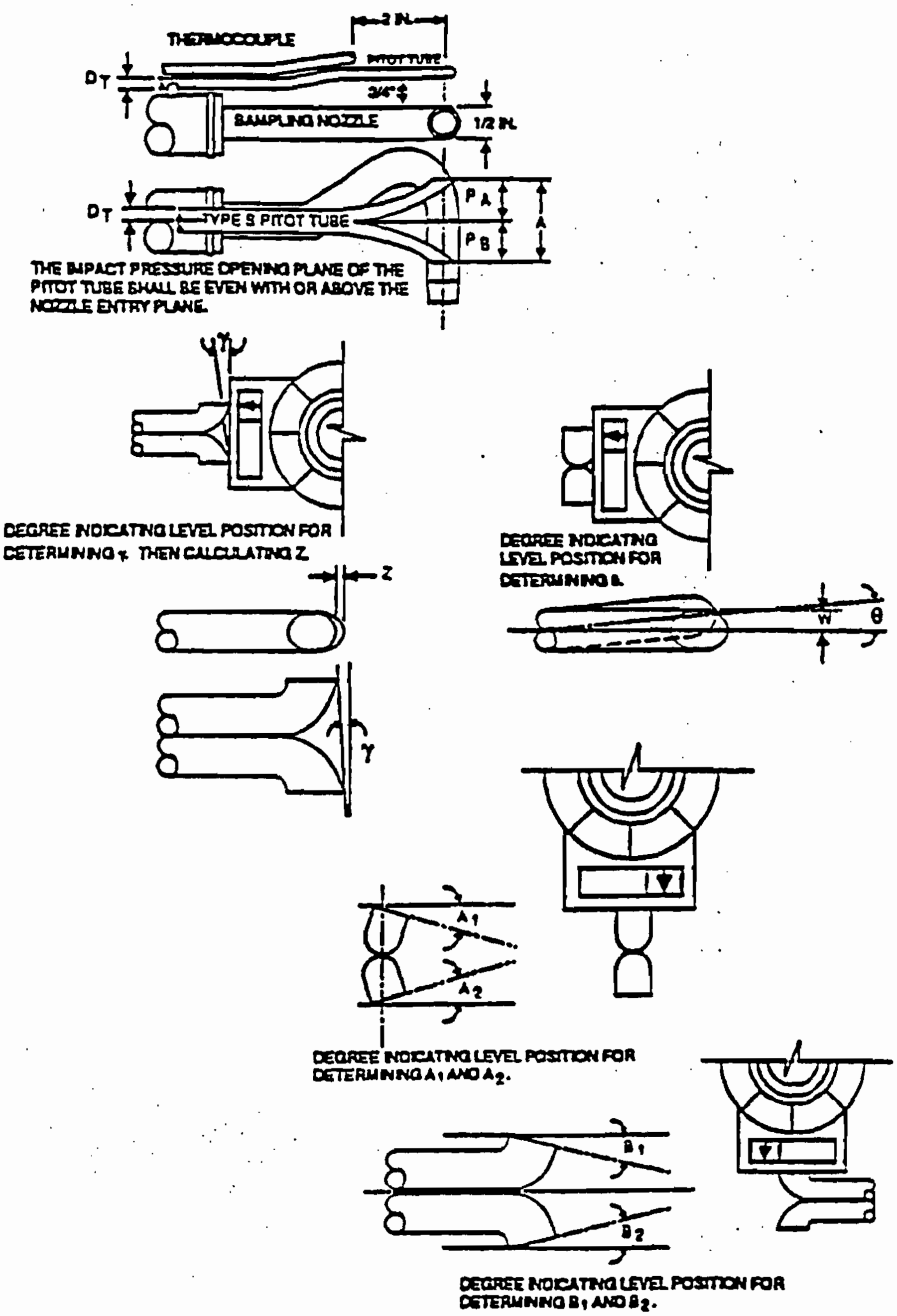
Comments: _____

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: _____

Date: 10-8-97

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10° < \alpha_1 < +10°$	4°
$-10° < \alpha_2 < +10°$	1°
$-5° < B1 < +5°$	2°
$-5° < B2 < +5°$	1°
γ	0
θ	0
A	0.921
$1.05\ D_t < P_a < 1.5\ D_t$	0.471
$1.05\ D_t < P_b < 1.5\ D_t$	0.451
$3/16" < D_t < 3/8"$	0.375
$A \tan \gamma < 0.125"$	0
$A \tan \theta < 0.03125"$	0
$P_a = P_b \pm 0.063"$	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 [signature]

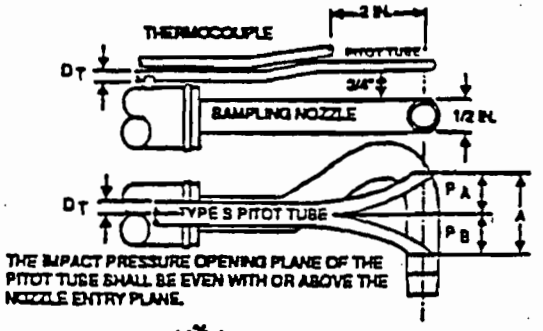
Date 10-31-97

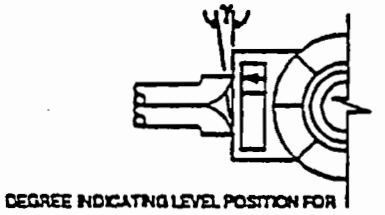
028 rev. 3/90

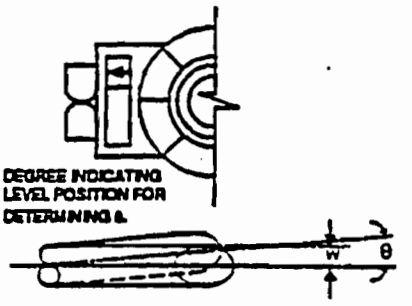
(623)

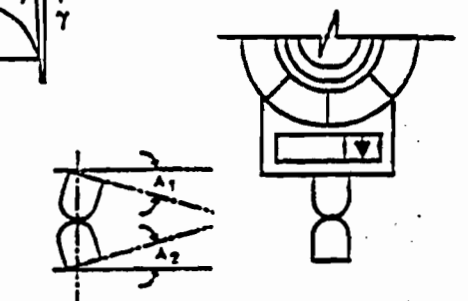
AirKinetics

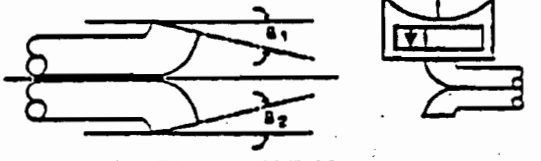
PITOT TUBE INSPECTION











level?	Y
obstructions?	N
damaged?	N
$-10° < \alpha_1 < +10°$	-3°
$-10° < \alpha_2 < +10°$	0°
$-5° < B1 < +5°$	3°
$-5° < B2 < +5°$	0°
γ	0°
θ	0°
A	1.003
$1.05\ D_t < P_a < 1.5\ D_t$	0.51
$1.05\ D_t < P_b < 1.5\ D_t$	0.493
$3/16" < D_t < 3/8"$	0.375
A tan γ < 0.125"	0
A tan θ < 0.03125"	0
$P_a = P_b \pm 0.063"$	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

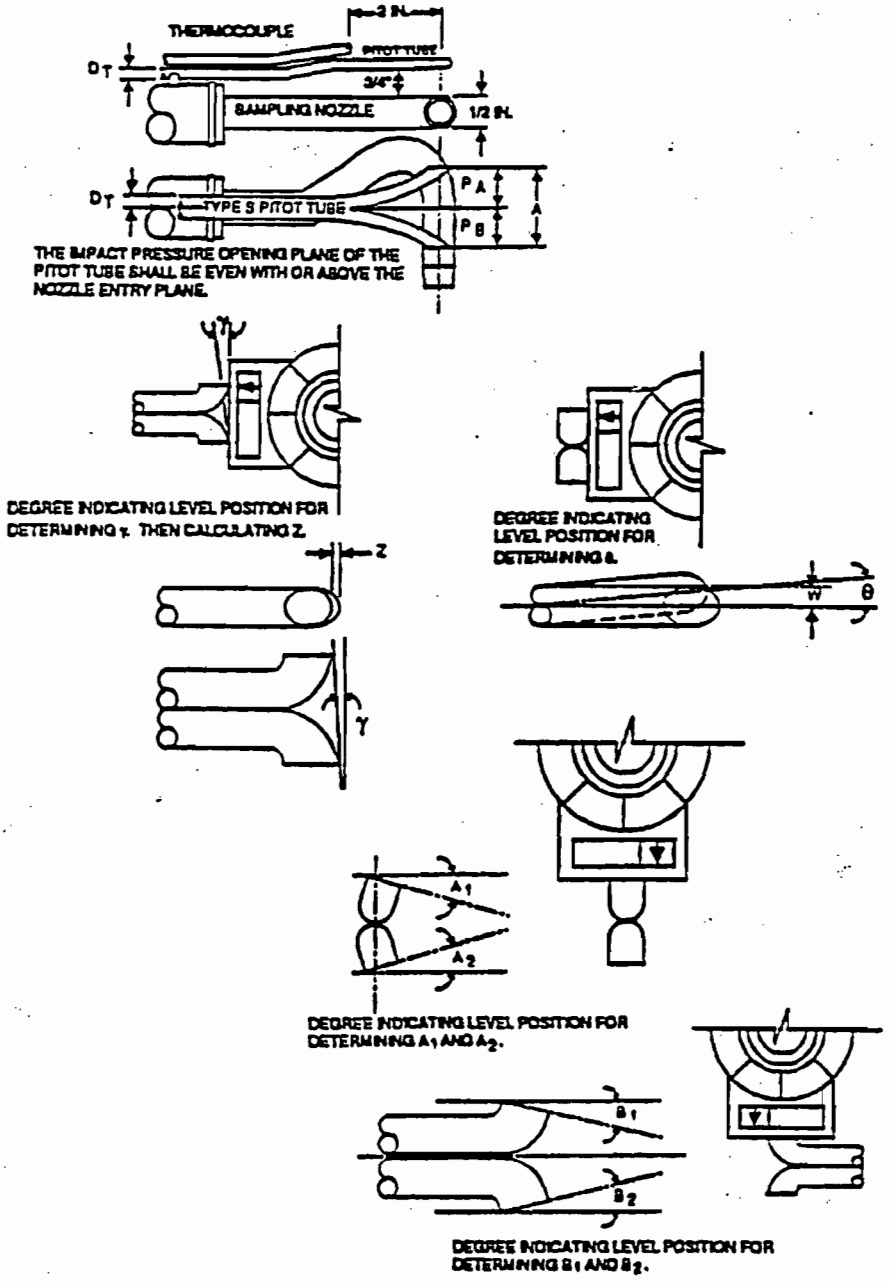
I certify that pitot tube/probe number PT-14 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature _____

Date 10-31-97

0028 rev. 3/90

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10° < \alpha_1 < +10°$	-4°
$-10° < \alpha_2 < +10°$	0°
$-5° < B1 < +5°$	2°
$-5° < B2 < +5°$	3°
γ	2°
θ	1°
A	0.9870
$1.05\ D_t < P_a < 1.5\ D_t$	0.481
$1.05\ D_t < P_b < 1.5\ D_t$	0.506
$3/16" < D_t < 3/8"$	0.375
A tan γ < 0.125"	0.0344
A tan θ < 0.03125"	0.01722
$P_a = P_b \pm 0.063"$	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: _____

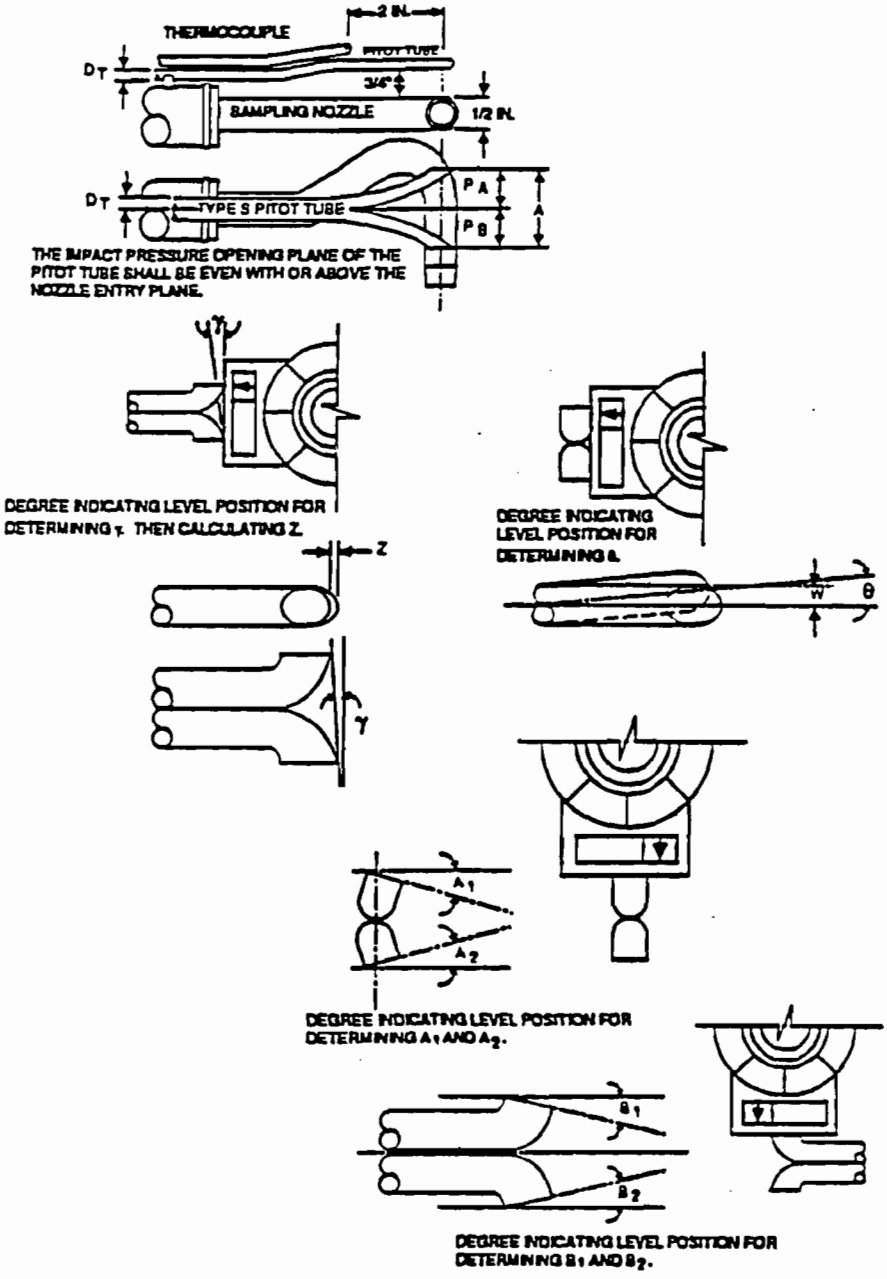
I certify that pitot tube/probe number PT-15 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature _____

Date 10-31-97

R-0028 rev. 3/90

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10° < \alpha_1 < +10°$	1°
$-10° < \alpha_2 < +10°$	1°
$-5° < B1 < +5°$	0°
$-5° < B2 < +5°$	1°
γ	0°
θ	2°
A	0.878
$1.05\ D_t < P_a < 1.5\ D_t$	0.433
$1.05\ D_t < P_b < 1.5\ D_t$	0.445
$3/16" < D_t < 3/8"$	0.375
$A \tan \gamma < 0.125"$	0
$A \tan \theta < 0.03125"$	0.03066
$P_a = P_b \pm 0.063"$	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-116 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 Gusmai

Date 10/31/97

R-0028 rev. 3/90

AirKinetics

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

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

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Resonableness: ✓

Checked By: Lakhalin 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

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

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Resonableness: ✓

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

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

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Resonableness: ✓

Checked By: Sakhalin Tinnin 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: ✓ Resonableness: ✓

Checked By: Sakhalin Tennic 4/24/97

QA Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 39

Date: ~~JULY 4TH 1997~~ (SP) 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

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

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Resonableness: ✓

Checked By: Sakhalin Finnie 2/3/97

QC Administrator (Signature / Date)

NOZZLE CALIBRATION

NOZZLE NUMBER GN 2008

Data	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average
2/27/98	SCG	0.254	0.256	0.257	0.255	0.256	0.256

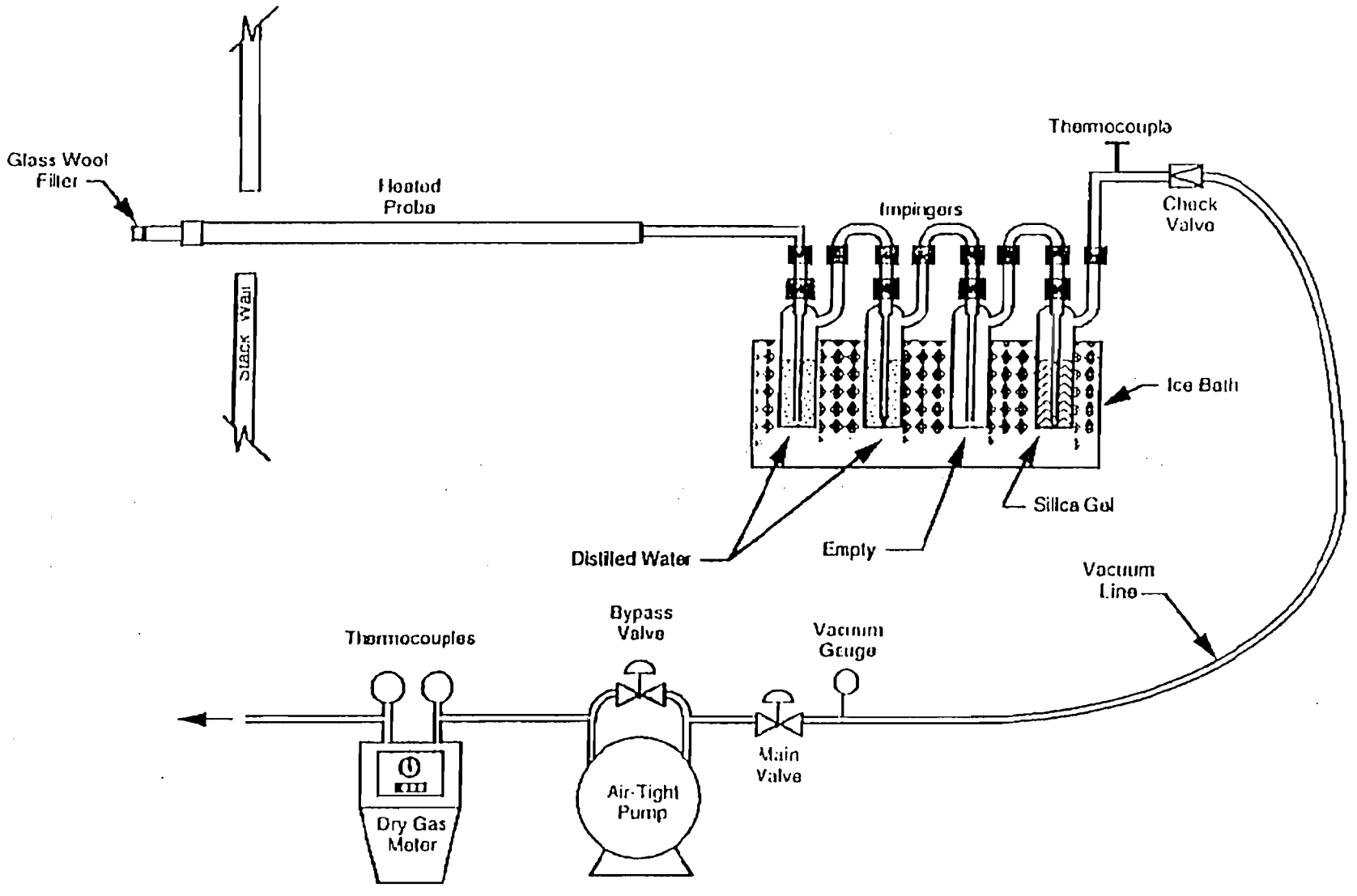
Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer:_____

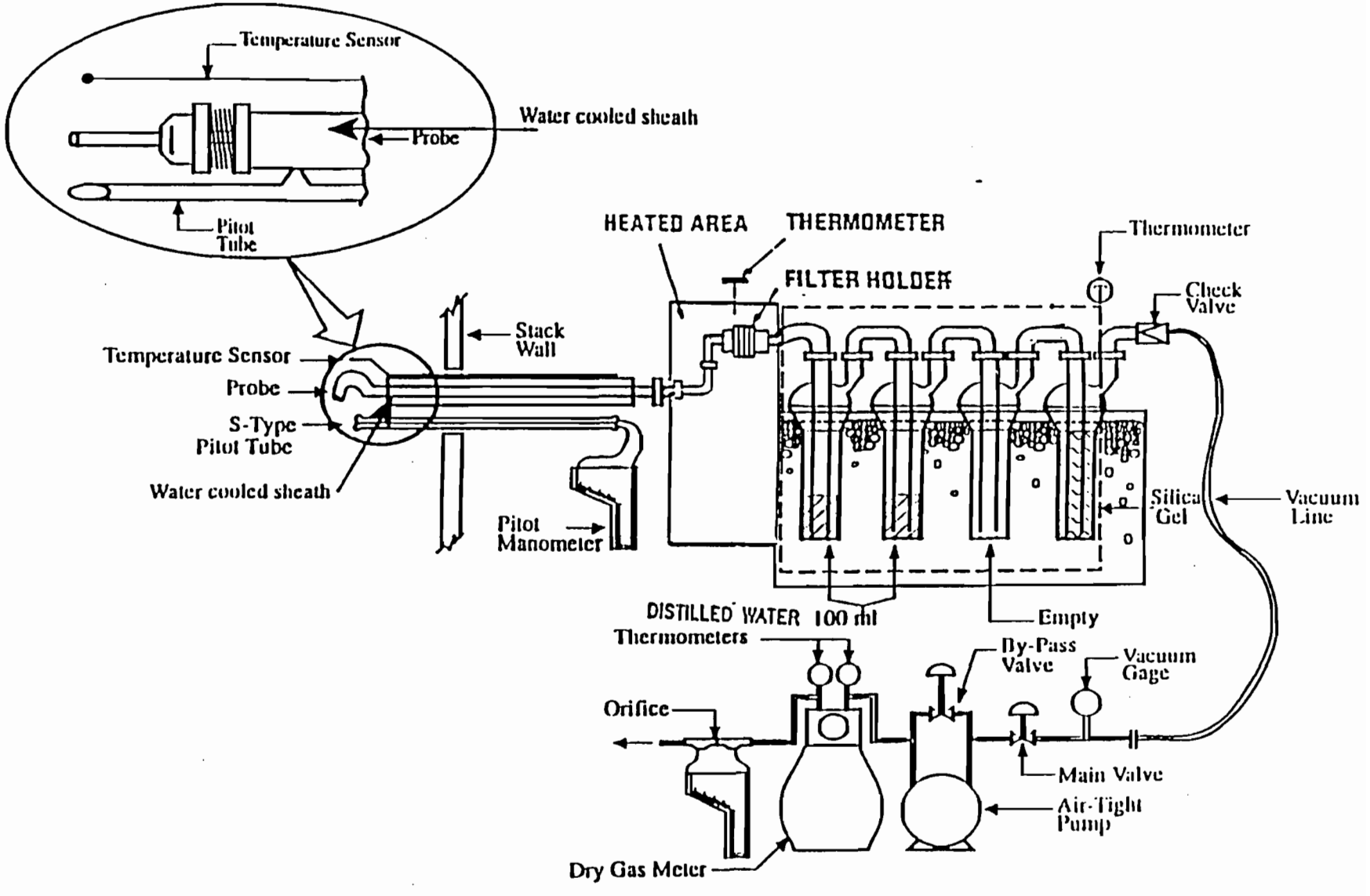
AirKinetics, Inc.

APPENDIX F

SAMPLING TRAIN SCHEMATICS

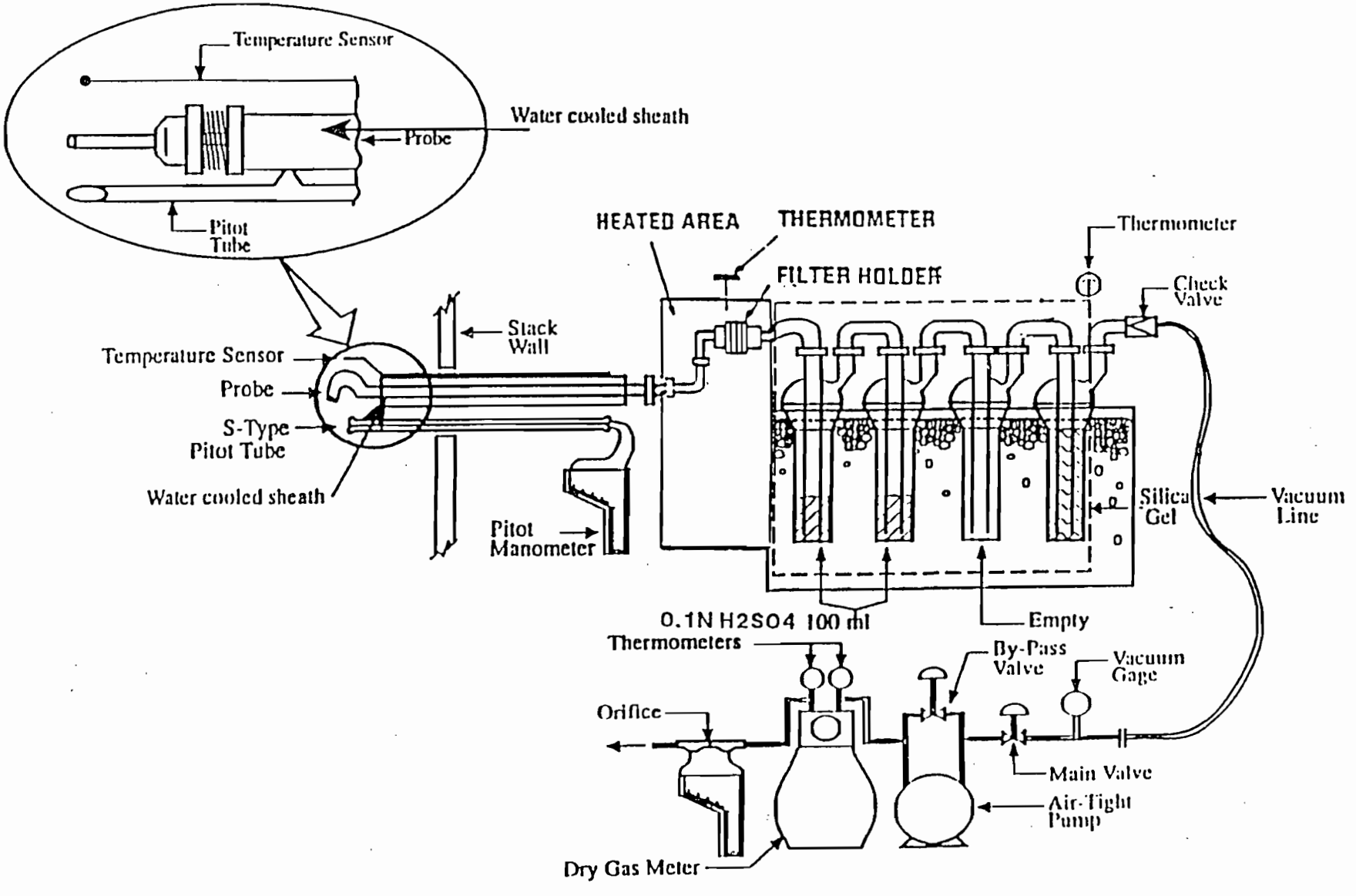


EPA Method 4 Sampling Train

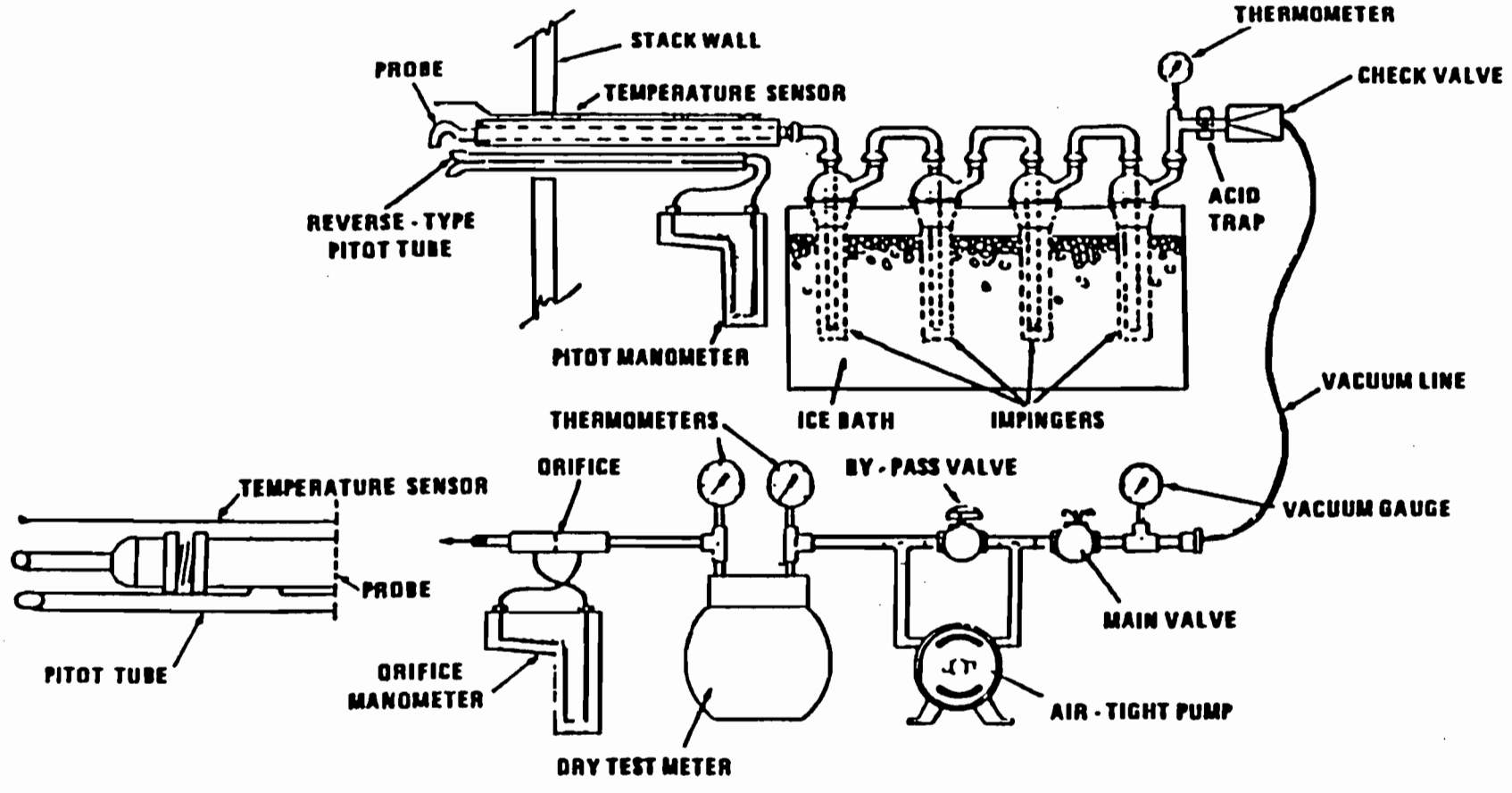


EPA Method 5 Sampling Train

F 3



EPA METHOD 26 SAMPLING TRAIN



EPA METHOD 29 SAMPLING TRAIN

APPENDIX G

AIRKINETICS SYSTEM PERFORMANCE TEST RESULTS

1.0 NO_2-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

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
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
	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 : 09-06-1997 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 SO_2 ANALYZER INTERFERENCE TESTS

INTERFERENCE RESPONSE

Analyzer Type THERMO 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 = $\frac{\text{ANALYZER RESPONSE}}{\text{INSTRUMENT SPAN}}$ X 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 SO_2, CO, CO_2, and O_2 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 SO_2 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	0.5 [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 monitor were adjusted according to the manufacturer's guidelines. The monitor was calibrated by flowing SO_2 calibration gases into the instrument. The NO, CO, CO_2, and O_2 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 (ie, deviations from a zero reading) in the SO_2 monitor.

