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ENVIRONMENTAL TEST REPORT

VOLUME 2

TESTAR, INC.

REPORT ON COMPLIANCE TESTING - OEG REPORT NO. 2631

March 14, 2001

PREPARED FOR:	Ogden Martin Systems of Lake, Inc. 830 Rogers Industrial Park P. O. Box 189 Okahumpka, Florida 34762
PURPOSE:	To Demonstrate Compliance with Florida Department of Environmental Protection, Permit/Certification No. AO35-193817, PSD-FL-113 and Rule 62-204.800. To demonstrate compliance with anticipated Title V Permit limits and 40 CFR 60, Subpart Cb.
TEST DATES:	January 23-29, 2001
ASSOCIATED REPORTS:	OEG Report No. 2571

EMISSIONS TESTING REPORT #10184
Text and Appendices A through E

PERFORMED FOR:

OGDEN ENERGY GROUP, INC.

Fairfield, New Jersey

at the

LAKE COUNTY

RESOURCE RECOVERY FACILITY

OKAHUMPKA, FLORIDA

Units 1 & 2 SDA Inlets and Stacks

January 23 - 29, 2001

by

TESTAR, Inc.

7424-108 ACC Boulevard

Raleigh, North Carolina 27617

919/957-9500

TABLE OF CONTENTS

- continued next page -

TABLE OF CONTENTS
- continued -

LIST OF TABLES AND FIGURES

TABLES

FIGURES

REPORT CERTIFICATION #10184

I hereby certify that the information presented in this report is accurate and representative to the best of my knowledge. Further, I certify that this project was completed under my direct supervision and guidance.

Signature Herbert Dixon Jr. Date: 3-7-01

Herbert T. Dixon, Jr., P.E.
Director of Project Management

Professional Engineer, State of North Carolina

Seal Number 023011

1.0 INTRODUCTION

1.1 General

Ogden Energy Group, Inc. (Ogden) operates the Lake County Resource Recovery Facility in Okahumpka, Florida. Ogden contracted TESTAR, Inc. to conduct an air emissions testing program to quantify specific emissions from Units 1 and 2 for compliance purposes. The testing program was conducted between January 23 and 29, 2001 by TESTAR under the supervision of Mr. Joe Aldina of Ogden Energy Group, Inc.

1.2 Test Personnel

Table 1-1 presents the personnel from Ogden and TESTAR that were involved in the testing program.

Table 1-1
Test Personnel

Affiliation	Personnel Responsibility
Ogden Energy Group	Joe Aldina Test Coordinator
Florida Department of Environmental Protection	Garry Kuberski Test Observer
TESTAR, Inc.	Gary Williams, PE Project Director
	Herb Dixon, PE Field Laboratory Manager
	David Brintle Test Engineer
	Tom McDonald Test Engineer
	Ronnie Snipes Test Engineer
	Bill Harris CEM Test Engineer

1.3 Test Parameters and Run Numbers

Tables 1-2 and 1-3 present the test dates, sampling locations, flue gas parameters, sampling methods, and run numbers for reference for Unit #1 and #2, respectively.

Table 1-2
Unit #1 Test Sequence

Test Location	Sampling Method	Flue Gas Parameter	Run Date	Run Time	Run Number
Unit #1 SDA Inlet	EPA MM26	Hydrogen Chloride	01/25/01	0803-0903	1-I-MM26-1
			01/25/01	1201-1301	1-I-MM26-2
			01/29/01	1425-1525	1-I-MM26-3
	EPA 29	Mercury	01/25/01	0802-1008	1-I-M29-1
			01/25/01	1200-1404	1-I-M29-2
			01/29/01	1424-1629	1-I-M29-3
	EPA 3A, 6C, & 10	Sulfur Dioxide, Carbon Monoxide, and Oxygen	01/23/01	0921-1021	1-I-CEM-1
			01/23/01	1127-1227	1-I-CEM-2
			01/23/01	1245-1345	1-I-CEM-3
Unit #1 FF Outlet	EPA 3A, 6C, & 7E	Sulfur Dioxide, Nitrogen Oxides, Oxygen and Carbon Dioxide	01/23/01	0921-1021	1-O-CEM-1
			01/23/01	1127-1227	1-O-CEM-2
			01/23/01	1245-1345	1-O-CEM-3
Unit #1 Stack	EPA 23	Dioxins/Furans	01/23/01	1302-1719	1-S-M23-1
			01/24/01	0825-1228	1-S-M23-2
			01/24/01	1300-1745	1-S-M23-3
	EPA MM26	Hydrogen Chloride	01/25/01	0804-0904	1-S-MM26-1
			01/25/01	1201-1301	1-S-MM26-2
			01/29/01	1424-1524	1-S-MM26-3
	EPA 9	Opacity	01/23/01	0900-1000	1-S-M9-1
			01/23/01	1125-1225	1-S-M9-2
			01/23/01	1420-1520	1-S-M9-3
	EPA 5	Particulate	01/23/01	0823-1032	1-S-M5-1
			01/23/01	1122-1329	1-S-M5-2
			01/23/01	1351-1621	1-S-M5-3
			01/24/01	1536-1743	1-S-M5-4
	EPA 29	Mercury and Metals	01/25/01	0802-1009	1-S-M29-1
			01/25/01	1200-1407	1-S-M29-2
			01/29/01	1424-1630	1-S-M29-3
Ash Handling System	EPA 22	Fugitive Emissions	01/23/01	1525-1635	M22-1
			01/24/01	0840-0950	M22-2
			01/24/01	1430-1540	M22-3

Table 1-3
Unit #2 Test Sequence

Test Location	Sampling Method	Flue Gas Parameter	Run Date	Run Time	Run Number
Unit #2 SDA Inlet	EPA MM26	Hydrogen Chloride	01/24/01	0828-0928	2-I-MM26-1
			01/24/01	1125-1225	2-I-MM26-2
			01/24/01	1405-1514	2-I-MM26-3
	EPA 29	Mercury	01/24/01	0827-1045	2-I-M29-1
			01/24/01	1124-1333	2-I-M29-2
			01/24/01	1404-1630	2-I-M29-3
	EPA 3A, 6C, & 10	Sulfur Dioxide, Carbon Monoxide, and Oxygen	01/25/01	1248-1348	2-I-CEM-1
			01/25/01	1403-1503	2-I-CEM-2
			01/25/01	1516-1616	2-I-CEM-3
Unit #2 FF Outlet	EPA 3A, 6C, & 7E	Sulfur Dioxide, Nitrogen Oxides, Oxygen and Carbon Dioxide	01/25/01	1248-1348	2-O-CEM-1
			01/25/01	1403-1503	2-O-CEM-2
			01/25/01	1516-1616	2-O-CEM-3
Unit #2 Stack	EPA 23	Dioxins/Furans	01/25/01	0802-1205	2-S-M23-1
			01/25/01	1228-1633	2-S-M23-2
			01/26/01	0800-1203	2-S-M23-3
	EPA MM26	Hydrogen Chloride	01/24/01	0827-0927	2-S-MM26-1
			01/24/01	1125-1225	2-S-MM26-2
			01/24/01	1406-1516	2-S-MM26-3
	EPA 9	Opacity	01/23/01	0900-1000	2-S-M9-1
			01/23/01	1125-1225	2-S-M9-2
			01/23/01	1420-1520	2-S-M9-3
	EPA 5	Particulate	01/23/01	0823-1032	2-S-M5-1
			01/23/01	1115-1320	2-S-M5-2
			01/23/01	1400-1604	2-S-M5-3
	EPA 29	Mercury and Metals	01/24/01	0826-1034	2-S-M29-1
			01/24/01	1124-1334	2-S-M29-2
			01/24/01	1404-1635	2-S-M29-3

Table 1-4
Utilization of EPA Method 2 and 3 Data

Runs Requiring Additional Information	Runs Providing Air Flow Rate Data	Runs Providing Flue Gas Composition Data
1-I-MM26-1	NA	1-I-M29-1
1-I-MM26-2	NA	1-I-M29-2
1-I-MM26-3	NA	1-I-M29-3
1-S-MM26-1	NA	1-S-M29-1
1-S-MM26-2	NA	1-S-M29-2
1-S-MM26-3	NA	1-S-M29-3
2-I-MM26-1	NA	2-I-M29-1
2-I-MM26-2	NA	2-I-M29-2
2-I-MM26-3	NA	2-I-M29-3
2-S-MM26-1	NA	2-S-M29-1
2-S-MM26-2	NA	2-S-M29-2
2-S-MM26-3	NA	2-S-M29-3

2.0 SUMMARY OF RESULTS

2.1 Report Organization

The results of the testing project are summarized in Section 2. The process tested is discussed in Section 3. The sampling and analytical methods utilized are discussed in Section 4 while the Quality Assurance/Quality Control results are presented in Section 5. Appendix A contains detailed results of the testing program. Appendix B contains the field data that was collected and Appendix C contains the analytical results. Appendix D contains all pertinent testing equipment calibration data. Appendix E contains dioxins/furans analytical chromatograms. Refer to the Table of Contents and the List of Tables and Figures for a complete reference with appropriate page numbers.

2.2 Presentation of Results

Table 2-1 presents the results of the emissions testing project for Unit #1 while Table 2-2 presents the results of the emissions testing project for Unit #2. A more detailed summary of the sampling gas parameters is presented in Appendix A.

2.3 Carbon Analytical Results

Carbon samples were collected and analyzed for each of the two units. The results were as follows:

Metal	Unit #1	Unit #2
Mercury	< 0.186 ug/g	< 0.214 ug/g
Beryllium	1.79 ug/g	1.72 ug/g
Cadmium	< 0.400 ug/g	< 0.400 ug/g
Lead	1.91 ug/g	1.94 ug/g

2.4 Unit #1 Particulate Results

During run 1-S-M5-1, the amount of medical waste actually fed was slightly below the 4000 lbs/hr target for medical waste. An additional test run was conducted and identified as 1-S-M5-4 during which 4000 lbs/hr of medical waste was fed. Results for all four tests are presented and used in the average.

2.5 Unit 1 Test Interruption

Unit 1 developed a steam leak in the boiler on January 25, 2001 before the third set of EPA Method 29 and EPA Method 26 test runs could be conducted. Following repairs, the third set of test runs were rescheduled for January 29, 2001. Therefore, runs 1-I-M29-3, 1-I-MM26-3, 1-S-M29-3, and 1-S-MM26-3 were conducted on January 29, 2001.

Table 2-1
Unit #1 Summary of Emissions

Parameter	Rep. 1	Rep. 2	Rep. 3	Average	Permit Limits
Fugitive Emissions, Ash Handling System					
Fugitive Emissions, %	0%	0%	0%	0%	5%
Unit #1 SDA Inlet					
Carbon Monoxide, ppm @ 7% O2	12.9	9.4	11.7	11.3	100
Hydrogen Chloride, ppm @ 7% O2	414	731	1034	727	NA
Mercury, ug/DSCM @ 7% O_2	277	2115	137	843	NA
Mercury, lb/hr	0.0239	0.183	0.0115	0.0727	NA
Sulfur Dioxide, ppmvd @ 7% O_2	0.4	1.7	1.3	1.2	NA
Sulfur Dioxide, ppmvd @ 12% CO_2	0.4	1.8	1.3	1.2	NA
Unit #1 Stack					
Dioxins/Furans, ng/DSCM @ 7% O_2	0.931	9.92	0.556	3.80	30
Hydrogen Chloride, ppm @ 7% O2	7.15	9.58	6.06	7.60	29
Mercury, ug/DSCM @ 7% O_2	6.50	9.06	5.04	6.86	70
Mercury, gr/DSCF @ 12% CO_2	2.87E-06	3.99E-06	2.19E-06	3.01E-06	3.4E-04
Mercury, lb/hr	0.000699	0.000986	0.000559	0.000748	NA
Metals					
Beryllium, Gr/DSCF @ 12% CO2	<2.77E-08	<2.83E-08	<2.60E-08	<2.73E-08	2.0E-07
Cadmium, mg/DSCM @ 7% O2	0.000362	0.000392	<0.000240	<0.000331	0.04
Lead, mg/DSCM @ 7% O2	0.00123	0.00166	0.00102	0.00130	0.49
Lead, Gr/DSCF @ 12% CO2	5.43E-07	7.32E-07	4.42E-07	5.72E-07	3.1E-04
Nitrogen Oxides, ppm @ 7% O2	172	172	175	173	205
Opacity, %	0%	0%	0%	0%	10%
Particulate, Gr/DSCF @ 7% O2	0.000141	0.000182	0.000118	0.000132	0.012
	0.0000891				
Particulate, mg/DSCM @ 7% O2	0.322	0.416	0.270	0.303	27
	0.204				
Sulfur Dioxide, ppm @ 7% O2	0.1	0.0	0.0	0.0	29
Sulfur Dioxide, ppmvd @ 12% CO_2	0.2	0.0	0.0	0.1	60
Unit #1 Removal Efficiency %					
HCl RE%, ppm @ 7% O2	98.3%	98.7%	99.4%	98.8%	≥90%
Mercury RE%, ug/DSCM @ 7% O2	97.7%	99.6%	96.3%	97.8%	≥85%
Mercury RE%, lb/hr	97.1%	99.5%	95.1%	97.2%	≥85%
Sulfur Dioxide RE%, ppm @ 7% O2	75.0%	100%	100%	91.7%	≥85%
Sulfur Dioxide RE%, ppm @ 12% CO2	50.0%	100%	100%	83.3%	≥70%

Table 2-2
Unit #2 Summary of Emissions

Parameter	Rep. 1	Rep. 2	Rep. 3	Average	Permit Limits
Unit #2 SDA Inlet					
Carbon Monoxide, ppm @ 7% O2	9.5	7.0	9.4	8.6	100
Hydrogen Chloride, ppm @ 7% O2	715	321	384	473	NA
Mercury, ug/DSCM @ 7% O_2	122	198	245	188	NA
Mercury, lb/hr	0.0107	0.0174	0.0214	0.0165	NA
Sulfur Dioxide, ppmvd @ 7% O_2	1.1	11.9	5.3	6.1	NA
Sulfur Dioxide, ppmvd @ 12% CO_2	1.1	11.7	5.2	6.0	NA
Unit #2 Stack					
Dioxins/Furans, ng/DSCM @ 7% O_2	2.14	0.872	9.62	4.21	30
Hydrogen Chloride, ppm @ 7% O2	11.4	10.5	10.2	10.7	29
Mercury, ug/DSCM @ 7% O_2	4.19	3.87	3.94	4.00	70
Mercury, gr/DSCF @ 12% CO_2	1.82E-06	1.68E-06	1.69E-06	1.73E-06	3.4E-04
Mercury, lb/hr	0.000461	0.000416	0.000420	0.000432	NA
Metals					
Beryllium, Gr/DSCF @ 12% CO2	<2.81E-08	<2.78E-08	<2.89E-08	<2.83E-08	2.0E-07
Cadmium, mg/DSCM @ 7% O2	0.000423	0.000523	<0.000269	<0.000405	0.04
Lead, mg/DSCM @ 7% O2	0.00456	0.00181	0.00138	0.00258	0.49
Lead, Gr/DSCF @ 12% CO2	1.98E-06	7.86E-07	5.93E-07	1.12E-06	3.1E-04
Nitrogen Oxides, ppm @ 7% O2	184	191	187	187	205
Opacity, %	0%	0%	0%	0%	10%
Particulate, Gr/DSCF @ 7% O2	0.000337	0.000401	0.000469	0.000402	0.012
Particulate, mg/DSCM @ 7% O2	0.772	0.918	1.07	0.921	27
Sulfur Dioxide, ppm @ 7% O2	0.3	0.3	0.7	0.4	29
Sulfur Dioxide, ppmvd @ 12% CO_2	0.3	0.3	0.7	0.4	60
Unit #2 Removal Efficiency %					
HCl RE%, ppm @ 7% O2	98.4%	96.7%	97.3%	97.5%	≥90%
Mercury RE%, ug/DSCM @ 7% O2	96.6%	98.0%	98.4%	97.7%	≥85%
Mercury RE%, lb/hr	95.7%	97.6%	98.0%	97.1%	≥85%
Sulfur Dioxide RE%, ppm @ 7% O2	72.7%	97.5%	86.8%	85.7%	≥85%
Sulfur Dioxide RE%, ppm @ 12% CO2	72.7%	97.4%	86.5%	85.6%	≥70%

2.6 Opacity Results

Opacity measurements were taken during each EPA Method 5 test run. No opacity results are presented in Appendix A because all values were zero. The field data sheets are located in Appendix B.

2.7 Fugitive Emissions Results

Fugitive emissions measurements were taken along the ash discharge system and at the ash loading area. No periods of visible fugitive emissions were observed during the observation period. The field data sheets are located in Appendix B.

3.0 PROCESS DESCRIPTION AND OPERATION

The Lake County Resource Recovery Facility processes up to 528 tons of solid waste each day, generating up to 14.5 megawatts of electricity. The facility was designed and built and is operated by Ogden Martin Systems of Lake, Inc. Each of the two (2) Martin GmbH waterwall furnaces processes up to 264 tons of waste per day. Waste is combusted at furnace temperatures exceeding 1,800 degrees Fahrenheit and reduced to an inert ash residue. Before leaving the facility, combustion air is directed through technologically advanced air pollution control equipment consisting of spray dryer absorbers (SDA) and fabric filter baghouses.

4.0 SAMPLING AND ANALYTICAL METHODS

This section briefly describes the sampling and analytical procedures that were used and any deviations from the methods. Figure 4-1 depicts cross-sections of the SDA Inlet test location and Figure 4-2 depicts cross-sections of the Stack test location.

4.1 EPA Methods 1-4

EPA Methods 1 through 4 were utilized in conjunction with each isokinetic test method. EPA Method 1 was used to determine the location of the sampling points. EPA Method 2 was used to measure the flue gas flow rate. EPA Method 3 was used to determine the flue gas molecular weight. EPA Method 4 was used to determine the flue gas moisture content. The information provided by these methods was used in determining isokinetics, parameter concentrations, and parameter emission rates.

4.2 EPA Method 5

Particulate concentrations and emission rates were determined utilizing EPA Method 5. The sampling train consisted of a glass nozzle, a heated glass probe, a heated, tared filter, two chilled impingers each with 100 mL of water, an empty impinger, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment was operated in accordance with EPA Method 5 with no exceptions. At the end of each test run, the nozzle, probe, and filter fronthalf were rinsed with acetone. The filter was recovered dry. The filter and acetone rinses were desiccated and analyzed gravimetrically following EPA Method 5 techniques.

4.3 EPA Method 9

Opacity (visible emissions) readings were taken every 15 seconds by a certified visual emissions reader for the specified length of time during each EPA Method 5 test run.

4.4 EPA Method 22

The accumulated emissions time of fugitive emissions was determined by observing the process area(s) during normal operations for a pre-determined observation period (one hour). This method does not require that the opacity of emissions be determined, but rather the length of time that any fugitive emissions are visible. Fugitive emissions include emissions that escape capture by exhaust hoods, that are emitted during material transfer, that are emitted from buildings housing material processing or handling equipment, or that are emitted directly from process equipment. If any fugitive emissions are observed during the observation period, the length of time that the

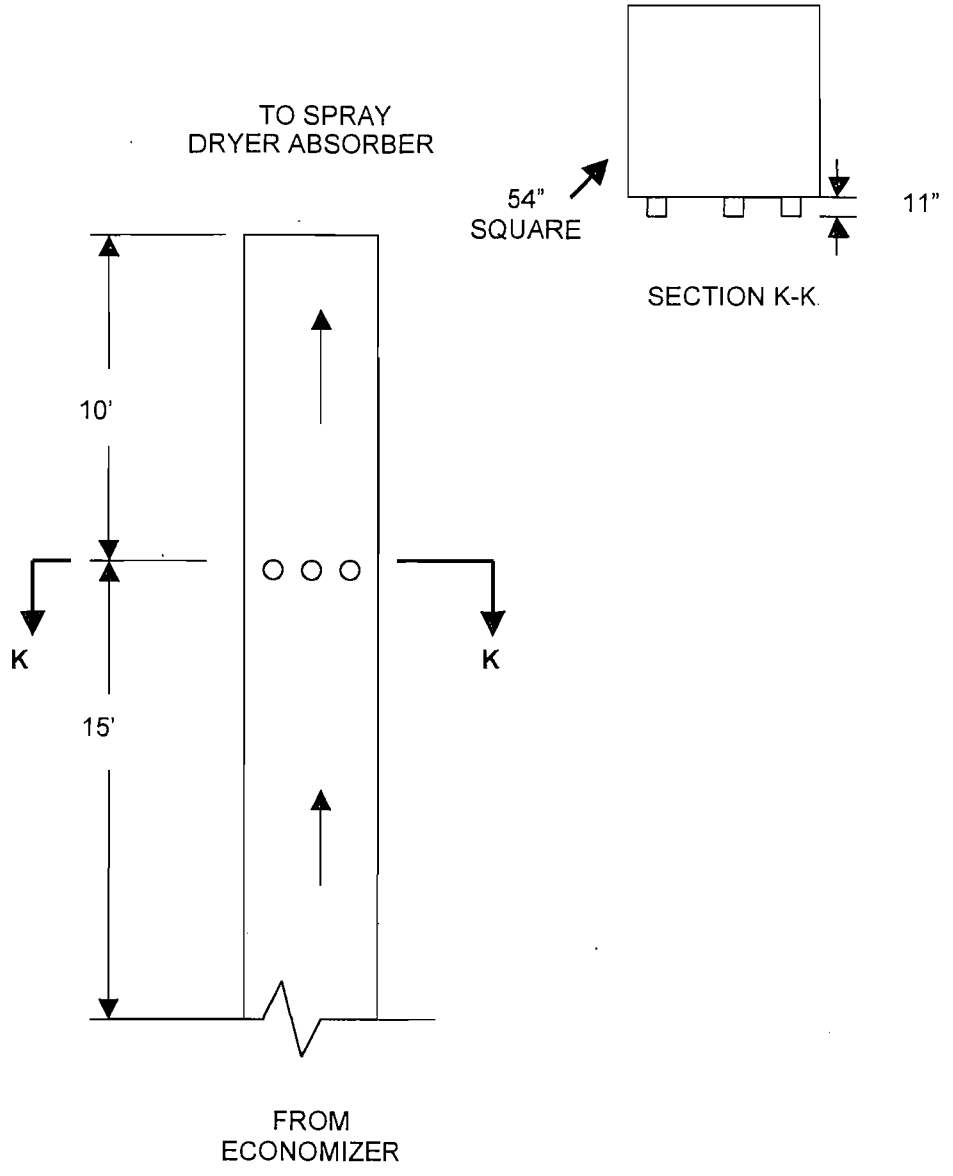


Figure 4-1. SDA Inlet Sampling Location
(Units 1 & 2 are mirror images)

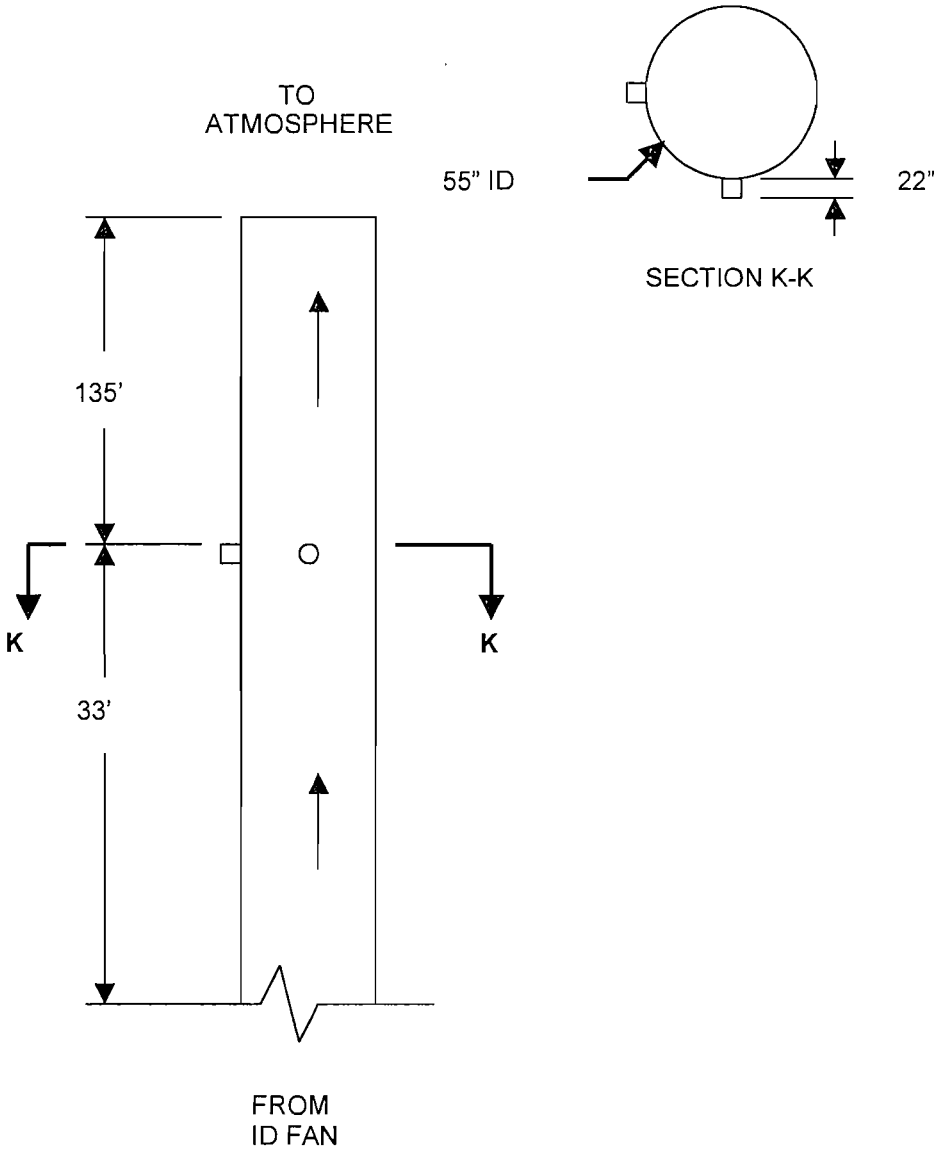


Figure 4-1. Stack Sampling Location
(Units 1 & 2 are identical)

emissions are visible is quantified using a stopwatch. This total accumulated time of fugitive emissions is then used to determine compliance with the subpart or permit.

4.5 EPA Method 23

The concentrations and emissions rates of polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDD/PCDF or dioxins/furans) were determined utilizing EPA 23. The EPA Method 23 sampling train consisted of a glass nozzle, a heated glass probe, a heated glassmat filter, a condenser, an XAD resin trap, an empty impinger, two chilled impingers each with 100mL of DI water, an empty impinger, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment was operated in accordance with EPA Method 23 with no exceptions.

At the end of each test run, the nozzle, probe, and filter fronthalf were rinsed with acetone and methylene chloride into a sample jar. The filter was recovered dry into a glass petri dish. The filter backhalf, and condenser were rinsed with acetone and methylene chloride into a sample jar. All of the components listed above up to the XAD resin trap were rinsed again with toluene into a sample jar. The XAD resin trap was sealed and placed into a chilled ice chest. The contents of the first three impingers were poured back into the original reagent jar. The silica gel was poured back into its original container. The moisture catch was then determined gravimetrically.

The samples were analyzed in accordance with EPA Method 23 for dioxins/furans.

4.6 EPA Modified Method 26

Hydrogen chloride concentrations and emission rates were determined utilizing EPA Method 26 modified to use large impingers. The EPA Method 26 sampling train consisted of a heated glass probe, a heated quartz filter, two chilled impingers each with 100mL of 0.1N H_2SO_4, two chilled impingers each with 100mL of DI, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment was operated in accordance with EPA Method 26 except that large impingers were used for sample collection.

At the end of each test run, the contents of the H_2SO_4 impingers were poured back into the original H_2SO_4 reagent jar. The contents of the DI impingers were poured back into the original reagent jar. The silica gel was returned to its original container. The moisture catch in the components was determined gravimetrically. The filter backhalf and H_2SO_4 impingers were rinsed with DI water into the H_2SO_4 reagent jar.

The H_2SO_4 portion of the samples were analyzed in accordance with EPA Method 26 for hydrogen chloride.

4.7 EPA Method 29

Mercury and metals concentrations and emission rates were determined utilizing EPA Method 29. The EPA Method 29 sampling train consisted of a glass nozzle, a heated glass probe, a heated quartz filter, two chilled impingers each with 100mL of 5%HNO_3/10%H_2O_2, an empty impinger, two chilled impingers each with 100mL of 4%$KMnO_4$/10%H_2SO_4, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment was operated in accordance with EPA Method 29 with no exceptions.

At the end of each test run, the nozzle, probe, and filter fronthalf were rinsed with 100 mL of 0.1N nitric acid into a sample jar. The filter was recovered dry into another sample jar. The contents of the 5%HNO_3/10%H_2O_2 impingers were poured back into the original reagent jar. Any condensate in the empty impinger was poured into a sample jar. The 4%$KMnO_4$/10%H_2SO_4 impingers were recovered into another sample jar.

The moisture catch was then determined gravimetrically. The filter backhalf and 5%HNO_3/10%H_2O_2 impingers were rinsed with 100 mL of 0.1N nitric acid into the reagent jar. The empty impinger was rinsed with 100 mL of 0.1N nitric acid into a sample jar. The 4%$KMnO_4$/10%H_2SO_4 impingers were rinsed with 100 mL of 4%$KMnO_4$/10%H_2SO_4 and 100 mL of DI water into the jar containing the 4%$KMnO_4$/10%H_2SO_4 reagent. The 4%$KMnO_4$/10%H_2SO_4 impingers and connecting glassware were rinsed with 25mL of 8N HCl if any brown residue remained. This HCl rinse was added to a jar containing 200mL of DI water.

The samples were analyzed in accordance with EPA Method 29 for mercury.

4.8 EPA Methods 3A, 6C, 7E, and 10

Oxygen, carbon dioxide, sulfur dioxide, nitrogen oxides, and carbon monoxide were determined utilizing a continuous emissions monitoring (CEM) system as per EPA Methods 3A, 6C, 7E, and 10. This section presents the sample system description and operation. No deviations from EPA Methods were performed.

The CEM system consisted of an in stack probe, heated out of stack filter, heated transfer lines, condenser, unheated Teflon sample lines, sample pump, distribution manifold board, analyzers, and calibration gases. All components of the sampling system that are in contact with the sample are constructed of Teflon, glass, or stainless steel (316). Flue gas was extracted from the source through a three-point stainless steel probe. Flue gas was then passed through a condenser. This filtering system removes interferences such as particulate and moisture. Conditioned flue gas was then transported via Teflon tubing to a Teflon lined sample pump, through a distribution manifold, and on to various analyzers.

The integrity of this sampling system was verified (as per EPA Methods) using EPA Protocol 1 calibration gases. The design of this sampling system allows the operator to introduce calibration gases at the outlet of the probe, prior to the heated out of Fabric Filter Outlet filter (for the system bias check and calibration drift check), and directly into the analyzers (for linearity checks).

5.0 QA/QC RESULTS

5.1 QA/QC Policy Procedures

TESTAR, Inc. is committed to adhering to Quality Assurance/Quality Control (QA/QC) procedures and objectives that meet or exceed the relevant EPA guidance. Our procedures include calibration of equipment as appropriate, proper glassware pre-cleaning to prevent contamination of samples, proper sample recovery, documented sample custody, blank samples, duplicate analyses, matrix spike recovery, and validated computer generated results. We also adhere to other method specific criteria such as maintaining isokinetic conditions during particulate type testing and posttest leak checks.

TESTAR, Inc. uses oil manometers to determine velocity differential pressures thus eliminating potential errors from magnehelic gauges. The manometers are leveled and zeroed prior to taking any measurements. All equipment used onsite undergoes a pretest audit and operational check for accuracy. Dry gas meters are checked by using an orifice to determine the meter gamma. The audit gamma must be within 3% of the full test gamma for the meter to be acceptable. Likewise, all thermocouples are checked at ambient temperature versus an ASTM reference thermometer or a thermometer that has been checked against an ASTM reference thermometer. The reading must agree within 2°F. Additionally, the barometer is checked against a reference barometer prior to each project and must agree within 0.1" Hg.

After each testing project, the dry gas meter undergoes a posttest audit using an orifice that results in a delta H approximately equal to the average delta H encountered during the test runs. The gamma must agree within 5% of the full test gamma.

5.2 Sample Custody and Preservation

Proper sample custody and preservation techniques ensure that the samples collected and analyzed are the same, that the sample did not change in concentration prior to analysis, and that the sample was not tampered with prior to analysis. To ensure accurate results, TESTAR collects and transports samples in clean containers that are inert to the matrix enclosed, that will not contaminate the sample, and that prevent photochemical reactions when appropriate. All samples contain unique identifiers that include the client name, facility name, TESTAR project number, collection date, unique run number, sample fraction, and matrix. Liquid levels are marked in order to determine is any leakage occurred during transport. Samples are accompanied by sample custody forms identifying the client, facility, project number, sample, fractions, collection date, etc. When custody is relinquished to the laboratory, the receiving sample custodian signs the form.

5.3 Sample Blanks, Duplicates, and Matrix Spikes

Several types of blanks are utilized depending upon the project QA objectives. Typical blanks include field blanks, reagent blanks, and trip blanks. Blanks help to identify the source of contamination if contamination is suspected based upon the result validation procedure. Trip blanks are typically not analyzed unless the field blank shows significant contamination. Field blanks and reagent blanks are analyzed during most testing programs involving metals unless requested not to do so by the client. Field blanks are analyzed during most programs involving organics such as dioxins/furans.

Duplicates and matrix spikes are analyzed for projects involving metals testing. At least 10% of the samples are analyzed in duplicate for metals and at least one matrix spike is performed. All mercury analyses are performed in duplicate.

Breakthrough analyses are performed for projects involving organics utilizing adsorbent tubes. Adsorbent tubes are desorbed and analyzed separately to determine if any breakthrough occurred. Breakthrough is said to have occurred if the organic catch weight on the last fraction (generally the backhalf of the last adsorbent tube) is more than 10% of the total train organic catch.

5.4 Data Validation and Presentation

The field test engineer is responsible for reviewing and validating data as it is obtained. Additionally the onsite project manager reviews data for consistency, completeness, and accuracy prior to leaving the site. This validation procedure is based upon their knowledge of the process being tested and/or similar sources as well as checks built into the software being utilized. This allows for error correction or for the testing to be repeated immediately rather than at a later undetermined date. The data undergoes another review by a Project Director upon return to headquarters. Analytical data is reviewed by the QA Director upon submittal by the analytical laboratory to resolve any conflicts or concerns as soon as possible rather than after the results have been calculated.

Data is collected using computerized spreadsheets in the field and the results are calculated using validated computer programs to prevent erroneous calculations.

5.5 QA/QC Results

This section presents QA/QC results from measures taken during the testing program. The results are summarized in the following tables for easy reference.

Table 5-1
Summary of QA/QC Procedures

Test Method	QA/QC Procedure	QA/QC Objective	QA/QC Results	Status of QA/QC
EPA M5	Acetone Blank	< 1.0E-5 mg/mg	1.3E-06 mg/mg	Acceptable
EPA M23	Extraction Standard Recoveries (4-6)	40 – 130 %	92.6 – 114 %	Acceptable
	Extraction Standard Recoveries (7-8)	25 – 130 %	88.3 – 111 %	Acceptable
	Sampling Standard Recoveries	70 – 130 %	89.3 – 101 %	Acceptable
	Alternate Standard Recoveries	70 – 130 %	95.4 – 106 %	Acceptable
EPA MM26	HCl Reagent Blank	ND	< 0.189 mg	Acceptable
	HCl Audit #J2198	Hydrogen Chloride	57.8 mg/L	Acceptable
	HCl Audit #J2602	Hydrogen Chloride	567 mg/L	Acceptable
	HCl Spike	90 – 110 %	91.0 %	Acceptable
EPA M29	Duplicate RPD	≤ 20 %	0 – 5.31 %	Acceptable
Beryllium	Reagent Blank	NA	< 0.100 ug	Acceptable
Cadmium	Reagent Blank	NA	< 0.400 ug	Acceptable
Lead	Reagent Blank	NA	< 1.00 ug	Acceptable
	Spike Recoveries	75 – 125 %	83.9 – 91.4 %	Acceptable
EPA M29	Duplicate RPD	≤ 20 %	0 – 4.71 %	Acceptable
	Reagent Blank	ND	< 1.00 ug	Acceptable
	Spike Recoveries	75 – 125 %	81.9 – 119 %	Acceptable
EPA M29 Audits	M29-0053-01/HG-0506	Mercury	212 ug	Acceptable
	M29-0052-01/HG-0462	Mercury	115 ug	Acceptable

APPENDIX A
Test Results

APPENDIX A.1
Test Results

Unit #1 SDA Inlet
Hydrogen Chloride

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **MM26**

Client Name	Ogden Energy Group, Inc.	Operator	ATM
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #1 SDA Inlet	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		1-I-MM26-1	1-I-MM26-2	1-I-MM26-3		
Run Date		01/25/01	01/25/01	1/29/01		
Run Start Time	hh:mm	803	1201	1425		
Run Stop Time	hh:mm	903	1301	1525		
Sampling Parameters						
Meter Calibration Factor	Y	0.9834	0.9834	0.9834		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-2.80	-2.80	-2.80		-2.80
Barometric Pressure	in Hg	30.0	30.0	29.9		30.0
Carbon Dioxide Percentage	% CO_2	7.8	8.5	8.5		8.3
Oxygen Percentage	% O_2	11.9	11.2	11.2		11.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.3	80.3		80.3
Total Water Volume Collected	mL	84.1	94.7	102.9		93.9
Sample Volume	ft^3	31.446	31.056	32.846		31.783
Average Meter Temperature	°F	58	67	82		69
Average Delta H	in H_2O	1.00	1.00	1.00		1.00
Total Sampling Time	min	60	60	60		60
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	3.959	4.458	4.844		4.420
Volume Metered @ STP	DSCF	31.698	30.738	31.532		31.323
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.7		29.8
Absolute Meter Pressure	in Hg	30.1	30.1	30.0		30.0
Calculated Stack Moisture	% H_20	11.1	12.7	13.3		12.4
Air Flow Rate Results						
Dry Standard Stack Flow/Minute	DSCFM	35,597	33,019	32,146		33,587

Concentration and Emission Rate Data Summary						
Hydrogen Chloride	mg	365	673	977		
Molecular Weight	MW	36.46	36.46	36.46		
Concentration, ppm	ppm	268	510	722		500
Concentration @ 12% CO_2	ppm@12%	413	720	1019		717
Concentration @ 7% O_2	ppm@7%	414	731	1034		727
Emission Rate, lb/hr	lb/hr	54.2	95.6	132		93.9

APPENDIX A.2
Test Results

Unit #1 SDA Inlet
Mercury

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD M29

Client Name	Ogden Energy Group, Inc.	Operator	ATM
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #1 SDA Inlet	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		1-I-M29-1	1-I-M29-2	1-I-M29-3		
Run Date		01/25/01	01/25/01	1/29/01		
Run Start Time	hh:mm	802	1200	1424		
Run Stop Time	hh:mm	1008	1404	1629		
Sampling Parameters						
Meter Calibration Factor	Y	0.9606	0.9606	0.9606		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-2.80	-2.90	-2.80		-2.83
Stack Cross-Sectional Area	ft^2	20.25	20.25	20.25		20.25
Barometric Pressure	in Hg	30.0	30.0	29.9		30.0
Actual Nozzle Diameter	in	0.258	0.255	0.255		
Carbon Dioxide Percentage	% CO_2	7.8	8.5	8.5		8.3
Oxygen Percentage	% O_2	11.9	11.2	11.2		11.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.3	80.3		80.3
Total Water Volume Collected	mL	192.9	192.7	211.8		199.1
Sample Volume	ft^3	77.338	72.422	72.201		73.987
Average Meter Temperature	°F	61	72	85		73
Average Stack Temperature	°F	437	430	413		427
Average Delta H	in H_2O	1.32	1.09	1.04		1.15
Total Sampling Time	min	121.5	121.5	121.5		122
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	9.080	9.070	9.969		9.373
Volume Metered @ STP	DSCF	75.767	69.325	67.346		70.813
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.7		29.8
Absolute Meter Pressure	in Hg	30.1	30.1	30.0		30.1
Calculated Stack Moisture	% H_20	10.7	11.6	12.9		11.7
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	10.7	11.6	12.9		11.7
Dry Mole Fraction	decimal	0.893	0.884	0.871		0.883
Avg Differential Pressure (Delta P)	in H_2O	0.575	0.500	0.478		0.517
Dry Gas Molecular Weight	lb/lb-mole	29.72	29.81	29.81		29.78
Wet Stack Gas Molecular Weight	lb/lb-mole	28.47	28.44	28.29		28.40
Average Stack Gas Velocity	ft/sec	56.00	52.02	50.58		52.87
Percent of Isokinetic Rate	% ISO	97.8	98.7	98.5		98.3
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	68,042	63,200	61,454		64,232
Dry Standard Stack Flow/Minute	DSCFM	35,597	33,019	32,146		33,588

Concentration and Emission Rate Data Summary						
Mercury (Hg)	ug	384.20	2898.35	181.75		1154.77
Concentration ug/DSCM	ug/DSCM	179	1476	95.3		584
Concentration ug @ 12% CO2	ug@12%	275	2084	135		831
Concentration ug @ 7% O_2	ug@7%	277	2115	137		843
Emission Rate, lb/hr	lb/hr	0.0239	0.183	0.0115		0.0727

APPENDIX A.3
Test Results

Unit #1 SDA Inlet
Sulfur Dioxide and Carbon Monoxide

EMISSION RATE DATA SUMMARY

Client Name	Ogden Energy Group, Inc.	**Operator**	WHH
Plant Name	Lake County RRF	**Project #**	10184
Sampling Location	Unit 1 SDA Inlet		

Run Number		1	2	3	Average
Run Date		1/23/01	1/23/01	1/23/01	
Run Start Time	hh:mm	921	1127	1245	
Run Stop Time	hh:mm	1021	1227	1345	
Carbon Dioxide Percentage	% CO_2	8.4	8.9	9.1	8.8
Oxygen Percentage	% O_2	10.9	10.5	10.2	10.5

Sulfur Dioxide					
Formula Weight	Fwt	64.06	64.06	64.06	
Concentration, ppm (dry)	ppmvd	0.3	1.3	1.0	0.9
Concentration, ppm@7%O2	ppm@7%O2	0.4	1.7	1.3	1.2
Concentration, ppm@12%CO2	ppm@12%CO2	0.4	1.8	1.3	1.2

Carbon Monoxide					
Formula Weight	Fwt	28.01	28.01	28.01	
Concentration, ppm (dry)	ppmvd	9.3	7.0	9.0	8.4
Concentration, ppm@7%O2	ppm@7%O2	12.9	9.4	11.7	11.3
Concentration, ppm@12%CO2	ppm@12%CO2	13.3	9.4	11.9	11.5

APPENDIX A.4
Test Results

Unit #1 FF Outlet
Sulfur Dioxide and Nitrogen Oxides

EMISSION RATE DATA SUMMARY

Client Name	Ogden Energy Group, Inc.	Operator	WHH
Plant Name	Lake County RRF	Project #	10184
Sampling Location	Unit 1 FF Outlet		

Run Number		1	2	3	Average
Run Date		1/23/01	1/23/01	1/23/01	
Run Start Time	hh:mm	921	1127	1245	
Run Stop Time	hh:mm	1021	1227	1345	
Carbon Dioxide Percentage	% CO_2	7.9	8.3	8.4	8.2
Oxygen Percentage	% O_2	11.6	11.3	11.1	11.3

Sulfur Dioxide					
Formula Weight	Fwt	64.06	64.06	64.06	64.06
Concentration, ppm (dry)	ppmvd	0.1	0.0	0.0	0.0
Concentration, ppm@7%O2	ppm@7%O2	0.1	0.0	0.0	0.0
Concentration, ppm@12%CO2	ppm@12%CO2	0.2	0.0	0.0	0.1

Nitrogen Oxides as NO2					
Formula Weight	Fwt	46.01	46.01	46.01	46.01
Concentration, ppm (dry)	ppmvd	114.9	119.1	123.2	119.1
Concentration, ppm@7%O2	ppm@7%O2	172	172	175	173
Concentration, ppm@12%CO2	ppm@12%CO2	175	172	176	174

Removal Efficiency Summary For: SO2

		ppm @ 7% O2		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
1	1	0.4	0.1	75.0%
	2	1.7	0.0	100.0%
	3	1.3	0.0	100.0%
			AVERAGE =>	91.7%

		ppm @ 12% CO2		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
1	1	0.4	0.2	50.0%
	2	1.8	0.0	100.0%
	3	1.3	0.0	100.0%
			AVERAGE =>	83.3%

APPENDIX A.5
Test Results

Unit #1 Stack
Dioxins/Furans

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD 23

Client Name	Ogden Energy Group, Inc.	Operator	ATM
Plant Name	Lake County Resource Rec Facility	Project #	10184
Sampling Location	Unit #1 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET
Run Number		1-S-M23-1	1-S-M23-2	1-S-M23-3		AVERAGE
Run Date		1/23/01	01/24/01	01/24/01		
Run Start Time	hh:mm	1302	825	1300		
Run Stop Time	hh:mm	1719	1228	1745		
Sampling Parameters						
Meter Calibration Factor	Y	1.0062	1.0062	1.0062		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.85	-0.72	-0.76		-0.78
Stack Cross-Sectional Area	ft^2	16.499	16.499	16.499		16.499
Barometric Pressure	in Hg	29.8	29.9	29.9		29.9
Actual Nozzle Diameter	in	0.197	0.194	0.195		
Carbon Dioxide Percentage	% CO_2	7.5	7.3	7.5		7.4
Oxygen Percentage	% O_2	12.1	12.3	12.2		12.2
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.4	80.4	80.3		80.4
Total Water Volume Collected	mL	457.5	399.9	426.3		427.9
Sample Volume	ft^3	132.467	126.725	134.033		131.075
Average Meter Temperature	°F	75	72	74		74
Average Stack Temperature	°F	278	274	279		277
Average Delta H	in H_2O	1.04	0.98	1.08		1.03
Total Sampling Time	min	240	240	240		240
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	21.535	18.823	20.066		20.141
Volume Metered @ STP	DSCF	131.238	126.735	133.467		130.480
Absolute Stack/Duct Pressure	in Hg	29.7	29.8	29.8		29.8
Absolute Meter Pressure	in Hg	29.9	30.0	30.0		29.9
Calculated Stack Moisture	% H_20	14.1	12.9	13.1		13.4
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	14.1	12.9	13.1		13.4
Dry Mole Fraction	decimal	0.859	0.871	0.869		0.866
Avg Differential Press. (Delta P)	in H_2O	1.126	1.113	1.212		1.150
Dry Gas Molecular Weight	lb/lb-mole	29.68	29.66	29.69		29.68
Wet Stack Gas Molecular Weight	lb/lb-mole	28.04	28.15	28.16		28.12
Average Stack Gas Velocity	ft/sec	71.69	70.82	74.14		72.22
Percent of Isokinetic Rate	% ISO	98.4	97.0	97.4		97.6
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	70,967	70,110	73,398		71,492
Dry Standard Stack Flow/Minute	DSCFM	43,339	43,791	45,457		44,196

Concentration and Emission Rate Data Summary						
2,3,7,8-TCDD	pg	0.0000	6.4500	0.0000		2.1500
Concentration, ng/Nm3	ng/Nm3	0.00E+00	1.80E-03	0.00E+00		5.99E-04
Concen., ng/Nm3 @ 12% CO_2	ng@12%	0.00E+00	2.95E-03	0.00E+00		9.85E-04
Concen., ng/Nm3 @ 7% O_2	ng@7%	0.00E+00	2.90E-03	0.00E+00		9.68E-04
Emission Rate, lb/hr	lb/hr	0.00E+00	2.95E-10	0.00E+00		9.83E-11
Emission Rate, grams/second	g/s	0.00E+00	3.71E-11	0.00E+00		1.24E-11
Other TCDD	pg	67.7000	145.5500	33.1000		82.1167
Concentration, ng/Nm3	ng/Nm3	1.82E-02	4.06E-02	8.76E-03		2.25E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.91E-02	6.67E-02	1.40E-02		3.66E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.88E-02	6.55E-02	1.40E-02		3.61E-02
Emission Rate, lb/hr	lb/hr	2.96E-09	6.65E-09	1.49E-09		3.70E-09
Emission Rate, grams/second	g/s	3.73E-10	8.38E-10	1.88E-10		4.66E-10
1,2,3,7,8-PeCDD	pg	5.7500	70.8000	4.2500		26.9333
Concentration, ng/Nm3	ng/Nm3	1.55E-03	1.97E-02	1.12E-03		7.47E-03
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.48E-03	3.24E-02	1.80E-03		1.22E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.44E-03	3.19E-02	1.80E-03		1.20E-02
Emission Rate, lb/hr	lb/hr	2.51E-10	3.24E-09	1.91E-10		1.23E-09
Emission Rate, grams/second	g/s	3.16E-11	4.08E-10	2.41E-11		1.54E-10
Other PeCDD	pg	124.2500	490.2000	79.8500		231.4333
Concentration, ng/Nm3	ng/Nm3	3.34E-02	1.37E-01	2.11E-02		6.37E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.35E-02	2.25E-01	3.38E-02		1.04E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.28E-02	2.21E-01	3.38E-02		1.02E-01
Emission Rate, lb/hr	lb/hr	5.43E-09	2.24E-08	3.60E-09		1.05E-08
Emission Rate, grams/second	g/s	6.84E-10	2.82E-09	4.53E-10		1.32E-09
1,2,3,4,7,8-HxCDD	pg	8.0000	112.0000	4.9300		41.6433
Concentration, ng/Nm3	ng/Nm3	2.15E-03	3.12E-02	1.30E-03		1.16E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	3.44E-03	5.13E-02	2.09E-03		1.89E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	3.40E-03	5.04E-02	2.08E-03		1.86E-02
Emission Rate, lb/hr	lb/hr	3.49E-10	5.12E-09	2.22E-10		1.90E-09
Emission Rate, grams/second	g/s	4.40E-11	6.45E-10	2.80E-11		2.39E-10
1,2,3,6,7,8-HxCDD	pg	17.0000	203.0000	9.2200		76.4067
Concentration, ng/Nm3	ng/Nm3	4.57E-03	5.66E-02	2.44E-03		2.12E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	7.32E-03	9.30E-02	3.90E-03		3.47E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	7.22E-03	9.14E-02	3.90E-03		3.42E-02
Emission Rate, lb/hr	lb/hr	7.43E-10	9.28E-09	4.15E-10		3.48E-09
Emission Rate, grams/second	g/s	9.36E-11	1.17E-09	5.23E-11		4.38E-10
1,2,3,7,8,9-HxCDD	pg	11.9000	195.0000	6.0900		70.9967
Concentration, ng/Nm3	ng/Nm3	3.20E-03	5.43E-02	1.61E-03		1.97E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.12E-03	8.93E-02	2.58E-03		3.23E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.06E-03	8.78E-02	2.57E-03		3.18E-02
Emission Rate, lb/hr	lb/hr	5.20E-10	8.91E-09	2.74E-10		3.24E-09
Emission Rate, grams/second	g/s	6.55E-11	1.12E-09	3.46E-11		4.08E-10

Other HxCDD	pg	231.1000	1490.0000	126.7600		615.9533
Concentration, ng/Nm3	ng/Nm3	6.22E-02	4.15E-01	3.35E-02		1.70E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	9.95E-02	6.82E-01	5.37E-02		2.79E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	9.82E-02	6.71E-01	5.36E-02		2.74E-01
Emission Rate, lb/hr	lb/hr	1.01E-08	6.81E-08	5.71E-09		2.80E-08
Emission Rate, grams/second	g/s	1.27E-09	8.58E-09	7.20E-10		3.52E-09

1,2,3,4,6,7,8-HpCDD	pg	108.0000	1430.0000	48.1000		528.7000
Concentration, ng/Nm3	ng/Nm3	2.91E-02	3.98E-01	1.27E-02		1.47E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	4.65E-02	6.55E-01	2.04E-02		2.41E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	4.59E-02	6.44E-01	2.03E-02		2.37E-01
Emission Rate, lb/hr	lb/hr	4.72E-09	6.54E-08	2.17E-09		2.41E-08
Emission Rate, grams/second	g/s	5.94E-10	8.24E-09	2.73E-10		3.03E-09

Other HpCDD	pg	91.0000	1130.0000	54.9000		425.3000
Concentration, ng/Nm3	ng/Nm3	2.45E-02	3.15E-01	1.45E-02		1.18E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	3.92E-02	5.18E-01	2.32E-02		1.93E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	3.87E-02	5.09E-01	2.32E-02		1.90E-01
Emission Rate, lb/hr	lb/hr	3.98E-09	5.16E-08	2.47E-09		1.94E-08
Emission Rate, grams/second	g/s	5.01E-10	6.51E-09	3.12E-10		2.44E-09

OCDD	pg	355.0000	2810.0000	106.0000		1090.3333
Concentration, ng/Nm3	ng/Nm3	9.55E-02	7.83E-01	2.80E-02		3.02E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.53E-01	1.29E+00	4.49E-02		4.95E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.51E-01	1.27E+00	4.48E-02		4.87E-01
Emission Rate, lb/hr	lb/hr	1.55E-08	1.28E-07	4.78E-09		4.96E-08
Emission Rate, grams/second	g/s	1.95E-09	1.62E-08	6.02E-10		6.25E-09

2,3,7,8-TCDF	pg	12.1000	102.0000	8.6500		40.9167
Concentration, ng/Nm3	ng/Nm3	3.26E-03	2.84E-02	2.29E-03		1.13E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.21E-03	4.67E-02	3.66E-03		1.85E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.14E-03	4.59E-02	3.66E-03		1.82E-02
Emission Rate, lb/hr	lb/hr	5.29E-10	4.66E-09	3.90E-10		1.86E-09
Emission Rate, grams/second	g/s	6.66E-11	5.87E-10	4.91E-11		2.34E-10

Other TCDF	pg	369.9000	1688.0000	285.3500		781.0833
Concentration, ng/Nm3	ng/Nm3	9.95E-02	4.70E-01	7.55E-02		2.15E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.59E-01	7.73E-01	1.21E-01		3.51E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.57E-01	7.60E-01	1.21E-01		3.46E-01
Emission Rate, lb/hr	lb/hr	1.62E-08	7.72E-08	1.29E-08		3.54E-08
Emission Rate, grams/second	g/s	2.04E-09	9.72E-09	1.62E-09		4.46E-09

1,2,3,7,8-PeCDF	pg	25.4000	269.0000	18.4000		104.2667
Concentration, ng/Nm3	ng/Nm3	6.83E-03	7.49E-02	4.87E-03		2.89E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.09E-02	1.23E-01	7.79E-03		4.73E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.08E-02	1.21E-01	7.78E-03		4.66E-02
Emission Rate, lb/hr	lb/hr	1.11E-09	1.23E-08	8.29E-10		4.74E-09
Emission Rate, grams/second	g/s	1.40E-10	1.55E-09	1.04E-10		5.98E-10

2,3,4,7,8-PeCDF	pg	32.1000	342.0000	21.8000		131.9667
Concentration, ng/Nm3	ng/Nm3	8.64E-03	9.53E-02	5.77E-03		3.66E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.38E-02	1.57E-01	9.23E-03		5.99E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.36E-02	1.54E-01	9.21E-03		5.90E-02
Emission Rate, lb/hr	lb/hr	1.40E-09	1.56E-08	9.82E-10		6.01E-09
Emission Rate, grams/second	g/s	1.77E-10	1.97E-09	1.24E-10		7.57E-10

Other PeCDF	pg	285.5000	2259.0000	216.8000		920.4333
Concentration, ng/Nm3	ng/Nm3	7.68E-02	6.29E-01	5.74E-02		2.55E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.23E-01	1.03E+00	9.18E-02		4.16E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.21E-01	1.02E+00	9.16E-02		4.10E-01
Emission Rate, lb/hr	lb/hr	1.25E-08	1.03E-07	9.77E-09		4.18E-08
Emission Rate, grams/second	g/s	1.57E-09	1.30E-08	1.23E-09		5.27E-09

1,2,3,4,7,8-HxCDF	pg	33.3000	588.0000	23.7000		215.0000
Concentration, ng/Nm3	ng/Nm3	8.96E-03	1.64E-01	6.27E-03		5.97E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.43E-02	2.69E-01	1.00E-02		9.79E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.42E-02	2.65E-01	1.00E-02		9.63E-02
Emission Rate, lb/hr	lb/hr	1.45E-09	2.69E-08	1.07E-09		9.80E-09
Emission Rate, grams/second	g/s	1.83E-10	3.39E-09	1.35E-10		1.23E-09

1,2,3,6,7,8-HxCDF	pg	36.1000	697.0000	28.2000		253.7667
Concentration, ng/Nm3	ng/Nm3	9.71E-03	1.94E-01	7.46E-03		7.05E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.55E-02	3.19E-01	1.19E-02		1.16E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.53E-02	3.14E-01	1.19E-02		1.14E-01
Emission Rate, lb/hr	lb/hr	1.58E-09	3.19E-08	1.27E-09		1.16E-08
Emission Rate, grams/second	g/s	1.99E-10	4.01E-09	1.60E-10		1.46E-09

2,3,4,6,7,8-HxCDF	pg	35.5000	749.0000	24.1000		269.5333
Concentration, ng/Nm3	ng/Nm3	9.55E-03	2.09E-01	6.38E-03		7.49E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.53E-02	3.43E-01	1.02E-02		1.23E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.51E-02	3.37E-01	1.02E-02		1.21E-01
Emission Rate, lb/hr	lb/hr	1.55E-09	3.42E-08	1.09E-09		1.23E-08
Emission Rate, grams/second	g/s	1.95E-10	4.31E-09	1.37E-10		1.55E-09

1,2,3,7,8,9-HxCDF	pg	11.1000	263.0000	6.5600		93.5533
Concentration, ng/Nm3	ng/Nm3	2.99E-03	7.33E-02	1.74E-03		2.60E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	4.78E-03	1.20E-01	2.78E-03		4.27E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	4.72E-03	1.18E-01	2.77E-03		4.20E-02
Emission Rate, lb/hr	lb/hr	4.85E-10	1.20E-08	2.96E-10		4.27E-09
Emission Rate, grams/second	g/s	6.11E-11	1.51E-09	3.72E-11		5.38E-10

Other HxCDF	pg	173.0000	2523.0000	112.4400		936.1467
Concentration, ng/Nm3	ng/Nm3	4.65E-02	7.03E-01	2.97E-02		2.60E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	7.45E-02	1.16E+00	4.76E-02		4.26E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	7.35E-02	1.14E+00	4.75E-02		4.19E-01
Emission Rate, lb/hr	lb/hr	7.56E-09	1.15E-07	5.07E-09		4.26E-08
Emission Rate, grams/second	g/s	9.52E-10	1.45E-08	6.38E-10		5.37E-09

1,2,3,4,6,7,8-HpCDF	pg	80.0000	2100.0000	57.3000		745.7667
Concentration, ng/Nm3	ng/Nm3	2.15E-02	5.85E-01	1.52E-02		2.07E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	3.44E-02	9.62E-01	2.43E-02		3.40E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	3.40E-02	9.46E-01	2.42E-02		3.35E-01
Emission Rate, lb/hr	lb/hr	3.49E-09	9.60E-08	2.58E-09		3.40E-08
Emission Rate, grams/second	g/s	4.40E-10	1.21E-08	3.25E-10		4.29E-09

1,2,3,4,7,8,9-HpCDF	pg	13.9000	392.0000	6.7300		137.5433
Concentration, ng/Nm3	ng/Nm3	3.74E-03	1.09E-01	1.78E-03		3.82E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.98E-03	1.80E-01	2.85E-03		6.28E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.91E-03	1.77E-01	2.84E-03		6.18E-02
Emission Rate, lb/hr	lb/hr	6.07E-10	1.79E-08	3.03E-10		6.28E-09
Emission Rate, grams/second	g/s	7.65E-11	2.26E-09	3.82E-11		7.91E-10

Other HpCDF	pg	34.1000	1068.0000	19.1700		373.7567
Concentration, ng/Nm3	ng/Nm3	9.17E-03	2.98E-01	5.07E-03		1.04E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.47E-02	4.89E-01	8.11E-03		1.71E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.45E-02	4.81E-01	8.10E-03		1.68E-01
Emission Rate, lb/hr	lb/hr	1.49E-09	4.88E-08	8.64E-10		1.71E-08
Emission Rate, grams/second	g/s	1.88E-10	6.15E-09	1.09E-10		2.15E-09

OCDF	pg	28.6000	897.0000	13.9000		313.1667
Concentration, ng/Nm3	ng/Nm3	7.69E-03	2.50E-01	3.68E-03		8.71E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.23E-02	4.11E-01	5.88E-03		1.43E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.22E-02	4.04E-01	5.88E-03		1.41E-01
Emission Rate, lb/hr	lb/hr	1.25E-09	4.10E-08	6.26E-10		1.43E-08
Emission Rate, grams/second	g/s	1.57E-10	5.17E-09	7.89E-11		1.80E-09

Unit #1 Stack
Concentration and Emission Rate Summary
Run Number: 1-S-M23-1

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Other TCDD	1	1.82E-02	2.91E-02	2.88E-02	2.96E-09	3.73E-10
1,2,3,7,8-PeCDD	1	1.55E-03	2.48E-03	2.44E-03	2.51E-10	3.16E-11
Other PeCDD	1	3.34E-02	5.35E-02	5.28E-02	5.43E-09	6.84E-10
1,2,3,4,7,8-HxCDD	1	2.15E-03	3.44E-03	3.40E-03	3.49E-10	4.40E-11
1,2,3,6,7,8-HxCDD	1	4.57E-03	7.32E-03	7.22E-03	7.43E-10	9.36E-11
1,2,3,7,8,9-HxCDD	1	3.20E-03	5.12E-03	5.06E-03	5.20E-10	6.55E-11
Other HxCDD	1	6.22E-02	9.95E-02	9.82E-02	1.01E-08	1.27E-09
1,2,3,4,6,7,8-HpCDD	1	2.91E-02	4.65E-02	4.59E-02	4.72E-09	5.94E-10
Other HpCDD	1	2.45E-02	3.92E-02	3.87E-02	3.98E-09	5.01E-10
OCDD	1	9.55E-02	1.53E-01	1.51E-01	1.55E-08	1.95E-09
TOTAL PCDD		2.74E-01	4.39E-01	4.33E-01	4.45E-08	5.61E-09
2,3,7,8-TCDF	1	3.26E-03	5.21E-03	5.14E-03	5.29E-10	6.66E-11
Other TCDF	1	9.95E-02	1.59E-01	1.57E-01	1.62E-08	2.04E-09
1,2,3,7,8-PeCDF	1	6.83E-03	1.09E-02	1.08E-02	1.11E-09	1.40E-10
2,3,4,7,8-PeCDF	1	8.64E-03	1.38E-02	1.36E-02	1.40E-09	1.77E-10
Other PeCDF	1	7.68E-02	1.23E-01	1.21E-01	1.25E-08	1.57E-09
1,2,3,4,7,8-HxCDF	1	8.96E-03	1.43E-02	1.42E-02	1.45E-09	1.83E-10
1,2,3,6,7,8-HxCDF	1	9.71E-03	1.55E-02	1.53E-02	1.58E-09	1.99E-10
2,3,4,6,7,8-HxCDF	1	9.55E-03	1.53E-02	1.51E-02	1.55E-09	1.95E-10
1,2,3,7,8,9-HxCDF	1	2.99E-03	4.78E-03	4.72E-03	4.85E-10	6.11E-11
Other HxCDF	1	4.65E-02	7.45E-02	7.35E-02	7.56E-09	9.52E-10
1,2,3,4,6,7,8-HpCDF	1	2.15E-02	3.44E-02	3.40E-02	3.49E-09	4.40E-10
1,2,3,4,7,8,9-HpCDF	1	3.74E-03	5.98E-03	5.91E-03	6.07E-10	7.65E-11
Other HpCDF	1	9.17E-03	1.47E-02	1.45E-02	1.49E-09	1.88E-10
OCDF	1	7.69E-03	1.23E-02	1.22E-02	1.25E-09	1.57E-10
TOTAL PCDF		3.15E-01	5.04E-01	4.97E-01	5.11E-08	6.44E-09
TOTAL PCDD/PCDF		5.89E-01	9.43E-01	9.31E-01	9.57E-08	1.21E-08

Unit #1 Stack
Concentration and Emission Rate Summary
Run Number: 1-S-M23-2

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	1.80E-03	2.95E-03	2.90E-03	2.95E-10	3.71E-11
Other TCDD	1	4.06E-02	6.67E-02	6.55E-02	6.65E-09	8.38E-10
1,2,3,7,8-PeCDD	1	1.97E-02	3.24E-02	3.19E-02	3.24E-09	4.08E-10
Other PeCDD	1	1.37E-01	2.25E-01	2.21E-01	2.24E-08	2.82E-09
1,2,3,4,7,8-HxCDD	1	3.12E-02	5.13E-02	5.04E-02	5.12E-09	6.45E-10
1,2,3,6,7,8-HxCDD	1	5.66E-02	9.30E-02	9.14E-02	9.28E-09	1.17E-09
1,2,3,7,8,9-HxCDD	1	5.43E-02	8.93E-02	8.78E-02	8.91E-09	1.12E-09
Other HxCDD	1	4.15E-01	6.82E-01	6.71E-01	6.81E-08	8.58E-09
1,2,3,4,6,7,8-HpCDD	1	3.98E-01	6.55E-01	6.44E-01	6.54E-08	8.24E-09
Other HpCDD	1	3.15E-01	5.18E-01	5.09E-01	5.16E-08	6.51E-09
OCDD	1	7.83E-01	1.29E+00	1.27E+00	1.28E-07	1.62E-08
TOTAL PCDD		2.25E+00	3.70E+00	3.64E+00	3.69E-07	4.65E-08
2,3,7,8-TCDF	1	2.84E-02	4.67E-02	4.59E-02	4.66E-09	5.87E-10
Other TCDF	1	4.70E-01	7.73E-01	7.60E-01	7.72E-08	9.72E-09
1,2,3,7,8-PeCDF	1	7.49E-02	1.23E-01	1.21E-01	1.23E-08	1.55E-09
2,3,4,7,8-PeCDF	1	9.53E-02	1.57E-01	1.54E-01	1.56E-08	1.97E-09
Other PeCDF	1	6.29E-01	1.03E+00	1.02E+00	1.03E-07	1.30E-08
1,2,3,4,7,8-HxCDF	1	1.64E-01	2.69E-01	2.65E-01	2.69E-08	3.39E-09
1,2,3,6,7,8-HxCDF	1	1.94E-01	3.19E-01	3.14E-01	3.19E-08	4.01E-09
2,3,4,6,7,8-HxCDF	1	2.09E-01	3.43E-01	3.37E-01	3.42E-08	4.31E-09
1,2,3,7,8,9-HxCDF	1	7.33E-02	1.20E-01	1.18E-01	1.20E-08	1.51E-09
Other HxCDF	1	7.03E-01	1.16E+00	1.14E+00	1.15E-07	1.45E-08
1,2,3,4,6,7,8-HpCDF	1	5.85E-01	9.62E-01	9.46E-01	9.60E-08	1.21E-08
1,2,3,4,7,8,9-HpCDF	1	1.09E-01	1.80E-01	1.77E-01	1.79E-08	2.26E-09
Other HpCDF	1	2.98E-01	4.89E-01	4.81E-01	4.88E-08	6.15E-09
OCDF	1	2.50E-01	4.11E-01	4.04E-01	4.10E-08	5.17E-09
TOTAL PCDF		3.88E+00	6.38E+00	6.28E+00	6.37E-07	8.03E-08
TOTAL PCDD/PCDF		6.14E+00	1.01E+01	9.92E+00	1.01E-06	1.27E-07

Unit #1 Stack
Concentration and Emission Rate Summary
Run Number: 1-S-M23-3

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Other TCDD	1	8.76E-03	1.40E-02	1.40E-02	1.49E-09	1.88E-10
1,2,3,7,8-PeCDD	1	1.12E-03	1.80E-03	1.80E-03	1.91E-10	2.41E-11
Other PeCDD	1	2.11E-02	3.38E-02	3.38E-02	3.60E-09	4.53E-10
1,2,3,4,7,8-HxCDD	1	1.30E-03	2.09E-03	2.08E-03	2.22E-10	2.80E-11
1,2,3,6,7,8-HxCDD	1	2.44E-03	3.90E-03	3.90E-03	4.15E-10	5.23E-11
1,2,3,7,8,9-HxCDD	1	1.61E-03	2.58E-03	2.57E-03	2.74E-10	3.46E-11
Other HxCDD	1	3.35E-02	5.37E-02	5.36E-02	5.71E-09	7.20E-10
1,2,3,4,6,7,8-HpCDD	1	1.27E-02	2.04E-02	2.03E-02	2.17E-09	2.73E-10
Other HpCDD	1	1.45E-02	2.32E-02	2.32E-02	2.47E-09	3.12E-10
OCDD	1	2.80E-02	4.49E-02	4.48E-02	4.78E-09	6.02E-10
TOTAL PCDD		1.25E-01	2.00E-01	2.00E-01	2.13E-08	2.69E-09
2,3,7,8-TCDF	1	2.29E-03	3.66E-03	3.66E-03	3.90E-10	4.91E-11
Other TCDF	1	7.55E-02	1.21E-01	1.21E-01	1.29E-08	1.62E-09
1,2,3,7,8-PeCDF	1	4.87E-03	7.79E-03	7.78E-03	8.29E-10	1.04E-10
2,3,4,7,8-PeCDF	1	5.77E-03	9.23E-03	9.21E-03	9.82E-10	1.24E-10
Other PeCDF	1	5.74E-02	9.18E-02	9.16E-02	9.77E-09	1.23E-09
1,2,3,4,7,8-HxCDF	1	6.27E-03	1.00E-02	1.00E-02	1.07E-09	1.35E-10
1,2,3,6,7,8-HxCDF	1	7.46E-03	1.19E-02	1.19E-02	1.27E-09	1.60E-10
2,3,4,6,7,8-HxCDF	1	6.38E-03	1.02E-02	1.02E-02	1.09E-09	1.37E-10
1,2,3,7,8,9-HxCDF	1	1.74E-03	2.78E-03	2.77E-03	2.96E-10	3.72E-11
Other HxCDF	1	2.97E-02	4.76E-02	4.75E-02	5.07E-09	6.38E-10
1,2,3,4,6,7,8-HpCDF	1	1.52E-02	2.43E-02	2.42E-02	2.58E-09	3.25E-10
1,2,3,4,7,8,9-HpCDF	1	1.78E-03	2.85E-03	2.84E-03	3.03E-10	3.82E-11
Other HpCDF	1	5.07E-03	8.11E-03	8.10E-03	8.64E-10	1.09E-10
OCDF	1	3.68E-03	5.88E-03	5.88E-03	6.26E-10	7.89E-11
TOTAL PCDF		2.23E-01	3.57E-01	3.56E-01	3.80E-08	4.79E-09
TOTAL PCDD/PCDF		3.48E-01	5.57E-01	5.56E-01	5.93E-08	7.47E-09

Unit #1 Stack
Average Concentration and Emission Rate Summary

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	5.99E-04	9.85E-04	9.68E-04	9.83E-11	1.24E-11
Other TCDD	1	2.25E-02	3.66E-02	3.61E-02	3.70E-09	4.66E-10
1,2,3,7,8-PeCDD	1	7.47E-03	1.22E-02	1.20E-02	1.23E-09	1.54E-10
Other PeCDD	1	6.37E-02	1.04E-01	1.02E-01	1.05E-08	1.32E-09
1,2,3,4,7,8-HxCDD	1	1.16E-02	1.89E-02	1.86E-02	1.90E-09	2.39E-10
1,2,3,6,7,8-HxCDD	1	2.12E-02	3.47E-02	3.42E-02	3.48E-09	4.38E-10
1,2,3,7,8,9-HxCDD	1	1.97E-02	3.23E-02	3.18E-02	3.24E-09	4.08E-10
Other HxCDD	1	1.70E-01	2.79E-01	2.74E-01	2.80E-08	3.52E-09
1,2,3,4,6,7,8-HpCDD	1	1.47E-01	2.41E-01	2.37E-01	2.41E-08	3.03E-09
Other HpCDD	1	1.18E-01	1.93E-01	1.90E-01	1.94E-08	2.44E-09
OCDD	1	3.02E-01	4.95E-01	4.87E-01	4.96E-08	6.25E-09
TOTAL PCDD		8.84E-01	1.45E+00	1.42E+00	1.45E-07	1.83E-08
2,3,7,8-TCDF	1	1.13E-02	1.85E-02	1.82E-02	1.86E-09	2.34E-10
Other TCDF	1	2.15E-01	3.51E-01	3.46E-01	3.54E-08	4.46E-09
1,2,3,7,8-PeCDF	1	2.89E-02	4.73E-02	4.66E-02	4.74E-09	5.98E-10
2,3,4,7,8-PeCDF	1	3.66E-02	5.99E-02	5.90E-02	6.01E-09	7.57E-10
Other PeCDF	1	2.55E-01	4.16E-01	4.10E-01	4.18E-08	5.27E-09
1,2,3,4,7,8-HxCDF	1	5.97E-02	9.79E-02	9.63E-02	9.80E-09	1.23E-09
1,2,3,6,7,8-HxCDF	1	7.05E-02	1.16E-01	1.14E-01	1.16E-08	1.46E-09
2,3,4,6,7,8-HxCDF	1	7.49E-02	1.23E-01	1.21E-01	1.23E-08	1.55E-09
1,2,3,7,8,9-HxCDF	1	2.60E-02	4.27E-02	4.20E-02	4.27E-09	5.38E-10
Other HxCDF	1	2.60E-01	4.26E-01	4.19E-01	4.26E-08	5.37E-09
1,2,3,4,6,7,8-HpCDF	1	2.07E-01	3.40E-01	3.35E-01	3.40E-08	4.29E-09
1,2,3,4,7,8,9-HpCDF	1	3.82E-02	6.28E-02	6.18E-02	6.28E-09	7.91E-10
Other HpCDF	1	1.04E-01	1.71E-01	1.68E-01	1.71E-08	2.15E-09
OCDF	1	8.71E-02	1.43E-01	1.41E-01	1.43E-08	1.80E-09
TOTAL PCDF		1.47E+00	2.41E+00	2.38E+00	2.42E-07	3.05E-08
TOTAL PCDD/PCDF		2.36E+00	3.86E+00	3.80E+00	3.87E-07	4.88E-08

APPENDIX A.6
Test Results

Unit #1 Stack
Hydrogen Chloride

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **MM26**

Client Name	Ogden Energy Group, Inc.	Operator	WHH, DGB
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #1 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		1-S-MM26-1	1-S-MM26-2	1-S-MM26-3		
Run Date		01/25/01	01/25/01	01/29/01		
Run Start Time	hh:mm	804	1201	1424		
Run Stop Time	hh:mm	904	1301	1524		
Sampling Parameters						
Meter Calibration Factor	Y	0.9901	0.9901	0.9901		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.76	-0.65	-0.78		-0.73
Barometric Pressure	in Hg	30.0	30.0	29.9		30.0
Carbon Dioxide Percentage	% CO_2	7.1	7.8	8.0		7.6
Oxygen Percentage	% O_2	12.6	11.8	11.7		12.0
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.4	80.3		80.3
Total Water Volume Collected	mL	127.3	147.1	116.4		130.3
Sample Volume	ft^3	42.311	42.009	33.160		39.160
Average Meter Temperature	°F	62	71	79		71
Average Delta H	in H_2O	1.80	1.80	1.00		1.53
Total Sampling Time	min	60	60	60		60
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	5.992	6.924	5.479		6.132
Volume Metered @ STP	DSCF	42.623	41.606	32.224		38.818
Absolute Stack/Duct Pressure	in Hg	29.9	30.0	29.8		29.9
Absolute Meter Pressure	in Hg	30.1	30.1	30.0		30.1
Calculated Stack Moisture	% H_20	12.3	14.3	14.5		13.7
Air Flow Rate Results						
Dry Standard Stack Flow/Minute	DSCFM	48,087	44,384	44,770		45,747

Concentration and Emission Rate Data Summary						
Hydrogen Chloride	mg	7.8	11.2	5.55		
Molecular Weight	MW	36.46	36.46	36.46		
Concentration, ppm	ppm	4.27	6.27	4.01		4.85
Concentration @ 12% CO_2	ppm@12%	7.22	9.65	6.02		7.63
Concentration @ 7% O_2	ppm@7%	7.15	9.58	6.06		7.60
Emission Rate, lb/hr	lb/hr	1.17	1.58	1.02		1.26

Removal Efficiency Summary For: HCl

		ppm @ 7% O2		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
1	1	414	7.15	98.3%
	2	731	9.58	98.7%
	3	1034	6.06	99.4%
			AVERAGE =>	98.8%

		lbs/hr		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
1	1	54.2	1.17	97.8%
	2	95.6	1.58	98.3%
	3	132	1.02	99.2%
			AVERAGE =>	98.5%

APPENDIX A.7
Test Results

Unit #1 Stack
Mercury and Metals

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD M29

Client Name	Ogden Energy Group, Inc.	Operator	WHH,DGB
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #1 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		1-S-M29-1	1-S-M29-2	1-S-M29-3		
Run Date		01/25/01	01/25/01	01/29/01		
Run Start Time	hh:mm	802	1200	1425		
Run Stop Time	hh:mm	1009	1407	1630		
Sampling Parameters						
Meter Calibration Factor	Y	1.0062	1.0062	1.0062		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.76	-0.65	-0.78		-0.73
Stack Cross-Sectional Area	ft^2	16.499	16.499	16.499		16.499
Barometric Pressure	in Hg	30.0	30.0	29.9		30.0
Actual Nozzle Diameter	in	0.223	0.218	0.223		
Carbon Dioxide Percentage	% CO_2	7.1	7.8	8.0		7.6
Oxygen Percentage	% O_2	12.6	11.8	11.7		12.0
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.4	80.3		80.3
Total Water Volume Collected	mL	297.2	282.2	314.0		297.8
Sample Volume	ft^3	91.692	83.771	91.478		88.980
Average Meter Temperature	°F	61	73	88		74
Average Stack Temperature	°F	275	277	277		276
Average Delta H	in H_2O	2.14	1.69	1.91		1.91
Total Sampling Time	min	120	120	120		120
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	13.989	13.283	14.780		14.017
Volume Metered @ STP	DSCF	94.190	84.020	89.000		89.070
Absolute Stack/Duct Pressure	in Hg	29.9	30.0	29.8		29.9
Absolute Meter Pressure	in Hg	30.2	30.1	30.0		30.1
Calculated Stack Moisture	% H_20	12.9	13.7	14.2		13.6
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	12.9	13.7	14.2		13.6
Dry Mole Fraction	decimal	0.871	0.863	0.858		0.864
Avg Differential Pressure (Delta P)	in H_2O	1.339	1.161	1.201		1.234
Dry Gas Molecular Weight	lb/lb-mole	29.64	29.72	29.75		29.70
Wet Stack Gas Molecular Weight	lb/lb-mole	28.13	28.12	28.07		28.11
Average Stack Gas Velocity	ft/sec	77.60	72.38	73.83		74.61
Percent of Isokinetic Rate	% ISO	99.3	100.5	100.8		100.2
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	76,824	71,654	73,087		73,855
Dry Standard Stack Flow/Minute	DSCFM	48,087	44,384	44,770		45,747

Concentration and Emission Rate Data Summary													
Beryllium (Be)	ug	<	0.100	<	0.100	<	0.100					<	0.100
Concentration ug/DSCM	ug/DSCM	<	0.0375	<	0.0420	<	0.0397					<	0.0397
Concentration ug @ 12% CO2	ug@12%	<	0.0634	<	0.0647	<	0.0595					<	0.0625
Concentration ug @ 7% O_2	ug@7%	<	0.0628	<	0.0642	<	0.0599					<	0.0623
Concentration Gr @ 12% CO_2	Gr@12%	<	2.77E-08	<	2.83E-08	<	2.60E-08					<	2.73E-08
Emission Rate, lb/hr	lb/hr	<	6.75E-06	<	6.99E-06	<	6.65E-06					<	6.80E-06
Cadmium (Cd)	ug		0.576		0.610	<	0.400					<	0.529
Concentration ug/DSCM	ug/DSCM		0.216		0.256	<	0.159					<	0.210
Concentration ug @ 12% CO2	ug@12%		0.365		0.394	<	0.238					<	0.332
Concentration ug @ 7% O_2	ug@7%		0.362		0.392	<	0.240					<	0.331
Emission Rate, lb/hr	lb/hr		3.89E-05		4.26E-05	<	2.66E-05					<	3.60E-05
Lead (Pb)	ug		1.96		2.59		1.70						2.08
Concentration ug/DSCM	ug/DSCM		0.735		1.09		0.674						0.833
Concentration ug @ 12% CO2	ug@12%		1.24		1.67		1.01						1.31
Concentration ug @ 7% O_2	ug@7%		1.23		1.66		1.02						1.30
Concentration Gr @ 12% CO_2	Gr@12%		5.43E-07		7.32E-07		4.42E-07						5.72E-07
Emission Rate, lb/hr	lb/hr		1.32E-04		1.81E-04		1.13E-04						1.42E-04
Mercury (Hg)	ug		10.35		14.11		8.41						10.95
Concentration ug/DSCM	ug/DSCM		3.88		5.93		3.33						4.38
Concentration ug @ 12% CO2	ug@12%		6.56		9.12		5.00						6.89
Concentration ug @ 7% O_2	ug@7%		6.50		9.06		5.04						6.86
Concentration Gr @ 12% CO_2	Gr@12%		2.87E-06		3.99E-06		2.19E-06						3.01E-06
Emission Rate, lb/hr	lb/hr		6.99E-04		9.86E-04		5.59E-04						7.48E-04

Removal Efficiency Summary For: Mercury

		ug/DSCM @ 7% O2		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
1	1	277	6.50	97.7%
	2	2115	9.06	99.6%
	3	137	5.04	96.3%
			AVERAGE =>	97.8%

		lb/hr		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
1	1	0.0239	0.000699	97.1%
	2	0.183	0.000986	99.5%
	3	0.0115	0.000559	95.1%
			AVERAGE =>	97.2%

APPENDIX A.8
Test Results

Unit #1 Stack
Particulate

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **M5**

Client Name	Ogden Energy Group, Inc.	Operator	ATM
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #1 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	1	SET
Run Number		1-S-M5-1	1-S-M5-2	1-S-M5-3	1-S-M5-4	AVERAGE
Run Date		01/23/01	01/23/01	01/23/01	01/24/01	
Run Start Time	hh:mm	823	1122	1351	1536	
Run Stop Time	hh:mm	1032	1329	1621	1743	
Sampling Parameters						
Meter Calibration Factor	Y	0.9901	0.9901	0.9901	0.9901	
Pitot Tube Coefficient	C_p	0.84	0.84	0.84	0.84	
Stack/Duct Static Pressure	in H_2O	-0.85	-0.85	-0.85	-0.80	-0.84
Stack Cross-Sectional Area	ft^2	16.499	16.499	16.499	16.499	16.499
Barometric Pressure	in Hg	29.8	29.8	29.8	29.9	29.8
Actual Nozzle Diameter	in	0.222	0.223	0.222	0.220	
Carbon Dioxide Percentage	% CO_2	7.4	7.5	7.9	7.4	7.6
Oxygen Percentage	% O_2	12.1	12.1	11.8	12.3	12.1
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N_2	80.5	80.4	80.3	80.3	80.4
Total Water Volume Collected	mL	274.6	277.6	282.3	253.5	272.0
Sample Volume	ft^3	84.756	81.147	81.616	85.001	83.130
Average Meter Temperature	°F	52	67	73	71	66
Average Stack Temperature	°F	276	280	280	280	279
Average Delta H	in H_2O	1.86	1.69	1.64	1.79	1.74
Total Sampling Time	min	120	120	120	120	120
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	12.925	13.067	13.288	11.932	12.803
Volume Metered @ STP	DSCF	86.503	80.453	79.948	84.014	82.730
Absolute Stack/Duct Pressure	in Hg	29.7	29.7	29.7	29.8	29.8
Absolute Meter Pressure	in Hg	29.9	29.9	29.9	30.0	30.0
Calculated Stack Moisture	% H_20	13.0	14.0	14.3	12.4	13.4
Saturated Stack Moisture	% H_20	100.0	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H_20	13.0	14.0	14.3	12.4	13.4
Dry Mole Fraction	decimal	0.870	0.860	0.857	0.876	0.866
Avg Differential Pressure (Delta P)	in H_2O	1.197	1.055	1.058	1.194	1.126
Dry Gas Molecular Weight	lb/lb-mole	29.67	29.68	29.74	29.68	29.69
Wet Stack Gas Molecular Weight	lb/lb-mole	28.15	28.05	28.06	28.22	28.12
Average Stack Gas Velocity	ft/sec	73.69	69.46	69.55	73.53	71.56
Percent of Isokinetic Rate	% ISO	97.8	97.2	97.7	96.5	97.3
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	72,947	68,763	68,846	72,788	70,836
Dry Standard Stack Flow/Minute	DSCFM	45,243	41,967	41,865	45,377	43,613

Concentration and Emission Rate Data Summary						
Filterable Particulate	mg	0.50	0.60	0.40	0.3	
Concentration, Gr/DSCF	gr/DSCF	8.92E-05	1.15E-04	7.72E-05	5.51E-05	8.42E-05
Concentration @ 12% CO_2	Gr@12%	1.45E-04	1.84E-04	1.17E-04	8.94E-05	1.34E-04
Concentration @ 7% O_2	Gr@7%	1.41E-04	1.82E-04	1.18E-04	8.91E-05	1.32E-04
Concentration mg/DSCM	mg/DSCM	0.204	0.263	0.177	0.126	0.193
Concentration mg @ 7% O_2	mg@7%	0.322	0.416	0.270	0.204	0.303
Emission Rate, lb/hr	lb/hr	0.035	0.041	0.028	0.021	0.031

APPENDIX A.9
Test Results

Unit #2 SDA Inlet
Hydrogen Chloride

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **MM26**

Client Name	Ogden Energy Group, Inc.	Operator	ATM
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #2 SDA Inlet	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		2-I-MM26-1	2-I-MM26-2	2-I-MM26-3		
Run Date		01/24/01	01/24/01	01/24/01		
Run Start Time	hh:mm	828	1125	1405		
Run Stop Time	hh:mm	928	1225	1514		
Sampling Parameters						
Meter Calibration Factor	Y	0.9834	0.9834	0.9834		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-2.30	-2.30	-2.30		-2.30
Barometric Pressure	in Hg	29.9	29.9	29.9		29.9
Carbon Dioxide Percentage	% CO_2	8.2	8.3	8.6		8.4
Oxygen Percentage	% O_2	11.5	11.5	11.1		11.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.2	80.3		80.3
Total Water Volume Collected	mL	95.5	85.1	85.9		88.8
Sample Volume	ft^3	30.856	31.862	31.548		31.422
Average Meter Temperature	°F	58	74	75		69
Average Delta H	in H_2O	1.00	1.00	1.00		1.00
Total Sampling Time	min	60	60	60		60
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	4.495	4.006	4.043		4.181
Volume Metered @ STP	DSCF	30.985	31.046	30.649		30.893
Absolute Stack/Duct Pressure	in Hg	29.7	29.7	29.7		29.7
Absolute Meter Pressure	in Hg	30.0	30.0	30.0		30.0
Calculated Stack Moisture	% H_20	12.7	11.4	11.7		11.9
Air Flow Rate Results						
Dry Standard Stack Flow/Minute	DSCFM	34,913	34,636	33,149		34,233

Concentration and Emission Rate Data Summary						
Hydrogen Chloride	mg	643	289	356		
Molecular Weight	MW	36.46	36.46	36.46		
Concentration, ppm	ppm	483	217	271		324
Concentration @ 12% CO_2	ppm@12%	708	314	378		466
Concentration @ 7% O_2	ppm@7%	715	321	384		473
Emission Rate, lb/hr	lb/hr	95.8	42.6	50.9		63.1

APPENDIX A.10
Test Results

Unit #2 SDA Inlet
Mercury

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD M29

Client Name	Ogden Energy Group, Inc.	Operator	ATM
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #2 SDA Inlet	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		2-I-M29-1	2-I-M29-2	2-I-M29-3		
Run Date		01/24/01	01/24/01	01/24/01		
Run Start Time	hh:mm	827	1124	1404		
Run Stop Time	hh:mm	1045	1333	1630		
Sampling Parameters						
Meter Calibration Factor	Y	0.9606	0.9606	0.9606		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-2.30	-2.30	-2.30		-2.30
Stack Cross-Sectional Area	ft^2	20.25	20.25	20.25		20.25
Barometric Pressure	in Hg	29.9	29.9	29.9		29.9
Actual Nozzle Diameter	in	0.255	0.256	0.255		
Carbon Dioxide Percentage	% CO_2	8.2	8.3	8.6		8.4
Oxygen Percentage	% O_2	11.5	11.5	11.1		11.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.2	80.3		80.3
Total Water Volume Collected	mL	198.1	176.0	176.3		183.5
Sample Volume	ft^3	73.907	73.441	71.416		72.921
Average Meter Temperature	°F	58	71	74		67
Average Stack Temperature	°F	422	426	425		424
Average Delta H	in H_2O	1.25	1.24	1.12		1.20
Total Sampling Time	min	121.5	121.5	121.5		122
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	9.325	8.284	8.298		8.636
Volume Metered @ STP	DSCF	72.546	70.334	68.009		70.296
Absolute Stack/Duct Pressure	in Hg	29.7	29.7	29.7		29.7
Absolute Meter Pressure	in Hg	30.0	30.0	30.0		30.0
Calculated Stack Moisture	% H_20	11.4	10.5	10.9		10.9
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	11.4	10.5	10.9		10.9
Dry Mole Fraction	decimal	0.886	0.895	0.891		0.891
Avg Differential Pressure (Delta P)	in H_2O	0.552	0.538	0.496		0.529
Dry Gas Molecular Weight	lb/lb-mole	29.77	29.79	29.82		29.79
Wet Stack Gas Molecular Weight	lb/lb-mole	28.43	28.55	28.53		28.50
Average Stack Gas Velocity	ft/sec	54.49	53.81	51.64		53.31
Percent of Isokinetic Rate	% ISO	97.7	94.7	96.5		96.3
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	66,205	65,384	62,737		64,775
Dry Standard Stack Flow/Minute	DSCFM	34,913	34,636	33,149		34,233

Concentration and Emission Rate Data Summary						
Mercury (Hg)	ug	168.82	266.50	332.34		255.88
Concentration ug/DSCM	ug/DSCM	82.2	134	173		130
Concentration ug @ 12% CO2	ug@12%	120	193	241		185
Concentration ug @ 7% O_2	ug@7%	122	198	245		188
Emission Rate, lb/hr	lb/hr	0.0107	0.0174	0.0214		0.0165

APPENDIX A.11
Test Results

Unit #2 SDA Inlet
Sulfur Dioxide and Carbon Monoxide

EMISSION RATE DATA SUMMARY

Client Name	Ogden Energy Group, Inc.	Operator	WHH
Plant Name	Lake County RRF	Project #	10184
Sampling Location	Unit 2 SDA Inlet		

Run Number		1	2	3	Average
Run Date		1/25/01	1/25/01	1/25/01	
Run Start Time	hh:mm	1248	1403	1516	
Run Stop Time	hh:mm	1348	1503	1616	
Carbon Dioxide Percentage	% CO_2	8.8	8.9	9.4	9.0
Oxygen Percentage	% O_2	10.8	10.7	10.2	10.6

Sulfur Dioxide					
Formula Weight	Fwt	64.06	64.06	64.06	64.06
Concentration, ppm (dry)	ppmvd	0.8	8.7	4.1	4.5
Concentration, ppm@7%O2	ppm@7%O2	1.1	11.9	5.3	6.1
Concentration, ppm@12%CO2	ppm@12%CO2	1.1	11.7	5.2	6.0

Carbon Monoxide					
Formula Weight	Fwt	28.01	28.01	28.01	28.01
Concentration, ppm (dry)	ppmvd	6.9	5.1	7.2	6.4
Concentration, ppm@7%O2	ppm@7%O2	9.5	7.0	9.4	8.6
Concentration, ppm@12%CO2	ppm@12%CO2	9.4	6.9	9.2	8.5

APPENDIX A.12
Test Results

Unit #2 FF Outlet
Sulfur Dioxide and Nitrogen Oxides

EMISSION RATE DATA SUMMARY

Client Name	Ogden Energy Group, Inc.	**Operator**	WHH
Plant Name	Lake County RRF	**Project #**	10184
Sampling Location	Unit 2 FF Outlet		

Run Number		1	2	3	Average
Run Date		1/25/01	1/25/01	1/25/01	
Run Start Time	hh:mm	1248	1403	1516	
Run Stop Time	hh:mm	1348	1503	1616	
Carbon Dioxide Percentage	% CO_2	8.3	8.4	8.8	8.5
Oxygen Percentage	% O_2	11.5	11.4	11.0	11.3

Sulfur Dioxide					
Formula Weight	Fwt	64.06	64.06	64.06	
Concentration, ppm (dry)	ppmvd	0.2	0.2	0.5	0.3
Concentration, ppm@7%O2	ppm@7%O2	0.3	0.3	0.7	0.4
Concentration, ppm@12%CO2	ppm@12%CO2	0.3	0.3	0.7	0.4

Nitrogen Oxides as NO2					
Formula Weight	Fwt	46.01	46.01	46.01	
Concentration, ppm (dry)	ppmvd	124.4	130.6	133.2	129.4
Concentration, ppm@7%O2	ppm@7%O2	184	191	187	187
Concentration, ppm@12%CO2	ppm@12%CO2	180	187	182	183

Removal Efficiency Summary For: SO2

Unit #	Repitition Number	ppm @ 7% O2		Removal Efficiency, %
		Inlet Result	Stack Result	
2	1	1.1	0.3	72.7%
	2	11.9	0.3	97.5%
	3	5.3	0.7	86.8%
			AVERAGE =>	85.7%

Unit #	Repitition Number	ppm @ 12% CO2		Removal Efficiency, %
		Inlet Result	Stack Result	
2	1	1.1	0.3	72.7%
	2	11.7	0.3	97.4%
	3	5.2	0.7	86.5%
			AVERAGE =>	85.6%

APPENDIX A.13
Test Results

Unit #2 Stack
Dioxins/Furans

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD 23

Client Name	Ogden Energy Group, Inc.	Operator	DGB
Plant Name	Lake County Resource Rec Facility	Project #	10184
Sampling Location	Unit #2 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		2-S-M23-1	2-S-M23-2	2-S-M23-3		
Run Date		01/25/01	01/25/01	01/26/01		
Run Start Time	hh:mm	802	1228	800		
Run Stop Time	hh:mm	1205	1633	1203		
Sampling Parameters						
Meter Calibration Factor	Y	0.9859	0.9859	0.9859		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.84	-0.56	-0.78		-0.73
Stack Cross-Sectional Area	ft^2	16.499	16.499	16.499		16.499
Barometric Pressure	in Hg	30.0	30.0	30.0		30.0
Actual Nozzle Diameter	in	0.194	0.195	0.194		
Carbon Dioxide Percentage	% CO_2	7.8	8.0	8.5		8.1
Oxygen Percentage	% O_2	11.9	11.8	11.3		11.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.2	80.2		80.2
Total Water Volume Collected	mL	493.5	474.9	483.3		483.9
Sample Volume	ft^3	130.940	128.842	123.129		127.637
Average Meter Temperature	°F	57	67	60		61
Average Stack Temperature	°F	286	288	285		286
Average Delta H	in H_2O	1.07	1.04	0.95		1.02
Total Sampling Time	min	240	240	240		240
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	23.229	22.354	22.749		22.777
Volume Metered @ STP	DSCF	132.445	127.803	123.938		128.062
Absolute Stack/Duct Pressure	in Hg	29.9	30.0	29.9		29.9
Absolute Meter Pressure	in Hg	30.1	30.1	30.1		30.1
Calculated Stack Moisture	% H_20	14.9	14.9	15.5		15.1
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	14.9	14.9	15.5		15.1
Dry Mole Fraction	decimal	0.851	0.851	0.845		0.849
Avg Differential Press. (Delta P)	in H_2O	1.190	1.084	1.060		1.111
Dry Gas Molecular Weight	lb/lb-mole	29.72	29.75	29.81		29.76
Wet Stack Gas Molecular Weight	lb/lb-mole	27.97	28.00	27.98		27.99
Average Stack Gas Velocity	ft/sec	73.92	70.61	69.71		71.41
Percent of Isokinetic Rate	% ISO	100.6	100.8	100.4		100.6
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	73,176	69,899	69,011		70,695
Dry Standard Stack Flow/Minute	DSCFM	44,098	42,054	41,349		42,500

Concentration and Emission Rate Data Summary						
2,3,7,8-TCDD	pg	2.5400	0.0000	5.4400		2.6600
Concentration, ng/Nm3	ng/Nm3	6.77E-04	0.00E+00	1.55E-03		7.42E-04
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.04E-03	0.00E+00	2.19E-03		1.08E-03
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.05E-03	0.00E+00	2.24E-03		1.10E-03
Emission Rate, lb/hr	lb/hr	1.12E-10	0.00E+00	2.40E-10		1.17E-10
Emission Rate, grams/second	g/s	1.41E-11	0.00E+00	3.02E-11		1.48E-11
Other TCDD	pg	116.4600	71.2000	182.5600		123.4067
Concentration, ng/Nm3	ng/Nm3	3.10E-02	1.97E-02	5.20E-02		3.42E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	4.78E-02	2.95E-02	7.34E-02		5.02E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	4.80E-02	3.00E-02	7.53E-02		5.11E-02
Emission Rate, lb/hr	lb/hr	5.13E-09	3.10E-09	8.06E-09		5.43E-09
Emission Rate, grams/second	g/s	6.46E-10	3.90E-10	1.02E-09		6.84E-10
1,2,3,7,8-PeCDD	pg	17.7000	5.6700	62.5000		28.6233
Concentration, ng/Nm3	ng/Nm3	4.72E-03	1.57E-03	1.78E-02		8.03E-03
Concen., ng/Nm3 @ 12% CO_2	ng@12%	7.26E-03	2.35E-03	2.51E-02		1.16E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	7.29E-03	2.39E-03	2.58E-02		1.18E-02
Emission Rate, lb/hr	lb/hr	7.80E-10	2.47E-10	2.76E-09		1.26E-09
Emission Rate, grams/second	g/s	9.82E-11	3.11E-11	3.48E-10		1.59E-10
Other PeCDD	pg	263.3000	138.3300	555.5000		319.0433
Concentration, ng/Nm3	ng/Nm3	7.02E-02	3.82E-02	1.58E-01		8.89E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.08E-01	5.73E-02	2.23E-01		1.30E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.08E-01	5.84E-02	2.29E-01		1.32E-01
Emission Rate, lb/hr	lb/hr	1.16E-08	6.02E-09	2.45E-08		1.40E-08
Emission Rate, grams/second	g/s	1.46E-09	7.59E-10	3.09E-09		1.77E-09
1,2,3,4,7,8-HxCDD	pg	26.0000	7.3000	90.2000		41.1667
Concentration, ng/Nm3	ng/Nm3	6.93E-03	2.02E-03	2.57E-02		1.15E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.07E-02	3.03E-03	3.63E-02		1.67E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.07E-02	3.08E-03	3.72E-02		1.70E-02
Emission Rate, lb/hr	lb/hr	1.15E-09	3.18E-10	3.98E-09		1.81E-09
Emission Rate, grams/second	g/s	1.44E-10	4.00E-11	5.02E-10		2.29E-10
1,2,3,6,7,8-HxCDD	pg	49.5000	16.3000	153.0000		72.9333
Concentration, ng/Nm3	ng/Nm3	1.32E-02	4.50E-03	4.36E-02		2.04E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.03E-02	6.76E-03	6.15E-02		2.95E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.04E-02	6.88E-03	6.31E-02		3.01E-02
Emission Rate, lb/hr	lb/hr	2.18E-09	7.09E-10	6.75E-09		3.21E-09
Emission Rate, grams/second	g/s	2.75E-10	8.94E-11	8.51E-10		4.05E-10
1,2,3,7,8,9-HxCDD	pg	44.7000	9.8800	186.0000		80.1933
Concentration, ng/Nm3	ng/Nm3	1.19E-02	2.73E-03	5.30E-02		2.25E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.83E-02	4.09E-03	7.48E-02		3.24E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.84E-02	4.17E-03	7.67E-02		3.31E-02
Emission Rate, lb/hr	lb/hr	1.97E-09	4.30E-10	8.21E-09		3.54E-09
Emission Rate, grams/second	g/s	2.48E-10	5.42E-11	1.03E-09		4.45E-10

Other HxCDD	pg	528.8000	238.5200	1390.8000		719.3733
Concentration, ng/Nm3	ng/Nm3	1.41E-01	6.59E-02	3.96E-01		2.01E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.17E-01	9.88E-02	5.59E-01		2.92E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.18E-01	1.01E-01	5.74E-01		2.97E-01
Emission Rate, lb/hr	lb/hr	2.33E-08	1.04E-08	6.14E-08		3.17E-08
Emission Rate, grams/second	g/s	2.93E-09	1.31E-09	7.73E-09		3.99E-09

1,2,3,4,6,7,8-HpCDD	pg	311.0000	94.7000	1390.0000		598.5667
Concentration, ng/Nm3	ng/Nm3	8.29E-02	2.62E-02	3.96E-01		1.68E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.28E-01	3.92E-02	5.59E-01		2.42E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.28E-01	4.00E-02	5.73E-01		2.47E-01
Emission Rate, lb/hr	lb/hr	1.37E-08	4.12E-09	6.13E-08		2.64E-08
Emission Rate, grams/second	g/s	1.73E-09	5.19E-10	7.73E-09		3.32E-09

Other HpCDD	pg	260.0000	99.3000	980.0000		446.4333
Concentration, ng/Nm3	ng/Nm3	6.93E-02	2.74E-02	2.79E-01		1.25E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.07E-01	4.12E-02	3.94E-01		1.81E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.07E-01	4.19E-02	4.04E-01		1.84E-01
Emission Rate, lb/hr	lb/hr	1.15E-08	4.32E-09	4.32E-08		1.97E-08
Emission Rate, grams/second	g/s	1.44E-09	5.45E-10	5.45E-09		2.48E-09

OCDD	pg	635.0000	236.0000	4080.0000		1650.3333
Concentration, ng/Nm3	ng/Nm3	1.69E-01	6.52E-02	1.16E+00		4.66E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.60E-01	9.78E-02	1.64E+00		6.66E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.61E-01	9.96E-02	1.68E+00		6.81E-01
Emission Rate, lb/hr	lb/hr	2.80E-08	1.03E-08	1.80E-07		7.28E-08
Emission Rate, grams/second	g/s	3.52E-09	1.29E-09	2.27E-08		9.17E-09

2,3,7,8-TCDF	pg	27.3000	10.4000	93.5000		43.7333
Concentration, ng/Nm3	ng/Nm3	7.28E-03	2.87E-03	2.66E-02		1.23E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.12E-02	4.31E-03	3.76E-02		1.77E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.12E-02	4.39E-03	3.86E-02		1.81E-02
Emission Rate, lb/hr	lb/hr	1.20E-09	4.53E-10	4.13E-09		1.93E-09
Emission Rate, grams/second	g/s	1.51E-10	5.70E-11	5.20E-10		2.43E-10

Other TCDF	pg	635.7000	376.6000	1506.5000		839.6000
Concentration, ng/Nm3	ng/Nm3	1.69E-01	1.04E-01	4.29E-01		2.34E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.61E-01	1.56E-01	6.06E-01		3.41E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.62E-01	1.59E-01	6.21E-01		3.47E-01
Emission Rate, lb/hr	lb/hr	2.80E-08	1.64E-08	6.65E-08		3.70E-08
Emission Rate, grams/second	g/s	3.53E-09	2.07E-09	8.38E-09		4.66E-09

1,2,3,7,8-PeCDF	pg	57.5000	21.0000	305.0000		127.8333
Concentration, ng/Nm3	ng/Nm3	1.53E-02	5.80E-03	8.69E-02		3.60E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.36E-02	8.70E-03	1.23E-01		5.17E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.37E-02	8.86E-03	1.26E-01		5.28E-02
Emission Rate, lb/hr	lb/hr	2.53E-09	9.14E-10	1.35E-08		5.64E-09
Emission Rate, grams/second	g/s	3.19E-10	1.15E-10	1.70E-09		7.10E-10

2,3,4,7,8-PeCDF	pg	70.5000	27.8000	328.0000		142.1000
Concentration, ng/Nm3	ng/Nm3	1.88E-02	7.68E-03	9.34E-02		4.00E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.89E-02	1.15E-02	1.32E-01		5.75E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.90E-02	1.17E-02	1.35E-01		5.87E-02
Emission Rate, lb/hr	lb/hr	3.10E-09	1.21E-09	1.45E-08		6.26E-09
Emission Rate, grams/second	g/s	3.91E-10	1.52E-10	1.82E-09		7.89E-10

Other PeCDF	pg	583.0000	288.2000	2217.0000		1029.4000
Concentration, ng/Nm3	ng/Nm3	1.55E-01	7.96E-02	6.32E-01		2.89E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.39E-01	1.19E-01	8.92E-01		4.17E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.40E-01	1.22E-01	9.15E-01		4.25E-01
Emission Rate, lb/hr	lb/hr	2.57E-08	1.25E-08	9.78E-08		4.54E-08
Emission Rate, grams/second	g/s	3.24E-09	1.58E-09	1.23E-08		5.71E-09

1,2,3,4,7,8-HxCDF	pg	101.0000	27.9000	561.0000		229.9667
Concentration, ng/Nm3	ng/Nm3	2.69E-02	7.71E-03	1.60E-01		6.48E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	4.14E-02	1.16E-02	2.26E-01		9.29E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	4.16E-02	1.18E-02	2.31E-01		9.49E-02
Emission Rate, lb/hr	lb/hr	4.45E-09	1.21E-09	2.48E-08		1.01E-08
Emission Rate, grams/second	g/s	5.60E-10	1.53E-10	3.12E-09		1.28E-09

1,2,3,6,7,8-HxCDF	pg	122.0000	34.4000	686.0000		280.8000
Concentration, ng/Nm3	ng/Nm3	3.25E-02	9.50E-03	1.95E-01		7.92E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.00E-02	1.43E-02	2.76E-01		1.13E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.02E-02	1.45E-02	2.83E-01		1.16E-01
Emission Rate, lb/hr	lb/hr	5.37E-09	1.50E-09	3.03E-08		1.24E-08
Emission Rate, grams/second	g/s	6.77E-10	1.89E-10	3.81E-09		1.56E-09

2,3,4,6,7,8-HxCDF	pg	123.0000	36.1000	606.0000		255.0333
Concentration, ng/Nm3	ng/Nm3	3.28E-02	9.97E-03	1.73E-01		7.18E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.04E-02	1.50E-02	2.44E-01		1.03E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.06E-02	1.52E-02	2.50E-01		1.05E-01
Emission Rate, lb/hr	lb/hr	5.42E-09	1.57E-09	2.67E-08		1.12E-08
Emission Rate, grams/second	g/s	6.83E-10	1.98E-10	3.37E-09		1.42E-09

1,2,3,7,8,9-HxCDF	pg	44.3000	8.8700	316.0000		123.0567
Concentration, ng/Nm3	ng/Nm3	1.18E-02	2.45E-03	9.00E-02		3.48E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.82E-02	3.68E-03	1.27E-01		4.96E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.82E-02	3.74E-03	1.30E-01		5.08E-02
Emission Rate, lb/hr	lb/hr	1.95E-09	3.86E-10	1.39E-08		5.43E-09
Emission Rate, grams/second	g/s	2.46E-10	4.86E-11	1.76E-09		6.84E-10

Other HxCDF	pg	465.7000	166.7300	2311.0000		981.1433
Concentration, ng/Nm3	ng/Nm3	1.24E-01	4.61E-02	6.58E-01		2.76E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.91E-01	6.91E-02	9.30E-01		3.97E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.92E-01	7.04E-02	9.53E-01		4.05E-01
Emission Rate, lb/hr	lb/hr	2.05E-08	7.26E-09	1.02E-07		4.33E-08
Emission Rate, grams/second	g/s	2.58E-09	9.14E-10	1.29E-08		5.45E-09

1,2,3,4,6,7,8-HpCDF	pg	350.0000	82.9000	2050.0000		827.6333
Concentration, ng/Nm3	ng/Nm3	9.33E-02	2.29E-02	5.84E-01		2.33E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	1.44E-01	3.44E-02	8.25E-01		3.34E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	1.44E-01	3.50E-02	8.46E-01		3.42E-01
Emission Rate, lb/hr	lb/hr	1.54E-08	3.61E-09	9.05E-08		3.65E-08
Emission Rate, grams/second	g/s	1.94E-09	4.55E-10	1.14E-08		4.60E-09

1,2,3,4,7,8,9-HpCDF	pg	64.9000	11.1000	563.0000		213.0000
Concentration, ng/Nm3	ng/Nm3	1.73E-02	3.07E-03	1.60E-01		6.03E-02
Concen., ng/Nm3 @ 12% CO_2	ng@12%	2.66E-02	4.60E-03	2.26E-01		8.59E-02
Concen., ng/Nm3 @ 7% O_2	ng@7%	2.67E-02	4.68E-03	2.32E-01		8.79E-02
Emission Rate, lb/hr	lb/hr	2.86E-09	4.83E-10	2.48E-08		9.40E-09
Emission Rate, grams/second	g/s	3.60E-10	6.09E-11	3.13E-09		1.18E-09

Other HpCDF	pg	168.1000	24.0000	1127.0000		439.7000
Concentration, ng/Nm3	ng/Nm3	4.48E-02	6.63E-03	3.21E-01		1.24E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	6.89E-02	9.95E-03	4.53E-01		1.77E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	6.92E-02	1.01E-02	4.65E-01		1.81E-01
Emission Rate, lb/hr	lb/hr	7.40E-09	1.04E-09	4.97E-08		1.94E-08
Emission Rate, grams/second	g/s	9.33E-10	1.32E-10	6.27E-09		2.44E-09

OCDF	pg	137.0000	33.6000	1580.0000		583.5333
Concentration, ng/Nm3	ng/Nm3	3.65E-02	9.28E-03	4.50E-01		1.65E-01
Concen., ng/Nm3 @ 12% CO_2	ng@12%	5.62E-02	1.39E-02	6.35E-01		2.35E-01
Concen., ng/Nm3 @ 7% O_2	ng@7%	5.64E-02	1.42E-02	6.52E-01		2.41E-01
Emission Rate, lb/hr	lb/hr	6.03E-09	1.46E-09	6.97E-08		2.57E-08
Emission Rate, grams/second	g/s	7.60E-10	1.84E-10	8.79E-09		3.24E-09

Unit #2 Stack
Concentration and Emission Rate Summary
Run Number: 2-S-M23-1

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	6.77E-04	1.04E-03	1.05E-03	1.12E-10	1.41E-11
Other TCDD	1	3.10E-02	4.78E-02	4.80E-02	5.13E-09	6.46E-10
1,2,3,7,8-PeCDD	1	4.72E-03	7.26E-03	7.29E-03	7.80E-10	9.82E-11
Other PeCDD	1	7.02E-02	1.08E-01	1.08E-01	1.16E-08	1.46E-09
1,2,3,4,7,8-HxCDD	1	6.93E-03	1.07E-02	1.07E-02	1.15E-09	1.44E-10
1,2,3,6,7,8-HxCDD	1	1.32E-02	2.03E-02	2.04E-02	2.18E-09	2.75E-10
1,2,3,7,8,9-HxCDD	1	1.19E-02	1.83E-02	1.84E-02	1.97E-09	2.48E-10
Other HxCDD	1	1.41E-01	2.17E-01	2.18E-01	2.33E-08	2.93E-09
1,2,3,4,6,7,8-HpCDD	1	8.29E-02	1.28E-01	1.28E-01	1.37E-08	1.73E-09
Other HpCDD	1	6.93E-02	1.07E-01	1.07E-01	1.15E-08	1.44E-09
OCDD	1	1.69E-01	2.60E-01	2.61E-01	2.80E-08	3.52E-09
TOTAL PCDD		6.01E-01	9.25E-01	9.28E-01	9.93E-08	1.25E-08
2,3,7,8-TCDF	1	7.28E-03	1.12E-02	1.12E-02	1.20E-09	1.51E-10
Other TCDF	1	1.69E-01	2.61E-01	2.62E-01	2.80E-08	3.53E-09
1,2,3,7,8-PeCDF	1	1.53E-02	2.36E-02	2.37E-02	2.53E-09	3.19E-10
2,3,4,7,8-PeCDF	1	1.88E-02	2.89E-02	2.90E-02	3.10E-09	3.91E-10
Other PeCDF	1	1.55E-01	2.39E-01	2.40E-01	2.57E-08	3.24E-09
1,2,3,4,7,8-HxCDF	1	2.69E-02	4.14E-02	4.16E-02	4.45E-09	5.60E-10
1,2,3,6,7,8-HxCDF	1	3.25E-02	5.00E-02	5.02E-02	5.37E-09	6.77E-10
2,3,4,6,7,8-HxCDF	1	3.28E-02	5.04E-02	5.06E-02	5.42E-09	6.83E-10
1,2,3,7,8,9-HxCDF	1	1.18E-02	1.82E-02	1.82E-02	1.95E-09	2.46E-10
Other HxCDF	1	1.24E-01	1.91E-01	1.92E-01	2.05E-08	2.58E-09
1,2,3,4,6,7,8-HpCDF	1	9.33E-02	1.44E-01	1.44E-01	1.54E-08	1.94E-09
1,2,3,4,7,8,9-HpCDF	1	1.73E-02	2.66E-02	2.67E-02	2.86E-09	3.60E-10
Other HpCDF	1	4.48E-02	6.89E-02	6.92E-02	7.40E-09	9.33E-10
OCDF	1	3.65E-02	5.62E-02	5.64E-02	6.03E-09	7.60E-10
TOTAL PCDF		7.86E-01	1.21E+00	1.21E+00	1.30E-07	1.64E-08
TOTAL PCDD/PCDF		1.39E+00	2.13E+00	2.14E+00	2.29E-07	2.89E-08

Unit #2 Stack
Concentration and Emission Rate Summary
Run Number: 2-S-M23-2

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Other TCDD	1	1.97E-02	2.95E-02	3.00E-02	3.10E-09	3.90E-10
1,2,3,7,8-PeCDD	1	1.57E-03	2.35E-03	2.39E-03	2.47E-10	3.11E-11
Other PeCDD	1	3.82E-02	5.73E-02	5.84E-02	6.02E-09	7.59E-10
1,2,3,4,7,8-HxCDD	1	2.02E-03	3.03E-03	3.08E-03	3.18E-10	4.00E-11
1,2,3,6,7,8-HxCDD	1	4.50E-03	6.76E-03	6.88E-03	7.09E-10	8.94E-11
1,2,3,7,8,9-HxCDD	1	2.73E-03	4.09E-03	4.17E-03	4.30E-10	5.42E-11
Other HxCDD	1	6.59E-02	9.88E-02	1.01E-01	1.04E-08	1.31E-09
1,2,3,4,6,7,8-HpCDD	1	2.62E-02	3.92E-02	4.00E-02	4.12E-09	5.19E-10
Other HpCDD	1	2.74E-02	4.12E-02	4.19E-02	4.32E-09	5.45E-10
OCDD	1	6.52E-02	9.78E-02	9.96E-02	1.03E-08	1.29E-09
TOTAL PCDD		2.53E-01	3.80E-01	3.87E-01	3.99E-08	5.03E-09
2,3,7,8-TCDF	1	2.87E-03	4.31E-03	4.39E-03	4.53E-10	5.70E-11
Other TCDF	1	1.04E-01	1.56E-01	1.59E-01	1.64E-08	2.07E-09
1,2,3,7,8-PeCDF	1	5.80E-03	8.70E-03	8.86E-03	9.14E-10	1.15E-10
2,3,4,7,8-PeCDF	1	7.68E-03	1.15E-02	1.17E-02	1.21E-09	1.52E-10
Other PeCDF	1	7.96E-02	1.19E-01	1.22E-01	1.25E-08	1.58E-09
1,2,3,4,7,8-HxCDF	1	7.71E-03	1.16E-02	1.18E-02	1.21E-09	1.53E-10
1,2,3,6,7,8-HxCDF	1	9.50E-03	1.43E-02	1.45E-02	1.50E-09	1.89E-10
2,3,4,6,7,8-HxCDF	1	9.97E-03	1.50E-02	1.52E-02	1.57E-09	1.98E-10
1,2,3,7,8,9-HxCDF	1	2.45E-03	3.68E-03	3.74E-03	3.86E-10	4.86E-11
Other HxCDF	1	4.61E-02	6.91E-02	7.04E-02	7.26E-09	9.14E-10
1,2,3,4,6,7,8-HpCDF	1	2.29E-02	3.44E-02	3.50E-02	3.61E-09	4.55E-10
1,2,3,4,7,8,9-HpCDF	1	3.07E-03	4.60E-03	4.68E-03	4.83E-10	6.09E-11
Other HpCDF	1	6.63E-03	9.95E-03	1.01E-02	1.04E-09	1.32E-10
OCDF	1	9.28E-03	1.39E-02	1.42E-02	1.46E-09	1.84E-10
TOTAL PCDF		3.18E-01	4.76E-01	4.85E-01	5.00E-08	6.30E-09
TOTAL PCDD/PCDF		5.71E-01	8.57E-01	8.72E-01	9.00E-08	1.13E-08

Unit #2 Stack
Concentration and Emission Rate Summary
Run Number: 2-S-M23-3

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	1.55E-03	2.19E-03	2.24E-03	2.40E-10	3.02E-11
Other TCDD	1	5.20E-02	7.34E-02	7.53E-02	8.06E-09	1.02E-09
1,2,3,7,8-PeCDD	1	1.78E-02	2.51E-02	2.58E-02	2.76E-09	3.48E-10
Other PeCDD	1	1.58E-01	2.23E-01	2.29E-01	2.45E-08	3.09E-09
1,2,3,4,7,8-HxCDD	1	2.57E-02	3.63E-02	3.72E-02	3.98E-09	5.02E-10
1,2,3,6,7,8-HxCDD	1	4.36E-02	6.15E-02	6.31E-02	6.75E-09	8.51E-10
1,2,3,7,8,9-HxCDD	1	5.30E-02	7.48E-02	7.67E-02	8.21E-09	1.03E-09
Other HxCDD	1	3.96E-01	5.59E-01	5.74E-01	6.14E-08	7.73E-09
1,2,3,4,6,7,8-HpCDD	1	3.96E-01	5.59E-01	5.73E-01	6.13E-08	7.73E-09
Other HpCDD	1	2.79E-01	3.94E-01	4.04E-01	4.32E-08	5.45E-09
OCDD	1	1.16E+00	1.64E+00	1.68E+00	1.80E-07	2.27E-08
TOTAL PCDD		2.59E+00	3.65E+00	3.74E+00	4.01E-07	5.05E-08
2,3,7,8-TCDF	1	2.66E-02	3.76E-02	3.86E-02	4.13E-09	5.20E-10
Other TCDF	1	4.29E-01	6.06E-01	6.21E-01	6.65E-08	8.38E-09
1,2,3,7,8-PeCDF	1	8.69E-02	1.23E-01	1.26E-01	1.35E-08	1.70E-09
2,3,4,7,8-PeCDF	1	9.34E-02	1.32E-01	1.35E-01	1.45E-08	1.82E-09
Other PeCDF	1	6.32E-01	8.92E-01	9.15E-01	9.78E-08	1.23E-08
1,2,3,4,7,8-HxCDF	1	1.60E-01	2.26E-01	2.31E-01	2.48E-08	3.12E-09
1,2,3,6,7,8-HxCDF	1	1.95E-01	2.76E-01	2.83E-01	3.03E-08	3.81E-09
2,3,4,6,7,8-HxCDF	1	1.73E-01	2.44E-01	2.50E-01	2.67E-08	3.37E-09
1,2,3,7,8,9-HxCDF	1	9.00E-02	1.27E-01	1.30E-01	1.39E-08	1.76E-09
Other HxCDF	1	6.58E-01	9.30E-01	9.53E-01	1.02E-07	1.29E-08
1,2,3,4,6,7,8-HpCDF	1	5.84E-01	8.25E-01	8.46E-01	9.05E-08	1.14E-08
1,2,3,4,7,8,9-HpCDF	1	1.60E-01	2.26E-01	2.32E-01	2.48E-08	3.13E-09
Other HpCDF	1	3.21E-01	4.53E-01	4.65E-01	4.97E-08	6.27E-09
OCDF	1	4.50E-01	6.35E-01	6.52E-01	6.97E-08	8.79E-09
TOTAL PCDF		4.06E+00	5.73E+00	5.88E+00	6.29E-07	7.92E-08
TOTAL PCDD/PCDF		6.65E+00	9.38E+00	9.62E+00	1.03E-06	1.30E-07

Unit #2 Stack
Average Concentration and Emission Rate Summary

		Concentration			Emission Rate	
Congener	UNITY	ng/Nm3	ng@12%	ng@7%	lb/hr	grams/sec
2,3,7,8-TCDD	1	7.42E-04	1.08E-03	1.10E-03	1.17E-10	1.48E-11
Other TCDD	1	3.42E-02	5.02E-02	5.11E-02	5.43E-09	6.84E-10
1,2,3,7,8-PeCDD	1	8.03E-03	1.16E-02	1.18E-02	1.26E-09	1.59E-10
Other PeCDD	1	8.89E-02	1.30E-01	1.32E-01	1.40E-08	1.77E-09
1,2,3,4,7,8-HxCDD	1	1.15E-02	1.67E-02	1.70E-02	1.81E-09	2.29E-10
1,2,3,6,7,8-HxCDD	1	2.04E-02	2.95E-02	3.01E-02	3.21E-09	4.05E-10
1,2,3,7,8,9-HxCDD	1	2.25E-02	3.24E-02	3.31E-02	3.54E-09	4.45E-10
Other HxCDD	1	2.01E-01	2.92E-01	2.97E-01	3.17E-08	3.99E-09
1,2,3,4,6,7,8-HpCDD	1	1.68E-01	2.42E-01	2.47E-01	2.64E-08	3.32E-09
Other HpCDD	1	1.25E-01	1.81E-01	1.84E-01	1.97E-08	2.48E-09
OCDD	1	4.66E-01	6.66E-01	6.81E-01	7.28E-08	9.17E-09
TOTAL PCDD		1.15E+00	1.65E+00	1.69E+00	1.80E-07	2.27E-08
2,3,7,8-TCDF	1	1.23E-02	1.77E-02	1.81E-02	1.93E-09	2.43E-10
Other TCDF	1	2.34E-01	3.41E-01	3.47E-01	3.70E-08	4.66E-09
1,2,3,7,8-PeCDF	1	3.60E-02	5.17E-02	5.28E-02	5.64E-09	7.10E-10
2,3,4,7,8-PeCDF	1	4.00E-02	5.75E-02	5.87E-02	6.26E-09	7.89E-10
Other PeCDF	1	2.89E-01	4.17E-01	4.25E-01	4.54E-08	5.71E-09
1,2,3,4,7,8-HxCDF	1	6.48E-02	9.29E-02	9.49E-02	1.01E-08	1.28E-09
1,2,3,6,7,8-HxCDF	1	7.92E-02	1.13E-01	1.16E-01	1.24E-08	1.56E-09
2,3,4,6,7,8-HxCDF	1	7.18E-02	1.03E-01	1.05E-01	1.12E-08	1.42E-09
1,2,3,7,8,9-HxCDF	1	3.48E-02	4.96E-02	5.08E-02	5.43E-09	6.84E-10
Other HxCDF	1	2.76E-01	3.97E-01	4.05E-01	4.33E-08	5.45E-09
1,2,3,4,6,7,8-HpCDF	1	2.33E-01	3.34E-01	3.42E-01	3.65E-08	4.60E-09
1,2,3,4,7,8,9-HpCDF	1	6.03E-02	8.59E-02	8.79E-02	9.40E-09	1.18E-09
Other HpCDF	1	1.24E-01	1.77E-01	1.81E-01	1.94E-08	2.44E-09
OCDF	1	1.65E-01	2.35E-01	2.41E-01	2.57E-08	3.24E-09
TOTAL PCDF		1.72E+00	2.47E+00	2.53E+00	2.70E-07	3.40E-08
TOTAL PCDD/PCDF		2.87E+00	4.12E+00	4.21E+00	4.50E-07	5.66E-08

APPENDIX A.14
Test Results

Unit #2 Stack
Hydrogen Chloride

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **MM26**

Client Name	Ogden Energy Group, Inc.	Operator	WHH, DGB
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #2 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET AVERAGE
Run Number		2-S-MM26-1	2-S-MM26-2	2-S-MM26-3		
Run Date		01/24/01	01/24/01	01/24/01		
Run Start Time	hh:mm	827	1125	1406		
Run Stop Time	hh:mm	927	1225	1516		
Sampling Parameters						
Meter Calibration Factor	Y	0.9901	0.9901	0.9901		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.72	-0.75	0.76		-0.24
Barometric Pressure	in Hg	29.9	29.9	29.9		29.9
Carbon Dioxide Percentage	% CO_2	8.0	8.0	7.9		8.0
Oxygen Percentage	% O_2	11.7	11.7	11.9		11.8
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.3	80.2		80.3
Total Water Volume Collected	mL	153.1	133.6	145.1		143.9
Sample Volume	ft^3	42.447	43.225	42.793		42.822
Average Meter Temperature	°F	64	75	72		70
Average Delta H	in H_2O	1.80	1.80	1.80		1.80
Total Sampling Time	min	60	60	60		60
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	7.206	6.289	6.830		6.775
Volume Metered @ STP	DSCF	42.523	42.402	42.172		42.366
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	30.0		29.9
Absolute Meter Pressure	in Hg	30.0	30.0	30.0		30.0
Calculated Stack Moisture	% H_20	14.5	12.9	13.9		13.8
Air Flow Rate Results						
Dry Standard Stack Flow/Minute	DSCFM	44,395	43,291	43,934		43,873

Concentration and Emission Rate Data Summary						
Hydrogen Chloride	mg	13.8	12.6	12.0		
Molecular Weight	MW	36.46	36.46	36.46		
Concentration, ppm	ppm	7.56	6.92	6.63		7.04
Concentration @ 12% CO_2	ppm@12%	11.3	10.4	10.1		10.6
Concentration @ 7% O_2	ppm@7%	11.4	10.5	10.2		10.7
Emission Rate, lb/hr	lb/hr	1.91	1.70	1.65		1.75

Removal Efficiency Summary For: HCl

		ppm @ 7% O2		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
2	1	715	11.4	98.4%
	2	321	10.5	96.7%
	3	384	10.2	97.3%
			AVERAGE =>	97.5%

		lbs/hr		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
2	1	95.8	1.91	98.0%
	2	42.6	1.70	96.0%
	3	50.9	1.65	96.8%
			AVERAGE =>	96.9%

APPENDIX A.15
Test Results

Unit #2 Stack
Mercury and Metals

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD M29

Client Name	Ogden Energy Group, Inc.	Operator	DGB
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Sampling Location	Unit #2 Stack	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1		SET
Run Number		2-S-M29-1	2-S-M29-2	2-S-M29-3		AVERAGE
Run Date		01/24/01	01/24/01	01/24/01		
Run Start Time	hh:mm	826	1124	1404		
Run Stop Time	hh:mm	1034	1334	1635		
Sampling Parameters						
Meter Calibration Factor	Y	0.9859	0.9859	0.9859		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.89	-0.57	-0.59		-0.68
Stack Cross-Sectional Area	ft^2	16.499	16.499	16.499		16.499
Barometric Pressure	in Hg	29.9	29.9	29.9		29.9
Actual Nozzle Diameter	in	0.218	0.223	0.218		
Carbon Dioxide Percentage	% CO_2	8.0	8.0	7.9		8.0
Oxygen Percentage	% O_2	11.7	11.7	11.9		11.8
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.3	80.3	80.2		80.3
Total Water Volume Collected	mL	297.4	270.8	274.6		280.9
Sample Volume	ft^3	81.416	83.658	81.654		82.243
Average Meter Temperature	°F	56	65	66		62
Average Stack Temperature	°F	286	287	288		287
Average Delta H	in H_2O	1.67	1.75	1.68		1.70
Total Sampling Time	min	120	120	120		120
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	13.999	12.747	12.925		13.224
Volume Metered @ STP	DSCF	82.394	83.200	81.010		82.202
Absolute Stack/Duct Pressure	in Hg	29.8	29.9	29.9		29.8
Absolute Meter Pressure	in Hg	30.0	30.0	30.0		30.0
Calculated Stack Moisture	% H_20	14.5	13.3	13.8		13.9
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	14.5	13.3	13.8		13.9
Dry Mole Fraction	decimal	0.855	0.867	0.862		0.861
Avg Differential Pressure (Delta P)	in H_2O	1.202	1.117	1.162		1.160
Dry Gas Molecular Weight	lb/lb-mole	29.75	29.75	29.74		29.75
Wet Stack Gas Molecular Weight	lb/lb-mole	28.04	28.19	28.12		28.12
Average Stack Gas Velocity	ft/sec	74.38	71.49	73.06		72.98
Percent of Isokinetic Rate	% ISO	98.5	97.5	97.8		97.9
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	73,628	70,773	72,324		72,242
Dry Standard Stack Flow/Minute	DSCFM	44,395	43,291	43,934		43,873

Concentration and Emission Rate Data Summary										
Beryllium (Be)	ug	<	0.100	<	0.100	<	0.100		<	0.100
Concentration ug/DSCM	ug/DSCM	<	0.0429	<	0.0424	<	0.0436		<	0.0430
Concentration ug @ 12% CO2	ug@12%	<	0.0643	<	0.0637	<	0.0662		<	0.0647
Concentration ug @ 7% O_2	ug@7%	<	0.0647	<	0.0641	<	0.0673		<	0.0654
Concentration Gr @ 12% CO_2	Gr@12%	<	2.81E-08	<	2.78E-08	<	2.89E-08		<	2.83E-08
Emission Rate, lb/hr	lb/hr	<	7.13E-06	<	6.88E-06	<	7.17E-06		<	7.06E-06

Cadmium (Cd)	ug	0.654	0.816	<	0.400		< 0.623
Concentration ug/DSCM	ug/DSCM	0.280	0.346	<	0.174		< 0.267
Concentration ug @ 12% CO2	ug@12%	0.420	0.519	<	0.265		< 0.401
Concentration ug @ 7% O_2	ug@7%	0.423	0.523	<	0.269		< 0.405
Emission Rate, lb/hr	lb/hr	4.66E-05	5.61E-05	<	2.87E-05		< 4.38E-05

Lead (Pb)	ug	7.04	2.83	2.05		3.97
Concentration ug/DSCM	ug/DSCM	3.02	1.20	0.89		1.70
Concentration ug @ 12% CO2	ug@12%	4.53	1.80	1.36		2.56
Concentration ug @ 7% O_2	ug@7%	4.56	1.81	1.38		2.58
Concentration Gr @ 12% CO_2	Gr@12%	1.98E-06	7.86E-07	5.93E-07		1.12E-06
Emission Rate, lb/hr	lb/hr	5.02E-04	1.94E-04	1.47E-04		2.81E-04

Mercury (Hg)	ug	6.47	6.04	5.85		6.12
Concentration ug/DSCM	ug/DSCM	2.77	2.56	2.55		2.63
Concentration ug @ 12% CO2	ug@12%	4.16	3.85	3.88		3.96
Concentration ug @ 7% O_2	ug@7%	4.19	3.87	3.94		4.00
Concentration Gr @ 12% CO_2	Gr@12%	1.82E-06	1.68E-06	1.69E-06		1.73E-06
Emission Rate, lb/hr	lb/hr	4.61E-04	4.16E-04	4.20E-04		4.32E-04

Removal Efficiency Summary For: Mercury

		ug/DSCM @ 7% O2		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
2	1	122	4.19	96.6%
	2	198	3.87	98.0%
	3	245	3.94	98.4%
			AVERAGE =>	97.7%

		lb/hr		Removal
Unit #	Repitition Number	Inlet Result	Stack Result	Efficiency, %
2	1	0.0107	0.000461	95.7%
	2	0.0174	0.000416	97.6%
	3	0.0214	0.000420	98.0%
			AVERAGE =>	97.1%

APPENDIX A.16
Test Results

Unit #2 Stack
Particulate

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **M5**

Client Name	Ogden Energy Group, Inc.	**Operator**	DGB
Plant Name	Lake County Resource Recovery Facility	**Project #**	10184
Sampling Location	Unit #2 Stack	**Standard Temperature, °F**	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		**1**	**1**	**1**		**SET AVERAGE**
Run Number		2-S-M5-1	2-S-M5-2	2-S-M5-3		
Run Date		01/23/01	01/23/01	01/23/01		
Run Start Time	hh:mm	823	1115	1400		
Run Stop Time	hh:mm	1032	1320	1604		
Sampling Parameters						
Meter Calibration Factor	Y	0.9859	0.9859	0.9859		
Pitot Tube Coefficient	C_p	0.84	0.84	0.84		
Stack/Duct Static Pressure	in H_2O	-0.82	-0.81	-0.71		-0.78
Stack Cross-Sectional Area	ft^2	16.499	16.499	16.499		16.499
Barometric Pressure	in Hg	29.8	29.8	29.8		29.8
Actual Nozzle Diameter	in	0.219	0.220	0.218		
Carbon Dioxide Percentage	% CO_2	8.2	7.7	8.3		8.1
Oxygen Percentage	% O_2	11.6	12.0	11.4		11.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0		0.0
Nitrogen Percentage	% N_2	80.2	80.3	80.3		80.3
Total Water Volume Collected	mL	291.4	316.8	324.4		310.9
Sample Volume	ft^3	79.841	83.850	82.937		82.209
Average Meter Temperature	°F	46	59	67		57
Average Stack Temperature	°F	284	287	286		286
Average Delta H	in H_2O	1.67	1.78	1.70		1.72
Total Sampling Time	min	120	120	120		120
Air Flow Parameters						
Volume of Water vapor @ STP	SCF	13.716	14.912	15.270		14.632
Volume Metered @ STP	DSCF	82.052	84.115	81.924		82.697
Absolute Stack/Duct Pressure	in Hg	29.7	29.7	29.7		29.7
Absolute Meter Pressure	in Hg	29.9	29.9	29.9		29.9
Calculated Stack Moisture	% H_20	14.3	15.1	15.7		15.0
Saturated Stack Moisture	% H_20	100.0	100.0	100.0		100.0
Reported Stack Moisture Content	% H_20	14.3	15.1	15.7		15.0
Dry Mole Fraction	decimal	0.857	0.849	0.843		0.850
Avg Differential Pressure (Delta P)	in H_2O	1.182	1.209	1.191		1.194
Dry Gas Molecular Weight	lb/lb-mole	29.78	29.71	29.78		29.76
Wet Stack Gas Molecular Weight	lb/lb-mole	28.09	27.95	27.93		27.99
Average Stack Gas Velocity	ft/sec	73.71	74.86	74.26		74.28
Percent of Isokinetic Rate	% ISO	97.9	99.1	99.7		98.9
Air Flow Rate Results						
Actual Stack Flow/Minute	ACFM	72,965	74,107	73,515		73,529
Dry Standard Stack Flow/Minute	DSCFM	44,081	44,233	43,591		43,968

Concentration and Emission Rate Data Summary						
Filterable Particulate	mg	1.20	1.40	1.70		
Concentration, Gr/DSCF	gr/DSCF	2.26E-04	2.57E-04	3.20E-04		2.68E-04
Concentration @ 12% CO_2	Gr@12%	3.30E-04	4.00E-04	4.63E-04		3.98E-04
Concentration @ 7% O_2	Gr@7%	3.37E-04	4.01E-04	4.69E-04		4.02E-04
Concentration mg/DSCM	mg/DSCM	0.516	0.588	0.733		0.612
Concentration mg @ 7% O_2	mg@7%	0.772	0.918	1.07		0.921
Emission Rate, lb/hr	lb/hr	0.085	0.097	0.120		0.101

APPENDIX A.17
Example Calculations

CONSTANTS, DEFINITIONS, & NOMENCLATURE

0.04707	Standard cubic feet per gram or milliliter of water @ standard conditions
0.18	Molecular weight of water divided by 100
0.28	Molecular weight of nitrogen divided by 100
0.32	Molecular weight of oxygen divided by 100
0.44	Molecular weight of carbon dioxide divided by 100
0.264	Ratio of O2 to N2 in air, v/v
0.5	Diatomic factor
13.6	Specific gravity of mercury
17.64	Conversion factor, standard temperature, standard pressure, (degrees R, inches Hg)
20.9	Percent O2 by volume (dry basis) in ambient air
24	Hours per day
24.056	Molar volume liters per mole, STP
85.49	Pitot tube constant, ft./sec.
385.3	Molar volume, ft3/mole @ 68 deg. F, 29.92 inches Hg.
60	Minutes per hours, seconds per minute
100	Conversion to percent
460	0 degrees F in degrees R
7,000	Grains per pound
453,592	Milligrams per pound
A	Cross-sectional area of stack, square feet
avg	Average
CTavg	Calibration time, average
%CO2	Percent carbon dioxide, volume, dry basis
%CO + N2	Percent carbon monoxide and nitrogen, volume, dry basis
Cp	Pitot tube coefficient
Delta H	Average pressure differential of meterbox orifice, inches water
Delta pavg	Average pressure drop
DRE	Destruction and Removal Efficiency
%EA	Percent Excess Air
F	F-factor, dry standard cubic feet per million Btu
Gr/DSCF	Grains per dry standard cubic foot
7% O2	Concentration corrected to 7% oxygen
12% CO2	Concentration corrected to 12% carbon dioxide
gms/day	Grams per day
%H2O	Percent moisture
Hg	Mercury
%I	Percent isokinetic sampling rate
Lb/hr	Emission rate, pounds per hour
Lb/MMBtu	Emission rate, pounds per million Btu heat input
Mfd	Mole fraction, dry
Md	Molecular weight of flue gas, dry
Ms	Molecular weight of flue gas, wet
mg	Milligrams
mg/DSCM	Milligrams per dry standard cubic meter
Nozzle area	Area of sampling nozzle, square feet
%O2	Percent oxygen
Pbar	Barometric pressure, inches Hg
Pg	Flue gas static pressure, inches H2O
ppmd	Concentration, parts per million, dry, volume
Ps	Flue gas absolute pressure, inches Hg
Pstd	Standard absolute pressure at 29.92 inches Hg
Qsd	Volumetric flowrate, dry standard cubic feet per minute
Qaw	Volumetric flowrate, wet actual cubic feet per minute

CONSTANTS, DEFINITIONS, & NOMENCLATURE

(continued)

ta	Ambient temperature
Theta	Run time, minutes
tm	Dry gas meter temperature, degrees F, average of inlet and outlet meter temperatures
ts	Flue gas temperature, degrees F
Tstd	Standard absolute temperature, 528 Rankin
Vlc	Volume of liquid collected, mL
Vm	Volume of metered gas sample, dry, cubic feet
Vm(std)	Volume of metered gas sample, at standard conditions, dry cubic feet
vs	Average flue gas velocity, feet per second
Vsc	Milliliters sampled, dry, STP
Va	Milliliters sampled, actual, dry
Vw(std)	Volume of water vapor, stand cubic feet
Y	Gamma, dry gas meter calibration factor

CALCULATIONS

Volume Metered, Dry, (STP)

Vm(std) = 17.64 * Y * Vm * (Pbar + Delta H / 13.6) / (460 + tm) ft3

Vsc = (17.64 * Va * Pbar) / (ta + 460) Milliliters

Va = (Theta * 60 * Vc * Y) / (CTavg * 1000) Milliliters

Volume of Water Collected, Dry Standard Cubic Feet (STP)

Vw(std) = 0.04707 * Vlc

Percent Moisture Content

%H2O = 100 * Vw(std) / (Vw(std) + Vm(std))

Mole Fraction of Flue Gas (Dry)

Mfd = 1 - (%H2O / 100)

Molecular Weight of Flue Gas (Dry)

Md = (%CO2 * 0.44) + (%O2 * 0.32) + ((%CO + %N2) * 0.28)

Molecular Weight of Flue Gas (Wet)

Ms = (Md * Mfd) + (0.18 * %H2O)

Flue Gas Absolute Pressure (" Hg)

Ps = Pbar + (Pg / 13.6)

Flue Gas Velocity, Feet per Second, (Delta p avg is square of average square root)

vs = 85.49 * Cp * SQRT ((Delta p avg * (460 + ts)) / (Ps * Ms))

Volumetric Flowrate, Cubic Feet per Minute (STP), DSCFM

Qsd = 60 * Mfd * vs * A * (Tstd / (ts + 460)) * (Ps / Pstd)

Volumetric Flowrate, Cubic Feet per Minute, (Actual), ACFM

Qaw = 60 * vs * A

Percent Isokinetic

%I = (Pstd / Tstd) * (100 / 60) * ((ts + 460) * vm(std)) / (Ps * vs * Mfd * Theta * Nozzle area)

Heat Input Rate, Million BTU per Hour

MMBtu / hr = 60 * (Qsd / F) * ((20.9-%O2) / 20.9)

Percent Excess Air

%EA = 100 * (%O2 – (0.5 * %CO)) / ((0.264 - %N2) – (%O2 – (0.5 * %CO)))

Grains per Cubic Foot, Dry Standard

Gr / DSCF = (7,000 / 453,592) * (mg / Vm(std))

Gr/DSCF = (7,000 * ppmd * Mol. wt.) / (385.3 E+06)

Pounds per Hour

Lb/hr = 60 * (mg / 453,592) * (Qsd / Vm(std))

Lb/hr = (60 * ppmd * Mol. wt. * Qsd) / (385.3 E+06)

Pounds per Million BTU

Lb/MMBtu = (mg / 453,592) * (F / Vm(std)) * (20.9 / (20.9-%O2))

Lb/MMBtu = ((ppmd * Mol. wt.) / (385.3 E+06)) * F * (20.9 / (20.9-%O2))

Parts per Million, Dry Volume

ppmd = (385.3 E+06 * mg) / (453,592 * Mol. wt. * Vm(std)) ft3

ppmd = 1,000,000 * (24.056 * mg/1000)/(Vsc * Mol. Wt.) milliliters

ppmd = 1,000,000 * (24.056 * ug/1,000,000)/(Vsc * Mol. Wt.) milliliters

Milligrams per Cubic Meter, Dry Standard

mg/DSCM = ppmd * (Mol. wt. / 24.056)

Grams per Day

gms/day = 24 * 60 * (ug/10E+06) * Qsd / Vm(std)

Corrections

7% O2 multiply by (20.9-7) / (20.9 – O2)
12% CO2 multiply by (12 / %CO2)

APPENDIX B
Field Data

APPENDIX B.1
Field Data

Unit #1 SDA Inlet and FF Outlet
Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide

Calibration Error Test, Run 1 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Reference Cylinder Numbers

	Zero	Low-range	Mid-range	High-range
O2	ALM035226		ALM029649	CLM003675
CO2	ALM035226		ALM029649	CLM003675
SO2	ALM031469		ALM035226	ALM047968
NOx	ALM029649		XC017544B	FF5397
CO-In	XC017544B	ALM045330	CAL11516	CLM005559
O2-In	ALM062495		ALM029649	CLM003675
CO2-In	ALM062495		ALM029649	CLM003675
SO2-In	ALM029649		ALM062495	AAL3762

Date/Time 01-23-2001 07:17:49 PASSED

Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Avg	0.017	0.028	0.10	0.56	-0.03
Zero Error%	0.1%	0.1%	0.1%	0.1%	0.0%
Low Ref Cyl					30.29
Low Avg					29.71
Low Error%					0.6%
Mid Ref Cyl	11.120	11.000	56.00	233.00	61.95
Mid Avg	11.129	10.994	55.97	233.11	60.23
Mid Error%	0.0%	0.0%	0.0%	0.0%	1.7%
High Ref Cyl	20.100	17.010	91.17	439.00	90.82
High Avg	19.859	16.774	92.46	441.34	89.33
High Error%	1.0%	1.2%	1.3%	0.5%	1.5%

Calibration Error Test, Run 1 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Reference Cylinder Numbers

	Zero	Low-range	Mid-range	High-range
O2	ALM035226		ALM029649	CLM003675
CO2	ALM035226		ALM029649	CLM003675
SO2	ALM031469		ALM035226	ALM047968
NOx	ALM029649		XC017544B	FF5397
CO-In	XC017544B	ALM045330	CAL11516	CLM005559
O2-In	ALM062495		ALM029649	CLM003675
CO2-In	ALM062495		ALM029649	CLM003675
SO2-In	ALM029649		ALM062495	AAL3762

Date/Time 01-23-2001 07:17:50 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Avg	-0.002	0.015	-0.37
Zero Error%	0.0%	0.1%	0.1%
Low Ref Cyl			
Low Avg			
Low Error%			
Mid Ref Cyl	11.120	11.000	236.00
Mid Avg	11.122	11.073	236.35
Mid Error%	0.0%	0.4%	0.1%
High Ref Cyl	20.100	17.010	444.30
High Avg	19.859	16.793	441.73
High Error%	1.0%	1.1%	0.5%

Calibration Error Test End

Initial System Bias Check, Run 1 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Reference Cylinder Numbers

	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		07:42:22		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.017	0.028	0.10	0.56	-0.03
Zero Avg	0.044	0.032	0.37	0.73	-0.05
Zero Bias%	0.1%	0.0%	0.3%	0.0%	0.0%
Zero Drift%					
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.129	10.994	55.97	233.11	29.71
Span Avg	11.071	10.763	54.42	224.03	30.08
Span Bias%	0.2%	1.2%	1.5%	1.8%	0.4%
Span Drift%					

Initial System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-23-2001 07:42:23 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	-0.002	0.015	-0.37
Zero Avg	0.125		

0.048 0.17

Zero Bias%	0.5%	0.2%	0.1%
Zero Drift%			
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.122	11.073	236.35
Span Avg	11.101	10.925	214.89
Span Bias%	0.1%	0.7%	4.3%
Span Drift%			

System Bias Check End

Test Run 1 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
Begin calculating run averages					
01-23-2001 08:26:04	12.249	7.452	-0.51	68.42	4.49
01-23-2001 08:27:04	11.347	8.459	-0.50	102.73	7.26
01-23-2001 08:28:04	10.841	8.461	-0.46	111.75	5.50
01-23-2001 08:29:04	10.924	8.348	-0.59	112.84	4.61
01-23-2001 08:30:03	11.027	8.181	-0.56	110.51	3.90
01-23-2001 08:31:04	11.438	7.853	-0.59	98.02	3.44
01-23-2001 08:32:04	11.763	7.662	-0.63	89.08	3.55
01-23-2001 08:33:04	11.804	7.654	-0.57	90.52	4.02
01-23-2001 08:34:04	11.920	7.494	-0.64	90.81	4.24
01-23-2001 08:35:04	12.081	7.529	-0.59	96.30	5.44
01-23-2001 08:36:04	11.944	7.683	-0.61	105.74	5.48
01-23-2001 08:37:05	11.526	8.057	-0.65	118.53	7.85
01-23-2001 08:38:04	11.211	8.085	-0.71	118.61	6.50
01-23-2001 08:39:04	11.762	7.618	-0.66	99.78	5.05
01-23-2001 08:40:04	11.328	8.737	-0.66	133.75	6.91
01-23-2001 08:41:04	10.018	8.837	-0.57	173.22	3.73
01-23-2001 08:42:05	11.087	8.053	-0.71	146.70	2.83
01-23-2001 08:43:04	11.862	7.473	-0.78	110.30	3.20
01-23-2001 08:44:04	12.609	7.300	-0.79	88.81	4.80
01-23-2001 08:45:04	11.476	8.047	-0.73	113.33	5.59
01-23-2001 08:46:04	11.673	7.856	-0.82	105.03	4.32
01-23-2001 08:47:05	11.205	8.427	-0.73	119.62	4.07
01-23-2001 08:48:04	10.631	8.514	-0.76	119.33	4.18
01-23-2001 08:49:04	11.009	8.162	-0.96	106.40	2.45
01-23-2001 08:50:04	11.382	7.893	-0.89	95.96	1.72
01-23-2001 08:51:04	11.699	7.663	-0.86	84.24	2.02
01-23-2001 08:52:05	11.614	7.972	-0.93	90.19	3.41
01-23-2001 08:53:04	11.215	7.881	-0.89	92.48	1.83
01-23-2001 08:54:04	11.931	7.264	-0.91	80.97	1.58
01-23-2001 08:55:04	12.068	7.624	-0.96	86.80	3.16
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 08:55:04	11.489	7.941	-0.71	105.35	4.24

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Test Run 1 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
Begin calculating run averages			
01-23-2001 08:26:04	11.584	8.115	4.92
01-23-2001 08:27:04	9.963	9.325	4.59
01-23-2001 08:28:04	10.144	9.109	4.27
01-23-2001 08:29:04	10.303	8.929	4.32
01-23-2001 08:30:03	10.505	8.697	3.95
01-23-2001 08:31:04	10.972	8.365	3.44
01-23-2001 08:32:04	11.172	8.228	3.27
01-23-2001 08:33:04	11.180	8.217	3.33
01-23-2001 08:34:04	11.474	7.992	3.57
01-23-2001 08:35:04	11.352	8.140	3.80
01-23-2001 08:36:04	11.136	8.356	3.90
01-23-2001 08:37:05	10.634	8.739	3.70
01-23-2001 08:38:04	10.689	8.586	3.02
01-23-2001 08:39:04	11.377	8.129	2.42
01-23-2001 08:40:04	9.443	10.052	2.35
01-23-2001 08:41:04	9.710	9.359	2.87
01-23-2001 08:42:05	10.885	8.467	2.83
01-23-2001 08:43:04	11.675	7.835	2.52
01-23-2001 08:44:04	11.725	8.076	2.36
01-23-2001 08:45:04	10.690	8.568	2.46
01-23-2001 08:46:04	11.006	8.473	2.83
01-23-2001 08:47:05	9.988	9.284	3.03
01-23-2001 08:48:04	10.018	9.090	3.00
01-23-2001 08:49:04	10.539	8.665	2.65
01-23-2001 08:50:04	10.871	8.405	2.49
01-23-2001 08:51:04	11.182	8.186	2.55
01-23-2001 08:52:05	10.576	8.658	2.85
01-23-2001 08:53:04	10.814	8.308	3.07
01-23-2001 08:54:04	11.740	7.676	3.09
01-23-2001 08:55:04	10.951	8.409	2.92
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 08:55:04	10.811	8.547	3.21

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet
Test Run 1 End

Final System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		09:11:13		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.017	0.028	0.10	0.56	-0.03
Zero Avg	0.038	0.096	-0.04	0.48	-1.92
Zero Bias%	0.1%	0.3%	0.1%	0.0%	1.9%
Zero Drift%	0.0%	0.3%	-0.4%	-0.1%	-1.9%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.129	10.994	55.97	233.11	29.71
Span Avg	11.039	10.764	52.24	214.64	30.55
Span Bias%	0.4%	1.2%	3.7%	3.7%	0.8%
Span Drift%	-0.1%	0.0%	-2.2%	-1.9%	0.5%
Ini Zero Avg	0.044	0.032	0.37	0.73	-0.05
Ini Span Avg	11.071	10.763	54.42	224.03	30.08
Run Avg	11.489	7.941	-0.71	105.35	4.24
Co	0.041	0.064	0.16	0.61	-0.98
Cm	11.055	10.763	53.33	219.33	30.31
Correct Avg	11.558	8.098	-0.92	111.58	5.05

Final System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		09:11:13	PASSED
Analyte	O2-In	CO2-In	SO2-In	
Units	%	%	ppm	
Zero Ref Cyl	0.000	0.000	0.00	
Zero Cal	-0.002	0.015	-0.37	
Zero Avg	0.110	0.020	-0.54	
Zero Bias%	0.4%	0.0%	0.0%	
Zero Drift%	-0.1%	-0.1%	-0.1%	
Span Ref Cyl	11.120	11.000	236.00	
Span Cal	11.122	11.073	236.35	
Span Avg	11.070	10.835	224.20	
Span Bias%	0.2%	1.2%	2.4%	
Span Drift%	-0.1%	-0.5%	1.9%	
Ini Zero Avg	0.125	0.048	0.17	
Ini Span Avg	11.101	10.925	214.89	
Run Avg	10.811	8.547	3.21	
Co	0.118	0.034	-0.19	
Cm	11.085	10.880	219.54	
Correct Avg	10.842	8.634	3.65	

System Bias Check End

Test Run 2 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-23-2001 09:22:26	11.987	7.679	2.04	81.54	8.18
01-23-2001 09:23:26	11.986	7.407	1.77	81.44	6.72
01-23-2001 09:24:26	12.064	7.541	1.59	90.86	6.20
01-23-2001 09:25:26	12.098	7.444	1.43	97.57	6.03
01-23-2001 09:26:25	11.319	8.235	1.25	129.54	8.37
01-23-2001 09:27:26	11.219	7.938	1.09	132.28	6.24
01-23-2001 09:28:27	11.733	7.594	0.94	119.80	5.16
01-23-2001 09:29:26	11.782	7.664	0.91	117.13	4.58
01-23-2001 09:30:26	11.860	7.410	0.70	110.77	4.21
01-23-2001 09:31:26	12.539	7.200	0.79	100.25	5.55
01-23-2001 09:32:26	12.114	7.527	0.69	110.87	11.18
01-23-2001 09:33:27	11.543	8.077	0.66	117.08	10.81
01-23-2001 09:34:26	11.038	8.119	0.50	132.00	8.64
01-23-2001 09:35:26	11.427	7.825	0.53	128.74	5.41
01-23-2001 09:36:26	11.651	7.660	0.32	111.94	6.32
01-23-2001 09:37:26	11.941	7.356	0.42	96.21	7.10
01-23-2001 09:38:27	12.018	7.577	0.46	99.82	8.60
01-23-2001 09:39:26	11.559	7.702	0.41	109.57	7.80
01-23-2001 09:40:26	11.683	7.766	0.39	106.58	6.62
01-23-2001 09:41:26	11.775	7.632	0.26	97.28	9.68
01-23-2001 09:42:26	11.329	7.989	0.14	113.48	8.81
01-23-2001 09:43:27	11.204	8.065	0.23	130.59	6.92
01-23-2001 09:44:26	11.404	7.807	0.15	135.51	6.34
01-23-2001 09:45:26	11.841	7.544	0.11	129.31	8.23
01-23-2001 09:46:26	11.469	8.213	0.19	153.29	9.76
01-23-2001 09:47:26	10.577	8.410	0.21	166.30	7.11
01-23-2001 09:48:26	11.504	7.645	0.12	108.09	5.61
01-23-2001 09:49:27	12.245	7.332	-0.01	66.75	6.91
01-23-2001 09:50:26	11.753	7.917	0.03	74.90	8.30
01-23-2001 09:51:26	10.779	8.331	0.13	92.17	7.44
01-23-2001 09:52:26	11.445	7.693	0.03	67.56	6.24
01-23-2001 09:53:26	11.978	7.515	-0.11	52.17	6.36
01-23-2001 09:54:27	11.524	7.903	0.03	61.25	7.60
01-23-2001 09:55:26	10.660	8.578	0.02	91.59	7.83
01-23-2001 09:56:26	10.247	8.550	0.03	108.40	7.08
01-23-2001 09:57:26	10.991	7.956	-0.01	103.68	6.60
01-23-2001 09:58:26	11.890	7.251	0.02	94.13	5.95
01-23-2001 09:59:27	12.681	6.830	-0.01	82.86	7.64
01-23-2001 10:00:26	12.566	7.160	-0.06	90.38	12.15
01-23-2001 10:01:26	11.850	7.889	-0.04	109.61	14.14
01-23-2001 10:02:26	11.187	8.037	0.02	130.83	19.10
01-23-2001 10:03:26	11.419	7.953	0.06	130.64	11.13
01-23-2001 10:04:27	11.606	7.697	-0.17	119.82	9.93
01-23-2001 10:05:26	11.820	7.731	-0.17	108.70	12.26
01-23-2001 10:06:26	11.410	8.204	-0.16	113.16	13.29
01-23-2001 10:07:26	10.263	8.760	-0.09	135.04	13.33
01-23-2001 10:08:26	11.103	8.045	-0.17	124.30	7.62
01-23-2001 10:09:25	11.612	7.770	-0.23	114.87	7.75
01-23-2001 10:10:26	12.004	7.586	-0.17	103.53	9.02
01-23-2001 10:11:26	11.772	7.673	-0.20	102.69	10.46
01-23-2001 10:12:26	11.775	7.860	-0.21	102.95	10.20
01-23-2001 10:13:26	11.254	8.299	-0.17	112.35	10.44

Test Run 2 STRATA Version 2.0

	O2-In %	CO2-In %	SO2-In ppm
Begin calculating run averages			
01-23-2001 09:22:26	11.095	8.257	1.56
01-23-2001 09:23:26	11.597	7.827	1.18
01-23-2001 09:24:26	11.316	8.080	0.62
01-23-2001 09:25:26	11.587	7.917	-0.17
01-23-2001 09:26:25	10.212	8.889	-0.45
01-23-2001 09:27:26	10.744	8.402	-0.47
01-23-2001 09:28:27	11.223	8.060	-0.36
01-23-2001 09:29:26	11.062	8.210	-0.12
01-23-2001 09:30:26	11.423	7.853	0.28
01-23-2001 09:31:26	11.934	7.714	-0.10
01-23-2001 09:32:26	11.384	8.063	-0.38
01-23-2001 09:33:27	10.535	8.718	-0.65
01-23-2001 09:34:26	10.441	8.603	-0.73
01-23-2001 09:35:26	10.885	8.304	-0.92
01-23-2001 09:36:26	11.082	8.143	-0.91
01-23-2001 09:37:26	11.516	7.785	-1.08
01-23-2001 09:38:27	11.183	8.158	-1.33
01-23-2001 09:39:26	10.984	8.180	-1.41
01-23-2001 09:40:26	10.938	8.326	-1.60
01-23-2001 09:41:26	11.193	8.133	-1.52
01-23-2001 09:42:26	10.566	8.545	-1.49
01-23-2001 09:43:27	10.494	8.609	-1.58
01-23-2001 09:44:26	10.901	8.281	-1.71
01-23-2001 09:45:26	11.324	8.027	-1.86
01-23-2001 09:46:26	10.319	8.972	-1.82
01-23-2001 09:47:26	9.986	8.925	-1.46
01-23-2001 09:48:26	11.190	8.047	-1.61
01-23-2001 09:49:27	11.663	7.839	-0.59
01-23-2001 09:50:26	10.770	8.571	-0.59
01-23-2001 09:51:26	10.013	8.899	-0.39
01-23-2001 09:52:26	11.094	8.109	-0.55
01-23-2001 09:53:26	11.327	8.040	-0.63
01-23-2001 09:54:27	10.690	8.485	-0.58
01-23-2001 09:55:26	9.550	9.342	-0.56
01-23-2001 09:56:26	9.605	9.117	-0.16
01-23-2001 09:57:26	10.560	8.405	-0.35
01-23-2001 09:58:26	11.625	7.629	-0.82
01-23-2001 09:59:27	12.261	7.283	-0.93
01-23-2001 10:00:26	11.774	7.744	-0.96
01-23-2001 10:01:26	10.778	8.594	-0.93
01-23-2001 10:02:26	10.619	8.542	-1.04
01-23-2001 10:03:26	10.720	8.491	-1.07
01-23-2001 10:04:27	11.096	8.172	-1.10
01-23-2001 10:05:26	11.082	8.309	-1.08
01-23-2001 10:06:26	10.443	8.929	-1.05
01-23-2001 10:07:26	9.441	9.465	-0.74
01-23-2001 10:08:26	10.715	8.495	-0.62
01-23-2001 10:09:25	11.042	8.285	-0.64
01-23-2001 10:10:26	11.369	8.127	-0.85
01-23-2001 10:11:26	11.165	8.187	-1.14
01-23-2001 10:12:26	10.958	8.474	-1.21
01-23-2001 10:13:26	10.279	8.973	-1.23

Test Run 2 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 10:14:26	11.068	8.096	-0.30	108.33	8.25
01-23-2001 10:15:27	11.614	7.720	-0.28	97.58	8.60
01-23-2001 10:16:26	11.939	7.615	-0.26	94.13	9.49
01-23-2001 10:17:26	11.411	8.234	-0.24	103.08	13.28
01-23-2001 10:18:26	11.411	7.774	-0.33	96.53	13.68
01-23-2001 10:19:26	11.655	7.853	-0.24	100.11	14.11
01-23-2001 10:20:27	11.428	8.018	-0.29	106.43	11.00
01-23-2001 10:21:26	11.089	8.090	-0.31	105.22	9.87
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 10:21:26	11.569	7.816	0.24	106.89	8.72

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Test Run 2 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 10:14:26	10.588	8.568	-0.59
01-23-2001 10:15:27	11.122	8.201	-0.29
01-23-2001 10:16:26	11.269	8.164	0.04
01-23-2001 10:17:26	10.335	8.962	0.54
01-23-2001 10:18:26	11.103	8.189	0.84
01-23-2001 10:19:26	10.865	8.436	0.72
01-23-2001 10:20:27	10.607	8.620	0.27
01-23-2001 10:21:26	10.440	8.628	-0.07
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 10:21:26	10.902	8.355	-0.64

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet
Test Run 2 End

Final System Bias Check, Run 2 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		10:33:19		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.017	0.028	0.10	0.56	-0.03
Zero Avg	0.080	0.141	0.35	1.14	0.11
Zero Bias%	0.3%	0.6%	0.2%	0.1%	0.1%
Zero Drift%	0.2%	0.2%	0.4%	0.1%	2.0%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.129	10.994	55.97	233.11	29.71
Span Avg	11.095	10.871	54.28	217.34	30.25
Span Bias%	0.1%	0.6%	1.7%	3.2%	0.5%
Span Drift%	0.2%	0.5%	2.0%	0.5%	-0.3%
Ini Zero Avg	0.038	0.096	-0.04	0.48	-1.92
Ini Span Avg	11.039	10.764	52.24	214.64	30.55
Run Avg	11.569	7.816	0.24	106.89	8.72
Co	0.059	0.119	0.16	0.81	-0.90
Cm	11.067	10.817	53.26	215.99	30.40
Correct Avg	11.627	7.914	0.09	114.87	9.31

Final System Bias Check, Run 2 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-23-2001 10:33:20 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	-0.002	0.015	-0.37
Zero Avg	0.172	0.073	-1.21
Zero Bias%	0.7%	0.3%	0.2%
Zero Drift%	0.2%	0.3%	-0.1%
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.122	11.073	236.35
Span Avg	11.137	10.931	214.95
Span Bias%	0.1%	0.7%	4.3%
Span Drift%	0.3%	0.5%	-1.8%
Ini Zero Avg	0.110	0.020	-0.54
Ini Span Avg	11.070	10.835	224.20
Run Avg	10.902	8.355	-0.64
Co	0.141	0.046	-0.88
Cm	11.104	10.883	219.58
Correct Avg	10.915	8.434	0.25

System Bias Check End

Test Run 3 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
Begin calculating run averages					
01-23-2001 10:39:20	11.733	7.607	-0.20	116.47	7.29
01-23-2001 10:40:21	11.883	7.748	-0.27	98.96	10.13
01-23-2001 10:41:20	11.318	8.070	-0.31	103.62	14.25
01-23-2001 10:42:20	11.213	8.238	-0.36	107.32	10.14
01-23-2001 10:43:20	10.986	8.456	-0.41	106.72	9.66
01-23-2001 10:44:20	10.873	8.196	-0.56	96.73	7.81
01-23-2001 10:45:21	11.425	8.055	-0.40	85.80	8.31
01-23-2001 10:46:20	10.949	8.399	-0.52	98.63	7.85
01-23-2001 10:47:20	11.301	7.876	-0.55	89.72	5.74
01-23-2001 10:48:20	11.874	7.611	-0.54	83.52	5.97
01-23-2001 10:49:20	11.108	8.386	-0.67	108.51	8.96
01-23-2001 10:50:21	11.131	7.975	-0.76	107.25	6.22
01-23-2001 10:51:20	11.925	7.410	-0.37	88.91	6.35
01-23-2001 10:52:20	11.171	8.457	0.10	106.38	8.24
01-23-2001 10:53:20	10.831	7.960	0.06	98.70	4.88
01-23-2001 10:54:20	11.988	7.325	0.03	82.18	5.63
01-23-2001 10:55:21	11.647	7.879	0.01	100.11	8.67
01-23-2001 10:56:20	11.333	7.751	0.05	107.86	6.17
01-23-2001 10:57:21	12.083	7.146	-0.02	98.36	4.60
01-23-2001 10:58:20	11.724	8.080	0.01	116.62	6.78
01-23-2001 10:59:20	10.265	8.511	0.01	130.76	4.85
01-23-2001 11:00:21	11.259	7.673	0.00	119.14	4.50
01-23-2001 11:01:20	12.014	7.181	0.02	105.66	4.96
01-23-2001 11:02:21	12.135	7.323	-0.08	103.77	5.98
01-23-2001 11:03:20	11.795	7.655	-0.13	111.29	7.25
01-23-2001 11:04:20	10.953	8.585	-0.04	148.54	7.45
01-23-2001 11:05:21	10.453	8.254	-0.14	153.92	5.27
01-23-2001 11:06:20	11.778	7.440	-0.16	123.30	6.12
01-23-2001 11:07:21	12.429	7.043	-0.32	82.15	8.74
01-23-2001 11:08:20	12.071	7.746	-0.21	83.39	12.24
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 11:08:20	11.454	7.868	-0.22	105.50	7.36

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Test Run 3 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
Begin calculating run averages			
01-23-2001 10:39:20	11.268	8.091	2.92
01-23-2001 10:40:21	11.020	8.421	2.07
01-23-2001 10:41:20	10.597	8.641	1.63
01-23-2001 10:42:20	10.361	8.896	1.31
01-23-2001 10:43:20	10.022	9.223	1.19
01-23-2001 10:44:20	10.582	8.627	0.93
01-23-2001 10:45:21	10.680	8.671	0.58
01-23-2001 10:46:20	10.042	9.036	0.45
01-23-2001 10:47:20	10.991	8.300	0.40
01-23-2001 10:48:20	11.304	8.181	0.29
01-23-2001 10:49:20	9.942	9.144	0.21
01-23-2001 10:50:21	10.789	8.398	0.08
01-23-2001 10:51:20	11.580	7.882	0.07
01-23-2001 10:52:20	9.609	9.444	-0.02
01-23-2001 10:53:20	10.752	8.248	-0.10
01-23-2001 10:54:20	11.560	7.828	-0.15
01-23-2001 10:55:21	10.598	8.574	-0.20
01-23-2001 10:56:20	10.909	8.184	-0.16
01-23-2001 10:57:21	11.823	7.559	-0.27
01-23-2001 10:58:20	10.037	9.139	-0.17
01-23-2001 10:59:20	9.706	9.026	-0.36
01-23-2001 11:00:21	11.025	8.050	-0.39
01-23-2001 11:01:20	11.721	7.597	-0.45
01-23-2001 11:02:21	11.372	7.906	-0.41
01-23-2001 11:03:20	10.937	8.306	-0.47
01-23-2001 11:04:20	9.520	9.621	-0.48
01-23-2001 11:05:21	10.340	8.581	-0.41
01-23-2001 11:06:20	11.452	7.850	-0.45
01-23-2001 11:07:21	12.007	7.528	-0.48
01-23-2001 11:08:20	10.865	8.552	-0.47
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 11:08:20	10.780	8.451	0.22

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet
Test Run 3 End

Final System Bias Check, Run 3 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		11:21:30		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.017	0.028	0.10	0.56	-0.03
Zero Avg	0.053	0.135	0.31	0.95	-0.24
Zero Bias%	0.1%	0.5%	0.2%	0.1%	0.2%
Zero Drift%	-0.1%	0.0%	0.0%	0.0%	-0.4%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.129	10.994	55.97	233.11	29.71
Span Avg	11.025	10.822	54.87	215.54	29.83
Span Bias%	0.4%	0.9%	1.1%	3.5%	0.1%
Span Drift%	-0.3%	-0.2%	0.6%	-0.4%	-0.4%
Ini Zero Avg	0.080	0.141	0.35	1.14	0.11
Ini Span Avg	11.095	10.871	54.28	217.34	30.25
Run Avg	11.454	7.868	-0.22	105.50	7.36
Co	0.066	0.138	0.33	1.05	-0.06
Cm	11.060	10.847	54.58	216.44	30.04
Correct Avg	11.519	7.941	-0.57	112.99	7.47

Final System Bias Check, Run 3 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		11:21:30	PASSED
Analyte	O2-In	CO2-In	SO2-In	
Units	%	%	ppm	
Zero Ref Cyl	0.000	0.000	0.00	
Zero Cal	-0.002	0.015	-0.37	
Zero Avg	0.151	0.040	-0.70	
Zero Bias%	0.6%	0.1%	0.1%	
Zero Drift%	-0.1%	-0.2%	0.1%	
Span Ref Cyl	11.120	11.000	236.00	
Span Cal	11.122	11.073	236.35	
Span Avg	11.075	10.827	213.72	
Span Bias%	0.2%	1.2%	4.5%	
Span Drift%	-0.2%	-0.5%	-0.2%	
Ini Zero Avg	0.172	0.073	-1.21	
Ini Span Avg	11.137	10.931	214.95	
Run Avg	10.780	8.451	0.22	
Co	0.162	0.057	-0.96	
Cm	11.106	10.879	214.34	
Correct Avg	10.788	8.532	1.29	

System Bias Check End

Test Run 4 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-23-2001 11:28:26	10.381	9.043	0.22	116.74	8.57
01-23-2001 11:29:27	10.511	8.439	0.16	103.16	4.53
01-23-2001 11:30:26	11.426	8.024	0.07	93.76	4.82
01-23-2001 11:31:27	11.404	7.858	0.05	106.17	5.18
01-23-2001 11:32:26	12.217	7.297	-0.04	89.84	5.78
01-23-2001 11:33:26	12.505	7.408	-0.08	89.77	9.13
01-23-2001 11:34:27	11.403	8.436	-0.13	116.66	10.36
01-23-2001 11:35:26	10.387	8.822	-0.16	136.69	11.50
01-23-2001 11:36:27	11.226	8.145	-0.22	124.47	6.91
01-23-2001 11:37:26	11.496	8.167	-0.25	117.70	9.36
01-23-2001 11:38:26	10.815	8.738	-0.21	116.87	9.23
01-23-2001 11:39:27	10.912	8.559	-0.24	100.05	8.24
01-23-2001 11:40:26	10.718	8.892	-0.30	105.25	10.41
01-23-2001 11:41:27	9.775	9.205	-0.23	113.19	6.59
01-23-2001 11:42:26	10.385	8.569	-0.28	107.82	3.28
01-23-2001 11:43:26	11.312	7.848	-0.31	90.04	3.33
01-23-2001 11:44:27	11.958	7.607	-0.41	76.55	4.70
01-23-2001 11:45:26	11.719	7.744	-0.36	83.81	6.28
01-23-2001 11:46:27	11.645	7.766	-0.36	97.30	5.05
01-23-2001 11:47:26	11.624	7.863	-0.39	107.18	4.14
01-23-2001 11:48:26	11.194	8.079	-0.40	117.10	6.09
01-23-2001 11:49:27	11.168	8.066	-0.44	115.92	7.15
01-23-2001 11:50:26	11.577	7.549	-0.45	107.22	6.78
01-23-2001 11:51:27	12.027	7.596	-0.45	106.31	7.30
01-23-2001 11:52:27	11.244	8.134	-0.58	120.92	7.79
01-23-2001 11:53:27	11.246	7.997	-0.60	113.06	6.22
01-23-2001 11:54:26	11.534	7.957	-0.45	114.51	5.92
01-23-2001 11:55:27	10.863	8.501	-0.54	129.93	9.24
01-23-2001 11:56:26	11.143	8.223	-0.71	122.69	6.24
01-23-2001 11:57:26	10.527	8.875	-0.35	129.81	7.49
01-23-2001 11:58:27	10.238	8.758	0.16	120.70	4.76
01-23-2001 11:59:26	10.901	8.237	0.11	100.29	3.41
01-23-2001 12:00:27	11.405	7.878	0.01	85.19	4.01
01-23-2001 12:01:26	11.331	8.058	0.06	93.92	5.40
01-23-2001 12:02:27	11.116	8.426	0.05	104.23	5.19
01-23-2001 12:03:26	10.905	8.025	0.11	100.29	3.81
01-23-2001 12:04:26	11.275	8.090	0.12	100.41	4.08
01-23-2001 12:05:27	11.322	7.908	0.01	95.40	2.92
01-23-2001 12:06:26	11.313	7.933	-0.01	95.85	3.41
01-23-2001 12:07:27	11.338	8.050	0.00	101.13	4.77
01-23-2001 12:08:26	11.046	7.970	-0.04	108.67	6.60
01-23-2001 12:09:26	11.651	7.754	0.05	108.20	6.52
01-23-2001 12:10:27	10.921	8.417	0.01	135.57	6.74
01-23-2001 12:11:26	10.937	8.076	-0.04	134.86	4.30
01-23-2001 12:12:27	11.873	7.394	-0.17	106.79	3.14
01-23-2001 12:13:26	12.114	7.500	-0.13	94.53	5.50
01-23-2001 12:14:26	11.376	8.260	-0.13	103.17	7.10
01-23-2001 12:15:27	10.693	8.532	-0.17	113.59	6.48
01-23-2001 12:16:26	10.615	8.441	-0.12	116.38	6.16
01-23-2001 12:17:27	11.176	8.089	-0.09	106.71	4.57
01-23-2001 12:18:26	10.958	8.343	-0.13	113.83	5.83
01-23-2001 12:19:26	11.270	7.989	-0.18	110.40	6.12

Test Run 4 STRATA Version 2.0

	O2-In %	CO2-In %	SO2-In ppm
Begin calculating run averages			
01-23-2001 11:28:26	9.079	10.063	3.53
01-23-2001 11:29:27	10.308	8.794	3.43
01-23-2001 11:30:26	10.837	8.555	3.05
01-23-2001 11:31:27	11.177	8.169	2.70
01-23-2001 11:32:26	11.976	7.638	2.39
01-23-2001 11:33:26	11.510	8.183	2.28
01-23-2001 11:34:27	10.256	9.280	2.19
01-23-2001 11:35:26	9.751	9.418	2.28
01-23-2001 11:36:27	10.881	8.562	2.03
01-23-2001 11:37:26	10.821	8.738	1.61
01-23-2001 11:38:26	9.861	9.490	2.22
01-23-2001 11:39:27	10.261	9.156	2.14
01-23-2001 11:40:26	9.640	9.795	1.47
01-23-2001 11:41:27	9.049	9.933	0.92
01-23-2001 11:42:26	10.039	8.994	0.66
01-23-2001 11:43:26	11.062	8.192	0.52
01-23-2001 11:44:27	11.314	8.145	0.35
01-23-2001 11:45:26	11.074	8.267	0.19
01-23-2001 11:46:27	11.026	8.272	0.23
01-23-2001 11:47:26	10.904	8.426	0.07
01-23-2001 11:48:26	10.372	8.663	0.00
01-23-2001 11:49:27	10.544	8.575	0.11
01-23-2001 11:50:26	11.363	7.850	0.07
01-23-2001 11:51:27	11.210	8.216	-0.04
01-23-2001 11:52:27	10.422	8.715	0.43
01-23-2001 11:53:27	10.668	8.503	0.18
01-23-2001 11:54:26	10.808	8.574	0.01
01-23-2001 11:55:27	9.925	9.207	-0.05
01-23-2001 11:56:26	10.499	8.793	-0.15
01-23-2001 11:57:26	9.349	9.834	-0.13
01-23-2001 11:58:27	9.612	9.372	-0.07
01-23-2001 11:59:26	10.398	8.710	0.12
01-23-2001 12:00:27	10.898	8.370	0.16
01-23-2001 12:01:26	10.536	8.625	0.04
01-23-2001 12:02:27	10.069	9.184	0.08
01-23-2001 12:03:26	10.497	8.533	0.00
01-23-2001 12:04:26	10.396	8.660	-0.10
01-23-2001 12:05:27	10.698	8.420	-0.15
01-23-2001 12:06:26	10.622	8.456	-0.13
01-23-2001 12:07:27	10.483	8.675	-0.16
01-23-2001 12:08:26	10.673	8.358	-0.15
01-23-2001 12:09:26	10.976	8.292	-0.09
01-23-2001 12:10:27	9.876	9.098	-0.19
01-23-2001 12:11:26	10.546	8.470	-0.23
01-23-2001 12:12:27	11.569	7.777	-0.25
01-23-2001 12:13:26	11.351	8.073	-0.26
01-23-2001 12:14:26	10.242	9.016	-0.14
01-23-2001 12:15:27	9.932	9.120	0.05
01-23-2001 12:16:26	9.977	8.958	0.08
01-23-2001 12:17:27	10.566	8.619	0.11
01-23-2001 12:18:26	10.114	8.933	0.34
01-23-2001 12:19:26	10.763	8.467	0.26

Test Run 4 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 12:20:26	11.203	8.286	-0.14	122.70	7.99
01-23-2001 12:21:27	10.467	8.819	-0.30	137.64	7.19
01-23-2001 12:22:26	10.908	8.205	-0.24	126.03	6.76
01-23-2001 12:23:26	11.242	8.294	-0.21	124.30	6.26
01-23-2001 12:24:27	11.004	8.375	-0.20	123.93	7.03
01-23-2001 12:25:26	10.607	8.715	-0.21	128.49	7.69
01-23-2001 12:26:27	10.839	8.345	-0.25	113.56	5.12
01-23-2001 12:27:26	11.368	8.260	-0.28	100.34	6.12
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 12:27:26	11.162	8.181	-0.18	109.96	6.21

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Test Run 4 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 12:20:26	10.312	8.950	0.18
01-23-2001 12:21:27	9.504	9.632	0.29
01-23-2001 12:22:26	10.620	8.589	0.68
01-23-2001 12:23:26	10.316	8.934	0.76
01-23-2001 12:24:27	10.316	8.956	0.96
01-23-2001 12:25:26	9.688	9.468	0.81
01-23-2001 12:26:27	10.321	8.829	1.19
01-23-2001 12:27:26	10.468	9.002	1.47

Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 12:27:26	10.471	8.760	0.67

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet
Test Run 4 End

Final System Bias Check, Run 4 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		12:39:22		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.017	0.028	0.10	0.56	-0.03
Zero Avg	0.035	0.114	0.06	0.98	-1.70
Zero Bias%	0.1%	0.4%	0.0%	0.1%	1.7%
Zero Drift%	-0.1%	-0.1%	-0.2%	0.0%	-1.5%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.129	10.994	55.97	233.11	29.71
Span Avg	10.977	10.818	54.77	213.03	30.01
Span Bias%	0.6%	0.9%	1.2%	4.0%	0.3%
Span Drift%	-0.2%	0.0%	-0.1%	-0.5%	0.2%
Ini Zero Avg	0.053	0.135	0.31	0.95	-0.24
Ini Span Avg	11.025	10.822	54.87	215.54	29.83
Run Avg	11.162	8.181	-0.18	109.96	6.21
Co	0.044	0.125	0.19	0.97	-0.97
Cm	11.001	10.820	54.82	214.28	29.92
Correct Avg	11.284	8.286	-0.37	119.05	7.04

Final System Bias Check, Run 4 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		12:39:22	PASSED
Analyte	O2-In	CO2-In	SO2-In	
Units	%	%	ppm	
Zero Ref Cyl	0.000	0.000	0.00	
Zero Cal	-0.002	0.015	-0.37	
Zero Avg	0.050	0.013	-0.38	
Zero Bias%	0.2%	0.0%	0.0%	
Zero Drift%	-0.4%	-0.1%	0.1%	
Span Ref Cyl	11.120	11.000	236.00	
Span Cal	11.122	11.073	236.35	
Span Avg	11.002	10.825	214.79	
Span Bias%	0.5%	1.2%	4.3%	
Span Drift%	-0.3%	0.0%	0.2%	
Ini Zero Avg	0.151	0.040	-0.70	
Ini Span Avg	11.075	10.827	213.72	
Run Avg	10.471	8.760	0.67	
Co	0.101	0.027	-0.54	
Cm	11.039	10.826	214.25	
Correct Avg	10.543	8.895	1.33	

System Bias Check End

Test Run 5 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-23-2001 12:46:28	10.745	8.482	0.07	110.19	7.07
01-23-2001 12:47:29	11.424	8.280	-0.02	94.27	7.83
01-23-2001 12:48:28	10.024	9.401	-0.01	127.25	10.48
01-23-2001 12:49:29	10.527	8.490	0.05	104.30	6.59
01-23-2001 12:50:28	11.583	7.875	-0.05	80.16	6.44
01-23-2001 12:51:28	11.035	8.472	-0.15	103.90	8.28
01-23-2001 12:52:29	10.995	8.365	0.04	102.24	5.11
01-23-2001 12:53:28	10.199	8.969	0.00	126.78	6.18
01-23-2001 12:54:29	10.148	8.686	-0.01	123.76	4.28
01-23-2001 12:55:28	11.062	7.895	-0.09	100.67	3.86
01-23-2001 12:56:28	11.813	7.730	-0.05	88.12	5.88
01-23-2001 12:57:29	11.186	7.833	-0.19	93.47	5.33
01-23-2001 12:58:28	11.388	8.229	-0.17	100.98	7.71
01-23-2001 12:59:29	10.490	8.330	-0.21	115.02	5.84
01-23-2001 13:00:28	11.773	7.378	-0.19	93.39	5.76
01-23-2001 13:01:28	11.355	8.134	-0.15	115.82	8.26
01-23-2001 13:02:29	11.594	7.744	-0.21	113.72	5.31
01-23-2001 13:03:28	11.060	8.146	-0.20	140.72	5.16
01-23-2001 13:04:29	11.278	8.344	-0.19	137.78	5.54
01-23-2001 13:05:28	10.264	8.671	-0.26	148.74	4.02
01-23-2001 13:06:29	11.482	7.677	-0.30	105.60	4.13
01-23-2001 13:07:29	11.302	8.124	-0.27	95.71	6.58
01-23-2001 13:08:28	11.417	7.844	-0.37	81.72	5.85
01-23-2001 13:09:29	11.098	8.479	-0.37	102.89	7.63
01-23-2001 13:10:28	9.489	9.396	-0.32	141.36	8.68
01-23-2001 13:11:29	9.898	8.638	-0.37	129.81	5.71
01-23-2001 13:12:28	11.519	7.540	-0.40	100.14	5.18
01-23-2001 13:13:28	11.490	7.959	-0.42	108.42	10.23
01-23-2001 13:14:29	11.451	7.704	-0.43	106.13	7.09
01-23-2001 13:15:28	12.018	7.609	-0.42	96.32	9.73
01-23-2001 13:16:29	11.165	8.330	-0.50	105.38	9.81
01-23-2001 13:17:28	10.193	9.071	-0.62	120.41	9.57
01-23-2001 13:18:28	10.067	8.646	-0.67	115.57	8.56
01-23-2001 13:19:29	11.298	7.841	-0.73	102.43	7.55
01-23-2001 13:20:28	11.729	7.648	-0.68	98.54	8.17
01-23-2001 13:21:29	11.154	8.361	-0.74	117.55	10.57
01-23-2001 13:22:28	10.943	8.146	-0.89	129.22	9.33
01-23-2001 13:23:28	10.683	8.701	-0.84	147.52	9.28
01-23-2001 13:24:29	11.008	8.006	-0.95	134.55	5.93
01-23-2001 13:25:28	11.787	7.764	-1.04	119.40	7.76
01-23-2001 13:26:29	11.206	8.299	-0.47	121.66	12.29
01-23-2001 13:27:28	11.003	8.290	-0.12	117.07	12.21
01-23-2001 13:28:28	11.298	8.048	-0.15	107.75	15.14
01-23-2001 13:29:29	11.284	8.290	-0.24	113.98	15.20
01-23-2001 13:30:28	10.646	8.696	-0.22	123.41	14.08
01-23-2001 13:31:29	10.759	8.506	-0.18	120.95	12.42
01-23-2001 13:32:28	10.755	8.527	-0.21	117.22	13.51
01-23-2001 13:33:28	10.956	8.336	-0.23	112.73	13.22
01-23-2001 13:34:29	10.917	8.487	-0.19	115.38	10.44
01-23-2001 13:35:28	10.399	8.857	-0.30	124.76	10.05
01-23-2001 13:36:29	10.437	8.644	-0.30	130.96	8.50
01-23-2001 13:37:28	10.705	8.557	-0.32	137.57	10.20

Test Run 5 STRATA Version 2.0

	O2-In %	CO2-In %	SO2-In ppm
Begin calculating run averages			
01-23-2001 12:46:28	10.548	8.785	4.33
01-23-2001 12:47:29	10.255	9.404	3.71
01-23-2001 12:48:28	8.901	10.190	3.69
01-23-2001 12:49:29	10.494	8.712	3.32
01-23-2001 12:50:28	10.972	8.511	2.88
01-23-2001 12:51:28	9.938	9.145	2.76
01-23-2001 12:52:29	9.983	9.267	2.56
01-23-2001 12:53:28	9.082	9.841	2.77
01-23-2001 12:54:29	9.795	9.032	2.24
01-23-2001 12:55:28	11.036	8.035	1.44
01-23-2001 12:56:28	10.553	8.650	1.54
01-23-2001 12:57:29	11.035	8.074	3.22
01-23-2001 12:58:28	9.689	9.438	2.67
01-23-2001 12:59:29	10.364	8.490	1.17
01-23-2001 13:00:28	11.530	7.868	0.59
01-23-2001 13:01:28	10.203	8.767	0.35
01-23-2001 13:02:29	10.839	8.459	0.23
01-23-2001 13:03:28	10.579	8.451	0.19
01-23-2001 13:04:29	9.709	9.559	0.05
01-23-2001 13:05:28	9.890	9.007	0.00
01-23-2001 13:06:29	11.220	8.124	0.04
01-23-2001 13:07:29	10.300	8.687	0.03
01-23-2001 13:08:28	10.778	8.395	0.00
01-23-2001 13:09:29	9.347	9.781	0.05
01-23-2001 13:10:28	8.466	10.180	-0.01
01-23-2001 13:11:29	9.896	8.791	0.00
01-23-2001 13:12:28	11.270	7.970	0.01
01-23-2001 13:13:28	10.394	8.631	-0.05
01-23-2001 13:14:29	11.161	8.010	-0.07
01-23-2001 13:15:28	10.957	8.388	-0.06
01-23-2001 13:16:29	9.918	9.189	-0.13
01-23-2001 13:17:28	8.800	10.123	-0.08
01-23-2001 13:18:28	9.987	8.832	-0.08
01-23-2001 13:19:29	10.890	8.219	-0.09
01-23-2001 13:20:28	11.012	8.256	-0.16
01-23-2001 13:21:29	9.779	9.225	-0.11
01-23-2001 13:22:28	10.494	8.578	-0.09
01-23-2001 13:23:28	9.406	9.595	-0.21
01-23-2001 13:24:29	11.011	8.201	-0.29
01-23-2001 13:25:28	10.872	8.465	-0.30
01-23-2001 13:26:29	10.139	8.983	-0.29
01-23-2001 13:27:28	10.374	8.774	-0.29
01-23-2001 13:28:28	10.718	8.496	-0.31
01-23-2001 13:29:29	10.088	9.130	-0.25
01-23-2001 13:30:28	9.704	9.391	-0.23
01-23-2001 13:31:29	10.034	9.084	-0.30
01-23-2001 13:32:28	9.995	9.070	-0.16
01-23-2001 13:33:28	10.266	8.848	-0.16
01-23-2001 13:34:29	9.848	9.306	-0.26
01-23-2001 13:35:28	9.379	9.659	-0.22
01-23-2001 13:36:29	9.869	9.162	-0.22
01-23-2001 13:37:28	9.909	9.124	-0.19

Test Run 5 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 13:38:29	10.941	8.355	-0.28	131.11	12.26
01-23-2001 13:39:28	10.640	8.708	-0.41	128.28	11.50
01-23-2001 13:40:29	10.275	8.830	-0.34	122.89	10.38
01-23-2001 13:41:28	10.718	8.449	-0.26	112.19	8.72
01-23-2001 13:42:28	10.460	8.787	-0.26	114.12	13.19
01-23-2001 13:43:29	10.364	8.701	-0.25	113.43	11.16
01-23-2001 13:44:28	10.294	8.842	-0.21	120.49	11.88
01-23-2001 13:45:29	10.533	8.507	-0.22	118.51	9.21
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-23-2001 13:45:29	10.929	8.327	-0.31	114.73	8.63

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

Test Run 5 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 13:38:29	10.185	9.023	-0.22
01-23-2001 13:39:28	9.537	9.536	-0.17
01-23-2001 13:40:29	9.499	9.419	-0.24
01-23-2001 13:41:28	10.003	9.080	-0.24
01-23-2001 13:42:28	9.350	9.641	-0.16
01-23-2001 13:43:29	9.649	9.323	-0.21
01-23-2001 13:44:28	9.384	9.573	-0.22
01-23-2001 13:45:29	10.051	8.914	-0.13
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-23-2001 13:45:29	10.156	8.947	0.56

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet
Test Run 5 End

Final System Bias Check, Run 5 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		13:55:34		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.017	0.028	0.10	0.56	-0.03
Zero Avg	0.043	0.137	0.39	1.14	0.50
Zero Bias%	0.1%	0.5%	0.3%	0.1%	0.5%
Zero Drift%	0.0%	0.1%	0.3%	0.0%	2.2%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.129	10.994	55.97	233.11	29.71
Span Avg	10.997	10.819	53.73	218.97	30.76
Span Bias%	0.5%	0.9%	2.2%	2.8%	1.0%
Span Drift%	0.1%	0.0%	-1.0%	1.2%	0.7%
Ini Zero Avg	0.035	0.114	0.06	0.98	-1.70
Ini Span Avg	10.977	10.818	54.77	213.03	30.01
Run Avg	10.929	8.327	-0.31	114.73	8.63
Co	0.039	0.125	0.23	1.06	-0.60
Cm	10.987	10.818	54.25	216.00	30.39
Correct Avg	11.061	8.438	-0.55	123.22	9.02

Final System Bias Check, Run 5 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 1 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-23-2001		13:55:34	PASSED
Analyte	O2-In	CO2-In	SO2-In	
Units	%	%	ppm	
Zero Ref Cyl	0.000	0.000	0.00	
Zero Cal	-0.002	0.015	-0.37	
Zero Avg	0.055	0.003	-0.30	
Zero Bias%	0.2%	0.1%	0.0%	
Zero Drift%	0.0%	-0.1%	0.0%	
Span Ref Cyl	11.120	11.000	236.00	
Span Cal	11.122	11.073	236.35	
Span Avg	11.034	10.805	214.92	
Span Bias%	0.4%	1.3%	4.3%	
Span Drift%	0.1%	-0.1%	0.0%	
Ini Zero Avg	0.050	0.013	-0.38	
Ini Span Avg	11.002	10.825	214.79	
Run Avg	10.156	8.947	0.56	
Co	0.053	0.008	-0.34	
Cm	11.018	10.815	214.85	
Correct Avg	10.246	9.099	0.99	

System Bias Check End

APPENDIX B.2
Field Data

Unit #1 SDA Inlet
Hydrogen Chloride

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #1 SDA Inlet	**Operator Name**	Herb Dixon

Run Number	1-I-MM26-1	1-I-MM26-2	1-I-MM26-3	
Test Date	01/25/01	01/25/01	01/29/01	
Reagent Box ID				

Impinger Reagent	H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	570.2	589.5	578.6	
Initial Tare Weight	grams	501.8	504.6	486.2	
Net Moisture Caught	grams	68.4	84.9	92.4	0.0

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	204.0	205.0	204.0	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	4.0	5.0	4.0	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	277.2	288.2	283.7	
Initial Tare Weight	grams	265.5	283.4	277.2	
Net Moisture Caught	grams	11.7	4.8	6.5	0.0

Total Catch	grams	84.1	94.7	102.9	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	1-I-MM26-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	803
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	903
Test Location	Unit #1 SDA Inlet	Tester Signature			
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.948	Pbar	30.0	Meter Console #		T-4			CO_2
Meter Calibration Factor	0.9834	Pstatic	-2.80	Ideal Nozzle Diameter		0.289			7.8
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		NA			O_2
Estimated Dry Gas Meter Temp	65	Pstd	29.92	Actual Nozzle Diameter		NA			11.9
Estimated Stack Temp or M2 Avg.	425	Diluent		Probe Lgth/ID #	4'	NA			CO
Estimated Delta P or M2 Avg.	0.500	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	11.0	CO_2	9.0	Filter Box #		HB-4			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #		CB-16			80.3
Estimated Velocity, ft/sec	51.8	CO	0.0	Umbilical ID #		U50-2			H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s		NA			84.1

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		44	46	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	12					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
D 5	803	0.0	17.144	NA		1.00	2	45	45	NA	254	45	NA
-		5.0	19.760			1.00	3	55	45		247	38	NA
		10.0	22.360			1.00	3	58	49		245	38	NA
		15.0	24.900			1.00	4	61	51		246	37	NA
		20.0	27.570			1.00	5	63	52		246	37	NA
		25.0	30.270			1.00	5	64	53		245	38	NA
		30.0	32.930			1.00	6	65	53		244	38	NA
		35.0	35.640			1.00	7	66	55		245	39	NA
		40.0	38.250			1.00	7	67	56		245	38	NA
		45.0	40.500			1.00	7	68	57		246	39	NA
		50.0	43.500			1.00	8	68	58		248	39	NA
		55.0	46.030			1.00	8	69	58		249	40	NA
	903	60.0	48.590										
						MAX =>	8						
Average Values		60.0	31.446			1.00		58					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	1-I-MM26-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1201
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1301
Test Location	Unit #1 SDA Inlet	Tester Signature			
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.948	Pbar	30.0	Meter Console #		T-4			CO_2
Meter Calibration Factor	0.9834	Pstatic	-2.80	Ideal Nozzle Diameter		0.289			8.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		NA			O_2
Estimated Dry Gas Meter Temp	65	Pstd	29.92	Actual Nozzle Diameter		NA			11.2
Estimated Stack Temp or M2 Avg.	425	Diluent		Probe Lgth/ID #	4'	NA			CO
Estimated Delta P or M2 Avg.	0.500	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	11.0	CO_2	9.0	Filter Box #		HB-4			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #		CB-16			80.3
Estimated Velocity, ft/sec	51.8	CO	0.0	Umbilical ID #		U50-2			H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s		NA			94.7

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		60	61	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	12					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
D 5	1201	0.0	49.624	NA		1.00	2	66	66	NA	251	46	NA
-		5.0	52.340			1.00	3	63	63		247	42	NA
		10.0	54.850			1.00	3	65	63		248	40	NA
		15.0	57.520			1.00	4	66	63		246	38	NA
		20.0	60.130			1.00	5	68	63		251	38	NA
		25.0	62.630			1.00	5	69	63		250	39	NA
		30.0	65.250			1.00	6	71	64		253	39	NA
		35.0	67.700			1.00	7	72	65		251	40	NA
		40.0	70.190			1.00	7	73	65		249	40	NA
		45.0	72.970			1.00	8	74	66		250	40	NA
		50.0	75.300			1.00	9	75	66		250	40	NA
		55.0	78.190			1.00	10	75	66		251	41	NA
	1301	60.0	80.680										
						MAX =>	10						
Average Values		60.0	31.056			1.00		67					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	1-I-MM26-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1425
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1525
Test Location	Unit #1 SDA Inlet	Tester Signature	[signature]		
Date of Test	1/29/01	Checked By	[signature]		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.948	Pbar	29.9	Meter Console #	T-4			CO_2
Meter Calibration Factor	0.9834	Pstatic	-2.80	Ideal Nozzle Diameter	0.290			8.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	NA			O_2
Estimated Dry Gas Meter Temp	65	Pstd	29.92	Actual Nozzle Diameter	NA			11.2
Estimated Stack Temp or M2 Avg.	425	Diluent		Probe Lgth/ID # 4'	NA			CO
Estimated Delta P or M2 Avg.	0.500	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	11.0	CO_2	9.0	Filter Box #	HB-4			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #	CB-16			80.3
Estimated Velocity, ft/sec	51.9	CO	0.0	Umbilical ID #	U50-2			H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s	NA			102.9

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		75	74	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	12					15
Pitots		Y	Y	Leak Rate	0.002	0.000					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
D 5	1425	0.0	81.525	NA		1.00	2	75	75	NA	255	49	NA
-		5.0	84.550			1.00	3	80	76		246	44	NA
		10.0	87.000			1.00	3	82	77		245	46	NA
		15.0	89.580			1.00	4	84	77		246	47	NA
		20.0	92.400			1.00	5	86	78		245	47	NA
		25.0	95.110			1.00	6	86	78		246	46	NA
		30.0	97.910			1.00	6	87	79		246	47	NA
		35.0	100.620			1.00	7	87	80		247	47	NA
		40.0	103.400			1.00	7	87	80		248	47	NA
		45.0	106.150			1.00	8	87	81		247	48	NA
		50.0	108.890			1.00	8	87	81		248	48	NA
		55.0	111.800			1.00	9	88	81		248	48	NA
	1525	60.0	114.371										
						MAX =>	9						
Average Values		60.0	32.846			1.00		82					

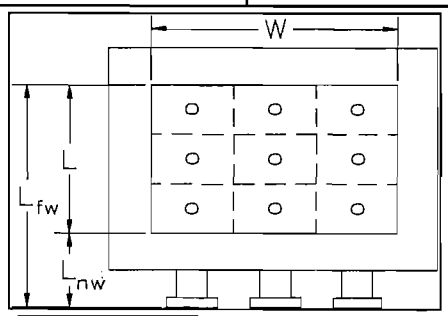
APPENDIX B.3
Field Data

Unit #1 SDA Inlet
Mercury

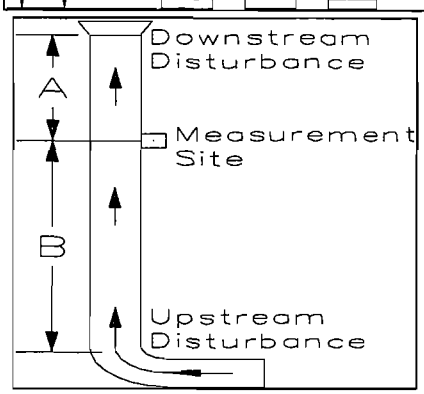
EPA Method 1 for Rectangular Ducts or Stacks

Client Name	Ogden Energy Group, Inc.	**Operator**	GLW
Plant Name	Lake County Resource Recovery Facility	**Date**	1/22/01
Plant City, State	Okahumpka, FL	**Project #**	10184
Sampling Location	Units 1 & 2 SDA Inlets	**# of Ports Available**	3
Stack Type	Rectangular	**# of Ports Used**	3
Stack Size	Large	**Port Inside Diam.**	3 inches

Rectangular Stacks or Ducts			
Distance to Far Wall of Stack	(L_{fw})	65	in
Distance to Near Wall of Stack	(L_{nw})	11	in
Depth of Stack (=L_{fw} - L_{nw})	(L)	54	in
Width of Stack	(W)	54	in
Equivalent Stack Diam(=2LW/(L+	(D_e)	54	in
Area of Stack (=LW/C_{units})	(A_s)	20.25	ft^2



Distance from Port to Disturbances				
Distance Upstream	FEET =>	15		<= IN
Diameters Upstream (=DU/D_e)		(B_D)	3.33	diameters
Distance Downstream	FEET =>	10		<= IN
Diameters Downstream (=DD/D_e)		(A_D)	2.22	diameters



Number of Traverse Points Required			
Diameters to Flow Disturbance		Minimum Number of[1] Traverse Points	
Up Stream	Down Stream	Particulate Points	Velocity Points
2.00-4.99	0.50-1.24	25	16
5.00-5.99	1.25-1.49	20	16
6.00-6.99	1.50-1.74	16	12
7.00-7.99	1.75-1.99	12	12
>= 8.00	>=2.00	9 or 12[2]	9 or 12[2]
Upstream Spec		25	
Downstream Spec		25	
Traverse Pts Required		25	0

[1] Check Minimum Number of Points for the Upstream and Downstream conditions, then use the largest.