TIME	CHAN 3 WR #3 ppmSO2	
13:51	0.1	Zero
13:52	0.1	
13:53	0.1	
13:54	0.1	
13:55	0.1	
13:56	-0.0	CO_2 10.85% CO_2
13:57	-0.1	
13:58	0.1	
13:59	-0.1	
14:00	-0.1	NO_x 244 NO/245 NO_x
14:01	-0.2	
14:02	-0.1	CO 683.9 ppm CO
14:03	-0.1	
14:04	-0.1	
14:05	-0.2	
14:06	-0.3	O_2 21.4% O_2
14:07	-0.3	
14:08	-0.3	
14:09	-0.3	
14:10	-0.2	
14:11	-0.4	
14:12	-0.3	Zero
14:13	-0.4	
14:14	-0.4	

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-O-MS-1		2-O-MS-2		2-O-MS-3
Sample ID/Container #			F/228		F/231		F/230
	initials	date		date		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.	#	A566	0.5067	# A567	0.5098	# A404	0.5132
SAMPLE WT., g.			0.0023		0.0018		0.0025
Sample ID/Container #			R/229		R/232		R/226
	initials	date		date		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
							~~3.5307~~ C
Baggie Tare, g.	(75 ml)		3.4412	(75 ml)	3.3965	(100 ml)	3.5300
SAMPLE Wt., g.			0.0025		0.0021		0.0011
Reagent Blank			B/233				
	initials	date					
			3.3432 ✓				
	GM	5/5	3.3433				
	GM	5/5	3.3434				
	GM	4/23	~~3.343~~ C				
Baggie Tare, g.	(200 ml)		3.3429				
SAMPLE Wt., g.			0.0005				
Sample Description			4.8 mg		3.9 mg		3.6 mg

--Legend--

F = Filter R = Rinse

1 = Light

2 = Medium

3 = Heavy or Dark

Run #	Color	Loading
2-O-MS-1	(1) 2 3	(1) 2 3
2-O-MS-2	(1) 2 3	(1) 2 3
2-O-MS-3	(1) 2 3	(1) 2 3

Notes and Comments:

Predominant Color of samples is: Clear

Date of Full Balance Span: MAY 4, 1998

PROJECT METTLER AT200 (#L98007)

Notebook No. _____

Continued From Page _____

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.
2 mg	0.0020	—
10 mg	0.0100	—
50 mg	0.0500	—
100 mg	0.1000	—
500 mg	0.5000	—
1 g	1.0001	0.0100 5/4/98 ~~0.0080~~
5 g	5.0001	0.0020 5/9/98
10 g	10.0000	—
50 g	50.0001	0.0002
100 g	100.0001	0.0001

Continued on Page

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

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

5g = 5.0000g
5g = 5.0001g

April 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		

June 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				

125 **Tuesday, May 5** 240

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.: 72.8°F
BAR. PRESS.: 29.97"Hg
REL. HUM.: 52%
GM
16:15

5g = 5.0001g

April 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		

June 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				

124 **Monday, May 4** 241

PROJECT _____ Continued From Page _____

	1ST WEIGHING	2ND WEIGHING
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

BAGGIE #	1ST WEIGHING (g)		2ND WEIGHING (g)	
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

PROJECT FILTER TYPE: GLASS MAT

Continued From Page _____

FILTER DIMENSIONS: 85 mm

FILTERS DESICCATED 24 HOURS PRIOR TO 1ST WEIGHING: YES

>T No.: 103510

	1ST WEIGHING	2ND WEIGHING
LAB. TEMP.:	74.07°F	74.14°F
BAR. PRESS.:	29.88"Hg	29.88"Hg
REL. HUM.:	48.29%	56.56%
INITIALS:	~~07:54~~ GM	GM
TIME:	07:54	14:03
DATE:	AUG. 1, 1996	AUG. 1, 1996

FILTER #	1ST WEIGHING (g)	2ND WEIGHING (g)
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: 85mm

IT No.: 191140

FILTERS DESICCATED 24 HOURS PRIOR TO 1ST WEIGHING: YES

	1ST WEIGHING	2ND WEIGHING
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 #	1ST WEIGHING (g)		2ND 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 CORRECTION	APP MASS CORRECTIONS VS 8.0 g/cc	VS BRASS	UNCERTAINTY
100 g	0.57 mg	0.27 mg	-0.43 mg	0.16 mg
50 g	0.319 mg	0.166 mg	-0.183 mg	0.081 mg
20 g	0.156 mg	0.095 mg	-0.045 mg	0.062 mg
20 g.	0.143 mg	0.082 mg	-0.058 mg	0.062 mg
10 g	0.060 mg	0.029 mg	-0.041 mg	0.031 mg
5 g	0.028 mg	0.013 mg	-0.022 mg	0.023 mg
2 g	0.063 mg	0.057 mg	0.043 mg	0.016 mg
2 g.	0.045 mg	0.039 mg	0.025 mg	0.016 mg
1 g	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

Filename: F:\GROUPS\STANDLAB\FILESYS\ENTROPY\1995\0295C016.WK4

Original Certificate Has The NCDA Seal Embossed Above

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation

***Scope of Accreditation**

Tolerance Testing

Mass
Weights ≤ 1000 lb
Weights > 1000 lb

Volume
Small, intermediate and large standards

Calibration

Mass
Weights ≤ 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
METTLER TOLEDO Calibration Date of Test Weights	1/06/97	11/30/95
National Institute of Standards and Technology Test Number	822/257177-96	822/255443-95
Test Weight Calibration Due	1 year from date	2 years from date

Model	Serial Number	Serv.	Cal.	Model	Serial Number	Serv.	Cal.
AT200	L98007	☑	☑			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐

Robert Montanez
Mettler Toledo Service Technician

7-8-97
Date of Issue

METTLER TOLEDO

METTLER TOLEDO ISO 9001 certified TRACEABLE TO N.I.S.T.

Mettler-Toledo • P.O. Box 71 • Hightstown, NJ 08520-0071 • Tel: (800) METTLER • In NJ (609) 448-3000

rom: SACLIM::JJONES "Josie P. Jones, Think Good Thoughts'" 8-MAY-1998 15:02:00.61
o: JJONES
C:
b: Anomaly_file-> PJCAT$ANOMALY:098821_EPA26-ACIDS-IC-AIR_JJONES.ANOMALY

he bracketing CCV for samples 2SD, 3, 4, 5, and 6 showed failed recovery due
o the schedule being one position off. Sample 6DU was analyzed and recognized
ased on the schedule to be a CCV. CCB thereafter showed 4.718ppm which is
ctually a CCV with 94% recovery. With this entry error, there is 11
njections between 2 bracketing CCV instead of 10 injections. Problem isolated
nd found to have not impact on the reported results. Samples 4-6 were
eanalyzed towards the end of the run with good bracketing CCVs.

ll associated QC, MB and MS/SD were all within acceptance criteria. No
urther 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 Chromatograpy
(H2SO4 matrix)

LEVEL 1&2 REVIEW CHECKLIST
GENERAL CHEMISTRY

PROJECT ID'S: 98821

ANALYSIS: HCl DATE: 5/5/98 ANALYST: KMUNDAY

	YES	NO	NA
LEVEL 1 RUN REVIEW:			
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:			
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: Kmunday 5/6/98

LEVEL 2 REVIEW:			
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: JDays 5/8/98

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						
Date:	5/5/98		File:	980505K			Dir:			
Sample	Analyte	Volume (ml)	Dilution Factor	Sample Conc. (mg/L)	Duplicate Conc. (mg/L)	Average Conc. (mg/L)	%RPD	Flag	Reporting Limit (mg/Sample)	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 x 10 x 0.600 x 1.028 = 30.84 mg/sample

% Rec. MS = 106 %
SD = 106 %

For Samples from 1-5 Sample wt. used for calculation was provided by the client.
Initiated 5/6/98.

5/8/98

NC ion Calculate when result < 5X reporting limit.

Entered by: Kuldip Hundal Date: 5/6/98 Reviewed by: JJones 5/8/98

QA-279 jjb 08/18/95

DIONEX SCHEDULE - C:\DX\SCHEDULE\980505K.SCH

Inj#	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	Ref = Ref Dup/	1	1	1
9	REF DUP	..\LINH2SO4	980505K	was rejected	1	1	1
10	98821-1 5X	..\LINH2SO4	980505K	because of low	1	5	1
11	98821-1 DUP 5X	..\LINH2SO4	980505K	recoveries	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

Comment:

Reinjected 5/6/98

5/6/98

RTR 5/8/98

********** AUTOMATIC CALIBRATION UPDATE **********

ple 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
LUORIDE	0.85	1
ROMIDE	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
Sample Address: 2 System: 1 Inject#: 1 Detector:COND
Analyst : Column:

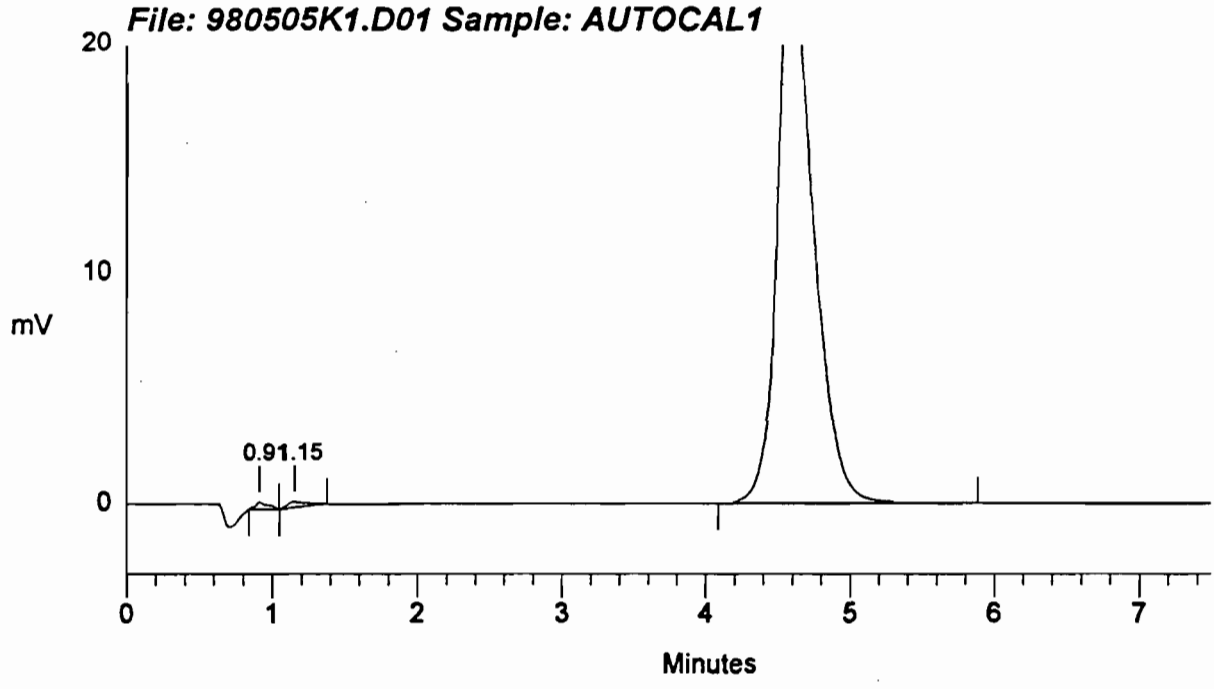
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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 **********

```
 ple Name: AUTOCAL2                              Date: Tue May 05 11:51:07 1998
w 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 **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	1
ROMIDE	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
Acq Address: 2  System: 1  Inject#: 2                    Detector:COND
Analyst    :                Column:
```

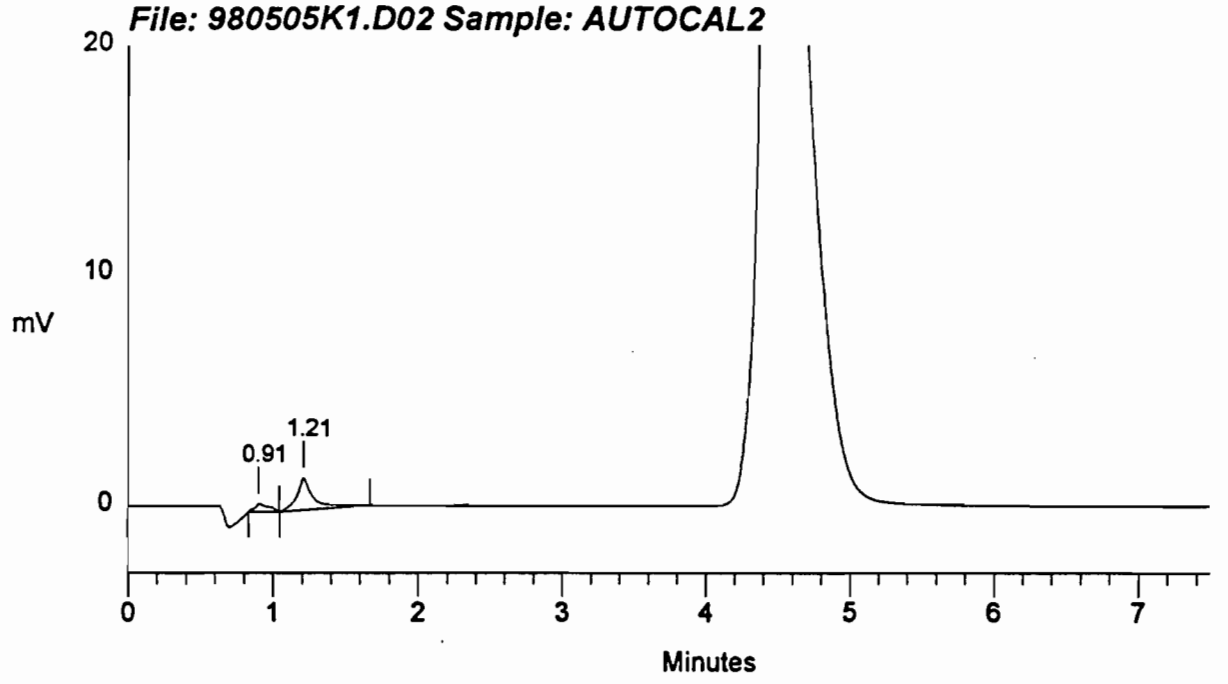
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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 **********

ple 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 **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	1
ROMIDE	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	1.21	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
ICS Address: 2 System: 1 Inject#: 3 Detector:COND
Analyst : Column:

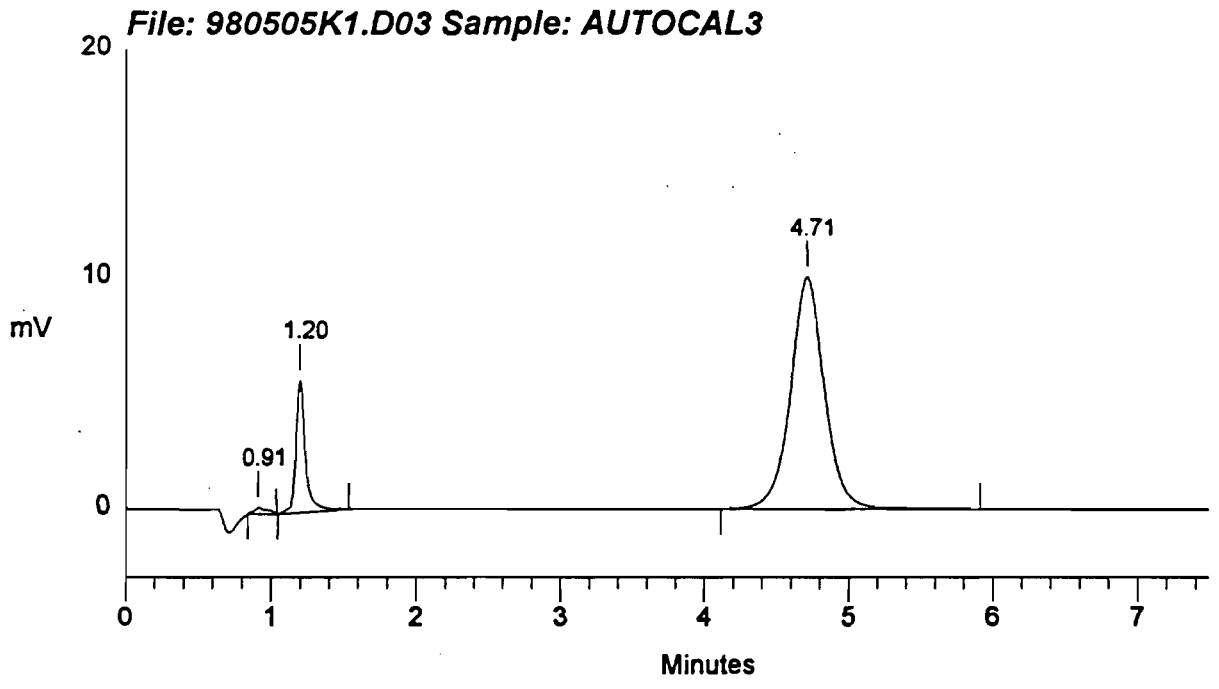
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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 **********

ple 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 **********

lame	Adjusted Ret Time	Reference Peak
'LUORIDE	0.85	1

********** 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	1.20	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
Acq Address: 2 System: 1 Inject#: 4 Detector:COND
Analyst : Column:

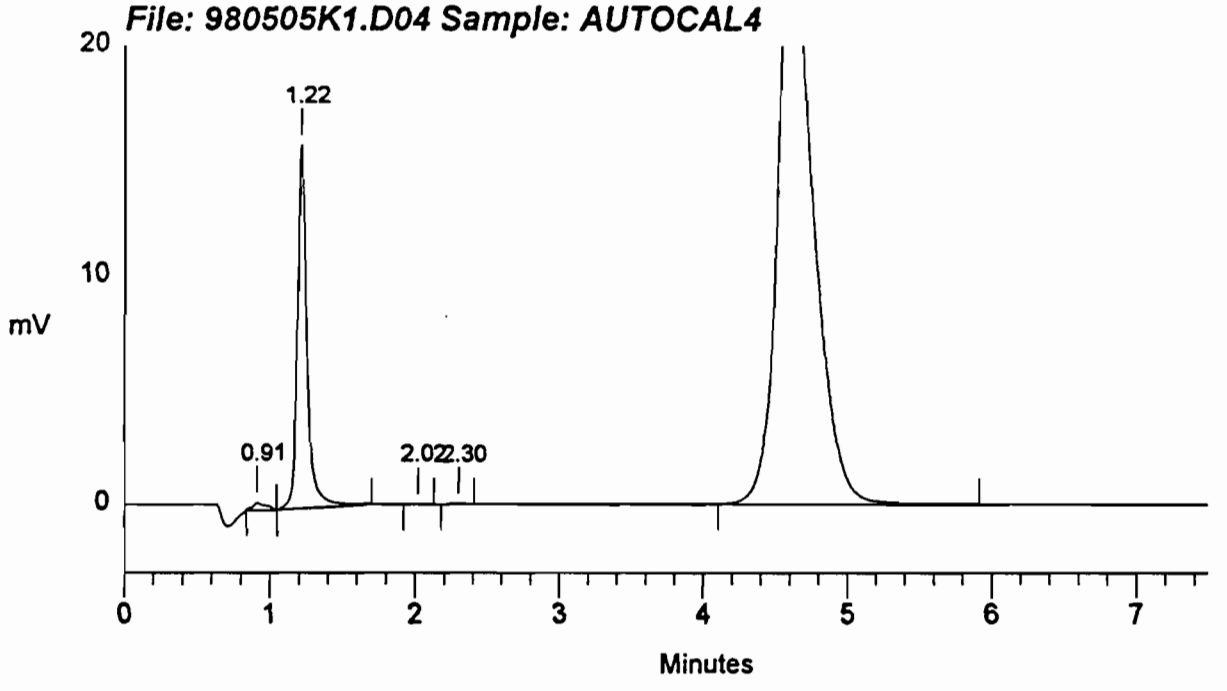
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	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 **********

ι ple 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 **********

lame	Adjusted Ret Time	Reference Peak
'LUORIDE	0.85	1

********** 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	1.22	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

$r^2 \rightarrow 0.99986$

Ion 5/5/98

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

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 ID - 879-WC-57-6

Ref ID - 879-WC-57-11

JJ 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
Acq Address: 2 System: 1 Inject#: 5 Detector:COND
Analyst : Column:

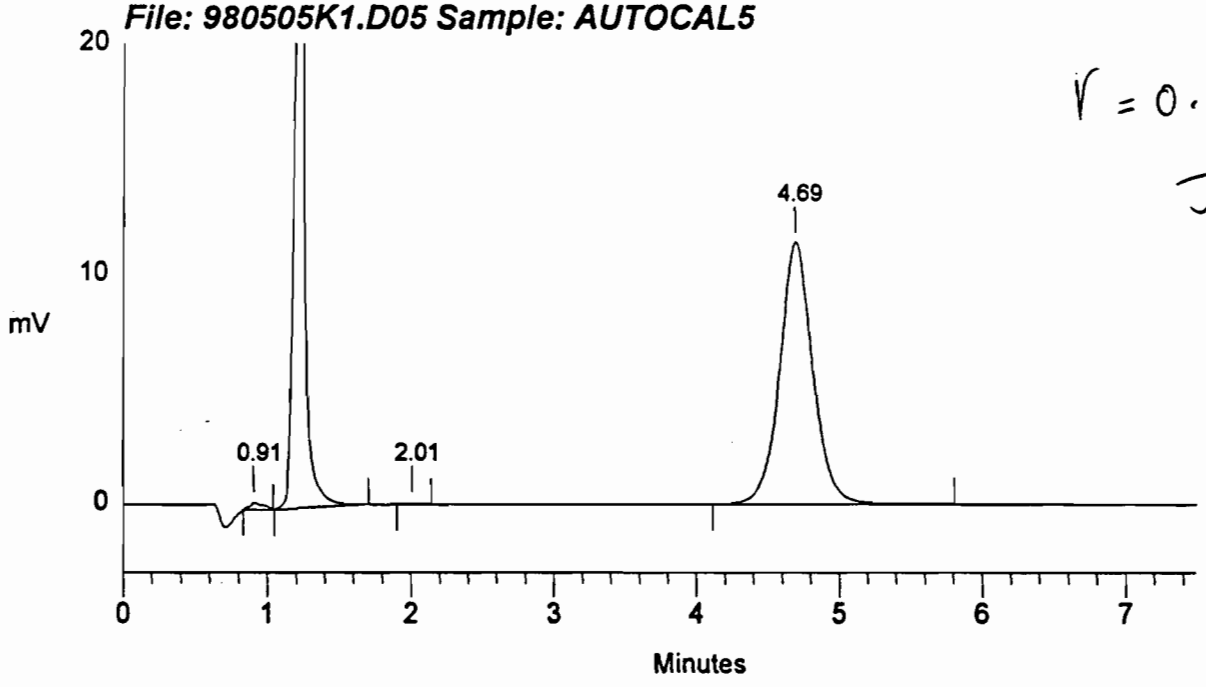
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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		



$r = 0.9986$

JJ 5/8/98

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
ICI Address: 2 System: 1 Inject#: 6 Detector:COND
Analyst : Column:

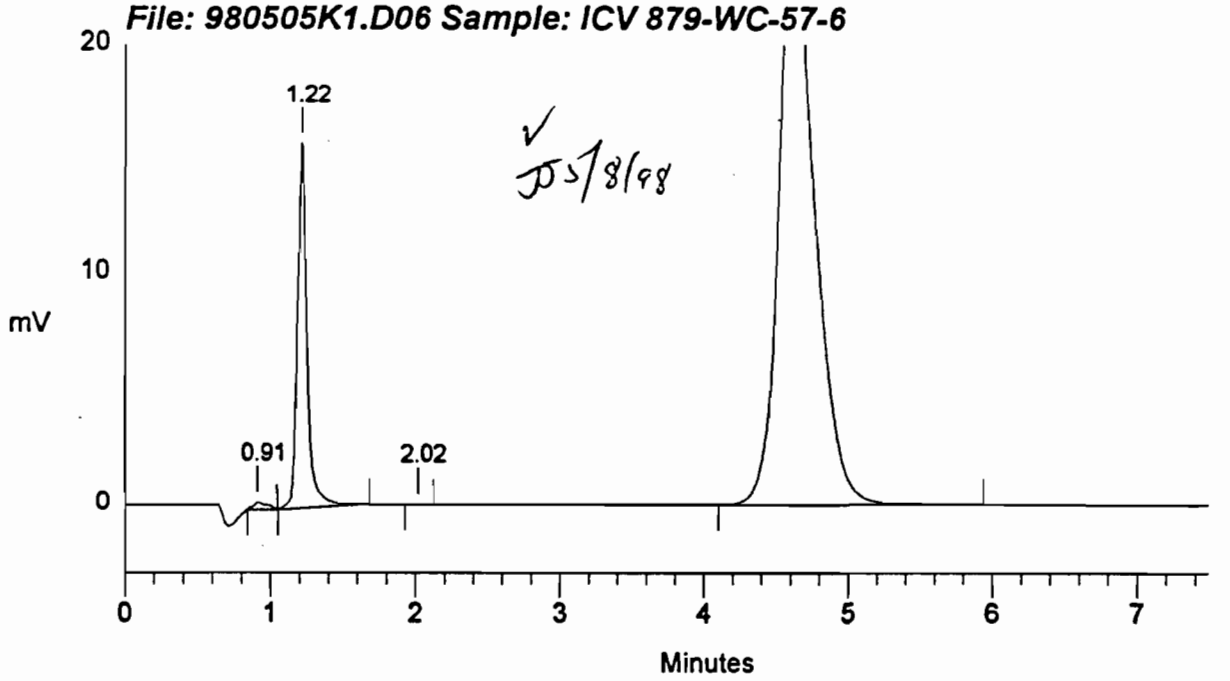
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	TV 5.0 ppm	97%	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
Acq Address: 2 System: 1 Inject#: 7 Detector:COND
Analyst : Column:

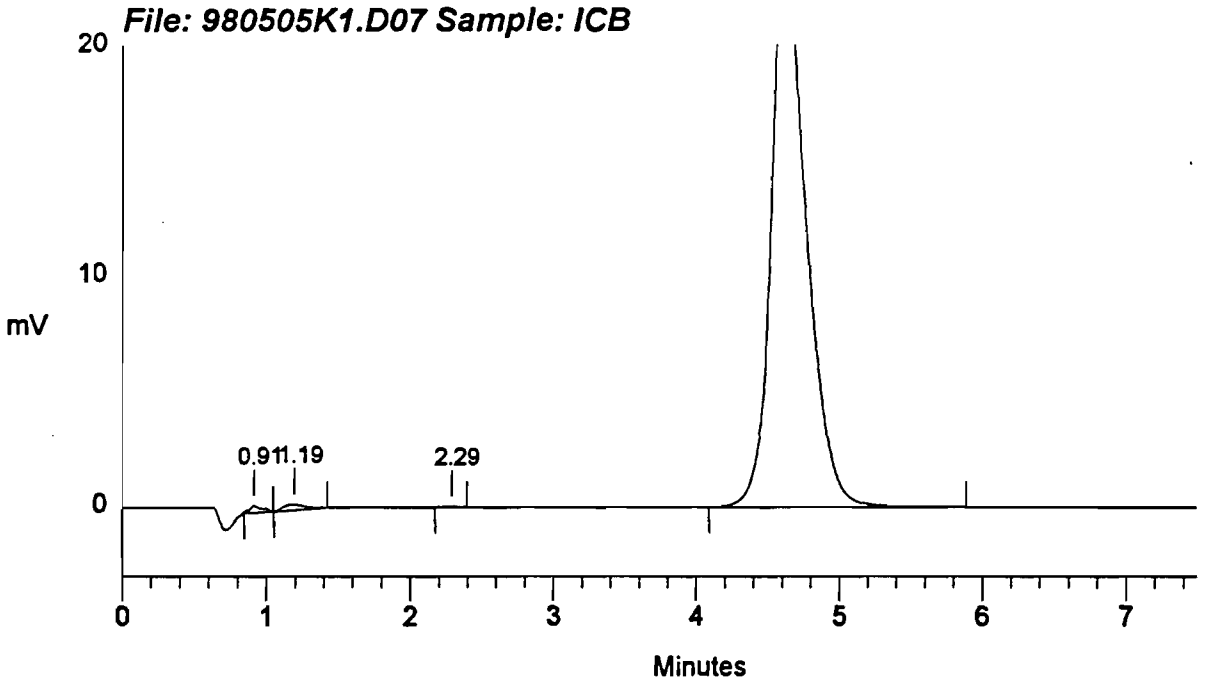
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	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		



BEST AVAILABLE COPY

Sample Name: REF 879-WC-57-11		Date: 05/05/1998 12:52:11
Data File : C:\DX\DATA\980505K1.D08		
hod : C:\DX\METHOD\LINH2SO4.met		
Address: 2 System: 1	Inject#: 8	Detector:COND
Analyst :	Column:	