[2] 9 for Rectangular Stacks 12 to 24 inches

12 for All Stacks over 24 inches

Number of Traverse Points Used			
27	Input Traverse Points Required		
3	Ports by	9	Points In
27	Total Points to be Measured		

Location of Traverse Points in Rectangular Stacks											
Traverse Point Number	(Fraction of Stack Dimension from Inside Wall to Traverse Point) Number of Traverse Points Across the Stack										
	2	3	4	5	6	7	8	9	10	11	12
1	.250	.167	.125	.100	.083	.071	.063	.056	.050	.045	.042
2	.750	.500	.375	.300	.250	.214	.188	.167	.150	.136	.125
3		.833	.625	.500	.417	.357	.313	.278	.250	.227	.208
4			.875	.700	.583	.500	.438	.389	.350	.318	.292
5				.900	.750	.643	.563	.500	.450	.409	.375
6					.917	.786	.688	.611	.550	.500	.458
7						.929	.813	.722	.650	.591	.542
8							.938	.833	.750	.682	.625
9								.944	.850	.773	.708
10									.950	.864	.792
11										.955	.875
12											.958

Traverse Point Number	Fraction of Stack Dimension	Distance from Inside Wall	Distance Including Nipple Length
		in	in
1	0.056	3	14
2	0.167	9	20
3	0.278	15	26
4	0.389	21	32
5	0.500	27	38
6	0.611	33	44
7	0.722	39	50
8	0.833	45	56
9	0.944	51	62
10			
11			
12			

Signature: _____ Checked: _____

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #1 SDA Inlet	Fo Max	

Date	1/25/01	Run Number	1-I-M29-1		ORSAT ID	1	Leak Ck?
Shared With	1-I-MM26-1		Start Time	0802	Stop Time	1008	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag # OB7
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1012	7.8	19.7	11.9	80.3	25.92	0.01	
1020	7.9	19.7	11.8	80.3	25.96	0.05	Fo
1026	7.6	19.6	12.0	80.4	25.86	0.05	
Averages	7.8		11.9	80.3	25.9	OK	

Date	1/25/01	Run Number	1-I-M29-2		ORSAT ID	1	Leak Ck?
Shared With	1-I-MM26-2		Start Time	1200	Stop Time	1404	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag # OB2
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1425	8.5	19.7	11.2	80.3	26.22	0.00	
1432	8.6	19.6	11.0	80.4	26.30	0.07	Fo
1440	8.4	19.8	11.4	80.2	26.15	0.07	
Averages	8.5		11.2	80.3	26.2	OK	

Date	1/29/01	Run Number	1-I-M29-3		ORSAT ID	1	Leak Ck?
Shared With	1-I-MM26-3		Start Time	1424	Stop Time	1629	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag # OB5
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1635	8.5	19.7	11.2	80.3	26.22	0.01	
1641	8.6	19.7	11.1	80.3	26.27	0.03	Fo
1648	8.5	19.7	11.2	80.3	26.22	0.01	
Averages	8.5		11.2	80.3	26.2	OK	

Date	1/29/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag #
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #1 SDA Inlet	**Operator Name**	Herb Dixon

Run Number	1-I-M29-1	1-I-M29-2	1-I-M29-3	
Test Date	01/25/01	01/25/01	01/29/01	
Reagent Box ID				

Impinger Reagent	HNO3/H2O2	mL	mL	mL	mL
Final Catch Weight	grams	440.8	435.7	437.4	
Initial Tare Weight	grams	263.8	260.9	264.2	
Net Moisture Caught	grams	177.0	174.8	173.2	0.0

Impinger Reagent	IMPIN 3	mL	mL	mL	mL
Final Catch Weight	grams	36.9	36.9	44.8	
Initial Tare Weight	grams	36.2	35.8	36.2	
Net Moisture Caught	grams	0.7	1.1	8.6	0.0

Impinger Reagent	KMnO4/H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	521.2	521.9	531.6	
KMNo4 Weight	grams	220.0	220.0	220.0	
KMnO4 g/mL	1.1	200.0	200.0	200.0	
Initial Jar Tare Weight	grams	299.3	299.9	300.0	
Net Moisture Caught	grams	1.9	2.0	11.6	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	301.7	284.1	290.0	
Initial Tare Weight	grams	288.4	269.3	271.6	
Net Moisture Caught	grams	13.3	14.8	18.4	0.0

Total Catch	grams	192.9	192.7	211.8	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	1-I-M29-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	802
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1008
Test Location	Unit #1 SDA Inlet	Tester Signature			
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.769	Pbar	30.0	Meter Console #		T-2			CO_2
Meter Calibration Factor	0.9606	Pstatic	-2.80	Ideal Nozzle Diameter		0.289			7.8
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		GN360A			O_2
Estimated Dry Gas Meter Temp	65	Pstd	29.92	Actual Nozzle Diameter		0.258			11.9
Estimated Stack Temp or M2 Avg.	425	Diluent		Probe Lgth/ID #	5'	171			CO
Estimated Delta P or M2 Avg.	0.50	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	11.0	CO_2	9.0	Filter Box #		HB-2			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #		CB-4			80.3
Estimated Velocity, ft/sec	51.8	CO	0.0	Umbilical ID #		U50-1			H_2O
K Factor (delta H/delta P)	2.29	N_2	80.0	TC ID #s		171			192.9

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		45	49	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	20	19					20
Pitots		Y	Y	Leak Rate	0.002	0.001					OK
Tedlar Bag	OB-7	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 9	802	0.0	624.177	0.58	1.33	1.33	2	45	45	439	255	43	NA
A 8		4.5	627.050	0.62	1.42	1.42	3	55	48	443	257	39	NA
A 7		9.0	629.890	0.64	1.46	1.46	4	58	49	441	255	39	NA
A 6		13.5	632.880	0.70	1.60	1.60	4	60	50	450	255	38	NA
A 5		18.0	635.920	0.58	1.33	1.33	5	61	51	446	255	38	NA
A 4		22.5	638.840	0.57	1.30	1.30	5	61	52	445	256	39	NA
A 3		27.0	641.670	0.60	1.37	1.37	6	62	52	444	254	39	NA
A 2		31.5	644.550	0.65	1.49	1.49	7	62	53	446	255	39	NA
A 1		36.0	647.770	0.58	1.33	1.33	7	63	54	441	255	39	NA
B 9		40.5	650.445	0.73	1.67	1.67	8	61	55	450	254	40	NA
B 8		45.0	653.680	0.61	1.39	1.39	8	65	55	438	258	40	NA
B 7		49.5	656.590	0.58	1.33	1.33	9	65	56	434	257	41	NA
B 6		54.0	659.360	0.50	1.14	1.14	9	66	57	431	258	41	NA
B 5		58.5	662.170	0.45	1.03	1.03	9	66	57	429	255	40	NA
B 4		63.0	664.570	0.50	1.14	1.14	9	66	58	427	257	41	NA
B 3		67.5	667.420	0.47	1.07	1.07	10	68	58	426	255	41	NA
B 2		72.0	670.110	0.52	1.19	1.19	10	68	59	433	257	41	NA
B 1		76.5	672.990	0.50	1.14	1.14	10	69	60	433	257	41	NA
C 9		81.0	675.670	0.80	1.83	1.83	11	66	60	440	256	41	NA
C 8		85.5	678.800	0.75	1.71	1.71	12	69	61	442	257	42	NA
C 7		90.0	681.950	0.70	1.60	1.60	13	69	61	446	257	42	NA
C 6		94.5	685.040	0.56	1.28	1.28	13	69	62	444	258	42	NA
C 5		99.0	687.990	0.53	1.21	1.21	14	69	63	436	257	42	NA
C 4		103.5	691.000	0.48	1.10	1.10	14	69	63	430	257	43	NA
C 3		108.0	693.590	0.45	1.03	1.03	15	69	63	427	256	43	NA
C 2		112.5	696.230	0.47	1.07	1.07	16	70	63	426	256	43	NA
C 1		117.0	698.910	0.50	1.14	1.14	17	71	64	424	256	43	NA
-	1008	121.5	701.515										
						MAX =>	17						
Average Values		121.5	77.338	0.575	1.32	1.32		61		437			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	1-I-M29-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1200
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1404
Test Location	Unit #1 SDA Inlet	Tester Signature			
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.769	Pbar	30.0	Meter Console #		T-2			CO_2
Meter Calibration Factor	0.9606	Pstatic	-2.90	Ideal Nozzle Diameter		0.289			8.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		GN-276			O_2
Estimated Dry Gas Meter Temp	65	Pstd	29.92	Actual Nozzle Diameter		0.255			11.2
Estimated Stack Temp or M2 Avg.	425	Diluent		Probe Lgth/ID #	5'	162			CO
Estimated Delta P or M2 Avg.	0.50	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	11.0	CO_2	9.0	Filter Box #		HB-2			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #		CB-1			80.3
Estimated Velocity, ft/sec	51.8	CO	0.0	Umbilical ID #		U50-1			H_2O
K Factor (delta H/delta P)	2.18	N_2	80.0	TC ID #s		162			192.7

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		60	58	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	20	18					20
Pitots		Y	Y	Leak Rate	0.002	0.002					OK
Tedlar Bag	OB-2	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 9	1200	0.0	701.860	0.56	1.22	1.22	2	66	66	436	266	49	NA
A 8		4.5	704.680	0.54	1.18	1.18	3	69	66	439	245	43	NA
A 7		9.0	707.420	0.57	1.24	1.24	3	70	66	437	246	40	NA
A 6		13.5	710.280	0.53	1.16	1.16	4	71	66	436	248	39	NA
A 5		18.0	712.990	0.49	1.07	1.07	4	72	67	436	254	40	NA
A 4		22.5	715.640	0.52	1.13	1.13	5	73	67	442	251	39	NA
A 3		27.0	718.310	0.48	1.05	1.05	5	74	68	439	254	39	NA
A 2		31.5	720.890	0.50	1.09	1.09	6	74	68	432	251	38	NA
A 1		36.0	723.600	0.45	0.98	0.98	7	75	68	429	250	38	NA
B 9		40.5	726.210	0.55	1.20	1.20	7	75	69	436	251	39	NA
B 8		45.0	729.020	0.51	1.11	1.11	8	77	69	430	254	40	NA
B 7		49.5	731.700	0.52	1.13	1.13	8	77	69	428	257	40	NA
B 6		54.0	734.300	0.45	0.98	0.98	9	77	70	431	253	41	NA
B 5		58.5	737.020	0.41	0.89	0.89	9	77	70	428	255	41	NA
B 4		63.0	739.470	0.39	0.85	0.85	9	78	71	420	252	42	NA
B 3		67.5	741.820	0.47	1.02	1.02	10	78	71	422	254	42	NA
B 2		72.0	744.540	0.44	0.96	0.96	10	78	71	418	252	42	NA
B 1		76.5	746.990	0.42	0.92	0.92	11	78	71	417	251	42	NA
C 9		81.0	749.471	0.59	1.29	1.29	12	76	71	424	258	42	NA
C 8		85.5	752.310	0.63	1.37	1.37	12	78	71	426	252	43	NA
C 7		90.0	755.250	0.61	1.33	1.33	13	78	72	429	253	43	NA
C 6		94.5	758.160	0.56	1.22	1.22	13	78	72	433	252	43	NA
C 5		99.0	760.890	0.53	1.16	1.16	14	78	72	436	255	44	NA
C 4		103.5	763.700	0.47	1.02	1.02	14	77	72	429	255	44	NA
C 3		108.0	766.550	0.45	0.98	0.98	15	77	72	426	252	44	NA
C 2		112.5	769.100	0.43	0.94	0.94	15	77	72	422	253	45	NA
C 1		117.0	771.650	0.47	1.02	1.02	16	77	72	421	253	45	NA
-	1404	121.5	774.282										
						MAX =>	16						
Average Values		121.5	72.422	0.500	1.09	1.09		72		430			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	1-I-M29-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1424
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1629
Test Location	Unit #1 SDA Inlet	Tester Signature			
Date of Test	1/29/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares	Actuals
ΔH @ 0.75 SCFM	1.769	Pbar	29.9	Meter Console #	T-2		CO_2
Meter Calibration Factor	0.9606	Pstatic	-2.80	Ideal Nozzle Diameter	0.290		8.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-276		O_2
Estimated Dry Gas Meter Temp	65	Pstd	29.92	Actual Nozzle Diameter	0.255		11.2
Estimated Stack Temp or M2 Avg.	425	Diluent		Probe Lgth/ID # 5'	162		CO
Estimated Delta P or M2 Avg.	0.50	Estimates		Liner Material	BG	XAD ID & Tares	0.0
Estimated Moisture Content	11.0	CO_2	9.0	Filter Box #	HB-2		N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #	CB-4		80.3
Estimated Velocity, ft/sec	51.9	CO	0.0	Umbilical ID #	U50-1		H_2O
K Factor (delta H/delta P)	2.18	N_2	80.0	TC ID #s	162		211.8

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		75	70	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	20	20					20
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB-5	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 9	1424	0.0	774.685	0.55	1.20	1.20	2	75	75	418	254	49	NA
A 8		4.5	777.550	0.51	1.11	1.11	3	77	76	418	246	45	NA
A 7		9.0	780.350	0.54	1.18	1.18	3	79	77	417	249	45	NA
A 6		13.5	783.050	0.48	1.05	1.05	4	82	77	419	248	46	NA
A 5		18.0	785.700	0.45	0.98	0.98	4	84	78	416	249	46	NA
A 4		22.5	788.270	0.44	0.96	0.96	5	85	78	415	252	45	NA
A 3		27.0	790.890	0.51	1.11	1.11	6	86	79	413	252	45	NA
A 2		31.5	793.570	0.43	0.94	0.94	6	87	79	410	249	46	NA
A 1		36.0	796.150	0.41	0.89	0.89	7	87	80	405	248	46	NA
B 9		40.5	798.623	0.56	1.22	1.22	8	86	81	416	254	47	NA
B 8		45.0	801.430	0.52	1.13	1.13	8	89	81	412	251	47	NA
B 7		49.5	804.190	0.54	1.18	1.18	9	89	81	413	251	46	NA
B 6		54.0	807.090	0.48	1.05	1.05	9	89	82	413	251	46	NA
B 5		58.5	809.750	0.45	0.98	0.98	10	90	83	414	249	46	NA
B 4		63.0	812.450	0.41	0.89	0.89	10	90	83	411	251	46	NA
B 3		67.5	815.020	0.43	0.94	0.94	11	90	83	410	251	46	NA
B 2		72.0	817.550	0.46	1.00	1.00	11	91	83	412	251	46	NA
B 1		76.5	820.200	0.41	0.89	0.89	11	91	84	413	249	46	NA
C 9		81.0	822.661	0.53	1.16	1.16	12	90	84	415	250	46	NA
C 8		85.5	825.450	0.59	1.29	1.29	13	91	84	410	249	47	NA
C 7		90.0	828.510	0.54	1.18	1.18	14	91	85	411	254	47	NA
C 6		94.5	830.960	0.49	1.07	1.07	14	90	85	412	248	47	NA
C 5		99.0	834.100	0.45	0.98	0.98	15	90	85	411	250	47	NA
C 4		103.5	836.540	0.42	0.92	0.92	15	90	86	410	254	47	NA
C 3		108.0	839.200	0.44	0.96	0.96	16	90	86	407	248	48	NA
C 2		112.5	841.620	0.46	1.00	1.00	16	90	86	410	250	48	NA
C 1		117.0	844.270	0.43	0.94	0.94	17	91	86	409	248	48	NA
-	1629	121.5	846.886										
						MAX =>	17						
Average Values		121.5	72.201	0.478	1.04	1.04		85		413			

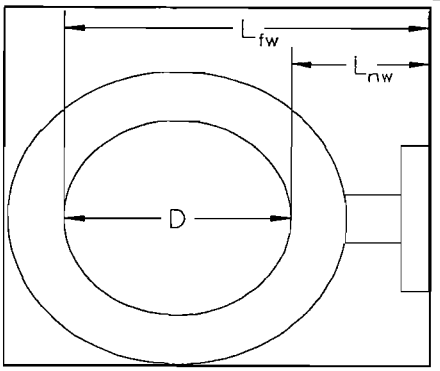
APPENDIX B.4
Field Data

Unit #1 Stack
Dioxins/Furans

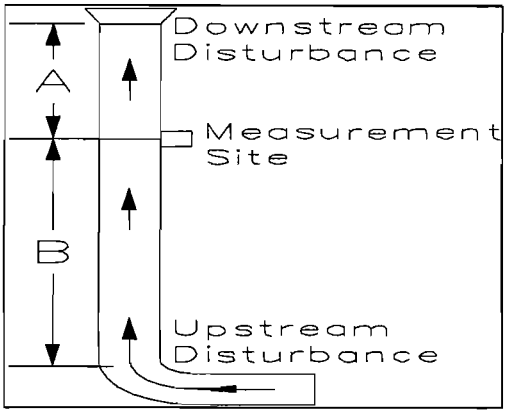
EPA Method 1 for Circular Ducts or Stacks

Client Name	Ogden Energy Group, Inc.	**Operator**	GLW
Plant Name	Lake County Resource Recovery Facility	**Date**	1/22/01
Plant City, State	Okahumpka, FL	**Project #**	10184
Sampling Location	Units 1 & 2 Stacks	**# of Ports Available**	2
Stack Type	Circular	**# of Ports Used**	2
Stack Size	Large	**Port Inside Diam.**	3 inches

Rectangular Stacks or Ducts			
Distance to Far Wall of Stack	(L_{fw})	77.00	in
Distance to Near Wall of Stack	(L_{nw})	22.00	in
Diameter of Stack (=L_{fw} - L_{nw})	(D)	55.00	in
Area of Stack (=3.14(D/2/C_{units})^2)	(A_s)	16.499	ft^2



Distance from Port to Disturbances				
Distance Upstream	FEET =>	33		<= IN
Diameters Upstream (=DU/D_e)		(B_D)	7.20	diameters
Distance Downstream	FEET =>	135		<= IN
Diameters Downstream (=DD/D_e)		(A_D)	29.45	diameters



Number of Traverse Points Required			
Diameters to Flow Disturbance		Minimum Number of[1] Traverse Points	
Up Stream	**Down Stream**	**Particulate Points**	**Velocity Points**
2.00-4.99	0.50-1.24	24	16
5.00-5.99	1.25-1.49	20	16
6.00-6.99	1.50-1.74	16	12
7.00-7.99	1.75-1.99	12	12
>= 8.00	>=2.00	8 or 12[2]	8 or 12[2]
Upstream Spec		12	
Downstream Spec		12	
Traverse Pts Required		12	0

[1] Check Minimum Number of Points for the Upstream and Downstream conditions, then use the largest.

[2] 8 for Circular Stacks 12 to 24 inches
12 for Circular Stacks over 24 inches

Number of Traverse Points Used			
12	**Input Traverse Points Required**		
2	**Ports by**	6	**Points In**
12	**Total Points to be Measured**		

Location of Traverse Points in Circular Stacks						
Traverse Point Numb er	(Fraction of Stack Diameter from Inside Wall to Traverse Point) Number of Traverse Points on a Diameter					
	2	4	6	8	10	12
1	.146	.067	.044	.032	.026	.021
2	.854	.250	.146	.105	.082	.067
3		.750	.296	.194	.146	.118
4		.933	.704	.323	.226	.177
5			.854	.677	.342	.250
6			.956	.806	.658	.356
7				.895	.774	.644
8				.968	.854	.750
9					.918	.823
10					.974	.882
11						.933
12						.979

Traverse Point Locations			
Traverse Point Number	**Fraction of Stack Diameter**	**Distance from Inside Wall**	**Distance Including Nipple Length**
		in	in
1	0.044	2 3/8	24 3/8
2	0.146	8	30
3	0.296	16 2/8	38 2/8
4	0.704	38 6/8	60 6/8
5	0.854	47	69
6	0.956	52 5/8	74 5/8
7			
8			
9			
10			
11			
12			

Signature:	
Checked:	

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #1 Stack	Fo Max	

Date	1/23/01	Run Number	1-S-M23-1		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1302	Stop Time	1719	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB7
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1722	7.5	19.6	12.1	80.4	25.81	0.01	
1729	7.6	19.6	12.0	80.4	25.86	0.04	Fo
1735	7.5	19.7	12.2	80.3	25.78	0.03	
Averages	7.5		12.1	80.4	25.8	OK	

Date	1/24/01	Run Number	1-S-M23-2		ORSAT ID	1	Leak Ck?
Shared With			Start Time	0825	Stop Time	1228	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB2
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1234	7.4	19.6	12.2	80.4	25.77	0.04	
1240	7.3	19.7	12.4	80.3	25.70	0.03	Fo
1245	7.3	19.6	12.3	80.4	25.72	0.01	
Averages	7.3		12.3	80.4	25.7	OK	

Date	1/24/01	Run Number	1-S-M23-3		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1300	Stop Time	1745	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB8
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1805	7.5	19.6	12.1	80.4	25.81	0.03	
1811	7.4	19.7	12.3	80.3	25.74	0.04	Fo
1819	7.5	19.7	12.2	80.3	25.78	0.01	
Averages	7.5		12.2	80.3	25.8	OK	

Date	1/24/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #1 Stack	**Operator Name**	Herb Dixon

Run Number	1-S-M23-1	1-S-M23-2	1-S-M23-3	
Test Date	01/23/01	01/24/01	01/24/01	
Reagent Box ID				

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	616.0	560.0	584.0	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	416.0	360.0	384.0	0.0

		X-24	X-3	X-15	
Impinger Reagent	XAD	mL	mL	mL	mL
Final Catch Weight	grams	350.7	303.4	357.7	
Initial Tare Weight	grams	334.7	289.7	346.5	
Net Moisture Caught	grams	16.0	13.7	11.2	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	294.7	294.1	301.1	
Initial Tare Weight	grams	269.2	267.9	270.0	
Net Moisture Caught	grams	25.5	26.2	31.1	0.0

Total Catch	grams	457.5	399.9	426.3	0.0

Signature:		**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD 23

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M23-1		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Run Start	1302
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1719
Test Location	Unit #1 Stack	Tester Signature			
Date of Test	1/23/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.872	Pbar	29.8	Meter Console #	T-5			CO_2
Meter Calibration Factor	1.0062	Pstatic	-0.85	Ideal Nozzle Diameter	0.228			7.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-328			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.197			12.1
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	152			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB-5	X-24	334.7	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB-10			80.4
Estimated Velocity, ft/sec	73.7	CO	0.0	Umbilical ID #	U50-3			H_2O
K Factor (delta H/delta P)	0.91	N_2	80.0	TC ID #s	152			457.5

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		50	51	DGM initial		827.567					827.567
Thermocouples		Y	Y	Vacuum	15	10	12				15
Pitots		Y	Y	Leak Rate	0.002	0.001	0.001				OK
Tedlar Bag	OB-7	Y	Y	DGM final		827.622					827.622

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 1	1302	0.0	762.421	0.75	0.68	0.68	4	63	63	275	255	56	52
A 1		5.0	764.700	0.90	0.82	0.82	4	66	63	274	265	52	42
A 1		10.0	767.230	0.92	0.83	0.83	5	68	64	276	265	50	42
A 1		15.0	769.770	0.75	0.68	0.68	5	69	64	276	265	50	42
A 2		20.0	772.180	0.62	0.56	0.56	5	70	65	275	265	51	41
A 2		25.0	774.090	0.65	0.59	0.59	5	71	65	275	267	53	43
A 2		30.0	776.180	0.67	0.61	0.61	5	72	67	276	267	53	43
A 2		35.0	778.380	0.67	0.61	0.61	5	73	67	277	266	53	41
A 3		40.0	780.500	0.68	0.62	0.62	5	74	68	279	267	51	41
A 3		45.0	782.680	0.74	0.67	0.67	5	74	69	280	267	51	40
A 3		50.0	784.860	0.70	0.63	0.63	5	74	69	281	267	50	40
A 3		55.0	787.070	0.75	0.68	0.68	5	75	69	280	261	50	40
A 4		60.0	789.290	1.30	1.18	1.18	6	75	70	280	259	50	40
A 4		65.0	792.440	1.35	1.22	1.22	6	76	70	279	259	48	43
A 4		70.0	795.440	1.30	1.18	1.18	6	77	70	278	258	49	40
A 4		75.0	798.540	1.40	1.27	1.27	6	78	71	279	259	49	40
A 5		80.0	801.630	1.55	1.41	1.41	7	78	72	278	259	49	40
A 5		85.0	805.040	1.50	1.36	1.36	7	79	72	277	260	50	42
A 5		90.0	808.160	1.50	1.36	1.36	7	79	72	277	260	50	41
A 5		95.0	811.400	1.60	1.45	1.45	7	79	73	277	260	50	40
A 6		100.0	814.660	1.55	1.41	1.41	7	79	73	277	260	50	39
A 6		105.0	817.910	1.50	1.36	1.36	7	80	73	278	260	50	39
A 6		110.0	821.270	1.55	1.41	1.41	7	80	74	277	260	50	39
A 6		115.0	824.350	1.45	1.32	1.32	7	81	74	277	260	50	39
B 1	1502/	120.0	827.567	0.95	0.86	0.86	6	75	75	277	261	52	42

Continued on Page 2

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M23-1	
Plant Name	Lake County Resource Rec Facility	Project #	10184	Page 2 of 2

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 1	1519	125.0	830.200	0.86	0.78	0.78	5	79	75	277	262	51	38
B 1		130.0	832.690	0.90	0.82	0.82	5	81	75	278	261	50	39
B 1		135.0	835.130	0.90	0.82	0.82	5	82	76	278	261	50	39
B 2		140.0	837.630	0.98	0.89	0.89	6	82	76	279	257	51	41
B 2		145.0	840.100	1.00	0.91	0.91	6	82	76	280	257	51	44
B 2		150.0	842.970	1.00	0.91	0.91	6	82	76	280	257	50	40
B 2		155.0	845.470	0.99	0.90	0.90	6	81	76	280	256	50	39
B 3		160.0	848.070	0.95	0.86	0.86	6	81	76	280	256	50	39
B 3		165.0	850.560	0.95	0.86	0.86	6	81	76	279	256	50	39
B 3		170.0	853.000	0.95	0.86	0.86	6	81	76	279	256	50	39
B 3		175.0	855.480	0.97	0.88	0.88	6	81	76	278	256	50	40
B 4		180.0	857.940	1.40	1.27	1.27	7	80	77	278	256	49	40
B 4		185.0	860.800	1.45	1.32	1.32	7	81	77	279	256	48	39
B 4		190.0	863.570	1.45	1.32	1.32	7	82	76	280	257	48	39
B 4		195.0	866.900	1.50	1.36	1.36	7	82	76	280	257	48	39
B 5		200.0	869.870	1.45	1.32	1.32	7	82	77	281	256	48	38
B 5		205.0	872.860	1.50	1.36	1.36	7	82	77	280	256	47	39
B 5		210.0	876.010	1.50	1.36	1.36	7	82	77	280	254	47	40
B 5		215.0	879.210	1.40	1.27	1.27	7	82	77	280	255	48	40
B 6		220.0	882.320	1.50	1.36	1.36	7	82	76	279	255	47	39
B 6		225.0	885.470	1.40	1.27	1.27	7	82	76	279	254	47	39
B 6		230.0	888.690	1.45	1.32	1.32	7	83	76	278	256	47	39
B 6		235.0	891.630	1.45	1.32	1.32	7	83	76	276	255	47	40
-	1719	240.0	894.943										
						MAX =>	7						
Average Values		240.0	132.467	1.126	1.04	1.04		75		278			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD 23

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M23-2		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Run Start	825
Plant City, State	Okahumpka, FL	Personnel	WHH	Run End	1228
Test Location	Unit #1 Stack	Tester Signature	Bill Harris		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.872	Pbar	29.9	Meter Console #	T-5	GLASS	NA	CO_2
Meter Calibration Factor	1.0062	Pstatic	-0.72	Ideal Nozzle Diameter	0.228			7.3
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN309			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.194			12.3
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	P157			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB5	X-3	289.7	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB-9			80.4
Estimated Velocity, ft/sec	73.6	CO	0.0	Umbilical ID #	U50-3			H_2O
K Factor (delta H/delta P)	0.85	N_2	80.0	TC ID #s	T157			399.9

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		45	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	10					15
Pitots		Y	Y	Leak Rate	0.003	0.001					OK
Tedlar Bag	OB-2	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	825	0.0	895.243	1.30	1.11	1.11	4	49	46	266	266	43	39
A 6		5.0	898.090	1.20	1.02	1.02	4	53	47	265	266	42	37
A 6		10.0	900.810	1.20	1.02	1.02	4	56	49	264	268	43	38
A 6		15.0	903.480	1.20	1.02	1.02	5	59	50	264	267	44	39
A 5		20.0	906.200	1.40	1.19	1.02	5	61	52	265	267	45	39
A 5		25.0	909.090	1.40	1.19	1.19	6	63	53	269	268	47	40
A 5		30.0	911.960	1.38	1.18	1.18	6	64	55	271	268	48	41
A 5		35.0	914.840	1.38	1.18	1.18	6	66	56	273	269	49	41
A 4		40.0	917.700	1.42	1.21	1.21	6	67	57	274	269	50	42
A 4		45.0	920.500	1.40	1.19	1.19	6	69	59	276	270	51	43
A 4		50.0	923.410	1.40	1.19	1.19	6	70	60	276	270	52	43
A 4		55.0	926.270	1.40	1.19	1.19	6	72	61	277	271	53	43
A 3		60.0	928.790	1.28	1.09	1.09	7	73	63	277	270	54	45
A 3		65.0	931.700	1.30	1.11	1.11	7	74	65	277	270	53	46
A 3		70.0	934.340	1.30	1.11	1.11	7	74	65	277	270	53	47
A 3		75.0	937.110	1.30	1.11	1.11	8	76	66	278	262	53	48
A 2		80.0	940.200	1.15	0.98	0.98	8	77	68	276	271	54	50
A 2		85.0	943.060	1.15	0.98	0.98	8	78	68	276	271	54	50
A 2		90.0	946.000	1.12	0.96	0.96	8	79	70	275	271	55	51
A 2		95.0	948.830	1.15	0.98	0.98	8	79	70	274	271	56	52
A 1		100.0	951.400	0.84	0.72	0.72	7	79	71	270	272	57	52
A 1		105.0	954.000	0.93	0.79	0.79	7	80	72	270	266	57	52
A 1		110.0	956.600	1.10	0.94	0.94	6	80	73	270	272	58	52
A 1		115.0	959.250	0.98	0.84	0.84	6	80	73	270	272	59	53
B 6	1028	120.0	961.640	1.60	1.37	1.37	9	79	74	280	272	59	51

Continued on Page 2

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M23-2	
Plant Name	Lake County Resource Rec Facility	Project #	10184	Page 2 of 2

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 6		125.0	964.710	1.50	1.28	1.28	9	79	74	280	271	58	50
B 6		130.0	967.100	1.35	1.15	1.28	9	80	74	278	272	57	51
B 6		135.0	970.880	1.40	1.19	1.19	9	81	74	276	272	57	51
B 5		140.0	973.790	1.45	1.24	1.24	9	82	75	275	268	57	51
B 5		145.0	976.730	1.55	1.32	1.32	9	82	75	275	272	58	52
B 5		150.0	979.730	1.45	1.24	1.24	9	83	76	275	272	58	50
B 5		155.0	982.780	1.55	1.32	1.32	9	83	76	274	273	59	50
B 4		160.0	985.740	1.50	1.28	1.28	8	84	76	276	273	60	50
B 4		165.0	988.840	1.55	1.32	1.32	8	83	77	277	273	60	51
B 4		170.0	991.770	1.65	1.41	1.41	9	83	77	279	272	61	51
B 4		175.0	994.940	1.70	1.45	1.45	9	83	77	279	272	61	51
B 3		180.0	997.990	0.75	0.64	0.64	6	83	77	283	273	58	48
B 3		185.0	1000.290	0.65	0.55	0.55	6	82	77	285	272	59	49
B 3		190.0	1002.550	0.62	0.53	0.53	6	82	77	283	272	58	51
B 3		195.0	1004.740	0.55	0.47	0.47	6	81	77	282	273	59	51
B 2		200.0	1006.710	0.53	0.45	0.45	6	80	77	278	272	59	51
B 2		205.0	1008.660	0.61	0.52	0.52	6	80	76	274	272	60	51
B 2		210.0	1010.750	0.58	0.49	0.49	5	79	75	273	272	60	51
B 2		215.0	1012.730	0.58	0.49	0.49	5	79	76	271	271	60	52
B 1		220.0	1014.700	0.55	0.47	0.47	5	79	76	271	271	60	52
B 1		225.0	1016.500	0.57	0.49	0.49	5	78	75	269	271	61	52
B 1		230.0	1018.290	0.56	0.48	0.48	5	78	75	270	271	60	51
B 1		235.0	1020.130	0.55	0.47	0.47	5	78	75	270	271	60	51
-	1228	240.0	1021.968										
						MAX =>	9						
Average Values		240.0	126.725	1.113	0.98	0.98		72		274			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD 23

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M23-3		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Run Start	1300
Plant City, State	Okahumpka, FL	Personnel	WHH	Run End	1745
Test Location	Unit #1 Stack	Tester Signature	Bill Harris		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.872	Pbar	29.9	Meter Console #	T-5	GLASS	NA	CO_2
Meter Calibration Factor	1.0062	Pstatic	-0.76	Ideal Nozzle Diameter	0.228			7.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN318			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.195			12.2
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	P152			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB5	X-15	346.5	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB10			80.3
Estimated Velocity, ft/sec	73.6	CO	0.0	Umbilical ID #	U50-3			H_2O
K Factor (delta H/delta P)	0.87	N_2	80.0	TC ID #s	T152			426.3

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		68	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	8					15
Pitots		Y	Y	Leak Rate	0.003	0.002					OK
Tedlar Bag	OB-8	Y	Y	DGM final							0.000

Point #		Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
		24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A	6	1300	0.0	22.150	1.60	1.39	1.39	5	72	72	282	267	61	45
A	6		5.0	25.390	1.70	1.48	1.48	6	73	72	282	268	59	44
A	6		10.0	28.540	1.60	1.39	1.39	6	73	71	281	269	57	45
A	6		15.0	31.780	1.65	1.44	1.44	7	75	71	280	269	58	45
A	5		20.0	35.100	1.70	1.48	1.48	7	77	72	281	270	57	42
A	5		25.0	38.190	1.75	1.52	1.52	7	78	72	282	270	55	43
A	5		30.0	41.580	1.70	1.48	1.48	7	78	72	282	270	55	43
A	5		35.0	44.870	1.72	1.50	1.50	7	78	73	284	270	53	45
A	4		40.0	48.300	1.80	1.57	1.57	7	79	74	284	270	52	46
A	4		45.0	51.800	1.65	1.44	1.44	7	80	74	283	271	52	45
A	4		50.0	54.980	1.78	1.55	1.55	7	80	74	282	271	52	44
A	4		55.0	58.310	1.70	1.48	1.48	7	80	75	282	271	52	43
B	6	1404	60.0	61.633	1.30	1.13	1.13	6	78	75	277	271	53	45
B	6		65.0	64.550	1.38	1.20	1.20	6	80	75	276	271	54	47
B	6		70.0	67.460	1.35	1.18	1.18	6	80	75	275	271	55	48
B	6		75.0	70.430	1.25	1.09	1.09	6	80	76	274	266	56	50
B	5		80.0	73.400	1.45	1.26	1.26	6	80	76	273	266	57	49
B	5		85.0	76.480	1.45	1.26	1.26	6	80	75	274	266	57	49
B	5		90.0	79.650	1.50	1.31	1.31	7	80	75	276	266	57	49
B	5		95.0	82.820	1.50	1.31	1.31	7	80	75	280	265	57	49
B	4		100.0	85.920	1.50	1.31	1.31	7	80	77	282	265	58	48
B	4		105.0	89.030	1.60	1.39	1.39	7	80	75	283	264	57	50
B	4		110.0	92.140	1.60	1.39	1.39	7	79	75	284	264	56	48
B	4		115.0	95.290	1.50	1.31	1.31	7	79	75	284	264	55	49
B	3		120.0	98.580	1.10	0.96	0.96	6	79	74	281	264	55	48

Continued on Page 2

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M23-3		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Page	2 of 2

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3		125.0	101.210	1.20	1.05	1.05	6	79	74	280	264	55	50
B 3		130.0	104.080	1.10	0.96	0.96	6	79	74	280	264	55	50
B 3		135.0	107.000	1.00	0.87	0.87	6	79	74	280	264	55	50
B 2		140.0	109.600	1.00	0.87	0.87	6	78	73	279	264	55	50
B 2		145.0	112.000	1.00	0.87	0.87	6	78	73	278	263	55	51
B 2		150.0	114.580	1.10	0.96	0.96	6	77	72	277	263	56	52
B 2		155.0	117.300	1.15	1.00	1.00	6	77	72	280	264	56	52
B 1		160.0	120.170	1.15	1.00	1.00	6	77	72	280	264	56	52
B 1		165.0	122.800	1.10	0.96	0.96	6	77	72	280	264	57	54
B 1		170.0	125.600	1.05	0.91	0.91	5	77	72	280	264	57	54
B 1		175.0	127.990	1.08	0.94	0.94	5	77	72	279	263	56	52
A 3	1645	180.0	130.529	0.62	0.54	0.54	5	71	68	278	262	58	48
A 3		185.0	132.640	0.63	0.55	0.55	5	71	68	278	262	58	47
A 3		190.0	134.000	0.62	0.54	0.54	5	71	68	277	262	53	49
A 3		195.0	136.000	0.60	0.52	0.52	5	71	68	276	262	54	50
A 2		200.0	138.700	0.71	0.62	0.62	5	71	68	276	262	54	50
A 2		205.0	140.880	0.75	0.65	0.65	5	71	68	276	261	55	50
A 2		210.0	143.130	0.73	0.64	0.64	5	72	68	276	262	55	51
A 2		215.0	145.310	0.73	0.64	0.64	5	72	68	277	263	56	52
A 1		220.0	147.340	0.85	0.74	0.74	5	72	68	277	260	56	52
A 1		225.0	149.340	0.87	0.76	0.76	5	72	68	278	254	56	52
A 1		230.0	151.730	0.89	0.78	0.78	5	72	69	279	258	57	53
A 1		235.0	153.960	0.86	0.75	0.75	5	73	69	279	259	57	54
-	1745	240.0	156.183										
						MAX =>	7						
Average Values		240.0	134.033	1.212	1.08	1.08		74		279			

APPENDIX B.5
Field Data

Unit #1 Stack
Hydrogen Chloride

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #1 Stack	**Operator Name**	Herb Dixon

Run Number	1-S-MM26-1	1-S-MM26-2	1-S-MM26-3	
Test Date	01/25/01	01/25/01	01/29/01	
Reagent Box ID				

Impinger Reagent	H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	600.0	628.3	611.3	
Initial Tare Weight	grams	484.1	491.4	503.3	
Net Moisture Caught	grams	115.9	136.9	108.0	0.0

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	203.0	204.0	202.0	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	3.0	4.0	2.0	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	283.7	300.9	290.1	
Initial Tare Weight	grams	275.3	294.7	283.7	
Net Moisture Caught	grams	8.4	6.2	6.4	0.0

Total Catch	grams	127.3	147.1	116.4	0.0

Signature:		**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	1-S-MM26-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	804
Plant City, State	Okahumpka, FL	Personnel	WHH, DGB	Run End	904
Test Location	Unit #1 Stack	Tester Signature	Bill Harris		
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	30.0	Meter Console #	T3	QUARTZ	NA	CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.76	Ideal Nozzle Diameter	0.226			7.1
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	NA			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	NA			12.6
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 4'	P4			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #	HB3	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB1			80.3
Estimated Velocity, ft/sec	73.1	CO	0.0	Umbilical ID #	U50-5			H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s	NA			127.3

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		45	50	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	6					15
Pitots		Y	Y	Leak Rate	0.000	0.000					OK
Tedlar Bag	OB-1	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3	804	0.0	1.800	NA		1.80	5	52	49	NA	267	48	NA
-		5.0	5.400	NA		1.80	5	55	50	NA	268	44	NA
		10.0	8.940	NA		1.80	5	58	51	NA	267	43	NA
		15.0	12.400	NA		1.80	5	61	53	NA	267	44	NA
		20.0	15.900	NA		1.80	5	65	54	NA	266	45	NA
		25.0	19.370	NA		1.80	5	67	57	NA	266	47	NA
-		30.0	22.700	NA		1.80	5	71	59	NA	267	47	NA
-		35.0	26.410	NA		1.80	5	72	60	NA	267	48	NA
		40.0	29.970	NA		1.80	5	74	63	NA	267	50	NA
		45.0	33.460	NA		1.80	5	75	64	NA	267	52	NA
		50.0	37.030	NA		1.80	5	77	66	NA	267	53	NA
		55.0	40.600	NA		1.80	5	78	67	NA	265	54	NA
	904	60.0	44.111										
						MAX =>	5						
Average Values		60.0	42.311			1.80		62					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	1-S-MM26-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1201
Plant City, State	Okahumpka, FL	Personnel	WHH, DGB	Run End	1301
Test Location	Unit #1 Stack	Tester Signature	Bill Harris		
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	30.0	Meter Console #	T3	QUARTZ	NA	CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.65	Ideal Nozzle Diameter	0.226			7.8
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	NA			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	NA			11.8
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 4'	P4			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #	HB1	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB1			80.4
Estimated Velocity, ft/sec	73.1	CO	0.0	Umbilical ID #	U50-5			H_20
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s	NA			147.1

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		62	63	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	10	6					10
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3		0.0	44.223	NA		1.80	4	68	68	NA	260	65	NA
-		5.0	47.700	NA		1.80	4	68	68	NA	258	55	NA
		10.0	51.000	NA		1.80	4	69	68	NA	260	52	NA
		15.0	54.600	NA		1.80	4	72	68	NA	258	54	NA
		20.0	57.900	NA		1.80	5	73	68	NA	260	54	NA
		25.0	61.450	NA		1.80	5	74	68	NA	261	55	NA
-		30.0	65.100	NA		1.80	5	74	68	NA	262	54	NA
-		35.0	68.580	NA		1.80	5	77	69	NA	260	55	NA
		40.0	72.100	NA		1.80	5	78	70	NA	258	56	NA
		45.0	75.700	NA		1.80	5	78	70	NA	257	57	NA
		50.0	79.300	NA		1.80	5	78	70	NA	259	57	NA
		55.0	82.700	NA		1.80	5	78	71	NA	258	58	NA
		60.0	86.232										
						MAX =>	5						
Average Values		60.0	42.009			1.80		71					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	1-S-MM26-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1424
Plant City, State	Okahumpka, FL	Personnel	WHH, DGB	Run End	1524
Test Location	Unit #1 Stack	Tester Signature	Bill Harris		
Date of Test	01/29/01	Checked By	[illegible]		

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.9	Meter Console #		T3			CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.78	Ideal Nozzle Diameter		0.226			8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		NA			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter		NA			11.7
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID #	4'	HCL			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #		HB3			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB11			80.3
Estimated Velocity, ft/sec	73.3	CO	0.0	Umbilical ID #		U50-5			H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s					116.4

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		70	72	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	4					15
Pitots		Y	Y	Leak Rate	0.003	0.002					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3	1424	0.0	86.510			1.00	3	78	78	NA	250	54	NA
-		5.0	89.270			1.00	3	80	77	NA	266	52	NA
		10.0	92.000			1.00	3	80	77	NA	261	52	NA
		15.0	94.800			1.00	4	82	78	NA	260	52	NA
		20.0	97.540			1.00	4	80	78	NA	269	53	NA
		25.0	100.310			1.00	4	81	77	NA	267	53	NA
-		30.0	103.060			1.00	4	80	77	NA	265	54	NA
-		35.0	105.820			1.00	4	80	77	NA	264	54	NA
		40.0	108.590			1.00	4	81	77	NA	265	55	NA
		45.0	111.350			1.00	4	80	77	NA	267	56	NA
		50.0	114.120			1.00	4	80	77	NA	267	56	NA
		55.0	116.900			1.00	4	80	77	NA	266	57	NA
	1524	60.0	119.670										
						MAX =>	4						
Average Values		60.0	33.160			1.00		79					

APPENDIX B.6
Field Data

Unit #1 Stack
Mercury and Metals

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #1 Stack	Fo Max	

Date	1/25/01	Run Number	1-S-M29-1		ORSAT ID	1	Leak Ck?
Shared With	1-S-MM26-1		Start Time	0802	Stop Time	1009	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB1
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1034	7.2	19.8	12.6	80.2	25.62	0.03	
1040	7.0	19.7	12.7	80.3	25.56	0.03	Fo
1046	7.1	19.7	12.6	80.3	25.61	0.01	
Averages	7.1		12.6	80.3	25.6	OK	

Date	1/25/01	Run Number	1-S-M29-2		ORSAT ID	1	Leak Ck?
Shared With	1-S-MM26-2		Start Time	1200	Stop Time	1407	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB7
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1448	7.8	19.6	11.8	80.4	25.94	0.00	
	7.8	19.7	11.9	80.3	25.92	0.02	Fo
	7.9	19.7	11.8	80.3	25.96	0.02	
Averages	7.8		11.8	80.4	25.9	OK	

Date	1/29/01	Run Number	1-S-M29-3		ORSAT ID	1	Leak Ck?
Shared With	1-S-MM26-3		Start Time	1425	Stop Time	1630	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB1
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1655	8.1	19.7	11.6	80.3	26.05	0.04	
1702	8.0	19.7	11.7	80.3	26.00	0.01	Fo
1710	8.0	19.8	11.8	80.2	25.98	0.03	
Averages	8.0		11.7	80.3	26.0	OK	

Date	1/29/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit.#1 Stack	**Operator Name**	Herb Dixon

Run Number	1-S-M29-1	1-S-M29-2	1-S-M29-3	
Test Date	01/25/01	01/25/01	01/29/01	
Reagent Box ID				

Impinger Reagent	HNO3/H2O2	mL	mL	mL	mL
Final Catch Weight	grams	520.9	523.8	545.1	
Initial Tare Weight	grams	261.5	262.3	262.2	
Net Moisture Caught	grams	259.4	261.5	282.9	0.0

Impinger Reagent	IMPIN 3	mL	mL	mL	mL
Final Catch Weight	grams	47.5	40.5	44.0	
Initial Tare Weight	grams	36.3	36.3	36.4	
Net Moisture Caught	grams	11.2	4.2	7.6	0.0

Impinger Reagent	KMnO4/H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	529.4	523.7	523.6	
KMNo4 Weight	grams	220.0	220.0	220.0	
KMnO4 g/mL	1.1	200.0	200.0	200.0	
Initial Jar Tare Weight	grams	299.7	300.2	300.5	
Net Moisture Caught	grams	9.7	3.5	3.1	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	295.3	306.6	284.4	
Initial Tare Weight	grams	278.4	293.6	264.0	
Net Moisture Caught	grams	16.9	13.0	20.4	0.0

Total Catch	grams	297.2	282.2	314.0	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M29-1
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Plant City, State	Okahumpka, FL	Personnel	WHH,DGB
Test Location	Unit #1 Stack	Tester Signature	Bill Harris
Date of Test	01/25/01	Checked By	

Run Start	802
Run End	1009

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.872	Pbar	30.0	Meter Console #		T5			CO_2
Meter Calibration Factor	1.0062	Pstatic	-0.76	Ideal Nozzle Diameter		0.226			7.1
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		GN347			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter		0.223			12.6
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID #	7'	P150			CO
Estimated Delta P or M2 Avg.	1.18	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #		HB5			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB5			80.3
Estimated Velocity, ft/sec	73.1	CO	0.0	Umbilical ID #		U50-4			H_2O
K Factor (delta H/delta P)	1.55	N_2	80.0	TC ID #s		T150			297.2

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		45	50	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	7					15
Pitots		Y	Y	Leak Rate	0.003	0.001					OK
Tedlar Bag	OB-1	Y	Y	DGM final							0.000

Point #		Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
		24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A	6	802	0.0	156.348	1.70	2.63	2.63	5	45	44	272	260	46	NA
A	6		5.0	160.600	1.88	2.91	2.91	6	47	45	275	261	43	NA
A	5		10.0	165.020	1.90	2.94	2.94	6	50	45	277	262	44	NA
A	5		15.0	169.450	2.05	3.17	3.17	6	54	46	281	263	46	NA
A	4		20.0	174.050	2.05	3.17	3.17	6	58	48	282	262	47	NA
A	4		25.0	178.610	2.00	3.10	3.10	6	60	49	281	264	49	NA
A	3		30.0	183.130	0.76	1.18	1.16	2	63	52	280	264	51	NA
A	3		35.0	185.930	0.60	0.93	0.93	2	63	53	280	265	51	NA
A	2		40.0	188.440	0.77	1.19	1.19	3	64	54	276	264	51	NA
A	2		45.0	191.330	0.82	1.27	1.27	3	65	55	276	264	51	NA
A	1		50.0	194.350	0.80	1.24	1.24	3	66	56	272	265	52	NA
A	1		55.0	197.130	0.78	1.21	1.21	3	67	57	268	264	53	NA
B	6	909	60.0	200.062	1.40	2.17	2.17	4	65	58	268	264	54	NA
B	6		65.0	203.980	1.45	2.25	2.25	5	67	59	272	265	52	NA
B	5		70.0	207.990	1.65	2.55	2.55	6	69	60	276	266	54	NA
B	5		75.0	212.260	1.70	2.63	2.63	6	70	61	278	266	56	NA
B	4		80.0	216.600	1.75	2.71	2.71	6	72	62	283	266	58	NA
B	4		85.0	221.050	1.80	2.79	2.79	6	73	63	284	266	58	NA
B	3		90.0	225.600	1.80	2.79	2.79	6	74	64	283	267	59	NA
B	3		95.0	230.080	1.70	2.63	2.63	6	75	65	276	267	61	NA
B	2		100.0	234.800	1.05	1.63	1.63	3	75	66	266	268	61	NA
B	2		105.0	238.220	1.00	1.55	1.55	3	76	66	266	268	61	NA
B	1		110.0	241.600	0.89	1.38	1.38	3	75	67	264	267	61	NA
B	1		115.0	245.000	0.95	1.47	1.47	3	76	68	265	266	61	NA
-			120.0	248.040										
-														
-														
-														
							MAX =>	6						
Average Values		120.0	91.692	1.339	2.15	2.14			61		275			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M29-2
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Plant City, State	Okahumpka, FL	Personnel	GLW
Test Location	Unit #1 Stack	Tester Signature	
Date of Test	01/25/01	Checked By	

Run Start: 1200
Run End: 1407

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.872	Pbar	30.0	Meter Console #		T5	QUARTZ	NA	CO_2
Meter Calibration Factor	1.0062	Pstatic	-0.65	Ideal Nozzle Diameter		0.226			7.8
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		GN333			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter		0.218			11.8
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID #	7'	P153			CO
Estimated Delta P or M2 Avg.	1.18	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #		HB5	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB2			80.4
Estimated Velocity, ft/sec	73.1	CO	0.0	Umbilical ID #		U50-4			H_2O
K Factor (delta H/delta P)	1.41	N_2	80.0	TC ID #s		T153			282.2

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		62	63	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	6					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB7	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1200	0.0	249.301	1.50	2.12	2.13	4	63	63	277	265	64	NA
A 6		5.0	253.000	1.50	2.12	2.13	4	65	64	275	265	63	NA
A 5		10.0	257.100	1.62	2.29	2.29	4	67	63	272	265	63	NA
A 5		15.0	261.150	1.65	2.33	2.33	4	70	64	272	265	65	NA
A 4		20.0	265.200	1.80	2.55	2.55	5	72	65	275	265	60	NA
A 4		25.0	269.500	1.80	2.55	2.55	5	74	66	278	265	56	NA
A 3		30.0	273.800	0.70	0.99	0.99	3	76	67	281	262	55	NA
A 3		35.0	277.070	0.55	0.78	0.78	3	76	68	281	266	55	NA
A 2		40.0	279.750	0.64	0.91	0.91	3	76	72	281	266	55	NA
A 2		45.0	282.100	0.66	0.93	0.93	3	76	70	278	267	54	NA
A 1		50.0	284.500	0.72	1.02	1.02	3	77	77	275	264	53	NA
A 1		55.0	287.200	0.65	0.92	0.92	3	77	74	275	255	54	NA
B 6	1307	60.0	289.840	1.10	1.56	1.56	3	74	74	271	265	60	NA
B 6		65.0	293.000	1.20	1.70	1.70	3	77	71	271	266	50	NA
B 5		70.0	296.500	1.30	1.84	1.84	4	78	72	272	267	50	NA
B 5		75.0	300.100	1.38	1.95	1.95	4	79	72	273	267	51	NA
B 4		80.0	303.950	1.55	2.19	2.19	5	79	72	275	267	51	NA
B 4		85.0	307.950	1.70	2.40	2.40	5	80	73	277	267	52	NA
B 3		90.0	312.200	1.25	1.77	1.77	4	81	73	281	267	52	NA
B 3		95.0	315.900	1.40	1.98	1.98	4	81	74	282	267	54	NA
B 2		100.0	319.700	1.10	1.56	1.56	4	80	74	283	267	54	NA
B 2		105.0	323.200	0.97	1.37	1.37	4	80	74	281	267	55	NA
B 1		110.0	326.500	1.00	1.41	1.41	4	80	74	280	267	55	NA
B 1		115.0	329.900	0.97	1.37	1.37	4	81	74	278	267	56	NA
-	1407	120.0	333.072										
-													
						MAX =>	5						
Average Values		120.0	83.771	1.161	1.69	1.69		73		277			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M29-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1425
Plant City, State	Okahumpka, FL	Personnel	CJ	Run End	1630
Test Location	Unit #1 Stack	Tester Signature			
Date of Test	01/29/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.872	Pbar	29.9	Meter Console #	T5			CO_2
Meter Calibration Factor	1.0062	Pstatic	-0.78	Ideal Nozzle Diameter	0.226			8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN347			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.223			11.7
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	150			CO
Estimated Delta P or M2 Avg.	1.18	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #	HB5			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB5			80.3
Estimated Velocity, ft/sec	73.3	CO	0.0	Umbilical ID #	U50-4			H_2O
K Factor (delta H/delta P)	1.55	N_2	80.0	TC ID #s	150			314.0

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		70	72	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	6					15
Pitots		Y	Y	Leak Rate	0.004	0.003					OK
Tedlar Bag	OB1	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1425	0.0	333.352	1.50	2.32	2.32	5	78	78	279	250	49	NA
A 6		5.0	337.270	1.60	2.48	2.48	5	79	78	278	250	49	NA
A 5		10.0	341.700	1.70	2.63	2.63	5	83	78	279	269	54	NA
A 5		15.0	346.270	1.50	2.32	2.32	5	87	79	279	270	54	NA
A 4		20.0	350.450	1.50	2.32	2.32	5	88	80	279	263	55	NA
A 4		25.0	354.500	1.60	2.48	2.48	5	89	81	281	271	55	NA
A 3		30.0	358.710	0.58	0.90	0.90	5	90	82	282	270	56	NA
A 3		35.0	361.960	0.55	0.85	0.85	2	89	83	282	272	56	NA
A 2		40.0	364.700	0.78	1.21	1.21	3	89	84	286	272	57	NA
A 2		45.0	367.620	0.75	1.16	1.16	3	90	85	287	272	57	NA
A 1		50.0	370.600	0.85	1.32	1.32	3	90	85	276	272	57	NA
A 1		55.0	373.700	0.83	1.29	1.29	3	90	86	276	272	58	NA
B 6	1525	60.0	376.680	1.40	2.17	2.17	4	89	87	269	273	58	NA
B 6	1532	65.0	380.610	1.40	2.17	2.17	4	91	87	270	271	54	NA
B 5		70.0	384.570	1.60	2.48	2.48	5	93	88	273	272	54	NA
B 5		75.0	388.860	1.60	2.48	2.48	5	94	88	275	273	54	NA
B 4		80.0	393.100	1.60	2.48	2.48	5	94	89	278	273	55	NA
B 4		85.0	397.370	1.60	2.48	2.48	5	95	89	280	273	55	NA
B 3		90.0	401.630	1.20	1.86	1.86	5	95	89	283	273	56	NA
B 3		95.0	406.010	1.20	1.86	1.86	6	96	90	284	270	57	NA
B 2		100.0	410.000	0.99	1.53	1.53	4	97	90	283	271	57	NA
B 2		105.0	414.330	1.00	1.55	1.55	4	97	91	282	271	57	NA
B 1		110.0	417.740	1.10	1.70	1.70	4	97	91	255	273	58	NA
B 1		115.0	421.330	1.10	1.70	1.70	4	97	91	259	271	58	NA
-	1632	120.0	424.830										
-													
						MAX =>	6						
Average Values		120.0	91.478	1.201	1.91	1.91		88		277			

APPENDIX B.7
Field Data

Unit #1 Stack
Particulate

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #1 Stack	Fo Max	

Date	1/23/01	Run Number	1-S-M5-1		ORSAT ID	1	Leak Ck?
Shared With			Start Time	0823	Stop Time	1032	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB2
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1040	7.4	19.5	12.1	80.5	25.80	0.00	
1046	7.5	19.6	12.1	80.4	25.81	0.02	Fo
1053	7.4	19.6	12.2	80.4	25.77	0.02	
Averages	7.4		12.1	80.5	25.8	OK	

Date	1/23/01	Run Number	1-S-M5-2		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1122	Stop Time	1329	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB5
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1333	7.5	19.5	12.0	80.5	25.84	0.03	
1340	7.5	19.6	12.1	80.4	25.81	0.00	Fo
1346	7.5	19.7	12.2	80.3	25.78	0.03	
Averages	7.5		12.1	80.4	25.8	OK	

Date	1/23/01	Run Number	1-S-M5-3		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1351	Stop Time	1621	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB2
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1644	7.9	19.6	11.7	80.4	25.99	0.01	
1650	8.0	19.8	11.8	80.2	25.98	0.00	Fo
1657	7.9	19.7	11.8	80.3	25.96	0.01	
Averages	7.9		11.8	80.3	26.0	OK	

Date	1/24/01	Run Number	1-S-M5-4		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1536	Stop Time	1743	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	(%CO_2)	reading	(%O_2)	(%CO+N_2)	(M_d)	(ΔM_d)	OB5
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1745	7.3	19.8	12.5	80.2	25.67	0.08	
1751	7.5	19.7	12.2	80.3	25.78	0.04	Fo
1757	7.5	19.7	12.2	80.3	25.78	0.04	
Averages	7.4		12.3	80.3	25.7	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #1 Stack	**Operator Name**	Herb Dixon

Run Number	1-S-M5-1	1-S-M5-2	1-S-M5-3	1-S-M5-4
Test Date	01/23/01	01/23/01	01/23/01	01/24/01
Reagent Box ID				

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	458.0	462.0	469.0	436.0
Initial Tare Weight	grams	200.0	200.0	200.0	200.0
Net Moisture Caught	grams	258.0	262.0	269.0	236.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
Initial Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	276.5	278.5	289.8	290.4
Initial Tare Weight	grams	259.9	262.9	276.5	272.9
Net Moisture Caught	grams	16.6	15.6	13.3	17.5

Total Catch	grams	274.6	277.6	282.3	253.5

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M5-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	823
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1032
Test Location	Unit #1 Stack	Tester Signature			
Date of Test	01/23/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.8	Meter Console #	T-3	RQ1157		CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.85	Ideal Nozzle Diameter	0.228			7.4
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-348			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.222			12.1
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	151			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB-3			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB-16			80.5
Estimated Velocity, ft/sec	73.7	CO	0.0	Umbilical ID #	U50-4			H_20
K Factor (delta H/delta P)	1.50	N_2	80.0	TC ID #s	151			274.6

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		41	48	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	8					15
Pitots		Y	Y	Leak Rate	0.002	0.001					OK
Tedlar Bag	OB-2	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	823	0.0	530.980	1.40	2.10	2.10	5	43	43	278	263	45	NA
A 6		5.0	534.830	1.40	2.10	2.10	5	49	44	276	260	36	NA
A 5		10.0	538.480	1.50	2.25	2.25	5	51	44	275	263	37	NA
A 5		15.0	542.380	1.50	2.25	2.25	5	53	46	276	261	40	NA
A 4		20.0	546.340	1.60	2.40	2.40	5	54	46	275	261	43	NA
A 4		25.0	550.330	1.60	2.40	2.40	5	55	47	275	261	42	NA
A 3		30.0	554.420	1.20	1.80	1.80	5	56	47	274	263	44	NA
A 3		35.0	558.030	1.30	1.95	1.95	4	55	49	275	263	45	NA
A 2		40.0	561.690	1.20	1.80	1.80	4	55	49	275	263	46	NA
A 2		45.0	565.010	1.20	1.80	1.80	4	55	49	276	263	46	NA
A 1		50.0	568.410	1.30	1.95	1.95	4	55	49	276	261	47	NA
A 1		55.0	571.960	1.20	1.80	1.80	4	55	49	276	261	47	NA
B 6	923/	60.0	575.595	1.50	2.25	2.25	5	51	49	277	269	47	NA
B 6	932	65.0	579.390	1.70	2.55	2.55	5	54	49	278	262	43	NA
B 5		70.0	583.410	1.60	2.40	2.40	5	55	50	278	263	44	NA
B 5		75.0	587.490	1.60	2.40	2.40	5	55	50	278	260	45	NA
B 4		80.0	591.620	1.70	2.55	2.55	5	55	50	276	261	46	NA
B 4		85.0	595.710	1.70	2.55	2.55	5	56	50	276	258	47	NA
B 3		90.0	599.840	0.58	0.87	0.87	5	56	51	276	265	49	NA
B 3		95.0	603.200	0.61	0.92	0.92	4	57	50	276	263	49	NA
B 2		100.0	605.600	0.59	0.89	0.89	4	60	52	276	260	49	NA
B 2		105.0	608.150	0.57	0.86	0.86	4	63	53	277	260	48	NA
B 1		110.0	610.630	0.59	0.89	0.89	4	65	55	276	263	48	NA
B 1		115.0	613.230	0.57	0.86	0.86	4	68	58	276	259	48	NA
-		120.0	615.736										
						MAX =>	5						
Average Values		120.0	84.756	1.197	1.86	1.86		52		276			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M5-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1122
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1329
Test Location	Unit #1 Stack	Tester Signature			
Date of Test	01/23/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.8	Meter Console #	T-3	RQ1158	0.4401	CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.85	Ideal Nozzle Diameter	0.228			7.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-347			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.223			12.1
Estimated Stack Temp or M2 Avg.	280	Diluent Estimates		Probe Lgth/ID # 7'	150			CO
Estimated Delta P or M2 Avg.	1.180			Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB-3			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB-13			80.4
Estimated Velocity, ft/sec	73.7	CO	0.0	Umbilical ID #	U50-4			H_20
K Factor (delta H/delta P)	1.53	N_2	80.0	TC ID #s	150			277.6

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		49	51	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	8					15
Pitots		Y	Y	Leak Rate	0.002	0.001					OK
Tedlar Bag	OB5	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1122	0.0	618.023	1.60	2.45	2.45	5	61	60	279	264	59	NA
A 6		5.0	622.210	1.50	2.29	2.29	5	69	61	281	259	43	NA
A 5		10.0	626.150	1.60	2.45	2.45	5	70	62	280	259	45	NA
A 5		15.0	630.170	1.60	2.45	2.45	6	71	63	282	258	46	NA
A 4		20.0	634.300	1.45	2.22	2.22	5	72	63	281	261	47	NA
A 4		25.0	638.320	1.50	2.29	2.29	6	72	64	280	258	49	NA
A 3		30.0	642.240	0.55	0.84	0.84	6	72	64	280	259	51	NA
A 3		35.0	644.800	0.56	0.86	0.86	3	69	64	281	261	52	NA
A 2		40.0	647.130	0.49	0.75	0.75	4	67	63	279	258	52	NA
A 2		45.0	649.410	0.49	0.75	0.75	4	67	63	279	258	52	NA
A 1		50.0	651.730	0.42	0.64	0.64	4	68	63	280	250	52	NA
A 1		55.0	654.040	0.41	0.63	0.63	4	68	63	281	258	52	NA
B 6	1222/	60.0	656.319	1.40	2.14	2.14	4	65	63	284	260	53	NA
B 6	1229	65.0	660.010	1.40	2.14	2.14	5	70	65	284	261	49	NA
B 5		70.0	663.900	1.50	2.29	2.29	6	71	65	283	260	50	NA
B 5		75.0	667.870	1.50	2.29	2.29	6	71	65	282	261	51	NA
B 4		80.0	671.740	1.40	2.14	2.14	6	72	65	280	259	52	NA
B 4		85.0	675.660	1.45	2.22	2.22	6	72	65	278	261	51	NA
B 3		90.0	679.640	1.10	1.68	1.68	6	73	66	276	260	53	NA
B 3		95.0	683.200	1.10	1.68	1.68	6	73	66	276	261	53	NA
B 2		100.0	686.710	0.89	1.36	1.36	6	73	66	276	261	53	NA
B 2		105.0	689.800	0.90	1.38	1.38	6	73	66	277	260	54	NA
B 1		110.0	692.940	0.85	1.30	1.30	6	73	66	278	261	54	NA
B 1		115.0	696.030	0.83	1.27	1.27	6	73	67	276	262	54	NA
-	1329	120.0	699.170										
						MAX =>	6						
Average Values		120.0	81.147	1.055	1.69	1.69		67		280			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M5-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1351
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1621
Test Location	Unit #1 Stack	Tester Signature			
Date of Test	01/23/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.8	Meter Console #	T-3	RQ1161	0.4381	CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.85	Ideal Nozzle Diameter	0.228			7.9
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-348			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.222			11.8
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	151			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB-3			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB-16			80.3
Estimated Velocity, ft/sec	73.7	CO	0.0	Umbilical ID #	U50-4			H_20
K Factor (delta H/delta P)	1.50	N_2	80.0	TC ID #s	151			282.3

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		52	50	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	9					15
Pitots		Y	Y	Leak Rate	0.002	0.000					OK
Tedlar Bag	OB-2	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1351	0.0	699.289	1.35	2.03	2.03	4	69	69	282	261	55	NA
A 6		5.0	703.060	1.30	1.95	1.95	5	73	68	283	264	52	NA
A 5		10.0	706.800	1.40	2.10	2.10	5	75	68	282	260	50	NA
A 5		15.0	710.540	1.35	2.03	2.03	5	76	69	282	260	51	NA
A 4		20.0	714.480	1.45	2.18	2.18	5	77	69	280	260	52	NA
A 4		25.0	718.290	1.45	2.18	2.18	5	78	70	280	261	52	NA
A 3		30.0	722.280	1.05	1.58	1.58	5	78	71	279	261	53	NA
A 3		35.0	725.860	1.10	1.65	1.65	5	77	71	278	262	54	NA
A 2		40.0	729.160	1.00	1.50	1.50	5	77	71	278	262	54	NA
A 2		45.0	732.410	1.00	1.50	1.50	5	77	71	277	261	55	NA
A 1		50.0	735.700	0.90	1.35	1.35	5	77	71	275	261	54	NA
A 1		55.0	738.850	0.95	1.43	1.43	5	77	71	276	263	54	NA
B 6	1451/	60.0	741.985	1.40	2.10	2.10	6	72	71	281	265	55	NA
B 6	1521	65.0	745.790	1.40	2.10	2.10	6	74	71	281	261	51	NA
B 5		70.0	750.000	1.40	2.10	2.10	6	77	72	281	262	51	NA
B 5		75.0	753.580	1.50	2.25	2.25	6	78	72	281	251	52	NA
B 4		80.0	757.660	1.50	2.25	2.25	6	78	72	281	250	52	NA
B 4		85.0	761.410	1.45	2.18	2.18	6	79	72	281	249	54	NA
B 3		90.0	765.440	0.61	0.92	0.92	4	78	72	281	249	53	NA
B 3		95.0	768.170	0.57	0.86	0.86	4	77	72	281	249	53	NA
B 2		100.0	770.830	0.53	0.80	0.80	4	77	72	281	249	52	NA
B 2		105.0	773.490	0.53	0.80	0.80	4	77	72	281	249	52	NA
B 1		110.0	775.900	0.50	0.75	0.75	4	75	71	279	250	52	NA
B 1		115.0	778.500	0.53	0.80	0.80	4	75	71	279	252	52	NA
-	1621	120.0	780.905										
						MAX =>	6						
Average Values		120.0	81.616	1.058	1.64	1.64		73		280			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	1-S-M5-4		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1536
Plant City, State	Okahumpka, FL	Personnel	WHH	Run End	1743
Test Location	Unit #1 Stack	Tester Signature	Bill Harris		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.9	Meter Console #	T3	RQ1163	Q.4413	CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.80	Ideal Nozzle Diameter	0.228			7.4
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN338			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.220			12.3
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID # 7'	P151			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB3	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB11			80.3
Estimated Velocity, ft/sec	73.6	CO	0.0	Umbilical ID #	U50-4			H_2O
K Factor (delta H/delta P)	1.45	N_2	80.0	TC ID #s	T151			253.5

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		71	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	10	7					10
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB5	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1536	0.0	910.215	1.60	2.32	2.32	5	71	69	280	257	59	NA
A 6		5.0	914.300	1.50	2.17	2.17	5	75	69	281	256	51	NA
A 5		10.0	918.360	1.60	2.32	2.32	5	75	69	282	256	51	NA
A 5		15.0	922.320	1.55	2.24	2.24	5	75	69	282	256	56	NA
A 4		20.0	926.280	1.75	2.53	2.53	6	77	69	281	257	54	NA
A 4		25.0	930.620	1.70	2.46	2.46	6	77	69	281	254	53	NA
A 3		30.0	934.900	0.53	0.77	0.77	4	75	70	280	259	54	NA
A 3		35.0	937.600	0.53	0.77	0.77	3	75	70	280	260	54	NA
A 2		40.0	939.860	0.64	0.93	0.93	4	73	69	280	257	53	NA
A 2		45.0	942.560	0.63	0.91	0.91	4	73	69	280	257	53	NA
A 1		50.0	945.120	0.66	0.96	0.96	4	72	69	280	257	53	NA
A 1		55.0	947.730	0.64	0.93	0.93	4	72	69	280	257	53	NA
B 6	1643	60.0	950.345	1.45	2.10	2.10	5	70	68	281	261	54	NA
B 6		65.0	954.150	1.35	1.95	1.95	5	72	68	280	259	49	NA
B 5		70.0	957.980	1.50	2.17	2.17	5	72	68	278	259	51	NA
B 5		75.0	961.780	1.50	2.17	2.17	5	72	68	278	259	51	NA
B 4		80.0	965.700	1.65	2.39	2.39	5	72	67	278	258	52	NA
B 4		85.0	969.850	1.65	2.39	2.39	5	73	67	278	259	52	NA
B 3		90.0	974.100	1.20	1.74	1.74	5	74	66	278	260	53	NA
B 3		95.0	977.560	1.25	1.81	1.81	5	73	66	279	258	54	NA
B 2		100.0	981.200	1.20	1.74	1.74	5	73	66	279	257	54	NA
B 2		105.0	984.800	1.20	1.74	1.74	5	73	66	280	258	54	NA
B 1		110.0	988.280	1.15	1.67	1.67	5	73	66	278	261	55	NA
B 1		115.0	991.720	1.15	1.67	1.67	5	73	66	278	260	53	NA
-	1743	120.0	995.216										
						MAX =>	6						
Average Values		120.0	85.001	1.194	1.78	1.79		71		280			

APPENDIX B.8
Field Data

Unit #2 SDA Inlet and FF Outlet
Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide

Calibration Error Test, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers			
	Zero	Low-range	Mid-range	High-range
O2	ALM035226		ALM029649	CLM003675
CO2	ALM035226		ALM029649	CLM003675
SO2	ALM031469		ALM035226	ALM047968
NOx	ALM029649		XC017544B	FF5397
CO-In	XC017544B	ALM045330	CAL11516	CLM005559
O2-In	ALM062495		ALM029649	CLM003675
CO2-In	ALM062495		ALM029649	CLM003675
SO2-In	ALM029649		ALM062495	AAL3762

Date/Time 01-25-2001 10:56:58 PASSED

Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Avg	0.000	0.046	-0.03	0.80	-0.10
Zero Error%	0.0%	0.2%	0.0%	0.2%	0.1%
Low Ref Cyl					30.29
Low Avg					31.36
Low Error%					1.1%
Mid Ref Cyl	11.120	11.000	56.00	233.00	61.95
Mid Avg	11.128	11.040	56.06	233.30	61.75
Mid Error%	0.0%	0.2%	0.1%	0.1%	0.2%
High Ref Cyl	20.100	17.010	91.17	439.00	90.82
High Avg	19.903	16.881	92.94	437.14	90.02
High Error%	0.8%	0.6%	1.8%	0.4%	0.8%

Calibration Error Test, Run 1 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

Reference Cylinder Numbers

	Zero	Low-range	Mid-range	High-range
O2	ALM035226		ALM029649	CLM003675
CO2	ALM035226		ALM029649	CLM003675
SO2	ALM031469		ALM035226	ALM047968
NOx	ALM029649		XC017544B	FF5397
CO-In	XC017544B	ALM045330	CAL11516	CLM005559
O2-In	ALM062495		ALM029649	CLM003675
CO2-In	ALM062495		ALM029649	CLM003675
SO2-In	ALM029649		ALM062495	AAL3762

Date/Time 01-25-2001 10:56:58 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Avg	0.035	0.006	-0.37
Zero Error%	0.1%	0.0%	0.1%
Low Ref Cyl			
Low Avg			
Low Error%			
Mid Ref Cyl	11.120	11.000	236.00
Mid Avg	11.127	11.056	235.71
Mid Error%	0.0%	0.3%	0.1%
High Ref Cyl	20.100	17.010	444.30
High Avg	19.864	16.778	437.32
High Error%	0.9%	1.2%	1.4%

Calibration Error Test End

Initial System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-25-2001		11:08:01		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.000	0.046	-0.03	0.80	-0.10
Zero Avg	0.047	0.094	-0.16	0.89	0.01
Zero Bias%	0.2%	0.2%	0.1%	0.0%	0.1%
Zero Drift%					
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.128	11.040	56.06	233.30	31.36
Span Avg	11.038	10.833	52.78	225.63	30.92
Span Bias%	0.4%	1.0%	3.3%	1.5%	0.4%
Span Drift%					

Initial System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALMO31469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-25-2001 11:08:01 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	0.035	0.006	-0.37
Zero Avg	0.046	0.031	-0.14
Zero Bias%	0.0%	0.1%	0.0%
Zero Drift%			
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.127	11.056	235.71
Span Avg	11.047	10.931	221.68
Span Bias%	0.3%	0.6%	2.8%
Span Drift%			

System Bias Check End

Test Run 1 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-25-2001 11:11:31	11.464	7.966	0.92	124.54	3.51
01-25-2001 11:12:31	11.938	7.759	0.75	101.03	4.75
01-25-2001 11:13:31	11.660	8.133	0.47	99.69	5.40
01-25-2001 11:14:31	10.906	8.544	0.33	125.19	4.96
01-25-2001 11:15:30	11.210	8.303	0.29	123.99	4.38
01-25-2001 11:16:31	11.009	8.516	0.24	126.69	4.26
01-25-2001 11:17:31	11.322	8.017	0.25	105.94	4.19
01-25-2001 11:18:31	11.960	7.879	0.15	91.70	6.03
01-25-2001 11:19:31	11.231	8.388	0.08	122.80	5.45
01-25-2001 11:20:30	11.285	8.330	0.08	123.36	6.53
01-25-2001 11:21:31	11.254	8.287	0.05	124.99	5.41
01-25-2001 11:22:31	11.394	8.276	0.00	125.07	6.10
01-25-2001 11:23:31	11.258	8.377	-0.04	119.45	4.71
01-25-2001 11:24:31	11.332	8.230	-0.05	108.65	3.85
01-25-2001 11:25:30	11.332	8.339	-0.08	119.25	4.76
01-25-2001 11:26:31	11.307	8.331	-0.06	118.81	4.66
01-25-2001 11:27:31	11.258	8.275	-0.12	112.42	4.95
01-25-2001 11:28:31	11.452	8.241	-0.11	112.62	5.57
01-25-2001 11:29:31	11.383	8.261	-0.08	115.37	5.11
01-25-2001 11:30:30	11.287	8.354	-0.12	119.83	5.90
01-25-2001 11:31:31	11.120	8.530	-0.08	124.11	7.47
01-25-2001 11:32:30	10.850	8.737	-0.02	145.19	8.01
01-25-2001 11:33:31	10.477	8.970	-0.11	161.32	9.26
01-25-2001 11:34:31	10.431	9.030	-0.25	144.36	7.83
01-25-2001 11:35:30	10.482	8.918	-0.17	121.34	7.44
01-25-2001 11:36:31	10.479	9.064	-0.30	109.73	6.70
01-25-2001 11:37:30	9.926	9.499	-0.19	144.39	4.29
01-25-2001 11:38:31	10.177	9.137	-0.25	165.20	3.59
01-25-2001 11:39:31	10.314	9.005	-0.25	163.88	3.26
01-25-2001 11:40:30	10.618	8.788	-0.29	133.34	3.15
Run Averages	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
01-25-2001 11:40:31	11.070	8.483	0.03	124.52	5.38

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

Test Run 1 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
Begin calculating run averages			
01-25-2001 11:11:31	11.329	8.228	3.88
01-25-2001 11:12:31	11.020	8.479	2.88
01-25-2001 11:13:31	10.128	9.281	2.41
01-25-2001 11:14:31	10.547	8.839	2.33
01-25-2001 11:15:30	10.292	9.080	2.19
01-25-2001 11:16:31	10.545	8.743	2.12
01-25-2001 11:17:31	11.446	8.178	1.63
01-25-2001 11:18:31	10.482	8.969	1.54
01-25-2001 11:19:31	10.658	8.792	1.52
01-25-2001 11:20:30	10.524	8.948	1.20
01-25-2001 11:21:31	10.769	8.775	0.96
01-25-2001 11:22:31	10.595	8.918	0.76
01-25-2001 11:23:31	10.607	8.799	1.04
01-25-2001 11:24:31	10.685	8.839	1.27
01-25-2001 11:25:30	10.669	8.822	0.90
01-25-2001 11:26:31	10.564	8.861	0.70
01-25-2001 11:27:31	10.845	8.700	0.56
01-25-2001 11:28:31	10.682	8.783	0.51
01-25-2001 11:29:31	10.621	8.841	0.50
01-25-2001 11:30:30	10.480	9.012	0.52
01-25-2001 11:31:31	10.130	9.353	0.64
01-25-2001 11:32:30	9.722	9.777	0.48
01-25-2001 11:33:31	9.691	9.735	0.74
01-25-2001 11:34:31	9.738	9.676	1.76
01-25-2001 11:35:30	9.794	9.695	1.94
01-25-2001 11:36:31	9.106	10.361	3.30
01-25-2001 11:37:30	9.378	9.982	3.72
01-25-2001 11:38:31	9.487	9.898	2.88
01-25-2001 11:39:31	9.877	9.527	2.93
01-25-2001 11:40:30	10.343	9.019	3.25
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 11:40:31	10.359	9.097	1.70

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet
Test Run 1 End

Final System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-25-2001		11:50:00		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.000	0.046	-0.03	0.80	-0.10
Zero Avg	0.029	0.119	-0.70	0.87	-1.22
Zero Bias%	0.1%	0.4%	0.7%	0.0%	1.1%
Zero Drift%	-0.1%	0.1%	-0.5%	0.0%	-1.2%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.128	11.040	56.06	233.30	31.36
Span Avg	10.996	10.829	52.14	220.05	30.57
Span Bias%	0.5%	1.1%	3.9%	2.7%	0.8%
Span Drift%	-0.2%	0.0%	-0.6%	-1.1%	-0.3%
Ini Zero Avg	0.047	0.094	-0.16	0.89	0.01
Ini Span Avg	11.038	10.833	52.78	225.63	30.92
Run Avg	11.070	8.483	0.03	124.52	5.38
Co	0.038	0.106	-0.43	0.88	-0.61
Cm	11.017	10.831	52.46	222.84	30.74
Correct Avg	11.173	8.592	0.49	129.79	5.78

Final System Bias Check, Run 1 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-25-2001 11:50:01 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	0.035	0.006	-0.37
Zero Avg	0.052	0.031	-0.68
Zero Bias%	0.1%	0.1%	0.1%
Zero Drift%	0.0%	0.0%	-0.1%
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.127	11.056	235.71
Span Avg	11.020	10.868	216.50
Span Bias%	0.4%	0.9%	3.8%
Span Drift%	-0.1%	-0.3%	-1.0%
Ini Zero Avg	0.046	0.031	-0.14
Ini Span Avg	11.047	10.931	221.68
Run Avg	10.359	9.097	1.70
Co	0.049	0.031	-0.41
Cm	11.034	10.899	219.09
Correct Avg	10.437	9.175	2.27

System Bias Check End

Test Run 2 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
Begin calculating run averages					
01-25-2001 12:04:08	11.665	8.199	-0.43	116.36	9.15
01-25-2001 12:05:09	11.162	8.517	-0.36	128.11	8.10
01-25-2001 12:06:08	11.261	8.547	-0.40	130.40	8.07
01-25-2001 12:07:09	10.552	9.023	-0.41	151.86	7.21
01-25-2001 12:08:09	10.320	9.341	-0.52	156.38	7.97
01-25-2001 12:09:08	10.028	9.187	-0.53	153.56	5.79
01-25-2001 12:10:09	10.827	8.612	-0.55	117.41	5.71
01-25-2001 12:11:08	11.248	8.289	-0.55	91.59	6.80
01-25-2001 12:12:09	11.837	7.811	-0.59	70.33	7.38
01-25-2001 12:13:09	12.212	7.669	-0.56	65.57	8.19
01-25-2001 12:14:08	12.069	7.857	-0.52	85.71	7.27
01-25-2001 12:15:09	11.780	8.193	-0.62	123.16	7.13
01-25-2001 12:16:08	10.854	8.791	-0.23	184.93	5.33
01-25-2001 12:17:09	11.291	8.262	-0.01	179.45	4.78
01-25-2001 12:18:09	11.596	8.118	-0.08	154.00	5.11
01-25-2001 12:19:08	11.727	8.049	-0.02	132.84	6.36
01-25-2001 12:20:09	11.497	8.429	-0.11	145.97	6.18
01-25-2001 12:21:08	10.684	8.694	-0.03	171.45	4.60
01-25-2001 12:22:09	11.408	8.119	-0.12	120.61	4.84
01-25-2001 12:23:08	11.805	7.898	-0.15	95.15	5.15
01-25-2001 12:24:08	11.357	8.476	-0.04	119.34	4.99
01-25-2001 12:25:09	11.050	8.234	-0.16	116.03	4.50
01-25-2001 12:26:08	11.578	8.245	-0.12	110.59	6.67
01-25-2001 12:27:09	11.240	8.267	-0.15	109.46	5.88
01-25-2001 12:28:08	11.440	8.196	-0.16	106.97	8.38
01-25-2001 12:29:09	11.594	8.182	-0.09	101.98	9.86
01-25-2001 12:30:09	11.251	8.427	-0.08	120.31	10.23
01-25-2001 12:31:08	11.415	8.268	-0.20	125.03	9.36
01-25-2001 12:32:09	11.224	8.413	-0.22	142.50	7.01
01-25-2001 12:33:08	11.185	8.433	-0.14	152.68	7.82
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 12:33:08	11.306	8.358	-0.27	125.97	6.86

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

Test Run 2 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
Begin calculating run averages			
01-25-2001 12:04:08	10.478	9.093	2.84
01-25-2001 12:05:09	10.674	8.898	3.14
01-25-2001 12:06:08	9.763	9.811	3.44
01-25-2001 12:07:09	9.645	9.912	4.10
01-25-2001 12:08:09	9.134	10.203	5.07
01-25-2001 12:09:08	10.132	9.262	4.28
01-25-2001 12:10:09	10.541	8.875	3.75
01-25-2001 12:11:08	11.185	8.388	3.69
01-25-2001 12:12:09	11.632	8.105	3.26
01-25-2001 12:13:09	11.468	8.293	3.09
01-25-2001 12:14:08	11.173	8.491	3.04
01-25-2001 12:15:09	10.095	9.551	2.94
01-25-2001 12:16:08	10.623	8.816	3.21
01-25-2001 12:17:09	10.958	8.622	2.90
01-25-2001 12:18:09	11.126	8.508	2.87
01-25-2001 12:19:08	10.891	8.711	2.26
01-25-2001 12:20:09	10.193	9.567	2.91
01-25-2001 12:21:08	11.165	8.653	2.69
01-25-2001 12:22:09	11.568	8.371	2.29
01-25-2001 12:23:08	11.159	8.850	2.58
01-25-2001 12:24:08	10.615	8.964	4.23
01-25-2001 12:25:09	11.432	8.520	4.04
01-25-2001 12:26:08	10.854	8.888	3.38
01-25-2001 12:27:09	11.147	8.721	3.85
01-25-2001 12:28:08	11.397	8.583	3.43
01-25-2001 12:29:09	10.999	8.862	4.05
01-25-2001 12:30:09	11.182	8.719	5.17
01-25-2001 12:31:08	10.895	8.921	6.97
01-25-2001 12:32:09	10.857	8.958	8.12
01-25-2001 12:33:08	10.449	9.432	6.19

Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 12:33:09	10.781	8.918	3.79

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet
Test Run 2 End

Final System Bias Check, Run 2 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALMO31469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-25-2001		12:43:23		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.000	0.046	-0.03	0.80	-0.10
Zero Avg	0.070	0.153	-0.37	1.03	0.61
Zero Bias%	0.3%	0.5%	0.3%	0.0%	0.7%
Zero Drift%	0.2%	0.2%	0.3%	0.0%	1.8%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.128	11.040	56.06	233.30	31.36
Span Avg	11.038	10.802	52.66	220.12	31.13
Span Bias%	0.4%	1.2%	3.4%	2.6%	0.2%
Span Drift%	0.2%	-0.1%	0.5%	0.0%	0.6%
Ini Zero Avg	0.029	0.119	-0.70	0.87	-1.22
Ini Span Avg	10.996	10.829	52.14	220.05	30.57
Run Avg	11.306	8.358	-0.27	125.97	6.86
Co	0.049	0.136	-0.53	0.95	-0.31
Cm	11.017	10.815	52.40	220.08	30.85
Correct Avg	11.413	8.469	0.28	132.93	6.97

Final System Bias Check, Run 2 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALMO31469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-25-2001 12:43:23 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	0.035	0.006	-0.37
Zero Avg	0.089	0.038	-0.59
Zero Bias%	0.2%	0.2%	0.0%
Zero Drift%	0.1%	0.0%	0.0%
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.127	11.056	235.71
Span Avg	11.466	10.846	221.16
Span Bias%	1.4%	1.0%	2.9%
Span Drift%	1.8%	-0.1%	0.9%
Ini Zero Avg	0.052	0.031	-0.68
Ini Span Avg	11.020	10.868	216.50
Run Avg	10.781	8.918	3.79
Co	0.070	0.034	-0.63
Cm	11.243	10.857	218.83
Correct Avg	10.660	9.030	4.76

System Bias Check End

Test Run 3 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-25-2001 12:49:04	11.057	8.258	0.54	88.91	7.40
01-25-2001 12:50:04	11.554	8.173	0.33	62.52	9.63
01-25-2001 12:51:04	10.907	8.436	0.24	93.50	8.45
01-25-2001 12:52:04	11.478	8.051	0.01	76.87	9.36
01-25-2001 12:53:04	11.636	7.846	-0.05	83.03	7.96
01-25-2001 12:54:04	12.076	7.787	-0.16	78.81	10.34
01-25-2001 12:55:05	10.877	8.867	0.00	122.16	9.57
01-25-2001 12:56:04	10.474	8.602	-0.13	122.00	6.91
01-25-2001 12:57:04	11.883	7.850	-0.19	94.52	10.90
01-25-2001 12:58:04	12.074	7.611	-0.22	83.34	9.52
01-25-2001 12:59:04	11.426	8.793	-0.22	113.03	9.52
01-25-2001 13:00:05	10.005	9.233	-0.23	142.35	6.06
01-25-2001 13:01:04	10.852	8.400	-0.21	116.72	6.34
01-25-2001 13:02:04	11.683	7.868	-0.28	88.21	7.45
01-25-2001 13:03:04	12.375	7.447	-0.24	75.12	8.45
01-25-2001 13:04:04	11.648	8.308	-0.28	114.59	9.45
01-25-2001 13:05:04	10.845	8.599	-0.28	137.26	6.60
01-25-2001 13:06:04	11.525	7.888	-0.38	116.22	6.14
01-25-2001 13:07:04	11.942	7.799	-0.35	107.17	9.63
01-25-2001 13:08:04	11.365	8.333	-0.09	115.68	8.01
01-25-2001 13:09:04	11.762	7.596	0.10	104.95	7.16
01-25-2001 13:10:05	12.252	7.738	0.16	116.57	10.12
01-25-2001 13:11:04	11.350	8.216	0.09	150.96	8.70
01-25-2001 13:12:04	11.691	7.901	0.12	148.70	8.54
01-25-2001 13:13:04	11.609	8.212	0.06	155.82	9.58
01-25-2001 13:14:04	10.585	8.834	0.04	184.72	5.50
01-25-2001 13:15:05	11.293	8.006	0.05	141.95	5.61
01-25-2001 13:16:04	11.889	7.965	-0.01	109.60	8.92
01-25-2001 13:17:04	11.366	8.055	0.04	116.14	7.37
01-25-2001 13:18:04	12.237	7.681	0.04	96.41	9.17
01-25-2001 13:19:04	11.326	8.238	0.05	135.55	6.58
01-25-2001 13:20:05	11.561	8.128	0.07	138.64	7.76
01-25-2001 13:21:04	11.437	8.142	0.03	136.40	6.85
01-25-2001 13:22:04	11.609	8.178	-0.01	123.33	8.51
01-25-2001 13:23:04	11.285	8.178	-0.03	119.56	8.56
01-25-2001 13:24:04	11.622	8.250	-0.01	102.87	10.71
01-25-2001 13:25:05	11.132	8.556	0.07	114.43	9.29
01-25-2001 13:26:04	11.506	8.038	0.00	87.74	9.07
01-25-2001 13:27:04	11.941	8.153	-0.07	76.74	10.12
01-25-2001 13:28:04	10.093	9.476	-0.01	148.10	5.95
01-25-2001 13:29:04	11.208	8.039	-0.05	123.58	5.48
01-25-2001 13:30:05	12.299	7.645	-0.07	96.47	8.67
01-25-2001 13:31:04	11.805	8.179	-0.03	107.11	9.21
01-25-2001 13:32:04	11.057	8.637	0.04	130.61	6.36
01-25-2001 13:33:04	11.441	8.112	0.09	115.67	6.87
01-25-2001 13:34:04	11.308	8.503	0.04	136.41	8.20
01-25-2001 13:35:05	11.106	8.577	0.04	142.72	7.40
01-25-2001 13:36:04	10.758	8.612	-0.04	165.27	5.39
01-25-2001 13:37:04	11.864	7.753	0.02	108.18	7.28
01-25-2001 13:38:04	11.192	8.606	0.01	118.78	7.12
01-25-2001 13:39:04	11.321	8.192	-0.04	106.05	7.01
01-25-2001 13:40:05	11.202	8.279	0.01	114.80	6.62

Test Run 3 STRATA Version 2.0

	O2-In %	CO2-In %	SO2-In ppm
Begin calculating run averages			
01-25-2001 12:49:04	11.418	8.425	3.18
01-25-2001 12:50:04	10.384	9.268	2.43
01-25-2001 12:51:04	11.212	8.548	1.95
01-25-2001 12:52:04	11.299	8.460	1.30
01-25-2001 12:53:04	11.961	8.022	1.03
01-25-2001 12:54:04	10.590	9.295	0.80
01-25-2001 12:55:05	9.925	9.683	0.95
01-25-2001 12:56:04	11.515	8.324	0.39
01-25-2001 12:57:04	11.744	8.233	-0.49
01-25-2001 12:58:04	11.416	8.834	-0.55
01-25-2001 12:59:04	9.322	10.320	0.25
01-25-2001 13:00:05	10.465	9.102	0.38
01-25-2001 13:01:04	11.448	8.389	-0.22
01-25-2001 13:02:04	12.232	7.800	-0.56
01-25-2001 13:03:04	11.471	8.607	-0.87
01-25-2001 13:04:04	10.400	9.329	-0.57
01-25-2001 13:05:04	11.155	8.505	-0.47
01-25-2001 13:06:04	11.775	8.186	-0.83
01-25-2001 13:07:04	11.163	8.700	-1.19
01-25-2001 13:08:04	11.404	8.270	-0.74
01-25-2001 13:09:04	12.162	7.963	-0.78
01-25-2001 13:10:05	10.976	8.811	-0.49
01-25-2001 13:11:04	11.414	8.379	-0.26
01-25-2001 13:12:04	11.482	8.464	-0.48
01-25-2001 13:13:04	10.087	9.580	-0.69
01-25-2001 13:14:04	10.874	8.703	-0.24
01-25-2001 13:15:05	11.808	8.199	-0.42
01-25-2001 13:16:04	10.898	8.782	-0.55
01-25-2001 13:17:04	12.191	7.827	-0.62
01-25-2001 13:18:04	10.877	8.963	-0.86
01-25-2001 13:19:04	11.362	8.540	-0.58
01-25-2001 13:20:05	11.089	8.692	-0.55
01-25-2001 13:21:04	11.412	8.491	-0.47
01-25-2001 13:22:04	10.815	8.926	-0.30
01-25-2001 13:23:04	11.473	8.517	-0.61
01-25-2001 13:24:04	10.876	9.016	-0.40
01-25-2001 13:25:05	11.138	8.675	-0.17
01-25-2001 13:26:04	11.953	8.213	-0.48
01-25-2001 13:27:04	9.734	10.270	-0.28
01-25-2001 13:28:04	10.620	8.969	-0.03
01-25-2001 13:29:04	12.223	7.947	-0.41
01-25-2001 13:30:05	11.688	8.458	-0.27
01-25-2001 13:31:04	10.743	9.157	-0.13
01-25-2001 13:32:04	11.074	8.699	0.15
01-25-2001 13:33:04	11.160	8.857	-0.03
01-25-2001 13:34:04	10.838	8.903	0.18
01-25-2001 13:35:05	10.347	9.413	0.19
01-25-2001 13:36:04	11.601	8.226	0.15
01-25-2001 13:37:04	11.043	8.993	0.03
01-25-2001 13:38:04	10.924	8.709	0.76
01-25-2001 13:39:04	10.881	8.925	0.18
01-25-2001 13:40:05	11.388	8.402	0.43

Test Run 3 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 13:41:04	11.643	8.024	-0.06	109.12	6.28
01-25-2001 13:42:04	11.307	8.358	0.02	142.81	7.03
01-25-2001 13:43:04	10.936	8.611	0.03	163.18	5.85
01-25-2001 13:44:05	11.024	8.275	-0.05	144.24	5.88
01-25-2001 13:45:04	11.496	8.236	-0.04	124.26	6.46
01-25-2001 13:46:04	11.065	8.502	-0.01	135.20	5.22
01-25-2001 13:47:04	10.891	8.469	0.01	138.87	5.16
01-25-2001 13:48:04	11.558	8.136	-0.04	113.17	8.63
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 13:48:04	11.395	8.224	-0.03	117.96	7.80

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

Test Run 3 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 13:41:04	11.065	8.752	0.33
01-25-2001 13:42:04	10.615	9.064	0.70
01-25-2001 13:43:04	10.510	9.068	1.41
01-25-2001 13:44:05	11.386	8.480	1.06
01-25-2001 13:45:04	10.754	8.925	2.66
01-25-2001 13:46:04	10.503	9.176	4.97
01-25-2001 13:47:04	11.344	8.401	6.99
01-25-2001 13:48:04	10.619	9.126	9.96
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 13:48:04	11.103	8.734	0.44

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet
Test Run 3 End

Final System Bias Check, Run 3 STRATA Version 2.0

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALMO31469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-25-2001		13:56:39		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.000	0.046	-0.03	0.80	-0.10
Zero Avg	0.069	0.158	-0.03	1.01	1.09
Zero Bias%	0.3%	0.6%	0.0%	0.0%	1.2%
Zero Drift%	0.0%	0.0%	0.3%	0.0%	0.5%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.128	11.040	56.06	233.30	31.36
Span Avg	11.030	10.840	51.89	220.13	32.01
Span Bias%	0.4%	1.0%	4.2%	2.6%	0.6%
Span Drift%	0.0%	0.2%	-0.8%	0.0%	0.9%
Ini Zero Avg	0.070	0.153	-0.37	1.03	0.61
Ini Span Avg	11.038	10.802	52.66	220.12	31.13
Run Avg	11.395	8.224	-0.03	117.96	7.80
Co	0.069	0.156	-0.20	1.02	0.85
Cm	11.034	10.821	52.28	220.13	31.57
Correct Avg	11.487	8.322	0.19	124.36	6.85

Final System Bias Check, Run 3 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-25-2001 13:56:40 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	0.035	0.006	-0.37
Zero Avg	0.101	0.060	0.05
Zero Bias%	0.3%	0.3%	0.1%
Zero Drift%	0.1%	0.1%	0.1%
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.127	11.056	235.71
Span Avg	11.442	10.852	223.51
Span Bias%	1.3%	1.0%	2.4%
Span Drift%	-0.1%	0.0%	0.5%
Ini Zero Avg	0.089	0.038	-0.59
Ini Span Avg	11.466	10.846	221.16
Run Avg	11.103	8.734	0.44
Co	0.095	0.049	-0.27
Cm	11.454	10.849	222.34
Correct Avg	10.776	8.845	0.75

System Bias Check End

Test Run 4 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-25-2001 14:04:05	11.626	7.918	0.48	114.99	5.35
01-25-2001 14:05:05	11.451	8.338	0.28	142.93	5.75
01-25-2001 14:06:05	10.389	9.009	0.20	192.65	4.53
01-25-2001 14:07:05	10.825	8.387	0.10	176.76	3.25
01-25-2001 14:08:04	11.579	7.955	0.03	142.49	4.24
01-25-2001 14:09:05	11.553	7.951	0.01	131.71	3.82
01-25-2001 14:10:05	11.493	8.185	0.12	127.88	5.06
01-25-2001 14:11:05	10.650	8.718	0.15	191.13	3.58
01-25-2001 14:12:05	10.473	8.677	0.06	207.96	2.84
01-25-2001 14:13:05	11.070	8.017	0.03	141.78	3.22
01-25-2001 14:14:05	12.148	7.412	0.04	72.42	5.94
01-25-2001 14:15:05	11.244	8.373	0.05	91.48	5.25
01-25-2001 14:16:05	11.505	7.830	0.01	80.19	5.37
01-25-2001 14:17:04	11.422	8.237	-0.01	98.17	5.53
01-25-2001 14:18:05	11.380	7.990	0.10	101.63	4.17
01-25-2001 14:19:05	11.835	7.712	0.03	82.12	4.28
01-25-2001 14:20:05	11.851	7.977	0.00	79.79	6.06
01-25-2001 14:21:05	11.162	8.292	0.08	107.59	5.61
01-25-2001 14:22:04	11.748	7.829	0.06	96.81	6.28
01-25-2001 14:23:05	11.618	8.171	0.05	103.06	7.19
01-25-2001 14:24:05	11.120	8.579	-0.04	115.80	7.33
01-25-2001 14:25:05	11.113	8.338	0.03	107.01	5.78
01-25-2001 14:26:05	11.254	8.420	0.01	115.21	7.47
01-25-2001 14:27:05	11.327	8.182	0.06	123.50	5.87
01-25-2001 14:28:05	11.397	8.468	0.05	128.67	7.23
01-25-2001 14:29:05	10.705	8.818*	-0.08	139.64*	7.11
01-25-2001 14:30:05	11.210	8.125	-0.05	112.14	5.92
01-25-2001 14:31:04	11.641	8.368	0.03	93.32	8.02
01-25-2001 14:32:05	10.889	8.524	-0.03	116.30	5.51
01-25-2001 14:33:05	11.513	8.053	-0.03	102.36	7.34
01-25-2001 14:34:05	11.476	8.435	0.01	125.95	8.76
01-25-2001 14:35:05	10.986	8.477	-0.08	151.86	5.64
01-25-2001 14:36:05	11.167	8.496	0.02	143.30	6.66
01-25-2001 14:37:05	10.922	8.447	0.04	139.17	4.93
01-25-2001 14:38:04	11.603	8.194	-0.04	107.67	8.43
01-25-2001 14:39:05	10.320	9.262	0.05	154.53	6.98
01-25-2001 14:40:05	10.757	8.464	-0.03	126.92	6.30
01-25-2001 14:41:05	11.376	8.205	-0.04	101.69	6.21
01-25-2001 14:42:05	11.734	7.877	-0.03	85.97	6.08
01-25-2001 14:43:04	11.183	8.659	0.00	129.64	6.77
01-25-2001 14:44:05	10.944	8.230	-0.01	147.49	3.99
01-25-2001 14:45:05	11.957	7.957	-0.15	119.59	7.72
01-25-2001 14:46:05	10.914	8.704	-0.13	154.79	4.78
01-25-2001 14:47:05	11.351	8.085	0.01	126.39	4.80
01-25-2001 14:48:04	11.561	8.345	-0.02	115.13	6.43
01-25-2001 14:49:05	10.642	8.773	-0.06	134.17	4.85
01-25-2001 14:50:05	11.408	7.977	-0.08	93.38	5.49
01-25-2001 14:51:05	11.428	8.465	-0.08	107.58	5.88
01-25-2001 14:52:05	10.780	8.576	-0.07	142.08	3.82
01-25-2001 14:53:04	11.643	7.871	-0.08	111.75	4.36
01-25-2001 14:54:05	11.714	8.186	-0.10	106.73	5.62
01-25-2001 14:55:05	10.970	8.560	-0.10	121.80	4.31

Test Run 4 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
Begin calculating run averages			
01-25-2001 14:04:05	11.330	8.570	23.27
01-25-2001 14:05:05	9.982	9.714	22.68
01-25-2001 14:06:05	10.415	9.073	20.06
01-25-2001 14:07:05	11.377	8.372	17.61
01-25-2001 14:08:04	11.312	8.438	18.37
01-25-2001 14:09:05	11.338	8.416	17.42
01-25-2001 14:10:05	10.320	9.214	13.98
01-25-2001 14:11:05	10.030	9.311	17.10
01-25-2001 14:12:05	10.626	8.725	18.97
01-25-2001 14:13:05	11.976	7.780	17.71
01-25-2001 14:14:05	11.041	8.763	18.59
01-25-2001 14:15:05	11.259	8.353	19.28
01-25-2001 14:16:05	11.231	8.589	12.80
01-25-2001 14:17:04	11.054	8.554	13.57
01-25-2001 14:18:05	11.621	8.180	12.02
01-25-2001 14:19:05	11.762	8.223	10.64
01-25-2001 14:20:05	10.750	8.893	9.64
01-25-2001 14:21:05	11.497	8.298	9.09
01-25-2001 14:22:04	11.449	8.525	7.81
01-25-2001 14:23:05	10.878	9.005	6.53
01-25-2001 14:24:05	10.654	9.020	6.05
01-25-2001 14:25:05	11.067	8.829	6.04
01-25-2001 14:26:05	10.927	8.794	5.80
01-25-2001 14:27:05	11.211	8.728	6.26
01-25-2001 14:28:05	10.271	9.547	7.25
01-25-2001 14:29:05	10.788	8.902	7.50*
01-25-2001 14:30:05	11.625	8.455	5.42
01-25-2001 14:31:04	10.416	9.314	6.01
01-25-2001 14:32:05	11.251	8.571	5.42
01-25-2001 14:33:05	11.396	8.731	4.04
01-25-2001 14:34:05	10.495	9.204	2.45
01-25-2001 14:35:05	10.922	8.900	3.58
01-25-2001 14:36:05	10.483	9.180	3.55
01-25-2001 14:37:05	11.455	8.444	3.34
01-25-2001 14:38:04	9.920	10.028	3.28
01-25-2001 14:39:05	10.300	9.266	4.39
01-25-2001 14:40:05	11.155	8.682	3.37
01-25-2001 14:41:05	11.518	8.338	3.01
01-25-2001 14:42:05	11.055	8.975	2.95
01-25-2001 14:43:04	10.406	9.123	3.37
01-25-2001 14:44:05	11.924	8.146	2.85
01-25-2001 14:45:05	10.560	9.368	2.24
01-25-2001 14:46:05	10.944	8.763	2.89
01-25-2001 14:47:05	11.473	8.527	2.94
01-25-2001 14:48:04	10.231	9.564	3.21
01-25-2001 14:49:05	11.086	8.613	3.58
01-25-2001 14:50:05	11.306	8.735	4.20
01-25-2001 14:51:05	10.318	9.328	4.89
01-25-2001 14:52:05	11.414	8.403	4.87
01-25-2001 14:53:04	11.640	8.437	4.74
01-25-2001 14:54:05	10.580	9.173	5.70
01-25-2001 14:55:05	11.097	8.624	5.67

Test Run 4 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 14:56:05	11.428	7.996	-0.09	112.98	4.66
01-25-2001 14:57:05	11.242	8.834	-0.04	138.54	6.35
01-25-2001 14:58:05	10.035	8.934	-0.08	183.13	2.37
01-25-2001 14:59:04	11.265	8.195	-0.03	126.08	3.36
01-25-2001 15:00:05	11.514	8.099	-0.07	107.14	4.04
01-25-2001 15:01:05	11.476	8.191	-0.11	105.48	3.91
01-25-2001 15:02:05	11.218	8.267	-0.12	109.48	3.76
01-25-2001 15:03:05	11.536	8.237	-0.05	92.76	6.06
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 15:03:05	11.264	8.295*	0.00	122.62*	5.46

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

Test Run 4 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 14:56:05	11.258	8.896	5.13
01-25-2001 14:57:05	9.279	10.163	6.33
01-25-2001 14:58:05	11.065	8.634	5.95
01-25-2001 14:59:04	11.312	8.554	5.51
01-25-2001 15:00:05	11.239	8.626	5.70
01-25-2001 15:01:05	10.907	8.839	6.04
01-25-2001 15:02:05	11.439	8.490	6.12
01-25-2001 15:03:05	10.346	9.569	5.93
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 15:03:05	10.968	8.823	8.25*

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet
Test Run 4 End

Final System Bias Check, Run 4 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-25-2001		15:12:13		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.000	0.046	-0.03	0.80	-0.10
Zero Avg	0.058	0.158	-0.29	0.96	-0.41
Zero Bias%	0.2%	0.6%	0.3%	0.0%	0.3%
Zero Drift%	0.0%	0.0%	-0.3%	0.0%	-1.5%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.128	11.040	56.06	233.30	31.36
Span Avg	11.012	10.813	51.66	215.74	30.13
Span Bias%	0.5%	1.1%	4.4%	3.5%	1.2%
Span Drift%	-0.1%	-0.1%	-0.2%	-0.9%	-1.9%
Ini Zero Avg	0.069	0.158	-0.03	1.01	1.09
Ini Span Avg	11.030	10.840	51.89	220.13	32.01
Run Avg	11.264	8.295	0.00	122.62	5.46
Co	0.064	0.158	-0.16	0.98	0.34
Cm	11.021	10.826	51.77	217.93	31.07
Correct Avg	11.366	8.390	0.18	130.63	5.05

Final System Bias Check, Run 4 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALMO31469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-25-2001 15:12:13 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	0.035	0.006	-0.37
Zero Avg	0.101	0.078	0.26
Zero Bias%	0.3%	0.4%	0.1%
Zero Drift%	0.0%	0.1%	0.0%
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.127	11.056	235.71
Span Avg	11.448	10.845	215.74
Span Bias%	1.3%	1.1%	4.0%
Span Drift%	0.0%	0.0%	-1.6%
Ini Zero Avg	0.101	0.060	0.05
Ini Span Avg	11.442	10.852	223.51
Run Avg	10.968	8.823	8.25
Co	0.101	0.069	0.15
Cm	11.445	10.848	219.62
Correct Avg	10.653	8.934	8.71

System Bias Check End

Test Run 5 STRATA Version 2.0

	O2 %	CO2 %	SO2 ppm	NOx ppm	CO-In ppm
Begin calculating run averages					
01-25-2001 15:17:06	10.461	8.793	0.93	156.43	1.64
01-25-2001 15:18:07	11.126	8.223	0.59	131.75	2.00
01-25-2001 15:19:06	11.654	7.935	0.41	101.05	3.35
01-25-2001 15:20:07	11.893	7.786	0.29	89.85	3.58
01-25-2001 15:21:06	11.989	7.931	0.25	91.71	4.41
01-25-2001 15:22:07	10.787	8.833	0.26	138.68	3.13
01-25-2001 15:23:07	10.784	8.640	0.08	128.27	2.69
01-25-2001 15:24:06	11.436	7.967	0.09	103.71	3.63
01-25-2001 15:25:07	11.568	8.210	0.04	107.01	3.67
01-25-2001 15:26:06	11.350	8.333	0.03	122.47	3.62
01-25-2001 15:27:07	11.110	8.339	-0.04	137.76	2.68
01-25-2001 15:28:06	11.532	8.381	-0.01	122.23	4.01
01-25-2001 15:29:07	10.723	8.835	0.00	133.93	2.85
01-25-2001 15:30:06	11.249	8.117	-0.13	102.87	2.83
01-25-2001 15:31:07	11.936	8.013	-0.06	77.85	4.98
01-25-2001 15:32:07	10.478	9.180	-0.03	139.41	3.90
01-25-2001 15:33:06	11.133	8.082	-0.06	122.30	2.68
01-25-2001 15:34:07	11.639	8.169	-0.19	112.44	3.10
01-25-2001 15:35:06	11.524	8.099	-0.21	105.57	3.74
01-25-2001 15:36:07	11.483	8.277	-0.07	115.76	4.08
01-25-2001 15:37:07	11.370	8.196	-0.06	113.59	4.45
01-25-2001 15:38:06	11.374	8.306	-0.11	120.47	4.55
01-25-2001 15:39:07	11.172	8.479	-0.13	126.18	5.59
01-25-2001 15:40:06	10.870	8.638	-0.23	127.45	3.09
01-25-2001 15:41:07	11.126	8.345	-0.21	124.75	2.50
01-25-2001 15:42:06	11.028	8.617	-0.22	130.56	3.10
01-25-2001 15:43:06	10.933	8.416	-0.30	129.41	2.51
01-25-2001 15:44:07	11.481	8.071	-0.25	110.94	3.82
01-25-2001 15:45:06	11.269	8.651	-0.18	116.53	4.72
01-25-2001 15:46:07	10.326	9.049	-0.27	149.40	2.65
01-25-2001 15:47:06	10.476	8.749	-0.27	143.89	1.37
01-25-2001 15:48:06	11.136	8.302	-0.29	118.51	2.88
01-25-2001 15:49:07	11.741	8.063	-0.36	90.65	4.49
01-25-2001 15:50:06	11.210	8.532	-0.34	85.62	5.72
01-25-2001 15:51:07	10.491	8.964	-0.37	109.45	4.93
01-25-2001 15:52:06	10.925	8.426	-0.39	108.56	3.99
01-25-2001 15:53:07	11.446	8.171	-0.31	105.94	4.57
01-25-2001 15:54:07	11.489	8.252	-0.35	113.70	5.82
01-25-2001 15:55:06	11.273	8.354	-0.32	121.99	10.63
01-25-2001 15:56:07	11.353	8.252	-0.34	114.08	11.74
01-25-2001 15:57:06	11.486	8.214	-0.33	117.81	11.97
01-25-2001 15:58:07	11.037	8.781	-0.32	137.59	12.73
01-25-2001 15:59:07	9.835	9.627	-0.40	158.19	8.32
01-25-2001 16:00:06	10.093	9.063	-0.39	142.40	9.78
01-25-2001 16:01:07	10.441	8.902	-0.45	128.20	10.67
01-25-2001 16:02:06	10.642	8.861	-0.48	124.50	13.21
01-25-2001 16:03:07	10.346	8.986	-0.54	125.40	11.73
01-25-2001 16:04:07	10.656	8.691	-0.51	105.74	13.06
01-25-2001 16:05:06	10.519	9.058	-0.46	106.75	11.75
01-25-2001 16:06:07	9.928	9.451	-0.46	129.09	10.44
01-25-2001 16:07:06	10.114	9.075	-0.63	134.71	10.45
01-25-2001 16:08:07	10.340	8.986	-0.50	132.28	9.94

Test Run 5 STRATA Version 2.0

	O2-In %	CO2-In %	SO2-In ppm
Begin calculating run averages			
01-25-2001 15:17:06	10.807	8.817	4.10
01-25-2001 15:18:07	11.482	8.391	3.51
01-25-2001 15:19:06	11.693	8.251	3.02
01-25-2001 15:20:07	11.892	8.142	2.93
01-25-2001 15:21:06	10.414	9.465	3.50
01-25-2001 15:22:07	10.476	9.215	3.58
01-25-2001 15:23:07	11.075	8.618	3.37
01-25-2001 15:24:06	11.438	8.545	2.77
01-25-2001 15:25:07	11.104	8.725	2.68
01-25-2001 15:26:06	10.665	9.064	2.51
01-25-2001 15:27:07	11.450	8.571	2.75
01-25-2001 15:28:06	10.325	9.521	3.28
01-25-2001 15:29:07	10.918	8.813	4.48
01-25-2001 15:30:06	11.851	8.227	4.68
01-25-2001 15:31:07	10.080	9.899	4.71
01-25-2001 15:32:07	10.709	8.870	5.00
01-25-2001 15:33:06	11.486	8.501	3.54
01-25-2001 15:34:07	11.310	8.569	3.32
01-25-2001 15:35:06	11.301	8.629	2.96
01-25-2001 15:36:07	11.030	8.727	3.10
01-25-2001 15:37:07	11.163	8.712	3.05
01-25-2001 15:38:06	10.882	8.894	3.06
01-25-2001 15:39:07	10.515	9.193	3.13
01-25-2001 15:40:06	10.852	8.824	3.87
01-25-2001 15:41:07	10.777	8.995	4.02
01-25-2001 15:42:06	10.550	9.071	4.13
01-25-2001 15:43:06	11.247	8.538	4.64
01-25-2001 15:44:07	11.089	8.871	5.23
01-25-2001 15:45:06	9.850	9.809	5.75
01-25-2001 15:46:07	10.026	9.591	5.71
01-25-2001 15:47:06	10.782	8.924	6.25
01-25-2001 15:48:06	11.638	8.311	6.14
01-25-2001 15:49:07	10.933	8.856	6.14
01-25-2001 15:50:06	10.023	9.736	6.42
01-25-2001 15:51:07	10.500	9.140	6.26
01-25-2001 15:52:06	11.137	8.644	5.30
01-25-2001 15:53:07	11.241	8.623	4.79
01-25-2001 15:54:07	10.947	8.855	4.73
01-25-2001 15:55:06	11.041	8.791	3.89
01-25-2001 15:56:07	11.223	8.649	3.07
01-25-2001 15:57:06	10.721	9.108	2.74
01-25-2001 15:58:07	9.349	10.367	2.98
01-25-2001 15:59:07	9.648	9.887	2.92
01-25-2001 16:00:06	9.974	9.728	2.31
01-25-2001 16:01:07	10.186	9.419	2.42
01-25-2001 16:02:06	9.864	9.769	1.96
01-25-2001 16:03:07	10.197	9.340	1.67
01-25-2001 16:04:07	10.260	9.451	1.36
01-25-2001 16:05:06	9.454	10.158	1.66
01-25-2001 16:06:07	9.573	9.892	2.06
01-25-2001 16:07:06	9.881	9.738	1.59
01-25-2001 16:08:07	9.939	9.678	1.94

Test Run 5 STRATA Version 2.0

	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 16:09:06	10.380	8.939	-0.59	133.59	8.19
01-25-2001 16:10:07	10.767	8.650	-0.46	119.08	8.18
01-25-2001 16:11:06	10.608	8.936	-0.51	118.66	10.03
01-25-2001 16:12:07	10.093	9.518	-0.52	122.84	7.84
01-25-2001 16:13:07	9.209	10.194	-0.58	138.47	5.96
01-25-2001 16:14:06	9.243	9.844	-0.59	145.61	4.59
01-25-2001 16:15:07	9.612	9.712	-0.58	151.44	4.18
01-25-2001 16:16:06	9.675	9.569	-0.54	157.71	4.29
Run Averages	O2	CO2	SO2	NOx	CO-In
	%	%	ppm	ppm	ppm
01-25-2001 16:16:06	10.889	8.634	-0.22	122.23	5.78

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

Test Run 5 STRATA Version 2.0

	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 16:09:06	10.355	9.221	1.76
01-25-2001 16:10:07	10.270	9.463	1.34
01-25-2001 16:11:06	9.713	10.023	1.87
01-25-2001 16:12:07	8.704	10.909	2.89
01-25-2001 16:13:07	8.739	10.736	5.10
01-25-2001 16:14:06	8.697	10.709	6.48
01-25-2001 16:15:07	9.144	10.378	7.72
01-25-2001 16:16:06	9.389	9.973	9.19
Run Averages	O2-In	CO2-In	SO2-In
	%	%	ppm
01-25-2001 16:16:07	10.533	9.209	3.79

Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet
Test Run 5 End

Final System Bias Check, Run 5 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALMO31469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time	01-25-2001		16:27:32		PASSED
Analyte	O2	CO2	SO2	NOx	CO-In
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.000	0.00	0.00	0.00
Zero Cal	0.000	0.046	-0.03	0.80	-0.10
Zero Avg	0.027	0.137	-1.05	0.84	-2.40
Zero Bias%	0.1%	0.5%	1.0%	0.0%	2.3%
Zero Drift%	-0.1%	-0.1%	-0.8%	0.0%	-2.0%
Span Ref Cyl	11.120	11.000	56.00	233.00	30.29
Span Cal	11.128	11.040	56.06	233.30	31.36
Span Avg	10.960	10.799	54.17	210.62	27.66
Span Bias%	0.7%	1.2%	1.9%	4.5%	3.7%
Span Drift%	-0.2%	-0.1%	2.5%	-1.0%	-2.5%
Ini Zero Avg	0.058	0.158	-0.29	0.96	-0.41
Ini Span Avg	11.012	10.813	51.66	215.74	30.13
Run Avg	10.889	8.634	-0.22	122.23	5.78
Co	0.043	0.148	-0.67	0.90	-1.41
Cm	10.986	10.806	52.91	213.18	28.89
Correct Avg	11.021	8.759	0.48	133.17	7.18

Final System Bias Check, Run 5 STRATA Version 2.0
Operator: Bill Harris
Plant Name: Lake County RRF
Location: Unit 2 Inlet and Outlet

	Reference Cylinder Numbers	
	Zero	Span
O2	ALM035226	ALM029649
CO2	ALM035226	ALM029649
SO2	ALM031469	ALM035226
NOx	ALM029649	XC017544B
CO-In	XC017544B	ALM045330
O2-In	ALM062495	ALM029649
CO2-In	ALM062495	ALM029649
SO2-In	ALM029649	ALM062495

Date/Time 01-25-2001 16:27:32 PASSED

Analyte	O2-In	CO2-In	SO2-In
Units	%	%	ppm
Zero Ref Cyl	0.000	0.000	0.00
Zero Cal	0.035	0.006	-0.37
Zero Avg	0.078	0.002	-0.14
Zero Bias%	0.2%	0.0%	0.0%
Zero Drift%	-0.1%	-0.4%	-0.1%
Span Ref Cyl	11.120	11.000	236.00
Span Cal	11.127	11.056	235.71
Span Avg	11.399	10.748	214.12
Span Bias%	1.1%	1.5%	4.3%
Span Drift%	-0.2%	-0.5%	-0.3%
Ini Zero Avg	0.101	0.078	0.26
Ini Span Avg	11.448	10.845	215.74
Run Avg	10.533	9.209	3.79
Co	0.089	0.040	0.06
Cm	11.423	10.796	214.93
Correct Avg	10.247	9.376	4.09

System Bias Check End

APPENDIX B.9
Field Data

Unit #2 SDA Inlet
Hydrogen Chloride

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #2 SDA Inlet	**Operator Name**	Herb Dixon

Run Number	2-I-MM26-1	2-I-MM26-2	2-I-MM26-3	
Test Date	01/24/01	01/24/01	01/24/01	
Reagent Box ID				

Impinger Reagent	H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	570.1	559.1	579.4	
Initial Tare Weight	grams	483.7	482.0	502.6	
Net Moisture Caught	grams	86.4	77.1	76.8	0.0

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	202.0	201.0	203.5	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	2.0	1.0	3.5	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	277.8	272.5	283.4	
Initial Tare Weight	grams	270.7	265.5	277.8	
Net Moisture Caught	grams	7.1	7.0	5.6	0.0

Total Catch	grams	95.5	85.1	85.9	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	2-I-MM26-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	828
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	928
Test Location	Unit #2 SDA Inlet	Tester Signature			
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares	Actuals
ΔH @ 0.75 SCFM	1.948	Pbar	29.9	Meter Console #		T-4		CO_2
Meter Calibration Factor	0.9834	Pstatic	-2.30	Ideal Nozzle Diameter		0.291		8.2
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		NA		O_2
Estimated Dry Gas Meter Temp	95	Pstd	29.92	Actual Nozzle Diameter		NA		11.5
Estimated Stack Temp or M2 Avg.	400	Diluent		Probe Lgth/ID #	4'	NA		CO
Estimated Delta P or M2 Avg.	0.500	Estimates		Liner Material		BG	XAD ID & Tares	0.0
Estimated Moisture Content	14.0	CO_2	9.0	Filter Box #		HB-4		N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #		CB-13		80.3
Estimated Velocity, ft/sec	51.4	CO	0.0	Umbilical ID #		U50-2		H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s		NA		95.5

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		44	45	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	15					15
Pitots		Y	Y	Leak Rate	0.001	0.002					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
D 5	828	0.0	920.749	NA		1.00	2	47	47	NA	255	43	NA
		5.0	923.400			1.00	3	55	48		243	44	NA
		10.0	925.910			1.00	4	58	49		244	41	NA
		15.0	928.530			1.00	5	60	50		246	40	NA
		20.0	931.140			1.00	6	62	51		247	38	NA
		25.0	933.640			1.00	6	63	52		247	38	NA
		30.0	936.040			1.00	7	65	54		248	39	NA
		35.0	938.640			1.00	8	66	55		251	39	NA
		40.0	941.210			1.00	8	67	55		250	38	NA
		45.0	943.760			1.00	9	68	57		251	38	NA
		50.0	945.370			1.00	10	69	58		252	39	NA
		55.0	948.990			1.00	11	71	60		251	40	NA
	928	60.0	951.605										
					MAX =>	11							
Average Values		60.0	30.856			1.00		58					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	2-I-MM26-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1125
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1225
Test Location	Unit #2 SDA Inlet	Tester Signature			
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares	Actuals
ΔH @ 0.75 SCFM	1.948	Pbar	29.9	Meter Console #	T-4		CO_2
Meter Calibration Factor	0.9834	Pstatic	-2.30	Ideal Nozzle Diameter	0.291		8.3
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	NA		O_2
Estimated Dry Gas Meter Temp	95	Pstd	29.92	Actual Nozzle Diameter	NA		11.5
Estimated Stack Temp or M2 Avg.	400	Diluent		Probe Lgth/ID # 4'	NA		CO
Estimated Delta P or M2 Avg.	0.500	Estimates		Liner Material	BG	XAD ID & Tares	0.0
Estimated Moisture Content	14.0	CO_2	9.0	Filter Box #	HB-4		N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #	CB.16		80.2
Estimated Velocity, ft/sec	51.4	CO	0.0	Umbilical ID #	U50-2		H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s	NA		85.1

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		57	60	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	15					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
D 5	1125	0.0	952.740	NA		1.00	2	70	69	NA	245	45	NA
		5.0	955.610			1.00	3	72	69		247	41	NA
		10.0	958.100			1.00	4	74	69		246	40	NA
		15.0	960.980			1.00	5	74	70		248	40	NA
		20.0	963.650			1.00	5	77	70		251	41	NA
		25.0	966.090			1.00	6	78	71		256	41	NA
		30.0	968.980			1.00	7	78	71		253	41	NA
		35.0	971.750			1.00	7	78	71		253	40	NA
		40.0	974.140			1.00	8	79	72		255	40	NA
		45.0	976.790			1.00	8	79	72		254	41	NA
		50.0	979.430			1.00	9	80	72		255	42	NA
		55.0	982.050			1.00	10	80	72		255	42	NA
	1225	60.0	984.602										
						MAX =>	10						
Average Values		60.0	31.862			1.00		74					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	2-I-MM26-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1405
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1514
Test Location	Unit #2 SDA Inlet	Tester Signature			
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.948	Pbar	29.9	Meter Console #		T-4			CO_2
Meter Calibration Factor	0.9834	Pstatic	-2.30	Ideal Nozzle Diameter		0.291			8.6
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		NA			O_2
Estimated Dry Gas Meter Temp	95	Pstd	29.92	Actual Nozzle Diameter		NA			11.1
Estimated Stack Temp or M2 Avg.	400	Diluent		Probe Lgth/ID #	4'	NA			CO
Estimated Delta P or M2 Avg.	0.500	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	9.0	Filter Box #		HB-4			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #		CB-13			80.3
Estimated Velocity, ft/sec	51.4	CO	0.0	Umbilical ID #		U50-2			H_2O
K Factor (delta H/delta P)	######	N_2	80.0	TC ID #s		NA			85.9

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		65	64	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	14					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	NA	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
D 5	1405	0.0	984.976	NA		1.00	2	72	72	NA	249	50	NA
-		5.0	987.700			1.00	3	74	72		252	43	NA
		10.0	990.270			1.00	4	75	72		254	42	NA
	1417/	15.0	992.950			1.00	4	76	72		252	41	NA
	1425	20.0	995.490			1.00	5	77	72		251	41	NA
		25.0	998.100			1.00	6	78	73		253	42	NA
		30.0	1000.940			1.00	6	78	73		252	45	NA
		35.0	1003.200			1.00	6	79	74		253	46	NA
		40.0	1006.090			1.00	7	79	74		253	46	NA
		45.0	1008.740			1.00	7	79	75		253	46	NA
		50.0	1011.490			1.00	8	79	75		255	47	NA
		55.0	1013.900			1.00	9	80	75		256	47	NA
	1514	60.0	1016.524										
						MAX =>	9						
Average Values		60.0	31.548			1.00		75					

APPENDIX B.10
Field Data

Unit #2 SDA Inlet
Mercury

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #2 SDA Inlet	Fo Max	

Date	1/24/01	Run Number	2-I-M29-1		ORSAT ID	1	Leak Ck?
Shared With	2-I-MM26-1		Start Time	0827	Stop Time	1045	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB1
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1051	8.1	19.7	11.6	80.3	26.05	0.03	
1058	8.2	19.7	11.5	80.3	26.09	0.01	Fo
1105	8.3	19.8	11.5	80.2	26.11	0.03	
Averages	8.2		11.5	80.3	26.1	OK	

Date	1/24/01	Run Number	2-I-M29-2		ORSAT ID	1	Leak Ck?
Shared With	2-I-MM26-2		Start Time	1124	Stop Time	1333	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB7
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1341	8.2	19.8	11.6	80.2	26.06	0.05	
1347	8.3	19.7	11.4	80.3	26.14	0.02	Fo
1355	8.3	19.7	11.4	80.3	26.14	0.02	
Averages	8.3		11.5	80.2	26.1	OK	

Date	1/24/01	Run Number	2-I-M29-3		ORSAT ID	1	Leak Ck?
Shared With	2-I-MM26-3		Start Time	1404	Stop Time	1630	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB2
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1658	8.7	19.7	11.0	80.3	26.31	0.04	
1704	8.6	19.8	11.2	80.2	26.24	0.03	Fo
1710	8.6	19.7	11.1	80.3	26.27	0.01	
Averages	8.6		11.1	80.3	26.3	OK	

Date	1/24/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #2 SDA Inlet	**Operator Name**	Herb Dixon

Run Number	2-I-M29-1	2-I-M29-2	2-I-M29-3	
Test Date	01/24/01	01/24/01	01/24/01	
Reagent Box ID				

Impinger Reagent	HNO3/H2O2	mL	mL	mL	mL
Final Catch Weight	grams	436.8	422.3	428.1	
Initial Tare Weight	grams	261.0	263.4	267.2	
Net Moisture Caught	grams	175.8	158.9	160.9	0.0

Impinger Reagent	IMPIN 3	mL	mL	mL	mL
Final Catch Weight	grams	38.5	37.7	37.2	
Initial Tare Weight	grams	36.3	36.3	35.4	
Net Moisture Caught	grams	2.2	1.4	1.8	0.0

Impinger Reagent	KMnO4/H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	524.5			
KMNo4 Weight	grams	220.0	220.0	220.0	
KMnO4 g/mL	1.1	200.0	200.0	200.0	
Initial Jar Tare Weight	grams	300.3			
Net Moisture Caught	grams	4.2	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	281.7	288.4	295.3	
Initial Tare Weight	grams	265.8	272.7	281.7	
Net Moisture Caught	grams	15.9	15.7	13.6	0.0

Total Catch	grams	198.1	176.0	176.3	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc	Run #	2-I-M29-1
Plant Name	Lake County Resource Recovery Facility	Project #	10184
Plant City, State	Okahumpka, FL	Personnel	ATM
Test Location	Unit #2 SDA Inlet	Tester Signature	
Date of Test	01/24/01	Checked By	

Run Start	827
Run End	1045

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.769	Pbar	29.9	Meter Console #	T-2			CO_2
Meter Calibration Factor	0.9606	Pstatic	-2.30	Ideal Nozzle Diameter	0.291			8.2
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-276			O_2
Estimated Dry Gas Meter Temp	95	Pstd	29.92	Actual Nozzle Diameter	0.255			11.5
Estimated Stack Temp or M2 Avg.	400	Diluent		Probe Lgth/ID # 5'	162			CO
Estimated Delta P or M2 Avg.	0.50	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	9.0	Filter Box #	HB-2			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #	CB-1			80.3
Estimated Velocity, ft/sec	51.4	CO	0.0	Umbilical ID #	U50-1			H_2O
K Factor (delta H/delta P)	2.25	N_2	80.0	TC ID #s	162			198.1

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		43	50	DGM initial		454.521					454.521
Thermocouples		Y	Y	Vacuum	15	18	10				18
Pitots		Y	Y	Leak Rate	0.001	0.001	0.001				OK
Tedlar Bag	OB-1	Y	Y	DGM final		454.870					454.870

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 9	827	0.0	403.874	0.79	1.77	1.77	3	43	43	419	257	45	NA
A 8		4.5	407.170	0.71	1.59	1.59	4	46	44	420	255	43	NA
A 7		9.0	410.190	0.70	1.57	1.57	5	49	44	423	258	41	NA
A 6		13.5	413.250	0.60	1.35	1.35	6	54	45	420	260	39	NA
A 5		18.0	416.080	0.54	1.21	1.21	7	56	46	419	249	39	NA
A 4		22.5	418.810	0.50	1.12	1.12	8	57	47	421	248	38	NA
A 3		27.0	421.490	0.60	1.35	1.35	9	58	48	419	257	38	NA
A 2		31.5	424.200	0.54	1.21	1.21	9	59	49	420	252	37	NA
A 1		36.0	426.940	0.52	1.17	1.17	10	60	49	418	251	38	NA
B 9		40.5	429.615	0.70	1.57	1.57	10	58	51	419	248	40	NA
B 8		45.0	432.550	0.67	1.50	1.50	11	60	51	421	249	38	NA
B 7		49.5	435.530	0.63	1.41	1.41	12	61	52	421	250	39	NA
B 6		54.0	438.400	0.57	1.28	1.28	13	62	52	421	248	40	NA
B 5		58.5	441.140	0.52	1.17	1.17	13	63	53	423	248	40	NA
B 4		63.0	444.000	0.50	1.12	1.12	14	63	54	422	251	40	NA
B 3		67.5	446.620	0.52	1.17	1.17	14	63	54	424	251	41	NA
B 2		72.0	449.280	0.49	1.10	1.10	15	63	55	425	249	41	NA
B 1	952/	76.5	451.810	0.45	1.01	1.01	16	64	56	422	249	41	NA
C 9	FILTER	81.0	454.521	0.60	1.35	1.35	3	62	58	421	242	40	NA
C 8	CHNG	85.5	457.300	0.54	1.21	1.21	4	67	59	421	246	39	NA
C 7	1004	90.0	460.400	0.48	1.08	1.08	4	69	60	423	243	39	NA
C 6		94.5	463.090	0.47	1.06	1.06	5	71	60	424	245	39	NA
C 5		99.0	465.590	0.45	1.01	1.01	5	72	61	423	245	40	NA
C 4		103.5	468.070	0.49	1.10	1.10	6	73	62	423	248	40	NA
C 3		108.0	470.470	0.51	1.15	1.15	6	74	63	423	245	40	NA
C 2		112.5	473.050	0.47	1.06	1.06	7	74	63	426	246	41	NA
C 1		117.0	475.650	0.44	0.99	0.99	7	74	64	422	245	41	NA
-	1045	121.5	478.130										
						MAX =>	16						
Average Values		121.5	73.907	0.552	1.25	1.25		58		422			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	2-I-M29-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1124
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1333
Test Location	Unit #2 SDA Inlet	Tester Signature			
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.769	Pbar	29.9	Meter Console #	T-2			CO_2
Meter Calibration Factor	0.9606	Pstatic	-2.30	Ideal Nozzle Diameter	0.291			8.3
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-357A			O_2
Estimated Dry Gas Meter Temp	95	Pstd	29.92	Actual Nozzle Diameter	0.256			11.5
Estimated Stack Temp or M2 Avg.	400	Diluent		Probe Lgth/ID # 5'	171			CO
Estimated Delta P or M2 Avg.	0.50	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	9.0	Filter Box #	HB-2			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #	CB-4			80.2
Estimated Velocity, ft/sec	51.4	CO	0.0	Umbilical ID #	U50-1			H_2O
K Factor (delta H/delta P)	2.28	N_2	80.0	TC ID #s	171			176.0

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		57	61	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	18	20					20
Pitots		Y	Y	Leak Rate	0.002	0.004					OK
Tedlar Bag	OB-7	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 9	1124	0.0	478.403	0.70	1.60	1.60	3	66	65	424	251	46	NA
A 8		4.5	481.440	0.66	1.51	1.51	3	68	65	423	258	42	NA
A 7		9.0	484.440	0.67	1.53	1.53	4	69	65	425	260	40	NA
A 6		13.5	487.370	0.61	1.39	1.39	4	71	66	425	258	39	NA
A 5		18.0	490.230	0.59	1.35	1.36	5	73	66	429	260	39	NA
A 4		22.5	493.080	0.53	1.21	1.21	6	74	66	425	258	40	NA
A 3		27.0	495.860	0.51	1.16	1.16	6	75	66	425	254	40	NA
A 2		31.5	498.540	0.54	1.23	1.23	7	75	66	424	248	41	NA
A 1		36.0	501.230	0.52	1.19	1.19	8	75	67	426	247	41	NA
B 9		40.5	503.871	0.68	1.55	1.55	8	73	68	425	247	42	NA
B 8		45.0	506.880	0.65	1.48	1.48	9	74	68	426	247	42	NA
B 7		49.5	509.820	0.63	1.44	1.44	9	75	68	426	251	42	NA
B 6		54.0	512.810	0.59	1.35	1.35	10	75	68	425	245	42	NA
B 5		58.5	515.800	0.49	1.12	1.12	10	75	68	425	248	43	NA
B 4		63.0	518.500	0.45	1.03	1.03	11	75	69	423	247	43	NA
B 3		67.5	521.090	0.42	0.96	0.96	11	75	69	427	251	43	NA
B 2		72.0	523.500	0.45	1.03	1.03	12	75	69	425	248	43	NA
B 1		76.5	525.830	0.43	0.98	0.98	12	75	69	422	250	42	NA
C 9		81.0	528.310	0.59	1.35	1.35	13	73	69	426	251	42	NA
C 8		85.5	531.140	0.51	1.16	1.16	13	75	69	424	249	42	NA
C 7		90.0	533.800	0.56	1.28	1.28	14	75	69	429	248	43	NA
C 6		94.5	536.490	0.48	1.10	1.10	14	75	69	427	247	43	NA
C 5		99.0	539.260	0.45	1.03	1.03	15	74	69	429	248	43	NA
C 4		103.5	541.800	0.42	0.96	0.96	15	74	69	429	250	44	NA
C 3		108.0	544.400	0.46	1.05	1.05	16	74	69	431	246	44	NA
C 2		112.5	546.620	0.52	1.19	1.19	16	74	69	431	246	43	NA
C 1		117.0	549.120	0.50	1.14	1.14	17	74	69	428	249	43	NA
-	1333	121.5	551.844										
						MAX =>	17						
Average Values		121.5	73.441	0.538	1.23	1.24		71		426			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	2-I-M29-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1404
Plant City, State	Okahumpka, FL	Personnel	ATM	Run End	1630
Test Location	Unit #2 SDA Inlet	Tester Signature			
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.769	Pbar	29.9	Meter Console #	T-2			CO_2
Meter Calibration Factor	0.9606	Pstatic	-2.30	Ideal Nozzle Diameter	0.291			8.6
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN-276			O_2
Estimated Dry Gas Meter Temp	95	Pstd	29.92	Actual Nozzle Diameter	0.255			11.1
Estimated Stack Temp or M2 Avg.	400	Diluent		Probe Lgth/ID # 5'	162			CO
Estimated Delta P or M2 Avg.	0.50	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	9.0	Filter Box #	HB-4			N_2
Estimated Dry Molecular Weight	29.88	O_2	11.0	Cold Box ID #	CB-1			80.3
Estimated Velocity, ft/sec	51.4	CO	0.0	Umbilical ID #	U50-1			H_2O
K Factor (delta H/delta P)	2.25	N_2	80.0	TC ID #s	162			176.3

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		65	60	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	19	18					19
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB-2	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 9	1404	0.0	552.185	0.67	1.50	1.50	2	70	69	428	251	52	NA
A 8		4.5	555.300	0.65	1.46	1.46	3	75	69	426	254	45	NA
A 7		9.0	558.210	0.62	1.39	1.39	3	77	69	426	254	42	NA
A 6	1417/	13.5	561.010	0.50	1.12	1.12	4	75	70	421	257	43	NA
A 5	1425	18.0	563.650	0.42	0.94	0.94	4	75	70	421	256	42	NA
A 4		22.5	566.070	0.41	0.92	0.92	5	75	71	423	255	42	NA
A 3		27.0	568.540	0.43	0.97	0.97	5	75	70	426	259	43	NA
A 2		31.5	570.930	0.45	1.01	1.01	6	76	71	422	259	43	NA
A 1		36.0	573.510	0.42	0.94	0.94	6	76	71	421	261	43	NA
B 9		40.5	575.995	0.64	1.44	1.44	7	73	70	427	259	43	NA
B 8		45.0	578.960	0.67	1.50	1.50	7	76	70	426	259	42	NA
B 7		49.5	582.000	0.57	1.28	1.28	8	76	71	423	255	41	NA
B 6		54.0	584.800	0.52	1.17	1.17	9	77	71	425	257	41	NA
B 5		58.5	587.550	0.49	1.10	1.10	9	77	71	424	257	42	NA
B 4		63.0	590.260	0.44	0.99	0.99	10	77	71	424	251	41	NA
B 3		67.5	592.860	0.46	1.03	1.03	10	77	71	426	253	41	NA
B 2		72.0	595.430	0.41	0.92	0.92	10	77	71	420	255	42	NA
B 1		76.5	597.860	0.45	1.01	1.01	11	77	71	420	255	42	NA
C 9		81.0	600.295	0.56	1.26	1.26	11	76	71	428	255	42	NA
C 8		85.5	603.100	0.51	1.15	1.15	12	77	72	426	257	43	NA
C 7		90.0	605.900	0.48	1.08	1.08	12	78	72	427	254	43	NA
C 6		94.5	608.400	0.42	0.94	0.94	13	78	72	427	257	43	NA
C 5		99.0	610.800	0.49	1.10	1.10	14	77	72	430	253	44	NA
C 4		103.5	613.310	0.46	1.03	1.03	14	77	72	426	257	44	NA
C 3		108.0	616.080	0.47	1.06	1.06	15	77	72	429	254	45	NA
C 2		112.5	618.550	0.44	0.99	0.99	15	77	72	428	255	45	NA
C 1		117.0	621.060	0.42	0.94	0.94	16	77	72	424	256	45	NA
-	1630	121.5	623.601										
						MAX =>	16						
Average Values		121.5	71.416	0.496	1.12	1.12		74		425			

APPENDIX B.11
Field Data

Unit #2 Stack
Dioxins/Furans

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #2 Stack	Fo Max	

Date	1/25/01	Run Number	2-S-M23-1		ORSAT ID	1	Leak Ck?
Shared With			Start Time	0802	Stop Time	1205	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag # OB3
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1215	7.7	19.6	11.9	80.4	25.90	0.00	
1222	7.8	19.7	11.9	80.3	25.92	0.01	Fo
1229	7.8	19.8	12.0	80.2	25.89	0.01	
Averages	7.8		11.9	80.3	25.9	OK	

Date	1/25/01	Run Number	2-S-M23-2		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1228	Stop Time	1633	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag # OB3
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1636	8.0	19.7	11.7	80.3	26.00	0.02	
1642	8.0	19.7	11.7	80.3	26.00	0.02	Fo
1648	7.9	19.8	11.9	80.2	25.93	0.05	
Averages	8.0		11.8	80.2	26.0	OK	

Date	1/26/01	Run Number	2-S-M23-3		ORSAT ID	1	Leak Ck?
Shared With			Start Time	0800	Stop Time	1203	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag # OB5
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1205	8.5	19.7	11.2	80.3	26.22	0.02	
1211	8.4	19.7	11.3	80.3	26.18	0.02	Fo
1217	8.5	19.8	11.3	80.2	26.20	0.00	
Averages	8.5		11.3	80.2	26.2	OK	

Date	1/26/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	Bag #
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #2 Stack	**Operator Name**	Herb Dixon

Run Number	2-S-M23-1	2-S-M23-2	2-S-M23-3	
Test Date	01/25/01	01/25/01	01/26/01	
Reagent Box ID				

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	648.0	626.5	637.5	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	448.0	426.5	437.5	0.0

		X-27	X-95	X-21	
Impinger Reagent	XAD	mL	mL	mL	mL
Final Catch Weight	grams	350.4	356.1	358.1	
Initial Tare Weight	grams	329.8	333.3	335.9	
Net Moisture Caught	grams	20.6	22.8	22.2	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	298.9	298.0	297.4	
Initial Tare Weight	grams	274.0	272.4	273.8	
Net Moisture Caught	grams	24.9	25.6	23.6	0.0

Total Catch	grams	493.5	474.9	483.3	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD 23

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M23-1		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Run Start	802
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1205
Test Location	Unit #2 Stack	Tester Signature	David D. Brown		
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	30.0	Meter Console #	T1	GLASS	NA	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.84	Ideal Nozzle Diameter	0.226			7.8
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN309			O_2
Estimated Dry Gas Meter Temp	52	Pstd	29.92	Actual Nozzle Diameter	0.194			11.9
Estimated Stack Temp or M2 Avg.	286	Diluent Estimates		Probe Lgth/ID # 7'	P154			CO
Estimated Delta P or M2 Avg.	1.180			Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #	HB1	X-27	329.8	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB9			80.3
Estimated Velocity, ft/sec	73.4	CO	0.0	Umbilical ID #	U50-3			H_20
K Factor (delta H/delta P)	0.89	N_2	80.0	TC ID #s	T154			493.5

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		44	62	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	9					15
Pitots		Y	Y	Leak Rate	0.003	0.002					OK
Tedlar Bag	OB3	Y	Y	DGM final							0.000

Point #		Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
		24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A	6	802	0.0	349.615	1.50	1.33	1.33	8	47	46	286	256	41	39
A	6		5.0	352.610	1.45	1.29	1.29	8	48	47	286	257	39	37
A	6		10.0	355.580	1.45	1.29	1.29	8	49	47	286	257	38	36
A	6		15.0	358.520	1.45	1.29	1.29	8	50	47	285	257	38	36
A	5		20.0	361.520	1.45	1.29	1.29	8	51	48	286	257	38	37
A	5		25.0	364.510	1.50	1.33	1.33	8	52	49	284	257	38	37
A	5		30.0	367.490	1.55	1.38	1.38	8	52	49	284	258	38	37
A	5		35.0	370.570	1.50	1.33	1.33	8	54	50	284	256	39	38
A	4		40.0	373.610	1.55	1.38	1.38	8	55	51	284	257	39	38
A	4		45.0	376.730	1.50	1.33	1.33	8	55	51	285	257	39	38
A	4		50.0	379.770	1.50	1.33	1.33	8	55	52	285	257	40	39
A	4		55.0	382.810	1.50	1.33	1.33	8	56	52	286	257	40	38
A	3		60.0	385.840	0.59	0.52	0.52	6	57	53	286	258	40	39
A	3		65.0	387.760	0.58	0.52	0.52	6	56	54	286	258	41	39
A	3		70.0	389.600	0.58	0.52	0.52	6	55	54	286	257	41	39
A	3		75.0	391.530	0.57	0.51	0.51	6	56	54	285	258	41	39
A	2		80.0	393.390	0.78	0.69	0.69	7	56	55	285	257	42	39
A	2		85.0	395.600	0.82	0.73	0.73	7	57	55	285	257	41	39
A	2		90.0	397.930	0.80	0.71	0.71	7	57	55	286	257	41	39
A	2		95.0	400.180	0.81	0.72	0.72	7	57	55	286	258	42	39
A	1		100.0	402.460	0.99	0.88	0.88	7	57	56	287	257	42	40
A	1		105.0	405.000	0.98	0.87	0.87	7	58	56	287	257	42	41
A	1		110.0	407.490	1.00	0.89	0.89	7	59	57	286	258	43	41
A	1		115.0	410.000	0.97	0.86	0.86	7	59	57	286	257	43	41
B	6	1002/1005	120.0	412.491	1.25	1.11	1.11	8	58	57	284	257	45	44

Continued on Page 2

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M23-1	
Plant Name	Lake County Resource Rec Facility	Project #	10184	Page 2 of 2

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 6		125.0	415.300	1.25	1.11	1.11	8	59	58	285	257	45	44
B 6		130.0	418.050	1.25	1.11	1.11	8	60	58	285	258	46	45
B 6		135.0	420.900	1.25	1.11	1.11	8	60	58	285	257	46	44
B 5		140.0	423.710	1.35	1.20	1.20	8	60	58	286	259	46	47
B 5		145.0	426.600	1.35	1.20	1.20	8	60	58	286	258	46	47
B 5		150.0	429.500	1.35	1.20	1.20	8	60	58	287	257	46	48
B 5		155.0	432.400	1.35	1.20	1.20	8	61	59	286	260	46	49
B 4		160.0	435.350	1.45	1.29	1.29	8	61	59	286	257	45	44
B 4		165.0	438.350	1.40	1.24	1.24	8	63	60	287	257	46	44
B 4		170.0	441.370	1.40	1.24	1.24	8	62	60	287	260	46	44
B 4		175.0	444.400	1.45	1.29	1.29	8	61	60	286	257	46	44
B 3		180.0	447.420	1.15	1.02	1.02	7	63	60	285	259	47	44
B 3		185.0	450.160	1.15	1.02	1.02	7	63	61	285	258	47	44
B 3		190.0	452.860	1.15	1.02	1.02	7	63	61	286	258	47	44
B 3		195.0	455.540	1.20	1.07	1.07	7	63	61	287	257	48	45
B 2		200.0	458.230	1.30	1.16	1.16	8	63	61	287	257	49	46
B 2		205.0	461.050	1.30	1.16	1.16	8	63	62	287	258	49	46
B 2		210.0	463.900	1.35	1.20	1.20	8	63	62	289	259	49	47
B 2		215.0	466.900	1.30	1.16	1.16	8	64	63	288	258	50	48
B 1		220.0	469.620	1.15	1.02	1.02	7	63	63	286	256	51	49
B 1		225.0	472.350	1.15	1.02	1.02	7	63	63	287	257	51	49
B 1		230.0	475.130	1.20	1.07	1.07	7	64	63	286	258	52	49
B 1		235.0	477.810	1.15	1.02	1.02	7	64	63	287	257	55	48
-	1205	240.0	480.555										
						MAX =>	8						
Average Values		240.0	130.940	1.190	1.07	1.07		57		286			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD 23

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M23-2		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Run Start	1228
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1633
Test Location	Unit #2 Stack	Tester Signature			
Date of Test	01/25/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.959	Pbar	30.0	Meter Console #	T1	GLASS	NA	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.56	Ideal Nozzle Diameter	0.226			8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN318			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.195			11.8
Estimated Stack Temp or M2 Avg.	286	Diluent		Probe Lgth/ID # 7'	P152			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO_2	8.0	Filter Box #	HB1	X-95	333.3	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB10			80.2
Estimated Velocity, ft/sec	73.4	CO	0.0	Umbilical ID #	U50-3			H_2O
K Factor (delta H/delta P)	0.94	N_2	80.0	TC ID #s	T152			474.9

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		62	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	9					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB3	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 6	1228	0.0	480.766	1.15	1.08	1.08	6	62	62	285	258	54	46
B 6		5.0	483.500	1.15	1.08	1.08	6	63	63	286	259	50	46
B 6		10.0	486.250	1.15	1.08	1.08	7	64	63	287	261	49	47
B 6		15.0	489.000	1.15	1.08	1.08	7	65	63	287	255	49	47
B 5		20.0	491.780	1.30	1.22	1.22	8	64	64	289	254	49	47
B 5		25.0	494.680	1.30	1.22	1.22	8	65	63	288	259	49	47
B 5		30.0	497.630	1.25	1.18	1.18	8	65	63	289	257	49	47
B 5		35.0	500.480	1.25	1.18	1.18	8	66	64	287	257	50	48
B 4		40.0	503.310	1.25	1.18	1.18	8	66	65	288	259	51	49
B 4		45.0	506.180	1.30	1.22	1.22	8	66	65	287	259	52	49
B 4		50.0	509.150	1.30	1.22	1.22	8	65	65	287	260	51	50
B 4		55.0	512.030	1.25	1.18	1.18	8	66	65	287	260	51	49
B 3		60.0	514.920	1.25	1.18	1.18	8	66	65	287	255	51	49
B 3		65.0	517.810	1.30	1.22	1.22	8	66	66	287	257	52	49
B 3		70.0	520.730	1.30	1.22	1.22	8	66	65	287	257	52	50
B 3		75.0	523.640	1.30	1.22	1.22	8	66	66	288	258	52	49
B 2		80.0	526.560	1.25	1.18	1.18	8	66	66	288	259	53	50
B 2		85.0	529.480	1.25	1.18	1.18	8	66	66	288	258	51	47
B 2		90.0	532.360	1.25	1.18	1.18	8	66	66	289	257	49	49
B 2		95.0	535.320	1.20	1.13	1.13	8	66	66	288	256	51	48
B 1		100.0	538.160	1.00	0.94	0.94	7	66	66	288	257	50	48
B 1		105.0	540.630	1.05	0.99	0.99	7	67	66	286	259	50	48
B 1		110.0	543.300	1.10	1.03	1.03	7	67	66	287	260	50	48
B 1		115.0	546.040	1.10	1.03	1.03	7	67	67	288	254	51	49
A 6	1428/1433	120.0	548.745	1.35	1.27	1.27	8	66	66	289	255	55	47

Continued on Page 2

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M23-2	
Plant Name	Lake County Resource Rec Facility	Project #	10184	Page 2 of 2

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6		125.0	551.720	1.35	1.27	1.27	8	66	66	289	257	49	44
A 6		130.0	554.690	1.40	1.32	1.32	8	67	66	287	253	49	45
A 6		135.0	557.700	1.35	1.27	1.27	8	67	66	286	254	49	46
A 5		140.0	560.720	1.40	1.32	1.32	8	68	66	285	255	49	46
A 5		145.0	563.740	1.40	1.32	1.32	8	69	67	285	255	49	46
A 5		150.0	566.770	1.35	1.27	1.27	8	69	68	287	255	50	47
A 5		155.0	569.760	1.40	1.32	1.32	8	70	68	287	255	51	47
A 4		160.0	572.770	1.35	1.27	1.27	8	71	69	289	256	51	48
A 4		165.0	575.790	1.35	1.27	1.27	8	71	69	287	254	52	50
A 4		170.0	578.800	1.35	1.27	1.27	8	71	69	287	254	53	51
A 4		175.0	581.810	1.35	1.27	1.27	8	71	70	288	254	54	52
A 3		180.0	584.810	0.65	0.61	0.61	6	70	71	288	252	54	53
A 3		185.0	586.910	0.63	0.59	0.59	6	69	69	288	253	55	52
A 3		190.0	589.000	0.63	0.59	0.59	6	69	70	289	255	54	48
A 3		195.0	591.050	0.62	0.58	0.58	6	69	70	290	255	52	47
A 2		200.0	593.120	0.63	0.59	0.59	6	70	70	290	255	52	46
A 2		205.0	595.150	0.63	0.59	0.59	6	70	70	291	254	51	47
A 2		210.0	597.190	0.65	0.61	0.61	6	71	71	292	254	52	47
A 2		215.0	599.230	0.62	0.58	0.58	6	72	72	291	254	52	48
A 1		220.0	601.260	0.63	0.59	0.59	6	72	72	291	254	53	48
A 1		225.0	603.480	0.62	0.58	0.58	6	72	72	289	255	53	49
A 1		230.0	605.450	0.62	0.58	0.58	6	72	72	288	254	54	49
A 1		235.0	607.530	0.63	0.59	0.59	6	72	72	289	255	55	50
-	1633	240.0	609.608										
						MAX =>	8						
Average Values		240.0	128.842	1.084	1.04	1.04		67		288			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD 23

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M23-3		
Plant Name	Lake County Resource Rec Facility	Project #	10184	Run Start	800
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1203
Test Location	Unit #2 Stack	Tester Signature	David D. Brittle		
Date of Test	01/26/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	30.0	Meter Console #	T1	GLASS	NA	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.78	Ideal Nozzle Diameter	0.228			8.5
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN309			O_2
Estimated Dry Gas Meter Temp	57	Pstd	29.92	Actual Nozzle Diameter	0.194			11.3
Estimated Stack Temp or M2 Avg.	287	Diluent		Probe Lgth/ID # 7'	P154			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	15.0	CO_2	8.0	Filter Box #	HB1	X-21	335.9	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB9			80.2
Estimated Velocity, ft/sec	73.6	CO	0.0	Umbilical ID #	U50-3			H_20
K Factor (delta H/delta P)	0.88	N_2	80.0	TC ID #s	T154			483.3

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		43	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	11					15
Pitots		Y	Y	Leak Rate	0.003	0.002					OK
Tedlar Bag	OB5	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	800	0.0	609.776	1.35	1.19	1.19	8	47	47	283	260	43	39
A 6		5.0	612.600	1.35	1.19	1.19	8	50	47	281	260	41	37
A 6		10.0	615.470	1.40	1.23	1.23	9	52	48	282	260	39	38
A 6		15.0	618.350	1.40	1.23	1.23	9	54	49	283	260	40	38
A 5		20.0	621.260	1.45	1.28	1.28	9	54	49	283	261	40	38
A 5		25.0	624.200	1.50	1.32	1.32	10	55	49	285	261	41	38
A 5		30.0	627.210	1.50	1.32	1.32	10	55	50	285	261	41	38
A 5		35.0	630.240	1.50	1.32	1.32	10	56	50	287	260	41	38
A 4		40.0	633.270	1.45	1.28	1.28	9	56	51	287	261	41	38
A 4		45.0	636.280	1.45	1.28	1.28	9	57	51	287	261	42	39
A 4		50.0	639.180	1.45	1.28	1.28	9	57	51	287	257	42	38
A 4		55.0	642.160	1.45	1.28	1.28	9	58	52	286	259	43	38
A 3		60.0	645.140	0.56	0.49	0.49	6	59	52	285	260	43	38
A 3		65.0	646.970	0.55	0.48	0.48	6	58	53	285	258	43	39
A 3		70.0	648.840	0.56	0.49	0.49	6	58	54	284	258	44	39
A 3		75.0	650.680	0.55	0.48	0.48	6	58	54	285	261	44	39
A 2		80.0	652.570	0.72	0.63	0.63	7	58	54	285	256	44	39
A 2		85.0	654.700	0.68	0.60	0.60	7	58	55	287	254	44	39
A 2		90.0	656.700	0.67	0.59	0.59	7	58	55	287	256	44	39
A 2		95.0	658.780	0.68	0.60	0.60	7	59	55	285	257	44	39
A 1		100.0	660.770	0.74	0.65	0.65	7	58	55	285	256	44	39
A 1		105.0	662.920	0.74	0.65	0.65	7	59	55	286	252	44	40
A 1		110.0	665.060	0.73	0.64	0.64	7	60	66	287	257	44	40
A 1		115.0	667.170	0.72	0.63	0.63	7	60	56	285	255	44	41
B 6	1000/1003	120.0	669.316	1.15	1.01	1.01	9	59	56	284	255	47	43