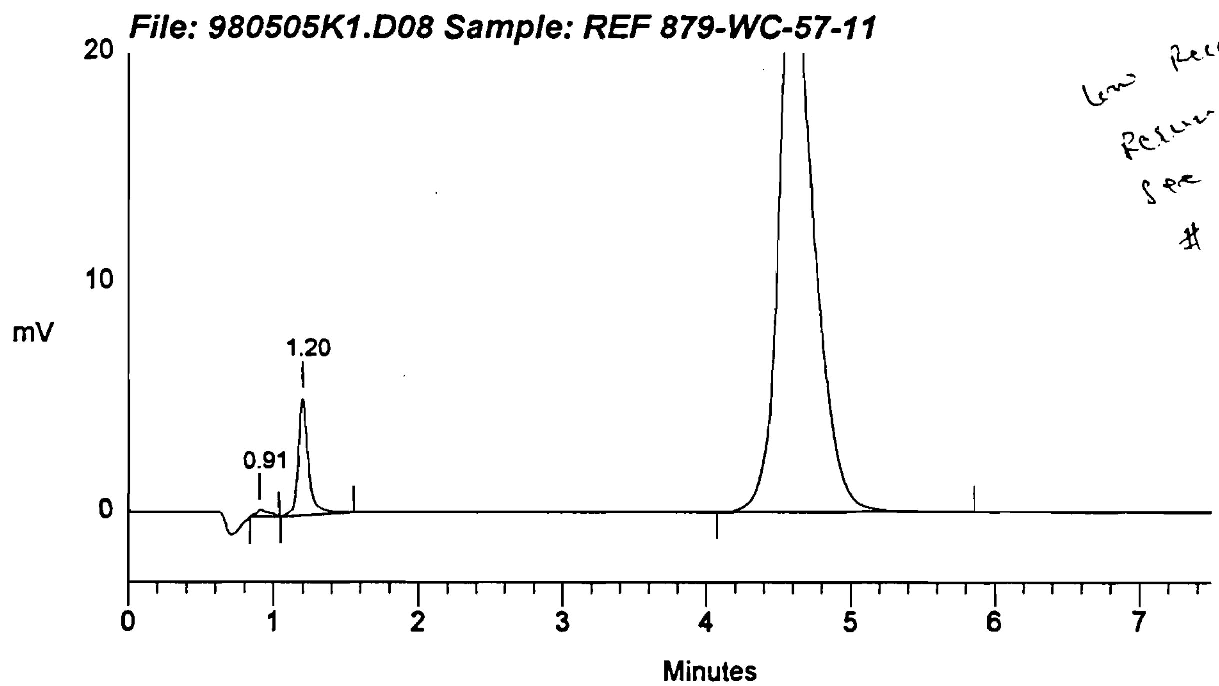
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2250	5Hz	0.00	7.50	1000

*********************** Components Not Found In This Run ********************

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	1
ROMIDE	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	TV: 2.0 ppm	1.651	83%	171798	848873	1	0.00
3	4.58			0.000		809999	13735620	1	
		Totals		1.651		992941	14653200		



Low Recovery, Rerun. See Injection # 8 @ 13:14
Kmod 5/6/98

```
Sample Name: REF DUP                              Date: 05/05/1998 13:02:19
Data File  : C:\DX\DATA\980505K1.D09
Method     : C:\DX\METHOD\LINH2SO4.met
Acq Address: 2  System: 1  Inject#: 9                    Detector:COND
Analyst    :                Column:
```

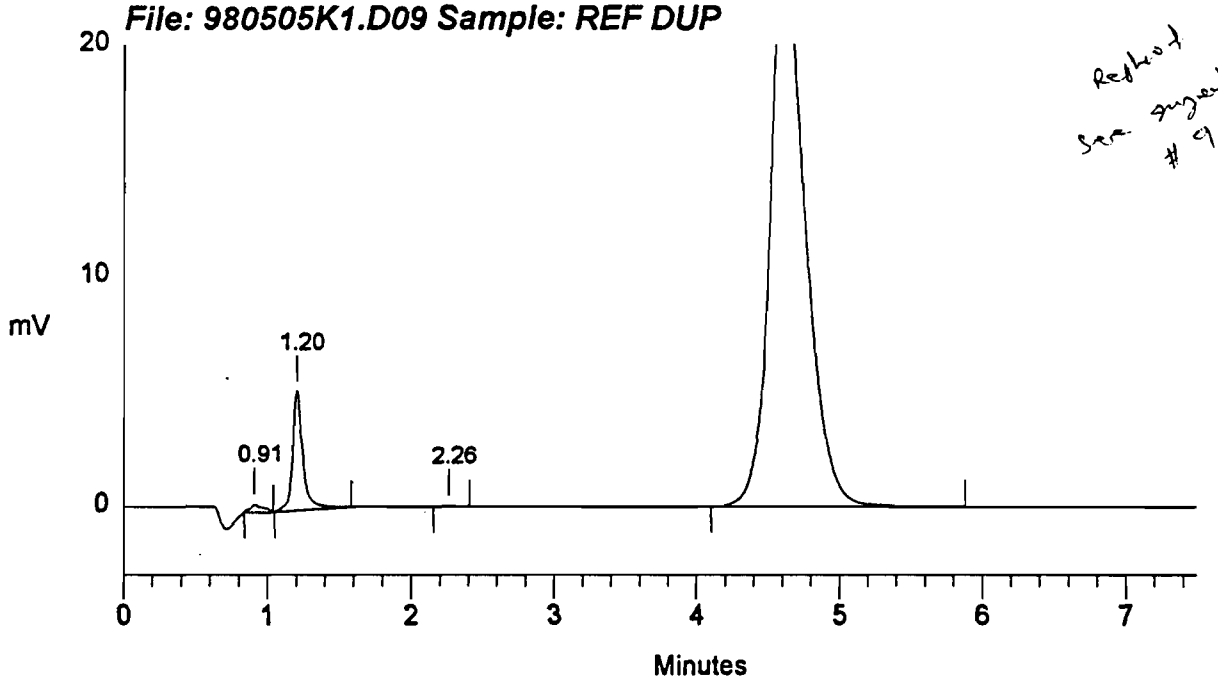
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	TV 2.0 ppm	1.682	84% 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		



Reshoot see suggestion # 9 @ 13:24 KM 5/6/98

```
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
ICI 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

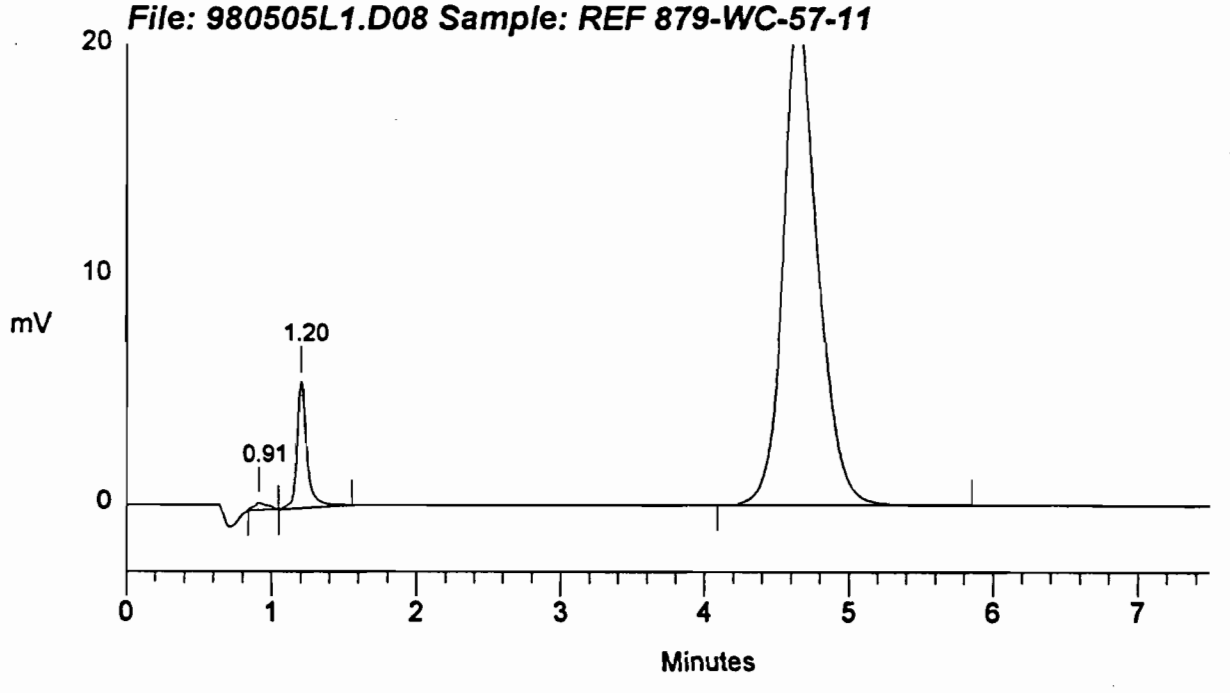
********** Components Not Found In This Run **********

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	10875	68306	1	
2	1.20	CHLORIDE	1.743	183603	895167	1	0.00
3	4.63		0.000	715943	11910524	1	
		Totals	1.743	910420	12873996		

TV = 2.0 ppm 87%



Sample Name: REF DUP Date: 05/05/1998 13:24:26
Data File : C:\DX\DATA\980505L1.D09
Method : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 9 Detector:COND
Analyst : Column:

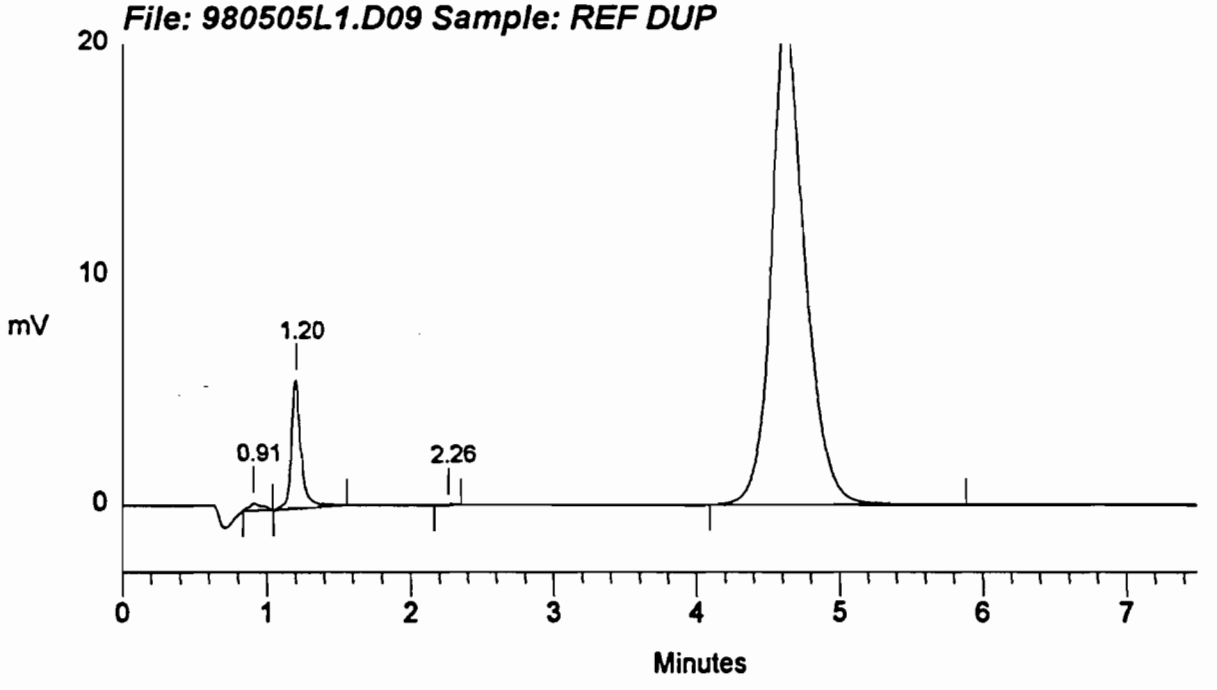
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	187750	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
Acq Address: 2 System: 1 Inject#: 10 Detector:COND
Analyst : Column:

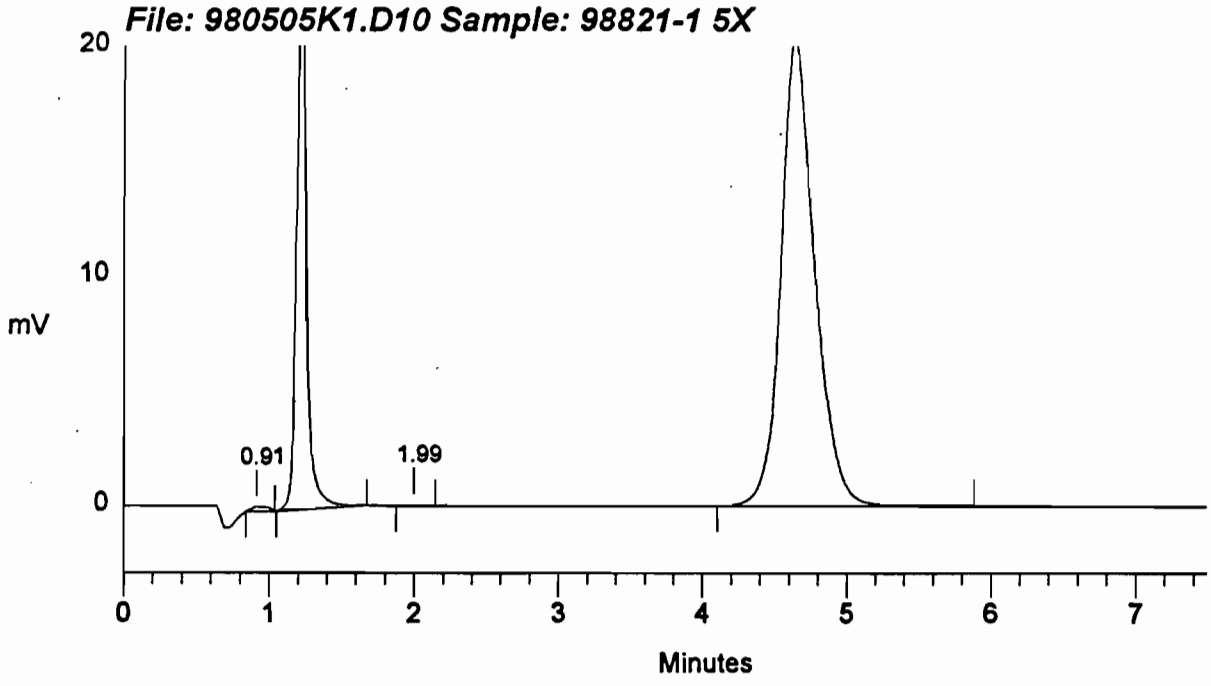
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	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
   hod     : C:\DX\METHOD\LINH2SO4.met
Acf Address: 2  System: 1  Inject#: 11                  Detector:COND
Analyst    :                Column:
```

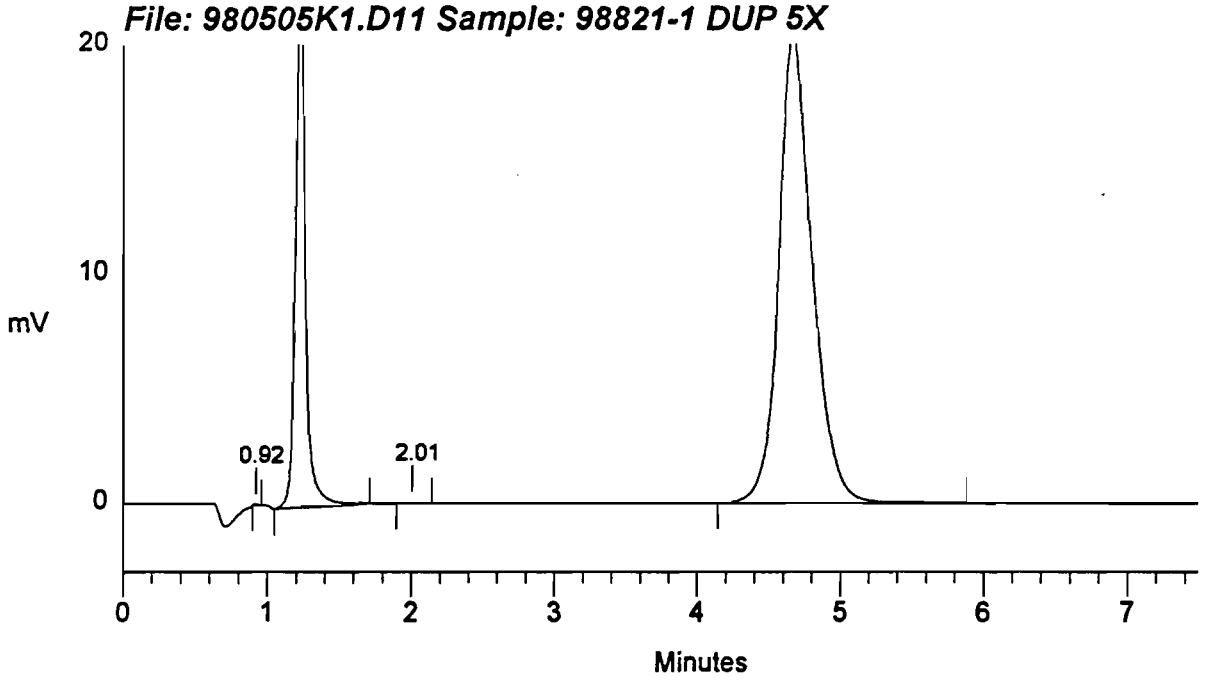
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	5	2250	5Hz	0.00	7.50	1000

********** 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	0.92		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
hod : C:\DX\METHOD\LINH2SO4.met
Address: 2 System: 1 Inject#: 12 Detector:COND
Analyst : Column:

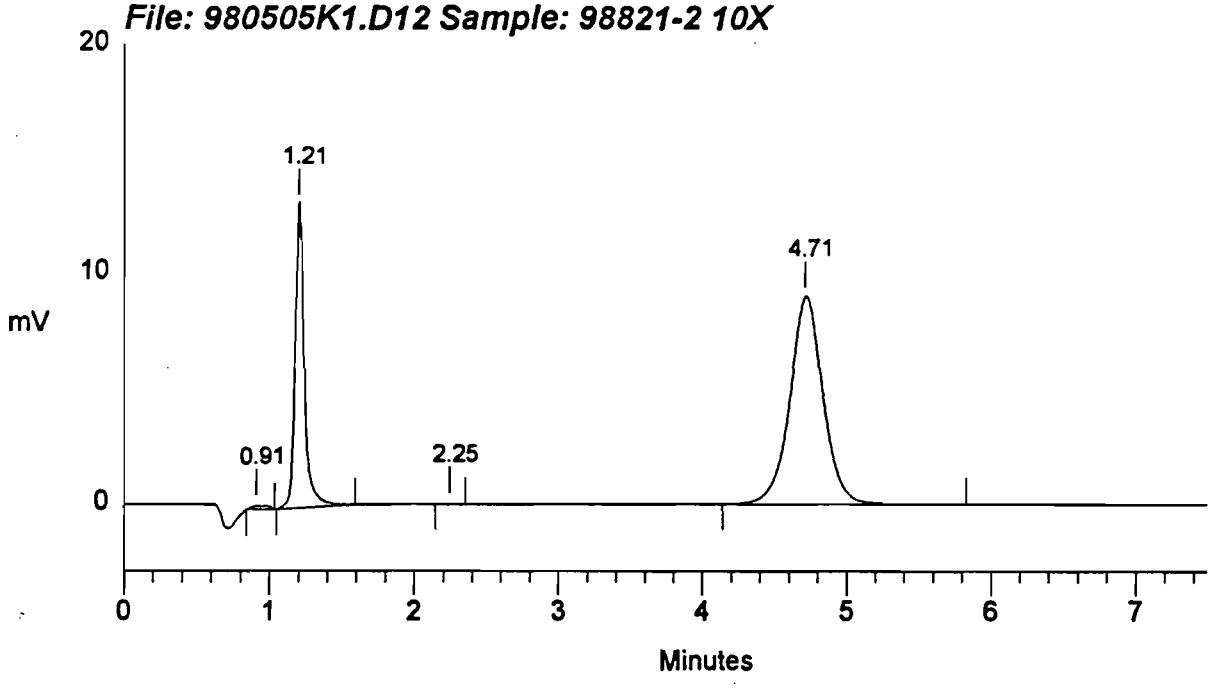
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	1
ROMIDE	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
   :hod    : C:\DX\METHOD\LINH2SO4.met
Acf Address: 2  System: 1  Inject#: 13                  Detector:COND
Analyst    :                Column:
```

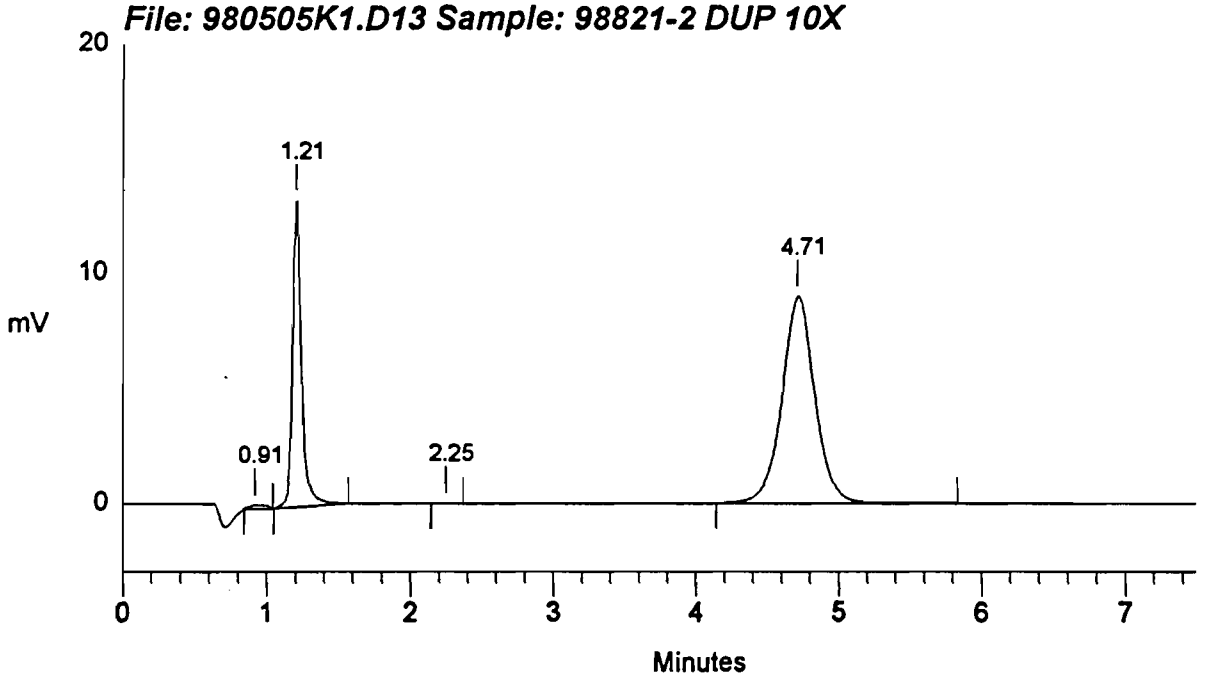
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10	2250	5Hz	0.00	7.50	1000

********** 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	0.91		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
Sample Address: 2 System: 1 Inject#: 14 Detector:COND
Analyst : Column:

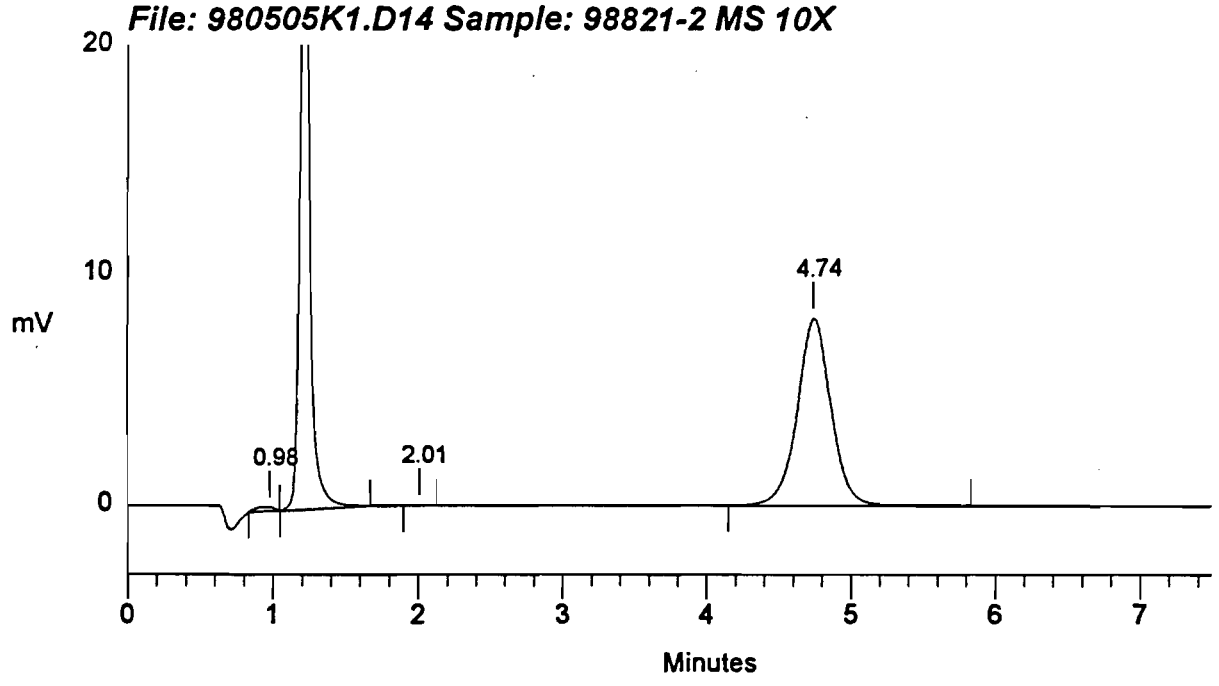
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10	2250	5Hz	0.00	7.50	1000

********** 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
hod : C:\DX\METHOD\LINH2SO4.met
Acf Address: 2 System: 1 Inject#: 15 Detector:COND
Analyst : Column:

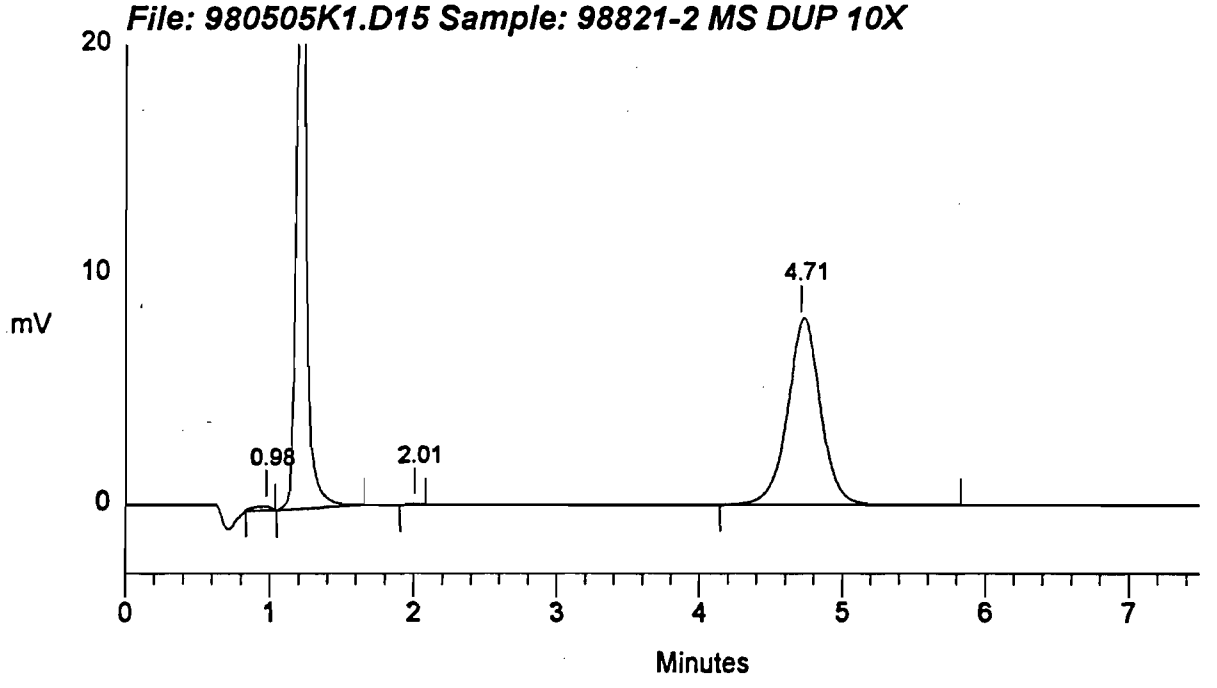
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10	2250	5Hz	0.00	7.50	1000

********** 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
Acq Address: 2 System: 1 Inject#: 16 Detector:COND
Analyst : Column:

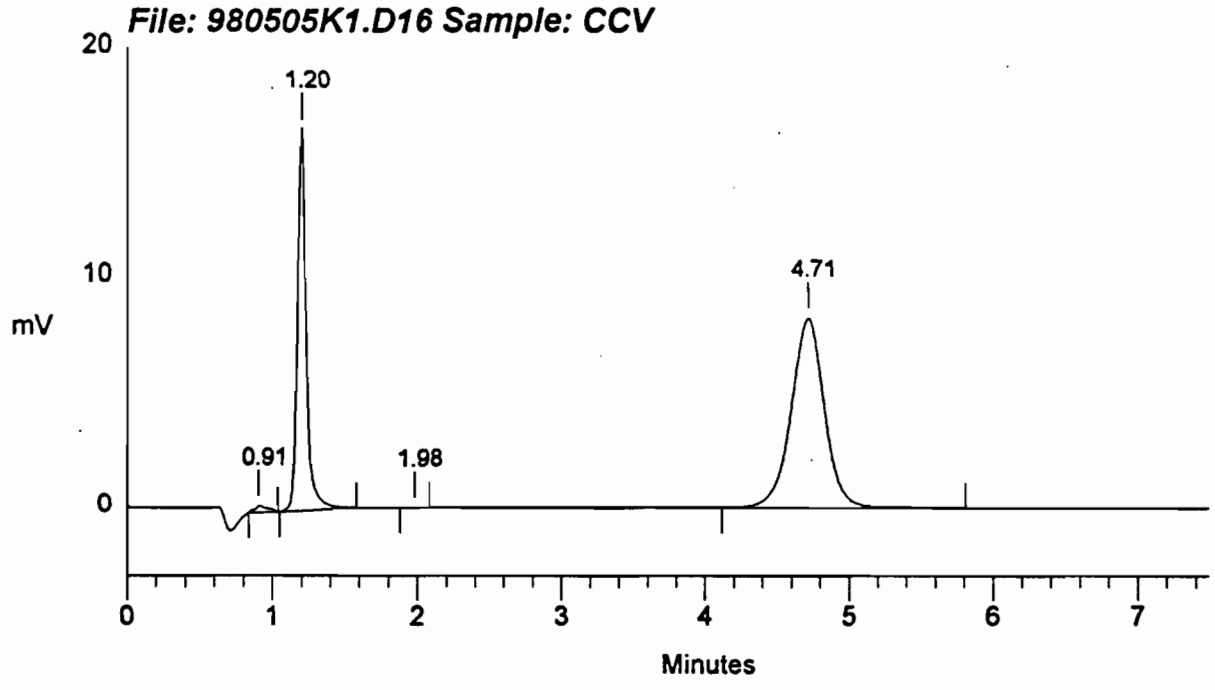
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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
Acq Address: 2 System: 1 Inject#: 17 Detector:COND
Analyst : Column:

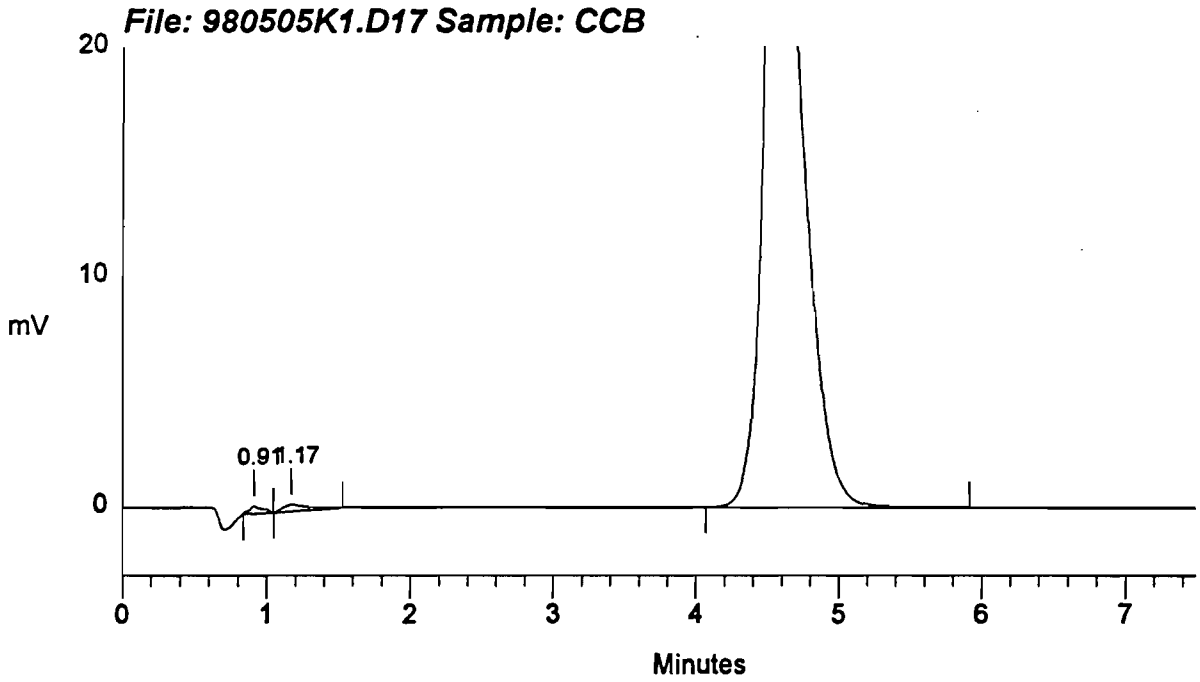
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	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
Acq Address: 2  System: 1  Inject#: 18              Detector:COND
Analyst    :               Column:
```