Continued on Page 2

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M23-3	
Plant Name	Lake County Resource Rec Facility	Project #	10184	Page 2 of 2

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 6		125.0	672.010	1.15	1.01	1.01	9	61	57	285	256	47	44
B 6		130.0	674.670	1.15	1.01	1.01	9	61	57	285	257	47	43
B 6		135.0	677.350	1.15	1.01	1.01	9	62	57	285	257	49	46
B 5		140.0	680.010	1.30	1.14	1.14	9	63	57	286	257	50	47
B 5		145.0	682.800	1.30	1.14	1.14	9	63	58	286	257	51	48
B 5		150.0	685.630	1.25	1.10	1.10	9	64	58	287	257	52	48
B 5		155.0	688.410	1.30	1.14	1.14	9	66	59	288	257	50	46
B 4		160.0	691.220	1.30	1.14	1.14	9	67	60	289	257	49	45
B 4		165.0	694.030	1.30	1.14	1.14	9	68	61	289	257	50	45
B 4		170.0	696.860	1.30	1.14	1.14	9	68	62	287	258	51	46
B 4		175.0	699.660	1.30	1.14	1.14	9	69	63	286	258	52	46
B 3		180.0	702.550	0.98	0.86	0.86	8	70	63	284	257	50	47
B 3		185.0	705.070	0.96	0.84	0.84	8	70	64	284	258	50	47
B 3		190.0	707.600	0.98	0.86	0.86	8	71	65	282	258	51	47
B 3		195.0	710.120	0.96	0.84	0.84	8	71	65	283	258	51	46
B 2		200.0	712.640	1.15	1.01	1.01	9	71	65	283	258	51	46
B 2		205.0	715.360	1.10	0.97	0.97	9	71	66	284	258	52	46
B 2		210.0	718.040	1.10	0.97	0.97	9	70	65	284	257	52	45
B 2		215.0	720.730	1.10	0.97	0.97	9	71	65	285	258	51	44
B 1		220.0	723.400	0.88	0.77	0.77	8	72	66	284	258	52	46
B 1		225.0	725.780	0.88	0.77	0.77	8	71	66	284	257	53	47
B 1		230.0	728.160	0.88	0.77	0.77	8	69	66	285	257	53	46
B 1		235.0	730.560	0.89	0.78	0.78	8	69	66	285	258	53	47
-	1203	240.0	732.905										
						MAX =>	10						
Average Values		240.0	123.129	1.060	0.95	0.95		60		285			

APPENDIX B.12
Field Data

Unit #2 Stack
Hydrogen Chloride

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #2 Stack	**Operator Name**	Herb Dixon

Run Number	2-S-MM26-1	2-S-MM26-2	2-S-MM26-3	
Test Date	01/24/01	01/24/01	01/24/01	
Reagent Box ID				

Impinger Reagent	H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	628.1	610.3	623.6	
Initial Tare Weight	grams	483.2	484.6	492.2	
Net Moisture Caught	grams	144.9	125.7	131.4	0.0

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	202.0	200.0	204.5	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	2.0	0.0	4.5	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	290.2	272.9	275.3	
Initial Tare Weight	grams	284.0	265.0	266.1	
Net Moisture Caught	grams	6.2	7.9	9.2	0.0

Total Catch	grams	153.1	133.6	145.1	0.0

Signature:	Herb Dixon	**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	2-S-MM26-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	827
Plant City, State	Okahumpka, FL	Personnel	WHH, DGB	Run End	927
Test Location	Unit #2 Stack	Tester Signature	Bill Harris		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.9	Meter Console #		T3			CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.72	Ideal Nozzle Diameter		0.228			8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #					O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter					11.7
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID #	4'	P4			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #		FB			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB2			80.3
Estimated Velocity, ft/sec	73.6	CO	0.0	Umbilical ID #		U50-5			H_2O
K Factor (delta H/delta P)	0.00	N_2	80.0	TC ID #s		NA			153.1

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		45	50	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	8					15
Pitots		Y	Y	Leak Rate	0.002	0.003					OK
Tedlar Bag	OB-2	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3	827	0.0	781.372	NA		1.80	5	51	47	NA	264	38	NA
-		5.0	784.860	NA		1.80	5	54	49	NA	264	37	NA
		10.0	788.440	NA		1.80	5	58	51	NA	264	38	NA
		15.0	791.900	NA		1.80	5	61	52	NA	263	40	NA
		20.0	795.500	NA		1.80	5	66	55	NA	264	41	NA
		25.0	798.940	NA		1.80	5	69	57	NA	266	42	NA
-		30.0	802.500	NA		1.80	5	72	60	NA	264	43	NA
-		35.0	806.150	NA		1.80	5	74	61	NA	266	44	NA
		40.0	809.650	NA		1.80	5	77	64	NA	266	45	NA
		45.0	813.200	NA		1.80	5	78	66	NA	266	46	NA
		50.0	816.860	NA		1.80	5	81	69	NA	266	46	NA
		55.0	820.290	NA		1.80	5	83	71	NA	265	47	NA
		60.0	823.819										
						MAX =>	5						
Average Values		60.0	42.447			1.80		64					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	2-S-MM26-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1125
Plant City, State	Okahumpka, FL	Personnel	WHH, DGB	Run End	1225
Test Location	Unit #2 Stack	Tester Signature	Bill Harris		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.9	Meter Console #		T3			CO_2
Meter Calibration Factor	0.9901	Pstatic	-0.75	Ideal Nozzle Diameter		0.228			8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #					O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter					11.7
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID #	4'	P4			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #		FB			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB-1			80.3
Estimated Velocity, ft/sec	73.6	CO	0.0	Umbilical ID #		U50-5			H_2O
K Factor (delta H/delta P)	0.00	N_2	80.0	TC ID #s		NA			133.6

Equipment Checks	PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient	55	56	DGM initial							0.000
Thermocouples	Y	Y	Vacuum	15	10					15
Pitots	Y	Y	Leak Rate	0.001	0.000					OK
Tedlar Bag	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3	1125	0.0	823.943			1.80	5	74	73	NA	271	52	NA
-		5.0	827.550			1.80	5	74	73	NA	264	46	NA
		10.0	831.160			1.80	5	75	73	NA	264	47	NA
		15.0	834.760			1.80	5	76	73	NA	265	47	NA
		20.0	838.340			1.80	5	77	73	NA	263	49	NA
		25.0	842.900			1.80	5	77	73	NA	263	50	NA
-		30.0	845.670			1.80	5	78	73	NA	264	50	NA
-		35.0	849.300			1.80	5	78	73	NA	264	50	NA
		40.0	853.000			1.80	5	78	72	NA	261	49	NA
		45.0	856.480			1.80	5	78	72	NA	261	49	NA
		50.0	860.070			1.80	5	78	72	NA	261	49	NA
		55.0	863.670			1.80	5	78	72	NA	263	49	NA
		60.0	867.168										
						MAX =>	5						
Average Values		60.0	43.225			1.80		75					

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD MM26

Client Name	Ogden Energy Group, Inc.	Run #	2-S-MM26-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1406
Plant City, State	Okahumpka, FL	Personnel	WHH, DGB	Run End	1516
Test Location	Unit #2 Stack	Tester Signature	Bill Harris		
Date of Test	01/24/01	Checked By	[illegible signature]		

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.922	Pbar	29.9	Meter Console #		T3			CO_2
Meter Calibration Factor	0.9901	Pstatic	0.76	Ideal Nozzle Diameter		0.228			7.9
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #					O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter					11.9
Estimated Stack Temp or M2 Avg.	280	Diluent		Probe Lgth/ID #	4'	P4			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #		HB			N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB2			80.2
Estimated Velocity, ft/sec	73.4	CO	0.0	Umbilical ID #		U50-5			H_2O
K Factor (delta H/delta P)	0.00	N_2	80.0	TC ID #s		NA			145.1

Equipment Checks	PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient	58	60	DGM initial							0.000
Thermocouples	Y	Y	Vacuum	15	10					15
Pitots	Y	Y	Leak Rate	0.000	0.000					OK
Tedlar Bag	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 3	1406	0.0	867.298	NA		1.80	5	70	69	NA	258	55	NA
-		5.0	870.870	NA		1.80	5	71	69	NA	258	49	NA
	1417	10.0	874.530	NA		1.80	5	71	69	NA	258	49	NA
	1426	15.0	877.950	NA		1.80	5	74	69	NA	256	51	NA
		20.0	881.520	NA		1.80	5	75	69	NA	256	51	NA
		25.0	885.130	NA		1.80	5	75	69	NA	255	51	NA
-		30.0	888.740	NA		1.80	5	76	71	NA	257	53	NA
-		35.0	892.200	NA		1.80	5	76	71	NA	254	54	NA
		40.0	895.750	NA		1.80	5	75	71	NA	257	54	NA
		45.0	899.290	NA		1.80	5	77	71	NA	259	54	NA
		50.0	902.890	NA		1.80	5	77	71	NA	261	54	NA
		55.0	906.490	NA		1.80	5	77	71	NA	252	55	NA
	1516	60.0	910.091										
						MAX =>	5						
Average Values		60.0	42.793			1.80		72					

APPENDIX B.13
Field Data

Unit #2 Stack
Mercury and Metals

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #2 Stack	Fo Max	

Date	1/24/01	Run Number	2-S-M29-1		ORSAT ID	1	Leak Ck?
Shared With	2-S-MM26-1		Start Time	0826	Stop Time	1034	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB3
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1114	8.0	19.7	11.7	80.3	26.00	0.01	
1120	8.0	19.7	11.7	80.3	26.00	0.01	Fo
1126	7.9	19.7	11.8	80.3	25.96	0.03	
Averages	8.0		11.7	80.3	26.0	OK	

Date	1/24/01	Run Number	2-S-M29-2		ORSAT ID	1	Leak Ck?
Shared With	2-S-MM26-2		Start Time	1124	Stop Time	1334	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB5
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1402	8.0	19.7	11.7	80.3	26.00	0.01	
1410	8.0	19.6	11.6	80.4	26.03	0.02	Fo
1416	8.0	19.7	11.7	80.3	26.00	0.01	
Averages	8.0		11.7	80.3	26.0	OK	

Date	1/24/01	Run Number	2-S-M29-3		ORSAT ID	1	Leak Ck?
Shared With	2-S-MM26-3		Start Time	1404	Stop Time	1635	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB3
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1640	7.8	19.7	11.9	80.3	25.92	0.02	
1646	8.0	19.7	11.7	80.3	26.00	0.07	Fo
1652	7.8	19.8	12.0	80.2	25.89	0.05	
Averages	7.9		11.9	80.2	25.9	OK	

Date	1/24/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW / Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #2 Stack	**Operator Name**	Herb Dixon

Run Number	2-S-M29-1	2-S-M29-2	2-S-M29-3	
Test Date	01/24/01	01/24/01	01/24/01	
Reagent Box ID				

Impinger Reagent	HNO3/H2O2	mL	mL	mL	mL
Final Catch Weight	grams	539.5	513.6	516.0	
Initial Tare Weight	grams	261.0	261.1	260.7	
Net Moisture Caught	grams	278.5	252.5	255.3	0.0

Impinger Reagent	IMPIN 3	mL	mL	mL	mL
Final Catch Weight	grams	37.8	38.1	38.0	
Initial Tare Weight	grams	36.3	36.4	36.3	
Net Moisture Caught	grams	1.5	1.7	1.7	0.0

Impinger Reagent	KMnO4/H2SO4	mL	mL	mL	mL
Final Catch Weight	grams	523.5	522.2	526.0	
KMNo4 Weight	grams	220.0	220.0	220.0	
KMnO4 g/mL	1.1	200.0	200.0	200.0	
Initial Jar Tare Weight	grams	299.6	299.4	299.2	
Net Moisture Caught	grams	3.9	2.8	6.8	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	282.8	278.4	293.6	
Initial Tare Weight	grams	269.3	264.6	282.8	
Net Moisture Caught	grams	13.5	13.8	10.8	0.0

Total Catch	grams	297.4	270.8	274.6	0.0

Signature:		**Checked By:**	

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M29-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	826
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1034
Test Location	Unit #2 Stack	Tester Signature	David A. Brittain		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	29.9	Meter Console #	T1		QUARTZ	NA	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.89	Ideal Nozzle Diameter	0.229				8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN333				O_2
Estimated Dry Gas Meter Temp	53	Pstd	29.92	Actual Nozzle Diameter	0.218				11.7
Estimated Stack Temp or M2 Avg.	285	Diluent		Probe Lgth/ID #	7'	P153			CO
Estimated Delta P or M2 Avg.	1.18	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #		HB1	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB2			80.3
Estimated Velocity, ft/sec	73.8	CO	0.0	Umbilical ID #		U50-4			H_2O
K Factor (delta H/delta P)	1.37	N_2	80.0	TC ID #s		T153			297.4

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		40	62	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	7					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB3	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	826	0.0	102.228	1.45	1.98	1.98	5	44	43	288	257	41	NA
A 6		5.0	105.860	1.42	1.94	1.94	5	47	44	287	255	38	NA
A 5		10.0	109.480	1.55	2.12	2.12	6	50	45	286	256	38	NA
A 5		15.0	113.250	1.60	2.19	2.19	6	51	46	286	256	39	NA
A 4		20.0	117.110	1.40	1.92	1.92	6	53	47	286	256	40	NA
A 4		25.0	120.740	1.43	1.96	1.96	6	54	48	285	256	41	NA
A 3		30.0	124.390	0.62	0.85	0.85	4	55	49	285	256	41	NA
A 3		35.0	126.820	0.58	0.79	0.79	4	55	50	286	256	42	NA
A 2		40.0	129.230	0.89	1.22	1.22	5	56	51	286	257	43	NA
A 2		45.0	132.130	0.91	1.25	1.25	5	57	52	287	256	43	NA
A 1		50.0	135.040	0.90	1.23	1.23	5	58	53	285	256	43	NA
A 1		55.0	138.000	0.91	1.25	1.25	5	60	54	284	255	43	NA
B 6	926/934	60.0	140.933	1.23	1.68	1.68	5	56	55	284	257	46	NA
B 6		65.0	144.430	1.28	1.75	1.75	5	60	56	287	257	43	NA
B 5		70.0	147.890	1.50	2.05	2.05	6	61	57	288	256	43	NA
B 5		75.0	151.680	1.50	2.05	2.05	6	63	58	288	257	44	NA
B 4		80.0	155.480	1.55	2.12	2.12	6	64	58	287	257	46	NA
B 4		85.0	159.410	1.55	2.12	2.12	6	64	59	288	256	46	NA
B 3		90.0	163.320	1.15	1.57	1.57	6	65	60	287	257	47	NA
B 3		95.0	166.670	1.15	1.57	1.57	6	65	60	287	258	47	NA
B 2		100.0	170.010	1.22	1.67	1.67	6	66	61	287	257	47	NA
B 2		105.0	173.420	1.20	1.64	1.64	6	65	61	287	256	49	NA
B 1		110.0	176.940	1.15	1.57	1.57	6	64	61	286	255	47	NA
B 1		115.0	180.320	1.18	1.61	1.61	6	63	61	286	257	47	NA
-	1034	120.0	183.644										
-													
-													
-													
						MAX =>	6						
Average Values		120.0	81.416	1.202	1.67	1.67		56		286			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M29-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1124
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1334
Test Location	Unit #2 Stack	Tester Signature	David H. Beattie		
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment				Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	29.9	Meter Console #		T1		QUARTZ	NA	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.57	Ideal Nozzle Diameter		0.228				8.0
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		GN347				O_2
Estimated Dry Gas Meter Temp	66	Pstd	29.92	Actual Nozzle Diameter		0.223				11.7
Estimated Stack Temp or M2 Avg.	286	Diluent		Probe Lgth/ID #	7'	P150				CO
Estimated Delta P or M2 Avg.	1.20	Estimates		Liner Material		BG		XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #		HB1		NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB5				80.3
Estimated Velocity, ft/sec	74.5	CO	0.0	Umbilical ID #		U50-4				H_2O
K Factor (delta H/delta P)	1.54	N_2	80.0	TC ID #s		T150				270.8

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		62	69	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	10	7					10
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB5	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1124	0.0	183.846	1.45	2.23	2.23	6	63	63	288	255	49	NA
A 6		5.0	187.790	1.40	2.15	2.15	6	64	63	287	258	46	NA
A 5		10.0	191.670	1.48	2.27	2.27	6	65	63	286	258	46	NA
A 5		15.0	195.670	1.45	2.23	2.23	6	66	64	287	255	48	NA
A 4		20.0	199.640	1.40	2.15	2.15	6	66	63	285	256	49	NA
A 4		25.0	203.540	1.35	2.07	2.07	6	66	64	286	258	49	NA
A 3		30.0	207.360	0.60	0.92	0.92	4	66	64	286	260	50	NA
A 3		35.0	209.940	0.58	0.89	0.89	4	65	65	286	258	52	NA
A 2		40.0	212.460	0.70	1.07	1.07	4	65	64	287	258	51	NA
A 2		45.0	215.220	0.69	1.06	1.06	4	65	65	287	257	51	NA
A 1		50.0	217.960	0.75	1.15	1.15	5	65	64	284	257	51	NA
A 1		55.0	220.800	0.78	1.20	1.20	5	65	64	284	258	51	NA
B 6	1224/1234	60.0	223.682	1.15	1.77	1.77	5	65	65	287	258	52	NA
B 6		65.0	227.280	1.12	1.72	1.72	5	65	65	287	257	50	NA
B 5		70.0	230.760	1.23	1.89	1.89	6	65	65	287	258	52	NA
B 5		75.0	234.390	1.25	1.92	1.92	6	65	65	287	257	52	NA
B 4		80.0	238.100	1.25	1.92	1.92	6	66	65	287	257	51	NA
B 4		85.0	241.750	1.25	1.92	1.92	6	66	65	287	258	52	NA
B 3		90.0	245.440	1.25	1.92	1.92	6	66	65	289	259	53	NA
B 3		95.0	249.120	1.30	2.00	2.00	6	66	65	289	259	54	NA
B 2		100.0	252.920	1.22	1.87	1.87	6	67	65	290	258	53	NA
B 2		105.0	256.520	1.25	1.92	1.92	6	68	66	289	259	54	NA
B 1		110.0	260.260	1.20	1.84	1.84	6	68	66	288	258	55	NA
B 1		115.0	263.830	1.18	1.81	1.81	6	68	66	287	256	56	NA
-	1334	120.0	267.504										
-													
						MAX =>	6						
Average Values		120.0	83.658	1.117	1.75	1.75		65		287			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M29

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M29-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1404
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1635
Test Location	Unit #2 Stack	Tester Signature			
Date of Test	01/24/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	29.9	Meter Console #	T1	QUARTZ	NA	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.59	Ideal Nozzle Diameter	0.228			7.9
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN333			O_2
Estimated Dry Gas Meter Temp	70	Pstd	29.92	Actual Nozzle Diameter	0.218			11.9
Estimated Stack Temp or M2 Avg.	286	Diluent		Probe Lgth/ID # 7'	P153			CO
Estimated Delta P or M2 Avg.	1.20	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB1	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB2			80.2
Estimated Velocity, ft/sec	74.5	CO	0.0	Umbilical ID #	U50-4			H_2O
K Factor (delta H/delta P)	1.41	N_2	80.0	TC ID #s	T153			274.6

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		69	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	10	7					10
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB3	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1404	0.0	267.748	1.35	1.91	1.91	5	66	66	286	257	58	NA
A 6		5.0	271.420	1.35	1.91	1.91	5	67	66	287	258	54	NA
A 5	1416/1425	10.0	275.080	1.43	2.02	2.02	6	68	67	288	259	53	NA
A 5		15.0	278.860	1.40	1.98	1.98	6	67	66	285	260	57	NA
A 4		20.0	282.600	1.55	2.19	2.19	6	67	66	287	259	54	NA
A 4		25.0	286.530	1.50	2.12	2.12	6	68	66	287	259	54	NA
A 3		30.0	290.400	0.60	0.85	0.85	4	68	66	288	259	55	NA
A 3		35.0	292.850	0.58	0.82	0.82	4	67	66	290	259	57	NA
A 2		40.0	295.270	0.68	0.96	0.96	5	66	66	290	259	57	NA
A 2		45.0	297.840	0.71	1.00	1.00	5	66	66	291	260	55	NA
A 1		50.0	300.510	0.79	1.12	1.12	5	67	66	290	258	55	NA
A 1		55.0	303.300	0.75	1.06	1.06	5	66	66	288	259	55	NA
B 6	1513/1535	60.0	306.007	1.25	1.77	1.77	6	66	66	285	260	55	NA
B 6		65.0	309.520	1.28	1.81	1.81	6	66	66	288	258	50	NA
B 5		70.0	313.080	1.40	1.98	1.98	6	66	66	290	257	48	NA
B 5		75.0	316.800	1.35	1.91	1.91	6	66	66	290	258	48	NA
B 4		80.0	320.550	1.60	2.26	2.26	6	66	66	289	260	50	NA
B 4		85.0	324.570	1.55	2.19	2.19	6	67	66	289	260	50	NA
B 3		90.0	328.490	1.20	1.70	1.70	6	67	66	288	258	51	NA
B 3		95.0	331.940	1.22	1.72	1.72	6	66	66	288	258	51	NA
B 2		100.0	335.380	1.26	1.78	1.78	6	66	66	288	258	51	NA
B 2		105.0	338.900	1.30	1.84	1.84	6	66	66	288	257	51	NA
B 1		110.0	342.480	1.18	1.67	1.67	6	66	66	286	258	52	NA
B 1		115.0	345.920	1.18	1.67	1.67	6	66	66	286	258	52	NA
-	1635	120.0	349.402										
-													
						MAX =>	6						
Average Values		120.0	81.654	1.162	1.68	1.68		66		288			

APPENDIX B.14
Field Data

Unit #2 Stack
Particulate

EPA Method 3 for Molecular Weight Determination

Client Name	Ogden Energy Group, Inc.	Project #	10184
Plant Name	Lake County Resource Rec Facility	Fuel Type	MSW
Plant City, State	Okahumpka, FL	Fo Min	
Test Location	Unit #2 Stack	Fo Max	

Date	1/23/01	Run Number	2-S-M5-1		ORSAT ID	1	Leak Ck?
Shared With			Start Time	0823	Stop Time	1032	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB8
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1102	8.2	19.7	11.5	80.3	26.09	0.02	
1109	8.2	19.7	11.5	80.3	26.09	0.02	Fo
1116	8.1	19.8	11.7	80.2	26.02	0.05	
Averages	8.2		11.6	80.2	26.1	OK	

Date	1/23/01	Run Number	2-S-M5-2		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1115	Stop Time	1320	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB1
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1355	7.7	19.6	11.9	80.4	25.90	0.02	
1402	7.6	19.6	12.0	80.4	25.86	0.02	Fo
1409	7.7	19.7	12.0	80.3	25.87	0.00	
Averages	7.7		12.0	80.3	25.9	OK	

Date	1/23/01	Run Number	2-S-M5-3		ORSAT ID	1	Leak Ck?
Shared With			Start Time	1400	Stop Time	1604	Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	OB8
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
1704	8.3	19.6	11.3	80.4	26.16	0.02	
1710	8.3	19.6	11.3	80.4	26.16	0.02	Fo
1716	8.2	19.7	11.5	80.3	26.09	0.05	
Averages	8.3		11.4	80.3	26.1	OK	

Date	1/23/01	Run Number			ORSAT ID	1	Leak Ck?
Shared With			Start Time		Stop Time		Y
Sample Analysis Time	Carbon Dioxide Concentra.	Oxygen Concentra.	Oxygen Concentra. by difference	CO & Nitrogen Concentra.	Dry Molecular Weight	Molecular Weight Deviation	Operator GLW Bag #
	($\%CO_2$)	reading	($\%O_2$)	($\%CO+N_2$)	(M_d)	(ΔM_d)	
hh:mm	reading	reading	reading	percent	lb/lb-mole	lb/lb-mole	Fyrite #s
			0.0	100.0	28.00	0.00	
			0.0	100.0	28.00	0.00	Fo
			0.0	100.0	28.00	0.00	
Averages	#DIV/0!		0.0	#DIV/0!	28.0	OK	

Signature:		Checked by:	

EPA Method 4 for Percent Moisture Determination

Client Name	Ogden Energy Group, Inc.	**Project #**	10184
Plant Name	Lake County Res Rec Facility	**Balance Type**	Electronic
Plant City, State	Okahumpka, FL	**Balance ID**	EB1
Sampling Location	Unit #2 Stack	**Operator Name**	Herb Dixon

Run Number	2-S-M5-1	2-S-M5-2	2-S-M5-3	
Test Date	01/23/01	01/23/01	01/23/01	
Reagent Box ID				

Impinger Reagent	DI	mL	mL	mL	mL
Final Catch Weight	grams	476.5	506.0	512.5	
Initial Tare Weight	grams	200.0	200.0	200.0	
Net Moisture Caught	grams	276.5	306.0	312.5	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
Initial Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Impinger Reagent		mL	mL	mL	mL
Final Catch Weight	grams				
KMNo4 Weight	grams				
KMnO4 g/mL	1.1				
Initial Jar Tare Weight	grams				
Net Moisture Caught	grams	0.0	0.0	0.0	0.0

Silica Gel	SG	grams	grams	grams	grams
Final Catch Weight	grams	286.1	284.0	298.0	
Initial Tare Weight	grams	271.2	273.2	286.1	
Net Moisture Caught	grams	14.9	10.8	11.9	0.0

Total Catch	grams	291.4	316.8	324.4	0.0

Signature:	Herb Dixon	**Checked By:**	David A. Brinton

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M5-1		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	823
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1032
Test Location	Unit #2 Stack	Tester Signature	[signature]		
Date of Test	01/23/01	Checked By	[signature]		

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	29.8	Meter Console #		T1	RQ1159	0.4397	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.82	Ideal Nozzle Diameter		0.229			8.2
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #		GN306			O_2
Estimated Dry Gas Meter Temp	50	Pstd	29.92	Actual Nozzle Diameter		0.219			11.6
Estimated Stack Temp or M2 Avg.	285	Diluent		Probe Lgth/ID #	7'	P154			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material		BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #		HB1	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #		CB11			80.2
Estimated Velocity, ft/sec	73.9	CO	0.0	Umbilical ID #		U50-4			H_20
K Factor (delta H/delta P)	1.39	N_2	80.0	TC ID #s		T154			291.4

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		40	49	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	15	6					15
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB8	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	823	0.0	853.778	1.45	2.01	2.01	5	41	41	284	255	39	NA
A 6		5.0	857.400	1.50	2.08	2.08	5	43	42	285	256	37	NA
A 5		10.0	861.170	1.60	2.22	2.22	5	44	43	287	256	38	NA
A 5		15.0	865.060	1.65	2.29	2.29	5	46	43	287	257	40	NA
A 4		20.0	869.010	1.55	2.15	2.15	5	47	43	287	257	42	NA
A 4		25.0	872.790	1.60	2.22	2.22	5	47	44	287	258	44	NA
A 3		30.0	876.650	0.57	0.79	0.79	4	47	44	285	257	46	NA
A 3		35.0	879.070	0.60	0.83	0.83	4	46	45	284	256	45	NA
A 2		40.0	881.450	0.72	1.00	1.00	4	46	44	284	255	44	NA
A 2		45.0	884.000	0.68	0.94	0.94	4	46	44	283	257	44	NA
A 1		50.0	886.500	0.78	1.08	1.08	4	46	44	281	256	44	NA
A 1		55.0	889.220	0.78	1.08	1.08	4	46	44	282	256	45	NA
B 6	923/932	60.0	891.884	1.25	1.73	1.73	5	45	44	282	254	45	NA
B 6		65.0	895.260	1.22	1.69	1.69	5	47	46	284	252	43	NA
B 5		70.0	898.670	1.30	1.80	1.80	5	47	46	284	256	42	NA
B 5		75.0	902.160	1.35	1.87	1.87	5	48	46	285	255	43	NA
B 4		80.0	905.710	1.45	2.01	2.01	5	48	46	285	255	44	NA
B 4		85.0	909.520	1.48	2.05	2.05	5	49	46	286	256	44	NA
B 3		90.0	913.120	1.18	1.63	1.63	5	49	47	286	257	45	NA
B 3		95.0	916.460	1.22	1.69	1.69	5	50	47	285	258	47	NA
B 2		100.0	919.810	1.30	1.80	1.80	5	51	47	284	256	47	NA
B 2		105.0	923.330	1.35	1.87	1.87	5	52	49	283	257	48	NA
B 1		110.0	926.980	1.22	1.69	1.69	5	54	50	282	256	51	NA
B 1		115.0	930.360	1.20	1.66	1.66	5	55	51	281	262	47	NA
-	1032	120.0	933.619										
						MAX =>	5						
Average Values		120.0	79.841	1.182	1.67	1.67		46		284			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M5-2		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1115
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1320
Test Location	Unit #2 Stack	Tester Signature			
Date of Test	01/23/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	29.8	Meter Console #	T1	RQ1160	0.4393	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.81	Ideal Nozzle Diameter	0.229			7.7
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN338			O_2
Estimated Dry Gas Meter Temp	60	Pstd	29.92	Actual Nozzle Diameter	0.220			12.0
Estimated Stack Temp or M2 Avg.	285	Diluent		Probe Lgth/ID # 7'	P153			CO
Estimated Delta P or M2 Avg.	1.180	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB1	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB14			80.3
Estimated Velocity, ft/sec	73.9	CO	0.0	Umbilical ID #	U50-4			H_2O
K Factor (delta H/delta P)	1.44	N_2	80.0	TC ID #s	T153			316.8

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		52	63	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	10	6					10
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB1	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
B 6	1115	0.0	933.802	1.35	1.94	1.94	5	54	54	288	252	50	NA
B 6		5.0	937.510	1.35	1.94	1.94	5	55	54	290	257	45	NA
B 5		10.0	941.100	1.50	2.16	2.16	5	56	55	289	258	44	NA
B 5		15.0	944.980	1.45	2.09	2.09	5	58	55	288	259	45	NA
B 4		20.0	948.810	1.65	2.37	2.37	5	58	56	287	256	46	NA
B 4		25.0	952.810	1.60	2.30	2.30	5	60	57	287	258	46	NA
B 3		30.0	956.820	1.20	1.73	1.73	5	60	57	288	260	47	NA
B 3		35.0	960.270	1.20	1.73	1.73	5	61	57	287	259	49	NA
B 2		40.0	963.770	1.25	1.80	1.80	5	61	58	288	262	47	NA
B 2		45.0	967.300	1.30	1.87	1.87	5	61	58	285	257	46	NA
B 1		50.0	970.840	1.15	1.65	1.65	5	60	58	283	258	46	NA
B 1		55.0	974.210	1.13	1.63	1.63	5	60	58	282	260	46	NA
A 6	1215/1220	60.0	977.644	1.40	2.01	2.01	5	59	59	286	255	51	NA
A 6		65.0	981.310	1.45	2.09	2.09	5	60	59	286	260	47	NA
A 5		70.0	985.190	1.65	2.37	2.37	5	61	58	287	260	47	NA
A 5		75.0	989.320	1.55	2.23	2.23	5	61	59	287	258	49	NA
A 4		80.0	993.380	1.60	2.30	2.30	5	61	59	287	260	49	NA
A 4		85.0	997.410	1.52	2.19	2.19	5	61	59	288	258	50	NA
A 3		90.0	1001.320	0.56	0.81	0.81	4	62	60	288	258	51	NA
A 3		95.0	1003.750	0.57	0.82	0.82	4	61	60	288	260	53	NA
A 2		100.0	1006.200	0.83	1.19	1.19	5	61	60	288	260	53	NA
A 2		105.0	1008.930	0.82	1.18	1.18	5	61	60	288	256	52	NA
A 1		110.0	1011.840	0.79	1.14	1.14	5	62	61	285	257	52	NA
A 1		115.0	1014.810	0.78	1.12	1.12	5	62	60	285	260	52	NA
-	1320	120.0	1017.652										
						MAX =>	5						
Average Values		120.0	83.850	1.209	1.78	1.78		59		287			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M5

Client Name	Ogden Energy Group, Inc.	Run #	2-S-M5-3		
Plant Name	Lake County Resource Recovery Facility	Project #	10184	Run Start	1400
Plant City, State	Okahumpka, FL	Personnel	DGB	Run End	1604
Test Location	Unit #2 Stack	Tester Signature			
Date of Test	01/23/01	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.9592	Pbar	29.8	Meter Console #	T1	RQ1162	0.4507	CO_2
Meter Calibration Factor	0.9859	Pstatic	-0.71	Ideal Nozzle Diameter	0.228			8.3
Pitot Tube Coefficient	0.84	Tstd, °F	68	Nozzle #	GN333			O_2
Estimated Dry Gas Meter Temp	67	Pstd	29.92	Actual Nozzle Diameter	0.218			11.4
Estimated Stack Temp or M2 Avg.	287	Diluent		Probe Lgth/ID # 7'	P154			CO
Estimated Delta P or M2 Avg.	1.210	Estimates		Liner Material	BG	XAD ID & Tares		0.0
Estimated Moisture Content	16.0	CO_2	8.0	Filter Box #	HB1	NA	NA	N_2
Estimated Dry Molecular Weight	29.76	O_2	12.0	Cold Box ID #	CB11			80.3
Estimated Velocity, ft/sec	75.0	CO	0.0	Umbilical ID #	U50-4			H_2O
K Factor (delta H/delta P)	1.40	N_2	80.0	TC ID #s	T154			324.4

Equipment Checks		PRE	POST	Leak Checks	1	2	3	4	5	6	Status
Tambient		63	65	DGM initial							0.000
Thermocouples		Y	Y	Vacuum	10	6					10
Pitots		Y	Y	Leak Rate	0.001	0.001					OK
Tedlar Bag	OB8	Y	Y	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft^3	in H_2O	in H_2O	in H_2O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1400	0.0	19.122	1.55	2.17	2.17	5	63	63	290	254	50	NA
A 6		5.0	22.990	1.57	2.20	2.20	5	65	63	290	251	45	NA
A 5		10.0	26.990	1.54	2.16	2.16	5	66	64	290	252	46	NA
A 5		15.0	30.890	1.55	2.17	2.17	5	67	64	287	255	47	NA
A 4		20.0	34.780	1.50	2.10	2.10	5	68	65	285	256	49	NA
A 4		25.0	38.620	1.45	2.03	2.03	5	67	65	285	255	49	NA
A 3		30.0	42.410	0.57	0.80	0.80	4	68	65	283	255	49	NA
A 3		35.0	44.820	0.57	0.80	0.80	4	66	65	283	253	51	NA
A 2		40.0	47.260	0.75	1.05	1.05	4	66	65	284	254	50	NA
A 2		45.0	49.980	0.74	1.04	1.04	4	66	65	284	255	49	NA
A 1		50.0	52.750	0.80	1.12	1.12	4	67	66	282	253	50	NA
A 1		55.0	55.610	0.83	1.16	1.16	4	67	65	283	257	50	NA
B 6	1500/1504	60.0	58.525	1.25	1.75	1.75	5	68	67	285	254	52	NA
B 6		65.0	62.100	1.20	1.68	1.68	5	68	67	287	255	50	NA
B 5		70.0	65.490	1.33	1.87	1.87	5	68	66	288	255	50	NA
B 5		75.0	69.150	1.35	1.89	1.89	5	68	67	288	255	50	NA
B 4		80.0	72.800	1.38	1.94	1.94	5	69	67	288	255	50	NA
B 4		85.0	76.540	1.45	2.03	2.03	5	71	68	287	256	51	NA
B 3		90.0	80.350	1.20	1.68	1.68	5	70	69	286	255	52	NA
B 3		95.0	83.870	1.18	1.65	1.65	5	69	69	286	255	53	NA
B 2		100.0	87.280	1.45	2.03	2.03	5	69	68	287	255	52	NA
B 2		105.0	90.990	1.40	1.96	1.96	5	69	68	287	254	52	NA
B 1		110.0	94.780	1.25	1.75	1.75	5	69	68	288	255	52	NA
B 1		115.0	98.420	1.30	1.82	1.82	5	69	68	287	255	53	NA
-	1604	120.0	102.059										
						MAX =>	5						
Average Values		120.0	82.937	1.191	1.70	1.70		67		286			

APPENDIX B.15
Field Data

Units #1 and #2 Stacks
Opacity

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Form Number	Page	Of
12-5-M9-1a	1	2
Continued on VEO Form Number: 12-5-M9-16		

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Company Name: Ogden Energy Grp. Inc.		
Facility Name: Lake County		
Street Address: 3830 Rogers Industrial Park		
City: Okahumpka	State: FL	Zip:

Process: MWC	Unit #: 1,2	Operating Mode: Full
Control Equipment: SDA/FF/CI/NH3		Operating Mode: Normal

Describe Emission Point: Stack with 2 flues

Height of Emiss. Pt. Start:	End:
Height of Emiss. Pt. Rel. to Observer Start:	End:
Distance to Emiss. Pt. Start: 500'	End: 500'
Direction to Emiss. Pt. (Degrees) Start: 306°	End: 306°
Vertical Angle to Obs. Pt. Start: 22°	End: 22°
Direction to Obs. Pt. (Degrees) Start: 306°	End: 306°
Distance and Direction to Observation Point from Emission Point Start: 10' up	End: 10' up

Describe Emissions: Start: None | End: None

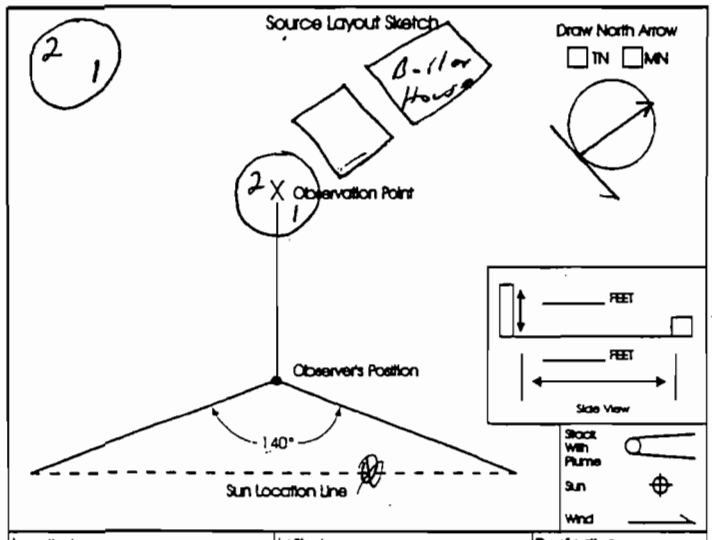
Emission Color: Start: na | End: na

Water Droplet Plume: Attached ☐ Detached ☒ None ☐

Describe Plume Background: Start: clouds | End: clouds, sky

Background Color	Start: grey	End: blue	
Sky Conditions	Start: mostly cloudy	End: partly cloudy	
Wind Speed	Start: 15-20	End: 15-20	
Wind Direction	Start: NW	End: WNW	
Ambient Temp.	Start: 42	End: 46	
Wet Bulb Temp.	42		
RH Percent	78%		

Source Layout Sketch



Longitude	Latitude	Declination

Additional Information:

Observation Date	Time Zone	Start Time	End Time
1/23/01	EST	0900	0930

Min \ Sec	0	15	30	45	Comments
1	0,0	0,0	0,0	0,0	
2	0,0	0,0	0,0	0,0	
3	0,0	0,0	0,0	0,0	
4	0,0	0,0	0,0	0,0	
5	0,0	0,0	0,0	0,0	
6	0,0	0,0	0,0	0,0	
7	0,0	0,0	0,0	0,0	
8	0,0	0,0	0,0	0,0	
9	0,0	0,0	0,0	0,0	
10	0,0	0,0	0,0	0,0	
11	0,0	0,0	0,0	0,0	
12	0,0	0,0	0,0	0,0	
13	0,0	0,0	0,0	0,0	
14	0,0	0,0	0,0	0,0	
15	0,0	0,0	0,0	0,0	
16	0,0	0,0	0,0	0,0	
17	0,0	0,0	0,0	0,0	
18	0,0	0,0	0,0	0,0	
19	0,0	0,0	0,0	0,0	
20	0,0	0,0	0,0	0,0	
21	0,0	0,0	0,0	0,0	
22	0,0	0,0	0,0	0,0	
23	0,0	0,0	0,0	0,0	
24	0,0	0,0	0,0	0,0	
25	0,0	0,0	0,0	0,0	
26	0,0	0,0	0,0	0,0	
27	0,0	0,0	0,0	0,0	
28	0,0	0,0	0,0	0,0	
29	0,0	0,0	0,0	0,0	
30	0,0	0,0	0,0	0,0	

Observer's Name (Print): Gary Williams	
Observer's Signature: Gary Williams	Date: 1/23/01
Organization: TESTAR Inc.	
Certified By: ETA	Date: 8/31/00

VEOF1.1

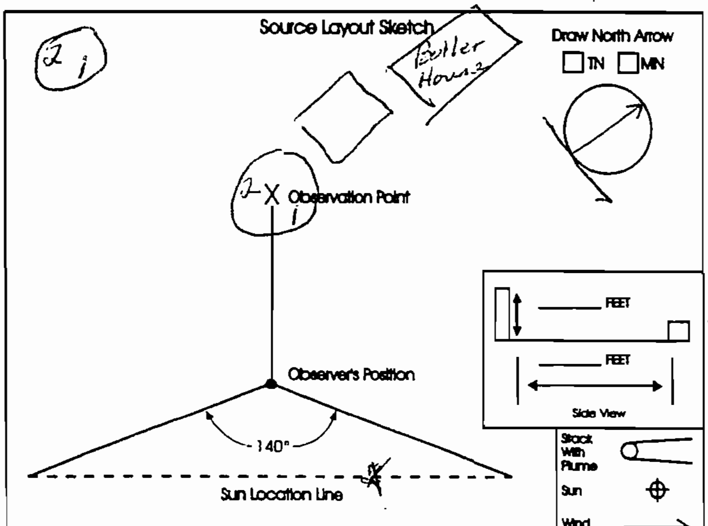
EPA
VISIBLE EMISSION OBSERVATION FORM 1

Form Number	Page	Of
1,2-J-M9-16	2	2

Continued on VEO Form Number:

Method Used (Circle One): **Method 9** (circled) 203A 203B Other: ____

Field	Value
Company Name	Ogden Energy Group, Inc.
Facility Name	Lake County
Street Address	3830 Rogers Industrial Park
City	Okahumpka
State	FL
Zip	
Process	MWC
Unit #	1,2
Operating Mode	Full
Control Equipment	SDA/FF/CI/NH3
Operating Mode	Normal
Describe Emission Point	stack with 3 flues
Height of Emiss. Pt.	Start End
Height of Emiss. Pt. Rel. to Observer	Start End
Distance to Emiss. Pt.	Start 500' End 500'
Direction to Emiss. Pt. (Degrees)	Start 306° End 306°
Vertical Angle to Obs. Pt.	Start 22° End 22°
Direction to Obs. Pt. (Degrees)	Start 306° End 306°
Distance and Direction to Observation Point from Emission Point	Start 10' up End 10' up
Describe Emissions	Start None End none
Emission Color	Start na End na
Water Droplet Plume	Attached ☐ Detached ☒ None ☐
Describe Plume Background	Start clouds End cloudy sky
Background Color	Start grey End grey
Sky Conditions	Start mostly cloudy End partly cloudy
Wind Speed	Start 15-20 End 15-20
Wind Direction	Start NW End WNW
Ambient Temp.	Start 45 End 46
Wet Bulb Temp.	42
RH Percent	78%



Longitude	Latitude	Declination

Additional Information:

Observation Date	Time Zone	Start Time	End Time
1/23/01	EST	0930	1000

Min \ Sec	0	15	30	45	Comments
1	0.0	0.0	0.0	0.0	
2	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	
5	0.0	0.0	0.0	0.0	
6	0.0	0.0	0.0	0.0	
7	0.0	0.0	0.0	0.0	
8	0.0	0.0	0.0	0.0	
9	0.0	0.0	0.0	0.0	
10	0.0	0.0	0.0	0.0	
11	0.0	0.0	0.0	0.0	
12	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	
16	0.0	0.0	0.0	0.0	
17	0.0	0.0	0.0	0.0	
18	0.0	0.0	0.0	0.0	
19	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.0	0.0	
21	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	
24	0.0	0.0	0.0	0.0	
25	0.0	0.0	0.0	0.0	
26	0.0	0.0	0.0	0.0	
27	0.0	0.0	0.0	0.0	
28	0.0	0.0	0.0	0.0	
29	0.0	0.0	0.0	0.0	
30	0.0	0.0	0.0	0.0	

Field	Value
Observer's Name (Print)	Gary Williams
Observer's Signature	(signature)
Date	1/23/01
Organization	TESTAR, Inc.
Certified By	ETA
Date	8/31/00

VEOF1.1

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Form Number	Page	Of
12-5-M9-2a	1	2
Continued on VEO Form Number: 12-5-M9-26		

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Company Name		
Ogden Energy Group, Inc.		
Facility Name		
Lake County		
Street Address		
3830 Rogers Industrial Park		
City	State	Zip
Okahumpka	FL	

Process	Unit #	Operating Mode
MWC	1,2	Full
Control Equipment		Operating Mode
SDA/FF/CI/NH3		Normal

Describe Emission Point: Stack with 2 flues

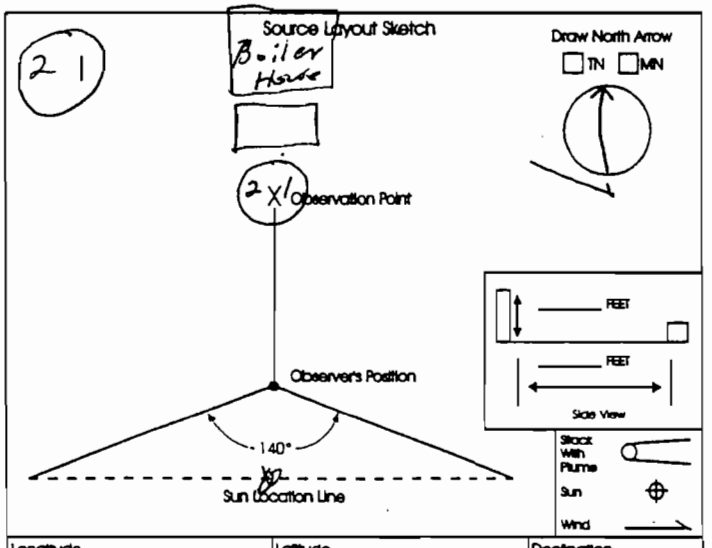
Height of Emiss. Pt.		Height of Emiss. Pt. Rel. to Observer	
Start	End	Start	End
Distance to Emiss. Pt.		Direction to Emiss. Pt. (Degrees)	
Start 500'	End 500'	Start 348°	End 348°

Vertical Angle to Obs. Pt.		Direction to Obs. Pt. (Degrees)	
Start 23°	End 23°	Start 348°	End 348°

Distance and Direction to Observation Point from Emission Point: Start 10' up | End 10' up

Describe Emissions			
Start none		End none	
Emission Color		Water Droplet Plume	
Start na	End na	Attached ☐	Detached ☐ None ☒

Describe Plume Background			
Start sky		End sky	
Background Color		Sky Conditions	
Start blue	End blue	Start clear	End clear
Wind Speed		Wind Direction	
Start 15-20	End 15-20	Start WNW	End NW
Ambient Temp.		Wet Bulb Temp.	RH Percent
Start 58	End 58	52	66%



Longitude	Latitude	Declination

Additional Information:

Observation Date	Time Zone	Start Time	End Time
1/23/01	EST	1125	1155

Sec / Min	0	15	30	45	Comments
1	0,0	0,0	0,0	0,0	
2	0,0	0,0	0,0	0,0	
3	0,0	0,0	0,0	0,0	
4	0,0	0,0	0,0	0,0	
5	0,0	0,0	0,0	0,0	
6	0,0	0,0	0,0	0,0	
7	0,0	0,0	0,0	0,0	
8	0,0	0,0	0,0	0,0	
9	0,0	0,0	0,0	0,0	
10	0,0	0,0	0,0	0,0	
11	0,0	0,0	0,0	0,0	
12	0,0	0,0	0,0	0,0	
13	0,0	0,0	0,0	0,0	
14	0,0	0,0	0,0	0,0	
15	0,0	0,0	0,0	0,0	
16	0,0	0,0	0,0	0,0	
17	0,0	0,0	0,0	0,0	
18	0,0	0,0	0,0	0,0	
19	0,0	0,0	0,0	0,0	
20	0,0	0,0	0,0	0,0	
21	0,0	0,0	0,0	0,0	
22	0,0	0,0	0,0	0,0	
23	0,0	0,0	0,0	0,0	
24	0,0	0,0	0,0	0,0	
25	0,0	0,0	0,0	0,0	
26	0,0	0,0	0,0	0,0	
27	0,0	0,0	0,0	0,0	
28	0,0	0,0	0,0	0,0	
29	0,0	0,0	0,0	0,0	
30	0,0	0,0	0,0	0,0	

Observer's Name (Print)	
Gary Williams	
Observer's Signature	Date
	1/23/01
Organization	
TESTAR, Inc.	
Certified By	Date
ETA	8/31/00

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Company Name: Ogden Energy Group, Inc.
Facility Name: Lake County
Street Address: 3832 Rogers Industrial Park
City: Okahumpka | State: FL | Zip:

Process: MWC | Unit #: 1, 2 | Operating Mode: Full
Control Equipment: SDA/FF/CI/NH3 | Operating Mode: Normal

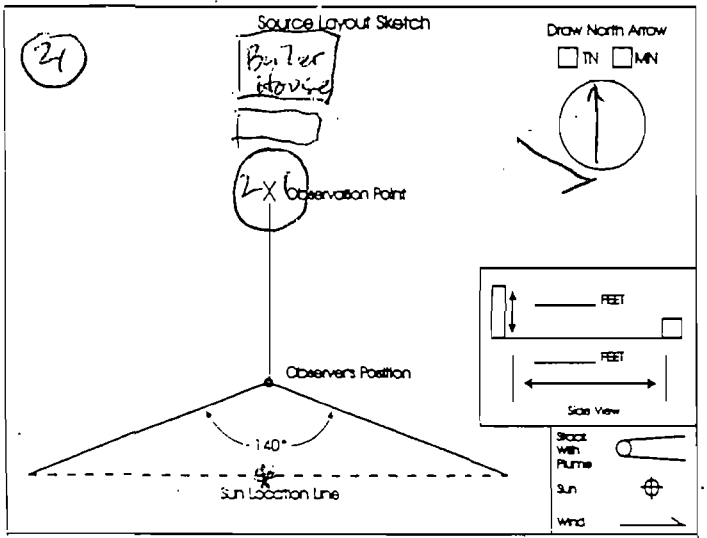
Describe Emission Point: Stack with 2 flues

Height of Emiss. Pt.: Start | End
Height of Emiss. Pt. Rel. to Observer: Start | End
Distance to Emiss. Pt.: Start 500' End 500'
Direction to Emiss. Pt. (Degrees): Start 345° End 345°
Vertical Angle to Obs. Pt.: Start 23° End 23°
Direction to Obs. Pt. (Degrees): Start 345° End 345°
Distance and Direction to Observation Point from Emission Point: Start 10' up End 10' up

Describe Emissions: Start None End None
Emission Color: Start NA End NA
Water Droplet Plume: Attached ☐ Detached ☐ None ☒

Describe Plume Background: Start Sky End Sky
Background Color: Start blue End blue
Sky Conditions: Start clear End clear
Wind Speed: Start 15-20 End 15-20
Wind Direction: Start WNW End NW
Ambient Temp.: Start 58 End 58
Wet Bulb Temp.: 57
RH Percent: 66 %

Source Layout Sketch



Longitude | Latitude | Declination

Additional Information

Form Number: 12-J-MG-26 | Page 2 of 2
Continued on VEO Form Number:

Observation Date: 1/23/01 | Time Zone: EST | Start Time: 1155 | End Time: 1225

Min \ Sec	0	15	30	45	Comments
1	0,0	0,0	0,0	0,0	
2	0,0	0,0	0,0	0,0	
3	0,0	0,0	0,0	0,0	
4	0,0	0,0	0,0	0,0	
5	0,0	0,0	0,0	0,0	
6	0,0	0,0	0,0	0,0	
7	0,0	0,0	0,0	0,0	
8	0,0	0,0	0,0	0,0	
9	0,0	0,0	0,0	0,0	
10	0,0	0,0	0,0	0,0	
11	0,0	0,0	0,0	0,0	
12	0,0	0,0	0,0	0,0	
13	0,0	0,0	0,0	0,0	
14	0,0	0,0	0,0	0,0	
15	0,0	0,0	0,0	0,0	
16	0,0	0,0	0,0	0,0	
17	0,0	0,0	0,0	0,0	
18	0,0	0,0	0,0	0,0	
19	0,0	0,0	0,0	0,0	
20	0,0	0,0	0,0	0,0	
21	0,0	0,0	0,0	0,0	
22	0,0	0,0	0,0	0,0	
23	0,0	0,0	0,0	0,0	
24	0,0	0,0	0,0	0,0	
25	0,0	0,0	0,0	0,0	
26	0,0	0,0	0,0	0,0	
27	0,0	0,0	0,0	0,0	
28	0,0	0,0	0,0	0,0	
29	0,0	0,0	0,0	0,0	
30	0,0	0,0	0,0	0,0	

Observer Name (Print): Tammy Williams
Observer Signature: Tammy Williams | Date: 1/23/01
Organization: TESTAR, Inc.
Certified By: EPA | Date: 8/31/00

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Form Number: 12-51 M9 - 36 | Page: 2 of 2

Continued on VEO Form Number:

Company Name	Ogden Energy Group
Facility Name	Lake County
Street Address	3830 Pegasus Industrial
City	Okahumpka
State	FL
Zip	

Process	MWC	Unit #	1, 2
Operating Mode	Full		
Control Equipment	SDA/FF/CI/NH3	Operating Mode	Normal

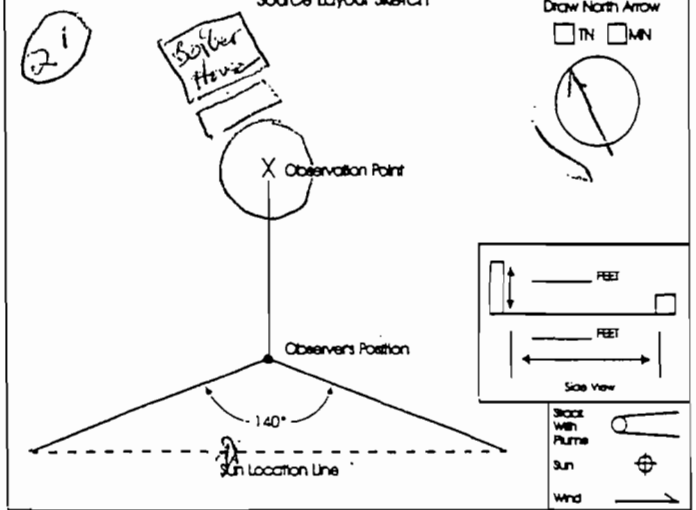
Describe Emission Point: Stack with 2 Flues

Height of Emiss. Pt.	Start / End	Height of Emiss. Pt. Rel. to Observer	Start / End
Distance to Emiss. Pt.	Start 500' End 500'	Direction to Emiss. Pt. (Degrees)	Start 35° End 35°
Vertical Angle to Obs. Pt.	Start 22° End 22°	Direction to Obs. Pt. (Degrees)	Start 35° End 35°
Distance and Direction to Observation Point from Emission Point	Start 10' up		End 60' up

Describe Emissions	Start None		End None
Emission Color	Start na End na	Water Droplet Plume	Attached ☐ Detached ☐ None ☒

Describe Plume Background	Start Sky		End Sky
Background Color	Start blue End blue	Sky Conditions	Start Clear End clear
Wind Speed	Start 15-22 End 15-20	Wind Direction	Start NW End WNW
Ambient Temp.	Start 66 End 67	Wet Bulb Temp. 54	RH Percent 44%

Source Layout Sketch



Longitude	Latitude	Declination

Additional Information:

Observation Date	Time Zone	Start Time	End Time
1/23/01	EST	1450	1520

Sec / Min	0	15	30	45	Comments
1	0,0	0,0	0,0	0,0	
2	0,0	0,0	0,0	0,0	
3	0,0	0,0	0,0	0,0	
4	0,0	0,0	0,0	0,0	
5	0,0	0,0	0,0	0,0	
6	0,0	0,0	0,0	0,0	
7	0,0	0,0	0,0	0,0	
8	0,0	0,0	0,0	0,0	
9	0,0	0,0	0,0	0,0	
10	0,0	0,0	0,0	0,0	
11	0,0	0,0	0,0	0,0	
12	0,0	0,0	0,0	0,0	
13	0,0	0,0	0,0	0,0	
14	0,0	0,0	0,0	0,0	
15	0,0	0,0	0,0	0,0	
16	0,0	0,0	0,0	0,0	
17	0,0	0,0	0,0	0,0	
18	0,0	0,0	0,0	0,0	
19	0,0	0,0	0,0	0,0	
20	0,0	0,0	0,0	0,0	
21	0,0	0,0	0,0	0,0	
22	0,0	0,0	0,0	0,0	
23	0,0	0,0	0,0	0,0	
24	0,0	0,0	0,0	0,0	
25	0,0	0,0	0,0	0,0	
26	0,0	0,0	0,0	0,0	
27	0,0	0,0	0,0	0,0	
28	0,0	0,0	0,0	0,0	
29	0,0	0,0	0,0	0,0	
30	0,0	0,0	0,0	0,0	

Observer's Name (Print)	Gary Williams
Observer's Signature	Gary Williams
Date	1/23/01
Organization	TESTAR, Inc.
Certified By	ETI
Date	3/31/01

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Form Number						Page		Of
1-2-5	-	M9	-	3a		1		2
Continued on VEO Form Number: 1,2-5-M9-3b								

Method Used (Circle One): Method 9 | 203A | 203B | Other: _____

Company Name: Ogden Energy Group		
Facility Name: Lake County		
Street Address: 3830 Rogers Industrial Park		
City: Okahumpka	State: FL	Zip:

Process: New C	Unit #: 1,2	Operating Mode: Full	
Control Equipment: SDA/FF/CI/NH3		Operating Mode: Normal	

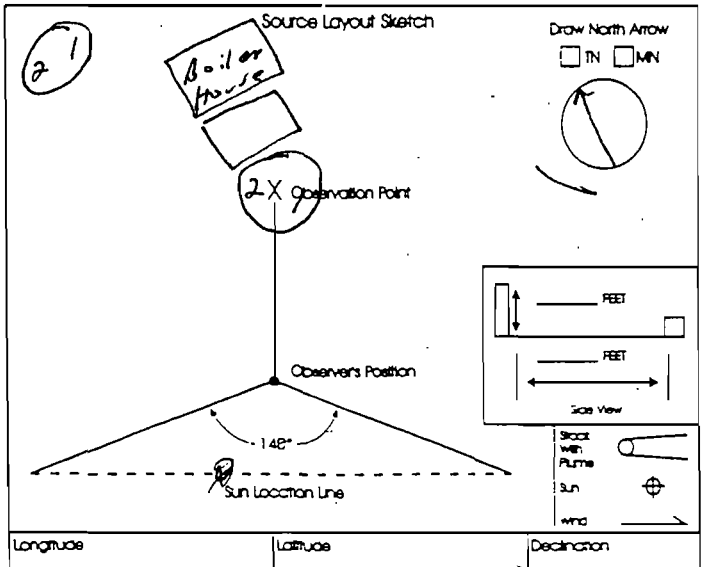
Describe Emission Point: Stack with 2 flues

Height of Emiss. Pt. Start	End	Height of Emiss. Pt. Rel. to Observer Start	End
Distance to Emiss. Pt. Start: 500'	End: 500'	Direction to Emiss. Pt. (Degrees) Start: 30°	End: 30°
Vertical Angle to Obs. Pt. Start: 22°	End: 22°	Direction to Obs. Pt. (Degrees) Start: 30°	End: 30°
Distance and Direction to Observation Point from Emission Point Start: 10' up		End: 10' up	

Describe Emissions Start: none		End: none	
Emission Color Start: na	End: na	Water Droplet Plume: Attached ☐ Detached ☐ None ☒	

Describe Plume Background Start: sky		End: sky	
Background Color Start: blue	End: blue	Sky Conditions Start: clear	End: clear
Wind Speed Start: 15-22	End: 15-20	Wind Direction Start: NW	End: WNW
Ambient Temp. Start: 66	End: 67	Wet Bulb Temp.: 54	RH Percent: 44%

Source Layout Sketch



Longitude	Latitude	Declination

Additional Information:

Observation Date	Time Zone	Start Time	End Time
1/23/01	EST	1420	1450

Sec / Min	0	15	30	45	Comments
1	0,0	0,0	0,0	0,0	
2	0,0	0,0	0,0	0,0	
3	0,0	0,0	0,0	0,0	
4	0,0	0,0	0,0	0,0	
5	0,0	0,0	0,0	0,0	
6	0,0	0,0	0,0	0,0	
7	0,0	0,0	0,0	0,0	
8	0,0	0,0	0,0	0,0	
9	0,0	0,0	0,0	0,0	
10	0,0	0,0	0,0	0,0	
11	0,0	0,0	0,0	0,0	
12	0,0	0,0	0,0	0,0	
13	0,0	0,0	0,0	0,0	
14	0,0	0,0	0,0	0,0	
15	0,0	0,0	0,0	0,0	
16	0,0	0,0	0,0	0,0	
17	0,0	0,0	0,0	0,0	
18	0,0	0,0	0,0	0,0	
19	0,0	0,0	0,0	0,0	
20	0,0	0,0	0,0	0,0	
21	0,0	0,0	0,0	0,0	
22	0,0	0,0	0,0	0,0	
23	0,0	0,0	0,0	0,0	
24	0,0	0,0	0,0	0,0	
25	0,0	0,0	0,0	0,0	
26	0,0	0,0	0,0	0,0	
27	0,0	0,0	0,0	0,0	
28	0,0	0,0	0,0	0,0	
29	0,0	0,0	0,0	0,0	
30	0,0	0,0	0,0	0,0	

Observer's Name (Print): Gary Williams	
Observer's Signature:	Date: 1/23/01
Organization: TESTAR Inc.	
Certified By: ETA	Date: 8/31/00

APPENDIX B.16
Field Data

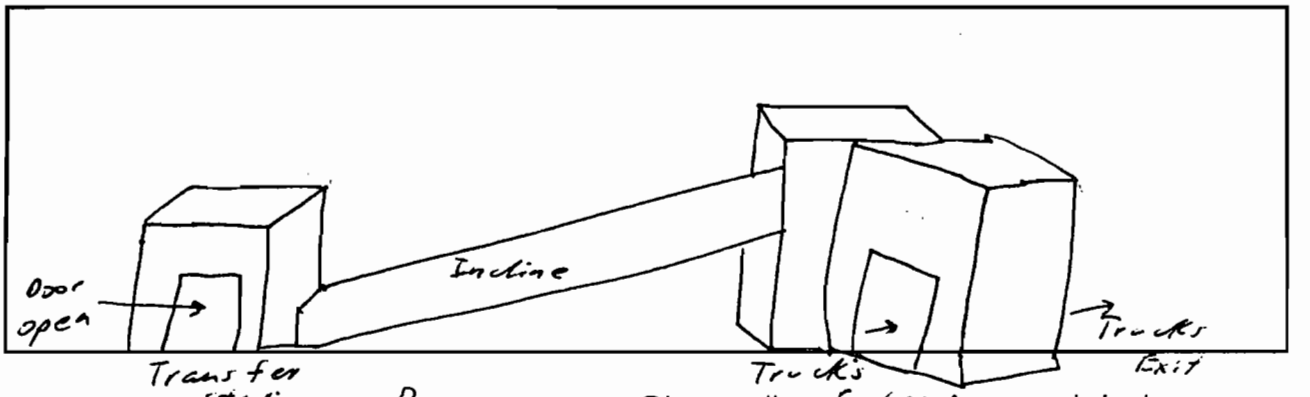
Ash Handling System
Fugitive Emissions

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

M22-1

Company Ogden Energy Group	Observer Gary Williams
Location Lake County	Affiliation TESTAR Inc.
Company Rep. Joe Molina	Date 1/23/01
Sky Conditions clear	Wind Direction WNW
Precipitation none	Wind Speed 10-20
Industry MWC	Process Unit Ash Handling System

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.



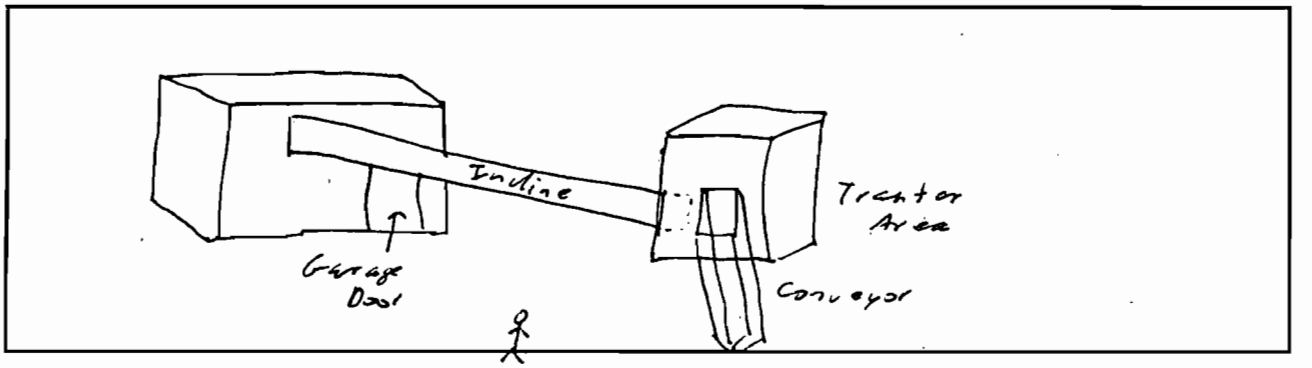
OBSERVATIONS	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation Truck loading	1525	20:00	0:00
1528-1537	1545		
1545-1559	1550	20:00	0:00
	1610		
	1615	20:00	0:00
	1635		
no visible signs of fugitive emissions or leaks			
End Observation			

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

M22-2

Company Ogden Energy Group	Observer Gary Williams
Location Lake County	Affiliation TESTAR Inc
Company Rep. Joe Alfina	Date 1/24/01
Sky Conditions clear	Wind Direction NW
Precipitation none	Wind Speed 0-10
Industry MWC	Process Unit Ash Handling System

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.



OBSERVATIONS

	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation Trucks loading	0840	20:00	0:00
	0900		
	0905	20:00	0:00
	0925		
	0930	20:00	0:00
	0950		
End Observation			

FUGITIVE OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

M22-3

Company Ogden Energy Group	Observer Gary Williams
Location Lake County	Affiliation TESTAR, Inc
Company Rep. Joe Medina	Date 1/24/01
Sky Conditions clear	Wind Direction NW
Precipitation none	Wind Speed 0-10
Industry MWC	Process Unit Ash Handling System

Sketch process unit: indicate observer position relative to source and sun, indicate potential emission points and/or actual emission points.

same as M22-1

OBSERVATIONS	Clock Time	Observation Period Duration, min:sec	Accumulated Emission Time, min:sec
Begin Observation	1430	20:00	0:00
	1450		
	1455	20:00	0:00
	1515		
	1520	20:00	0:00
	1540		
End Observation			

APPENDIX C
Analytical Data

APPENDIX C.1
Analytical Data

Dioxins/Furans

ALTA ANALYTICAL PERSPECTIVES

12 FEB 2001

Herb Dixon
Testar, Inc.
7424-108 ACC Blvd
Raleigh, NC 27617

Ph.: 919-957-9500
Fax: 919-957-9595

Dear Herb;

Attached to this narrative are the analytical results you requested on samples submitted for the determination of polychlorinated dibenzo-*p*-dioxins and dibenzofurans. The insert below summarizes the relevant information pertaining to your project. In particular, the QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided on the next page.

Your Project No.:	**10184**
AAP Project No.:	**P1377**
Analytical Protocol:	**Method 23**
No. of Samples Submitted:	**9 (RB on hold)**
No. of Samples Analyzed:	**8**
No. of Lab Method Blanks (MB):	**1**
No. of OPRs:	**1**

QC Annotations:

1. An "A" data qualifier is used for analytes with a concentration falling below the calibration curve.

2. Table 1 compares the DB-5MS and DB-225 results for 2,3,7,8-TCDF in the samples requiring confirmation. None of the DB-225 results were used in the final report.

Alta Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please, do not hesitate to contact us at the telephone numbers shown below. We wanted to thank you for choosing Alta Analytical Perspectives as part of your analytical support team.

Sincerely,

Yves Tondeur, Ph.D.

2714 EXCHANGE DRIVE
WILMINGTON
NORTH CAROLINA 28405
TEL.: 910-794-1613 FAX: 910-794-3919

Table 1: Comparison of the DB-5MS and DB-225 results for 2,3,7,8-TCDF
(UNITS: PG PER TRAIN; P1377)

Sample ID	DB-5MS	DB-225
1-S-M23-2	102	120
2-S-M23-3	93.5	110

ALTA ANALYTICAL PERSPECTIVES

Part 1 Narrative

- ☑ Letter
- ☑ QC Annotations
- ☑ Project Information

ALTA ANALYTICAL PERSPECTIVES

Part 2 Path

- ☑ Overview
- ☑ Protocol
- ☑ Extraction
- ☑ Analysis
- ☑ Spike Profile
- ☑ SOPs
- ☑ QC
- ☑ Reporting
- ☑ Special Requirements

ALTA ANALYTICAL PERSPECTIVES

Part 3 Results

- ☑ Summary Topsheets
- ☑ Raw Data
- ☑ SICPs
- ☑ Areas
- ☑ Retention Times
- ☑ S/N
- ☑ Ion Abundance Ratios

ALTA ANALYTICAL PERSPECTIVES

Part 4 Performance

- ☑ System Checks
- ☑ Mass Spectrometry
- ☑ Gas Chromatography
- ☑ Initial Calibration
- ☑ Continuing Calibration
- ☑ OPR

Extraction
Tracking Sheets

Fractionation
Tracking Sheets

Injection
Tracking Sheets

Part 4
GC, MS, ConCal

Part 4D
ICal

Part 4E
OPR

REPORTING PLATFORMS

LEVEL I:
- ① PART 1
- ② SUMMARY TOPSHEETS
- ③ COC

LEVEL II:
- ① PARTS 1, 2, 3, 4
- ② WITH ICAL SUMMARY

LEVEL III:
- ① PARTS 1, 2, 3, 4
- ② WITH COMPLETE RAW DATA FOR ICAL

PLATINUM:
- ① PARTS 1, 2, 3, 4
- ② WITH COMPLETE RAW DATA FOR ICAL
- ③ ON-GOING PRECISION & ACCURACY DATA

Sample Summary

ALTA ANALYTICAL PERSPECTIVES

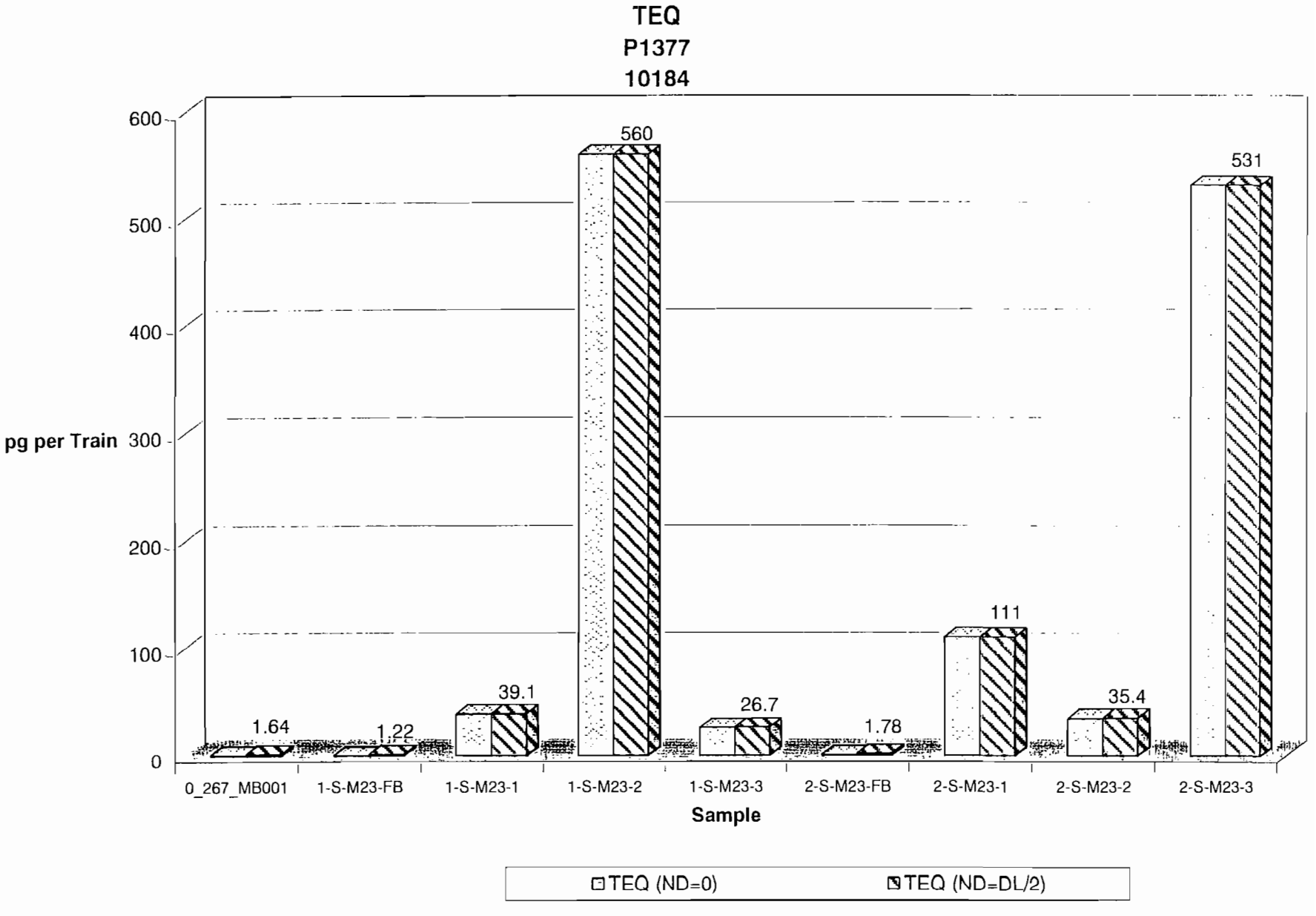
Method M23

Analyte	0_267_MB001	1-S-M23-FB	1-S-M23-1	1-S-M23-2	1-S-M23-3	2-S-M23-FB	2-S-M23-1	2-S-M23-2	2-S-M23-3
	pg	pg	pg	pg	pg	pg	pg	pg	pg
2,3,7,8-TCDD	[1.51]	(0.465)	[1.78]	6.45	(0.802)	(0.569)	2.54	(0.667)	5.44
1,2,3,7,8-PeCDD	(0.746)	(0.675)	5.75	70.8	4.25	(1.66)	17.7	5.67	62.5
1,2,3,4,7,8-HxCDD	2.14	(1.41)	8	112	4.93	(1.55)	26	7.3	90.2
1,2,3,6,7,8-HxCDD	(2.65)	(1.57)	17	203	9.22	(1.72)	49.5	16.3	153
1,2,3,7,8,9-HxCDD	(2.37)	(1.4)	11.9	195	6.09	(1.54)	44.7	9.88	186
1,2,3,4,6,7,8-HpCDD	3.33	3.73	108	1430	48.1	[3.07]	311	94.7	1390
OCDD	17.5	21.3	355	2810	106	20.8	635	236	4080
2,3,7,8-TCDF	(1.03)	(0.808)	12.1	102	8.65	(1.1)	27.3	10.4	93.5
1,2,3,7,8-PeCDF	(1.44)	(1.43)	25.4	269	18.4	(1.02)	57.5	21	305
2,3,4,7,8-PeCDF	(1.42)	(1.41)	32.1	342	21.8	(1.01)	70.5	27.8	328
1,2,3,4,7,8-HxCDF	2.46	[1.94]	33.3	588	23.7	2.35	101	27.9	561
1,2,3,6,7,8-HxCDF	1.79	(0.517)	36.1	697	28.2	1.49	122	34.4	686
2,3,4,6,7,8-HxCDF	[1.21]	(0.55)	35.5	749	24.1	(0.643)	123	36.1	606
1,2,3,7,8,9-HxCDF	(0.765)	(0.628)	11.1	263	6.56	(0.736)	44.3	8.87	316
1,2,3,4,6,7,8-HpCDF	2.21	1.64	80	2100	57.3	2.39	350	82.9	2050
1,2,3,4,7,8,9-HpCDF	(1.8)	(0.962)	13.9	392	6.73	(1.19)	64.9	11.1	563
OCDF	(2.65)	(3.53)	28.6	897	13.9	(2.83)	137	33.6	1580
Totals & TEQs									
TCDDs	ND	ND	67.7	152	33.1	ND	119	71.2	188
PeCDDs	ND	ND	130	561	84.1	ND	281	144	618
HxCDDs	2.14	ND	268	2000	147	2.33	649	272	1820
HpCDDs	6	6.47	199	2560	103	3.08	571	194	2370
TCDFs	ND	ND	382	1790	294	ND	663	387	1600
PeCDFs	ND	ND	343	2870	257	ND	711	337	2850
HxCDFs	4.25	ND	289	4820	195	5.5	856	274	4480
HpCDFs	2.21	1.64	128	3560	83.2	2.39	583	118	3740
Total PCDD/Fs	**32.1**	**29.4**	**2190**	**22000**	**1320**	**34.1**	**5200**	**2070**	**23300**
TEQ (ND=0)	**0.712**	**0.0749**	**39.1**	**560**	**26.3**	**0.429**	**111**	**35.1**	**531**
TEQ (ND=DL/2)	**1.64**	**1.22**	**39.1**	**560**	**26.7**	**1.78**	**111**	**35.4**	**531**

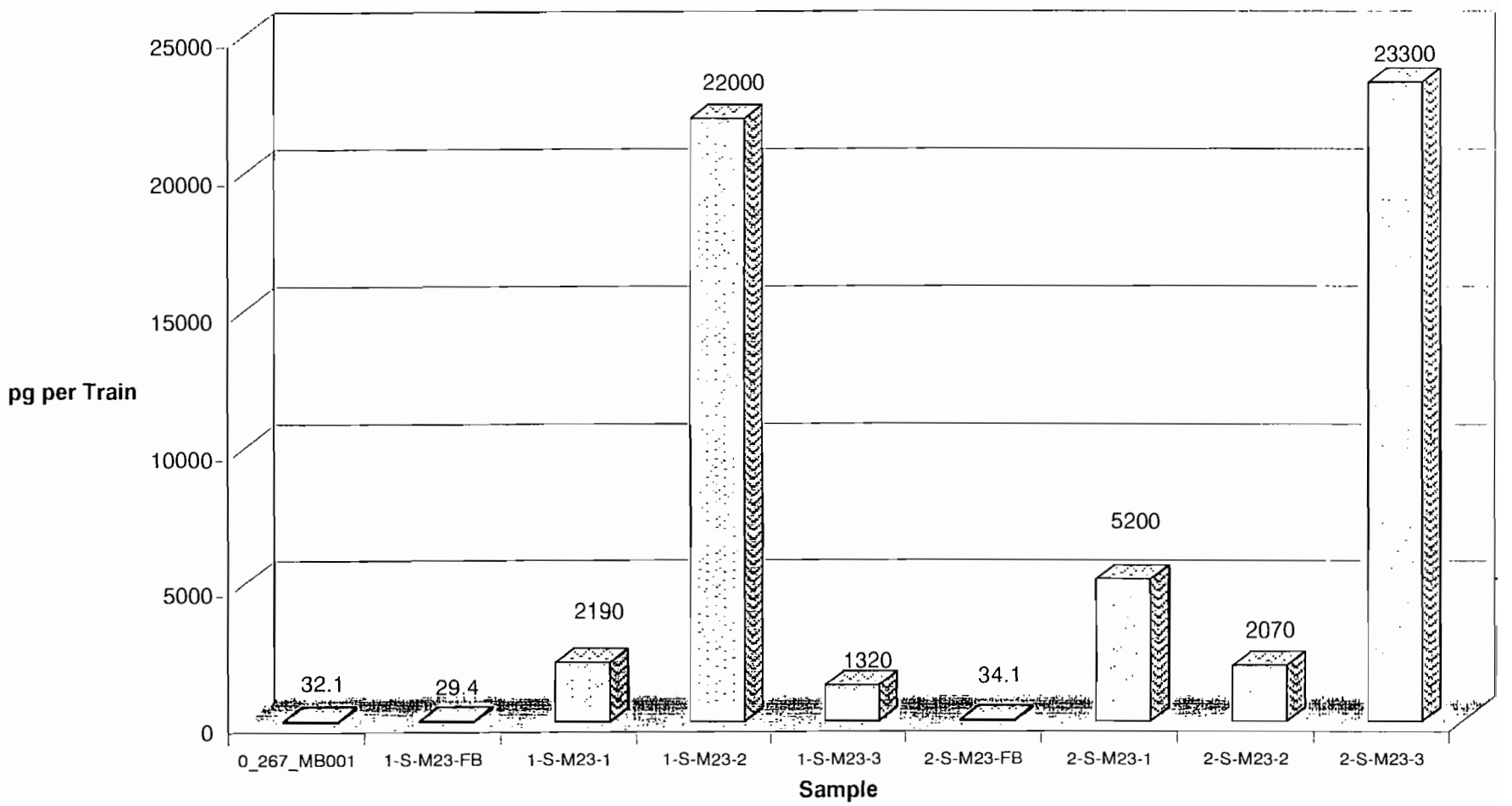
221

( ) = DL
[ ] = EMPC

Reviewer .....
Date 12 Feb 01


TEQ
P1377
10184
600
500
400
300
200
100
0
pg per Train
560
531
39.1
26.7
111
35.4
1.64
1.22
1.78
0_267_MB001
1-S-M23-FB
1-S-M23-1
1-S-M23-2
1-S-M23-3
2-S-M23-FB
2-S-M23-1
2-S-M23-2
2-S-M23-3
Sample
TEQ (ND=0)
TEQ (ND=DL/2)

Total PCDD/Fs
P1377
10184



Sample ID: 0_267_MB001

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	n/a
Project ID:	10184	Weight/Volume:	1	Sample ID:	0_267_MB001	Date Extracted:	01 Feb 01
Date Collected:	n/a			QC Batch No.:	267	Date Analyzed:	6-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	EMPC		1.51	A	100	95.7	94.8
1,2,3,7,8-PeCDD	ND	0.746			104	94.3	94.8
1,2,3,4,7,8-HxCDD	2.14			A	95.2	96.3	94.8
1,2,3,6,7,8-HxCDD	ND	2.65			95.2	96.3	94.8
1,2,3,7,8,9-HxCDD	ND	2.37			95.2	96.3	94.8
1,2,3,4,6,7,8-HpCDD	3.33			A	97	95.1	94.8
OCDD	17.5			A	89.4	95.1	94.8
2,3,7,8-TCDF	ND	1.03			94.3	95.7	94.8
1,2,3,7,8-PeCDF	ND	1.44			92.9	94.3	94.8
2,3,4,7,8-PeCDF	ND	1.42			92.9	94.3	94.8
1,2,3,4,7,8-HxCDF	2.46			A	92.1	96.7	94.8
1,2,3,6,7,8-HxCDF	1.79			A	92.1	96.7	94.8
2,3,4,6,7,8-HxCDF	EMPC		1.21	A	92.1	96.7	94.8
1,2,3,7,8,9-HxCDF	ND	0.765			92.1	96.7	94.8
1,2,3,4,6,7,8-HpCDF	2.21			A	91.4	95.1	94.8
1,2,3,4,7,8,9-HpCDF	ND	1.8			91.4	95.1	94.8
OCDF	ND	2.65			87.5	95.1	94.8
Totals & TEQs							
TCDDs	ND		1.51				
PeCDDs	ND	0.746					
HxCDDs	2.14						
HpCDDs	6						
TCDFs	ND	1.03					
PeCDFs	ND	1.43					
HxCDFs	4.25		5.46				
HpCDFs	2.21						
Total PCDD/Fs	**32.1**		**34.9**				
TEQ (ND=0)	**0.712**		**2.34**	**ITEF**			
TEQ (ND=DL/2)	**1.64**		**3.27**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date 12 Feb 01

Sample ID: 1-S-M23-FB

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_001	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.465			110	94.3	106
1,2,3,7,8-PeCDD	ND	0.675			112	92	106
1,2,3,4,7,8-HxCDD	ND	1.41			110	94.3	106
1,2,3,6,7,8-HxCDD	ND	1.57			110	94.3	106
1,2,3,7,8,9-HxCDD	ND	1.4			110	94.3	106
1,2,3,4,6,7,8-HpCDD	3.73			A B	111	92.8	106
OCDD	21.3			A B	102	92.8	106
2,3,7,8-TCDF	ND	0.808			109	94.3	106
1,2,3,7,8-PeCDF	ND	1.43			105	92	106
2,3,4,7,8-PeCDF	ND	1.41			105	92	106
1,2,3,4,7,8-HxCDF	EMPC		1.94	A B	106	95.7	106
1,2,3,6,7,8-HxCDF	ND	0.517			106	95.7	106
2,3,4,6,7,8-HxCDF	ND	0.55			106	95.7	106
1,2,3,7,8,9-HxCDF	ND	0.628			106	95.7	106
1,2,3,4,6,7,8-HpCDF	1.64			A B	106	92.8	106
1,2,3,4,7,8,9-HpCDF	ND	0.962			106	92.8	106
OCDF	ND	3.53			102	92.8	106
Totals & TEQs							
TCDDs	ND	0.465					
PeCDDs	ND	0.675					
HxCDDs	ND	1.46					
HpCDDs	6.47						
TCDFs	ND	0.808					
PeCDFs	ND	1.42					
HxCDFs	ND		1.94				
HpCDFs	1.64						
Total PCDD/Fs	**29.4**		**31.3**				
TEQ (ND=0)	**0.0749**		**0.269**	**ITEF**			
TEQ (ND=DL/2)	**1.22**		**1.41**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date 12 Feb 01

Sample ID: 1-S-M23-1

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_002	Date Extracted:	01 Feb 01
Date Collected:	23 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	EMPC		1.78	A B	107	90.8	101
1,2,3,7,8-PeCDD	5.75			A	114	89.3	101
1,2,3,4,7,8-HxCDD	8			A B	102	91.4	101
1,2,3,6,7,8-HxCDD	17			A	102	91.4	101
1,2,3,7,8,9-HxCDD	11.9			A	102	91.4	101
1,2,3,4,6,7,8-HpCDD	108			B	105	89.7	101
OCDD	355			B	98.2	89.7	101
2,3,7,8-TCDF	12.1				101	90.8	101
1,2,3,7,8-PeCDF	25.4			A	98.8	89.3	101
2,3,4,7,8-PeCDF	32.1			A	98.8	89.3	101
1,2,3,4,7,8-HxCDF	33.3			A B	99.3	90.8	101
1,2,3,6,7,8-HxCDF	36.1			A B	99.3	90.8	101
2,3,4,6,7,8-HxCDF	35.5			A B	99.3	90.8	101
1,2,3,7,8,9-HxCDF	11.1			A	99.3	90.8	101
1,2,3,4,6,7,8-HpCDF	80			B	98.6	89.7	101
1,2,3,4,7,8,9-HpCDF	13.9			A	98.6	89.7	101
OCDF	28.6			A	97.8	89.7	101
Totals & TEQs							
TCDDs	67.7		69.5				
PeCDDs	130		134				
HxCDDs	268		272				
HpCDDs	199						
TCDFs	382						
PeCDFs	343		359				
HxCDFs	289						
HpCDFs	128						
Total PCDD/Fs	**2190**		**2210**				
TEQ (ND=0)	**39.1**		**40.9**	**ITEF**			
TEQ (ND=DL/2)	**39.1**		**40.9**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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web: www.ultratrace.com

Reviewer .....

Date 12Feb01

Sample ID: 1-S-M23-2

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_003	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	6.45			A B	104	99.9	103
1,2,3,7,8-PeCDD	70.8				108	99.3	103
1,2,3,4,7,8-HxCDD	112			B	98.5	101	103
1,2,3,6,7,8-HxCDD	203				98.5	101	103
1,2,3,7,8,9-HxCDD	195				98.5	101	103
1,2,3,4,6,7,8-HpCDD	1430			B	98.7	97.2	103
OCDD	2810			B	90.8	97.2	103
2,3,7,8-TCDF	102				98.2	99.9	103
1,2,3,7,8-PeCDF	269				96.4	99.3	103
2,3,4,7,8-PeCDF	342				96.4	99.3	103
1,2,3,4,7,8-HxCDF	588			B	94.5	99.8	103
1,2,3,6,7,8-HxCDF	697			B	94.5	99.8	103
2,3,4,6,7,8-HxCDF	749			B	94.5	99.8	103
1,2,3,7,8,9-HxCDF	263				94.5	99.8	103
1,2,3,4,6,7,8-HpCDF	2100			B	95.3	97.2	103
1,2,3,4,7,8,9-HpCDF	392				95.3	97.2	103
OCDF	897				90	97.2	103
Totals & TEQs							
TCDDs	152		159				
PeCDDs	561						
HxCDDs	2000						
HpCDDs	2560						
TCDFs	1790						
PeCDFs	2870						
HxCDFs	4820						
HpCDFs	3560						
Total PCDD/Fs	**22000**		**22000**				
TEQ (ND=0)	**560**		**560**	**ITEF**			
TEQ (ND=DL/2)	**560**		**560**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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web: www.ultratrace.com

Reviewer .....

Date 12 Feb 01

Sample ID: 1-S-M23-3

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_004	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.802			97.5	99.5	101
1,2,3,7,8-PeCDD	4.25			A	100	97.7	101
1,2,3,4,7,8-HxCDD	4.93			A B	98.6	98.1	101
1,2,3,6,7,8-HxCDD	9.22			A	98.6	98.1	101
1,2,3,7,8,9-HxCDD	6.09			A	98.6	98.1	101
1,2,3,4,6,7,8-HpCDD	48.1			A B	99.4	96.7	101
OCDD	106			B	88.7	96.7	101
2,3,7,8-TCDF	8.65			A	97.3	99.5	101
1,2,3,7,8-PeCDF	18.4			A	92.6	97.7	101
2,3,4,7,8-PeCDF	21.8			A	92.6	97.7	101
1,2,3,4,7,8-HxCDF	23.7			A B	95.3	99.3	101
1,2,3,6,7,8-HxCDF	28.2			A B	95.3	99.3	101
2,3,4,6,7,8-HxCDF	24.1			A B	95.3	99.3	101
1,2,3,7,8,9-HxCDF	6.56			A	95.3	99.3	101
1,2,3,4,6,7,8-HpCDF	57.3			B	94.2	96.7	101
1,2,3,4,7,8,9-HpCDF	6.73			A	94.2	96.7	101
OCDF	13.9			A	88.6	96.7	101
Totals & TEQs							
TCDDs	33.1		36.3				
PeCDDs	84.1						
HxCDDs	147						
HpCDDs	103						
TCDFs	294						
PeCDFs	257						
HxCDFs	195		203				
HpCDFs	83.2						
Total PCDD/Fs	**1320**		**1330**				
TEQ (ND=0)	**26.3**		**26.3**	**ITEF**			
TEQ (ND=DL/2)	**26.7**		**26.7**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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web: www.ultratrace.com

Reviewer .....

Date 12 Feb 01

Sample ID: 2-S-M23-FB

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_005	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.569			109	91.9	100
1,2,3,7,8-PeCDD	ND	1.66			111	90.2	100
1,2,3,4,7,8-HxCDD	ND	1.55			106	94.2	100
1,2,3,6,7,8-HxCDD	ND	1.72			106	94.2	100
1,2,3,7,8,9-HxCDD	ND	1.54			106	94.2	100
1,2,3,4,6,7,8-HpCDD	EMPC		3.07	A B	106	90.3	100
OCDD	20.8			A B	95.8	90.3	100
2,3,7,8-TCDF	ND	1.1			106	91.9	100
1,2,3,7,8-PeCDF	ND	1.02			102	90.2	100
2,3,4,7,8-PeCDF	ND	1.01			102	90.2	100
1,2,3,4,7,8-HxCDF	2.35			A B	104	92.9	100
1,2,3,6,7,8-HxCDF	1.49			A B	104	92.9	100
2,3,4,6,7,8-HxCDF	ND	0.643			104	92.9	100
1,2,3,7,8,9-HxCDF	ND	0.736			104	92.9	100
1,2,3,4,6,7,8-HpCDF	2.39			A B	102	90.3	100
1,2,3,4,7,8,9-HpCDF	ND	1.19			102	90.3	100
OCDF	ND	2.83			95.8	90.3	100
Totals & TEQs							
TCDDs	ND	0.569					
PeCDDs	ND		2.55				
HxCDDs	2.33		4.35				
HpCDDs	3.08		6.15				
TCDFs	ND	1.1					
PeCDFs	ND	1.02					
HxCDFs	5.5						
HpCDFs	2.39						
Total PCDD/Fs	**34.1**		**41.7**				
TEQ (ND=0)	**0.429**		**0.46**	**ITEF**			
TEQ (ND=DL/2)	**1.78**		**1.81**	**ITEF**			

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Reviewer .....

Date 12 Feb 01

Sample ID: 2-S-M23-1

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_006	Date Extracted:	01 Feb 01
Date Collected:	25 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	2.54			A B	108	95.8	103
1,2,3,7,8-PeCDD	17.7			A	109	94.2	103
1,2,3,4,7,8-HxCDD	26			A B	104	96.6	103
1,2,3,6,7,8-HxCDD	49.5			A	104	96.6	103
1,2,3,7,8,9-HxCDD	44.7			A	104	96.6	103
1,2,3,4,6,7,8-HpCDD	311			B	102	94.2	103
OCDD	635			B	91	94.2	103
2,3,7,8-TCDF	27.3				103	95.8	103
1,2,3,7,8-PeCDF	57.5				100	94.2	103
2,3,4,7,8-PeCDF	70.5				100	94.2	103
1,2,3,4,7,8-HxCDF	101			B	101	96.3	103
1,2,3,6,7,8-HxCDF	122			B	101	96.3	103
2,3,4,6,7,8-HxCDF	123			B	101	96.3	103
1,2,3,7,8,9-HxCDF	44.3			A	101	96.3	103
1,2,3,4,6,7,8-HpCDF	350			B	98.5	94.2	103
1,2,3,4,7,8,9-HpCDF	64.9				98.5	94.2	103
OCDF	137				91.2	94.2	103
Totals & TEQs							
TCDDs	119		119				
PeCDDs	281						
HxCDDs	649						
HpCDDs	571						
TCDFs	663		667				
PeCDFs	711						
HxCDFs	856						
HpCDFs	583						
Total PCDD/Fs	**5200**		**5210**				
TEQ (ND=0)	**111**		**111**	**ITEF**			
TEQ (ND=DL/2)	**111**		**111**	**ITEF**			

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Reviewer .....
Date 12 Feb 01

Sample ID: 2-S-M23-2

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_007	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.667			105	93.8	100
1,2,3,7,8-PeCDD	5.67			A	108	91.2	100
1,2,3,4,7,8-HxCDD	7.3			A B	104	93.8	100
1,2,3,6,7,8-HxCDD	16.3			A	104	93.8	100
1,2,3,7,8,9-HxCDD	9.88			A	104	93.8	100
1,2,3,4,6,7,8-HpCDD	94.7			B	104	92.3	100
OCDD	236			B	93.8	92.3	100
2,3,7,8-TCDF	10.4				104	93.8	100
1,2,3,7,8-PeCDF	21			A	101	91.2	100
2,3,4,7,8-PeCDF	27.8			A	101	91.2	100
1,2,3,4,7,8-HxCDF	27.9			A B	101	93.5	100
1,2,3,6,7,8-HxCDF	34.4			A B	101	93.5	100
2,3,4,6,7,8-HxCDF	36.1			A B	101	93.5	100
1,2,3,7,8,9-HxCDF	8.87			A	101	93.5	100
1,2,3,4,6,7,8-HpCDF	82.9			B	98.7	92.3	100
1,2,3,4,7,8,9-HpCDF	11.1			A	98.7	92.3	100
OCDF	33.6			A	93.5	92.3	100
Totals & TEQs							
TCDDs	71.2						
PeCDDs	144		147				
HxCDDs	272		276				
HpCDDs	194						
TCDFs	387						
PeCDFs	337		344				
HxCDFs	274		279				
HpCDFs	118						
Total PCDD/Fs	**2070**		**2090**				
TEQ (ND=0)	**35.1**		**35.1**	**ITEF**			
TEQ (ND=DL/2)	**35.4**		**35.4**	**ITEF**			

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Reviewer .....

Date 12 Feb 01

Sample ID: 2-S-M23-3

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_008	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	5.44			A B	101	95.8	95.4
1,2,3,7,8-PeCDD	62.5				104	92	95.4
1,2,3,4,7,8-HxCDD	90.2			B	98.2	97.3	95.4
1,2,3,6,7,8-HxCDD	153				98.2	97.3	95.4
1,2,3,7,8,9-HxCDD	186				98.2	97.3	95.4
1,2,3,4,6,7,8-HpCDD	1390			B	98.7	93.1	95.4
OCDD	4080			B	88.4	93.1	95.4
2,3,7,8-TCDF	93.5				99.3	95.8	95.4
1,2,3,7,8-PeCDF	305				97.3	92	95.4
2,3,4,7,8-PeCDF	328				97.3	92	95.4
1,2,3,4,7,8-HxCDF	561			B	97.9	95.2	95.4
1,2,3,6,7,8-HxCDF	686			B	97.9	95.2	95.4
2,3,4,6,7,8-HxCDF	606			B	97.9	95.2	95.4
1,2,3,7,8,9-HxCDF	316				97.9	95.2	95.4
1,2,3,4,6,7,8-HpCDF	2050			B	95.6	93.1	95.4
1,2,3,4,7,8,9-HpCDF	563				95.6	93.1	95.4
OCDF	1580				88.3	93.1	95.4
Totals & TEQs							
TCDDs	188		192				
PeCDDs	618						
HxCDDs	1820						
HpCDDs	2370						
TCDFs	1600						
PeCDFs	2850						
HxCDFs	4480						
HpCDFs	3740						
Total PCDD/Fs	**23300**		**23300**				
TEQ (ND=0)	**531**		**531**	**ITEF**			
TEQ (ND=DL/2)	**531**		**531**	**ITEF**			

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Reviewer .....
Date 12Feb01

APPENDIX C.2
Analytical Data

Hydrogen Chloride

RESOLUTION ANALYTICS, INC.
Specialists in High Performance Liquid Chromatography

REPORT SUMMARY

RFA#: 10184

SAMPLE ID	HCl
0.1 N H_2SO_4 BLANK	< 0.189 mgs
1-I-M26-1	365 mgs
1-I-M26-2	673 mgs
1-I-M26-3	977 mgs
1-S-M26-1	7.81 mgs
1-S-M26-2	11.2 mgs
1-S-M26-3	5.55 mgs
2-I-M26-1	643 mgs
2-I-M26-2	289 mgs
2-I-M26-3	356 mgs
2-S-M26-1	13.8 mgs
2-S-M26-2	12.6 mgs
2-S-M26-3	12.0 mgs

Analytical Narrative

RFA # 10184

Client/Plant Name: TESTAR, Inc.

Date Rec'd in lab: 1/30/01

Analyst: JBN

Date of Analysis: 2/01/01

Analysis Method: EPA Method 26A

Analyte(s): HCl

Sample Matrix & Components:

0.1 N H_2SO_4 + DI H_2O rinses

Summary of Sample Prep:

Samples were final volumed prior to receipt by the laboratory. See Data Sheets for dilution factors used throughout analysis.

Summary of Instrumentation:

"Clyde" PRP-X100 Column #3134 — 50 µl Inj.
Eluent: 4mM Phthalic Acid pH 3.6 — Flow Rate: 2 mls/min
Gain 0.2 µS/cm Temp: 40°C

Analytical Detection Limit(s): 0.189 ppm HCl

Summary of QA Audit Sample Analysis:

See Analytical Data Sheets for results of internal QC audit results. (All internal QC results were within ±10% limits.)

Summary of Sample Spike Analysis:

See Analytical Data Sheets for results of sample spike analyses. (All spike results were within 90-110% recovery limits.)

Miscellaneous Comments Regarding Sample Analysis: (Note unusual catch weights, interferences, 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 samples when applicable.)

None.

Confirmation of Data Review:

To the best of my knowledge this analytical data has been checked thoroughly for completeness and the results presented are accurate, error-free, legible, and have been performed and validated in accordance with the approved method(s).

Lab QA Officer Signature J. Bruce Nance Date 2/09/01

Hydrogen Chloride (EPA 26A) Analytical Data Sheet

Client Name:	**TESTAR, Inc.**	Job Num.	**10184**
File Pathway:	C:\JOBS\TESTAR\10184\HCL.WB1	File:	HCl
Analyst:	J B Nemet	Date:	02/06/2001

Chloride Standard Calibration Curve by Linear Regression

Cl- Conc. (ppm)	Standard Areas Inj. 1	Inj. 2	Average Area	% Diff.		Calculated Std Conc. (ppm)	% Deviation from Actual
0.20	4534	4257	4396	3.15%		0.20	-0.15%
2.00	49334	49981	49658	0.65%		2.02	0.81%
7.00	171546	174037	172792	0.72%		6.96	-0.60%
10.0	246846	251655	249251	0.96%		10.0	0.26%
Standard Curve		Slope:	24918	Y-Int:	-581	LoD (ppm):	**0.184**

Field Samples in: 0.1 N H2SO4

Sample ID	Inj. 1 Area	Inj. 2 Area	Average Area	% Diff.	Dilution Factor	Sample Volume (mls)	**HCl Catch (mgs)**
0.1 N H2SO4	< 4000	< 4000	< 4000	0.00%	5	200	**< 0.189**
1-I-M26-1	93424	96659	95042	1.70%	250	370	**365**
1-I-M26-2	180914	185190	183052	1.17%	250	355	**673**
1-I-M26-3	131201	130726	130964	0.18%	500	360	**977**
1-S-M26-1	95050	97803	96427	1.43%	5	390	**7.81**
1-S-M26-2	133238	137955	135597	1.74%	5	400	**11.2**
1-S-M26-3	69414	71002	70208	1.13%	5	380	**5.55**
2-I-M26-1	164946	170624	167785	1.69%	250	370	**643**
2-I-M26-2	77907	80881	79394	1.87%	250	350	**289**
2-I-M26-3	97735	101076	99406	1.68%	250	345	**356**
2-S-M26-1	154137	156612	155375	0.80%	5	430	**13.8**
2-S-M26-2	143084	146440	144762	1.16%	5	420	**12.6**
2-S-M26-3	133915	136253	135084	0.87%	5	430	**12.0**

******* AUDIT REPORT *******

	Inj. 1	Inj. 2	Average Area	% Dev.	Dilution Factor	**Calculated mgs Cl / L**
EPA J 2198	142998	143946	143472	0.33%	10	**57.8**
EPA J 2602	141525	139662	140594	0.66%	100	**567**

MATRIX SPIKE

Sample I.D.	Inj. 1	Inj. 2	Average Area	% Dev.	Expected ppm Cl-	Calculated ppm Cl-	% Recovery
1-I-M26-3	257500	257463	257482	0.01%	10.00	9.10	91.0%

Note: 0.5 mls of the above sample was spiked with
0.5 mls of a 20 ppm chloride standard then diluted 2x.

Printing Date 06-Feb-2001 Printing Time 12:41 PM

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/24-25/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					1-I-MM26-1	0.1N H2SO4				
					1-I-MM26-2	0.1N H2SO4				
					1-I-MM26-3	0.1N H2SO4				
					1-S-MM26-1	0.1N H2SO4				
					1-S-MM26-2	0.1N H2SO4				
					1-S-MM26-3	0.1N H2SO4				
					2-I-MM26-1	0.1N H2SO4				
					2-I-MM26-2	0.1N H2SO4				
					2-I-MM26-3	0.1N H2SO4				
					2-S-MM26-1	0.1N H2SO4				
					2-S-MM26-2	0.1N H2SO4				
					2-S-MM26-3	0.1N H2SO4				
					Reagent Blank	0.1N H2SO4				
					Audit J2198					
					Audit J2602					

Signature	Herb Dixon	**Company**	TESTAR	**Date**	1/29/01
Checked By	[illegible]	**Company**	TESTAR	**Date**	1/26/01 29
Received By	Chris Todd	**Company**	KAE	**Date**	1-30-01
Analytical Parameters	HCl by EPA Method 26 including audits				
Sample Condition					

TEST AT HALIFAX MED. WAS NOT DONE. SAMPLES GIVEN TO OGDEN MARTIN OF OAK FOR JAN 2001 STACK TEST.

GK. GARY KUBELSKI

ERG
Eastern Research Group, Inc.

April 21, 2000

Garry Kuberski
Florida DEP, Orlando
3319 Maguire Boulevard
Orlando, FL 32803
(407) 893-3992

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Dear Mr. Kuberski:

Eastern Research Group (ERG) has been requested by U.S. EPA to provide you with two ampules of audit material for a **Method 26 HCl audit, entitled M26-093.** This is for an upcoming audit at Halifax Medical Center in Daytona Beach, FL and is being sent directly to you per your request.

Please note that each ampule in its foam container is wrapped with a multicolor form containing audit information. When passed to the laboratory, **only** the green form is passed to them.

We urge you to have the laboratory analyze this audit material as they would a sample according to the enclosed specifications of the Test Method. The government representative/requestor is to have the material analyzed by the lab as soon as possible so the EPA can evaluate the results. The audit results are to be reported to you in the units specified by the Test Method, and the confirmation audit card submitted to:

EMC QA Team c/o Mr. Gene Riley
Emission Measurement Center (MD-19)
OAQPS/EMAD/SCGB
U. S. Environmental Protection Agency
Research Triangle Park, North Carolina 27711

Questions about the shipping or delivery of the audit material should be sent to:

Eastern Research Group Attn.: Robert Martz
900 Perimeter Park
Morrisville, North Carolina 27560
Telephone: (919) 468-7927

If you have any questions concerning the audit, please call Mr. Gene Riley at (919) 541-5239, or the automated telephone line, the Source, at (919) 541-0200.

Sincerely,

Rob Martz

Robert F. Martz

Corporate Headquarters: 110 Hartwell Avenue • Lexington, MA 02421-3136 • Phone: 781-674-7200 • Fax: 781-674-2851

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14555 Avion Parkway
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Fax: 512-419-0089

37 Carroll Street
Portland, ME 04102-3522
Phone: 207-773-7190
Fax: 207-773-3864

225 W. Washington Street
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Fax: 312-419-4686

INSTRUCTIONS FOR USE OF ENVIRONMENTAL PROTECTION AGENCY STATIONARY SOURCE COMPLIANCE HCl SAMPLES

Sample background:

The HCl air sampling procedure specifies sample collection for sixty minutes at a flow rate of 2L/min. The impinger solution is then quantitatively transferred to a 100 mL volumetric flask and diluted to the mark with deionized water.

Sample preparation: (for IC analysis)

HCl audit solutions have been prepared to simulate these diluted impinger samples. However, the audit solutions may require further dilution to bring them within the calibration range of the instrument being used for the analysis. This step is left to the judgement of the analyst.

Note: To minimize interference (if dilution is necessary), use eluent instead of distilled H_2O.

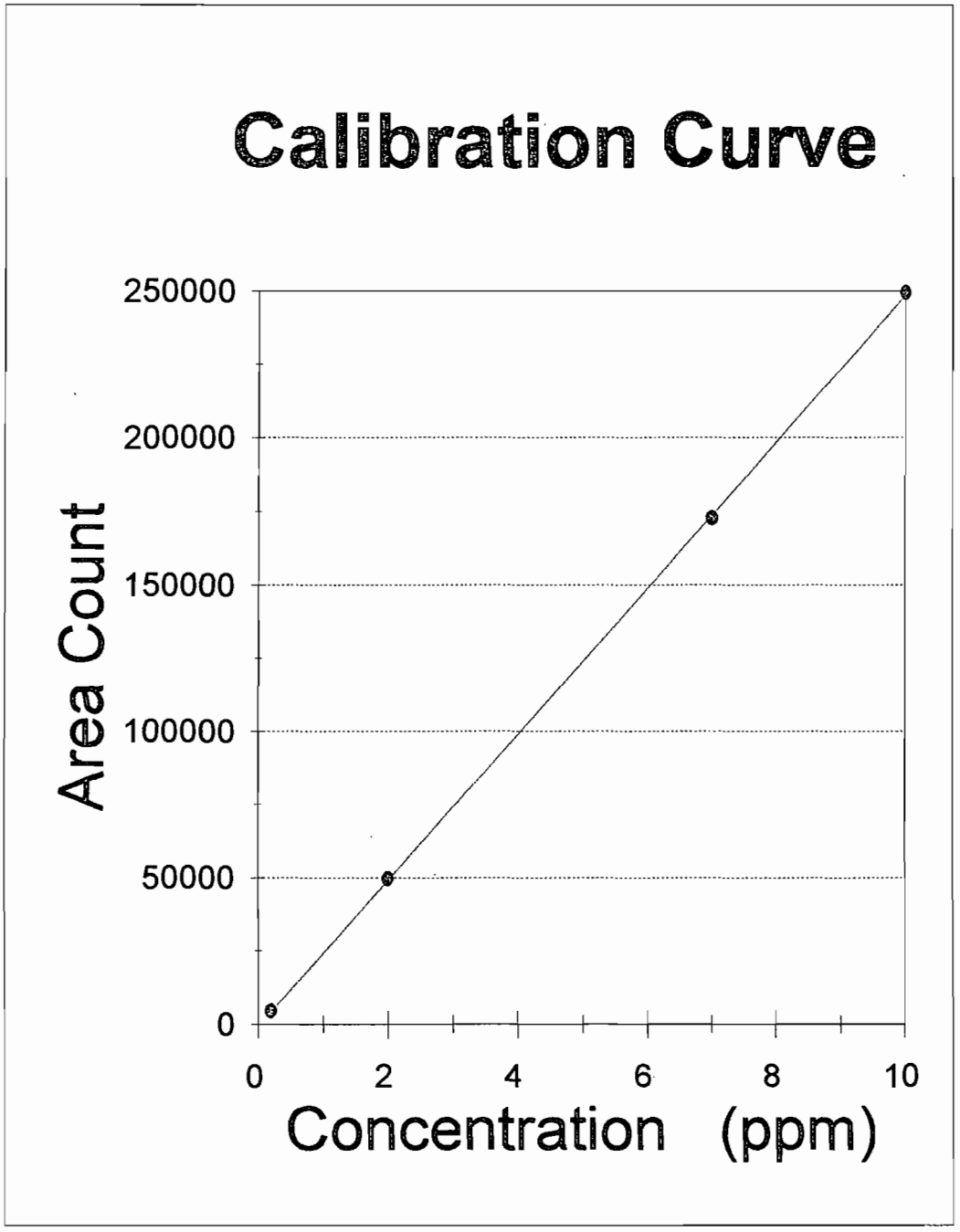
Calculations:

Report concentration results of sample, **as received**, in mg/L of Cl. ((S-B) of Eq. 26-2 of Method 26)

Results:

Audit results and compliance test results are to be transmitted by phone and/or by writing to the agency requiring the test.

Chloride

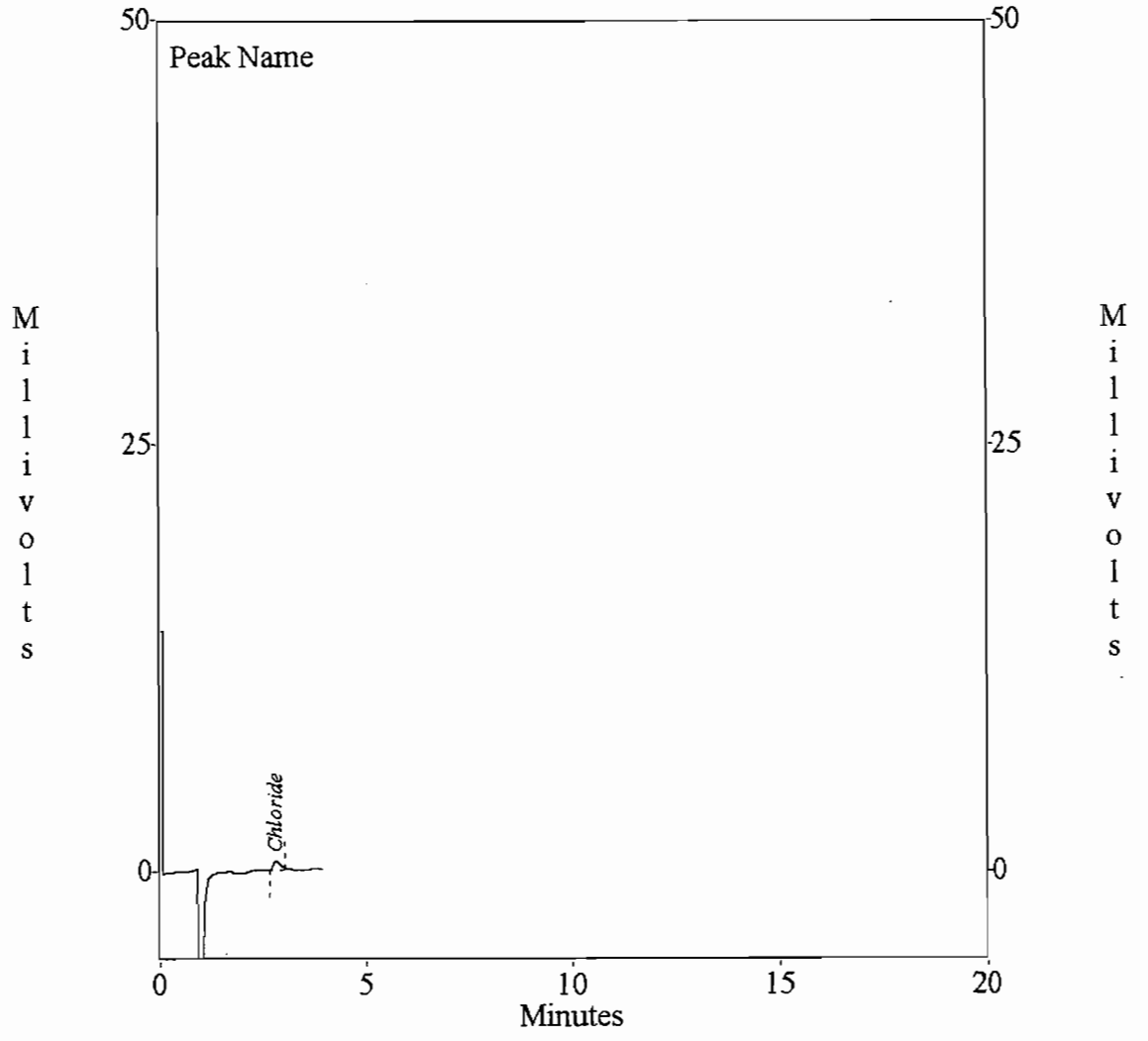

Calibration Curve
Area Count
250000
200000
150000
100000
50000
0
0
2
4
6
8
10
Concentration (ppm)

Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.001
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 0.2 PPM a
Acquired : Feb 03, 2001 14:05:18

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.85	4534

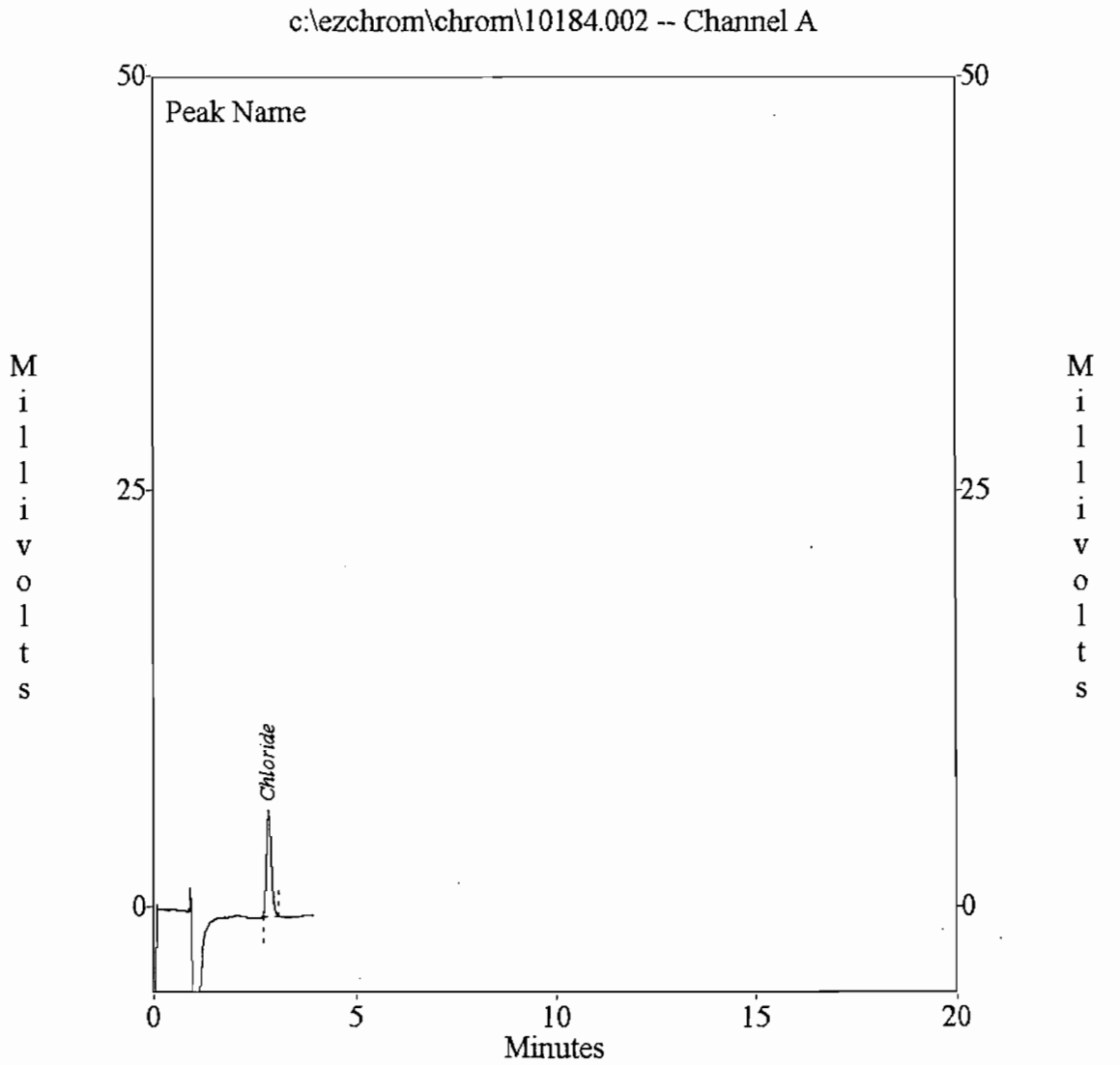
c:\ezchrom\chrom\10184.001 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.002
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2.0 PPM a
Acquired : Feb 06, 2001 09:49:28

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.85	49334

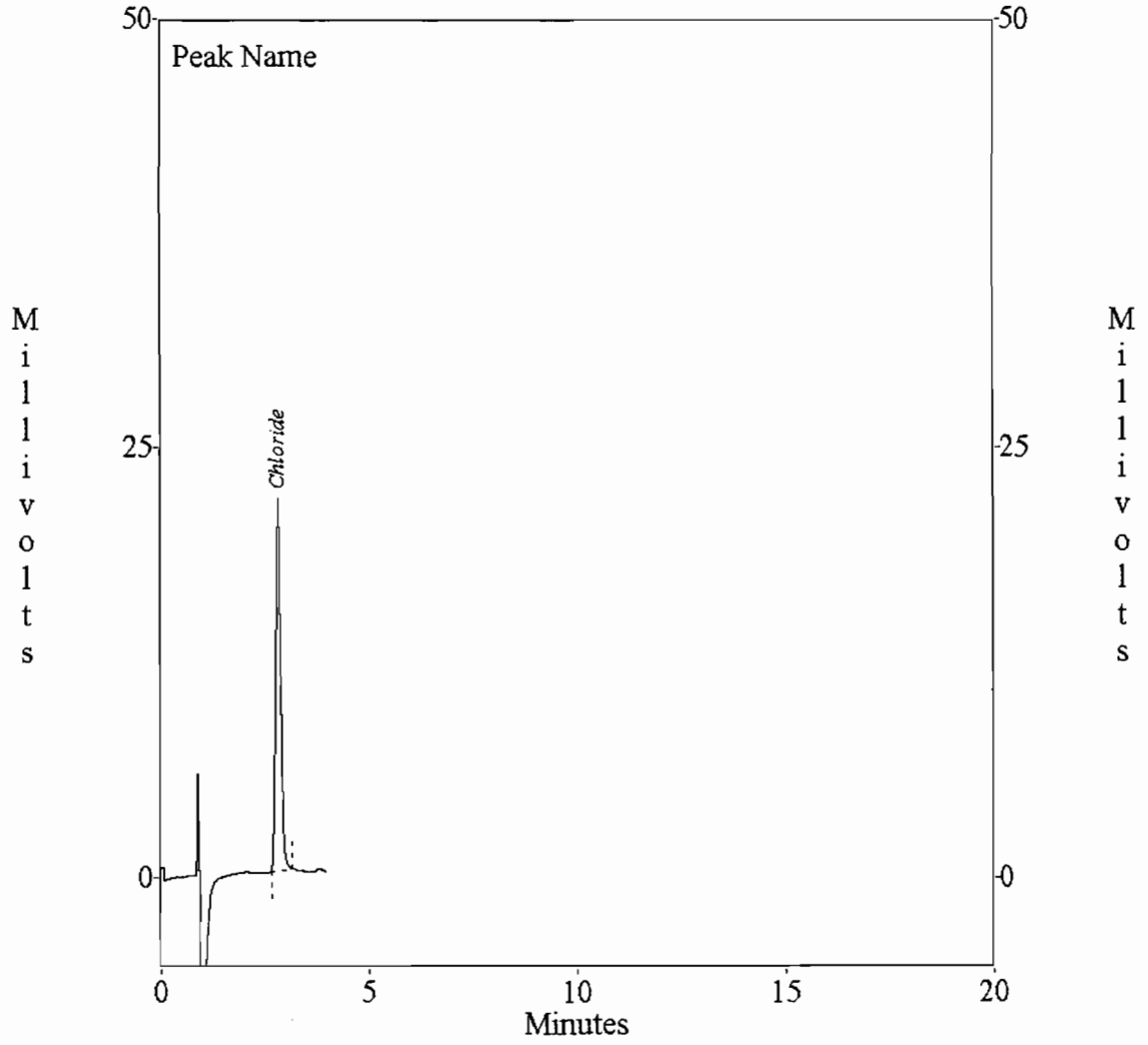


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.003
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 7.0 PPM a
Acquired : Feb 03, 2001 14:14:21

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.85	171546

c:\ezchrom\chrom\10184.003 -- Channel A

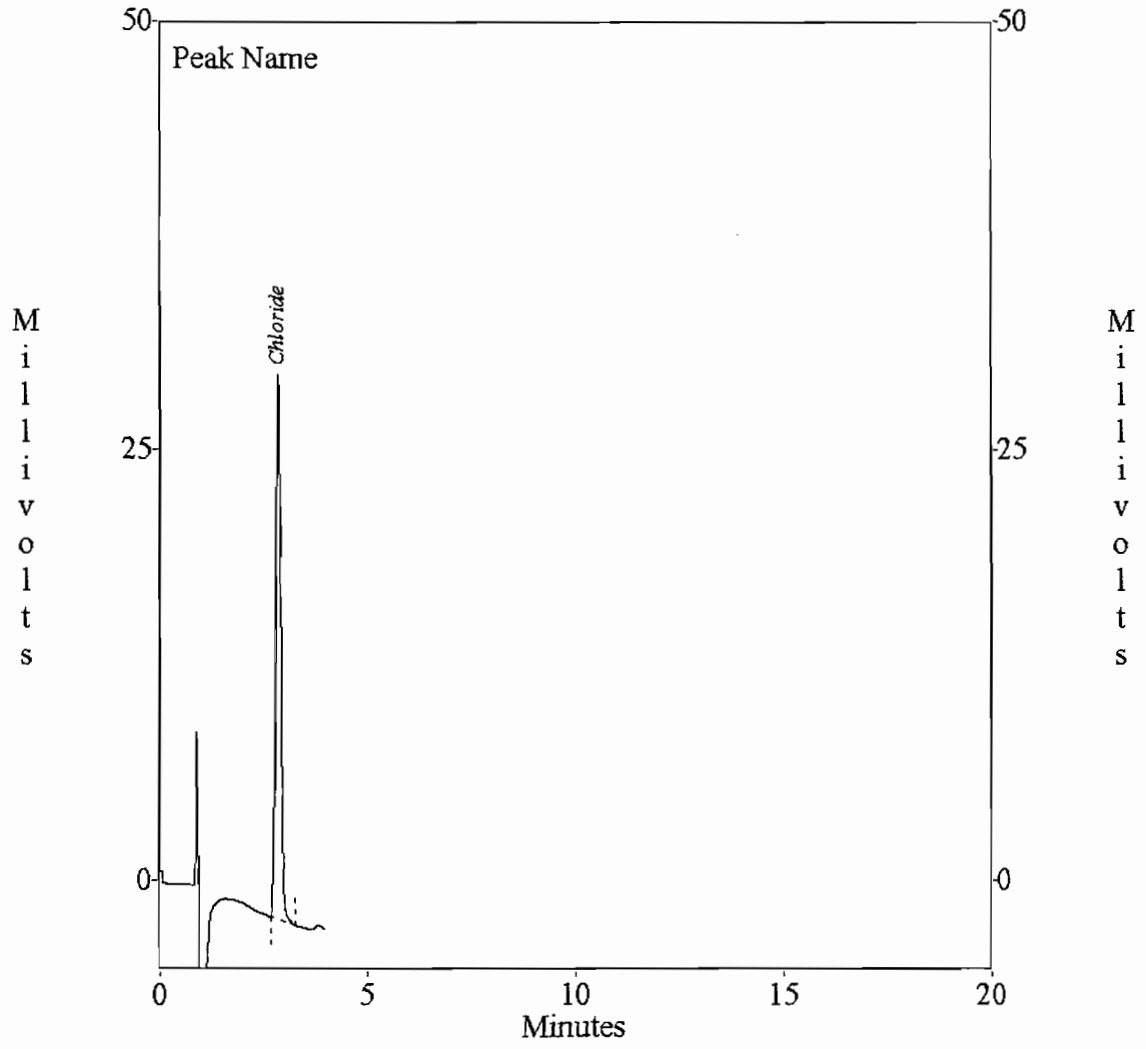


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.004
Method : c:\ezchrom\methods\M26-250.met
[redacted]mple ID : 10.0 PPM a
[redacted]quired : Feb 03, 2001 14:19:13

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.86	246846

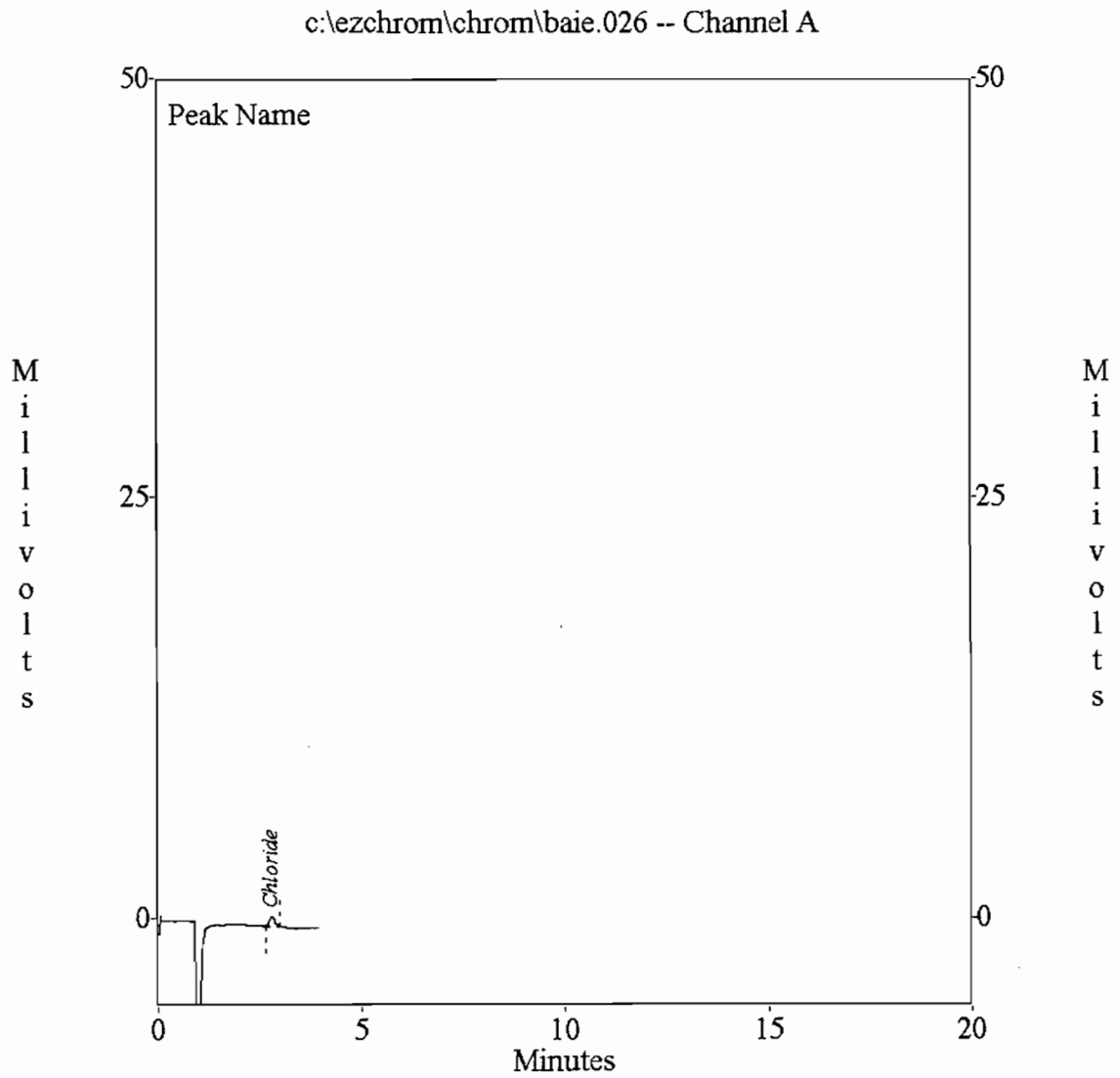
c:\ezchrom\chrom\10184.004 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\baie.026
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 0.2 PPM b
Acquired : Feb 04, 2001 21:07:50

Channel A Results

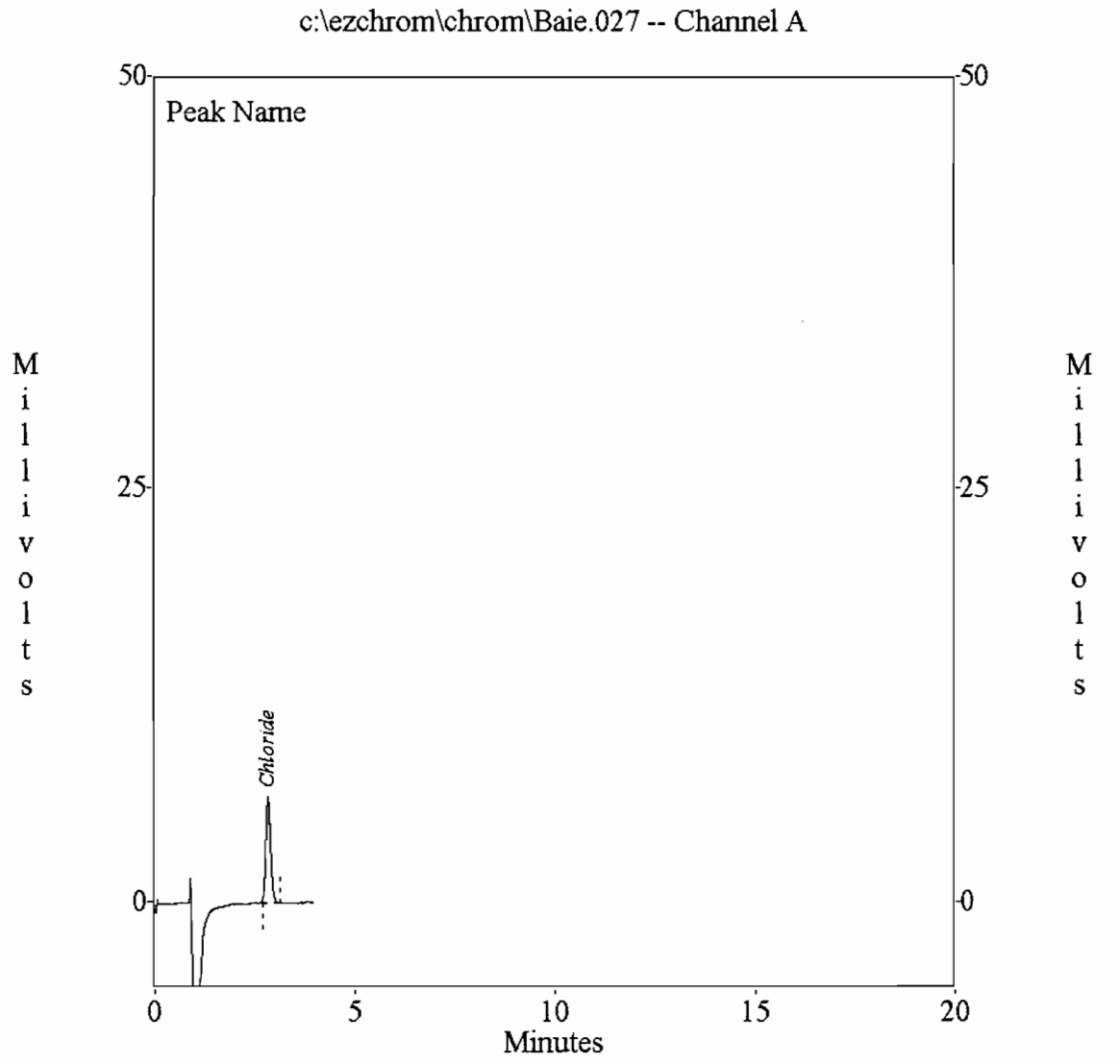
Peak Name	Ret Time	Area
Chloride	2.84	4257



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\Baie.027
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2.0 PPM b
Acquired : Feb 06, 2001 09:54:19

Channel A Results

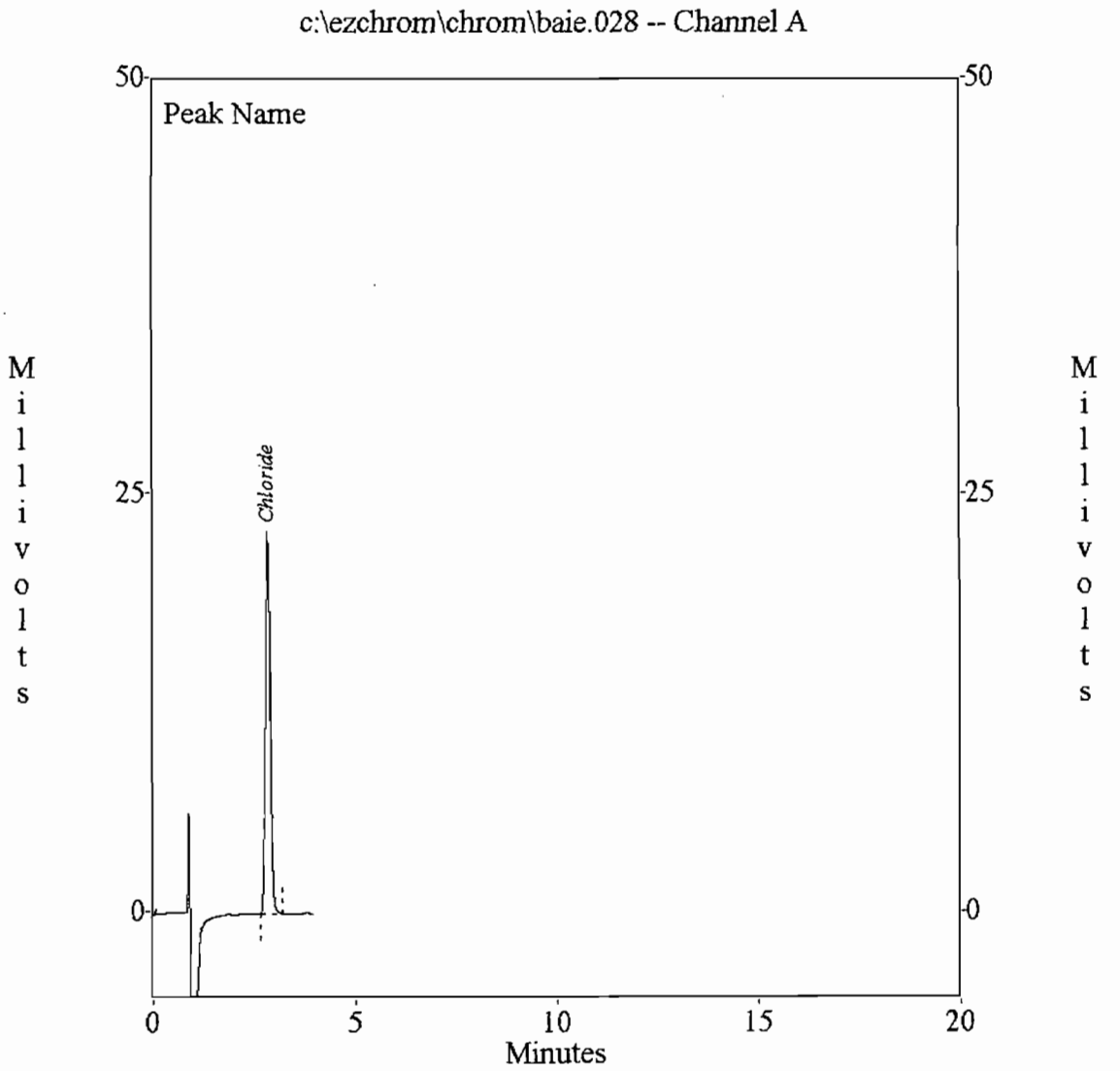
Peak Name	Ret Time	Area
Chloride	2.85	49981



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\baie.028
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 7.0 PPM b
Acquired : Feb 04, 2001 21:16:53

Channel A Results

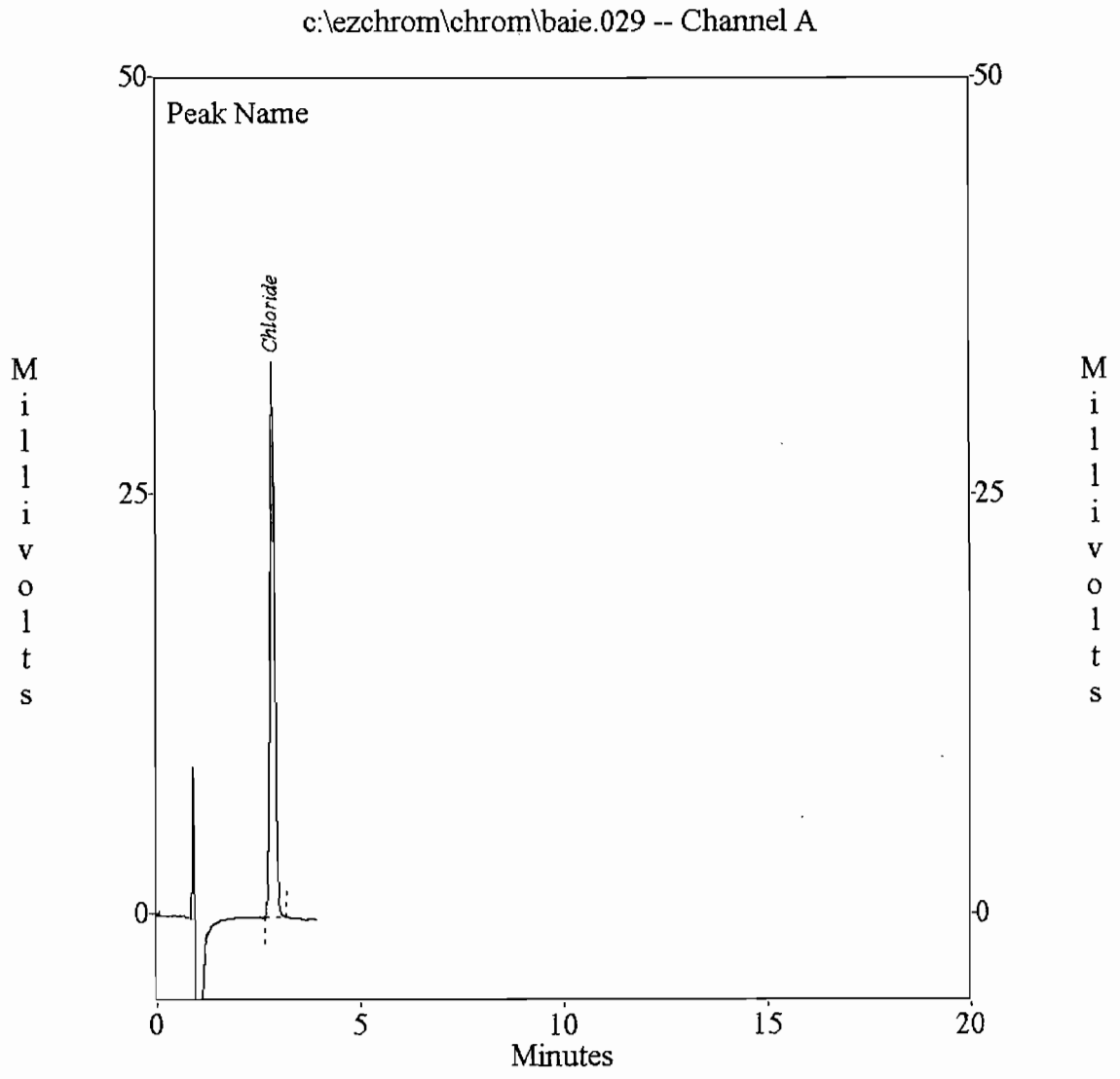
Peak Name	Ret Time	Area
Chloride	2.86	174037



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\baie.029
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 10.0 PPM b
Acquired : Feb 04, 2001 21:21:45

Channel A Results

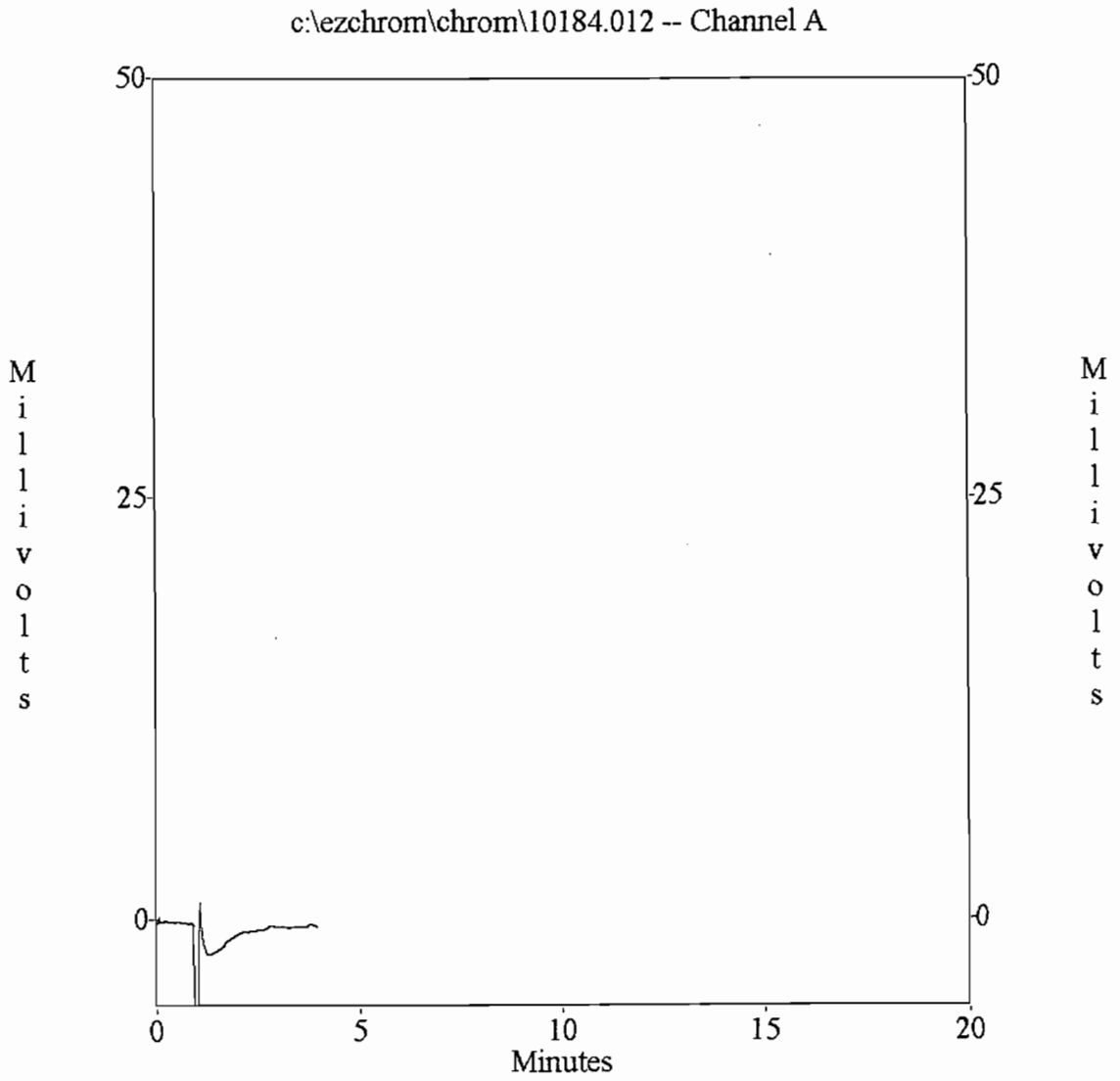
Peak Name	Ret Time	Area
Chloride	2.88	251655



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.012
Method : c:\ezchrom\methods\M26-250.met
mple ID : 0.1 N H2SO4 a
quired : Feb 03, 2001 16:41:37

Channel A Results

Peak Name	Ret Time	Area

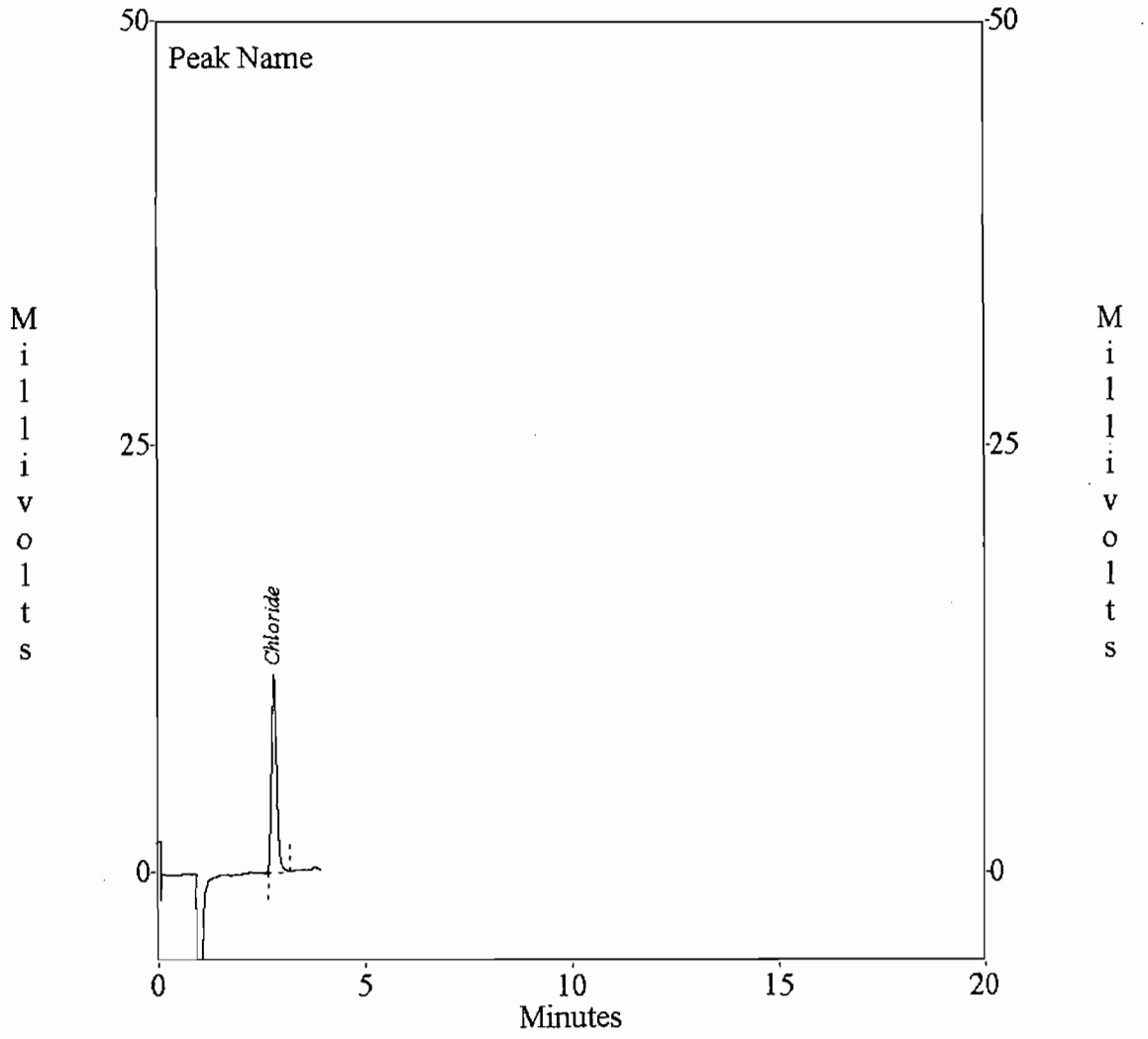


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.006
Method : c:\ezchrom\methods\M26-250.met
[redacted]mple ID : 1-I-1 a
[redacted]quired : Feb 03, 2001 14:31:52

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.83	93424

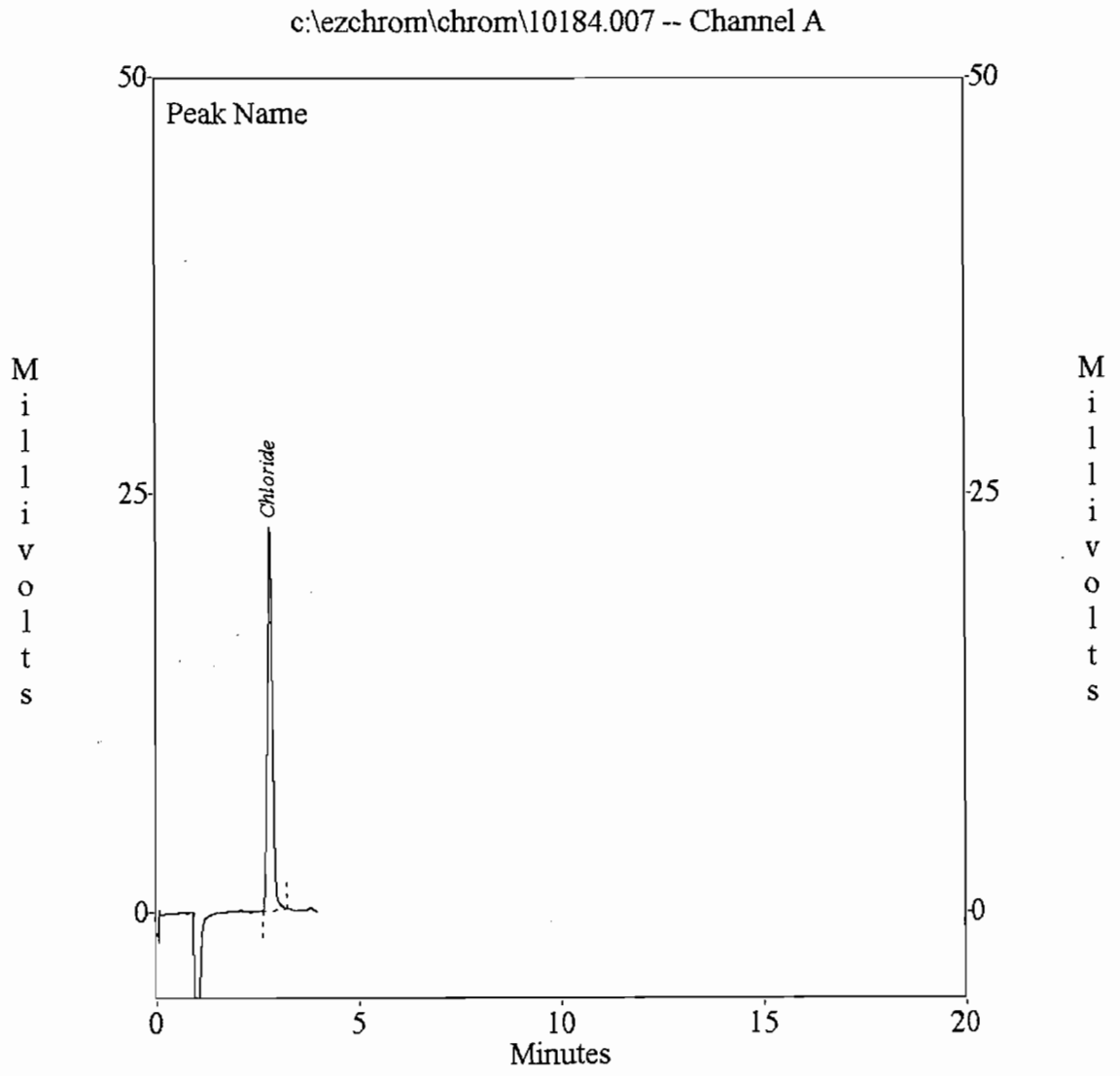
c:\ezchrom\chrom\10184.006 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.007
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-I-2 a
Acquired : Feb 03, 2001 15:25:57

Channel A Results

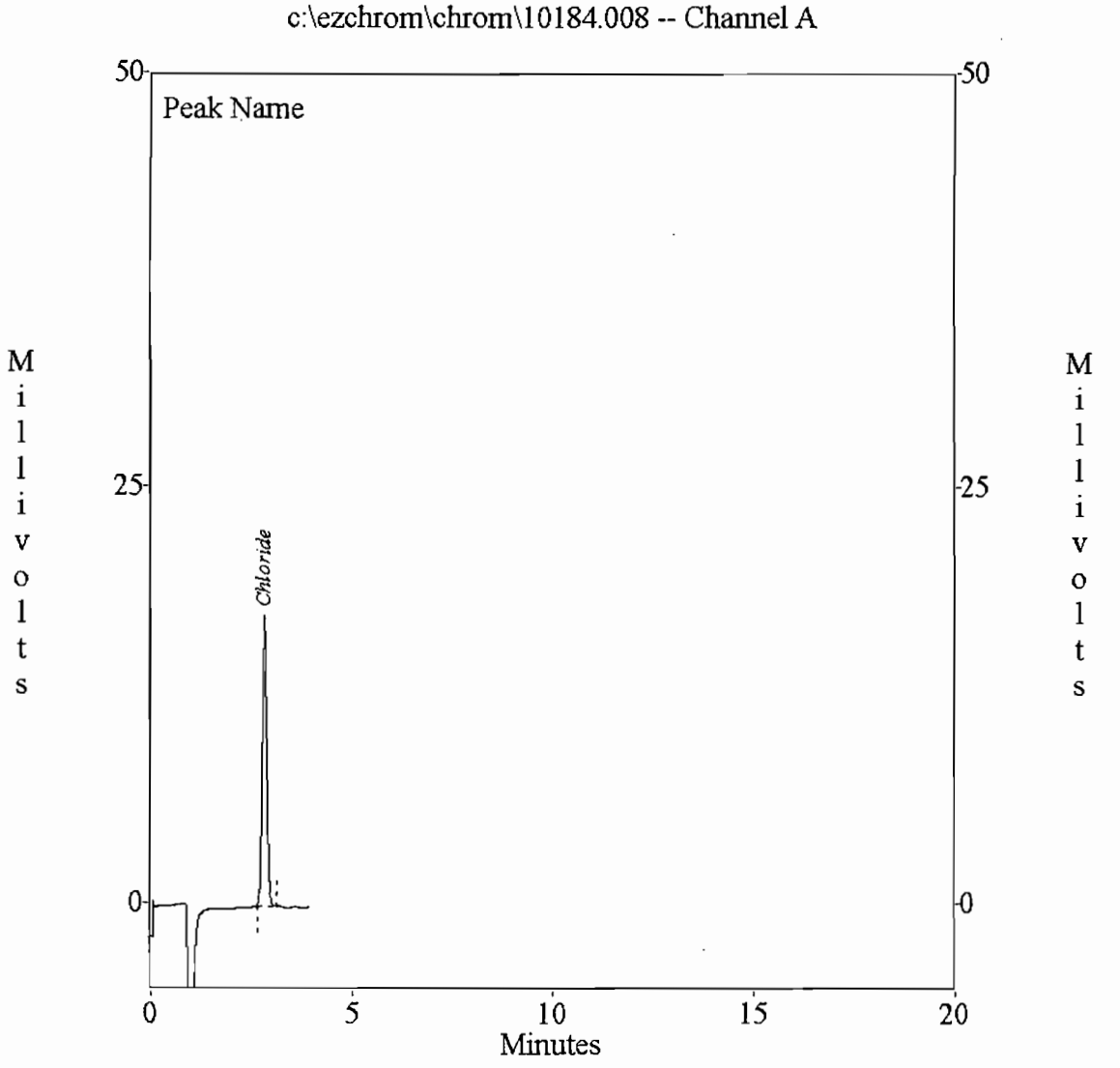
Peak Name	Ret Time	Area
Chloride	2.84	180914



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.008
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-I-3 a
Acquired : Feb 06, 2001 12:28:05

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.85	131201

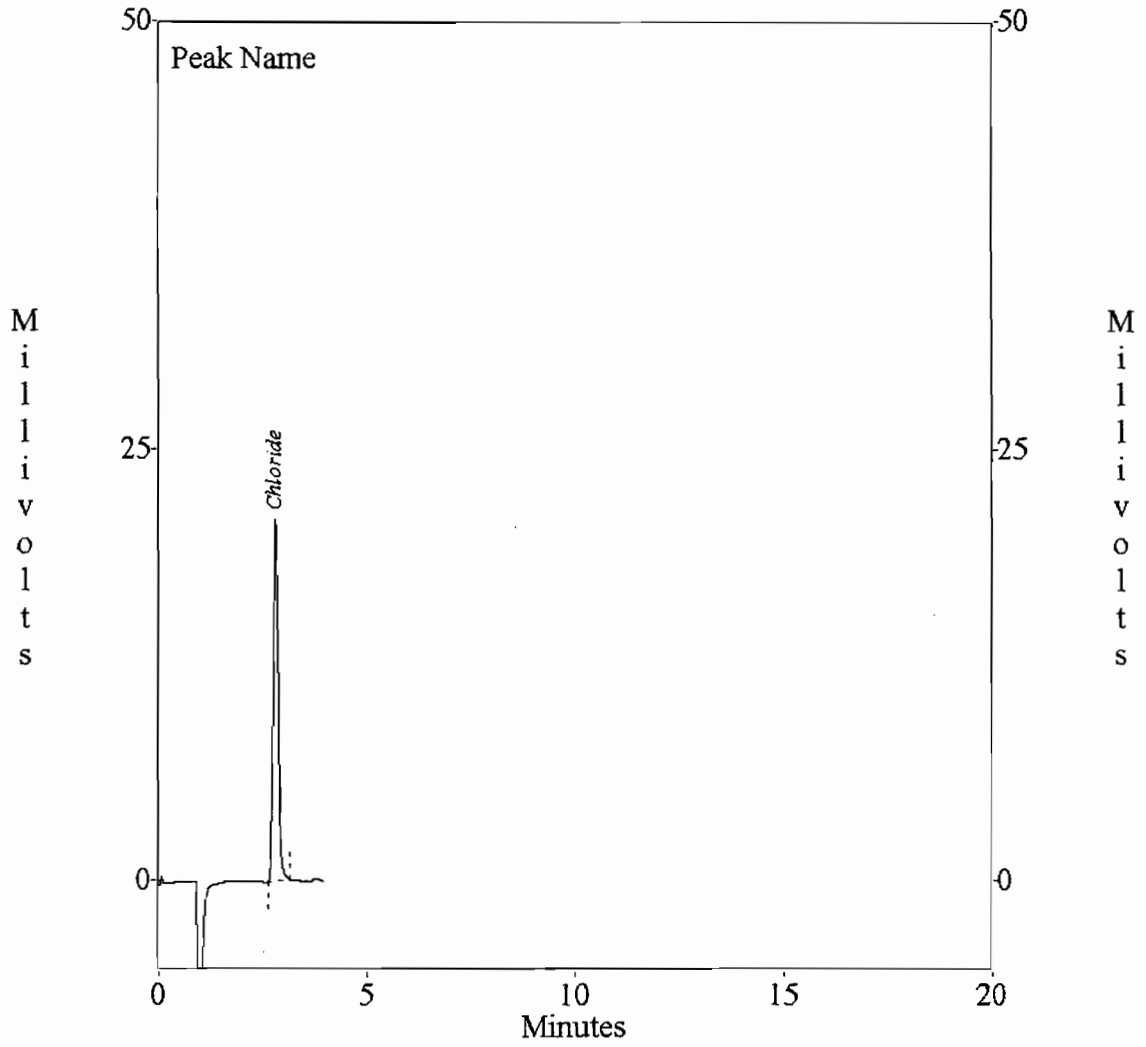


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.009
Method : c:\ezchrom\methods\M26-250.met
[redacted]mple ID : 2-I-1 a
[redacted]quired : Feb 03, 2001 15:56:06

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.84	164946

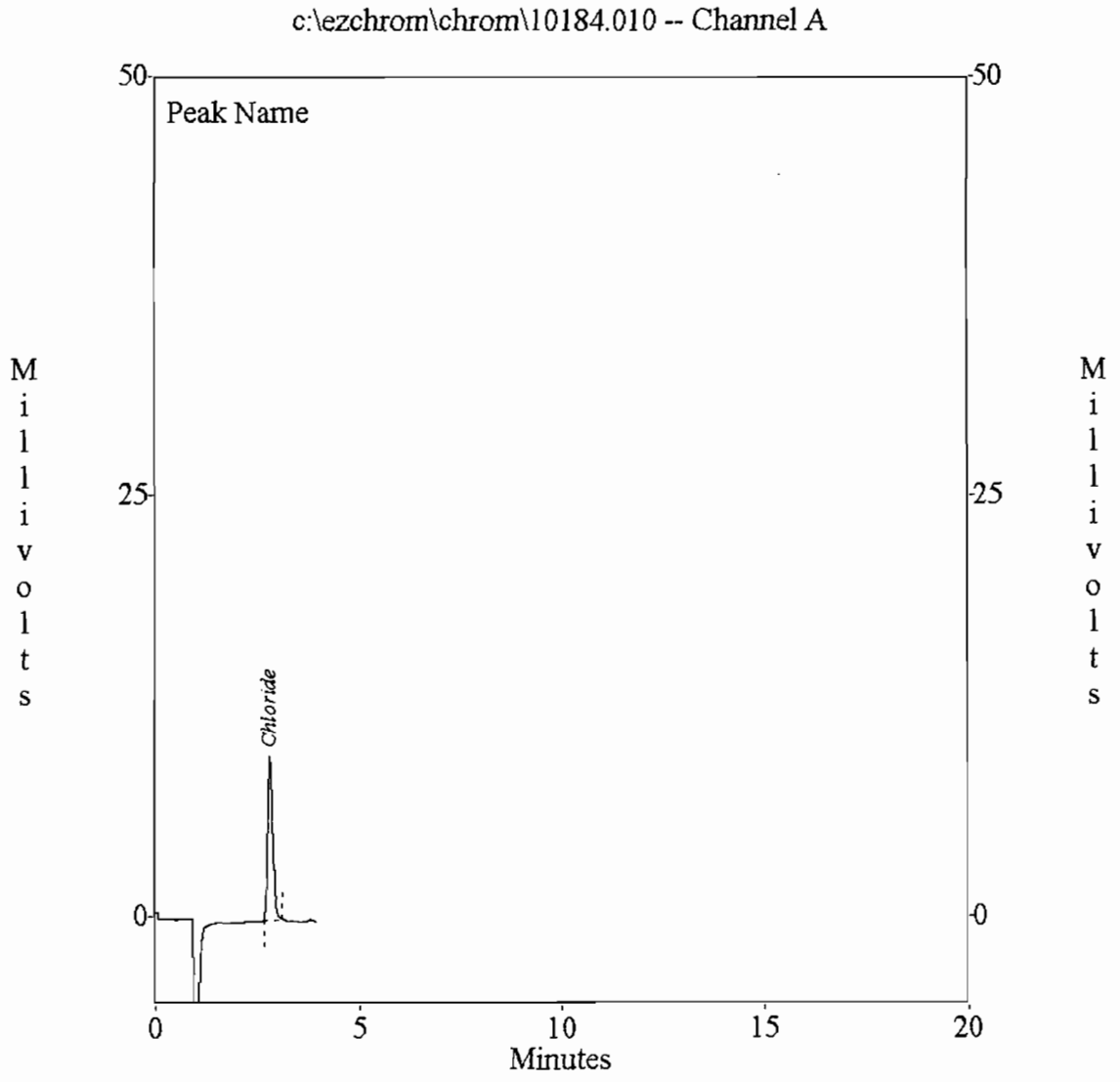
c:\ezchrom\chrom\10184.009 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.010
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-I-2 a
Acquired : Feb 03, 2001 16:11:10

Channel A Results

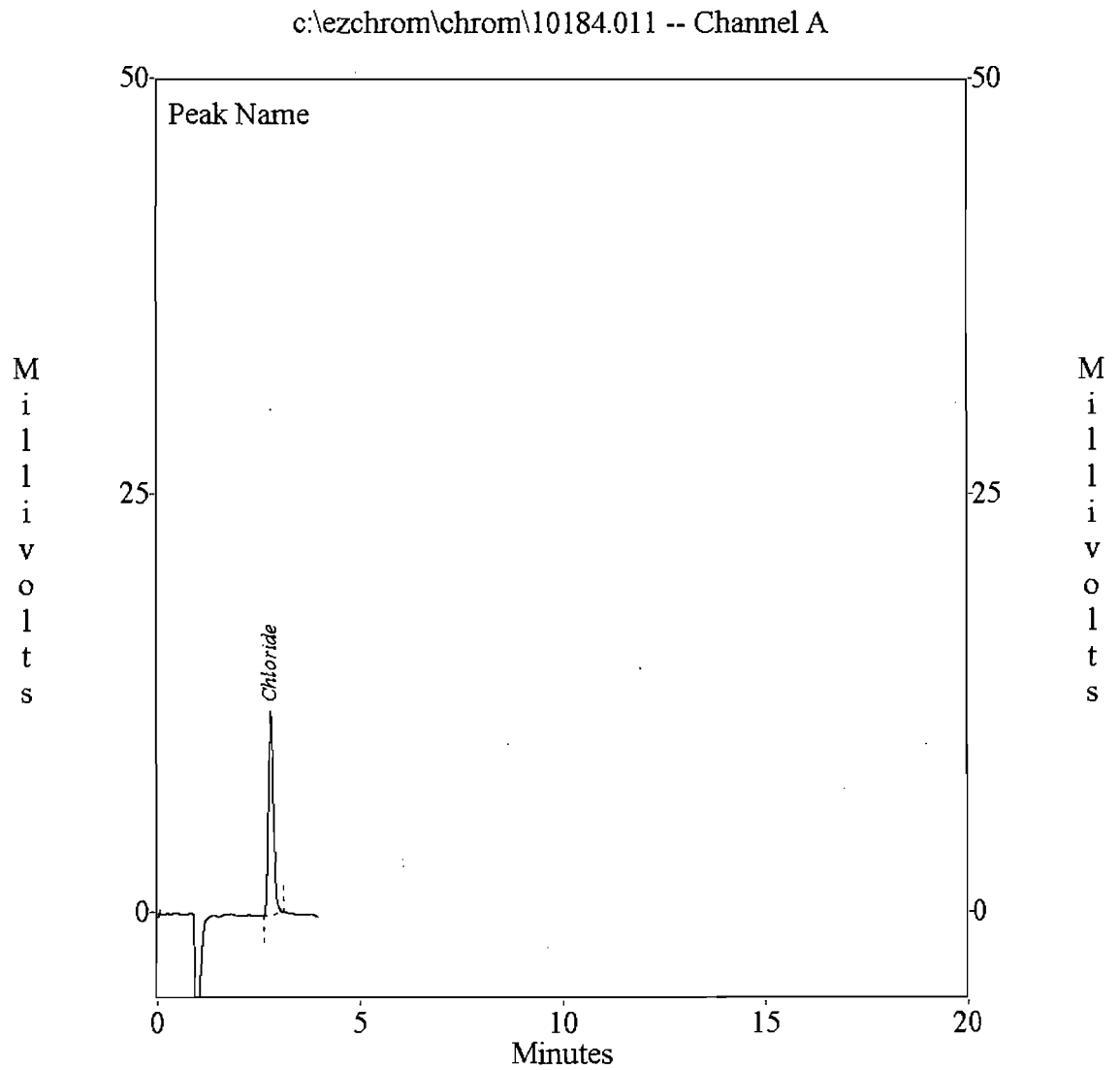
Peak Name	Ret Time	Area
Chloride	2.83	77907



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.011
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-I-3 a
Acquired : Feb 03, 2001 16:26:14

Channel A Results

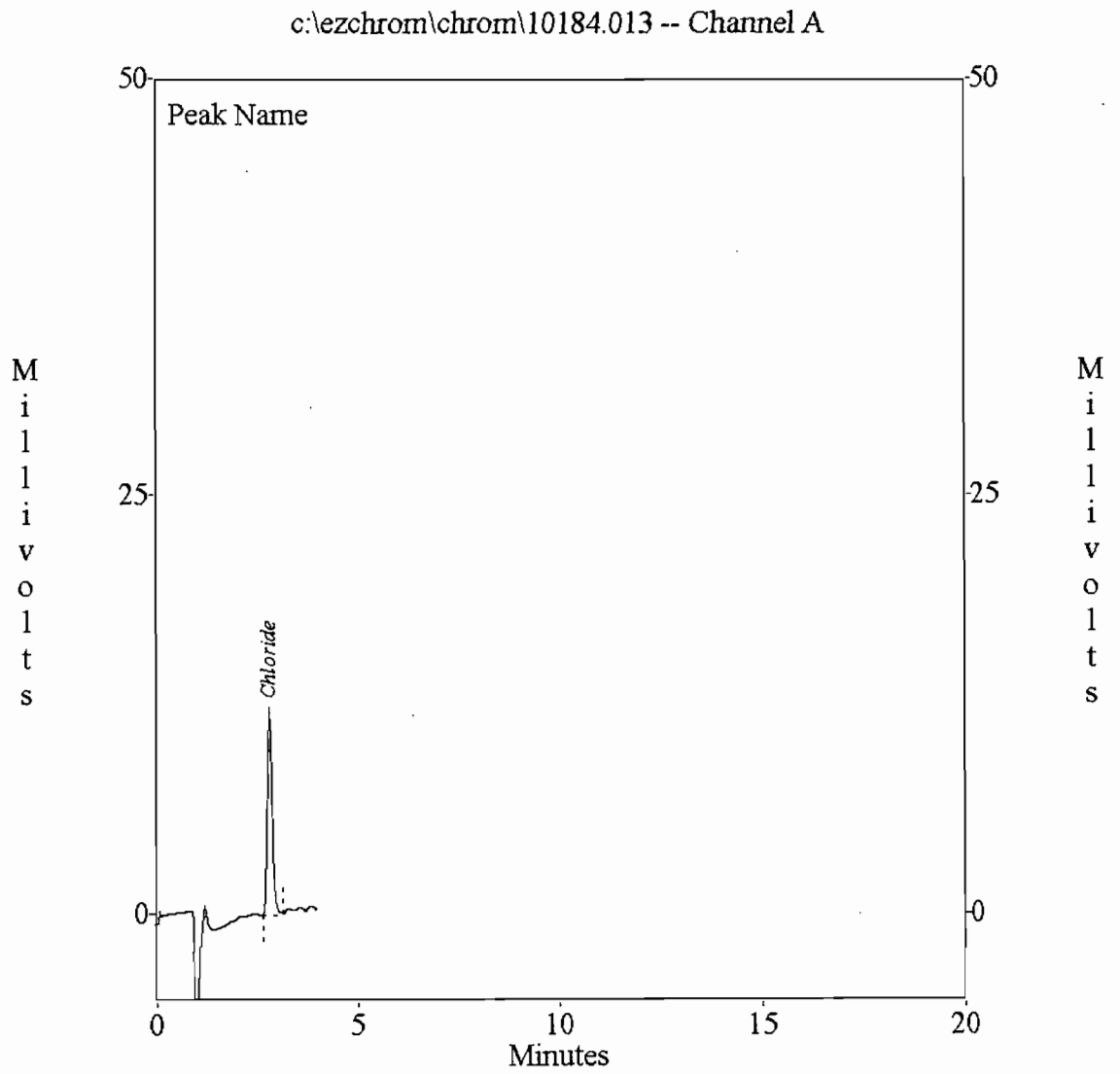
Peak Name	Ret Time	Area
Chloride	2.83	97735



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.013
Method : c:\ezchrom\methods\M26-250.met
mple ID : 1-S-1 a
quired : Feb 03, 2001 16:46:01

Channel A Results

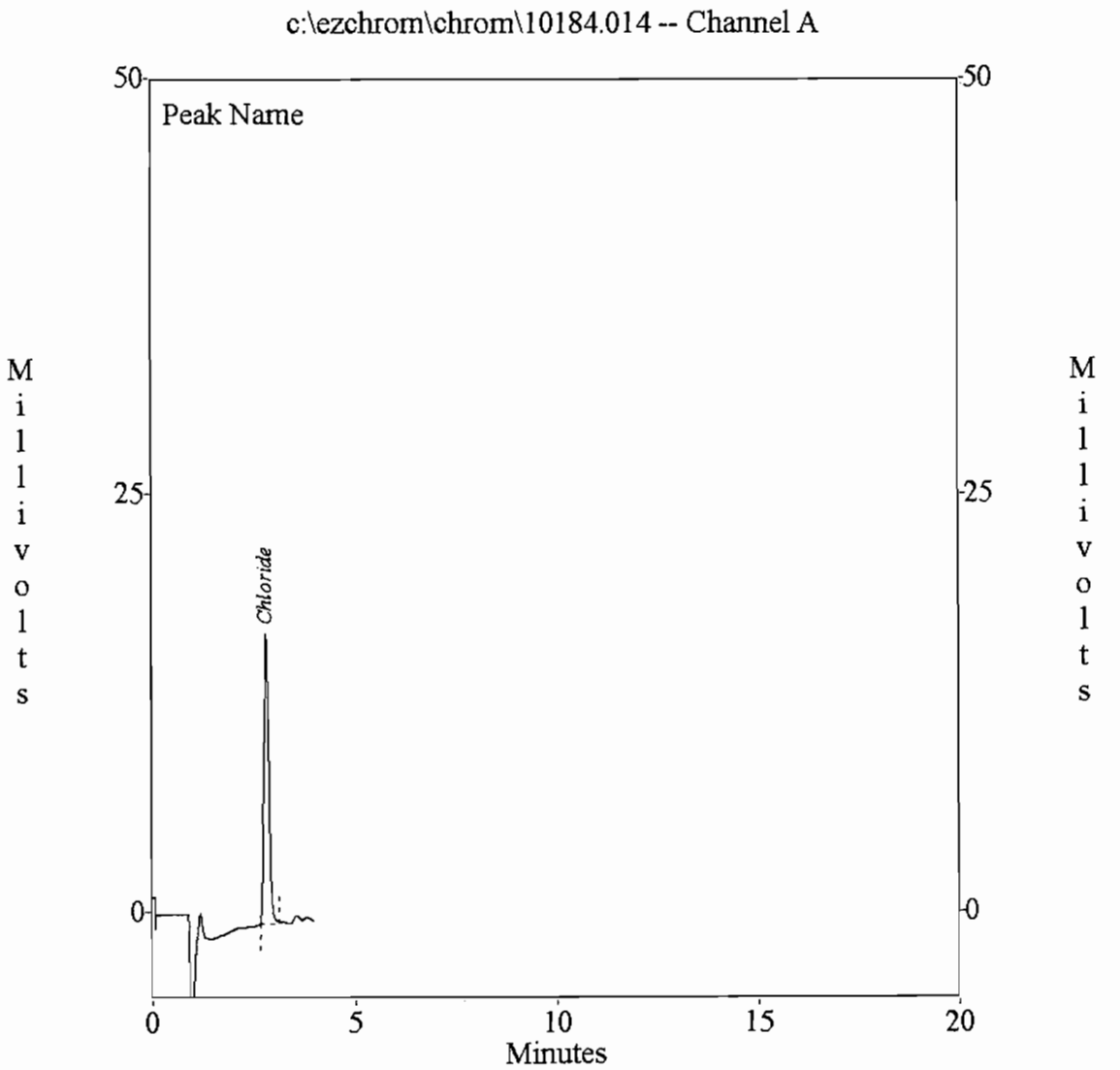
Peak Name	Ret Time	Area
Chloride	2.82	95050



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.014
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-S-2 a
Acquired : Feb 03, 2001 17:01:25

Channel A Results

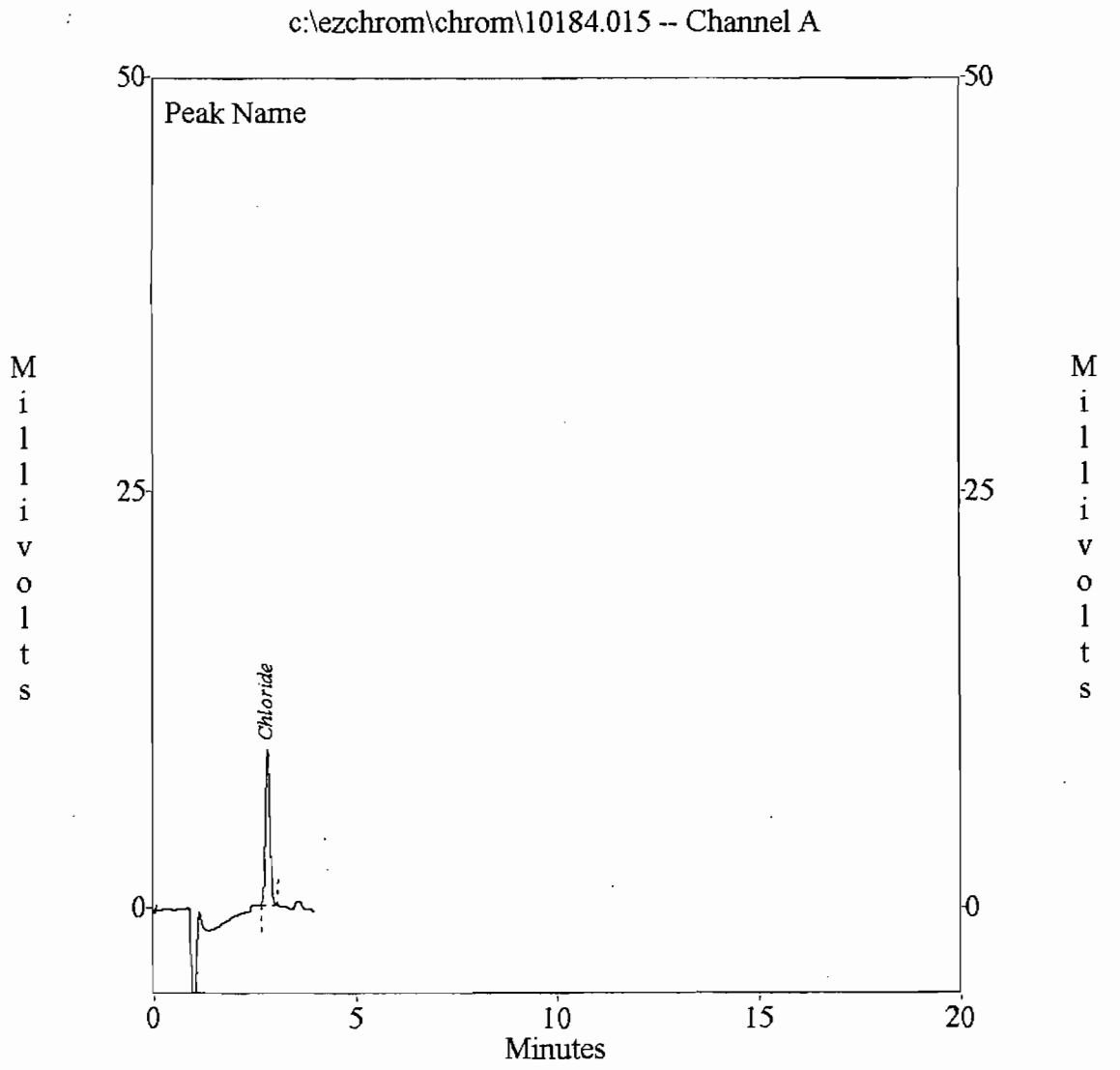
Peak Name	Ret Time	Area
Chloride	2.84	133238



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.015
Method : c:\ezchrom\methods\M26-250.met
[redacted]mple ID : 1-S-3 a
[redacted]quired : Feb 06, 2001 10:09:43

Channel A Results

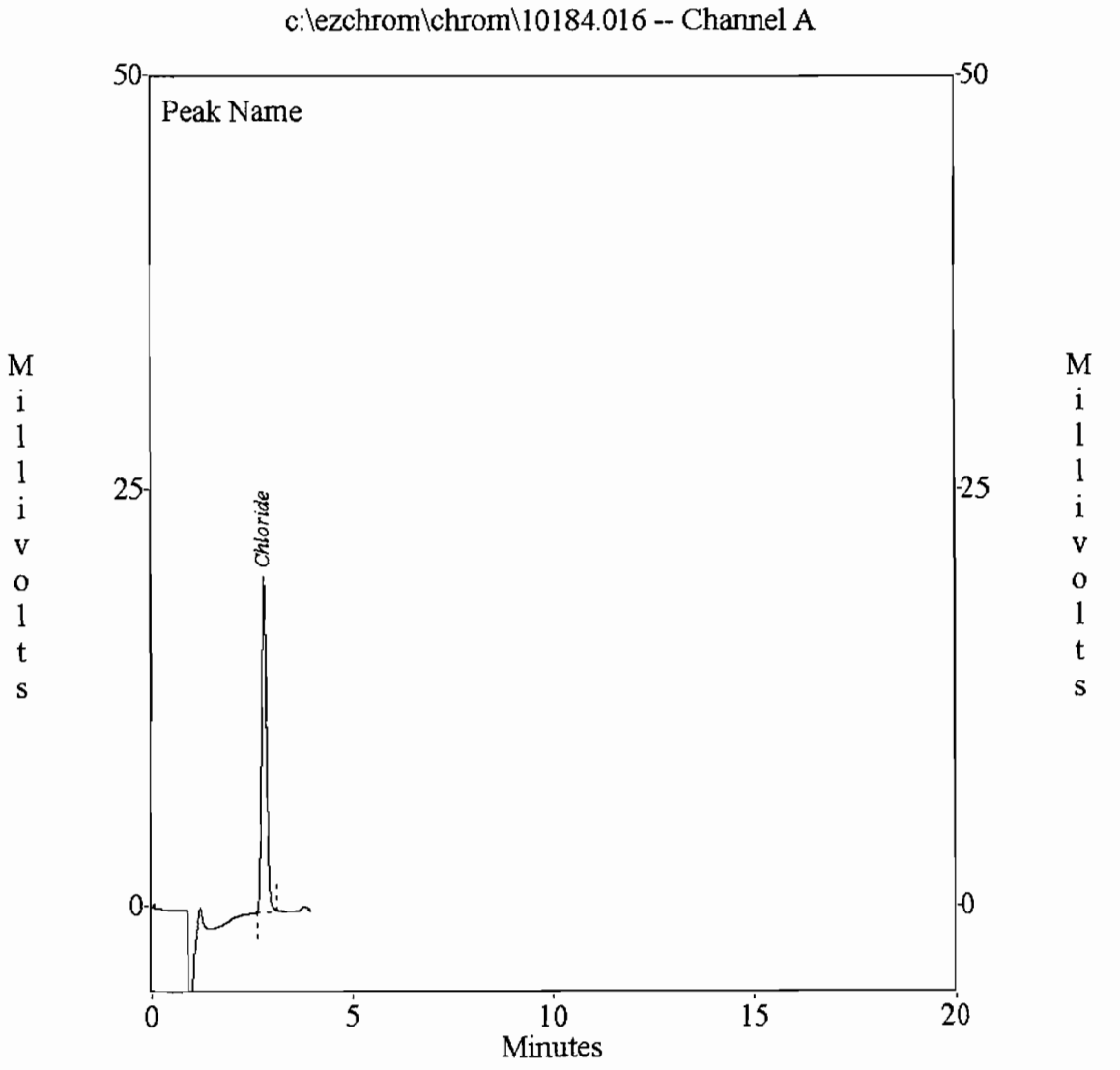
Peak Name	Ret Time	Area
Chloride	2.84	69414



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.016
Method : c:\ezchrom\methods\M26-250.met
mple ID : 2-S-1 a
quired : Feb 03, 2001 18:01:12

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.83	154137

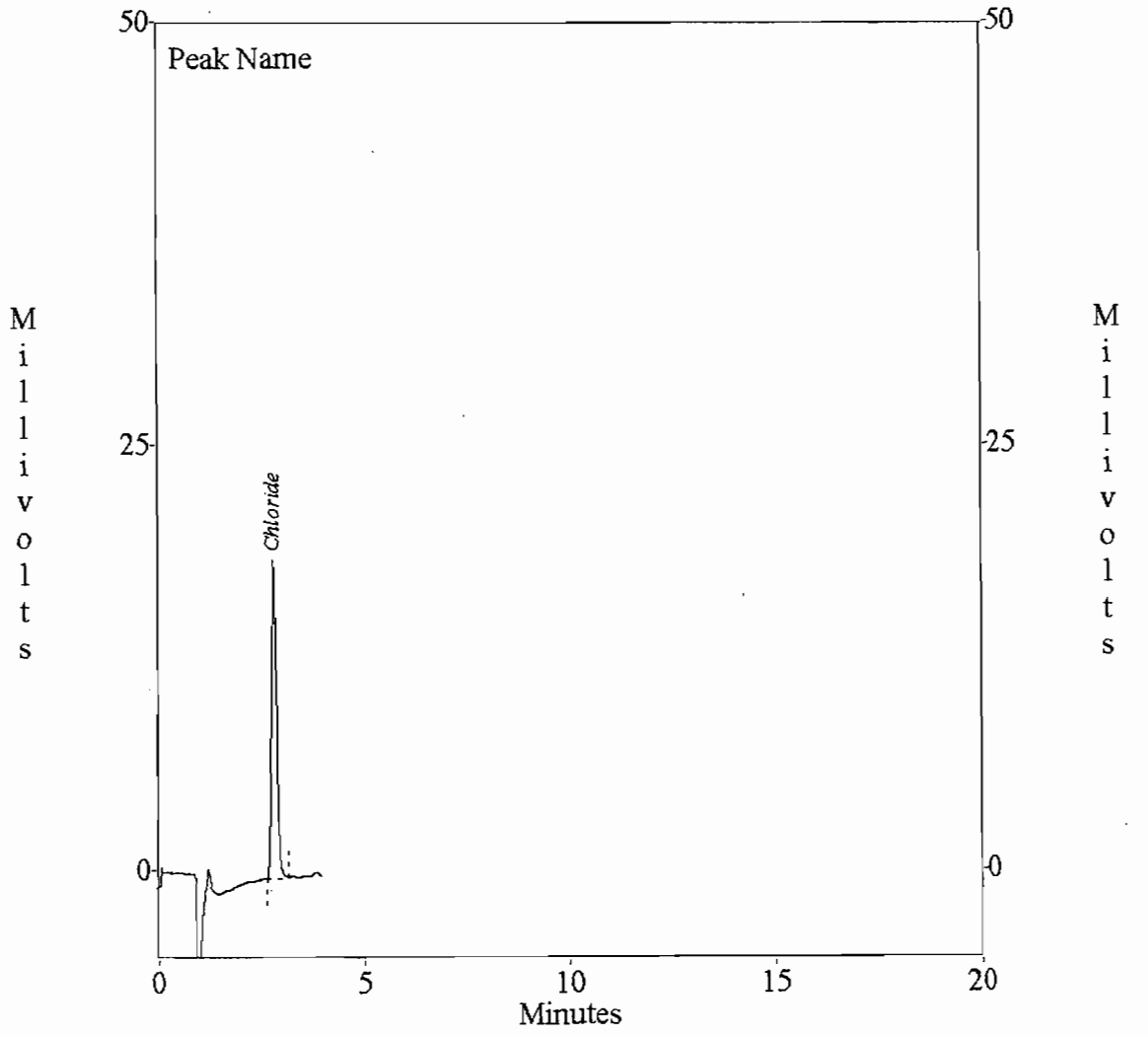


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.017
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-S-2 a
Acquired : Feb 03, 2001 18:16:36

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.83	143084

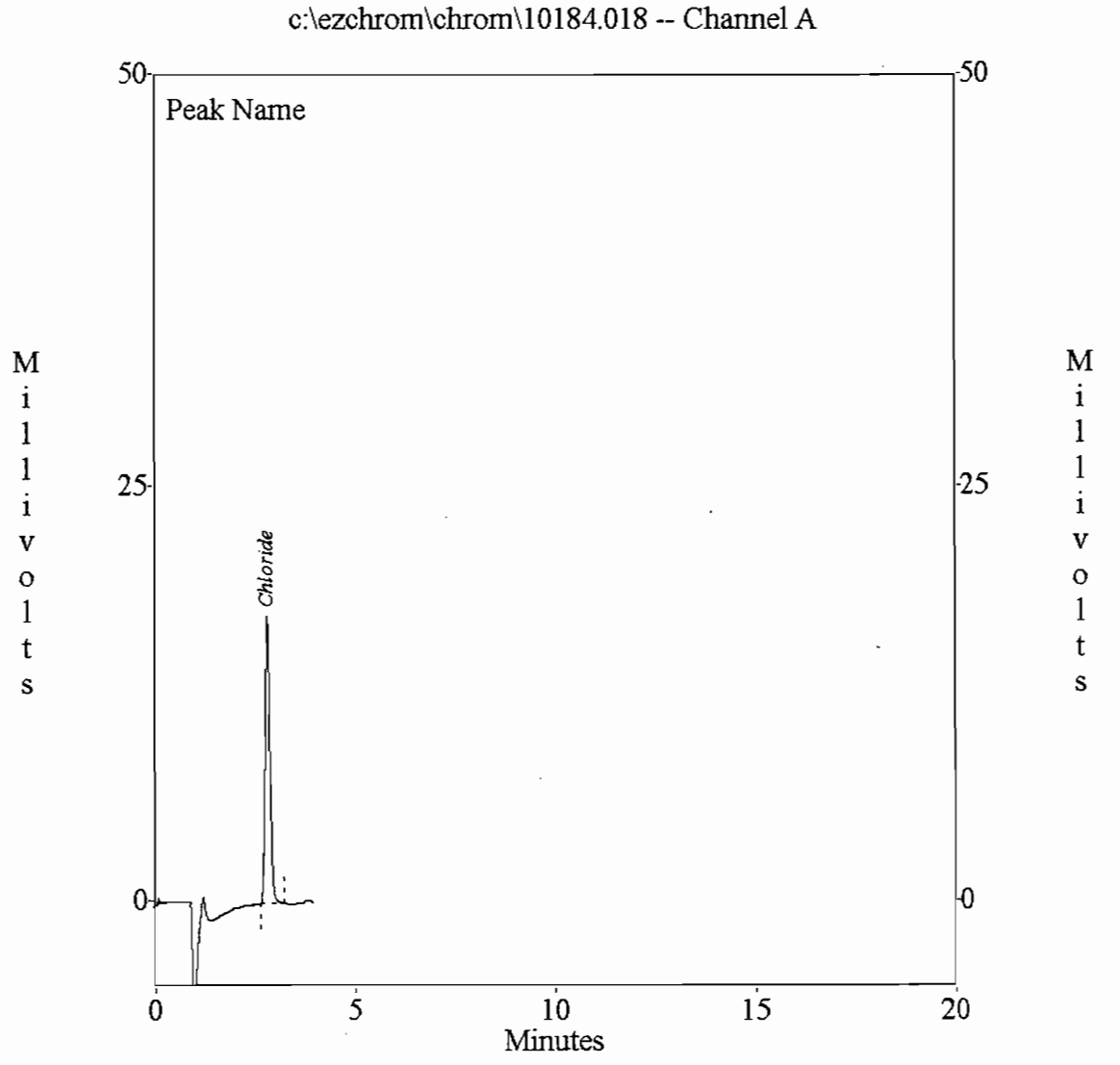
c:\ezchrom\chrom\10184.017 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.018
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-S-3 a
Acquired : Feb 03, 2001 19:12:00

Channel A Results

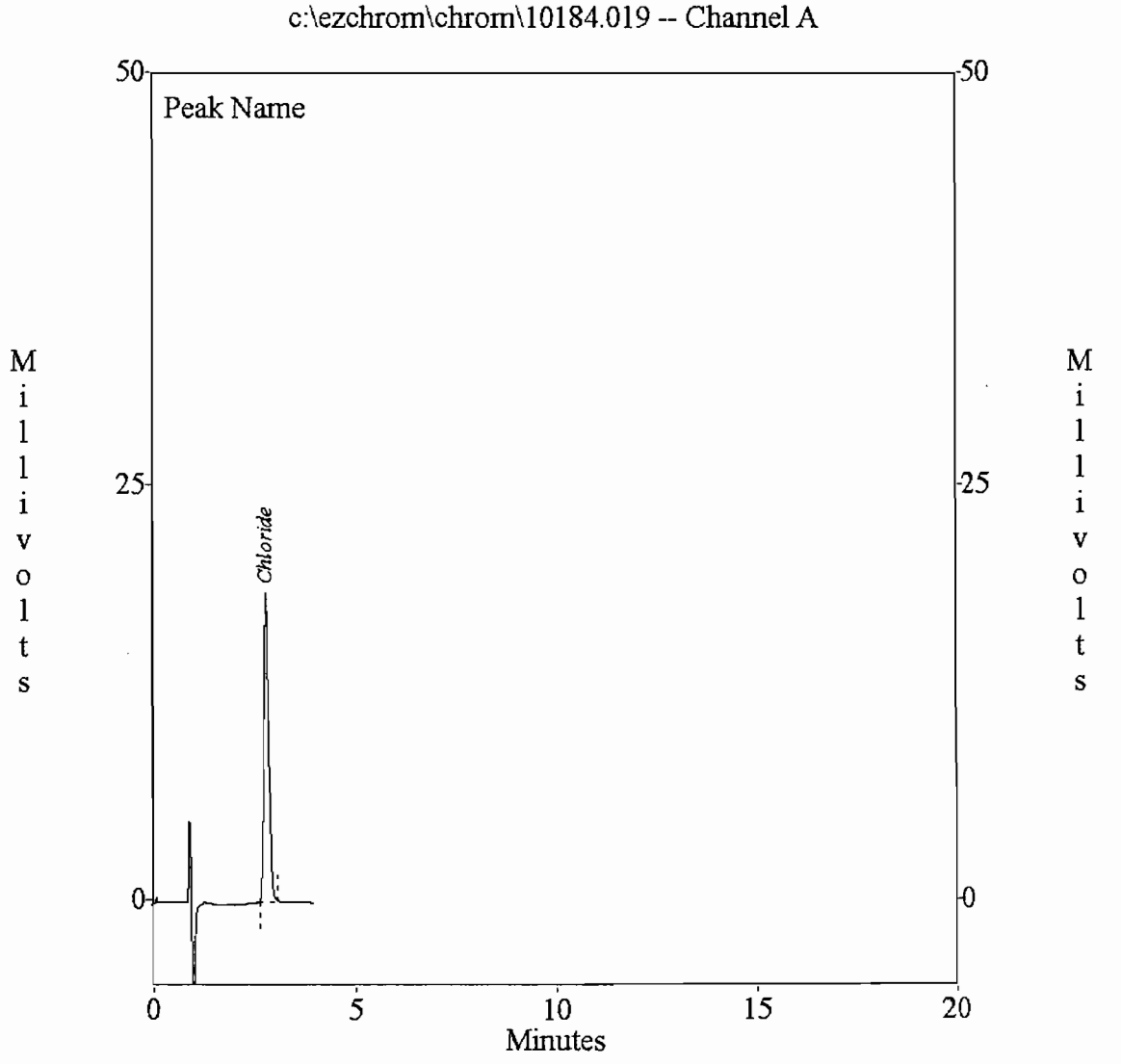
Peak Name	Ret Time	Area
Chloride	2.83	133915



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.019
Method : c:\ezchrom\methods\M26-250.met
Sample ID : J 2198 a
Acquired : Feb 03, 2001 19:16:20

Channel A Results

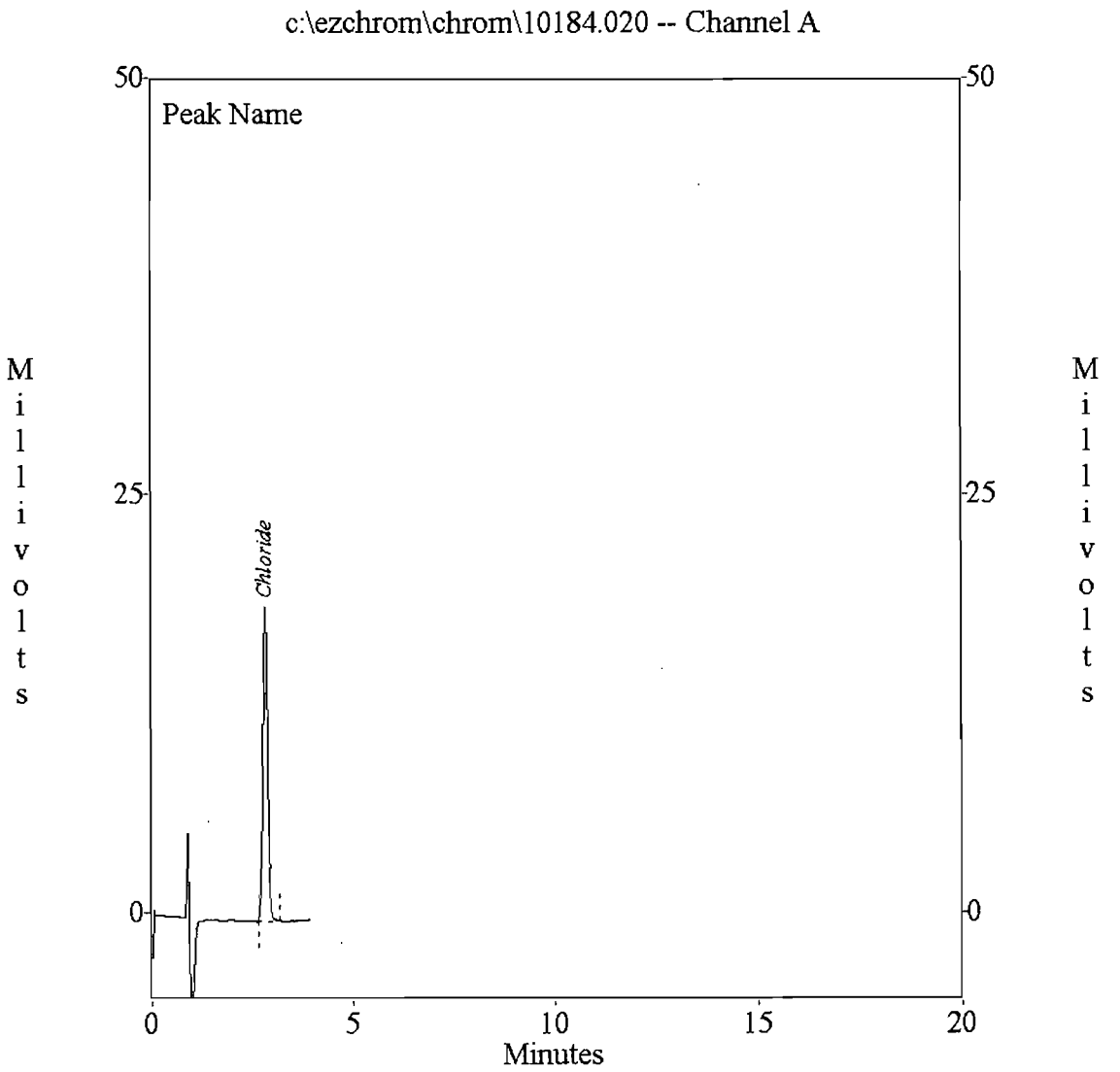
Peak Name	Ret Time	Area
Chloride	2.82	142998



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.020
Method : c:\ezchrom\methods\M26-250.met
[redacted]mple ID : J 2602 a
[redacted]cquired : Feb 06, 2001 11:08:15

Channel A Results

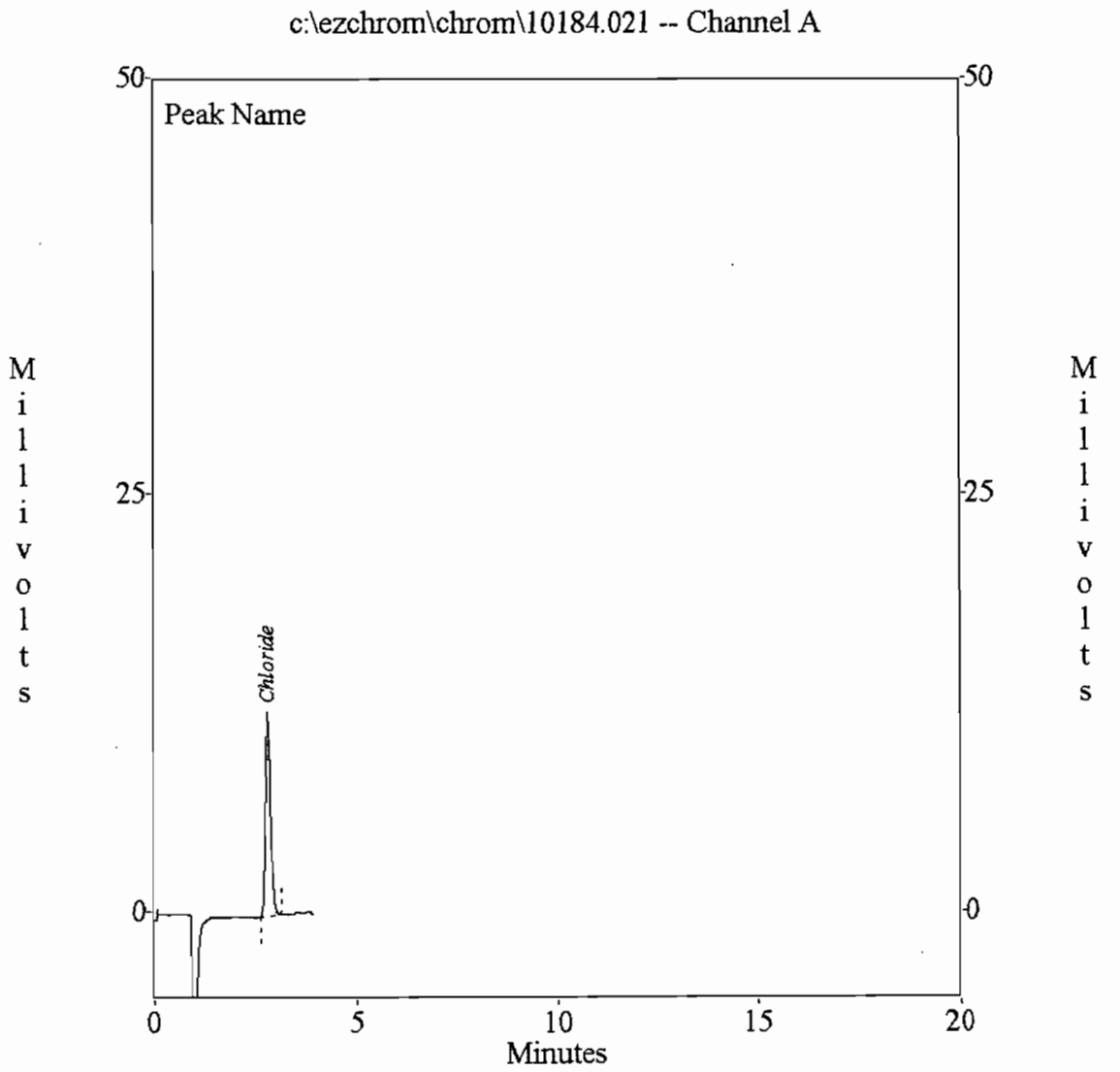
Peak Name	Ret Time	Area
Chloride	2.85	141525



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.021
Method : c:\ezchrom\methods\M26-250.met
mple ID : 1-I-1 b
quired : Feb 03, 2001 20:27:04

Channel A Results

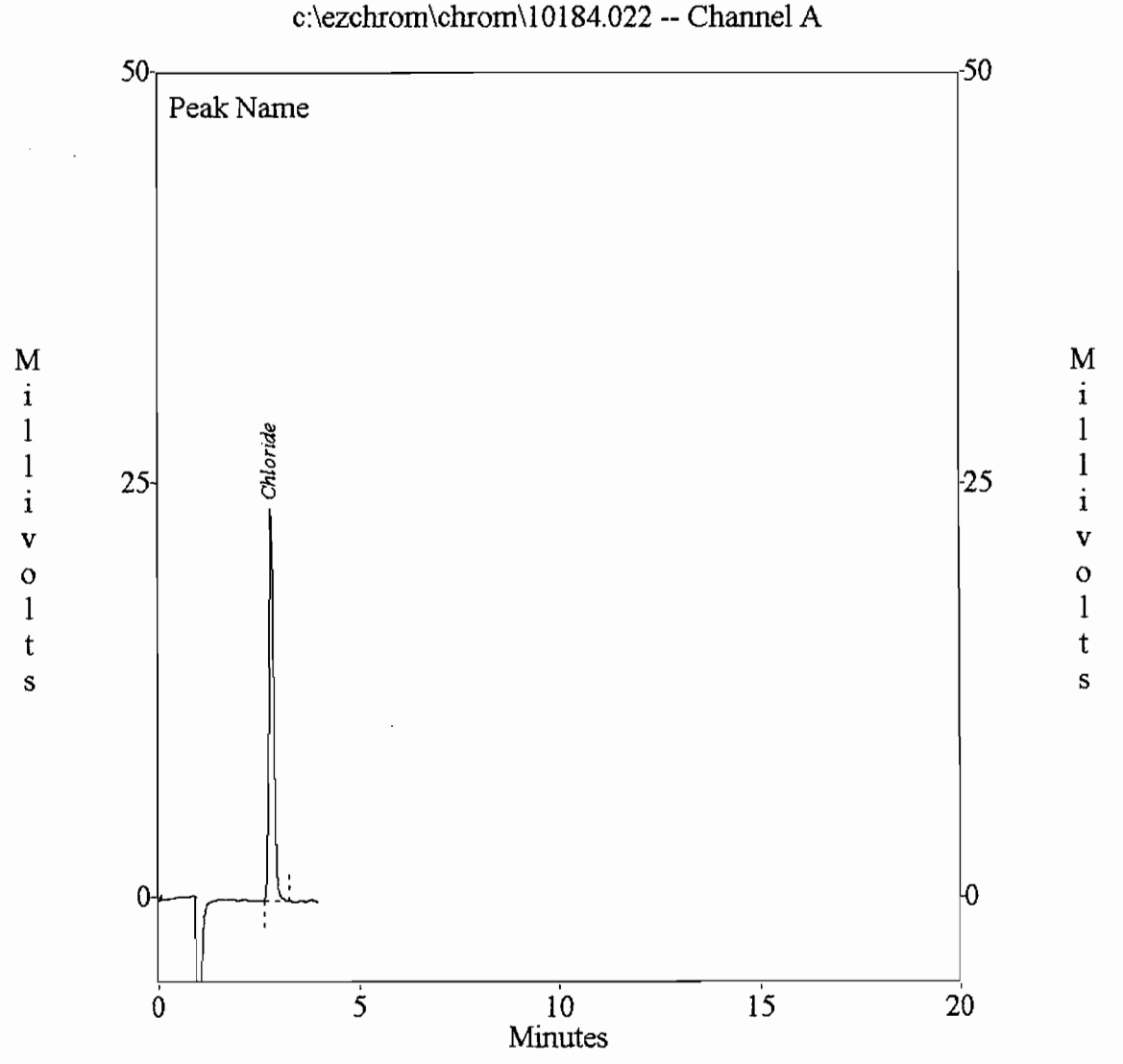
Peak Name	Ret Time	Area
Chloride	2.83	96659



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.022
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-I-2 b
Acquired : Feb 03, 2001 20:42:27

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.84	185190

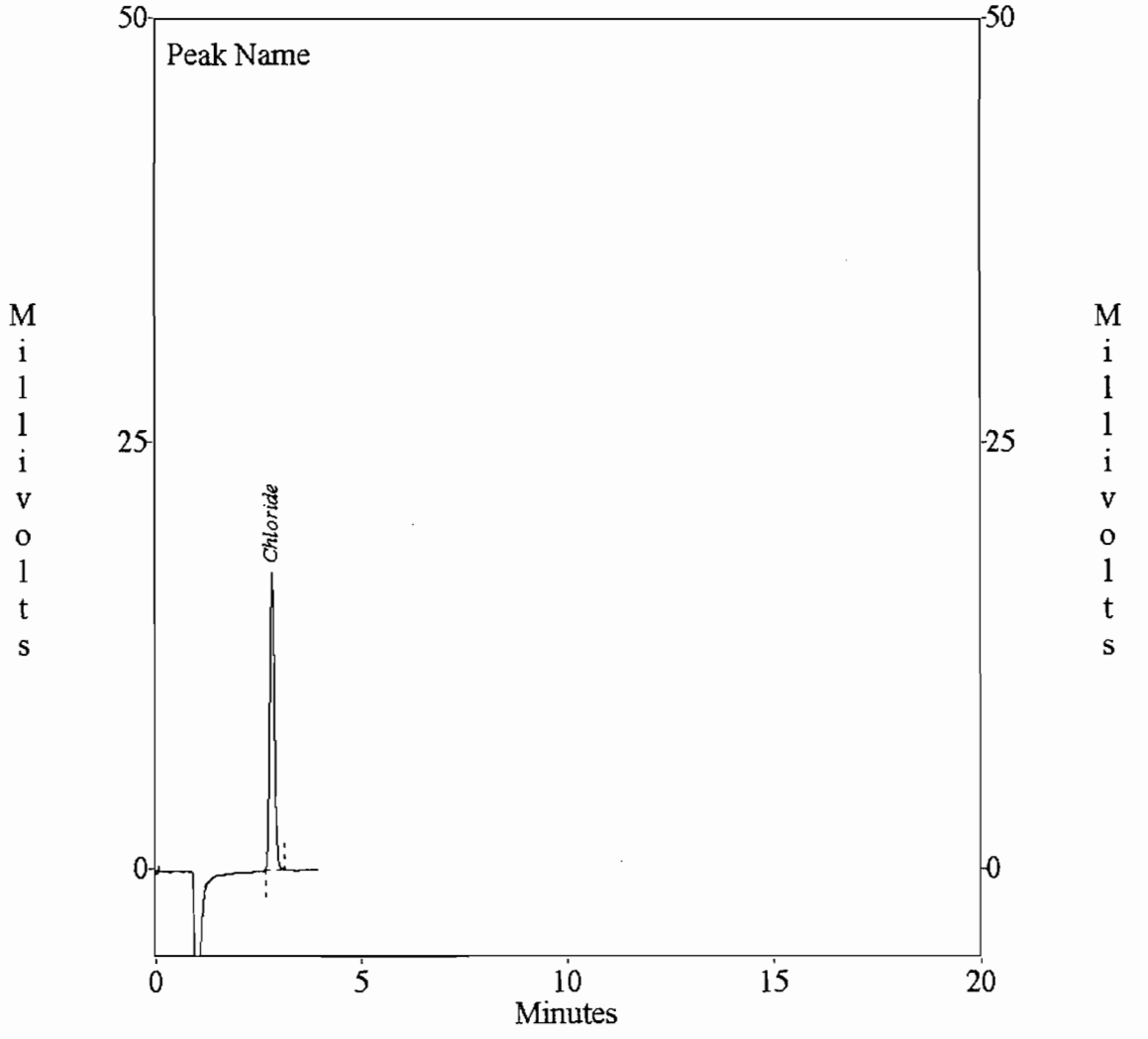


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.023
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-I-3 b
Acquired : Feb 06, 2001 12:32:38

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.85	130726

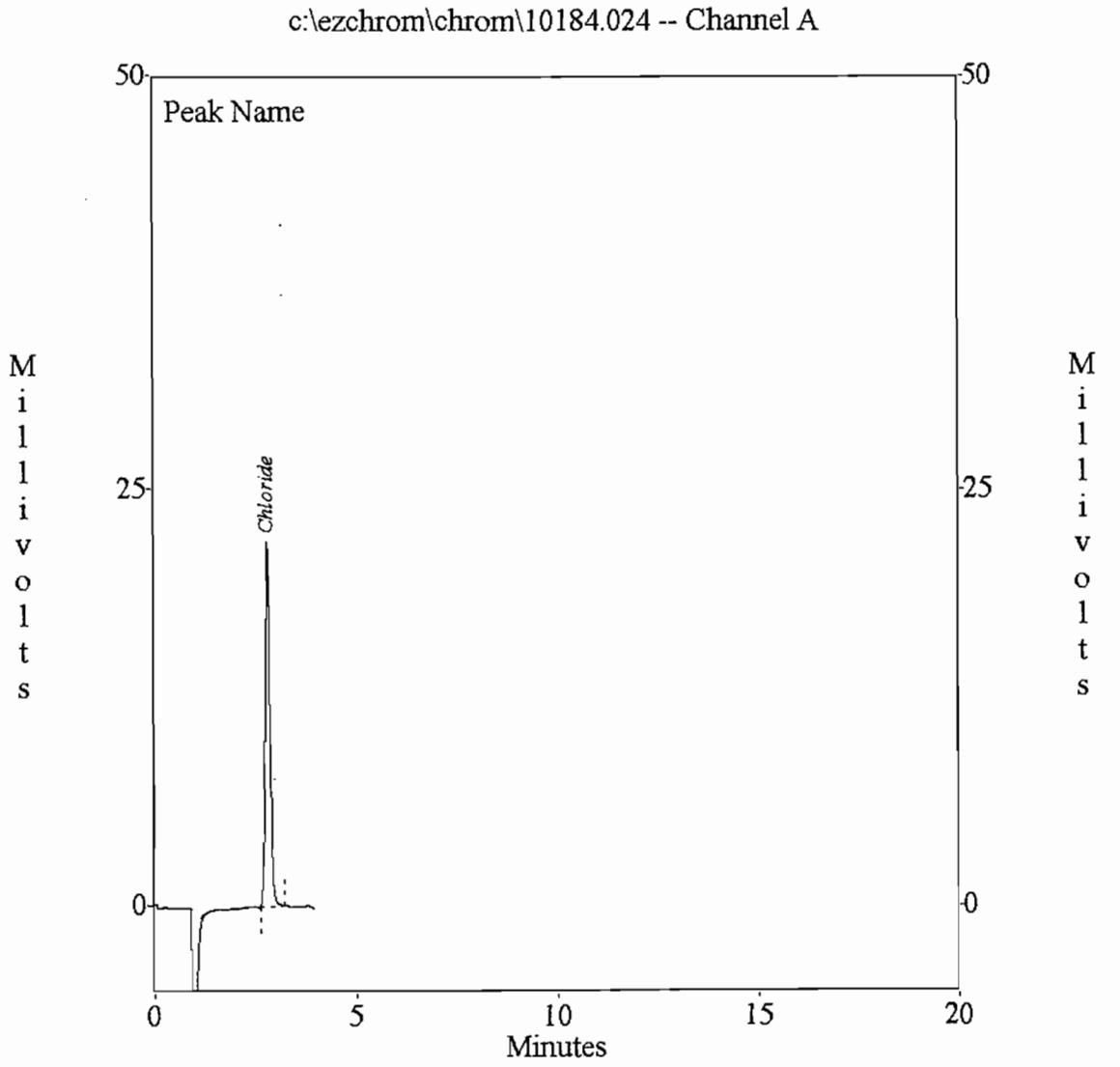
c:\ezchrom\chrom\10184.023 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.024
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-I-1 b
Acquired : Feb 03, 2001 21:13:15

Channel A Results

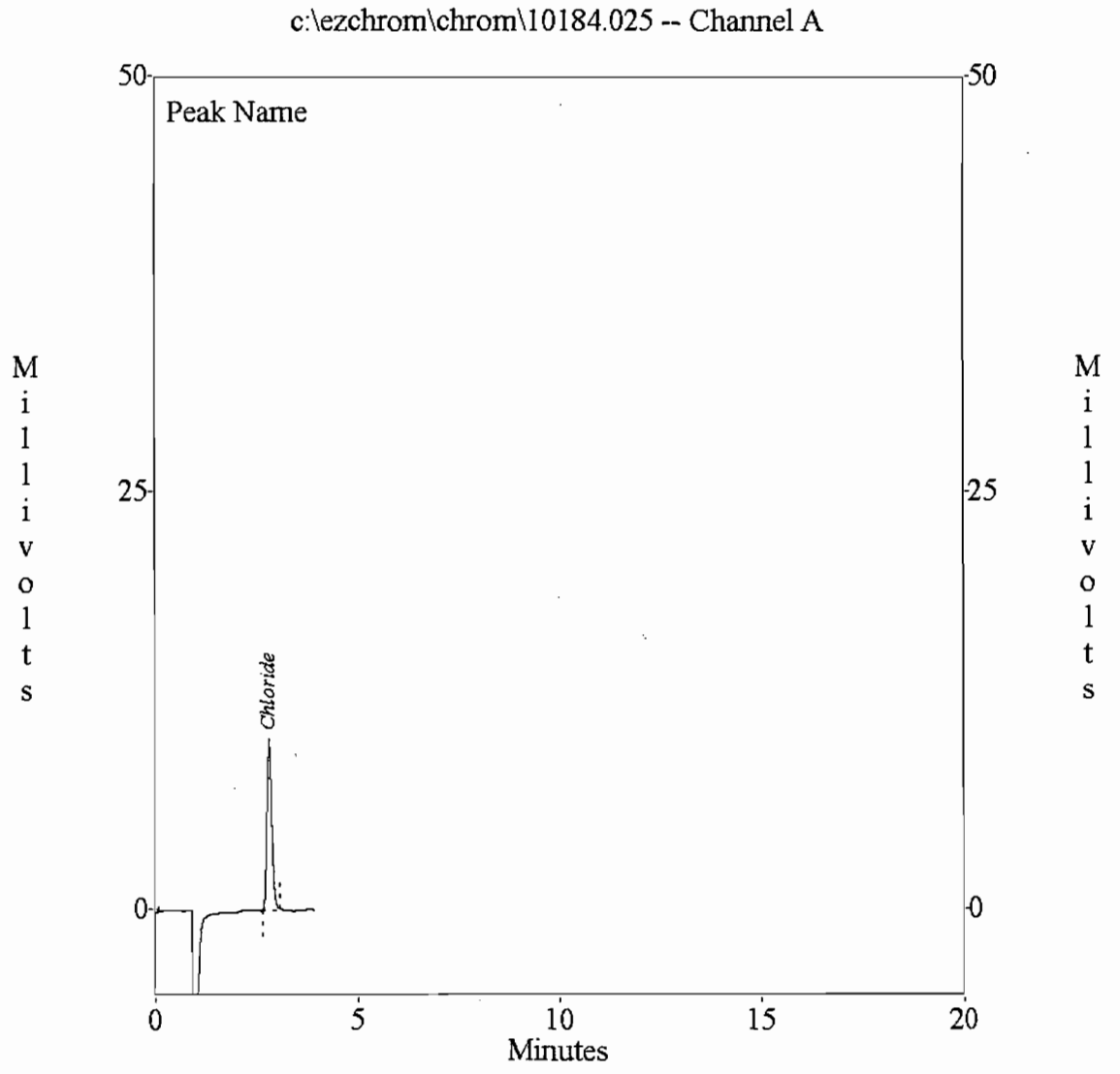
Peak Name	Ret Time	Area
Chloride	2.83	170624



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.025
Method : c:\ezchrom\methods\M26-250.met
mple ID : 2-I-2 b
quired : Feb 03, 2001 21:28:38

Channel A Results

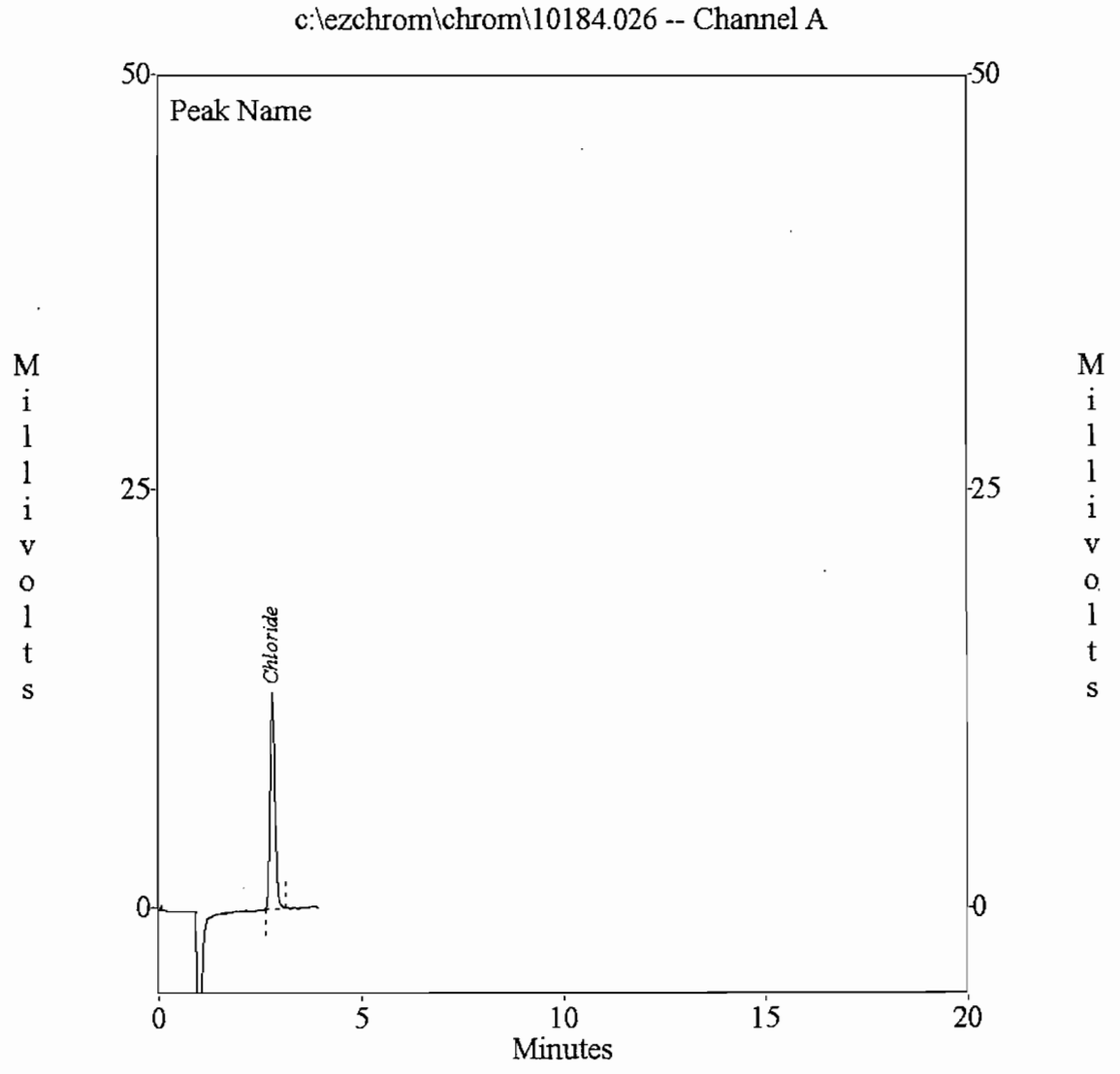
Peak Name	Ret Time	Area
Chloride	2.82	80881



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.026
Method : c:\ezchrom\methods\M26-250.met
mple ID : 2-I-3 b
quired : Feb 03, 2001 21:44:02

Channel A Results

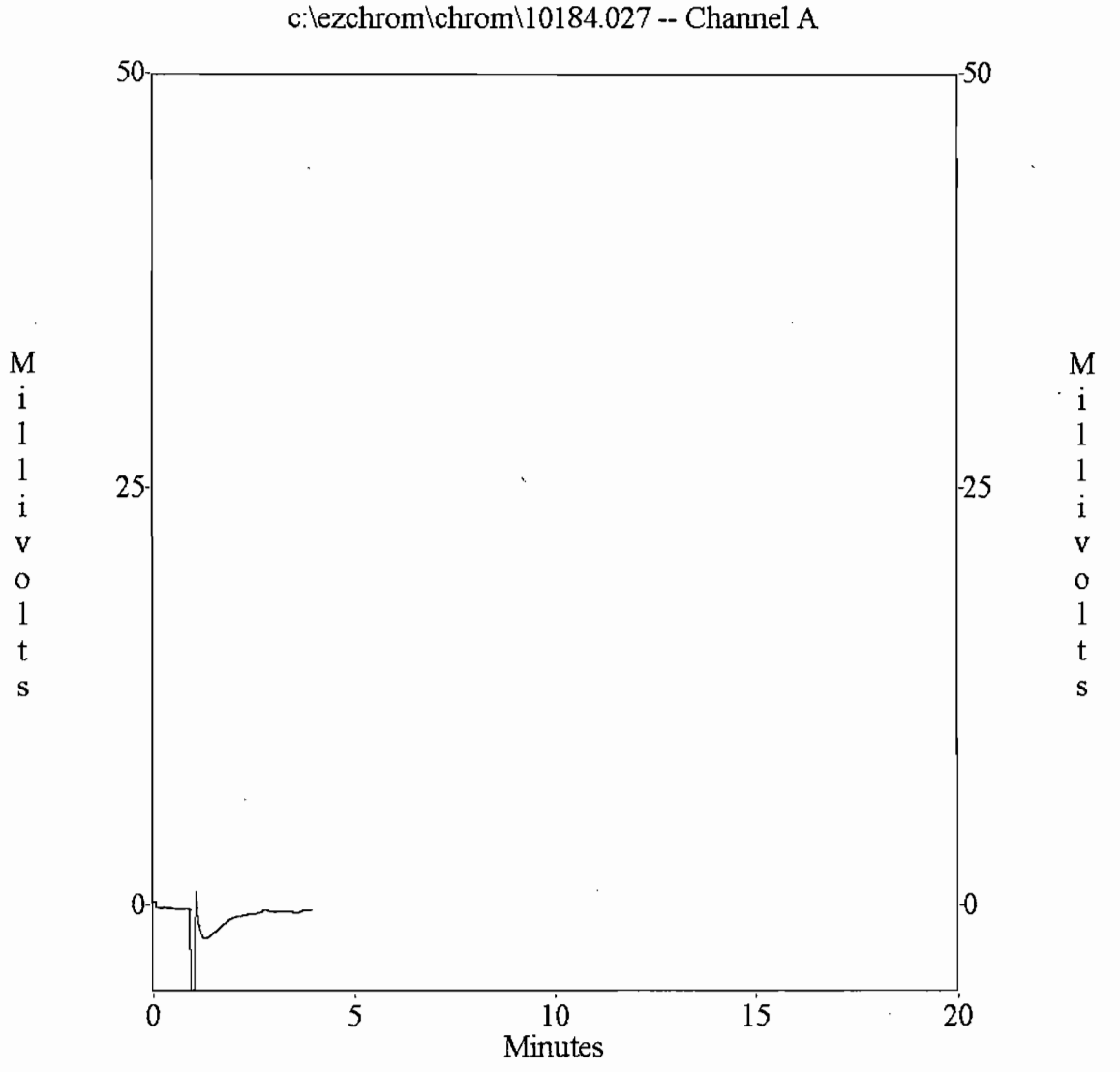
Peak Name	Ret Time	Area
Chloride	2.83	101076



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.027
Method : c:\ezchrom\methods\M26-250.met
mple ID : 0.1 N H2SO4 b
quired : Feb 03, 2001 21:59:26

Channel A Results

Peak Name	Ret Time	Area

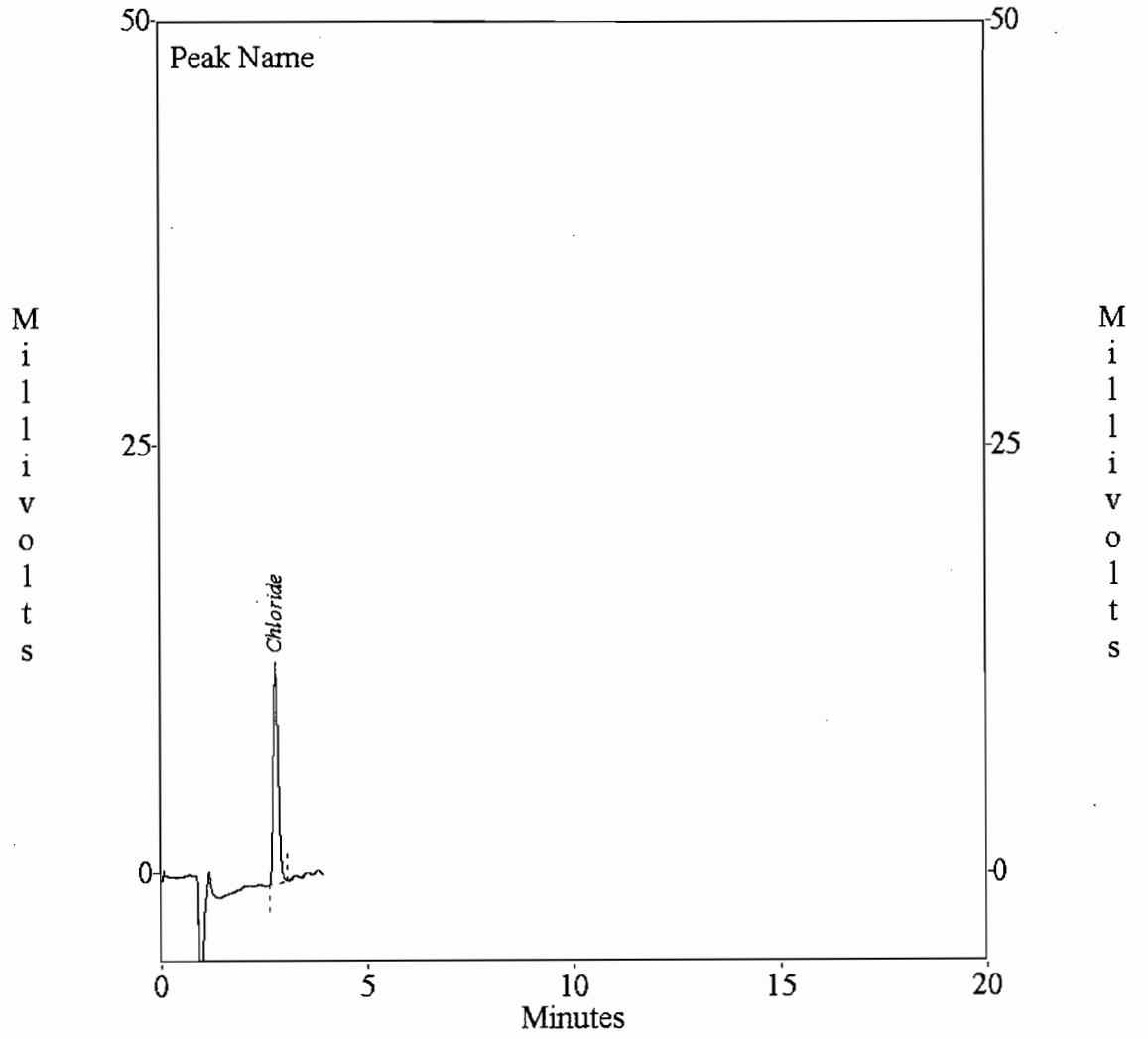


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.028
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-S-1 b
Acquired : Feb 03, 2001 22:03:49

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.82	97803

c:\ezchrom\chrom\10184.028 -- Channel A

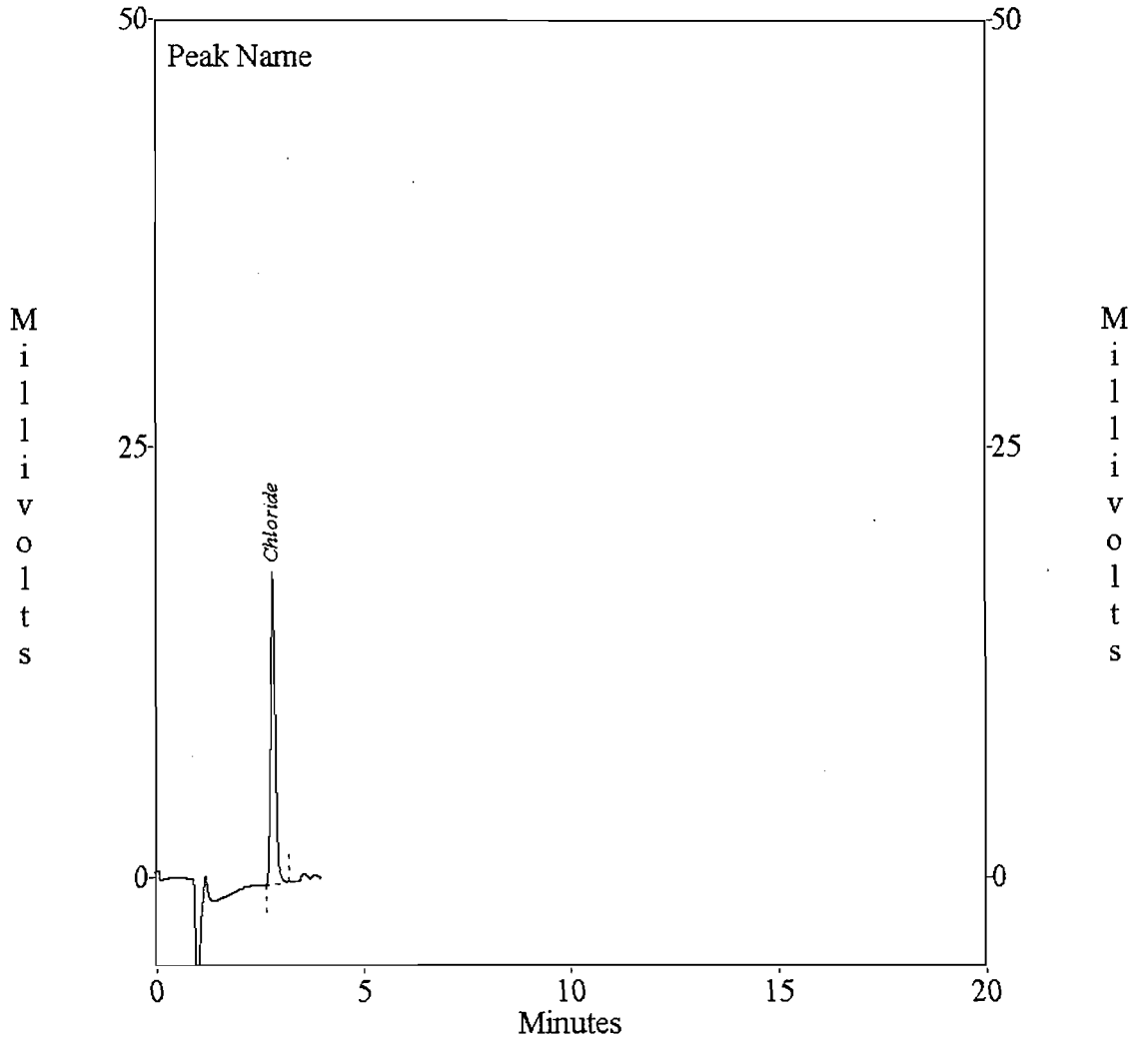


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.029
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-S-2 b
Acquired : Feb 03, 2001 22:19:13

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.83	137955

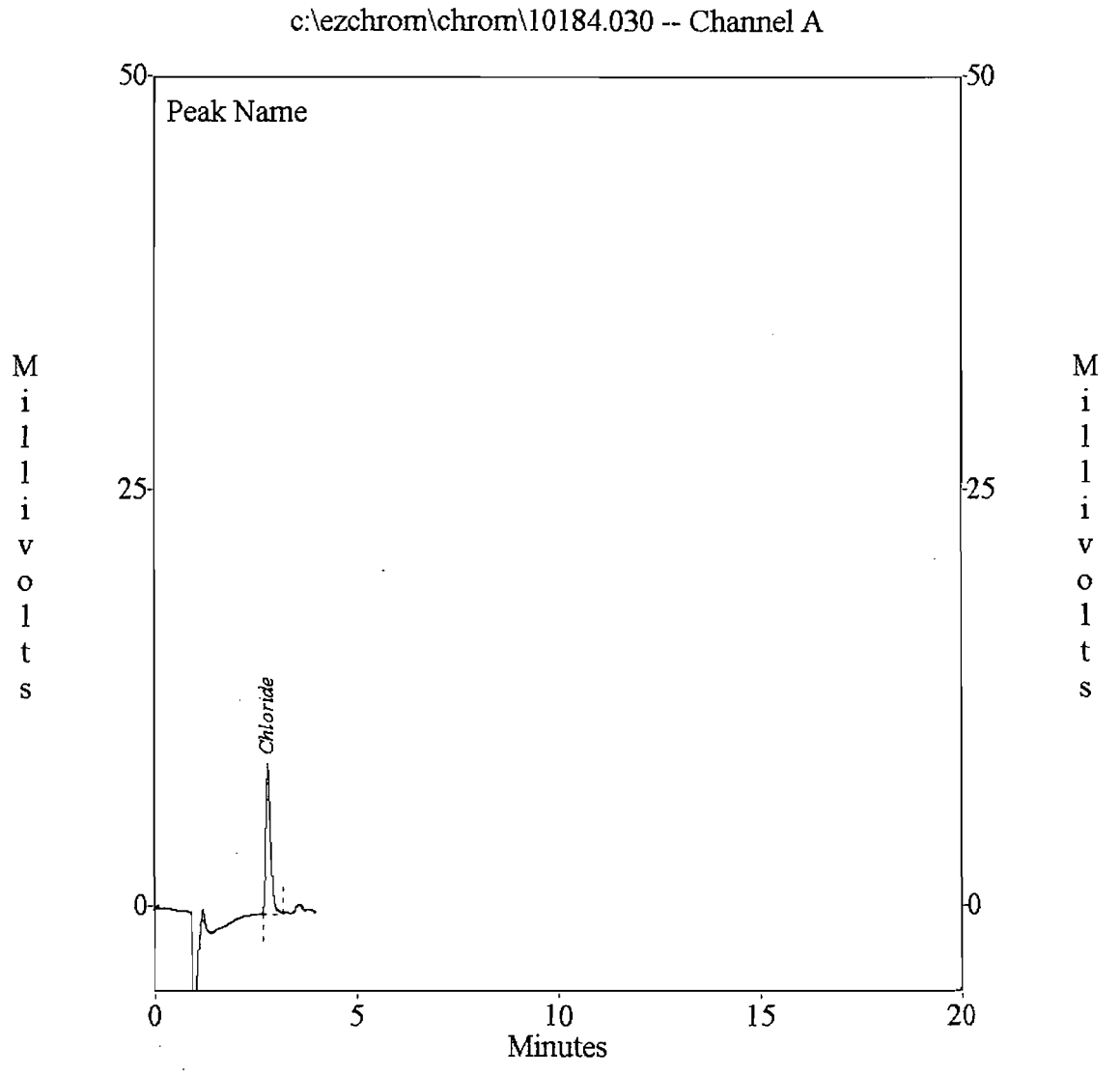
c:\ezchrom\chrom\10184.029 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.030
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 1-S-3 b
Acquired : Feb 03, 2001 23:14:37

Channel A Results

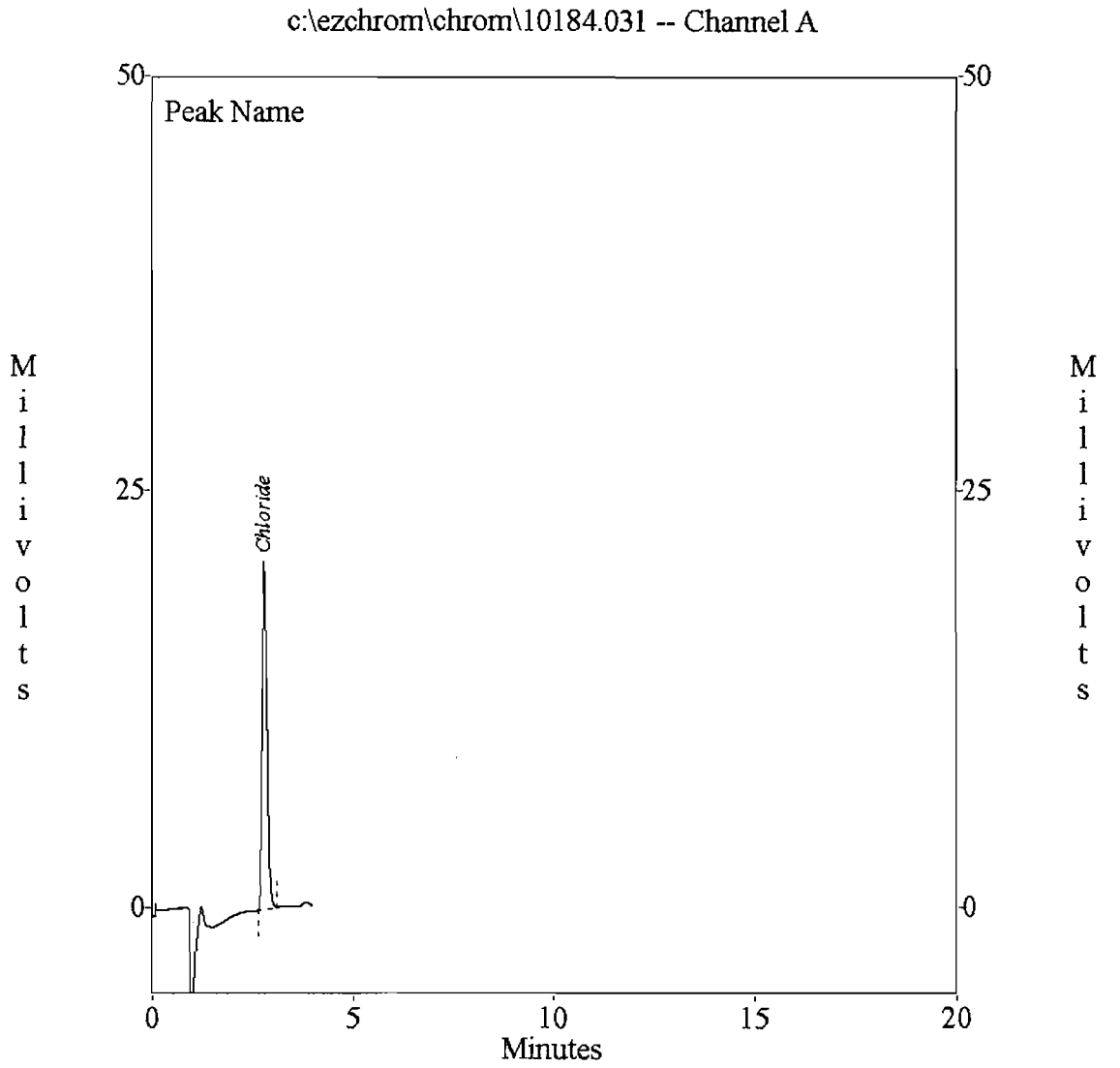
Peak Name	Ret Time	Area
Chloride	2.82	71002



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.031
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-S-1 b
Acquired : Feb 03, 2001 23:19:01

Channel A Results

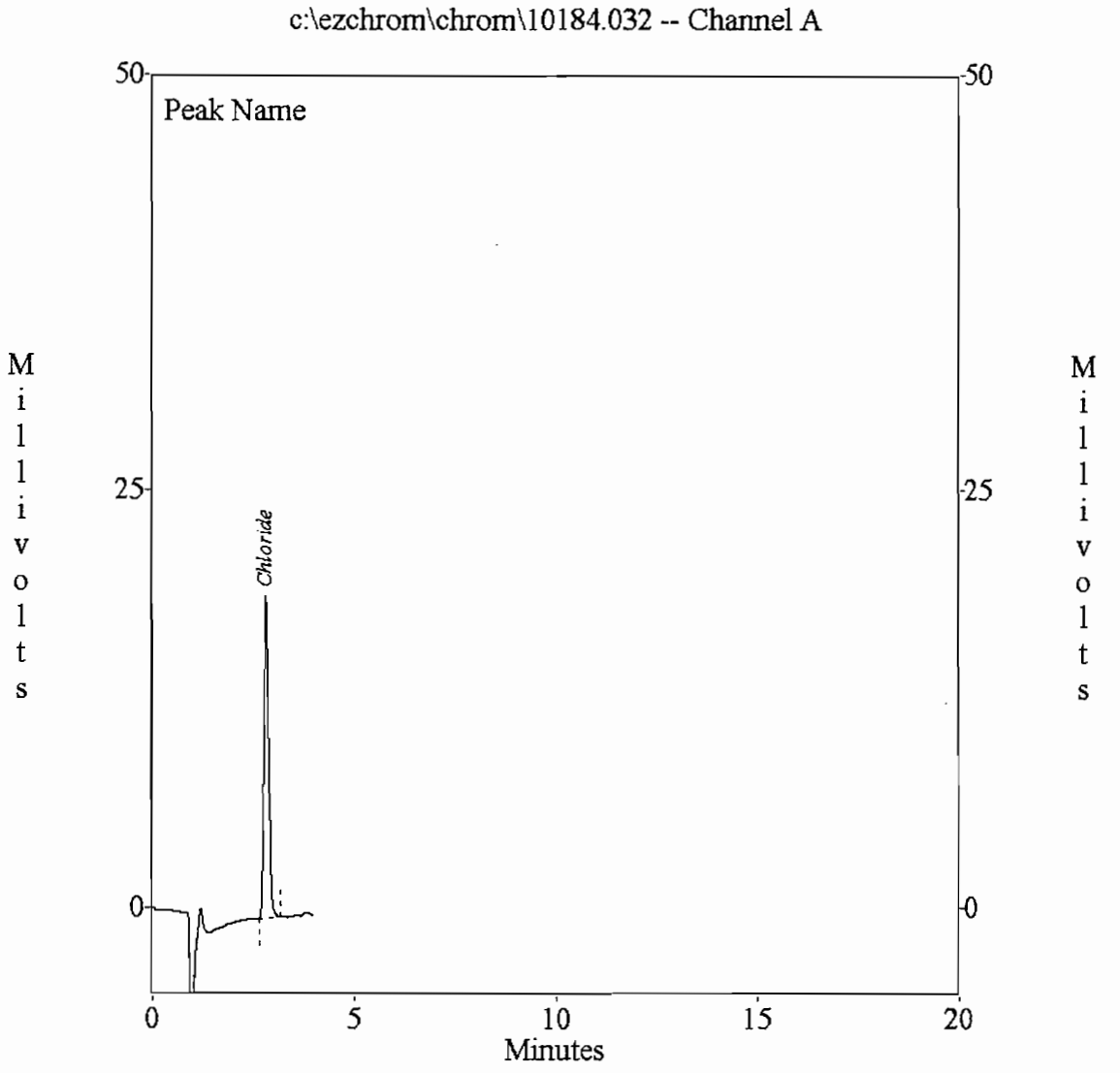
Peak Name	Ret Time	Area
Chloride	2.83	156612



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.032
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-S-2 b
Acquired : Feb 03, 2001 23:34:25

Channel A Results

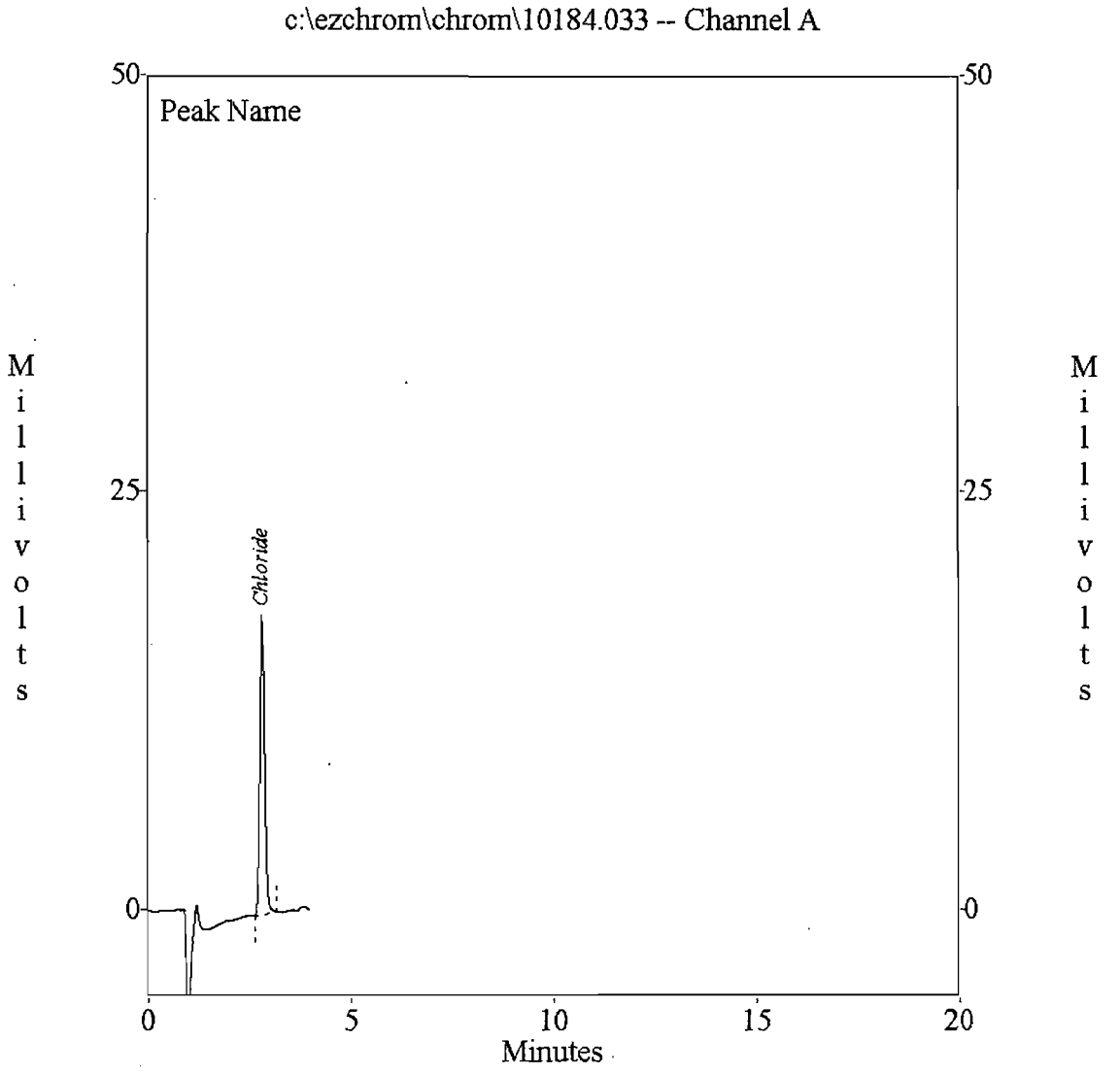
Peak Name	Ret Time	Area
Chloride	2.84	146440



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.033
Method : c:\ezchrom\methods\M26-250.met
Sample ID : 2-S-3 b
Acquired : Feb 04, 2001 00:29:49

Channel A Results

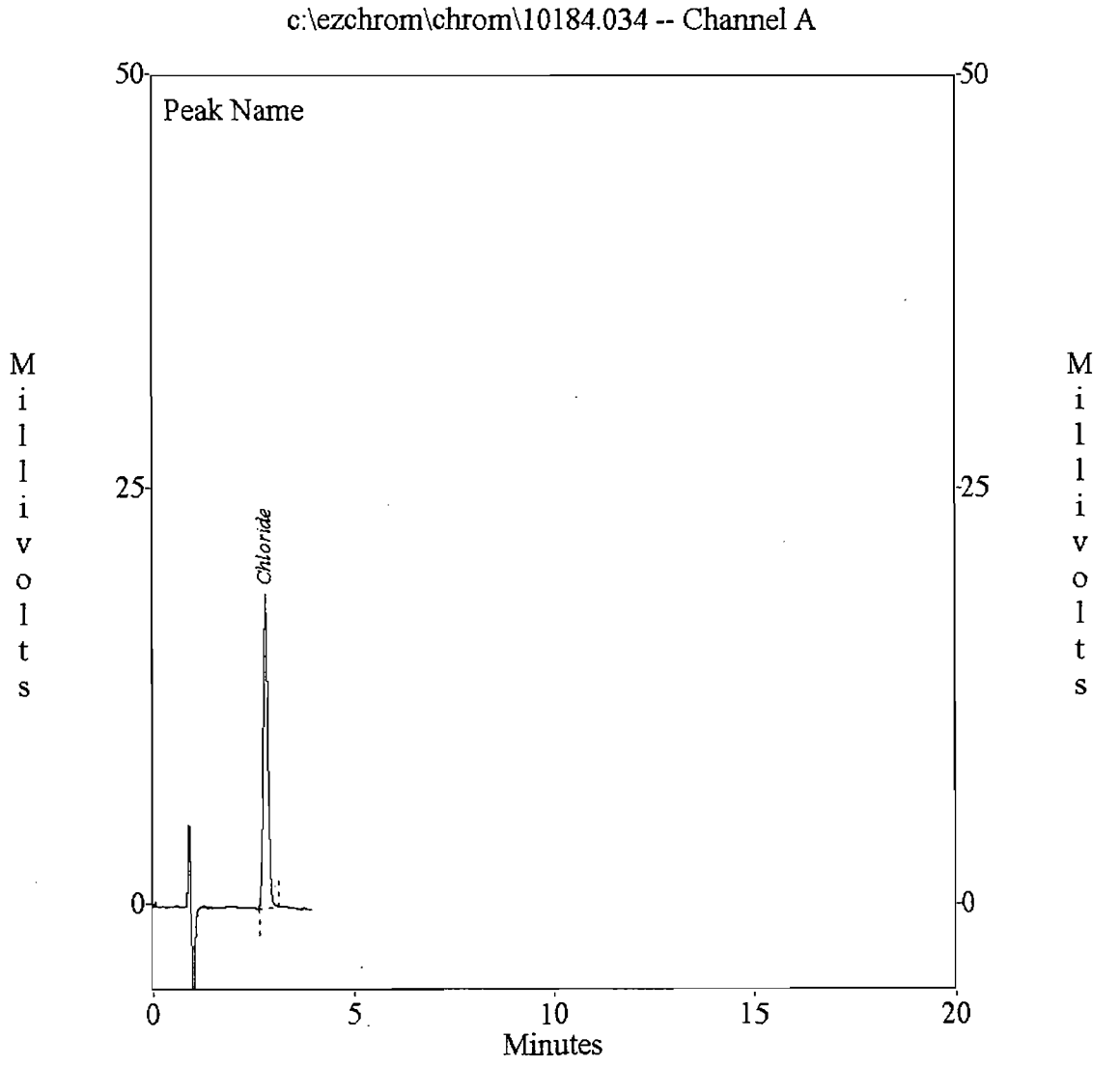
Peak Name	Ret Time	Area
Chloride	2.83	136253



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.034
Method : c:\ezchrom\methods\M26-250.met
Sample ID : J 2198 b
Acquired : Feb 04, 2001 00:34:09

Channel A Results

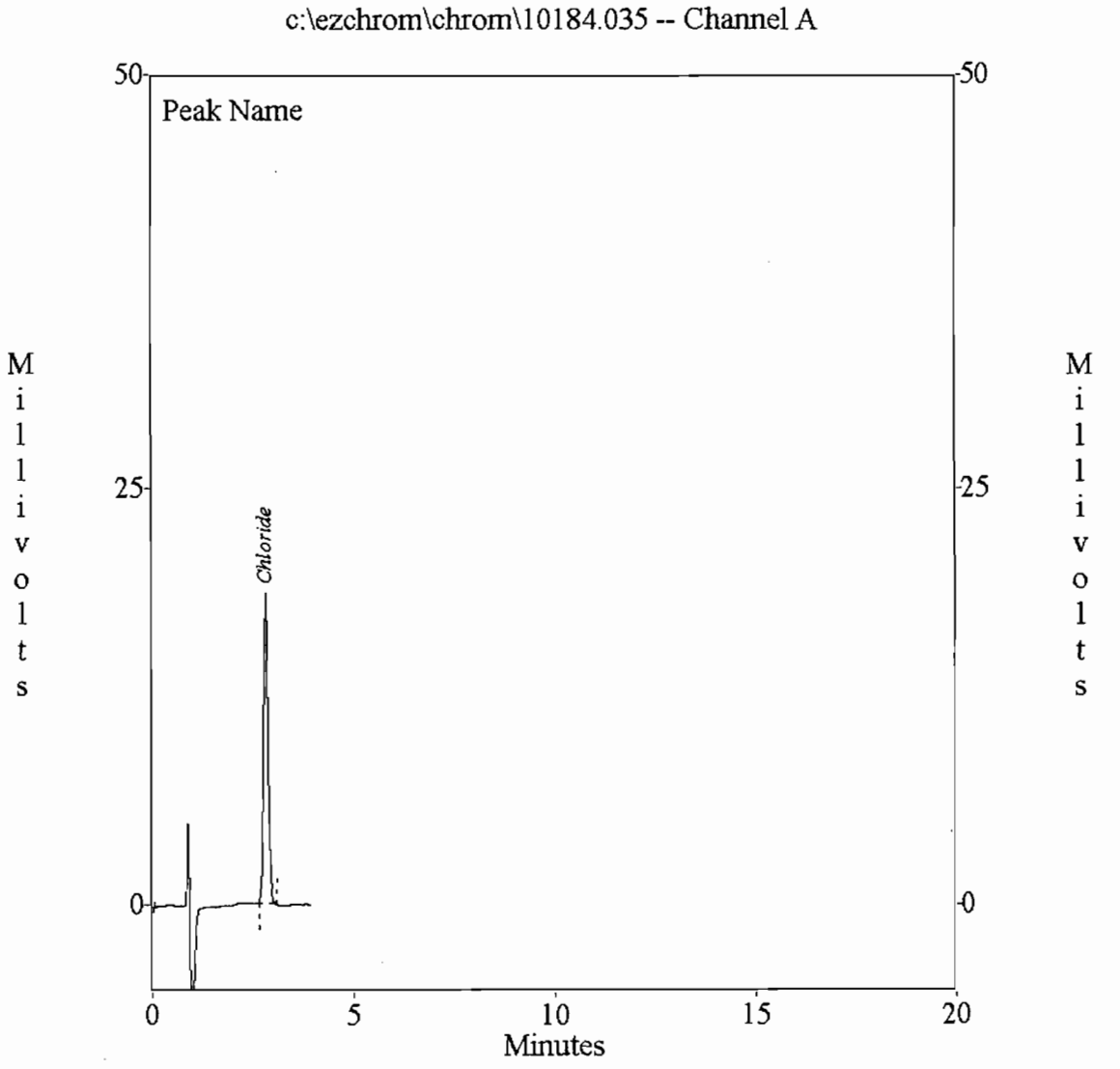
Peak Name	Ret Time	Area
Chloride	2.82	143946



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.035
Method : c:\ezchrom\methods\M26-250.met
mple ID : J 2602 b
quired : Feb 06, 2001 11:12:38

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.85	139662

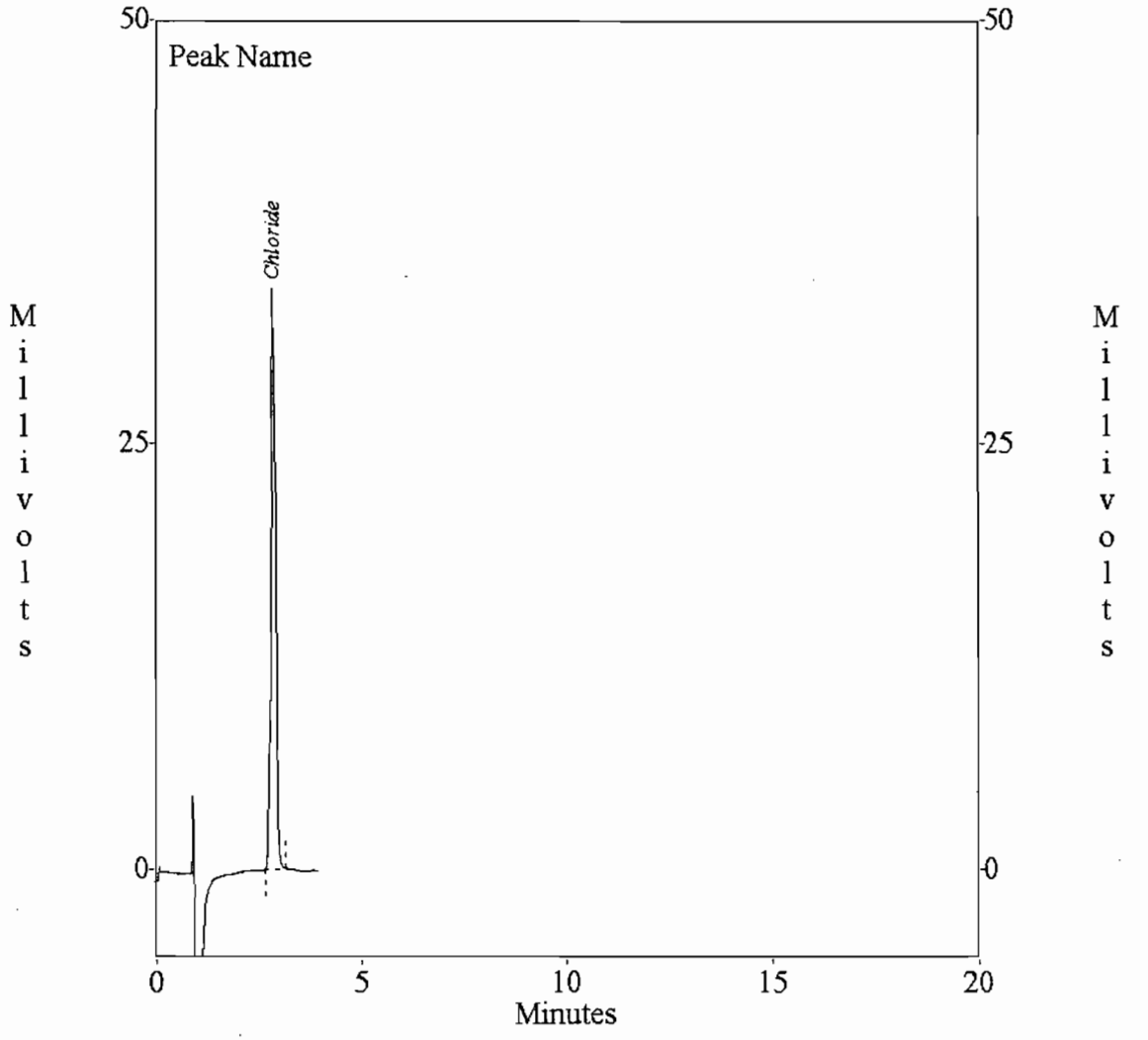


Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.036
Method : c:\ezchrom\methods\M26-250.met
[redacted]mple ID : SPIKE a
[redacted]quired : Feb 06, 2001 11:28:30

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.88	257500

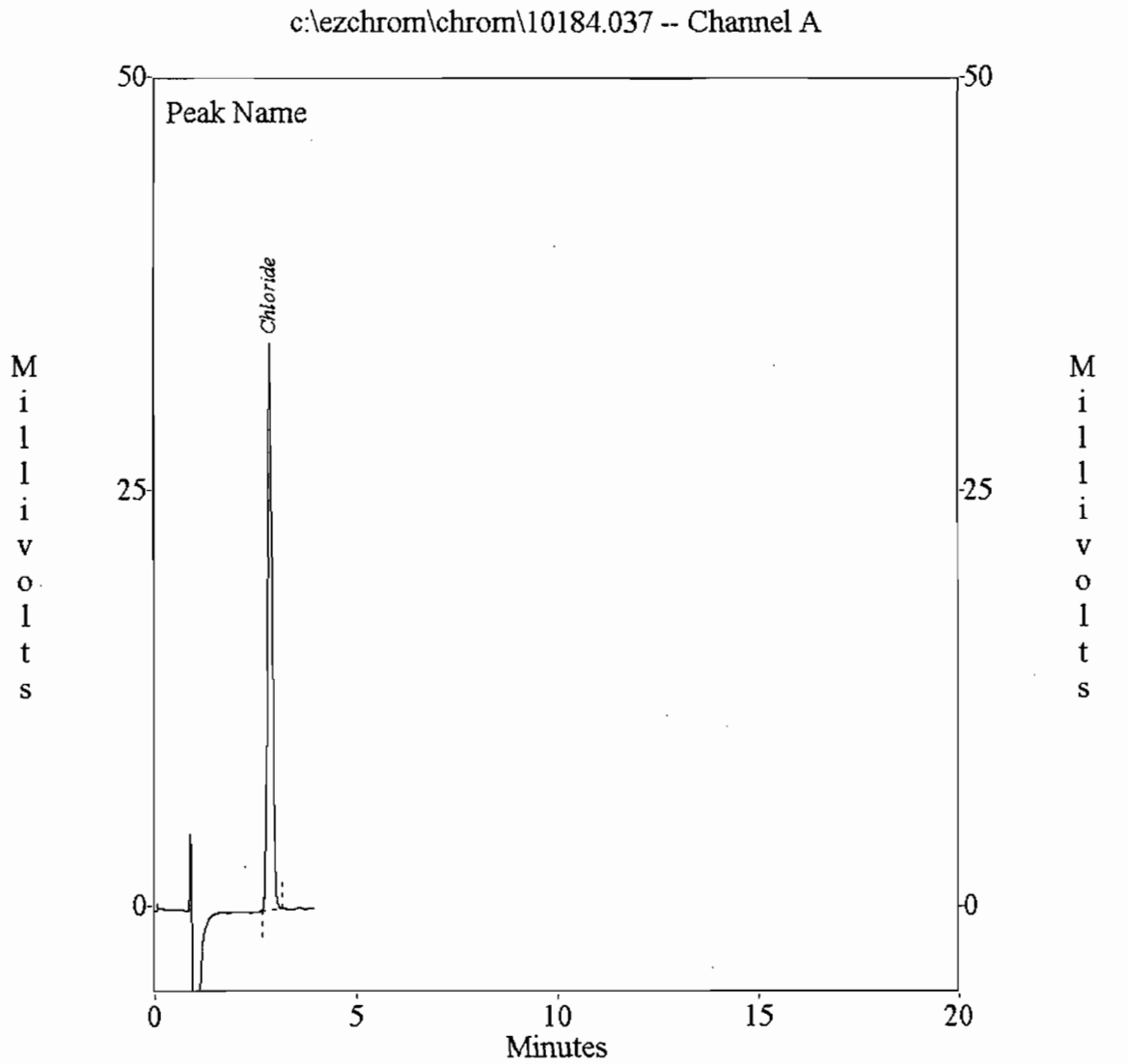
c:\ezchrom\chrom\10184.036 -- Channel A



Instrument: Ion Chromatograph (Clyde) Column: Hamilton PRP-X100 250x4.6mm
Eluent: 4mM Phthalic Acid pH 3.6 Flow Rate: 2.0 mls/min
Gain 0.2 µS/cm 50 µl Inj Vol Temp 40 C
File : c:\ezchrom\chrom\10184.037
Method : c:\ezchrom\methods\M26-250.met
Sample ID : SPIKE b
Acquired : Feb 06, 2001 11:33:21

Channel A Results

Peak Name	Ret Time	Area
Chloride	2.88	257463



APPENDIX C.3
Analytical Data

Mercury and Metals

OXFORD Laboratories Inc.

Analytical and Consulting Chemists
1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 01-31-01
DATE REPORTED 02-15-01
01W6209

TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: AUDIT AMPULES (M29 Hg)

1. M29-0053-01/HG-0506
2. M29-0052-01/HG-0462
3. METHOD SW846-

RESULTS

	1	2	3
Mercury, as Hg, ng/mL	212	115	7470

ROGER OXFORD, CHEMIST

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/26/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Sample Number	Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					Unit 1	Carbon				
					Unit 2	Carbon				
					~~QCI-700A~~	~~Audit~~				
					~~QCI-700B~~	~~Audit~~				
			1/31 per Gary analyze							
					M29-0053-01/HG-0506	Hg				
					M29-0052-01/HG-0462	Hg				

Signature	Herb Dixon	Company	TESTAR	Date	1/29/01
Checked By	[illegible]	Company	TESTAR	Date	1/29/01
Received By	Laurie Kelly	Company	Oxford	Date	1-31-01
Analytical Parameters	Mercury, beryllium, cadmium, and lead on the carbon samples labelled Unit 1 and Unit 2				
	Beryllium, cadmium, and lead on the audit QCI-700A, mercury only on audit QCI-700B				
Sample Condition					

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6209**
Report Date: 2-8-01

Client: Testar Inc. Project/P.O. #: 10184
Sample Arrival Date: 1-31-01 Chain of Custody: Yes
Condition of Sample upon Arrival: Shipped by Federal Express
No problems noted.
Observed Discrepancy/Comment: Volumes were not marked.
No sample loss observed
Requested Method of Analysis: EPA Method 29 (Audits)
SW846-7470

Sample Preparation per: Audits prepared per enclosed instructions
Sample Analysis per: SW846-7470

Instrumentation Used:
PE AAnalyst 100 . . . . . .No
PE FIMS . . . . . Yes (CVAA Hg)
PE Zeeman 5100 GFAA . . . . No
PE ICP-MS Elan 5000 . . . . . .No
PE ICP-MS Elan 6000 . . . . . .No

Spike Requirements: Spike recovery analyses were not performed on these audits.

Duplicate Requirements: Relative percent difference of ± 3% for Hg was met.
Note: Average was reported.

Detection Limit Requirements: 90% - 110% has been met with the following exception(s):

Element	True Value µg	Found Value µg	% of True Value	Page		Element	True Value µg	Found Value µg	% of True Value	Page
Hg	.020	.023	115	3		Hg	.020	.024	120	3
Hg	.020	.023	115	3		Hg	.010	.013	130	3
Hg	.010	.012	120	3		Hg	.010	.012	120	3
Hg	.010	.012	120	3		Hg	.010	.013	130	3

Calibration Verification: 90% - 110% was met for outside Quality Control Standards

Calibration Coefficient: All elements at least 0.996

This data package contains 13 summary pages to include the narrative summary. All pertinent data is on file at OLI for five years.

Sample Volumes submitted for testing are: Audit samples

Final Volumes used for calculations are: Audit samples

Calculations for Total µg Reported: Hg $\frac{\text{µg per Bottle} \times 1000}{\text{Aliquot Used}}$ = µg/L

3/3

HG2855.WKS A.A. SUMMARY REPORT

CLIENT: Testar, Inc.

P.O.#/PROJECT #: 10184

[redacted]YST: KEN SMITH/SHARON CLARK

DATE: 02-07-01

							X	WT. STDS
								CONC STDS
							.020	INST LIMIT ug
							.2	SPK LEVEL ug
							10.00	MAX ALIQUOT mL
			ug	mL	F.V.		.02	M.D.L. ug/mL
			INSTR	SAMPLE	X	ng/mL		
SAMPLE I.D.	EL	MEAN ABS	READ	ALIQUOT	DILUTION	ANSWER	% REC OR < ug SPK	
6209-001	Hg	.0316314	.2135	.1	100	213	> 212 Avg	
6209-001	Hg	.0312905	.2113	.1	100	211		
6209-002	Hg	.0330778	.223	.2	100	111	> 115 Avg	2-8-01
6209-002	Hg	.0172558	.118	.1	100	118		
DL = .020ug	Hg	.0031546	.0218	1	1	.022		
DL = .020ug	Hg	.0032883	.0228	1	1	.023		
DL = .020ug	Hg	.0035042	.0242	1	1	.024		
DL = .020ug	Hg	.0033403	.0231	1	1	.023		
DL = .020ug	Hg	.0030597	.0212	1	1	.021		
DL = .020ug	Hg	.0031834	.022	1	1	.022		
DL = .020ug	Hg	.0031975	.0221	1	1	.022		
DL =.010ug	Hg	.0018656	.0129	1	1	.013		
DL =.010ug	Hg	.0018035	.0125	1	1	.012		
DL =.010ug	Hg	.0015573	.0108	1	1	.011		
DL =.010ug	Hg	.0016875	.0117	1	1	.012		
DL =.010ug	Hg	.001595	.0111	1	1	.011		
DL =.010ug	Hg	.0017725	.0123	1	1	.012		
[redacted].010ug	Hg	.0018796	.013	1	1	.013		
QC Std 2=.200ug	Hg	.0317472	.2143	1	1	.214		
QC Std 2=.200ug	Hg	.0318241	.2148	1	1	.215		
QC Std 2=.200ug	Hg	.0318227	.2148	1	1	.215		
QC Std 2=.200ug	Hg	.0325726	.2197	1	1	.220		
QC Std 2=.200ug	Hg	.032736	.2207	1	1	.221		
QC Std 2=.200ug	Hg	.0309295	.2089	1	1	.209		
QC Std 2=.200ug	Hg	.0312989	.2113	1	1	.211		
QC Std 3=.200ug	Hg	.0316066	.2133	1	1	.213		
QC Std 3=.200ug	Hg	.0319582	.2156	1	1	.216		
QC Std 3=.200ug	Hg	.0318768	.2151	1	1	.215		
QC Std 3=.200ug	Hg	.0299549	.2025	1	1	.202		
QC Std 3=.200ug	Hg	.0311875	.2106	1	1	.211		
Reagent Blank	Hg	.0002006	.0014	1	1 <		.020	
Reagent Blank	Hg	.0003603	.0025	1	1 <		.020	
Reagent Blank	Hg	.0002811	.002	1	1 <		.020	
Reagent Blank	Hg	.0002246	.0016	1	1 <		.020	
Reagent Blank	Hg	.0002157	.0015	1	1 <		.020	
Reagent Blank	Hg	.0002102	.0015	1	1 <		.020	
Reagent Blank	Hg	.0002291	.0016	1	1 <		.020	
[redacted]ib Blank	Hg	.0006536						
[redacted].100ug	Hg	.0147154						
Std .200ug	Hg	.0294249						
Std .300ug	Hg	.0439331						
Std .400ug	Hg	.0623952						
Std .500ug	Hg	.0763913						

Method 29 Compliance Audit Material
(Mercury Acidified Aqueous Solution)

REPORTING FORM: To be completed by laboratory

Request Number/Sample Number: M29-0053-01 / HG - 0506 Date Issued: 01/30/01

Concentration Level: High3

Auditee:

Company: 0

Address: 0

Attention of: 0 Phone: -

Requestor:

Agency: FL - DEP

Address: 3319 Maguire Blvd., Orlando, FL 32803

Attention of: Garry Kuberski Phone: (407) 893-3333

Project Name: Ogden Martin Systems of Lake, Inc

Audit Results (Results in ng/mL)

	Result	Acceptable Range
Mercury		212

Method 29 Compliance Audit Material
(Mercury Acidified Aqueous Solution)

REPORTING FORM: To be completed by laboratory

Request Number/Sample Number: M29-0052-01 / HG - 0462 Date Issued: 01/30/01

Concentration Level: High2

Auditee:

Company: 0

Address: 0

Attention of: 0 Phone: -

Requestor:

Agency: FL - DEP

Address: 3319 Maguire Blvd., Orlando, FL 32803

Attention of: Garry Kuberski Phone: (407) 893-3333

Project Name: Ogden Martin Systems of Lake, Inc

Audit Results (Results in ng/mL)

	Result	Acceptable Range
Mercury		115

OXFORD Laboratories Inc.

Analytical and Consulting Chemists
1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 01-31-01
DATE REPORTED 02-15-01
01W6216

TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: AUDIT AMPULES

1. QCI-700A & QCI-700B
2. METHOD SW846-

RESULTS

	1	2
Beryllium, as Be, ug/L	194	6020
Cadmium, as Cd, ug/L	99.7	6020
Lead, as Pb, ug/L	392	6020
Mercury, as Hg, ug/L	18.6	7470

Roger Oxford

ROGER OXFORD, CHEMIST

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/26/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Sample Number	Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					Unit 1	Carbon				
					Unit 2	Carbon				
				~~archive~~	~~QCI-700A~~	~~Audit~~				
			1/31	per Gary	~~QCI-700B~~	~~Audit~~				
			analyze							
					M29-0053-01/HG-0506	Hg				
					M29-0052-01/HG-0462	Hg				

Signature	Herb Dixon	**Company**	TESTAR	**Date**	1/29/01
Checked By	[signature]	**Company**	TESTAR	**Date**	1/29/01
Received By	Laurie Kelly	**Company**	Oxford	**Date**	1-31-01
Analytical Parameters	Mercury, beryllium, cadmium, and lead on the carbon samples labelled Unit 1 and Unit 2				
	Beryllium, cadmium, and lead on the audit QCI-700A, mercury only on audit QCI-700B				
Sample Condition					

239

2/13

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6216**
Report Date: 2-8-01

Client: Testar Inc.	Project/P.O. #: 10184
Sample Arrival Date: 1-31-01	Chain of Custody: Yes
Condition of Sample upon Arrival:	Shipped to Alta Analytical. Picked up by OLI. No problems noted.
Observed Discrepancy/Comment:	Volumes were not marked. No sample loss observed pH < 2
Requested Method of Analysis:	EPA Method 29 SW846-6020 & SW846-7470
Sample Preparation per:	Audits prepared per enclosed instructions
Sample Analysis per:	SW846-6020 & SW846-7470

Instrumentation Used:

PE AAnalyst 100 . . . . . .No
PE FIMS . . . . . Yes (CVAA Hg)
PE Zeeman 5100 GFAA . . . . No
PE ICP-MS Elan 5000 . . . . . .No
PE ICP-MS Elan 6000 . . . . . .Yes (all others)

Spike Requirements: Audit samples do not require spike analysis.

Duplicate Requirements: Relative percent difference of ± 10% for MMTL and ± 3% for Hg was met.

Sample Note: Mercury was analyzed in duplicate on two different days. The result closest to the average of all four analyses was reported.

Detection Limit Requirements: 90% - 110% has been met with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Cd	0.500	0.568	114	6						

Calibration Verification: 90% - 110% was met for outside Quality Control Standards with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Be	200	239	120	10		Pb	200	222	111	10
Pb	100	119	119	10		Pb	200	249	125	10
Pb	200	231	116	11						

NOTE: **Be – 1st Run:** Reported data was analyzed with readings below 50 µg/L
Pb – 1st Run: Reported data was analyzed with readings below 50 µg/L

Calibration Coefficient: All elements at least 0.996

This data package contains 13 summary pages to include the narrative summary. All pertinent data is on file at OLI for five years.

Sample Volumes submitted for testing are: Audit samples

Final Volumes used for calculations are: Audit samples

Calculations for Total µg Reported:

ICP-MS µg/L × Dilution Factor = µg/L

Hg $\frac{\text{µg per Bottle} \times 1000}{\text{Aliquot Used}}$ = µg/L

5/13

FILE NAME = 6216-1 ON DRIVE A:

"Sample Date/Time:","Tuesday, February 06, 2001 09:42:40"
"Quantitative Analysis - Summary Report"
"[redacted]mple Description:"
"[redacted]ution Type:","Blank"
"Blank File:","C:\elandata\Dataset\020601-1\Blank.001"
"Number of Replicates:",3
"Peak Processing Mode:","Average"
"Signal Profile Processing Mode:","Average"
"Dual Detector Mode:","Dual"
"Current Dead Time (ns):",35
"Acq. Dead Time(ns):",35
"Cumulative Autodilution Factor:",1
"Sample File:","c:\elandata\Sample\TODAY.sam"
"Method File:","C:\elandata\Method\bfile.mth"
"Dataset File:","C:\elandata\Dataset\020601-1\Blank.001"
"Tuning File:","c:\elandata\Tuning\default.tun"
"Optimization File:","c:\elandata\Optimize\default.dac"
"Calibration File:"
"Calibration Type:","External Calibration"
"Summary"
"Intensities"

6216

ug/mL = ppb x dil / 1000

		INTENSITY		CONC.		INT
	INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD

ANALYTE:Li 7

ug/mL

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
[redacted]	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	-0.0344		
5	STANDARD 4	-0.0046		
6	STANDARD 5	0.0039		
7	D.L.	0.0250		
8	D.L.=4PPB1PPB	0.0089		
9	D.L.=2PPB ZN	-0.0045		
10	CD 50PPB	-0.0100		
11	DIL BLANK	-0.0419		
12	QC=10PPB	10.2786		
13	QC=50PPB	47.8324		
14	QC=100PPB	98.3723		
15	QC=200PPB	232.2067		
16	D.L.=.5 .25PPB	0.0496		
17	INT. A X10	0.0858	0.0009	
18	INT. AB X10	0.0799	0.0008	
19	DIL BLANK	0.0002		
20	QC=10PPB	10.3883		
21	QC=50PPB	49.0778		
22	QC=100PPB	97.2925		
23	QC=200PPB	271.0676		
24	6216-1 X1	0.0583	0.0001	
25	DIL BLANK	-0.0136		
[redacted]	QC=10PPB	10.5318		
[redacted]	QC=50PPB	49.7222		
28	QC=100PPB	99.1971		
29	QC=200PPB	198.4423		

ANALYTE:Be 9

6/13

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
[redacted]	STANDARD 1	-0.0000		
[redacted]	STANDARD 2	60.0000		
4	STANDARD 3	0.0105		
5	STANDARD 4	0.0044		
6	STANDARD 5	0.0008		
7	D.L.	2.2029		
8	D.L.=4PPB1PPB	0.0027		
9	D.L.=2PPB ZN	0.0045		
10	CD 50PPB	51.3525		
11	DIL BLANK	0.0039		
12	QC=10PPB	10.5650		
13	QC=50PPB	49.2377		
14	QC=100PPB	101.4972		
15	QC=200PPB	217.5211		
16	D.L.=.5 .25PPB	0.2642		
17	INT. A X10	0.0107	0.0001	
18	INT. AB X10	0.0089	0.0001	
19	DIL BLANK	0.0010		
20	QC=10PPB	10.7225		
21	QC=50PPB	50.8021		
22	QC=100PPB	101.2446		
23	QC=200PPB	239.1354		
24	6216-1 X1	195.5502	0.1956	ur X 10 see page 10
25	DIL BLANK	0.0399		
26	QC=10PPB	10.8586		
[redacted]	QC=50PPB	51.5744		
[redacted]	QC=100PPB	101.4117		
29	QC=200PPB	207.9505		

ANALYTE:Cd 111

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.1057		
5	STANDARD 4	-0.0071		
6	STANDARD 5	-0.0004		
7	D.L.	0.4901 ✓		
8	D.L.=4PPB1PPB	0.0004		
9	D.L.=2PPB ZN	0.0048		
10	CD 50PPB	49.8666 ✓		
11	DIL BLANK	0.0008 ✓		
12	QC=10PPB	10.3622 ✓		
13	QC=50PPB	51.2536 ✓		
14	QC=100PPB	101.6966 ✓		
15	QC=200PPB	203.3837 ✓		
16	D.L.=.5 .25PPB	0.5678 114%		
17	INT. A X10	1.3687 ✓	0.0137	
18	INT. AB X10	6.0987 ✓	0.0610	
19	DIL BLANK	0.0090 ✓		
[redacted]	QC=10PPB	10.6154 ✓		
[redacted]	QC=50PPB	51.1119 ✓		
22	QC=100PPB	99.9570 ✓		
23	QC=200PPB	205.3690 ✓		
24	6216-1 X1	99.7015	0.0997	.100 ug/mL X1000 = 99.7 ug/L
25	DIL BLANK	0.0335 ✓		

AT 2-8-01

7/13

26	QC=10PPB	10.0405
27	QC=50PPB	51.0087
28	QC=100PPB	99.6978
[illegible]	QC=200PPB	202.2329

ANALYTE:Cd 114

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	-0.7328		
5	STANDARD 4	-22.8856		
6	STANDARD 5	-0.3107		
7	D.L.	0.4083		
8	D.L.=4PPB1PPB	-0.0360		
9	D.L.=2PPB ZN	-0.0158		
10	CD 50PPB	49.7173		
11	DIL BLANK	-0.0149		
12	QC=10PPB	10.3922		
13	QC=50PPB	49.6304		
14	QC=100PPB	99.1098		
15	QC=200PPB	239.2930		
16	D.L.=.5 .25PPB	0.5574		
17	INT. A X10	0.1035	0.0010	
18	INT. AB X10	4.8308	0.0483	
19	DIL BLANK	-0.0047		
20	QC=10PPB	10.7383		
[illegible]	QC=50PPB	50.5151		
[illegible]	QC=100PPB	97.5612		
23	QC=200PPB	244.2590		
24	6216-1 X1	97.5120	0.0975	
25	DIL BLANK	0.0221		
26	QC=10PPB	9.9908		
27	QC=50PPB	50.9495		
28	QC=100PPB	97.5493		
29	QC=200PPB	245.2809		

ANALYTE:Cd 114

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0546		
5	STANDARD 4	-0.0098		
6	STANDARD 5	-0.0031		
7	D.L.	0.4807		
8	D.L.=4PPB1PPB	0.0004		
9	D.L.=2PPB ZN	0.0050		
10	CD 50PPB	49.7610		
11	DIL BLANK	-0.0031		
12	QC=10PPB	10.3907		
13	QC=50PPB	49.7627		
[illegible]	QC=100PPB	99.3309		
[illegible]	QC=200PPB	237.8794		
16	D.L.=.5 .25PPB	0.5585		
17	INT. A X10	0.9393	0.0094	
18	INT. AB X10	5.7066	0.0571	
19	DIL BLANK	0.0025		

8/13

20	QC=10PPB	10.7399		
21	QC=50PPB	50.5933		
22	QC=100PPB	97.6874		
	QC=200PPB	242.5198		
	6216-1 X1	97.9891	0.0980	
25	DIL BLANK	0.0284		
26	QC=10PPB	9.9945		
27	QC=50PPB	50.9415		
28	QC=100PPB	97.7060		
29	QC=200PPB	243.5595		

ANALYTE:Pb 208

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0412		
5	STANDARD 4	0.1000		
6	STANDARD 5	-0.0026		
7	D.L.	1.9319		
8	D.L.=4PPB1PPB	0.9577		
9	D.L.=2PPB ZN	0.0181		
10	CD 50PPB	47.8347		
11	DIL BLANK	0.0075		
12	QC=10PPB	9.6758		
13	QC=50PPB	46.4783		
14	QC=100PPB	100.8034		
15	QC=200PPB	221.7197		
	D.L.=.5 .25PPB	-0.0255		
17	INT. A X10	0.2324	0.0023	
18	INT. AB X10	0.2040	0.0020	
19	DIL BLANK	0.0259		
20	QC=10PPB	10.5381		
21	QC=50PPB	53.5086		
22	QC=100PPB	118.7577		
23	QC=200PPB	249.0551		
24	6216-1 X1	403.6109	0.4036	μv X10 see page 10
25	DIL BLANK	0.2273		
26	QC=10PPB	10.3837		
27	QC=50PPB	51.2888		
28	QC=100PPB	115.7091		
29	QC=200PPB	233.2474		

9/13

FILE NAME = 6216-6 ON DRIVE A:

"Sample Date/Time:","Tuesday, February 06, 2001 09:42:40"
"Quantitative Analysis - Summary Report"
"Sample Description:"
"Solution Type:","Blank"
"Blank File:","C:\elandata\Dataset\020601-1\Blank.001"
"Number of Replicates:",3
"Peak Processing Mode:","Average"
"Signal Profile Processing Mode:","Average"
"Dual Detector Mode:","Dual"
"Current Dead Time (ns):",35
"Acq. Dead Time(ns):",35
"Cumulative Autodilution Factor:",1
"Sample File:","c:\elandata\Sample\TODAY.sam"
"Method File:","C:\elandata\Method\cfile.mth"
"Dataset File:","C:\elandata\Dataset\020601-1\Blank.001"
"Tuning File:","c:\elandata\Tuning\default.tun"
"Optimization File:","c:\elandata\Optimize\default.dac"
"Calibration File:"
"Calibration Type:","External Calibration"
"Summary"
"Intensities"

6216

ug/mL = ppb x d.f. / 1000

		INTENSITY		CONC.		INT
	INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD

ug/mL

ANALYTE:Li 7

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	-0.0344		
5	STANDARD 4	-0.0046		
6	STANDARD 5	0.0039		
7	D.L.	0.0250		
8	D.L.=4PPB1PPB	0.0089		
9	D.L.=2PPB ZN	-0.0045		
10	CD 50PPB	-0.0100		
11	DIL BLANK	-0.0419		
12	QC=10PPB	10.2786		
13	QC=50PPB	47.8324		
14	QC=100PPB	98.3723		
15	QC=200PPB	232.2067		
16	D.L.=.5 .25PPB	0.0496		
17	INT. A X10	0.0858	0.0009	
18	INT. AB X10	0.0799	0.0008	
19	DIL BLANK	0.0002		
20	QC=10PPB	10.3883		
21	QC=50PPB	49.0778		
22	QC=100PPB	97.2925		
23	QC=200PPB	271.0676		
24	6216-1 X10	0.0578	0.0006	
25	DIL BLANK	0.0091		
26	QC=10PPB	10.5057		
27	QC=50PPB	51.1168		
28	QC=100PPB	102.3047		
29	QC=200PPB	213.4636		

ANALYTE:Be 9

10/13

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0105		
5	STANDARD 4	0.0044		
6	STANDARD 5	0.0008		
7	D.L.	2.2029 ✓		
8	D.L.=4PPB1PPB	0.0027		
9	D.L.=2PPB ZN	0.0045		
10	CD 50PPB	51.3525 ✓		
11	DIL BLANK	0.0039 ✓		
12	QC=10PPB	10.5650 ✓		
13	QC=50PPB	49.2377 ✓		
14	QC=100PPB	101.4972 ✓		
15	QC=200PPB	217.5211 ✓		
16	D.L.=.5 .25PPB	0.2642 ✓		
17	INT. A X10	0.0107 ✓	0.0001	
18	INT. AB X10	0.0089 ✓	0.0001	
19	DIL BLANK	0.0010 ✓		
20	QC=10PPB	10.7225 ✓		
21	QC=50PPB	50.8021 ✓		
22	QC=100PPB	101.2446 ✓		
23	QC=200PPB	239.1354 120%		
24	6216-1 X10	19.4247	0.1942	.194 ug/mL X1000 = 194 ug/L JH 2-8-01
25	DIL BLANK	0.0019 ✓		
26	QC=10PPB	10.5629 ✓		
27	QC=50PPB	50.9423 ✓		
28	QC=100PPB	104.1070 ✓		
29	QC=200PPB	214.8827 ✓		

ANALYTE: Pb 208

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0412		
5	STANDARD 4	0.1000		
6	STANDARD 5	-0.0026		
7	D.L.	1.9319 ✓		
8	D.L.=4PPB1PPB	0.9577 ✓		
9	D.L.=2PPB ZN	0.0181 ✓		
10	CD 50PPB	47.8347 ✓		
11	DIL BLANK	0.0075 ✓		
12	QC=10PPB	9.6758 ✓		
13	QC=50PPB	46.4783 ✓		
14	QC=100PPB	100.8034 ✓		
15	QC=200PPB	221.7197 111%		
16	D.L.=.5 .25PPB	-0.0255		
17	INT. A X10	0.2324 ✓	0.0023	
18	INT. AB X10	0.2040 ✓	0.0020	
19	DIL BLANK	0.0259 ✓		
20	QC=10PPB	10.5381 ✓		
21	QC=50PPB	53.5086 ✓		
22	QC=100PPB	118.7577 119%		
23	QC=200PPB	249.0551 125%		
24	6216-1 X10	39.2445	0.3924	.392 ug/mL X1000 = 392 ug/L JH 2-8-01
25	DIL BLANK	0.1646 ✓		

11/13

26	QC=10PPB	10.6739
27	QC=50PPB	49.2852
28	QC=100PPB	103.6187
	QC=200PPB	231.2353 116%

12/13

HG2855.WKS A.A. SUMMARY REPORT

CLIENT: Testar, Inc.

[redacted] #/PROJECT #: 10184

[redacted]LYST: KEN SMITH/SHARON CLARK

DATE: 02-07-01

						X	WT. STDS	
							CONC STDS	
						.020	INST LIMIT	ug
						.2	SPK LEVEL	ug
						10.00	MAX ALIQUOT	mL
			ug	mL	F.V.	.02	M.D.L.	ug/mL
			INSTR	SAMPLE	X	ug/L		
SAMPLE I.D.	EL	MEAN ABS	READ	ALIQUOT	DILUTION	ANSWER	% REC OR <	ug SPK
6216	Hg	.0129168	.0886	5	1000	17.7		
6216	Hg	.027462	.186	10	1000	18.6	Reported kms 2-8-01	
DL = .020ug	Hg	.0031546	.0218	1	1	.022		
DL = .020ug	Hg	.0032883	.0228	1	1	.023		
DL = .020ug	Hg	.0035042	.0242	1	1	.024		
DL = .020ug	Hg	.0033403	.0231	1	1	.023		
DL = .020ug	Hg	.0030597	.0212	1	1	.021		
DL = .020ug	Hg	.0031834	.022	1	1	.022		
DL = .020ug	Hg	.0031975	.0221	1	1	.022		
DL =.010ug	Hg	.0018656	.0129	1	1	.013		
DL =.010ug	Hg	.0018035	.0125	1	1	.012		
DL =.010ug	Hg	.0015573	.0108	1	1	.011		
DL =.010ug	Hg	.0016875	.0117	1	1	.012		
DL =.010ug	Hg	.001595	.0111	1	1	.011		
DL =.010ug	Hg	.0017725	.0123	1	1	.012		
DL =.010ug	Hg	.0018796	.013	1	1	.013		
[redacted]td 2=.200ug	Hg	.0317472	.2143	1	1	.214		
QC Std 2=.200ug	Hg	.0318241	.2148	1	1	.215		
QC Std 2=.200ug	Hg	.0318227	.2148	1	1	.215		
QC Std 2=.200ug	Hg	.0325726	.2197	1	1	.220		
QC Std 2=.200ug	Hg	.032736	.2207	1	1	.221		
QC Std 2=.200ug	Hg	.0309295	.2089	1	1	.209		
QC Std 2=.200ug	Hg	.0312989	.2113	1	1	.211		
QC Std 3=.200ug	Hg	.0316066	.2133	1	1	.213		
QC Std 3=.200ug	Hg	.0319582	.2156	1	1	.216		
QC Std 3=.200ug	Hg	.0318768	.2151	1	1	.215		
QC Std 3=.200ug	Hg	.0299549	.2025	1	1	.202		
QC Std 3=.200ug	Hg	.0311875	.2106	1	1	.211		
Reagent Blank	Hg	.0002006	.0014	1	1	<	.020	
Reagent Blank	Hg	.0003603	.0025	1	1	<	.020	
Reagent Blank	Hg	.0002811	.002	1	1	<	.020	
Reagent Blank	Hg	.0002246	.0016	1	1	<	.020	
Reagent Blank	Hg	.0002157	.0015	1	1	<	.020	
Reagent Blank	Hg	.0002102	.0015	1	1	<	.020	
Reagent Blank	Hg	.0002291	.0016	1	1	<	.020	
Calib Blank	Hg	.0006536						
Std .100ug	Hg	.0147154						
[redacted] .200ug	Hg	.0294249						
[redacted] .300ug	Hg	.0439331						
Std .400ug	Hg	.0623952						
Std .500ug	Hg	.0763913						

13/13

HG2854.WKS A.A. SUMMARY REPORT

CLIENT: TESTAR
P.O.#/PROJECT #: 10184
AN[redacted]YST: KEN SMITH/SC
DA[redacted]: 02/08/01

						X	WT. STDS		
							CONC STDS		
						.020	INST LIMIT		ug
						.2	SPK LEVEL		ug
						10.00	MAX ALIQUO		mL
			ug	mL	F.V.	.02	M.D.L.		ug
			INSTR	SAMPLE	X	ug/L			
SAMPLE I.D.	EL	MEAN ABS	READ	ALIQUOT	DIL	ANSWER	%REC	or <	ug SPK
6216	Hg	.0114313	.0973	5	1000	19.5			
6216	Hg	.0229828	.1922	10	1000	19.2			
Calib Blank	Hg	.000477							
Std .100ug	Hg	.011982							
Std .200ug	Hg	.023651							
Std .300ug	Hg	.0359286							
Std .400ug	Hg	.0496457							
Std .500ug	Hg	.0641609							
DL = .020ug	Hg	.0026356	.0227	1	1	.023			
DL = .020ug	Hg	.0026204	.0226	1	1	.023			
DL =.010ug	Hg	.0014268	.0123	1	1	.012			
DL =.010ug	Hg	.0013468	.0116	1	1	.012			
QC Std 2=.200ug	Hg	.0247391	.2063	1	1	.206			
QC Std 2=.200ug	Hg	.024129	.2014	1	1	.201			
QC Std 3=.200ug	Hg	.0247075	.2061	1	1	.206			
QC Std 3=.200ug	Hg	.0241023	.2012	1	1	.201			
Reagent Blank	Hg	.0000421	.0004	1	1	<		.020	
Reagent Blank	Hg	.0000996	.0009	1	1	<		.020	

OXFORD Laboratories Inc.

Analytical and Consulting Chemists
1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 01-26-01
DATE REPORTED 01-30-01
01W6131

TESTAR INC
7424-108 ACC BLVD
RALEIGH. NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: RUSH - M29 FOR Hg

1. 1-I-M29-1
2. 1-I-M29-2
3. 1-S-M29-1
4. 1-S-M29-1 SPIKE
5. 1-S-M29-2
6. METHOD SW846-

RESULTS

	1	2	3	4	5	6
RESULTS FOR MERCURY TOTAL UG						
Mercury, Front 1/2, Total ug	350	2910	<.400	119%	.308	7470
Mercury, Front 1/2, Total ug	346	2840	<.400	x	.306	7470
Mercury, Back 1/2, Total ug	36.2	22.8	10.4	104%	13.9	7470
Mercury, Back 1/2, Total ug	36.2	23.9	10.3	x	13.7	7470
Mercury, HN03, Total ug	<.400	<.400	<.400	108%	<.400	7470
Mercury, HN03, Total ug	<.400	<.400	<.400	x	<.400	7470
Mercury, KMn04, Total ug	<1.00	<1.00	<1.00	111%	<1.00	7470
Mercury, KMn04, Total ug	<1.00	<1.00	<1.00	x	<1.00	7470
Mercury, HCl, Total ug	<.500	<.500	<.500	100%	<.500	7470
Mercury, HCl, Total ug	<.500	<.500	<.500	x	<.500	7470

Ken Smith
KEN SMITH, SENIOR ANALYST

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/24-25/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					1-I-M29-1	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					1-I-M29-2	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					1-I-M29-3	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				

Signature	Hank Dixon	**Company**	TESTAR, Inc.	**Date**	1/26/01
Checked By	[illegible]	**Company**	TESTAR Inc.	**Date**	1/26/01
Received By	Laurie Kelly	**Company**	Oxford	**Date**	1-26-01 2:00
Analytical Parameters	Mercury only by EPA Method 29	Results by 01/29/01 12 noon.			
Sample Condition					

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/25/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					1-S-M29-1	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					1-S-M29-2	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					~~1-S-M29-3~~	~~FH HNO3~~	~~UTQ~~			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					1-S-M29-FB	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				

Signature	Herb Dixon	**Company**	TESTAR	**Date**	1/26/01
Checked By		**Company**	TESTAR	**Date**	1/26/01
Received By	Laurie Kelly	**Company**	Oxford	**Date**	1-26-01 9:00
Analytical Parameters	Be, Cd, Pb, and Hg by EPA Method 29 - Matrix spike on 1-S-M29-3				
	Duplicate on 1-S-M29-2 for Be, Cd, and Pb	Hg results by 1/29/01 12 noon.			
Sample Condition					

2/4

OXFORD LABORATORIES, INC.

SAMPLE NARRATIVE SUMMARY

OLI LAB #: 01W6131 REPORT DATE: 01-29-01

CLIENT: Testar, Inc.
PROJECT/P.O. #: 10184
SAMPLE ARRIVAL DATE: 01-26-01 CHAIN OF CUSTODY: Yes
SAMPLE ARRIVAL CONDITION/COMMENT: Shipped via Personal Custody
No problems noted
OBSERVED DISCREPANCY/COMMENT: Volumes were not marked
No sample loss observed pH <2
REQUESTED METHOD OF ANALYSIS: EPA Method 29

SAMPLE PREPARATION PER: EPA Method 29
SAMPLE ANALYSIS PER: SW846-7470

INSTRUMENTATION USED:
PE AANALYST 100..... No
PE FIMS.....Yes
PE ZEEMAN 5100 GFAA.No
PE ICP-MS ELAN 5000....No
PE ICP-MS ELAN 6000....No

SPIKE REQUIREMENTS: OLI spike recovery of 90%-110% has been met with the following exception;

Sample ID #	Element	% Recovery	Page		Sample ID #	Element	% Recovery	Page
4-FH	Hg	119	4		4-$KMnO_4$	Hg	111	5

NOTE: EPA METHOD 29 ACCEPTABLE CRITERIA OF 75%-125% WAS MET

DUPLICATE REQUIREMENTS: Relative percent difference of +/- 3% for Hg was met

LABORATORY CONTROL BLANK: Less than

LABORATORY CONTROL SPIKE: 90%-110% has been met with the following exception;

Element	% Recovery	Page		Element	% Recovery	Page
Hg	126	4				

DETECTION LIMIT REQUIREMENTS: 90%-110% has been met with the following exception;

3/6

CALIBRATION COEFFICIENT: All elements at least 0.996

THIS DATA PACKAGE CONTAINS 6 SUMMARY PAGES TO INCLUDE THE NARRATIVE SUMMARY. ALL PERTINENT DATA IS ON FILE AT OLI FOR FIVE YEARS.

SAMPLE VOLUMES SUBMITTED FOR TESTING ARE:

OLI ID #	# FILTERS	FRONT HALF (HNO_3) B.V. (mL)	BACK HALF (H_2O_2) B.V. (mL)	HNO_3 B.V. (mL)	$KMnO_4$ B.V. (mL)	HCl B.V. (mL)
1	1	191	500	100	440	242
2	1	143	460	97	425	233
3 & 4	1	107	570	114	435	242
5	1	102	560	105	440	236
OLI 0ug	N/A	N/A	N/A	N/A	N/A	N/A
OLI 10ug spike	N/A	N/A	N/A	N/A	N/A	N/A

FINAL VOLUMES USED FOR CALCULATIONS ARE:

OLI ID #	FRONT HALF & BACK HALF F.V. (mL)	FRONT HALF F.V. (mL)	BACK HALF F.V. (mL)	HNO_3 F.V. (mL)	$KMnO_4$ F.V. (mL)	HCl F.V. (mL)
1	200	100	500	200	500	250
2	200	100	460	200	500	250
3 & 4	200	100	570	200	500	250
5	200	100	560	200	500	250
OLI 0ug	200	100	N/A	N/A	N/A	N/A
OLI 10ug spike	200	100	N/A	N/A	N/A	N/A

CALCULATIONS FOR TOTAL µg REPORTED:

Hg $\quad \frac{\text{µg per Bottle} * \text{Dilution Factor} * \text{Final Volume}}{\text{Aliquot Used}} = \text{Total µg}$

HG2838.WKS A.A. SUMMARY REPORT X WT. STDS 4/16

CONC STDS

CLIENT: TESTAR .020 INST LIMIT ug

P.O.#/PROJECT #: .2 SPK LEVEL ug

ANALYST: KEN SMITH/IJ SC 10.00 MAX ALIQUOT mL

DATE: 01/29/01 .02 M.D.L. ug/mL

SAMPLE I.D.	EL	MEAN ABS	ug INSTR READ	mL SAMPLE ALIQUOT	F.V. X DILUTION		TOTAL uG ANSWER	% REC OR < ug	SPK
FH-6131-001	Hg	.0154093	.1401	2	5000		350		
FH-6131-001	Hg	.0152109	.1383	2	5000		346		
FH-6131-002	Hg	.0127864	.1165	.2	5000		2913		
FH-6131-002	Hg	.0124506	.1135	.2	5000		2837		
FH-6131-003	Hg	.0008827	.0081	5	100	<		.400	
FH-6131-003	Hg	.0010262	.0094	5	100	<		.400	
FH-6131-004-SPK	Hg	.0275316	.248	5	100		4.96	119	.2
FH-6131-005	Hg	.0033537	.0308	10	100		.308		
FH-6131-005	Hg	.0033325	.0306	10	100		.306		
FH-6131-BLK	Hg	-.000163	-.002	10	100	<		.200	
FH-6131-BLK	Hg	-.000136	-.001	10	100	<		.200	
FH-6131-BLK-SPK	Hg	.0278741	.251	2	100		12.5	126	.2
CAL B BLANK	Hg	.001635							
STD .100UG	Hg	.0108793							
STD .200UG	Hg	.0219991							
STD .300UG	Hg	.0339112							
STD .400UG	Hg	.045721							
STD .500UG	Hg	.0557978							
DL =.020ug	Hg	.0021969	.0202	1	1		.020		
DL =.020ug	Hg	.0026729	.0246	1	1		.025		
DL=.010ug	Hg	.0010851	.01	1	1		.010		
DL=.010ug	Hg	.000852	.0078	1	1		.008		
DL=.010ug	Hg	.0012719	.0117	1	1		.012		
QC STD 2=.200ug	Hg	.021184	.1918	1	1		.192		
QC STD 2=.200ug	Hg	.0244509	.2208	1	1		.221		
QC STD 3=.200ug	Hg	.0211402	.1914	1	1		.191		
QC STD 3=.200ug	Hg	.022512	.2036	1	1		.204		
QC STD 3=.200ug	Hg	.0222855	.2016	1	1		.202		
REAGENT BLANK	Hg	.0002657	.0024	1	1	<		.020	
Reagent Blank	Hg	.0000772	.0007	1	1	<		.020	
REAGENT BLANK	Hg	.0000262	.0002	1	1	<		.020	
REAGENT BLANK	Hg	.0000656	.0006	1	1	<		.020	

5/6

HG2837.WKS A.A. SUMMARY REPORT

CLIENT: TESTAR
P.O.#/PROJECT #:
ANALYST: KEN SMITH/IJ KS
DATE: 01/27/01

						X	WT. STDS			
							CONC STDS			
						.020	INST LIMIT			ug
						.2	SPK LEVEL			ug
						10.00	MAX ALIQUOT			mL
			ug	mL	F.V.	.02	M.D.L.			ug
			INSTR	SAMPLE	X	TOTAL UG				
SAMPLE I.D.	EL	MEAN ABS	READ	ALIQUOT	DILUTION	ANSWER	% REC OR <	ug	SPK	
6131-A-001	Hg	.0001231	.0011	10	200	<		.400		
6131-A-001	Hg	.0003983	.0035	10	200	<		.400		
6131-A-002	Hg	-.000383	-.003	10	200	<		.400		
6131-A-002	Hg	-.000044	0	10	200	<		.400		
6131-A-003	Hg	.0000897	.0008	10	200	<		.400		
6131-A-003	Hg	.0001831	.0016	10	200	<		.400		
6131-A-004-SPK	Hg	.0254023	.2164	10	200		4.33	108		.2
6131-A-005	Hg	-.000164	-.001	10	200	<		.400		
6131-A-005	Hg	.0002043	.0018	10	200	<		.400		
6131-B-001	Hg	.0006228	.0054	10	500	<		1.00		
6131-B-001	Hg	.0006622	.0058	10	500	<		1.00		
6131-B-002	Hg	.00026	.0023	10	500	<		1.00		
[illegible]-B-002	Hg	.0002922	.0025	10	500	<		1.00		
6131-B-003	Hg	-.000033	0	10	500	<		1.00		
6131-B-003	Hg	.0002184	.0019	10	500	<		1.00		
6131-B-004-SPK	Hg	.0259903	.2213	10	500		11.1	111		.2
6131-B-005	Hg	.0002173	.0019	10	500	<		1.00		
6131-B-005	Hg	.0001371	.0012	10	500	<		1.00		
6131-BH-001	Hg	.0255232	.2174	3	500		36.2			
6131-BH-001	Hg	.0254804	.2171	3	500		36.2			
6131-BH-002	Hg	.0291152	.2473	5	460		22.8			
6131-BH-002	Hg	.0306412	.2599	5	460		23.9			
6131-BH-003	Hg	.0212665	.1818	10	570		10.4			
6131-BH-003	Hg	.0211002	.1804	10	570		10.3			
6131-BH-004-SPK	Hg	.0463405	.3881	10	570		22.1	104		.2
6131-BH-005	Hg	.0291488	.2476	10	560		13.9			
6131-BH-005	Hg	.0288071	.2447	10	560		13.7			
6131-C-001	Hg	-.000156	-.001	10	250	<		.500		
6131-C-001	Hg	-.000133	-.001	10	250	<		.500		
6131-C-002	Hg	-.000088	-.001	10	250	<		.500		
6131-C-002	Hg	-.000185	-.002	10	250	<		.500		
6131-C-003	Hg	-.00019	-.002	10	250	<		.500		
6131-C-003	Hg	-.000135	-.001	10	250	<		.500		
6131-C-004-SPK	Hg	.0234995	.2005	10	250		5.01	100		.2
6131-C-005	Hg	-.000343	-.003	10	250	<		.500		
6131-C-005	Hg	-.000158	-.001	10	250	<		.500		
[illegible]IB BLANK	Hg	.0013628								
[illegible].100UG	Hg	.0117661								

6/6

DL =.020ug	Hg	.0024478	.0213	1	1		.021	
DL=.010ug	Hg	.0012802	.0111	1	1		.011	
DL=.010ug	Hg	.0013785	.012	1	1		.012	
DL=.010ug	Hg	.0012349	.0107	1	1		.011	
DL=.010ug	Hg	.0011661	.0101	1	1		.010	
QC STD 2=.200ug	Hg	.0247109	.2106	1	1		.211	
QC STD 2=.200ug	Hg	.0253089	.2156	1	1		.216	
QC STD 2=.200ug	Hg	.0240289	.205	1	1		.205	
QC STD 2=.200ug	Hg	.0243702	.2078	1	1		.208	
QC STD 2=.200ug	Hg	.0239967	.2047	1	1		.205	
QC STD 2=.200ug	Hg	.0251668	.2145	1	1		.214	
QC STD 2=.200ug	Hg	.024147	.2059	1	1		.206	
QC STD 2=.200ug	Hg	.0225251	.1924	1	1		.192	
QC STD 3=.200ug	Hg	.0239893	.2046	1	1		.205	
QC STD 3=.200ug	Hg	.0239802	.2045	1	1		.205	
QC STD 3=.200ug	Hg	.0249	.2122	1	1		.212	
QC STD 3=.200ug	Hg	.0236798	.202	1	1		.202	
QC STD 3=.200ug	Hg	.0246367	.21	1	1		.210	
QC STD 3=.200ug	Hg	.0239473	.2043	1	1		.204	
QC STD 3=.200ug	Hg	.0244578	.2085	1	1		.209	
QC STD 3=.200ug	Hg	.022282	.1903	1	1		.190	
[redacted]ent Blank	Hg	.0001165		1	1	<		.020
Reagent Blank	Hg	.0002439	.0021	1	1	<		.020
REAGENT BLANK	Hg	.000201	.0017	1	1	<		.020
Reagent Blank	Hg	-.000038	0	1	1	<		.020
Reagent Blank	Hg	-.000305	-.003	1	1	<		.020
REAGENT BLANK	Hg	-.000311	-.003	1	1	<		.020
Reagent Blank	Hg	.0002583	.0022	1	1	<		.020
REAGENT BLANK	Hg	.0001323	.0012	1	1	<		.020
Reagent Blank	Hg	.0002107	.0018	1	1	<		.020
REAGENT BLANK	Hg	.0000603	.0005	1	1	<		.020
REAGENT BLANK	Hg	-.000117	-.001	1	1	<		.020
REAGENT BLANK	Hg	.0002327	.002	1	1	<		.020
Reagent Blank	Hg	-.000023	0	1	1	<		.020
REAGENT BLANK	Hg	.000062	.0005	1	1	<		.020
Reagent Blank	Hg	.0000383	.0003	1	1	<		.020
REAGENT BLANK	Hg	.0001199	.001	1	1	<		.020

OXFORD Laboratories Inc.

Analytical and Consulting Chemists
1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 01-26-01
DATE REPORTED 02-14-01
01W6132

TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: M29 (Be,Cd,Pb)

1. 1-S-M29-1
2. 1-S-M29-1 SPIKE
3. 1-S-M29-2
4. 1-S-M29-2 DUPLICATE
5. METHOD SW846-

RESULTS

	1	2	3	4	5
Beryllium, as Be, Total ug	<.100	89.7%	<.100	<.100	6020
Cadmium, as Cd, Total ug	.576	86.7%	.613	.607	6020
Lead, as Pb, Total ug	1.96	91.4%	2.58	2.60	6020

Roger Oxford
ROGER OXFORD, CHEMIST

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/25/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					1-S-M29-1	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					1-S-M29-2	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					~~1-S-M29-3~~	~~FH HNO3~~	~~UTQ~~			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
					1-S-M29-FB	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				

Signature	Herb Dixon	Company	TESTAR	Date	1/26/01
Checked By	[illegible]	Company	TESTAR	Date	1/26/01
Received By	Laurie Kelly	Company	Oxford	Date	1-26-01 9:00
Analytical Parameters	Be, Cd, Pb, and Hg by EPA Method 29 - Matrix spike on 1-S-M29-3				
	Duplicate on 1-S-M29-2 for Be, Cd, and Pb	Hg results by 1/29/01 12 noon.			
Sample Condition					

3/14

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6132**
Report Date: 2-12-01

Client: Testar Inc.	Project/P.O. #: 10184
Sample Arrival Date: 1-26-01	Chain of Custody: Personal Custody
Condition of Sample upon Arrival:	Shipped by personal custody
	No problems noted.
Observed Discrepancy/Comment:	Volumes were not marked.
	No sample loss observed pH < 2
Requested Method of Analysis:	EPA Method 29
	SW846-6020
Sample Preparation per:	EPA Method 29
Sample Analysis per:	SW846-6020

Instrumentation Used:

PE AAnalyst 100 . . . . . .No
PE FIMS . . . . . No
PE Zeeman 5100 GFAA . . . . No
PE ICP-MS Elan 5000 . . . . . .No
PE ICP-MS Elan 6000 . . . . . .Yes

Spike Requirements: OLI spike recovery of 90% - 110% has been met with the following exception(s):

Sample ID	Element	% Recovery	Page		Sample ID	Element	% Recovery	Page
1	Cd	86.7	8		1	Be	89.7	12

NOTE: EPA Method 29 acceptable criteria of 75% - 125% was met.

Duplicate Requirements: Relative percent difference of ± 10% for MMTL was met.

Laboratory Control Spike: 90% - 110% has been met with the following exception(s):

Element	% Recovery	Page		Element	% Recovery	Page
Cd	80.0	8		Pb	74.4	10
Be	80.2	12		Pb recheck	76.4	13

Pb was reanalyzed for verification. Results from Run 1 were reported (see page 10).

4/14

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6132**
Report Date: 2-12-01

Detection Limit Requirements: 90% - 110% has been met with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Cd	.50	.587	117	8						

Calibration Verification: 90% - 110% was met for outside Quality Control Standards with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Pb	10	8.97	89.7	9		Pb	200	230	115	10
Be	200	239	120	12						

NOTE: Pb – 10ppb: Reported results were analyzed below 10ppb
Pb – 200ppb: Reported results were analyzed below 10ppb
Be – 200ppb: Reported results were analyzed below 10ppb

Calibration Coefficient: All elements at least 0.996

This data package contains 14 summary pages to include the narrative summary. All pertinent data is on file at OLI for five years.

Sample Volumes submitted for testing are:

OLI ID #	# Filters	Front Half (HNO_3) B. V. (mL)	Back Half (H_2O_2) B. V. (mL)	HNO_3 B. V. (mL)	$KMnO_4$ B. V. (mL)	HCl B. V. (mL)
OLI 0 µg	n/a	100	100	n/a	n/a	n/a
OLI 10µg SPK	n/a	100	100	n/a	n/a	n/a
1 / 2		107	570	n/a	n/a	n/a
3 / 4		102	560	n/a	n/a	n/a

5/14

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6132**
Report Date: 2-12-01

Final Volumes used for calculations are:

OLI ID #	Front Half & Back Half F. V. (mL)	Front Half F. V. (mL)	Back Half F. V. (mL)	HNO_3 F. V. (mL)	$KMnO_4$ F. V. (mL)	HCl F. V. (mL)
OLI 0 µg	200	100	100	n/a	n/a	n/a
OLI 10µg SPK	200	100	100	n/a	n/a	n/a
1 / 2	200	100	570	n/a	n/a	n/a
3 / 4	200	100	560	n/a	n/a	n/a

Calculations for Total µg Reported:

ICP-MS $\frac{\mu g/L \times \text{Dilution Factor} \times \text{Final Volume}}{1000} = \text{Total } \mu g$

6/14

FILE NAME = 6132-1 ON DRIVE A:
"Sample Date/Time:","Wednesday, January 31, 2001 10:10:20"
"Quantitative Analysis - Summary Report"
"[redacted]ple Description:"
"[redacted]ution Type:","Blank"
"Blank File:","C:\elandata\Dataset\013101-1\Blank.025"
"Number of Replicates:",3
"Peak Processing Mode:","Average"
"Signal Profile Processing Mode:","Average"
"Dual Detector Mode:","Dual"
"Current Dead Time (ns):",35
"Acq. Dead Time(ns):",35
"Cumulative Autodilution Factor:",1
"Sample File:","c:\elandata\Sample\TODAY.sam"
"Method File:","C:\elandata\Method\bfile.mth"
"Dataset File:","C:\elandata\Dataset\013101-1\Blank.025"
"Tuning File:","c:\elandata\Tuning\default.tun"
"Optimization File:","c:\elandata\Optimize\default.dac"
"Calibration File:"
"Calibration Type:","External Calibration"
"Summary"
"Intensities"

Testar
6132

Total µg = ppb x dil x FV / 1000

		INTENSITY		CONC.		INT
	INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD
ANALYTE:Li 7			Total µg ↓			
	PPB		PPB X DF X .2		PROTOCOL RECOVERY	
1 [redacted]BLANK						
2 STANDARD 1	-0.0000					
3 STANDARD 2	60.0000					
4 STANDARD 3	0.0152					
5 STANDARD 4	0.0107					
6 STANDARD 5	0.0039					
7 D.L.	-0.0392					
8 D.L.=4PPB1PPB	-0.0015					
9 D.L.=2PPB ZN	-0.0114					
10 CD 50PPB	0.0077					
11 DIL BLANK	-0.0421					
12 QC=10PPB	9.8950					
13 QC=50PPB	48.1260					
14 QC=100PPB	96.1380					
15 QC=200PPB	340.1493					
16 D.L.=.5 .25PPB	0.0088					
17 INT. A X10	0.1086		0.2172			
18 INT. AB X10	0.0364		0.0728			
19 DIL BLANK	0.0358					
20 QC=10PPB	10.6421					
21 QC=50PPB	51.0000					
22 QC=100PPB	104.0218					
23 QC=200PPB	373.8244					
24 6132-BLK X2	0.1720		0.0688			
25 BLK X2+25	0.0678		-0.42%		.2693469 %	
[redacted] 6132-1 X2	-0.1028		-0.0411			
[redacted] 6132-1 X2+10	7.8300		79.33%		79.11328 %	
28 6132-3 X2	-0.1197		-0.0479			
29 6132-3 X2DUP	-0.0935		-0.0374	+/-12.29		
30 DIL BLANK	-0.0424					
31 QC=10PPB	9.4177					

7/14

32	QC=50PPB	46.9160			
33	QC=100PPB	92.6816			
34	QC=200PPB	311.3438			

ANALYTE:Be 9

		PPB	PPB X DF X .2		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1	-0.0000			
3	STANDARD 2	60.0000			
4	STANDARD 3	0.0208			
5	STANDARD 4	-0.0001			
6	STANDARD 5	-0.0016			
7	D.L.	2.0068 ✓			
8	D.L.=4PPB1PPB	-0.0006			
9	D.L.=2PPB ZN	-0.0022			
10	CD 50PPB	47.3833 ✓			
11	DIL BLANK	-0.0009 ✓			
12	QC=10PPB	9.8659 ✓			
13	QC=50PPB	48.0330 ✓			
14	QC=100PPB	95.4980 ✓			
15	QC=200PPB	260.2566 130%			
16	D.L.=.5 .25PPB	0.2957 118%			
17	INT. A X10	0.0065 ✓	0.0130		
18	INT. AB X10	0.0024 ✓	0.0048		
19	DIL BLANK	0.0016 ✓			
20	QC=10PPB	10.7799 ✓			
21	QC=50PPB	51.5691 ✓			
[redacted]	QC=100PPB	107.1435 ✓			
[redacted]	QC=200PPB	303.3256 152%			
24	6132-BLK X2	0.0352	0.0141 > ✓		
25	BLK X2+25	20.0473	80.05%		80.07645 %
26	6132-1 X2	0.0112	0.0045		
27	6132-1 X2+10	6.5788	65.68%		65.7144 %
28	6132-3 X2	0.0085	0.0034		
29	6132-3 X2DUP	0.0081	0.0032	+/- 2.41	
30	DIL BLANK	-0.0024 ✓			
31	QC=10PPB	8.9867 89.9%			
32	QC=50PPB	44.2498 88.4%			
33	QC=100PPB	86.9292 86.9%			
34	QC=200PPB	233.0614 117%			

Reanalyze - Low spike Recovery - see page 12

ANALYTE:Cd 111

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.1494		
5	STANDARD 4	-0.0046		
6	STANDARD 5	0.0042		
7	D.L.	0.4993 ✓		
8	D.L.=4PPB1PPB	0.0013		
9	D.L.=2PPB ZN	0.0029		
[redacted]	CD 50PPB	48.9430 ✓		
[redacted]	DIL BLANK	-0.0005 ✓		
12	QC=10PPB	10.5304 ✓		
13	QC=50PPB	49.3781 ✓		
14	QC=100PPB	102.1677 ✓		
15	QC=200PPB	196.0940 ✓		

8/14

16	D.L.=.5 .25PPB	0.5868 1173			
17	INT. A X10	2.1621	4.3242		
18	INT. AB X10	6.9469	13.8938		
[redacted]	DIL BLANK	0.0190			
[redacted]	QC=10PPB	10.3919			
21	QC=50PPB	50.0595			
22	QC=100PPB	97.8307			
23	QC=200PPB	196.9637			
24	6132-BLK X2	0.0728	0.0291		
25	BLK X2+25	20.0772	80.02%		80.07562 %
26	6132-1 X2	1.4389	0.5756 .576		
27	6132-1 X2+10	10.1111	86.72%		88.39224 %
28	6132-3 X2	1.5322	0.6129 .613		
29	6132-3 X2DUP	1.5184	0.6074 .607	+/- 0.45	
30	DIL BLANK	-0.0003			
31	QC=10PPB	10.3070			
32	QC=50PPB	50.3122			
33	QC=100PPB	97.6832			
34	QC=200PPB	193.7350			

ANALYTE:Cd 114

		PPB	PPB X DF X .2		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1	0.0000			
3	STANDARD 2	60.0000			
4	STANDARD 3	-0.9582			
5	STANDARD 4	-21.4414			
6	STANDARD 5	-0.4233			
[redacted]	D.L.	0.3813			
[redacted]	D.L.=4PPB1PPB	-0.0616			
9	D.L.=2PPB ZN	-0.0384			
10	CD 50PPB	47.7139			
11	DIL BLANK	-0.0194			
12	QC=10PPB	10.3687			
13	QC=50PPB	49.2474			
14	QC=100PPB	98.5510			
15	QC=200PPB	240.6602			
16	D.L.=.5 .25PPB	0.5666			
17	INT. A X10	0.1813	0.3626		
18	INT. AB X10	4.9117	9.8234		
19	DIL BLANK	-0.0049			
20	QC=10PPB	10.3542			
21	QC=50PPB	49.4249			
22	QC=100PPB	96.3703			
23	QC=200PPB	242.7524			
24	6132-BLK X2	-0.5339	-0.2136		
25	BLK X2+25	19.7017	80.94%		80.52653 %
26	6132-1 X2	0.8268	0.3307		
27	6132-1 X2+10	9.3366	85.10%		86.23601 %
28	6132-3 X2	0.8702	0.3481		
29	6132-3 X2DUP	0.8450	0.3380	+/- 1.47	
30	DIL BLANK	-0.0025			
31	QC=10PPB	10.0979			
[redacted]	QC=50PPB	48.5022			
	QC=100PPB	93.9709			
34	QC=200PPB	238.1177			

ANALYTE:Cd 114

		PPB	PPB X DF X .2		PROTOCOL RECOVERY

9/14

1	BLANK				
2	STANDARD 1	-0.0000			
[redacted]	STANDARD 2	60.0000			
[redacted]	STANDARD 3	0.0829			
5	STANDARD 4	-0.0202			
6	STANDARD 5	-0.0019			
7	D.L.	0.4877			
8	D.L.=4PPB1PPB	-0.0007			
9	D.L.=2PPB ZN	0.0003			
10	CD 50PPB	47.8524			
11	DIL BLANK	-0.0027			
12	QC=10PPB	10.3939			
13	QC=50PPB	49.3159			
14	QC=100PPB	98.9047			
15	QC=200PPB	239.1681			
16	D.L.=.5 .25PPB	0.5696			
17	INT. A X10	1.4899	2.9798		
18	INT. AB X10	6.2394	12.4788		
19	DIL BLANK	0.0062			
20	QC=10PPB	10.3661			
21	QC=50PPB	49.5222			
22	QC=100PPB	96.6740			
23	QC=200PPB	241.0010			
24	6132-BLK X2	0.0426	0.0170		
25	BLK X2+25	19.8110	79.07%		79.1092 %
26	6132-1 X2	1.0287	0.4115		
27	6132-1 X2+10	9.5439	85.15%		86.53694 %
[redacted]	6132-3 X2	1.0645	0.4258		
[redacted]	6132-3 X2DUP	1.0485	0.4194	+/- 0.76	
30	DIL BLANK	-0.0015			
31	QC=10PPB	10.1256			
32	QC=50PPB	48.6566			
33	QC=100PPB	94.3113			
34	QC=200PPB	236.4079			

ANALYTE:Pb 208

		PPB	PPB X DF X .2		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1	0.0000			
3	STANDARD 2	60.0000			
4	STANDARD 3	0.0610			
5	STANDARD 4	0.0966			
6	STANDARD 5	0.0048			
7	D.L.	1.8223 ✓			
8	D.L.=4PPB1PPB	0.9145 ✓			
9	D.L.=2PPB ZN	0.0015			
10	CD 50PPB	47.7895 ✓			
11	DIL BLANK	0.0091 ✓			
12	QC=10PPB	9.5198 ✓			
13	QC=50PPB	49.5535 ✓			
14	QC=100PPB	103.8231 ✓			
15	QC=200PPB	215.2018 ✓			
[redacted]	D.L.=.5 .25PPB	-0.0028			
[redacted]	INT. A X10	0.1925 ✓	0.3850		
18	INT. AB X10	0.1541 ✓	0.3082		
19	DIL BLANK	-0.0022 ✓			
20	QC=10PPB	8.9694 89.7%			
21	QC=50PPB	47.3967 ✓			

10/14

22	QC=100PPB	101.9212		
23	QC=200PPB	201.7085		
24	6132-BLK X2	0.3108	0.1243	
	BLK X2+25	18.9165	74.42%	74.73687 %
	6132-1 X2	4.8977	1.9591 1.96	
27	6132-1 X2+10	14.0385	91.41%	94.23267 %
28	6132-3 X2	6.4448	2.5779 2.58	
29	6132-3 X2DUP	6.4960	2.5984 2.60 +/- 0.40	
30	DIL BLANK	0.0448		
31	QC=10PPB	10.8977		
32	QC=50PPB	51.9168		
33	QC=100PPB	108.1216		
34	QC=200PPB	229.7871 115%		

FILE NAME = 6132-6 ON DRIVE A:

"Sample Date/Time:","Tuesday, February 06, 2001 09:42:40"

"Quantitative Analysis - Summary Report"

"[redacted]ple Description:"

"[redacted]ution Type:","Blank"

"Blank File:","C:\elandata\Dataset\020601-1\Blank.001"

"Number of Replicates:",3

"Peak Processing Mode:","Average"

"Signal Profile Processing Mode:","Average"

"Dual Detector Mode:","Dual"

"Current Dead Time (ns):",35

"Acq. Dead Time(ns):",35

"Cumulative Autodilution Factor:",1

"Sample File:","c:\elandata\Sample\TODAY.sam"

"Method File:","C:\elandata\Method\cfile.mth"

"Dataset File:","C:\elandata\Dataset\020601-1\Blank.001"

"Tuning File:","c:\elandata\Tuning\default.tun"

"Optimization File:","c:\elandata\Optimize\default.dac"

"Calibration File:"

"Calibration Type:","External Calibration"

"Summary"

"Intensities"

6132

Total ug = ppb x dil x FV / 1000

		INTENSITY		CONC.		INT
	INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD
ANALYTE:Li 7			Total ug			
	PPB	PPB X DF X .2			PROTOCOL RECOVERY	
1 [redacted]BLANK						
2 STANDARD 1	-0.0000					
3 STANDARD 2	60.0000					
4 STANDARD 3	-0.0344					
5 STANDARD 4	-0.0046					
6 STANDARD 5	0.0039					
7 D.L.	0.0250					
8 D.L.=4PPB1PPB	0.0089					
9 D.L.=2PPB ZN	-0.0045					
10 CD 50PPB	-0.0100					
11 DIL BLANK	-0.0419					
12 QC=10PPB	10.2786					
13 QC=50PPB	47.8324					
14 QC=100PPB	98.3723					
15 QC=200PPB	232.2067					
16 D.L.=.5 .25PPB	0.0496					
17 INT. A X10	0.0858	0.1716				
18 INT. AB X10	0.0799	0.1598				
19 DIL BLANK	0.0002					
20 QC=10PPB	10.3883					
21 QC=50PPB	49.0778					
22 QC=100PPB	97.2925					
23 QC=200PPB	271.0676					
24 6132-BLK X2	0.0678	0.0271				
25 BLK X2+25	0.0769	0.04%			.306768 %	
[redacted]6132-1 X2	0.0667	0.0267				
[redacted]6132-1 X2+10	9.8529	97.86%			97.87616 %	
28 6132-3 X2	0.1070	0.0428				
29 6132-3 X2DUP	0.1370	0.0548	+/-12.30			
30 DIL BLANK	0.0382					
31 QC=10PPB	10.3196					

12/14

32	QC=50PPB	49.3214		
33	QC=100PPB	99.0172		
34	QC=200PPB	201.8683		

ANALYTE:Be 9

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0105		
5	STANDARD 4	0.0044		
6	STANDARD 5	0.0008		
7	D.L.	2.2029 ✓		
8	D.L.=4PPB1PPB	0.0027		
9	D.L.=2PPB ZN	0.0045		
10	CD 50PPB	51.3525 ✓		
11	DIL BLANK	0.0039 ✓		
12	QC=10PPB	10.5650 ✓		
13	QC=50PPB	49.2377 ✓		
14	QC=100PPB	101.4972 ✓		
15	QC=200PPB	217.5211 ✓		
16	D.L.=.5 .25PPB	0.2642 ✓		
17	INT. A X10	0.0107 ✓	0.0214	
18	INT. AB X10	0.0089 ✓	0.0178	
19	DIL BLANK	0.0010 ✓		
20	QC=10PPB	10.7225 ✓		
21	QC=50PPB	50.8021 ✓		
22	QC=100PPB	101.2446 ✓		
23	QC=200PPB	239.1354 120%		
24	6132-BLK X2	0.0107	0.0043 > ✓	
25	BLK X2+25	20.0530	80.17%	80.17768 %
26	6132-1 X2	0.0190	0.0076 < .100	
27	6132-1 X2+10	8.9923	89.73%	89.75247 %
28	6132-3 X2	0.0136	0.0054 < .100	
29	6132-3 X2DUP	0.0125	0.0050 √ +/- 4.21	
30	DIL BLANK	0.0017 ✓		
31	QC=10PPB	10.3654 ✓		
32	QC=50PPB	50.5183 ✓		
33	QC=100PPB	100.0333 ✓		
34	QC=200PPB	203.9701 ✓		

ANALYTE:Pb 208

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0412		
5	STANDARD 4	0.1000		
6	STANDARD 5	-0.0026		
7	D.L.	1.9319 ✓		
8	D.L.=4PPB1PPB	0.9577 ✓		
9	D.L.=2PPB ZN	0.0181		
10	CD 50PPB	47.8347 ✓		
11	DIL BLANK	0.0075 ✓		
12	QC=10PPB	9.6758 ✓		
13	QC=50PPB	46.4783 ✓		
14	QC=100PPB	100.8034 ✓		
15	QC=200PPB	221.7197 111%		

13/14

16	D.L.=.5 .25PPB	-0.0255			
17	INT. A X10	0.2324	0.4648		
18	INT. AB X10	0.2040	0.4080		
19	DIL BLANK	0.0259			
20	QC=10PPB	10.5381			
21	QC=50PPB	53.5086			
22	QC=100PPB	118.7577			
23	QC=200PPB	249.0551			
24	6132-BLK X2	0.1417	0.0567	> report page 10	
25	BLK X2+25	19.2440	76.41%		76.54216 %
26	6132-1 X2	4.9356	1.9742		
27	6132-1 X2+10	14.8935	99.58%		99.71812 %
28	6132-3 X2	5.8722	2.3489		
29	6132-3 X2DUP	5.8274	2.3310	+/- 0.38	
30	DIL BLANK	0.0355			
31	QC=10PPB	10.2164			
32	QC=50PPB	50.2209			
33	QC=100PPB	100.3872			
34	QC=200PPB	236.8574			

14/14

Multi Metals Worksheet

Customer Tester

OLI Lab # 01W6132

pH = < 2

Method 29

Volumes marked NO

Ash st Kms/st

HNO_3 LOT # 002742

Date Start 1-26-01

HCl LOT #

Date Finished

HF LOT #

Spike Solution Lot #s: A B C 72000-C

D E Other

OLI Sample ID	FRONT HALF			BACK HALF			FRONT HALF + BACK HALF COMBINED VOLUME (mL)	FACTOR FOR TOTAL µG	Comment
	# Filters Submitted	Beginning Volume (mL)	Final Volume (mL)	Beginning Volume (mL)	½ Beginning Volume (mL)	Final Volume (mL)			
OLI 0µg		100	100		100	50	100	X2	
OLI 10µg spk		100	↓		100	↓	↓	↓	10µg = .4mL of 25µg/mL
1/2		107	↓	570	285	↓	↓	↓	
3/4		102	↓	560	280	↓	↓	↓	

Rev 11-00

OXFORD Laboratories Inc.

Analytical and Consulting Chemists
1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 01-31-01
DATE REPORTED 02-15-01
01W6214

TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: OGDEN ENERGY (M29 Be/Cd/Pb/Hg)

1. 2-I-M29-1
2. 2-I-M29-2
3. 2-I-M29-3
4. 2-S-M29-1
5. 2-S-M29-2
6. 2-S-M29-2 DUPLICATE

RESULTS

	1	2	3	4	5	6
Beryllium, as Be, Total ug	X	X	X	<.100	<.100	<.100
Cadmium, as Cd, Total ug	X	X	X	.654	.816	.815
Lead, as Pb, Total ug	X	X	X	7.04	2.75	2.90

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1. 2-I-M29-1
2. 2-I-M29-2
3. 2-I-M29-3
4. 2-S-M29-1
5. 2-S-M29-2
6. 2-S-M29-2 DUPLICATE

RESULTS

	1	2	3	4	5	6
SULTS FOR MERCURY TOTAL UG						
Mercury, Front 1/2, Total ug	166	265	330	<.200	<.200	X
Mercury, Front 1/2, Total ug	168	268	331	<.200	<.200	X
Mercury, Back 1/2, Total ug	1.80	<.930	1.81	6.52	6.05	X
Mercury, Back 1/2, Total ug	1.83	<.930	1.86	6.42	6.03	X
Mercury, HN03, Total ug	<.222	<.206	<.204	<.204	<.208	X
Mercury, HN03, Total ug	<.222	<.206	<.204	<.204	<.208	X
Mercury, KMn04, Total ug	<1.00	<1.00	<1.00	<1.00	<1.00	X
Mercury, KMn04, Total ug	<1.00	<1.00	<1.00	<1.00	<1.00	X
Mercury, HCl, Total ug	<1.00	<1.00	<1.00	<1.00	<1.00	X
Mercury, HCl, Total ug	<1.00	<1.00	<1.00	<1.00	<1.00	X

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7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: OGDEN ENERGY (M29 Be/Cd/Pb/Hg)

7. 2-S-M29-3
8. 2-S-M29-FB
9. I-I-M29-3
10. 1-S-M29-3
11. 1-S-M29-3 SPIKE
12. 1-S-M29-FB

RESULTS

	7	8	9	10	11	12
Beryllium, as Be, Total ug	<.100	<.100	X	<.100	89.5%	<.100
Cadmium, as Cd, Total ug	<.400	<.400	X	<.400	89.4%	<.400
Lead, as Pb, Total ug	2.05	1.25	X	1.70	83.9%	<1.00

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P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: OGDEN ENERGY (M29 Be/Cd/Pb/Hg)

7. 2-S-M29-3
8. 2-S-M29-FB
9. I-I-M29-3
10. 1-S-M29-3
11. 1-S-M29-3 SPIKE
12. 1-S-M29-FB

RESULTS

	7	8	9	10	11	12
SULTS FOR MERCURY TOTAL UG						
Mercury, Front 1/2, Total ug	.256	<.200	167	<.200	101%	<.200
Mercury, Front 1/2, Total ug	.260	<.200	169	<.200	X	<.200
Mercury, Back 1/2, Total ug	5.55	<.590	13.9	8.37	81.9%	<.590
Mercury, Back 1/2, Total ug	5.64	<.590	13.6	8.44	X	<.590
Mercury, HN03, Total ug	<.204	<.206	<.230	<.222	105%	<.202
Mercury, HN03, Total ug	<.204	<.206	<.230	<.222	X	<.202
Mercury, KMn04, Total ug	<1.00	<1.00	<1.00	<1.00	101%	<1.00
Mercury, KMn04, Total ug	<1.00	<1.00	<1.00	<1.00	X	<1.00
Mercury, HCl, Total ug	<1.00	<1.00	<1.00	<1.00	101%	<1.00
Mercury, HCl, Total ug	<1.00	<1.00	<1.00	<1.00	X	<1.00

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TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: OGDEN ENERGY (M29 Be/Cd/Pb/Hg)

13. REAGENT BLANK
14. METHOD SW846-

RESULTS

	13	14
Beryllium, as Be, Total ug	<.100	6020
Cadmium, as Cd, Total ug	<.400	6020
Lead, as Pb, Total ug	<1.00	6020

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TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: OGDEN ENERGY (M29 Be/Cd/Pb/Hg)

13. REAGENT BLANK
14. METHOD SW846-

RESULTS

	13	14
RESULTS FOR MERCURY TOTAL UG		
Mercury, Front 1/2, Total ug	<.200	7470
Mercury, Front 1/2, Total ug	<.200	7470
Mercury, Back 1/2, Total ug	<.600	7470
Mercury, Back 1/2, Total ug	<.600	7470
Mercury, HN03, Total ug	X	7470
Mercury, HN03, Total ug	X	7470
Mercury, KMn04, Total ug	<1.00	7470
Mercury, KMn04, Total ug	<1.00	7470
Mercury, HCl, Total ug	<1.00	7470
Mercury, HCl, Total ug	<1.00	7470

Roger Oxford
ROGER OXFORD, CHEMIST

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/25/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
				(4)	2-S-M29-1	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(5/6)	2-S-M29-2	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(7)	2-S-M29-3	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(8)	2-S-M29-FB	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				AND						
					1-S-M29-3	same		1/29/01		
				(on page 3)						

Signature	Herb Dixon	Company	TESTAR	Date	1/26/01
Checked By		Company	TESTAR	Date	1/26/01
Received By	Lauren Kelly	Company	Oxford	Date	1-31-01
Analytical Parameters	Be, Cd, Pb, and Hg by EPA Method 29				
Sample Condition					

1/26

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/25/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
				(9)	1-I-M29-3	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(10/11)	1-S-M29-3	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(12)	1-S-M29-FB	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				

Signature	Herb Dixon	**Company**	TESTAR	**Date**	1/29/01
Checked By	[signature]	**Company**	TESTAR	**Date**	1/29/01
Received By		**Company**		**Date**	
Analytical Parameters	Be, Cd, Pb, and Hg by EPA Method 29 - Matrix spike on 1-S-M29-3				
Sample Condition					

FACSIMILE TRANSMITTAL MEMO
Beautone

TO: Lauri	NO. OF PAGES:
COMPANY:	FROM: Gary Williams
FAX:	COMPANY:
DATE:	FAX:
	PHONE:

330

7/26

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6214**
Report Date: 2-8-01

Client: Testar Inc.	Project/P.O. #: 10184
Sample Arrival Date: 1-31-01	Chain of Custody: Yes
Condition of Sample upon Arrival:	Shipped to Alta Analytical. Picked up by OLI. No problems noted.
Observed Discrepancy/Comment:	Volumes were not marked. No sample loss observed pH < 2
Requested Method of Analysis:	EPA Method 29 SW846-6020 & SW846-7470
Sample Preparation per:	EPA Method 29
Sample Analysis per:	SW846-6020 & SW 846-7470
Instrumentation Used:	PE AAnalyst 100 . . . . . .No PE FIMS . . . . . Yes (CVAA Hg) PE Zeeman 5100 GFAA . . . . No PE ICP-MS Elan 5000 . . . . . .No PE ICP-MS Elan 6000 . . . . . .Yes (all others)

Spike Requirements: OLI spike recovery of 90% - 110% has been met with the following exception(s):

Sample ID	Element	% Recovery	Page		Sample ID	Element	% Recovery	Page
11	Be	89.5	19		11	Cd	89.4	15
11	Pb	83.9	17		11-BH	Hg	81.9	25

NOTE: EPA Method 29 acceptable criteria of 75% - 125% was met.

Duplicate Requirements: Relative percent difference of ± 10% for MMTL and ± 3% for Hg was met.

Sample Note: The following field blanks and reagent blanks were found to be positive:

Sample ID	Element	Total µg	Page		Sample ID	Element	Total µg	Page
8	Pb	1.25	17					

***REPORTED DATA IS NOT BLANK CORRECTED**

Laboratory Control Blank: All less than

***REPORTED DATA IS NOT BLANK CORRECTED**

8/26

Laboratory Control Spike: 90% - 110% has been met with the following exception(s):

Element	% Recovery	Page		Element	% Recovery	Page
Be	113	14		Cd	122	15
Pb	123	17		Be	117	19
Hg	80.4	21				

Detection Limit Requirements: 90% - 110% has been met with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg	Found Value µg	% of True Value	Page
Pb	1.00	0.894	89.4	17		Hg	.020	.023	115	23
						Hg	.020	.024	120	23
						Hg	.020	.023	115	23

Calibration Verification: 90% - 110% was met for outside Quality Control Standards with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Be	200	230	115	14		Be	200	231	116	14
Be	200	224	112	14		Pb	100	113	113	17
Pb	200	229	115	17		Pb	10.0	8.91	89.1	17
Be	200	239	120	19						

NOTE: **Be – 1st Run:** Reported data analyzed below 10.0 µg/L
Pb – 1st Run: 4 QCs were analyzed before and after samples with at least 2 of these QCs being within specifications.
Be – 2nd Run: Reported data analyzed below 10.0 µg/L

Calibration Coefficient: All elements at least 0.996

This data package contains 26 summary pages to include the narrative summary. All pertinent data is on file at OLI for five years.