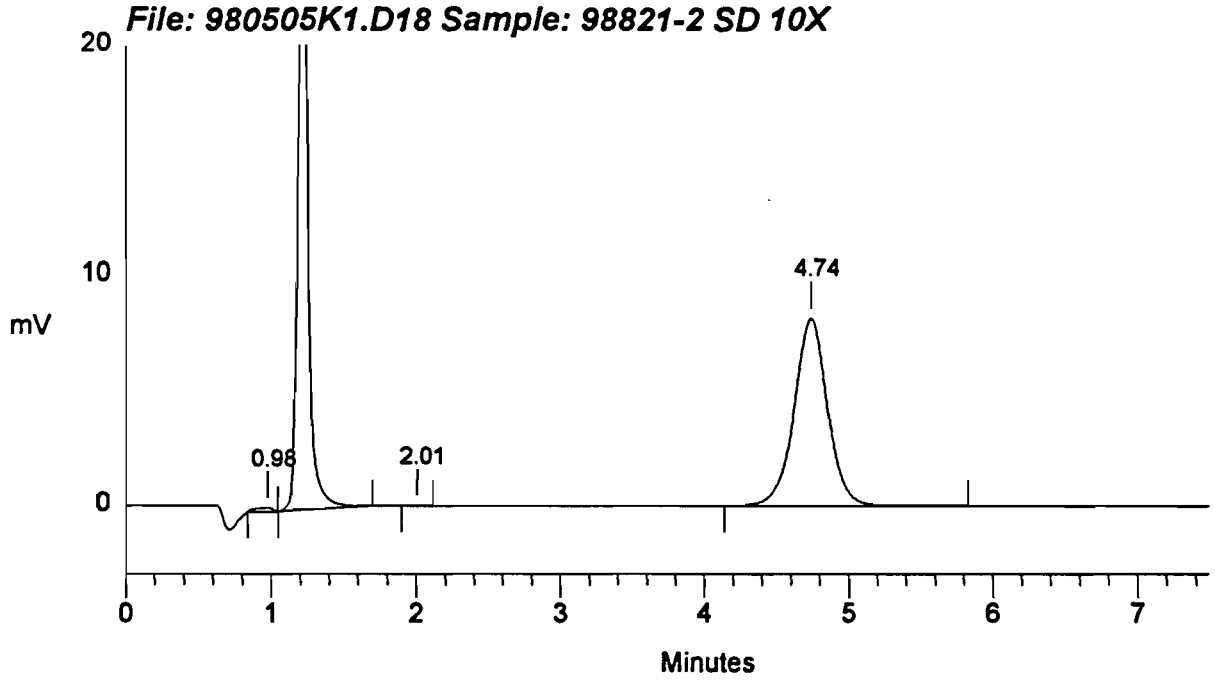
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10	2250	5Hz	0.00	7.50	1000

********** 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:
```

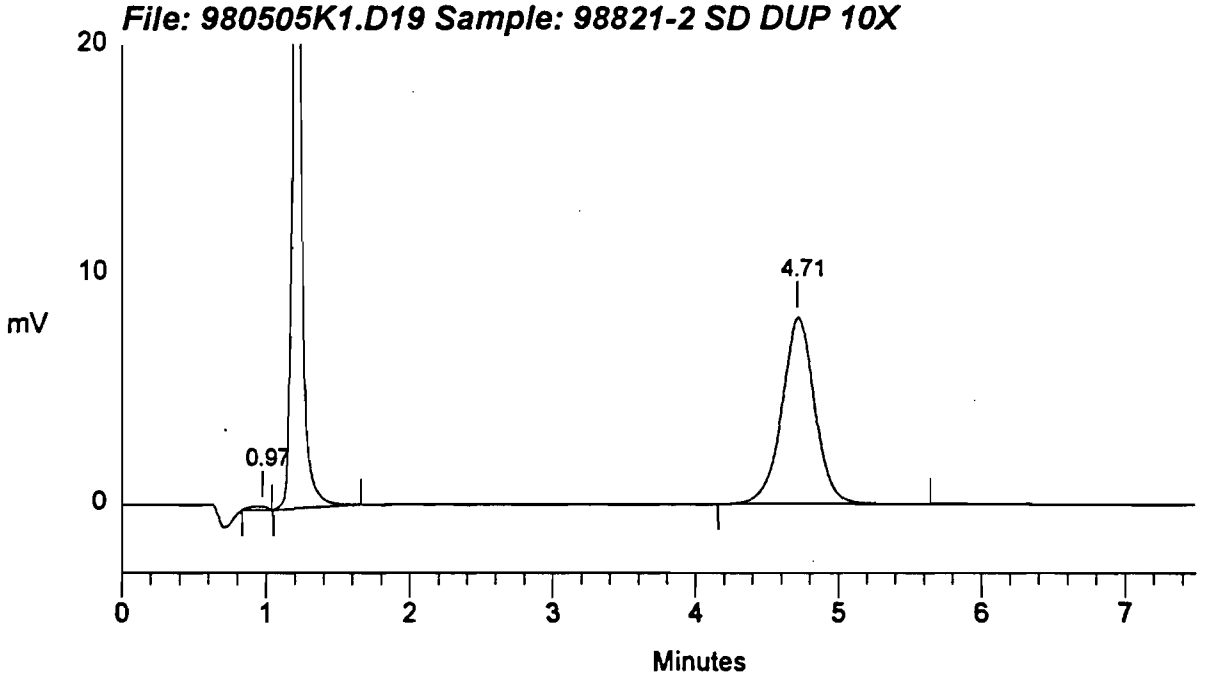
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	10	2250	5Hz	0.00	7.50	1000

********** 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:
```

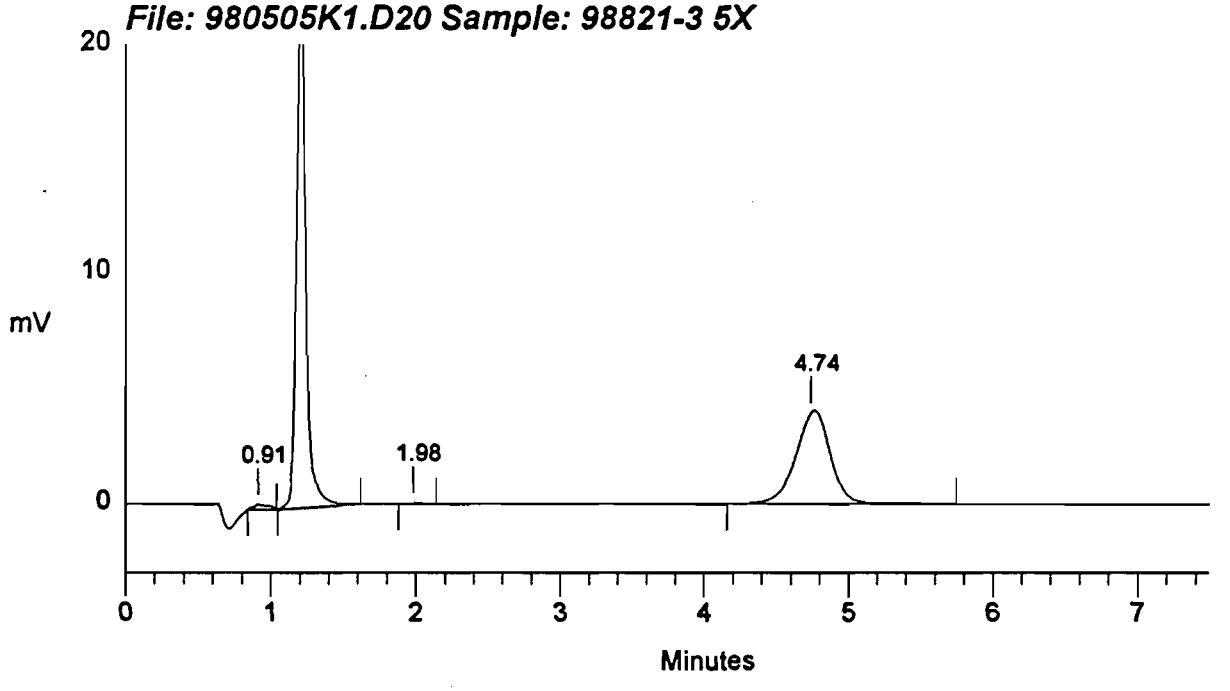
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	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 Date: 05/05/1998 17:48:39
Data File : C:\DX\DATA\980505L1.D31
Method : C:\DX\METHOD\LINH2SO4.met
Acq Address: 2 System: 1 Inject#: 31 Detector:COND
Analyst : Column:

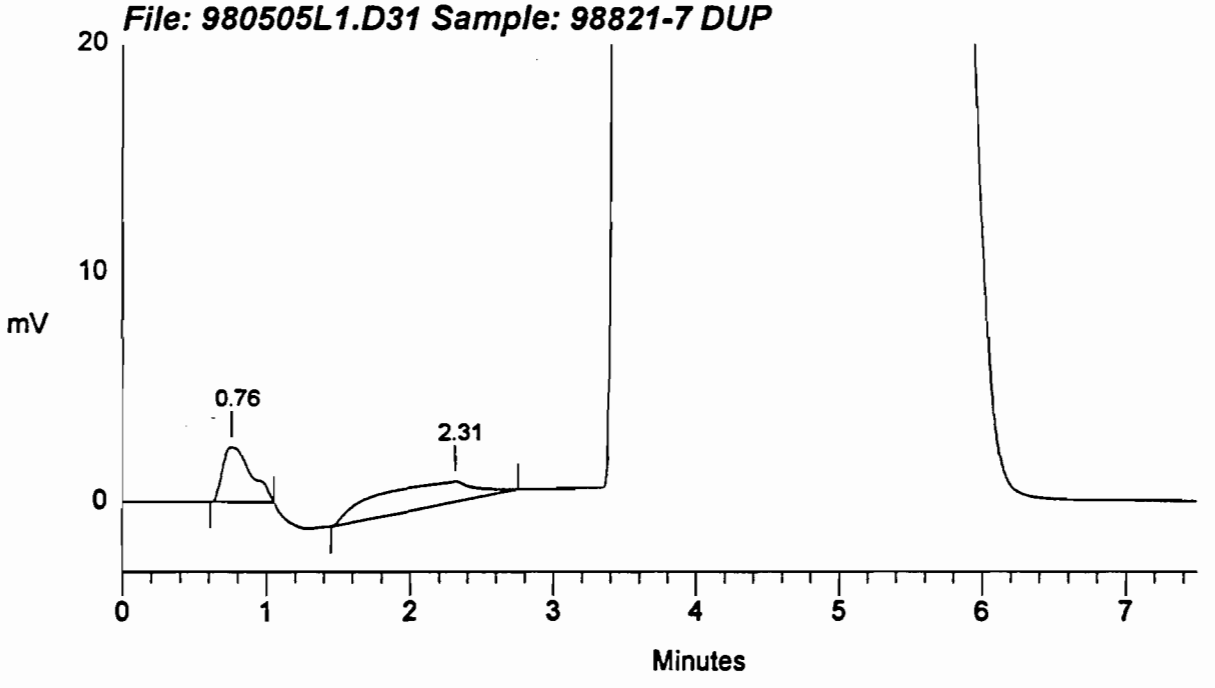
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	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
Acq Address: 2 System: 1 Inject#: 21 Detector:COND
Analyst : Column:

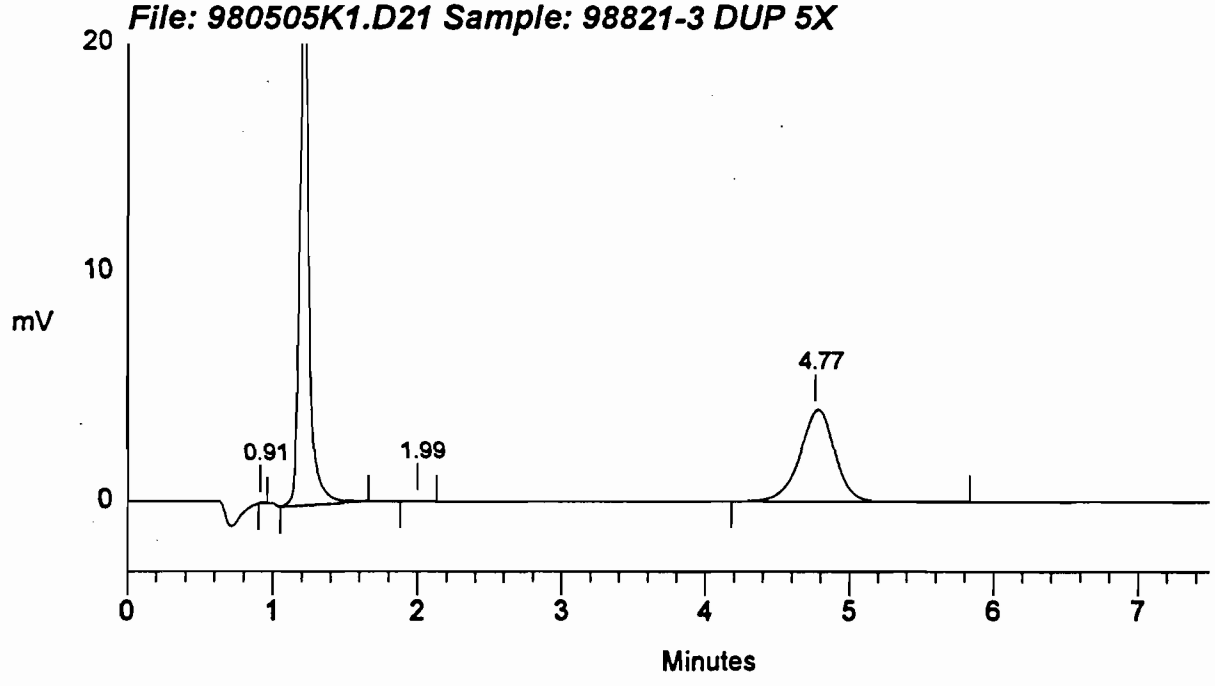
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	5	2250	5Hz	0.00	7.50	1000

********** 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
Self Address: 2 System: 1 Inject#: 22 Detector:COND
Analyst : Column:

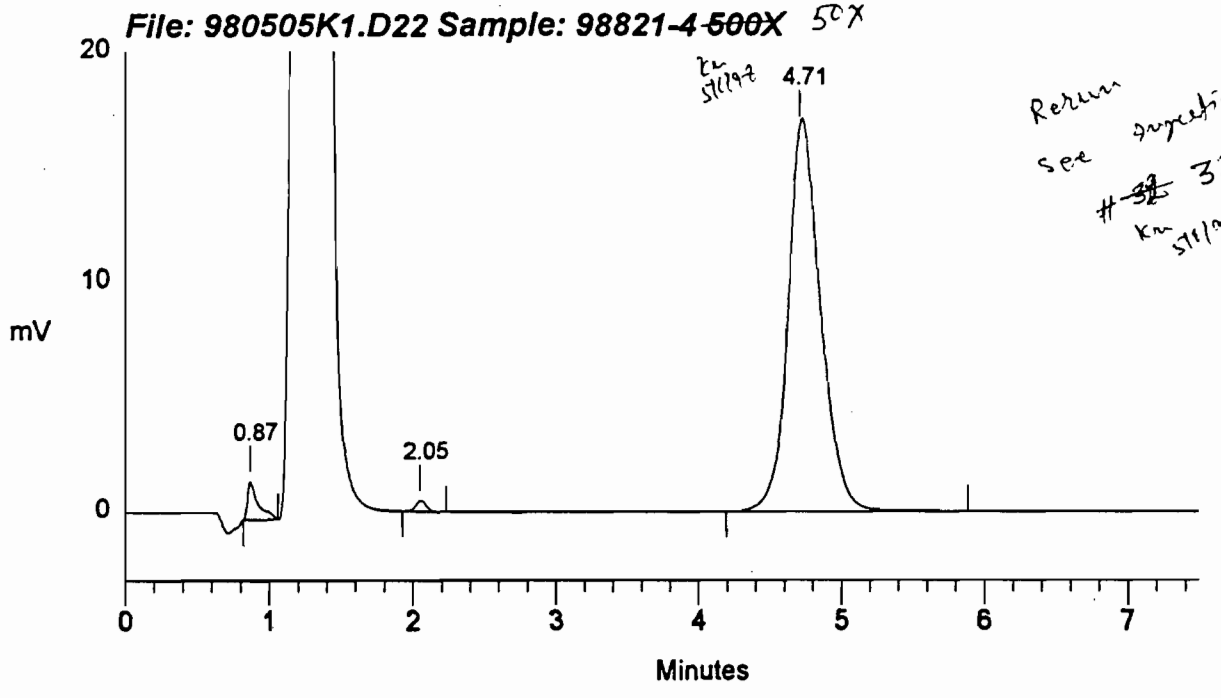
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	500	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
CHLORIDE	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		



Return see injection #32 KM 5/11/98

BEST AVAILABLE COPY

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~~ 50	2250	5Hz	0.00	7.50	1000

*********************** Components Not Found In This Run ********************

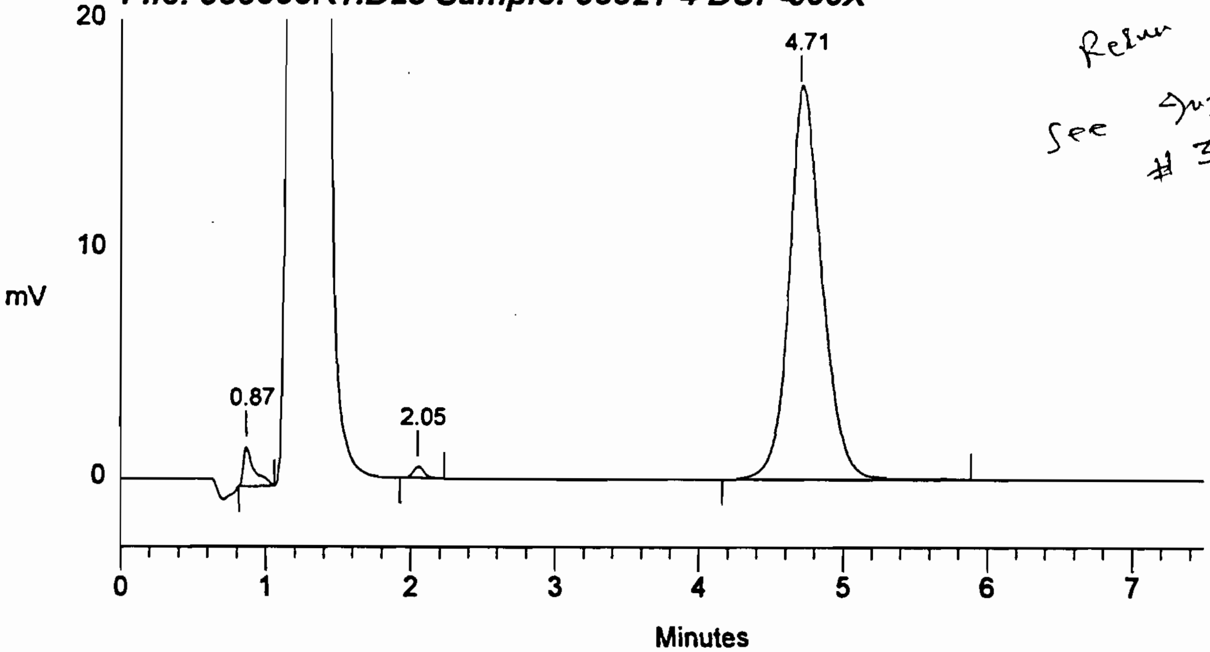
Name	Adjusted Ret Time	Reference Peak
CHLORIDE	1.23	2

*************************** Peak Report: All Peaks ******************************

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.87	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		

low height? 50

File: 980505K1.D23 Sample: 98821-4 DUP ~~500X~~



Rerun
See Injection #33

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
Self Address: 2 System: 1 Inject#: 24 Detector:COND
Analyst : Column:

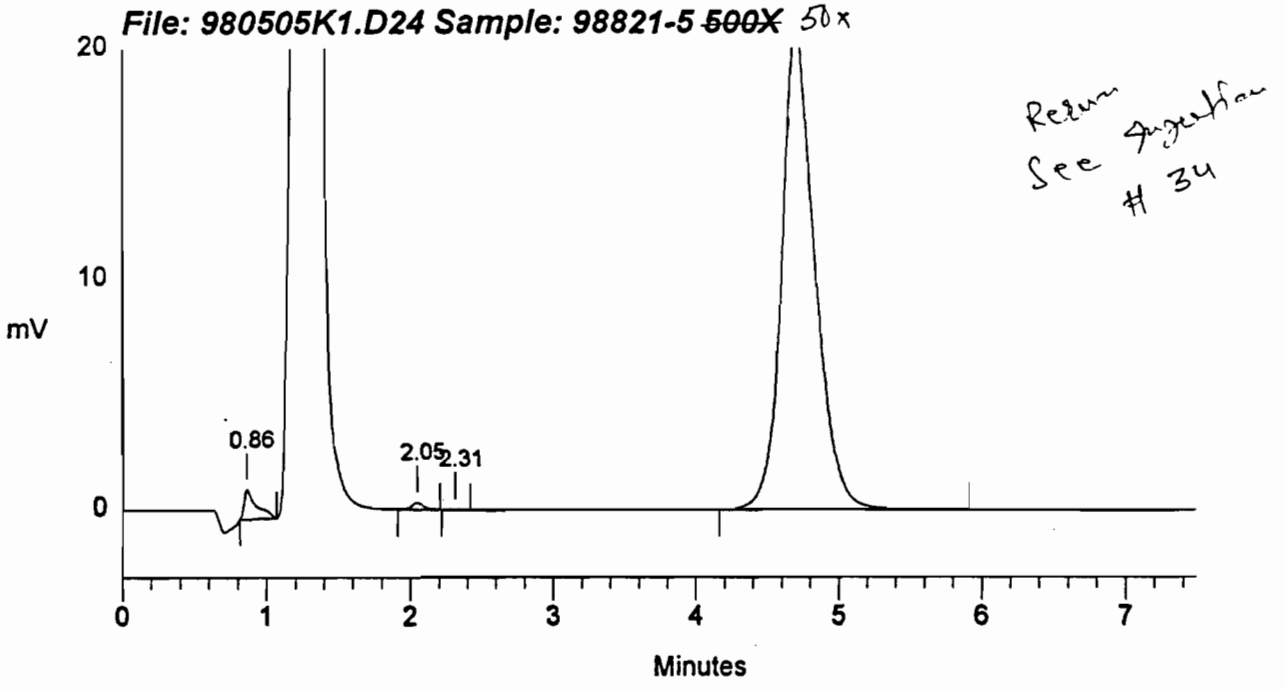
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	500	2250	5Hz	0.00	7.50	1000

********** 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 Injection # 34

```
Sample Name: 98821-5 DUP 500X                    Date: 05/05/1998 16:06:44
Data File  : C:\DX\DATA\980505K1.D25
  hod      : C:\DX\METHOD\LINH2SO4.met
  Address: 2  System: 1  Inject#: 25                      Detector:COND
Analyst    :                Column:
```

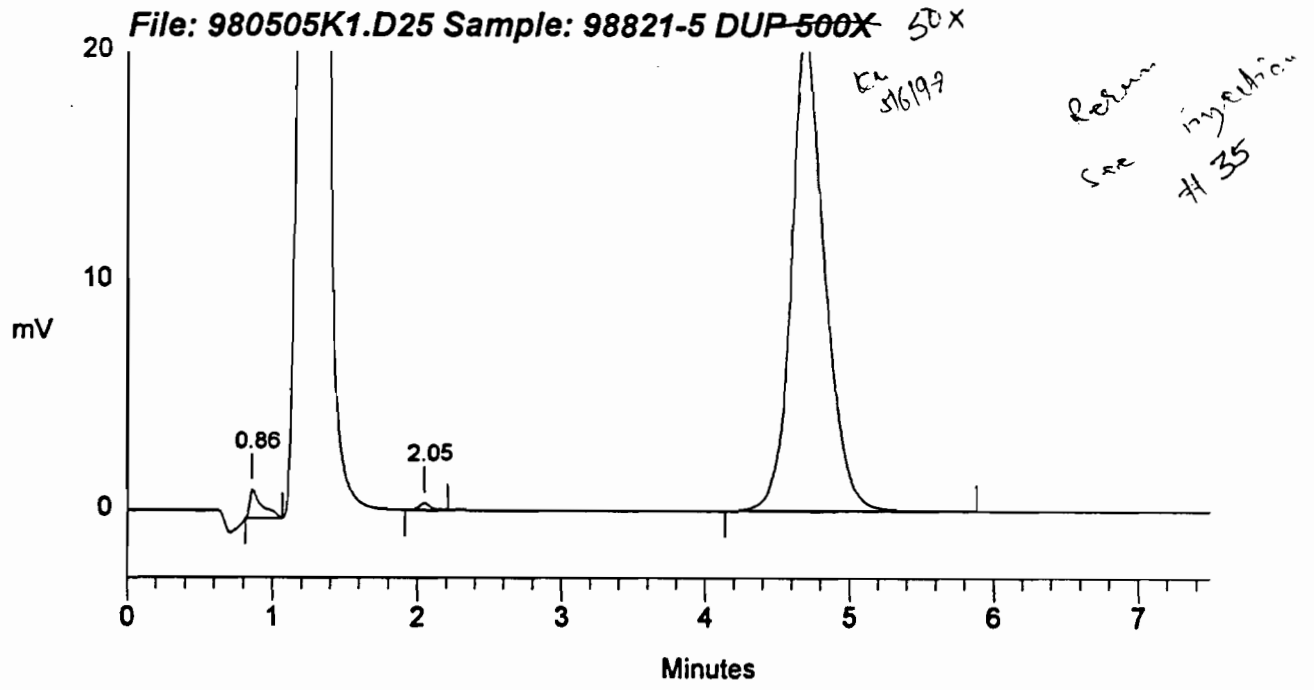
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	500	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
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	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
Auto Address: 2 System: 1 Inject#: 26 Detector:COND
Analyst : Column:

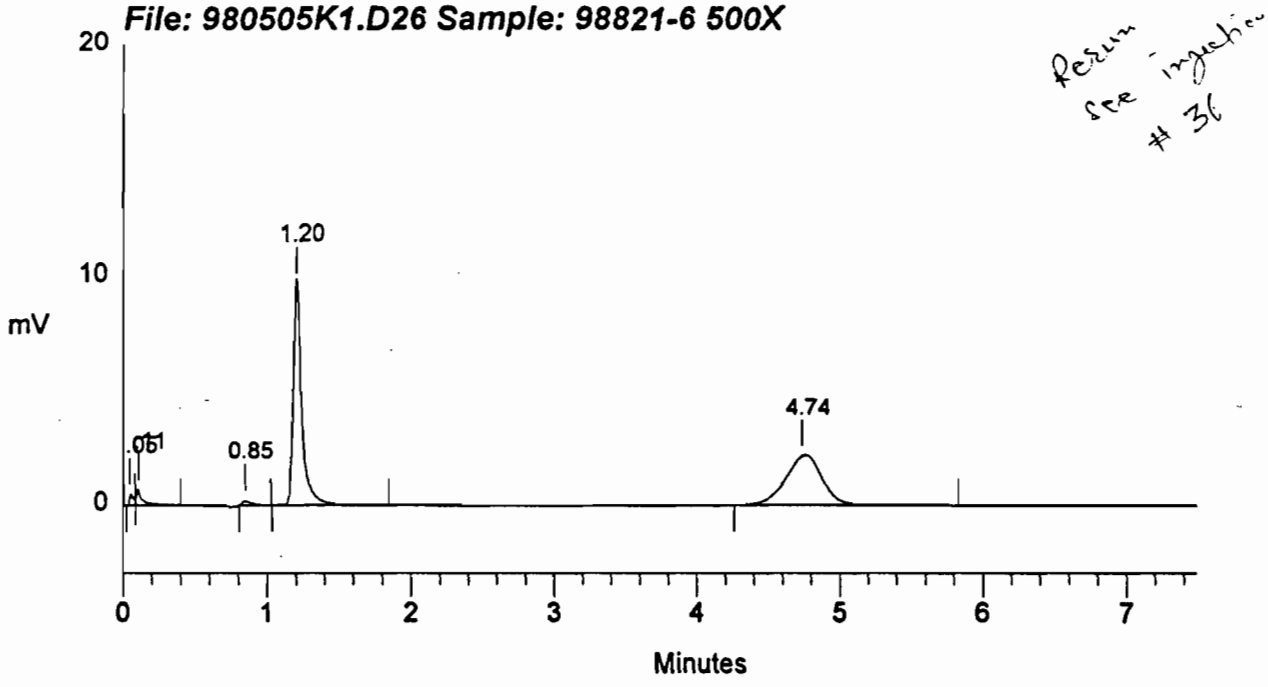
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	500	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
BROMIDE	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 for 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
Rack Address: 2 System: 1 Inject#: 27 Detector:COND
Analyst : Column:

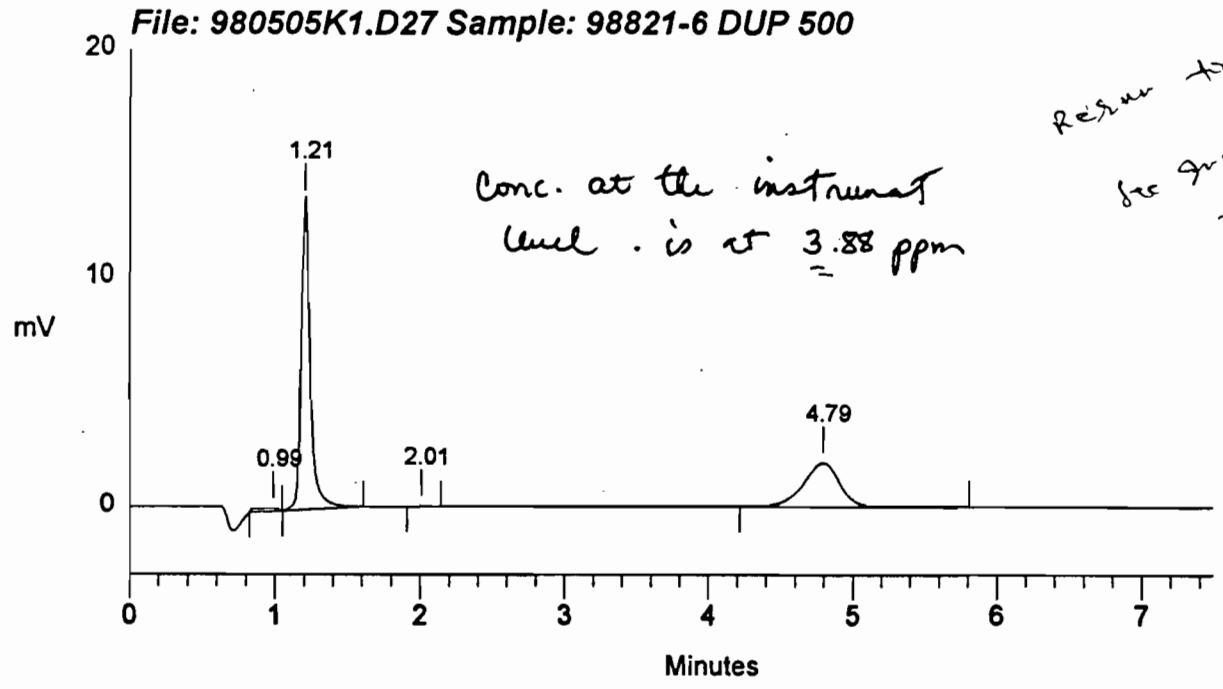
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	500	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	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		



Conc. at the instrument level . is at 3.88 ppm

Return to confirmed for injection #37

BEST AVAILABLE COPY

Sample Name: CCV		Date: 05/05/1998 16:39:19	
Data File : C:\DX\DATA\980505K1.D28			
hod : C:\DX\METHOD\LINH2SO4.met			
Address: 2	System: 1 Inject#: 28		Detector:COND
Analyst :	Column:		

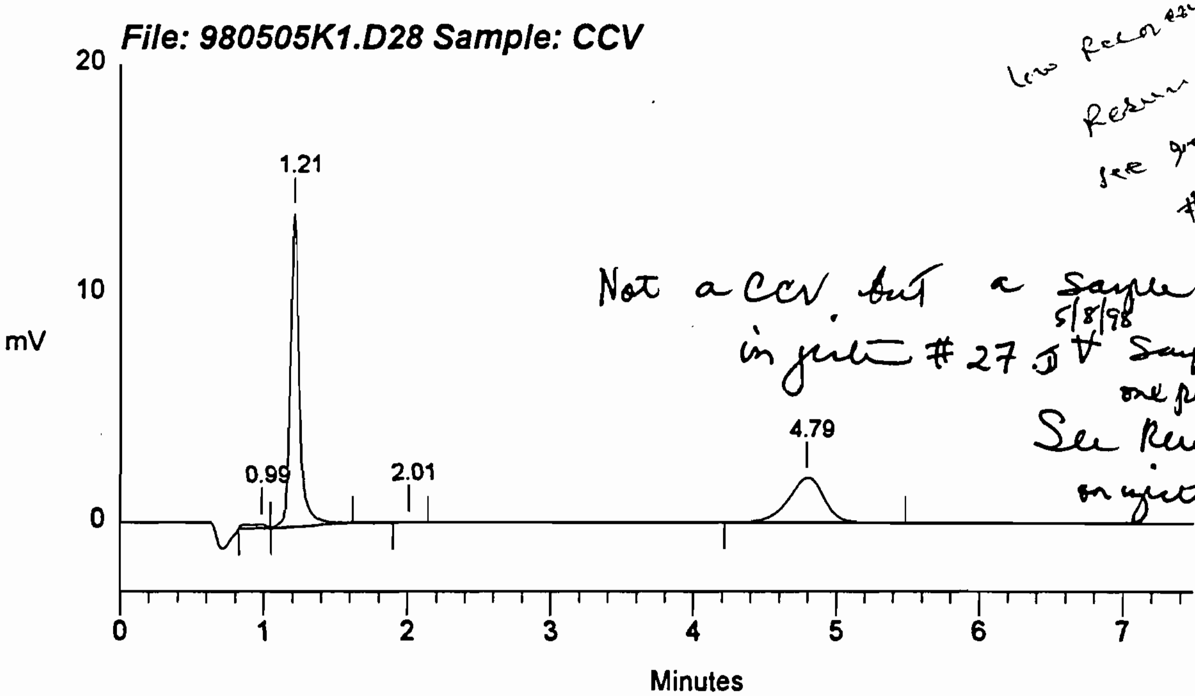
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

************************* 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	0.99		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 recovery
Rerun
see injection
#29

Not a CCV, but a Sample Dup of injection #27. JV 5/8/98 (Sample vial mix, one position off. See Rerun on injection 37)

K 5/1/98

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:

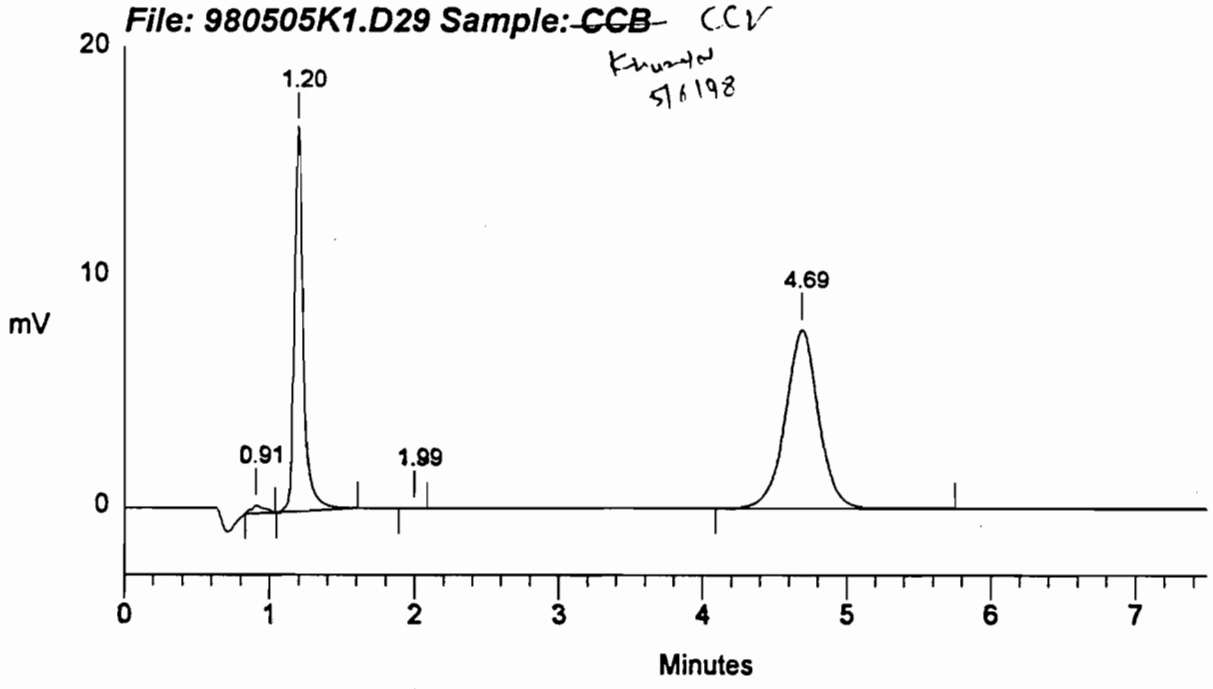
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	TV 5.0 ppm 4.718 ~94%	554371	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                                  Date: 05/05/1998 17:00:14
Data File  : C:\DX\DATA\980505L1.D29
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2  System: 1  Inject#: 29                    Detector:COND
Analyst    :                Column:
```

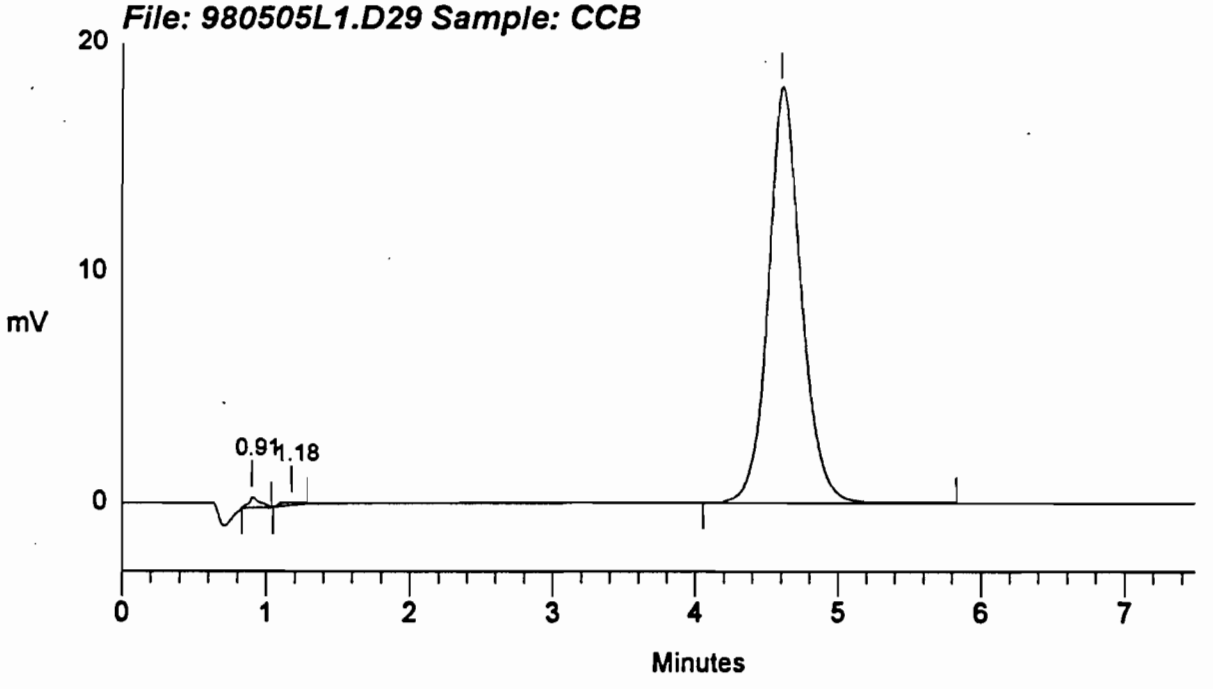
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
FLUORIDE	0.85	1
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		



BEST AVAILABLE COPY

```
==========================================================================
 Sample Name: 98821-7                          Date: 05/05/1998 17:10:22
 Data File  : C:\DX\DATA\980505K1.D30
   hod      : C:\DX\METHOD\LINH2SO4.met
   Address: 2  System: 1  Inject#: 30                   Detector:COND
 Analyst    :                 Column:
==========================================================================
```

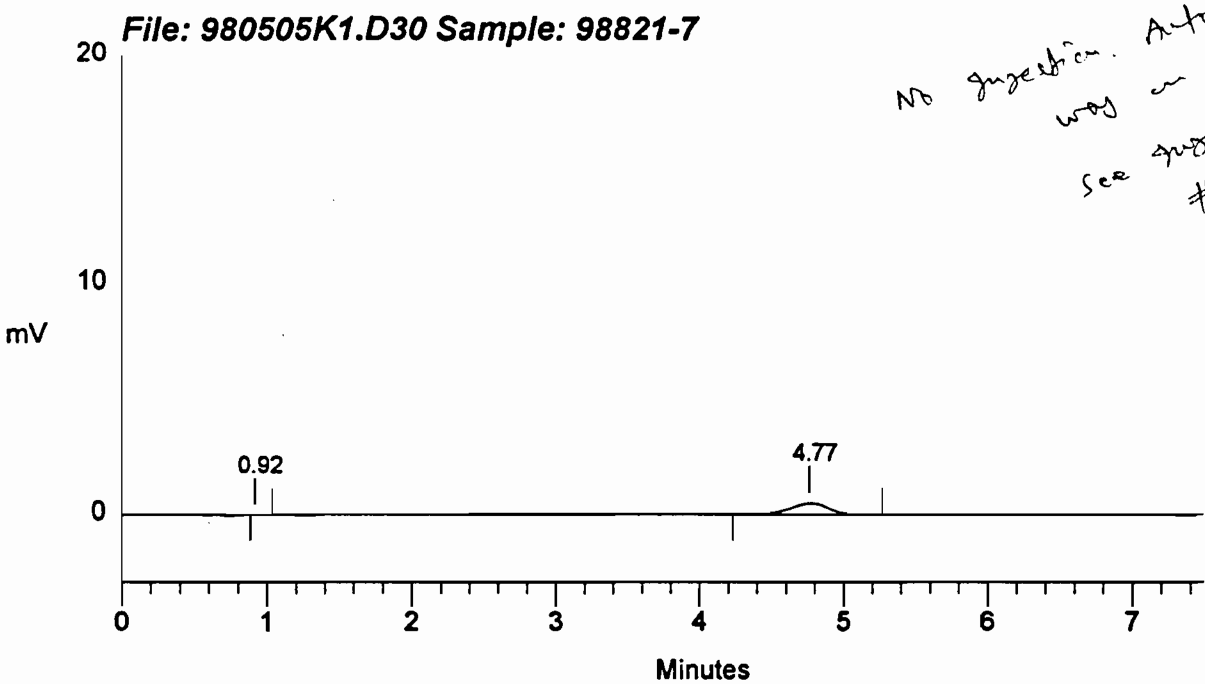
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2250	5Hz	0.00	7.50	1000

******************** Components Not Found In This Run ********************

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	1
HLORIDE	1.23	2
ROMIDE	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 Sampler was on hold. See injection #30 @ 17:38

[signature] 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:
```

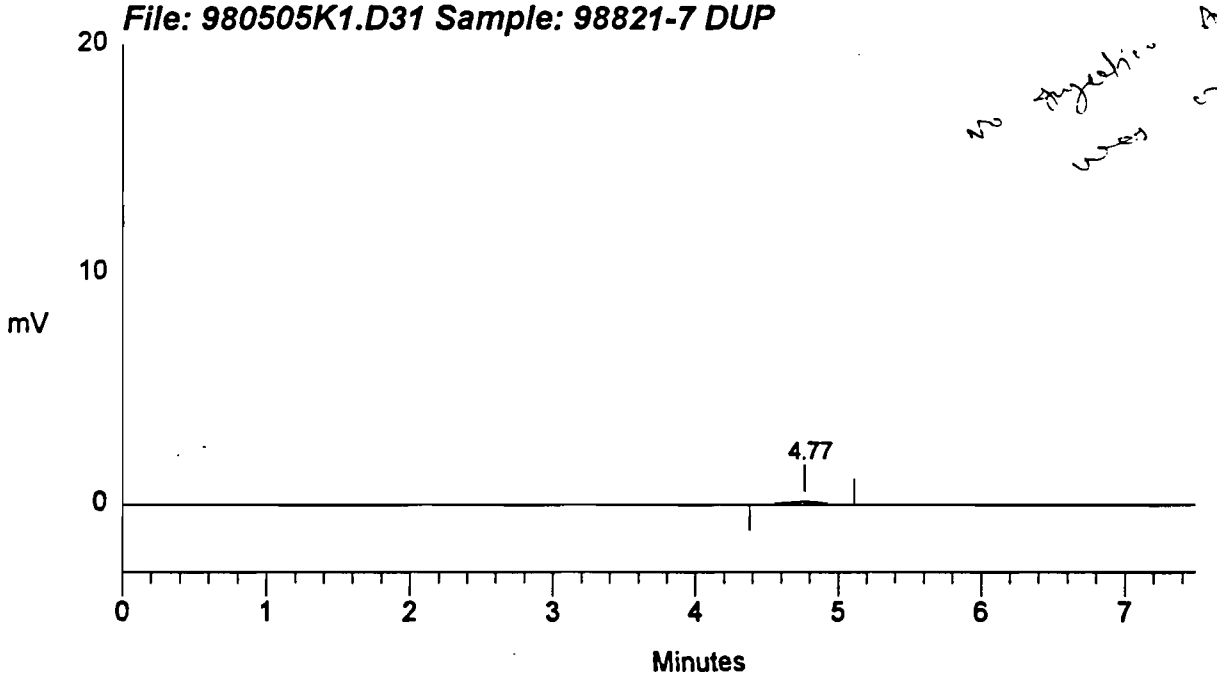
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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		



BEST AVAILABLE COPY

```
Sample Name: 98821-7                          Date: 05/05/1998 17:38:30
D--a File   : C:\DX\DATA\980505L1.D30
 .nod       : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2   System: 1   Inject#: 30                 Detector:COND
Analyst     :                Column:
```

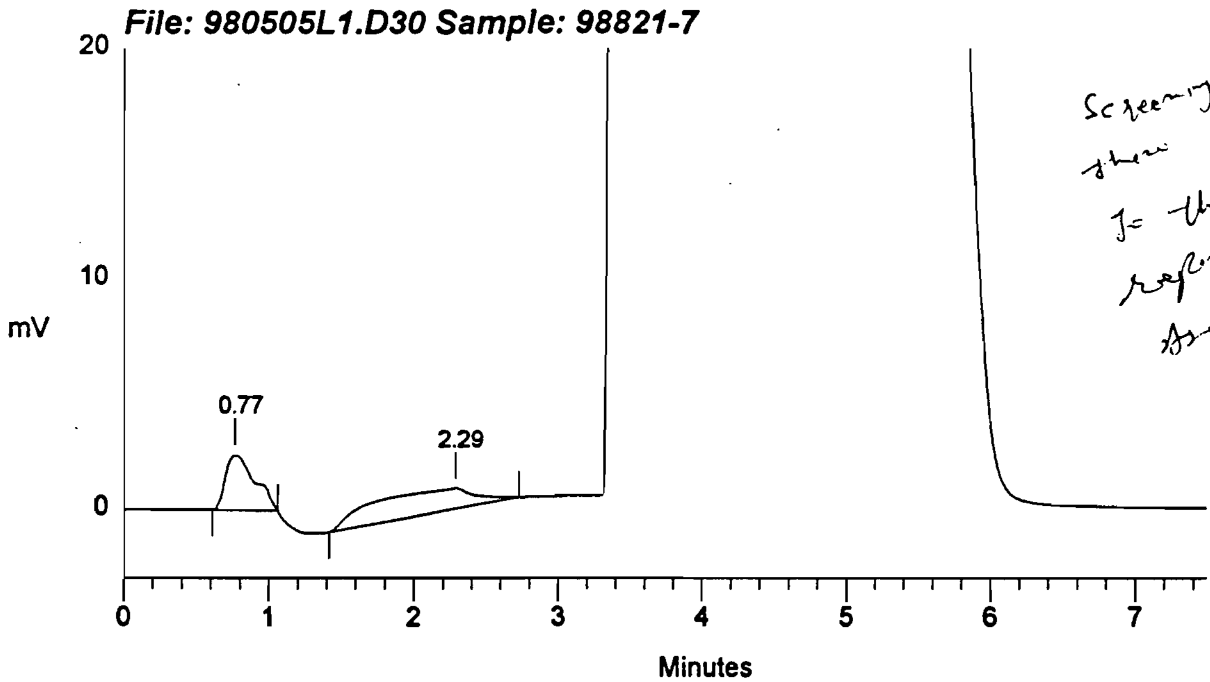
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2250	5Hz	0.00	7.50	1000

************************* Components Not Found In This Run ***********************

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	1
HLORIDE	1.23	2
ROMIDE	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		



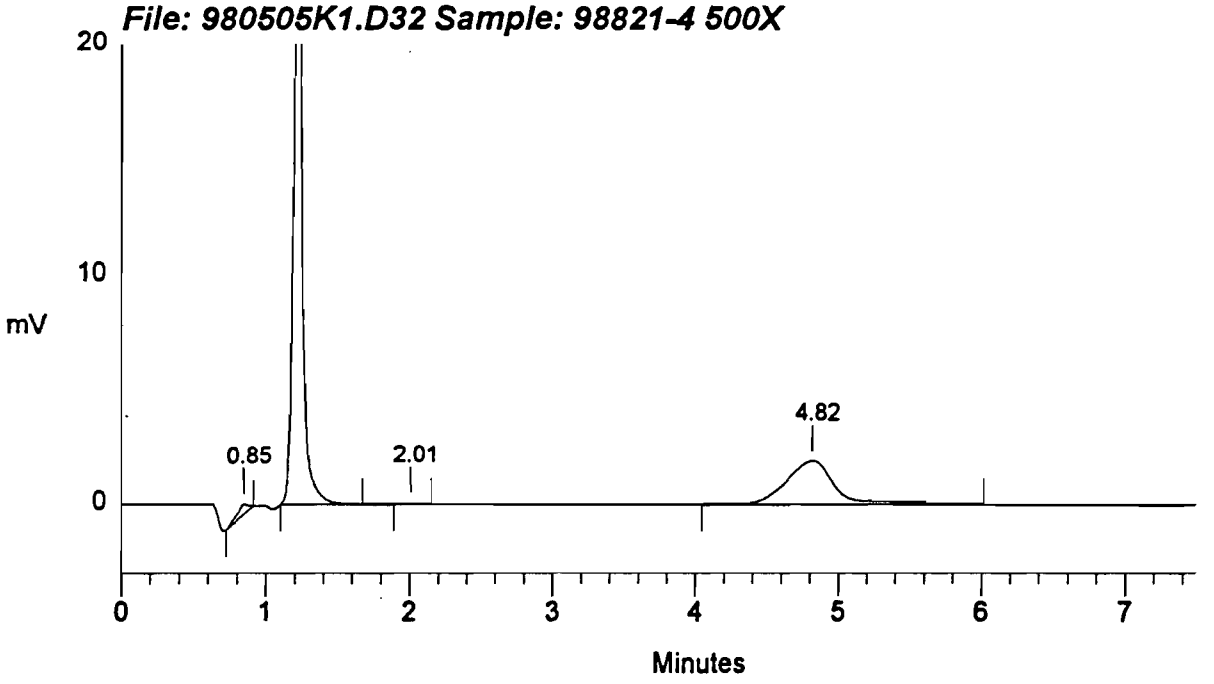
Screening @ 5x show ND results So this can be reported as ND Aspen J Jones

Sample Name: 98821-4 500X Date: 05/05/1998 17:58:48
Data File : C:\DX\DATA\980505K1.D32
Method : C:\DX\METHOD\LINH2SO4.met
Acq 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		

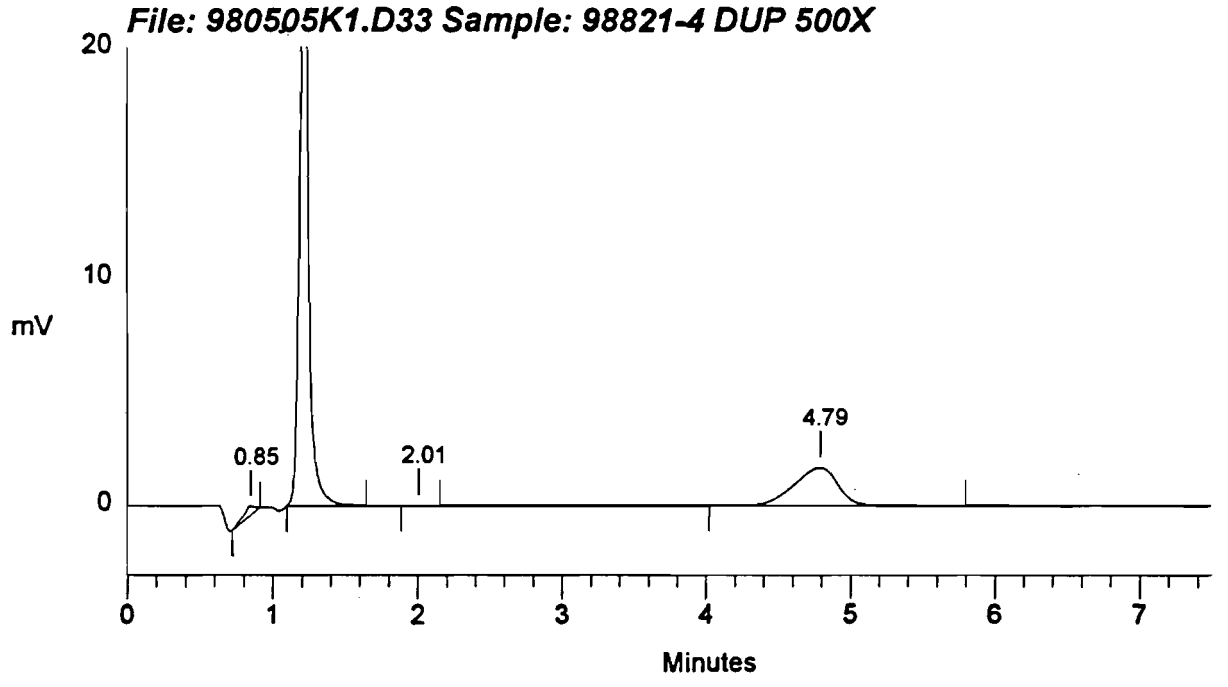


```
Sample Name: 98821-4 DUP 500X                    Date: 05/05/1998 18:08:57
Data File  : C:\DX\DATA\980505K1.D33
Method     : C:\DX\METHOD\LINH2SO4.met
Acf Address: 2  System: 1  Inject#: 33                    Detector:COND
Analyst    :                Column:
```

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		

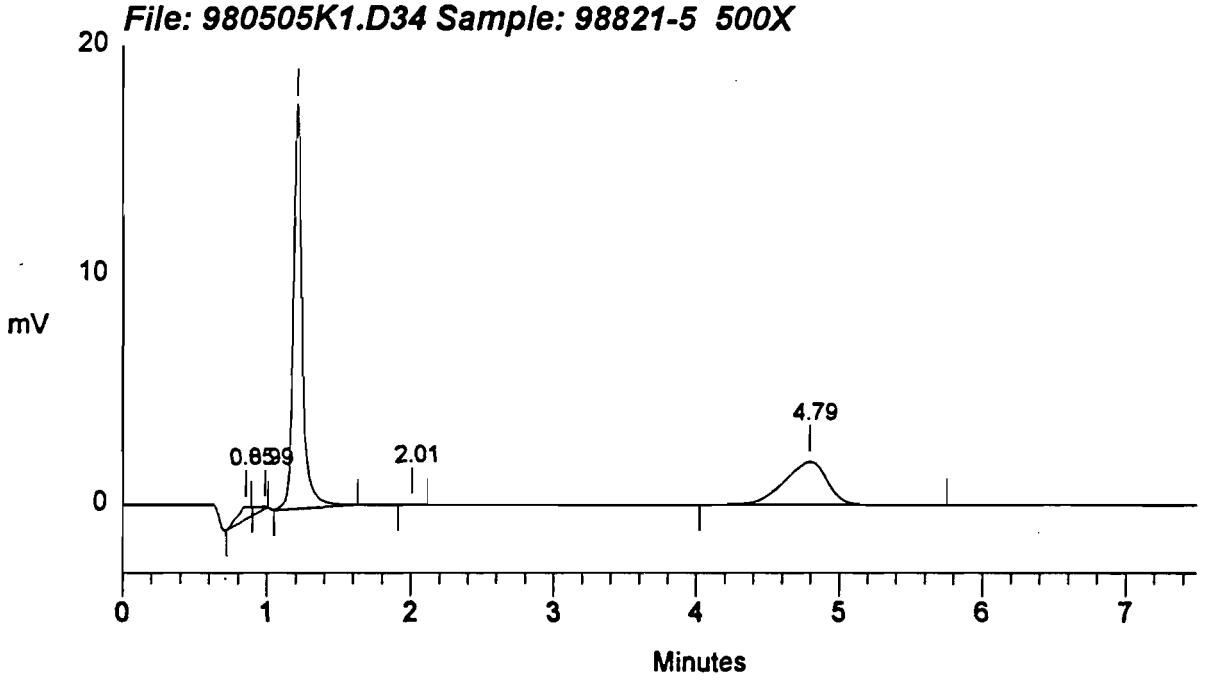


Sample Name: 98821-5 500X Date: 05/05/1998 18:19:05
Data File : C:\DX\DATA\980505K1.D34
Method : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 34 Detector:COND
Analyst : Column:

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	%Delta
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		

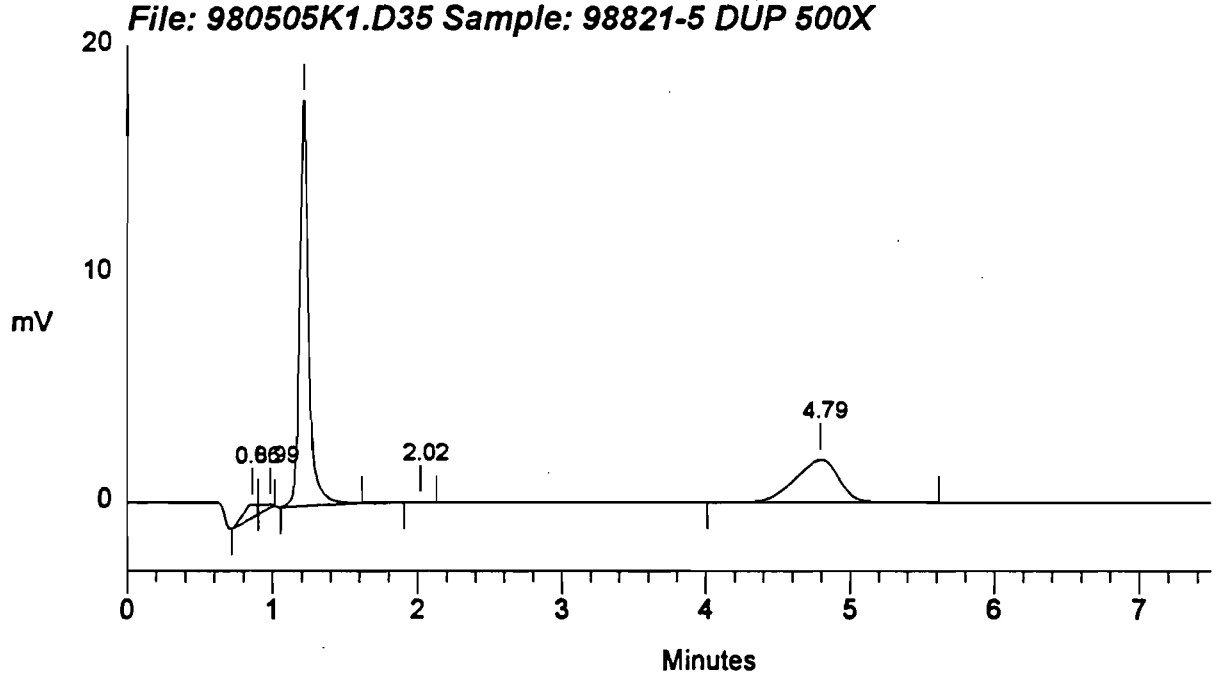


Sample Name: 98821-5 DUP 500X Date: 05/05/1998 18:29:14
Data File : C:\DX\DATA\980505K1.D35
Method : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2 System: 1 Inject#: 35 Detector:COND
Analyst : Column:

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 5/6/98	2250	5Hz	0.00	7.50	1000

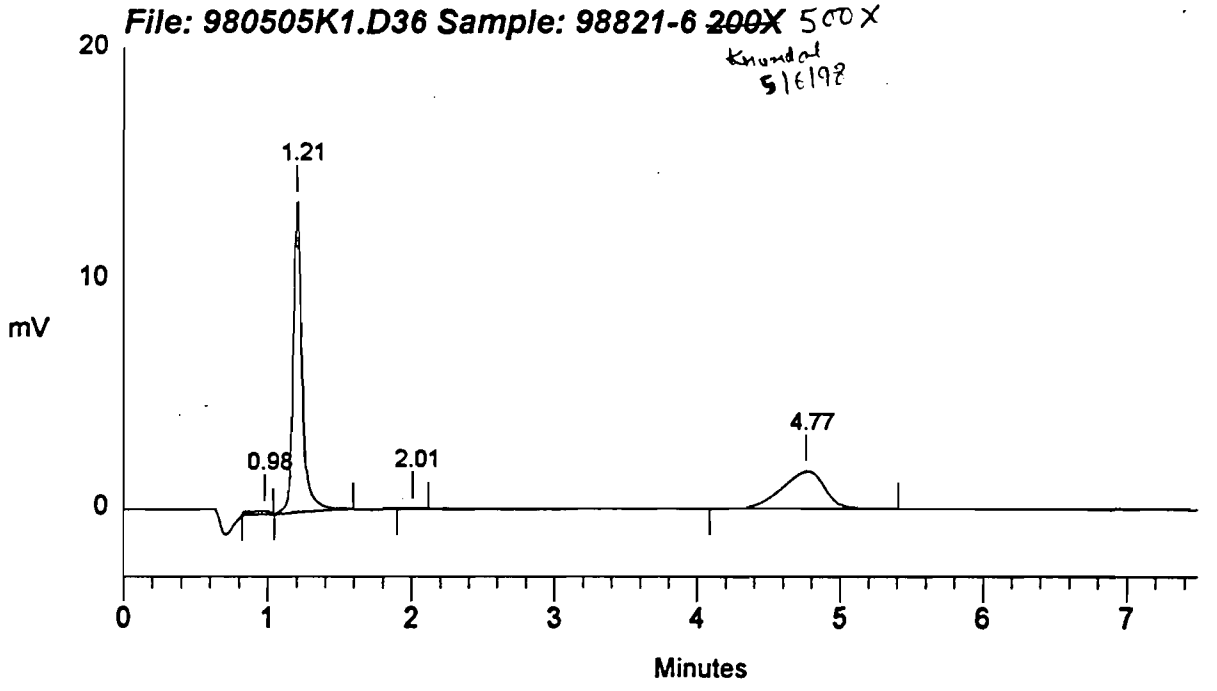
********** Components Not Found In This Run **********

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 ~~769.557~~	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		

JJS 5/8/98 Knundal 5/6/98



Sample Name: 98821 6 DUP 200X Date: 05/05/1998 18:49:31
Data 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

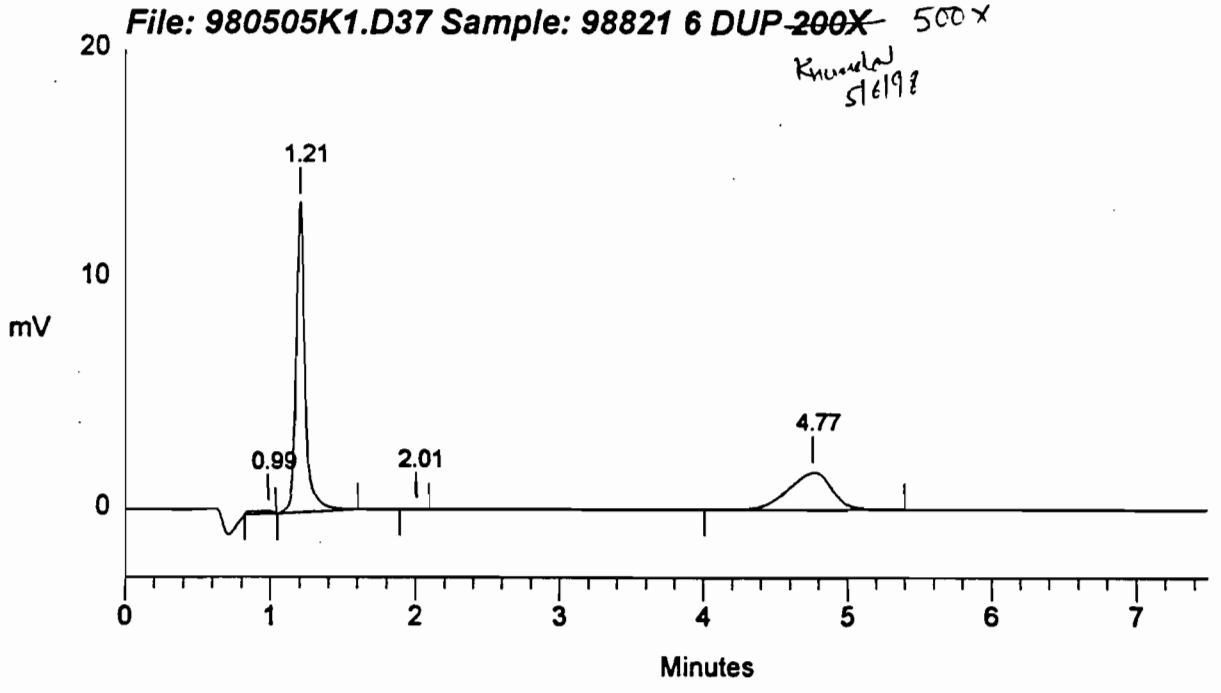
********** Components Not Found In This Run **********

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 ~~768.950~~	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		

5/8/98 Knowles 5/6/98



Sample Name: CCV Date: 05/05/1998 18:59:40
Data File : C:\DX\DATA\980505K1.D38
Method : C:\DX\METHOD\LINH2SO4.met
Acq Address: 2 System: 1 Inject#: 38 Detector:COND
Analyst : Column:

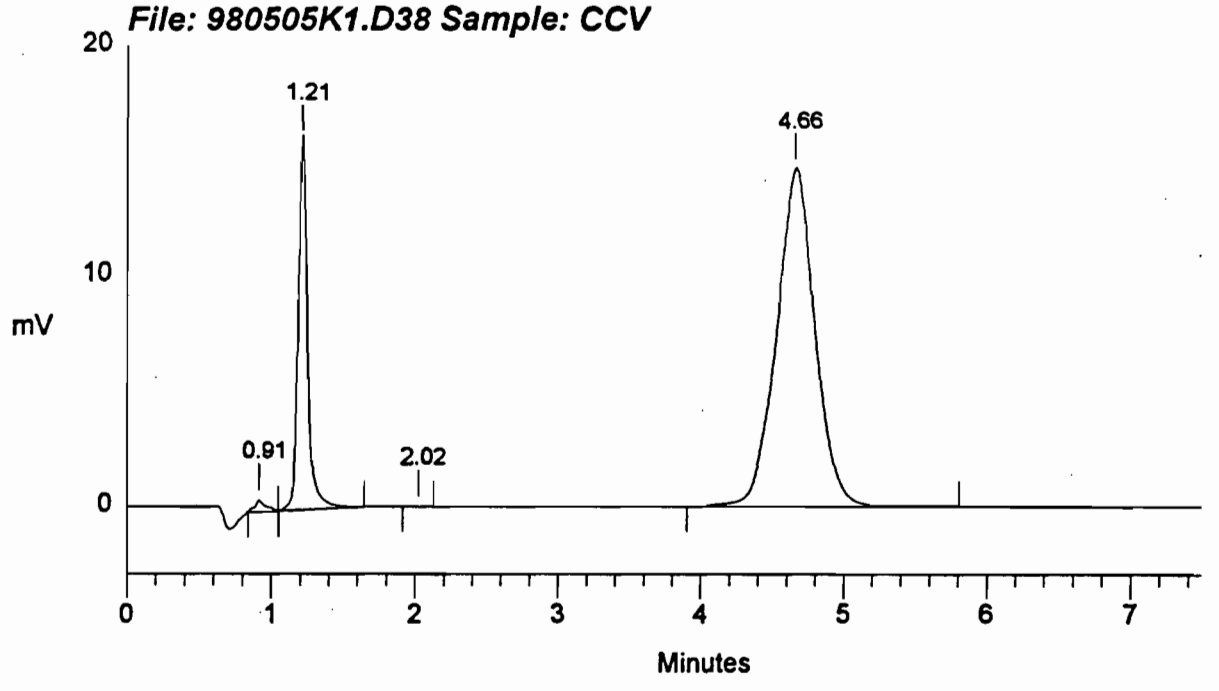
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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:
```

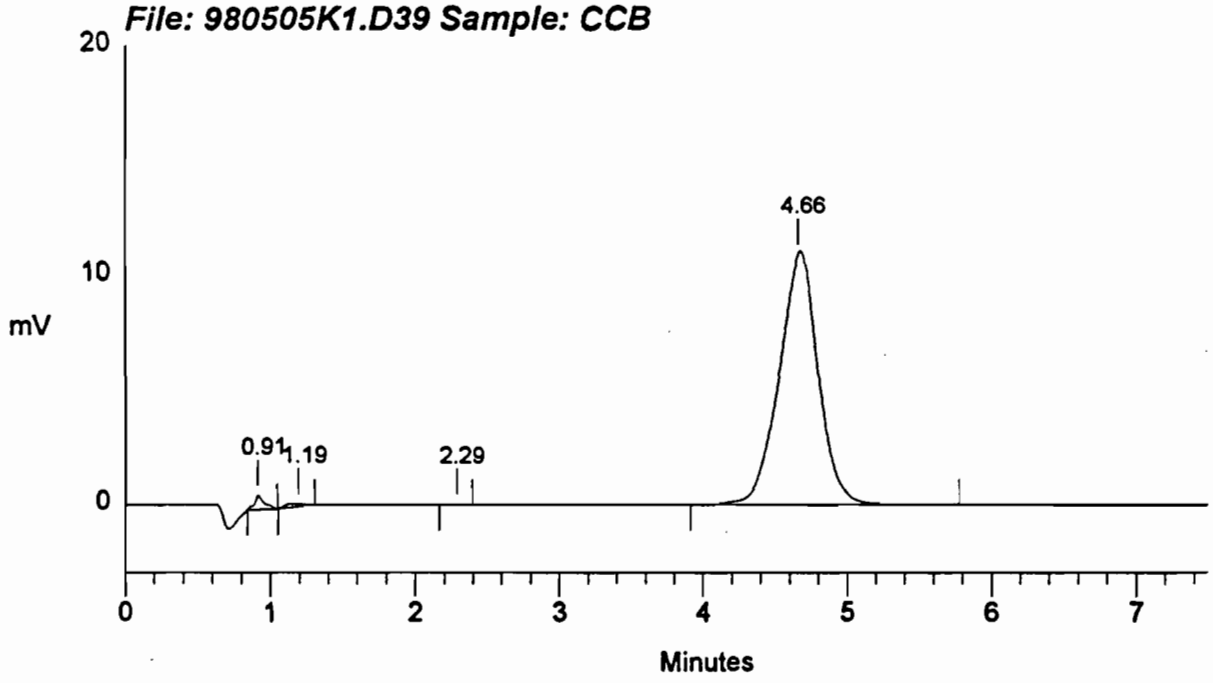
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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
Data File  : C:\DX\DATA\980505K1.D40
Method     : C:\DX\METHOD\LINH2SO4.met
ACI Address: 2  System: 1  Inject#: 40                    Detector:COND
Analyst    :                Column:
```

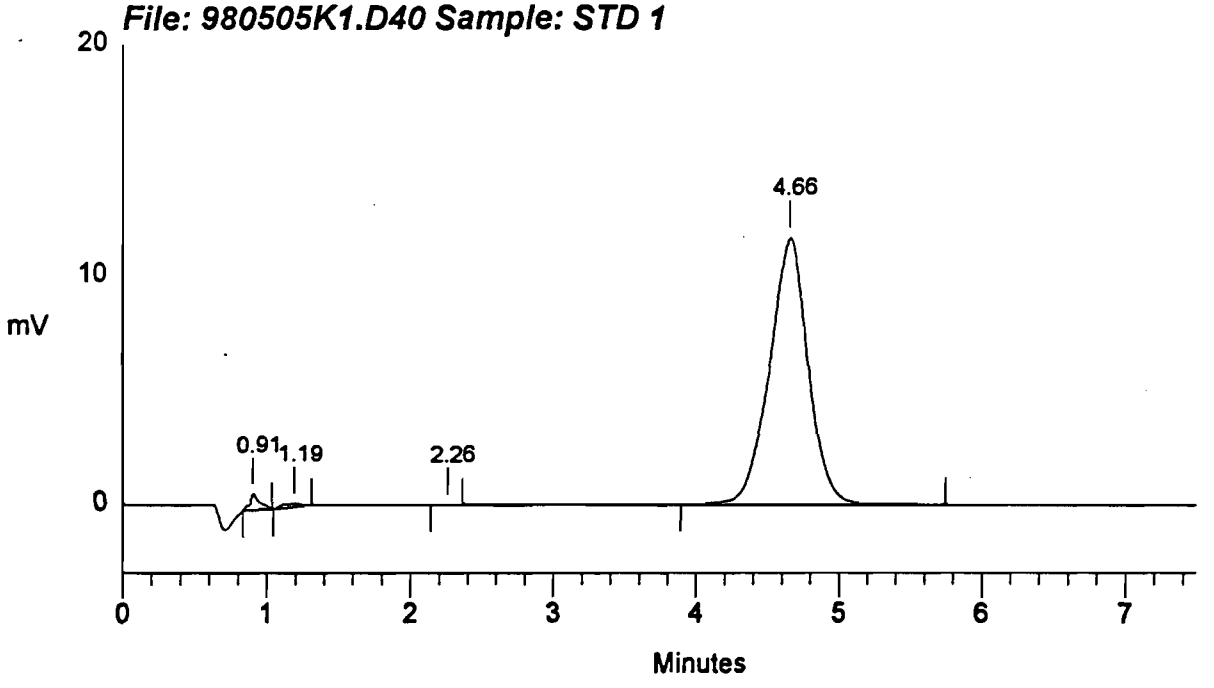
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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	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
DACI Address: 2  System: 1  Inject#: 41                    Detector:COND
Analyst    :                Column:
```

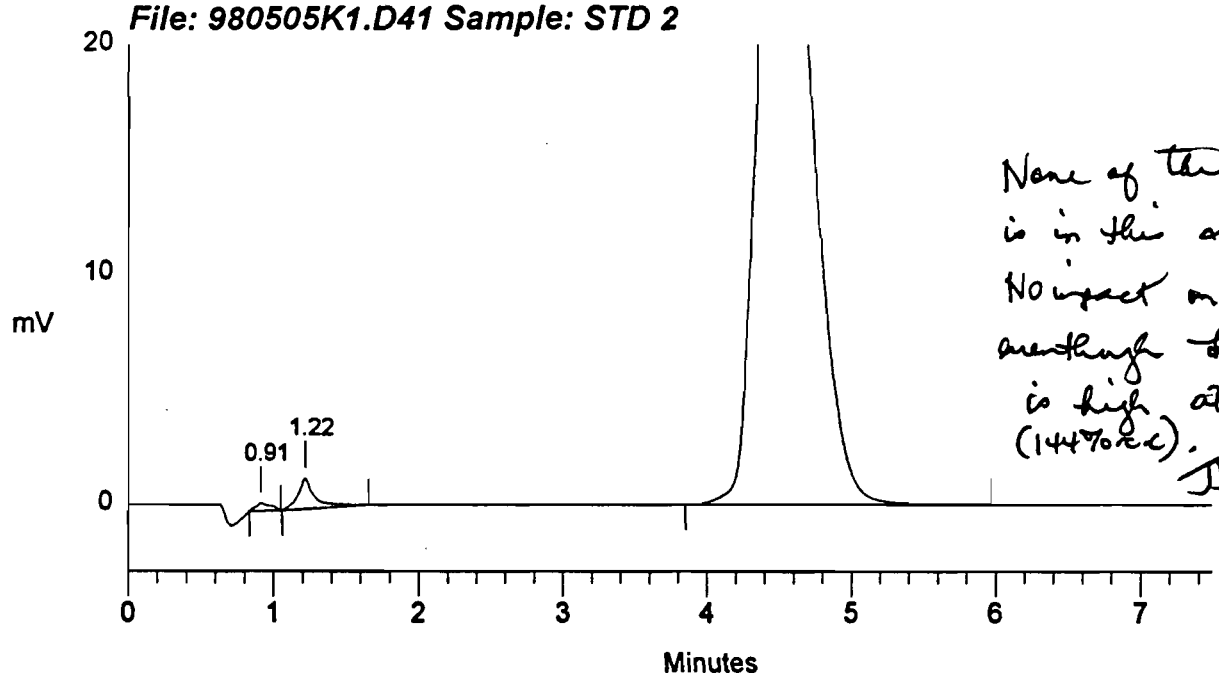
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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		



None of the sample is in this area range. No impact on data even though the % rec. is high at 0.5 pt (144% rec). JJ 5/8/98

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

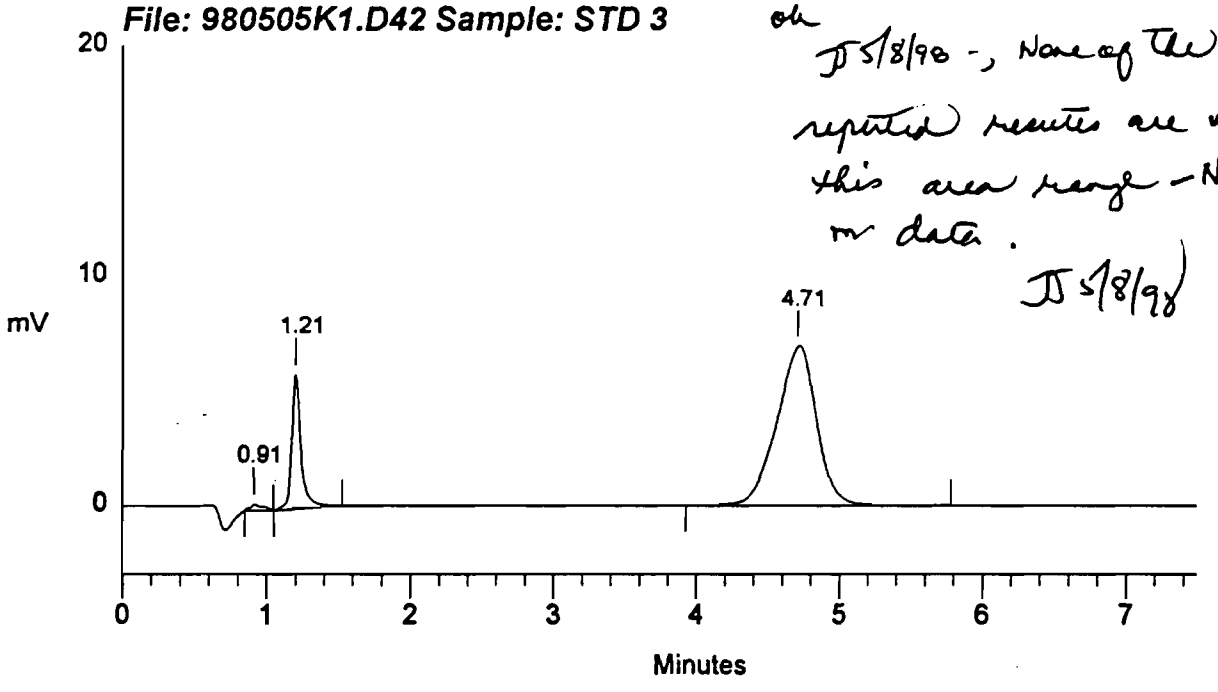
********** Components Not Found In This Run **********

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		

85% rec.



ok JS/8/98 -, None of the reported results are within this area range - NO impact on data. JS/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:
```

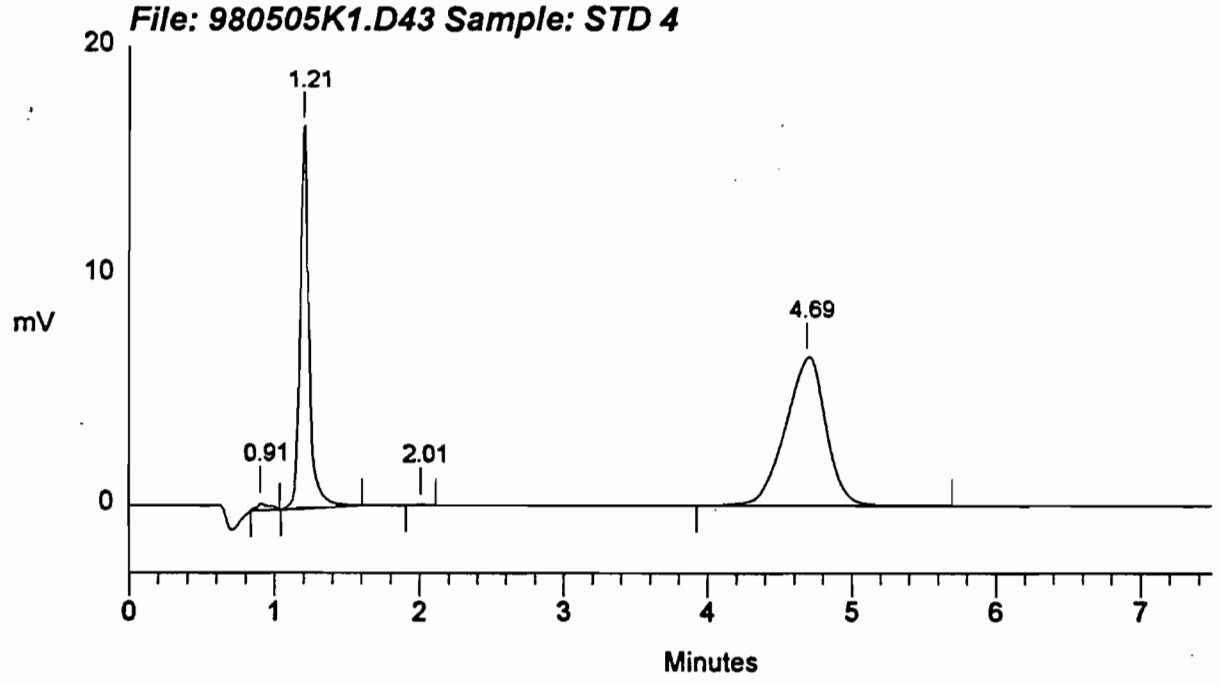
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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
Acq Address: 2 System: 1 Inject#: 44 Detector:COND
Analyst : Column:

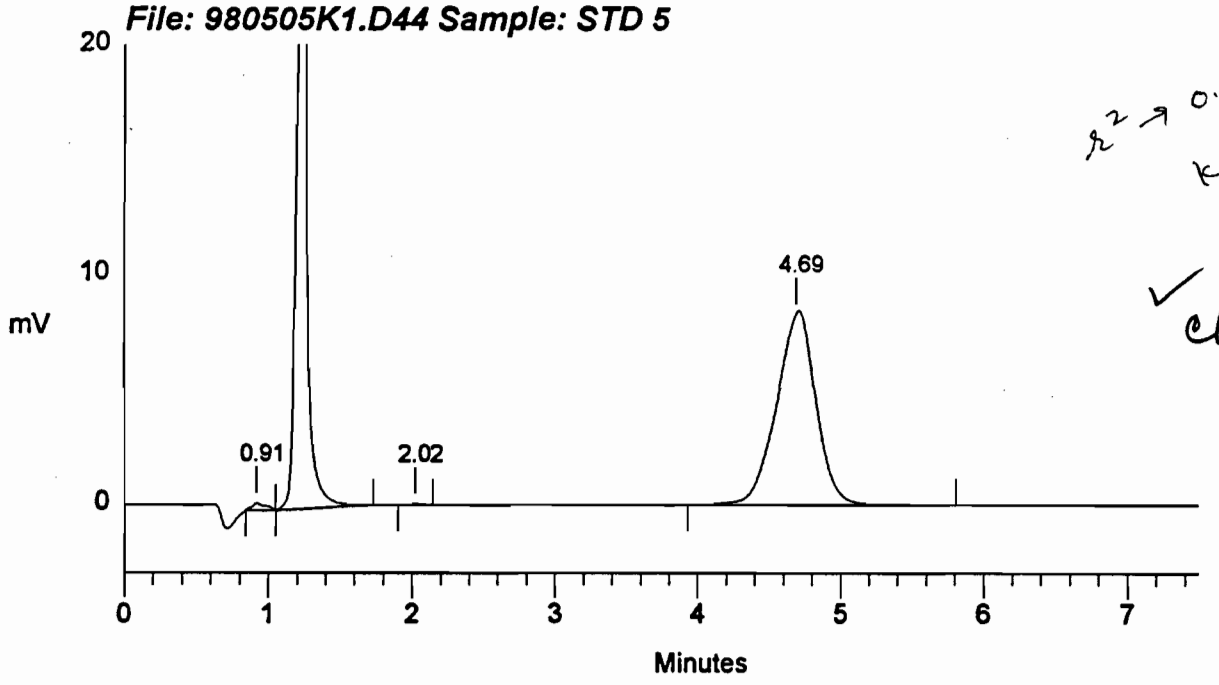
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2250	5Hz	0.00	7.50	1000

********** 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		



$r^2 \rightarrow 0.9983$
Known
5/6/98

✓ Checked
JS 5/8/98

Sample Preparation
(Includes Sample Screening and Volume Measurements)

QUANTERRA INCORPORATED
West Sacramento

n Chromatography Run
g

Book Number: 798
Page Number: 096
IC System #: ~~DX100~~

J	DATE	CAL PROJECT ID	MATRIX	INITIALS	COMMENTS/MAINTENANCE		
	5/1/98	ICV	BiCal	KA	SAMPLE ID	VOL.	pH
		98624-~~5~~ 5			98821-1	650 ml	<2
		-~~2~~ 6 ~~5/1/98~~			-2	550 ml	<2
		-~~3~~ 7			-3	650 ml	<2
		-4 8			-4	485 ml	<2
		H_2S BLK	H_2O		-5	580 ml	<2
		Water BLANK			-6	680 ml	<2
		98821-1 5X	H_2S		-7	198 ml	<2
		-2 5X			98624-5	295 ml	~7
		-3 5X			-6	320 ml	~8
		-4 5X			-7	315 ml	~8
		-5 5X			-8	196 ml	~1
		-6 5X					
		-7 5X					
		Water BLANK	H_2O				
		Water BLANK					
		98624-5 10X	BiCal				
		-6 10X					
		-7 10X					
		Water BLANK	H_2O				
		98821-4 1000X	H_2S				
		-5 1000X					
		-6 1000X					
		OPP					

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                                  Date: 05/01/1998 11:35:59
Data File  : C:\DX\DATA\980501K1.D01
Method     : C:\DX\METHOD\LINELU.met
Acq Address: 2  System: 1  Inject#: 1                    Detector:COND
Analyst    :                Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2160	5Hz	0.00	7.20	1000