9/26

Sample Volumes submitted for testing are:

OLI ID #	# Filters	Front Half (HNO_3) B. V. (mL)	Back Half (H_2O_2) B. V. (mL)	HNO_3 B. V. (mL)	$KMnO_4$ B. V. (mL)	HCl B. V. (mL)
OLI 0 µg	n/a	100 DI	100 DI	n/a	n/a	n/a
OLI 10µg SPK	n/a	100 DI	100 DI	n/a	n/a	n/a
1	4	183	485	111	430	235
2	2	178	465	103	430	230
3	2	155	470	102	440	235
4	1	100	655	102	435	235
5/6	1	108	575	104	430	235
7	1	103	538	102	435	225
8	1	104	295	103	425	230
9	2	123	470	115	430	240
10/11	1	103	575	111	440	235
12	1	103	295	101	425	235
13	1	100	300	X	430	240

Final Volumes used for calculations are:

OLI ID #	Front Half & Back Half F. V. (mL)	Front Half F. V. (mL)	Back Half F. V. (mL)	HNO_3 F. V. (mL)	$KMnO_4$ F. V. (mL)	HCl F. V. (mL)
OLI 0 µg	200	100	n/a	n/a	n/a	n/a
OLI 10µg SPK	200	100	n/a	n/a	n/a	n/a
1	200	100	485	111	500	500
2	200	100	465	103	500	500
3	200	100	470	102	500	500
4	200	100	655	102	500	500
5/6	200	100	575	104	500	500
7	200	100	538	102	500	500
8	200	100	295	103	500	500
9	200	100	470	115	500	500
10/11	200	100	575	111	500	500
12	200	100	295	101	500	500
13	200	100	300	X	500	500

Calculations for Total µg Reported:

ICP-MS $\quad \dfrac{\mu g/L \times \text{Dilution Factor} \times \text{Final Volume}}{1000} = \text{Total } \mu g$

Hg $\quad \dfrac{\mu g \text{ per Bottle} \times \text{Dilution Factor} \times \text{Final Volume}}{\text{Aliquot Used}} = \text{Total } \mu g$

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/24/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
				(1)	2-I-M29-1	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(2)	2-I-M29-2	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(3)	2-I-M29-3	FH HNO3	UTQ			
						HNO3/H2O2				
						IMP 3 HNO3				
						KMnO4/H2SO4				
						8N HCl & DI				
				(13)	Reagent Blanks	HNO3				
						HNO3/H2O2				
						Filter				
						KMnO4/H2SO4				
						8N HCl & DI				
				AND	~~#1~~					
					1-I-M29-3	same →		1/29/01		
				(on pg 3)		↓				

Signature	Herb Dixon	Company	TESTAR	Date	1/26/01
Checked By	[illegible]	Company	TESTAR	Date	1/26/01
Received By	Lauri Kelly	Company	Oxford	Date	1-31-01
Analytical Parameter	Mercury only by EPA Method 29 for samples				
	Be, Cd, Pb, and Hg by EPA Method 29 on Reagent Blanks				
Sample Condition					

10/26

13/26

KF/sd

FILE NAME = 6214-1 ON DRIVE A:

"Sample Date/Time:","Monday, February 05, 2001 10:17:59"
"Quantitative Analysis - Summary Report"
"[redacted]ple Description:"
"[redacted]ution Type:","Blank"
"Blank File:","C:\elandata\Dataset\020501-1\Blank.001"
"Number of Replicates:",3
"Peak Processing Mode:","Average"
"Signal Profile Processing Mode:","Average"
"Dual Detector Mode:","Dual"
"Current Dead Time (ns):",35
"Acq. Dead Time(ns):",35
"Cumulative Autodilution Factor:",1
"Sample File:","C:\elandata\Sample\TODAY.sam"
"Method File:","C:\elandata\Method\bfile.mth"
"Dataset File:","C:\elandata\Dataset\020501-1\Blank.001"
"Tuning File:","c:\elandata\Tuning\default.tun"
"Optimization File:","c:\elandata\Optimize\default.dac"
"Calibration File:"
"Calibration Type:","External Calibration"
"Summary"
"Intensities"

6214
Testar

Total µg = ppb x d.f. x FV / 1000

		INTENSITY		CONC.		INT
		INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD
ANALYTE:Li	7	PPB	PPB X DF X .2		PROTOCOL RECOVERY		
[redacted]	BLANK						
2	STANDARD 1	-0.0000					
3	STANDARD 2	60.0000					
4	STANDARD 3	0.0235					
5	STANDARD 4	0.0273					
6	STANDARD 5	-0.0442					
7	D.L.	-0.0043					
8	D.L.=4PB1PPB	-0.0196					
9	D.L.=2PPB ZN	-0.0053					
10	D.L.=2PPB RU	0.0035					
11	CD 50PPB	-0.0241					
12	DIL BLANK	-0.0214					
13	QC=10PPB	10.1960					
14	QC=50PPB	48.2453					
15	QC=100PPB	95.2665					
16	QC=200PPB	297.3456					
17	D.L.=.25 .5PPB	-0.0198					
18	INT. A X10	0.0171	0.0342				
19	INT. AB X10	0.0318	0.0636				
20	DIL BLANK	-0.0260					
21	QC=10PPB	9.9624					
22	QC=50PPB	46.4087					
23	QC=100PPB	93.8321					
24	QC=200PPB	288.8655					
25	6214-BLK X2	0.0453	0.0181				
[redacted]	BLK X2+25	0.0028	-0.17%		1.117974E-02 %		
[redacted]	6214-4 X2	0.1089	0.0436				
28	6214-5 X2	0.1212	0.0485				
29	6214-5 X2DUP	0.1081	0.0432	+/- 5.71			
30	6214-7 X2	0.2113	0.0845				
31	6214-8 X2	0.0302	0.0121				

32	6214-10 X2	0.1340	0.0536		
33	6214-10 X2+10	9.5958	94.62%		94.68917 %
34	6214-12 X2	0.0408	0.0163		
35	6214-13 X2	0.0040	0.0016		
36	DIL BLANK	-0.0226			
37	QC=10PPB	10.3676			
38	QC=50PPB	49.8192			
39	QC=100PPB	100.2679			
40	QC=200PPB	318.9005			

ANALYTE:Be 9

		PPB	PPB X DF X .2		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1	0.0000			
3	STANDARD 2	60.0000			
4	STANDARD 3	0.0093			
5	STANDARD 4	0.0075			
6	STANDARD 5	-0.0023			
7	D.L.	2.0557 ✓			
8	D.L.=4PB1PPB	-0.0002			
9	D.L.=2PPB ZN	0.0017			
10	D.L.=2PPB RU	0.0011			
11	CD 50PPB	49.2699 ✓			
12	DIL BLANK	-0.0008 ✓			
13	QC=10PPB	10.0851 ✓			
14	QC=50PPB	48.0653 ✓			
15	QC=100PPB	94.9723 ✓			
16	QC=200PPB	230.2186 115%			
17	D.L.=.25 .5PPB	0.2472 ✓			
18	INT. A X10	0.0042 ✓	0.0084		
19	INT. AB X10	0.0031 ✓	0.0062		
20	DIL BLANK	0.0002 ✓			
21	QC=10PPB	10.0223 ✓			
22	QC=50PPB	45.7026 ✓			
23	QC=100PPB	93.4473 ✓			
24	QC=200PPB	230.7572 116%			
25	6214-BLK X2	0.0289	0.0116 > ✓		
26	BLK X2+25	28.3780	113.40%		113.3809 %
27	6214-4 X2	0.0772	0.0309 < .100		
28	6214-5 X2	0.0073	0.0029		
29	6214-5 X2DUP	0.0111	0.0044	+/-20.65	
30	6214-7 X2	0.0032	0.0013		
31	6214-8 X2	0.0087	0.0035		
32	6214-10 X2	0.0062	0.0025 >	reanalyzed - see page 19	
33	6214-10 X2+10	7.7500	77.44% >		77.45198 %
34	6214-12 X2	0.0074	0.0030		
35	6214-13 X2	0.0072	0.0029		
36	DIL BLANK	-0.0021 ✓			
37	QC=10PPB	9.2319 ✓			
38	QC=50PPB	45.1119 ✓			
39	QC=100PPB	90.5887 ✓			
40	QC=200PPB	223.6641 112%			

ANALYTE:Cd 111

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	0.0000		
3	STANDARD 2	60.0000		

15/26

4	STANDARD 3	0.1308			
5	STANDARD 4	-0.0078			
6	STANDARD 5	0.0005			
[redacted]	D.L.	0.5013 ✓			
[redacted]	D.L.=4PB1PPB	-0.0014			
9	D.L.=2PPB ZN	-0.0015			
10	D.L.=2PPB RU	-0.0008			
11	CD 50PPB	49.8784 ✓			
12	DIL BLANK	0.0009 ✓			
13	QC=10PPB	10.5225 ✓			
14	QC=50PPB	49.4749 ✓			
15	QC=100PPB	102.2671 ✓			
16	QC=200PPB	200.4374 ✓			
17	D.L.=.25 .5PPB	0.5501 ✓			
18	INT. A X10	1.8394 ✓	3.6788		
19	INT. AB X10	6.5426 ✓	13.0852		
20	DIL BLANK	0.0071 ✓			
21	QC=10PPB	10.5565 ✓			
22	QC=50PPB	49.7576 ✓			
23	QC=100PPB	98.5251 ✓			
24	QC=200PPB	195.8362 ✓			
25	6214-BLK X2	0.0326	0.0130 >		
26	BLK X2+25	30.4752	121.77%		121.7421 %
27	6214-4 X2	1.6341	0.6536 .654		
28	6214-5 X2	2.0405	0.8162 .816		
29	6214-5 X2DUP	2.0380	0.8152 .815 +/- 0.06		
30	6214-7 X2	0.4921	0.1968 ~~.197~~ < .400 at 2-6-01		
31	6214-8 X2	0.1031	0.0412 < .400		
32	6214-10 X2	0.7349	0.2940 < .400		
[redacted]	6214-10 X2+10	9.6768	89.42% ✓		90.14336 %
34	6214-12 X2	0.0963	0.0385 < .400		
35	6214-13 X2	0.1258	0.0503 < .400		
36	DIL BLANK	-0.0005 ✓			
37	QC=10PPB	10.7488 ✓			
38	QC=50PPB	51.8941 ✓			
39	QC=100PPB	101.5576 ✓			
40	QC=200PPB	202.9219 ✓			

ANALYTE:Cd 114

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	-0.8444		
5	STANDARD 4	-21.4784		
6	STANDARD 5	-0.3036		
7	D.L.	0.4290		
8	D.L.=4PB1PPB	-0.0380		
9	D.L.=2PPB ZN	-0.0166		
10	D.L.=2PPB RU	-0.0114		
11	CD 50PPB	49.7735		
12	DIL BLANK	-0.0100		
13	QC=10PPB	10.5158		
[redacted]	QC=50PPB	49.6877		
[redacted]	QC=100PPB	99.5576		
16	QC=200PPB	244.8628		
17	D.L.=.25 .5PPB	0.5815		
18	INT. A X10	0.1195	0.2390	
19	INT. AB X10	4.9622	9.9244	

20	DIL BLANK	-0.0004			
21	QC=10PPB	10.6816			
22	QC=50PPB	49.9355			
[illegible]	QC=100PPB	97.4981			
[illegible]	QC=200PPB	241.5283			
25	6214-BLK X2	-0.0265	-0.0106		
26	BLK X2+25	30.7233	123.00%		.001 %
27	6214-4 X2	1.0013	0.4005		
28	6214-5 X2	1.2843	0.5137		
29	6214-5 X2DUP	1.2448	0.4979	+/- 1.56	
30	6214-7 X2	-0.0321	-0.0128		
31	6214-8 X2	-0.7978	-0.3191		
32	6214-10 X2	0.1046	0.0418		
33	6214-10 X2+10	9.2873	91.83%		91.91161 %
34	6214-12 X2	-0.4345	-0.1738		
35	6214-13 X2	-0.3610	-0.1444		
36	DIL BLANK	-0.0000			
37	QC=10PPB	10.7905			
38	QC=50PPB	51.4434			
39	QC=100PPB	100.1623			
40	QC=200PPB	251.6661			

ANALYTE:Cd 114

		PPB	PPB X DF X .2		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1	0.0000			
3	STANDARD 2	60.0000			
4	STANDARD 3	0.0657			
[illegible]	STANDARD 4	-0.0089			
[illegible]	STANDARD 5	0.0042			
7	D.L.	0.4993			
8	D.L.=4PB1PPB	0.0013			
9	D.L.=2PPB ZN	0.0028			
10	D.L.=2PPB RU	0.0013			
11	CD 50PPB	49.8712			
12	DIL BLANK	-0.0000			
13	QC=10PPB	10.5301			
14	QC=50PPB	49.7799			
15	QC=100PPB	99.8942			
16	QC=200PPB	243.2107			
17	D.L.=.25 .5PPB	0.5793			
18	INT. A X10	1.2742	2.5484		
19	INT. AB X10	6.1048	12.2096		
20	DIL BLANK	0.0047			
21	QC=10PPB	10.6899			
22	QC=50PPB	49.9710			
23	QC=100PPB	97.7419			
24	QC=200PPB	239.7508			
25	6214-BLK X2	0.0333	0.0133		
26	BLK X2+25	30.7707	122.95%		122.9191 %
27	6214-4 X2	1.2870	0.5148		
28	6214-5 X2	1.6999	0.6800		
29	6214-5 X2DUP	1.6493	0.6597	+/- 1.51	
[illegible]	6214-7 X2	0.1510	0.0604		
[illegible]	6214-8 X2	-0.5045	-0.2018		
32	6214-10 X2	0.3256	0.1302		
33	6214-10 X2+10	9.4977	91.72%		91.98206 %
34	6214-12 X2	-0.2686	-0.1074		
35	6214-13 X2	-0.2179	-0.0872		

M/26

36	DIL BLANK	-0.0018		
37	QC=10PPB	10.7858		
38	QC=50PPB	51.5052		
39	QC=100PPB	100.3001		
40	QC=200PPB	249.6662		

ANALYTE:Pb 208

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0346		
5	STANDARD 4	0.0938		
6	STANDARD 5	-0.0097		
7	D.L.	1.8182 ✓		
8	D.L.=4PB1PPB	0.8937 89.4%		
9	D.L.=2PPB ZN	-0.0073		
10	D.L.=2PPB RU	-0.0047		
11	CD 50PPB	49.5529 ✓		
12	DIL BLANK	0.0197 ✓		
13	QC=10PPB	9.1840 ✓		
14	QC=50PPB	49.0208 ✓		
15	QC=100PPB	100.9143 ✓		
16	QC=200PPB	208.4275 ✓		
17	D.L.=.25 .5PPB	0.0099		
18	INT. A X10	0.2985 ✓	0.5970	
19	INT. AB X10	0.2511 ✓	0.5022	
20	DIL BLANK	0.0356 ✓		
21	QC=10PPB	10.5219 ✓		
22	QC=50PPB	53.4322 ✓		
23	QC=100PPB	112.5235 113%		
24	QC=200PPB	228.7400 115%		
25	6214-BLK X2	0.3858	0.1543 >	
26	BLK X2+25	31.0363	122.60%	122.2585 %
27	6214-4 X2	17.5909	7.0364 7.04	
28	6214-5 X2	6.8830	2.7532 2.75	
29	6214-5 X2DUP	7.2502	2.9001 2.90 +/- 2.60	
30	6214-7 X2	5.1369	2.0548 2.05	
31	6214-8 X2	3.1316	1.2526 1.25	
32	6214-10 X2	4.2432	1.6973 1.70	
33	6214-10 X2+10	12.6336	83.90% ✓	88.69917 %
34	6214-12 X2	1.3536	0.5414 < 1.00	
35	6214-13 X2	0.9024	0.3610 < 1.00	
36	DIL BLANK	0.0113 ✓		
37	QC=10PPB	8.9099 89.1%		
38	QC=50PPB	45.0011 ✓		
39	QC=100PPB	96.8335 ✓		
40	QC=200PPB	205.1667 ✓		

18/26

FILE NAME = 6214-6 ON DRIVE a:

"Sample Date/Time:","Tuesday, February 06, 2001 09:42:40"
"Quantitative Analysis - Summary Report"
"[redacted]ple Description:"
"[redacted]ution Type:","Blank"
"Blank File:","C:\elandata\Dataset\020601-1\Blank.001"
"Number of Replicates:",3
"Peak Processing Mode:","Average"
"Signal Profile Processing Mode:","Average"
"Dual Detector Mode:","Dual"
"Current Dead Time (ns):",35
"Acq. Dead Time(ns):",35
"Cumulative Autodilution Factor:",1
"Sample File:","c:\elandata\Sample\TODAY.sam"
"Method File:","C:\elandata\Method\cfile.mth"
"Dataset File:","C:\elandata\Dataset\020601-1\Blank.001"
"Tuning File:","c:\elandata\Tuning\default.tun"
"Optimization File:","c:\elandata\Optimize\default.dac"
"Calibration File:"
"Calibration Type:","External Calibration"
"Summary"
"Intensities"

6214

Total µg = ppb x dil x FV / 1000

		INTENSITY		CONC.		INT
	INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD
ANALYTE:Li 7						
	PPB		PPB X DF X .2		PROTOCOL RECOVERY	
[redacted] BLANK						
2 STANDARD 1	-0.0000					
3 STANDARD 2	60.0000					
4 STANDARD 3	-0.0344					
5 STANDARD 4	-0.0046					
6 STANDARD 5	0.0039					
7 D.L.	0.0250					
8 D.L.=4PPB1PPB	0.0089					
9 D.L.=2PPB ZN	-0.0045					
10 CD 50PPB	-0.0100					
11 DIL BLANK	-0.0419					
12 QC=10PPB	10.2786					
13 QC=50PPB	47.8324					
14 QC=100PPB	98.3723					
15 QC=200PPB	232.2067					
16 D.L.=.5 .25PPB	0.0496					
17 INT. A X10	0.0858		0.1716			
18 INT. AB X10	0.0799		0.1598			
19 DIL BLANK	0.0002					
20 QC=10PPB	10.3883					
21 QC=50PPB	49.0778					
22 QC=100PPB	97.2925					
23 QC=200PPB	271.0676					
24 6214-BLK X2	0.1323		0.0529			
25 BLK X2+25	0.0926		-0.16%		.3684502 %	
[redacted] 6214-8 X2	0.1722		0.0689			
[redacted] 6214-10 X2	0.2020		0.0808			
28 6214-10 X2+10	9.9595		97.58%		97.62302 %	
29 DIL BLANK	-0.0042					
30 QC=10PPB	10.6159					
31 QC=50PPB	49.9006					

19/26

32	QC=100PPB	104.4733		
33	QC=200PPB	212.1088		

ANALYTE:Be 9

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0105		
5	STANDARD 4	0.0044		
6	STANDARD 5	0.0008		
7	D.L.	2.2029 ✓		
8	D.L.=4PPB1PPB	0.0027		
9	D.L.=2PPB ZN	0.0045		
10	CD 50PPB	51.3525 ✓		
11	DIL BLANK	0.0039 ✓		
12	QC=10PPB	10.5650 ✓		
13	QC=50PPB	49.2377 ✓		
14	QC=100PPB	101.4972 ✓		
15	QC=200PPB	217.5211 ✓		
16	D.L.=.5 .25PPB	0.2642 ✓		
17	INT. A X10	0.0107 ✓	0.0214	
18	INT. AB X10	0.0089 ✓	0.0178	
19	DIL BLANK	0.0010 ✓		
20	QC=10PPB	10.7225 ✓		
21	QC=50PPB	50.8021 ✓		
22	QC=100PPB	101.2446 ✓		
23	QC=200PPB	239.1354 120%		
[redacted]	6214-BLK X2	0.0427	0.0171 > ✓	
25	BLK X2+25	29.2371	116.78%	116.749 %
26	6214-8 X2	0.0106	0.0042 < .100	
27	6214-10 X2	0.0137	0.0055 ✓	
28	6214-10 X2+10	8.9607	89.47% ✓	89.48441 %
29	DIL BLANK	0.0091 ✓		
30	QC=10PPB	10.5166 ✓		
31	QC=50PPB	49.6401 ✓		
32	QC=100PPB	103.6241 ✓		
33	QC=200PPB	210.1921 ✓		

ANALYTE:Pb 208

		PPB	PPB X DF X .2	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1	-0.0000		
3	STANDARD 2	60.0000		
4	STANDARD 3	0.0412		
5	STANDARD 4	0.1000		
6	STANDARD 5	-0.0026		
7	D.L.	1.9319 ✓		
8	D.L.=4PPB1PPB	0.9577 ✓		
9	D.L.=2PPB ZN	0.0181		
10	CD 50PPB	47.8347 ✓		
11	DIL BLANK	0.0075 ✓		
[redacted]	QC=10PPB	9.6758 ✓		
[redacted]	QC=50PPB	46.4783 ✓		
14	QC=100PPB	100.8034 ✓		
15	QC=200PPB	221.7197 111%		
16	D.L.=.5 .25PPB	-0.0255		
17	INT. A X10	0.2324 ✓	0.4648	

20/26

18	INT. AB X10	0.2040	0.4080	
19	DIL BLANK	0.0259		
20	QC=10PPB	10.5381		
21	QC=50PPB	53.5086		
22	QC=100PPB	118.7577 119%		
23	QC=200PPB	249.0551 125%		
24	6214-BLK X2	0.2783	0.1113 >	
25	BLK X2+25	26.0620	103.13%	103.1003 %
26	6214-8 X2	2.9288	1.1715 1.17	Report 1st run page 17
27	6214-10 X2	3.7511	1.5004	
28	6214-10 X2+10	13.8776	101.26%	100.9199 %
29	DIL BLANK	0.0756		
30	QC=10PPB	9.1051		
31	QC=50PPB	52.3118		
32	QC=100PPB	109.6824		
33	QC=200PPB	231.8338 116%		

HG2853.WKS A.A. SUMMARY REPORT

CLIENT: TESTAR, INC.
P.O.#/PROJECT #: 10184
ANALYST: KEN SMITH/SHARON CLARK
DATE: 02-07-01

						X	WT. STDS			
							CONC STDS			
						.020	INST LIMIT			ug
						.2	SPK LEVEL			ug
						10.00	MAX ALIQUO			mL
						.02	M.D.L.			ug
SAMPLE I.D.	EL	MEAN ABS	ug INSTR READ	mL SAMPLE ALIQUOT	F.V. X DIL		TOTAL ug ANSWER	%REC	or < ug	SPK
B-6214-001	Hg	.0029661	.0189	10	500	<		1.00		
B-6214-001	Hg	.0030155	.0192	10	500	<		1.00		
FH-6214-001	Hg	.0263696	.166	.1	100		166			
FH-6214-001	Hg	.0266568	.1678	.1	100		168			
FH-6214-002	Hg	.0210256	.1327	1	2000		265			
FH-6214-002	Hg	.0212353	.134	1	2000		268			
FH-6214-003	Hg	.0262083	.165	1	2000		330			
FH-6214-003	Hg	.0262692	.1654	1	2000		331			
FH-6214-004	Hg	.0008239	.0052	10	100	<		.200		
FH-6214-004	Hg	.0008119	.0052	10	100	<		.200		
FH-6214-005/6	Hg	.0014074	.009	10	100	<		.200		
FH-6214-005/6	Hg	.0013663	.0087	10	100	<		.200		
FH-6214-007	Hg	.0040203	.0256	10	100		.256			
FH-6214-007	Hg	.0040848	.026	10	100		.260			
FH-6214-008	Hg	.0001552	.001	10	100	<		.200		
FH-6214-008	Hg	-.000151	-.001	10	100	<		.200		
FH-6214-009	Hg	.0265962	.1674	.1	100		167			
FH-6214-009	Hg	.0269243	.1695	.1	100		169			
FH-6214-010	Hg	.0005436	.0035	10	100	<		.200		
FH-6214-010	Hg	.0007148	.0046	10	100	<		.200		
FH-6214-011-SPK	Hg	.0327918	.2059	10	100		2.06	101		.2
FH-6214-012	Hg	.0019507	.0124	10	100	<		.200		
FH-6214-012	Hg	.0016435	.0105	10	100	<		.200		
FH-6214-013	Hg	.0028089	.0179	10	100	<		.200		
FH-6214-013	Hg	.002835	.018	10	100	<		.200		
FH-6214-BLK	Hg	.0016296	.0104	10	100	<		.200		
FH-6214-BLK	Hg	.0015635	.01	10	100	<		.200		
FH-6214-BLK-SPK	Hg	.0142786	.0904	2	100		4.52	80.4		.1
Calib Blank	Hg	.0011156								
Std .100ug	Hg	.0158701								
Std .200ug	Hg	.0316234								
Std .300ug	Hg	.0483425								
Std .400ug	Hg	.0642754								
Std .500ug	Hg	.0816284								
DL = .020ug	Hg	.0029904	.019	1	1		.019			
DL = .020ug	Hg	.002981	.019	1	1		.019			
DL = .020ug	Hg	.0029057	.0185	1	1		.018			
DL = .020ug	Hg	.0028907	.0184	1	1		.018			
DL = .020ug	Hg	.0029958	.0191	1	1		.019			
DL = .020ug	Hg	.0028188	.0179	1	1		.018			
DL =.010ug	Hg	.0015088	.0096	1	1		.010			
DL =.010ug	Hg	.0016187	.0103	1	1		.010			
DL =.010ug	Hg	.001509	.0096	1	1		.010			
DL =.010ug	Hg	.0015719	.01	1	1		.010			
DL =.010ug	Hg	.0015597	.0099	1	1		.010			
DL =.010ug	Hg	.0016086	.0102	1	1		.010			
QC Std 2=.200ug	Hg	.0321142	.2017	1	1		.202			
QC Std 2=.200ug	Hg	.0325765	.2045	1	1		.205			

22/24

QC Std 2=.200ug	Hg	.0326176	.2048	1	1		.205	
QC Std 2=.200ug	Hg	.0324602	.2038	1	1		.204	
QC Std 2=.200ug	Hg	.0323453	.2031	1	1		.203	
QC Std 3=.200ug	Hg	.0326492	.205	1	1		.205	
QC Std 3=.200ug	Hg	.0331859	.2083	1	1		.208	
QC Std 3=.200ug	Hg	.0330601	.2075	1	1		.208	
Reagent Blank	Hg	.000067	.0004	1	1	<		.020
Reagent Blank	Hg	.0000505	.0003	1	1	<		.020
Reagent Blank	Hg	.0001028	.0007	1	1	<		.020
Reagent Blank	Hg	.0001053	.0007	1	1	<		.020
Reagent Blank	Hg	-.000031	0	1	1	<		.020
Reagent Blank	Hg	-.000054	0	1	1	<		.020
Std .100ug	Hg	.0157435	.0996	1	1		.100	

HG2851.WKS A.A. SUMMARY REPORT

CLIENT: Testar, Inc.

P[redacted]#/PROJECT #: 10184

A[redacted]YST: KEN SMITH/SHARON CLARK

DATE: 02-07-01

							X	WT. STDS		
								CONC STDS		
							.020	INST LIMIT		ug
							.2	SPK LEVEL		ug
							10.00	MAX ALIQUOT		mL
			ug	mL	F.V.		.02	M.D.L.		ug/mL
			INSTR	SAMPLE	X	Total ug				
SAMPLE I.D.	EL	MEAN ABS	READ	ALIQUOT	DILUTION	ANSWER		% REC	OR <	ug SPK
A-6214-001	Hg	.0002776	.0019	10	111	<			.222	
A-6214-001	Hg	.0003984	.0028	10	111	<			.222	
A-6214-002	Hg	.0001325	.0009	10	103	<			.206	
A-6214-002	Hg	-.000061	0	10	103	<			.206	
A-6214-003	Hg	.0001305	.0009	10	102	<			.204	
A-6214-003	Hg	-.000004	0	10	102	<			.204	
A-6214-004	Hg	-.000087	-.001	10	102	<			.204	
A-6214-004	Hg	.0000987	.0007	10	102	<			.204	
A-6214-005/6	Hg	.0001167	.0008	10	104	<			.208	
A-6214-005/6	Hg	-.000071	0	10	104	<			.208	
A-6214-007	Hg	.0001166	.0008	10	102	<			.204	
A-6214-007	Hg	.0000897	.0006	10	102	<			.204	
A-6214-008	Hg	-.000036	0	10	103	<			.206	
A-6214-008	Hg	-.000102	-.001	10	103	<			.206	
A-6214-009	Hg	.0004556	.0032	10	115	<			.230	
A-6214-009	Hg	.000243	.0017	10	115	<			.230	
A-6214-010	Hg	-.000016	0	10	111	<			.222	
A-6214-010	Hg	-.000007	0	10	111	<			.222	
A-6214-011-SPK	Hg	.0311213	.2101	10	111		2.33	105		.2
A-6214-012	Hg	.0009836	.0068	10	101	<			.202	
A[redacted]14-012	Hg	.0007285	.0051	10	101	<			.202	
B-6214-002	Hg	.0019843	.0138	10	500	<			1.00	
B-6214-002	Hg	.0022009	.0152	10	500	<			1.00	
B-6214-003	Hg	.002109	.0146	10	500	<			1.00	
B-6214-003	Hg	.0021579	.015	10	500	<			1.00	
B-6214-004	Hg	.0010793	.0075	10	500	<			1.00	
B-6214-004	Hg	.0014147	.0098	10	500	<			1.00	
B-6214-005/6	Hg	.000934	.0065	10	500	<			1.00	
B-6214-005/6	Hg	.000895	.0062	10	500	<			1.00	
B-6214-007	Hg	.0010517	.0073	10	500	<			1.00	
B-6214-007	Hg	.0008426	.0058	10	500	<			1.00	
B-6214-008	Hg	.0011333	.0079	10	500	<			1.00	
B-6214-008	Hg	.0006921	.0048	10	500	<			1.00	
B-6214-009	Hg	.0012542	.0087	10	500	<			1.00	
B-6214-009	Hg	.0009463	.0066	10	500	<			1.00	
B-6214-010	Hg	.0014313	.0099	10	500	<			1.00	
B-6214-010	Hg	.001977	.0137	10	500	<			1.00	
B-6214-011-SPK	Hg	.0313702	.2118	10	500		10.6	101		.2
B-6214-012	Hg	.0016318	.0113	10	500	<			1.00	
B-6214-012	Hg	.0016493	.0114	10	500	<			1.00	
B-6214-013	Hg	.0020063	.0139	10	500	<			1.00	
B-6214-013	Hg	.0016608	.0115	10	500	<			1.00	
[redacted] .020ug	Hg	.0031546	.0218	1	1		.022			
[redacted] .020ug	Hg	.0032883	.0228	1	1		.023			
DL ≈ .020ug	Hg	.0035042	.0242	1	1		.024			
DL ≈ .020ug	Hg	.0033403	.0231	1	1		.023			
DL ≈ .020ug	Hg	.0030597	.0212	1	1		.021			
DL ≈ .020ug	Hg	.0031834	.022	1	1		.022			

24/26

DL = .020ug	Hg	.0031975	.0221	1	1	.022	
DL = .010ug	Hg	.0018656	.0129	1	1 <		.020
DL = .010ug	Hg	.0018035	.0125	1	1 <		.020
DL = .010ug	Hg	.0015573	.0108	1	1 <		.020
DL = .010ug	Hg	.0016875	.0117	1	1 <		.020
DL = .010ug	Hg	.001595	.0111	1	1 <		.020
DL = .010ug	Hg	.0017725	.0123	1	1 <		.020
DL = .010ug	Hg	.0018796	.013	1	1 <		.020
QC Std 2=.200ug	Hg	.0317472	.2143	1	1	.214	
QC Std 2=.200ug	Hg	.0318241	.2148	1	1	.215	
QC Std 2=.200ug	Hg	.0318227	.2148	1	1	.215	
QC Std 2=.200ug	Hg	.0325726	.2197	1	1	.220	
QC Std 2=.200ug	Hg	.032736	.2207	1	1	.221	
QC Std 2=.200ug	Hg	.0309295	.2089	1	1	.209	
QC Std 2=.200ug	Hg	.0312989	.2113	1	1	.211	
QC Std 3=.200ug	Hg	.0316066	.2133	1	1	.213	
QC Std 3=.200ug	Hg	.0319582	.2156	1	1	.216	
QC Std 3=.200ug	Hg	.0318768	.2151	1	1	.215	
QC Std 3=.200ug	Hg	.0299549	.2025	1	1	.202	
QC Std 3=.200ug	Hg	.0311875	.2106	1	1	.211	
Reagent Blank	Hg	.0002006	.0014	1	1 <		.020
Reagent Blank	Hg	.0003603	.0025	1	1 <		.020
Reagent Blank	Hg	.0002811	.002	1	1 <		.020
Reagent Blank	Hg	.0002246	.0016	1	1 <		.020
Reagent Blank	Hg	.0002157	.0015	1	1 <		.020
Reagent Blank	Hg	.0002102	.0015	1	1 <		.020
Reagent Blank	Hg	.0002291	.0016	1	1 <		.020

Calib Blank	Hg	.0006536
Std .100ug	Hg	.0147154
Std .200ug	Hg	.0294249
Std .300ug	Hg	.0439331
Std .400ug	Hg	.0623952
Std .500ug	Hg	.0763913

25/26

HG2852.WKS A.A. SUMMARY REPORT

CLIENT: Testar, Inc.

P.O. #/PROJECT #: 10184

ANALYST: KEN SMITH/SHARON CLARK SC

DATE: 02-07-01

								X	WT. STDS		
									CONC STDS		
								.020	INST LIMIT		ug
								.2	SPK LEVEL		ug
								10.00	MAX ALIQUOT		mL
			ug	mL	F.V.			.02	M.D.L.		ug/mL
			INSTR	SAMPLE	X		Total ug				
SAMPLE I.D.	EL	MEAN ABS	READ	ALIQUOT	DILUTION		ANSWER		% REC	OR < ug	SPK
BH-6214-001	Hg	.0057461	.0372	10	485		1.80				
BH-6214-001	Hg	.0058167	.0376	10	485		1.83				
BH-6214-002	Hg	.0030201	.0196	10	465	<			.930		
BH-6214-002	Hg	.002954	.0191	10	465	<			.930		
BH-6214-003	Hg	.0059594	.0386	10	470		1.81				
BH-6214-003	Hg	.006112	.0396	10	470		1.86				
BH-6214-004	Hg	.0154056	.0996	10	655		6.52				
BH-6214-004	Hg	.0151571	.098	10	655		6.42				
BH-6214-005/6	Hg	.0162872	.1052	10	575		6.05				
BH-6214-005/6	Hg	.0162275	.1049	10	575		6.03				
BH-6214-007	Hg	.0159635	.1032	10	538		5.55				
BH-6214-007	Hg	.0162184	.1048	10	538		5.64				
BH-6214-008	Hg	.00007	.0005	10	295	<			.590		
BH-6214-008	Hg	.0000796	.0005	10	295	<			.590		
BH-6214-009	Hg	.0460137	.2948	10	470		13.9				
BH-6214-009	Hg	.0450636	.2888	10	470		13.6				
BH-6214-010	Hg	.022546	.1455	10	575		8.37				
BH-6214-010	Hg	.0227457	.1468	10	575		8.44				
BH-6214-011-SPK	Hg	.0485186	.3105	10	575		17.9		81.9		.2
BH-6214-012	Hg	.0016763	.0109	10	295	<			.590		
BH-6214-012	Hg	.0020067	.013	10	295	<			.590		
BH-6214-013	Hg	.0022572	.0146	10	300	<			.600		
BH-6214-013	Hg	.0021006	.0136	10	300	<			.600		
C-6214-001	Hg	.0018952	.0123	10	500	<			1.00		
C-6214-001	Hg	.0019118	.0124	10	500	<			1.00		
C-6214-002	Hg	.0023595	.0153	10	500	<			1.00		
C-6214-002	Hg	.0022646	.0147	10	500	<			1.00		
C-6214-003	Hg	.0012467	.0081	10	500	<			1.00		
C-6214-003	Hg	.0012274	.0079	10	500	<			1.00		
C-6214-004	Hg	.0000888	.0006	10	500	<			1.00		
C-6214-004	Hg	-.000001	0	10	500	<			1.00		
C-6214-005/6	Hg	.0009135	.0059	10	500	<			1.00		
C-6214-005/6	Hg	.0009522	.0062	10	500	<			1.00		
C-6214-007	Hg	.0000614	.0004	10	500	<			1.00		
C-6214-007	Hg	.0000248	.0002	10	500	<			1.00		
C-6214-008	Hg	.0001679	.0011	10	500	<			1.00		
C-6214-008	Hg	.0001478	.001	10	500	<			1.00		
C-6214-009	Hg	-.000499	-.003	10	500	<			1.00		
C-6214-009	Hg	-.000451	-.003	10	500	<			1.00		
C-6214-010	Hg	-.000114	-.001	10	500	<			1.00		
C-6214-010	Hg	-.000008	0	10	500	<			1.00		
C-6214-011-SPK	Hg	.0314794	.2027	10	500		10.1		101		.2
C-6214-012	Hg	.0022969	.0149	10	500	<			1.00		
C-6214-012	Hg	.0024188	.0157	10	500	<			1.00		
C-6214-013	Hg	.0017613	.0114	10	500	<			1.00		
C-6214-013	Hg	.0016938	.011	10	500	<			1.00		
DL = .020ug	Hg	.0030702	.0199	1	1		.020				
DL = .020ug	Hg	.0029695	.0192	1	1		.019				

DL = .020ug	Hg	.0029836	.0193	1	1	.019	
DL = .020ug	Hg	.0031471	.0204	1	1	.020	
DL = .020ug	Hg	.0030463	.0197	1	1	.020	
DL = .020ug	Hg	.0029554	.0191	1	1	.019	
DL = .020ug	Hg	.0030604	.0198	1	1	.020	
DL =.010ug	Hg	.0015984	.0104	1	1	.010	
DL =.010ug	Hg	.0015542	.0101	1	1	.010	
DL =.010ug	Hg	.0016224	.0105	1	1	.011	
DL =.010ug	Hg	.0017448	.0113	1	1	.011	
DL =.010ug	Hg	.0016278	.0105	1	1	.011	
DL =.010ug	Hg	.0015951	.0103	1	1	.010	
DL =.010ug	Hg	.0016427	.0106	1	1	.011	
QC Std 2=.200ug	Hg	.0324613	.209	1	1	.209	
QC Std 2=.200ug	Hg	.0320313	.2062	1	1	.206	
QC Std 2=.200ug	Hg	.0317287	.2043	1	1	.204	
QC Std 2=.200ug	Hg	.0325064	.2093	1	1	.209	
QC Std 2=.200ug	Hg	.0327147	.2106	1	1	.211	
QC Std 2=.200ug	Hg	.0320643	.2064	1	1	.206	
QC Std 2=.200ug	Hg	.0315286	.203	1	1	.203	
QC Std 3=.200ug	Hg	.0316207	.2036	1	1	.204	
QC Std 3=.200ug	Hg	.032511	.2093	1	1	.209	
QC Std 3=.200ug	Hg	.0323137	.208	1	1	.208	
QC Std 3=.200ug	Hg	.0328835	.2117	1	1	.212	
QC Std 3=.200ug	Hg	.0323662	.2084	1	1	.208	
Reagent Blank	Hg	.0001386	.0009	1	1 <		.020
Reagent Blank	Hg	.0000571	.0004	1	1 <		.020
Reagent Blank	Hg	-.000099	-.001	1	1 <		.020
Reagent Blank	Hg	.0000499	.0003	1	1 <		.020
Reagent Blank	Hg	.0000365	.0002	1	1 <		.020
Reagent Blank	Hg	.0000835	.0005	1	1 <		.020
Reagent Blank	Hg	-.000044	0	1	1 <		.020

Calib Blank	Hg	.0010118
Std .100ug	Hg	.0154476
Std .200ug	Hg	.030952
Std .300ug	Hg	.0472838
Std .400ug	Hg	.063563
Std .500ug	Hg	.079604

OXFORD Laboratories Inc.

Analytical and Consulting Chemists
1316 South Fifth Street
Wilmington, N.C. 28401
(910) 763-9793
Fax (910) 343-9688

DATE RECEIVED 01-31-01
DATE REPORTED 02-15-01
01W6217

TESTAR INC
7424-108 ACC BLVD
RALEIGH, NC 27613

P.O. # 10184

ATTENTION: DAVID BRINTLE

SAMPLE DESCRIPTION: CARBON SAMPLES (Hg/Be/Cd/Pb)

1. UNIT 1
2. UNIT 2
3. METHOD SW846-

RESULTS

	1	2	3
Mercury, as Hg, ug/g	<.186	<.214	7470
Beryllium, as Be, ug/g	1.79	1.72	6020
Cadmium, as Cd, ug/g	<.400	<.400	6020
Lead, as Pb, ug/g	1.91	1.94	6020

Roger Oxford
ROGER OXFORD, CHEMIST

DIW6217

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/26/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Sample Number	Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					Unit 1	Carbon				
					Unit 2	Carbon				
					~~QCI-700A~~	~~Audit~~				
					~~QCI-700B~~	~~Audit~~				
			1/31 per Gary analyst							

Signature	Herb Dixon	Company	TESTAR	Date	1/29/01
Checked By	[illegible]	Company	TESTAR	Date	1/29/01
Received By	Laurie Kelly	Company	Oxford	Date	1-31-01
Analytical Parameters	Mercury, beryllium, cadmium, and lead on the carbon samples labelled Unit 1 and Unit 2				
	Beryllium, cadmium, and lead on the audit QCI-700A, mercury only on audit QCI-700B				
Sample Condition					

3 of 3

2/1/01

Oxford Laboratories, Inc.

Sample Analysis Summary **OLI #: 01W6217**
Report Date: 2-15-01

Client: Testar Inc.	Project/P.O. #: 10184
Sample Arrival Date: 1-31-01	Chain of Custody: Yes
Condition of Sample upon Arrival:	Shipped to Alta Analytical. Picked up by OLI. No problems noted.
Observed Discrepancy/Comment:	Volumes were not marked. No sample loss observed
Requested Method of Analysis:	Analyze carbon sample SW846-6020 & SW846-7470
Sample Preparation per:	HNO_3 / HCl / HF digestion
Sample Analysis per:	SW846-6020 & SW 846-7470
Instrumentation Used:	PE AAnalyst 100 . . . . . .No PE FIMS . . . . . Yes (CVAA Hg) PE Zeeman 5100 GFAA . . . . No PE ICP-MS Elan 5000 . . . . . .No PE ICP-MS Elan 6000 . . . . . .Yes (all others)

Spike Requirements: Spike analysis was not requested.

Duplicate Requirements: Relative percent difference of ± 10% for MMTL and ± 3% for Hg was met.

Laboratory Control Blank: All less than

Laboratory Control Spike: 80% - 120% has been met

Detection Limit Requirements: 90% - 110% has been met with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Be	0.250	0.289	116	5		Cd	0.500	0.581	116	5
Element	**True Value µg**	**Found Value µg**	**% of True Value**	**Page**						
Hg	0.020	0.023	115	8						

3/10

Calibration Verification: 90% - 110% was met for outside Quality Control Standards with the following exception(s):

Element	True Value µg/L	Found Value µg/L	% of True Value	Page		Element	True Value µg/L	Found Value µg/L	% of True Value	Page
Be	200	249	125	5		Cd	50.0	44.3	88.6	6
Pb	50.0	57.1	114	7		Pb	200	251	126	7
Pb	10.0	8.96	89.6	7		Pb	100	122	122	7
Pb	200	252	126	7		Pb	200	236	118	7

NOTE: Be – 1st Run: Reported results were analyzed below 50.0 µg/L
Cd – 1st Run: Reported results were analyzed below 10.0 µg/L
Pb – 1st Run: Reported results were analyzed around 10.0 µg/L

Calibration Coefficient: All elements at least 0.996

This data package contains 10 summary pages to include the narrative summary. All pertinent data is on file at OLI for five years.

Sample Volumes: See attached weight sheet for sample weights, final volumes, and dilutions used during preparation and for calculations.

Calculations for Total µg Reported:

ICP-MS $\frac{\mu g/L \times \text{Dilution Factor} \times \text{Final Volume}}{\text{wt (g)} \times 1000} = \mu g/g$

Hg $\frac{\mu g \text{ per Bottle} \times \text{Dilution Factor} \times \text{Final Volume}}{\text{wt (g)} \times \text{Aliquot used}} = \mu g/g$

4/10

FILE NAME = 6217-2 ON DRIVE a:

"Sample Date/Time:","Friday, February 09, 2001 12:05:38"
"Quantitative Analysis - Summary Report"
"[redacted]ple Description:"
"[redacted]ution Type:","Blank"
"Blank File:","C:\elandata\Dataset\020901-1\Blank.062"
"Number of Replicates:",3
"Peak Processing Mode:","Average"
"Signal Profile Processing Mode:","Average"
"Dual Detector Mode:","Dual"
"Current Dead Time (ns):",35
"Acq. Dead Time(ns):",35
"Cumulative Autodilution Factor:",1
"Sample File:","c:\elandata\Sample\TODAY.sam"
"Method File:","C:\elandata\Method\cfile.mth"
"Dataset File:","C:\elandata\Dataset\020901-1\Blank.062"
"Tuning File:","c:\elandata\Tuning\default.tun"
"Optimization File:","c:\elandata\Optimize\default.dac"
"Calibration File:"
"Calibration Type:","External Calibration"
"Summary"
"Intensities"

6217
Testar

ug/g = ppb x d.f. x FV / w Hg) x1000

ANALYTE:Li 7

ug/g

		INTENSITY	CONC.		INT	
	INTENSITY	STD DEV	CONC.	STD DEV	UNITS	STD
	PPB		PPB X DF X .001		PROTOCOL RECOVERY	
[redacted]	BLANK					
2	STANDARD 1					
3	STANDARD 2					
4	D.L.	-0.0326				
5	CD 50PPB	-0.0362				
6	D.L.=2PPB ZN	-0.0525				
7	DIL BLANK	-0.0998				
8	QC=10PPB	9.9150				
9	QC=50PPB	49.6306				
10	QC=100PPB	99.2133				
11	QC=200PPB	297.9718				
12	D.L.=.25 .5PPB	-0.0205				
13	INT. A X10	0.2415	0.0024			
14	INT. AB X10	0.2247	0.0022			
15	DIL BLANK	-0.0226				
16	QC=10PPB	10.0089				
17	QC=50PPB	49.4900				
18	QC=100PPB	97.8858				
19	QC=200PPB	195.7598				
20	6217-BLK X2	-0.0076	-0.0000			
21	BLK X2+25	-0.0522	-0.18%		-.2088635 %	
22	6217-1 X169	31.4366	5.3128			
23	6217-1X186DUP	28.3992	5.2823	+/- 0.29		
24	6217-2 X177	29.4747	5.2170			
25	6217-2X214DUP	24.9391	5.3370	+/- 1.14		
[redacted]	DIL BLANK	-0.0609				
	QC=10PPB	9.7532				
28	QC=50PPB	47.6682				
29	QC=100PPB	94.7008				
30	QC=200PPB	188.7027				

5/10

ANALYTE:Be 9

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1			
3	STANDARD 2			
4	D.L.	2.1561		
5	CD 50PPB	50.6725		
6	D.L.=2PPB ZN	0.0038		
7	DIL BLANK	0.0025		
8	QC=10PPB	10.4195		
9	QC=50PPB	50.7318		
10	QC=100PPB	101.6279		
11	QC=200PPB	249.2682	125%	
12	D.L.=.25 .5PPB	0.2886	116%	
13	INT. A X10	0.0104	0.0001	
14	INT. AB X10	0.0113	0.0001	
15	DIL BLANK	0.0011		
16	QC=10PPB	10.1772		
17	QC=50PPB	49.2363		
18	QC=100PPB	99.3605		
19	QC=200PPB	197.8379		
20	6217-BLK X2	0.0276	0.0001 >	
21	BLK X2+25	22.5824	90.22%	90.22998 %
22	6217-1 X169	10.4528	1.7665 > 1.79	
23	6217-1X186DUP	9.7480	1.8131 +/- 1.30	
24	6217-2 X177	9.6600	1.7098 > 1.72	
25	6217-2X214DUP	8.1237	1.7385 +/- 0.83	
26	DIL BLANK	0.0053		
27	QC=10PPB	9.9731		
28	QC=50PPB	48.5893		
29	QC=100PPB	95.6657		
30	QC=200PPB	190.2977		

ANALYTE:Cd 111

		PPB	PPB X DF X .001	PROTOCOL RECOVERY
1	BLANK			
2	STANDARD 1			
3	STANDARD 2			
4	D.L.	0.4902		
5	CD 50PPB	50.8349		
6	D.L.=2PPB ZN	-0.0344		
7	DIL BLANK	-0.0369		
8	QC=10PPB	10.2050		
9	QC=50PPB	50.3225		
10	QC=100PPB	100.5736		
11	QC=200PPB	182.2967		
12	D.L.=.25 .5PPB	0.5806	116%	
13	INT. A X10	1.5953	0.0160	
14	INT. AB X10	5.9402	0.0594	
15	DIL BLANK	-0.0407		
16	QC=10PPB	10.2904		
17	QC=50PPB	49.9697		
18	QC=100PPB	99.1974		
19	QC=200PPB	199.9432		
20	6217-BLK X2	-0.0040	-0.0000 >	
21	BLK X2+25	22.7195	90.89%	90.89254 %
22	6217-1 X169	0.1308	0.0221 > 2.400	
23	6217-1X186DUP	0.1026	0.0191 +/- 7.34	

6/10

24	6217-2 X177	0.0974	0.0172	>2.400
25	6217-2X214DUP	0.0753	0.0161	+/- 3.37
26	DIL BLANK	-0.0426		
[illegible]	QC=10PPB	9.8233		
[illegible]	QC=50PPB	44.3323	88.6%	
29	QC=100PPB	97.4105		
30	QC=200PPB	192.3773		

ANALYTE:Cd 114

		PPB	PPB X DF X .001		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1				
3	STANDARD 2				
4	D.L.	0.5151			
5	CD 50PPB	50.4481			
6	D.L.=2PPB ZN	-0.0084			
7	DIL BLANK	-0.0136			
8	QC=10PPB	10.4535			
9	QC=50PPB	50.8656			
10	QC=100PPB	110.6672			
11	QC=200PPB	239.8161			
12	D.L.=.25 .5PPB	0.6023			
13	INT. A X10	0.0560	0.0006		
14	INT. AB X10	4.6293	0.0463		
15	DIL BLANK	-0.0152			
16	QC=10PPB	10.5976			
17	QC=50PPB	50.1414			
18	QC=100PPB	98.1871			
[illegible]	QC=200PPB	259.9536			
[illegible]	6217-BLK X2	-0.2474	-0.0005		
21	BLK X2+25	23.2456	93.97%		93.91175 %
22	6217-1 X169	-1.5832	-0.2676		
23	6217-1X186DUP	-1.3770	-0.2561	+/- 2.18	
24	6217-2 X177	-1.4130	-0.2501		
25	6217-2X214DUP	-1.0691	-0.2288	+/- 4.45	
26	DIL BLANK	-0.0142			
27	QC=10PPB	9.8619			
28	QC=50PPB	44.1034			
29	QC=100PPB	95.5163			
30	QC=200PPB	249.2114			

ANALYTE:Cd 114

		PPB	PPB X DF X .001		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1				
3	STANDARD 2				
4	D.L.	0.5157			
5	CD 50PPB	50.5179			
6	D.L.=2PPB ZN	-0.0129			
7	DIL BLANK	-0.0174			
8	QC=10PPB	10.4419			
9	QC=50PPB	50.8863			
[illegible]	QC=100PPB	110.3629			
[illegible]	QC=200PPB	237.4481			
12	D.L.=.25 .5PPB	0.5991			
13	INT. A X10	1.1106	0.0111		
14	INT. AB X10	5.6227	0.0562		
15	DIL BLANK	-0.0178			

7/10

16	QC=10PPB	10.5865			
17	QC=50PPB	50.1941			
18	QC=100PPB	98.3546			
[illegible]	QC=200PPB	257.4536			
[illegible]	6217-BLK X2	0.0127	0.0000		
21	BLK X2+25	23.2686	93.02%		93.02715 %
22	6217-1 X169	0.0826	0.0140		
23	6217-1X186DUP	0.0628	0.0117	+/- 8.89	
24	6217-2 X177	0.0757	0.0134		
25	6217-2X214DUP	0.0574	0.0123	+/- 4.34	
26	DIL BLANK	-0.0181			
27	QC=10PPB	9.8857			
28	QC=50PPB	44.2167			
29	QC=100PPB	95.7878			
30	QC=200PPB	246.9224			

ANALYTE:Pb 208

		PPB	PPB X DF X .001		PROTOCOL RECOVERY
1	BLANK				
2	STANDARD 1	0.0000			
3	STANDARD 2	60.0000			
4	D.L.	1.8471 ✓			
5	CD 50PPB	54.8489 ✓			
6	D.L.=2PPB ZN	0.0391			
7	DIL BLANK	-0.0056 ✓			
8	QC=10PPB	9.5791 ✓			
9	QC=50PPB	57.1326 114%			
10	QC=100PPB	106.4090 ✓			
[illegible]	QC=200PPB	251.0646 126%			
[illegible]	D.L.=.25 .5PPB	0.0470			
13	INT. A X10	0.1932 ✓	0.0019		
14	INT. AB X10	0.1713 ✓	0.0017		
15	DIL BLANK	0.0176 ✓			
16	QC=10PPB	8.9640 89.6%			
17	QC=50PPB	54.5451 ✓			
18	QC=100PPB	122.3785 122%			
19	QC=200PPB	252.1224 126%			
20	6217-BLK X2	0.2893	0.0006 > ✓		
21	BLK X2+25	23.6950	93.62%		93.69576 %
22	6217-1 X169	10.9227	1.8459 > 1.91		
23	6217-1X186DUP	10.6493	1.9808	+/- 3.52	
24	6217-2 X177	10.6910	1.8923 > 1.94		
25	6217-2X214DUP	9.2442	1.9783	+/- 2.22	
26	DIL BLANK	0.0349 ✓			
27	QC=10PPB	9.7922 ✓			
28	QC=50PPB	46.9779 ✓			
29	QC=100PPB	108.6034 ✓			
30	QC=200PPB	235.9354 118%			

8/10

HG2860.WKS A.A. SUMMARY REPORT

CLIENT: TESTAR
P.O.#/PROJECT #:
ANALYST: KEN SMITH/SC st
DATE: 02/08/01

X .020 WT. STDS CONC STDS
.020 INST LIMIT ug
.2 SPK LEVEL ug
10.00 MAX ALIQUO mL
.02 M.D.L. ug

SAMPLE I.D.	EL	MEAN ABS	ug INSTR READ	mL or g SAMPLE ALIQUOT	F.V. X DIL		ug/g ANSWER	%REC or < ug SPK	
6217-001	Hg	.0005872	.0036	1.1848	10	<		.169	
6217-001-SPK	Hg	.0407568	.2509	1.1848	10		2.12	124	.2
6217-001-DUP	Hg	.0007237	.0044	1.0756	10	<		.186	> <.186 st 2-13-01
6217-001-DUP	Hg	.0007444	.0045	1.0756	10	<		.186	
6217-002	Hg	.0005849	.0035	1.129	10	<		.177	
6217-002-SPK	Hg	.0419043	.2581	1.129	10		2.29	127	.2
6217-002-DUP	Hg	.0005787	.0035	.9357	10	<		.214	> <.214 st 2-13-01
6217-002-DUP	Hg	.0005429	.0033	.9357	10	<		.214	
							ug/mL		
6217-BLK	Hg	.0002652	.0016	10	100	<		.200	
6217-BLK-SPK	Hg	.0384022	.2362	10	100		2.36	118	.2
6217-BLK	Hg	.000303	.0018	10	100	<		.200	
6217-BLK-SPK	Hg	.0377761	.2323	10	100		2.32	116	.2
Calib Blank	Hg	.0003791							
Std .100ug	Hg	.0165984							
Std .200ug	Hg	.0324025							
Std .300ug	Hg	.0476729							
Std .400ug	Hg	.0647922							
Std .500ug	Hg	.0803259							
DL = .020ug	Hg	.0033564	.0203	1	1		.020		
DL = .020ug	Hg	.0033884	.0205	1	1		.021		
DL = .020ug	Hg	.0038009	.023	1	1		.023		
DL =.010ug	Hg	.0017275	.0105	1	1		.010		
DL =.010ug	Hg	.0016933	.0103	1	1		.010		
DL =.010ug	Hg	.0016622	.0101	1	1		.010		
QC Std 2=.200ug	Hg	.033353	.2047	1	1		.205		
QC Std 2=.200ug	Hg	.0343828	.2111	1	1		.211		
QC Std 2=.200ug	Hg	.033965	.2085	1	1		.209		
QC Std 3=.200ug	Hg	.0318156	.1951	1	1		.195		
QC Std 3=.200ug	Hg	.0331422	.2034	1	1		.203		
Reagent Blank	Hg	-.00011	-.001	1	1	<		.020	
Reagent Blank	Hg	.000028	.0002	1	1	<		.020	
Reagent Blank	Hg	-.000007	0	1	1	<		.020	

FAA WEIGHT SHEET

CUSTOMER Testar | WEIGHT CHECK: 1.0000g = 1.0000 g | FACTOR CK INITIALS NT

OLI LAB # 01W6217 | WEIGHT CK INITIALS KC | REFERENCE METHOD See Below

ANALYST KMS | DATE DATA CHECKED 2-13-01 | FACTOR = FV * DIL

DATE START 2-8-01 | DATA CK INITIALS NT | HNO_3 LOT #

DATE FINISHED 2-9-01 | FACTOR CALCULATED INITIALS NT | HCl LOT #

SPK SOLUTION LOT #: A | B | C 072000-C

D | E | OTHER | FILE PRN #

SAMPLE ID	WEIGHT (g)	SPIKE (ug)	FINAL VOLUME (mL)	DILUTION	FACTOR	SPIKE = ~~ppm~~ ppb	ELEMENT(S)
BLANK			100	x 2			
BLANK SPK		5				25	
1	1.1848				x169		
1 Dup	1.0756				x186		
2	1.1290				x177		
2 Dup	.9357				x214		

SAMPLE PREPARATION:

Digested with 5-8ml HNO_3 & 5ml HF followed by 2 ml HCl

Note: a 10mL aliquot of this preparation was used for mercury analysis.

Rev 11-00

NT 2-8-01

APPENDIX C.4
Analytical Data

Particulate

RESOLUTION ANALYTICS, INC.
Specialists in High Performance Liquid Chromatography

REPORT SUMMARY

RFA#: 10184

SAMPLE ID	Filterable Particulate
ACETONE BLANK	0.1 mgs (100mls)
1-S-M5-1	0.5 mgs
1-S-M5-2	0.6 mgs
1-S-M5-3	0.4 mgs
1-S-M5-4	0.3 mgs
2-S-M5-1	1.2 mgs
2-S-M5-2	1.4 mgs
2-S-M5-3	1.7 mgs

Analytical Narrative

RFA # 10184

Client/Plant Name: LAKE COUNTRY RRF

Date Rec'd in lab: 1/30/2001

Analyst: CLT

Date of Analysis: 2/01/2001

Analysis Method: EPA Method 5 (40 CFR, Part 60)

Analyte(s): Filterable Particulate

Sample Matrix & Components:

Dry Filters, Front½ Acetone Rinses, Acetone Blank

Summary of Sample Prep:

The acetone rinses and pre-tared filters were transferred to pre-tared teflon "baggies" in a low humidity environment. The acetone rinses were evaporated overnight, then desiccated for 24 hours, after which time they were weighed daily every six hours until consecutive weights agreed within ±0.5 mgs. The filters were oven dried at 105°C for 2 hours and weighed immediately afterwards. All weights were recorded to the nearest 0.1 mg and include filterable particulate catch only. The total catch reported for each run is a sum of the filter and rinse catches. The acetone blank catch has been subtracted out of sample rinse catches in proportion with their respective volumes.

Summary of Instrumentation:

Denver model A-250 analytical balance

Analytical Detection Limit(s): 0.5 mgs

Miscellaneous Comments Regarding Sample Analysis: (Note unusual catch weights, interferences, 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 samples when applicable.)

No modifications to EPA Method 5 analytical procedure were made.

See Data Sheets for individual sample descriptions.

Confirmation of Data Review:

QA Officer Signature J. Bruce Nemet Date 2/01/01

(J. Bruce Nemet , Lab QA Officer)

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumpka, FL

Project #	10184
Date	1/23/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #	Broken By	Reason Broken	Sealed By	Run Number	Sample Fraction	Filter ID	Filter Tare	Reagent pH	XAD ID
					1-S-M5-1	Acetone Rinse				
						Tared Filter	RQ1157	0.4451		
					1-S-M5-2	Acetone Rinse				
						Tared Filter	RQ1158	0.4401		
					1-S-M5-3	Acetone Rinse				
						Tared Filter	RQ1161	0.4381		
					1-S-M5-4	Acetone Rinse				
						Tared Filter	RQ1163	0.4413		
					2-S-M5-1	Acetone Rinse				
						Tared Filter	RQ1159	0.4397		
					2-S-M5-2	Acetone Rinse				
						Tared Filter	RQ1160	0.4393		
					2-S-M5-3	Acetone Rinse				
						Tared Filter	RQ1162	0.4507		
					Reagent Blank	Acetone				
					45 Tared (Clicat-supplied) Filters (Rec'd 1/16/01)					

Signature	Herb Dixon	**Company**	TESTAR, Inc.	**Date**	1/26/01
Checked By	[illegible]	**Company**	TESTAR, Inc.	**Date**	1/26/01
Received By	Chris Testa	**Company**	RAI	**Date**	1-30-01
Analytical Parameters	Particulate by EPA Method 5				
Sample Condition					

PARTICULATE SAMPLING LABORATORY RESULTS

Plant Name: **Lake County RRF** RFA #: **10184**
Method: M5 Filename: testar
Date Received: 1/30/01 Page 1 of 4 File Pathway: C:\JOBS\10184\TESTAR.WB1

Run Number	1-S-M5-1	1-S-M5-2	1-S-M5-3
Filter Container #	1270	1298	306
Date / Init	01/31 CLT	01/31	01/31
Baggie Tare Wt., g.	3.5172	3.6822	3.5664
Filter Tare Wt., g.	3.0719	3.2420	3.1282
FILTER SAMPLE WT., g.	0.4451 RQ1157	0.4401 RQ1158	0.4381 RQ1161
	0.0002	0.0001	0.0001
Rinse Container #	1029	320	1064
Date / Init			
Tare Wt., g.	02/01 CLT 3.8198	02/01 3.2274	02/01 3.5358
	02/01 CLT @ 3.8194	02/01 3.2275	02/01 @ 3.5357
	(100 ml) 3.8190	(100 ml) 3.2268	(100 ml) 3.5353
RINSE SAMPLE WT., g.	0.0004	0.0006	0.0004
Filter Catch, mg.	**0.2**	**0.1**	**0.1**
Rinse Catch, mg.	0.4	0.6	0.4
Rinse Blank Residue, mg.	0.1	0.1	0.1
Net Rinse Catch, mg.	**0.3**	**0.5**	**0.3**
FILTERABLE PARTICULATE, mg.	**0.5**	**0.6**	**0.4**

Blank Beaker #	1283
Final wt., mg.	3.2205
Tare wt., mg.	3.2204
Residue, mg.	0.1
Volume, ml.	100
Density, mg/ml	785.0
Conc., mg/mg	1.3E-06 <--
Upper Limit, mg/mg	1.0E-05

Legend: @ = Final Weight; F = Filter; R = Rinse

Visual Inspection of Filters

Run ID	1-S-M5-1	1-S-M5-2	1-S-M5-3
Color:	CLEAR	CLEAR	CLEAR
Texture:	N/A	N/A	N/A
Foreign Matter:	N/A	N/A	N/A
Relative Comp:	N/A	N/A	N/A

Visual Inspection of Rinses

Run ID	1-S-M5-1	1-S-M5-2	1-S-M5-3
Color:	CLEAR	CLEAR	CLEAR
Texture:	N/A	N/A	N/A
Foreign Matter:	N/A	N/A	N/A
Relative Comp:	N/A	N/A	N/A

Miscellaneous Notes & Comments:

Printing Date: 01-Feb-2001 Printing Time: 01:06 PM

PARTICULATE SAMPLING LABORATORY RESULTS

Plant Name: **Lake County RRF** RFA #: **10184**
Method: M5 Filename: testar
Date Received: 1/30/01 Page 2 of 4 File Pathway: C:\JOBS\10184\TESTAR.WB1
Run Number 1-S-M5-4

	Date	Init		Date		Date	
Filter Container #			697				
	01/31	CLT	4.1893		0.0000		0.0000
Baggie Tare Wt., g.			3.7478		0.0000		0.0000
Filter Tare Wt., g.		RQ1163	0.4413		0.0000		0.0000
FILTER SAMPLE WT., g.			0.0002		0.0000		0.0000
Rinse Container #			1093				
	02/01	CLT	3.4283				
	02/01	CLT @	3.4281		0.0000		0.0000
Tare Wt., g.	(100	ml)	3.4279	(ml)	0.0000	(ml)	0.0000
RINSE SAMPLE WT., g.			0.0002		0.0000		0.0000
Filter Catch, mg.			0.2		0.0		0.0
Rinse Catch, mg.			0.2		0.0		0.0
Rinse Blank Residue, mg.			0.1		0.0		0.0
Net Rinse Catch, mg.			0.1		0.0		0.0
FILTERABLE PARTICULATE, mg.			0.3		0.0		0.0

Blank Beaker #	1283
Final wt., mg.	3.2205
Tare wt., mg.	3.2204
Residue, mg.	0.1
Volume, ml.	100
Density, mg/ml	785.0
Conc., mg/mg	1.3E-06 <--
Upper Limit, mg/mg	1.0E-05

Legend: @ = Final Weight; F = Filter; R = Rinse

Visual Inspection of Filters

Run ID	1-S-M5-4	0	0
Color:	CLEAR		
Texture:	N/A		
Foreign Matter:	N/A		
Relative Comp:	N/A		

Visual Inspection of Rinses

Run ID	1-S-M5-4	0	0
Color:	CLEAR		
Texture:	N/A		
Foreign Matter:	N/A		
Relative Comp:	N/A		

Miscellaneous Notes & Comments:

Printing Date: 01-Feb-2001 Printing Time: 01:06 PM

PARTICULATE SAMPLING LABORATORY RESULTS

Plant Name: **Lake County RRF** RFA #: **10184**

Method: M5 Filename: teslar

Date Received: 1/30/01 Page 3 of 4 File Pathway: C:\JOBS\10184\TESTAR.WB1

Run Number	2-S-M5-1	2-S-M5-2	2-S-M5-3
Filter Container #	2033	40	1174
Date / Init	01/31 CLT	01/31	01/31
Baggie Tare Wt., g.	3.6949	4.0625	4.3032
Filter Tare Wt., g.	3.2549	3.6227	3.8522
FILTER SAMPLE WT., g.	RQ 1159 0.4397	RQ 1160 0.4393	RQ 1162 0.4507
	0.0003	0.0005	0.0003
Rinse Container #	942	1289	160
Date / Init			
	02/01 CLT @	02/01 @	02/01 @
	02/01 CLT @	02/01	02/01
Tare Wt., g.	(100 ml) 3.1397	(100 ml) 3.1495	(100 ml) 3.3657
RINSE SAMPLE WT., g.	3.1407	3.1505	3.3672
	3.1407	3.1507	3.3673
	0.0010	0.0010	0.0015
Filter Catch, mg.	**0.3**	**0.5**	0.3
Rinse Catch, mg.	1.0	1.0	1.5
Rinse Blank Residue, mg.	0.1	0.1	0.1
Net Rinse Catch, mg.	**0.9**	**0.9**	**1.4**
FILTERABLE PARTICULATE, mg.	**1.2**	**1.4**	1.7

Blank Beaker #	1283
Final wt., mg.	3.2205
Tare wt., mg.	3.2204
Residue, mg.	0.1
Volume, ml.	100
Density, mg/ml	785.0
Conc., mg/mg	1.3E-06 <--
Upper Limit, mg/mg	1.0E-05

Legend: @ = Final Weight; F = Filter; R = Rinse

Visual Inspection of Filters

Run ID	2-S-M5-1	2-S-M5-2	2-S-M5-3
Color:	CLEAR	CLEAR	CLEAR
Texture:	N/A	N/A	N/A
Foreign Matter:	N/A	N/A	N/A
Relative Comp:	N/A	N/A	N/A

Visual Inspection of Rinses

Run ID	2-S-M5-1	2-S-M5-2	2-S-M5-3
Color:	TAN	TAN	TAN
Texture:	FINE SOOT	FINE SOOT	FINE SOOT
Foreign Matter:	N/A	N/A	N/A
Relative Comp:	LOW	LOW	LOW

Miscellaneous Notes & Comments:

Printing Date: 01-Feb-2001 Printing Time: 01:06 PM

REAGENT BLANK LABORATORY RESULTS (Version 04.28.92)

Plant Name: Lake County RRF		RFA #	10184
Method: M5		Filename:	testar
Date Received: 1/30/01	Page: 4 of 4	File Pathway:	C:\JOBS\10184\TESTAR.WB1
Run Number:	ACETONE BLANK		

Sample ID/Container # 1283

	Date	Init		
	02/01	CLT	@	3.2205
	02/01	CLT		3.2209
Tare Wt., g.		(100	ml)	3.2204
SAMPLE WT., g.				0.0001

Printing Date: 01-Feb-2001 Printing Time: 01:06 PM

Particulate Worksheet

Client Testar OGDEN Lak County

Rel. Humidity

Analyst CLT

Date 1-31-81

	Filter			Acetone Rinse		Nozzle Cyclone		MeCl2 Rinse		DI H2O Impinger	
RUN#	Cont. #	Filter #	Filter Tare	Cont. #	Vol. (mls)	Cont. #	Vol. (mls)	Cont. #	Vol. (mls)	Cont. #	Vol. (mls)
1-S-M5-1	1270	RQ1157	.4451	1029	100						
1-S-M5-2	1298	RQ1158	.4401	[redacted]320	100						
1-S-M5-3	306	RQ1161	.4381	1064	100						
1-S-M5-4	697	RQ1163	.4413	1193	100						
2-S-M5-1	2033	RQ1159	.4397	942	100						
2-S-M5-2	40	RQ1160	.4393	1284	100						
2-S-M5-3	1174	RQ1162	.4507	160	100						
BLANK				1283	100						

APPENDIX D
Calibration Data

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

METER CONSOLE #: T1

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record readings in outlined boxes below, other columns are automatically calculated.

DATE: 1/18/01 DGM SERIAL #: 8808684 CRITICAL ORIFICE SET SERIAL #: 1357 1345

BAROMETRIC PRESSURE (in Hg): INITIAL 29.8 FINAL 29.8 AVG (P_{bar}) 29.8

IF Y VARIATION EXCEEDS 2.00% ORIFICE SHOULD BE RECALIBRATED

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	FINAL	NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	$\Delta H_@$
31	1	0.8426	18	798.074	804.807	6.733	66	66	65	66	65	65.5	6.10	4.3	6.8107	6.6804	0.9809		2.0400
31	2	0.8426	18	804.807	809.902	5.095	66	65	66	65	65	65.25	4.60	4.3	5.1562	5.0377	0.9770		2.0410
31	3	0.8426	18	809.902	814.988	5.086	66	66	66	65	64	65.25	4.60	4.3	5.1471	5.0377	0.9787		2.0410
																AVG =	0.9789	-0.71	
19	1	0.5157	18	830.293	835.366	5.073	64	62	63	61	61	61.75	7.50	1.6	5.1344	5.0366	0.9810		2.0198
19	2	0.5157	18	835.366	840.416	5.050	64	63	64	61	61	62.25	7.50	1.6	5.1062	5.0366	0.9864		2.0179
19	3	0.5157	18	840.416	845.484	5.068	64	64	65	61	62	63	7.50	1.6	5.1170	5.0366	0.9843		2.0150
																AVG =	0.9839	-0.20	
12	1	0.3212	22	815.023	820.029	5.006	66	65	63	64	63	63.75	12.00	0.56	5.0343	5.0097	0.9951		1.8176
12	2	0.3212	22	820.029	825.251	5.222	66	63	63	63	62	62.75	12.50	0.56	5.2616	5.2184	0.9918		1.8211
12	3	0.3212	22	825.251	830.276	5.025	65	63	63	62	61	62.25	12.10	0.56	5.0679	5.0562	0.9977		1.8194
																AVG =	0.9949	0.91	

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:

The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 0.9859

AVERAGE $\Delta H_@$ = 1.9592

(1) $V_m(std) = K_1 V_m \frac{P_{bar} + (\Delta H/13.6)}{T_m}$ = Net volume of gas sample passed through DGM, corrected to standard conditions

K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)

T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $V_{cr}(std) = K' \sqrt{\frac{P_{bar}\,\theta}{T_{amb}}}$ = Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)

K' = Average K' factor from Critical Orifice Calibration

(3) $Y = \frac{V_{cr}(std)}{V_m(std)}$ = DGM calibration factor

$\Delta H_@ = \frac{0.75\,\theta}{V_{cr}(std)}^2 \Delta H \frac{V_m(std)}{V_m}$

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

METER CONSOLE #: T2

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record readings in outlined boxes below, other columns are automatically calculated.

DATE: 1/18/01 DGM SERIAL #: 7811534 CRITICAL ORIFICE SET SERIAL #: 1357

BAROMETRIC PRESSURE (in Hg):	INITIAL	FINAL	AVG (P_{bar})
	29.8	29.8	29.8

IF Y VARIATION EXCEEDS 2.00% ORIFICE SHOULD BE RECALIBRATED

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	DGM READINGS (FT^3) NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH ($in H_2O$)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	$\Delta H_@$
31	1	0.8426	18	367.689	372.731	5.042	64	61	63	60	61	61.25	4.50	3.9	5.1368	4.9376	0.9612		1.8564
31	2	0.8426	18	372.731	377.794	5.063	64	63	65	61	61	62.5	4.50	3.9	5.1458	4.9376	0.9595		1.8520
31	3	0.8426	18	377.794	383.515	5.721	64	65	65	61	61	63	5.10	3.9	5.8090	5.5959	0.9633		1.8502
																AVG =	0.9614	0.08	
19	1	0.5157	18	351.975	357.464	5.489	65	60	61	60	60	60.25	8.00	1.4	5.5687	5.3673	0.9638		1.7749
19	2	0.5157	18	357.464	362.477	5.013	65	61	61	60	60	60.5	7.30	1.4	5.0833	4.8976	0.9635		1.7741
19	3	0.5157	18	362.477	367.497	5.020	64	61	62	60	60	60.75	7.30	1.4	5.0880	4.9023	0.9635		1.7699
																AVG =	0.9636	0.31	
12	1	0.3255	20	336.873	341.898	5.025	66	66	61	64	63	63.5	11.40	0.53	5.0554	4.8229	0.9540		1.6758
12	2	0.3255	20	341.898	346.933	5.035	66	61	61	63	61	61.5	11.50	0.53	5.0849	4.8652	0.9568		1.6822
12	3	0.3255	20	346.933	351.944	5.011	66	61	60	61	61	60.75	11.50	0.53	5.0680	4.8652	0.960		1.6846
																AVG =	0.9569	-0.39	

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:
The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 0.9606

AVERAGE $\Delta H_@$ = 1.7689

(1) $V_m(std) = K_1 V_m \frac{P_{bar} + (\Delta H/13.6)}{T_m}$ = Net volume of gas sample passed through DGM, corrected to standard conditions

K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)

T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $V_{cr}(std) = K' \sqrt{\frac{P_{bar}\,\theta}{T_{amb}}}$ = Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)

K' = Average K' factor from Critical Orifice Calibration

(3) $Y = \frac{V_{cr}(std)}{V_m(std)}$ = DGM calibration factor

$\Delta H_@ = \left(\frac{0.75\,\theta}{V_{cr}(std)}\right)^2 \Delta H \frac{V_m(std)}{V_m}$

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

METER CONSOLE #: T3

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record readings in outlined boxes below, other columns are automatically calculated.

DATE: 1/18/01 | DGM SERIAL #: 933707 | CRITICAL ORIFICE SET SERIAL #: 1357

BAROMETRIC PRESSURE (in Hg): INITIAL 29.8 | FINAL 29.8 | AVG (P_{bar}) 29.8

IF Y VARIATION EXCEEDS 2.00%, ORIFICE SHOULD BE RECALIBRATED

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (Ft³) INITIAL	DGM READINGS (Ft³) FINAL	DGM READINGS (Ft³) NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	$\Delta H_@$
31	1	0.8426	18	489.558	494.628	5.070	66	59	59	59	59	59	4.70	4.2	5.1915	5.1472	0.9915		2.0170
31	2	0.8426	18	494.628	499.784	5.156	65	59	60	59	58	59	4.80	4.2	5.2796	5.2617	0.9966		2.0132
31	3	0.8426	18	499.784	504.847	5.063	65	60	61	58	58	59.25	4.70	4.2	5.1818	5.1521	0.9943		2.0122
																AVG =	0.9941	0.40	
19	1	0.5157	18	473.371	478.408	5.037	66	65	61	64	63	63.25	7.50	1.5	5.0821	5.0270	0.9892		1.8949
19	2	0.5157	18	478.408	484.429	6.021	66	61	59	63	61	61	9.00	1.5	6.1011	6.0324	0.9887		1.9031
19	3	0.5157	18	484.429	489.501	5.072	66	59	59	61	58	59.25	7.60	1.5	5.1568	5.0940	0.9878		1.9095
																AVG =	0.9886	-0.16	
12	1	0.3255	22	504.871	509.902	5.031	65	60	58	58	58	58.5	11.90	0.58	5.1109	5.0392	0.9860		1.8483
12	2	0.3255	22	509.902	514.966	5.064	64	58	58	58	57	57.75	12.00	0.58	5.1519	5.0864	0.9873		1.8474
12	3	0.3255	22	514.966	520.057	5.091	64	58	58	57	57	57.5	12.10	0.58	5.1819	5.1288	0.9898		1.8483
																AVG =	0.9877	-0.25	

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:

The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 0.9901

AVERAGE $\Delta H_@$ = 1.9215

(1) $V_m(std) = K_1 V_m \frac{P_{bar} + (\Delta H/13.6)}{T_m}$ = Net volume of gas sample passed through DGM, corrected to standard conditions

K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)

T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $V_{cr}(std) = K' \sqrt{\frac{P_{bar}\,\theta}{T_{amb}}}$ = Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)

K' = Average K' factor from Critical Orifice Calibration

(3) $Y = \frac{V_{cr}(std)}{V_m(std)}$ = DGM calibration factor

$\Delta H_@ = \left(\frac{0.75\,\theta}{V_{cr}(std)}\right)^2 \Delta H \frac{V_m(std)}{V_m}$

T3, 01-18-01

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

METER CONSOLE #: T4

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record readings in outlined boxes below, other columns are automatically calculated.

DATE: 1/18/01 DGM SERIAL #: 8805580 CRITICAL ORIFICE SET SERIAL #: 1357

BAROMETRIC PRESSURE (in Hg):	INITIAL	FINAL	AVG (P_{bar})
	29.8	29.8	29.8

IF Y VARIATION EXCEEDS 2.00%, ORIFICE SHOULD BE RECALIBRATED

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (Ft³) INITIAL	DGM READINGS (Ft³) FINAL	DGM READINGS (Ft³) NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	$\Delta H_@$
31	1	0.8426	18	844.937	853.048	8.111	68	69	71	68	69	69.25	7.40	4.2	8.1444	8.0887	0.9932		1.9855
31	2	0.8426	18	853.048	860.025	6.977	68	71	72	69	70	70.5	6.30	4.2	6.9892	6.8863	0.9853		1.9808
31	3	0.8426	18	860.025	866.799	6.774	68	72	74	70	70	71.5	6.10	4.2	6.7731	6.6677	0.9844		1.9771
																AVG =	0.9876	0.43	
19	1	0.5157	18	866.812	872.734	5.922	68	73	74	70	71	72	8.60	1.6	5.8781	5.7534	0.9788		1.9960
19	2	0.5157	18	872.734	877.750	5.016	68	74	74	71	71	72.5	7.30	1.6	4.9741	4.8837	0.9818		1.9941
19	3	0.5157	18	877.750	884.496	6.746	68	74	75	71	71	72.75	9.80	1.6	6.6865	6.5562	0.9805		1.9932
																AVG =	0.9804	-0.31	
12	1	0.3255	19	884.527	889.974	5.447	68	75	75	71	72	73.25	12.50	0.6	5.3807	5.2782	0.9810		1.8698
12	2	0.3255	19	889.974	895.022	5.048	68	75	75	72	72	73.5	11.60	0.6	4.9842	4.8982	0.9827		1.8689
12	3	0.3255	19	895.022	900.027	5.005	68	75	75	72	72	73.5	11.50	0.6	4.9417	4.8560	0.9826		1.8689
																AVG =	0.9821	-0.13	

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:

The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 0.9834

AVERAGE $\Delta H_@$ = 1.9483

(1) $V_m(std) = K_1 V_m \frac{P_{bar} + (\Delta H/13.6)}{T_m}$ = Net volume of gas sample passed through DGM, corrected to standard conditions

K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)

T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $V_{cr}(std) = K' \sqrt{\frac{P_{bar}\,\theta}{T_{amb}}}$ = Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)

K' = Average K' factor from Critical Orifice Calibration

(3) $Y = \frac{V_{cr}(std)}{V_m(std)}$ = DGM calibration factor

$\Delta H_@ = \left(\frac{0.75\,\theta}{V_{cr}(std)}\right)^2 \Delta H \frac{V_m(std)}{V_m}$

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

METER CONSOLE #: T5

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record readings in outlined boxes below, other columns are automatically calculated.

DATE: 1/18/01 DGM SERIAL #: 6840714 CRITICAL ORIFICE SET SERIAL #: 1357

BAROMETRIC PRESSURE (in Hg): INITIAL 29.8 FINAL 29.8 AVG (P_{bar}) 29.8

IF Y VARIATION EXCEEDS 2.00%, ORIFICE SHOULD BE RECALIBRATED

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (Ft³) INITIAL	DGM READINGS (Ft³) FINAL	DGM READINGS (Ft³) NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	$\Delta H_@$
31	1	0.8426	18	712.885	721.104	8.219	68	73	77	71	71	73	7.60	4.1	8.1928	8.3073	1.0140		1.9241
31	2	0.8426	18	721.104	729.173	8.069	68	77	80	71	73	75.25	7.30	4.1	8.0094	7.9794	0.9963		1.9160
31	3	0.8426	18	729.173	734.549	5.376	68	80	81	73	74	77	4.90	4.1	5.3189	5.3560	1.0070		1.9097
																AVG =	1.0057	-0.05	
19	1	0.5157	18	734.565	740.488	5.923	68	81	80	74	75	77.5	8.80	1.6	5.8189	5.8872	1.0117		1.9756
19	2	0.5157	18	740.488	745.499	5.011	68	80	79	75	75	77.25	7.40	1.6	4.9252	4.9506	1.0052		1.9765
19	3	0.5157	18	745.499	750.597	5.098	68	79	79	75	75	77	7.50	1.6	5.0131	5.0175	1.0009		1.9774
																AVG =	1.0059	-0.03	
12	1	0.3255	19	696.713	701.713	5.0	68	68	70	68	69	68.75	11.90	0.55	4.9806	5.0249	1.0089		1.7284
12	2	0.3255	19	701.713	707.127	5.414	68	70	71	69	69	69.75	12.80	0.55	5.3828	5.4049	1.0041		1.7251
12	3	0.3255	19	707.127	712.832	5.705	68	71	74	69	71	71.25	13.50	0.55	5.6561	5.7005	1.0079		1.7202
																AVG =	1.0070	0.07	

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:

The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 1.0062

AVERAGE $\Delta H_@$ = 1.8726

(1) $V_m(std) = K_1 V_m \frac{P_{bar} + (\Delta H/13.6)}{T_m}$ = Net volume of gas sample passed through DGM, corrected to standard conditions

K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)

T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $V_{cr}(std) = K' \sqrt{\frac{P_{bar}\,\theta}{T_{amb}}}$ = Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)

K' = Average K' factor from Critical Orifice Calibration

(3) $Y = \frac{V_{cr}(std)}{V_m(std)}$ = DGM calibration factor

$\Delta H_@ = \left(\frac{0.75\,\theta}{V_{cr}(std)}\right)^2 \Delta H \frac{V_m(std)}{V_m}$

ONSITE METHOD 5 DRY GAS METER AUDIT AND POSTTEST CALIBRATION USING CRITICAL ORIFICE

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County RRF
Plant City, State	Okahumpka, FL
Test Location	Units 1 and 2 Stacks
Project Number	10184
Date of Pre-Test	01/22/01
Date of Post-Test	01/29/01
Tester Signature	

Meterbox ID	T1	
Meter Y	0.9859	
Meter Delta Ha	1.959	
Reference Pressure	29.8	STATUS
Barometric Pressure	29.8	PASS
Pbar Pretest	29.8	
Pbar Posttest	29.9	

ORIFICE ID# INCLUDING SET-#	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	TEMPERATURES °F AMB	DGM INLET INIT	DGM INLET FINAL	DGM OUTLET INIT	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN θ	DGM ΔH ($in H_2O$)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	QA STATUS
PRETEST ONSITE 10 MINUTE AUDIT						PRE												
NA	1	NA	NA	846.203	853.694	NA	67	67	66	66	66.5	10.00	1.96	7.5154	NA	1.0022	1.65	PASS
POSTTEST CHECK		AVERAGE DELTA H =				POST												
1366-19	1	0.5146	18	742.600	747.675	68	81	81	80	80	80.5	7.50	1.52	4.9708	5.0221	1.0103		
1366-19	2	0.5146	18	747.675	753.145	68	81	82	80	81	81	8.00	1.52	5.3528	5.3569	1.0008		
1366-19	3	0.5146	18	753.145	758.255	68	82	83	81	81	81.75	7.50	1.52	4.9936	5.0221	1.0057		
FINAL - INITIAL VOLUMES > 5 CUBIC FEET? PASS															AVG =	1.0056	2.00	PASS

THERMOCOUPLE CHECKS			AMBIENT PRETEST TEMP. =>				AMBIENT POSTTEST TEMP. =>								
Location	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS

PRETEST PROCEDURES:

1) Record barometric pressure and temperatures before calibration.
2) Run 10 minute audit at Delta Ha without an orifice.
3) Record ambient temperature and compare all thermocouple readings.
4) Record thermocouple IDs and readings in table.

POSTTEST PROCEDURES:

1) Record barometric pressure before calibration.
2) Select one critical orifice to calibrate the dry gas meter which best approximates the operating range. Compare the average Delta H from your results page with the Delta H in the orifice table. Input orifice number.
3) Run at 18" Hg vacuum for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Perform three repititions for the posttest, record readings, shaded columns are automatically calculated.
5) Compare thermocouples to ambient and record as posttest calibration check.

ONSITE METHOD 5 DRY GAS METER AUDIT AND POSTTEST CALIBRATION USING CRITICAL ORIFICE

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County RRF
Plant City, State	Okahumpka, FL
Test Location	Units 1 and 2 SDA Inlets
Project Number	10184
Date of Pre-Test	01/22/01
Date of Post-Test	01/29/01
Tester Signature	

Meterbox ID	T2	
Meter Y	0.9606	
Meter Delta Ha	1.769	
Reference Pressure	29.8	STATUS
Barometric Pressure	29.8	PASS
Pbar Pretest	29.8	
Pbar Posttest	29.9	

ORIFICE ID# INCLUDING SET-#	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	TEMPERATURES °F AMB	DGM INLET INIT	DGM INLET FINAL	DGM OUTLET INIT	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	QA STATUS
PRETEST ONSITE 10 MINUTE AUDIT						PRE												
NA	1	NA	NA	396.000	403.676	NA	63	68	63	72	66.5	10.00	1.77	7.6974	NA	0.9780	1.81	PASS
POSTTEST CHECK		AVERAGE DELTA H =				POST												
1345-18	1	0.4913	18	849.400	856.660	70	92	92	86	87	89.25	11.00	1.25	6.9931	7.0190	1.0037		
1345-18	2	0.4913	18	856.660	863.265	70	92	91	87	87	89.25	10.00	1.25	6.3622	6.3809	1.0029		
1345-18	3	0.4913	18	863.265	869.860	70	91	90	87	87	88.75	10.00	1.25	6.3583	6.3809	1.0035		
FINAL - INITIAL VOLUMES > 5 CUBIC FEET? PASS															AVG =	1.0034	4.45	PASS

THERMOCOUPLE CHECKS			AMBIENT PRETEST TEMP. =>				AMBIENT POSTTEST TEMP. =>								
Location	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS

PRETEST PROCEDURES:

1) Record barometric pressure and temperatures before calibration.
2) Run 10 minute audit at Delta Ha without an orifice.
3) Record ambient temperature and compare all thermocouple readings.
4) Record thermocouple IDs and readings in table.

POSTTEST PROCEDURES:

1) Record barometric pressure before calibration.
2) Select one critical orifice to calibrate the dry gas meter which best approximates the operating range. Compare the average Delta H from your results page with the Delta H in the orifice table. Input orifice number.
3) Run at 18" Hg vacuum for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Perform three repititions for the posttest, record readings, shaded columns are automatically calculated.
5) Compare thermocouples to ambient and record as posttest calibration check.

ONSITE METHOD 5 DRY GAS METER AUDIT AND POSTTEST CALIBRATION USING CRITICAL ORIFICE

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County RRF
Plant City, State	Okahumpka, FL
Test Location	Units 1 and 2 Stacks
Project Number	10184
Date of Pre-Test	01/22/01
Date of Post-Test	01/29/01
Tester Signature	

Meterbox ID	T3	
Meter Y	0.9901	
Meter Delta Ha	1.922	
Reference Pressure	29.8	STATUS
Barometric Pressure	29.8	PASS
Pbar Pretest	29.8	
Pbar Posttest	29.9	

ORIFICE ID# INCLUDING SET-#	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	TEMPERATURES °F AMB	DGM INLET INIT	DGM INLET FINAL	DGM OUTLET INIT	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	QA STATUS
PRETEST ONSITE 10 MINUTE AUDIT						PRE												
NA	1	NA	NA	523.052	530.442	NA	65	68	65	66	66	10.00	1.92	7.4204	NA	1.0154	2.55	PASS
POSTTEST CHECK		AVERAGE DELTA H =				POST												
1366-19	1	0.5146	18	122.800	129.550	71	81	82	78	79	80	10.00	1.60	6.6189	6.6772	1.0088		
1366-19	2	0.5146	18	129.550	136.280	71	82	82	79	80	80.75	10.00	1.60	6.5901	6.6772	1.0132		
1366-19	3	0.5146	18	136.280	143.000	71	82	81	80	80	80.75	10.00	1.60	6.5803	6.6772	1.0147		
FINAL - INITIAL VOLUMES > 5 CUBIC FEET? PASS															AVG =	1.0122	2.24	PASS

THERMOCOUPLE CHECKS			AMBIENT PRETEST TEMP. =>				AMBIENT POSTTEST TEMP. =>								
Location	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS

PRETEST PROCEDURES:

1) Record barometric pressure and temperatures before calibration.
2) Run 10 minute audit at Delta Ha without an orifice.
3) Record ambient temperature and compare all thermocouple readings.
4) Record thermocouple IDs and readings in table.

POSTTEST PROCEDURES:

1) Record barometric pressure before calibration.
2) Select one critical orifice to calibrate the dry gas meter which best approximates the operating range. Compare the average Delta H from your results page with the Delta H in the orifice table. Input orifice number.
3) Run at 18" Hg vacuum for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Perform three repititions for the posttest, record readings, shaded columns are automatically calculated.
5) Compare thermocouples to ambient and record as posttest calibration check.

ONSITE METHOD 5 DRY GAS METER AUDIT AND POSTTEST CALIBRATION USING CRITICAL ORIFICE

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County RRF
Plant City, State	Okahumpka, FL
Test Location	Units 1 and 2 SDA Inlets
Project Number	10184
Date of Pre-Test	01/22/01
Date of Post-Test	01/29/01
Tester Signature	

Meterbox ID	T4	
Meter Y	0.9834	
Meter Delta Ha	1.948	
Reference Pressure	29.8	STATUS
Barometric Pressure	29.8	PASS
Pbar Pretest	29.8	
Pbar Posttest	29.9	

ORIFICE ID# INCLUDING SET-#	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	TEMPERATURES °F AMB	DGM INLET INIT	DGM INLET FINAL	DGM OUTLET INIT	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	QA STATUS
PRETEST ONSITE 10 MINUTE AUDIT						PRE												
NA	1	NA	NA	913.200	920.650	NA	62	69	63	72	66.5	10.00	1.95	7.4740	NA	1.0077	2.47	PASS
POSTTEST CHECK		AVERAGE DELTA H =				POST												
1345-16	1	0.4228	18	122.300	127.862	74	87	87	83	83	85	10.00	1.00	5.3960	5.4706	1.0138		
1345-16	2	0.4228	18	127.862	134.523	74	87	86	83	83	84.75	12.00	1.00	6.4652	6.5647	1.0154		
1345-16	3	0.4228	18	134.523	140.641	74	86	86	83	83	84.5	11.00	1.00	5.9408	6.0177	1.0129		
FINAL - INITIAL VOLUMES > 5 CUBIC FEET? PASS															AVG =	1.0141	3.12	PASS

THERMOCOUPLE CHECKS			AMBIENT PRETEST TEMP. =>				AMBIENT POSTTEST TEMP. =>									
Location	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS	

PRETEST PROCEDURES:

1) Record barometric pressure and temperatures before calibration.
2) Run 10 minute audit at Delta Ha without an orifice.
3) Record ambient temperature and compare all thermocouple readings.
4) Record thermocouple IDs and readings in table.

POSTTEST PROCEDURES:

1) Record barometric pressure before calibration.
2) Select one critical orifice to calibrate the dry gas meter which best approximates the operating range. Compare the average Delta H from your results page with the Delta H in the orifice table. Input orifice number.
3) Run at 18" Hg vacuum for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Perform three repititions for the posttest, record readings, shaded columns are automatically calculated.
5) Compare thermocouples to ambient and record as posttest calibration check.

ONSITE METHOD 5 DRY GAS METER AUDIT AND POSTTEST CALIBRATION USING CRITICAL ORIFICE

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County RRF
Plant City, State	Okahumpka, FL
Test Location	Units 1 and 2 Stacks
Project Number	10184
Date of Pre-Test	01/22/01
Date of Post-Test	01/29/01
Tester Signature	

Meterbox ID	T5	
Meter Y	1.0060	
Meter Delta Ha	1.872	
Reference Pressure	29.8	STATUS
Barometric Pressure	29.8	PASS
Pbar Pretest	29.8	
Pbar Posttest	29.9	

ORIFICE ID# INCLUDING SET-#	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	TEMPERATURES °F AMB	DGM INLET INIT	DGM INLET FINAL	DGM OUTLET INIT	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN θ	DGM ΔH ($in\ H_2O$)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y VARIATION (%)	QA STATUS
PRETEST ONSITE 10 MINUTE AUDIT						PRE												
NA	1	NA	NA	754.803	762.186	NA	62	65	62	62	62.75	10.00	1.87	7.4586	NA	1.0132	0.72	PASS
POSTTEST CHECK		AVERAGE DELTA H =				POST												
1357-19	1	0.5157	18	426.500	433.430	70	95	93	90	90	92	10.00	1.60	6.6477	6.6978	1.0075		
1357-19	2	0.5157	18	433.430	438.940	70	93	89	90	90	90.5	8.00	1.60	5.2999	5.3582	1.0110		
1357-19	3	0.5157	18	438.940	444.460	70	89	88	90	88	88.75	8.00	1.60	5.3265	5.3582	1.0060		
FINAL - INITIAL VOLUMES > 5 CUBIC FEET? PASS															AVG =	1.0082	0.22	PASS

THERMOCOUPLE CHECKS			AMBIENT PRETEST TEMP. =>				AMBIENT POSTTEST TEMP. =>								
Location	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS	TC ID	PRE	STATUS	POST	STATUS

PRETEST PROCEDURES:

1) Record barometric pressure and temperatures before calibration.
2) Run 10 minute audit at Delta Ha without an orifice.
3) Record ambient temperature and compare all thermocouple readings.
4) Record thermocouple IDs and readings in table.

POSTTEST PROCEDURES:

1) Record barometric pressure before calibration.
2) Select one critical orifice to calibrate the dry gas meter which best approximates the operating range. Compare the average Delta H from your results page with the Delta H in the orifice table. Input orifice number.
3) Run at 18" Hg vacuum for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Perform three repititions for the posttest, record readings, shaded columns are automatically calculated.
5) Compare thermocouples to ambient and record as posttest calibration check.

GLASS NOZZLE CALIBRATION DATA, INCHES

1/18/01

CAL. DATE	NOZZLE ID NUMBER	AVG. DIAM.	DIA. 1	DIA. 2	DIA. 3	HIGH	LOW	QA/QC CHECK
04/10/98	GN100	0.114	0.113	0.115	0.114	0.115	0.113	OK
04/10/98	GN104	0.377	0.377	0.377	0.378	0.378	0.377	OK
04/10/98	GN105	0.389	0.388	0.389	0.389	0.389	0.388	OK
04/10/98	GN106	0.505	0.505	0.505	0.504	0.505	0.504	OK
04/10/98	GN107	0.115	0.115	0.115	0.114	0.115	0.114	OK
04/10/98	GN111	0.380	0.380	0.381	0.378	0.381	0.378	OK
04/10/98	GN112	0.393	0.392	0.393	0.395	0.395	0.392	OK
04/10/98	GN113	0.500	0.499	0.500	0.500	0.500	0.499	OK
04/10/98	GN114	0.115	0.115	0.115	0.116	0.116	0.115	OK
04/10/98	GN118	0.378	0.378	0.378	0.377	0.378	0.377	OK
04/10/98	GN119	0.394	0.394	0.394	0.394	0.394	0.394	OK
04/11/98	GN121	0.116	0.116	0.116	0.115	0.116	0.115	OK
04/11/98	GN125	0.380	0.381	0.380	0.380	0.381	0.380	OK
04/11/98	GN126	0.392	0.392	0.392	0.392	0.392	0.392	OK
04/11/98	GN127	0.497	0.497	0.497	0.498	0.498	0.497	OK
06/12/99	GN215	0.258	0.258	0.258	0.257	0.258	0.257	OK
08/06/99	GN222	0.309	0.309	0.309	0.308	0.309	0.308	OK
01/06/00	GN255	0.272	0.272	0.272	0.273	0.273	0.272	OK
01/06/00	GN257	0.274	0.274	0.274	0.274	0.274	0.274	OK
01/06/00	GN258	0.274	0.274	0.274	0.275	0.275	0.274	OK
01/06/00	GN265	0.276	0.277	0.276	0.276	0.277	0.276	OK
01/06/00	GN266	0.276	0.277	0.276	0.276	0.277	0.276	OK
01/06/00	GN270	0.276	0.276	0.275	0.276	0.276	0.275	OK
01/06/00	GN276	0.255	0.255	0.255	0.256	0.256	0.255	OK
01/06/00	GN287	0.311	0.310	0.310	0.312	0.312	0.310	OK
01/06/00	GN288	0.311	0.310	0.311	0.311	0.311	0.310	OK
01/06/00	GN289	0.311	0.311	0.310	0.311	0.311	0.310	OK
01/06/00	GN290	0.311	0.310	0.311	0.312	0.312	0.310	OK
01/06/00	GN291	0.309	0.310	0.310	0.308	0.310	0.308	OK
01/06/00	GN292	0.312	0.310	0.313	0.312	0.313	0.310	OK
01/06/00	GN293	0.312	0.311	0.313	0.312	0.313	0.311	OK
01/06/00	GN294	0.309	0.309	0.309	0.310	0.310	0.309	OK
01/06/00	GN295	0.311	0.312	0.312	0.310	0.312	0.310	OK
01/06/00	GN296	0.311	0.310	0.312	0.312	0.312	0.310	OK
01/24/00	GN306	0.219	0.219	0.219	0.219	0.219	0.219	OK
03/16/00	GN309	0.194	0.194	0.194	0.194	0.194	0.194	OK
03/16/00	GN313	0.195	0.196	0.195	0.195	0.196	0.195	OK
03/16/00	GN318	0.195	0.194	0.195	0.195	0.195	0.194	OK
03/16/00	GN319	0.195	0.195	0.194	0.195	0.195	0.194	OK
03/16/00	GN328	0.197	0.197	0.196	0.197	0.197	0.196	OK
03/16/00	GN333	0.218	0.217	0.218	0.218	0.218	0.217	OK
03/16/00	GN338	0.220	0.220	0.219	0.220	0.220	0.219	OK
03/16/00	GN343	0.311	0.310	0.312	0.312	0.312	0.310	OK
05/18/00	GN344	0.227	0.227	0.227	0.226	0.227	0.226	OK
05/18/00	GN345	0.224	0.224	0.224	0.223	0.224	0.223	OK
05/18/00	GN346	0.225	0.225	0.225	0.226	0.226	0.225	OK
05/18/00	GN347	0.223	0.224	0.223	0.223	0.224	0.223	OK
05/18/00	GN348	0.222	0.223	0.222	0.222	0.223	0.222	OK
05/18/00	GN349	0.225	0.226	0.225	0.225	0.226	0.225	OK
05/18/00	GN350	0.223	0.222	0.223	0.223	0.223	0.222	OK
05/18/00	GN351	0.223	0.223	0.224	0.223	0.224	0.223	OK

05/18/00	GN353	0.222	0.221	0.223	0.222	0.223	0.221	OK
05/18/00	GN354	0.225	0.225	0.226	0.224	0.226	0.224	OK
05/18/00	GN355	0.226	0.226	0.226	0.226	0.226	0.226	OK
09/11/00	GN356	0.338	0.338	0.339	0.338	0.339	0.338	OK
10/16/00	GN356A	0.260	0.259	0.260	0.260	0.260	0.259	OK
09/11/00	GN357	0.339	0.339	0.338	0.339	0.339	0.338	OK
10/16/00	GN357A	0.256	0.256	0.257	0.256	0.257	0.256	OK
09/11/00	GN358	0.339	0.339	0.339	0.340	0.340	0.339	OK
10/16/00	GN358A	0.258	0.257	0.258	0.258	0.258	0.257	OK
09/11/00	GN359	0.340	0.340	0.340	0.339	0.340	0.339	OK
10/16/00	GN360A	0.258	0.258	0.257	0.258	0.258	0.257	OK
09/11/00	GN361	0.339	0.338	0.339	0.339	0.339	0.338	OK
10/16/00	GN361A	0.261	0.261	0.262	0.261	0.262	0.261	OK
10/16/00	GN365	0.258	0.258	0.257	0.258	0.258	0.257	OK
11/03/00	GN369	0.257	0.258	0.257	0.257	0.258	0.257	OK
11/03/00	GN370	0.259	0.258	0.259	0.259	0.259	0.258	OK
11/03/00	GN371	0.260	0.260	0.260	0.259	0.260	0.259	OK
11/03/00	GN372	0.257	0.257	0.257	0.257	0.257	0.257	OK
11/03/00	GN373	0.260	0.259	0.260	0.260	0.260	0.259	OK
11/03/00	GN374	0.258	0.258	0.258	0.257	0.258	0.257	OK
11/03/00	GN375	0.258	0.258	0.258	0.257	0.258	0.257	OK
11/03/00	GN376	0.258	0.258	0.259	0.258	0.259	0.258	OK
11/03/00	GN377	0.257	0.258	0.257	0.257	0.258	0.257	OK
11/03/00	GN378	0.260	0.260	0.261	0.260	0.261	0.260	OK

THERMOCOUPLE CALIBRATION DATA, °F

09/22/00

DATE	THERMOCOUPLE ID NUMBER	THERMOCOUPLE TEMPERATURE	REFERENCE TEMPERATURE	< or = 2 degrees F DIFFERENCE ??
Dry Gas Meters:				
04/13/98	T1 IN	66	68	YES
04/13/98	T1 OUT	66	68	YES
04/13/98	T2 IN	67	68	YES
04/13/98	T2 OUT	67	68	YES
04/13/98	T3 IN	67	68	YES
04/13/98	T3 OUT	67	68	YES
04/13/98	T4 IN	67	68	YES
04/13/98	T4 OUT	67	68	YES
04/08/99	T5 IN	81	81	YES
04/08/99	T5 OUT	82	81	YES
06/20/99	T6 IN	78	78	YES
06/20/99	T6 OUT	79	78	YES
04/06/98	TLF-1 IN	65	65	YES
04/06/98	TLF-1 OUT	66	65	YES
04/06/98	TLF-2 IN	65	65	YES
04/06/98	TLF-2 OUT	64	65	YES
Thermocouples:				
02/24/99	8	55	57	YES
04/13/98	12	69	68	YES
02/24/99	15	61	60	YES
02/24/99	17	62	61	YES
04/13/98	18	69	71	YES
04/13/98	19	78	78	YES
04/13/98	21	69	70	YES
04/13/98	23	70	70	YES
02/24/99	26	56	57	YES
02/24/99	29	61	60	YES
02/24/99	36	61	61	YES
02/24/99	38	57	57	YES
02/24/99	39	55	57	YES
04/13/98	141	73	72	YES
02/25/99	142	69	70	YES
02/24/99	143	69	70	YES
02/24/99	144	69	70	YES
04/13/98	145	69	68	YES
05/24/98	146	69	69	YES
04/13/98	147	70	70	YES
05/01/98	148	69	70	YES
04/13/98	149	69	70	YES
04/13/98	150	69	70	YES
02/25/99	151	68	70	YES
11/09/98	152	69	68	YES
02/24/99	153	70	70	YES
04/13/98	154	70	70	YES
04/13/98	155	69	70	YES
04/13/98	156	69	70	YES
04/13/98	157	69	70	YES
04/13/98	158	75	73	YES
02/24/99	159	69	70	YES

04/13/98	160	76	74	YES
04/13/98	161	69	70	YES
04/13/98	162	72	73	YES
04/13/98	163	69	70	YES
04/13/98	164	73	72	YES
04/13/98	165	69	70	YES
04/13/98	166	69	70	YES
01/12/99	167	69	70	YES
04/13/98	168	72	72	YES
04/13/98	169	69	70	YES
04/13/98	170	69	70	YES
04/13/98	171	65	66	YES
04/13/98	172	60	61	YES
04/13/98	173	59	59	YES
04/13/98	174	59	59	YES
09/17/99	194	79	78	YES
09/17/99	195	80	78	YES
09/17/99	196	79	78	YES
10/15/99	197	66	67	YES
10/15/99	198	66	66	YES
11/29/99	199	58	58	YES
11/29/99	200	59	58	YES
11/29/99	201	58	58	YES
09/22/00	233	72	73	YES
09/22/00	234	73	73	YES
10/05/00	238	62	61	YES

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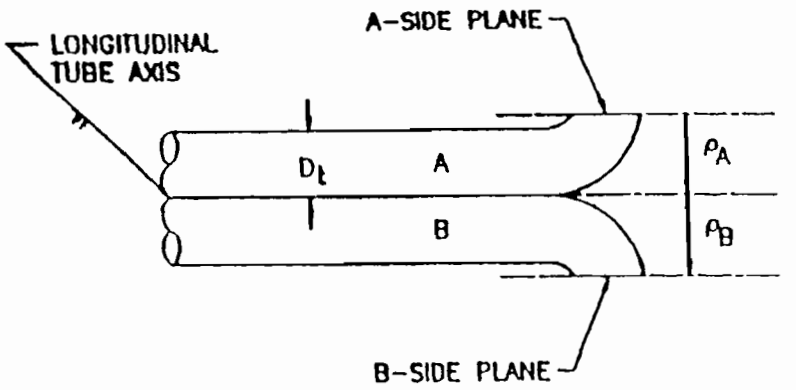
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-150 Date: 3/27/98

Technician: BH



1. D_t external tubing diameter — D_t = .375 inches

   0.188" < D_t 0.375" •

$\rho_A + \rho_B$ = .949 inches

2. $\rho = \frac{\rho_A + \rho_B}{2}$ — ρ = .4745 inches

3. $Z = (\rho_A + \rho_B) \sin \gamma$ — γ = 2°

   Z < 0.125" ••

   Z = .033 inches

4. $W = (\rho_A + \rho_B) \sin \sigma$ — σ = 1°

   W < 0.031" ••

   W = 0.017 inches

5. β_A , β_B < 5° ••

   β_A = 1°

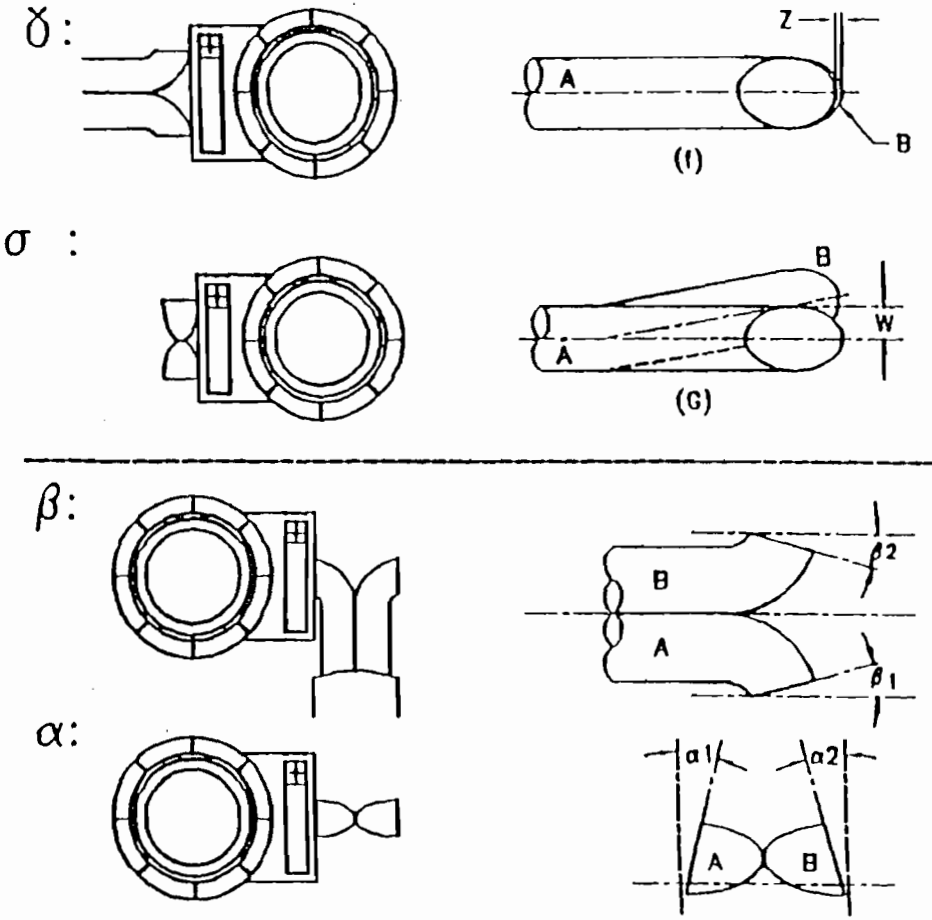
   β_B = 0°

6. α_A , α_B < 10° ••

   α_A = 3°

   α_B = 2°

•, •• Acceptable Limits.



- Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

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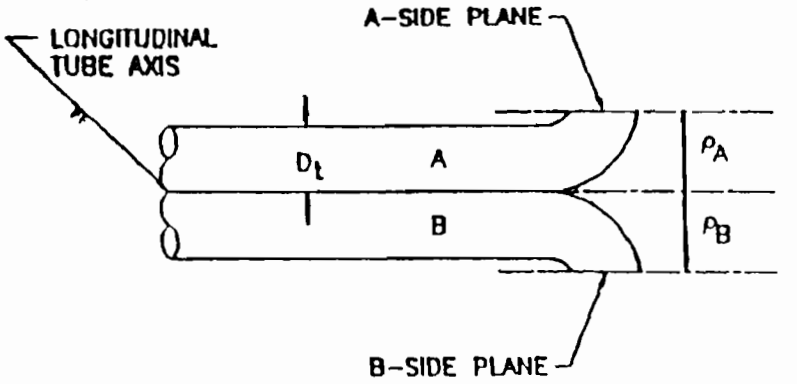
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-151 Date: 3/27/98

Technician: BMF



1. D_t external tubing diameter — D_t = .375 inches

   0.188" < D_t 0.375" •

2. $P = \frac{P_A + P_B}{2}$ — $P_A + P_B$ = .943 inches; P = .4715 inches

3. $Z = (P_A + P_B) \sin \gamma$ — γ = 1°; Z = 0.016 inches

   Z < 0.125" ••

4. $W = (P_A + P_B) \sin \sigma$ — σ = 1°; W = 0.016 inches

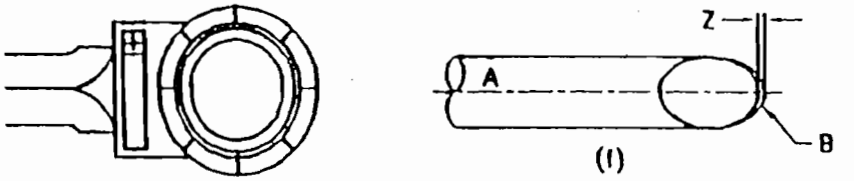
   W < 0.031" ••

5. β_A , β_B < 5° •• — β_A = 0°; β_B = 0°

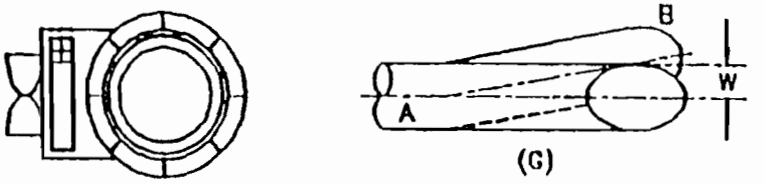
6. α_A , α_B < 10° •• — α_A = 1°; α_B = 0°

•, •• Acceptable Limits.

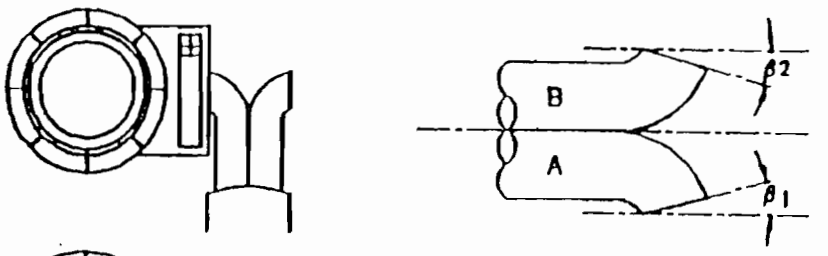
γ:



σ :



β:



α:

• Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

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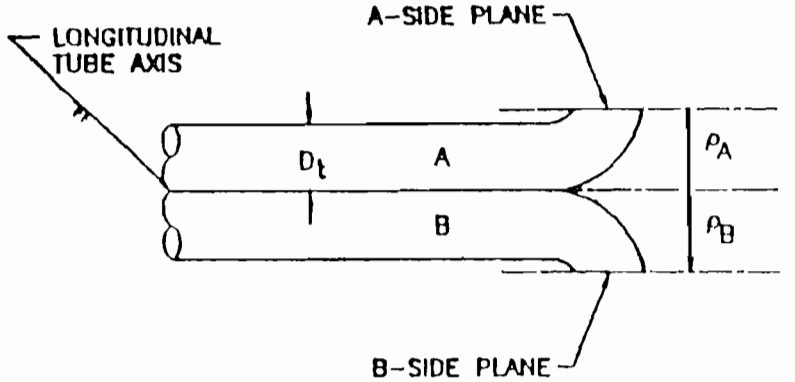
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-152 Date: 3/27/98

Technician: BM



1. D_t external tubing diameter — D_t = .375 inches

   0.188" < D_t 0.375" •

2. $\rho = \frac{\rho_A + \rho_B}{2}$ — $\rho_A + \rho_B$ = .952 inches; ρ = .476 inches

3. $Z = (\rho_A + \rho_B) \sin \gamma$ — γ = 0°; Z = 0.0 inches

   Z < 0.125" ••

4. $W = (\rho_A + \rho_B) \sin \sigma$ — σ = 5°; W = 0.0 inches

   W < 0.031" ••

5. β_A, β_B < 5° ••

   β_A = 0°

   β_B = 1°

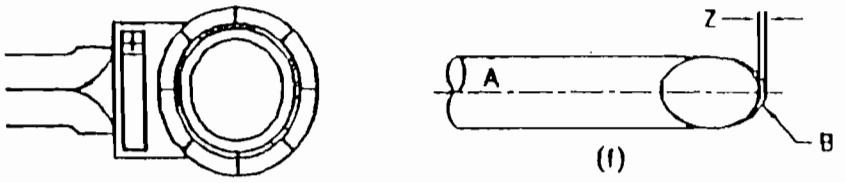
6. α_A, α_B < 10° ••

   α_A = 0°

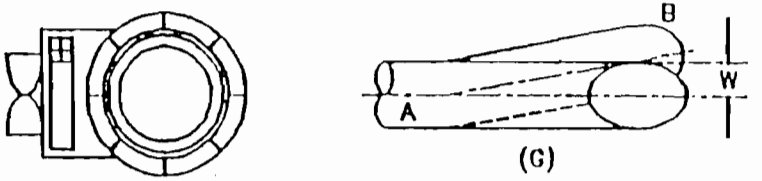
   α_B = 0°

•, •• Acceptable Limits.

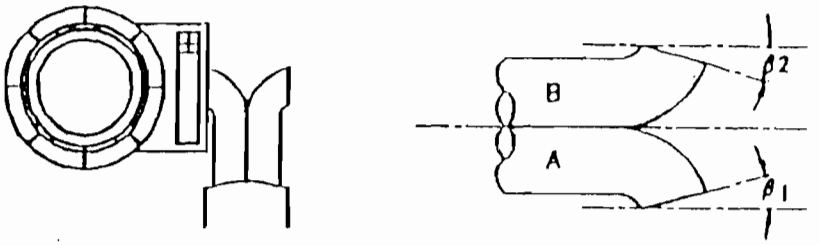
γ:



σ :



β:



α:

• Standards of Performance for New Stationary Sources, Federal Register, 36. (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

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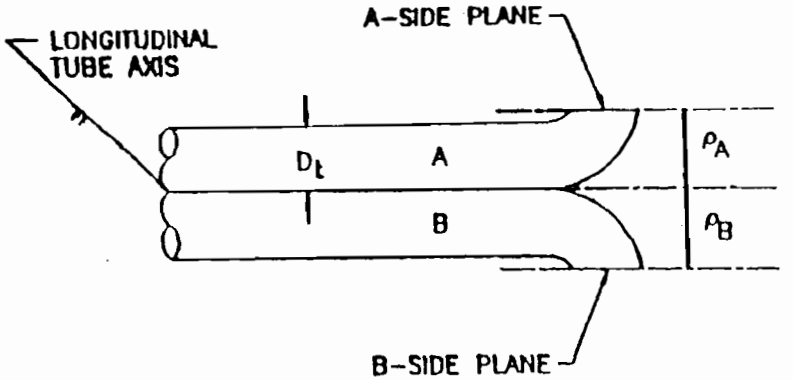
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-53 Date: 3/27/98

Technician: DMF



1. D_t external tubing diameter — D_t = .375 Inches

   0.188" < D_t 0.375" •

   $p_A + p_B$ = .946 Inches

2. $p = \frac{p_A + p_B}{2}$ — p = .473 Inches

3. $Z = (p_A + p_B) \sin \gamma$ — γ = 3°

   Z < 0.125" •• — Z = .0495 Inches

4. $W = (p_A + p_B) \sin \sigma$ — σ = 0°

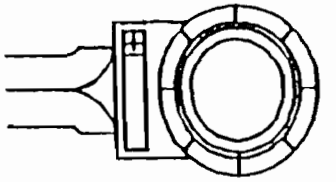
   W < 0.031" •• — W = 0.0 Inches

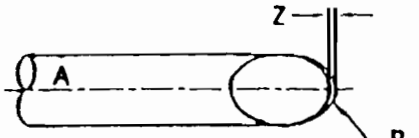
5. β_A , β_B < 5° •• — β_A = 0°, β_B = 1°

6. α_A , α_B < 10° •• — α_A = 2°, α_B = 2°

•, •• Acceptable Limits.

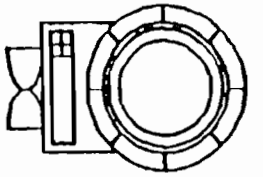
γ:

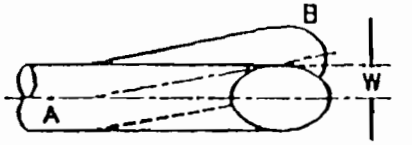




(I)

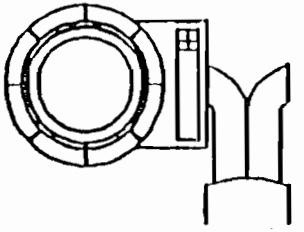
σ :

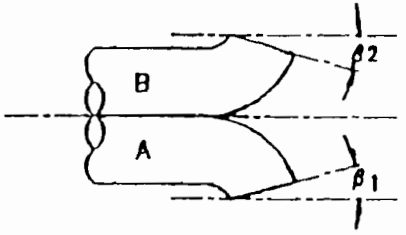




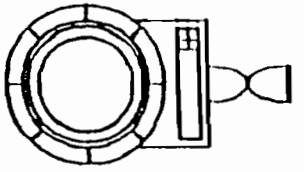
(G)

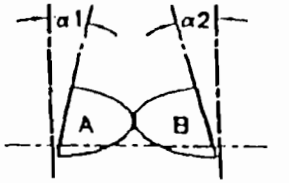
β:





α:





- Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

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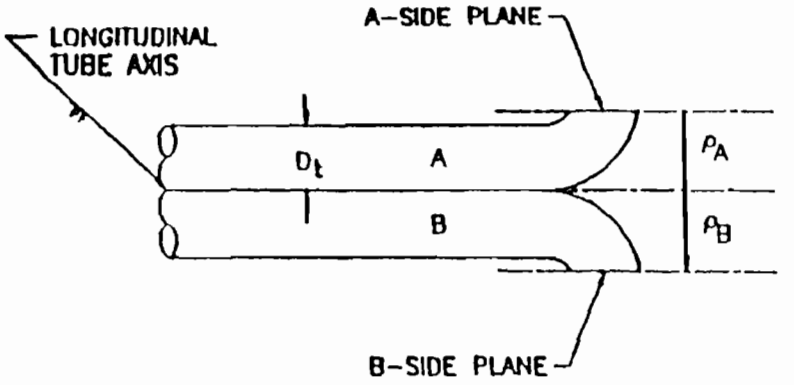
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-154 Date: 3/27/98

Technician: DAH



1. D_t external tubing diameter — D_t = .375 Inches

   $0.188" < D_t \; 0.375"$ •

   $\rho_A + \rho_B$ = .956 Inches

2. $\rho = \frac{\rho_A + \rho_B}{2}$ — ρ = .478 Inches

3. $Z = (\rho_A + \rho_B) \sin \gamma$ — γ = 0 °

   $Z < 0.125"$ ••

   Z = 0.0 Inches

4. $W = (\rho_A + \rho_B) \sin \sigma$ — σ = 1 °

   $W < 0.031"$ ••

   W = .017 Inches

5. $\beta_A \, . \beta_B < 5°$ ••

   β_A = 0 °

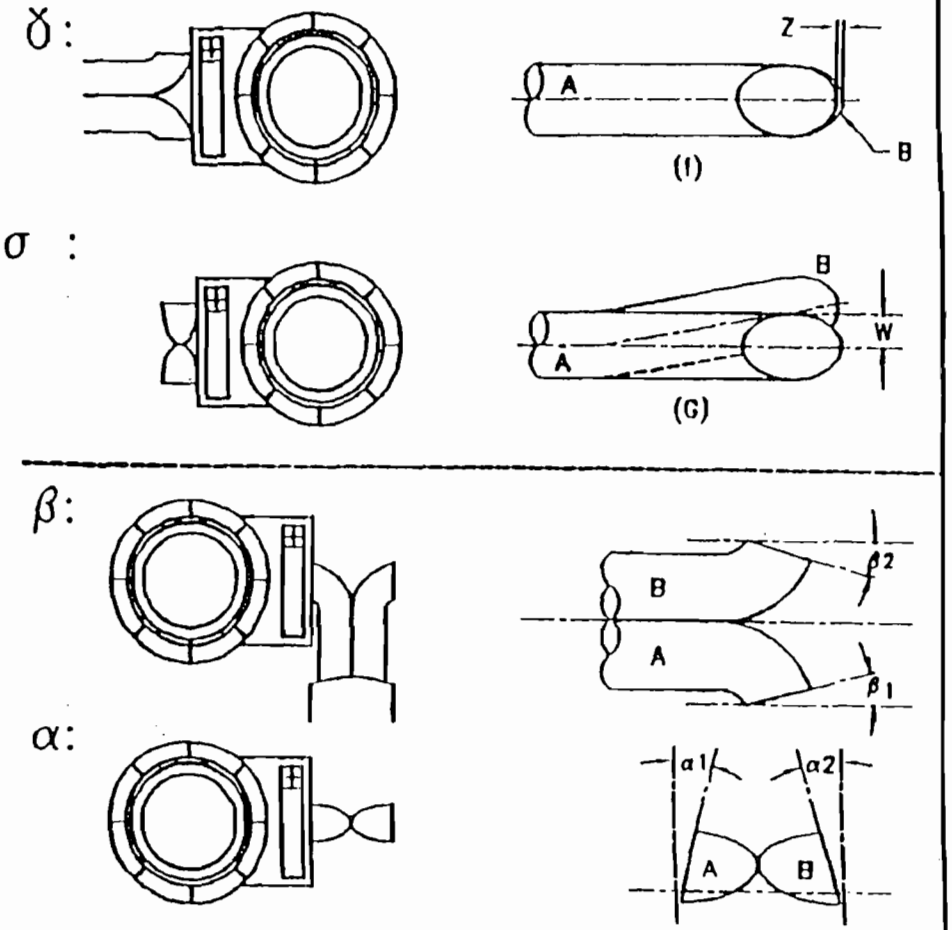
   β_B = 1 °

6. $\alpha_A \, . \alpha_B < 10°$ ••

   α_A = 0 °

   α_B = 0 °

•, •• Acceptable Limits.



• Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

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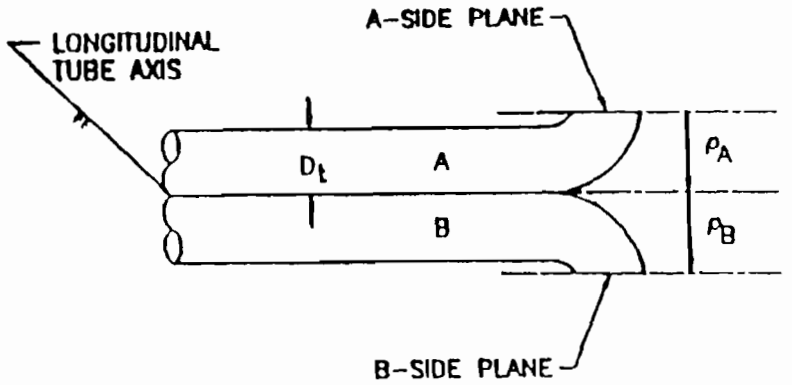
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-157 Date: 3-27-98

Technician: [illegible]



1. D_t external tubing diameter — D_t = .375 inches

   $0.188" < D_t \leq 0.375"$ •

   $\rho_A + \rho_B$ = .943 inches

2. $\rho = \frac{\rho_A + \rho_B}{2}$ — ρ = .4715 inches

3. $Z = (\rho_A + \rho_B) \sin \gamma$ — γ = 1 °

   $Z < 0.125"$ •• — Z = 0.0165 inches

4. $W = (\rho_A + \rho_B) \sin \sigma$ — σ = 0 °

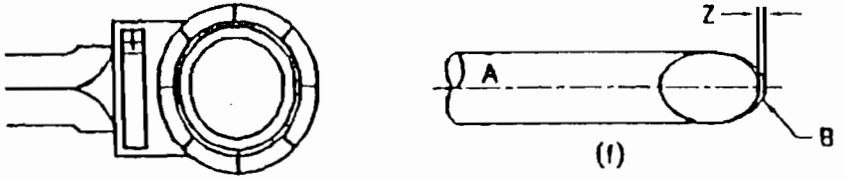
   $W < 0.031"$ •• — W = 0.0 inches

5. $\beta_A, \beta_B < 5°$ •• — β_A = 0 °, β_B = 2 °

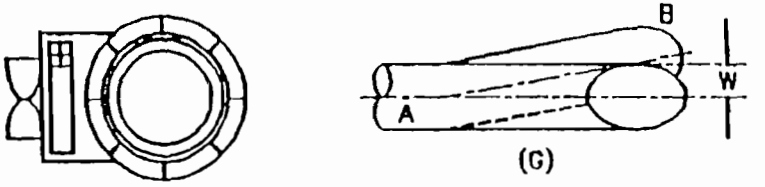
6. $\alpha_A, \alpha_B < 10°$ •• — α_A = 1 °, α_B = 0 °

•, •• Acceptable Limits.

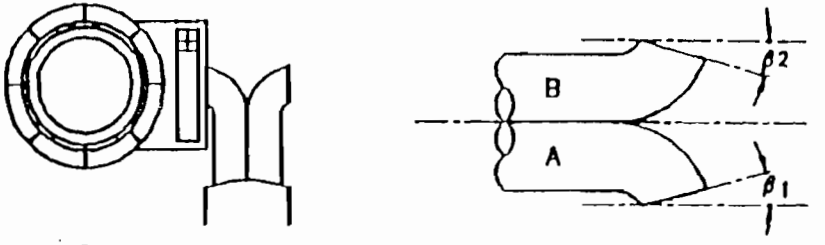
γ:



σ :



β:



α:

• Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

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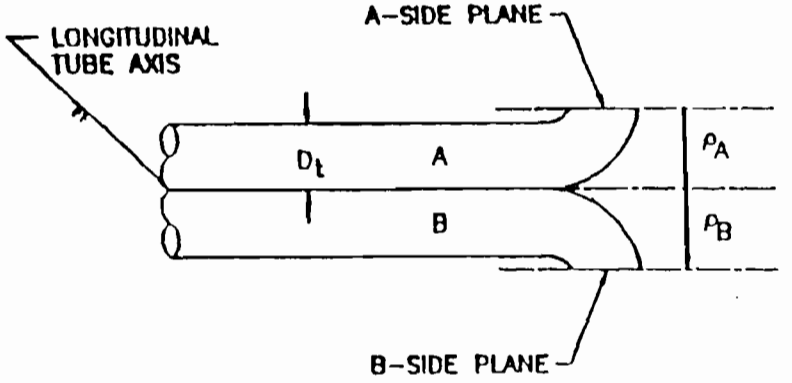
PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-162 Date: 3-27-98

Technician: BH



1. D_t external tubing diameter — D_t = .375 inches

   0.188" < D_t 0.375" •

   $\rho_A + \rho_B$ = .957 inches

2. $\rho = \frac{\rho_A + \rho_B}{2}$ — ρ = .4785 inches

3. $Z = (\rho_A + \rho_B) \sin \gamma$ — γ = 0 °

   Z < 0.125" •• — Z = 0.0 inches

4. $W = (\rho_A + \rho_B) \sin \sigma$ — σ = 1 °

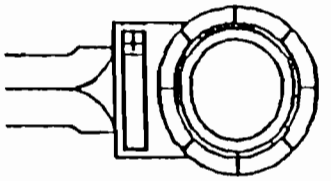
   W < 0.031" •• — W = 0.017 inches

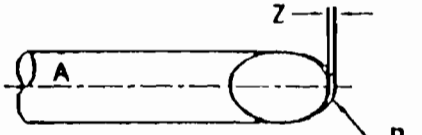
5. β_A .β_B < 5° •• — β_A = 0 °, β_B = 0 °

6. α_A .α_B < 10° •• — α_A = 2 °, α_B = 1 °

•, •• Acceptable Limits.

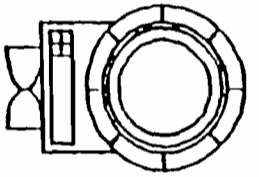
γ:

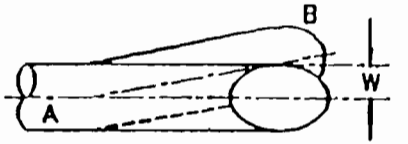




(I)

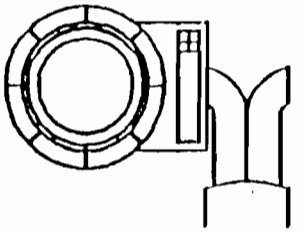
σ :

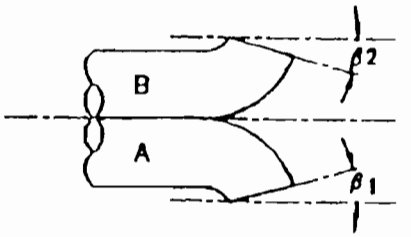




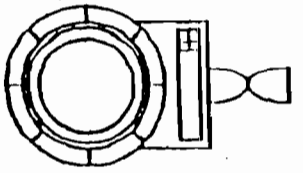
(G)

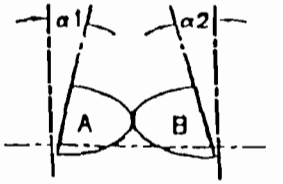
β:





α:





* Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

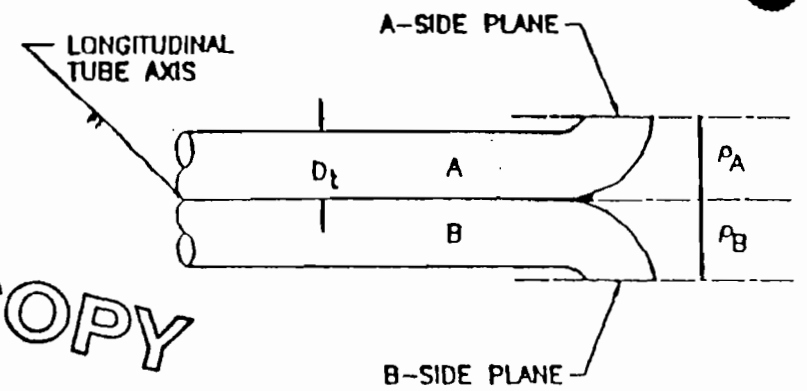
** Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

Environmental Supply
800-STACKS-5
(782-2575)

PITOT TUBE CALIBRATION – VERIFICATION OF CONSTRUCTION SPECIFICATIONS

Pitot ID: P-171 Date: 11/23/98

Technician: B. ALLEN



1. D_t external tubing diameter — D_t = .375 inches

   $0.188" < D_t \; 0.375"$ •

2. $p = \frac{p_A + p_B}{2}$ — $p_A + p_B$ = .941 inches; p = .473 inches

3. $Z = (p_A + p_B) \sin \gamma$ — γ = 2.5°; Z = 0.041 inches

   $Z < 0.125"$ ••

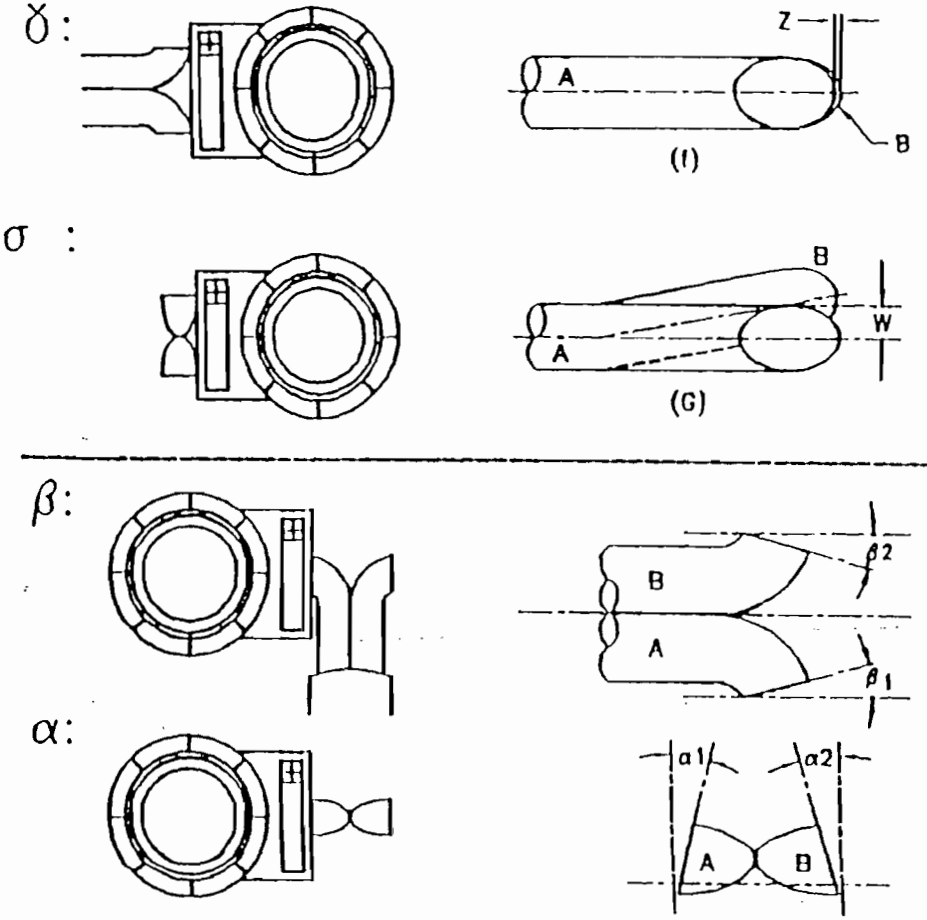
4. $W = (p_A + p_B) \sin \sigma$ — σ = 1.0°; W = 0.016 inches

   $W < 0.031"$ ••

5. $\beta_A, \beta_B < 5°$ •• — β_A = 0°; β_B = 0°

6. $\alpha_A, \alpha_B < 10°$ •• — α_A = 3°; α_B = 2°

•, •• Acceptable Limits.



- Standards of Performance for New Stationary Sources, Federal Register, 36 (247), December 23, 1971.

•• Valbra, R.F., "The Effects of Impact Opening Misalignment on the Value of the Type-S Pitot Tube Coefficient", U.S. EPA Emission Measurement Branch, Research Triangle Park, N.C., October 1976

Interference Test

Analyzer Type: TECO Model 48C
Serial Number: 48CHL60783-326

Span: 100
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
O2/N2	19.99	%	0.1	0.1
SO2/N2	956.8	ppm	0.0	0.0
NOx/N2	442.0	ppm	0.0	0.0
CO2/N2	17.35	%	0.8	0.8
			Totals	0.9

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

Interference Test

Analyzer Type: Western Research
Serial Number: 721M-8064-6
Monitor Type: Sulfur Dioxide

Span: 500
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
O2/N2	19.99	ppm	0.0	0.0
NOx/N2	442.0	%	0.0	0.0
CO2/N2	17.35	%	0.0	0.0
			Totals	0.0

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

Interference Test

Analyzer Type: Western Research
Serial Number: 721M-8062-2
Monitor Type: Sulfur Dioxide

Span: 500
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
O2/N2	19.99	ppm	0.0	0.0
NOx/N2	442.0	%	0.0	0.0
CO2/N2	17.35	%	0.0	0.0
			Totals	0.0

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

Interference Test

Analyzer Type: Servomex 1420 O2
Serial Number: 1420/B180

Span: 25
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
SO2/N2	956.8	ppm	0.0	0.0
NOx/N2	442.0	%	0.1	0.4
CO2/N2	17.35	%	0.0	0.0
			Totals	0.4

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

Interference Test

Analyzer Type: Servomex 1420 O2 Span: 25
Serial Number: 1420/B175 Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
SO2/N2	956.8	ppm	0.0	0.0
NOx/N2	442.0	%	0.1	0.4
CO2/N2	17.35	%	0.0	0.0
			Totals	0.4

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

Interference Test

Analyzer Type: TECO 10S
Serial Number: 10S-45502-274

Span: 500
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
SO2/N2	956.8	ppm	0.0	0.0
CO2	17.35	%	0.0	0.0
O2	19.99	%	0.0	0.0
			Totals	0.0

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

NO2 to NO Conversion Efficiency Test

Analyzer Type.....	TECO Model 300 Molybdenum
Serial number.....	300-61798-333
Span.....	500
Date.....	January 22, 2001

Peak Response	238.45	ppm
Minumum response during 30 minutes test period	237.08	ppm
PERCENT DECREASE FROM PEAK RESPONSE.....	0.57	%
CONVERTER EFFICIENCY.....	99.4	%

SPECIFICATIONS : RESPONSE AT 30 MINUTES MUST NOT DECREASE BY MORE THAN 2% OF THE PEAK RESPONSE VALUE.

Operator: Bill Harris
Plant Name: NOx Converter Test
Location: Lake County RRF

		NOx ppm	
Start Averaging			
1/22/01	16:41:43	238.45	High
1/22/01	16:42:43	238.33	
1/22/01	16:43:43	238.37	
1/22/01	16:44:43	238.31	
1/22/01	16:45:43	238.29	
1/22/01	16:46:43	238.21	
1/22/01	16:47:42	238.19	
1/22/01	16:48:43	238.23	
1/22/01	16:49:43	238.25	
1/22/01	16:50:42	238.18	
1/22/01	16:51:43	238.15	
1/22/01	16:52:43	238.11	
1/22/01	16:53:43	238.12	
1/22/01	16:54:43	238.14	
1/22/01	16:55:43	238.21	
1/22/01	16:56:43	238.14	
1/22/01	16:57:43	238.13	
1/22/01	16:58:42	238.1	
1/22/01	16:59:43	238.08	
1/22/01	17:00:43	238.13	
1/22/01	17:01:43	238.07	
1/22/01	17:02:43	237.88	
1/22/01	17:03:43	237.78	
1/22/01	17:04:43	237.69	
1/22/01	17:05:43	237.57	
1/22/01	17:06:43	237.49	
1/22/01	17:07:43	237.48	
1/22/01	17:08:43	237.33	
1/22/01	17:09:43	237.31	
1/22/01	17:10:43	237.27	
1/22/01	17:11:43	237.08	Low
Test Run 1 End			

Interference Test

Analyzer Type: Fuji Model 3300
Serial Number: N3H8160T

Span: 20
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
SO2/N2	956.8	ppm	0.0	0.0
NOx/N2	442.0	%	0.0	0.0
O2	19.99	%	0.0	0.0
			Totals	0.0

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

Interference Test

Analyzer Type: Fuji Model 3300
Serial Number: N3H8158T

Span: 20
Date: 25-Apr-98

Parameter	Concentration		Analyzer Response	% of Span
CO/N2	891.0	ppm	0.0	0.0
SO2/N2	956.8	ppm	0.0	0.0
NOx/N2	442.0	%	0.0	0.0
O2	19.99	%	0.0	0.0
			Totals	0.0

Specification: Sum of Interference Responses Must Not Exceed 2% of Span

TESTAR, INC.

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: TESTAR INC
Project No.: 01-46040-002

Customer

TESTAR,INC
BILL HARRIS
7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM029649 Certification Date: 10/23/00 Exp. Date: 10/23/2003
Cylinder Pressure***: 2000 PSIG Batch No: 0144026

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
CARBON DIOXIDE	11.00	%	+/- 1%	Direct NIST and NMi
OXYGEN	11.12	%	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE			

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997. Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1800	4/12/01	ALM047722	17.95 %	CARBON DIOXIDE
NTRM 2658	1/02/01	ALM031896	9.680 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
MTI/M200/170927	10/23/00	GC-TCD
MTI/M200/170927	10/16/00	GC-TCD

ANALYZER READINGS

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

First Triad Analysis | Second Triad Analysis | Calibration Curve

CARBON DIOXIDE

Date:10/23/00	Response Unit:AREA	
Z1 = 0.00000	R1 = 79717.00	T1 = 48773.00
R2 = 79784.00	Z2 = 0.00000	T2 = 48859.00
Z3 = 0.00000	T3 = 48895.00	R3 = 79729.00
Avg. Concentration:	11.00	%

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.99999 1800
Constants: A = -1.18761E-02
B = 2.26456E-04 C =
D = E =

OXYGEN

Date:10/23/00	Response Unit:AREA	
Z1 = 0.00000	R1 = 26841.00	T1 = 30837.00
R2 = 26916.00	Z2 = 0.00000	T2 = 30916.00
Z3 = 0.00000	T3 = 30906.00	R3 = 26909.00
Avg. Concentration:	11.12	%

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.99999 2658
Constants: A = -2.15433E-02
B = 3.57934E-05 C =
D = E =

APPROVED BY: _____

401

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: BILL HARRIS
Project No.: 12-37047-001

Customer
TESTAR,INC
BILL HARRIS
7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: CLM003675 Certification Date: 1/04/00 Exp. Date: 1/04/2003
Cylinder Pressure***: 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
CARBON DIOXIDE	17.01 %	+/- 1%	Direct NIST and NMi
OXYGEN	20.1 %	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 18000	4/12/01	ALM047671	17.95 %	CARBON DIOXIDE
NTRM 2659	1/02/01	ALM031720	20.72 %	OXYGEN

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/16804-CO2	12/20/99	TCD
VARIAN/3400/16804-O2	12/22/99	GC / TCD

ANALYZER READINGS

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

First Triad Analysis | Second Triad Analysis | Calibration Curve

CARBON DIOXIDE

Date:01/03/00	Response Unit:ACR	
Z1 = 0.0000	R1 = 11932.	T1 = 11314.
R2 = 11942.	Z2 = 0.0000	T2 = 11319.
Z3 = 0.0000	T3 = 11311	R3 = 11949.
Avg. Concentration:	17.01	%

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999990

Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

OXYGEN

Date:12/30/99	Response Unit:ACR	
Z1 = 0.0000	R1 = 52585.	T1 = 50936.
R2 = 52953.	Z2 = 0.0000	T2 = 51063.
Z3 = 0.0000	T3 = 51110.	R3 = 52551.
Avg. Concentration:	20.10	%

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999990

Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: B M BECTON

BOC GASES

Assay Laboratory
BOC GASES
600 Union Landing Road
Riverton,NJ 08077
(609) 829 7878

CERTIFICATE OF ANALYSIS
EPA Protocol Gas

CUSTOMER
BOC RTP NC PLT
11 TRIANGLE DRIVE
RESEARCH TRI PK, NC 277090000

CUSTOMER PO NO:

Previous Certification Date(s):

CYLINDER NO	:	XC017544B
EXPIRATION DATE	:	01/15/03
CERTIFICATION DATE	:	01/15/01
CYLINDER PRESSURE	:	2000 psig
PRODUCT ID NO	:	02001597
LOT NUMBER	:	422860

ANALYTICAL INFORMATION

This calibration standard has been certified per the 1997 EPA Traceability Protocol, Document EPA-600/97/121, Using Procedure G1. All Values certified to be +/-1% NIST Traceable.

Do Not Use This Cylinder below 150 psig. i.e. 1.0 Megapascal

Analytical Results

Components	Requested Mixture	Certified Concentration	Analytical Uncertainty	Assay Dates
[redacted]C OXIDE	240.00 ppm	233 ppm	+/-1.00% NIST Traceable	01/08/01 & 01/15/01
TOTAL OXIDES OF NITROGEN		233 ppm		
NITROGEN	BALANCE GAS			

CALIBRATION STANDARDS USED IN ASSAY

Type	LOT ID	Cylinder No	Concentration	Expiration
NTRM 81685	98060711	XC003602B	252.20 +/- 1.90 ppm NO/N2	05/01/02

ANALYTICAL INSTRUMENTS USED IN ASSAY

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 560 ADU9800406	FTIR	12/21/00

Assay Laboratory

BOC GASES
600 Union Landing Road
Riverton,NJ 08077
(609) 829 7878

Preliminary

CERTIFICATE OF ANALYSIS Preliminary

EPA Protocol Gas

CUSTOMER
BOC RTP NC PLT
11 TRIANGLE DRIVE
RESEARCH TRI PK, NC 277090000

CUSTOMER PO NO: TESTAR

Previous Certification Date(s):

CYLINDER NO : FF5397
EXPIRATION DATE : 12/21/02
CERTIFICATION DATE : 12/21/00
CYLINDER PRESSURE : 2000 psig
PRODUCT ID NO : 02006629
LOT NUMBER : 418093

ANALYTICAL INFORMATION

This calibration standard has been certified per the 1997 EPA Traceability Protocol, Document EPA-600/97/121, Using Procedure G1. All Values certified to be + 1% NIST Traceable.

Do Not Use This Cylinder below 150 psig, i.e. 1.0 Megapascal

Analytical Results

Components	Requested Mixture	Certified Concentration	Analytical Uncertainty	Assay Dates
NITRIC OXIDE	450.00 ppm	439.00 ppm	+/-1.00% NIST Traceable	12/11/00 & 12/20/00
NITROGEN	BALANCE GAS			

CALIBRATION STANDARDS USED IN ASSAY

Type	LOT ID	Cylinder No	Concentration	Expiration
NTRM 81686	98060511	XC003509B	502.00 +/- 3.50 ppm NO/N2	02/01/02

ANALYTICAL INSTRUMENTS USED IN ASSAY

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 560 ADU9800406	FTIR	11/20/00

QA Approved

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: TESTAR INC
Project No.: 01-43912-003

Customer

TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM045330 Certification Date: 8/24/00 Exp. Date: 8/24/2003
Cylinder Pressure***: 1940 PSIG Batch No: 1239262

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
CARBON MONOXIDE	30.29	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM1676	6/01/02	ALM007635	49.16 PPM	CO/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	07/24/00	Scott Enhanced FTIR

ANALYZER READINGS

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

First Triad Analysis

CARBON MONOXIDE

Date:08/17/00	Response Unit:PPM	
Z1 = -0.13750	R1 = 49.04700	T1 = 30.18611
R2 = 49.26222	Z2 = -0.12700	T2 = 30.30539
Z3 = -0.09720	T3 = 30.34329	R3 = 49.17077
Avg. Concentration:	30.28	PPM

Second Triad Analysis

Date: 08/24/00	Response Unit: PPM	
Z1 = -0.09350	R1 = 49.18209	T1 = 30.30145
R2 = 49.13095	Z2 = -0.06560	T2 = 30.28892
Z3 = -0.14690	T3 = 30.28892	R3 = 49.16695
Avg. Concentration:	30.29	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: _____
B. M. Easton

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: BILL HARRIS
Project No.: 12-37047-002

Customer

TESTAR,INC
BILL HARRIS
7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: CAL11516 Certification Date: 1/04/00 Exp. Date: 1/04/2003

Cylinder Pressure***: 1754 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
CARBON MONOXIDE	61.95 PPM	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1679	1/01/03	AAL19020	101.7 PPM	CO/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	12/23/99	Scott Enhanced FTIR

ANALYZER READINGS

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

First Triad Analysis

CARBON MONOXIDE

Date:12/28/99	Response Unit:PPM	
Z1 = -0.063	R1 = 101.57	T1 = 61.984
R2 = 101.71	Z2 = 0.0197	T2 = 61.967
Z3 = 0.0049	T3 = 61.962	R3 = 101.83
Avg. Concentration:	61.97	PPM

Second Triad Analysis

Date: 01/04/00	Response Unit: PPM	
Z1 = -0.123	R1 = 101.58	T1 = 62.029
R2 = 101.61	Z2 = -0.081	T2 = 61.756
Z3 = -0.080	T3 = 62.016	R3 = 101.91
Avg. Concentration:	61.93	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: B. M. Becton

B. M. Becton

406

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: BILL HARRIS
Project No.: 12-37047-003

Customer

TESTAR,INC
BILL HARRIS
7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: CLM005559 Certification Date: 1/04/00 Exp. Date: 1/04/2003
Cylinder Pressure***: 1910 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
CARBON MONOXIDE	90.82 PPM	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1679	1/01/03	AAL19020	101.7 PPM	CO/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	12/23/99	Scott Enhanced FTIR

ANALYZER READINGS

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

CARBON MONOXIDE

First Triad Analysis

Date: 12/28/99	Response Unit: PPM	
Z1 = -0.063	R1 = 101.57	T1 = 90.917
R2 = 101.71	Z2 = 0.0197	T2 = 90.985
Z3 = 0.0049	T3 = 91.027	R3 = 101.83
Avg. Concentration:	90.98	PPM

Second Triad Analysis

Date: 01/04/00	Response Unit: PPM	
Z1 = -0.123	R1 = 101.58	T1 = 90.509
R2 = 101.61	Z2 = -0.081	T2 = 90.607
Z3 = -0.080	T3 = 90.867	R3 = 101.91
Avg. Concentration:	90.66	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999990

Constants:	
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: B. M. Becton

B. M. Becton

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

6141 EASTON ROAD, BLDG 1,PLUMSTEADVILLE,PA 18949-0310 Phone: 800-334-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
6141 EASTON ROAD, BLDG 1
PLUMSTEADVILLE,PA 18949-0310

P.O. No.: BILL HARRIS
Project No.: 01-45689-002

Customer

TESTAR,INC
1801 ANAPOLIS
C/O DAVID CZAWLYTKO
BALTIMORE REFUSE ENERGY S
BALTIMORE MD 21230

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM035226 Certification Date: 10/23/00 Exp. Date: 10/23/2002
Cylinder Pressure***: 2000 PSIA Batch No: 0144028

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	56.00 PPM	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997. Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1694	11/01/02	ALM057328	96.20 PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9300174	10/02/00	Scott Enhanced FTIR

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *

Date:10/16/00 Response Unit:PPM
Z1 = 0.01840 R1 = 96.03939 T1 = 56.03791
R2 = 96.33764 Z2 = 0.01320 T2 = 55.96329
Z3 = 0.09180 T3 = 55.95375 R3 = 96.22296
Avg. Concentration: 55.98 PPM

Second Triad Analysis

Date: 10/23/00 Response Unit: PPM
Z1 = -0.00250 R1 = 96.21389 T1 = 56.08020
R2 = 96.28059 Z2 = 0.12250 T2 = 55.98992
Z3 = 0.07330 T3 = 55.96738 R3 = 96.10552
Avg. Concentration: 56.01 PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4
r = 0.999990
Constants: A = 0.000000
B = 1.000000 C = 0.000000
D = 0.000000 E = 0.000000

APPROVED BY: _____
Michael A. Kuhns

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 800-772-6889 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: 081600/BILL HARRIS
Project No.: 12-39378-002

Customer

TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM047968 Certification Date: 7/14/00 Exp. Date: 7/14/2002

Cylinder Pressure***: 1874 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	91.17 PPM	+/- 1%	Direct NIST and NMi
NITROGEN	BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1694	11/01/02	ALM057418	96.20 PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	06/20/00	Scott Enhanced FTIR

ANALYZER READINGS

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

First Triad Analysis

SULFUR DIOXIDE *

Date:07/07/00	Response Unit:PPM	
Z1 = 0.01660	R1 = 96.31702	T1 = 90.95630
R2 = 96.21209	Z2 = 0.20360	T2 = 90.78379
Z3 = 0.17650	T3 = 90.74279	R3 = 96.07088
Avg. Concentration:	90.83	PPM

Second Triad Analysis

Date: 07/14/00	Response Unit: PPM	
Z1 = -0.00440	R1 = 96.18025	T1 = 91.48323
R2 = 96.17773	Z2 = 0.17180	T2 = 91.51889
Z3 = 0.00620	T3 = 91.55335	R3 = 96.24200
Avg. Concentration:	91.52	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4

r = 0.999990

Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: B. M. Becton

B. M. Becton

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 800-772-6888 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: 081600/BILL HARRIS
Project No.: 12-39378-001

Customer

TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM062495 Certification Date: 9/17/99 Exp. Date: 9/16/2001
Cylinder Pressure***: 1940 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	236.0	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1661	10/02/02	ALM060860	488.5 PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	08/23/99	Scott Enhanced FTIR

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis

Date:09/08/99	Response Unit:PPM	
Z1 = 0.81200	R1 = 488.3777	T1 = 235.5741
R2 = 488.2079	Z2 = 0.29000	T2 = 235.2957
Z3 = 0.66780	T3 = 235.7059	R3 = 488.9142
Avg. Concentration:	235.5	PPM

Second Triad Analysis

Date: 09/17/99	Response Unit: PPM	
Z1 = 0.30790	R1 = 488.4814	T1 = 236.5559
R2 = 488.7307	Z2 = 0.86780	T2 = 236.4540
Z3 = 1.07490	T3 = 236.7073	R3 = 488.2877
Avg. Concentration:	236.6	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: B. M. Beeton
B.M. Beeton

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ACCURACY: Interference Free™ EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: 041000HARRIS
Project No.: 12-38217-002

Customer

TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: AAL3762 Certification Date: 4/27/00 Exp. Date: 4/27/2002
Cylinder Pressure***: 2070 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
SULFUR DIOXIDE *	444.3	PPM	+/- 1%	Direct NIST and NMi
NITROGEN		BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

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

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM1661	10/02/02	ALM060840	488.5 PPM	SO2/N2

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
FTIR System/8220/AAB9400252	04/18/00	Scott Enhanced FTIR

ANALYZER READINGS

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

SULFUR DIOXIDE *

First Triad Analysis

Date:04/20/00	Response Unit:PPM	
Z1 = 0.3181	R1 = 488.32	T1 = 444.01
R2 = 488.99	Z2 = 0.4072	T2 = 443.51
Z3 = 1.0578	T3 = 443.27	R3 = 488.19
Avg. Concentration:	443.6	PPM

Second Triad Analysis

Date: 04/27/00	Response Unit: PPM	
Z1 = -0.095	R1 = 487.59	T1 = 444.85
R2 = 488.72	Z2 = 0.1323	T2 = 445.19
Z3 = 0.9147	T3 = 444.76	R3 = 489.18
Avg. Concentration:	444.9	PPM

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: B. M. Beaton

B. M. Beaton

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: 041000HARRIS
Project No.: 12-38217-010

Customer
TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: ALM040662 Certification Date: 4/26/00 Exp. Date: 4/26/2003

Cylinder Pressure***: 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
METHANE	81.2	PPM	+/- 1%	Direct NIST and NMi
AIR		BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocal procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2751	2/01/03	ALM018481	100.2 PPM	METHANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/0160-CH4	04/21/00	GC

ANALYZER READINGS

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

First Triad Analysis | Second Triad Analysis | Calibration Curve

METHANE

Date:04/26/00	Response Unit:ACR	
Z1 = 0.0000	R1 = 391797	T1 = 317088
R2 = 391038	Z2 = 0.0000	T2 = 317154
Z3 = 0.0000	T3 = 317439	R3 = 391414
Avg. Concentration	81.20	PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	2751
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: D. Johnson
D. JOHNSON

412

RATA CLASS

Scott Specialty Gases

Dual-Analyzed Calibration Standard

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: 041000HARRIS
Project No.: 12-38217-008

Customer

TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: AAL14178 Certification Date: 4/26/00 Exp. Date: 4/26/2003
Cylinder Pressure***: 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
METHANE	51.5 PPM	+/- 1%	Direct NIST and NMi
AIR	BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocal procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2751	2/01/03	ALM018481	100.2 PPM	METHANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/0160-CH4	04/21/00	GC

ANALYZER READINGS

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

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

METHANE

Date:04/26/00	Response Unit:ACR	
Z1 = 0.0000	R1 = 391797	T1 = 200922
R2 = 391038	Z2 = 0.0000	T2 = 200512
Z3 = 0.0000	T3 = 201668	R3 = 391414
Avg. Concentration:	51.50	PPM

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	2751
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: D. Johnson
D. JOHNSON

Scott Specialty Gases

1750 EAST CLUB BLVD,DURHAM,NC 27704 Phone: 919-220-0803 Fax: 919-220-0808

Dual-Analyzed Calibration Standard

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM,NC 27704

P.O. No.: 041000HARRIS
Project No.: 12-38217-009

Customer

TESTAR,INC

7424 ACC BLVD
SUITE 108
RALEIGH NC 27613

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: AAL7904 Certification Date: 4/27/00 Exp. Date: 4/27/2003

Cylinder Pressure*** : 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)		ANALYTICAL ACCURACY**	TRACEABILITY
METHANE	32.7	PPM	+/- 1%	Direct NIST and NMi
AIR		BALANCE		

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

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.
Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 2751	2/01/03	ALM018481	100.2 PPM	METHANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/0160-CH4	04/21/00	GC

ANALYZER READINGS

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

First Triad Analysis

METHANE

Date:04/27/00	Response Unit:ACR	
Z1 = 0.0000	R1 = 423226	T1 = 138237
R2 = 423348	Z2 = 0.0000	T2 = 138196
Z3 = 0.0000	T3 = 137987	R3 = 423402
Avg. Concentration:	32.70	PPM

Second Triad Analysis

Calibration Curve

Concentration = A + Bx + Cx2 + Dx3 + Ex4	
r = 0.999990	2751
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY: D. JOHNSON

APPENDIX E
Dioxins/Furans Analytical Chromatograms

12 FEB 2001

Herb Dixon
Testar, Inc.
7424-108 ACC Blvd
Raleigh, NC 27617

Ph.: 919-957-9500
Fax: 919-957-9595

Dear Herb;

Attached to this narrative are the analytical results you requested on samples submitted for the determination of polychlorinated dibenzo-*p*-dioxins and dibenzofurans. The insert below summarizes the relevant information pertaining to your project. In particular, the QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided on the next page.

Your Project No.:	**10184**
AAP Project No.:	**P1377**
Analytical Protocol:	**Method 23**
No. of Samples Submitted:	**9 (RB on hold)**
No. of Samples Analyzed:	**8**
No. of Lab Method Blanks (MB):	**1**
No. of OPRs:	**1**

QC Annotations:

1. An "A" data qualifier is used for analytes with a concentration falling below the calibration curve.
2. Table 1 compares the DB-5MS and DB-225 results for 2,3,7,8-TCDF in the samples requiring confirmation. None of the DB-225 results were used in the final report.

Alta Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please, do not hesitate to contact us at the telephone numbers shown below. We wanted to thank you for choosing Alta Analytical Perspectives as part of your analytical support team.

Sincerely,

Yves Tondeur, Ph.D.

Table 1: Comparison of the DB-5MS and DB-225 results for 2,3,7,8-TCDF
(UNITS: PG PER TRAIN; P1377)

Sample ID	DB-5MS	DB-225
1-S-M23-2	102	120
2-S-M23-3	93.5	110

ALTA ANALYTICAL PERSPECTIVES

Part 1 Narrative

- ☑ Letter
- ☑ QC Annotations
- ☑ Project Information

ALTA ANALYTICAL PERSPECTIVES

Part 2 Path

- ☑ Overview
- ☑ Protocol
- ☑ Extraction
- ☑ Analysis
- ☑ Spike Profile
- ☑ SOPs
- ☑ QC
- ☑ Reporting
- ☑ Special Requirements

ALTA ANALYTICAL PERSPECTIVES

Part 3 Results

- ☑ Summary Topsheets
- ☑ Raw Data
- ☑ SICPs
- ☑ Areas
- ☑ Retention Times
- ☑ S/N
- ☑ Ion Abundance Ratios

ALTA ANALYTICAL PERSPECTIVES

Part 4 Performance

- ☑ System Checks
- ☑ Mass Spectrometry
- ☑ Gas Chromatography
- ☑ Initial Calibration
- ☑ Continuing Calibration
- ☑ OPR

Extraction
Tracking Sheets

Fractionation
Tracking Sheets

Injection
Tracking Sheets

Part 4
GC, MS, ConCal

Part 4D
ICal

Part 4E
OPR

REPORTING PLATFORMS

LEVEL I:
① PART 1
② SUMMARY TOPSHEETS
③ COC

LEVEL II:
① PARTS 1, 2, 3, 4
② WITH ICAL SUMMARY

LEVEL III:
① PARTS 1, 2, 3, 4
② WITH COMPLETE RAW DATA FOR ICAL

PLATINUM:
① PARTS 1, 2, 3, 4
② WITH COMPLETE RAW DATA FOR ICAL
③ ON-GOING PRECISION & ACCURACY DATA

Sample Summary

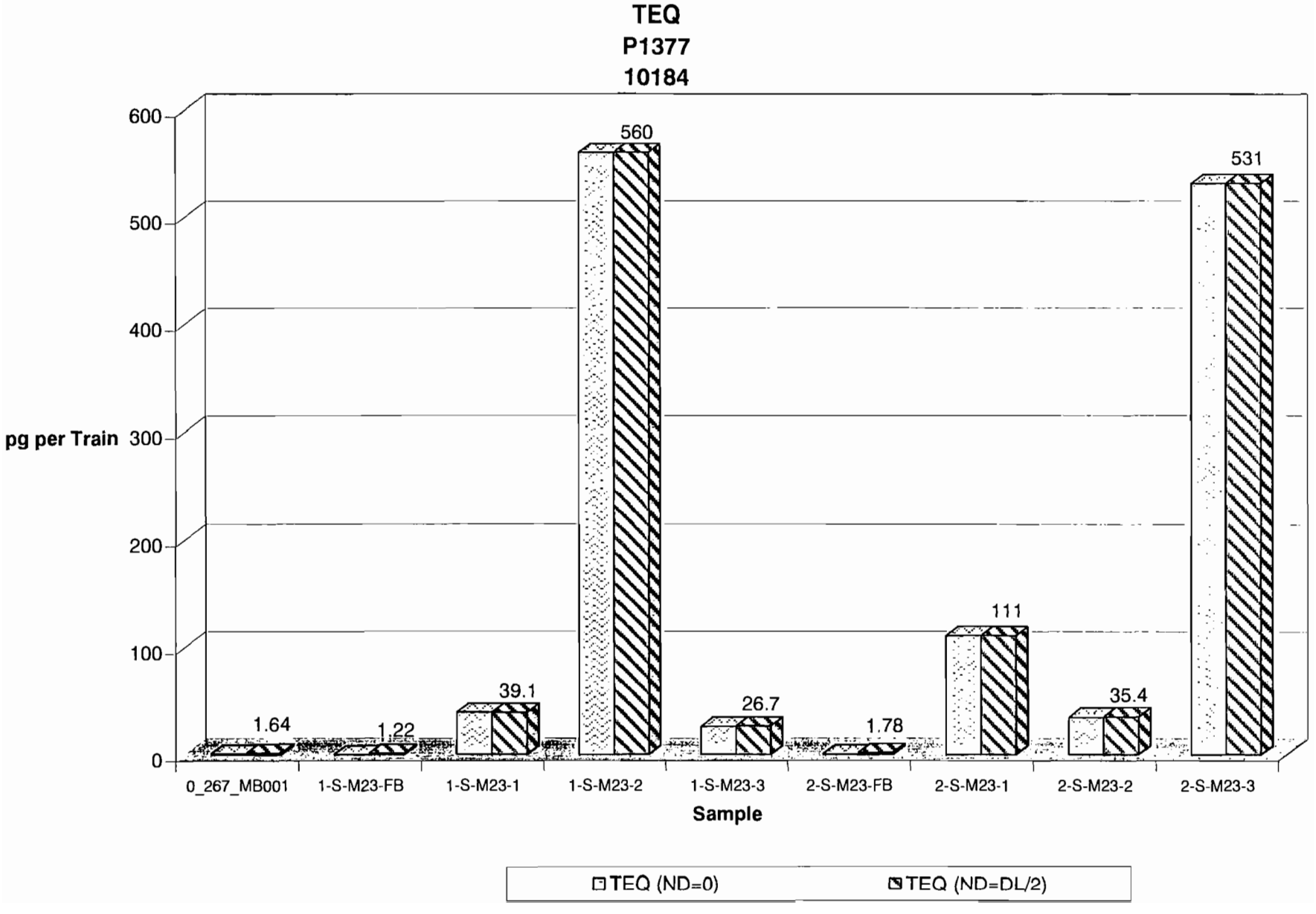
ALTA ANALYTICAL PERSPECTIVES

Method M23

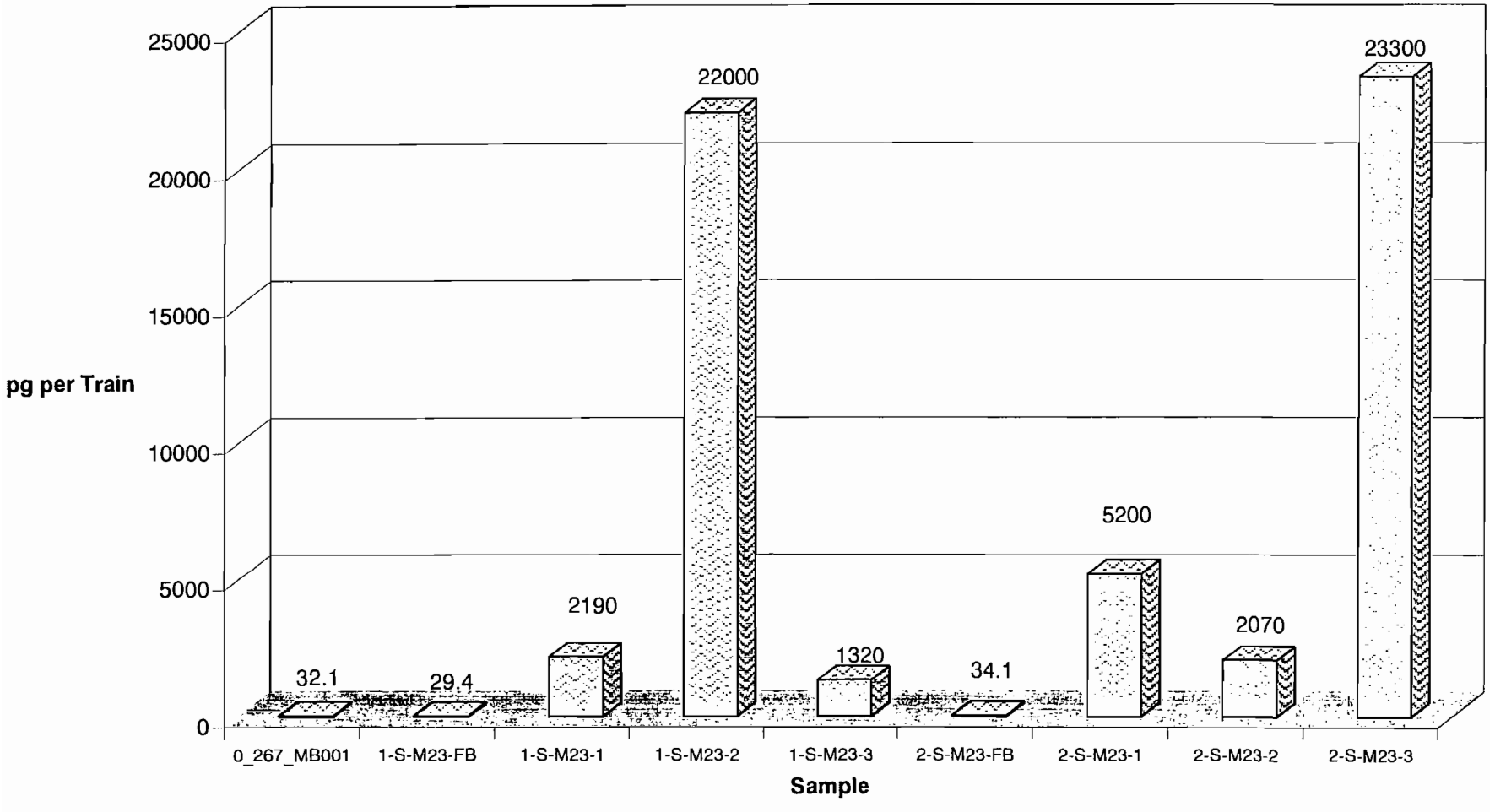
Analyte	0_267_MB001	1-S-M23-FB	1-S-M23-1	1-S-M23-2	1-S-M23-3	2-S-M23-FB	2-S-M23-1	2-S-M23-2	2-S-M23-3
	pg	pg	pg	pg	pg	pg	pg	pg	pg
2,3,7,8-TCDD	[1.51]	(0.465)	[1.78]	6.45	(0.802)	(0.569)	2.54	(0.667)	5.44
1,2,3,7,8-PeCDD	(0.746)	(0.675)	5.75	70.8	4.25	(1.66)	17.7	5.67	62.5
1,2,3,4,7,8-HxCDD	2.14	(1.41)	8	112	4.93	(1.55)	26	7.3	90.2
1,2,3,6,7,8-HxCDD	(2.65)	(1.57)	17	203	9.22	(1.72)	49.5	16.3	153
1,2,3,7,8,9-HxCDD	(2.37)	(1.4)	11.9	195	6.09	(1.54)	44.7	9.88	186
1,2,3,4,6,7,8-HpCDD	3.33	3.73	108	1430	48.1	[3.07]	311	94.7	1390
OCDD	17.5	21.3	355	2810	106	20.8	635	236	4080
2,3,7,8-TCDF	(1.03)	(0.808)	12.1	102	8.65	(1.1)	27.3	10.4	93.5
1,2,3,7,8-PeCDF	(1.44)	(1.43)	25.4	269	18.4	(1.02)	57.5	21	305
2,3,4,7,8-PeCDF	(1.42)	(1.41)	32.1	342	21.8	(1.01)	70.5	27.8	328
1,2,3,4,7,8-HxCDF	2.46	[1.94]	33.3	588	23.7	2.35	101	27.9	561
1,2,3,6,7,8-HxCDF	1.79	(0.517)	36.1	697	28.2	1.49	122	34.4	686
2,3,4,6,7,8-HxCDF	[1.21]	(0.55)	35.5	749	24.1	(0.643)	123	36.1	606
1,2,3,7,8,9-HxCDF	(0.765)	(0.628)	11.1	263	6.56	(0.736)	44.3	8.87	316
1,2,3,4,6,7,8-HpCDF	2.21	1.64	80	2100	57.3	2.39	350	82.9	2050
1,2,3,4,7,8,9-HpCDF	(1.8)	(0.962)	13.9	392	6.73	(1.19)	64.9	11.1	563
OCDF	(2.65)	(3.53)	28.6	897	13.9	(2.83)	137	33.6	1580
Totals & TEQs									
TCDDs	ND	ND	67.7	152	33.1	ND	119	71.2	188
PeCDDs	ND	ND	130	561	84.1	ND	281	144	618
HxCDDs	2.14	ND	268	2000	147	2.33	649	272	1820
HpCDDs	6	6.47	199	2560	103	3.08	571	194	2370
TCDFs	ND	ND	382	1790	294	ND	663	387	1600
PeCDFs	ND	ND	343	2870	257	ND	711	337	2850
HxCDFs	4.25	ND	289	4820	195	5.5	856	274	4480
HpCDFs	2.21	1.64	128	3560	83.2	2.39	583	118	3740
Total PCDD/Fs	**32.1**	**29.4**	**2190**	**22000**	**1320**	**34.1**	**5200**	**2070**	**23300**
TEQ (ND=0)	**0.712**	**0.0749**	**39.1**	**560**	**26.3**	**0.429**	**111**	**35.1**	**531**
TEQ (ND=DL/2)	**1.64**	**1.22**	**39.1**	**560**	**26.7**	**1.78**	**111**	**35.4**	**531**

( ) = DL
[ ] = EMP

Reviewer .....
Date ....12/.....


TEQ
P1377
10184
pg per Train
600
500
400
300
200
100
0
560
531
39.1
26.7
111
35.4
1.64
1.22
1.78
0_267_MB001
1-S-M23-FB
1-S-M23-1
1-S-M23-2
1-S-M23-3
2-S-M23-FB
2-S-M23-1
2-S-M23-2
2-S-M23-3
Sample
TEQ (ND=0)
TEQ (ND=DL/2)

Total PCDD/Fs
P1377
10184



Sample ID: 0_267_MB001

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	n/a
Project ID:	10184	Weight/Volume:	1	Sample ID:	0_267_MB001	Date Extracted:	01 Feb 01
Date Collected:	n/a			QC Batch No.:	267	Date Analyzed:	6-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	EMPC		1.51	A	100	95.7	94.8
1,2,3,7,8-PeCDD	ND	0.746			104	94.3	94.8
1,2,3,4,7,8-HxCDD	2.14			A	95.2	96.3	94.8
1,2,3,6,7,8-HxCDD	ND	2.65			95.2	96.3	94.8
1,2,3,7,8,9-HxCDD	ND	2.37			95.2	96.3	94.8
1,2,3,4,6,7,8-HpCDD	3.33			A	97	95.1	94.8
OCDD	17.5			A	89.4	95.1	94.8
2,3,7,8-TCDF	ND	1.03			94.3	95.7	94.8
1,2,3,7,8-PeCDF	ND	1.44			92.9	94.3	94.8
2,3,4,7,8-PeCDF	ND	1.42			92.9	94.3	94.8
1,2,3,4,7,8-HxCDF	2.46			A	92.1	96.7	94.8
1,2,3,6,7,8-HxCDF	1.79			A	92.1	96.7	94.8
2,3,4,6,7,8-HxCDF	EMPC		1.21	A	92.1	96.7	94.8
1,2,3,7,8,9-HxCDF	ND	0.765			92.1	96.7	94.8
1,2,3,4,6,7,8-HpCDF	2.21			A	91.4	95.1	94.8
1,2,3,4,7,8,9-HpCDF	ND	1.8			91.4	95.1	94.8
OCDF	ND	2.65			87.5	95.1	94.8
Totals & TEQs							
TCDDs	ND		1.51				
PeCDDs	ND	0.746					
HxCDDs	2.14						
HpCDDs	6						
TCDFs	ND	1.03					
PeCDFs	ND	1.43					
HxCDFs	4.25		5.46				
HpCDFs	2.21						
Total PCDD/Fs	**32.1**		**34.9**				
TEQ (ND=0)	**0.712**		**2.34**	**ITEF**			
TEQ (ND=DL/2)	**1.64**		**3.27**	**ITEF**			

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Reviewer .....

Date 12Feb01

Sample ID: 1-S-M23-FB

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_001	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.465			110	94.3	106
1,2,3,7,8-PeCDD	ND	0.675			112	92	106
1,2,3,4,7,8-HxCDD	ND	1.41			110	94.3	106
1,2,3,6,7,8-HxCDD	ND	1.57			110	94.3	106
1,2,3,7,8,9-HxCDD	ND	1.4			110	94.3	106
1,2,3,4,6,7,8-HpCDD	3.73			A B	111	92.8	106
OCDD	21.3			A B	102	92.8	106
2,3,7,8-TCDF	ND	0.808			109	94.3	106
1,2,3,7,8-PeCDF	ND	1.43			105	92	106
2,3,4,7,8-PeCDF	ND	1.41			105	92	106
1,2,3,4,7,8-HxCDF	EMPC		1.94	A B	106	95.7	106
1,2,3,6,7,8-HxCDF	ND	0.517			106	95.7	106
2,3,4,6,7,8-HxCDF	ND	0.55			106	95.7	106
1,2,3,7,8,9-HxCDF	ND	0.628			106	95.7	106
1,2,3,4,6,7,8-HpCDF	1.64			A B	106	92.8	106
1,2,3,4,7,8,9-HpCDF	ND	0.962			106	92.8	106
OCDF	ND	3.53			102	92.8	106
Totals & TEQs							
TCDDs	ND	0.465					
PeCDDs	ND	0.675					
HxCDDs	ND	1.46					
HpCDDs	6.47						
TCDFs	ND	0.808					
PeCDFs	ND	1.42					
HxCDFs	ND		1.94				
HpCDFs	1.64						
Total PCDD/Fs	**29.4**		**31.3**				
TEQ (ND=0)	**0.0749**		**0.269**	**ITEF**			
TEQ (ND=DL/2)	**1.22**		**1.41**	**ITEF**			

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Reviewer .....

Date 12 F.....

Sample ID: 1-S-M23-1

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_002	Date Extracted:	01 Feb 01
Date Collected:	23 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	EMPC		1.78	A B	107	90.8	101
1,2,3,7,8-PeCDD	5.75			A	114	89.3	101
1,2,3,4,7,8-HxCDD	8			A B	102	91.4	101
1,2,3,6,7,8-HxCDD	17			A	102	91.4	101
1,2,3,7,8,9-HxCDD	11.9			A	102	91.4	101
1,2,3,4,6,7,8-HpCDD	108			B	105	89.7	101
OCDD	355			B	98.2	89.7	101
2,3,7,8-TCDF	12.1				101	90.8	101
1,2,3,7,8-PeCDF	25.4			A	98.8	89.3	101
2,3,4,7,8-PeCDF	32.1			A	98.8	89.3	101
1,2,3,4,7,8-HxCDF	33.3			A B	99.3	90.8	101
1,2,3,6,7,8-HxCDF	36.1			A B	99.3	90.8	101
2,3,4,6,7,8-HxCDF	35.5			A B	99.3	90.8	101
1,2,3,7,8,9-HxCDF	11.1			A	99.3	90.8	101
1,2,3,4,6,7,8-HpCDF	80			B	98.6	89.7	101
1,2,3,4,7,8,9-HpCDF	13.9			A	98.6	89.7	101
OCDF	28.6			A	97.8	89.7	101
Totals & TEQs							
TCDDs	67.7		69.5				
PeCDDs	130		134				
HxCDDs	268		272				
HpCDDs	199						
TCDFs	382						
PeCDFs	343		359				
HxCDFs	289						
HpCDFs	128						
Total PCDD/Fs	**2190**		**2210**				
TEQ (ND=0)	**39.1**		**40.9**	**ITEF**			
TEQ (ND=DL/2)	**39.1**		**40.9**	**ITEF**			

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Reviewer .....

Date 12Feb01

Sample ID: 1-S-M23-2

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_003	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	6.45			A B	104	99.9	103
1,2,3,7,8-PeCDD	70.8				108	99.3	103
1,2,3,4,7,8-HxCDD	112			B	98.5	101	103
1,2,3,6,7,8-HxCDD	203				98.5	101	103
1,2,3,7,8,9-HxCDD	195				98.5	101	103
1,2,3,4,6,7,8-HpCDD	1430			B	98.7	97.2	103
OCDD	2810			B	90.8	97.2	103
2,3,7,8-TCDF	102				98.2	99.9	103
1,2,3,7,8-PeCDF	269				96.4	99.3	103
2,3,4,7,8-PeCDF	342				96.4	99.3	103
1,2,3,4,7,8-HxCDF	588			B	94.5	99.8	103
1,2,3,6,7,8-HxCDF	697			B	94.5	99.8	103
2,3,4,6,7,8-HxCDF	749			B	94.5	99.8	103
1,2,3,7,8,9-HxCDF	263				94.5	99.8	103
1,2,3,4,6,7,8-HpCDF	2100			B	95.3	97.2	103
1,2,3,4,7,8,9-HpCDF	392				95.3	97.2	103
OCDF	897				90	97.2	103
Totals & TEQs							
TCDDs	152		159				
PeCDDs	561						
HxCDDs	2000						
HpCDDs	2560						
TCDFs	1790						
PeCDFs	2870						
HxCDFs	4820						
HpCDFs	3560						
Total PCDD/Fs	**22000**		**22000**				
TEQ (ND=0)	**560**		**560**	**ITEF**			
TEQ (ND=DL/2)	**560**		**560**	**ITEF**			

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Reviewer .....

Date 12F.....

Sample ID: 1-S-M23-3

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_004	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.802			97.5	99.5	101
1,2,3,7,8-PeCDD	4.25			A	100	97.7	101
1,2,3,4,7,8-HxCDD	4.93			A B	98.6	98.1	101
1,2,3,6,7,8-HxCDD	9.22			A	98.6	98.1	101
1,2,3,7,8,9-HxCDD	6.09			A	98.6	98.1	101
1,2,3,4,6,7,8-HpCDD	48.1			A B	99.4	96.7	101
OCDD	106			B	88.7	96.7	101
2,3,7,8-TCDF	8.65			A	97.3	99.5	101
1,2,3,7,8-PeCDF	18.4			A	92.6	97.7	101
2,3,4,7,8-PeCDF	21.8			A	92.6	97.7	101
1,2,3,4,7,8-HxCDF	23.7			A B	95.3	99.3	101
1,2,3,6,7,8-HxCDF	28.2			A B	95.3	99.3	101
2,3,4,6,7,8-HxCDF	24.1			A B	95.3	99.3	101
1,2,3,7,8,9-HxCDF	6.56			A	95.3	99.3	101
1,2,3,4,6,7,8-HpCDF	57.3			B	94.2	96.7	101
1,2,3,4,7,8,9-HpCDF	6.73			A	94.2	96.7	101
OCDF	13.9			A	88.6	96.7	101
Totals & TEQs							
TCDDs	33.1		36.3				
PeCDDs	84.1						
HxCDDs	147						
HpCDDs	103						
TCDFs	294						
PeCDFs	257						
HxCDFs	195		203				
HpCDFs	83.2						
Total PCDD/Fs	**1320**		**1330**				
TEQ (ND=0)	**26.3**		**26.3**	**ITEF**			
TEQ (ND=DL/2)	**26.7**		**26.7**	**ITEF**			

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Reviewer .....

Date 12 Feb 01

Sample ID: 2-S-M23-FB

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_005	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.569			109	91.9	100
1,2,3,7,8-PeCDD	ND	1.66			111	90.2	100
1,2,3,4,7,8-HxCDD	ND	1.55			106	94.2	100
1,2,3,6,7,8-HxCDD	ND	1.72			106	94.2	100
1,2,3,7,8,9-HxCDD	ND	1.54			106	94.2	100
1,2,3,4,6,7,8-HpCDD	EMPC		3.07	A B	106	90.3	100
OCDD	20.8			A B	95.8	90.3	100
2,3,7,8-TCDF	ND	1.1			106	91.9	100
1,2,3,7,8-PeCDF	ND	1.02			102	90.2	100
2,3,4,7,8-PeCDF	ND	1.01			102	90.2	100
1,2,3,4,7,8-HxCDF	2.35			A B	104	92.9	100
1,2,3,6,7,8-HxCDF	1.49			A B	104	92.9	100
2,3,4,6,7,8-HxCDF	ND	0.643			104	92.9	100
1,2,3,7,8,9-HxCDF	ND	0.736			104	92.9	100
1,2,3,4,6,7,8-HpCDF	2.39			A B	102	90.3	100
1,2,3,4,7,8,9-HpCDF	ND	1.19			102	90.3	100
OCDF	ND	2.83			95.8	90.3	100
Totals & TEQs							
TCDDs	ND	0.569					
PeCDDs	ND		2.55				
HxCDDs	2.33		4.35				
HpCDDs	3.08		6.15				
TCDFs	ND	1.1					
PeCDFs	ND	1.02					
HxCDFs	5.5						
HpCDFs	2.39						
Total PCDD/Fs	**34.1**		**41.7**				
TEQ (ND=0)	**0.429**		**0.46**	**ITEF**			
TEQ (ND=DL/2)	**1.78**		**1.81**	**ITEF**			

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Reviewer .....

Date .....12/8/01.....

Sample ID: 2-S-M23-1

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_006	Date Extracted:	01 Feb 01
Date Collected:	25 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	2.54			A B	108	95.8	103
1,2,3,7,8-PeCDD	17.7			A	109	94.2	103
1,2,3,4,7,8-HxCDD	26			A B	104	96.6	103
1,2,3,6,7,8-HxCDD	49.5			A	104	96.6	103
1,2,3,7,8,9-HxCDD	44.7			A	104	96.6	103
1,2,3,4,6,7,8-HpCDD	311			B	102	94.2	103
OCDD	635			B	91	94.2	103
2,3,7,8-TCDF	27.3				103	95.8	103
1,2,3,7,8-PeCDF	57.5				100	94.2	103
2,3,4,7,8-PeCDF	70.5				100	94.2	103
1,2,3,4,7,8-HxCDF	101			B	101	96.3	103
1,2,3,6,7,8-HxCDF	122			B	101	96.3	103
2,3,4,6,7,8-HxCDF	123			B	101	96.3	103
1,2,3,7,8,9-HxCDF	44.3			A	101	96.3	103
1,2,3,4,6,7,8-HpCDF	350			B	98.5	94.2	103
1,2,3,4,7,8,9-HpCDF	64.9				98.5	94.2	103
OCDF	137				91.2	94.2	103
Totals & TEQs							
TCDDs	119		119				
PeCDDs	281						
HxCDDs	649						
HpCDDs	571						
TCDFs	663		667				
PeCDFs	711						
HxCDFs	856						
HpCDFs	583						
Total PCDD/Fs	**5200**		**5210**				
TEQ (ND=0)	**111**		**111**	**ITEF**			
TEQ (ND=DL/2)	**111**		**111**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

2714 Exchange Drive
Wilmington
North Carolina 28405
USA

Tel: 910 794-1613
Fax: 910 794-3919
e-mail: ytondeur@cs.com
web: www.ultratrace.com

Reviewer .....

Date 12 Feb 01

Sample ID: 2-S-M23-2

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_007	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.667			105	93.8	100
1,2,3,7,8-PeCDD	5.67			A	108	91.2	100
1,2,3,4,7,8-HxCDD	7.3			A B	104	93.8	100
1,2,3,6,7,8-HxCDD	16.3			A	104	93.8	100
1,2,3,7,8,9-HxCDD	9.88			A	104	93.8	100
1,2,3,4,6,7,8-HpCDD	94.7			B	104	92.3	100
OCDD	236			B	93.8	92.3	100
2,3,7,8-TCDF	10.4				104	93.8	100
1,2,3,7,8-PeCDF	21			A	101	91.2	100
2,3,4,7,8-PeCDF	27.8			A	101	91.2	100
1,2,3,4,7,8-HxCDF	27.9			A B	101	93.5	100
1,2,3,6,7,8-HxCDF	34.4			A B	101	93.5	100
2,3,4,6,7,8-HxCDF	36.1			A B	101	93.5	100
1,2,3,7,8,9-HxCDF	8.87			A	101	93.5	100
1,2,3,4,6,7,8-HpCDF	82.9			B	98.7	92.3	100
1,2,3,4,7,8,9-HpCDF	11.1			A	98.7	92.3	100
OCDF	33.6			A	93.5	92.3	100
Totals & TEQs							
TCDDs	71.2						
PeCDDs	144		147				
HxCDDs	272		276				
HpCDDs	194						
TCDFs	387						
PeCDFs	337		344				
HxCDFs	274		279				
HpCDFs	118						
Total PCDD/Fs	**2070**		**2090**				
TEQ (ND=0)	**35.1**		**35.1**	**ITEF**			
TEQ (ND=DL/2)	**35.4**		**35.4**	**ITEF**			

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web: www.ultratrace.com

Reviewer .....

Date 12FE.....