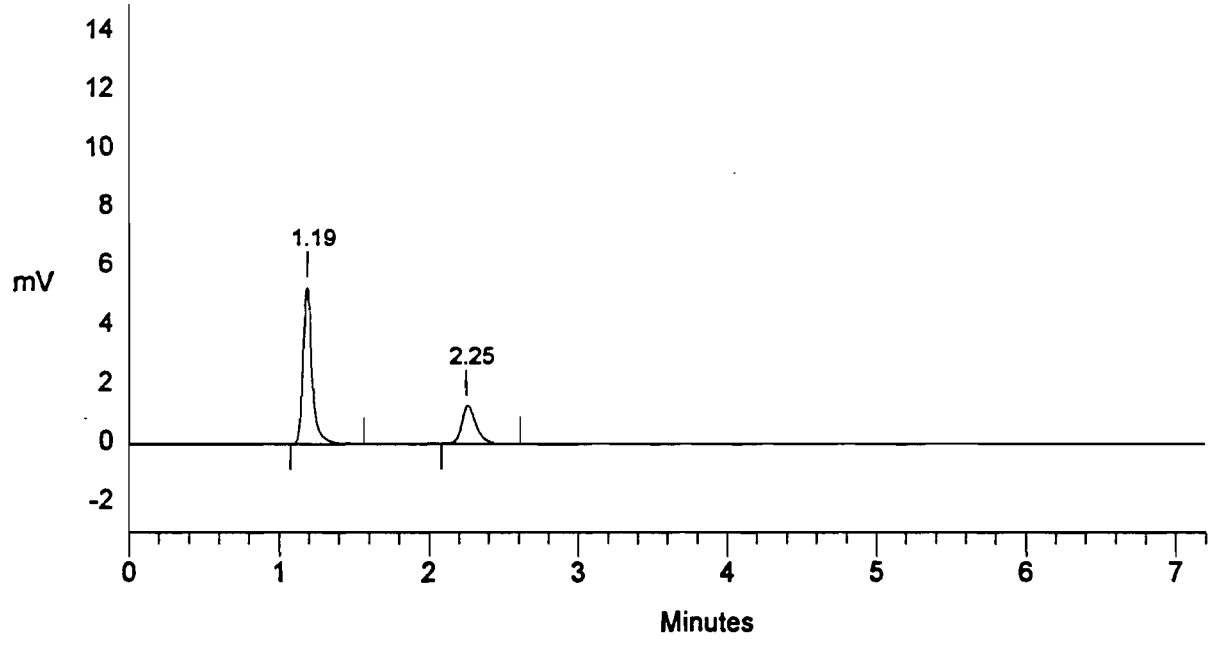
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ULFATE	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		

File: 980501K1.D01 Sample: ICV



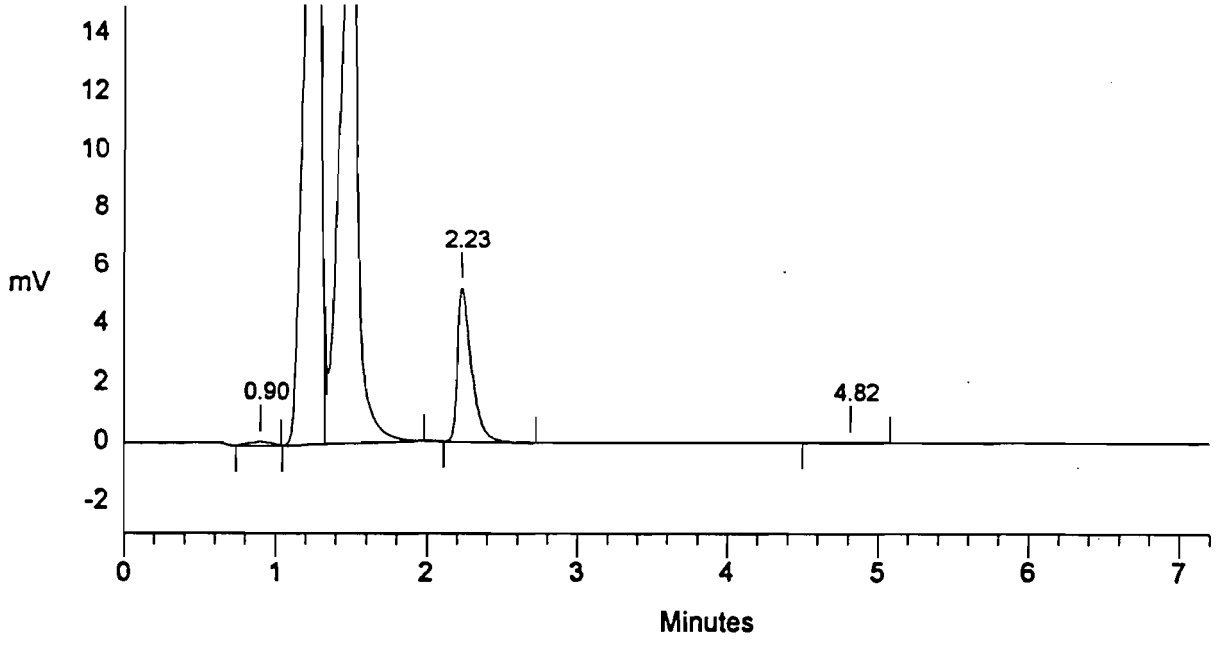
Sample Name: 98624-5 Date: 05/01/1998 11:45:49
Data File : C:\DX\DATA\980501K1.D02
Method : C:\DX\METHOD\LINELU.met
ACI Address: 2 System: 1 Inject#: 2 Detector:COND
Analyst : Column:

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



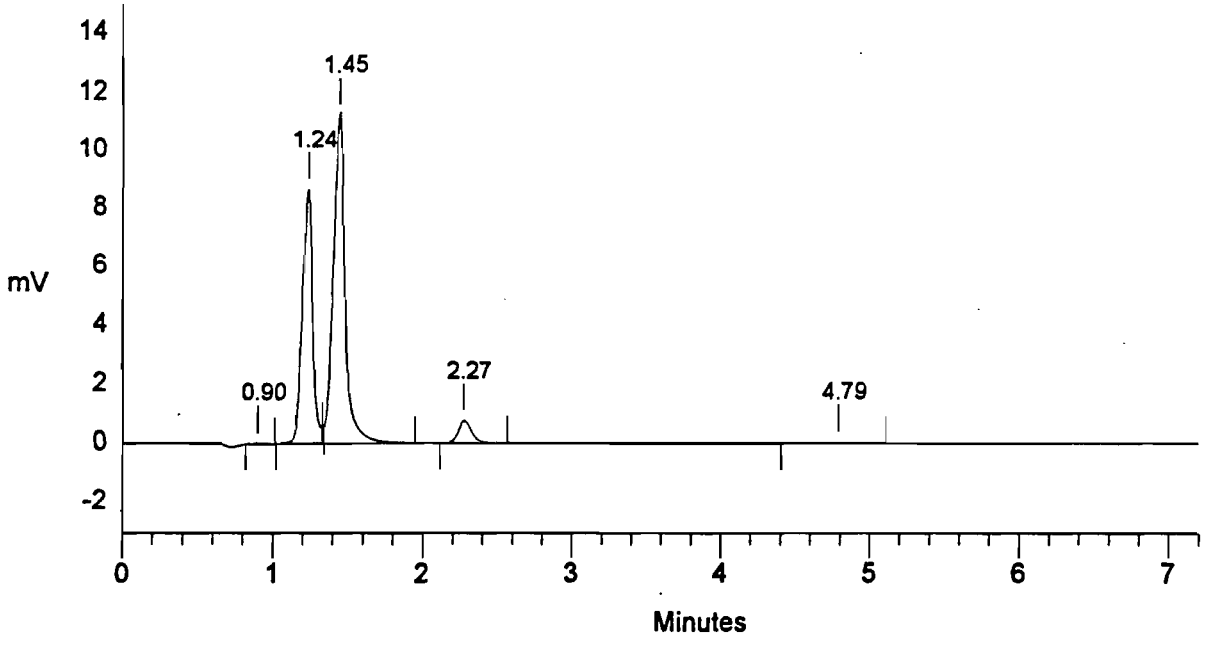
Sample Name: 98624-6 Date: 05/01/1998 11:55:40
Data File : C:\DX\DATA\980501K1.D03
M hod : C:\DX\METHOD\LINELU.met
A Address: 2 System: 1 Inject#: 3 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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



Sample Name: 98624-7 Date: 05/01/1998 12:05:29
Data File : C:\DX\DATA\980501K1.D04
Method : C:\DX\METHOD\LINELU.met
Sample Address: 2 System: 1 Inject#: 4 Detector:COND
Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2160	5Hz	0.00	7.20	1000

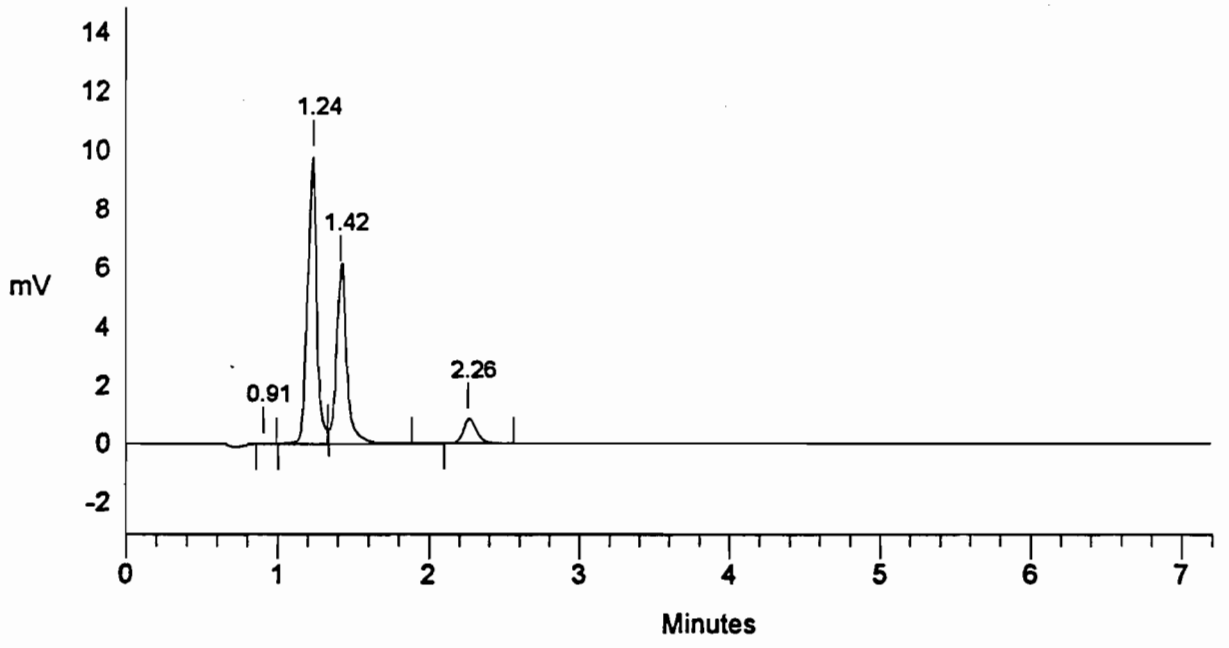
********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
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



```
Sample Name: 98624-8                          Date: 05/01/1998 12:15:19
Data File  : C:\DX\DATA\980501K1.D05
M  hod     : C:\DX\METHOD\LINELU.met
A  Address: 2  System: 1  Inject#: 5                    Detector:COND
Analyst    :                Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2160	5Hz	0.00	7.20	1000

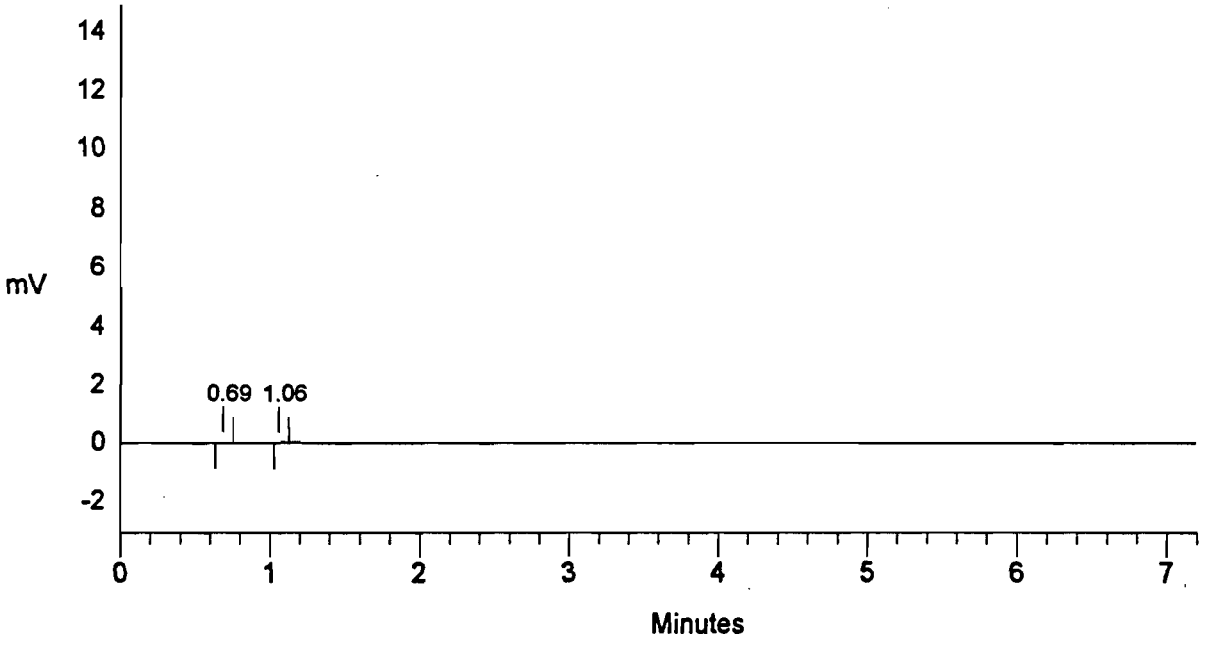
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
HLORIDE	1.23	0
ITRATE	2.38	0
ULFATE	5.03	0

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
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                          Date: 05/01/1998 12:25:08
Data File  : C:\DX\DATA\980501K1.D06
Method     : C:\DX\METHOD\LINELU.met
Address: 2  System: 1  Inject#: 6                          Detector:COND
Analyst    :                Column:
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2160	5Hz	0.00	7.20	1000

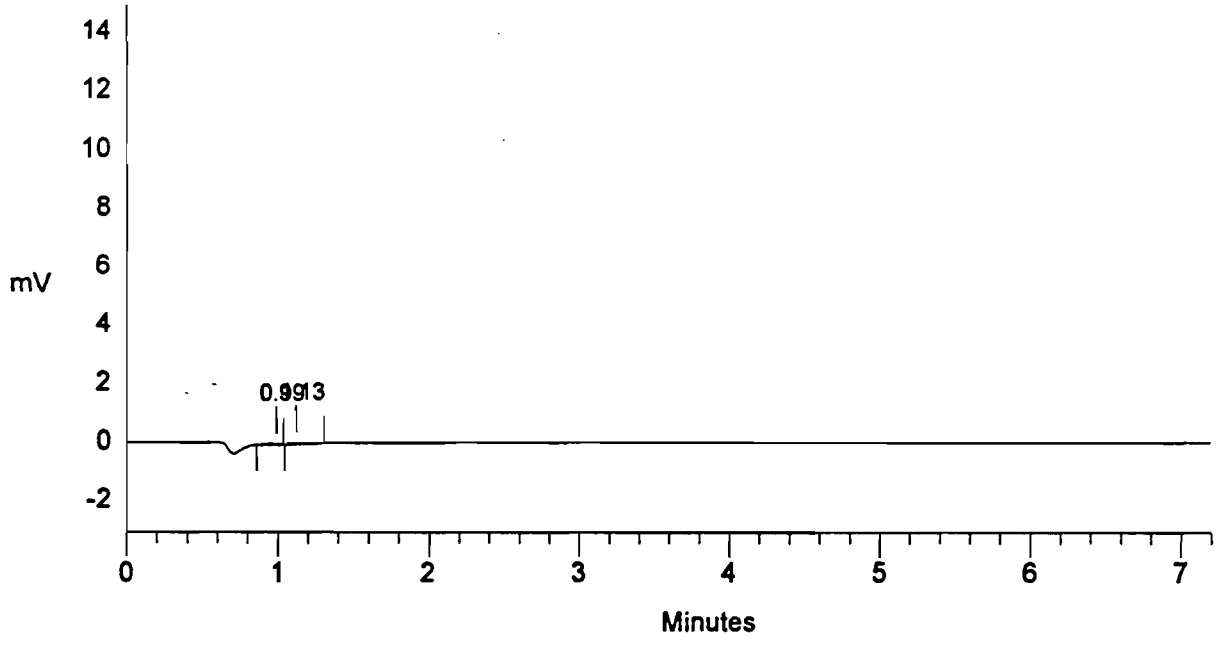
********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
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



```
Sample Name: WATER BLANK                          Date: 05/01/1998 12:34:57
Data File  : C:\DX\DATA\980501K1.D07
M  hod     : C:\DX\METHOD\LINELU.met
A_ . Address: 2  System: 1  Inject#: 7                    Detector:COND
Analyst    :                Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2160	5Hz	0.00	7.20	1000

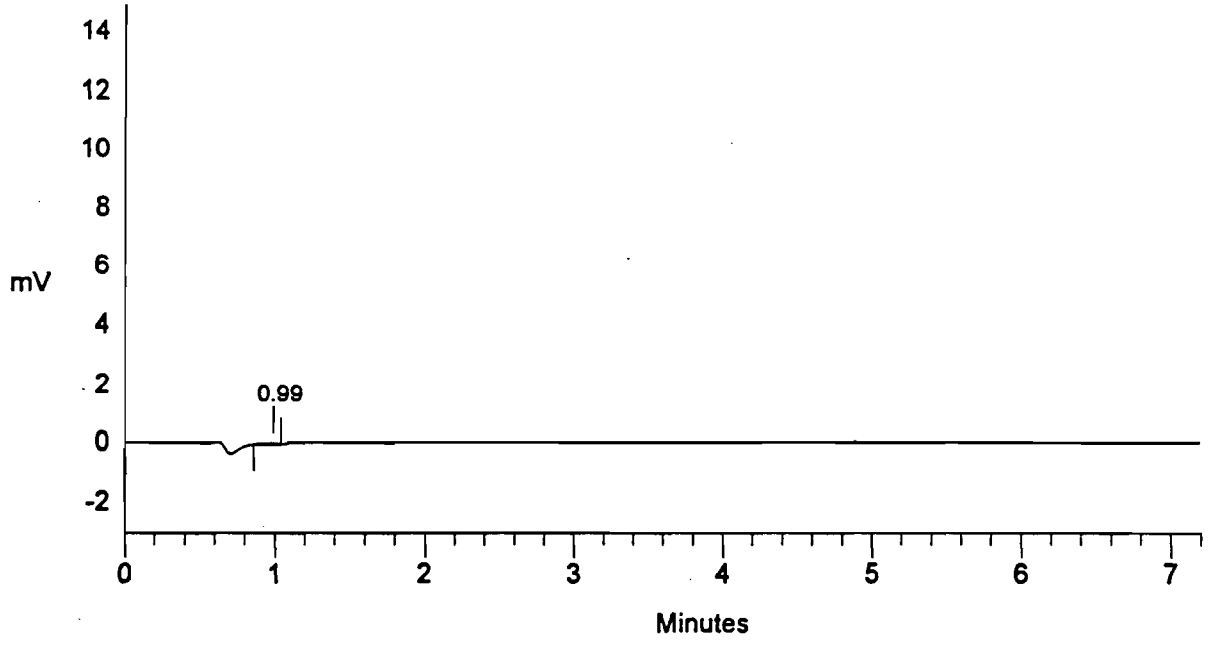
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
HLORIDE	1.23	0
ITRATE	2.38	0
JLFATE	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
[illegible]hod : C:\DX\METHOD\LINELU.met
[illegible] Address: 2 System: 1 Inject#: 8 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

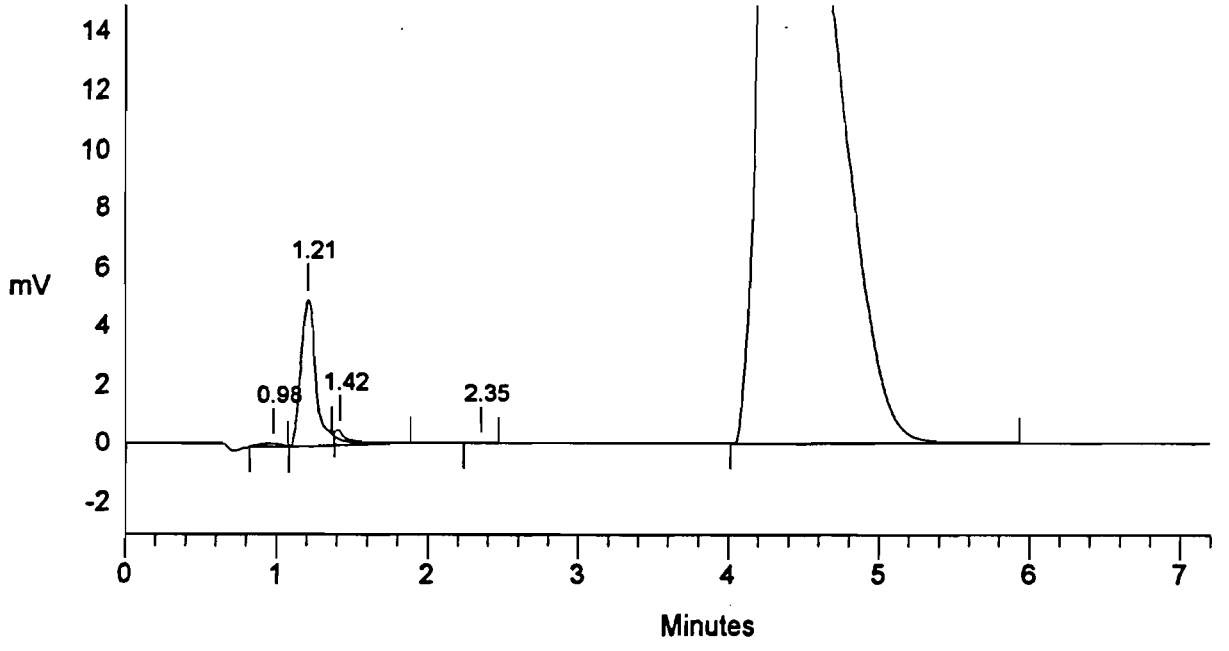
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ULFATE	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 Date: 05/01/1998 12:54:36
Data File : C:\DX\DATA\980501K1.D09
M hod : C:\DX\METHOD\LINELU.met
A Address: 2 System: 1 Inject#: 9 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

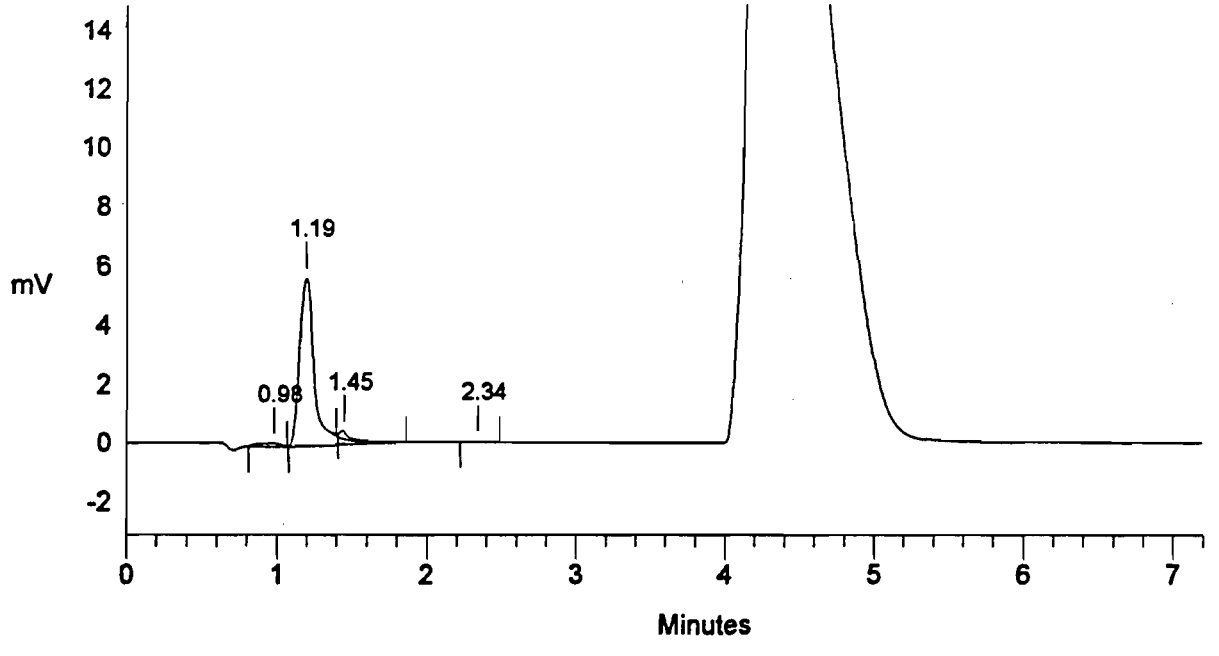
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ULFATE	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



```
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:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

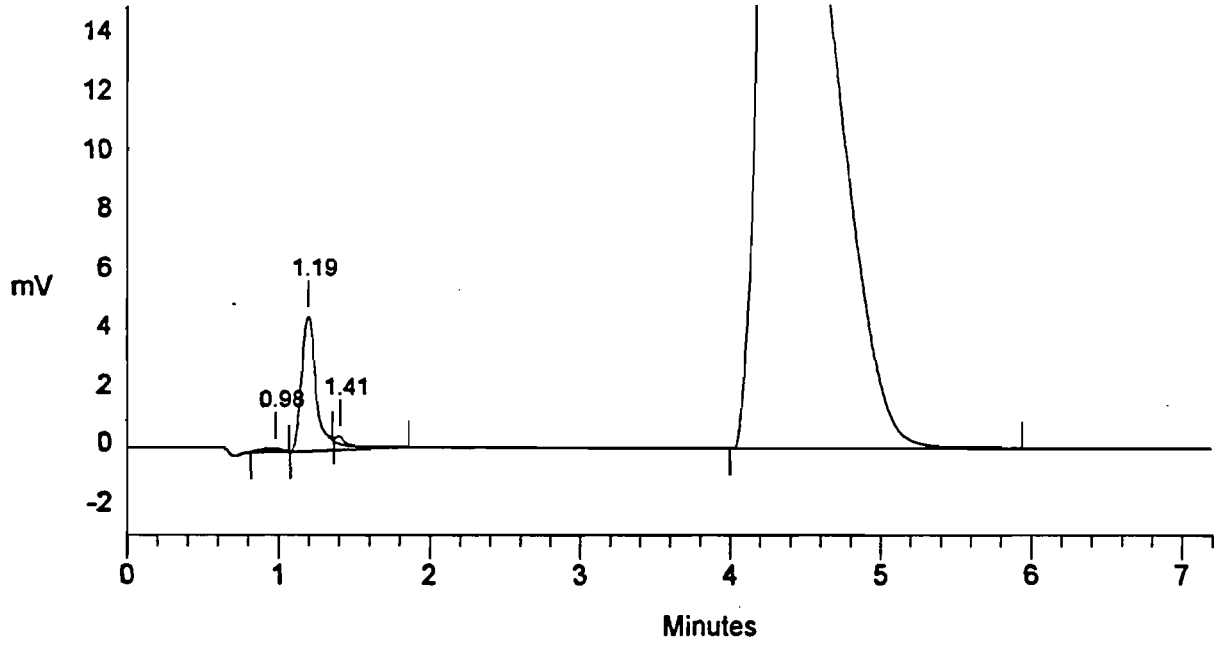
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ITRATE	2.38	0
ULFATE	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 Date: 05/01/1998 13:14:18
Data File : C:\DX\DATA\980501K1.D11
M hod : C:\DX\METHOD\LINELU.met
A Address: 2 System: 1 Inject#: 11 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

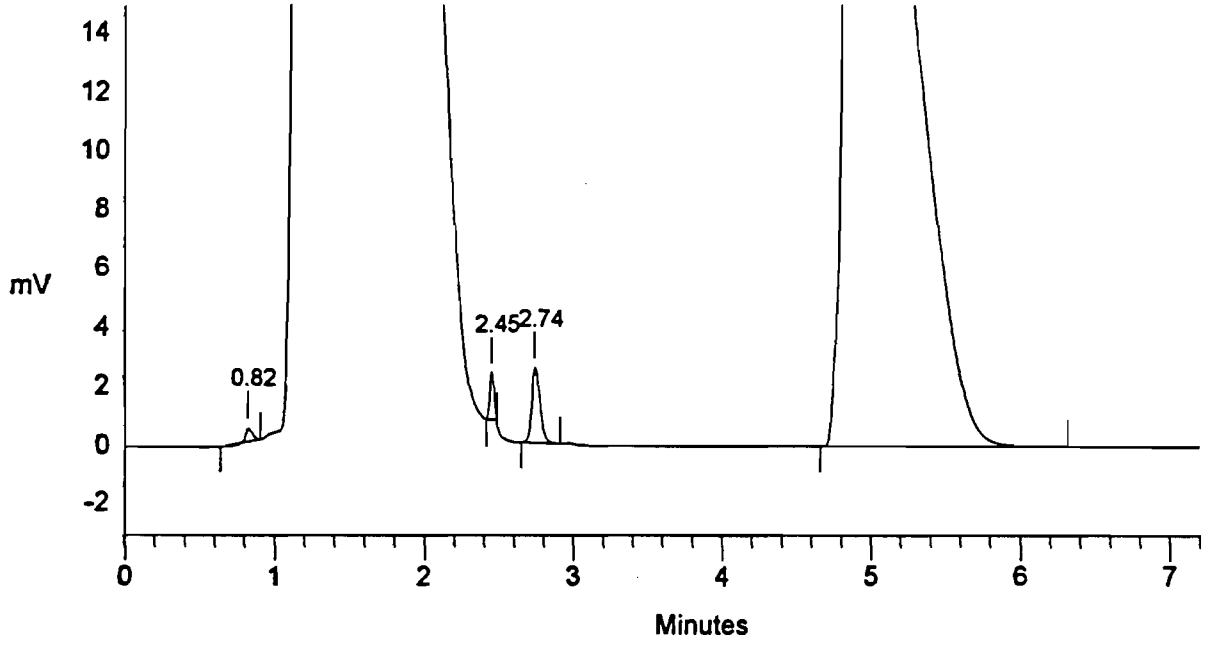
********** Components Not Found In This Run **********

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	0.82	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



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:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

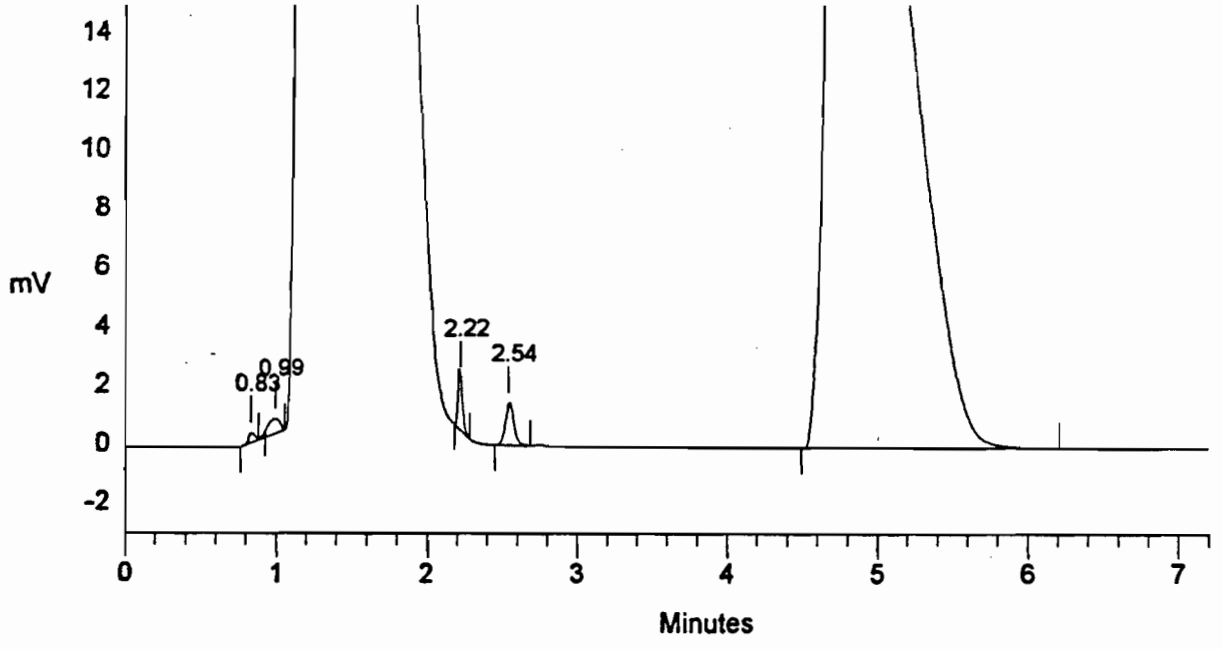
********** Components Not Found In This Run **********

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                          Date: 05/01/1998 13:34:02
Data File  : C:\DX\DATA\980501K1.D13
Method     : C:\DX\METHOD\LINELU.met
Acq Address: 2  System: 1  Inject#: 13                  Detector:COND
Analyst    :                Column:
```

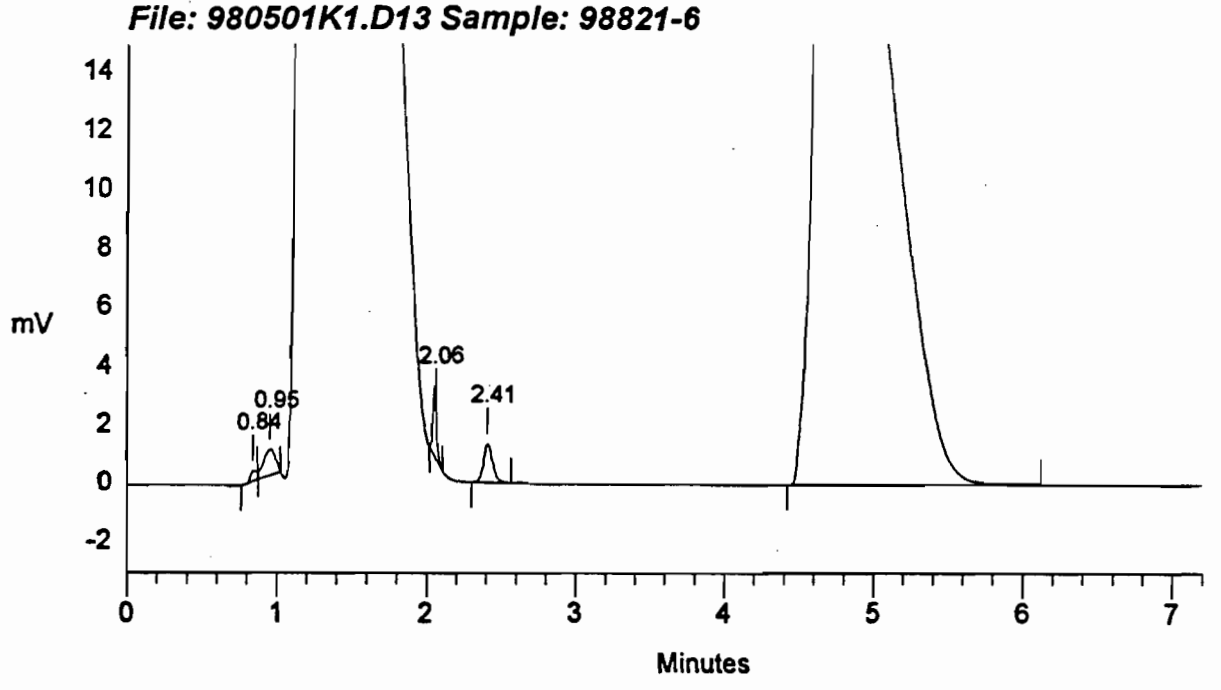
alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

********** 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	0.84	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		



```
Sample Name: 98821-7                          Date: 05/01/1998 13:43:54
Data File  : C:\DX\DATA\980501K1.D14
Method     : C:\DX\METHOD\LINELU.met
Vial: Address: 2  System: 1  Inject#: 14              Detector:COND
Analyst    :                 Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	5	2160	5Hz	0.00	7.20	1000

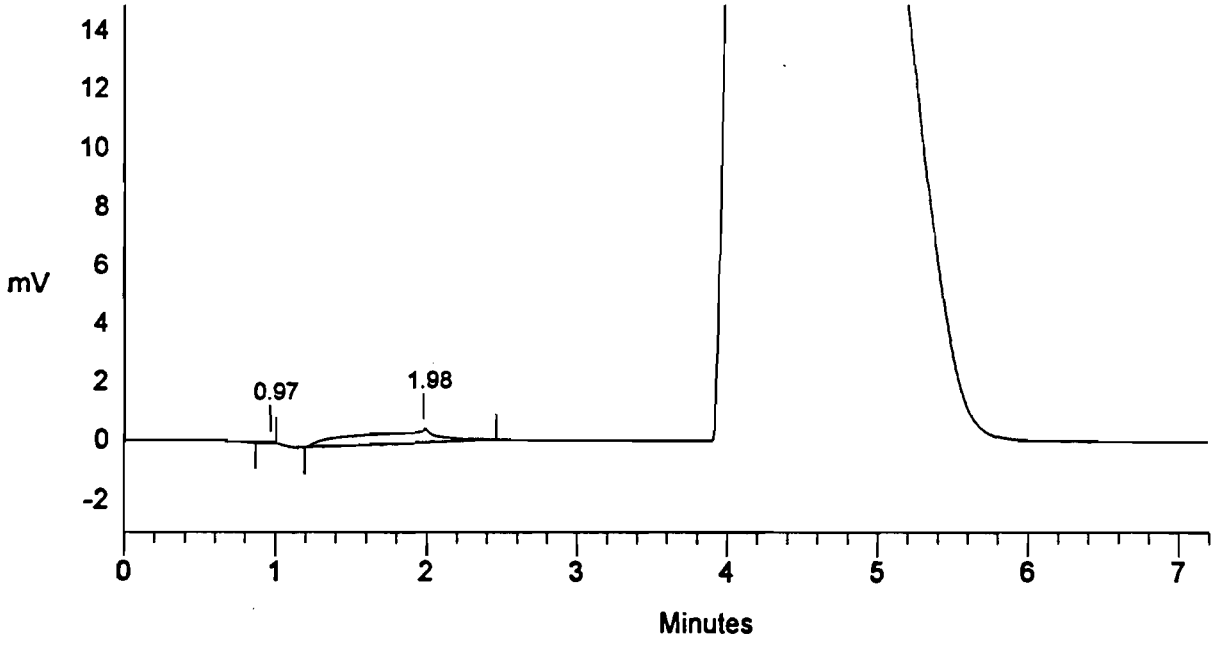
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
HLORIDE	1.23	0
ITRATE	2.38	0
ULFATE	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
M hod      : C:\DX\METHOD\LINELU.met
A  Address: 2  System: 1  Inject#: 15                    Detector:COND
Analyst    :                Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	2160	5Hz	0.00	7.20	1000

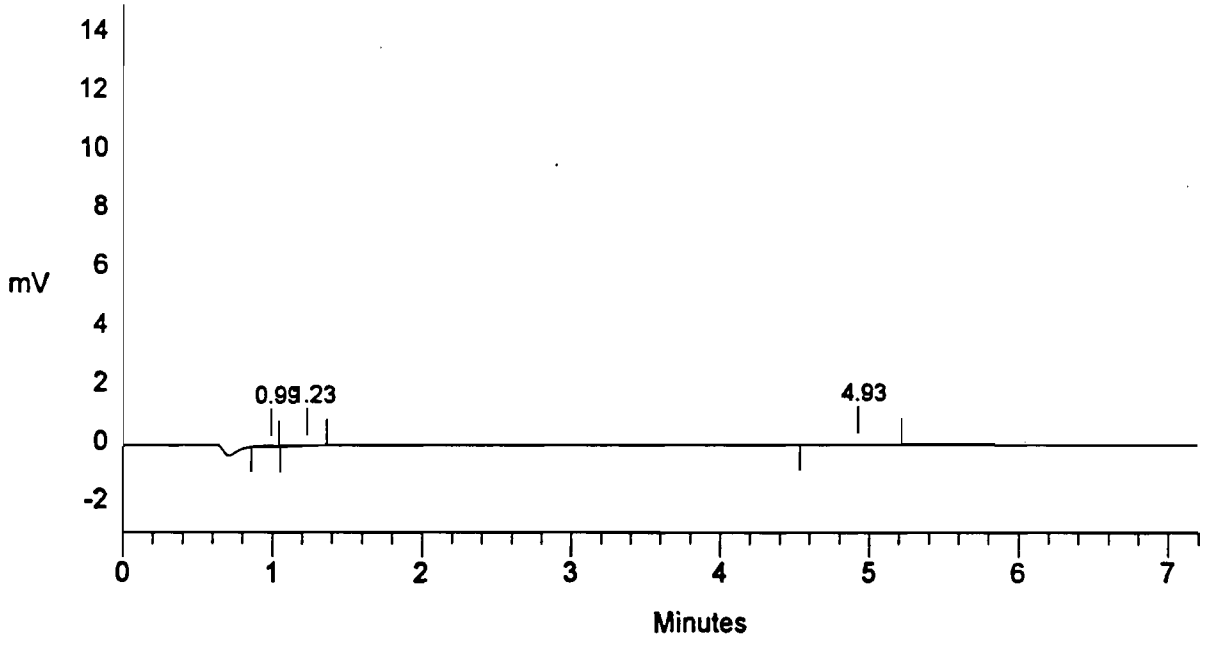
********** Components Not Found In This Run **********

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	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
xternal	1	1	2160	5Hz	0.00	7.20	1000

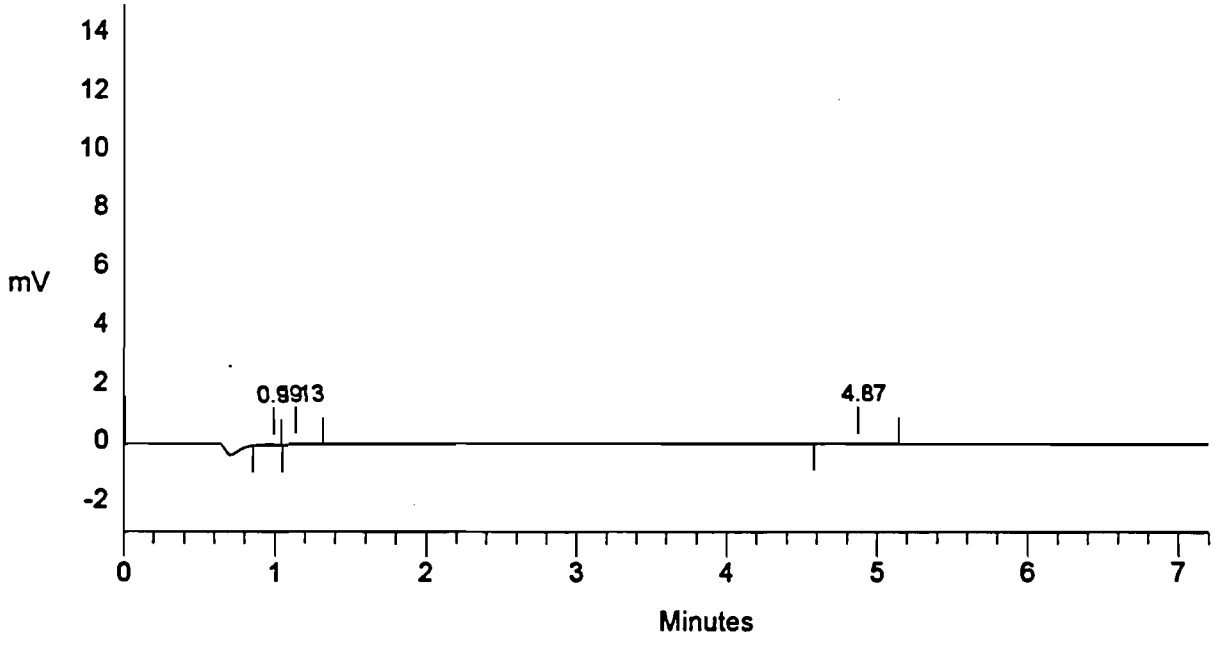
********** Components Not Found In This Run **********

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	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                          Date: 05/01/1998 14:13:23
Data File  : C:\DX\DATA\980501K1.D17
M hod      : C:\DX\METHOD\LINELU.met
  Address: 2  System: 1  Inject#: 17                        Detector:COND
Analyst    :                Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10	2160	5Hz	0.00	7.20	1000

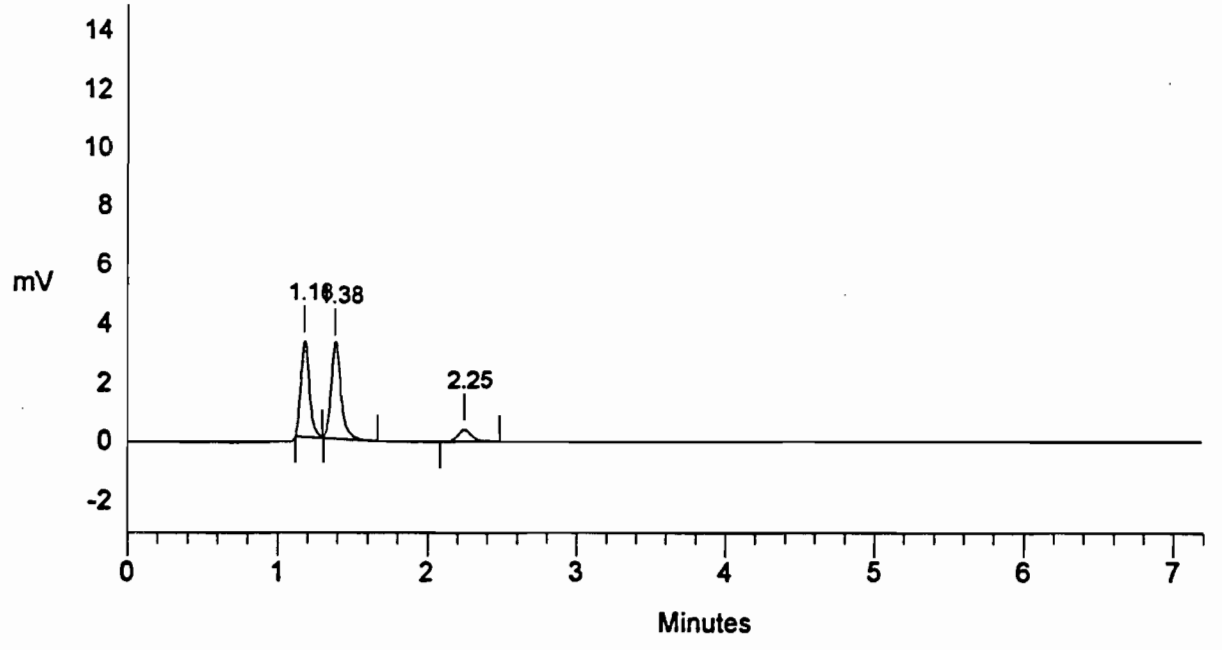
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ULFATE	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
hod : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 18 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10	2160	5Hz	0.00	7.20	1000

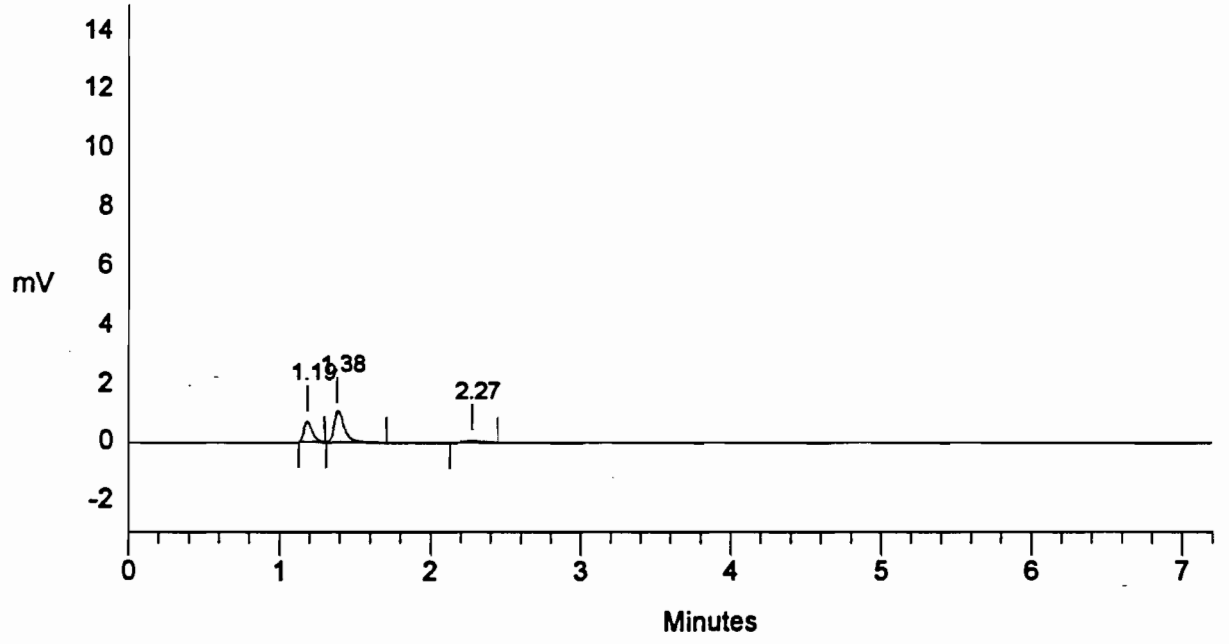
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ULFATE	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
M  hod     : C:\DX\METHOD\LINELU.met
A..  Address: 2  System: 1  Inject#: 19                  Detector:COND
Analyst    :                Column:
```

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	10	2160	5Hz	0.00	7.20	1000

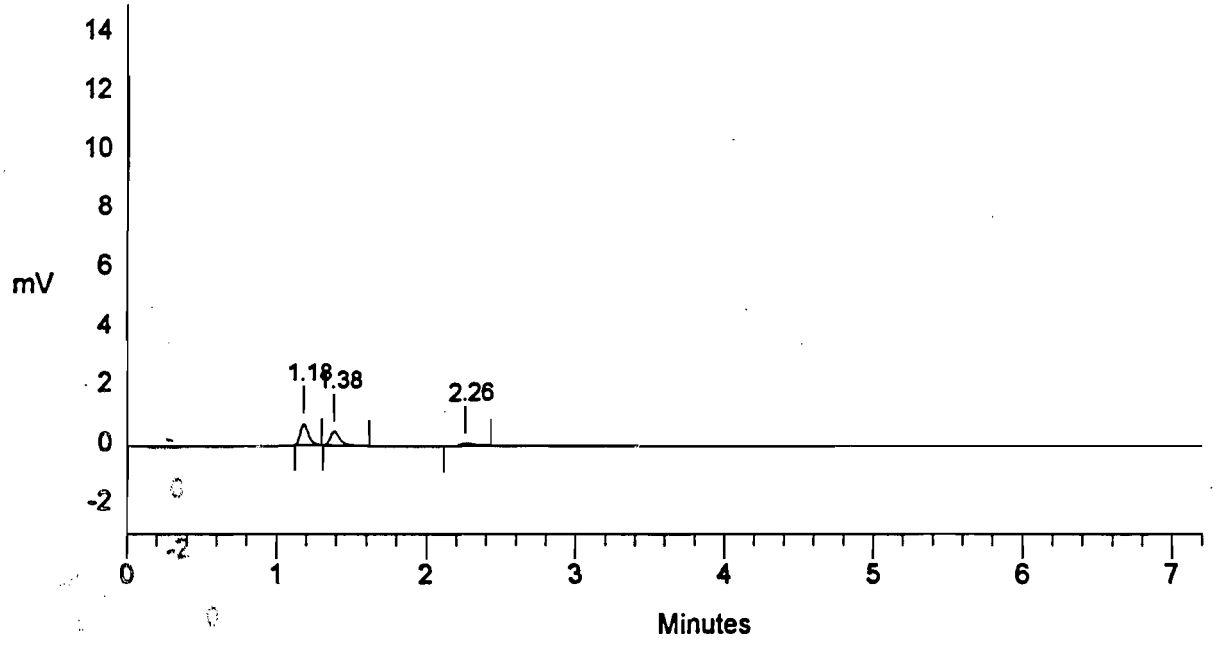
********** Components Not Found In This Run **********

ame	Adjusted Ret Time	Reference Peak
LUORIDE	0.85	0
ULFATE	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
Sample Address: 2  System: 1  Inject#: 20                  Detector:COND
Analyst    :                  Column:
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	2160	5Hz	0.00	7.20	1000

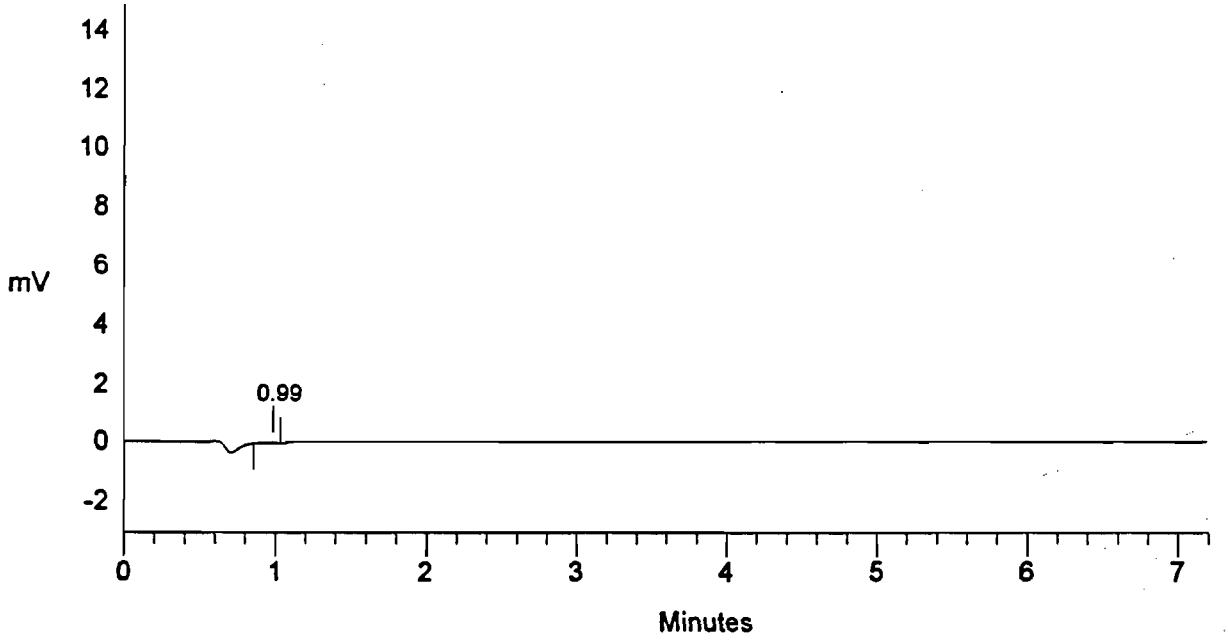
********** Components Not Found In This Run **********

Name	Adjusted Ret Time	Reference Peak
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	1441	9991	1	
		Totals	0.000	1441	9991		

File: 980501K1.D20 Sample: WATER BLANK



Sample Name: 98821-4 1000X Date: 05/01/1998 14:52:40
Data File : C:\DX\DATA\980501K1.D21
M hod : C:\DX\METHOD\LINELU~1.met
A Address: 2 System: 1 Inject#: 21 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1000	2160	5Hz	0.00	7.20	1000

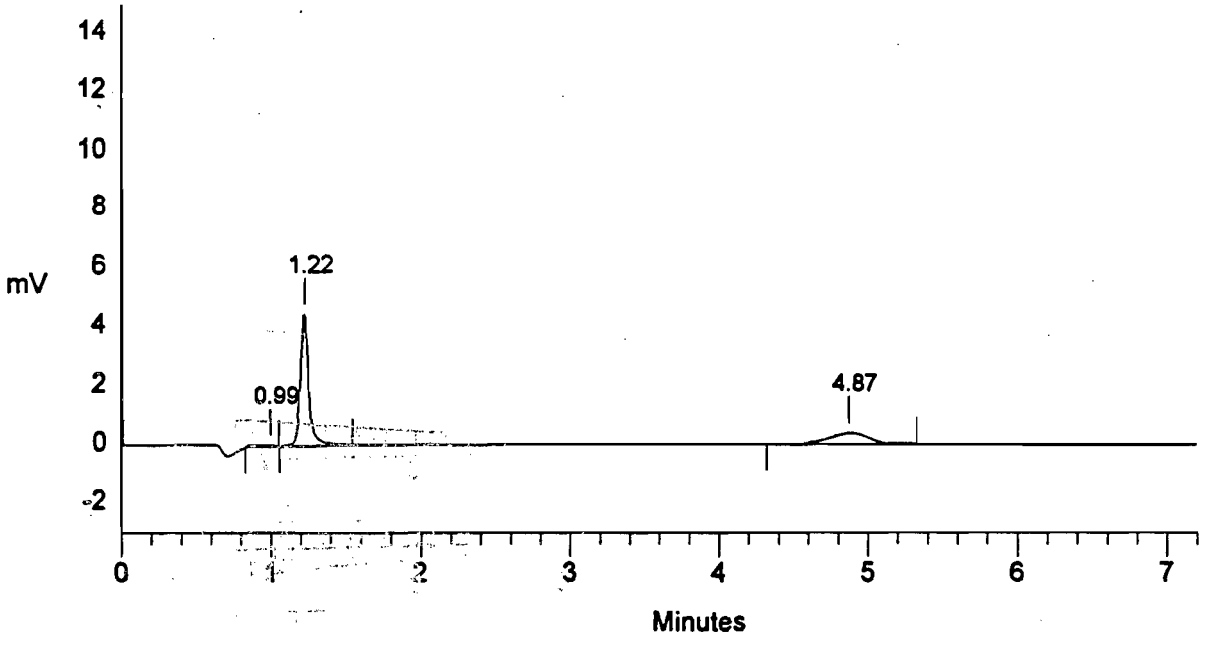
********** Components Not Found In This Run **********

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	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
hod : C:\DX\METHOD\LINELU.met
Address: 2 System: 1 Inject#: 22 Detector:COND
Analyst : Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1000	2160	5Hz	0.00	7.20	1000

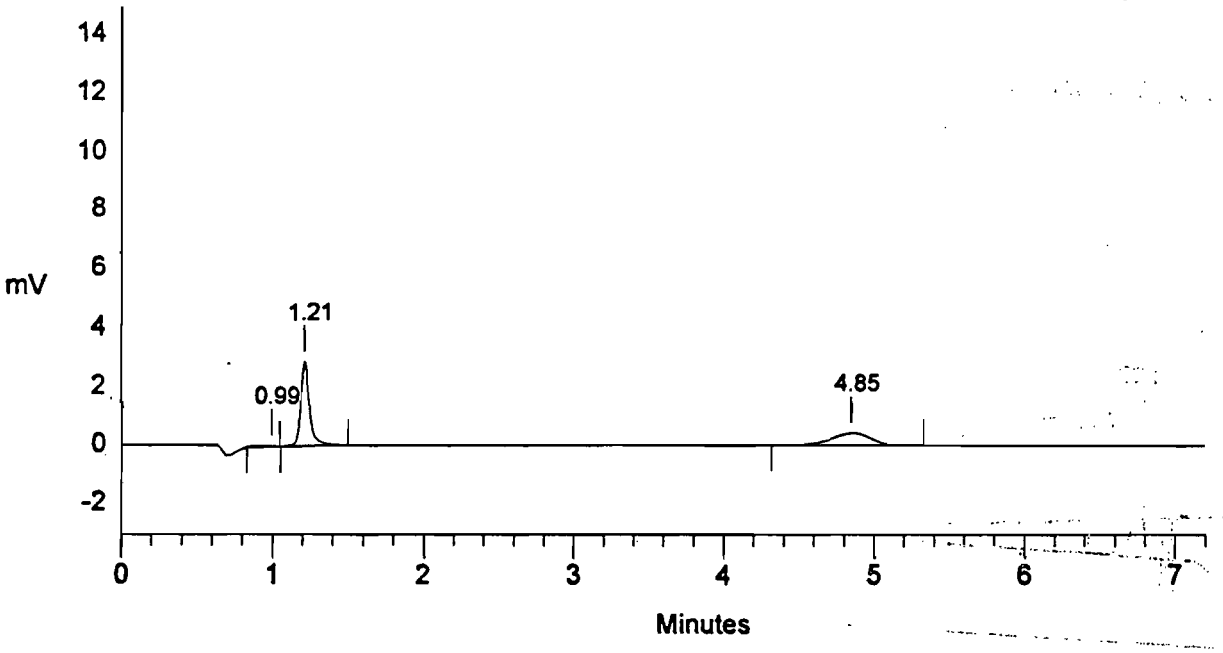
********** Components Not Found In This Run **********

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 Date: 05/01/1998 15:12:20
Data File : C:\DX\DATA\980501K1.D23
Method : C:\DX\METHOD\LINELU.met
ACQ Address: 2 System: 1 Inject#: 23 Detector:COND
Analyst: Column:

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	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