Sample ID: 2-S-M23-3

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_008	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	5.44			A B	101	95.8	95.4
1,2,3,7,8-PeCDD	62.5				104	92	95.4
1,2,3,4,7,8-HxCDD	90.2			B	98.2	97.3	95.4
1,2,3,6,7,8-HxCDD	153				98.2	97.3	95.4
1,2,3,7,8,9-HxCDD	186				98.2	97.3	95.4
1,2,3,4,6,7,8-HpCDD	1390			B	98.7	93.1	95.4
OCDD	4080			B	88.4	93.1	95.4
2,3,7,8-TCDF	93.5				99.3	95.8	95.4
1,2,3,7,8-PeCDF	305				97.3	92	95.4
2,3,4,7,8-PeCDF	328				97.3	92	95.4
1,2,3,4,7,8-HxCDF	561			B	97.9	95.2	95.4
1,2,3,6,7,8-HxCDF	686			B	97.9	95.2	95.4
2,3,4,6,7,8-HxCDF	606			B	97.9	95.2	95.4
1,2,3,7,8,9-HxCDF	316				97.9	95.2	95.4
1,2,3,4,6,7,8-HpCDF	2050			B	95.6	93.1	95.4
1,2,3,4,7,8,9-HpCDF	563				95.6	93.1	95.4
OCDF	1580				88.3	93.1	95.4
Totals & TEQs							
TCDDs	188		192				
PeCDDs	618						
HxCDDs	1820						
HpCDDs	2370						
TCDFs	1600						
PeCDFs	2850						
HxCDFs	4480						
HpCDFs	3740						
Total PCDD/Fs	**23300**		**23300**				
TEQ (ND=0)	**531**		**531**	**ITEF**			
TEQ (ND=DL/2)	**531**		**531**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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web: www.ultratrace.com

Reviewer .....

Date 12 Feb 01

ALTA ANALYTICAL PERSPECTIVES

PART 2

SAMPLE PATH

DOCUMENTATION FOR THE ANALYSIS
OF
POLYCHLORINATED DIBENZO-*p*-DIOXINS & DIBENZOFURANS

SAMPLE PATH

ALTA ANALYTICAL PERSPECTIVES

AAP PROJECT NO.: P1377
PROTOCOL: 23

SAMPLE PROCESSING

Extraction
- ☑ SDS
- ☑ Extraction Standards ($^{13}C_{12}$ - PCDD / F) "IS" & "SS"

Fractionation 50 %
- ☑ Alternate Standards "AS"
- ☑ Multi-Column Cleanup (ASECS)
- ☑ Final Extract

Analysis
- ☑ Injection Standards "RS"
- ☑ HRGC / HRMS
- ☑ 12-II Performance Checks

Interpretation
- ☑ ID Criteria
- ☑ Detection Limits
- ☑ Recoveries

SPIKE PROFILE

NS:	✓100 PG (10 µL; 0.01 NG/µL) FOR OPR ONLY
IS:	✓4 NG (25 µL; 0.16 NG/µL)
AS & SS:	✓4 NG (25 µL; 0.16 NG/µL)
RS:	✓2 NG (10 µL; 0.2 NG/µL)

SOPs

EXTRACTION:	AP-SP-E
FRACTIONATION:	AP-SP-CU
ANALYSIS:	AP-SP-A
CONCENTRATION:	AP-SP-N
FORTIFICATION:	AP-SP-F
DATA VALIDATION:	AP-SP-R

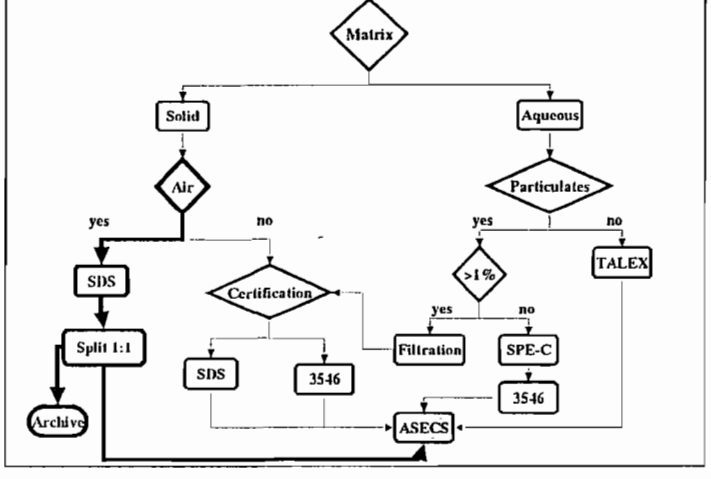
QC PROFILE

LMB:	ALWAYS REQUIRED
OPR:	ALWAYS REQUIRED

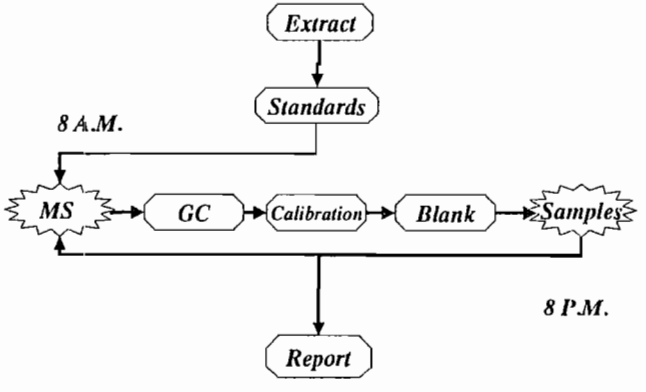
REPORTING PLATFORM

LEVEL: I II III PLATINUM

SAMPLE EXTRACTION



SAMPLE ANALYSIS



SPECIAL REQUIREMENTS

SUPPLIES IDS

SAND	071720QQ
TOLUENE	025999
ACID SILICA	01233001B
BASE SILICA	01152001A
SILICA	01112001
FLORISIL	SP028058
HEXANE	007436
CH_2CL_2	003651
TETRADECANE	138078

ALTA ANALYTICAL PERSPECTIVES

Project: P1377

Extraction Set: 267

Chemist: CMR 02/01/01

Method(s): EPA Method 23

Vial Box ID: —

ALTA Sample ID	Client Sample ID	PUF/Trap Prep Date	XAD Lot#	IS/NS CHEM/ WIT (25ul) DATE (10ul) (CMR 02/01/01 / CMR 02/01/01)	Impinger Extraction Date	AS CHEM/WIT (25ul) DATE (CMR 02/02/01)	SiGEL/MSF CHEM/Date (NA) (Circle One)	AS/RS CC CHEM/Date	RS CHEM/WIT (10ul) DATE (CMR 02/06/01)
0_267_MB001	—	—	—	GAG —	—	GO	—		BT 02-06-01
0_267_OPR001	—	—	—	GAG GAG 01Feb01	—	GO	—		BT 02-06-01
P1377_267_001	1-S-M23-FB	—	—	GAG —	—	GO	—		BT 02-06-01
P1377_267_002	1-S-M23-1	—	—	GAG —	—	GO	—		BT 02-06-01
P1377_267_003	1-S-M23-2	—	—	GAG —	—	GO 02Feb01	—		BT 02-06-01
P1377_267_004	1-S-M23-3	—	—	GAG —	—	GO	—		BT 02-06-01
P1377_267_005	2-S-M23-FB	—	—	GAG —	—	GO	—		BT 02-06-01
P1377_267_006	2-S-M23-1	—	—	GAG —	—	GO	—		BT 02-06-01
P1377_267_007	2-S-M23-2	—	—	GAG —	—	GO	—		BT 02-06-01
P1377_267_008	2-S-M23-3	—	—	GAG —	—	GO	—	CMR 02/05/01	BT 02-06-01

01Feb01

001 filter - clean, white, dry
002 filter - clean, white, dry XAD: pink, peach, orange gradient of XAD on inflow end glwl: wat, yellow/white Ace/CH2Cl2 rinse - clean
003 see 002
004 see 002
005 see 001
006 filter - dry tint of pink XAD - appears clean, flowing, glwl wet, white Ace/CH2Cl2 rinse has slight amt peach residue see CMR
007 filter - dry, tint of pink, few brown specs XAD - appears clean, flowing glwl: wat, white Ace/CH2Cl2 rinse has slight amt peach residue
008 filter - dry, tint of pink see 006 for XAD

P1357
TESTAR
ALTA ANALYTICAL PERSPECTIVES
PREP.: 17 JAN 2001
EXPIRATION: 31 JAN 2001
4 NG SAMPLING STANDARDS PCDD/Fs
INITIALS: JCF

02/01/01 CMR

IS ID #1: 428-IS (3) exp 09/19/02 (000919C)	NS ID #1: 428-NS exp 09/19/02 (000919D)	AS ID #1: 428-AS exp 09/19/02 (000919B)	RS ID #1: 428-RS exp 09/19/02 (000919E) (1)	Cycle #1: 02/01/01	#2: —	Split 02/02/01	Check Out: Chemist: CMR 02/01/01 — / /
IS ID #2: —	NS ID #2: —	AS ID #2: —	RS ID #2: —	Start 6:15PM	—	1:4	Check-In:
IS ID #3: —	NS ID #3: —	AS ID #3: —	RS ID #3: —	02/02/01	—	(1:2) CMR	Chemist: — / / — / /
IS ID #4: —	NS ID #4: —	AS ID #4:	RS ID #4:	Stop: 11:00AM			

ALTA ANALYTICAL PERSPECTIVES

SAMPLE PATH

AAP PROJECT NO.: P1377
PROTOCOL: 23

COMMUNICATIONS

CR
11 Feb01

ALTA ANALYTICAL PERSPECTIVES

Sample Inventory Report: MM5 Sampling Train

Project No.: P1377 **Project Name:** General Analytical HRMS

Date Rec.: 31-Jan-01 → From labels on containers.

Dave of 01 Feb 01

Lab. Sample ID	Collection Date	Client Sample ID	Component ID	
001	24-Jan-01	1-S-M23-FB	Ace/Me	
	24-Jan-01		Ace/Me	—
	24-Jan-01		Filter	
	24-Jan-01		Toluene	
	24-Jan-01		XAD	
002	23-Jan-01	1-S-M23-1	Ace/Me	
	23-Jan-01 Trap oil		Filter	23
	23-Jan-01 Tol oil		Toluene	
	23-Jan-01		XAD	
003	24-Jan-01	1-S-M23-2	Ace/Me	24
	24-Jan-01 Tol oil.		Filter	
	24-Jan-01		Toluene	
	24-Jan-01		XAD	
004	24-Jan-01	1-S-M23-3	Ace/Me	24
	24-Jan-01 Trap oil		Filter	
	24-Jan-01 Rinse oil		Toluene	
	24-Jan-01		XAD	
005	26-Jan-01	2-S-M23-FB	Ace/Me	
	26-Jan-01		Filter	
	26-Jan-01		Toluene	
	26-Jan-01		XAD	
006	25-Jan-01	2-S-M23-1	Ace/Me	25
	25-Jan-01 (Trap: no data).		Filter	
	25-Jan-01 Filter oil		Toluene	
	25-Jan-01		XAD	
007	26-Jan-01	2-S-M23-2	Ace/Me	
	26-Jan-01		Filter	26.
	26-Jan-01 (Trap: no data)		Toluene	
	26-Jan-01 Filter: No.		XAD	

ALTA ANALYTICAL PERSPECTIVES

Sample Inventory Report: MM5 Sampling Train

Project No.: P1377 **Project Name:** General Analytical HRMS

Date Rec.: 31-Jan-01

change to 26 as per David. V.T.

Lab. Sample ID	Collection Date	Client Sample ID	Component ID
008	27-Jan-01	2-S-M23-3	Ace/Me
	27-Jan-01		Filter
	27-Jan-01		Toluene
	27-Jan-01		XAD
009	26-Jan-01	Reagent Blk	Ace/Me
	26-Jan-01		Filter
	26-Jan-01		Toluene
	26-Jan-01		XAD

Temp ✓

Hold

26.

OK

31 Jan 01

PROCESS SHEET

Project No.-AR: P1377-1 of 1
Client: Testar, Inc. (TEINC01A)
Client Manager: YVES TONDEUR

Project Due: 2/14/01
TAT: 14
Extraction Due: 2/22/01

Method: EPA Method 23
Extraction Type: EPA Method 23

Matrix: MM5
Split Type: 1:2

Component: PCDD/F (Tetra - Octa)

LabID	Client-ID	Component Type	Client Component ID	Date Received	SLoc
001	1-S-M23-FB	Filter#1	Filter	1/31/01	F-3
		Impinger#3	Ace/Me	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3
002	1-S-M23-1	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3
003	1-S-M23-2	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3
004	1-S-M23-3	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3
005	2-S-M23-FB	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3

Instructions:

Report Options

Report Level: 1

EDD Type:

Vial Box ID: _____

Date Requested: 2/9/01

PROCESS SHEET

Project No.-AR: P1377-1 of 1
Client: Testar, Inc. (TEINC01A)
Client Manager: YVES TONDEUR

Project Due: 2/14/01
TAT: 14
Extraction Due: 2/22/01

Method: EPA Method 23
Extraction Type: EPA Method 23

Matrix: MM5
Split Type: 1:2

Component: PCDD/F (Tetra - Octa)

LabID	Client-ID	Component Type	Client Component ID	Date Received	SLoc
006	2-S-M23-1	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3
007	2-S-M23-2	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3
008	2-S-M23-3	Filter#1	Filter	1/31/01	F-3
		Solvent#1	Ace/Me	1/31/01	F-3
		Solvent#2	Toluene	1/31/01	F-3
		XAD#1	XAD	1/31/01	F-3

Instructions:

Report Options

Report Level: 1

EDD Type:

Vial Box ID: _____

Date Requested: 2/9/01

Sample Record of Custody

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumka, FL

Project #	10184
Date	1/23-24/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #*	Broken By	Reason Broken	Sealed By	Run Number	Fraction	Filter ID	Filter Tare	XAD Trap ID
	PC				1-S-M23-1	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			X-24
						Filter in petri dish			
					1-S-M23-2	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			X-3
						Filter in petri dish			
					1-S-M23-3	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			X-15
						Filter in petri dish			
					1-S-M23-FB	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			
						Filter in petri dish			

Signature	Herb Dixon	**Date**	1/26/01
Checked By	[illegible]	**Date**	1/26/01
Received By	Tom Dodson	**Date**	1-31-01
Analytical Parameters	4-8 PCDD/PCDF by EPA Method 23, results in 14 days		
Sample Condition			

* PC = Personal Custody

Sample Record of Custody

p 2/2

Client Name	Ogden Energy Group, Inc.
Plant Name	Lake County Resource Recovery Facility
Plant City, State	Okahumka, FL

Project #	10184
Date	1/25-26/01
Custodian Name	Herb Dixon

Sample Box ID	Custody Seal #*	Broken By	Reason Broken	Sealed By	Run Number	Fraction	Filter ID	Filter Tare	XAD Trap ID
	PC				2-S-M23-1	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			X-27
						Filter in petri dish			
					2-S-M23-2	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			X-95
						Filter in petri dish			
					2-S-M23-3	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			X-21
						Filter in petri dish			
					2-S-M23-FB	Acetone and Methylene Chloride rinse up to XAD			
						Toluene rinse up to XAD			
						XAD Cartridge			
						Filter in petri dish			
					Reagent Blanks	Acetone			
						Methylene Chloride			
						Toluene			
						XAD Cartridge			

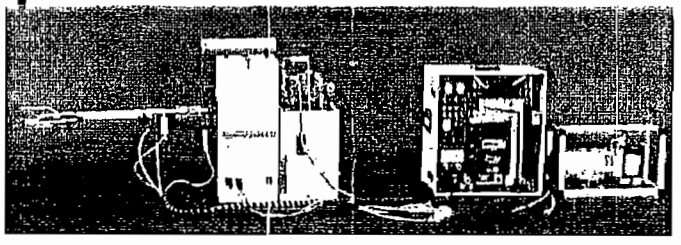
Signature		**Date**	
Checked By		**Date**	1/26/01
Received By	Brian Sanders	**Date**	1-31-01

* PC = Personal Custody

Analytical Parameters	4-8 PCDD/PCDF by EPA Method 23, results in 14 days
	Archive Reagent Blanks, do not analyze
Sample Condition	

P1377

Spike no earlier than 24 H before due date.



Type & No. of Apparatus

No. XAD Module: 12
Resin Batch No.: 345

No. PUF: N/A
PUF Batch No.: N/A

Filter Size: 85 mm
No. Filters: 13
Filter Batch No.: 12062000

Spike Profile

Vol. PCDD/F: 25 µL /
Solution ID: 000919A 428-PS ; 160 pg/µL
exp. 09119102 v3

Vol. HR_PAH: N/A
Solution ID: N/A

Vol. PCB: N/A
Solution ID: N/A

Vol. LR_PAH: N/A
Solution ID: N/A

Vol. SVOST: N/A
Solution ID: N/A

Air Apparatus Shipping Request

Alta Batch ID: P1357

Following sample recovery, please return this form with the field samples to:

ALTA ANALYTICAL PERSPECTIVES

2714 Exchange Drive
Wilmington, NC 28405

Ph.: 910-794-1613
Fax: 910-794-3919

Spiked by: YL Witnessed by: CT

Date: 17 Jan 01

Client Information

Name: Testar
Contact Name: Herb Dixon
Date Requested: 15 JAN 01
Po No.:

Date Required: ONSITE ON 18 JAN 01

Ship to: 7424-108 ACC Blvd
Raleigh, NC 27617

Ph.: 919-957-9500
Fax: 919-957-9595

Carrier: (Fed_Ex) / UPS

Special Requirements

Method 23

Air Bill No.: _____

Date Shipped: _____

Note: 40 g of the same resin is spiked and stored at 4 °C at Alta. This sample will serve as the method blank upon return of the field samples.

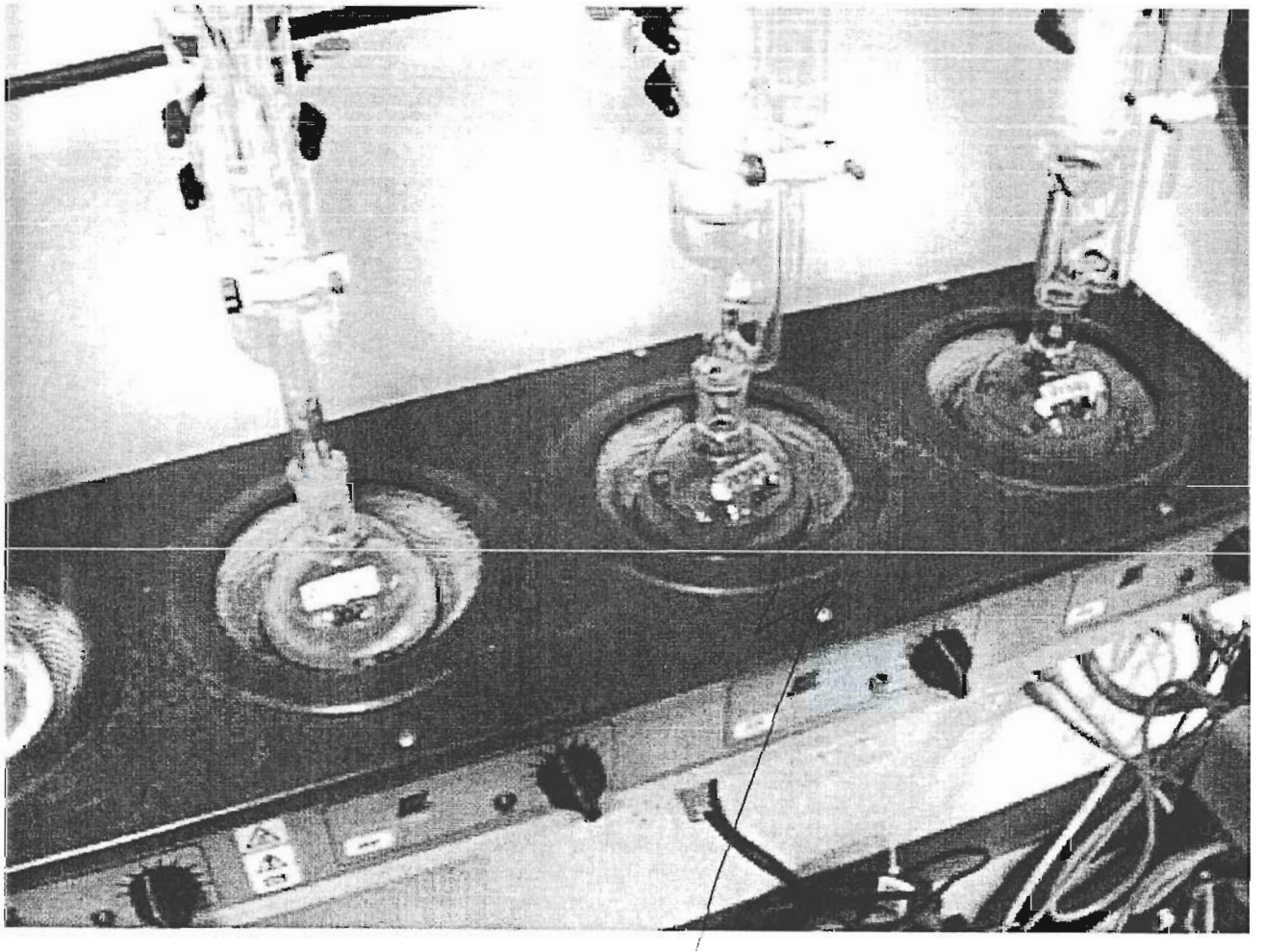
01-21-01

P1379

Pi377

MB OPL 001 (PB) 002 "PINK" 003 "REALLY HOT PINK" 004 "HOT PINK"

P1377



19:35 H
01Feb01
Reading hot plate...
Y.T.

P1377 — 002

P1377

Attachment 1

ALTA ANALYTICAL PERSPECTIVES Project No.: 1377

Sample Log-In Checklist	Yes	No
1. Date Samples Arrived: 01-31-01 Initials: BT		
2. Time / Date logged in: 8:30 01-31-01 Location F-3 Initials: BT		
3. Samples Arrived By: (circle one) Airborne Express Federal Express UPS Emery Freezer Truck (Company Courier) DHL Other		
4. Shipping Preservation: (circle) Ice / Blue Ice / Dry Ice (None) Temp °C 19° 19° 2 Coolers		
5. Shipping Documentation Present? (circle one) Shipping Label Airbill Tracking Number		✓
6. Shipping Container(s) Intact? If no, describe condition below.	✓	
7. Container Custody Seals Present and Intact? If not intact, describe condition below.		✓
8. Sample Custody Seals Present and Intact? If not intact, describe condition below. No. of Seals _____ or Seal No.		✓
9. Sample Container Intact? If no, indicate sample condition below.	✓	
10. Chain of Custody (COC) or other Sample Documentation Present?	✓	
11. COC/Documentation Acceptable? If no, complete COC Anomaly Form.	✓	
12. Shipping Container: (circle) (ALTA ANALYTICAL PERSPECTIVES) Return or (Retain) or Dispose Client Return or Retain or Dispose		
13. Container and/or Bottles Requested?		✓
14. Sample Control Check In/Out Log Completed?	✓	
15. Drinking Water Sample? If yes, Acceptable Preservation? (circle) Y or N		✓
16. Imported Soil? If yes, apply appropriate label.		✓

Name: Brent Pardue Date Samples Reconciled: _____

Comments:

n/AD: 20:45

Alta Analytical Perspectives - Injection Log Run file: 010206p3 GC Column ID: db-5

Data file	S#	Vial#	Lab ID	Sample ID (Chrom. Text)	Analyst	Acq date	Acq time
010206P3	1	3	CS3RC	CS3RC DB5 CPSM / M23 CS3	JRH	6-FEB-01	21:39:47
010206P3	2	16	0_267_OPR001	0_267_OPR001	JRH	6-FEB-01	22:31:25
010206P3	3	17	0_267_MB001	0_267_MB001	JRH	6-FEB-01	23:23:05
010206P3	4	18	P1377_267_001	P1377_267_001 1-S-M23-FB Air Train	JRH	7-FEB-01	00:14:45
010206P3	5	19	P1377_267_002	P1377_267_002 1-S-M23-1 Air Train	JRH	7-FEB-01	01:06:24
010206P3	6	20	P1377_267_003	P1377_267_003 1-S-M23-2 Air Train	JRH	7-FEB-01	01:58:04
010206P3	7	21	P1377_267_004	P1377_267_004 1-S-M23-3 Air Train	JRH	7-FEB-01	02:49:44
010206P3	8	22	P1377_267_005	P1377_267_005 2-S-M23-FB Air Train	JRH	7-FEB-01	03:41:23
010206P3	9	23	P1377_267_006	P1377_267_006 2-S-M23-1 Air Train	JRH	7-FEB-01	04:33:03
010206P3	10	24	P1377_267_007	P1377_267_007 2-S-M23-2 Air Train	JRH	7-FEB-01	05:24:43
010206P3	11	25	P1377_267_008	P1377_267_008 2-S-M23-3 Air Train	JRH	7-FEB-01	06:16:22
010206P3	12	3	CS3RC	CS3RC DB5 CPSM / M23 CS3	JRH	7-FEB-01	07:08:01

8:04

beginning CS3 Mussins res plot Fn 3

Alta Analytical Perspectives - Injection Log Run file: 010211Q1 GC Column ID: db-5

Data file	S#	Vial#	Lab ID	Sample ID (Chrom. Text)	Analyst	Acq date	Acq time
010211Q1	1	3	CS3	M23 CS3	GAG	11-FEB-01	11:37:06
010211Q1	2	2	DB225 CPSM	DB225 CPSM	GAG	11-FEB-01	12:13:30
010211Q1	3	15	SOLVENT BLANK	SOLVENT BLANK	GAG	11-FEB-01	12:49:51
010211Q1	4	16	P1377_267_003	P1377_267_003 1-S-M23-2 Air Train	GAG	11-FEB-01	13:26:15
010211Q1	5	17	P1377_267_008	P1377_267_008 2-S-M23-3 Air Train	GAG	11-FEB-01	14:02:37
010211Q1	6	3	CS3	P1371_265_002 ConcM23 CS3	GAG	11-FEB-01	14:38:59

ALTA ANALYTICAL PERSPECTIVES

PART 3

ANALYTICAL RESULTS

DOCUMENTATION FOR THE ANALYSIS
OF
POLYCHLORINATED DIBENZO-*p*-DIOXINS & DIBENZOFURANS

Sample ID: 0_267_MB001

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	n/a
Project ID:	10184	Weight/Volume:	1	Sample ID:	0_267_MB001	Date Extracted:	01 Feb 01
Date Collected:	n/a			QC Batch No.:	267	Date Analyzed:	6-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	EMPC		1.51	A	100	95.7	94.8
1,2,3,7,8-PeCDD	ND	0.746			104	94.3	94.8
1,2,3,4,7,8-HxCDD	2.14			A	95.2	96.3	94.8
1,2,3,6,7,8-HxCDD	ND	2.65			95.2	96.3	94.8
1,2,3,7,8,9-HxCDD	ND	2.37			95.2	96.3	94.8
1,2,3,4,6,7,8-HpCDD	3.33			A	97	95.1	94.8
OCDD	17.5			A	89.4	95.1	94.8
2,3,7,8-TCDF	ND	1.03			94.3	95.7	94.8
1,2,3,7,8-PeCDF	ND	1.44			92.9	94.3	94.8
2,3,4,7,8-PeCDF	ND	1.42			92.9	94.3	94.8
1,2,3,4,7,8-HxCDF	2.46			A	92.1	96.7	94.8
1,2,3,6,7,8-HxCDF	1.79			A	92.1	96.7	94.8
2,3,4,6,7,8-HxCDF	EMPC		1.21	A	92.1	96.7	94.8
1,2,3,7,8,9-HxCDF	ND	0.765			92.1	96.7	94.8
1,2,3,4,6,7,8-HpCDF	2.21			A	91.4	95.1	94.8
1,2,3,4,7,8,9-HpCDF	ND	1.8			91.4	95.1	94.8
OCDF	ND	2.65			87.5	95.1	94.8
Totals & TEQs							
TCDDs	ND		1.51				
PeCDDs	ND	0.746					
HxCDDs	2.14						
HpCDDs	6						
TCDFs	ND	1.03					
PeCDFs	ND	1.43					
HxCDFs	4.25		5.46				
HpCDFs	2.21						
Total PCDD/Fs	**32.1**		**34.9**				
TEQ (ND=0)	**0.712**		**2.34**	**ITEF**			
TEQ (ND=DL/2)	**1.64**		**3.27**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

2714 Exchange Drive
Wilmington
North Carolina 28405
USA

Tel: 910 794-1613
Fax: 910 794-3919
e-mail: ytondeur@cs.com
web: www.ultratrace.com

Reviewer .....

Date .....12/01.....

Client ID: 0_267_MB001 Filename: 010206P3 S: 3 Acq: 6-FEB-01 23:23:05 ConCal: 010206P3-
Lab ID: 0_267_MB001 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	3.09e+04	0.42	n	1.26	27:47	1.51			1158	2.5	0.969	
	1,2,3,7,8-PeCDD	*	*	n	1.01	NotF»	*			458	2.5	0.746	
	1,2,3,4,7,8-HxCDD	2.74e+04	1.20	y	1.14	37:09	2.14			1499	2.5	2.38	
	1,2,3,6,7,8-HxCDD	*	*	n	1.02	NotF»	*			1499	2.5	2.65	
	1,2,3,7,8,9-HxCDD	*	*	n	1.14	NotF»	*			1499	2.5	2.37	
	1,2,3,4,6,7,8-HpCDD	4.17e+04	0.99	y	1.13	41:34	3.33			1063	2.5	2.11	
	OCDD	1.49e+05	0.88	y	1.03	46:55	17.5			766	2.5	2.44	
	2,3,7,8-TCDF	*	*	n	1.05	NotF»	*			1200	2.5	1.03	
	1,2,3,7,8-PeCDF	*	*	n	1.04	NotF»	*			1276	2.5	1.44	
	2,3,4,7,8-PeCDF	*	*	n	1.05	NotF»	*			1276	2.5	1.42	
	1,2,3,4,7,8-HxCDF	4.15e+04	1.26	y	1.13	36:10	2.46			953	2.5	0.688	
	1,2,3,6,7,8-HxCDF	3.30e+04	1.27	y	1.24	36:18	1.79			953	2.5	0.629	
	2,3,4,6,7,8-HxCDF	2.10e+04	1.02	n	1.16	36:58	1.21			953	2.5	0.669	
	1,2,3,7,8,9-HxCDF	*	*	n	1.02	NotF»	*			953	2.5	0.765	
	1,2,3,4,6,7,8-HpCDF	3.56e+04	0.97	y	1.54	39:55	2.21			1593	2.5	1.52	
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.30	NotF»	*			1593	2.5	1.80	
	OCDF	*	*	n	1.15	NotF»	*			1020	2.5	2.65	
	Total Tetra-Dioxins	*	*	n	1.26	NotF»	*			1158	2.5	0.969	EMPC 1.51
	Total Penta-Dioxins	*	*	n	1.01	NotF»	*			458	2.5	0.746	*
	Total Hexa-Dioxins	2.74e+04	1.20	y	1.10	37:09	2.14			1499	2.5	2.46	2.14
	Total Hepta-Dioxins	7.52e+04	1.13	y	1.13	40:22	6.00			1063	2.5	2.11	6.00
	Total Tetra-Furans	*	*	n	1.05	NotF»	*			1200	2.5	1.03	*
	1st Fnc. Penta-Furans	*	*	n	1.05	NotF»	*			3381	2.5	3.80	*
	Total Penta-Furans	*	*	n	1.05	NotF»	*			1276	2.5	1.43	
	PeCDF Totals:						0.00						0.00
	Total Hexa-Furans	7.46e+04	1.26	y	1.14	36:10	4.25			953	2.5	0.684	5.46
	Total Hepta-Furans	3.56e+04	0.97	y	1.42	39:55	2.21			1593	2.5	1.65	2.21
													Rec
IS	13C-2,3,7,8-TCDD	6.50e+07	0.79	y	1.13	27:46	4000						100
IS	13C-1,2,3,7,8-PeCDD	5.50e+07	1.56	y	0.93	33:13	4160						104
IS	13C-1,2,3,6,7,8-HxCDD	4.49e+07	1.25	y	0.93	37:14	3810						95.2
IS	13C-1,2,3,4,6,7,8-HpCDD	4.44e+07	1.04	y	0.91	41:33	3880						97.0
IS	13C-OCDD	3.32e+07	0.89	y	0.73	46:53	3580						89.4
IS	13C-2,3,7,8-TCDF	8.54e+07	0.78	y	1.06	26:53	3770						94.3
IS	13C-1,2,3,7,8-PeCDF	7.60e+07	1.56	y	0.96	31:44	3720						92.9
IS	13C-1,2,3,6,7,8-HxCDF	5.97e+07	0.51	y	1.28	36:17	3680						92.1
IS	13C-1,2,3,4,6,7,8-HpCDF	4.17e+07	0.45	y	0.90	39:55	3650						91.4
IS	13C-OCDF	3.59e+07	0.89	y	0.81	47:12	3500						87.5
RS/RT	13C-1,2,3,4-TCDD	5.72e+07	0.79	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	8.53e+07	0.79	y	1.00	25:31	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	5.06e+07	1.25	y	1.00	37:33	4000						-
PS	37Cl-2,3,7,8-TCDD	3.20e+07			0.51	27:47	3830						95.7
PS	13C-2,3,4,7,8-PeCDF	6.98e+07	1.57	y	0.97	32:52	3770						94.3
PS	13C-1,2,3,4,7,8-HxCDD	3.99e+07	1.26	y	0.92	37:07	3850						96.3
PS	13C-1,2,3,4,7,8-HxCDF	5.25e+07	0.52	y	0.91	36:08	3870						96.7
PS	13C-1,2,3,4,7,8,9-HpCDF	3.39e+07	0.44	y	0.85	42:22	3800						95.1
AS	13C-1,2,3,7,8,9-HxCDF	5.13e+07	0.53	y	1.07	37:57	3790						94.8

Reviewer: C

Date: 11 Feb 01

4T

Analyst: GAG

Date: 11 Feb 01

Totals class: TCDD EMPC Function: 1 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: 1.5095 Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
27:47	1.345e+04	y	3.181e+04	y	0.42	n 4.526e+04	3.092e+04	8.13e+00	y	1.51	2,3,7,8-TCDD

Totals class: PeCDD EMPC Function: 2 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: HxCDD EMPC Function: 3 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: 2.1416 Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
37:09	1.493e+04	y	1.247e+04	y	1.20	y 2.740e+04	2.740e+04	3.02e+00	y	2.14	1,2,3,4,7,8-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: 5.9963 Unnamed Conc.: 2.671

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
40:22	1.776e+04	y	1.574e+04	y	1.13	y 3.349e+04	3.349e+04	3.83e+00	y	2.67	
41:34	2.070e+04	y	2.099e+04	y	0.99	y 4.170e+04	4.170e+04	4.82e+00	y	3.33	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 10

File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: PeCDF EMPC Function: 2 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: HxCDF EMPC Function: 3 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

Total Conc.: 5.4579 Unnamed Conc.: *

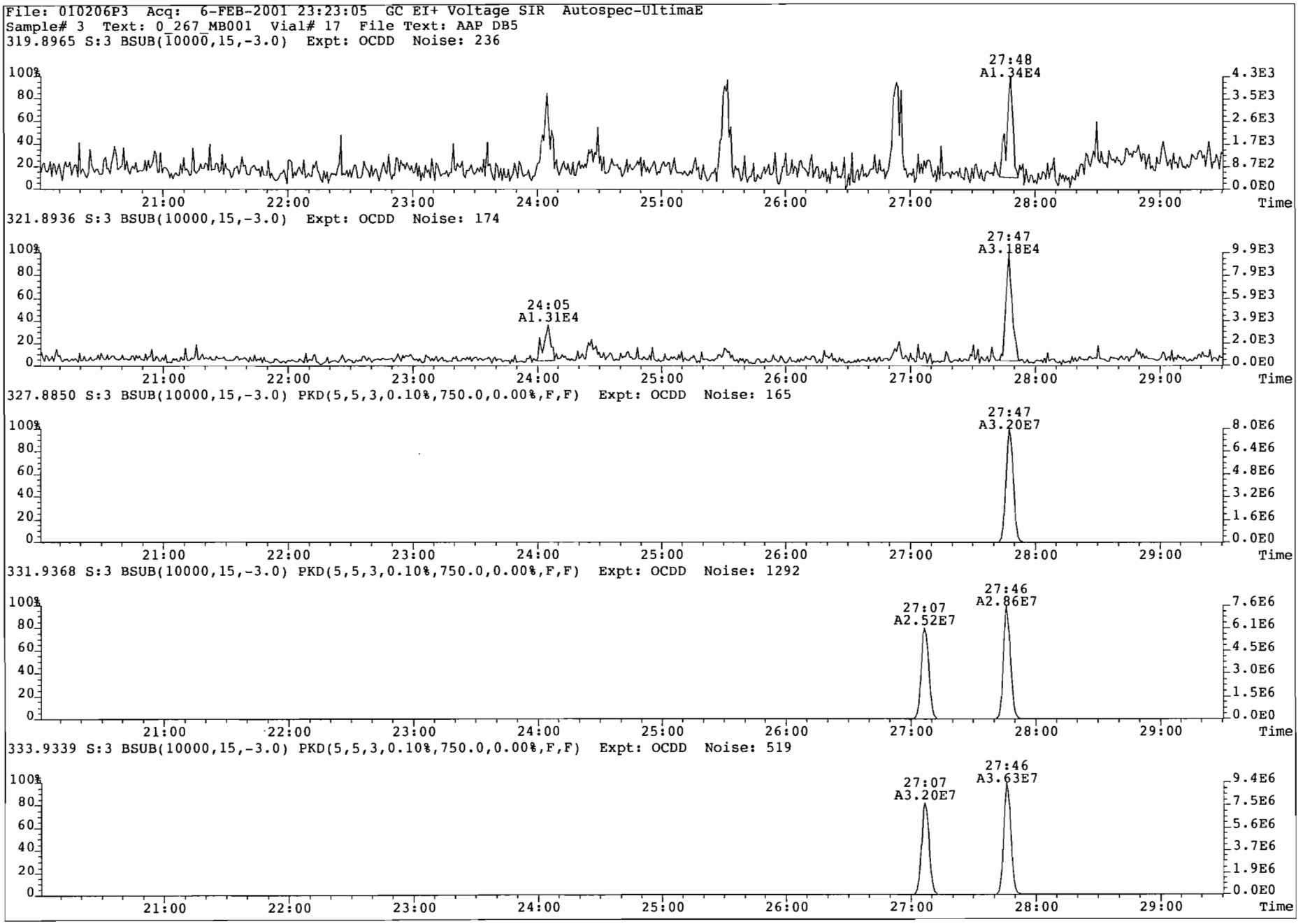
RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
36:10	2.316e+04	n	1.837e+04	n	1.26	y 4.153e+04	4.153e+04	7.05e+00	y	2.46	1,2,3,4,7,8-HxCDF
36:18	1.850e+04	n	1.452e+04	n	1.27	y 3.302e+04	3.302e+04	3.86e+00	y	1.79	1,2,3,6,7,8-HxCDF
36:58	1.165e+04	y	1.144e+04	y	1.02	2.309e+04	2.104e+04	4.06e+00	y	1.21	2,3,4,6,7,8-HxCDF

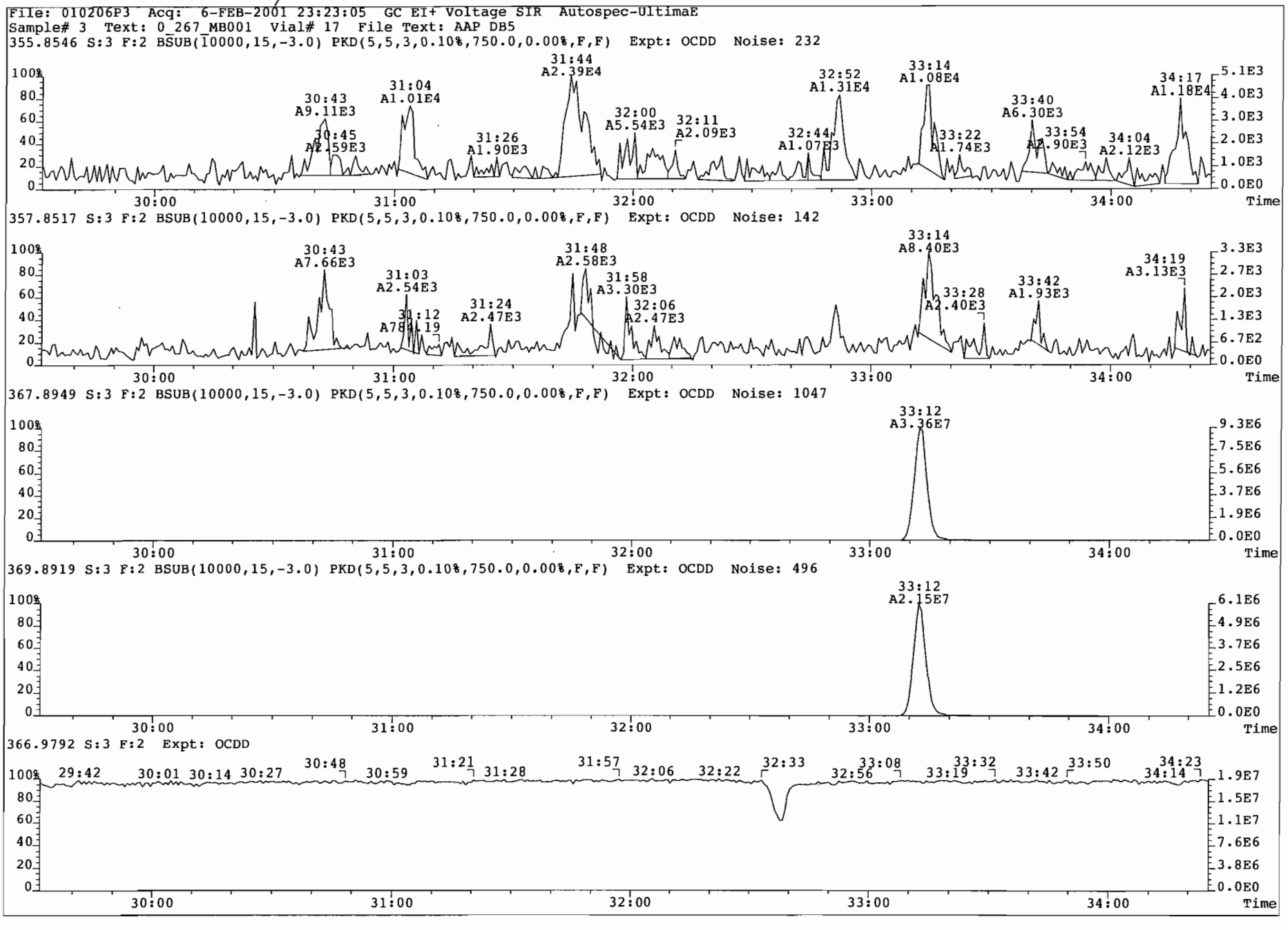
Totals class: HpCDF EMPC Function: 4 Run #: 10
File Name: 010206P3 Sample #: 3 Sample text: 0_267_MB001

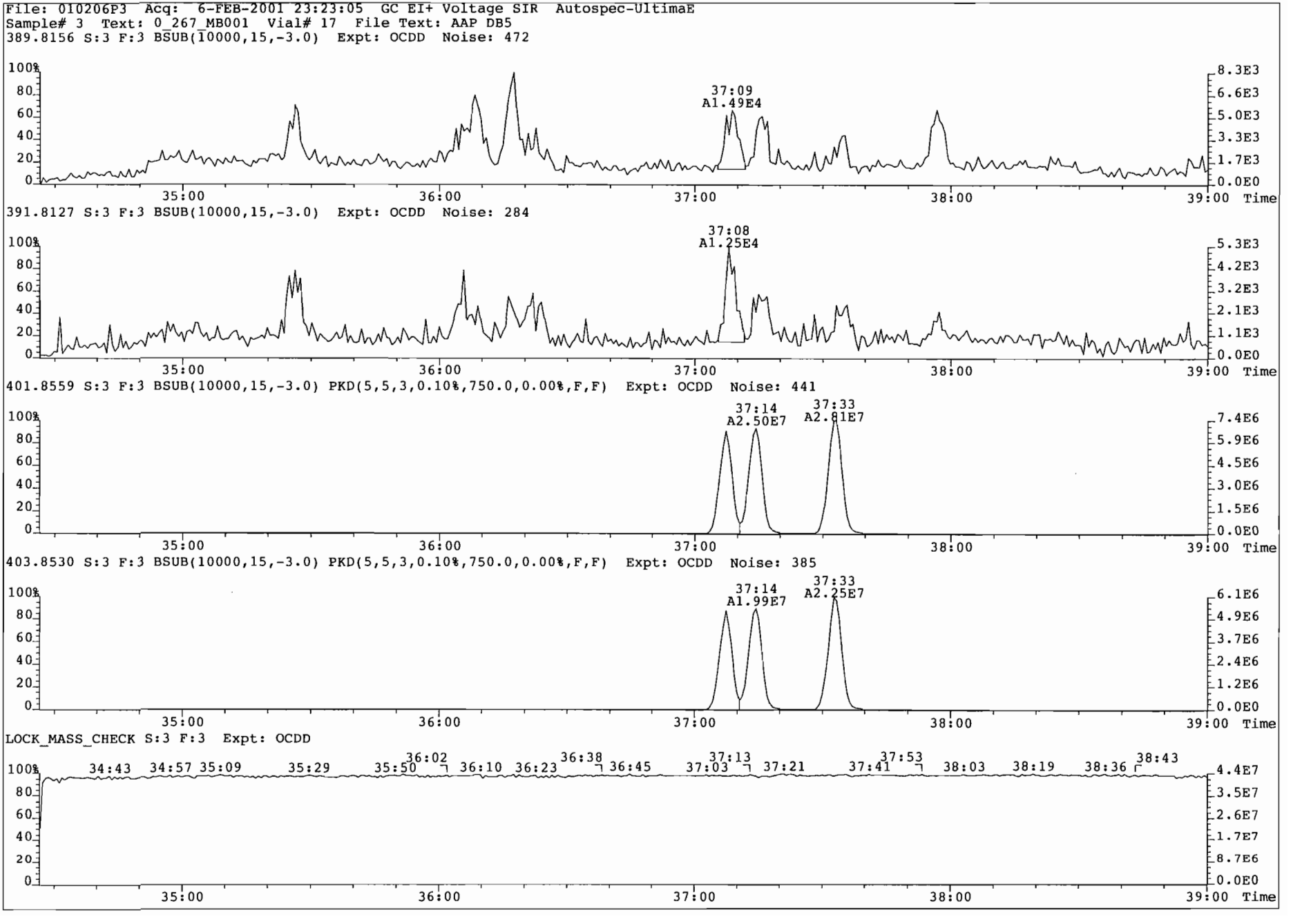
Acquired: 6-FEB-01 23:23:05 Processed: 7-FEB-01 17:17:22

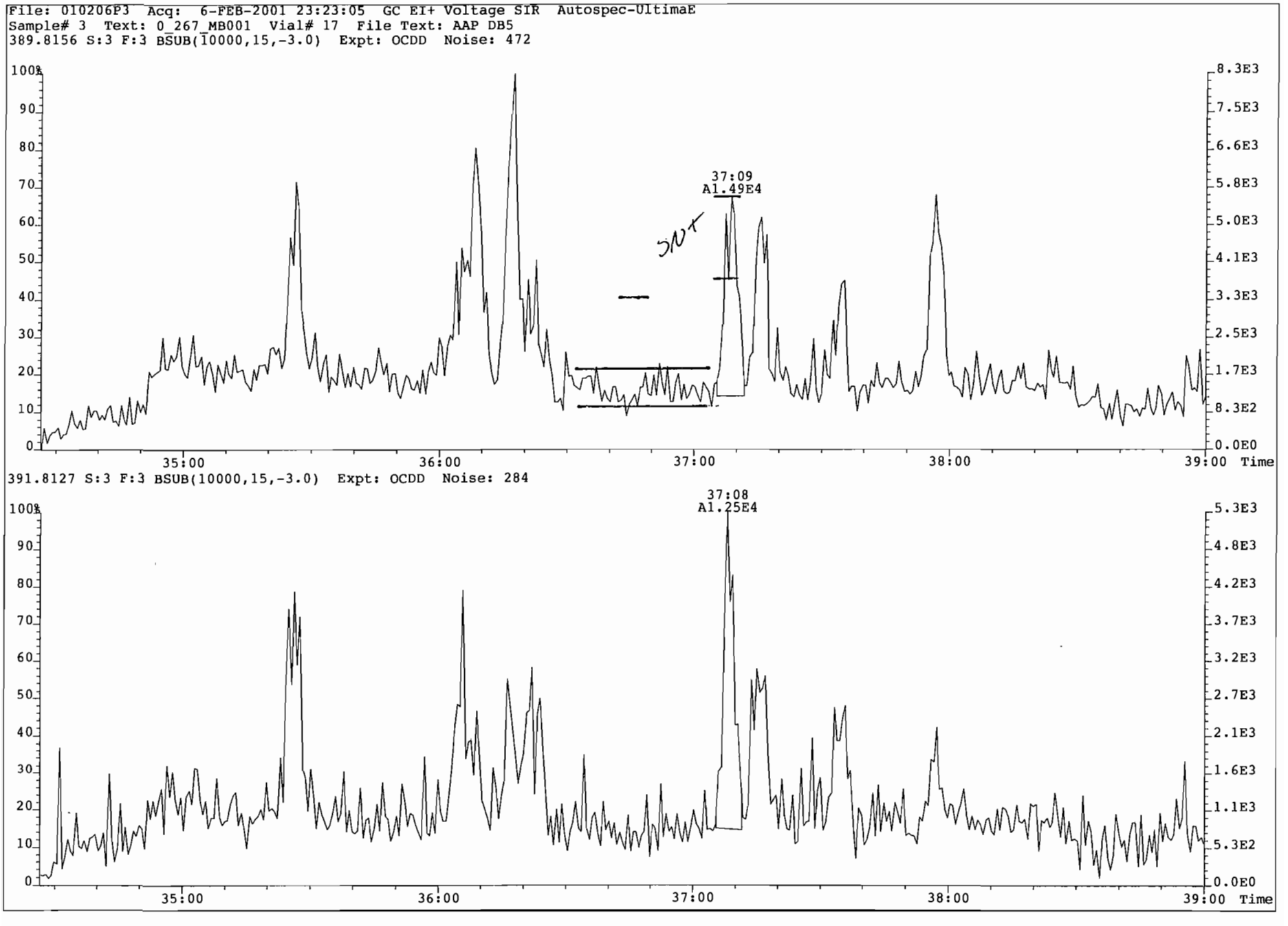
Total Conc.: 2.2147 Unnamed Conc.: *

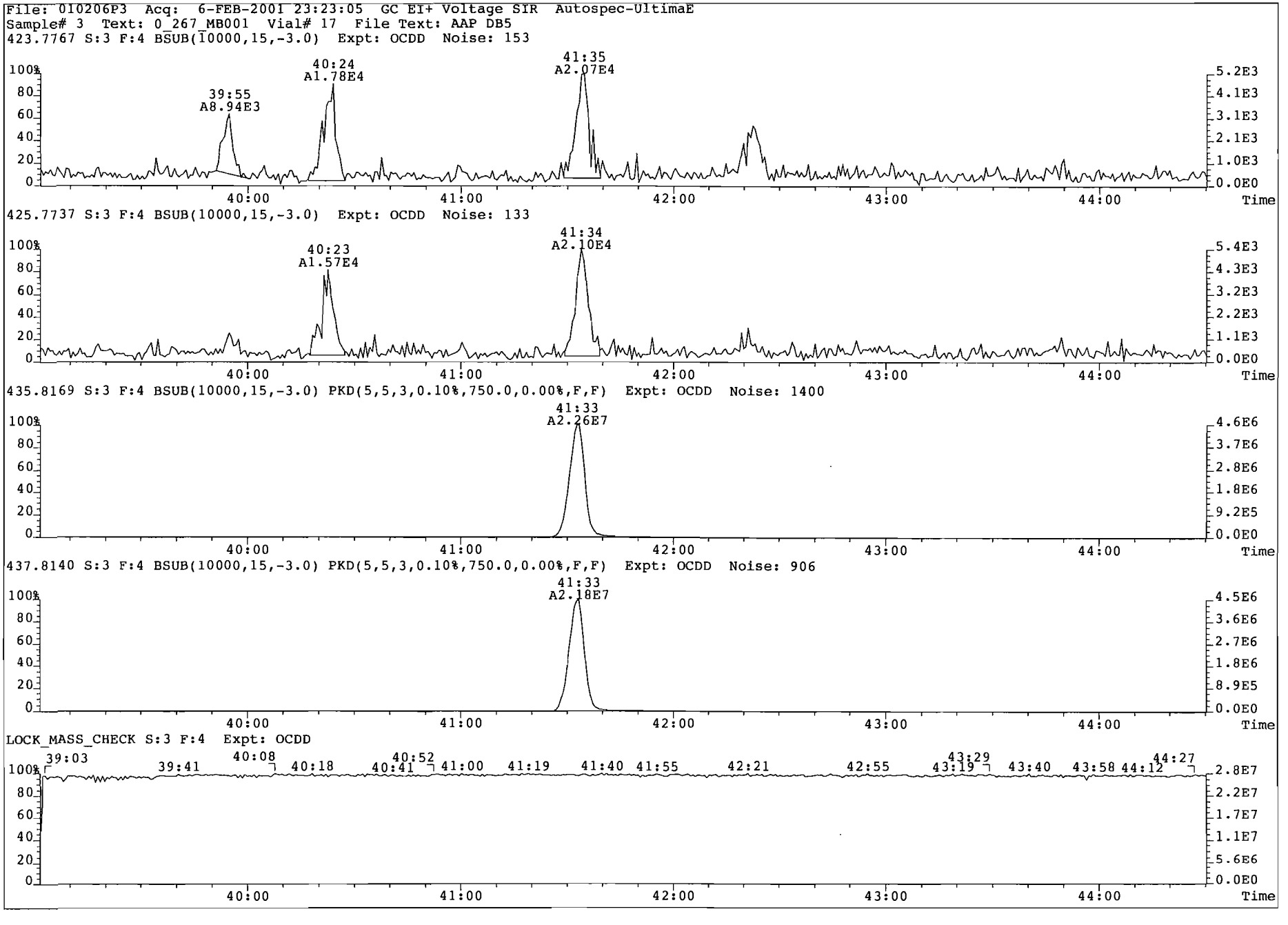
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	1.753e+04	y	1.808e+04	y	0.97	y	3.561e+04	3.561e+04	3.92e+00	y	2.21	1,2,3,4,6,7,8-HpCDF

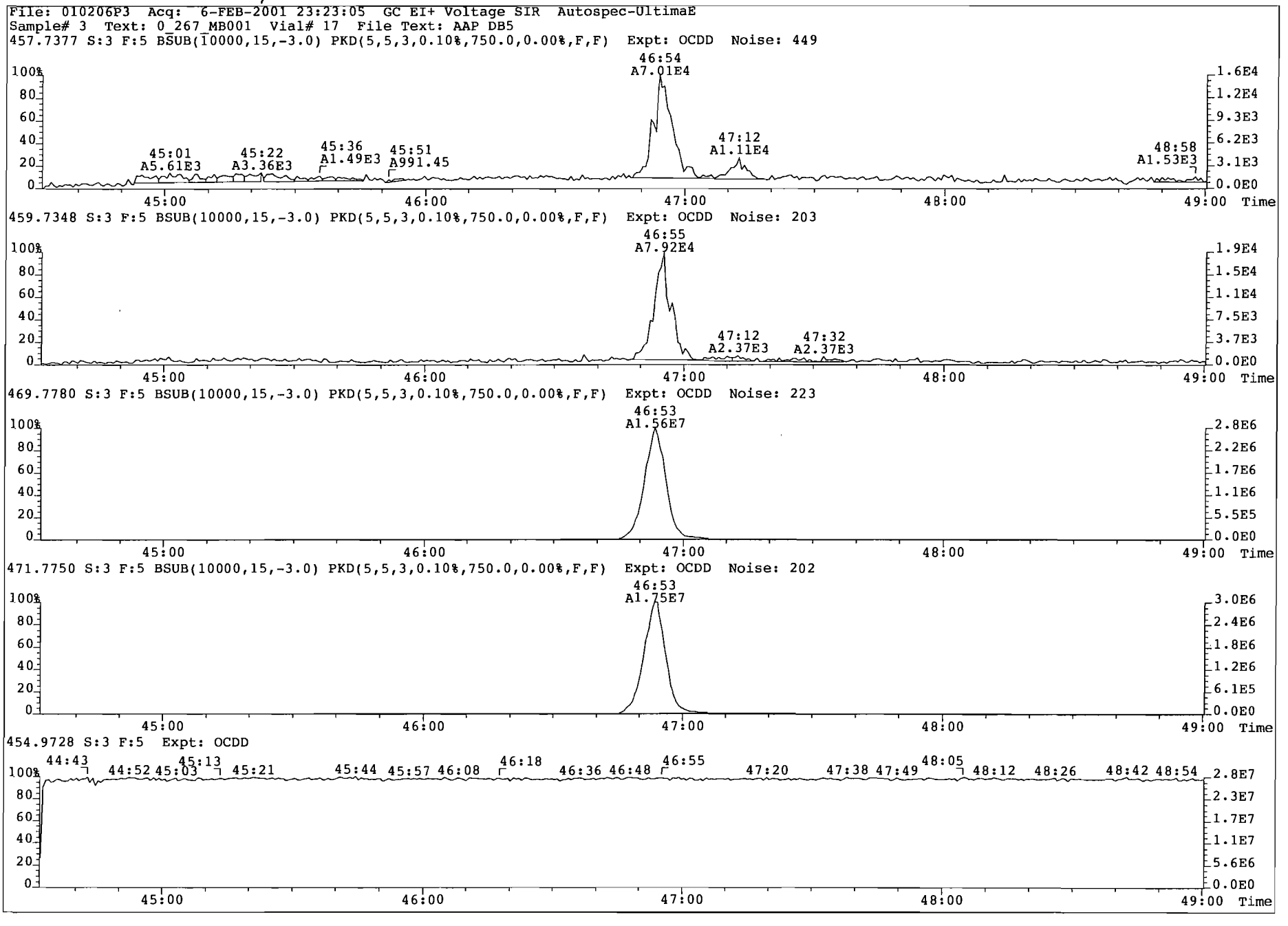

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
319.8965 S:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 236
27:48
A1.34E4
321.8936 S:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 174
27:47
A3.18E4
24:05
A1.31E4
327.8850 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 165
27:47
A3.20E7
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1292
27:46
A2.86E7
27:07
A2.52E7
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 519
27:46
A3.63E7
27:07
A3.20E7
Time

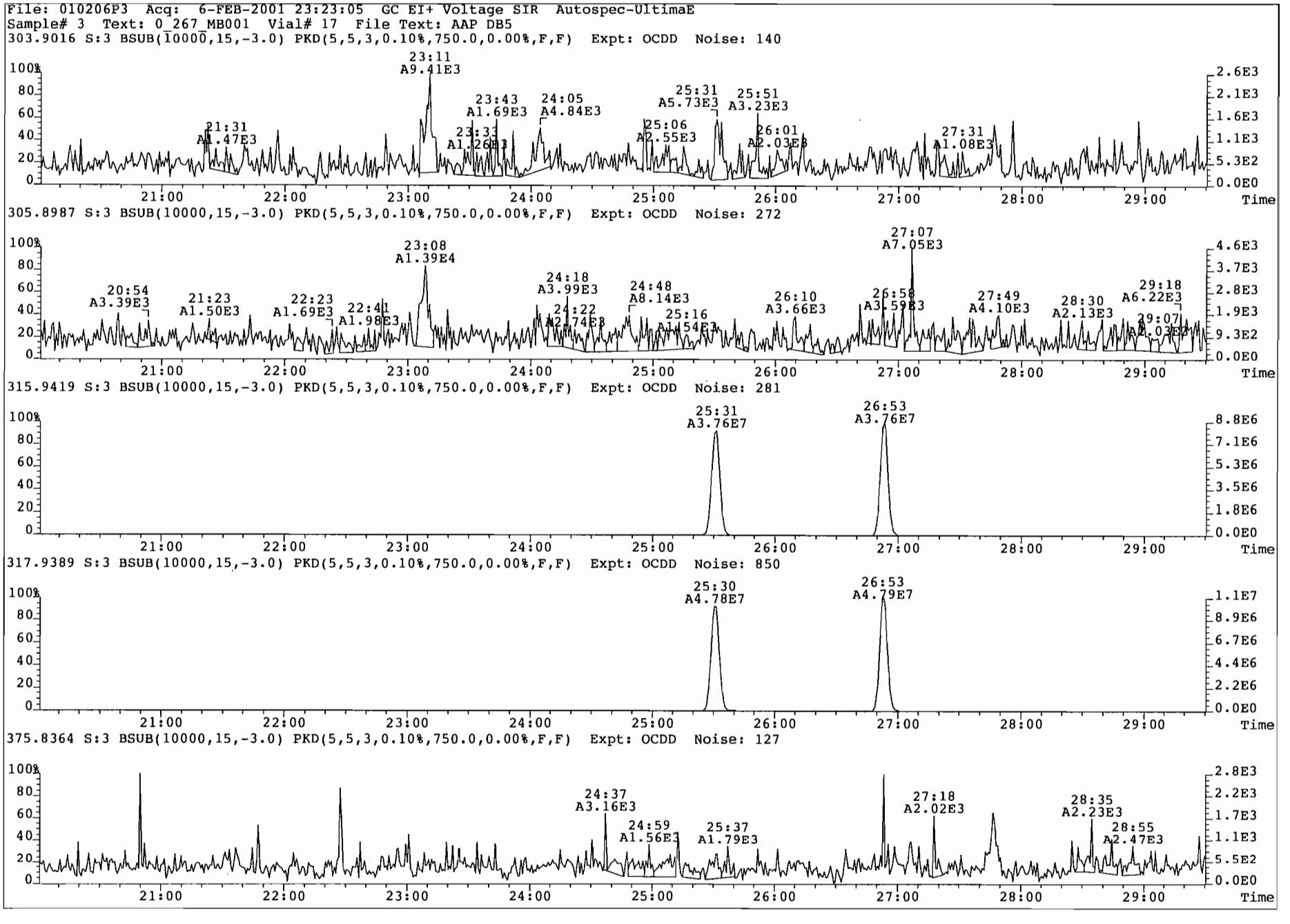

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 232
30:43 A9.11E3
30:45 A2.59E3
31:04 A1.01E4
31:26 A1.90E3
31:44 A2.39E4
32:00 A5.54E3
32:11 A2.09E3
32:44 A1.07E3
32:52 A1.31E4
33:14 A1.08E4
33:22 A1.74E3
33:40 A6.30E3
33:54 A2.90E3
34:04 A2.12E3
34:17 A1.18E4
357.8517 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 142
30:43 A7.66E3
31:03 A2.54E3
31:12 A7.84E3
31:24 A2.47E3
31:48 A2.58E3
31:58 A3.30E3
32:06 A2.47E3
33:14 A8.40E3
33:28 A2.40E3
33:42 A1.93E3
34:19 A3.13E3
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1047
33:12 A3.36E7
369.8919 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 496
33:12 A2.15E7
366.9792 S:3 F:2 Expt: OCDD
29:42 30:01 30:14 30:27 30:48 30:59 31:21 31:28 31:57 32:06 32:22 32:33 32:56 33:08 33:19 33:32 33:42 33:50 34:14 34:23
100%
80
60
40
20
0
30:00
31:00
32:00
33:00
34:00
Time
5.1E3
4.0E3
3.0E3
2.0E3
1.0E3
0.0E0
3.3E3
2.7E3
2.0E3
1.3E3
6.7E2
9.3E6
7.5E6
5.6E6
3.7E6
1.9E6
6.1E6
4.9E6
3.7E6
2.5E6
1.2E6
1.9E7
1.5E7
1.1E7
7.6E6
3.8E6

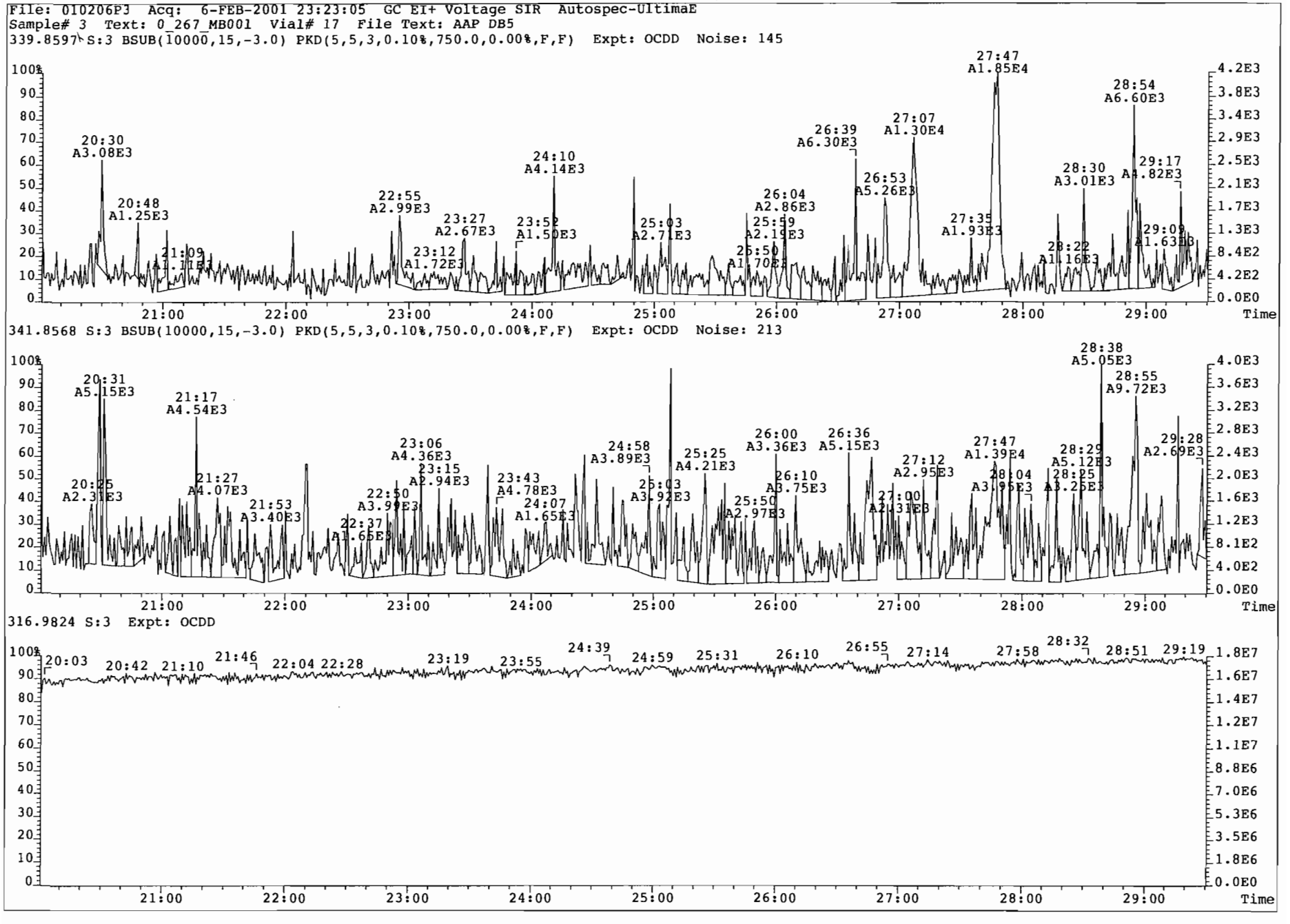

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
389.8156 S:3 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 472
37:09
A1.49E4
391.8127 S:3 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 284
37:08
A1.25E4
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 441
37:14
A2.50E7
37:33
A2.81E7
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 385
37:14
A1.99E7
37:33
A2.25E7
LOCK_MASS_CHECK S:3 F:3 Expt: OCDD
34:43 34:57 35:09 35:29 35:50 36:02 36:10 36:23 36:38 36:45 37:03 37:13 37:21 37:41 37:53 38:03 38:19 38:36 38:43
35:00 36:00 37:00 38:00 39:00 Time

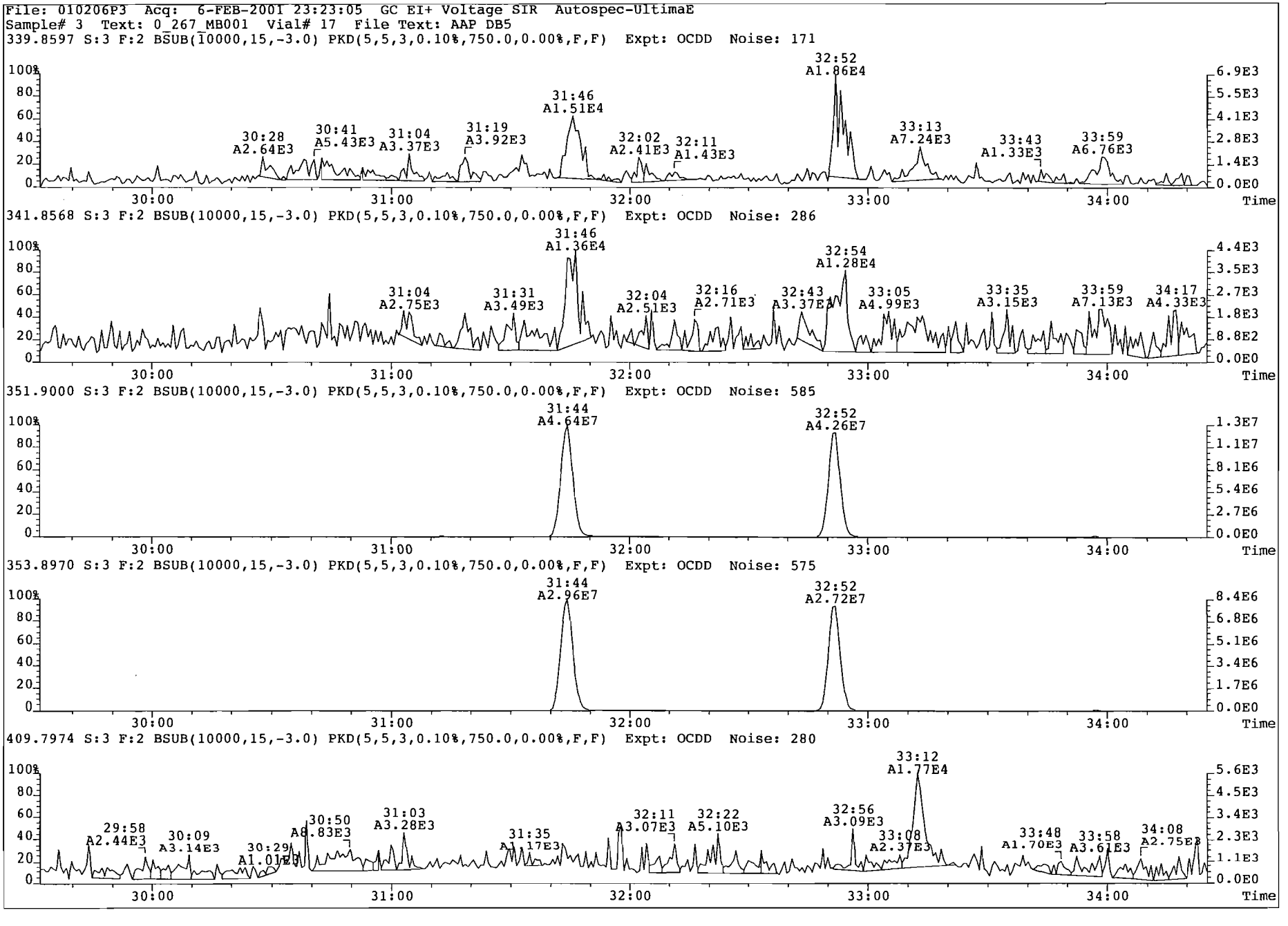

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
389.8156 S:3 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 472
37:09
A1.49E4
SNT
391.8127 S:3 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 284
37:08
A1.25E4
35:00
36:00
37:00
38:00
39:00
Time

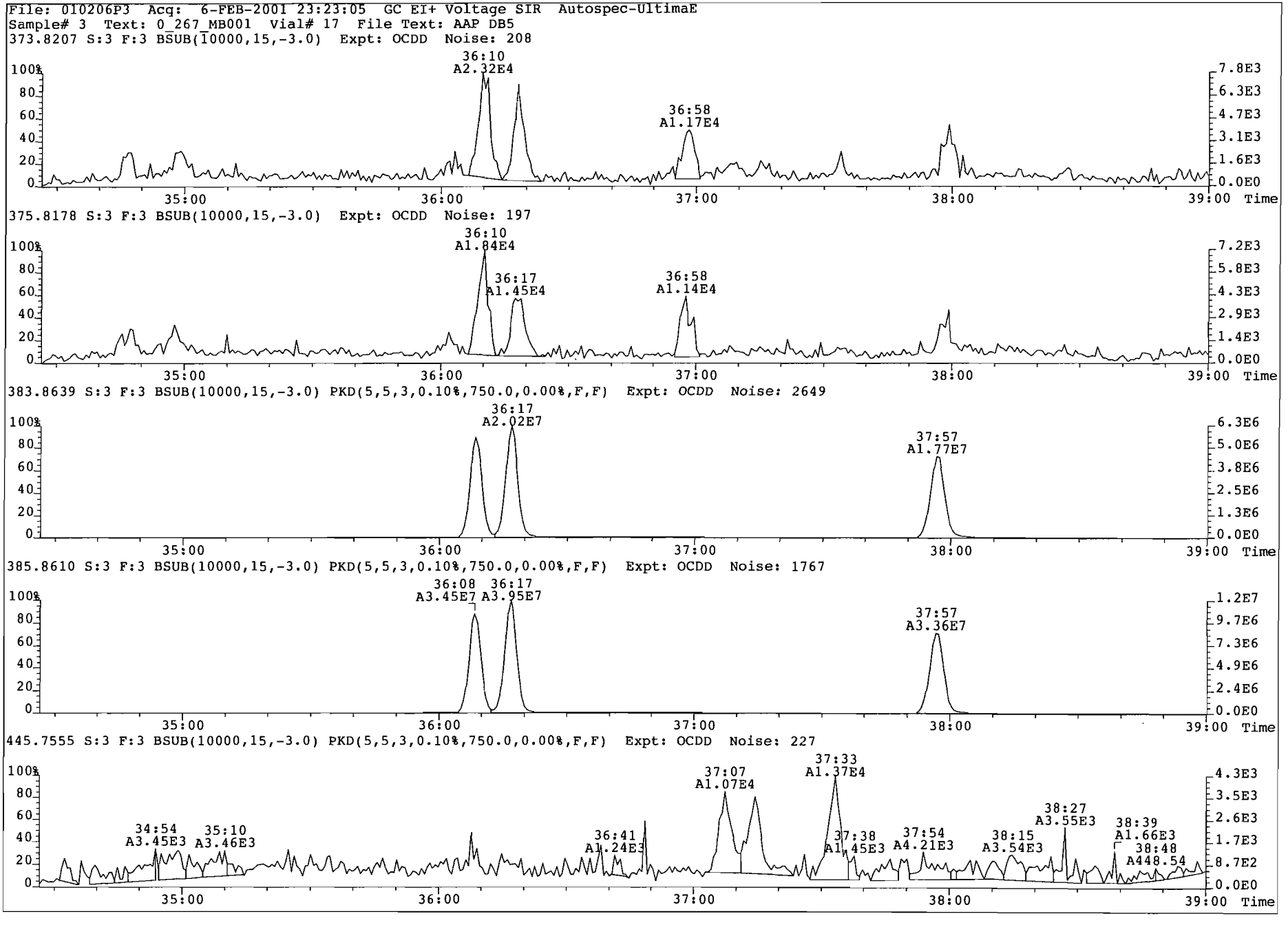

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 153
39:55 A8.94E3
40:24 A1.78E4
41:35 A2.07E4
425.7737 S:3 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 133
40:23 A1.57E4
41:34 A2.10E4
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1400
41:33 A2.26E7
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 906
41:33 A2.18E7
LOCK_MASS_CHECK S:3 F:4 Expt: OCDD
Time

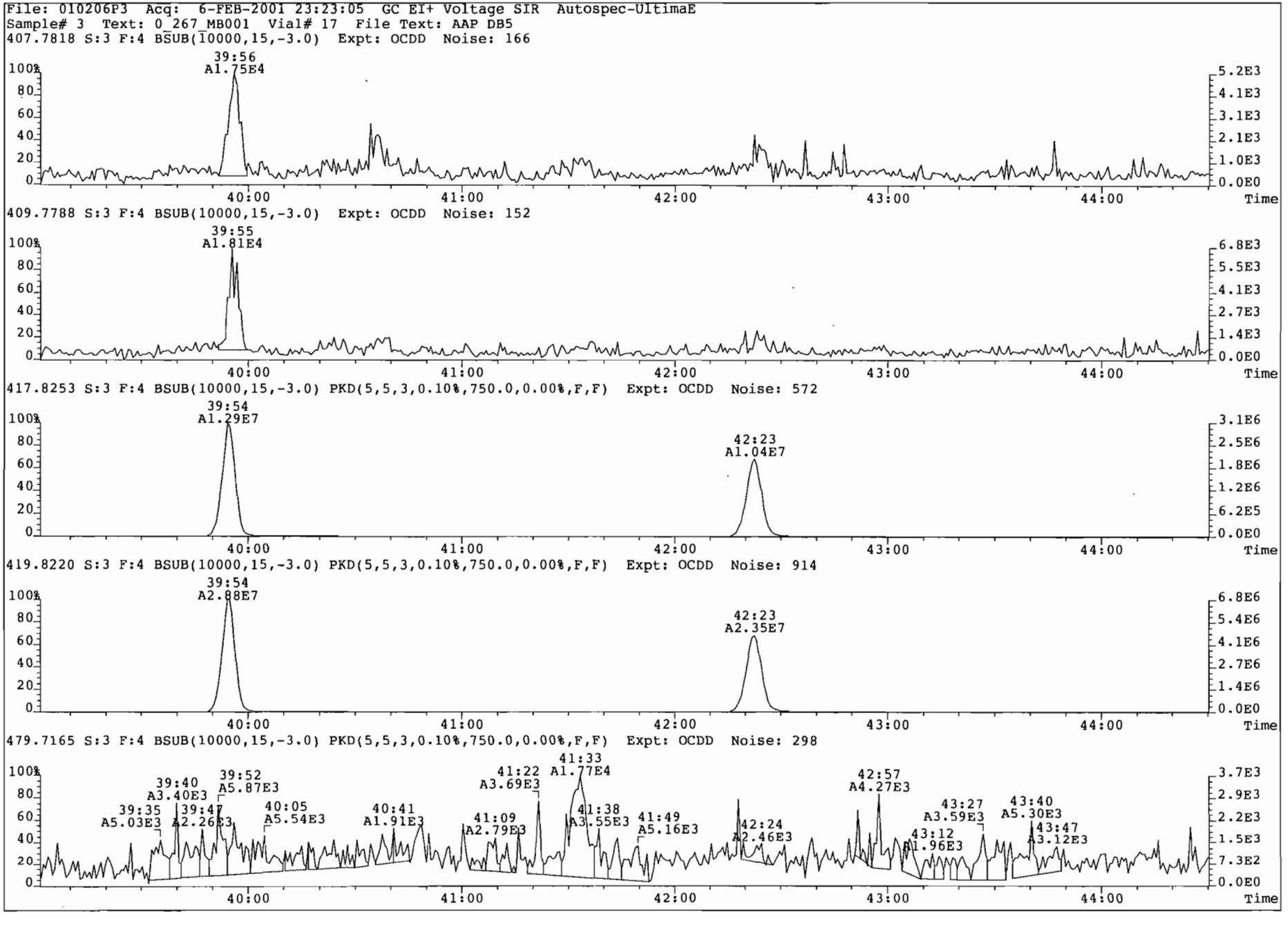

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 449
46:54 A7.01E4
45:01 A5.61E3
45:22 A3.36E3
45:36 A1.49E3
45:51 A991.45
47:12 A1.11E4
48:58 A1.53E3
459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 203
46:55 A7.92E4
47:12 A2.37E3
47:32 A2.37E3
469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 223
46:53 A1.56E7
471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 202
46:53 A1.75E7
454.9728 S:3 F:5 Expt: OCDD
44:43 44:52 45:03 45:13 45:21 45:44 45:57 46:08 46:18 46:36 46:48 46:55 47:20 47:38 47:49 48:05 48:12 48:26 48:42 48:54
45:00 46:00 47:00 48:00 49:00 Time

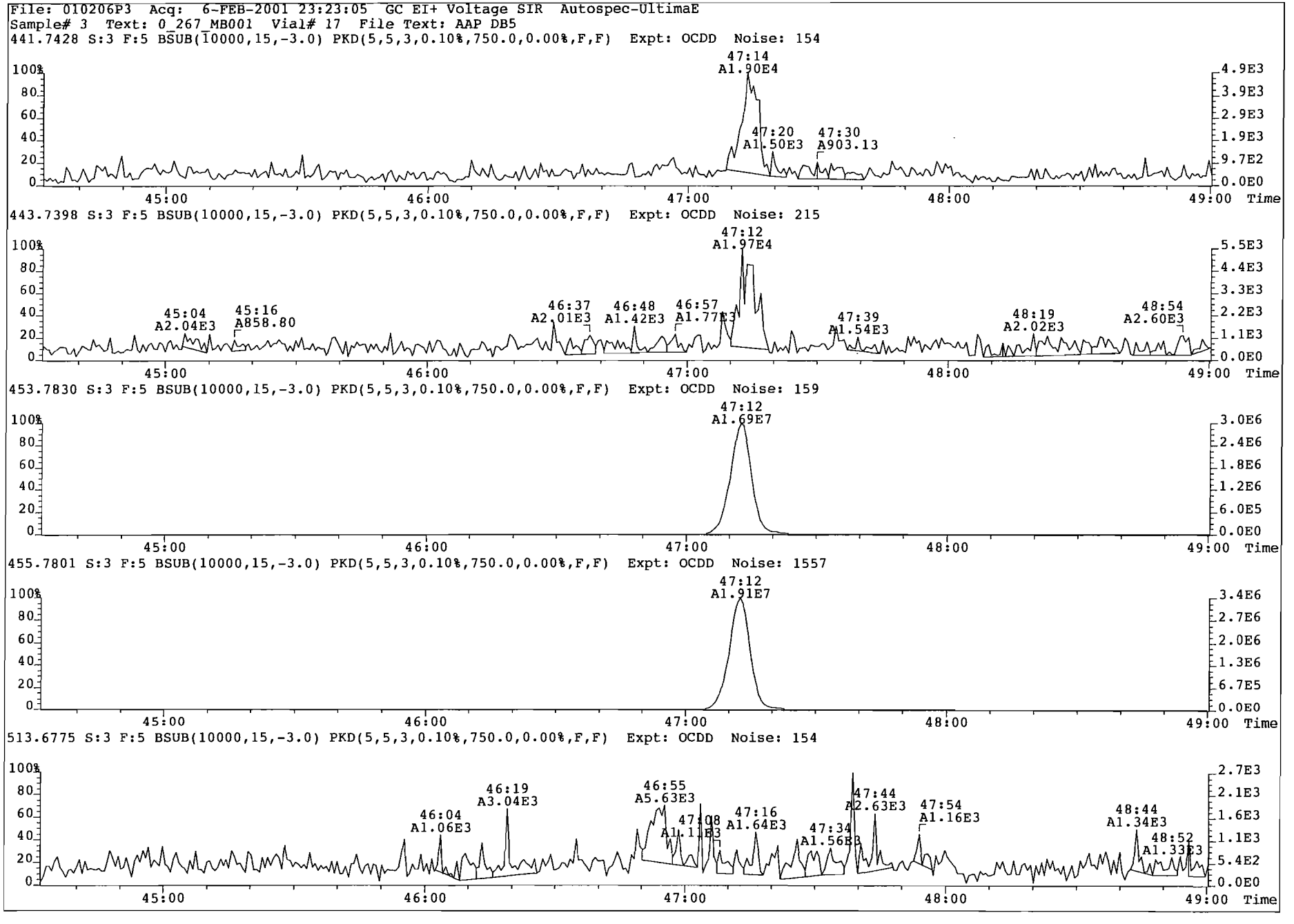

File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 140
23:11 A9.41E3
21:31 A1.47E3
23:43 A1.69E3
24:05 A4.84E3
23:33 A1.26E3
25:31 A5.73E3
25:51 A3.23E3
25:06 A2.55E3
26:01 A2.03E3
27:31 A1.08E3
305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 272
23:08 A1.39E4
27:07 A7.05E3
20:54 A3.39E3
21:23 A1.50E3
22:23 A1.69E3
22:41 A1.98E3
24:18 A3.99E3
24:48 A8.14E3
24:22 A2.74E3
25:16 A1.54E3
26:10 A3.66E3
26:58 A3.59E3
27:49 A4.10E3
28:30 A2.13E3
29:18 A6.22E3
29:07 A2.03E3
315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 281
25:31 A3.76E7
26:53 A3.76E7
317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 850
25:30 A4.78E7
26:53 A4.79E7
375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 127
24:37 A3.16E3
24:59 A1.56E3
25:37 A1.79E3
27:18 A2.02E3
28:35 A2.23E3
28:55 A2.47E3
Time


File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 145
20:30 A3.08E3
20:48 A1.25E3
21:09 A1.11E3
22:55 A2.99E3
23:12 A1.72E3
23:27 A2.67E3
23:52 A1.50E3
24:10 A4.14E3
25:03 A2.71E3
25:50 A1.70E3
25:59 A2.19E3
26:04 A2.86E3
26:39 A6.30E3
26:53 A5.26E3
27:07 A1.30E4
27:35 A1.93E3
27:47 A1.85E4
28:22 A1.16E3
28:30 A3.01E3
28:54 A6.60E3
29:09 A1.63E3
29:17 A4.82E3
Time
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 213
20:25 A2.31E3
20:31 A5.15E3
21:17 A4.54E3
21:27 A4.07E3
21:53 A3.40E3
22:37 A1.65E3
22:50 A3.99E3
23:06 A4.36E3
23:15 A2.94E3
23:43 A4.78E3
24:07 A1.65E3
24:58 A3.89E3
25:03 A3.92E3
25:25 A4.21E3
25:50 A2.97E3
26:00 A3.36E3
26:10 A3.75E3
26:36 A5.15E3
27:00 A2.31E3
27:12 A2.95E3
27:47 A1.39E4
28:04 A3.95E3
28:25 A3.25E3
28:29 A5.12E3
28:38 A5.05E3
28:55 A9.72E3
29:28 A2.69E3
Time
316.9824 S:3 Expt: OCDD
20:03 20:42 21:10 21:46 22:04 22:28 23:19 23:55 24:39 24:59 25:31 26:10 26:55 27:14 27:58 28:32 28:51 29:19
Time


File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 171
30:28 A2.64E3
30:41 A5.43E3
31:04 A3.37E3
31:19 A3.92E3
31:46 A1.51E4
32:02 A2.41E3
32:11 A1.43E3
32:52 A1.86E4
33:13 A7.24E3
33:43 A1.33E3
33:59 A6.76E3
341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 286
31:04 A2.75E3
31:31 A3.49E3
31:46 A1.36E4
32:04 A2.51E3
32:16 A2.71E3
32:43 A3.37E3
32:54 A1.28E4
33:05 A4.99E3
33:35 A3.15E3
33:59 A7.13E3
34:17 A4.33E3
351.9000 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 585
31:44 A4.64E7
32:52 A4.26E7
353.8970 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 575
31:44 A2.96E7
32:52 A2.72E7
409.7974 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 280
29:58 A2.44E3
30:09 A3.14E3
30:29 A1.01E3
30:50 A8.83E3
31:03 A3.28E3
31:35 A1.17E3
32:11 A3.07E3
32:22 A5.10E3
32:56 A3.09E3
33:08 A2.37E3
33:12 A1.77E4
33:48 A1.70E3
33:58 A3.61E3
34:08 A2.75E3
100%
80
60
40
20
0
30:00
31:00
32:00
33:00
34:00
Time
6.9E3
5.5E3
4.1E3
2.8E3
1.4E3
0.0E0
4.4E3
3.5E3
2.7E3
1.8E3
8.8E2
1.3E7
1.1E7
8.1E6
5.4E6
2.7E6
8.4E6
6.8E6
5.1E6
3.4E6
1.7E6
5.6E3
4.5E3
3.4E3
2.3E3
1.1E3


File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
373.8207 S:3 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 208
36:10 A2.32E4
36:58 A1.17E4
375.8178 S:3 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 197
36:10 A1.84E4
36:17 A1.45E4
36:58 A1.14E4
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2649
36:17 A2.02E7
37:57 A1.77E7
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1767
36:08 A3.45E7
36:17 A3.95E7
37:57 A3.36E7
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 227
34:54 A3.45E3
35:10 A3.46E3
36:41 A1.24E3
37:07 A1.07E4
37:33 A1.37E4
37:38 A1.45E3
37:54 A4.21E3
38:15 A3.54E3
38:27 A3.55E3
38:39 A1.66E3
38:48 A448.54
35:00
36:00
37:00
38:00
39:00 Time


File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
407.7818 S:3 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 166
39:56
A1.75E4
409.7788 S:3 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 152
39:55
A1.81E4
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 572
39:54
A1.29E7
42:23
A1.04E7
419.8220 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 914
39:54
A2.88E7
42:23
A2.35E7
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 298
39:40
A3.40E3
39:52
A5.87E3
39:35
A5.03E3
39:47
A2.26E3
40:05
A5.54E3
40:41
A1.91E3
41:22
A3.69E3
41:33
A1.77E4
41:09
A2.79E3
41:38
A3.55E3
41:49
A5.16E3
42:24
A2.46E3
42:57
A4.27E3
43:27
A3.59E3
43:40
A5.30E3
43:12
A1.96E3
43:47
A3.12E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 6-FEB-2001 23:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 3 Text: 0_267_MB001 Vial# 17 File Text: AAP DB5
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 154
47:14 A1.90E4
47:20 A1.50E3
47:30 A903.13
443.7398 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 215
47:12 A1.97E4
45:04 A2.04E3
45:16 A858.80
46:37 A2.01E3
46:48 A1.42E3
46:57 A1.77E3
47:39 A1.54E3
48:19 A2.02E3
48:54 A2.60E3
453.7830 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 159
47:12 A1.69E7
455.7801 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1557
47:12 A1.91E7
513.6775 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 154
46:04 A1.06E3
46:19 A3.04E3
46:55 A5.63E3
47:16 A1.64E3
47:34 A1.56E3
47:44 A2.63E3
47:54 A1.16E3
48:44 A1.34E3
48:52 A1.33E3
45:00
46:00
47:00
48:00
49:00
Time

Sample ID: 1-S-M23-FB

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_001	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.465			110	94.3	106
1,2,3,7,8-PeCDD	ND	0.675			112	92	106
1,2,3,4,7,8-HxCDD	ND	1.41			110	94.3	106
1,2,3,6,7,8-HxCDD	ND	1.57			110	94.3	106
1,2,3,7,8,9-HxCDD	ND	1.4			110	94.3	106
1,2,3,4,6,7,8-HpCDD	3.73			A B	111	92.8	106
OCDD	21.3			A B	102	92.8	106
2,3,7,8-TCDF	ND	0.808			109	94.3	106
1,2,3,7,8-PeCDF	ND	1.43			105	92	106
2,3,4,7,8-PeCDF	ND	1.41			105	92	106
1,2,3,4,7,8-HxCDF	EMPC		1.94	A B	106	95.7	106
1,2,3,6,7,8-HxCDF	ND	0.517			106	95.7	106
2,3,4,6,7,8-HxCDF	ND	0.55			106	95.7	106
1,2,3,7,8,9-HxCDF	ND	0.628			106	95.7	106
1,2,3,4,6,7,8-HpCDF	1.64			A B	106	92.8	106
1,2,3,4,7,8,9-HpCDF	ND	0.962			106	92.8	106
OCDF	ND	3.53			102	92.8	106
Totals & TEQs							
TCDDs	ND	0.465					
PeCDDs	ND	0.675					
HxCDDs	ND	1.46					
HpCDDs	6.47						
TCDFs	ND	0.808					
PeCDFs	ND	1.42					
HxCDFs	ND		1.94				
HpCDFs	1.64						
Total PCDD/Fs	**29.4**		**31.3**				
TEQ (ND=0)	**0.0749**		**0.269**	**ITEF**			
TEQ (ND=DL/2)	**1.22**		**1.41**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date 12 Feb 01

Client ID: 1-S-M23-FB Filename: 010206P3 S: 4 Acq: 7-FEB-01 00:14:45 ConCal: 010206P3-
Lab ID: P1377_267_001 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	*	*	n	1.26	NotF»	*			608	2.5	0.465	
	1,2,3,7,8-PeCDD	*	*	n	1.01	NotF»	*			450	2.5	0.675	
	1,2,3,4,7,8-HxCDD	*	*	n	1.14	NotF»	*			975	2.5	1.41	
	1,2,3,6,7,8-HxCDD	*	*	n	1.02	NotF»	*			975	2.5	1.57	
	1,2,3,7,8,9-HxCDD	*	*	n	1.14	NotF»	*			975	2.5	1.40	
	1,2,3,4,6,7,8-HpCDD	5.27e+04	1.02	y	1.13	41:33	3.73			1047	2.5	1.90	
	OCDD	2.04e+05	0.82	y	1.03	46:55	21.3			822	2.5	2.56	
	2,3,7,8-TCDF	*	*	n	1.05	NotF»	*			1147	2.5	0.808	
	1,2,3,7,8-PeCDF	*	*	n	1.04	NotF»	*			1377	2.5	1.43	
	2,3,4,7,8-PeCDF	*	*	n	1.05	NotF»	*			1377	2.5	1.41	
	1,2,3,4,7,8-HxCDF	3.70e+04	1.53	n	1.13	36:09	1.94			824	2.5	0.566	
	1,2,3,6,7,8-HxCDF	*	*	n	1.24	NotF»	*			824	2.5	0.517	
	2,3,4,6,7,8-HxCDF	*	*	n	1.16	NotF»	*			824	2.5	0.550	
	1,2,3,7,8,9-HxCDF	*	*	n	1.02	NotF»	*			824	2.5	0.628	
	1,2,3,4,6,7,8-HpCDF	3.00e+04	1.19	y	1.54	39:55	1.64			923	2.5	0.810	
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.30	NotF»	*			923	2.5	0.962	
	OCDF	*	*	n	1.15	NotF»	*			1489	2.5	3.53	
													EMPC
	Total Tetra-Dioxins	*	*	n	1.26	NotF»	*			608	2.5	0.465	*
	Total Penta-Dioxins	*	*	n	1.01	NotF»	*			450	2.5	0.675	*
	Total Hexa-Dioxins	*	*	n	1.10	NotF»	*			975	2.5	1.46	*
	Total Hepta-Dioxins	9.15e+04	1.17	y	1.13	40:23	6.47			1047	2.5	1.90	6.47
	Total Tetra-Furans	*	*	n	1.05	NotF»	*			1147	2.5	0.808	*
	1st Fnc. Penta-Furans	*	*	n	1.05	NotF»	*			1599	2.5	1.65	*
	Total Penta-Furans	*	*	n	1.05	NotF»	*			1377	2.5	1.42	
	PeCDF Totals:						0.00						0.00
	Total Hexa-Furans	*	*	n	1.14	NotF»	*			824	2.5	0.562	1.94
	Total Hepta-Furans	3.00e+04	1.19	y	1.42	39:55	1.64			923	2.5	0.880	1.64
													Rec
IS	13C-2,3,7,8-TCDD	7.44e+07	0.79	y	1.13	27:46	4400						110
IS	13C-1,2,3,7,8-PeCDD	6.20e+07	1.57	y	0.93	33:13	4500						112
IS	13C-1,2,3,6,7,8-HxCDD	5.12e+07	1.26	y	0.93	37:14	4400						110
IS	13C-1,2,3,4,6,7,8-HpCDD	5.01e+07	1.04	y	0.91	41:32	4440						111
IS	13C-OCDD	3.73e+07	0.89	y	0.73	46:53	4080						102
IS	13C-2,3,7,8-TCDF	9.77e+07	0.78	y	1.06	26:53	4340						109
IS	13C-1,2,3,7,8-PeCDF	8.50e+07	1.57	y	0.96	31:44	4180						105
IS	13C-1,2,3,6,7,8-HxCDF	6.75e+07	0.52	y	1.28	36:17	4220						106
IS	13C-1,2,3,4,6,7,8-HpCDF	4.76e+07	0.45	y	0.90	39:54	4220						106
IS	13C-OCDF	4.12e+07	0.89	y	0.81	47:12	4080						102
RS/RT	13C-1,2,3,4-TCDD	5.96e+07	0.81	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	8.48e+07	0.78	y	1.00	25:31	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.99e+07	1.27	y	1.00	37:33	4000						-
PS	37Cl-2,3,7,8-TCDD	3.61e+07			0.51	27:48	3770						94.3
PS	13C-2,3,4,7,8-PeCDF	7.61e+07	1.57	y	0.97	32:52	3680						92.0
PS	13C-1,2,3,4,7,8-HxCDD	4.46e+07	1.25	y	0.92	37:07	3770						94.3
PS	13C-1,2,3,4,7,8-HxCDF	5.88e+07	0.52	y	0.91	36:08	3830						95.7
PS	13C-1,2,3,4,7,8,9-HpCDF	3.77e+07	0.44	y	0.85	42:22	3710						92.8
AS	13C-1,2,3,7,8,9-HxCDF	5.64e+07	0.52	y	1.07	37:56	4230						106

Reviewer: CL

Date: 11 Feb 01

Analyst: GAG

Date: 11 Feb 01

Totals class: TCDD EMPC Function: 1 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	y	*	2,3,7,8-TCDD

Totals class: PeCDD EMPC Function: 2 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: HxCDD EMPC Function: 3 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: HpCDD EMPC Function: 4 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: 6.4689 Unnamed Conc.: 2.741

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
40:23	2.086e+04	y	1.789e+04	y	1.17 y	3.875e+04	3.875e+04	4.26e+00	y	2.74	
41:33	2.665e+04	y	2.606e+04	y	1.02 y	5.271e+04	5.271e+04	6.86e+00	y	3.73	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 11

File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp mod.	m2 Resp mod.	RA	Resp	Adj_Resp	S/N		Conc. Name
NotF»	* n	* n	* n	*	*	*	n	*

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp mod.	m2 Resp mod.	RA	Resp	Adj_Resp	S/N		Conc. Name
NotF»	* n	* n	* n	*	*	*	n	*

Totals class: PeCDF EMPC Function: 2 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp mod.	m2 Resp mod.	RA	Resp	Adj_Resp	S/N		Conc. Name
NotF»	* n	* n	* n	*	*	*	n	*

Totals class: HxCDF EMPC Function: 3 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

Total Conc.: 1.9363 Unnamed Conc.: *

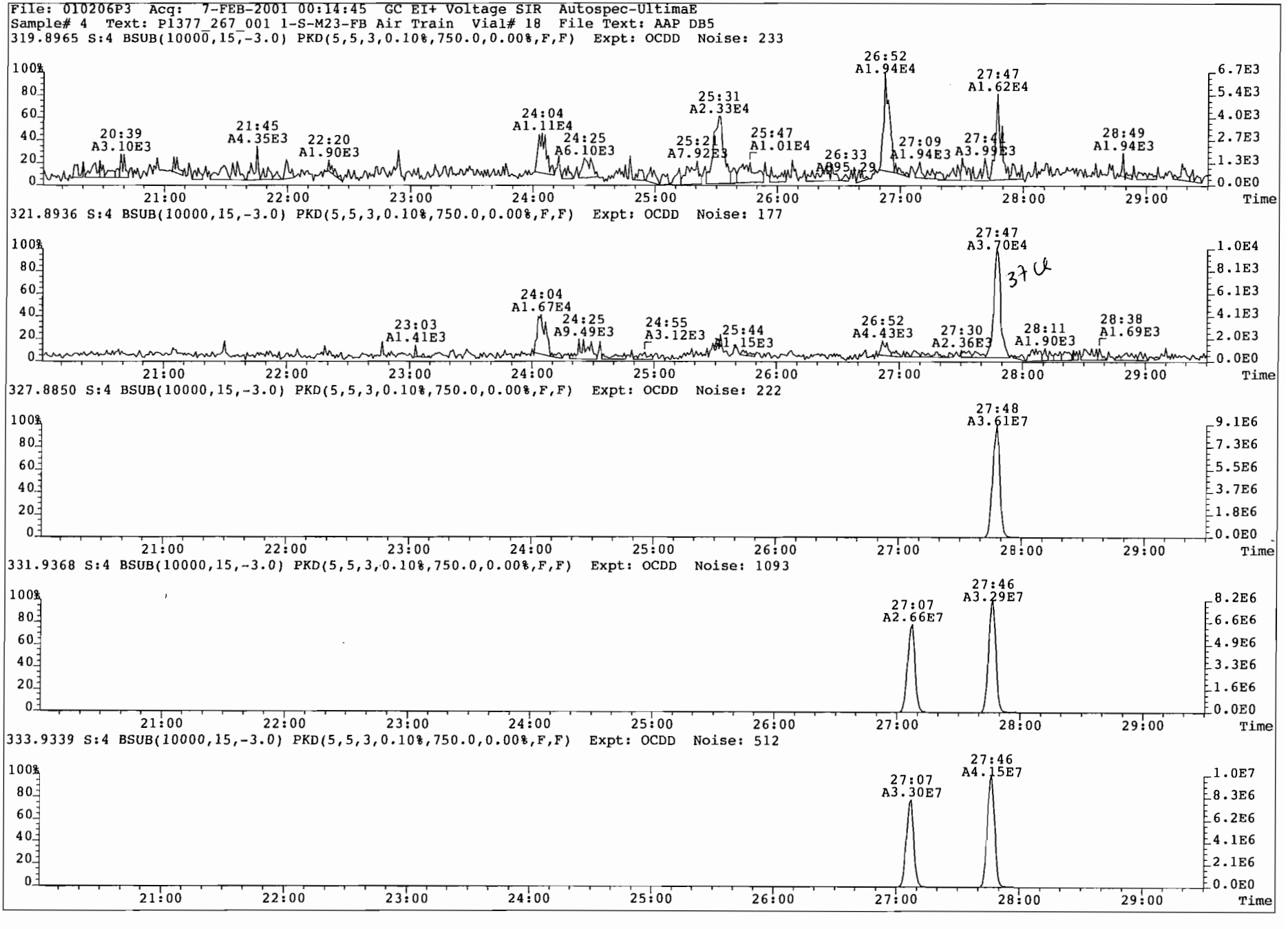
RT	m1 Resp mod.	m2 Resp mod.	RA	Resp	Adj_Resp	S/N		Conc. Name
36:09	2.525e+04 y	1.651e+04 y	1.53	n 4.177e+04	3.699e+04	6.68e+00	y	1.94 1,2,3,4,7,8-HxCDF

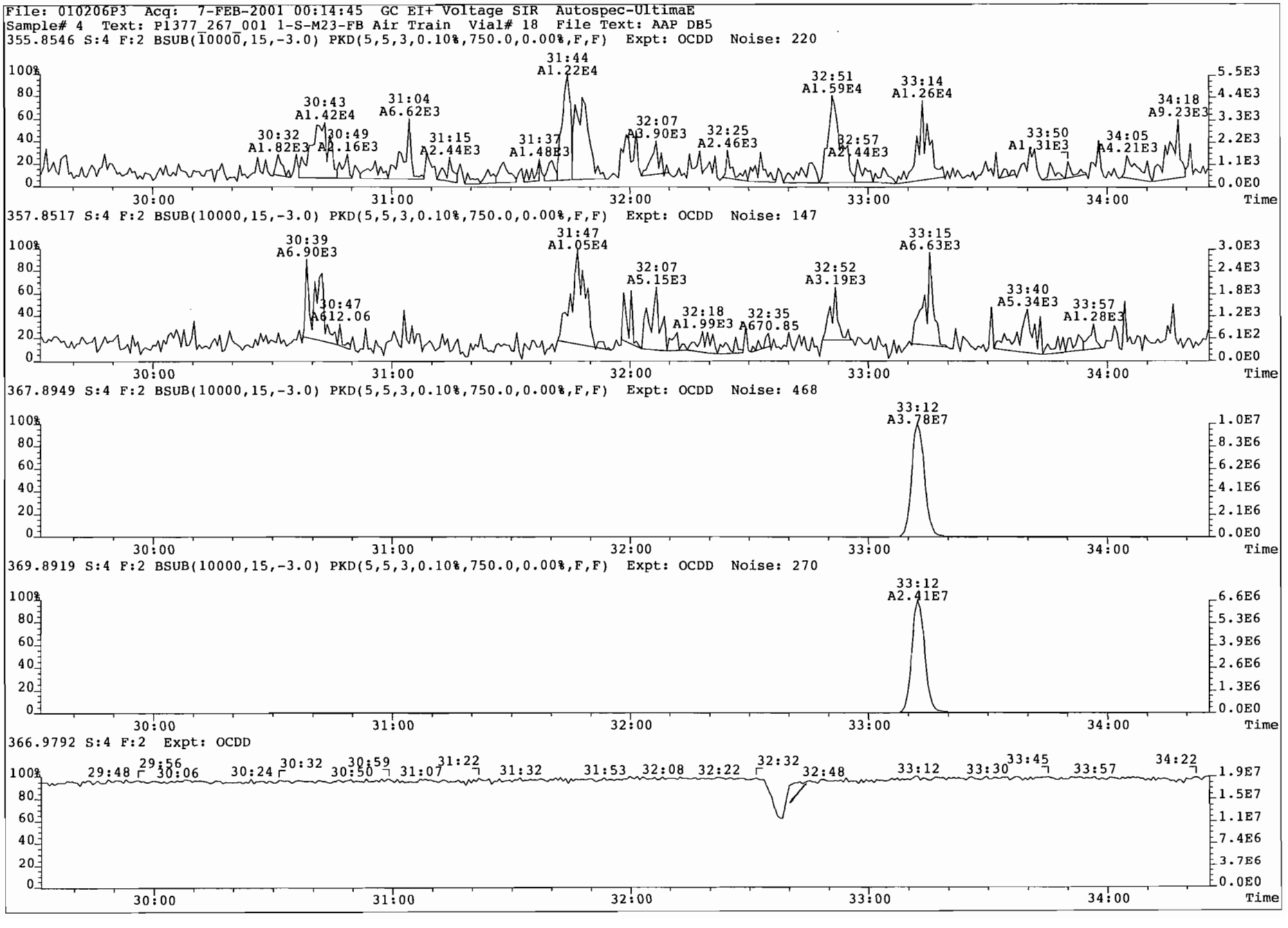
Totals class: HpCDF EMPC Function: 4 Run #: 11
File Name: 010206P3 Sample #: 4 Sample text: P1377_267_001 1-S-M23-FB Air Train

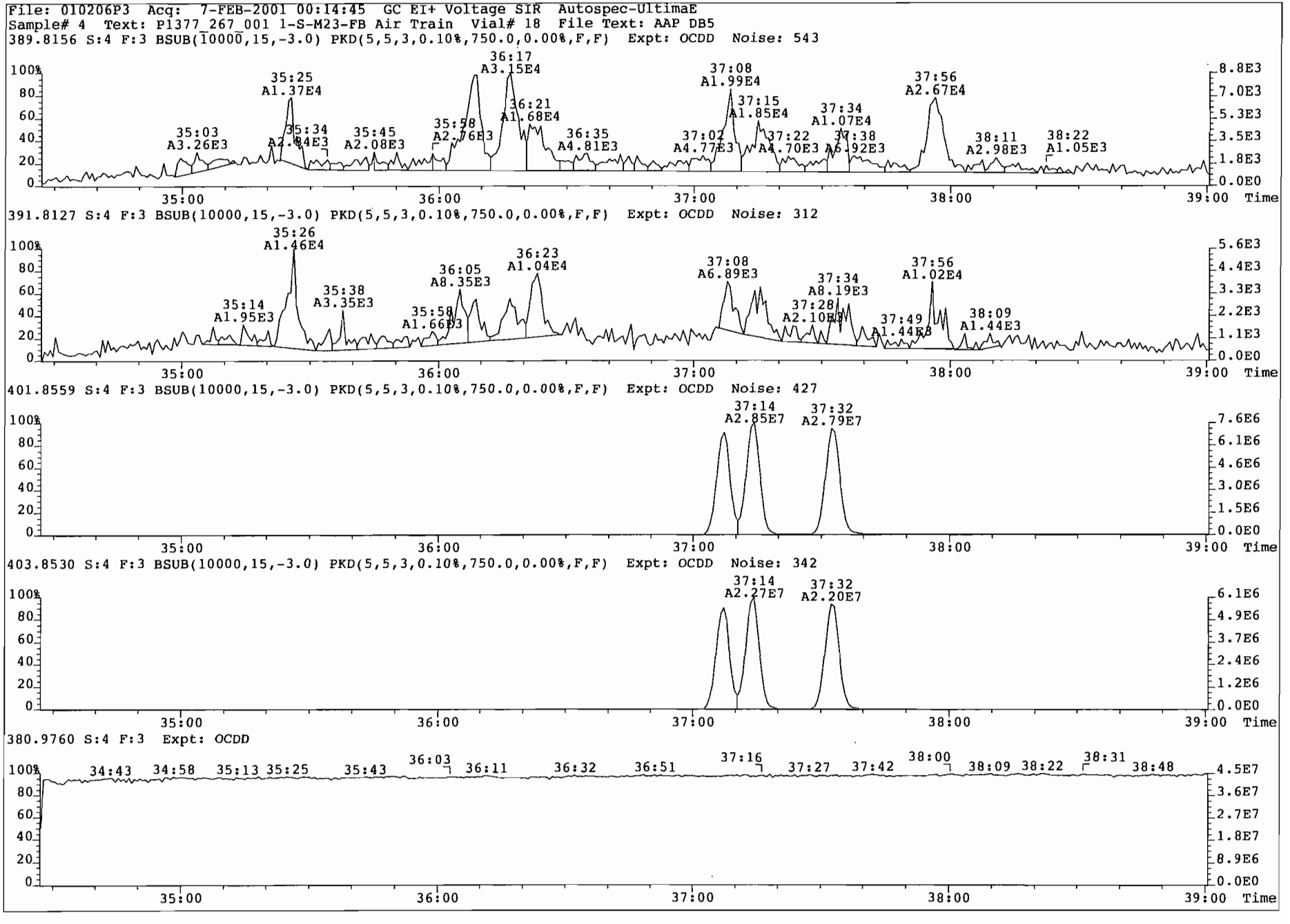
Acquired: 7-FEB-01 00:14:45 Processed: 7-FEB-01 17:17:23

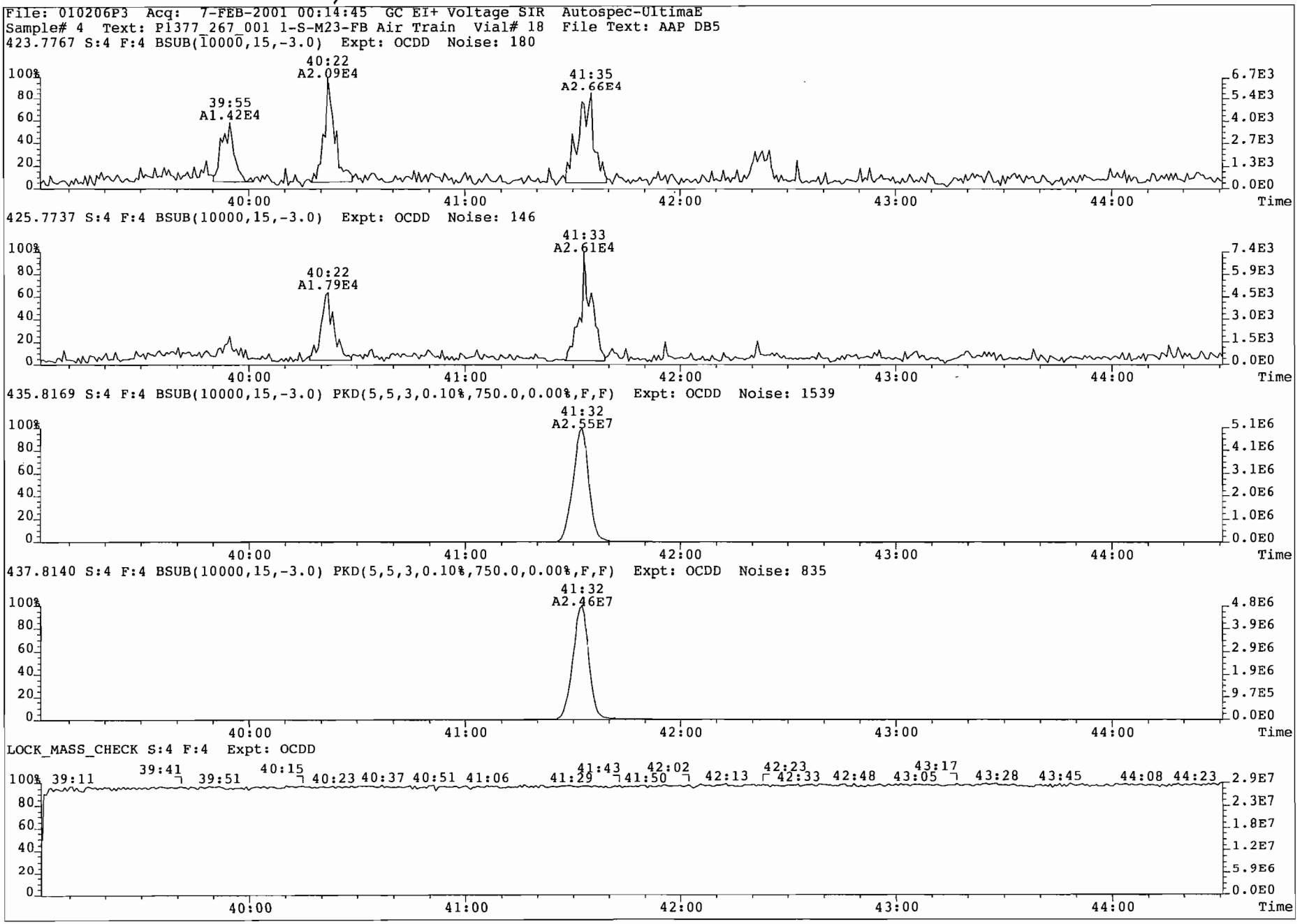
Total Conc.: 1.6361 Unnamed Conc.: *

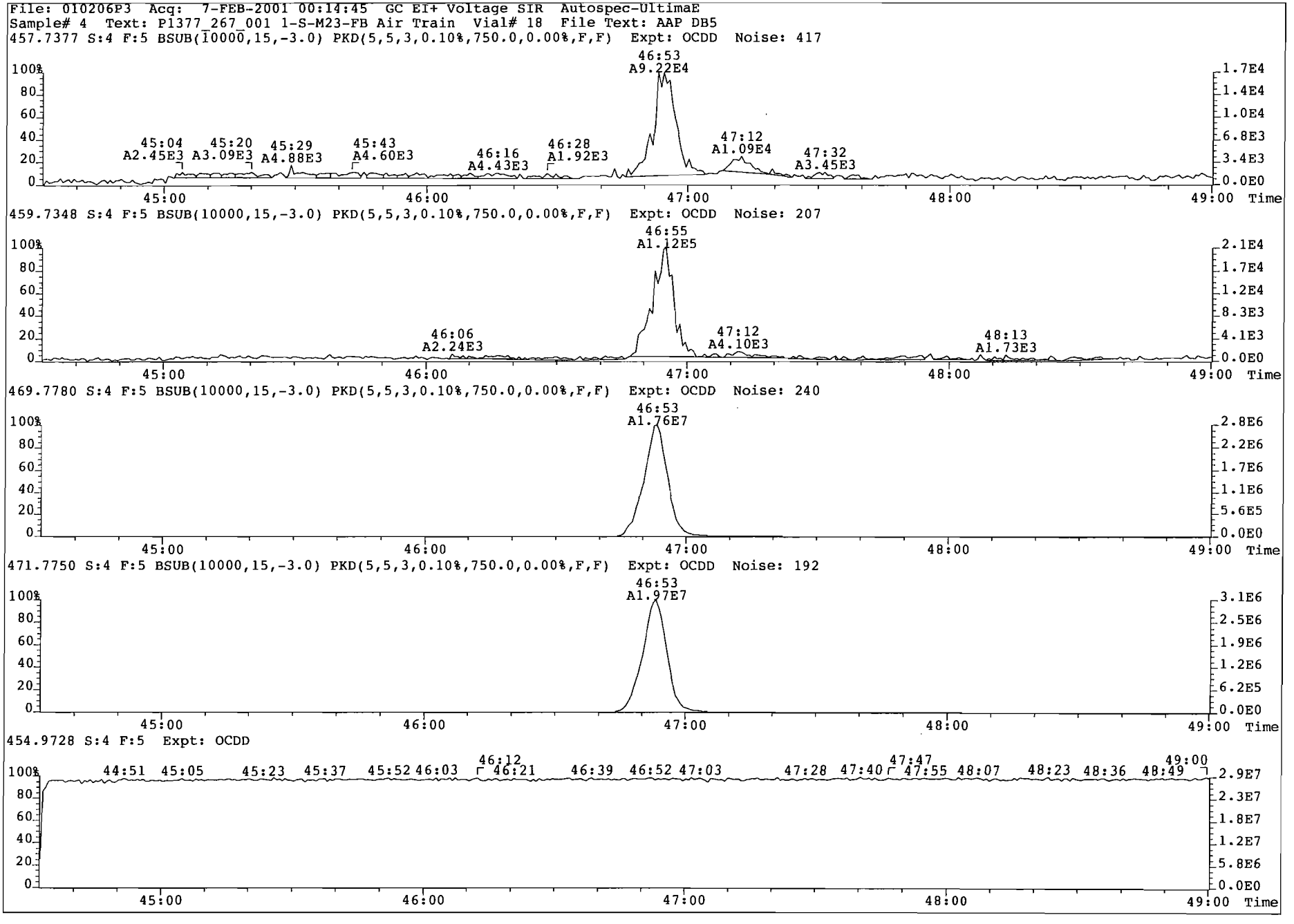
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	1.631e+04	y	1.368e+04	n	1.19	y	2.999e+04	2.999e+04	3.90e+00	y	1.64	1,2,3,4,6,7,8-HpCDF

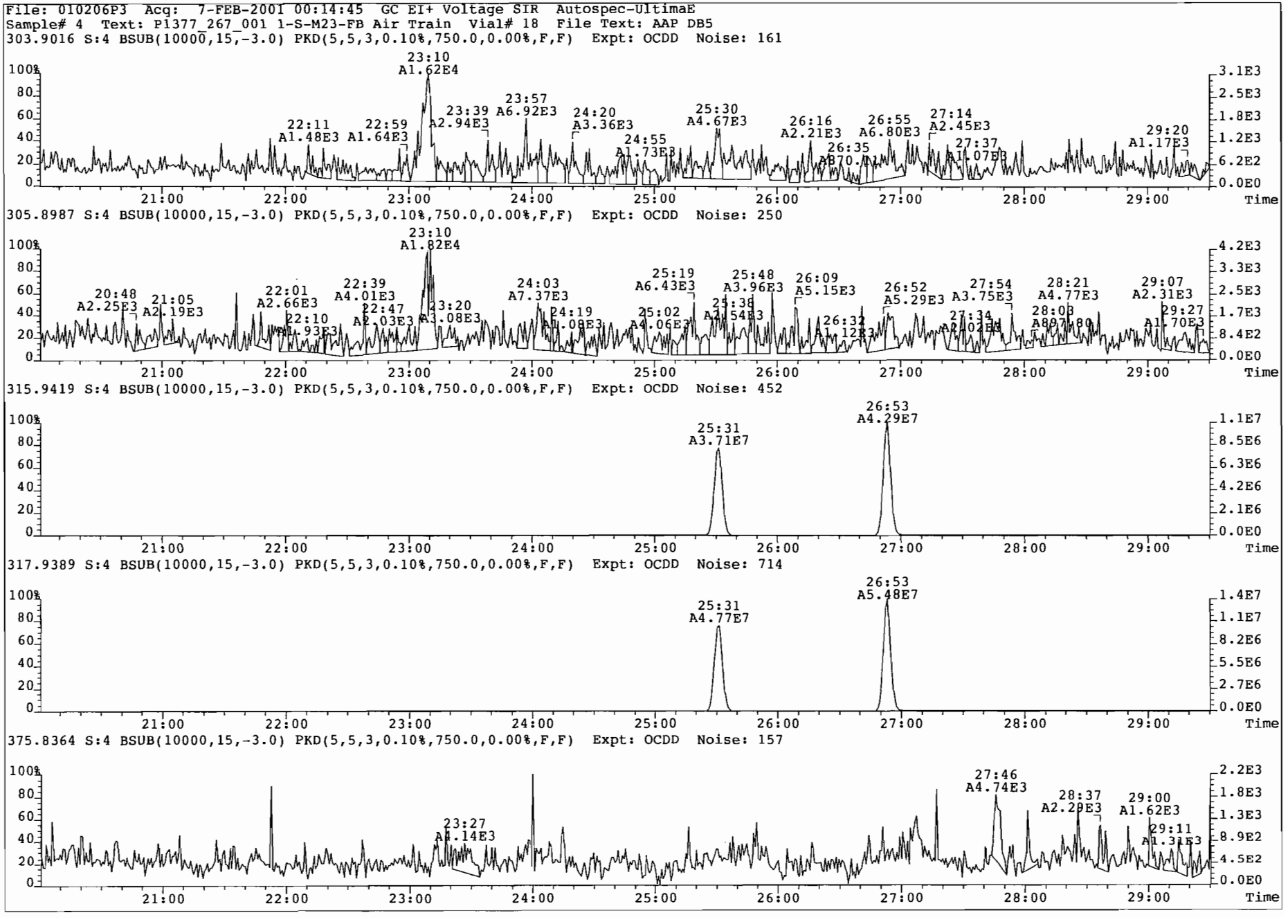

File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 233
20:39 A3.10E3
21:45 A4.35E3
22:20 A1.90E3
24:04 A1.11E4
24:25 A6.10E3
25:21 A7.92E3
25:31 A2.33E4
25:47 A1.01E4
26:33 A9.95E2
26:52 A1.94E4
27:09 A1.94E3
27:41 A3.99E3
27:47 A1.62E4
28:49 A1.94E3
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 177
23:03 A1.41E3
24:04 A1.67E4
24:25 A9.49E3
24:55 A3.12E3
25:44 A1.15E3
26:52 A4.43E3
27:30 A2.36E3
27:47 A3.70E4
28:11 A1.90E3
28:38 A1.69E3
37 d
327.8850 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 222
27:48 A3.61E7
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1093
27:07 A2.66E7
27:46 A3.29E7
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 512
27:07 A3.30E7
27:46 A4.15E7
Time

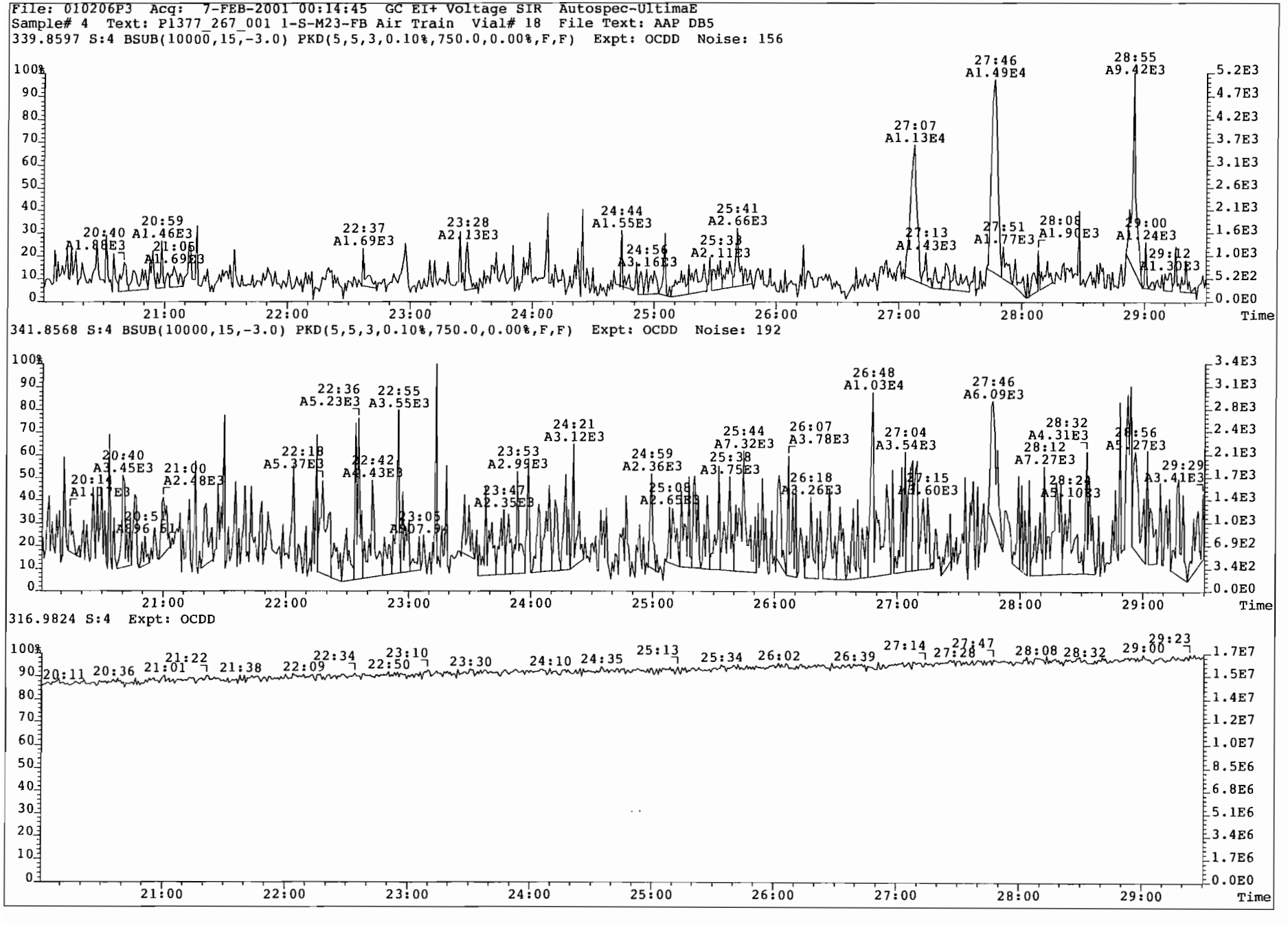

File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 220
30:32 A1.82E3
30:43 A1.42E4
30:49 A2.16E3
31:04 A6.62E3
31:15 A2.44E3
31:37 A1.48E3
31:44 A1.22E4
32:07 A3.90E3
32:25 A2.46E3
32:51 A1.59E4
32:57 A2.44E3
33:14 A1.26E4
33:50 A1.31E3
34:05 A4.21E3
34:18 A9.23E3
357.8517 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 147
30:39 A6.90E3
30:47 A612.06
31:47 A1.05E4
32:07 A5.15E3
32:18 A1.99E3
32:35 A670.85
32:52 A3.19E3
33:15 A6.63E3
33:40 A5.34E3
33:57 A1.28E3
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 468
33:12 A3.78E7
369.8919 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 270
33:12 A2.41E7
366.9792 S:4 F:2 Expt: OCDD
29:48 29:56 30:06 30:24 30:32 30:50 30:59 31:07 31:22 31:32 31:53 32:08 32:22 32:32 32:48 33:12 33:30 33:45 33:57 34:22
Time

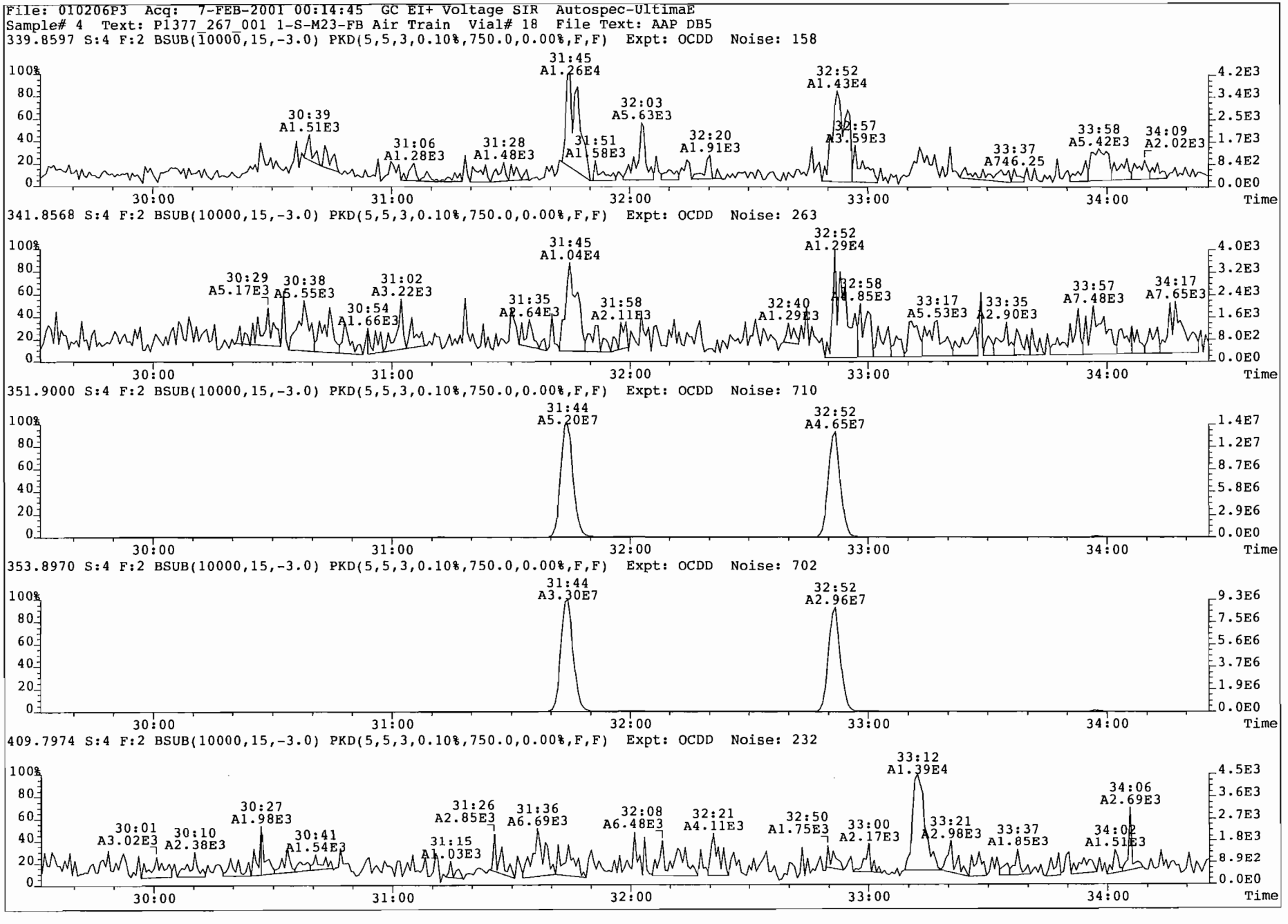

File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 543
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 312
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 427
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 342
380.9760 S:4 F:3 Expt: OCDD
Time

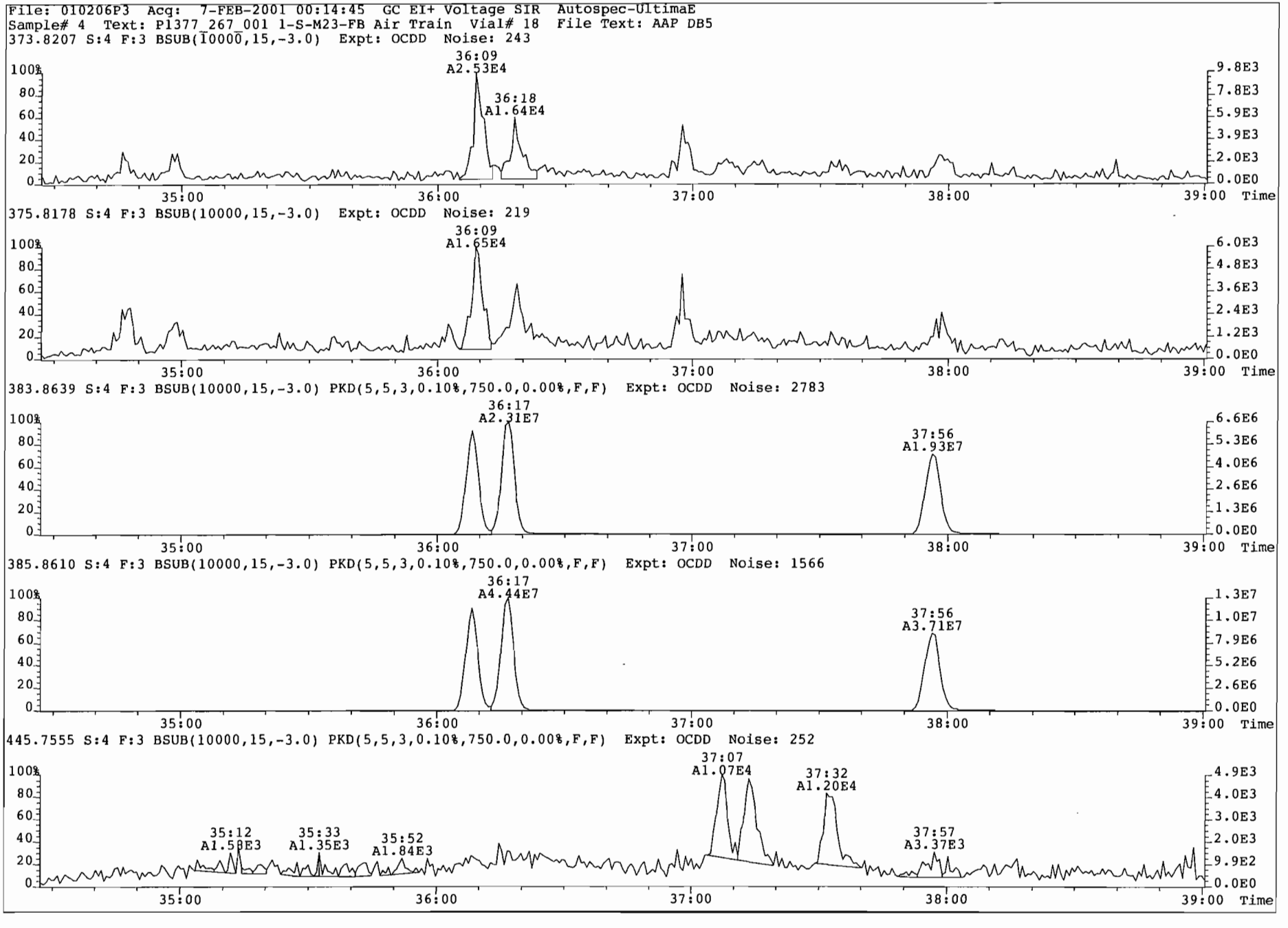

File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 180
39:55 A1.42E4
40:22 A2.09E4
41:35 A2.66E4
425.7737 S:4 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 146
40:22 A1.79E4
41:33 A2.61E4
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1539
41:32 A2.55E7
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 835
41:32 A2.46E7
LOCK_MASS_CHECK S:4 F:4 Expt: OCDD
39:11 39:41 39:51 40:15 40:23 40:37 40:51 41:06 41:29 41:43 41:50 42:02 42:13 42:23 42:33 42:48 43:05 43:17 43:28 43:45 44:08 44:23
40:00 41:00 42:00 43:00 44:00 Time

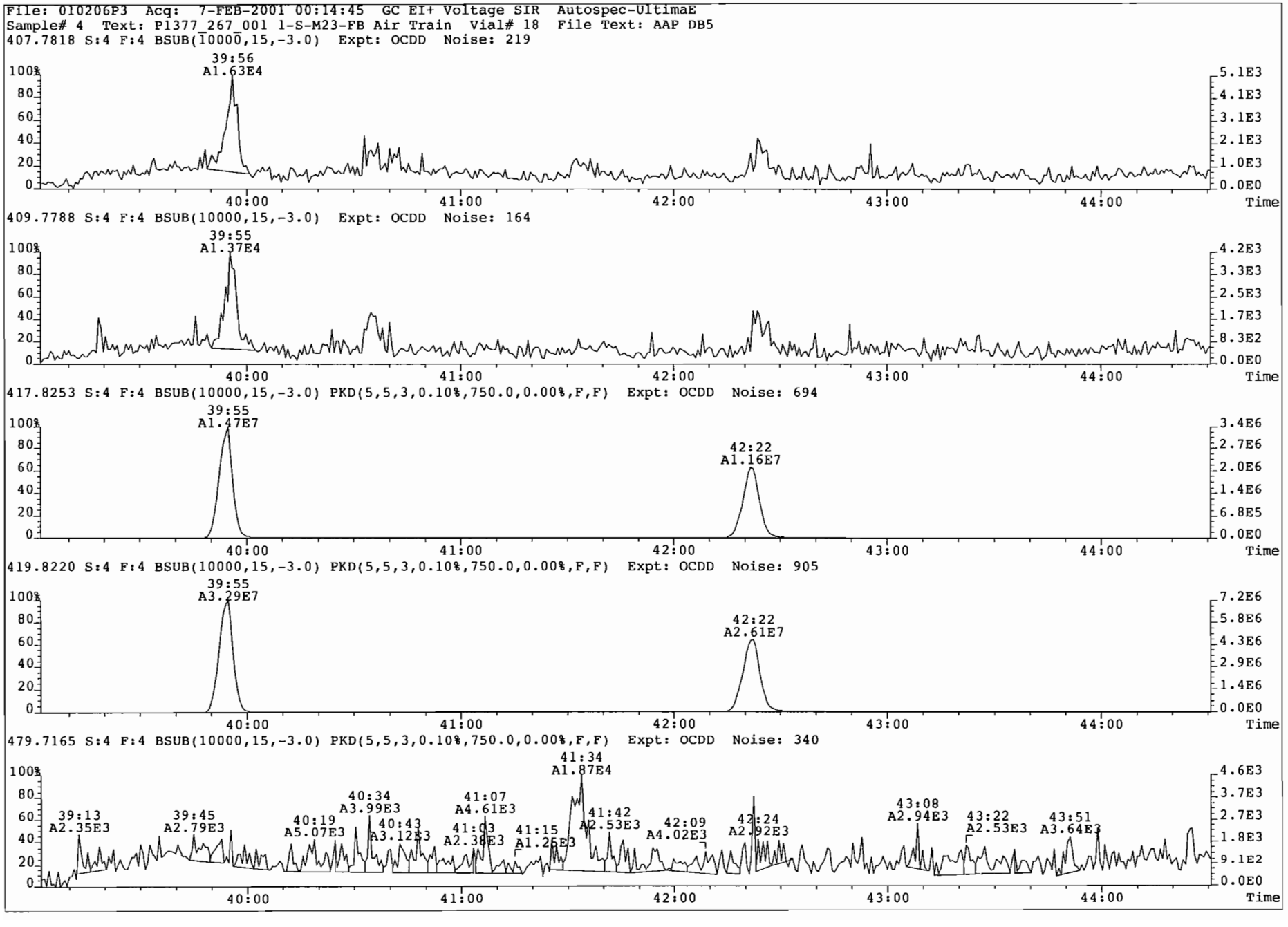

File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 417
46:53 A9.22E4
45:04 A2.45E3
45:20 A3.09E3
45:29 A4.88E3
45:43 A4.60E3
46:16 A4.43E3
46:28 A1.92E3
47:12 A1.09E4
47:32 A3.45E3
459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 207
46:55 A1.12E5
46:06 A2.24E3
47:12 A4.10E3
48:13 A1.73E3
469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 240
46:53 A1.76E7
471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 192
46:53 A1.97E7
454.9728 S:4 F:5 Expt: OCDD
44:51 45:05 45:23 45:37 45:52 46:03 46:12 46:21 46:39 46:52 47:03 47:28 47:40 47:47 47:55 48:07 48:23 48:36 48:49 49:00
45:00 46:00 47:00 48:00 49:00 Time

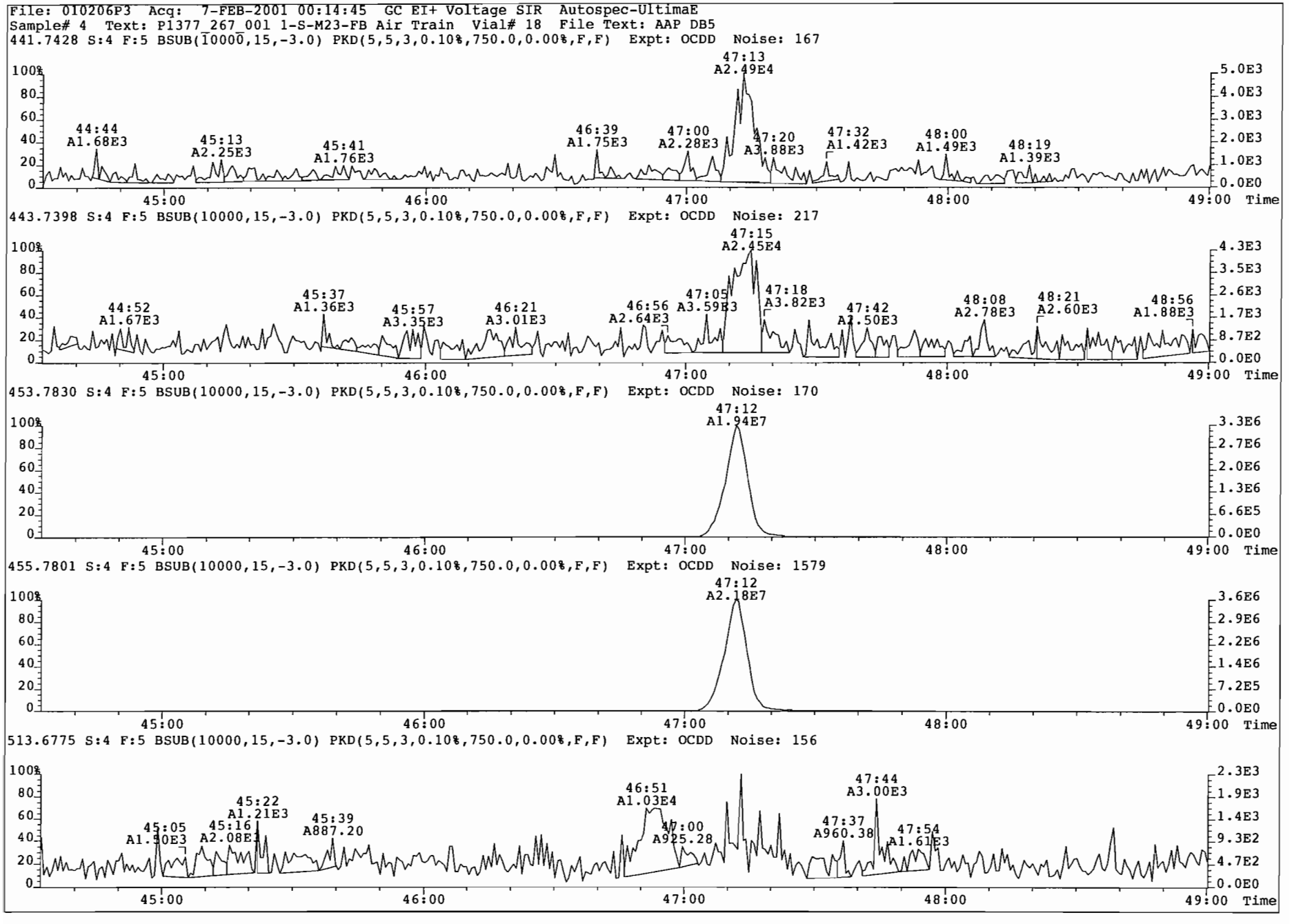

File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 161
23:10 A1.62E4
22:11 A1.48E3
22:59 A1.64E3
23:39 A2.94E3
23:57 A6.92E3
24:20 A3.36E3
24:55 A1.73E3
25:30 A4.67E3
26:16 A2.21E3
26:55 A6.80E3
27:14 A2.45E3
27:37 A1.07E3
29:20 A1.17E3
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 250
23:10 A1.82E4
20:48 A2.25E3
21:05 A2.19E3
22:01 A2.66E3
22:39 A4.01E3
24:03 A7.37E3
25:19 A6.43E3
25:48 A3.96E3
26:09 A5.15E3
26:52 A5.29E3
27:54 A3.75E3
28:21 A4.77E3
29:07 A2.31E3
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 452
25:31 A3.71E7
26:53 A4.29E7
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 714
25:31 A4.77E7
26:53 A5.48E7
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 157
23:27 A4.14E3
27:46 A4.74E3
28:37 A2.29E3
29:00 A1.62E3
29:11 A1.31E3
Time


File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 156
27:46 A1.49E4
28:55 A9.42E3
27:07 A1.13E4
20:59 A1.46E3
20:40 A1.88E3
21:06 A1.69E3
22:37 A1.69E3
23:28 A2.13E3
24:44 A1.55E3
24:56 A3.16E3
25:41 A2.66E3
25:33 A2.11E3
27:13 A1.43E3
27:51 A1.77E3
28:08 A1.90E3
29:00 A1.24E3
29:12 A1.30E3
Time
341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 192
26:48 A1.03E4
27:46 A6.09E3
22:36 A5.23E3
22:55 A3.55E3
24:21 A3.12E3
20:40 A3.45E3
21:00 A2.48E3
22:18 A5.37E3
22:42 A4.43E3
23:53 A2.99E3
24:59 A2.36E3
25:44 A7.32E3
26:07 A3.78E3
25:38 A3.75E3
27:04 A3.54E3
28:32 A4.31E3
28:12 A7.27E3
29:29 A3.41E3
Time
316.9824 S:4 Expt: OCDD
29:23
Time


File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 158
31:45 A1.26E4
32:52 A1.43E4
32:03 A5.63E3
30:39 A1.51E3
31:06 A1.28E3
31:28 A1.48E3
31:51 A1.58E3
32:20 A1.91E3
32:57 A3.59E3
33:37 A746.25
33:58 A5.42E3
34:09 A2.02E3
341.8568 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 263
32:52 A1.29E4
31:45 A1.04E4
30:29 A5.17E3
30:38 A5.55E3
31:02 A3.22E3
30:54 A1.66E3
31:35 A2.64E3
31:58 A2.11E3
32:40 A1.29E3
32:58 A4.85E3
33:17 A5.53E3
33:35 A2.90E3
33:57 A7.48E3
34:17 A7.65E3
351.9000 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 710
31:44 A5.20E7
32:52 A4.65E7
353.8970 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 702
31:44 A3.30E7
32:52 A2.96E7
409.7974 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 232
33:12 A1.39E4
34:06 A2.69E3
30:27 A1.98E3
31:26 A2.85E3
31:36 A6.69E3
32:08 A6.48E3
32:21 A4.11E3
32:50 A1.75E3
33:00 A2.17E3
33:21 A2.98E3
33:37 A1.85E3
34:02 A1.51E3
30:01 A3.02E3
30:10 A2.38E3
30:41 A1.54E3
31:15 A1.03E3
100%
80
60
40
20
0
30:00
31:00
32:00
33:00
34:00
Time
4.2E3
3.4E3
2.5E3
1.7E3
8.4E2
0.0E0
4.0E3
3.2E3
2.4E3
1.6E3
8.0E2
1.4E7
1.2E7
8.7E6
5.8E6
2.9E6
9.3E6
7.5E6
5.6E6
3.7E6
1.9E6
4.5E3
3.6E3
2.7E3
1.8E3
8.9E2


File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
373.8207 S:4 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 243
36:09
A2.53E4
36:18
A1.64E4
375.8178 S:4 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 219
36:09
A1.65E4
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2783
36:17
A2.31E7
37:56
A1.93E7
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1566
36:17
A4.44E7
37:56
A3.71E7
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 252
37:07
A1.07E4
37:32
A1.20E4
35:12
A1.58E3
35:33
A1.35E3
35:52
A1.84E3
37:57
A3.37E3
35:00
36:00
37:00
38:00
39:00
Time


File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 219
39:56
A1.63E4
409.7788 S:4 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 164
39:55
A1.37E4
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 694
39:55
A1.47E7
42:22
A1.16E7
419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 905
39:55
A3.29E7
42:22
A2.61E7
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 340
41:34
A1.87E4
39:13
A2.35E3
39:45
A2.79E3
40:19
A5.07E3
40:34
A3.99E3
40:43
A3.12E3
41:03
A2.38E3
41:07
A4.61E3
41:15
A1.26E3
41:42
A2.53E3
42:09
A4.02E3
42:24
A2.92E3
43:08
A2.94E3
43:22
A2.53E3
43:51
A3.64E3
100%
80
60
40
20
0
40:00
41:00
42:00
43:00
44:00
Time
5.1E3
4.1E3
3.1E3
2.1E3
1.0E3
0.0E0
4.2E3
3.3E3
2.5E3
1.7E3
8.3E2
0.0E0
3.4E6
2.7E6
2.0E6
1.4E6
6.8E5
0.0E0
7.2E6
5.8E6
4.3E6
2.9E6
1.4E6
0.0E0
4.6E3
3.7E3
2.7E3
1.8E3
9.1E2
0.0E0


File: 010206P3 Acq: 7-FEB-2001 00:14:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 4 Text: P1377_267_001 1-S-M23-FB Air Train Vial# 18 File Text: AAP DB5
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 167
47:13 A2.49E4
44:44 A1.68E3
45:13 A2.25E3
45:41 A1.76E3
46:39 A1.75E3
47:00 A2.28E3
47:20 A3.88E3
47:32 A1.42E3
48:00 A1.49E3
48:19 A1.39E3
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 217
47:15 A2.45E4
44:52 A1.67E3
45:37 A1.36E3
45:57 A3.35E3
46:21 A3.01E3
46:56 A2.64E3
47:05 A3.59E3
47:18 A3.82E3
47:42 A2.50E3
48:08 A2.78E3
48:21 A2.60E3
48:56 A1.88E3
453.7830 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 170
47:12 A1.94E7
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1579
47:12 A2.18E7
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 156
45:05 A1.90E3
45:16 A2.08E3
45:22 A1.21E3
45:39 A887.20
46:51 A1.03E4
47:00 A925.28
47:37 A960.38
47:44 A3.00E3
47:54 A1.61E3
45:00
46:00
47:00
48:00
49:00 Time

Sample ID: 1-S-M23-1

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_002	Date Extracted:	01 Feb 01
Date Collected:	23 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	EMPC		1.78	A B	107	90.8	101
1,2,3,7,8-PeCDD	5.75			A	114	89.3	101
1,2,3,4,7,8-HxCDD	8			A B	102	91.4	101
1,2,3,6,7,8-HxCDD	17			A	102	91.4	101
1,2,3,7,8,9-HxCDD	11.9			A	102	91.4	101
1,2,3,4,6,7,8-HpCDD	108			B	105	89.7	101
OCDD	355			B	98.2	89.7	101
2,3,7,8-TCDF	12.1				101	90.8	101
1,2,3,7,8-PeCDF	25.4			A	98.8	89.3	101
2,3,4,7,8-PeCDF	32.1			A	98.8	89.3	101
1,2,3,4,7,8-HxCDF	33.3			A B	99.3	90.8	101
1,2,3,6,7,8-HxCDF	36.1			A B	99.3	90.8	101
2,3,4,6,7,8-HxCDF	35.5			A B	99.3	90.8	101
1,2,3,7,8,9-HxCDF	11.1			A	99.3	90.8	101
1,2,3,4,6,7,8-HpCDF	80			B	98.6	89.7	101
1,2,3,4,7,8,9-HpCDF	13.9			A	98.6	89.7	101
OCDF	28.6			A	97.8	89.7	101
Totals & TEQs							
TCDDs	67.7		69.5				
PeCDDs	130		134				
HxCDDs	268		272				
HpCDDs	199						
TCDFs	382						
PeCDFs	343		359				
HxCDFs	289						
HpCDFs	128						
Total PCDD/Fs	**2190**		**2210**				
TEQ (ND=0)	**39.1**		**40.9**	**ITEF**			
TEQ (ND=DL/2)	**39.1**		**40.9**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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North Carolina 28405
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web: www.ultratrace.com

Reviewer .....

Date 12Feb01

Client ID: 1-S-M23-1 Filename: 010206P3 S: 5 Acq: 7-FEB-01 01:06:24 ConCal: 010206P3-
Lab ID: P1377_267_002 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	3.80e+04	0.47	n	1.26	27:47	1.78			1147	2.5	0.964	
	1,2,3,7,8-PeCDD	8.54e+04	1.47	y	1.01	33:14	5.75			1019	2.5	1.63	
	1,2,3,4,7,8-HxCDD	1.08e+05	1.17	y	1.14	37:07	8.00			915	2.5	1.35	
	1,2,3,6,7,8-HxCDD	2.05e+05	1.27	y	1.02	37:15	17.0			915	2.5	1.51	
	1,2,3,7,8,9-HxCDD	1.61e+05	1.18	y	1.14	37:34	11.9			915	2.5	1.35	
	1,2,3,4,6,7,8-HpCDD	1.44e+06	1.00	y	1.13	41:33	108			2411	2.5	4.59	
	OCDD	3.24e+06	0.89	y	1.03	46:54	355			598	2.5	1.93	
	2,3,7,8-TCDF	2.85e+05	0.75	y	1.05	26:54	12.1			1318	2.5	1.05	
	1,2,3,7,8-PeCDF	5.28e+05	1.59	y	1.04	31:45	25.4			1729	2.5	1.87	
	2,3,4,7,8-PeCDF	6.76e+05	1.55	y	1.05	32:52	32.1			1729	2.5	1.84	
	1,2,3,4,7,8-HxCDF	5.92e+05	1.30	y	1.13	36:09	33.3			973	2.5	0.702	
	1,2,3,6,7,8-HxCDF	7.03e+05	1.27	y	1.24	36:17	36.1			973	2.5	0.642	
	2,3,4,6,7,8-HxCDF	6.51e+05	1.27	y	1.16	36:57	35.5			973	2.5	0.682	
	1,2,3,7,8,9-HxCDF	1.77e+05	1.32	y	1.02	37:59	11.1			973	2.5	0.780	
	1,2,3,4,6,7,8-HpCDF	1.36e+06	1.01	y	1.54	39:55	80.0			1207	2.5	1.13	
	1,2,3,4,7,8,9-HpCDF	1.98e+05	1.14	y	1.30	42:23	13.9			1207	2.5	1.35	
	OCDF	3.21e+05	0.84	y	1.15	47:13	28.6			1398	2.5	3.32	
													EMPC
	Total Tetra-Dioxins	1.45e+06	0.80	y	1.26	24:04	67.7			1147	2.5	0.964	69.5
	Total Penta-Dioxins	1.94e+06	1.62	y	1.01	30:41	130			1019	2.5	1.63	134
	Total Hexa-Dioxins	3.48e+06	1.15	y	1.10	35:25	268			915	2.5	1.40	272
	Total Hepta-Dioxins	2.63e+06	1.07	y	1.13	40:22	199			2411	2.5	4.59	199
	Total Tetra-Furans	9.01e+06	0.79	y	1.05	21:54	382			1318	2.5	1.05	382
	1st Fnc. Penta-Furans	7.77e+05	1.55	y	1.05	28:54	37.2			1624	2.5	1.74	37.2
	Total Penta-Furans	6.40e+06	1.49	y	1.05	30:28	306			1729	2.5	1.85	
	PeCDF Totals:						343						358
	Total Hexa-Furans	5.22e+06	1.19	y	1.14	34:46	289			973	2.5	0.698	289
	Total Hepta-Furans	2.09e+06	1.01	y	1.42	39:55	128			1207	2.5	1.23	128
													Rec
IS	13C-2,3,7,8-TCDD	6.77e+07	0.79	y	1.13	27:46	4290						107
IS	13C-1,2,3,7,8-PeCDD	5.87e+07	1.59	y	0.93	33:12	4550						114
IS	13C-1,2,3,6,7,8-HxCDD	4.72e+07	1.25	y	0.93	37:14	4090						102
IS	13C-1,2,3,4,6,7,8-HpCDD	4.69e+07	1.06	y	0.91	41:32	4190						105
IS	13C-OCDD	3.56e+07	0.90	y	0.73	46:53	3930						98.2
IS	13C-2,3,7,8-TCDF	9.03e+07	0.79	y	1.06	26:53	4030						101
IS	13C-1,2,3,7,8-PeCDF	7.99e+07	1.58	y	0.96	31:44	3950						98.8
IS	13C-1,2,3,6,7,8-HxCDF	6.29e+07	0.52	y	1.28	36:17	3970						99.3
IS	13C-1,2,3,4,6,7,8-HpCDF	4.40e+07	0.45	y	0.90	39:54	3940						98.6
IS	13C-OCDF	3.92e+07	0.89	y	0.81	47:12	3910						97.8
RS/RT	13C-1,2,3,4-TCDD	5.57e+07	0.80	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	8.44e+07	0.78	y	1.00	25:30	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.94e+07	1.26	y	1.00	37:33	4000						-
PS	37Cl-2,3,7,8-TCDD	3.16e+07			0.51	27:47	3630						90.8
PS	13C-2,3,4,7,8-PeCDF	6.95e+07	1.56	y	0.97	32:52	3570						89.3
PS	13C-1,2,3,4,7,8-HxCDD	3.98e+07	1.26	y	0.92	37:07	3660						91.4
PS	13C-1,2,3,4,7,8-HxCDF	5.20e+07	0.52	y	0.91	36:08	3630						90.8
PS	13C-1,2,3,4,7,8,9-HpCDF	3.37e+07	0.45	y	0.85	42:22	3590						89.7
AS	13C-1,2,3,7,8,9-HxCDF	5.36e+07	0.52	y	1.07	37:57	4060						101

Reviewer: CE
Date: 11 Feb 01
Analyst: GAG
Date: 11 Feb 01

Totals class: TCDD EMPC Function: 1 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 69.513 Unnamed Conc.: 67.735

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:04	3.043e+05	n	3.818e+05	n	0.80	y	6.861e+05	6.861e+05	7.37e+01	y	32.1	
24:26	1.042e+05	n	1.362e+05	n	0.77	y	2.404e+05	2.404e+05	2.21e+01	y	11.3	
24:52	1.719e+04	y	2.230e+04	y	0.77	y	3.948e+04	3.948e+04	3.86e+00	y	1.85	
25:54	3.964e+04	y	5.562e+04	y	0.71	y	9.526e+04	9.526e+04	1.19e+01	y	4.46	
26:07	3.685e+04	y	5.188e+04	y	0.71	y	8.873e+04	8.873e+04	1.13e+01	y	4.15	
26:19	2.714e+04	y	3.089e+04	y	0.88	y	5.803e+04	5.803e+04	7.53e+00	y	2.72	
26:44	1.898e+04	y	2.826e+04	y	0.67	y	4.724e+04	4.724e+04	6.32e+00	y	2.21	
27:07	2.831e+04	y	3.720e+04	y	0.76	y	6.551e+04	6.551e+04	8.54e+00	y	3.07	
27:30	3.942e+04	y	5.116e+04	y	0.77	y	9.058e+04	9.058e+04	9.55e+00	y	4.24	
27:47	1.652e+04	n	3.536e+04	n	0.47	n	5.188e+04	3.797e+04	8.57e+00	y	1.78	2,3,7,8-TCDD
28:07	1.590e+04	n	1.959e+04	n	0.81	y	3.548e+04	3.548e+04	4.40e+00	y	1.66	

Totals class: PeCDD EMPC Function: 2 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 133.53 Unnamed Conc.: 127.783

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:41	3.836e+05	n	2.370e+05	n	1.62	y	6.206e+05	6.206e+05	4.66e+01	y	41.8	
31:13	2.553e+04	y	1.813e+04	n	1.41	y	4.366e+04	4.366e+04	5.53e+00	y	2.94	
31:47	3.163e+05	n	1.966e+05	y	1.61	y	5.129e+05	5.129e+05	5.70e+01	y	34.5	
31:59	5.886e+04	y	3.527e+04	y	1.67	y	9.413e+04	9.413e+04	9.60e+00	y	6.33	
32:06	1.497e+05	y	9.164e+04	y	1.63	y	2.414e+05	2.414e+05	2.62e+01	y	16.2	
32:21	8.788e+04	n	4.984e+04	n	1.76	y	1.377e+05	1.377e+05	8.85e+00	y	9.26	
32:43	9.940e+04	n	6.183e+04	n	1.61	y	1.612e+05	1.612e+05	1.81e+01	y	10.8	
33:14	5.076e+04	y	3.465e+04	y	1.47	y	8.541e+04	8.541e+04	8.71e+00	y	5.75	1,2,3,7,8-PeCDD
33:19	2.508e+04	y	1.605e+04	y	1.56	y	4.114e+04	4.114e+04	4.29e+00	y	2.77	
33:40	2.840e+04	y	2.196e+04	y	1.29	n	5.036e+04	4.673e+04	6.20e+00	y	3.14	

Totals class: HxCDD EMPC Function: 3 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 272.48 Unnamed Conc.: 235.559

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name

35:25	1.661e+05	n	1.445e+05	n	1.15	y	3.105e+05	3.105e+05	4.71e+01	y	23.9	
36:04	1.055e+06	n	8.367e+05	n	1.26	y	1.892e+06	1.892e+06	2.75e+02	y	145	
36:21	4.026e+05	n	3.156e+05	n	1.28	y	7.182e+05	7.182e+05	8.03e+01	y	55.2	
36:30	3.460e+04	y	2.381e+04	y	1.45	n	5.842e+04	5.334e+04	8.44e+00	y	4.10	
37:07	5.803e+04	n	4.956e+04	y	1.17	y	1.076e+05	1.076e+05	1.45e+01	y	8.00	1,2,3,4,7,8-HxCDD
37:15	1.149e+05	n	9.033e+04	y	1.27	y	2.052e+05	2.052e+05	2.65e+01	y	17.0	1,2,3,6,7,8-HxCDD
37:27	5.266e+04	y	3.709e+04	y	1.42	y	8.975e+04	8.975e+04	1.42e+01	y	6.90	
37:34	8.702e+04	y	7.388e+04	y	1.18	y	1.609e+05	1.609e+05	1.96e+01	y	11.9	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 198.74 Unnamed Conc.: 90.279

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:22	6.169e+05	n	5.784e+05	n	1.07	y	1.195e+06	1.195e+06	5.39e+01	y	90.3	
41:33	7.188e+05	n	7.172e+05	n	1.00	y	1.436e+06	1.436e+06	6.45e+01	y	108	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 381.70 Unnamed Conc.: 369.616

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:54	5.066e+05	n	6.407e+05	n	0.79	y	1.147e+06	1.147e+06	9.05e+01	y	48.6	
22:29	6.849e+04	y	9.076e+04	n	0.75	y	1.593e+05	1.593e+05	1.39e+01	y	6.75	
23:08	8.346e+04	y	1.199e+05	y	0.70	y	2.034e+05	2.034e+05	1.64e+01	y	8.62	
23:39	5.079e+05	n	6.493e+05	y	0.78	y	1.157e+06	1.157e+06	6.58e+01	y	49.0	
23:57	1.053e+05	y	1.357e+05	y	0.78	y	2.410e+05	2.410e+05	1.91e+01	y	10.2	
24:05	2.021e+05	y	2.572e+05	y	0.79	y	4.593e+05	4.593e+05	3.16e+01	y	19.5	
24:28	1.039e+05	y	1.281e+05	y	0.81	y	2.321e+05	2.321e+05	2.01e+01	y	9.83	
24:36	6.206e+04	y	8.875e+04	y	0.70	y	1.508e+05	1.508e+05	1.46e+01	y	6.39	
24:47	1.036e+05	y	1.313e+05	y	0.79	y	2.349e+05	2.349e+05	1.89e+01	y	9.95	
25:09	1.106e+05	y	1.466e+05	y	0.75	y	2.572e+05	2.572e+05	2.12e+01	y	10.9	
25:16	1.904e+05	n	2.479e+05	n	0.77	y	4.383e+05	4.383e+05	3.76e+01	y	18.6	
25:30	6.504e+05	n	8.061e+05	n	0.81	y	1.457e+06	1.457e+06	9.04e+01	y	61.7	
26:01	1.769e+05	y	2.362e+05	y	0.75	y	4.131e+05	4.131e+05	3.81e+01	y	17.5	
26:16	8.378e+04	y	1.090e+05	n	0.77	y	1.927e+05	1.927e+05	2.29e+01	y	8.17	
26:28	1.571e+05	n	2.052e+05	n	0.77	y	3.624e+05	3.624e+05	3.11e+01	y	15.4	
26:41	1.779e+05	y	2.291e+05	y	0.78	y	4.070e+05	4.070e+05	3.99e+01	y	17.2	
26:47	1.041e+05	y	1.460e+05	y	0.71	y	2.501e+05	2.501e+05	2.45e+01	y	10.6	
26:54	1.222e+05	y	1.630e+05	y	0.75	y	2.852e+05	2.852e+05	3.39e+01	y	12.1	2,3,7,8-TCDF
27:16	3.313e+05	n	4.354e+05	n	0.76	y	7.667e+05	7.667e+05	7.31e+01	y	32.5	
27:32	2.512e+04	n	3.366e+04	y	0.75	y	5.878e+04	5.878e+04	5.53e+00	y	2.49	
27:47	3.895e+04	y	4.496e+04	y	0.87	y	8.391e+04	8.391e+04	8.09e+00	y	3.55	

28:56	2.170e+04	y	3.069e+04	y	0.71	y	5.240e+04	5.240e+04	6.45e+00	y	2.22

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 37.153 Unnamed Conc.: 37.153

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:54	4.725e+05	n	3.040e+04	n	1.55	y	7.765e+05	7.765e+05	4.08e+01	y	37.2	

Totals class: PeCDF EMPC Function: 2 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 321.34 Unnamed Conc.: 263.800

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	5.814e+05	y	3.892e+05	y	1.49	y	9.706e+05	9.706e+05	4.15e+01	y	46.4	
30:37	7.694e+05	y	4.917e+05	n	1.56	y	1.261e+06	1.261e+06	5.55e+01	y	60.3	
30:43	1.299e+05	y	9.806e+04	y	1.32	y	2.279e+05	2.279e+05	1.60e+01	y	10.9	
30:49	8.024e+04	y	4.620e+04	y	1.74	y	1.264e+05	1.264e+05	8.09e+00	y	6.05	
31:04	9.094e+04	y	6.151e+04	n	1.48	y	1.524e+05	1.524e+05	9.67e+00	y	7.29	
31:18	5.480e+05	y	3.605e+05	y	1.52	y	9.085e+05	9.085e+05	3.31e+01	y	43.5	
31:32	1.227e+05	y	6.370e+04	y	1.93	n	1.864e+05	1.624e+05	1.09e+01	y	7.77	
31:45	3.239e+05	n	2.038e+05	n	1.59	y	5.277e+05	5.277e+05	3.41e+01	y	25.4	1,2,3,7,8-PeCDF
32:02	3.786e+05	n	2.450e+05	n	1.55	y	6.236e+05	6.236e+05	2.77e+01	y	29.8	
32:12	6.549e+04	n	4.766e+04	y	1.37	y	1.131e+05	1.131e+05	7.40e+00	y	5.41	
32:37	4.531e+04	y	3.667e+04	y	1.24	n	8.198e+04	7.455e+04	5.83e+00	y	3.57	
32:45	4.348e+05	y	2.864e+05	n	1.52	y	7.212e+05	7.212e+05	5.00e+01	y	34.5	
32:52	4.107e+05	y	2.654e+05	y	1.55	y	6.760e+05	6.760e+05	3.68e+01	y	32.1	2,3,4,7,8-PeCDF
33:12	4.689e+04	y	3.562e+04	y	1.32	n	8.251e+04	7.714e+04	5.56e+00	y	3.69	
33:57	5.999e+04	n	3.450e+04	n	1.74	y	9.450e+04	9.450e+04	5.66e+00	y	4.52	

Totals class: HxCDF EMPC Function: 3 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

Total Conc.: 288.83 Unnamed Conc.: 172.860

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	2.941e+05	n	2.475e+05	n	1.19	y	5.417e+05	5.417e+05	7.67e+01	y	30.3	
34:58	7.575e+05	n	6.213e+05	n	1.22	y	1.379e+06	1.379e+06	1.96e+02	y	77.0	
35:11	5.982e+04	y	5.593e+04	y	1.07	y	1.157e+05	1.157e+05	1.54e+01	y	6.47	

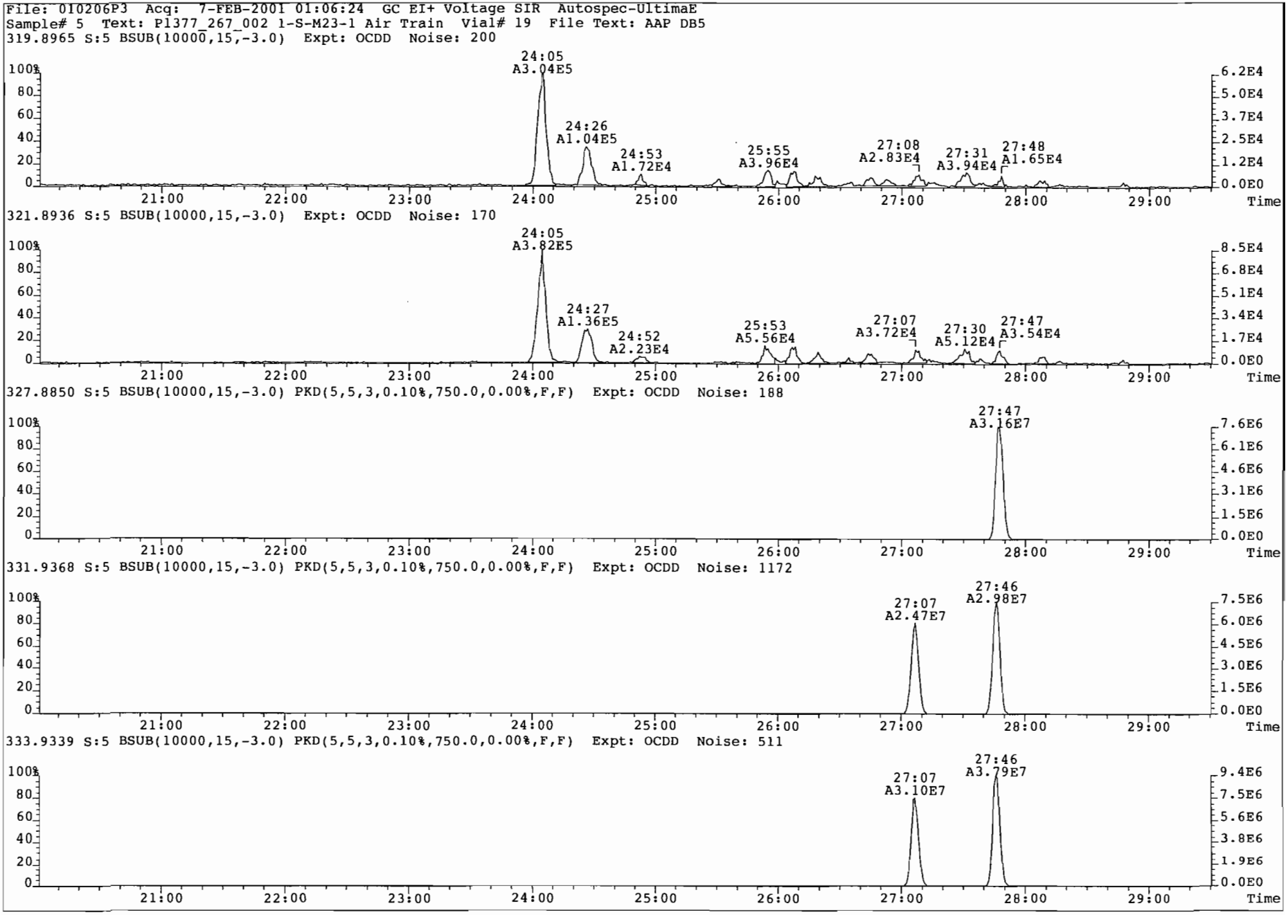
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:24	9.216e+04	n	7.113e+04	n	1.30	y	1.633e+05	1.633e+05	2.10e+01	y	9.12	
35:37	4.420e+04	n	3.216e+04	n	1.37	y	7.636e+04	7.636e+04	9.57e+00	y	4.27	
36:02	2.688e+05	y	2.110e+05	y	1.27	y	4.798e+05	4.798e+05	6.61e+01	y	26.8	
36:09	3.344e+05	y	2.576e+05	y	1.30	y	5.920e+05	5.920e+05	7.63e+01	y	33.3	1,2,3,4,7,8-HxCDF
36:17	3.924e+05	y	3.101e+05	n	1.27	y	7.025e+05	7.025e+05	1.03e+02	y	36.1	1,2,3,6,7,8-HxCDF
36:27	5.457e+04	n	4.930e+04	n	1.11	y	1.039e+05	1.039e+05	1.40e+01	y	5.80	
36:36	4.348e+04	y	3.663e+04	y	1.19	y	8.011e+04	8.011e+04	1.37e+01	y	4.48	
36:43	8.224e+04	n	7.180e+04	y	1.15	y	1.540e+05	1.540e+05	2.12e+01	y	8.61	
36:57	3.640e+05	n	2.869e+05	n	1.27	y	6.508e+05	6.508e+05	7.60e+01	y	35.5	2,3,4,6,7,8-HxCDF
37:59	1.008e+05	n	7.653e+04	n	1.32	y	1.773e+05	1.773e+05	1.51e+01	y	11.1	1,2,3,7,8,9-HxCDF

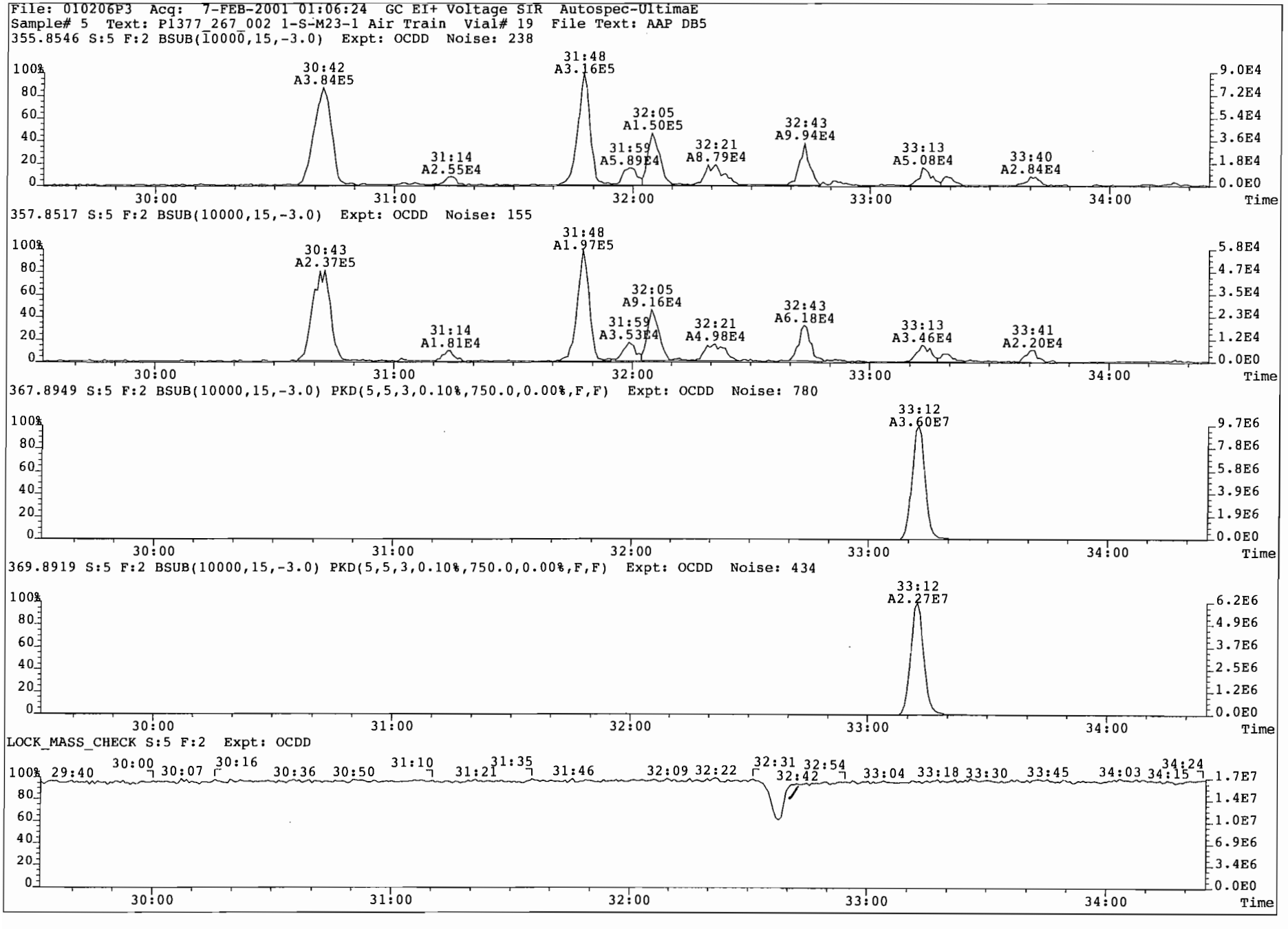
Totals class: HpCDF EMPC Function: 4 Run #: 12
File Name: 010206P3 Sample #: 5 Sample text: P1377_267_002 1-S-M23-1 Air Train

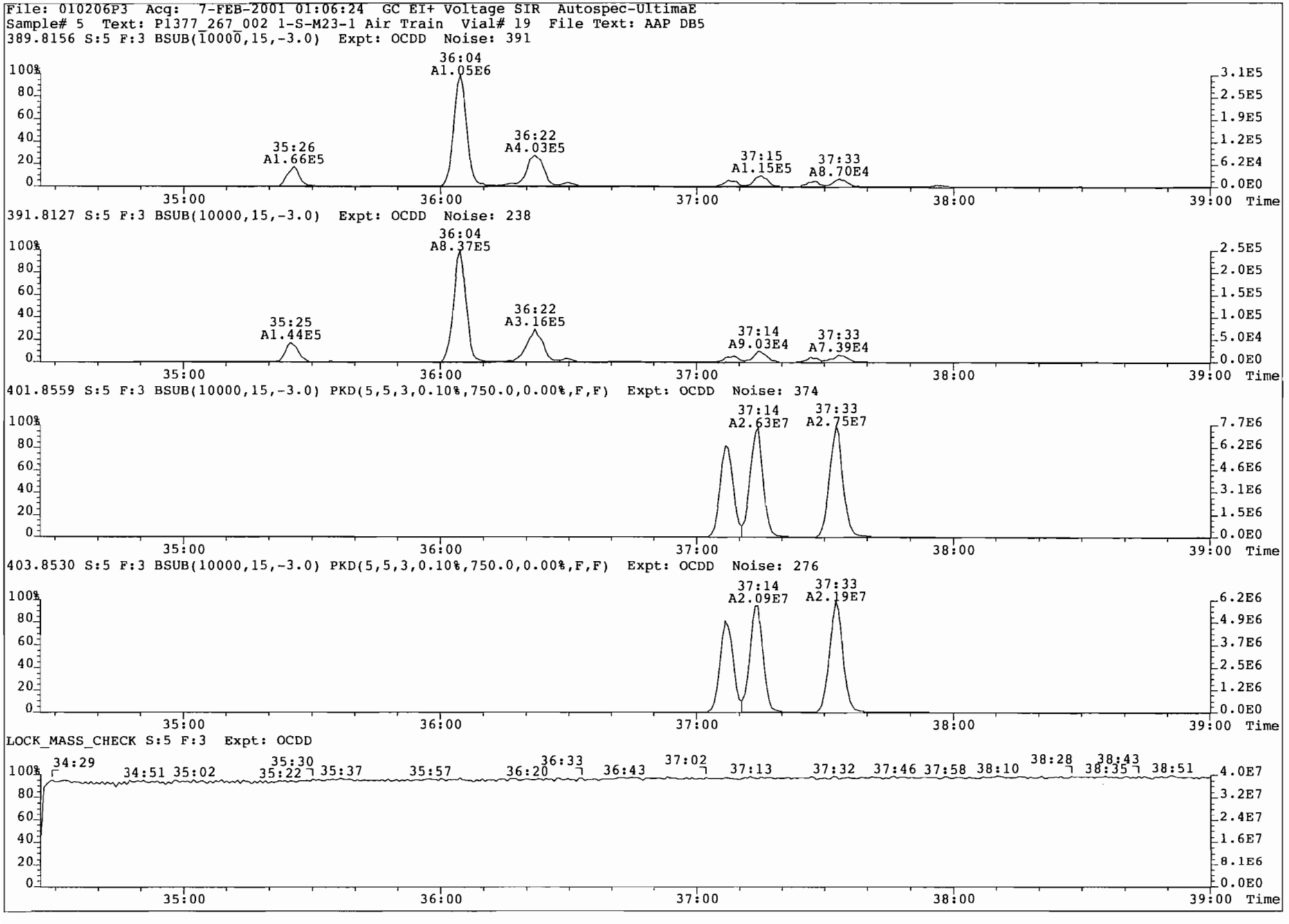
Acquired: 7-FEB-01 01:06:24 Processed: 7-FEB-01 17:17:23

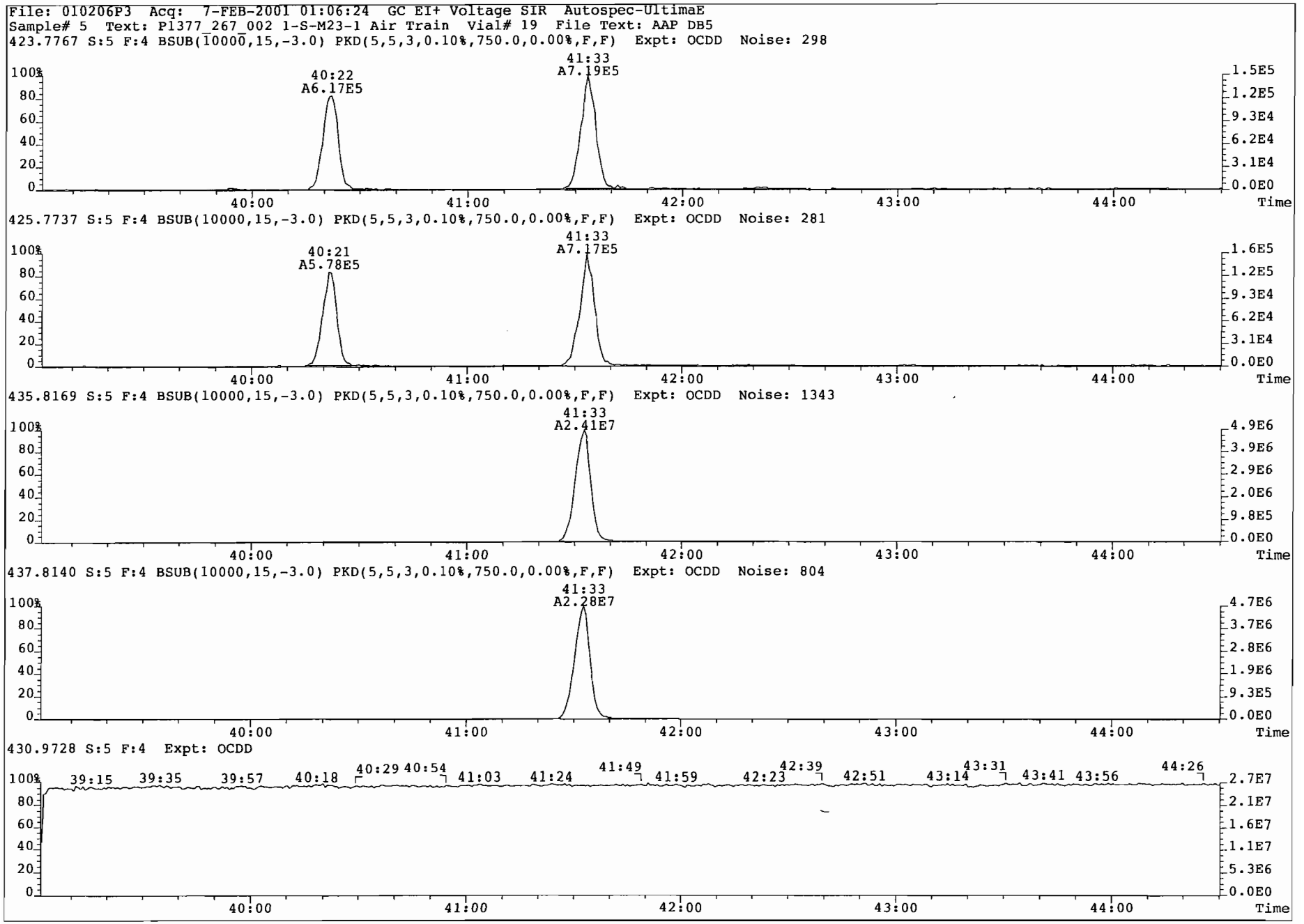
Total Conc.: 128.00 Unnamed Conc.: 34.114

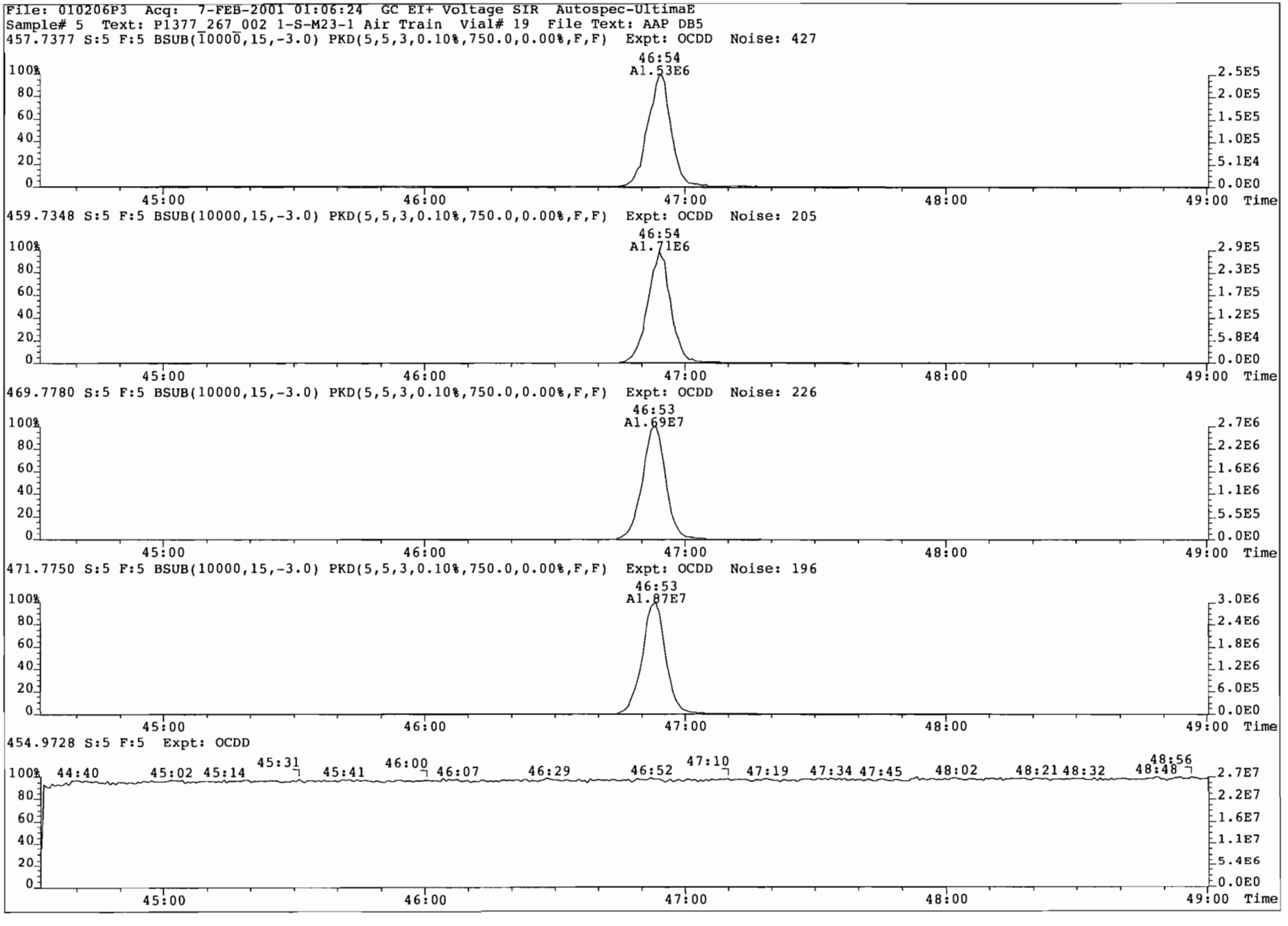
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	6.831e+05	n	6.731e+05	n	1.01	y	1.356e+06	1.356e+06	1.27e+02	y	80.0	1,2,3,4,6,7,8-HpCDF
40:22	1.394e+05	n	1.395e+05	n	1.00	y	2.789e+05	2.789e+05	2.61e+01	y	17.9	
40:36	1.287e+05	n	1.252e+05	n	1.03	y	2.539e+05	2.539e+05	2.52e+01	y	16.3	
42:23	1.055e+05	n	9.289e+04	n	1.14	y	1.984e+05	1.984e+05	1.64e+01	y	13.9	1,2,3,4,7,8,9-HpCDF

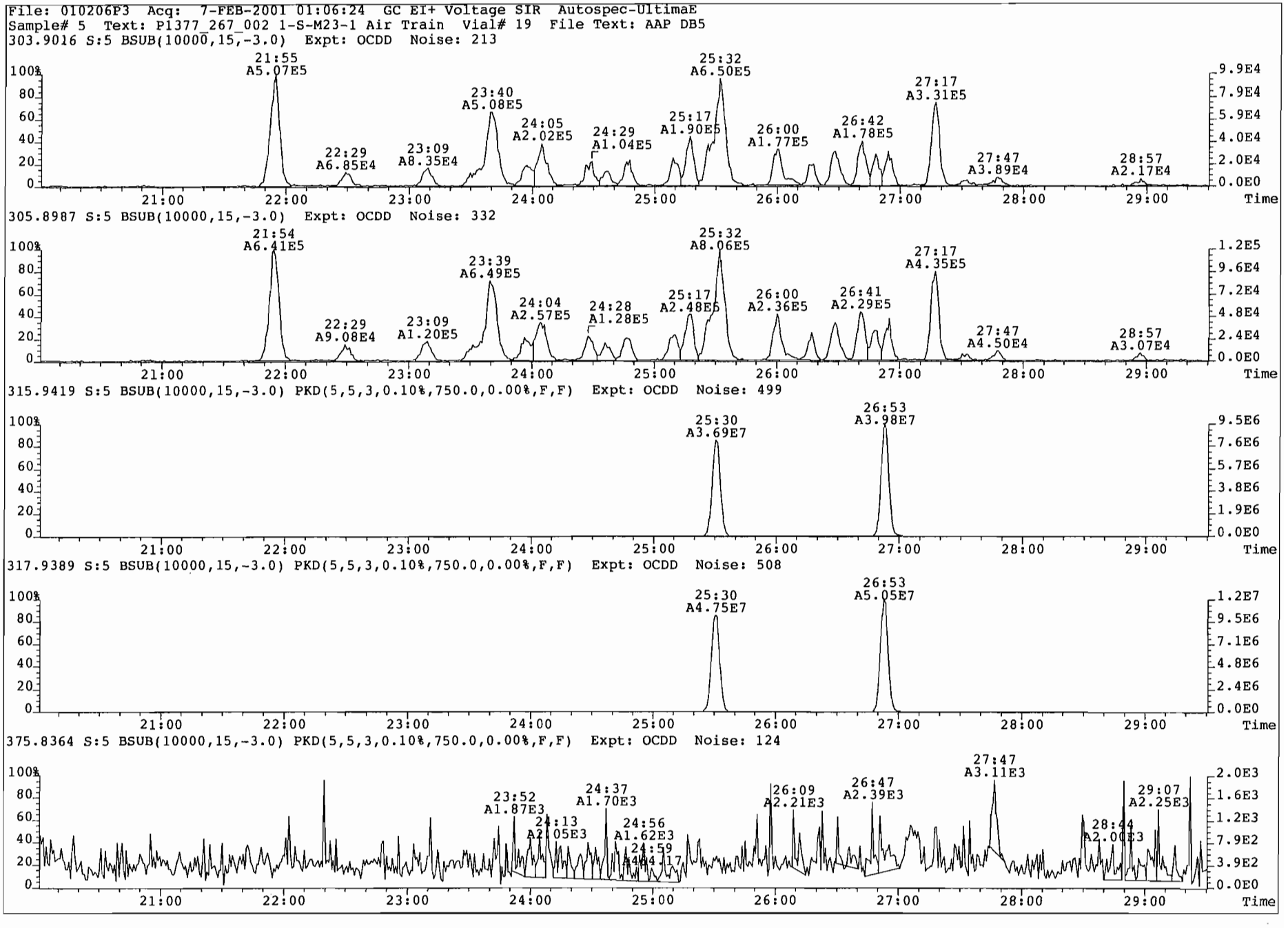

File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
319.8965 S:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 200
24:05 A3.04E5
24:26 A1.04E5
24:53 A1.72E4
25:55 A3.96E4
27:08 A2.83E4
27:31 A3.94E4
27:48 A1.65E4
321.8936 S:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 170
24:05 A3.82E5
24:27 A1.36E5
24:52 A2.23E4
25:53 A5.56E4
27:07 A3.72E4
27:30 A5.12E4
27:47 A3.54E4
327.8850 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 188
27:47 A3.16E7
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1172
27:07 A2.47E7
27:46 A2.98E7
333.9339 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 511
27:07 A3.10E7
27:46 A3.79E7
Time

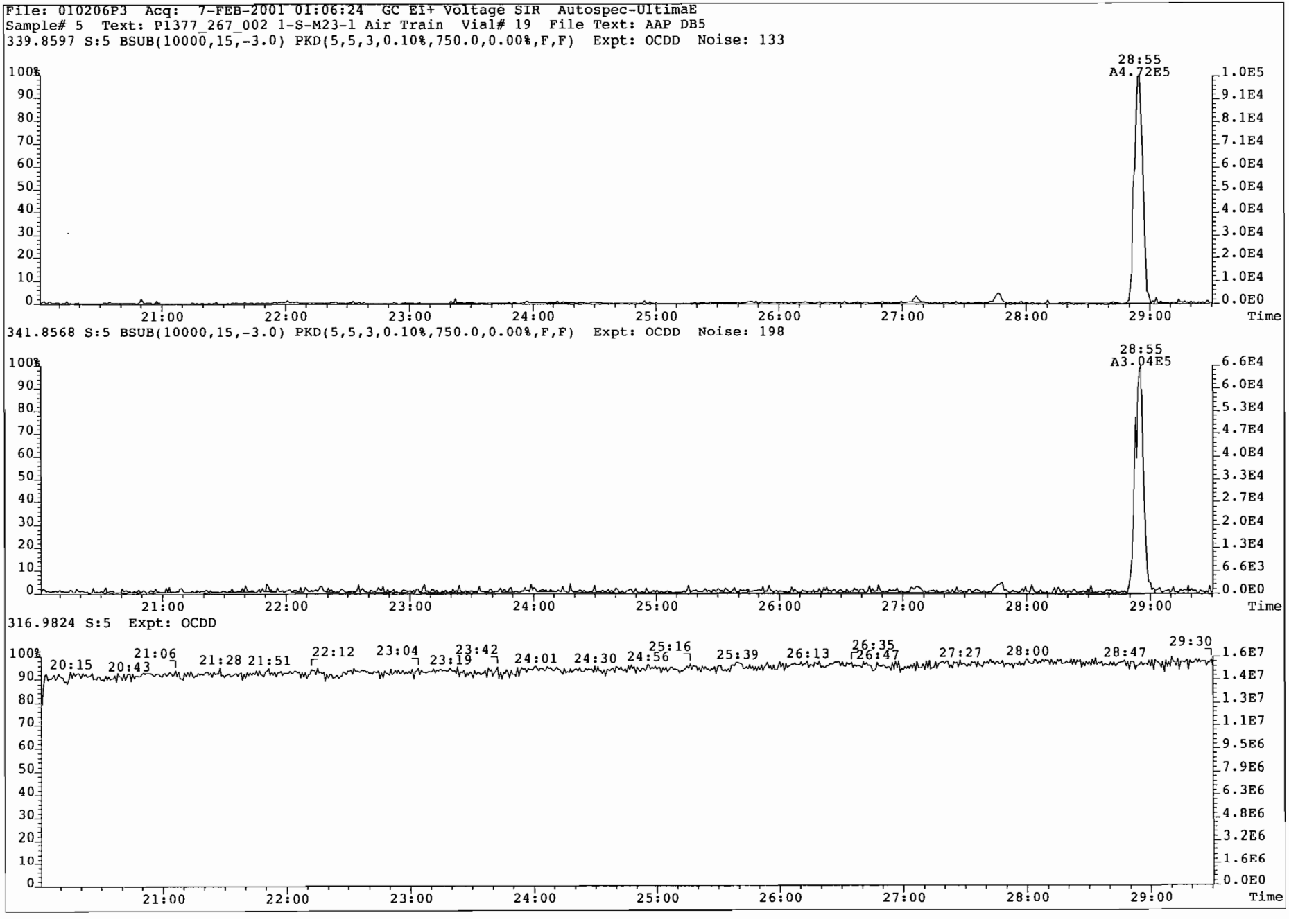

File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
355.8546 S:5 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 238
30:42 A3.84E5
31:48 A3.16E5
32:05 A1.50E5
31:59 A5.89E4
32:21 A8.79E4
32:43 A9.94E4
31:14 A2.55E4
33:13 A5.08E4
33:40 A2.84E4
357.8517 S:5 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 155
30:43 A2.37E5
31:48 A1.97E5
32:05 A9.16E4
31:59 A3.53E4
32:21 A4.98E4
32:43 A6.18E4
31:14 A1.81E4
33:13 A3.46E4
33:41 A2.20E4
367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 780
33:12 A3.60E7
369.8919 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 434
33:12 A2.27E7
LOCK_MASS_CHECK S:5 F:2 Expt: OCDD
29:40 30:00 30:07 30:16 30:36 30:50 31:10 31:21 31:35 31:46 32:09 32:22 32:31 32:42 32:54 33:04 33:18 33:30 33:45 34:03 34:15 34:24
Time

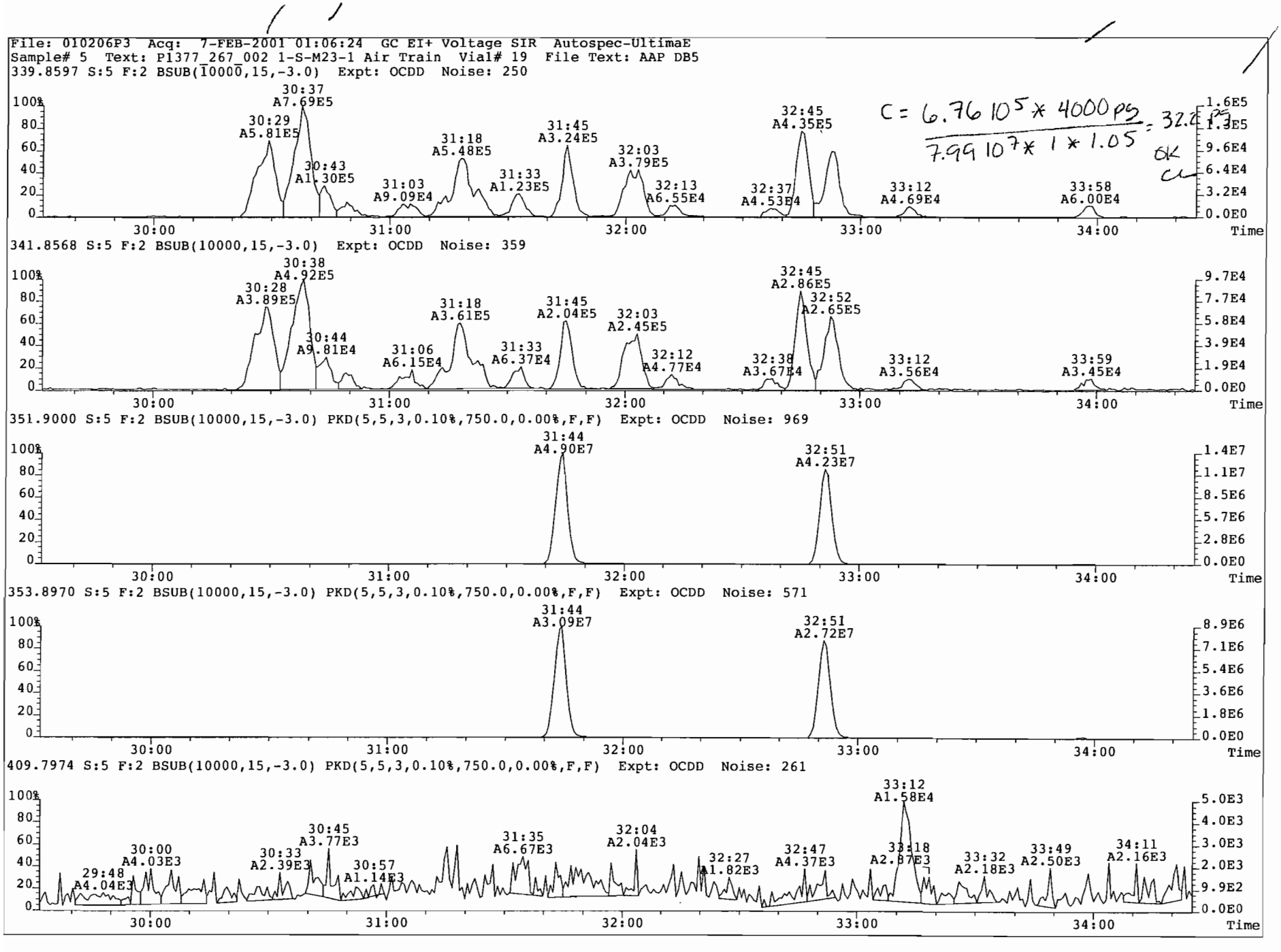

File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
389.8156 S:5 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 391
36:04 A1.05E6
35:26 A1.66E5
36:22 A4.03E5
37:15 A1.15E5
37:33 A8.70E4
391.8127 S:5 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 238
36:04 A8.37E5
35:25 A1.44E5
36:22 A3.16E5
37:14 A9.03E4
37:33 A7.39E4
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 374
37:14 A2.63E7
37:33 A2.75E7
403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 276
37:14 A2.09E7
37:33 A2.19E7
LOCK_MASS_CHECK S:5 F:3 Expt: OCDD
34:29
34:51 35:02
35:22 35:30
35:37
35:57
36:20 36:33
36:43
37:02
37:13
37:32 37:46 37:58 38:10
38:28 38:43
38:35 38:51
35:00
36:00
37:00
38:00
39:00 Time

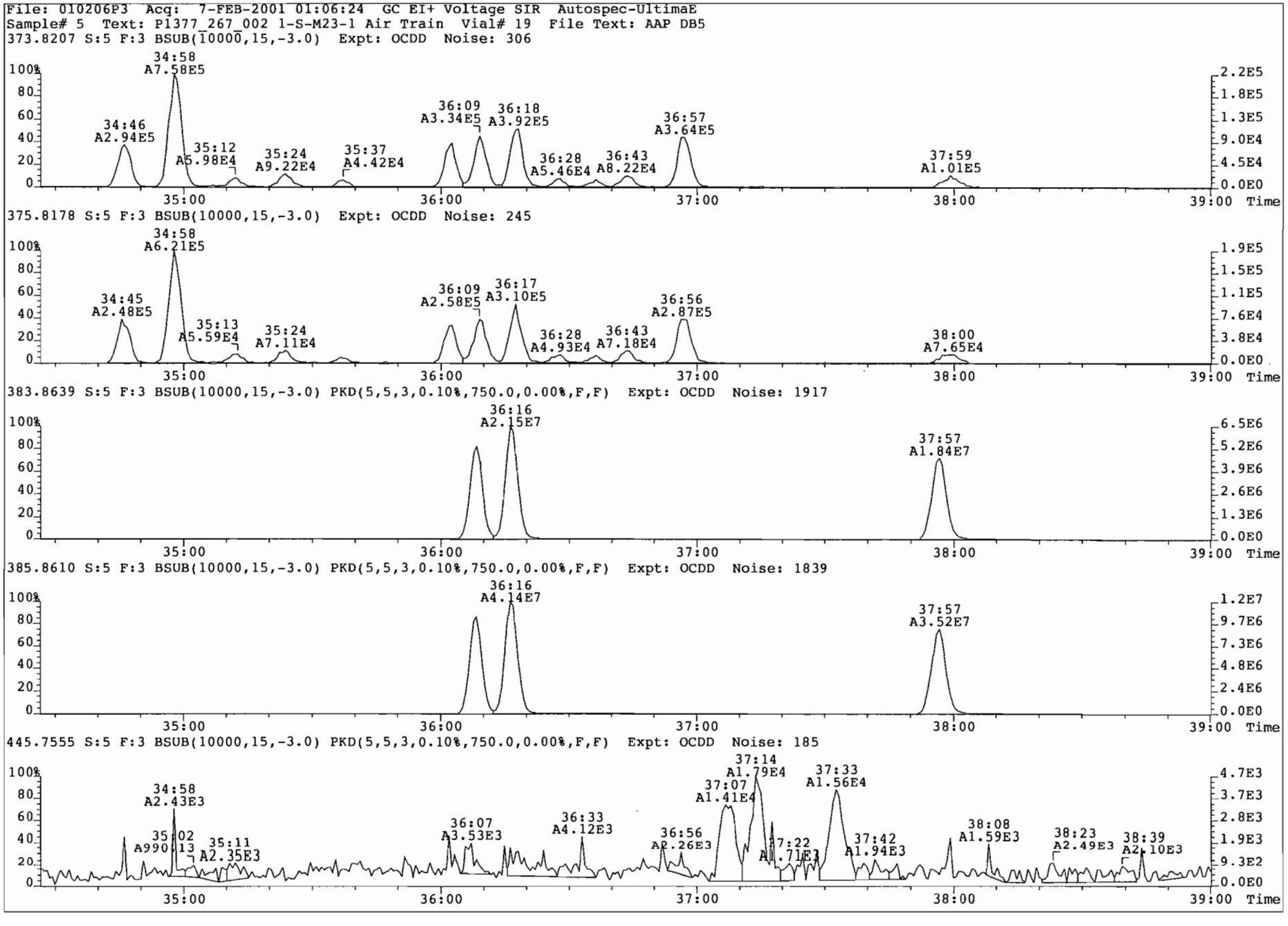

File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 298
40:22 A6.17E5
41:33 A7.19E5
425.7737 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 281
40:21 A5.78E5
41:33 A7.17E5
435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1343
41:33 A2.41E7
437.8140 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 804
41:33 A2.28E7
430.9728 S:5 F:4 Expt: OCDD
39:15 39:35 39:57 40:18 40:29 40:54 41:03 41:24 41:49 41:59 42:23 42:39 42:51 43:14 43:31 43:41 43:56 44:26
40:00 41:00 42:00 43:00 44:00 Time


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 427
46:54
A1.53E6
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 205
46:54
A1.71E6
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 226
46:53
A1.69E7
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 196
46:53
A1.87E7
454.9728 S:5 F:5 Expt: OCDD
44:40 45:02 45:14 45:31 45:41 46:00 46:07 46:29 46:52 47:10 47:19 47:34 47:45 48:02 48:21 48:32 48:48 48:56
45:00 46:00 47:00 48:00 49:00 Time


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
303.9016 S:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 213
21:55 A5.07E5
22:29 A6.85E4
23:09 A8.35E4
23:40 A5.08E5
24:05 A2.02E5
24:29 A1.04E5
25:17 A1.90E5
25:32 A6.50E5
26:00 A1.77E5
26:42 A1.78E5
27:17 A3.31E5
27:47 A3.89E4
28:57 A2.17E4
305.8987 S:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 332
21:54 A6.41E5
22:29 A9.08E4
23:09 A1.20E5
23:39 A6.49E5
24:04 A2.57E5
24:28 A1.28E5
25:17 A2.48E5
25:32 A8.06E5
26:00 A2.36E5
26:41 A2.29E5
27:17 A4.35E5
27:47 A4.50E4
28:57 A3.07E4
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 499
25:30 A3.69E7
26:53 A3.98E7
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 508
25:30 A4.75E7
26:53 A5.05E7
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 124
23:52 A1.87E3
24:13 A2.05E3
24:37 A1.70E3
24:56 A1.62E3
26:09 A2.21E3
26:47 A2.39E3
27:47 A3.11E3
28:44 A2.00E3
29:07 A2.25E3
Time


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 133
28:55
A4.72E5
341.8568 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 198
28:55
A3.04E5
316.9824 S:5 Expt: OCDD
20:15
20:43
21:06
21:28
21:51
22:12
23:04
23:19
23:42
24:01
24:30
24:56
25:16
25:39
26:13
26:35
26:47
27:27
28:00
28:47
29:30
Time


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
339.8597 S:5 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 250
30:37 A7.69E5
30:29 A5.81E5
30:43 A1.30E5
31:03 A9.09E4
31:18 A5.48E5
31:33 A1.23E5
31:45 A3.24E5
32:03 A3.79E5
32:13 A6.55E4
32:37 A4.53E4
32:45 A4.35E5
33:12 A4.69E4
33:58 A6.00E4
C = 6.76 10^5 * 4000 pg / 7.99 10^7 * 1 * 1.05 = 32.2 pg
OK
341.8568 S:5 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 359
30:38 A4.92E5
30:28 A3.89E5
30:44 A9.81E4
31:06 A6.15E4
31:18 A3.61E5
31:33 A6.37E4
31:45 A2.04E5
32:03 A2.45E5
32:12 A4.77E4
32:38 A3.67E4
32:45 A2.86E5
32:52 A2.65E5
33:12 A3.56E4
33:59 A3.45E4
351.9000 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 969
31:44 A4.90E7
32:51 A4.23E7
353.8970 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 571
31:44 A3.09E7
32:51 A2.72E7
409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 261
29:48 A4.04E3
30:00 A4.03E3
30:33 A2.39E3
30:45 A3.77E3
30:57 A1.14E3
31:35 A6.67E3
32:04 A2.04E3
32:27 A1.82E3
32:47 A4.37E3
33:12 A1.58E4
33:18 A2.87E3
33:32 A2.18E3
33:49 A2.50E3
34:11 A2.16E3
Time


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
373.8207 S:5 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 306
34:58 A7.58E5
34:46 A2.94E5
35:12 A5.98E4
35:24 A9.22E4
35:37 A4.42E4
36:09 A3.34E5
36:18 A3.92E5
36:28 A5.46E4
36:43 A8.22E4
36:57 A3.64E5
37:59 A1.01E5
375.8178 S:5 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 245
34:58 A6.21E5
34:45 A2.48E5
35:13 A5.59E4
35:24 A7.11E4
36:09 A2.58E5
36:17 A3.10E5
36:28 A4.93E4
36:43 A7.18E4
36:56 A2.87E5
38:00 A7.65E4
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1917
36:16 A2.15E7
37:57 A1.84E7
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1839
36:16 A4.14E7
37:57 A3.52E7
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 185
34:58 A2.43E3
35:02 A990.13
35:11 A2.35E3
36:07 A3.53E3
36:33 A4.12E3
36:56 A2.26E3
37:07 A1.41E4
37:14 A1.79E4
37:22 A1.71E3
37:33 A1.56E4
37:42 A1.94E3
38:08 A1.59E3
38:23 A2.49E3
38:39 A2.10E3
100%
80
60
40
20
0
35:00
36:00
37:00
38:00
39:00 Time
2.2E5
1.8E5
1.3E5
9.0E4
4.5E4
0.0E0
1.9E5
1.5E5
1.1E5
7.6E4
3.8E4
6.5E6
5.2E6
3.9E6
2.6E6
1.3E6
1.2E7
9.7E6
7.3E6
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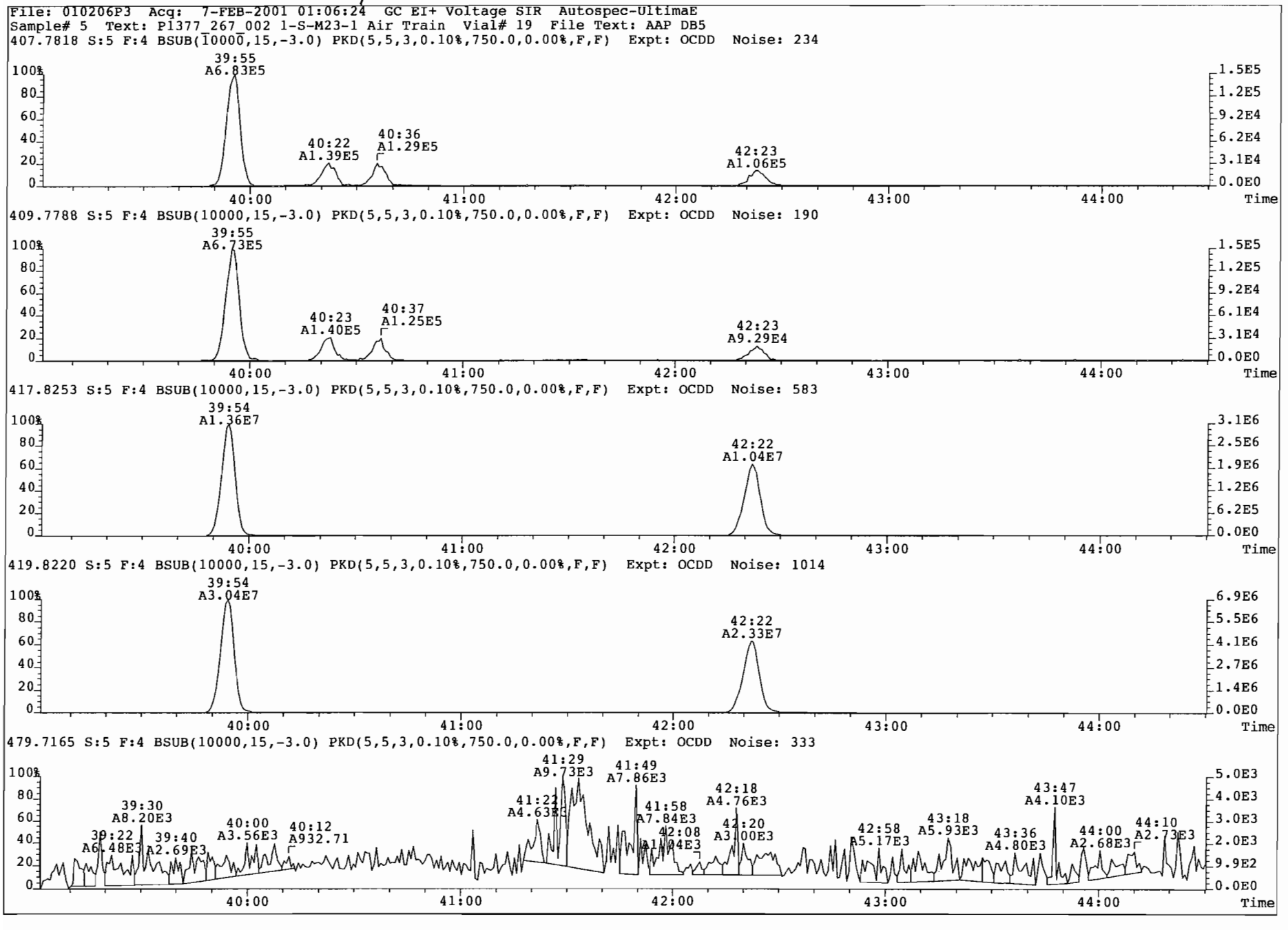
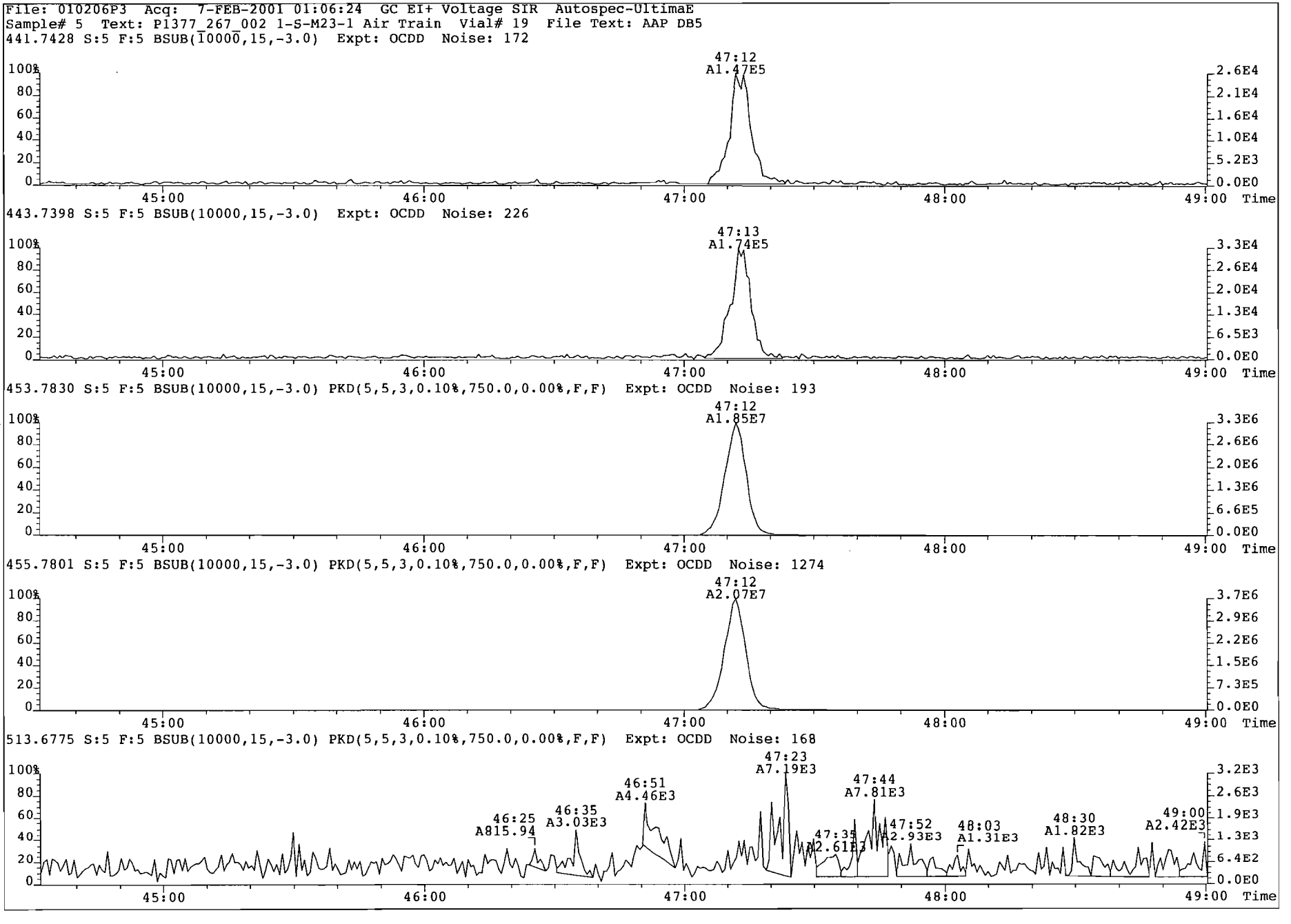
2.4E6
4.7E3
3.7E3
2.8E3
1.9E3
9.3E2


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 234
39:55 A6.83E5
40:22 A1.39E5
40:36 A1.29E5
42:23 A1.06E5
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 190
39:55 A6.73E5
40:23 A1.40E5
40:37 A1.25E5
42:23 A9.29E4
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 583
39:54 A1.36E7
42:22 A1.04E7
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1014
39:54 A3.04E7
42:22 A2.33E7
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 333
39:30 A8.20E3
39:22 A6.48E3
39:40 A2.69E3
40:00 A3.56E3
40:12 A932.71
41:29 A9.73E3
41:22 A4.63E3
41:49 A7.86E3
41:58 A7.84E3
42:08
42:18 A4.76E3
42:20 A3.00E3
42:58 A5.17E3
43:18 A5.93E3
43:36 A4.80E3
43:47 A4.10E3
44:00 A2.68E3
44:10 A2.73E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 7-FEB-2001 01:06:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_002 1-S-M23-1 Air Train Vial# 19 File Text: AAP DB5
441.7428 S:5 F:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 172
47:12
A1.47E5
443.7398 S:5 F:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 226
47:13
A1.74E5
453.7830 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 193
47:12
A1.85E7
455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1274
47:12
A2.07E7
513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 168
47:23
A7.19E3
46:51
A4.46E3
47:44
A7.81E3
46:25
A815.94
46:35
A3.03E3
47:35
A2.61E3
47:52
A2.93E3
48:03
A1.31E3
48:30
A1.82E3
49:00
A2.42E3
45:00
46:00
47:00
48:00
49:00
Time

Sample ID: 1-S-M23-2

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_003	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	6.45			A B	104	99.9	103
1,2,3,7,8-PeCDD	70.8				108	99.3	103
1,2,3,4,7,8-HxCDD	112			B	98.5	101	103
1,2,3,6,7,8-HxCDD	203				98.5	101	103
1,2,3,7,8,9-HxCDD	195				98.5	101	103
1,2,3,4,6,7,8-HpCDD	1430			B	98.7	97.2	103
OCDD	2810			B	90.8	97.2	103
2,3,7,8-TCDF	102				98.2	99.9	103
1,2,3,7,8-PeCDF	269				96.4	99.3	103
2,3,4,7,8-PeCDF	342				96.4	99.3	103
1,2,3,4,7,8-HxCDF	588			B	94.5	99.8	103
1,2,3,6,7,8-HxCDF	697			B	94.5	99.8	103
2,3,4,6,7,8-HxCDF	749			B	94.5	99.8	103
1,2,3,7,8,9-HxCDF	263				94.5	99.8	103
1,2,3,4,6,7,8-HpCDF	2100			B	95.3	97.2	103
1,2,3,4,7,8,9-HpCDF	392				95.3	97.2	103
OCDF	897				90	97.2	103
Totals & TEQs							
TCDDs	152		159				
PeCDDs	561						
HxCDDs	2000						
HpCDDs	2560						
TCDFs	1790						
PeCDFs	2870						
HxCDFs	4820						
HpCDFs	3560						
Total PCDD/Fs	**22000**		**22000**				
TEQ (ND=0)	**560**		**560**	**ITEF**			
TEQ (ND=DL/2)	**560**		**560**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Fax: 910 794-3919
e-mail: ytondeur@cs.com
web: www.ultratrace.com

Reviewer .....

Date 12/...01.....

Client ID: 1-S-M23-2 Filename: 010206P3 S: 6 Acq: 7-FEB-01 01:58:04 ConCal: 010206P3-
Lab ID: P1377_267_003 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	1.39e+05	0.60	n	1.26	27:47	6.42			798	2.5	0.644	
	1,2,3,7,8-PeCDD	1.04e+06	1.56	y	1.01	33:14	70.8			848	2.5	1.33	
	1,2,3,4,7,8-HxCDD	1.51e+06	1.29	y	1.14	37:08	112			3191	2.5	4.74	
	1,2,3,6,7,8-HxCDD	2.45e+06	1.25	y	1.02	37:15	203			3191	2.5	5.27	
	1,2,3,7,8,9-HxCDD	2.63e+06	1.26	y	1.14	37:34	195			3191	2.5	4.72	
	1,2,3,4,6,7,8-HpCDD	1.85e+07	1.03	y	1.13	41:33	1430			5039	2.5	9.31	
	OCDD	2.47e+07	0.88	y	1.03	46:54	2810			637	2.5	2.02	
	2,3,7,8-TCDF	2.42e+06	0.75	y	1.05	26:54	102	EMPC		1068	2.5	0.854	
	1,2,3,7,8-PeCDF	5.58e+06	1.54	y	1.04	31:45	269			2114	2.5	2.29	
	2,3,4,7,8-PeCDF	7.23e+06	1.53	y	1.05	32:53	342			2114	2.5	2.25	
	1,2,3,4,7,8-HxCDF	1.03e+07	1.23	y	1.13	36:09	588			4714	2.5	3.50	
	1,2,3,6,7,8-HxCDF	1.34e+07	1.21	y	1.24	36:17	697			4714	2.5	3.20	
	2,3,4,6,7,8-HxCDF	1.36e+07	1.21	y	1.16	36:57	749			4714	2.5	3.40	
	1,2,3,7,8,9-HxCDF	4.16e+06	1.25	y	1.02	37:59	263			4714	2.5	3.89	
	1,2,3,4,6,7,8-HpCDF	3.58e+07	1.03	y	1.54	39:55	2100			3462	2.5	2.98	
	1,2,3,4,7,8,9-HpCDF	5.63e+06	1.03	y	1.30	42:23	392			3462	2.5	3.54	
	OCDF	9.64e+06	0.87	y	1.15	47:13	897			1025	2.5	2.52	
	Total Tetra-Dioxins	3.14e+06	0.81	y	1.26	24:04	146			798	2.5	0.644	EMPC 159
	Total Penta-Dioxins	8.27e+06	1.55	y	1.01	30:42	561			848	2.5	1.33	561
	Total Hexa-Dioxins	2.60e+07	1.29	y	1.10	35:26	2000			3191	2.5	4.90	2000
	Total Hepta-Dioxins	3.31e+07	1.02	y	1.13	40:22	2560			5039	2.5	9.31	2560
	Total Tetra-Furans	4.23e+07	0.75	y	1.05	21:55	1790			1068	2.5	0.854	1790
	1st Fnc. Penta-Furans	4.07e+06	1.60	y	1.05	28:55	194			1144	2.5	1.23	194
	Total Penta-Furans	5.60e+07	1.53	y	1.05	30:28	2670			2114	2.5	2.27	
	PeCDF Totals:						2870						2870
	Total Hexa-Furans	8.62e+07	1.21	y	1.14	34:46	4820			4714	2.5	3.48	4820
	Total Hepta-Furans	5.81e+07	1.03	y	1.42	39:55	3560			3462	2.5	3.24	3560
													Rec
IS	13C-2,3,7,8-TCDD	6.85e+07	0.79	y	1.13	27:46	4160						104
IS	13C-1,2,3,7,8-PeCDD	5.82e+07	1.56	y	0.93	33:13	4340						108
IS	13C-1,2,3,6,7,8-HxCDD	4.72e+07	1.26	y	0.93	37:14	3940						98.5
IS	13C-1,2,3,4,6,7,8-HpCDD	4.59e+07	1.05	y	0.91	41:32	3950						98.7
IS	13C-OCDD	3.42e+07	0.89	y	0.73	46:53	3630						90.8
IS	13C-2,3,7,8-TCDF	9.03e+07	0.79	y	1.06	26:53	3930						98.2
IS	13C-1,2,3,7,8-PeCDF	8.01e+07	1.57	y	0.96	31:44	3860						96.4
IS	13C-1,2,3,6,7,8-HxCDF	6.22e+07	0.52	y	1.28	36:17	3780						94.5
IS	13C-1,2,3,4,6,7,8-HpCDF	4.41e+07	0.45	y	0.90	39:54	3810						95.3
IS	13C-OCDF	3.75e+07	0.90	y	0.81	47:12	3600						90.0
RS/RT	13C-1,2,3,4-TCDD	5.80e+07	0.79	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	8.66e+07	0.78	y	1.00	25:31	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	5.13e+07	1.23	y	1.00	37:33	4000						-
PS	37Cl-2,3,7,8-TCDD	3.52e+07			0.51	27:48	4000						99.9
PS	13C-2,3,4,7,8-PeCDF	7.74e+07	1.58	y	0.97	32:52	3970						99.3
PS	13C-1,2,3,4,7,8-HxCDD	4.39e+07	1.25	y	0.92	37:07	4030						101
PS	13C-1,2,3,4,7,8-HxCDF	5.65e+07	0.52	y	0.91	36:08	3990						99.8
PS	13C-1,2,3,4,7,8,9-HpCDF	3.67e+07	0.45	y	0.85	42:22	3890						97.2
AS	13C-1,2,3,7,8,9-HxCDF	5.68e+07	0.52	y	1.07	37:57	4140						103

Reviewer: CL

Date: 11 Feb 01

Analyst: GAG

Date: 11 Feb

Totals class: TCDD EMPC Function: 1 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 159.08 Unnamed Conc.: 152.663

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:04	3.311e+05	n	4.104e+05	n	0.81	y	7.415e+05	7.415e+05	1.08e+02	y	34.3	
24:27	1.430e+05	n	1.926e+05	n	0.74	y	3.357e+05	3.357e+05	4.94e+01	y	15.5	
24:53	5.578e+04	y	5.655e+04	y	0.99	n	1.123e+05	1.001e+05	1.65e+01	y	4.63	
25:56	1.608e+05	y	2.011e+05	y	0.80	y	3.619e+05	3.619e+05	4.53e+01	y	16.8	
26:07	1.611e+05	y	2.139e+05	y	0.75	y	3.750e+05	3.750e+05	5.93e+01	y	17.4	
26:19	6.893e+04	n	9.106e+04	n	0.76	y	1.600e+05	1.600e+05	2.86e+01	y	7.41	
26:34	3.012e+04	y	4.198e+04	n	0.72	y	7.210e+04	7.210e+04	1.41e+01	y	3.34	
26:44	9.173e+04	y	1.167e+05	y	0.79	y	2.084e+05	2.084e+05	3.44e+01	y	9.65	
27:07	4.904e+04	y	7.265e+04	y	0.67	y	1.217e+05	1.217e+05	1.80e+01	y	5.63	
27:15	2.704e+04	y	3.116e+04	y	0.87	y	5.821e+04	5.821e+04	9.71e+00	y	2.69	
27:30	1.370e+05	y	1.850e+05	y	0.74	y	3.220e+05	3.220e+05	3.82e+01	y	14.9	
27:39	2.870e+04	y	3.705e+04	y	0.77	y	6.575e+04	6.575e+04	1.08e+01	y	3.04	
27:47	6.031e+04	y	1.002e+05	y	0.60	n	1.605e+05	1.386e+05	3.11e+01	y	6.42	2,3,7,8-TCDD
28:07	1.198e+05	y	1.381e+05	y	0.87	y	2.579e+05	2.579e+05	4.59e+01	y	11.9	
28:16	2.904e+04	y	3.061e+04	y	0.95	n	5.966e+04	5.418e+04	8.57e+00	y	2.51	
28:47	2.932e+04	n	3.354e+04	n	0.87	y	6.287e+04	6.287e+04	1.04e+01	y	2.91	

Totals class: PeCDD EMPC Function: 2 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 561.11 Unnamed Conc.: 490.334

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:42	1.122e+06	n	7.248e+05	n	1.55	y	1.847e+06	1.847e+06	1.75e+02	y	125	
31:14	9.621e+04	n	5.673e+04	n	1.70	y	1.529e+05	1.529e+05	2.09e+01	y	10.4	
31:47	7.922e+05	n	5.149e+05	n	1.54	y	1.307e+06	1.307e+06	1.75e+02	y	88.7	
31:59	4.360e+05	n	2.791e+05	n	1.56	y	7.151e+05	7.151e+05	1.01e+02	y	48.5	
32:05	6.377e+05	n	4.109e+05	n	1.55	y	1.049e+06	1.049e+06	1.37e+02	y	71.1	
32:21	4.909e+05	n	3.294e+05	n	1.49	y	8.203e+05	8.203e+05	7.61e+01	y	55.7	
32:44	2.698e+05	n	1.877e+05	n	1.44	y	4.575e+05	4.575e+05	6.45e+01	y	31.0	
33:14	6.348e+05	n	4.083e+05	n	1.56	y	1.043e+06	1.043e+06	1.48e+02	y	70.8	1,2,3,7,8-PeCDD
33:20	2.017e+05	n	1.462e+05	n	1.38	y	3.480e+05	3.480e+05	5.46e+01	y	23.6	
33:41	3.255e+05	n	2.045e+05	n	1.59	y	5.300e+05	5.300e+05	7.11e+01	y	36.0	

560.8

Totals class: HxCDD EMPC Function: 3 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 1999.2 Unnamed Conc.: 1489.950

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:26	1.365e+06	n	1.062e+06	n	1.29	y	2.426e+06	2.426e+06	1.04e+02	y	187	
36:04	4.286e+06	n	3.338e+06	n	1.28	y	7.623e+06	7.623e+06	3.09e+02	y	586	
36:22	4.152e+06	n	3.312e+06	n	1.25	y	7.464e+06	7.464e+06	2.36e+02	y	574	
36:30	2.763e+05	n	2.171e+05	n	1.27	y	4.934e+05	4.934e+05	1.78e+01	y	37.9	
37:08	8.490e+05	n	6.571e+05	n	1.29	y	1.506e+06	1.506e+06	6.33e+01	y	112	1,2,3,4,7,8-HxCDD
37:15	1.359e+06	n	1.088e+06	n	1.25	y	2.446e+06	2.446e+06	9.85e+01	y	203	1,2,3,6,7,8-HxCDD
37:27	7.670e+05	n	6.021e+05	n	1.27	y	1.369e+06	1.369e+06	5.03e+01	y	105	
37:34	1.462e+06	n	1.165e+06	n	1.26	y	2.627e+06	2.627e+06	9.85e+01	y	195	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 2556.3 Unnamed Conc.: 1129.564

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:22	7.403e+06	n	7.226e+06	n	1.02	y	1.463e+07	1.463e+07	3.26e+02	y	1130	
41:33	9.388e+06	n	9.090e+06	n	1.03	y	1.848e+07	1.848e+07	3.83e+02	y	1430	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 1791.0 Unnamed Conc.: 1688.580

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:55	9.011e+05	n	1.203e+06	n	0.75	y	2.104e+06	2.104e+06	2.12e+02	y	89.1	
22:30	2.614e+05	n	3.400e+05	n	0.77	y	6.014e+05	6.014e+05	5.56e+01	y	25.5	
23:09	2.545e+05	n	3.246e+05	n	0.78	y	5.791e+05	5.791e+05	5.77e+01	y	24.5	
23:39	3.101e+06	n	4.148e+06	n	0.75	y	7.249e+06	7.249e+06	6.20e+02	y	307	
23:56	4.056e+05	y	5.563e+05	y	0.73	y	9.619e+05	9.619e+05	1.05e+02	y	40.7	
24:05	1.269e+06	y	1.637e+06	n	0.78	y	2.906e+06	2.906e+06	2.55e+02	y	123	
24:28	4.228e+05	y	5.385e+05	y	0.79	y	9.613e+05	9.613e+05	1.00e+02	y	40.7	
24:36	2.766e+05	y	3.717e+05	y	0.74	y	6.483e+05	6.483e+05	7.47e+01	y	27.4	
24:47	6.174e+05	n	8.127e+05	n	0.76	y	1.430e+06	1.430e+06	1.55e+02	y	60.6	
25:10	7.940e+05	y	1.008e+06	y	0.79	y	1.802e+06	1.802e+06	2.00e+02	y	76.3	
25:17	7.072e+05	y	9.951e+05	y	0.71	y	1.702e+06	1.702e+06	1.97e+02	y	72.1	
25:27	8.788e+05	y	1.205e+06	y	0.73	y	2.084e+06	2.084e+06	2.48e+02	y	88.2	
25:33	1.298e+06	y	1.707e+06	y	0.76	y	3.005e+06	3.005e+06	2.82e+02	y	127	
26:01	1.075e+06	n	1.373e+06	n	0.78	y	2.448e+06	2.448e+06	2.61e+02	y	104	
26:17	4.842e+05	y	6.644e+05	n	0.73	y	1.149e+06	1.149e+06	1.45e+02	y	48.6	
26:29	5.166e+05	y	6.530e+05	n	0.79	y	1.170e+06	1.170e+06	1.26e+02	y	49.5	

26:41	9.833e+05	y	1.288e+06	y	0.76	y	2.271e+06	2.271e+06	2.78e+02	y	96.2	
26:48	4.651e+05	y	5.878e+05	y	0.79	y	1.053e+06	1.053e+06	1.40e+02	y	44.6	
26:54	1.036e+06	y	1.384e+06	y	0.75	y	2.420e+06	2.420e+06	3.11e+02	y	102	2,3,7,8-TCDF
27:17	2.136e+06	n	2.849e+06	n	0.75	y	4.985e+06	4.985e+06	5.86e+02	y	211	
27:32	1.047e+05	y	1.330e+05	y	0.79	y	2.377e+05	2.377e+05	2.81e+01	y	10.1	
27:48	1.190e+05	y	1.401e+05	y	0.85	y	2.591e+05	2.591e+05	3.37e+01	y	11.0	
28:57	1.224e+05	n	1.516e+05	n	0.81	y	2.740e+05	2.740e+05	3.08e+01	y	11.6	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 194.09 Unnamed Conc.: 194.093

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:55	2.503e+06	n	1.563e+06	n	1.60	y	4.065e+06	4.065e+06	3.18e+02	y	194	

Totals class: PeCDF EMPC Function: 2 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 2671.7 Unnamed Conc.: 2060.717

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	4.278e+06	n	2.797e+06	n	1.53	y	7.075e+06	7.075e+06	2.27e+02	y	338	
30:38	6.236e+06	n	3.974e+06	n	1.57	y	1.021e+07	1.021e+07	3.69e+02	y	487	
30:44	7.737e+05	n	5.629e+05	n	1.37	y	1.337e+06	1.337e+06	8.40e+01	y	63.8	
30:50	6.826e+05	n	4.720e+05	n	1.45	y	1.155e+06	1.155e+06	5.69e+01	y	55.1	
31:05	6.919e+05	n	4.503e+05	n	1.54	y	1.142e+06	1.142e+06	4.37e+01	y	54.5	
31:17	2.380e+06	n	1.546e+06	n	1.54	y	3.926e+06	3.926e+06	1.72e+02	y	187	
31:23	9.042e+05	n	5.758e+05	n	1.57	y	1.480e+06	1.480e+06	7.70e+01	y	70.7	
31:33	6.322e+05	n	4.028e+05	n	1.57	y	1.035e+06	1.035e+06	5.21e+01	y	49.4	
31:45	3.385e+06	n	2.199e+06	n	1.54	y	5.584e+06	5.584e+06	3.04e+02	y	269	1,2,3,7,8-PeCDF
32:02	3.125e+06	n	2.018e+06	n	1.55	y	5.143e+06	5.143e+06	1.74e+02	y	246	
32:13	7.593e+05	n	5.210e+05	n	1.46	y	1.280e+06	1.280e+06	6.38e+01	y	61.1	
32:37	4.648e+05	n	3.176e+05	n	1.46	y	7.824e+05	7.824e+05	4.20e+01	y	37.4	
32:45	4.268e+06	n	2.778e+06	n	1.54	y	7.046e+06	7.046e+06	3.71e+02	y	336	
32:53	4.367e+06	n	2.859e+06	n	1.53	y	7.225e+06	7.225e+06	3.37e+02	y	342	2,3,4,7,8-PeCDF
33:13	2.269e+05	n	1.484e+05	n	1.53	y	3.753e+05	3.753e+05	2.35e+01	y	17.9	
33:58	7.213e+05	n	4.548e+05	n	1.59	y	1.176e+06	1.176e+06	5.73e+01	y	56.1	

Totals class: HxCDF EMPC Function: 3 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 4822.8 Unnamed Conc.: 2525.941

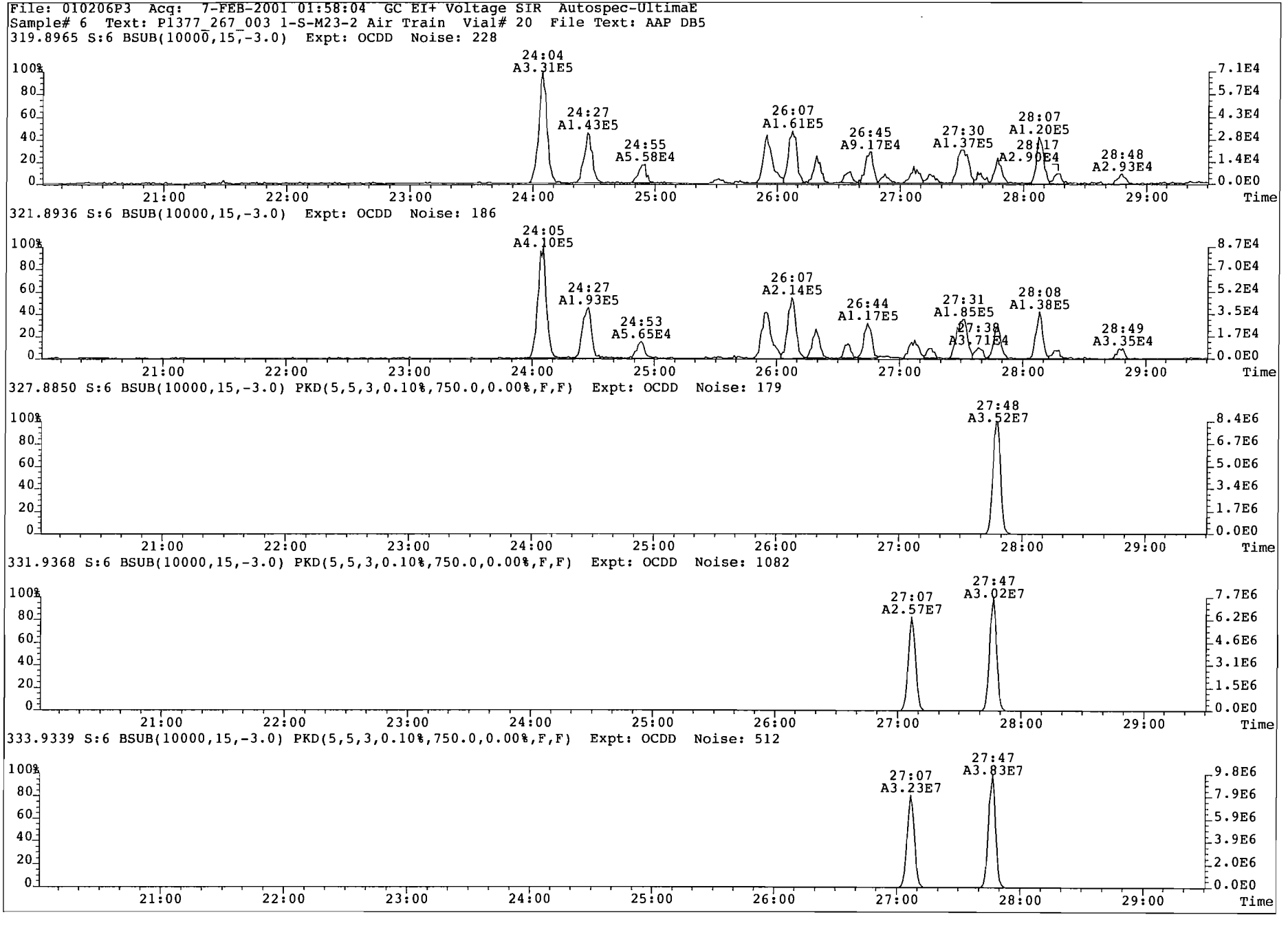
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	2.657e+06	n	2.188e+06	n	1.21	y	4.844e+06	4.844e+06	1.43e+02	y	274	
34:58	1.029e+07	n	8.384e+06	n	1.23	y	1.867e+07	1.867e+07	5.34e+02	y	1060	
35:12	1.002e+06	n	8.348e+05	n	1.20	y	1.837e+06	1.837e+06	5.04e+01	y	104	
35:24	1.425e+06	n	1.162e+06	n	1.23	y	2.587e+06	2.587e+06	7.15e+01	y	146	
35:37	6.354e+05	n	5.119e+05	n	1.24	y	1.147e+06	1.147e+06	3.04e+01	y	64.8	
36:02	4.296e+06	n	3.470e+06	n	1.24	y	7.765e+06	7.765e+06	2.13e+02	y	439	
36:09	5.712e+06	n	4.638e+06	n	1.23	y	1.035e+07	1.035e+07	3.08e+02	y	588	1,2,3,4,7,8-HxCDF
36:17	7.340e+06	n	6.071e+06	n	1.21	y	1.341e+07	1.341e+07	3.92e+02	y	697	1,2,3,6,7,8-HxCDF
36:27	1.204e+06	n	9.981e+05	n	1.21	y	2.202e+06	2.202e+06	6.19e+01	y	124	
36:36	9.261e+05	n	7.296e+05	n	1.27	y	1.656e+06	1.656e+06	4.84e+01	y	93.6	
36:44	2.195e+06	n	1.799e+06	n	1.22	y	3.994e+06	3.994e+06	1.10e+02	y	226	
36:57	7.433e+06	n	6.138e+06	n	1.21	y	1.357e+07	1.357e+07	3.85e+02	y	749	2,3,4,6,7,8-HxCDF
37:59	2.312e+06	n	1.849e+06	n	1.25	y	4.161e+06	4.161e+06	7.06e+01	y	263	1,2,3,7,8,9-HxCDF

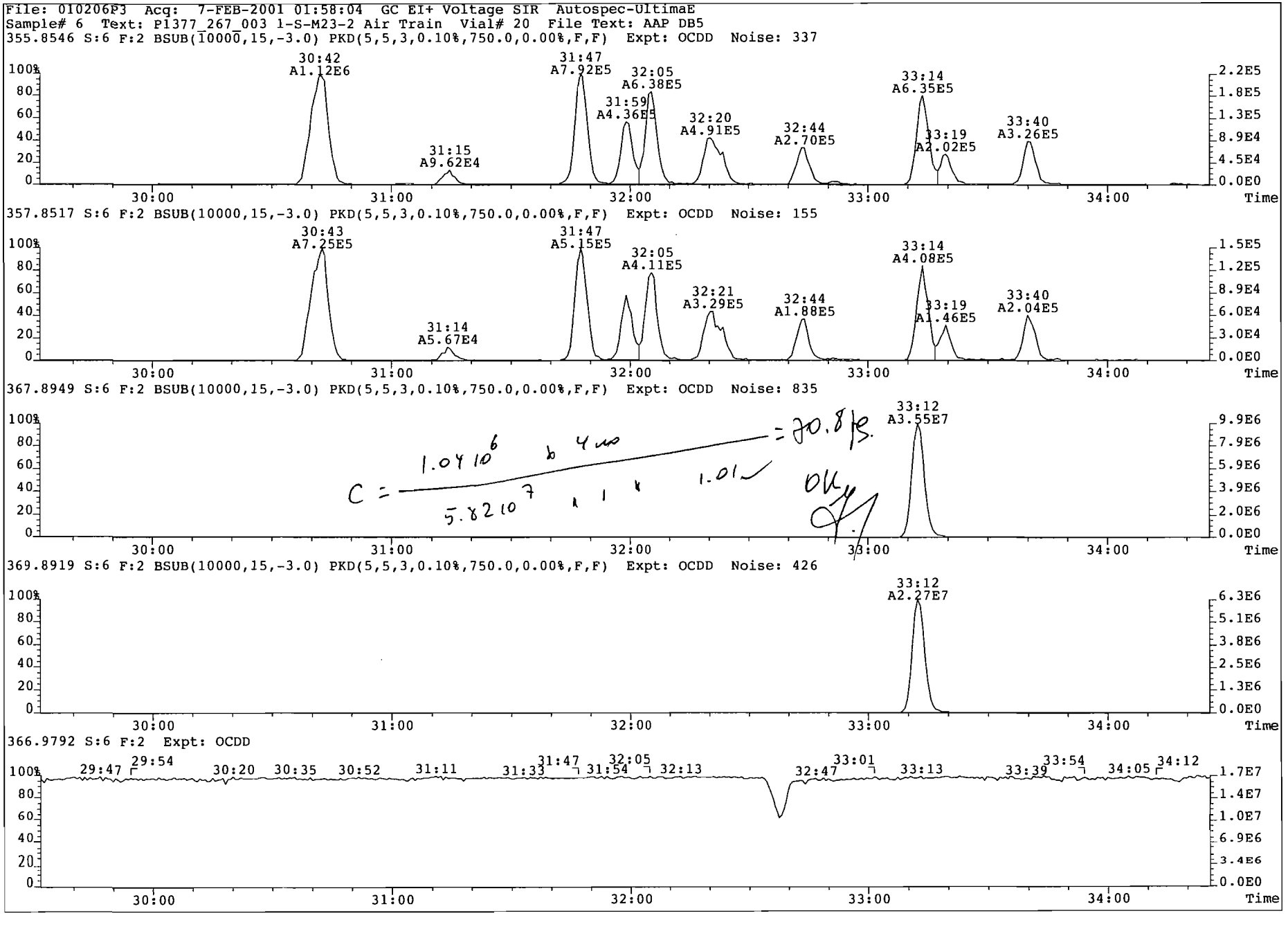
Totals class: HpCDF EMPC Function: 4 Run #: 13
File Name: 010206P3 Sample #: 6 Sample text: P1377_267_003 1-S-M23-2 Air Train

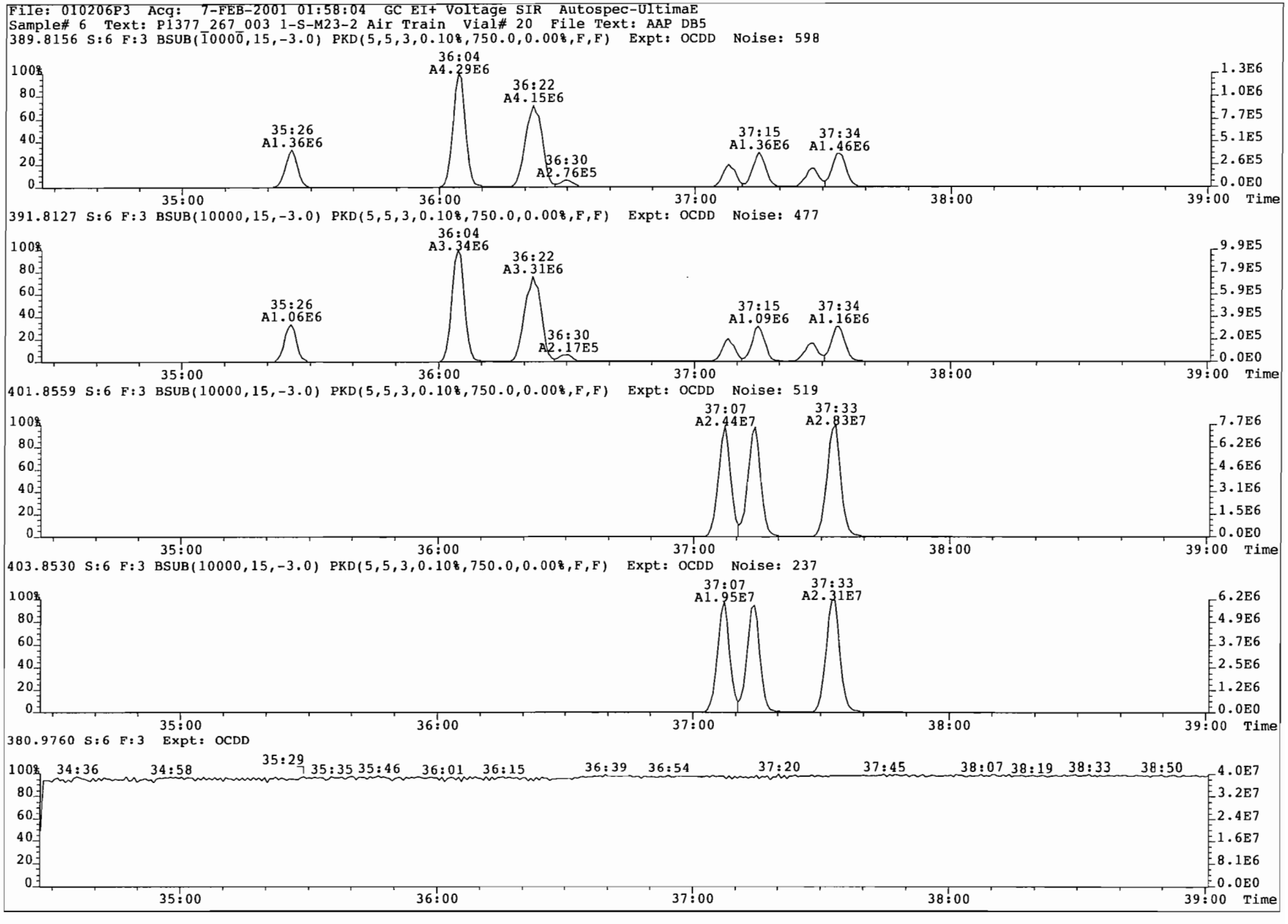
Acquired: 7-FEB-01 01:58:04 Processed: 7-FEB-01 17:17:24

Total Conc.: 3560.4 Unnamed Conc.: 1064.509

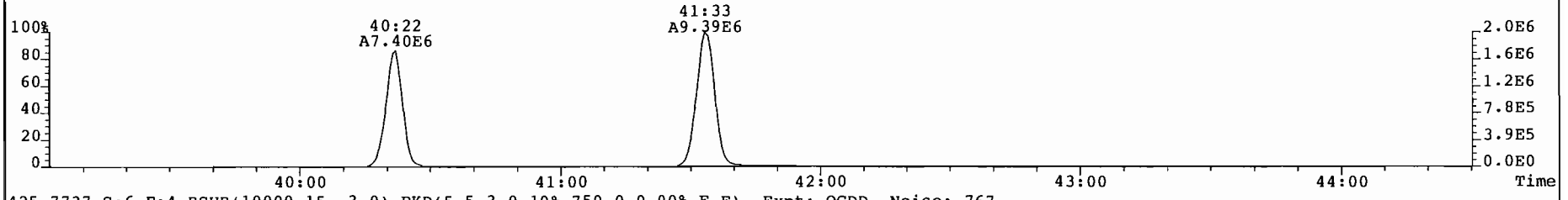
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	1.820e+07	n	1.759e+07	n	1.03	y	3.579e+07	3.579e+07	1.19e+03	y	2100	1,2,3,4,6,7,8-HpCDF
40:22	4.630e+06	n	4.518e+06	n	1.02	y	9.148e+06	9.148e+06	3.13e+02	y	584	
40:36	3.820e+06	n	3.717e+06	n	1.03	y	7.538e+06	7.538e+06	2.40e+02	y	481	
42:23	2.860e+06	n	2.765e+06	n	1.03	y	5.625e+06	5.625e+06	1.56e+02	y	392	1,2,3,4,7,8,9-HpCDF


File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
319.8965 S:6 BSUB(10000,15,-3.0) Expt: OCDD Noise: 228
24:04 A3.31E5
24:27 A1.43E5
24:55 A5.58E4
26:07 A1.61E5
26:45 A9.17E4
27:30 A1.37E5
28:07 A1.20E5
28:17 A2.90E4
28:48 A2.93E4
321.8936 S:6 BSUB(10000,15,-3.0) Expt: OCDD Noise: 186
24:05 A4.10E5
24:27 A1.93E5
24:53 A5.65E4
26:07 A2.14E5
26:44 A1.17E5
27:31 A1.85E5
27:38 A3.71E4
28:08 A1.38E5
28:49 A3.35E4
327.8850 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 179
27:48 A3.52E7
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1082
27:07 A2.57E7
27:47 A3.02E7
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 512
27:07 A3.23E7
27:47 A3.83E7
Time

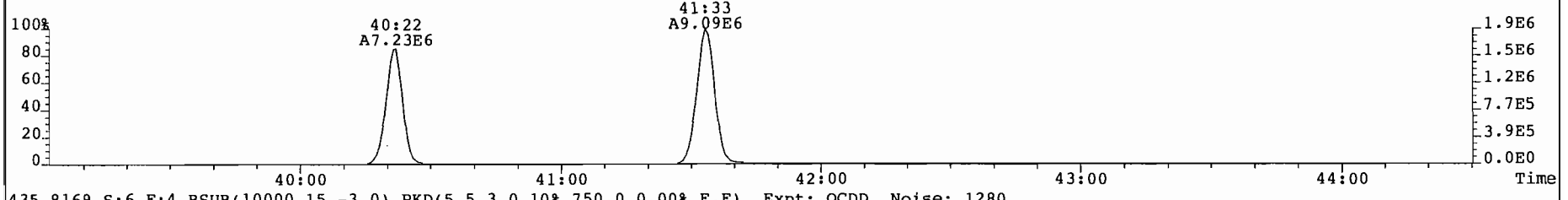

File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 337
30:42 A1.12E6
31:15 A9.62E4
31:47 A7.92E5
31:59 A4.36E5
32:05 A6.38E5
32:20 A4.91E5
32:44 A2.70E5
33:14 A6.35E5
33:19 A2.02E5
33:40 A3.26E5
357.8517 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 155
30:43 A7.25E5
31:14 A5.67E4
31:47 A5.15E5
32:05 A4.11E5
32:21 A3.29E5
32:44 A1.88E5
33:14 A4.08E5
33:19 A1.46E5
33:40 A2.04E5
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 835
33:12 A3.55E7
C = 1.04 10^6 / 5.82 10^7 × 4 × 1 × 1.01 = 70.8 pg
OK
369.8919 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 426
33:12 A2.27E7
366.9792 S:6 F:2 Expt: OCDD
29:47 29:54 30:20 30:35 30:52 31:11 31:33 31:47 31:54 32:05 32:13 32:47 33:01 33:13 33:39 33:54 34:05 34:12
Time


File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 598
35:26 A1.36E6
36:04 A4.29E6
36:22 A4.15E6
36:30 A2.76E5
37:15 A1.36E6
37:34 A1.46E6
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 477
35:26 A1.06E6
36:04 A3.34E6
36:22 A3.31E6
36:30 A2.17E5
37:15 A1.09E6
37:34 A1.16E6
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 519
37:07 A2.44E7
37:33 A2.83E7
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 237
37:07 A1.95E7
37:33 A2.31E7
380.9760 S:6 F:3 Expt: OCDD
34:36
34:58
35:29
35:35
35:46
36:01
36:15
36:39
36:54
37:20
37:45
38:07
38:19
38:33
38:50
Time

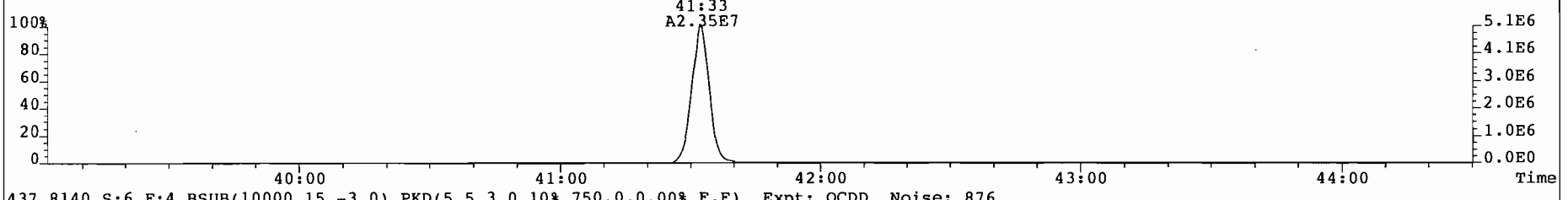
File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 891



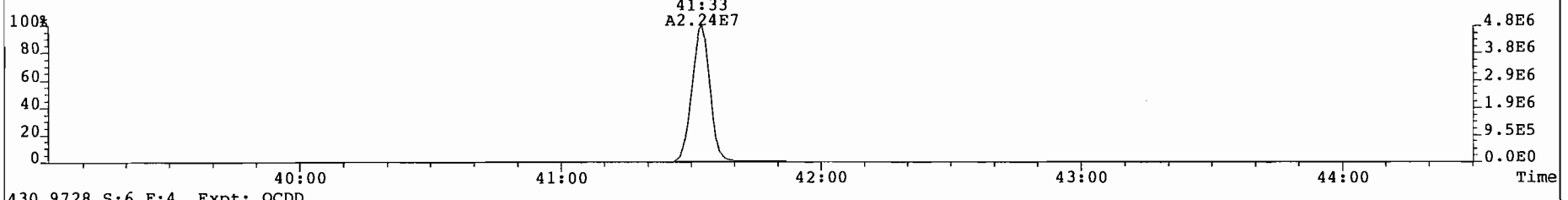
425.7737 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 767



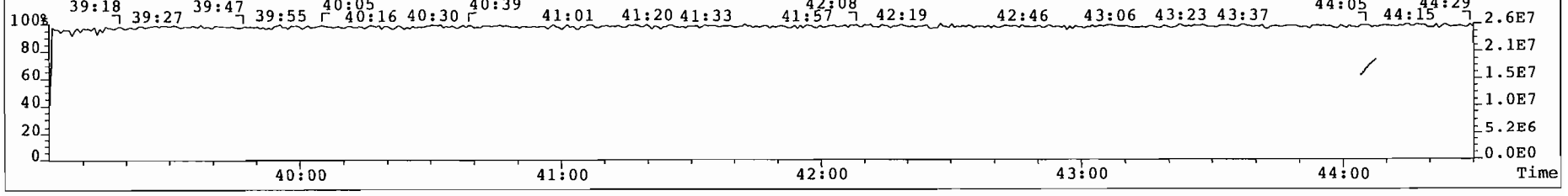
435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1280

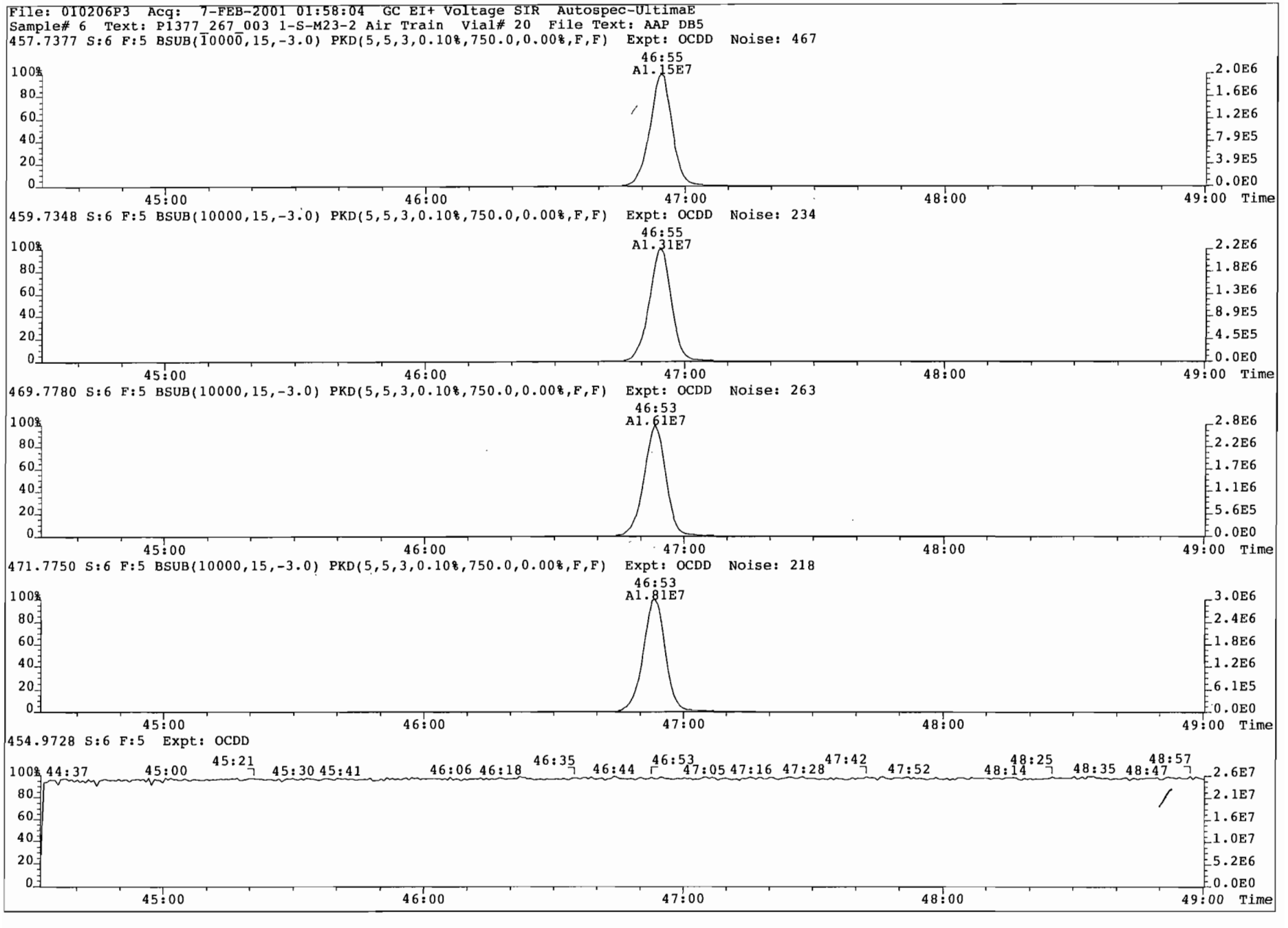


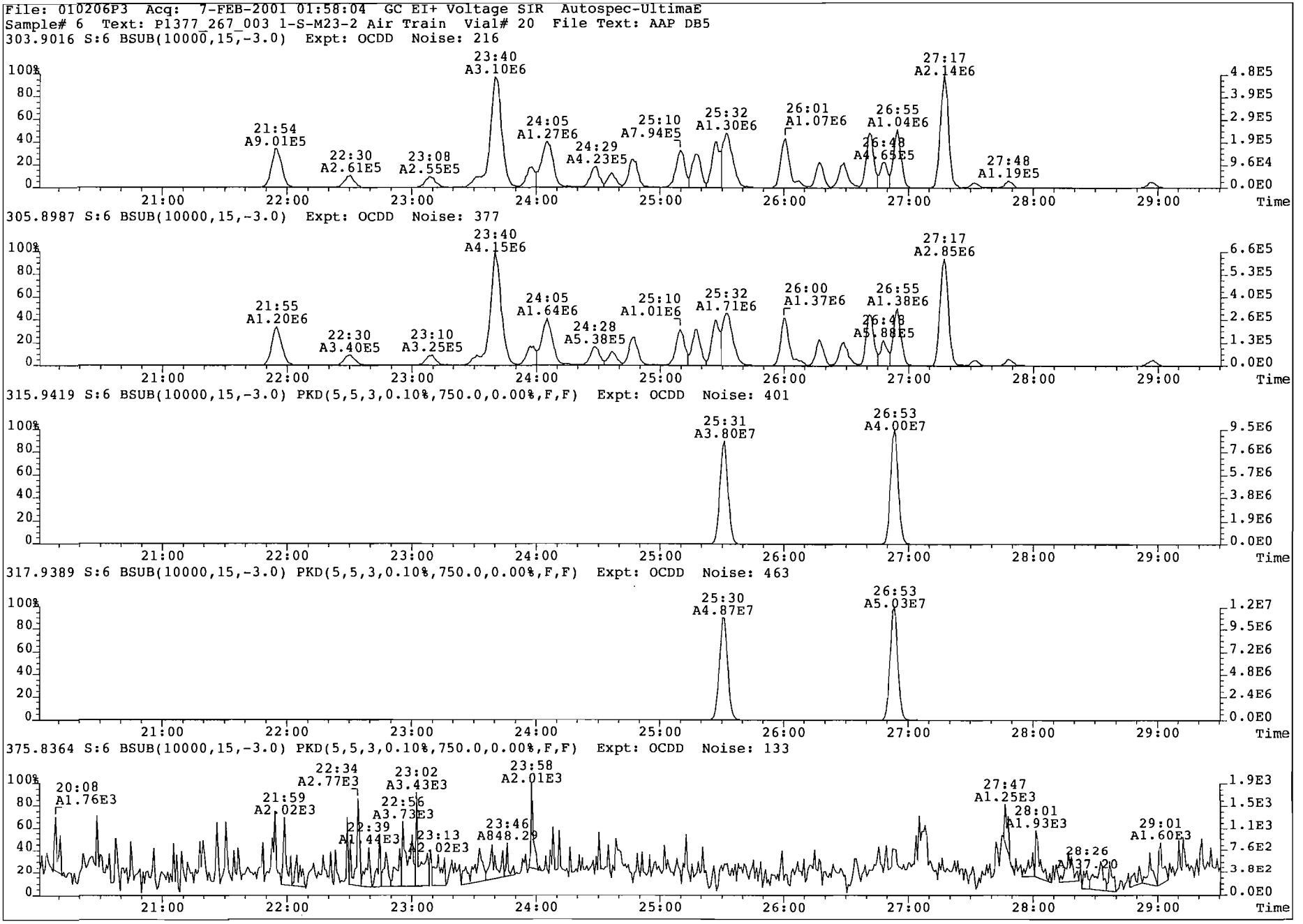
437.8140 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 876



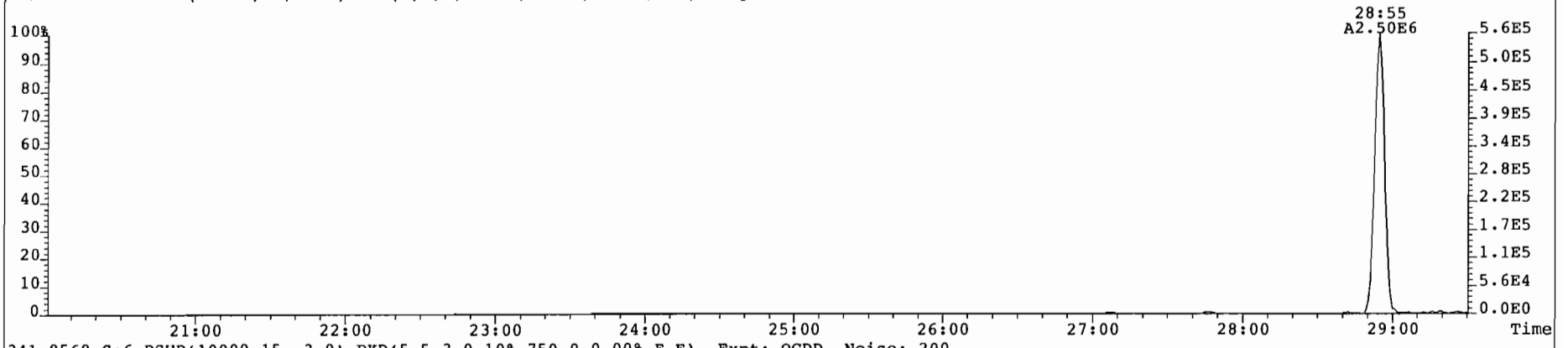
430.9728 S:6 F:4 Expt: OCDD



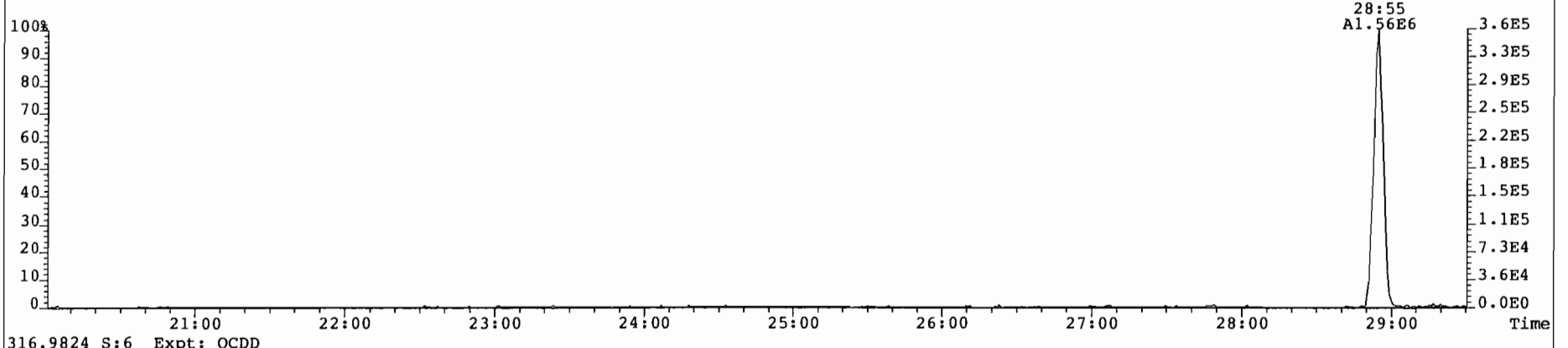

File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 467
46:55
A1.15E7
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 234
46:55
A1.31E7
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 263
46:53
A1.61E7
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 218
46:53
A1.81E7
454.9728 S:6 F:5 Expt: OCDD
44:37 45:00 45:21 45:30 45:41 46:06 46:18 46:35 46:44 46:53 47:05 47:16 47:28 47:42 47:52 48:14 48:25 48:35 48:47 48:57
45:00 46:00 47:00 48:00 49:00 Time


File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
303.9016 S:6 BSUB(10000,15,-3.0) Expt: OCDD Noise: 216
21:54 A9.01E5
22:30 A2.61E5
23:08 A2.55E5
23:40 A3.10E6
24:05 A1.27E6
24:29 A4.23E5
25:10 A7.94E5
25:32 A1.30E6
26:01 A1.07E6
26:48 A4.65E5
26:55 A1.04E6
27:17 A2.14E6
27:48 A1.19E5
305.8987 S:6 BSUB(10000,15,-3.0) Expt: OCDD Noise: 377
21:55 A1.20E6
22:30 A3.40E5
23:10 A3.25E5
23:40 A4.15E6
24:05 A1.64E6
24:28 A5.38E5
25:10 A1.01E6
25:32 A1.71E6
26:00 A1.37E6
26:48 A5.88E5
26:55 A1.38E6
27:17 A2.85E6
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 401
25:31 A3.80E7
26:53 A4.00E7
317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 463
25:30 A4.87E7
26:53 A5.03E7
375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 133
20:08 A1.76E3
21:59 A2.02E3
22:34 A2.77E3
22:39 A1.44E3
22:56 A3.73E3
23:02 A3.43E3
23:13 A2.02E3
23:46 A848.29
23:58 A2.01E3
27:47 A1.25E3
28:01 A1.93E3
28:26 A1.37E3
29:01 A1.60E3
Time

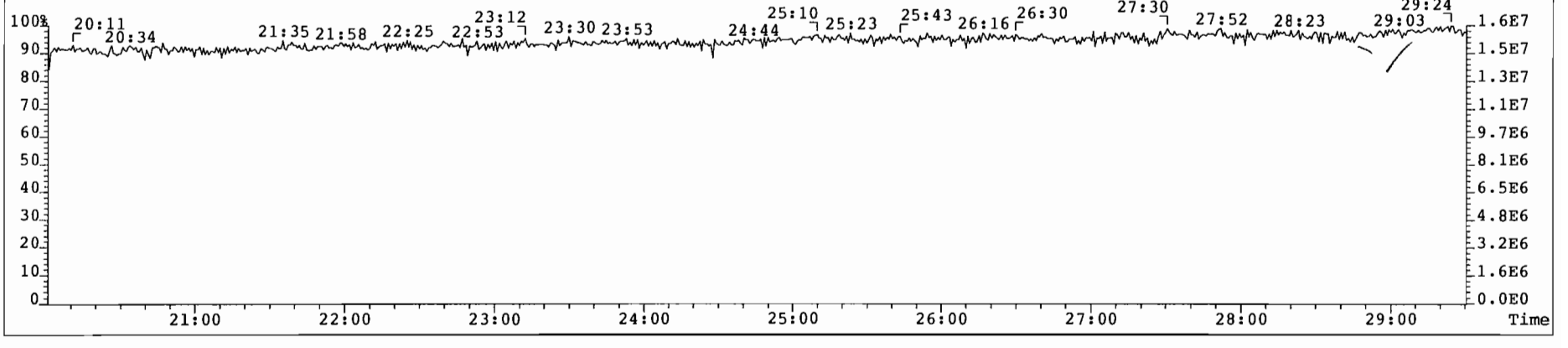
File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 124

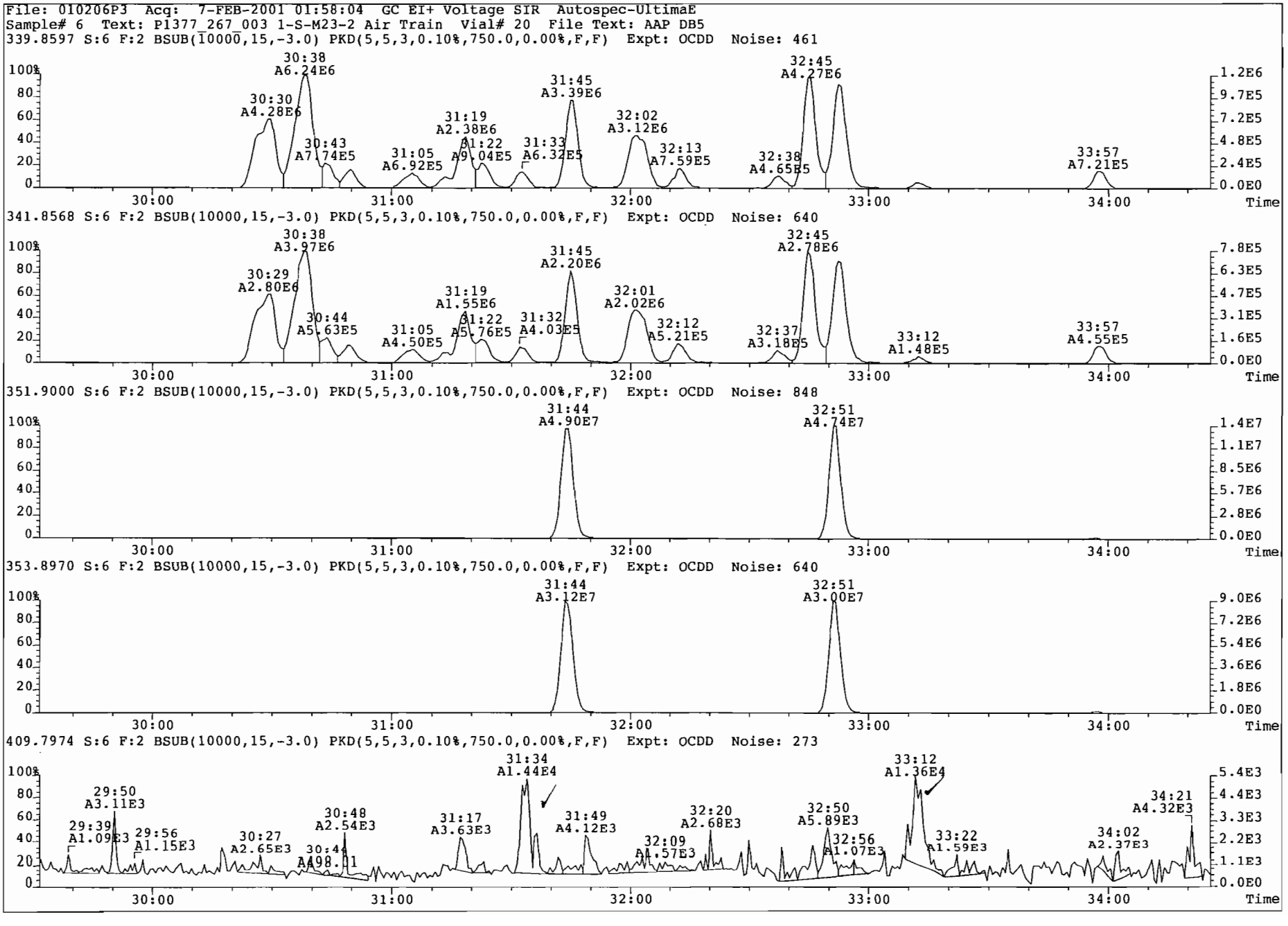


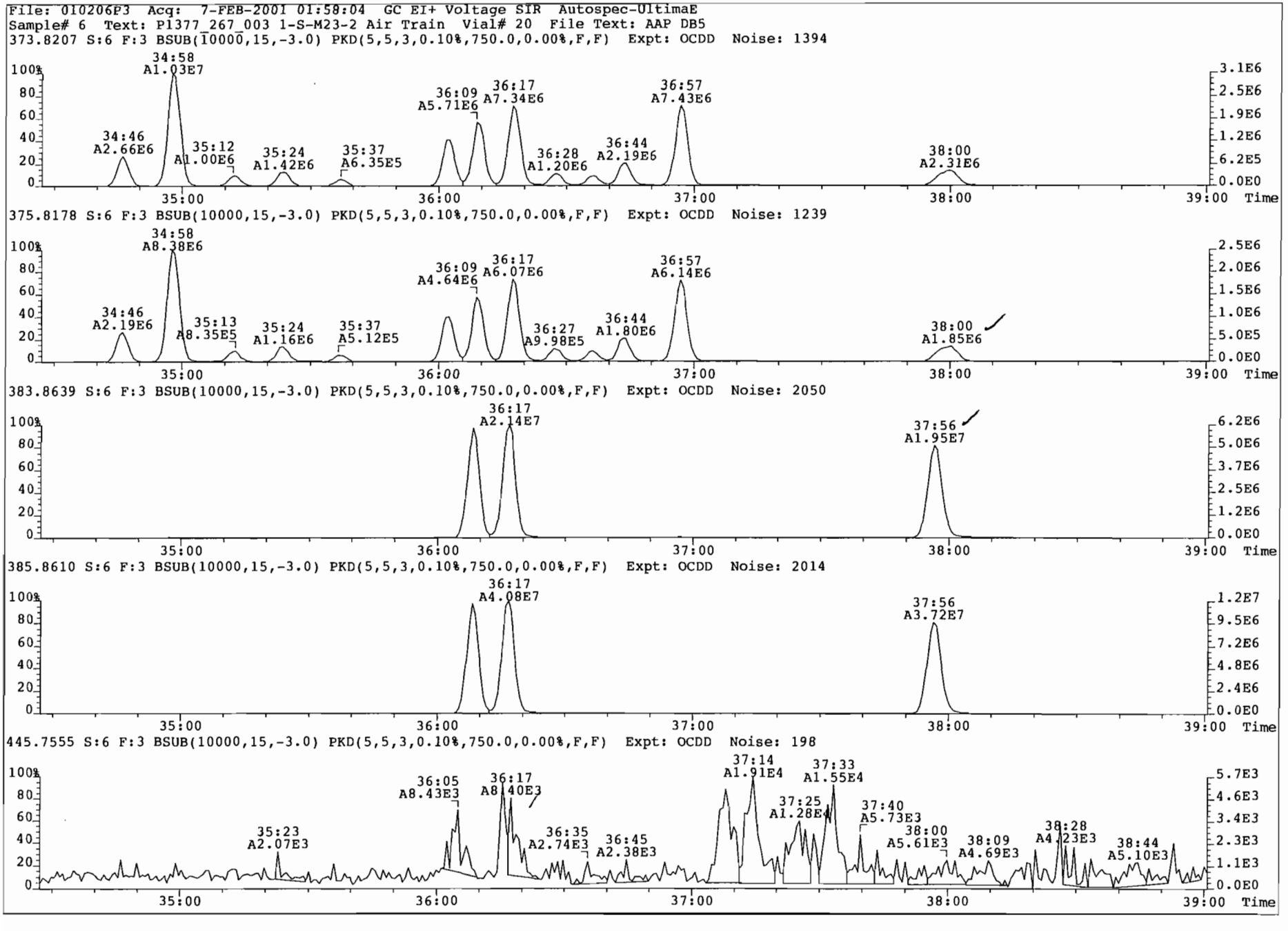
341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 200

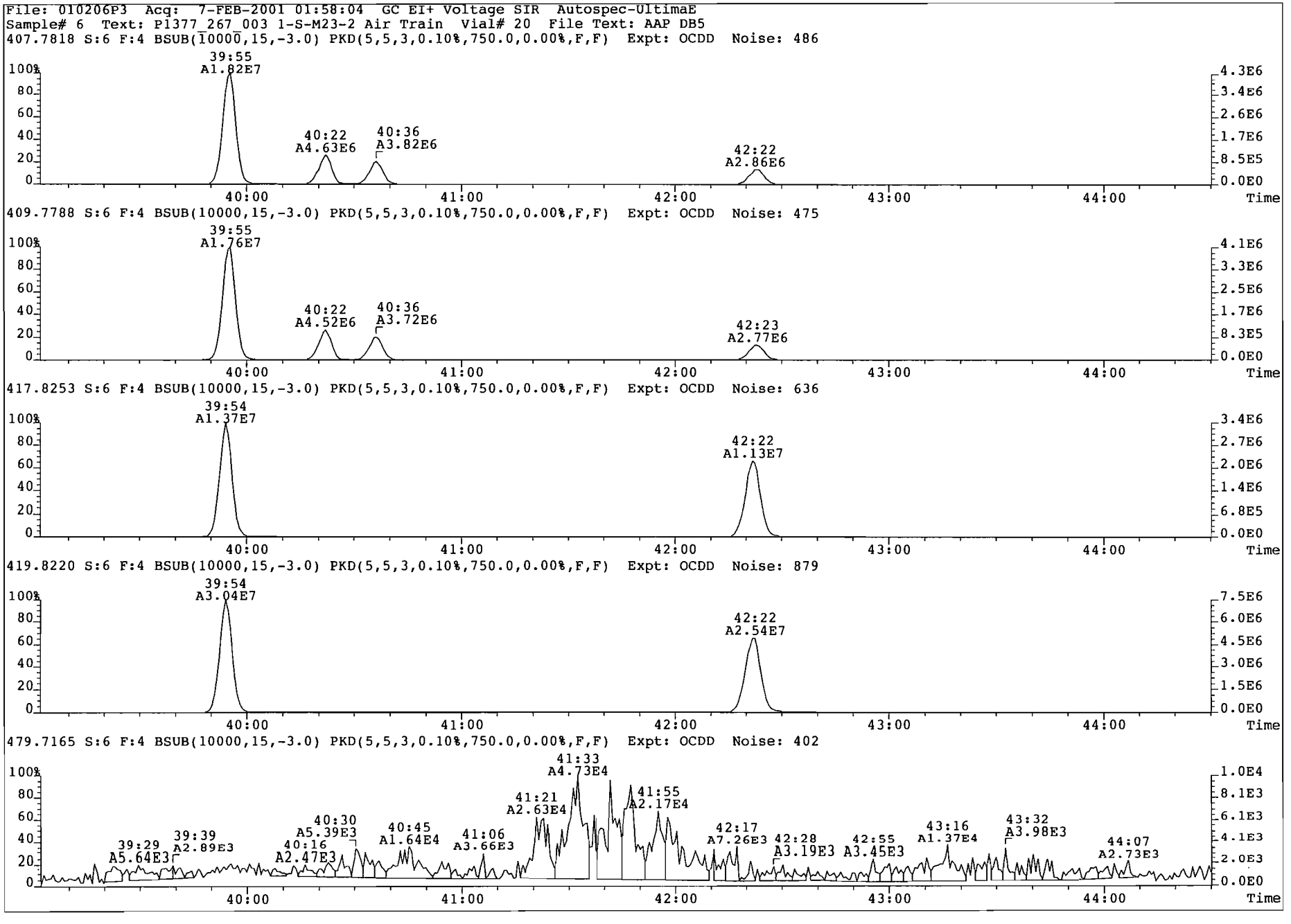


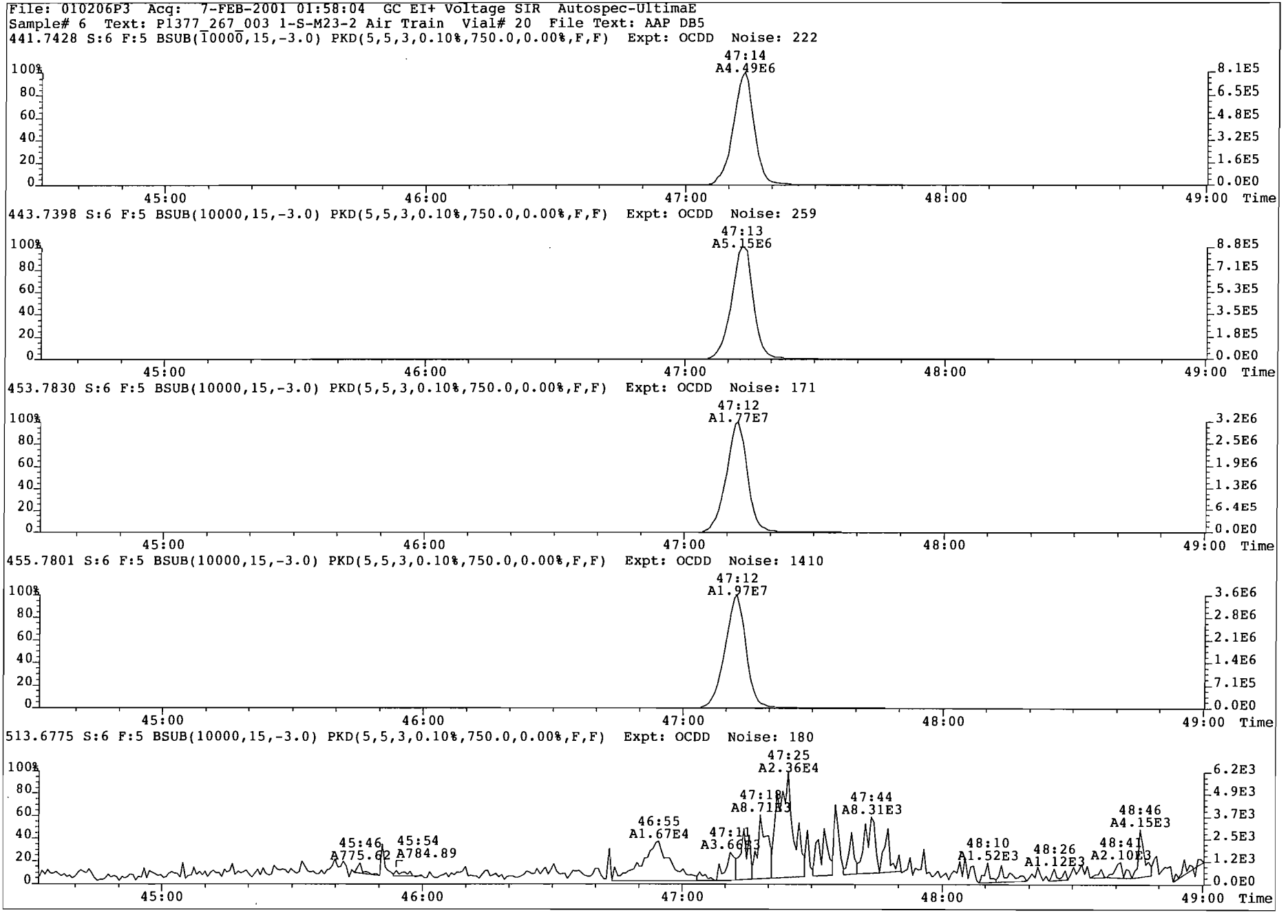
316.9824 S:6 Expt: OCDD




File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 461
30:38 A6.24E6
30:30 A4.28E6
30:43 A7.74E5
31:05 A6.92E5
31:19 A2.38E6
31:22 A9.04E5
31:33 A6.32E5
31:45 A3.39E6
32:02 A3.12E6
32:13 A7.59E5
32:38 A4.65E5
32:45 A4.27E6
33:57 A7.21E5
341.8568 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 640
30:38 A3.97E6
30:29 A2.80E6
30:44 A5.63E5
31:05 A4.50E5
31:19 A1.55E6
31:22 A5.76E5
31:32 A4.03E5
31:45 A2.20E6
32:01 A2.02E6
32:12 A5.21E5
32:37 A3.18E5
32:45 A2.78E6
33:12 A1.48E5
33:57 A4.55E5
351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 848
31:44 A4.90E7
32:51 A4.74E7
353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 640
31:44 A3.12E7
32:51 A3.00E7
409.7974 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 273
29:50 A3.11E3
29:39 A1.09E3
29:56 A1.15E3
30:27 A2.65E3
30:48 A2.54E3
30:46 AA98.01
31:17 A3.63E3
31:34 A1.44E4
31:49 A4.12E3
32:09 A1.57E3
32:20 A2.68E3
32:50 A5.89E3
32:56 A1.07E3
33:12 A1.36E4
33:22 A1.59E3
34:02 A2.37E3
34:21 A4.32E3
30:00
31:00
32:00
33:00
34:00
Time


File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1394
34:58 A1.03E7
34:46 A2.66E6
35:12 A1.00E6
35:24 A1.42E6
35:37 A6.35E5
36:09 A5.71E6
36:17 A7.34E6
36:28 A1.20E6
36:44 A2.19E6
36:57 A7.43E6
38:00 A2.31E6
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1239
34:58 A8.38E6
34:46 A2.19E6
35:13 A8.35E5
35:24 A1.16E6
35:37 A5.12E5
36:09 A4.64E6
36:17 A6.07E6
36:27 A9.98E5
36:44 A1.80E6
36:57 A6.14E6
38:00 A1.85E6
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2050
36:17 A2.14E7
37:56 A1.95E7
385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2014
36:17 A4.08E7
37:56 A3.72E7
445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 198
35:23 A2.07E3
36:05 A8.43E3
36:17 A8.40E3
36:35 A2.74E3
36:45 A2.38E3
37:14 A1.91E4
37:25 A1.28E4
37:33 A1.55E4
37:40 A5.73E3
38:00 A5.61E3
38:09 A4.69E3
38:28 A4.23E3
38:44 A5.10E3
35:00
36:00
37:00
38:00
39:00
Time


File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 486
39:55 A1.82E7
40:22 A4.63E6
40:36 A3.82E6
42:22 A2.86E6
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 475
39:55 A1.76E7
40:22 A4.52E6
40:36 A3.72E6
42:23 A2.77E6
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 636
39:54 A1.37E7
42:22 A1.13E7
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 879
39:54 A3.04E7
42:22 A2.54E7
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 402
41:33 A4.73E4
41:21 A2.63E4
41:55 A2.17E4
39:29 A5.64E3
39:39 A2.89E3
40:16 A2.47E3
40:30 A5.39E3
40:45 A1.64E4
41:06 A3.66E3
42:17 A7.26E3
42:28 A3.19E3
42:55 A3.45E3
43:16 A1.37E4
43:32 A3.98E3
44:07 A2.73E3
100%
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 7-FEB-2001 01:58:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1377_267_003 1-S-M23-2 Air Train Vial# 20 File Text: AAP DB5
441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 222
47:14
A4.49E6
443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 259
47:13
A5.15E6
453.7830 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 171
47:12
A1.77E7
455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1410
47:12
A1.97E7
513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 180
47:25
A2.36E4
47:18
A8.71E3
47:44
A8.31E3
46:55
A1.67E4
47:10
A3.66E3
45:46
A775.62
45:54
A784.89
48:10
A1.52E3
48:26
A1.12E3
48:41
A2.10E3
48:46
A4.15E3
100%
80
60
40
20
0
45:00
46:00
47:00
48:00
49:00
Time
8.1E5
6.5E5
4.8E5
3.2E5
1.6E5
0.0E0
8.8E5
7.1E5
5.3E5
3.5E5
1.8E5
0.0E0
3.2E6
2.5E6
1.9E6
1.3E6
6.4E5
0.0E0
3.6E6
2.8E6
2.1E6
1.4E6
7.1E5
0.0E0
6.2E3
4.9E3
3.7E3
2.5E3
1.2E3
0.0E0

Client ID: 1-S-M23-2 Filename: 010211Q1 S: 4 Acq: 11-FEB-01 13:26:15
Lab ID: P1377_267_003 GC Column ID: ~~db-5~~ DB-225 ICal: MM2_DB225_000919 Wt/Vol: 1.000
Sample text: P1377_267_003 1-S-M23-2 Air Train Vial: 16
CC 12Feb01

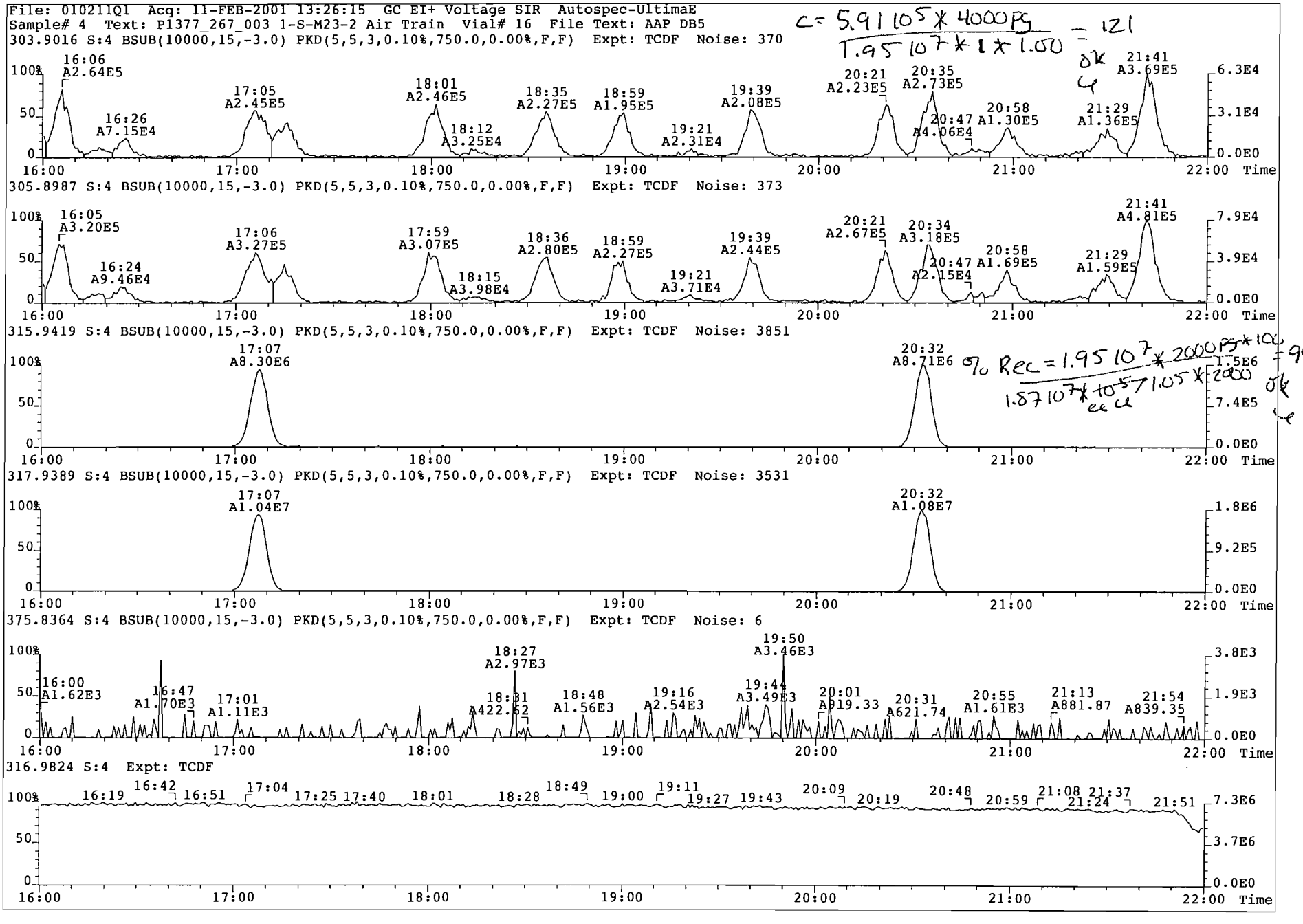
	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL	Rec
RS	13C-1,2,3,4-TCDF	1.87e+07	0.80	y	-	17:07	88.3		14124	5.0	-	-
IS/RT	13C-2,3,7,8-TCDF	1.95e+07	0.80	y	1.05	20:33	3980		14124	5.0	154	99.5
Unk	2,3,7,8-TCDF	5.91e+05	0.86	y	1.00	20:34	120		1492	5.0	16.2	-

Reviewer: CC

Date: 12 Feb 01

Analyst: GAG

Date: 11 Feb 01



$C = \frac{5.91\,10^5 * 4000\,pg}{1.95\,10^7 * 1 * 1.00} = 121$ ok

$\%\,Rec = \frac{1.95\,10^7 * 2000\,pg * 100}{1.87\,10^7 * 10^5 / 1.05 * 2000} = 99.37$ ok

Sample ID: 1-S-M23-3

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_004	Date Extracted:	01 Feb 01
Date Collected:	24 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.802			97.5	99.5	101
1,2,3,7,8-PeCDD	4.25			A	100	97.7	101
1,2,3,4,7,8-HxCDD	4.93			A B	98.6	98.1	101
1,2,3,6,7,8-HxCDD	9.22			A	98.6	98.1	101
1,2,3,7,8,9-HxCDD	6.09			A	98.6	98.1	101
1,2,3,4,6,7,8-HpCDD	48.1			A B	99.4	96.7	101
OCDD	106			B	88.7	96.7	101
2,3,7,8-TCDF	8.65			A	97.3	99.5	101
1,2,3,7,8-PeCDF	18.4			A	92.6	97.7	101
2,3,4,7,8-PeCDF	21.8			A	92.6	97.7	101
1,2,3,4,7,8-HxCDF	23.7			A B	95.3	99.3	101
1,2,3,6,7,8-HxCDF	28.2			A B	95.3	99.3	101
2,3,4,6,7,8-HxCDF	24.1			A B	95.3	99.3	101
1,2,3,7,8,9-HxCDF	6.56			A	95.3	99.3	101
1,2,3,4,6,7,8-HpCDF	57.3			B	94.2	96.7	101
1,2,3,4,7,8,9-HpCDF	6.73			A	94.2	96.7	101
OCDF	13.9			A	88.6	96.7	101
Totals & TEQs							
TCDDs	33.1		36.3				
PeCDDs	84.1						
HxCDDs	147						
HpCDDs	103						
TCDFs	294						
PeCDFs	257						
HxCDFs	195		203				
HpCDFs	83.2						
Total PCDD/Fs	**1320**		**1330**				
TEQ (ND=0)	**26.3**		**26.3**	**ITEF**			
TEQ (ND=DL/2)	**26.7**		**26.7**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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e-mail: ytondeur@cs.com
web: www.ultratrace.com

Reviewer .....

Date 12 Feb 01

Client ID: 1-S-M23-3 Filename: 010206P3 S: 7 Acq: 7-FEB-01 02:49:44 ConCal: 010206P3-
Lab ID: P1377_267_004 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	*	*	n	1.26	NotF»	*			890	2.5	0.802	
	1,2,3,7,8-PeCDD	5.64e+04	1.45	y	1.01	33:14	4.25			1039	2.5	1.92	
	1,2,3,4,7,8-HxCDD	6.07e+04	1.36	y	1.14	37:08	4.93			1215	2.5	2.05	
	1,2,3,6,7,8-HxCDD	1.02e+05	1.19	y	1.02	37:15	9.22			1215	2.5	2.28	
	1,2,3,7,8,9-HxCDD	7.53e+04	1.13	y	1.14	37:34	6.09			1215	2.5	2.04	
	1,2,3,4,6,7,8-HpCDD	5.75e+05	0.94	y	1.13	41:34	48.1			1262	2.5	2.57	
	OCDD	8.31e+05	0.89	y	1.03	46:54	106			800	2.5	2.91	
	2,3,7,8-TCDF	1.88e+05	0.80	y	1.05	26:55	8.65			1214	2.5	1.06	
	1,2,3,7,8-PeCDF	3.41e+05	1.44	y	1.04	31:45	18.4			1905	2.5	2.28	
	2,3,4,7,8-PeCDF	4.10e+05	1.53	y	1.05	32:52	21.8			1905	2.5	2.25	
	1,2,3,4,7,8-HxCDF	3.86e+05	1.30	y	1.13	36:09	23.7			1727	2.5	1.35	
	1,2,3,6,7,8-HxCDF	5.02e+05	1.19	y	1.24	36:17	28.2			1727	2.5	1.24	
	2,3,4,6,7,8-HxCDF	4.03e+05	1.21	y	1.16	36:57	24.1			1727	2.5	1.31	
	1,2,3,7,8,9-HxCDF	9.61e+04	1.19	y	1.02	37:59	6.56			1727	2.5	1.50	
	1,2,3,4,6,7,8-HpCDF	8.84e+05	1.09	y	1.54	39:55	57.3			878	2.5	0.894	
	1,2,3,4,7,8,9-HpCDF	8.75e+04	1.02	y	1.30	42:23	6.73			878	2.5	1.06	
	OCDF	1.35e+05	1.00	y	1.15	47:12	13.9			1012	2.5	2.75	
	Total Tetra-Dioxins	6.53e+05	0.75	y	1.26	24:04	33.1			890	2.5	0.802	
	Total Penta-Dioxins	1.12e+06	1.60	y	1.01	30:42	84.1			1039	2.5	1.92	
	Total Hexa-Dioxins	1.75e+06	1.26	y	1.10	35:25	147			1215	2.5	2.12	
	Total Hepta-Dioxins	1.23e+06	1.05	y	1.13	40:22	103			1262	2.5	2.57	
	Total Tetra-Furans	6.38e+06	0.71	y	1.05	21:55	294			1214	2.5	1.06	
	1st Fnc. Penta-Furans	5.86e+05	1.58	y	1.05	28:55	31.4			1112	2.5	1.32	
	Total Penta-Furans	4.21e+06	1.47	y	1.05	30:28	226			1905	2.5	2.27	
	PeCDF Totals:						257						
	Total Hexa-Furans	3.23e+06	1.28	y	1.14	34:46	195			1727	2.5	1.35	
	Total Hepta-Furans	1.24e+06	1.09	y	1.42	39:55	83.2			878	2.5	0.971	
IS	13C-2,3,7,8-TCDD	6.26e+07	0.79	y	1.13	27:46	3900						
IS	13C-1,2,3,7,8-PeCDD	5.24e+07	1.56	y	0.93	33:13	4000						
IS	13C-1,2,3,6,7,8-HxCDD	4.33e+07	1.28	y	0.93	37:14	3940						
IS	13C-1,2,3,4,6,7,8-HpCDD	4.24e+07	1.04	y	0.91	41:32	3980						
IS	13C-OCDD	3.06e+07	0.89	y	0.73	46:53	3550						
IS	13C-2,3,7,8-TCDF	8.31e+07	0.78	y	1.06	26:53	3890						
IS	13C-1,2,3,7,8-PeCDF	7.14e+07	1.56	y	0.96	31:44	3700						
IS	13C-1,2,3,6,7,8-HxCDF	5.75e+07	0.52	y	1.28	36:17	3810						
IS	13C-1,2,3,4,6,7,8-HpCDF	4.00e+07	0.45	y	0.90	39:54	3770						
IS	13C-OCDF	3.38e+07	0.88	y	0.81	47:12	3540						
RS/RT	13C-1,2,3,4-TCDD	5.66e+07	0.80	y	1.00	27:07	4000						
RS	13C-1,2,3,4-TCDF	8.05e+07	0.78	y	1.00	25:31	4000						
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.71e+07	1.27	y	1.00	37:33	4000						
PS	37Cl-2,3,7,8-TCDD	3.20e+07			0.51	27:48	3980						
PS	13C-2,3,4,7,8-PeCDF	6.80e+07	1.56	y	0.97	32:52	3910						
PS	13C-1,2,3,4,7,8-HxCDD	3.92e+07	1.26	y	0.92	37:07	3920						
PS	13C-1,2,3,4,7,8-HxCDF	5.20e+07	0.52	y	0.91	36:08	3970						
PS	13C-1,2,3,4,7,8,9-HpCDF	3.31e+07	0.44	y	0.85	42:22	3870						
AS	13C-1,2,3,7,8,9-HxCDF	5.06e+07	0.51	y	1.07	37:57	4020						

	EMPC
	36.3
	84.1
	147
	103
	294
	31.4
	257
	203
	83.2

	Rec
IS	97.5
IS	100
IS	98.6
IS	99.4
IS	88.7
IS	97.3
IS	92.6
IS	95.3
IS	94.2
IS	88.6
RS/RT	-
RS	-
RS/RT	-
PS	99.5
PS	97.7
PS	98.1
PS	99.3
PS	96.7
AS	101

Reviewer: Ce

Date: 11 Feb 01

Analyst: GAG

Date: 11 Feb 01

41

Totals class: TCDD EMPC Function: 1 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 36.327 Unnamed Conc.: 36.327

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:04	1.512e+05	n	2.004e+05	n	0.75	y	3.515e+05	3.515e+05	4.28e+01	y	17.8	
24:27	6.116e+04	n	7.728e+04	n	0.79	y	1.384e+05	1.384e+05	1.80e+01	y	7.01	
25:55	3.651e+04	y	3.623e+04	n	1.01	n	7.273e+04	6.412e+04	8.75e+00	y	3.25	
26:07	2.878e+04	n	3.335e+04	n	0.86	y	6.213e+04	6.213e+04	7.75e+00	y	3.15	
27:07	1.918e+04	y	2.514e+04	y	0.76	y	4.432e+04	4.432e+04	5.37e+00	y	2.25	
27:30	2.397e+04	y	3.253e+04	y	0.74	y	5.650e+04	5.650e+04	7.49e+00	y	2.86	

Totals class: PeCDD EMPC Function: 2 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 84.105 Unnamed Conc.: 79.851

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:42	2.453e+05	n	1.531e+05	n	1.60	y	3.984e+05	3.984e+05	2.86e+01	y	30.0	
31:47	1.623e+05	n	9.866e+04	n	1.64	y	2.610e+05	2.610e+05	2.93e+01	y	19.7	
31:59	3.716e+04	y	2.131e+04	y	1.74	y	5.847e+04	5.847e+04	6.98e+00	y	4.41	
32:05	7.911e+04	n	5.413e+04	y	1.46	y	1.332e+05	1.332e+05	1.61e+01	y	10.0	
32:21	5.480e+04	y	3.511e+04	y	1.56	y	8.992e+04	8.992e+04	6.71e+00	y	6.78	
32:43	4.911e+04	n	3.445e+04	n	1.43	y	8.356e+04	8.356e+04	1.04e+01	y	6.30	
33:14	3.334e+04	y	2.307e+04	y	1.45	y	5.641e+04	5.641e+04	7.61e+00	y	4.25	1,2,3,7,8-PeCDD
33:41	1.979e+04	y	1.456e+04	y	1.36	y	3.435e+04	3.435e+04	4.67e+00	y	2.59	

Totals class: HxCDD EMPC Function: 3 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 147.17 Unnamed Conc.: 126.943

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:25	1.230e+05	n	9.757e+04	n	1.26	y	2.206e+05	2.206e+05	2.20e+01	y	18.5	
36:05	4.895e+05	n	3.528e+05	n	1.39	y	8.423e+05	8.423e+05	9.23e+01	y	70.6	
36:22	2.627e+05	n	1.885e+05	n	1.39	y	4.512e+05	4.512e+05	3.68e+01	y	37.8	
37:08	3.495e+04	n	2.578e+04	n	1.36	y	6.073e+04	6.073e+04	6.92e+00	y	4.93	1,2,3,4,7,8-HxCDD
37:15	5.546e+04	n	4.662e+04	n	1.19	y	1.021e+05	1.021e+05	1.15e+01	y	9.22	1,2,3,6,7,8-HxCDD
37:34	3.996e+04	n	3.539e+04	n	1.13	y	7.534e+04	7.534e+04	8.31e+00	y	6.09	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 103.11 Unnamed Conc.: 55.057

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:22	3.377e+05	n	3.209e+05	n	1.05	y	6.586e+05	6.586e+05	5.85e+01	y	55.1	
41:34	2.788e+05	n	2.961e+05	n	0.94	y	5.748e+05	5.748e+05	5.09e+01	y	48.1	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 293.76 Unnamed Conc.: 285.108

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:55	4.468e+05	n	6.260e+05	n	0.71	y	1.073e+06	1.073e+06	9.39e+01	y	49.4	
22:30	5.098e+04	n	6.307e+04	n	0.81	y	1.140e+05	1.140e+05	1.11e+01	y	5.25	
23:09	7.503e+04	n	8.977e+04	n	0.84	y	1.648e+05	1.648e+05	1.35e+01	y	7.59	
23:39	3.514e+05	n	4.548e+05	n	0.77	y	8.062e+05	8.062e+05	5.00e+01	y	37.1	
23:56	6.642e+04	n	8.704e+04	n	0.76	y	1.535e+05	1.535e+05	1.43e+01	y	7.07	
24:05	1.541e+05	n	1.927e+05	n	0.80	y	3.469e+05	3.469e+05	2.42e+01	y	16.0	
24:28	6.400e+04	n	9.529e+04	n	0.67	y	1.593e+05	1.593e+05	1.85e+01	y	7.33	
24:36	4.576e+04	n	5.697e+04	n	0.80	y	1.027e+05	1.027e+05	1.19e+01	y	4.73	
24:47	8.222e+04	n	1.062e+05	n	0.77	y	1.885e+05	1.885e+05	1.86e+01	y	8.68	
25:10	8.456e+04	n	1.061e+05	n	0.80	y	1.907e+05	1.907e+05	1.76e+01	y	8.78	
25:18	1.295e+05	n	1.752e+05	n	0.74	y	3.047e+05	3.047e+05	2.85e+01	y	14.0	
25:31	3.942e+05	n	5.129e+05	n	0.77	y	9.071e+05	9.071e+05	5.65e+01	y	41.8	
26:01	1.241e+05	n	1.686e+05	n	0.74	y	2.927e+05	2.927e+05	2.52e+01	y	13.5	
26:17	6.368e+04	n	8.585e+04	n	0.74	y	1.495e+05	1.495e+05	1.61e+01	y	6.88	
26:29	9.814e+04	n	1.384e+05	n	0.71	y	2.366e+05	2.366e+05	2.17e+01	y	10.9	
26:41	1.019e+05	n	1.366e+05	n	0.75	y	2.385e+05	2.385e+05	2.68e+01	y	11.0	
26:48	7.524e+04	n	9.551e+04	n	0.79	y	1.707e+05	1.707e+05	1.97e+01	y	7.86	
26:55	8.360e+04	n	1.043e+05	n	0.80	y	1.879e+05	1.879e+05	2.06e+01	y	8.65	2,3,7,8-TCDF
27:17	2.360e+05	n	2.976e+05	n	0.79	y	5.337e+05	5.337e+05	5.53e+01	y	24.6	
27:48	2.749e+04	n	3.252e+04	n	0.85	y	6.001e+04	6.001e+04	4.49e+00	y	2.76	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 31.379 Unnamed Conc.: 31.379

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:55	3.586e+05	n	2.276e+05	n	1.58	y	5.862e+05	5.862e+05	4.91e+01	y	31.4	

Totals class: PeCDF EMPC Function: 2 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 225.54 Unnamed Conc.: 185.356

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	3.772e+05	y	2.570e+05	y	1.47	y	6.342e+05	6.342e+05	2.58e+01	y	33.9	
30:37	5.184e+05	y	3.315e+05	y	1.56	y	8.499e+05	8.499e+05	3.54e+01	y	45.5	
30:44	9.856e+04	y	6.744e+04	y	1.46	y	1.660e+05	1.660e+05	1.03e+01	y	8.89	
30:50	4.749e+04	y	3.093e+04	y	1.54	y	7.843e+04	7.843e+04	6.83e+00	y	4.20	
31:04	6.169e+04	y	4.535e+04	y	1.36	y	1.070e+05	1.070e+05	5.69e+00	y	5.73	
31:18	3.740e+05	n	2.421e+05	y	1.54	y	6.161e+05	6.161e+05	2.26e+01	y	33.0	
31:33	7.417e+04	n	5.145e+04	y	1.44	y	1.256e+05	1.256e+05	7.72e+00	y	6.72	
31:45	2.011e+05	n	1.401e+05	n	1.44	y	3.413e+05	3.413e+05	2.11e+01	y	18.4	1,2,3,7,8-PeCDF
32:02	2.514e+05	n	1.672e+05	n	1.50	y	4.186e+05	4.186e+05	1.56e+01	y	22.4	
32:45	2.800e+05	y	1.871e+05	y	1.50	y	4.670e+05	4.670e+05	2.69e+01	y	25.0	
32:52	2.481e+05	y	1.618e+05	y	1.53	y	4.099e+05	4.099e+05	2.18e+01	y	21.8	2,3,4,7,8-PeCDF

Totals class: HxCDF EMPC Function: 3 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

Total Conc.: 203.47 Unnamed Conc.: 120.879

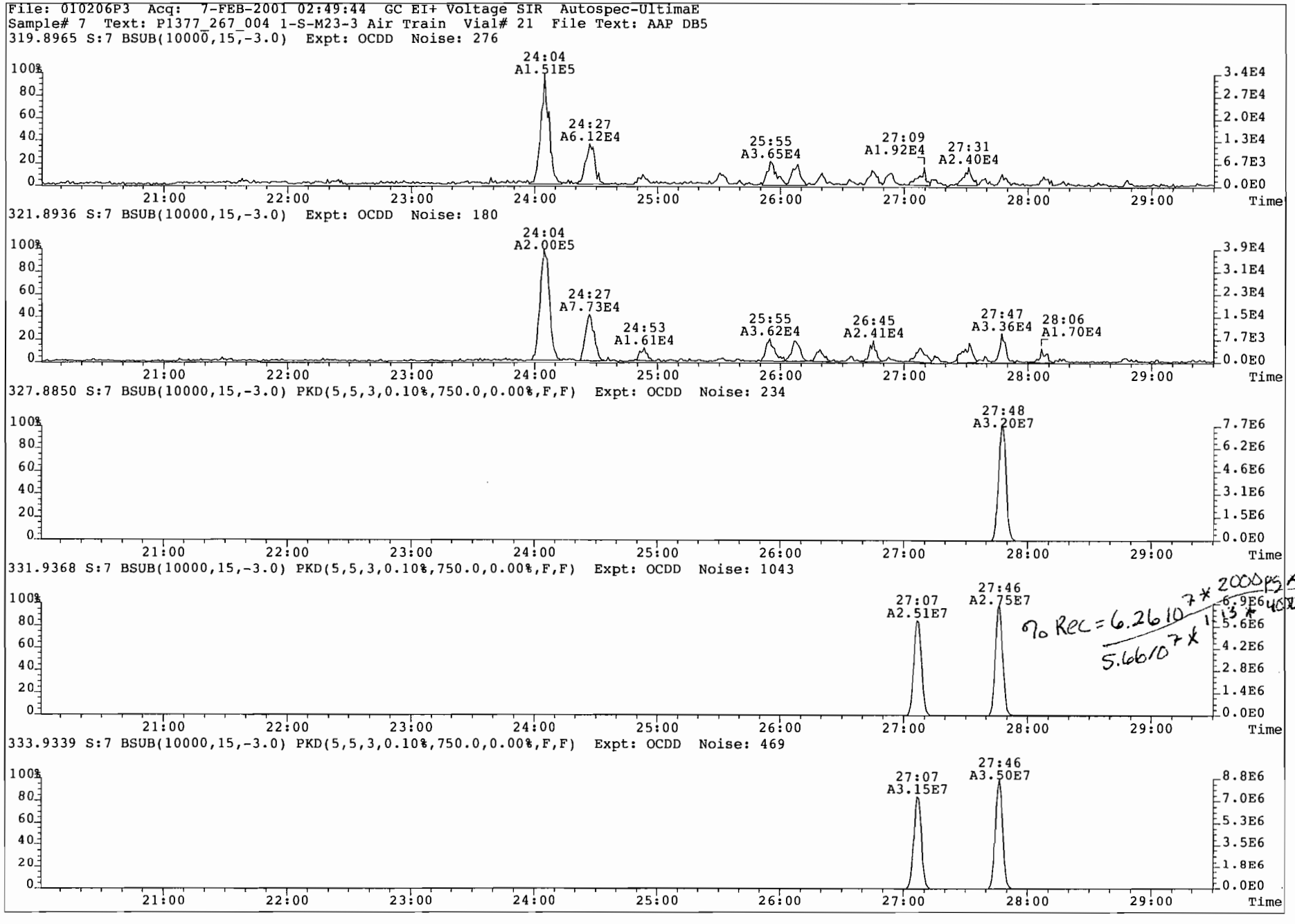
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	2.080e+05	n	1.620e+05	n	1.28	y	3.700e+05	3.700e+05	2.93e+01	y	22.6	
34:58	4.990e+05	n	4.277e+05	n	1.17	y	9.267e+05	9.267e+05	7.44e+01	y	56.6	
35:12	4.213e+04	y	3.879e+04	y	1.09	y	8.092e+04	8.092e+04	5.18e+00	y	4.95	
35:24	4.648e+04	y	4.594e+04	y	1.01	n	9.242e+04	8.397e+04	1.02e+01	y	5.13	
36:02	1.680e+05	y	1.338e+05	y	1.26	y	3.018e+05	3.018e+05	2.49e+01	y	18.4	
36:09	2.185e+05	y	1.675e+05	y	1.30	y	3.861e+05	3.861e+05	2.49e+01	y	23.7	1,2,3,4,7,8-HxCDF
36:17	2.730e+05	n	2.287e+05	y	1.19	y	5.018e+05	5.018e+05	4.11e+01	y	28.2	1,2,3,6,7,8-HxCDF
36:27	3.520e+04	y	2.888e+04	n	1.22	y	6.407e+04	6.407e+04	4.40e+00	y	3.92	
36:36	3.233e+04	y	2.210e+04	y	1.46	n	5.443e+04	4.950e+04	3.58e+00	y	3.03	
36:43	5.169e+04	y	4.893e+04	y	1.06	y	1.006e+05	1.006e+05	8.31e+00	y	6.15	
36:57	2.212e+05	n	1.821e+05	n	1.21	y	4.033e+05	4.033e+05	3.18e+01	y	24.1	2,3,4,6,7,8-HxCDF
37:59	5.211e+04	n	4.396e+04	n	1.19	y	9.607e+04	9.607e+04	5.52e+00	y	6.56	1,2,3,7,8,9-HxCDF

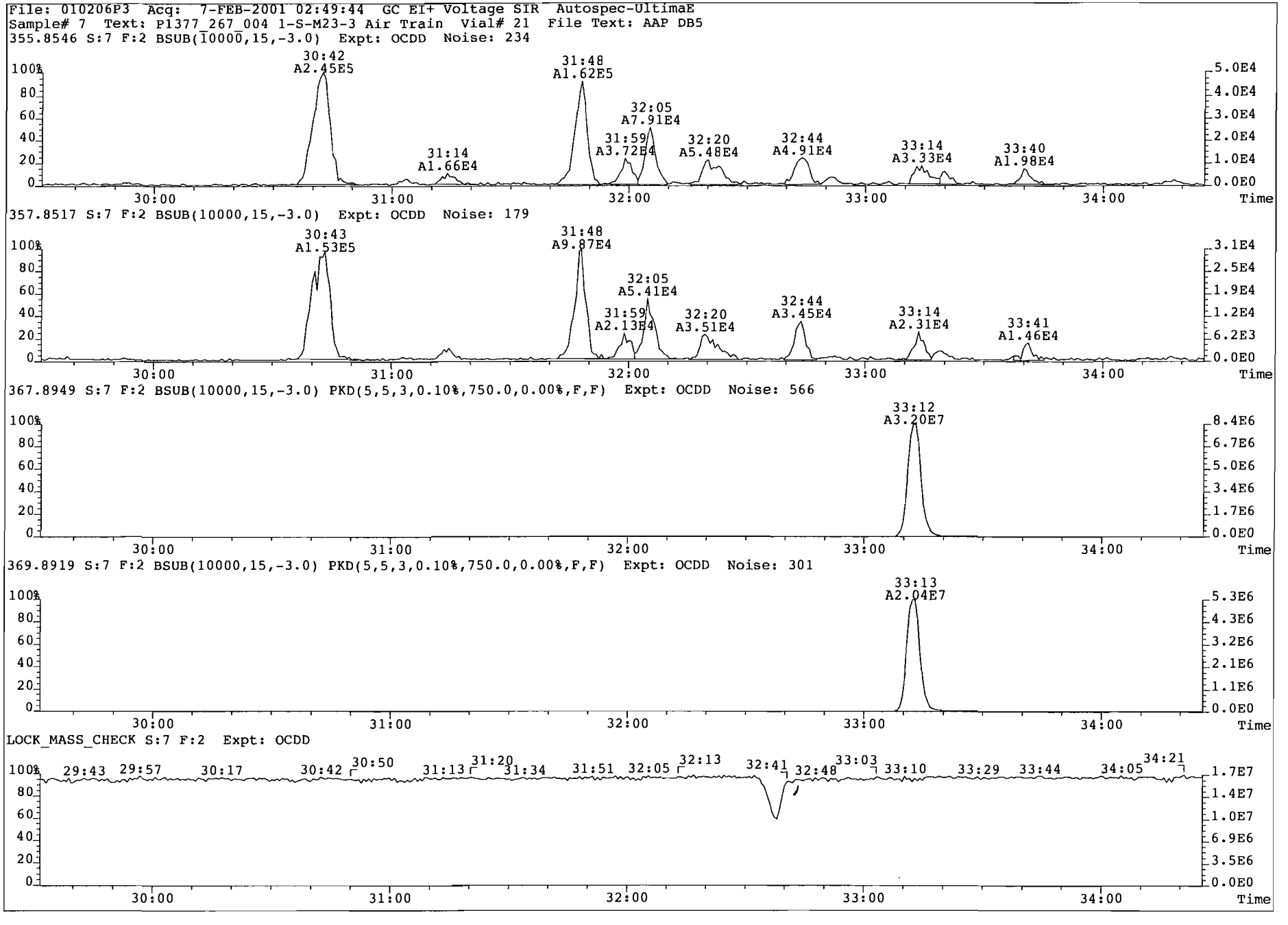
Totals class: HpCDF EMPC Function: 4 Run #: 14
File Name: 010206P3 Sample #: 7 Sample text: P1377_267_004 1-S-M23-3 Air Train

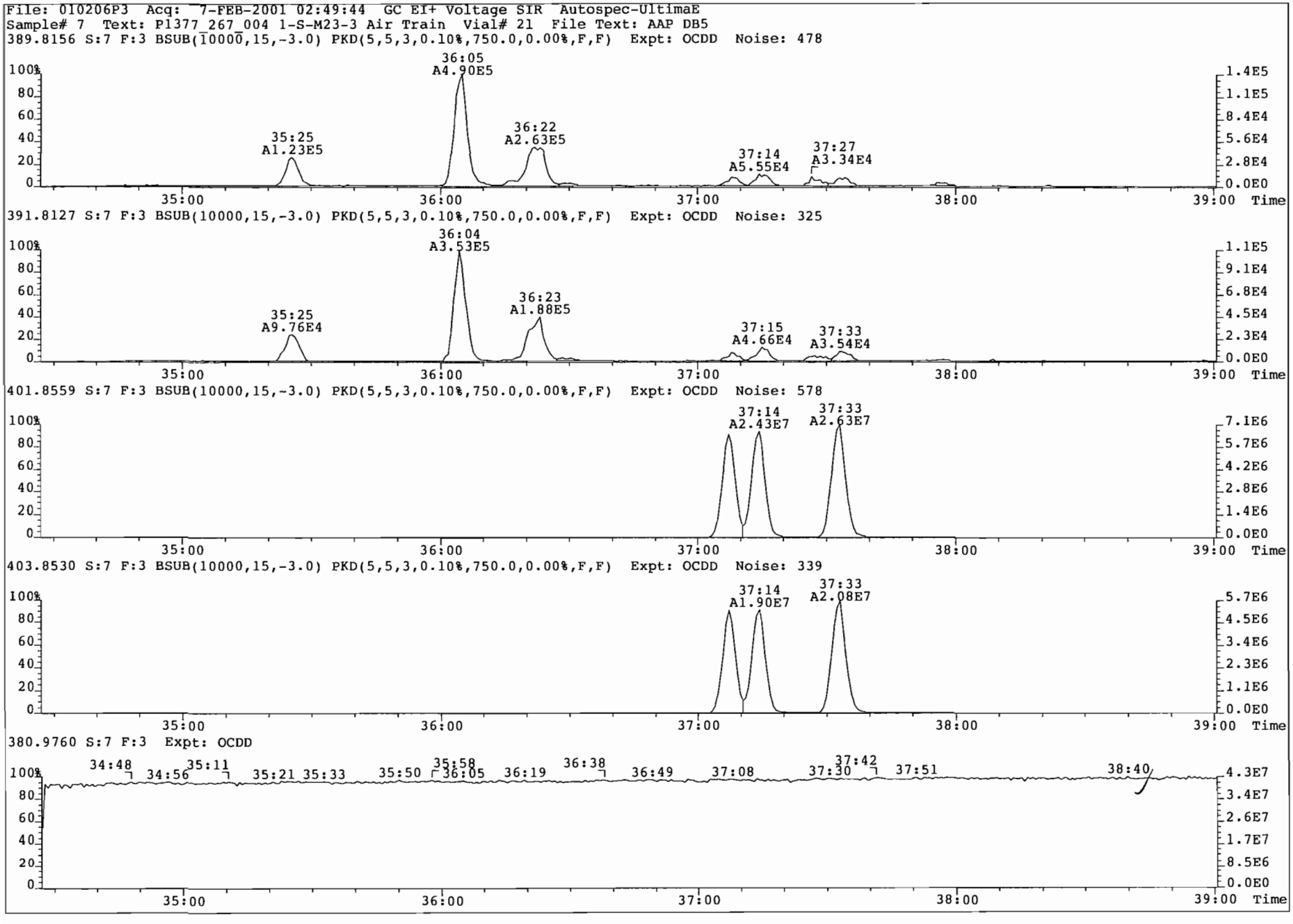
Acquired: 7-FEB-01 02:49:44 Processed: 7-FEB-01 17:17:24

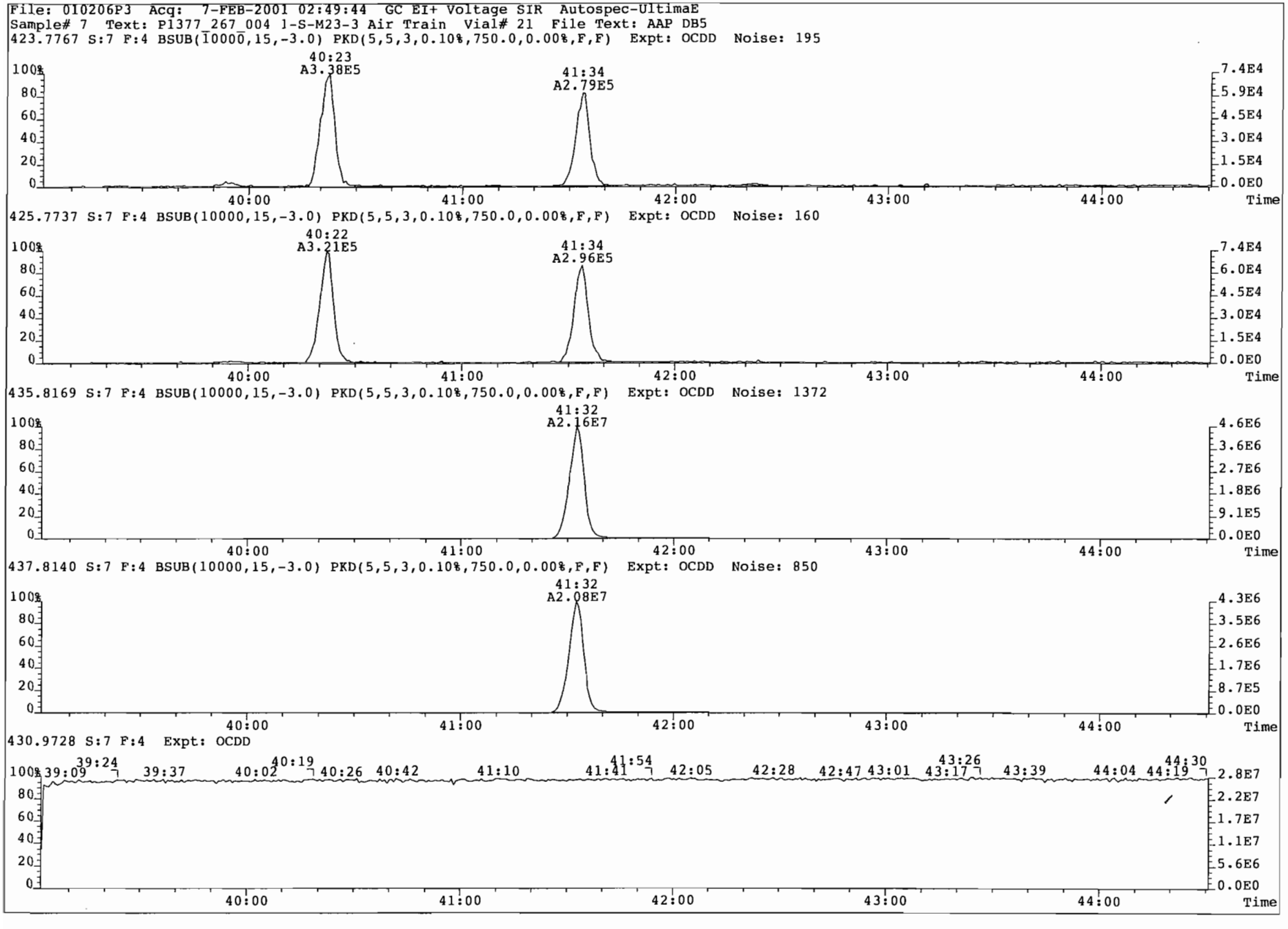
Total Conc.: 83.173 Unnamed Conc.: 19.128

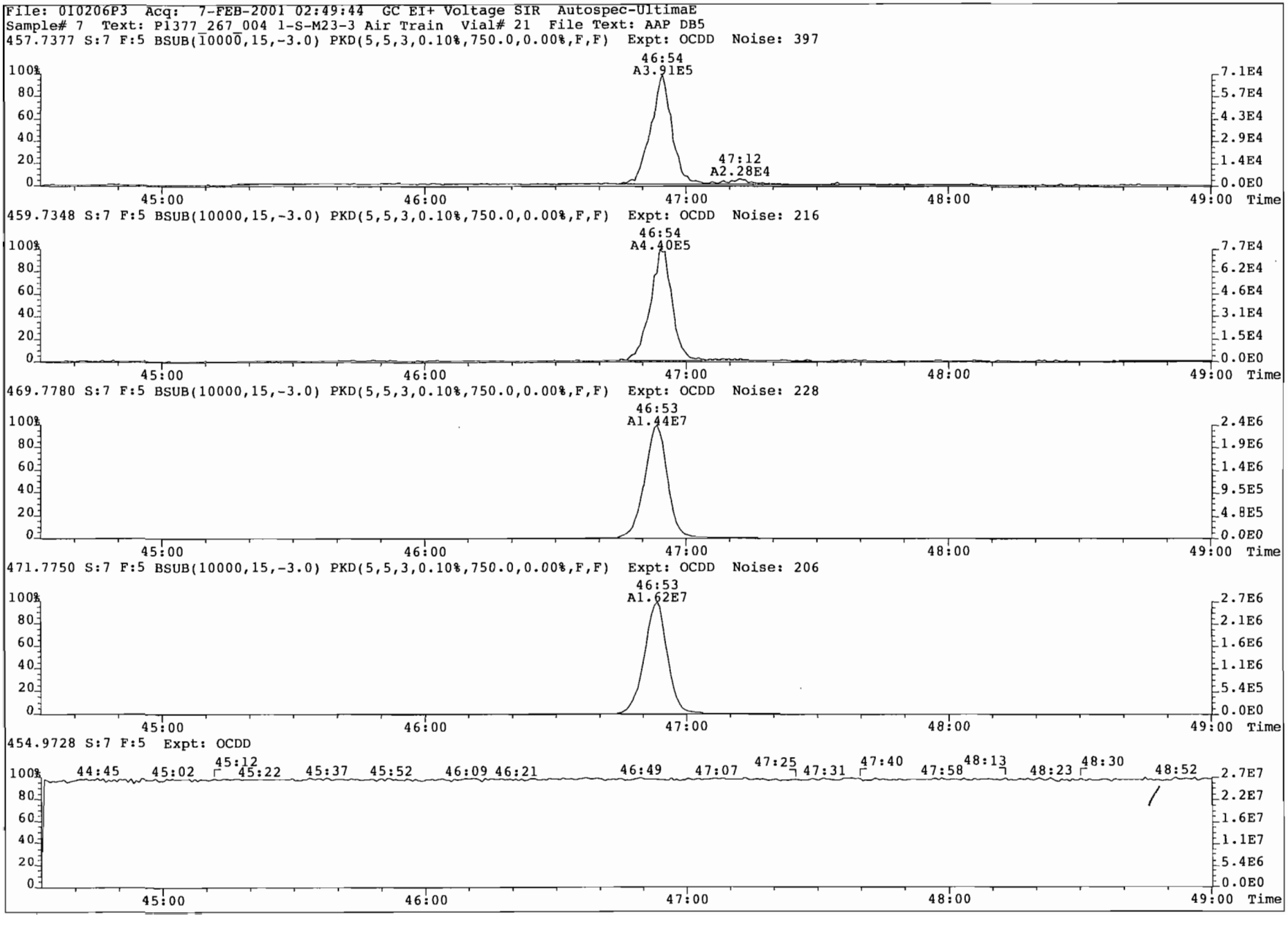
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	4.608e+05	n	4.235e+05	n	1.09	y	8.843e+05	8.843e+05	1.20e+02	y	57.3	1,2,3,4,6,7,8-HpCDF
40:22	8.110e+04	n	7.155e+04	n	1.13	y	1.526e+05	1.526e+05	2.01e+01	y	10.7	
40:36	6.429e+04	n	5.492e+04	n	1.17	y	1.192e+05	1.192e+05	1.32e+01	y	8.39	
42:23	4.406e+04	y	4.341e+04	y	1.02	y	8.747e+04	8.747e+04	9.92e+00	y	6.73	1,2,3,4,7,8,9-HpCDF

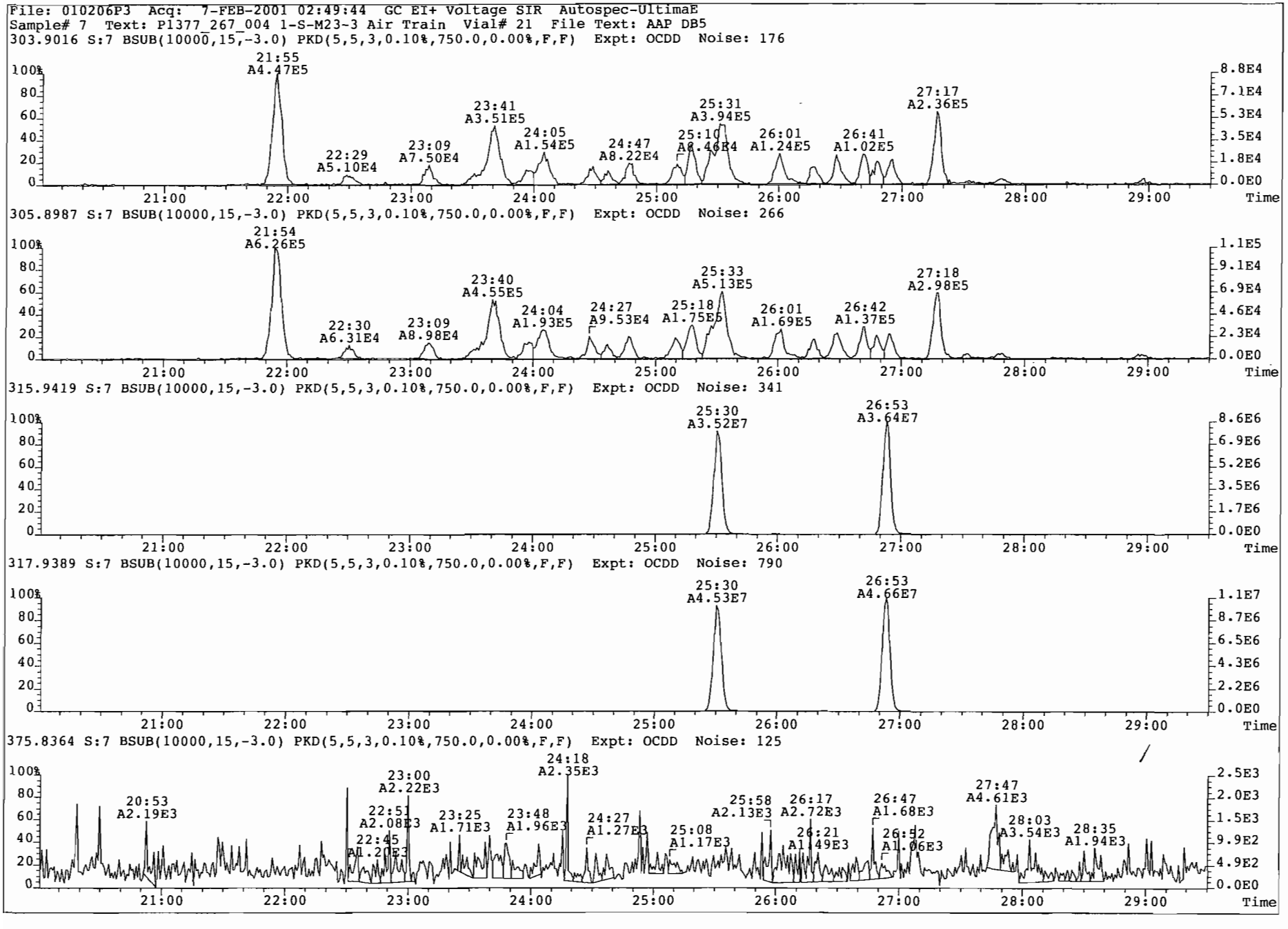

File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
319.8965 S:7 BSUB(10000,15,-3.0) Expt: OCDD Noise: 276
24:04 A1.51E5
24:27 A6.12E4
25:55 A3.65E4
27:09 A1.92E4
27:31 A2.40E4
321.8936 S:7 BSUB(10000,15,-3.0) Expt: OCDD Noise: 180
24:04 A2.00E5
24:27 A7.73E4
24:53 A1.61E4
25:55 A3.62E4
26:45 A2.41E4
27:47 A3.36E4
28:06 A1.70E4
327.8850 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 234
27:48 A3.20E7
331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1043
27:07 A2.51E7
27:46 A2.75E7
333.9339 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 469
27:07 A3.15E7
27:46 A3.50E7
Time

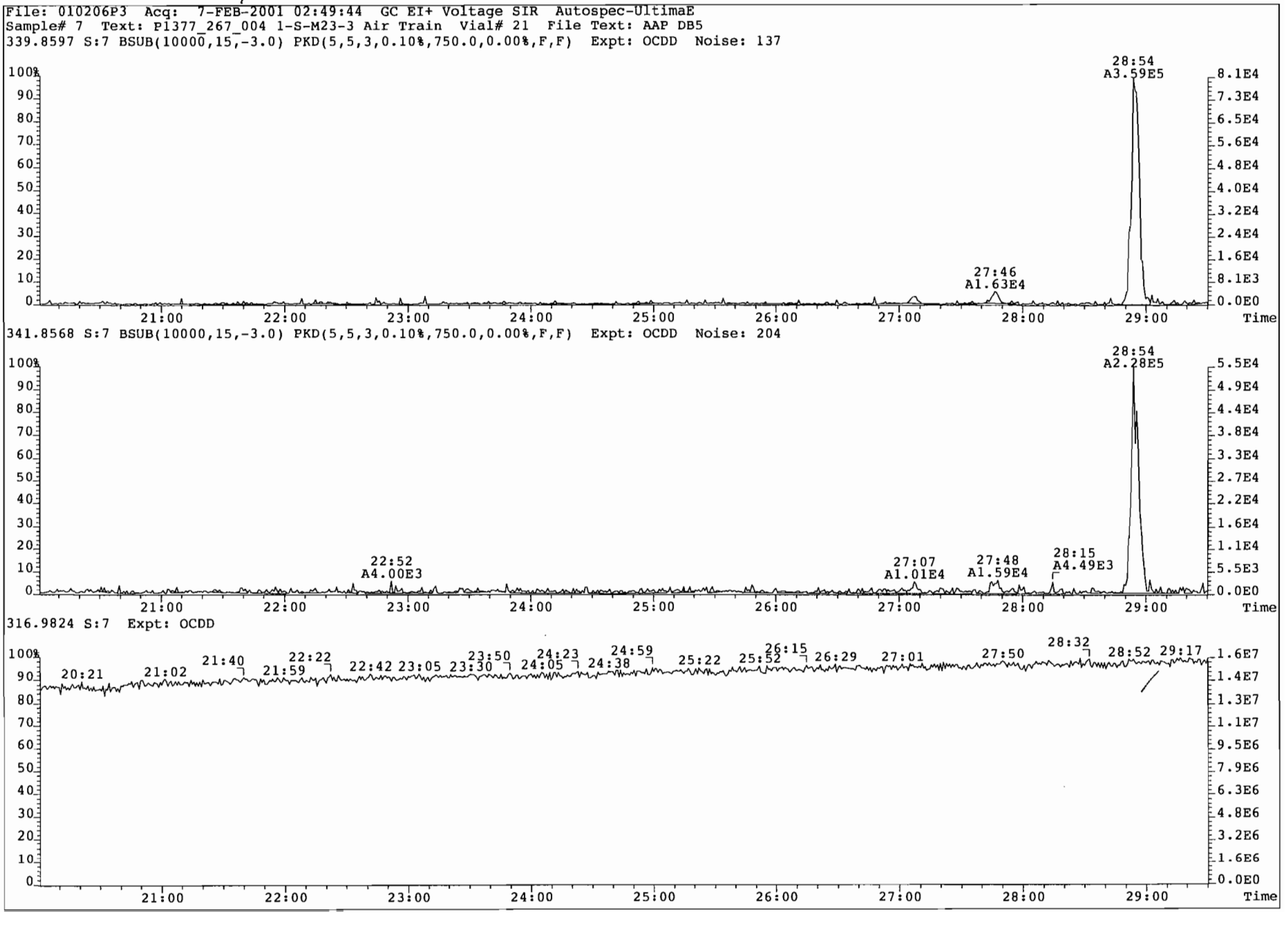

File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
355.8546 S:7 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 234
30:42 A2.45E5
31:48 A1.62E5
32:05 A7.91E4
31:59 A3.72E4
31:14 A1.66E4
32:20 A5.48E4
32:44 A4.91E4
33:14 A3.33E4
33:40 A1.98E4
357.8517 S:7 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 179
30:43 A1.53E5
31:48 A9.87E4
32:05 A5.41E4
31:59 A2.13E4
32:20 A3.51E4
32:44 A3.45E4
33:14 A2.31E4
33:41 A1.46E4
367.8949 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 566
33:12 A3.20E7
369.8919 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 301
33:13 A2.04E7
LOCK_MASS_CHECK S:7 F:2 Expt: OCDD
29:43 29:57 30:17 30:42 30:50 31:13 31:20 31:34 31:51 32:05 32:13 32:41 32:48 33:03 33:10 33:29 33:44 34:05 34:21
30:00 31:00 32:00 33:00 34:00 Time

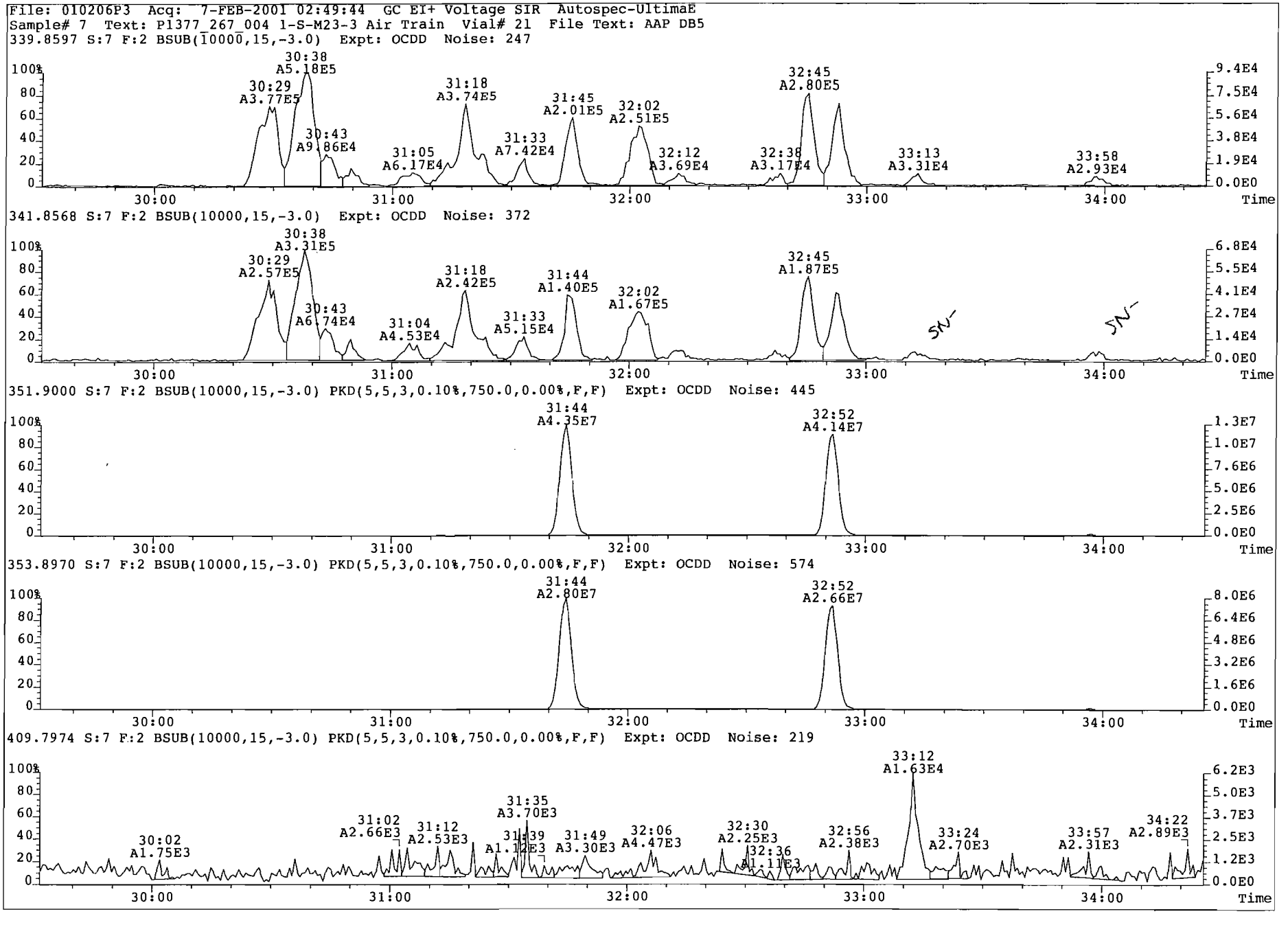

File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
389.8156 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 478
35:25 A1.23E5
36:05 A4.90E5
36:22 A2.63E5
37:14 A5.55E4
37:27 A3.34E4
391.8127 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 325
35:25 A9.76E4
36:04 A3.53E5
36:23 A1.88E5
37:15 A4.66E4
37:33 A3.54E4
401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 578
37:14 A2.43E7
37:33 A2.63E7
403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 339
37:14 A1.90E7
37:33 A2.08E7
380.9760 S:7 F:3 Expt: OCDD
34:48 34:56 35:11 35:21 35:33 35:50 35:58 36:05 36:19 36:38 36:49 37:08 37:30 37:42 37:51 38:40
35:00 36:00 37:00 38:00 39:00 Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
423.7767 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 195
40:23
A3.38E5
41:34
A2.79E5
425.7737 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 160
40:22
A3.21E5
41:34
A2.96E5
435.8169 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1372
41:32
A2.16E7
437.8140 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 850
41:32
A2.08E7
430.9728 S:7 F:4 Expt: OCDD
39:24
40:19
41:54
43:26
44:30
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 397
46:54
A3.91E5
47:12
A2.28E4
459.7348 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 216
46:54
A4.40E5
469.7780 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 228
46:53
A1.44E7
471.7750 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 206
46:53
A1.62E7
454.9728 S:7 F:5 Expt: OCDD
45:00
46:00
47:00
48:00
49:00
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 176
21:55 A4.47E5
22:29 A5.10E4
23:09 A7.50E4
23:41 A3.51E5
24:05 A1.54E5
24:47 A8.22E4
25:10 A8.46E4
25:31 A3.94E5
26:01 A1.24E5
26:41 A1.02E5
27:17 A2.36E5
305.8987 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 266
21:54 A6.26E5
22:30 A6.31E4
23:09 A8.98E4
23:40 A4.55E5
24:04 A1.93E5
24:27 A9.53E4
25:18 A1.75E5
25:33 A5.13E5
26:01 A1.69E5
26:42 A1.37E5
27:18 A2.98E5
315.9419 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 341
25:30 A3.52E7
26:53 A3.64E7
317.9389 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 790
25:30 A4.53E7
26:53 A4.66E7
375.8364 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 125
20:53 A2.19E3
22:45 A1.20E3
22:51 A2.08E3
23:00 A2.22E3
23:25 A1.71E3
23:48 A1.96E3
24:18 A2.35E3
24:27 A1.27E3
25:08 A1.17E3
25:58 A2.13E3
26:17 A2.72E3
26:21 A1.49E3
26:47 A1.68E3
26:52 A1.06E3
27:47 A4.61E3
28:03 A3.54E3
28:35 A1.94E3
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
339.8597 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 137
28:54
A3.59E5
27:46
A1.63E4
341.8568 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 204
28:54
A2.28E5
22:52
A4.00E3
27:07
A1.01E4
27:48
A1.59E4
28:15
A4.49E3
316.9824 S:7 Expt: OCDD
20:21
21:02
21:40
21:59
22:22
22:42
23:05
23:30
23:50
24:05
24:23
24:38
24:59
25:22
25:52
26:15
26:29
27:01
27:50
28:32
28:52
29:17
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
339.8597 S:7 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 247
30:38 A5.18E5
30:29 A3.77E5
30:43 A9.86E4
31:05 A6.17E4
31:18 A3.74E5
31:33 A7.42E4
31:45 A2.01E5
32:02 A2.51E5
32:12 A3.69E4
32:38 A3.17E4
32:45 A2.80E5
33:13 A3.31E4
33:58 A2.93E4
341.8568 S:7 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 372
30:38 A3.31E5
30:29 A2.57E5
30:43 A6.74E4
31:04 A4.53E4
31:18 A2.42E5
31:33 A5.15E4
31:44 A1.40E5
32:02 A1.67E5
32:45 A1.87E5
351.9000 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 445
31:44 A4.35E7
32:52 A4.14E7
353.8970 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 574
31:44 A2.80E7
32:52 A2.66E7
409.7974 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 219
30:02 A1.75E3
31:02 A2.66E3
31:12 A2.53E3
31:35 A3.70E3
31:49 A3.30E3
32:06 A4.47E3
32:30 A2.25E3
32:56 A2.38E3
33:12 A1.63E4
33:24 A2.70E3
33:57 A2.31E3
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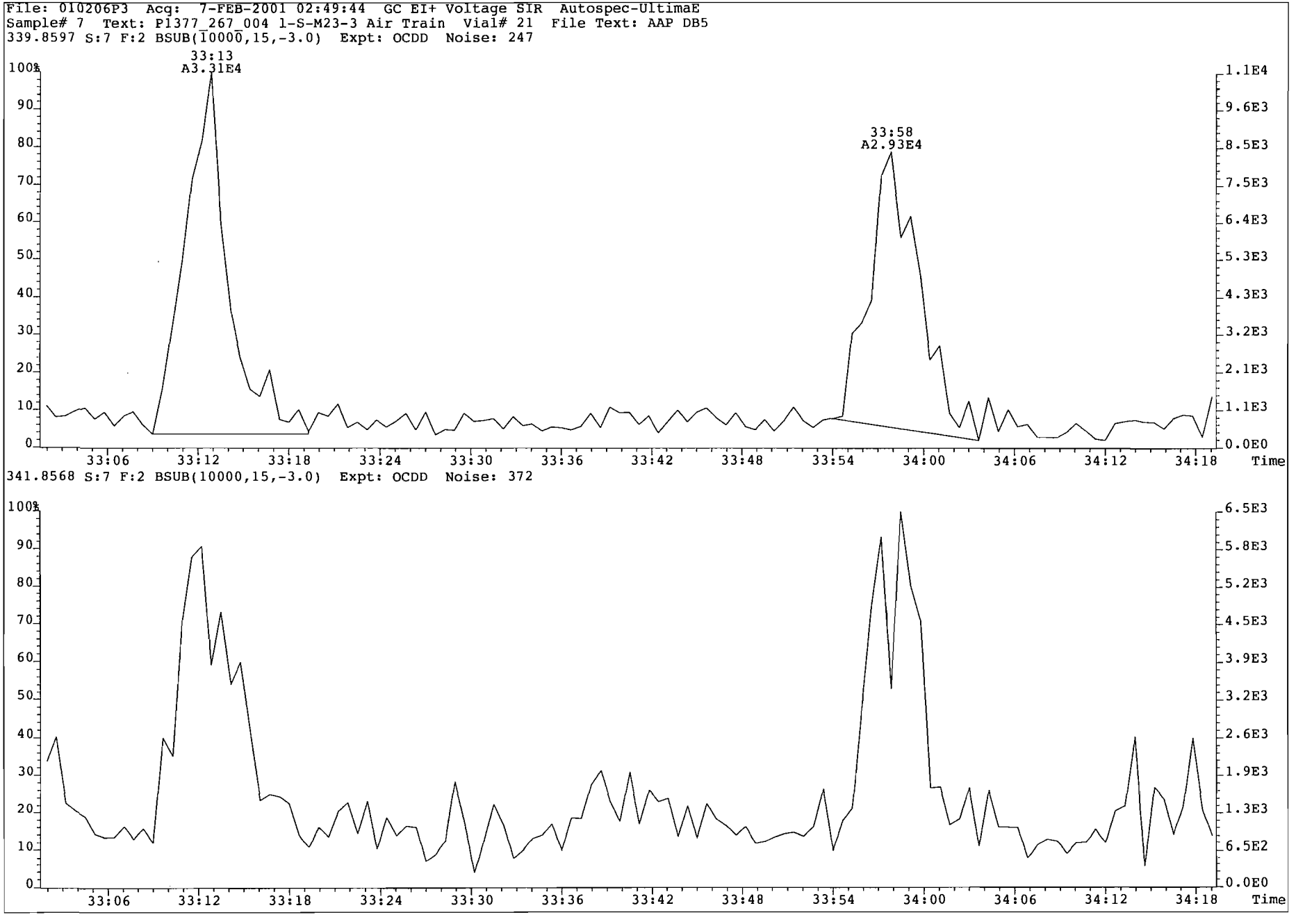
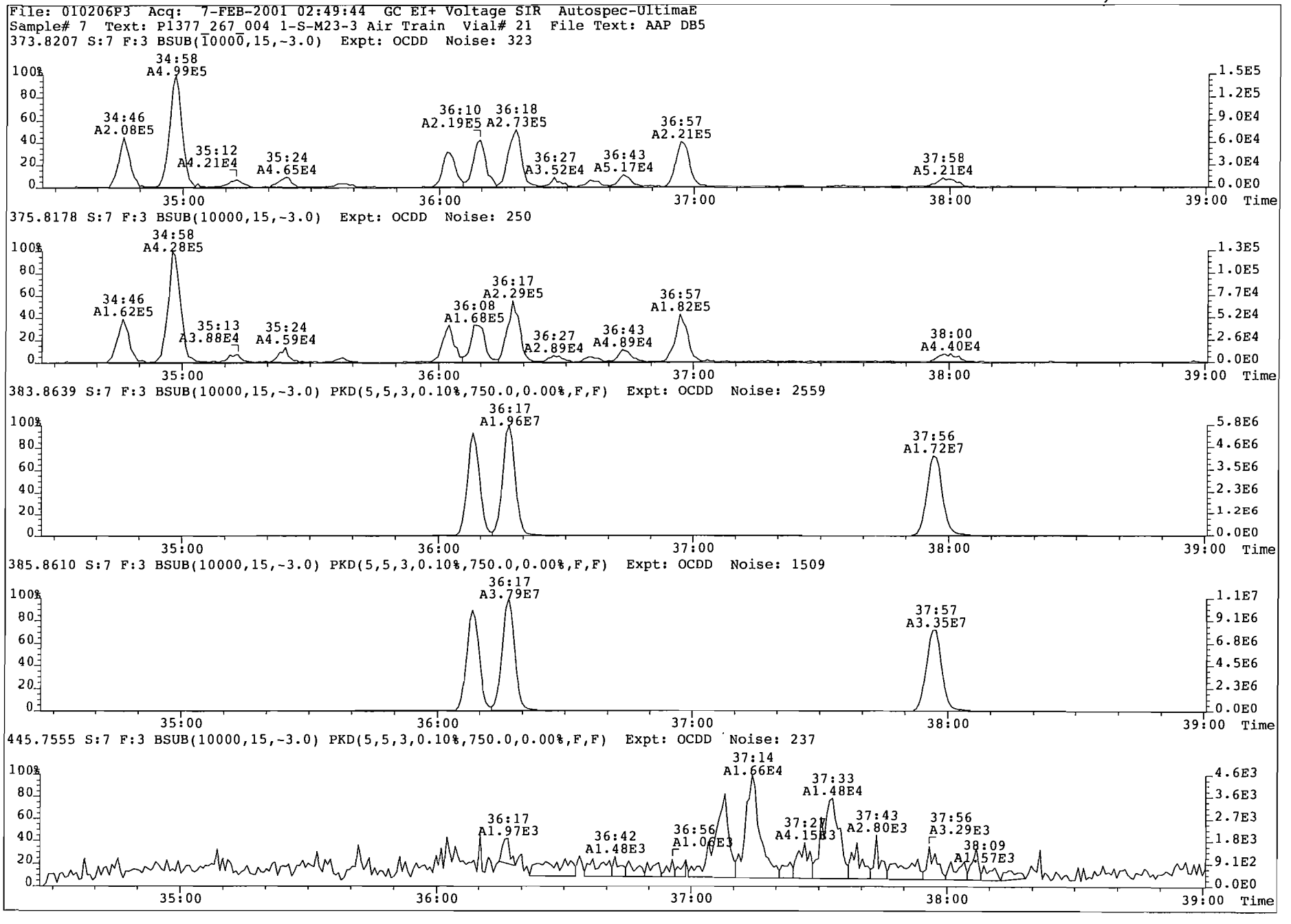
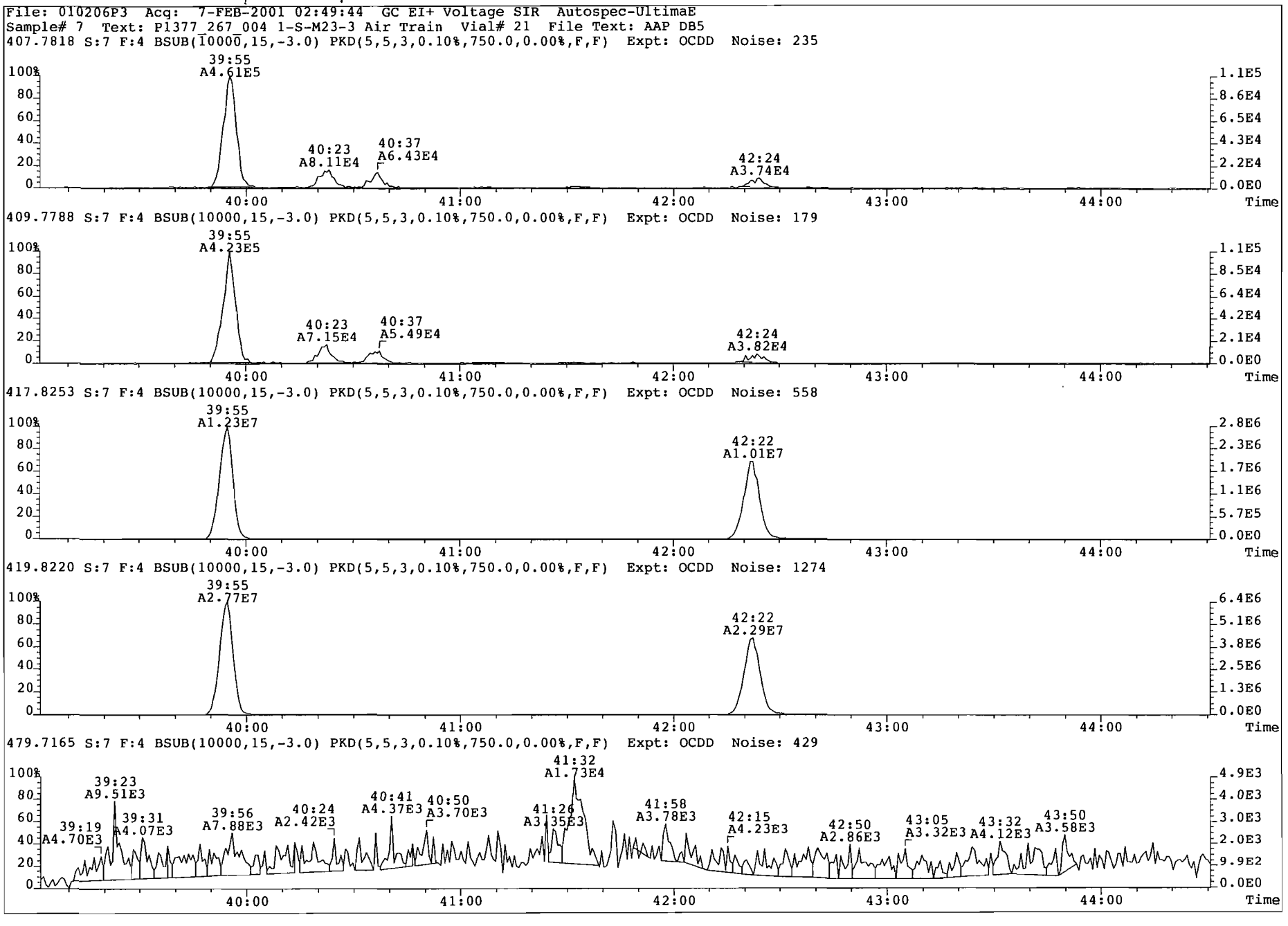
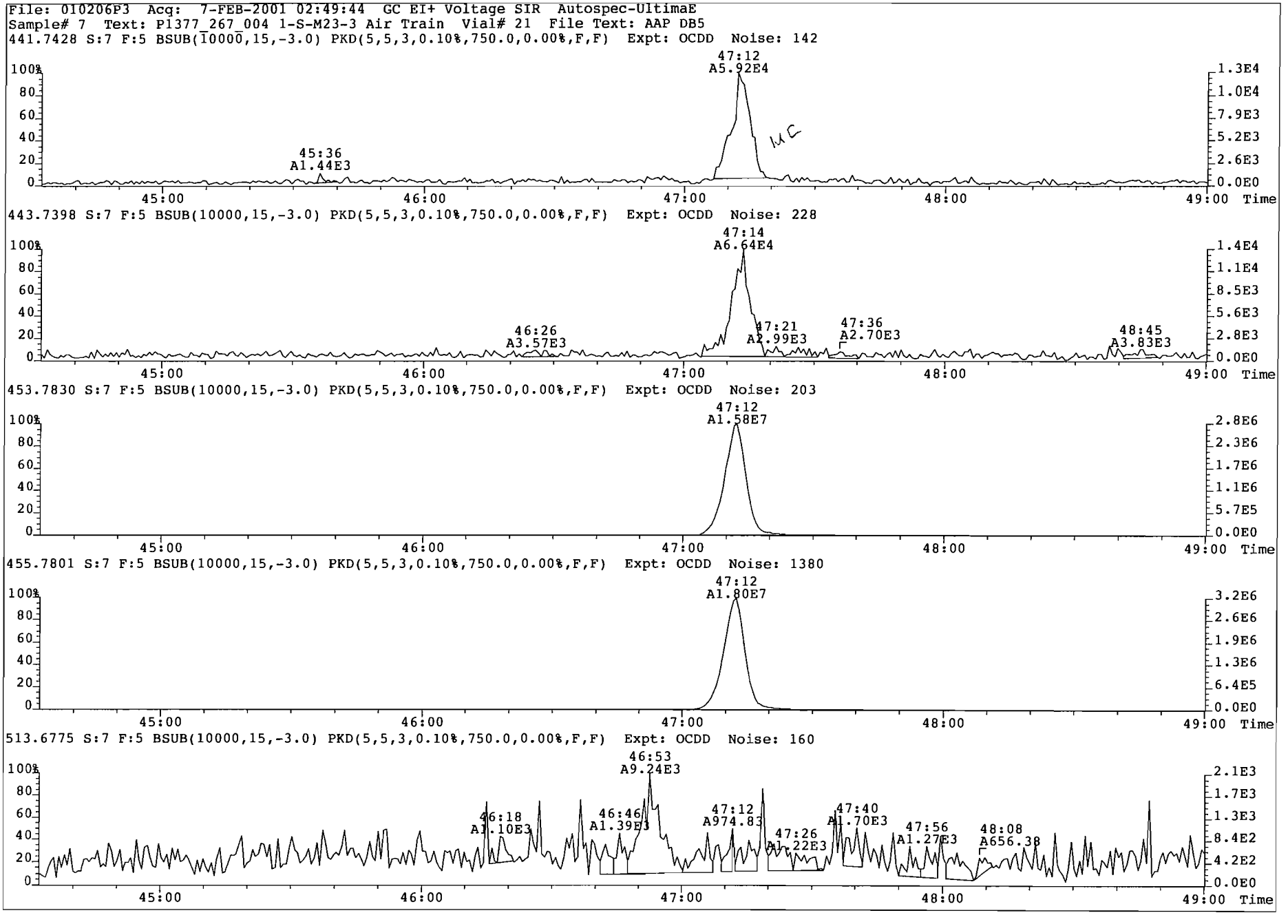
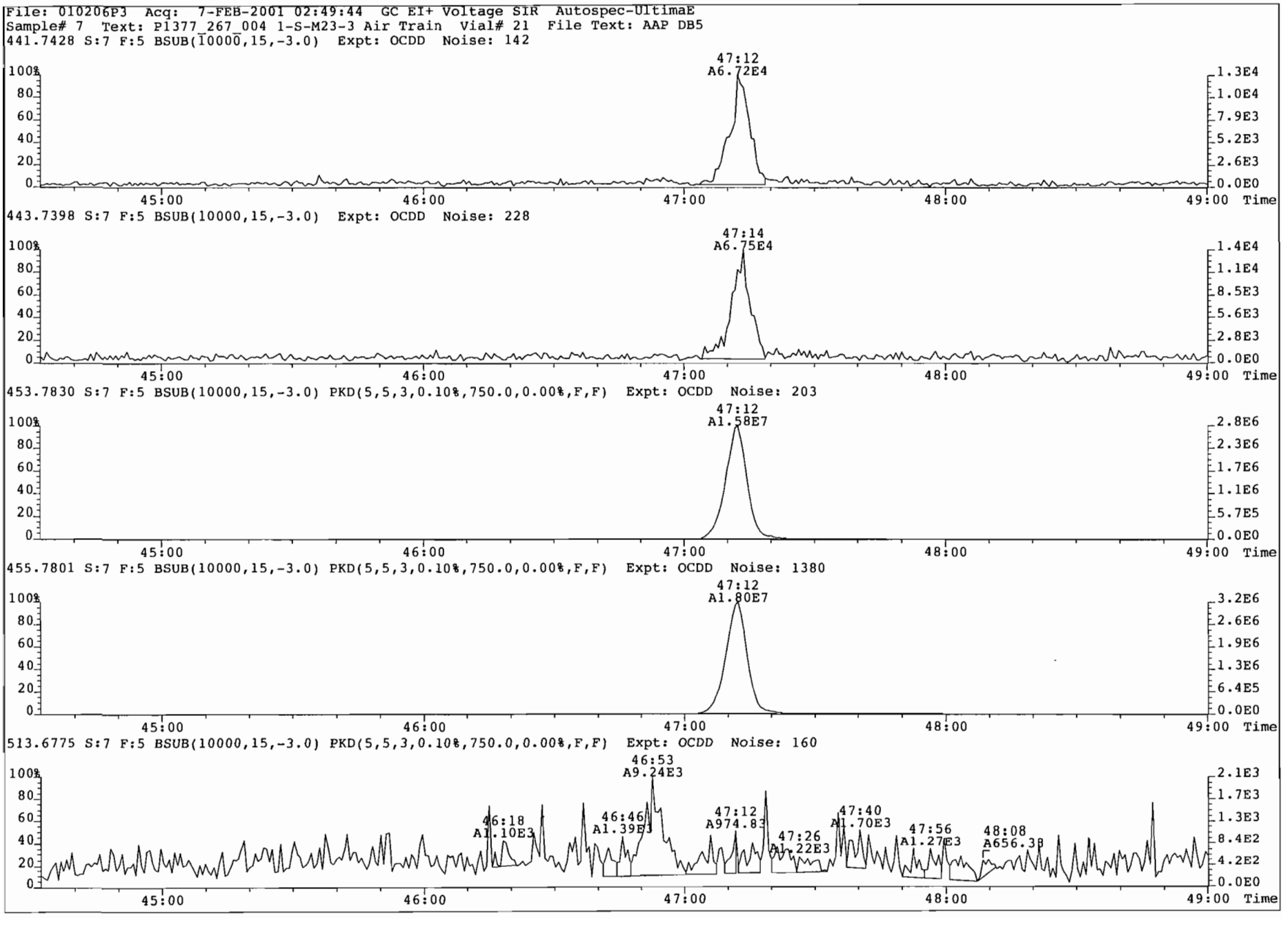
100%
30:00
31:00
32:00
33:00
34:00
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
339.8597 S:7 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 247
33:13
A3.31E4
33:58
A2.93E4
100%
90
80
70
60
50
40
30
20
10
0
1.1E4
9.6E3
8.5E3
7.5E3
6.4E3
5.3E3
4.3E3
3.2E3
2.1E3
1.1E3
0.0E0
33:06
33:12
33:18
33:24
33:30
33:36
33:42
33:48
33:54
34:00
34:06
34:12
34:18
Time
341.8568 S:7 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 372
100%
90
80
70
60
50
40
30
20
10
0
6.5E3
5.8E3
5.2E3
4.5E3
3.9E3
3.2E3
2.6E3
1.9E3
1.3E3
6.5E2
0.0E0
33:06
33:12
33:18
33:24
33:30
33:36
33:42
33:48
33:54
34:00
34:06
34:12
34:18
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
373.8207 S:7 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 323
34:58 A4.99E5
34:46 A2.08E5
35:12 A4.21E4
35:24 A4.65E4
36:10 A2.19E5
36:18 A2.73E5
36:27 A3.52E4
36:43 A5.17E4
36:57 A2.21E5
37:58 A5.21E4
375.8178 S:7 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 250
34:58 A4.28E5
34:46 A1.62E5
35:13 A3.88E4
35:24 A4.59E4
36:08 A1.68E5
36:17 A2.29E5
36:27 A2.89E4
36:43 A4.89E4
36:57 A1.82E5
38:00 A4.40E4
383.8639 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2559
36:17 A1.96E7
37:56 A1.72E7
385.8610 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1509
36:17 A3.79E7
37:57 A3.35E7
445.7555 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 237
36:17 A1.97E3
36:42 A1.48E3
36:56 A1.06E3
37:14 A1.66E4
37:27 A4.15E3
37:33 A1.48E4
37:43 A2.80E3
37:56 A3.29E3
38:09 A1.57E3
35:00
36:00
37:00
38:00
39:00
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
407.7818 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 235
39:55 A4.61E5
40:23 A8.11E4
40:37 A6.43E4
42:24 A3.74E4
409.7788 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 179
39:55 A4.23E5
40:23 A7.15E4
40:37 A5.49E4
42:24 A3.82E4
417.8253 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 558
39:55 A1.23E7
42:22 A1.01E7
419.8220 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1274
39:55 A2.77E7
42:22 A2.29E7
479.7165 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 429
39:19 A4.70E3
39:23 A9.51E3
39:31 A4.07E3
39:56 A7.88E3
40:24 A2.42E3
40:41 A4.37E3
40:50 A3.70E3
41:26 A3.35E3
41:32 A1.73E4
41:58 A3.78E3
42:15 A4.23E3
42:50 A2.86E3
43:05 A3.32E3
43:32 A4.12E3
43:50 A3.58E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 142
47:12
A5.92E4
45:36
A1.44E3
443.7398 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 228
47:14
A6.64E4
46:26
A3.57E3
47:21
A2.99E3
47:36
A2.70E3
48:45
A3.83E3
453.7830 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 203
47:12
A1.58E7
455.7801 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1380
47:12
A1.80E7
513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 160
46:53
A9.24E3
46:18
A1.10E3
46:46
A1.39E3
47:12
A974.83
47:26
A1.22E3
47:40
A1.70E3
47:56
A1.27E3
48:08
A656.38
45:00
46:00
47:00
48:00
49:00
Time


File: 010206P3 Acq: 7-FEB-2001 02:49:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 7 Text: P1377_267_004 1-S-M23-3 Air Train Vial# 21 File Text: AAP DB5
441.7428 S:7 F:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 142
47:12
A6.72E4
443.7398 S:7 F:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 228
47:14
A6.75E4
453.7830 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 203
47:12
A1.58E7
455.7801 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1380
47:12
A1.80E7
513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 160
46:53
A9.24E3
46:18
A1.10E3
46:46
A1.39E3
47:12
A974.83
47:26
A1.22E3
47:40
A1.70E3
47:56
A1.27E3
48:08
A656.38
45:00
46:00
47:00
48:00
49:00
Time

Sample ID: 2-S-M23-FB

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_005	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.569			109	91.9	100
1,2,3,7,8-PeCDD	ND	1.66			111	90.2	100
1,2,3,4,7,8-HxCDD	ND	1.55			106	94.2	100
1,2,3,6,7,8-HxCDD	ND	1.72			106	94.2	100
1,2,3,7,8,9-HxCDD	ND	1.54			106	94.2	100
1,2,3,4,6,7,8-HpCDD	EMPC		3.07	A B	106	90.3	100
OCDD	20.8			A B	95.8	90.3	100
2,3,7,8-TCDF	ND	1.1			106	91.9	100
1,2,3,7,8-PeCDF	ND	1.02			102	90.2	100
2,3,4,7,8-PeCDF	ND	1.01			102	90.2	100
1,2,3,4,7,8-HxCDF	2.35			A B	104	92.9	100
1,2,3,6,7,8-HxCDF	1.49			A B	104	92.9	100
2,3,4,6,7,8-HxCDF	ND	0.643			104	92.9	100
1,2,3,7,8,9-HxCDF	ND	0.736			104	92.9	100
1,2,3,4,6,7,8-HpCDF	2.39			A B	102	90.3	100
1,2,3,4,7,8,9-HpCDF	ND	1.19			102	90.3	100
OCDF	ND	2.83			95.8	90.3	100
Totals & TEQs							
TCDDs	ND	0.569					
PeCDDs	ND		2.55				
HxCDDs	2.33		4.35				
HpCDDs	3.08		6.15				
TCDFs	ND	1.1					
PeCDFs	ND	1.02					
HxCDFs	5.5						
HpCDFs	2.39						
Total PCDD/Fs	**34.1**		**41.7**				
TEQ (ND=0)	**0.429**		**0.46**	**ITEF**			
TEQ (ND=DL/2)	**1.78**		**1.81**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date .....

Client ID: 2-S-M23-FB Filename: 010206P3 S: 8 Acq: 7-FEB-01 03:41:23 ConCal: 010206P3-
Lab ID: P1377_267_005 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	*	*	n	1.26	NotF»	*			770	2.5	0.569	
	1,2,3,7,8-PeCDD	*	*	n	1.01	NotF»	*			1089	2.5	1.66	
	1,2,3,4,7,8-HxCDD	*	*	n	1.14	NotF»	*			1089	2.5	1.55	
	1,2,3,6,7,8-HxCDD	*	*	n	1.02	NotF»	*			1089	2.5	1.72	
	1,2,3,7,8,9-HxCDD	*	*	n	1.14	NotF»	*			1089	2.5	1.54	Reviewer: CG
	1,2,3,4,6,7,8-HpCDD	4.21e+04	1.28	n	1.13	41:33	3.07			1253	2.5	2.31	
	OCDD	1.89e+05	0.92	y	1.03	46:53	20.8			1024	2.5	3.22	
													Date: 11 Feb 01
	2,3,7,8-TCDF	*	*	n	1.05	NotF»	*			1512	2.5	1.10	
	1,2,3,7,8-PeCDF	*	*	n	1.04	NotF»	*			1011	2.5	1.02	
	2,3,4,7,8-PeCDF	*	*	n	1.05	NotF»	*			1011	2.5	1.01	
	1,2,3,4,7,8-HxCDF	4.47e+04	1.26	y	1.13	36:09	2.35			966	2.5	0.662	
	1,2,3,6,7,8-HxCDF	3.11e+04	1.38	y	1.24	36:18	1.49			966	2.5	0.605	
	2,3,4,6,7,8-HxCDF	*	*	n	1.16	NotF»	*			966	2.5	0.643	
	1,2,3,7,8,9-HxCDF	*	*	n	1.02	NotF»	*			966	2.5	0.736	
	1,2,3,4,6,7,8-HpCDF	4.26e+04	0.95	y	1.54	39:56	2.39			1171	2.5	1.01	
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.30	NotF»	*			1171	2.5	1.19	
	OCDF	*	*	n	1.15	NotF»	*			1146	2.5	2.83	
													EMPC
	Total Tetra-Dioxins	*	*	n	1.26	NotF»	*			770	2.5	0.569	*
	Total Penta-Dioxins	*	*	n	1.01	NotF»	*			1089	2.5	1.66	2.55
	Total Hexa-Dioxins	3.21e+04	1.31	y	1.10	35:26	2.33			1089	2.5	1.60	4.35
	Total Hepta-Dioxins	4.22e+04	1.06	y	1.13	40:22	3.08			1253	2.5	2.31	6.15
	Total Tetra-Furans	*	*	n	1.05	NotF»	*			1512	2.5	1.10	*
	1st Fnc. Penta-Furans	*	*	n	1.05	NotF»	*			1568	2.5	1.58	*
	Total Penta-Furans	*	*	n	1.05	NotF»	*			1011	2.5	1.02	
	PeCDF Totals:						0.00						0.00
	Total Hexa-Furans	1.07e+05	1.13	y	1.14	34:59	5.50			966	2.5	0.658	5.50
	Total Hepta-Furans	4.26e+04	0.95	y	1.42	39:56	2.39			1171	2.5	1.09	2.39
													Rec
IS	13C-2,3,7,8-TCDD	7.47e+07	0.79	y	1.13	27:46	4360						109
IS	13C-1,2,3,7,8-PeCDD	6.23e+07	1.57	y	0.93	33:13	4450						111
IS	13C-1,2,3,6,7,8-HxCDD	5.00e+07	1.26	y	0.93	37:14	4240						106
IS	13C-1,2,3,4,6,7,8-HpCDD	4.86e+07	1.05	y	0.91	41:32	4250						106
IS	13C-OCDD	3.55e+07	0.90	y	0.73	46:53	3830						95.8
IS	13C-2,3,7,8-TCDF	9.81e+07	0.79	y	1.06	26:53	4240						106
IS	13C-1,2,3,7,8-PeCDF	8.56e+07	1.58	y	0.96	31:44	4090						102
IS	13C-1,2,3,6,7,8-HxCDF	6.72e+07	0.53	y	1.28	36:17	4150						104
IS	13C-1,2,3,4,6,7,8-HpCDF	4.64e+07	0.45	y	0.90	39:54	4070						102
IS	13C-OCDF	3.92e+07	0.89	y	0.81	47:12	3830						95.8
RS/RT	13C-1,2,3,4-TCDD	6.05e+07	0.79	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	8.73e+07	0.77	y	1.00	25:31	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	5.05e+07	1.26	y	1.00	37:33	4000						-
													Analyst: GAG
PS	37Cl-2,3,7,8-TCDD	3.53e+07			0.51	27:47	3670						91.9
PS	13C-2,3,4,7,8-PeCDF	7.51e+07	1.59	y	0.97	32:52	3610						90.2
PS	13C-1,2,3,4,7,8-HxCDD	4.35e+07	1.26	y	0.92	37:07	3770						94.2 Date: 11 Feb
PS	13C-1,2,3,4,7,8-HxCDF	5.68e+07	0.53	y	0.91	36:08	3710						92.9
PS	13C-1,2,3,4,7,8,9-HpCDF	3.58e+07	0.44	y	0.85	42:22	3610						90.3
AS	13C-1,2,3,7,8,9-HxCDF	5.43e+07	0.52	y	1.07	37:57	4020						100

Totals class: TCDD EMPC Function: 1 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	*	n	*	*	*	n	*	

Totals class: PeCDD EMPC Function: 2 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: 2.5451 Unnamed Conc.: 2.545

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
31:46	3.250e+04	y	1.573e+04	y	2.07	n	4.824e+04	4.012e+04	3.22e+00	y	2.55	

Totals class: HxCDD EMPC Function: 3 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: 4.3519 Unnamed Conc.: 4.352

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:26	1.820e+04	y	1.386e+04	y	1.31	y	3.206e+04	3.206e+04	3.84e+00	y	2.33	
36:04	1.875e+04	y	1.245e+04	y	1.51	n	3.120e+04	2.790e+04	4.02e+00	y	2.02	

Totals class: HpCDD EMPC Function: 4 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: 6.1477 Unnamed Conc.: 3.075

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:22	2.171e+04	y	2.047e+04	y	1.06	y	4.219e+04	4.219e+04	3.75e+00	y	3.08	
41:33	2.637e+04	n	2.066e+04	y	1.28	n	4.703e+04	4.215e+04	4.60e+00	y	3.07	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	y	*	

Totals class: PeCDF EMPC Function: 2 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: * Unnamed Conc.: *

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
NotF»	*	n	*	n	* n	*	*	*	n	*	

Totals class: HxCDF EMPC Function: 3 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

Total Conc.: 5.4989 Unnamed Conc.: 1.654

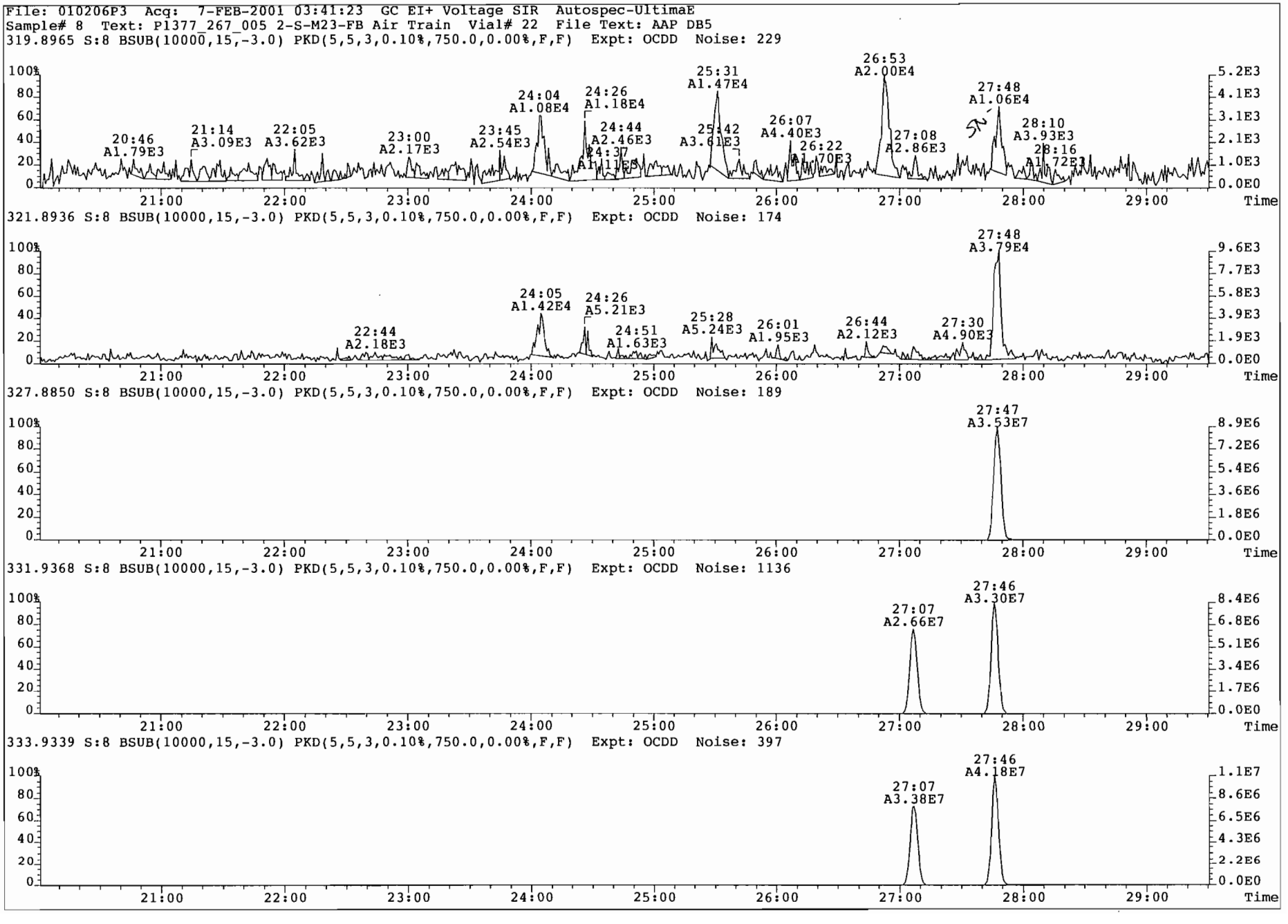
RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name
34:59	1.679e+04	y	1.484e+04	y	1.13 y	3.163e+04	3.163e+04	5.01e+00	y	1.65	
36:09	2.489e+04	y	1.978e+04	y	1.26 y	4.468e+04	4.468e+04	5.14e+00	y	2.35	1,2,3,4,7,8-HxCDF
36:18	1.802e+04	y	1.308e+04	y	1.38 y	3.109e+04	3.109e+04	4.17e+00	y	1.49	1,2,3,6,7,8-HxCDF

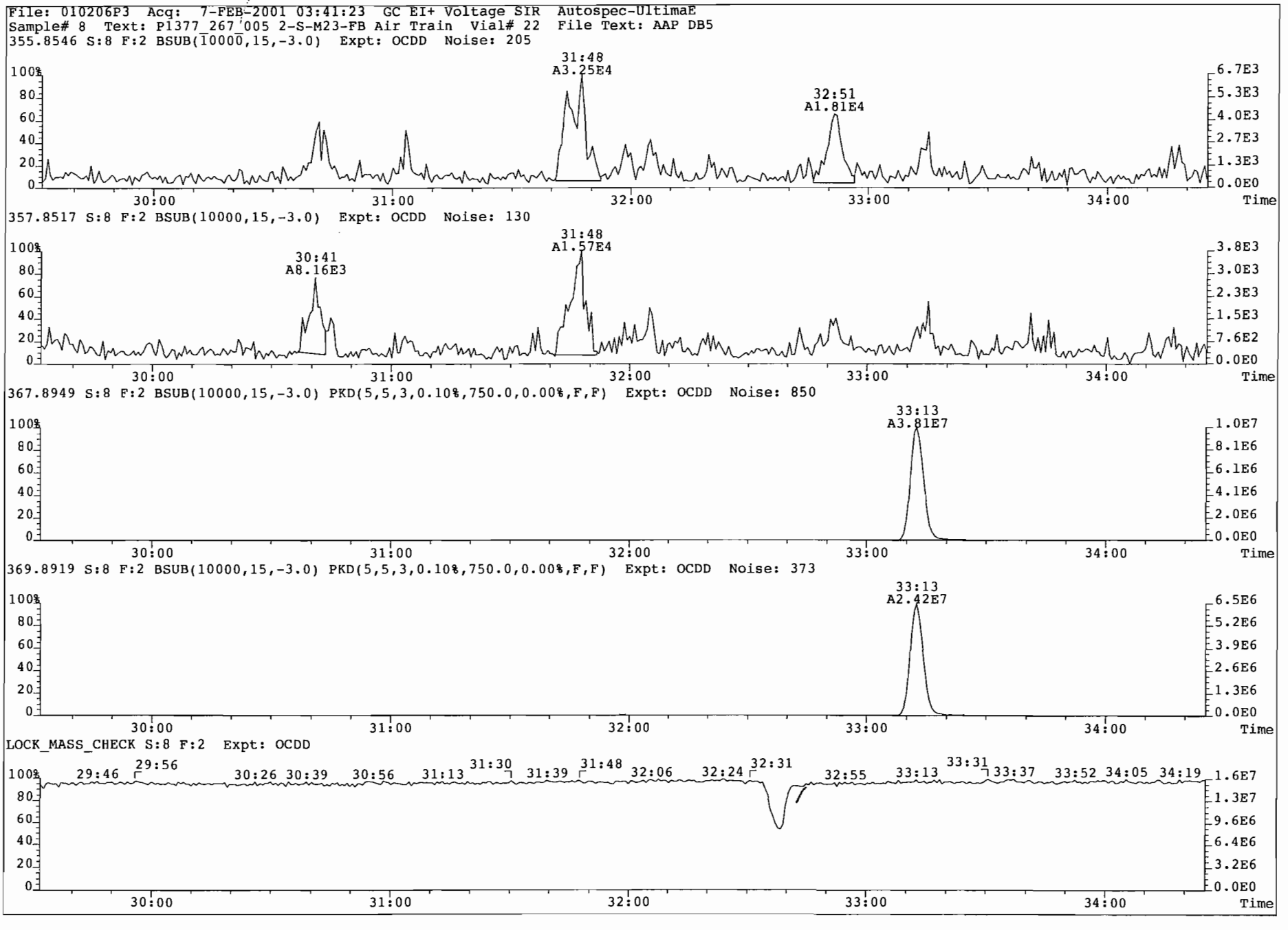
Totals class: HpCDF EMPC Function: 4 Run #: 15
File Name: 010206P3 Sample #: 8 Sample text: P1377_267_005 2-S-M23-FB Air Train

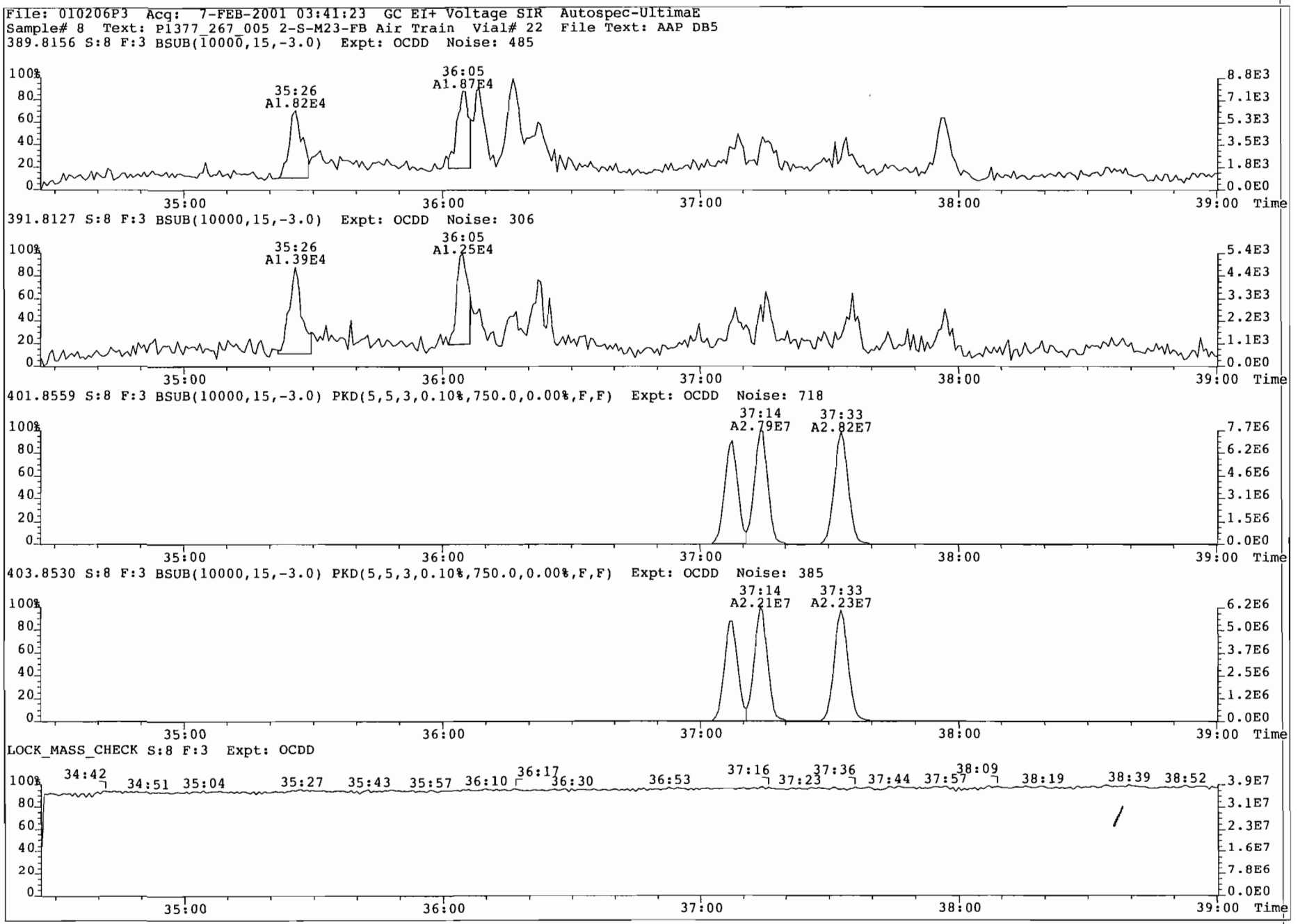
Acquired: 7-FEB-01 03:41:23 Processed: 7-FEB-01 17:17:25

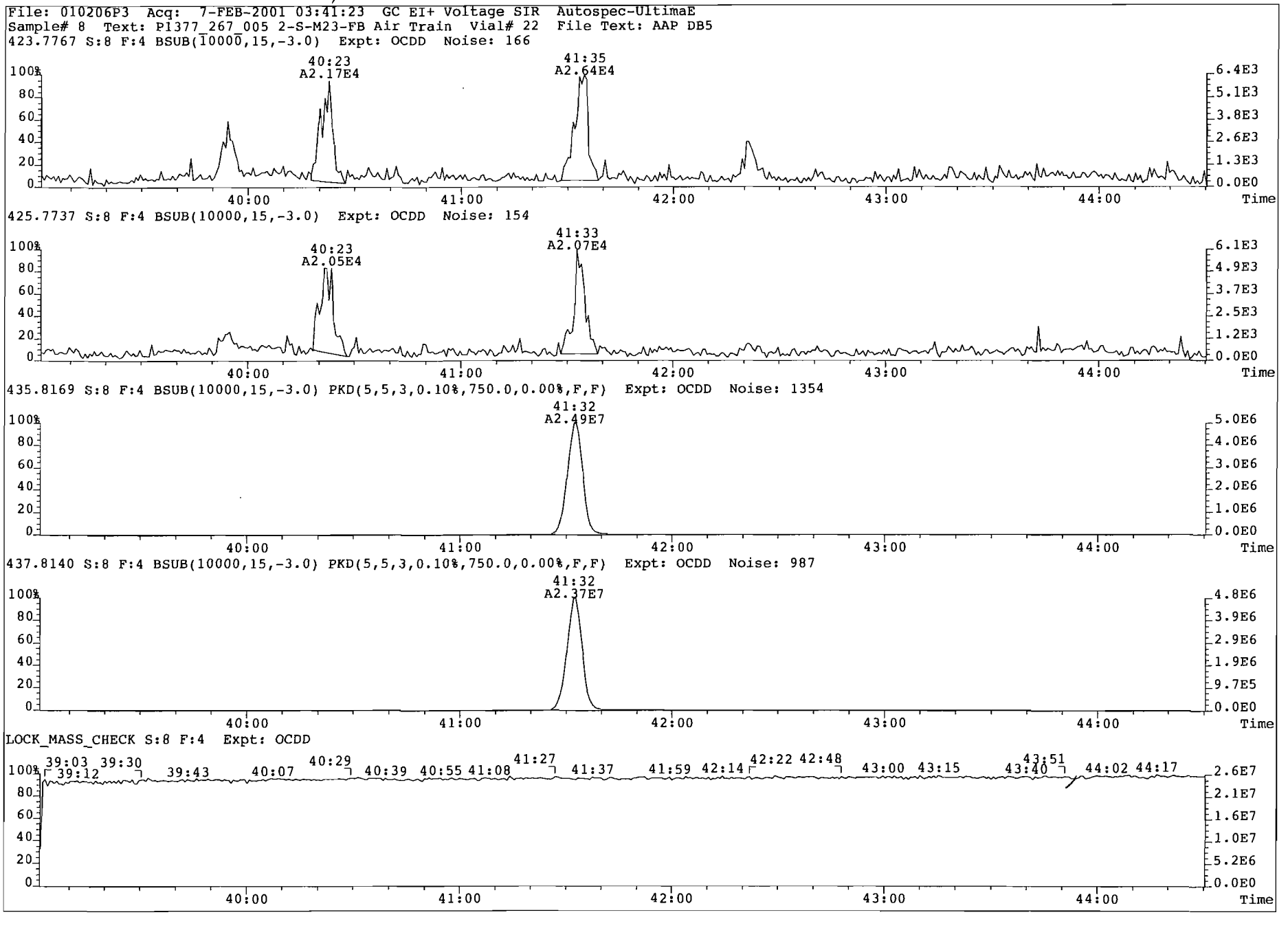
Total Conc.: 2.3859 Unnamed Conc.: *

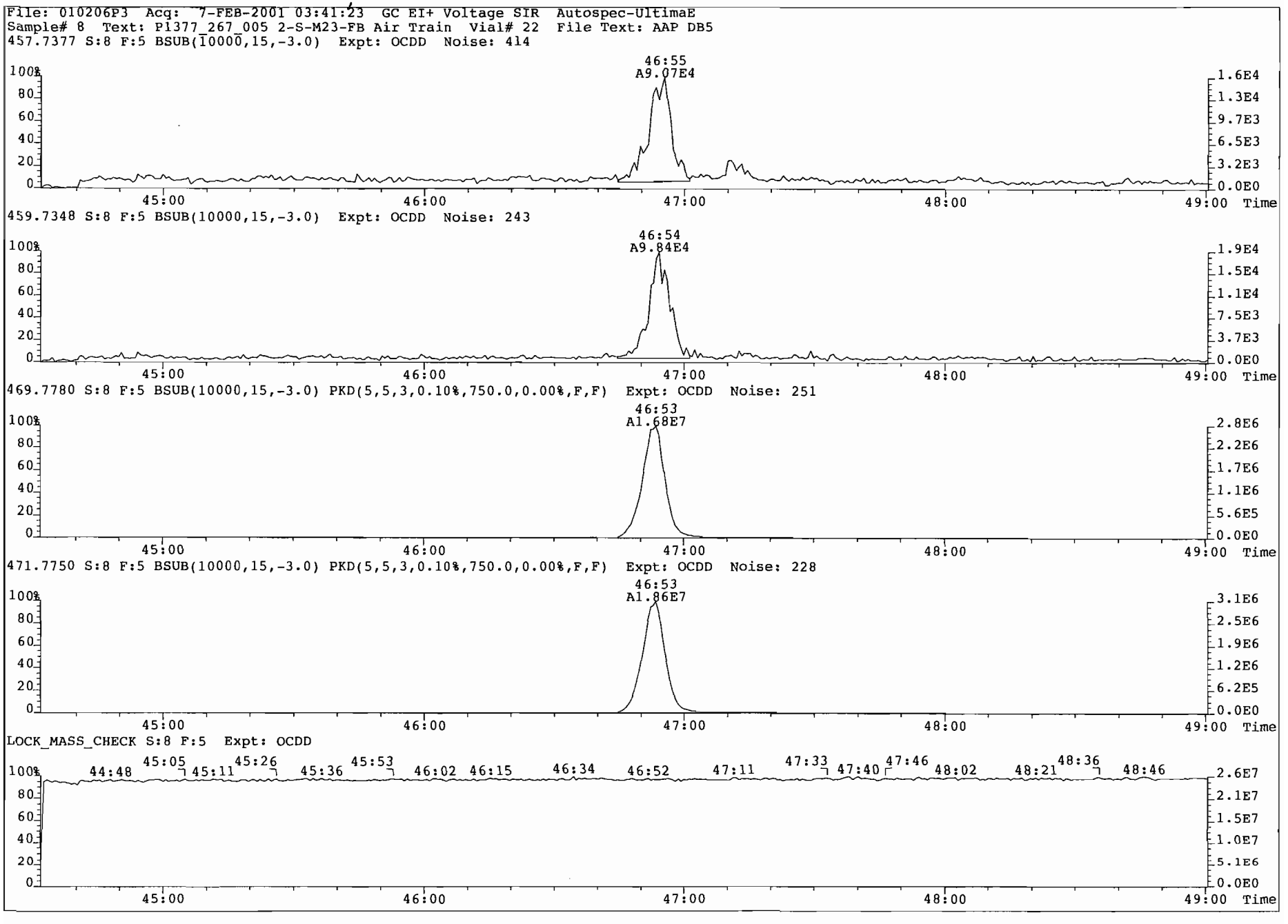
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:56	2.074e+04	n	2.191e+04	n	0.95	y	4.265e+04	4.265e+04	4.42e+00	y	2.39	1,2,3,4,6,7,8-HpCDF

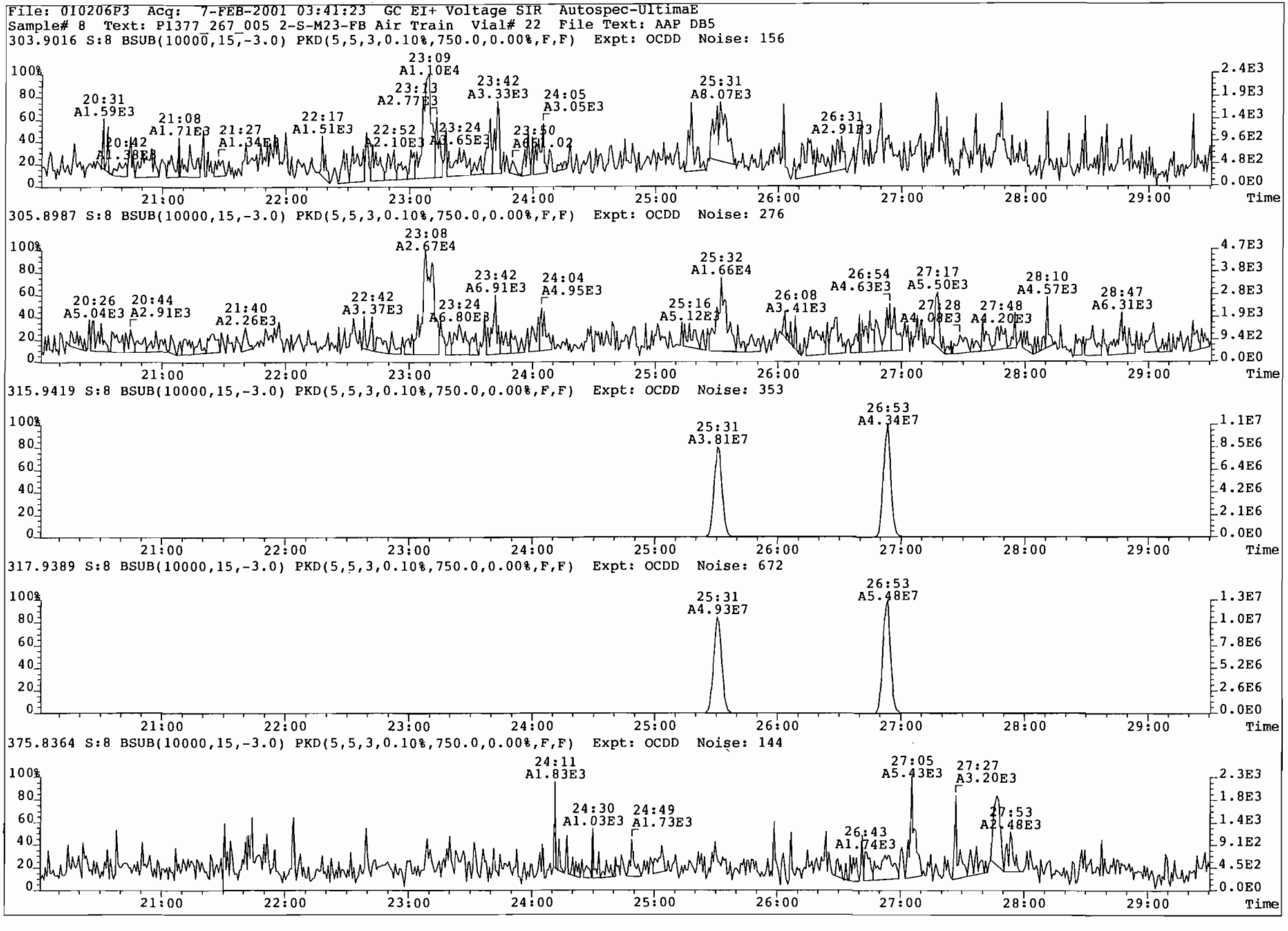

File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 229
20:46 A1.79E3
21:14 A3.09E3
22:05 A3.62E3
23:00 A2.17E3
23:45 A2.54E3
24:04 A1.08E4
24:26 A1.18E4
24:44 A2.46E3
25:31 A1.47E4
25:42 A3.61E3
26:07 A4.40E3
26:22
26:53 A2.00E4
27:08 A2.86E3
27:48 A1.06E4
28:10 A3.93E3
28:16
Time
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 174
22:44 A2.18E3
24:05 A1.42E4
24:26 A5.21E3
24:51 A1.63E3
25:28 A5.24E3
26:01 A1.95E3
26:44 A2.12E3
27:30 A4.90E3
27:48 A3.79E4
Time
327.8850 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 189
27:47 A3.53E7
Time
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1136
27:07 A2.66E7
27:46 A3.30E7
Time
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 397
27:07 A3.38E7
27:46 A4.18E7
Time

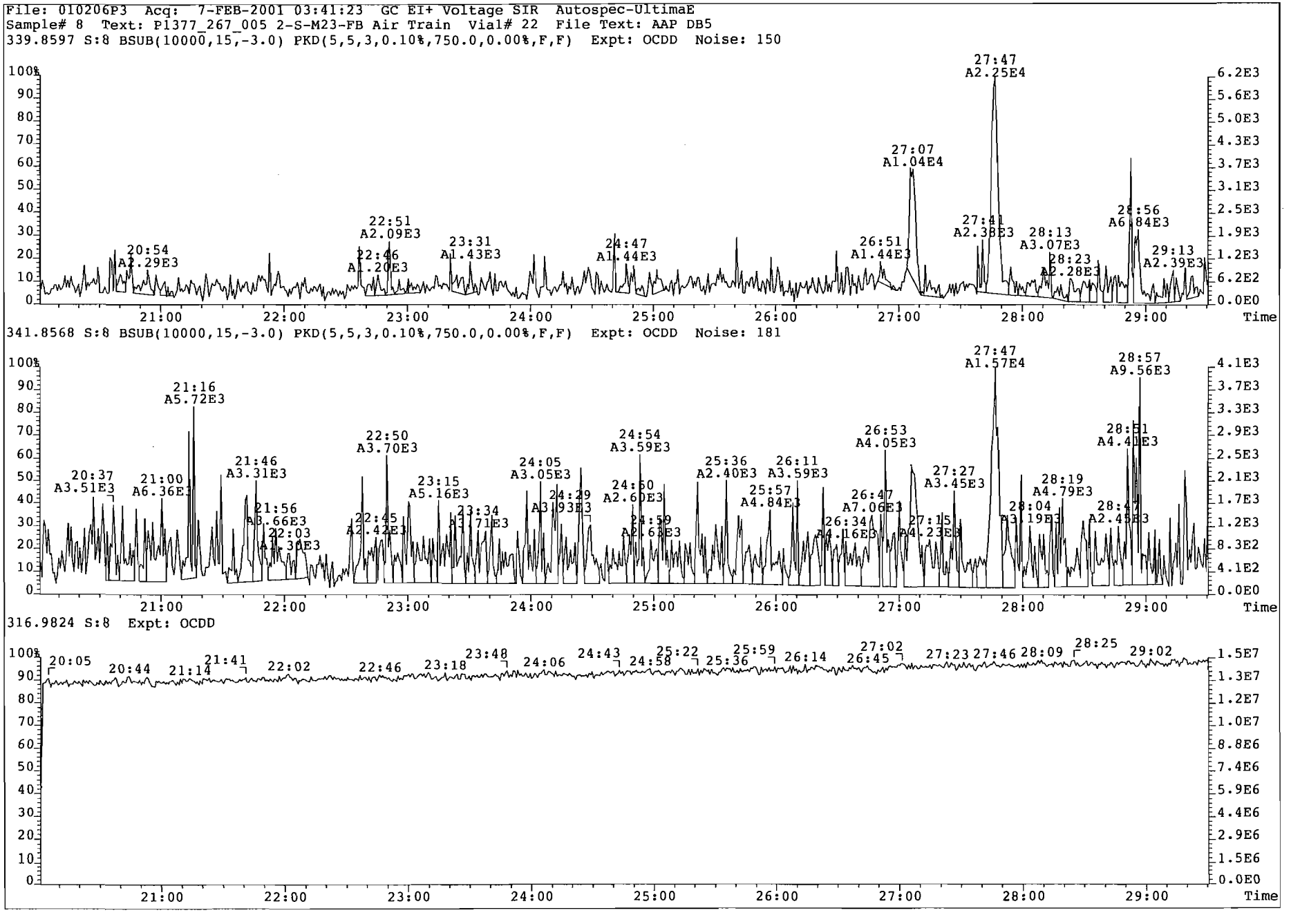

File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
355.8546 S:8 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 205
31:48
A3.25E4
32:51
A1.81E4
357.8517 S:8 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 130
30:41
A8.16E3
31:48
A1.57E4
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 850
33:13
A3.81E7
369.8919 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 373
33:13
A2.42E7
LOCK_MASS_CHECK S:8 F:2 Expt: OCDD
29:46
29:56
30:26
30:39
30:56
31:13
31:30
31:39
31:48
32:06
32:24
32:31
32:55
33:13
33:31
33:37
33:52
34:05
34:19
Time

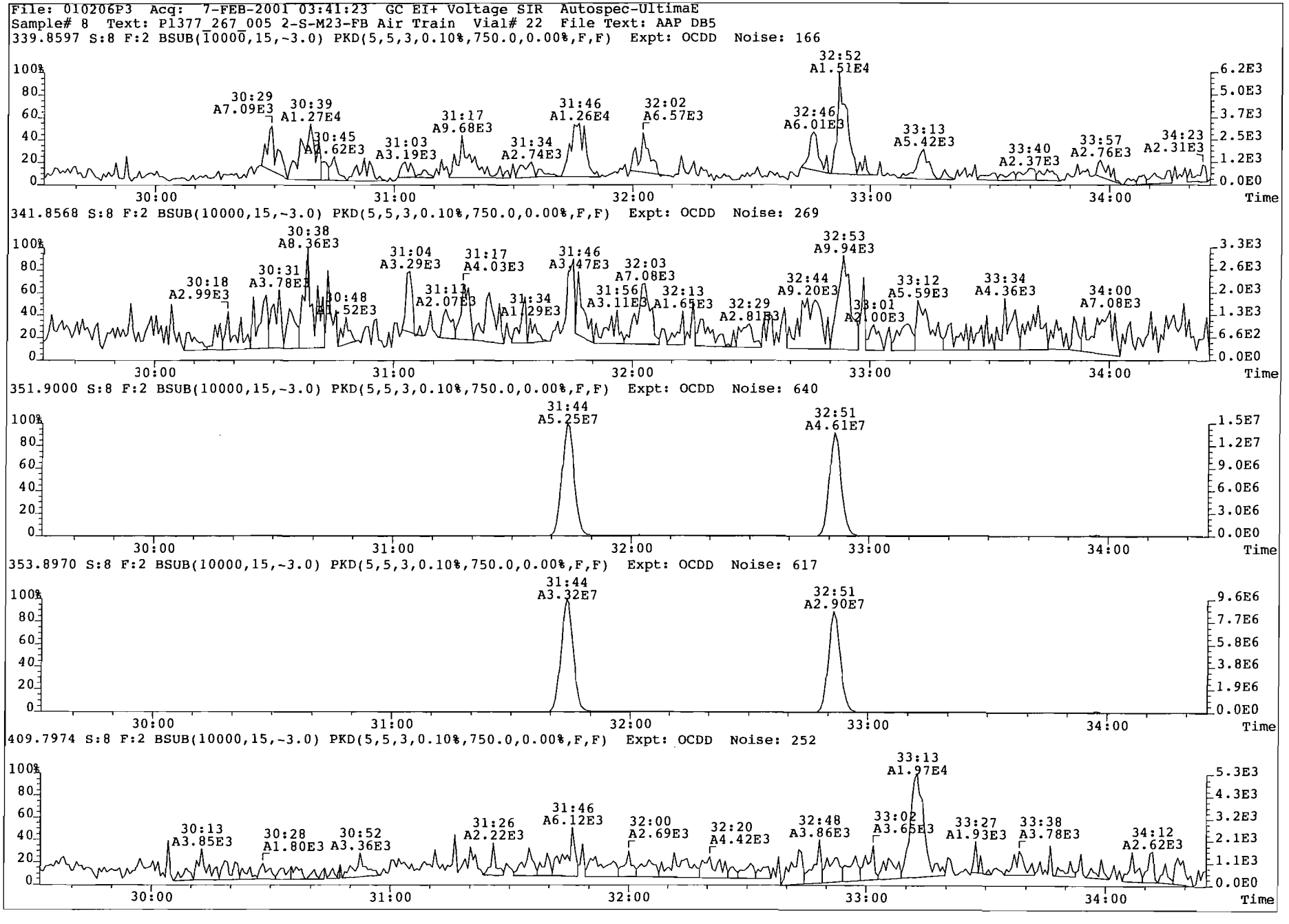

File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 485
35:26 A1.82E4
36:05 A1.87E4
391.8127 S:8 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 306
35:26 A1.39E4
36:05 A1.25E4
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 718
37:14 A2.79E7
37:33 A2.82E7
403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 385
37:14 A2.21E7
37:33 A2.23E7
LOCK_MASS_CHECK S:8 F:3 Expt: OCDD
34:42
34:51
35:04
35:27
35:43
35:57
36:10
36:17
36:30
36:53
37:16
37:23
37:36
37:44
37:57
38:09
38:19
38:39
38:52
35:00
36:00
37:00
38:00
39:00
Time

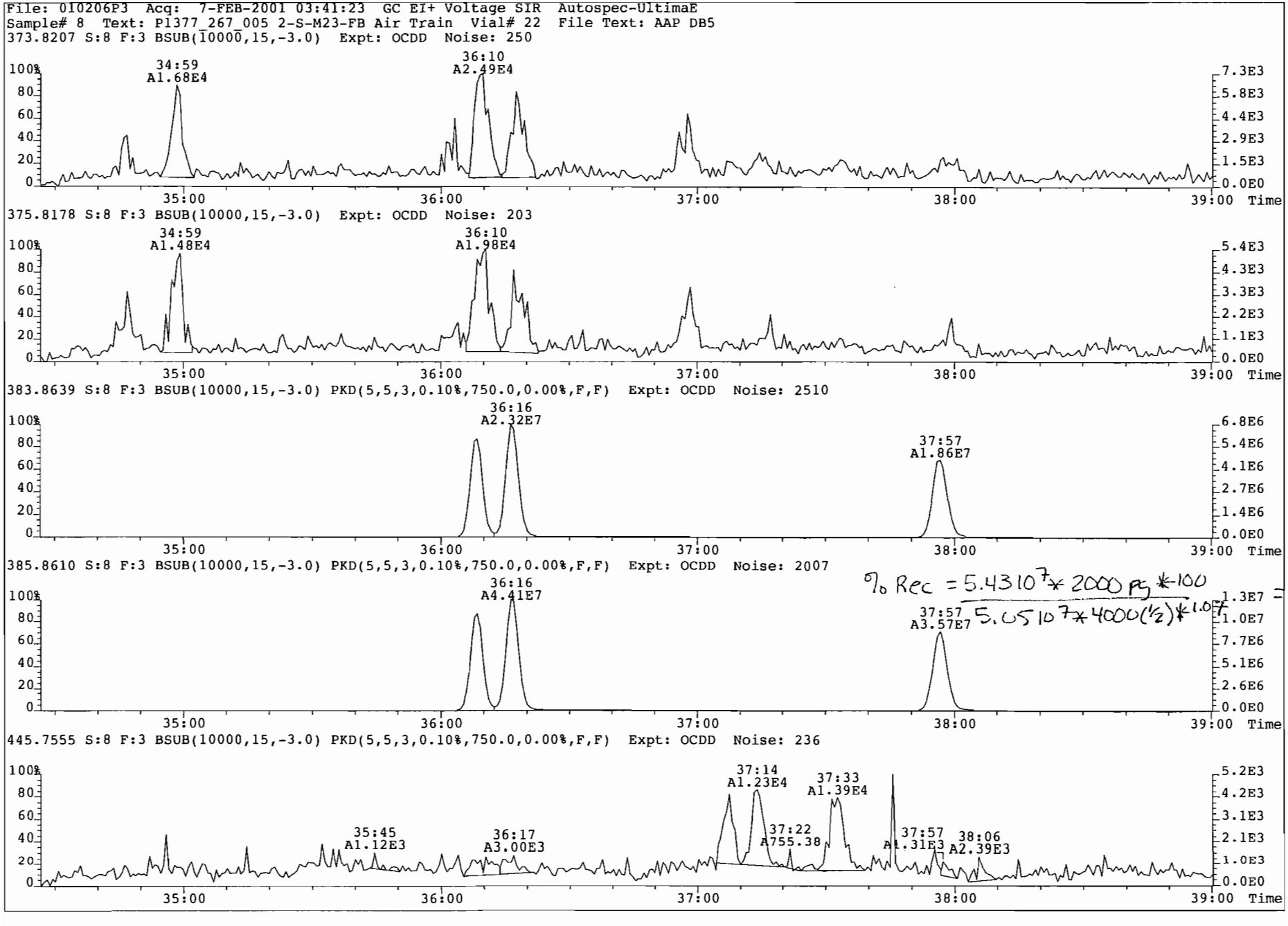

File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: PI377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 166
40:23 A2.17E4
41:35 A2.64E4
425.7737 S:8 F:4 BSUB(10000,15,-3.0) Expt: OCDD Noise: 154
40:23 A2.05E4
41:33 A2.07E4
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1354
41:32 A2.49E7
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 987
41:32 A2.37E7
LOCK_MASS_CHECK S:8 F:4 Expt: OCDD
39:03 39:30 39:12 39:43 40:07 40:29 40:39 40:55 41:08 41:27 41:37 41:59 42:14 42:22 42:48 43:00 43:15 43:40 43:51 44:02 44:17
40:00 41:00 42:00 43:00 44:00 Time


File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 414
46:55
A9.07E4
459.7348 S:8 F:5 BSUB(10000,15,-3.0) Expt: OCDD Noise: 243
46:54
A9.84E4
469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 251
46:53
A1.68E7
471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 228
46:53
A1.86E7
LOCK_MASS_CHECK S:8 F:5 Expt: OCDD
44:48 45:05 45:11 45:26 45:36 45:53 46:02 46:15 46:34 46:52 47:11 47:33 47:40 47:46 48:02 48:21 48:36 48:46
45:00 46:00 47:00 48:00 49:00 Time


File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 156
20:31 A1.59E3
21:08 A1.71E3
21:27 A1.34E3
22:17 A1.51E3
22:52 A2.10E3
23:09 A1.10E4
23:13 A2.77E3
23:24 A3.65E3
23:42 A3.33E3
24:05 A3.05E3
25:31 A8.07E3
26:31 A2.91E3
305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 276
20:26 A5.04E3
20:44 A2.91E3
21:40 A2.26E3
22:42 A3.37E3
23:08 A2.67E4
23:24 A6.80E3
23:42 A6.91E3
24:04 A4.95E3
25:16 A5.12E3
25:32 A1.66E4
26:08 A3.41E3
26:54 A4.63E3
27:17 A5.50E3
27:48 A4.20E3
28:10 A4.57E3
28:47 A6.31E3
315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 353
25:31 A3.81E7
26:53 A4.34E7
317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 672
25:31 A4.93E7
26:53 A5.48E7
375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 144
24:11 A1.83E3
24:30 A1.03E3
24:49 A1.73E3
26:43 A1.74E3
27:05 A5.43E3
27:27 A3.20E3
27:53 A2.48E3
Time

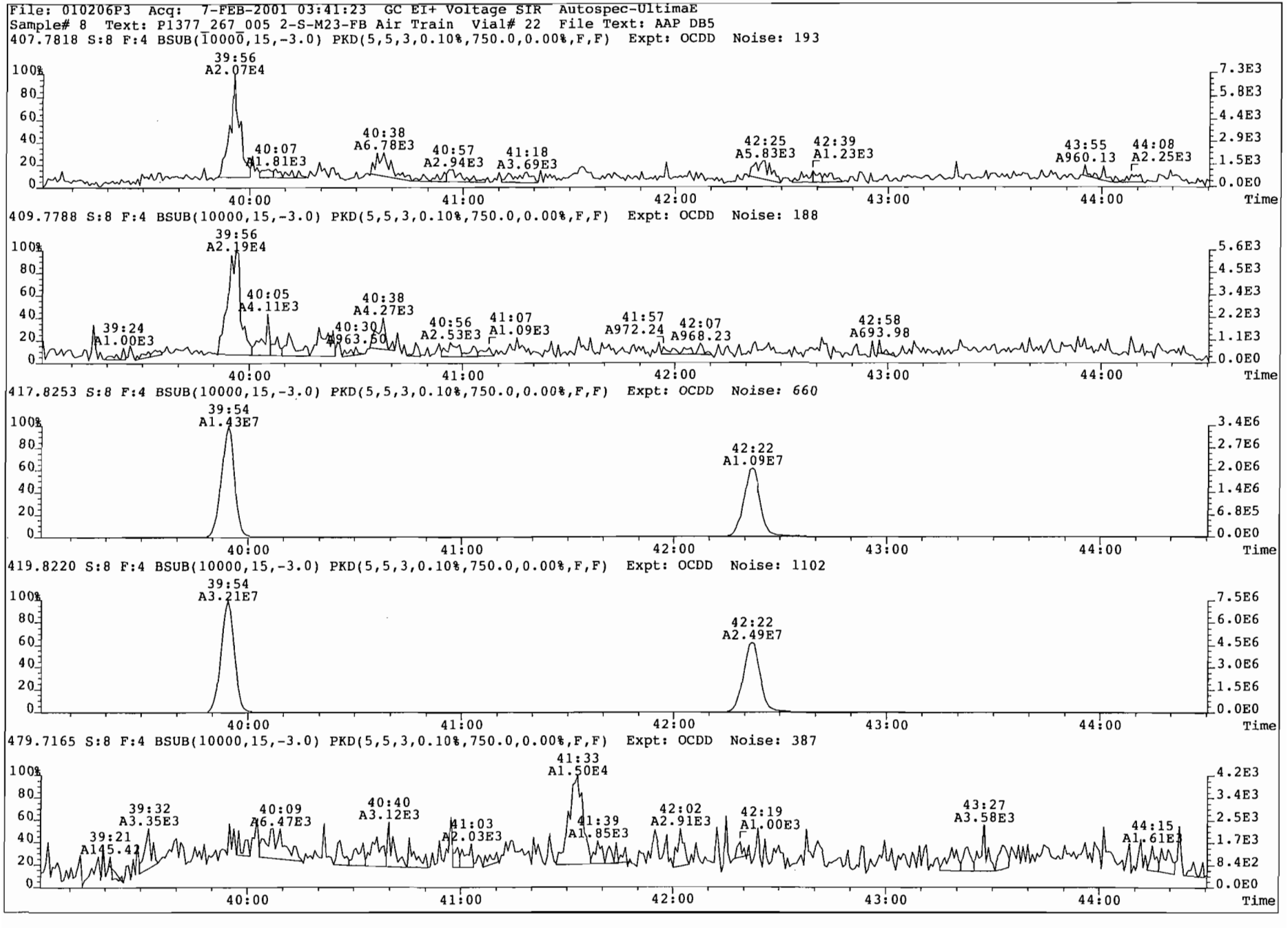

File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 150
20:54 A2.29E3
22:51 A2.09E3
22:46 A1.20E3
23:31 A1.43E3
24:47 A1.44E3
26:51 A1.44E3
27:07 A1.04E4
27:41 A2.38E3
27:47 A2.25E4
28:13 A3.07E3
28:23 A2.28E3
28:56 A6.84E3
29:13 A2.39E3
Time
341.8568 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 181
20:37 A3.51E3
21:00 A6.36E3
21:16 A5.72E3
21:46 A3.31E3
21:56 A3.66E3
22:03 A2.30E3
22:45 A2.42E3
22:50 A3.70E3
23:15 A5.16E3
23:34 A3.71E3
24:05 A3.05E3
24:29 A3.93E3
24:50 A2.60E3
24:54 A3.59E3
24:59 A2.68E3
25:36 A2.40E3
25:57 A4.84E3
26:11 A3.59E3
26:34 A4.16E3
26:47 A7.06E3
26:53 A4.05E3
27:15 A4.23E3
27:27 A3.45E3
27:47 A1.57E4
28:04 A3.19E3
28:19 A4.79E3
28:47 A2.45E3
28:51 A4.41E3
28:57 A9.56E3
Time
316.9824 S:8 Expt: OCDD
20:05
20:44
21:14
21:41
22:02
22:46
23:18
23:48
24:06
24:43
24:58
25:22
25:36
25:59
26:14
26:45
27:02
27:23
27:46
28:09
28:25
29:02
Time

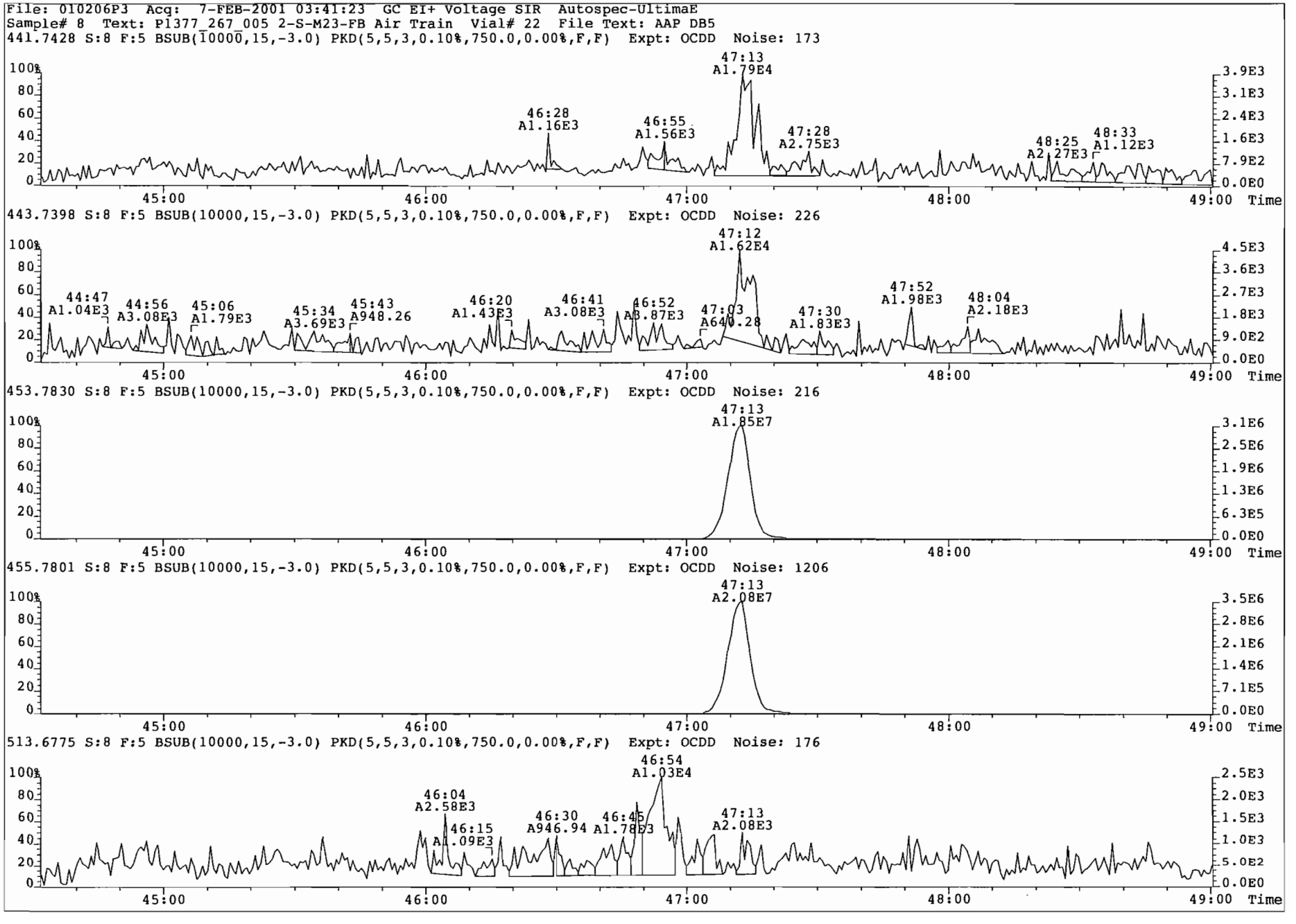

File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 166
30:29 A7.09E3
30:39 A1.27E4
30:45 A2.62E3
31:03 A3.19E3
31:17 A9.68E3
31:34 A2.74E3
31:46 A1.26E4
32:02 A6.57E3
32:46 A6.01E3
32:52 A1.51E4
33:13 A5.42E3
33:40 A2.37E3
33:57 A2.76E3
34:23 A2.31E3
341.8568 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 269
30:18 A2.99E3
30:31 A3.78E3
30:38 A8.36E3
30:48 A4.52E3
31:04 A3.29E3
31:13 A2.07E3
31:17 A4.03E3
31:34 A1.29E3
31:46 A3.47E3
31:56 A3.11E3
32:03 A7.08E3
32:13 A1.65E3
32:29 A2.81E3
32:44 A9.20E3
32:53 A9.94E3
33:01 A2.00E3
33:12 A5.59E3
33:34 A4.36E3
34:00 A7.08E3
351.9000 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 640
31:44 A5.25E7
32:51 A4.61E7
353.8970 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 617
31:44 A3.32E7
32:51 A2.90E7
409.7974 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 252
30:13 A3.85E3
30:28 A1.80E3
30:52 A3.36E3
31:26 A2.22E3
31:46 A6.12E3
32:00 A2.69E3
32:20 A4.42E3
32:48 A3.86E3
33:02 A3.65E3
33:13 A1.97E4
33:27 A1.93E3
33:38 A3.78E3
34:12 A2.62E3
100%
80
60
40
20
0
30:00
31:00
32:00
33:00
34:00
Time
6.2E3
5.0E3
3.7E3
2.5E3
1.2E3
0.0E0
3.3E3
2.6E3
2.0E3
1.3E3
6.6E2
1.5E7
1.2E7
9.0E6
6.0E6
3.0E6
9.6E6
7.7E6
5.8E6
3.8E6
1.9E6
5.3E3
4.3E3
3.2E3
2.1E3
1.1E3



$$\%\,Rec = \frac{5.43\,10^{7} * 2000\,pg * 100}{5.05\,10^{7} * 4000(1/2) * 1.07} = 100\%$$

ok
cc


File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 193
39:56 A2.07E4
40:07 A1.81E3
40:38 A6.78E3
40:57 A2.94E3
41:18 A3.69E3
42:25 A5.83E3
42:39 A1.23E3
43:55 A960.13
44:08 A2.25E3
409.7788 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 188
39:56 A2.19E4
39:24 A1.00E3
40:05 A4.11E3
40:30 A963.50
40:38 A4.27E3
40:56 A2.53E3
41:07 A1.09E3
41:57 A972.24
42:07 A968.23
42:58 A693.98
417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 660
39:54 A1.43E7
42:22 A1.09E7
419.8220 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1102
39:54 A3.21E7
42:22 A2.49E7
479.7165 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 387
41:33 A1.50E4
39:21 A145.42
39:32 A3.35E3
40:09 A6.47E3
40:40 A3.12E3
41:03 A2.03E3
41:39 A1.85E3
42:02 A2.91E3
42:19 A1.00E3
43:27 A3.58E3
44:15 A1.61E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 7-FEB-2001 03:41:23 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 8 Text: P1377_267_005 2-S-M23-FB Air Train Vial# 22 File Text: AAP DB5
441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 173
47:13 A1.79E4
46:28 A1.16E3
46:55 A1.56E3
47:28 A2.75E3
48:25 A2.27E3
48:33 A1.12E3
443.7398 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 226
47:12 A1.62E4
44:47 A1.04E3
44:56 A3.08E3
45:06 A1.79E3
45:34 A3.69E3
45:43 A948.26
46:20 A1.43E3
46:41 A3.08E3
46:52 A3.87E3
47:03 A640.28
47:30 A1.83E3
47:52 A1.98E3
48:04 A2.18E3
453.7830 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 216
47:13 A1.85E7
455.7801 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1206
47:13 A2.08E7
513.6775 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 176
46:54 A1.03E4
46:04 A2.58E3
46:15 A1.09E3
46:30 A946.94
46:45 A1.78E3
47:13 A2.08E3
45:00
46:00
47:00
48:00
49:00
Time

Sample ID: 2-S-M23-1

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_006	Date Extracted:	01 Feb 01
Date Collected:	25 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	2.54			A B	108	95.8	103
1,2,3,7,8-PeCDD	17.7			A	109	94.2	103
1,2,3,4,7,8-HxCDD	26			A B	104	96.6	103
1,2,3,6,7,8-HxCDD	49.5			A	104	96.6	103
1,2,3,7,8,9-HxCDD	44.7			A	104	96.6	103
1,2,3,4,6,7,8-HpCDD	311			B	102	94.2	103
OCDD	635			B	91	94.2	103
2,3,7,8-TCDF	27.3				103	95.8	103
1,2,3,7,8-PeCDF	57.5				100	94.2	103
2,3,4,7,8-PeCDF	70.5				100	94.2	103
1,2,3,4,7,8-HxCDF	101			B	101	96.3	103
1,2,3,6,7,8-HxCDF	122			B	101	96.3	103
2,3,4,6,7,8-HxCDF	123			B	101	96.3	103
1,2,3,7,8,9-HxCDF	44.3			A	101	96.3	103
1,2,3,4,6,7,8-HpCDF	350			B	98.5	94.2	103
1,2,3,4,7,8,9-HpCDF	64.9				98.5	94.2	103
OCDF	137				91.2	94.2	103
Totals & TEQs							
TCDDs	119		119				
PeCDDs	281						
HxCDDs	649						
HpCDDs	571						
TCDFs	663		667				
PeCDFs	711						
HxCDFs	856						
HpCDFs	583						
Total PCDD/Fs	**5200**		**5210**				
TEQ (ND=0)	**111**		**111**	**ITEF**			
TEQ (ND=DL/2)	**111**		**111**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date 12 Fe.....

Client ID: 2-S-M23-1 Filename: 010206P3 S: 9 Acq: 7-FEB-01 04:33:03 ConCal: 010206P3-
Lab ID: P1377_267_006 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	5.31e+04	0.44	n	1.26	27:47	2.46			612	2.5	0.521	
	1,2,3,7,8-PeCDD	2.52e+05	1.50	y	1.01	33:14	17.7			601	2.5	0.989	
	1,2,3,4,7,8-HxCDD	3.39e+05	1.14	y	1.14	37:08	26.0			2202	2.5	3.40	
	1,2,3,6,7,8-HxCDD	5.80e+05	1.28	y	1.02	37:15	49.5			2202	2.5	3.78	
	1,2,3,7,8,9-HxCDD	5.85e+05	1.28	y	1.14	37:34	44.7			2202	2.5	3.38	
	1,2,3,4,6,7,8-HpCDD	3.83e+06	1.02	y	1.13	41:34	311			3692	2.5	7.09	
	OCDD	5.14e+06	0.89	y	1.03	46:54	635			1120	2.5	3.84	
	2,3,7,8-TCDF	6.30e+05	0.77	y	1.05	26:54	27.3			1089	2.5	0.887	
	1,2,3,7,8-PeCDF	1.16e+06	1.47	y	1.04	31:45	57.5			1207	2.5	1.28	
	2,3,4,7,8-PeCDF	1.44e+06	1.52	y	1.05	32:52	70.5			1207	2.5	1.26	
	1,2,3,4,7,8-HxCDF	1.74e+06	1.20	y	1.13	36:09	101			3158	2.5	2.30	
	1,2,3,6,7,8-HxCDF	2.31e+06	1.19	y	1.24	36:17	122			3158	2.5	2.11	
	2,3,4,6,7,8-HxCDF	2.19e+06	1.24	y	1.16	36:57	123			3158	2.5	2.24	
	1,2,3,7,8,9-HxCDF	6.89e+05	1.28	y	1.02	37:59	44.3			3158	2.5	2.56	
	1,2,3,4,6,7,8-HpCDF	5.66e+06	1.04	y	1.54	39:55	350			1582	2.5	1.50	
	1,2,3,4,7,8,9-HpCDF	8.85e+05	1.01	y	1.30	42:23	64.9			1582	2.5	1.78	
	OCDF	1.37e+06	0.84	y	1.15	47:13	137			2498	2.5	6.51	
	Total Tetra-Dioxins	2.51e+06	0.77	y	1.26	24:05	116			612	2.5	0.521	EMPC 118
	Total Penta-Dioxins	4.00e+06	1.58	y	1.01	30:42	281			601	2.5	0.989	281
	Total Hexa-Dioxins	8.17e+06	1.34	y	1.10	35:26	649			2202	2.5	3.51	649
	Total Hepta-Dioxins	7.04e+06	1.01	y	1.13	40:22	571			3692	2.5	7.09	571
	Total Tetra-Furans	1.53e+07	0.76	y	1.05	21:55	663			1089	2.5	0.887	667
	1st Fnc. Penta-Furans	1.26e+06	1.54	y	1.05	28:55	61.9			1279	2.5	1.35	61.9
	Total Penta-Furans	1.32e+07	1.54	y	1.05	30:28	649			1207	2.5	1.27	
	PeCDF Totals:						711						711
	Total Hexa-Furans	1.50e+07	1.18	y	1.14	34:46	856			3158	2.5	2.29	856
	Total Hepta-Furans	9.05e+06	1.04	y	1.42	39:55	583			1582	2.5	1.63	583
													Rec
IS	13C-2,3,7,8-TCDD	6.86e+07	0.78	y	1.13	27:46	4330						108
IS	13C-1,2,3,7,8-PeCDD	5.64e+07	1.57	y	0.93	33:13	4360						109
IS	13C-1,2,3,6,7,8-HxCDD	4.58e+07	1.25	y	0.93	37:14	4160						104
IS	13C-1,2,3,4,6,7,8-HpCDD	4.37e+07	1.04	y	0.91	41:33	4080						102
IS	13C-OCDD	3.15e+07	0.90	y	0.73	46:53	3640						91.0
IS	13C-2,3,7,8-TCDF	8.81e+07	0.79	y	1.06	26:53	4120						103
IS	13C-1,2,3,7,8-PeCDF	7.76e+07	1.58	y	0.96	31:44	4010						100
IS	13C-1,2,3,6,7,8-HxCDF	6.11e+07	0.51	y	1.28	36:17	4040						101
IS	13C-1,2,3,4,6,7,8-HpCDF	4.20e+07	0.45	y	0.90	39:54	3940						98.5
IS	13C-OCDF	3.49e+07	0.89	y	0.81	47:12	3650						91.2
RS/RT	13C-1,2,3,4-TCDD	5.58e+07	0.80	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	8.06e+07	0.78	y	1.00	25:31	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.72e+07	1.24	y	1.00	37:33	4000						-
PS	37Cl-2,3,7,8-TCDD	3.38e+07			0.51	27:48	3830						95.8
PS	13C-2,3,4,7,8-PeCDF	7.11e+07	1.57	y	0.97	32:52	3770						94.2
PS	13C-1,2,3,4,7,8-HxCDD	4.08e+07	1.25	y	0.92	37:07	3860						96.6
PS	13C-1,2,3,4,7,8-HxCDF	5.36e+07	0.53	y	0.91	36:08	3850						96.3
PS	13C-1,2,3,4,7,8,9-HpCDF	3.38e+07	0.44	y	0.85	42:22	3770						94.2
AS	13C-1,2,3,7,8,9-HxCDF	5.18e+07	0.52	y	1.07	37:57	4100						103

Reviewer: CL

Date: 12 Feb 01

Analyst: GAG

Date: 12 Feb 01

Totals class: TCDD EMPC Function: 1 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 118.44 Unnamed Conc.: 115.982

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:05	4.438e+05	n	5.758e+05	n	0.77	y	1.020e+06	1.020e+06	1.79e+02	y	47.2	
24:27	1.822e+05	n	2.394e+05	n	0.76	y	4.216e+05	4.216e+05	8.75e+01	y	19.5	
24:53	3.966e+04	y	5.226e+04	n	0.76	y	9.193e+04	9.193e+04	1.78e+01	y	4.25	
25:56	8.575e+04	y	1.239e+05	y	0.69	y	2.097e+05	2.097e+05	3.89e+01	y	9.70	
26:07	8.455e+04	y	9.560e+04	n	0.88	y	1.801e+05	1.801e+05	3.21e+01	y	8.33	
26:19	3.759e+04	n	5.030e+04	y	0.75	y	8.789e+04	8.789e+04	1.61e+01	y	4.06	
26:44	4.661e+04	y	5.433e+04	y	0.86	y	1.009e+05	1.009e+05	2.58e+01	y	4.67	
27:07	5.771e+04	y	7.887e+04	y	0.73	y	1.366e+05	1.366e+05	2.40e+01	y	6.32	
27:30	7.574e+04	n	1.048e+05	y	0.72	y	1.806e+05	1.806e+05	2.92e+01	y	8.35	
27:47	2.309e+04	y	5.202e+04	n	0.44	n	7.511e+04	5.309e+04	2.07e+01	y	2.46	2,3,7,8-TCDD
28:08	3.591e+04	n	4.313e+04	y	0.83	y	7.904e+04	7.904e+04	1.62e+01	y	3.66	

Totals class: PeCDD EMPC Function: 2 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 280.54 Unnamed Conc.: 262.840

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:42	7.074e+05	n	4.489e+05	n	1.58	y	1.156e+06	1.156e+06	1.47e+02	y	81.1	
31:15	4.686e+04	n	2.879e+04	n	1.63	y	7.565e+04	7.565e+04	1.46e+01	y	5.30	
31:47	5.720e+05	n	3.675e+05	n	1.56	y	9.395e+05	9.395e+05	1.79e+02	y	65.9	
31:59	1.203e+05	n	7.715e+04	n	1.56	y	1.974e+05	1.974e+05	4.15e+01	y	13.8	
32:05	3.266e+05	n	2.044e+05	n	1.60	y	5.310e+05	5.310e+05	1.02e+02	y	37.2	
32:21	1.635e+05	n	1.126e+05	n	1.45	y	2.761e+05	2.761e+05	3.27e+01	y	19.4	
32:43	1.885e+05	n	1.263e+05	n	1.49	y	3.148e+05	3.148e+05	6.00e+01	y	22.1	
33:14	1.513e+05	n	1.011e+05	n	1.50	y	2.524e+05	2.524e+05	4.86e+01	y	17.7	1,2,3,7,8-PeCDD
33:19	6.229e+04	n	4.423e+04	n	1.41	y	1.065e+05	1.065e+05	2.28e+01	y	7.47	
33:41	9.384e+04	n	5.775e+04	n	1.63	y	1.516e+05	1.516e+05	2.93e+01	y	10.6	

Totals class: HxCDD EMPC Function: 3 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 648.75 Unnamed Conc.: 528.615

RT	m1 Resp	mod.	m2 Resp	mod.	RA	Resp	Adj_Resp	S/N		Conc.	Name

35:26	3.956e+05	n	2.961e+05	n	1.34	y	6.916e+05	6.916e+05	3.98e+01	y	54.8	
36:04	2.003e+06	n	1.565e+06	n	1.28	y	3.569e+06	3.569e+06	2.10e+02	y	283	
36:22	1.097e+06	n	8.515e+05	n	1.29	y	1.949e+06	1.949e+06	8.42e+01	y	154	
36:30	8.605e+04	n	7.028e+04	n	1.22	y	1.563e+05	1.563e+05	9.14e+00	y	12.4	
37:08	1.806e+05	n	1.579e+05	n	1.14	y	3.385e+05	3.385e+05	2.14e+01	y	26.0	1,2,3,4,7,8-HxCDD
37:15	3.262e+05	n	2.539e+05	n	1.28	y	5.801e+05	5.801e+05	3.21e+01	y	49.5	1,2,3,6,7,8-HxCDD
37:27	1.683e+05	n	1.355e+05	n	1.24	y	3.038e+05	3.038e+05	1.90e+01	y	24.1	
37:34	3.278e+05	n	2.569e+05	n	1.28	y	5.847e+05	5.847e+05	3.05e+01	y	44.7	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 571.28 Unnamed Conc.: 260.287

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:22	1.610e+06	n	1.597e+06	n	1.01	y	3.207e+06	3.207e+06	9.41e+01	y	260	
41:34	1.932e+06	n	1.899e+06	n	1.02	y	3.831e+06	3.831e+06	1.11e+02	y	311	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 666.61 Unnamed Conc.: 639.276

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:55	4.662e+05	n	6.148e+05	n	0.76	y	1.081e+06	1.081e+06	1.01e+02	y	46.9	
22:30	1.267e+05	n	1.721e+05	n	0.74	y	2.988e+05	2.988e+05	2.98e+01	y	13.0	
23:09	1.519e+05	n	1.940e+05	n	0.78	y	3.460e+05	3.460e+05	3.27e+01	y	15.0	
23:39	1.035e+06	n	1.349e+06	n	0.77	y	2.383e+06	2.383e+06	1.65e+02	y	103	
23:56	1.582e+05	y	1.929e+05	y	0.82	y	3.511e+05	3.511e+05	3.60e+01	y	15.2	
24:05	4.220e+05	y	5.537e+05	y	0.76	y	9.757e+05	9.757e+05	7.66e+01	y	42.3	
24:28	1.859e+05	y	2.414e+05	y	0.77	y	4.273e+05	4.273e+05	4.56e+01	y	18.5	
24:36	1.133e+05	y	1.602e+05	y	0.71	y	2.736e+05	2.736e+05	3.07e+01	y	11.9	
24:47	1.925e+05	y	2.479e+05	y	0.78	y	4.404e+05	4.404e+05	4.86e+01	y	19.1	
25:09	2.339e+05	y	3.225e+05	y	0.73	y	5.563e+05	5.563e+05	5.41e+01	y	24.1	
25:17	3.495e+05	n	4.224e+05	n	0.83	y	7.719e+05	7.719e+05	8.92e+01	y	33.5	
25:31	9.970e+05	y	1.289e+06	y	0.77	y	2.286e+06	2.286e+06	1.56e+02	y	99.2	
26:00	2.877e+05	y	3.511e+05	y	0.82	y	6.388e+05	6.388e+05	7.76e+01	y	27.7	
26:07	4.780e+04	y	6.535e+04	y	0.73	y	1.132e+05	1.132e+05	1.58e+01	y	4.91	
26:17	1.744e+05	y	2.358e+05	y	0.74	y	4.102e+05	4.102e+05	4.79e+01	y	17.8	
26:28	2.586e+05	n	3.329e+05	n	0.78	y	5.915e+05	5.915e+05	6.63e+01	y	25.7	
26:41	2.985e+05	y	3.911e+05	y	0.76	y	6.896e+05	6.896e+05	8.14e+01	y	29.9	
26:47	1.912e+05	y	2.363e+05	y	0.81	y	4.276e+05	4.276e+05	5.28e+01	y	18.6	
26:54	2.732e+05	y	3.568e+05	y	0.77	y	6.300e+05	6.300e+05	7.73e+01	y	27.3	2,3,7,8-TCDF
27:17	6.334e+05	n	7.802e+05	n	0.81	y	1.414e+06	1.414e+06	1.64e+02	y	61.3	
27:32	3.592e+04	n	4.428e+04	n	0.81	y	8.020e+04	8.020e+04	1.14e+01	y	3.48	

27:48	4.649e+04	n	5.974e+04	n	0.78	y	1.062e+05	1.062e+05	1.19e+01	y	4.61
28:57	3.891e+04	y	4.071e+04	y	0.96	n	7.962e+04	7.205e+04	8.59e+00	y	3.13

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 61.896 Unnamed Conc.: 61.896

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:55	7.608e+05	n	4.949e+05	n	1.54	y	1.256e+06	1.256e+06	8.63e+01	y	61.9	

Totals class: PeCDF EMPC Function: 2 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 648.91 Unnamed Conc.: 520.900

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	1.058e+06	y	6.881e+05	y	1.54	y	1.746e+06	1.746e+06	1.09e+02	y	86.1	
30:38	1.637e+06	y	1.077e+06	y	1.52	y	2.714e+06	2.714e+06	1.43e+02	y	134	
30:50	1.636e+05	y	1.006e+05	y	1.63	y	2.642e+05	2.642e+05	2.10e+01	y	13.0	
31:04	1.612e+05	y	1.206e+05	y	1.34	y	2.819e+05	2.819e+05	2.09e+01	y	13.9	
31:13	1.713e+05	y	1.108e+05	y	1.55	y	2.821e+05	2.821e+05	2.81e+01	y	13.9	
31:18	5.829e+05	y	3.727e+05	y	1.56	y	9.556e+05	9.556e+05	8.53e+01	y	47.1	
31:23	2.491e+05	y	1.619e+05	y	1.54	y	4.111e+05	4.111e+05	4.21e+01	y	20.3	
31:33	1.998e+05	y	1.364e+05	y	1.46	y	3.361e+05	3.361e+05	2.77e+01	y	16.6	
31:45	6.881e+05	y	4.687e+05	y	1.47	y	1.157e+06	1.157e+06	1.11e+02	y	57.5	1,2,3,7,8-PeCDF
32:02	7.451e+05	n	5.033e+05	n	1.48	y	1.248e+06	1.248e+06	7.13e+01	y	61.5	
32:12	1.542e+05	y	1.060e+05	n	1.46	y	2.602e+05	2.602e+05	2.53e+01	y	12.8	
32:37	1.034e+05	y	7.082e+04	y	1.46	y	1.742e+05	1.742e+05	1.57e+01	y	8.59	
32:45	9.190e+05	y	5.836e+05	y	1.57	y	1.503e+06	1.503e+06	1.41e+02	y	74.1	
32:52	8.691e+05	n	5.731e+05	y	1.52	y	1.442e+06	1.442e+06	1.20e+02	y	70.5	2,3,4,7,8-PeCDF
33:12	8.710e+04	n	5.312e+04	n	1.64	y	1.402e+05	1.402e+05	1.19e+01	y	6.91	
33:58	1.477e+05	n	1.026e+05	n	1.44	y	2.503e+05	2.503e+05	2.27e+01	y	12.3	

Totals class: HxCDF EMPC Function: 3 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

Total Conc.: 856.16 Unnamed Conc.: 465.987

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	5.781e+05	n	4.905e+05	n	1.18	y	1.069e+06	1.069e+06	5.07e+01	y	61.4	

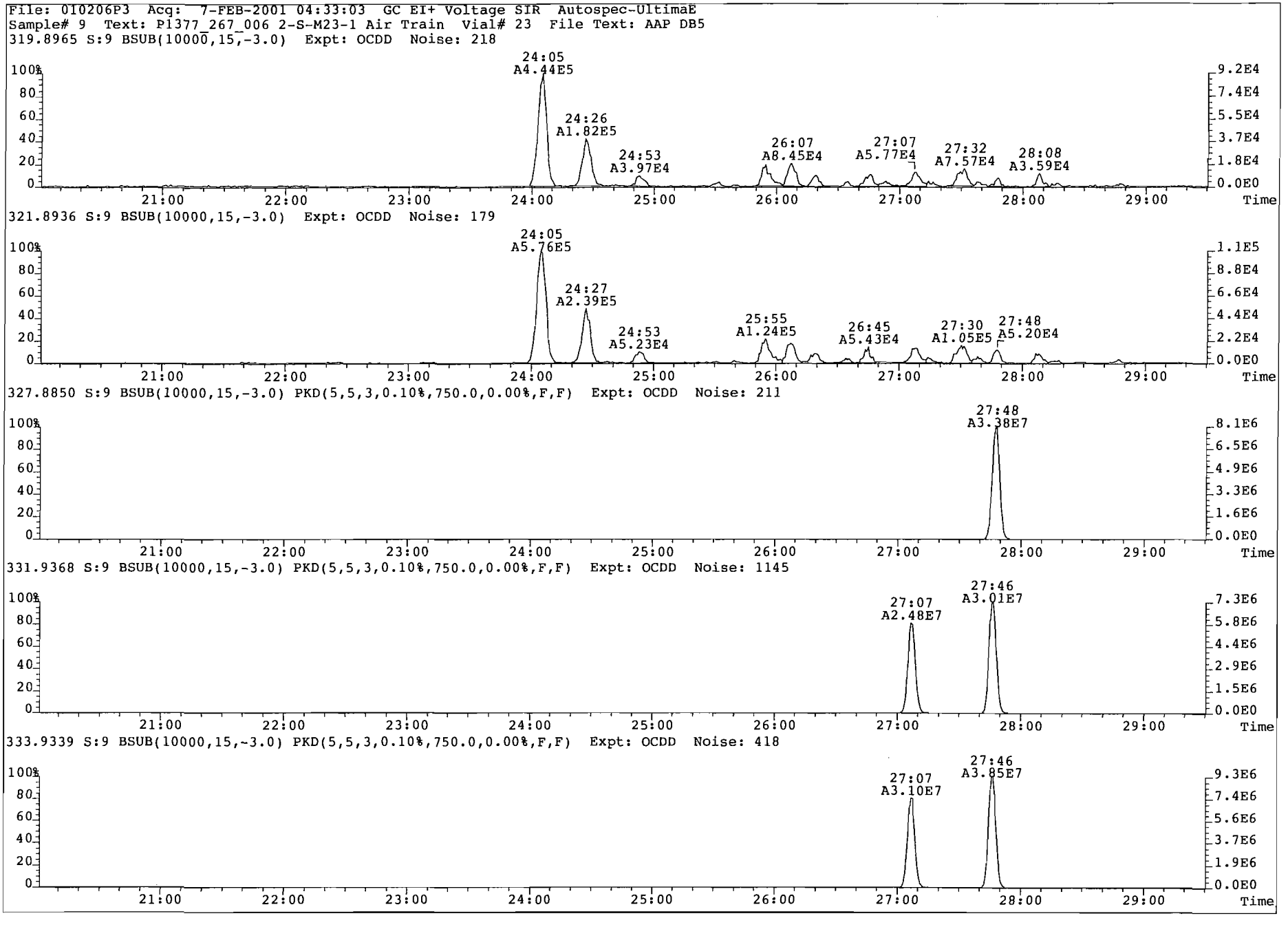
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:58	1.825e+06	n	1.465e+06	n	1.25	y	3.290e+06	3.290e+06	1.34e+02	y	189	
35:12	1.841e+05	n	1.594e+05	n	1.15	y	3.436e+05	3.436e+05	1.33e+01	y	19.8	
35:24	2.669e+05	n	1.908e+05	n	1.40	y	4.577e+05	4.577e+05	1.66e+01	y	26.3	
35:37	1.130e+05	n	9.675e+04	n	1.17	y	2.098e+05	2.098e+05	8.48e+00	y	12.1	
36:02	7.952e+05	n	6.504e+05	n	1.22	y	1.446e+06	1.446e+06	6.43e+01	y	83.1	
36:09	9.508e+05	n	7.907e+05	n	1.20	y	1.742e+06	1.742e+06	7.83e+01	y	101	1,2,3,4,7,8-HxCDF
36:17	1.258e+06	n	1.055e+06	n	1.19	y	2.312e+06	2.312e+06	1.01e+02	y	122	1,2,3,6,7,8-HxCDF
36:27	1.986e+05	n	1.708e+05	n	1.16	y	3.693e+05	3.693e+05	1.79e+01	y	21.2	
36:36	1.559e+05	n	1.250e+05	n	1.25	y	2.810e+05	2.810e+05	1.28e+01	y	16.2	
36:44	3.455e+05	n	2.931e+05	n	1.18	y	6.386e+05	6.386e+05	2.70e+01	y	36.7	
36:57	1.211e+06	n	9.768e+05	n	1.24	y	2.187e+06	2.187e+06	8.66e+01	y	123	2,3,4,6,7,8-HxCDF
37:59	3.869e+05	n	3.022e+05	n	1.28	y	6.891e+05	6.891e+05	1.93e+01	y	44.3	1,2,3,7,8,9-HxCDF

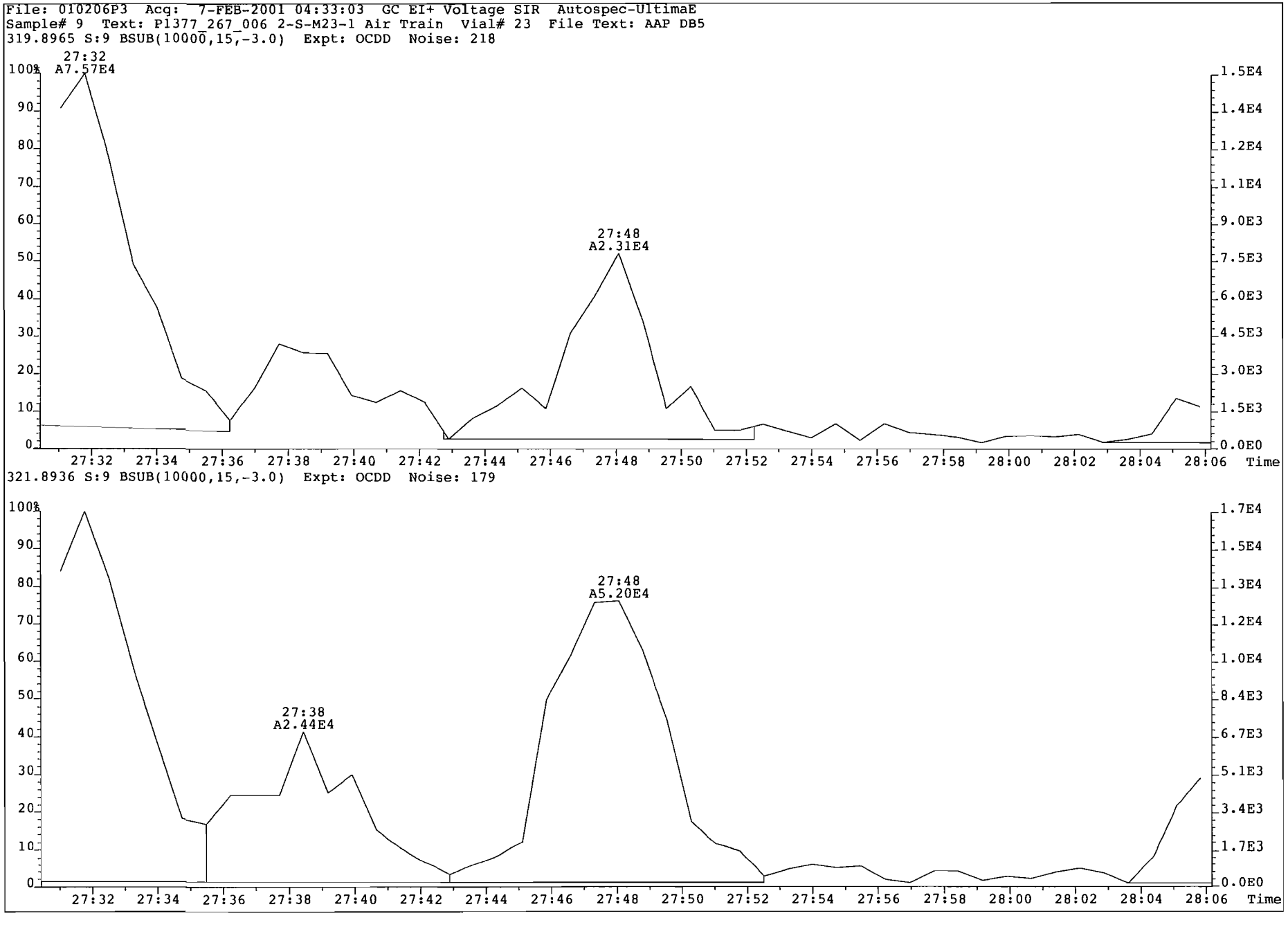
Totals class: HpCDF EMPC Function: 4 Run #: 16
File Name: 010206P3 Sample #: 9 Sample text: P1377_267_006 2-S-M23-1 Air Train

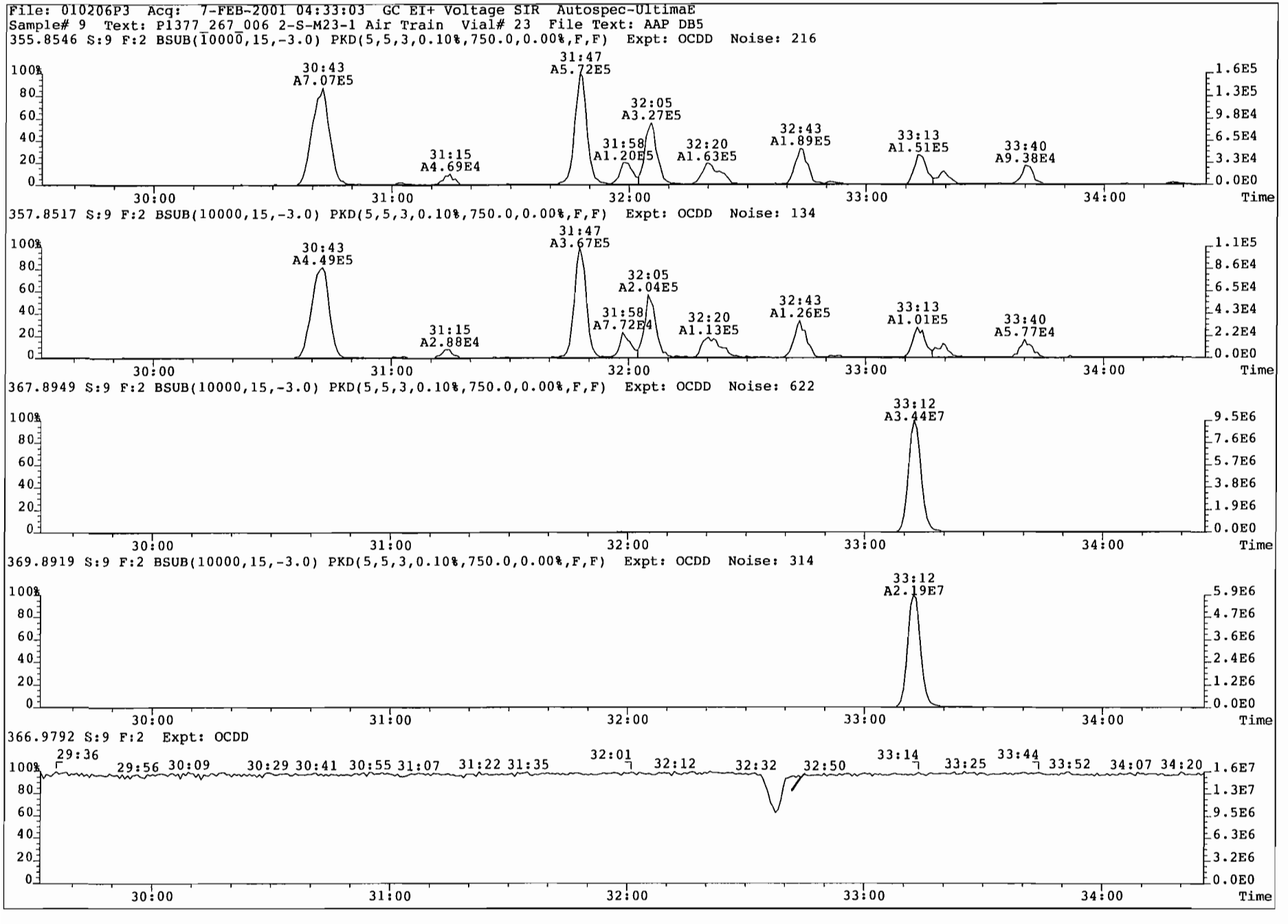
Acquired: 7-FEB-01 04:33:03 Processed: 7-FEB-01 17:17:25

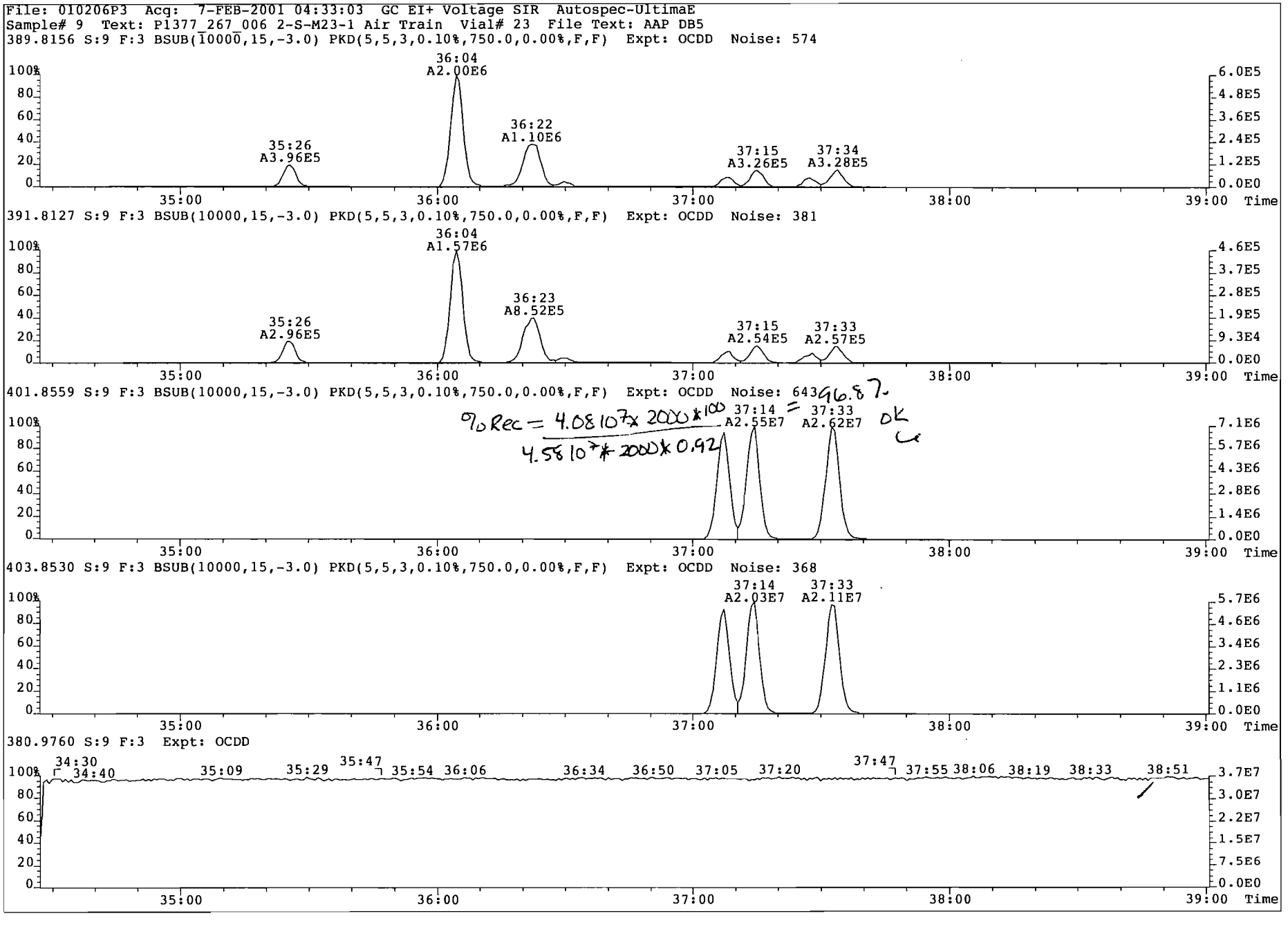
Total Conc.: 582.52 Unnamed Conc.: 167.953

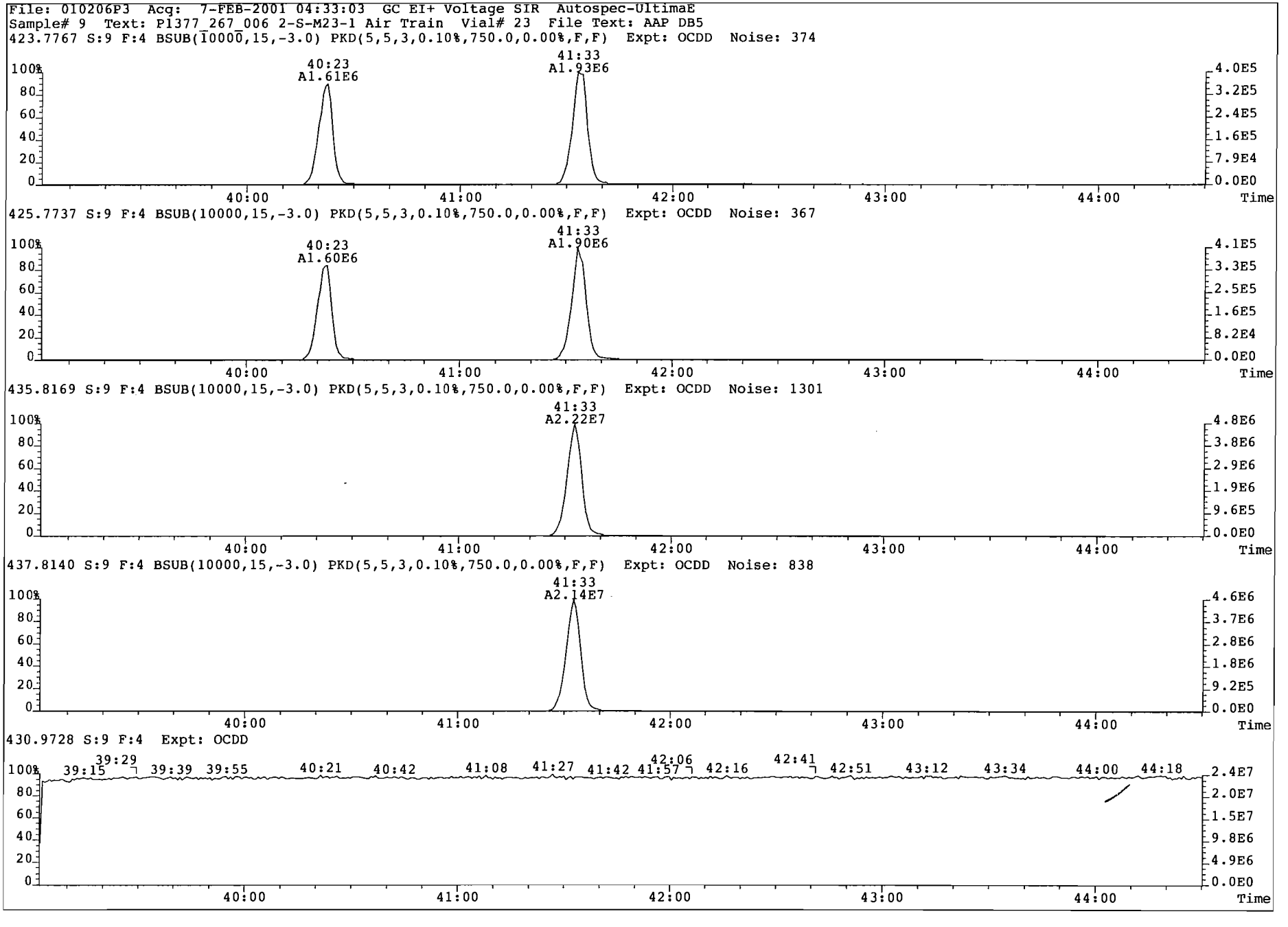
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	2.890e+06	n	2.771e+06	n	1.04	y	5.661e+06	5.661e+06	4.06e+02	y	350	1,2,3,4,6,7,8-HpCDF
40:22	7.084e+05	n	6.888e+05	n	1.03	y	1.397e+06	1.397e+06	9.69e+01	y	93.7	
40:36	5.683e+05	n	5.392e+05	n	1.05	y	1.108e+06	1.108e+06	7.38e+01	y	74.3	
42:23	4.446e+05	n	4.404e+05	n	1.01	y	8.850e+05	8.850e+05	5.58e+01	y	64.9	1,2,3,4,7,8,9-HpCDF

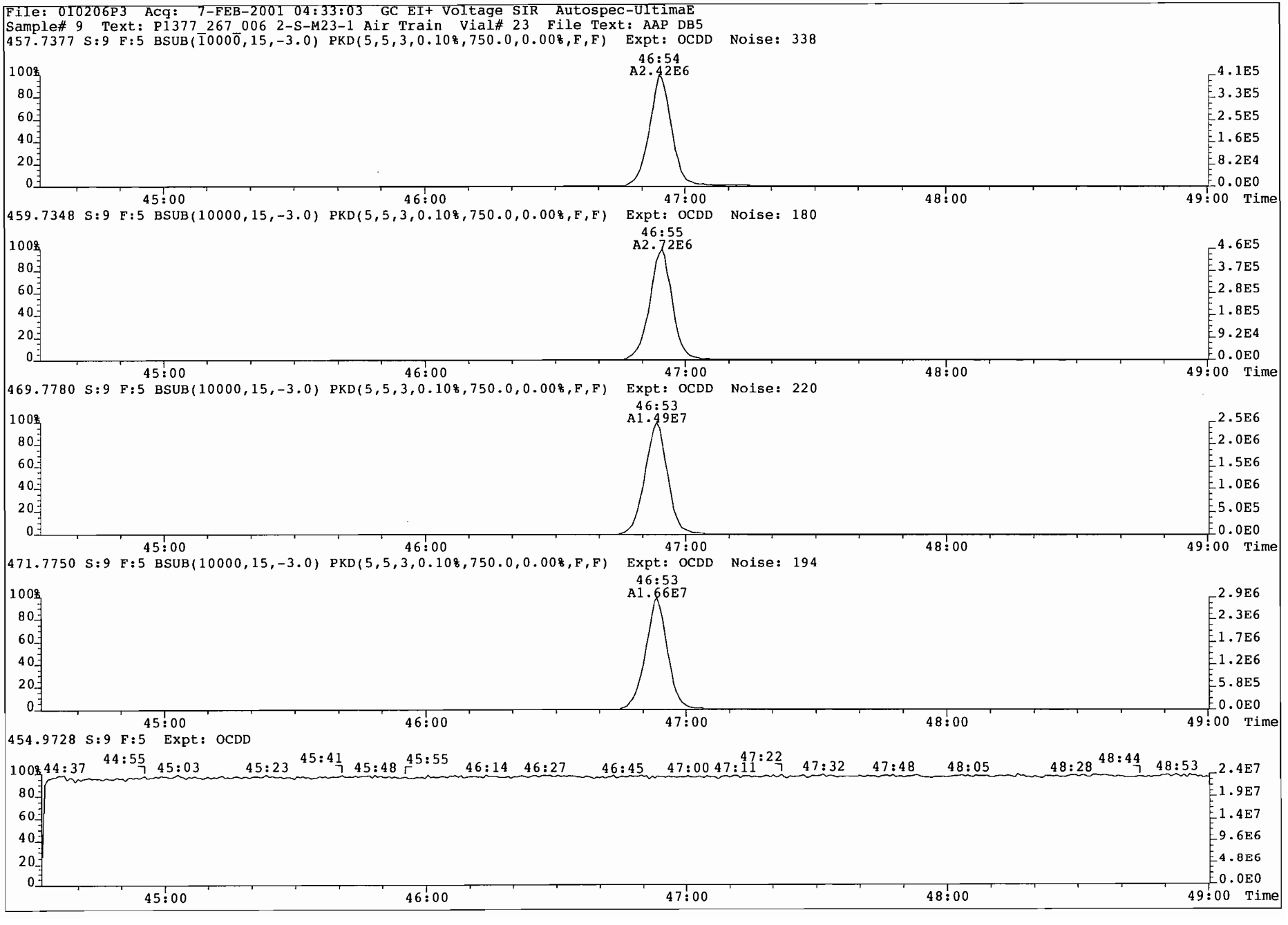

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
319.8965 S:9 BSUB(10000,15,-3.0) Expt: OCDD Noise: 218
24:05 A4.44E5
24:26 A1.82E5
24:53 A3.97E4
26:07 A8.45E4
27:07 A5.77E4
27:32 A7.57E4
28:08 A3.59E4
321.8936 S:9 BSUB(10000,15,-3.0) Expt: OCDD Noise: 179
24:05 A5.76E5
24:27 A2.39E5
24:53 A5.23E4
25:55 A1.24E5
26:45 A5.43E4
27:30 A1.05E5
27:48 A5.20E4
327.8850 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 211
27:48 A3.38E7
331.9368 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1145
27:07 A2.48E7
27:46 A3.01E7
333.9339 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 418
27:07 A3.10E7
27:46 A3.85E7
Time

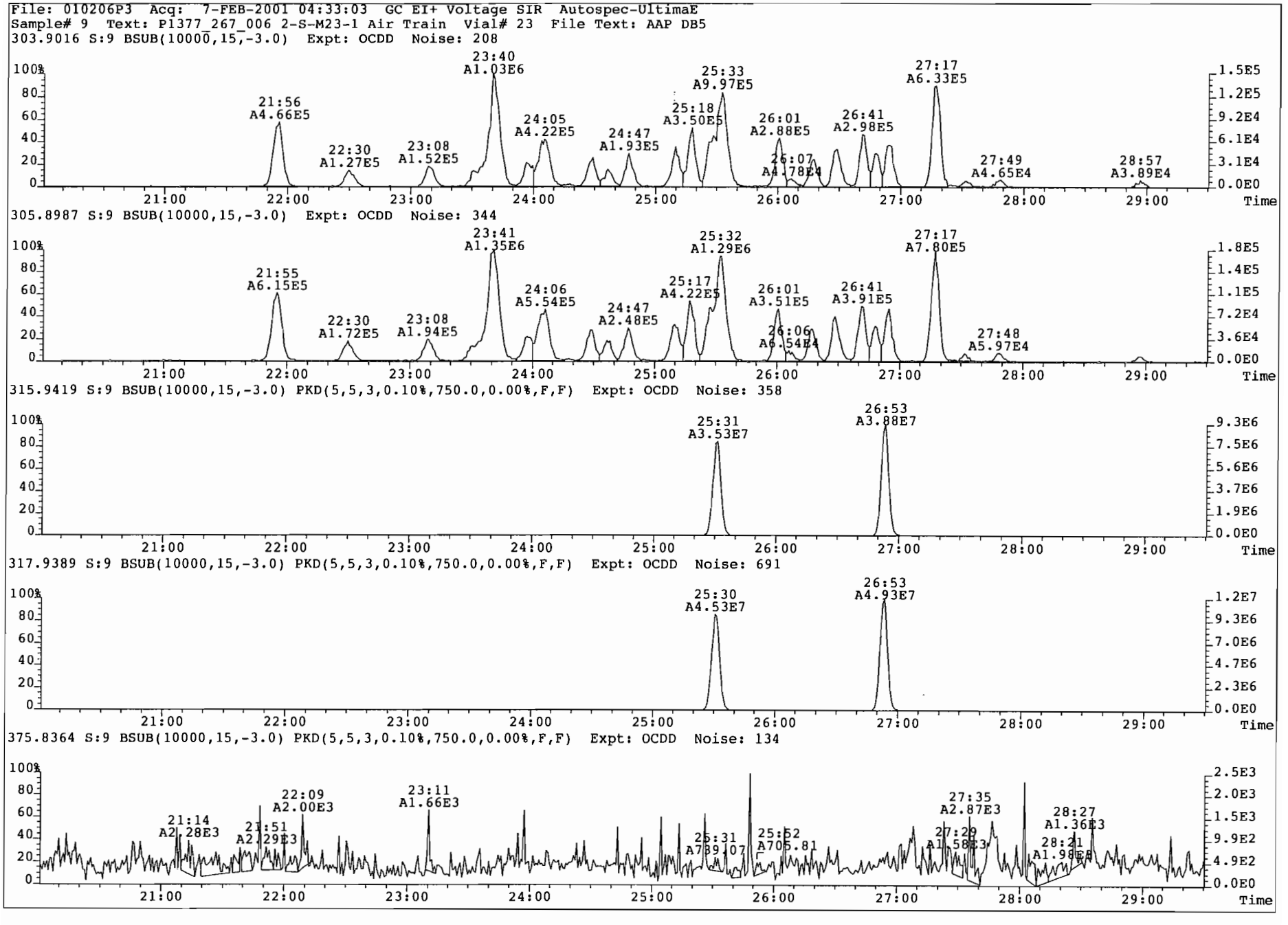

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
319.8965 S:9 BSUB(10000,15,-3.0) Expt: OCDD Noise: 218
27:32
A7.57E4
27:48
A2.31E4
321.8936 S:9 BSUB(10000,15,-3.0) Expt: OCDD Noise: 179
27:38
A2.44E4
27:48
A5.20E4
Time

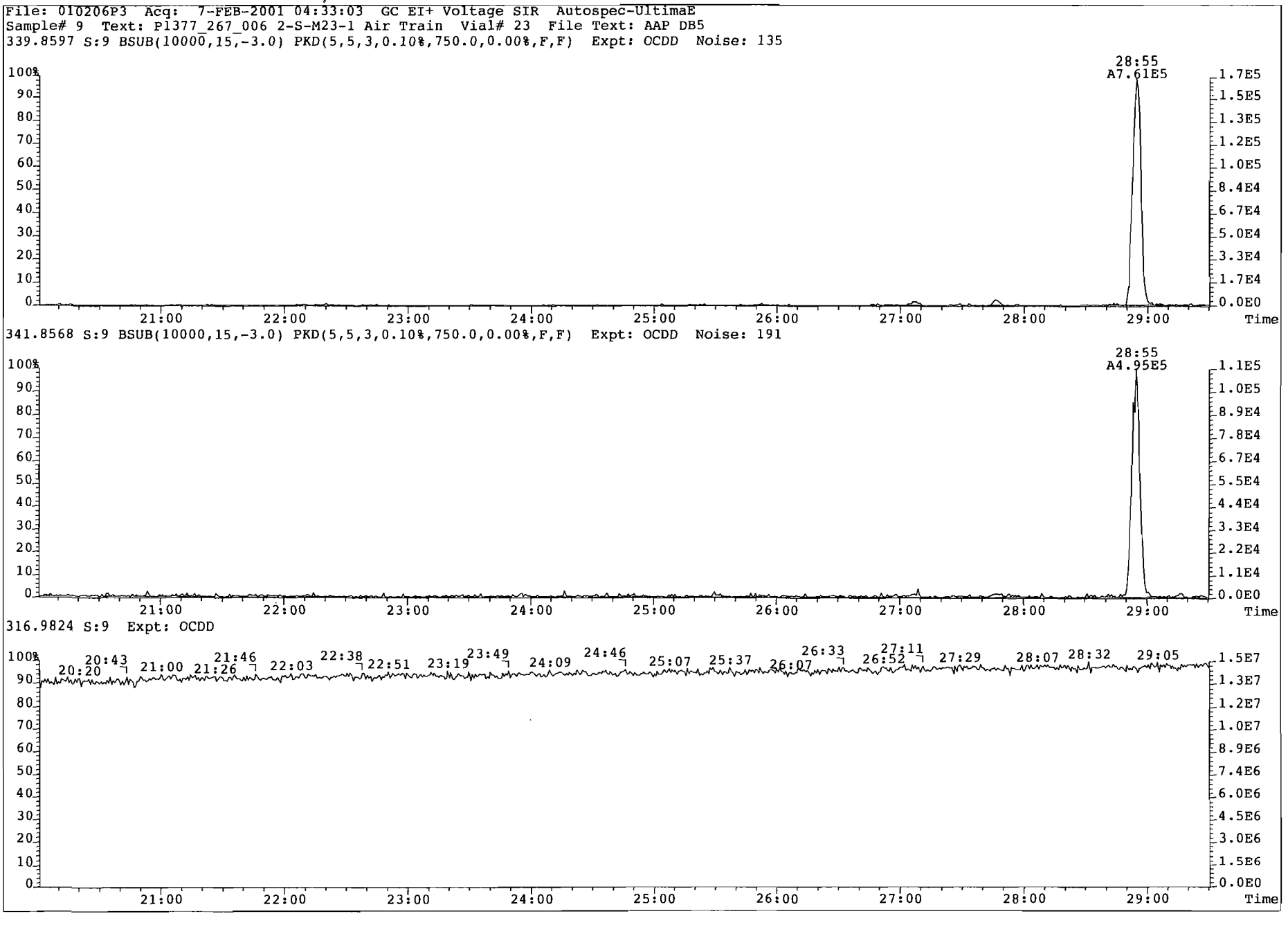

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
355.8546 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 216
30:43 A7.07E5
31:15 A4.69E4
31:47 A5.72E5
31:58 A1.20E5
32:05 A3.27E5
32:20 A1.63E5
32:43 A1.89E5
33:13 A1.51E5
33:40 A9.38E4
357.8517 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 134
30:43 A4.49E5
31:15 A2.88E4
31:47 A3.67E5
31:58 A7.72E4
32:05 A2.04E5
32:20 A1.13E5
32:43 A1.26E5
33:13 A1.01E5
33:40 A5.77E4
367.8949 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 622
33:12 A3.44E7
369.8919 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 314
33:12 A2.19E7
366.9792 S:9 F:2 Expt: OCDD
29:36 29:56 30:09 30:29 30:41 30:55 31:07 31:22 31:35 32:01 32:12 32:32 32:50 33:14 33:25 33:44 33:52 34:07 34:20
Time

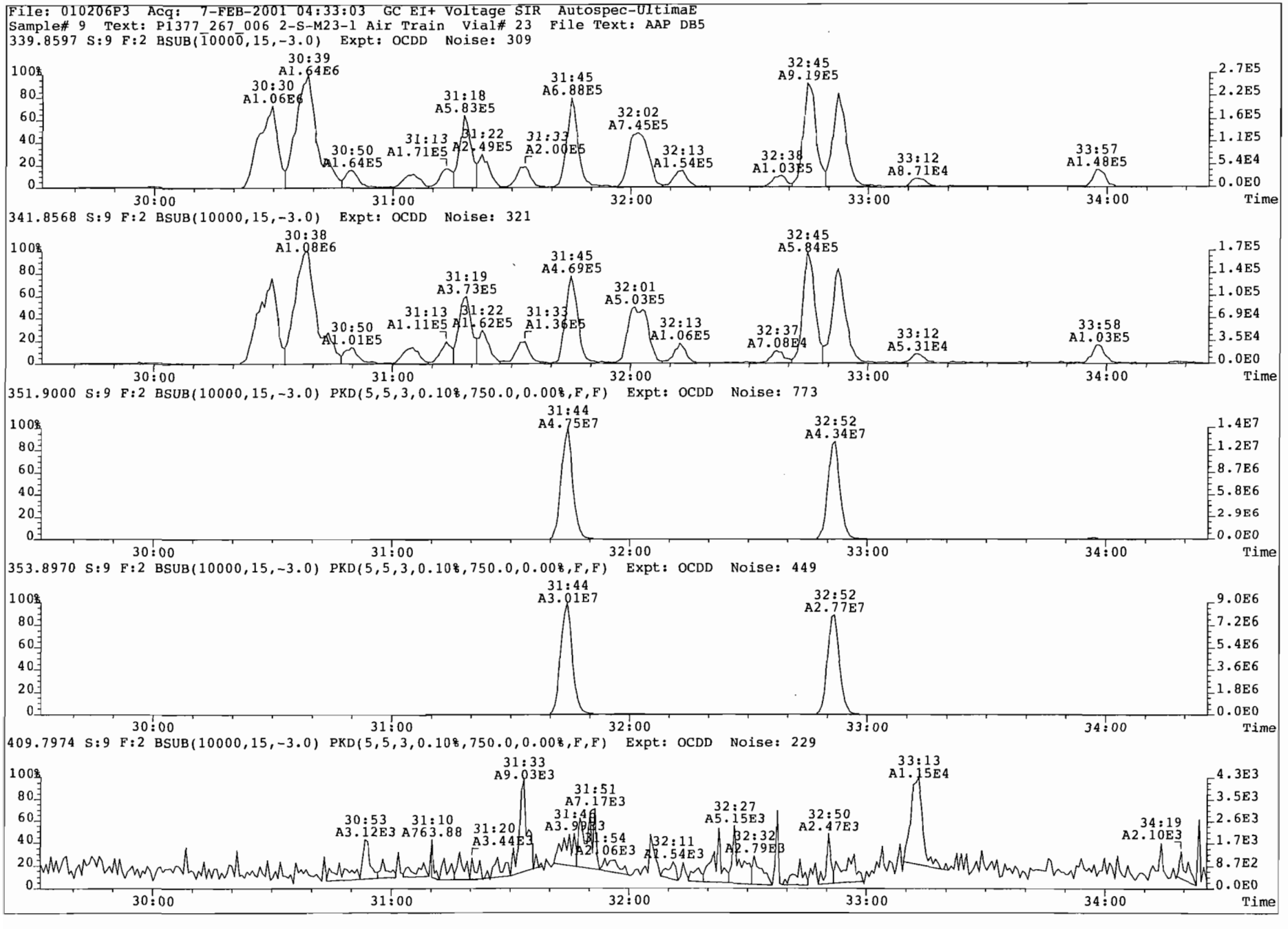

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 574
36:04 A2.00E6
35:26 A3.96E5
36:22 A1.10E6
37:15 A3.26E5
37:34 A3.28E5
391.8127 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 381
36:04 A1.57E6
35:26 A2.96E5
36:23 A8.52E5
37:15 A2.54E5
37:33 A2.57E5
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 643
%Rec = 4.08107 x 2000 x 100 / 4.58107 x 2000 x 0.92 = 96.87 OK
37:14 A2.55E7
37:33 A2.62E7
403.8530 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 368
37:14 A2.03E7
37:33 A2.11E7
380.9760 S:9 F:3 Expt: OCDD
34:30
34:40
35:09
35:29
35:47
35:54
36:06
36:34
36:50
37:05
37:20
37:47
37:55
38:06
38:19
38:33
38:51
35:00
36:00
37:00
38:00
39:00
Time

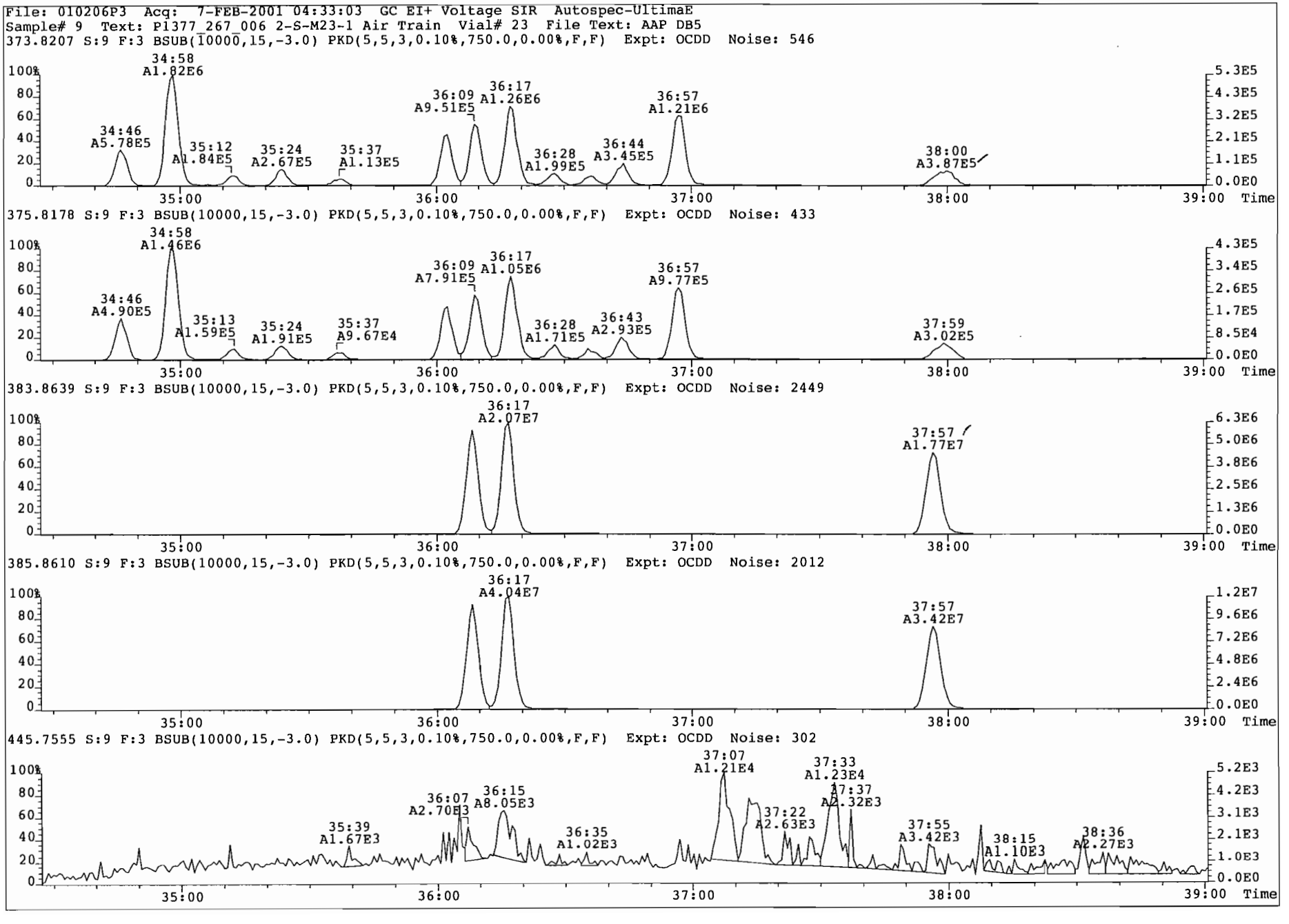

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 374
40:23 A1.61E6
41:33 A1.93E6
425.7737 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 367
40:23 A1.60E6
41:33 A1.90E6
435.8169 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1301
41:33 A2.22E7
437.8140 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 838
41:33 A2.14E7
430.9728 S:9 F:4 Expt: OCDD
39:29 39:15 39:39 39:55 40:21 40:42 41:08 41:27 41:42 41:57 42:06 42:16 42:41 42:51 43:12 43:34 44:00 44:18
40:00 41:00 42:00 43:00 44:00 Time

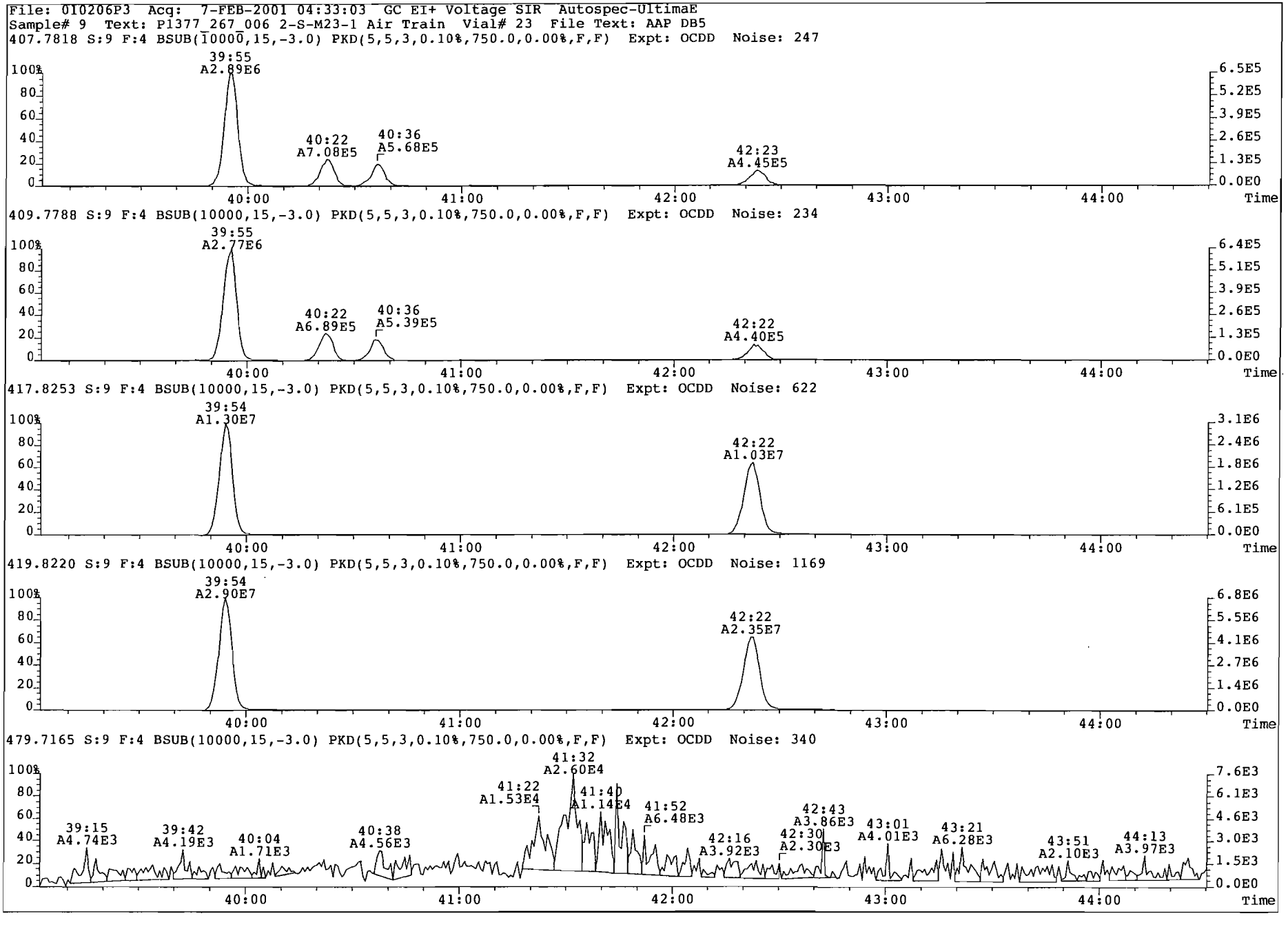

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 338
46:54
A2.42E6
459.7348 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 180
46:55
A2.72E6
469.7780 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 220
46:53
A1.49E7
471.7750 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 194
46:53
A1.66E7
454.9728 S:9 F:5 Expt: OCDD
44:37 44:55 45:03 45:23 45:41 45:48 45:55 46:14 46:27 46:45 47:00 47:11 47:22 47:32 47:48 48:05 48:28 48:44 48:53
45:00 46:00 47:00 48:00 49:00 Time

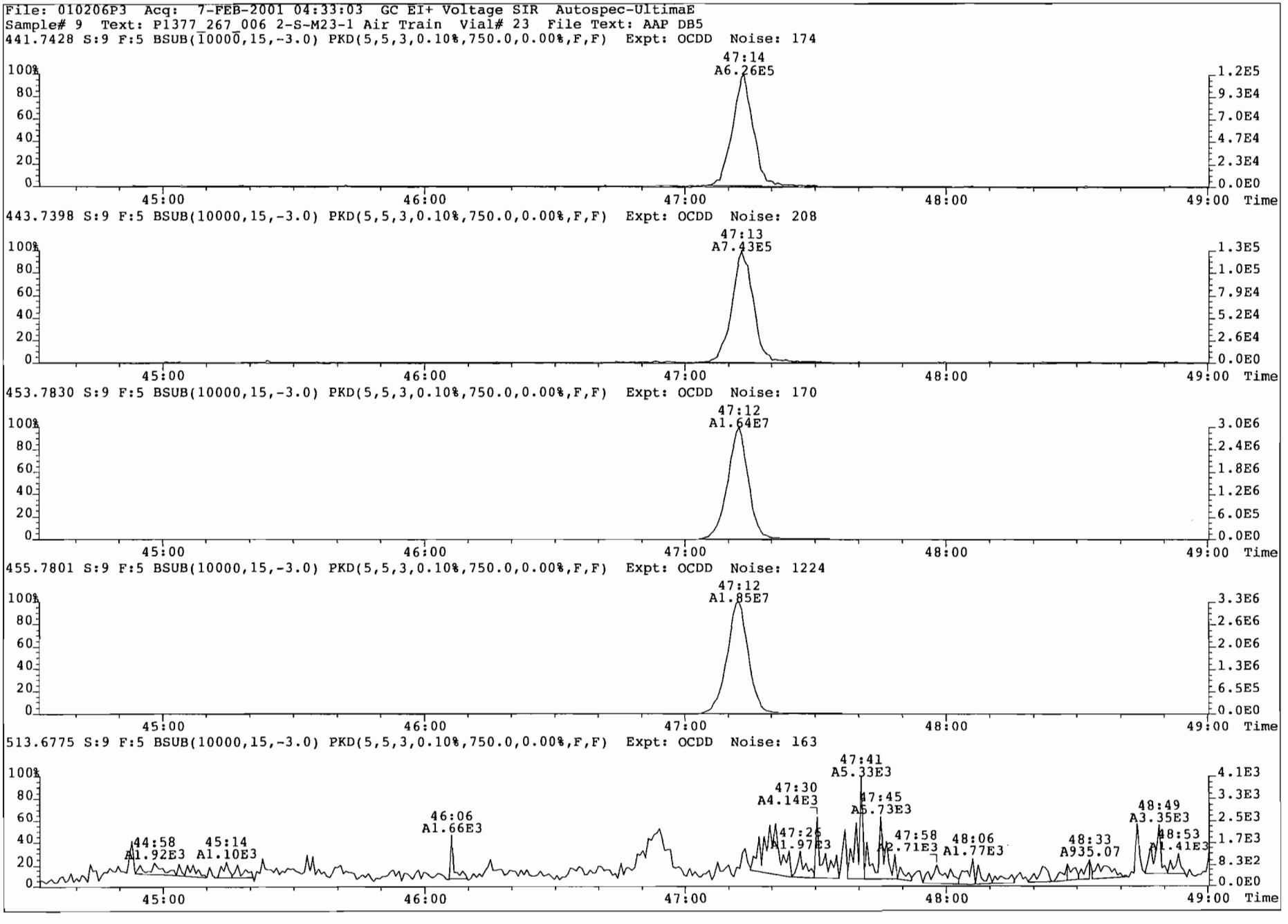

File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
303.9016 S:9 BSUB(10000,15,-3.0) Expt: OCDD Noise: 208
21:56 A4.66E5
22:30 A1.27E5
23:08 A1.52E5
23:40 A1.03E6
24:05 A4.22E5
24:47 A1.93E5
25:18 A3.50E5
25:33 A9.97E5
26:01 A2.88E5
26:07 A4.78E4
26:41 A2.98E5
27:17 A6.33E5
27:49 A4.65E4
28:57 A3.89E4
305.8987 S:9 BSUB(10000,15,-3.0) Expt: OCDD Noise: 344
21:55 A6.15E5
22:30 A1.72E5
23:08 A1.94E5
23:41 A1.35E6
24:06 A5.54E5
24:47 A2.48E5
25:17 A4.22E5
25:32 A1.29E6
26:01 A3.51E5
26:06 A6.54E4
26:41 A3.91E5
27:17 A7.80E5
27:48 A5.97E4
315.9419 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 358
25:31 A3.53E7
26:53 A3.88E7
317.9389 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 691
25:30 A4.53E7
26:53 A4.93E7
375.8364 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 134
21:14 A2.28E3
21:51 A2.29E3
22:09 A2.00E3
23:11 A1.66E3
25:31 A7.39E07
25:52 A7.05E.81
27:35 A2.87E3
27:29 A1.58E3
28:21 A1.98E4
28:27 A1.36E3
Time


File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
339.8597 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 135
28:55
A7.61E5
341.8568 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 191
28:55
A4.95E5
316.9824 S:9 Expt: OCDD
Time


File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
339.8597 S:9 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 309
30:39 A1.64E6
30:30 A1.06E6
30:50 A1.64E5
31:13 A1.71E5
31:18 A5.83E5
31:22 A2.49E5
31:33 A2.00E5
31:45 A6.88E5
32:02 A7.45E5
32:13 A1.54E5
32:38 A1.03E5
32:45 A9.19E5
33:12 A8.71E4
33:57 A1.48E5
341.8568 S:9 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 321
30:38 A1.08E6
30:50 A1.01E5
31:13 A1.11E5
31:19 A3.73E5
31:22 A1.62E5
31:33 A1.36E5
31:45 A4.69E5
32:01 A5.03E5
32:13 A1.06E5
32:37 A7.08E4
32:45 A5.84E5
33:12 A5.31E4
33:58 A1.03E5
351.9000 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 773
31:44 A4.75E7
32:52 A4.34E7
353.8970 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 449
31:44 A3.01E7
32:52 A2.77E7
409.7974 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 229
30:53 A3.12E3
31:10 A763.88
31:20 A3.44E3
31:33 A9.03E3
31:51 A7.17E3
31:54 A2.06E3
32:11 A1.54E3
32:27 A5.15E3
32:32 A2.79E3
32:50 A2.47E3
33:13 A1.15E4
34:19 A2.10E3
30:00
31:00
32:00
33:00
34:00
Time


File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 546
34:58 A1.82E6
34:46 A5.78E5
35:12 A1.84E5
35:24 A2.67E5
35:37 A1.13E5
36:09 A9.51E5
36:17 A1.26E6
36:28 A1.99E5
36:44 A3.45E5
36:57 A1.21E6
38:00 A3.87E5
375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 433
34:58 A1.46E6
34:46 A4.90E5
35:13 A1.59E5
35:24 A1.91E5
35:37 A9.67E4
36:09 A7.91E5
36:17 A1.05E6
36:28 A1.71E5
36:43 A2.93E5
36:57 A9.77E5
37:59 A3.02E5
383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2449
36:17 A2.07E7
37:57 A1.77E7
385.8610 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2012
36:17 A4.04E7
37:57 A3.42E7
445.7555 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 302
35:39 A1.67E3
36:07 A2.70E3
36:15 A8.05E3
36:35 A1.02E3
37:07 A1.21E4
37:22 A2.63E3
37:33 A1.23E4
37:37 A2.32E3
37:55 A3.42E3
38:15 A1.10E3
38:36 A2.27E3
35:00
36:00
37:00
38:00
39:00 Time


File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
407.7818 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 247
39:55 A2.89E6
40:22 A7.08E5
40:36 A5.68E5
42:23 A4.45E5
409.7788 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 234
39:55 A2.77E6
40:22 A6.89E5
40:36 A5.39E5
42:22 A4.40E5
417.8253 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 622
39:54 A1.30E7
42:22 A1.03E7
419.8220 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1169
39:54 A2.90E7
42:22 A2.35E7
479.7165 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 340
41:32 A2.60E4
41:22 A1.53E4
41:40 A1.14E4
41:52 A6.48E3
39:15 A4.74E3
39:42 A4.19E3
40:04 A1.71E3
40:38 A4.56E3
42:16 A3.92E3
42:30 A2.30E3
42:43 A3.86E3
43:01 A4.01E3
43:21 A6.28E3
43:51 A2.10E3
44:13 A3.97E3
100%
80
60
40
20
0
40:00
41:00
42:00
43:00
44:00
Time
6.5E5
5.2E5
3.9E5
2.6E5
1.3E5
0.0E0
6.4E5
5.1E5
3.9E5
2.6E5
1.3E5
0.0E0
3.1E6
2.4E6
1.8E6
1.2E6
6.1E5
0.0E0
6.8E6
5.5E6
4.1E6
2.7E6
1.4E6
0.0E0
7.6E3
6.1E3
4.6E3
3.0E3
1.5E3
0.0E0


File: 010206P3 Acq: 7-FEB-2001 04:33:03 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 9 Text: P1377_267_006 2-S-M23-1 Air Train Vial# 23 File Text: AAP DB5
441.7428 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 174
47:14
A6.26E5
443.7398 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 208
47:13
A7.43E5
453.7830 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 170
47:12
A1.64E7
455.7801 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1224
47:12
A1.85E7
513.6775 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 163
44:58
A1.92E3
45:14
A1.10E3
46:06
A1.66E3
47:30
A4.14E3
47:41
A5.33E3
47:45
A5.73E3
47:26
A1.97E3
47:58
A2.71E3
48:06
A1.77E3
48:33
A935.07
48:49
A3.35E3
48:53
A1.41E3
100%
80
60
40
20
0
45:00
46:00
47:00
48:00
49:00
Time
1.2E5
9.3E4
7.0E4
4.7E4
2.3E4
0.0E0
1.3E5
1.0E5
7.9E4
5.2E4
2.6E4
3.0E6
2.4E6
1.8E6
1.2E6
6.0E5
3.3E6
2.6E6
2.0E6
1.3E6
6.5E5
4.1E3
3.3E3
2.5E3
1.7E3
8.3E2

Sample ID: 2-S-M23-2

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_007	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	ND	0.667			105	93.8	100
1,2,3,7,8-PeCDD	5.67			A	108	91.2	100
1,2,3,4,7,8-HxCDD	7.3			A B	104	93.8	100
1,2,3,6,7,8-HxCDD	16.3			A	104	93.8	100
1,2,3,7,8,9-HxCDD	9.88			A	104	93.8	100
1,2,3,4,6,7,8-HpCDD	94.7			B	104	92.3	100
OCDD	236			B	93.8	92.3	100
2,3,7,8-TCDF	10.4				104	93.8	100
1,2,3,7,8-PeCDF	21			A	101	91.2	100
2,3,4,7,8-PeCDF	27.8			A	101	91.2	100
1,2,3,4,7,8-HxCDF	27.9			A B	101	93.5	100
1,2,3,6,7,8-HxCDF	34.4			A B	101	93.5	100
2,3,4,6,7,8-HxCDF	36.1			A B	101	93.5	100
1,2,3,7,8,9-HxCDF	8.87			A	101	93.5	100
1,2,3,4,6,7,8-HpCDF	82.9			B	98.7	92.3	100
1,2,3,4,7,8,9-HpCDF	11.1			A	98.7	92.3	100
OCDF	33.6			A	93.5	92.3	100
Totals & TEQs							
TCDDs	71.2						
PeCDDs	144		147				
HxCDDs	272		276				
HpCDDs	194						
TCDFs	387						
PeCDFs	337		344				
HxCDFs	274		279				
HpCDFs	118						
Total PCDD/Fs	**2070**		**2090**				
TEQ (ND=0)	**35.1**		**35.1**	**ITEF**			
TEQ (ND=DL/2)	**35.4**		**35.4**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date 12F .....

Client ID: 2-S-M23-2 Filename: 010206P3 S: 10 Acq: 7-FEB-01 05:24:43 ConCal: 010206P3-
Lab ID: P1377_267_007 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	*	*	n	1.26	NotF»	*	—		767	2.5	0.667	
	1,2,3,7,8-PeCDD	7.89e+04	1.59	y	1.01	33:14	5.67			510	2.5	0.865	
	1,2,3,4,7,8-HxCDD	9.32e+04	1.25	y	1.14	37:08	7.30			1376	2.5	2.19	
	1,2,3,6,7,8-HxCDD	1.87e+05	1.14	y	1.02	37:15	16.3			1376	2.5	2.44	
	1,2,3,7,8,9-HxCDD	1.27e+05	1.08	y	1.14	37:34	9.88			1376	2.5	2.18	
	1,2,3,4,6,7,8-HpCDD	1.15e+06	1.01	y	1.13	41:34	94.7			1477	2.5	3.00	
	OCDD	1.92e+06	0.90	y	1.03	46:54	236			801	2.5	2.74	
	2,3,7,8-TCDF	2.38e+05	0.83	y	1.05	26:54	10.4			1908	2.5	1.52	
	1,2,3,7,8-PeCDF	4.17e+05	1.49	y	1.04	31:45	21.0			1056	2.5	1.17	
	2,3,4,7,8-PeCDF	5.61e+05	1.71	y	1.05	32:52	27.8			1056	2.5	1.15	
	1,2,3,4,7,8-HxCDF	4.72e+05	1.15	y	1.13	36:09	27.9			1536	2.5	1.17	
	1,2,3,6,7,8-HxCDF	6.37e+05	1.26	y	1.24	36:17	34.4			1536	2.5	1.07	
	2,3,4,6,7,8-HxCDF	6.28e+05	1.27	y	1.16	36:57	36.1			1536	2.5	1.14	
	1,2,3,7,8,9-HxCDF	1.35e+05	1.39	y	1.02	37:59	8.87			1536	2.5	1.31	
	1,2,3,4,6,7,8-HpCDF	1.31e+06	1.08	y	1.54	39:55	82.9			1102	2.5	1.10	
	1,2,3,4,7,8,9-HpCDF	1.48e+05	1.06	y	1.30	42:23	11.1			1102	2.5	1.30	
	OCDF	3.36e+05	0.85	y	1.15	47:13	33.6			1652	2.5	4.20	
													EMPC
	Total Tetra-Dioxins	1.47e+06	0.79	y	1.26	24:04	71.2			767	2.5	0.667	71.2
	Total Penta-Dioxins	2.01e+06	1.58	y	1.01	30:42	144			510	2.5	0.865	147
	Total Hexa-Dioxins	3.35e+06	1.15	y	1.10	35:25	272			1376	2.5	2.26	276
	Total Hepta-Dioxins	2.37e+06	1.05	y	1.13	40:22	194			1477	2.5	3.00	194
	Total Tetra-Furans	8.82e+06	0.73	y	1.05	21:55	387			1908	2.5	1.52	387
	1st Fnc. Penta-Furans	8.50e+05	1.54	y	1.05	28:55	42.5			2996	2.5	3.28	42.5
	Total Penta-Furans	5.90e+06	1.53	y	1.05	30:28	295			1056	2.5	1.16	
	PeCDF Totals:						337						344
	Total Hexa-Furans	4.71e+06	1.25	y	1.14	34:46	274			1536	2.5	1.17	279
	Total Hepta-Furans	1.81e+06	1.08	y	1.42	39:55	118			1102	2.5	1.19	118
													Rec
IS	13C-2,3,7,8-TCDD	6.56e+07	0.78	y	1.13	27:46	4210						105
IS	13C-1,2,3,7,8-PeCDD	5.50e+07	1.59	y	0.93	33:13	4330						108
IS	13C-1,2,3,6,7,8-HxCDD	4.48e+07	1.26	y	0.93	37:14	4180						104
IS	13C-1,2,3,4,6,7,8-HpCDD	4.31e+07	1.04	y	0.91	41:32	4140						104
IS	13C-OCDD	3.16e+07	0.90	y	0.73	46:53	3750						93.8
IS	13C-2,3,7,8-TCDF	8.71e+07	0.79	y	1.06	26:53	4170						104
IS	13C-1,2,3,7,8-PeCDF	7.65e+07	1.58	y	0.96	31:44	4050						101
IS	13C-1,2,3,6,7,8-HxCDF	5.98e+07	0.53	y	1.28	36:17	4050						101
IS	13C-1,2,3,4,6,7,8-HpCDF	4.10e+07	0.45	y	0.90	39:54	3950						98.7
IS	13C-OCDF	3.49e+07	0.89	y	0.81	47:12	3740						93.5
RS/RT	13C-1,2,3,4-TCDD	5.48e+07	0.80	y	1.00	27:07	4000						-
RS	13C-1,2,3,4-TCDF	7.88e+07	0.77	y	1.00	25:31	4000						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.60e+07	1.24	y	1.00	37:33	4000						-
PS	37Cl-2,3,7,8-TCDD	3.16e+07			0.51	27:48	3750						93.8
PS	13C-2,3,4,7,8-PeCDF	6.79e+07	1.58	y	0.97	32:52	3650						91.2
PS	13C-1,2,3,4,7,8-HxCDD	3.88e+07	1.26	y	0.92	37:07	3750						93.8
PS	13C-1,2,3,4,7,8-HxCDF	5.08e+07	0.52	y	0.91	36:08	3740						93.5
PS	13C-1,2,3,4,7,8,9-HpCDF	3.23e+07	0.44	y	0.85	42:22	3690						92.3
AS	13C-1,2,3,7,8,9-HxCDF	4.94e+07	0.51	y	1.07	37:56	4010						100

Reviewer: CL

Date: 12 Feb 01

Analyst: GAG

Date: 12 Feb 01

Totals class: TCDD EMPC Function: 1 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 71.199 Unnamed Conc.: 71.199

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:04	2.967e+05	n	3.771e+05	n	0.79	y	6.738e+05	6.738e+05	9.57e+01	y	32.6	
24:27	1.043e+05	n	1.354e+05	n	0.77	y	2.397e+05	2.397e+05	3.91e+01	y	11.6	
24:53	2.681e+04	n	3.290e+04	y	0.81	y	5.971e+04	5.971e+04	1.11e+01	y	2.89	
25:55	6.284e+04	y	7.127e+04	y	0.88	y	1.341e+05	1.341e+05	1.80e+01	y	6.49	
26:07	4.469e+04	y	5.789e+04	y	0.77	y	1.026e+05	1.026e+05	2.02e+01	y	4.96	
26:19	2.427e+04	n	3.065e+04	y	0.79	y	5.492e+04	5.492e+04	8.93e+00	y	2.66	
26:44	2.335e+04	y	2.956e+04	y	0.79	y	5.292e+04	5.292e+04	8.91e+00	y	2.56	
27:07	3.059e+04	y	3.630e+04	y	0.84	y	6.689e+04	6.689e+04	1.12e+01	y	3.24	
27:30	3.999e+04	y	4.728e+04	y	0.85	y	8.726e+04	8.726e+04	1.28e+01	y	4.22	

Totals class: PeCDD EMPC Function: 2 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 147.32 Unnamed Conc.: 141.655

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:42	4.354e+05	n	2.752e+05	n	1.58	y	7.106e+05	7.106e+05	1.02e+02	y	51.1	
31:14	3.434e+04	y	1.693e+04	n	2.03	n	5.127e+04	4.317e+04	8.84e+00	y	3.10	
31:47	3.041e+05	n	1.940e+05	n	1.57	y	4.980e+05	4.980e+05	1.15e+02	y	35.8	
31:58	5.116e+04	y	2.933e+04	y	1.74	y	8.049e+04	8.049e+04	1.75e+01	y	5.79	
32:05	1.598e+05	y	9.626e+04	y	1.66	y	2.560e+05	2.560e+05	5.56e+01	y	18.4	
32:21	9.360e+04	y	5.277e+04	n	1.77	y	1.464e+05	1.464e+05	2.35e+01	y	10.5	
32:43	8.796e+04	n	5.451e+04	n	1.61	y	1.425e+05	1.425e+05	2.96e+01	y	10.2	
33:14	4.842e+04	y	3.044e+04	y	1.59	y	7.886e+04	7.886e+04	1.86e+01	y	5.67	1,2,3,7,8-PeCDD
33:19	2.567e+04	y	1.869e+04	y	1.37	y	4.436e+04	4.436e+04	1.37e+01	y	3.19	
33:41	2.967e+04	n	1.954e+04	y	1.52	y	4.920e+04	4.920e+04	1.09e+01	y	3.54	

Totals class: HxCDD EMPC Function: 3 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 276.37 Unnamed Conc.: 242.871

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:25	1.980e+05	n	1.728e+05	n	1.15	y	3.708e+05	3.708e+05	3.39e+01	y	30.0	

36:04	9.938e+05	n	7.579e+05	n	1.31	y	1.752e+06	1.752e+06	1.72e+02	y	142	
36:21	4.082e+05	y	3.158e+05	y	1.29	y	7.240e+05	7.240e+05	5.23e+01	y	58.6	
36:30	4.078e+04	y	2.427e+04	y	1.68	n	6.505e+04	5.436e+04	6.95e+00	y	4.40	
37:08	5.185e+04	n	4.132e+04	y	1.25	y	9.317e+04	9.317e+04	8.13e+00	y	7.30	1,2,3,4,7,8-HxCDD
37:15	9.960e+04	n	8.763e+04	y	1.14	y	1.872e+05	1.872e+05	1.67e+01	y	16.3	1,2,3,6,7,8-HxCDD
37:27	5.204e+04	y	4.711e+04	y	1.10	y	9.914e+04	9.914e+04	1.02e+01	y	8.03	
37:34	6.564e+04	y	6.100e+04	y	1.08	y	1.266e+05	1.266e+05	1.14e+01	y	9.88	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 194.39 Unnamed Conc.: 99.712

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:22	6.212e+05	n	5.928e+05	n	1.05	y	1.214e+06	1.214e+06	9.02e+01	y	99.7	
41:34	5.778e+05	n	5.748e+05	n	1.01	y	1.153e+06	1.153e+06	7.77e+01	y	94.7	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 387.00 Unnamed Conc.: 376.551

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:55	4.820e+05	n	6.586e+05	n	0.73	y	1.141e+06	1.141e+06	6.58e+01	y	50.0	
22:30	7.995e+04	n	9.930e+04	n	0.81	y	1.792e+05	1.792e+05	1.07e+01	y	7.86	
23:09	1.428e+05	n	1.650e+05	n	0.87	y	3.078e+05	3.078e+05	1.76e+01	y	13.5	
23:39	4.652e+05	n	5.841e+05	n	0.80	y	1.049e+06	1.049e+06	3.53e+01	y	46.0	
23:56	7.961e+04	y	1.108e+05	y	0.72	y	1.904e+05	1.904e+05	1.20e+01	y	8.35	
24:04	1.950e+05	n	2.656e+05	n	0.73	y	4.606e+05	4.606e+05	2.21e+01	y	20.2	
24:28	1.063e+05	y	1.443e+05	y	0.74	y	2.507e+05	2.507e+05	1.54e+01	y	11.0	
24:36	6.884e+04	y	8.382e+04	y	0.82	y	1.527e+05	1.527e+05	9.71e+00	y	6.70	
24:47	8.954e+04	n	1.160e+05	n	0.77	y	2.055e+05	2.055e+05	1.25e+01	y	9.02	
25:09	8.563e+04	y	1.261e+05	y	0.68	y	2.117e+05	2.117e+05	1.49e+01	y	9.29	
25:17	2.410e+05	y	2.823e+05	y	0.85	y	5.234e+05	5.234e+05	3.16e+01	y	23.0	
25:31	5.854e+05	n	7.849e+05	y	0.75	y	1.370e+06	1.370e+06	5.16e+01	y	60.1	
26:01	1.638e+05	y	2.168e+05	n	0.76	y	3.805e+05	3.805e+05	2.03e+01	y	16.7	
26:17	9.178e+04	y	1.081e+05	n	0.85	y	1.999e+05	1.999e+05	1.23e+01	y	8.77	
26:29	2.042e+05	n	2.476e+05	n	0.82	y	4.518e+05	4.518e+05	2.46e+01	y	19.8	
26:41	1.721e+05	y	2.062e+05	y	0.83	y	3.783e+05	3.783e+05	2.65e+01	y	16.6	
26:48	1.057e+05	y	1.518e+05	y	0.70	y	2.575e+05	2.575e+05	1.83e+01	y	11.3	
26:54	1.078e+05	y	1.302e+05	y	0.83	y	2.381e+05	2.381e+05	1.62e+01	y	10.4	2,3,7,8-TCDF
27:17	3.114e+05	n	4.049e+05	n	0.77	y	7.163e+05	7.163e+05	4.84e+01	y	31.4	
27:31	2.101e+04	y	3.109e+04	n	0.68	y	5.210e+04	5.210e+04	3.49e+00	y	2.29	
27:48	2.524e+04	y	3.850e+04	y	0.66	y	6.374e+04	6.374e+04	4.27e+00	y	2.80	
28:56	1.580e+04	y	2.397e+04	y	0.66	y	3.977e+04	3.977e+04	3.68e+00	y	1.75	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 42.506 Unnamed Conc.: 42.506

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:55	5.157e+05	n	3.346e+05	n	1.54	y	8.503e+05	8.503e+05	2.45e+01	y	42.5	

Totals class: PeCDF EMPC Function: 2 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 301.13 Unnamed Conc.: 252.329

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	5.139e+05	y	3.367e+05	y	1.53	y	8.507e+05	8.507e+05	5.58e+01	y	42.5	
30:39	7.880e+05	y	5.424e+05	y	1.45	y	1.330e+06	1.330e+06	7.67e+01	y	66.5	
30:50	5.328e+04	y	3.511e+04	y	1.52	y	8.840e+04	8.840e+04	9.94e+00	y	4.42	
31:04	7.704e+04	y	5.623e+04	y	1.37	y	1.333e+05	1.333e+05	1.24e+01	y	6.66	
31:13	9.791e+04	y	7.078e+04	y	1.38	y	1.687e+05	1.687e+05	1.73e+01	y	8.43	
31:19	4.705e+05	y	3.014e+05	y	1.56	y	7.720e+05	7.720e+05	6.17e+01	y	38.6	
31:33	1.069e+05	y	6.968e+04	y	1.53	y	1.766e+05	1.766e+05	2.01e+01	y	8.83	
31:45	2.495e+05	n	1.671e+05	n	1.49	y	4.166e+05	4.166e+05	4.21e+01	y	21.0	1,2,3,7,8-PeCDF
32:02	3.271e+05	n	2.201e+05	n	1.49	y	5.472e+05	5.472e+05	3.81e+01	y	27.4	
32:12	3.663e+04	y	3.287e+04	y	1.11	n	6.950e+04	6.026e+04	9.91e+00	y	3.01	
32:37	4.471e+04	y	3.018e+04	y	1.48	y	7.489e+04	7.489e+04	6.90e+00	y	3.74	
32:45	4.116e+05	y	2.942e+05	y	1.40	y	7.057e+05	7.057e+05	7.69e+01	y	35.3	
32:52	3.541e+05	y	2.065e+05	y	1.71	y	5.607e+05	5.607e+05	5.93e+01	y	27.8	2,3,4,7,8-PeCDF
33:12	4.212e+04	y	3.798e+04	y	1.11	n	8.010e+04	6.930e+04	1.01e+01	y	3.46	
33:58	4.361e+04	y	2.664e+04	y	1.64	y	7.024e+04	7.024e+04	6.94e+00	y	3.51	

Totals class: HxCDF EMPC Function: 3 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

Total Conc.: 278.57 Unnamed Conc.: 171.234

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	2.944e+05	n	2.351e+05	n	1.25	y	5.295e+05	5.295e+05	4.61e+01	y	31.1	
34:58	7.667e+05	n	6.133e+05	n	1.25	y	1.380e+06	1.380e+06	1.18e+02	y	81.1	
35:12	5.084e+04	y	4.386e+04	n	1.16	y	9.470e+04	9.470e+04	7.84e+00	y	5.57	
35:24	6.934e+04	n	5.711e+04	n	1.21	y	1.265e+05	1.265e+05	1.00e+01	y	7.43	
35:37	3.288e+04	n	2.756e+04	n	1.19	y	6.044e+04	6.044e+04	6.22e+00	y	3.55	

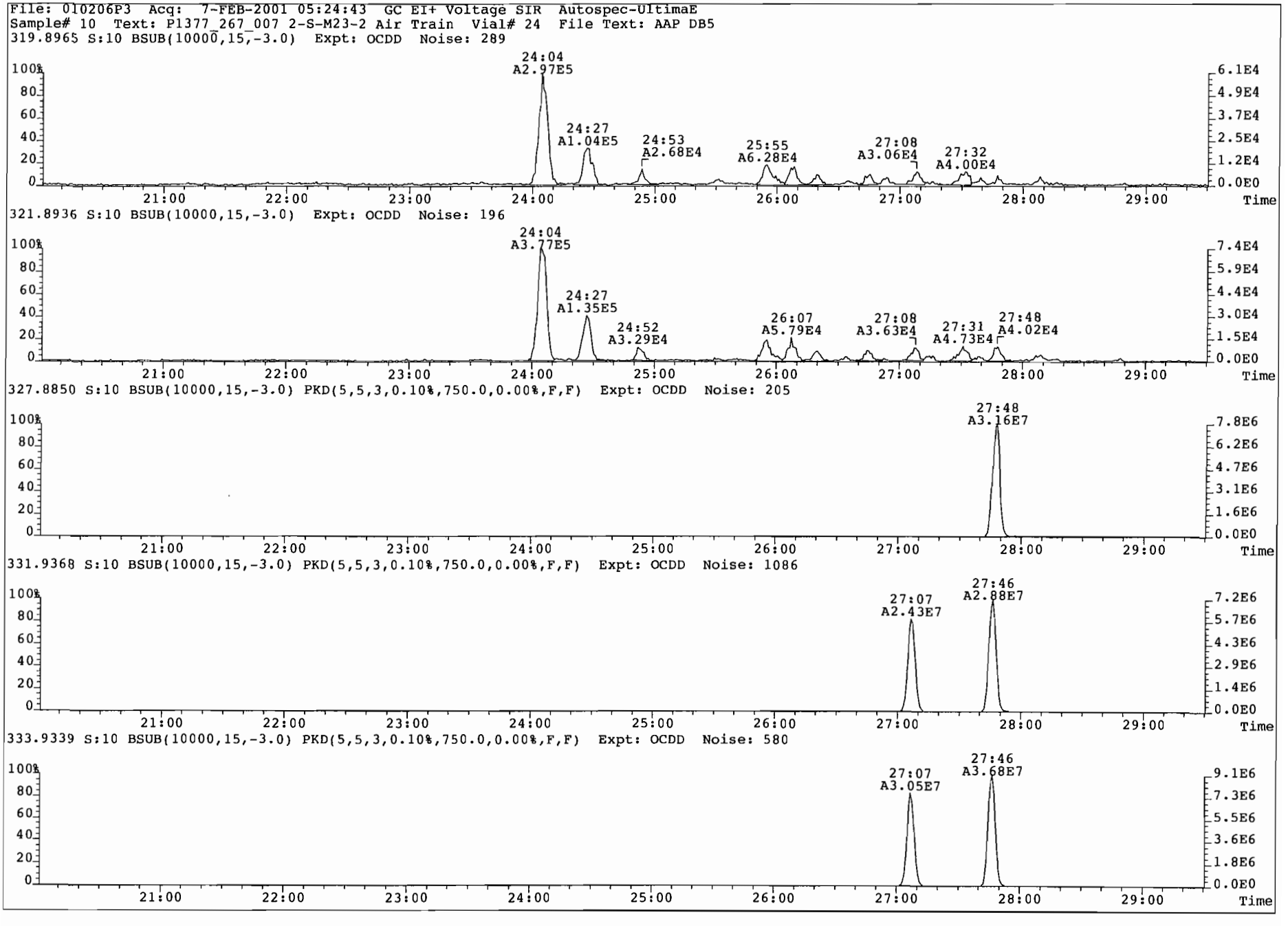
36:02	2.502e+05	y	1.958e+05	y	1.28	y	4.460e+05	4.460e+05	4.03e+01	y	26.2	
36:09	2.529e+05	y	2.194e+05	y	1.15	y	4.724e+05	4.724e+05	4.40e+01	y	27.9	1,2,3,4,7,8-HxCDF
36:17	3.551e+05	y	2.820e+05	n	1.26	y	6.371e+05	6.371e+05	5.81e+01	y	34.4	1,2,3,6,7,8-HxCDF
36:27	4.224e+04	y	4.055e+04	y	1.04	n	8.279e+04	7.630e+04	7.58e+00	y	4.49	
36:35	3.972e+04	y	3.566e+04	n	1.11	y	7.537e+04	7.537e+04	6.33e+00	y	4.43	
36:43	6.797e+04	y	5.558e+04	y	1.22	y	1.235e+05	1.235e+05	1.16e+01	y	7.26	
36:57	3.516e+05	n	2.766e+05	n	1.27	y	6.282e+05	6.282e+05	4.77e+01	y	36.1	2,3,4,6,7,8-HxCDF
37:59	7.850e+04	n	5.645e+04	n	1.39	y	1.349e+05	1.349e+05	1.02e+01	y	8.87	1,2,3,7,8,9-HxCDF

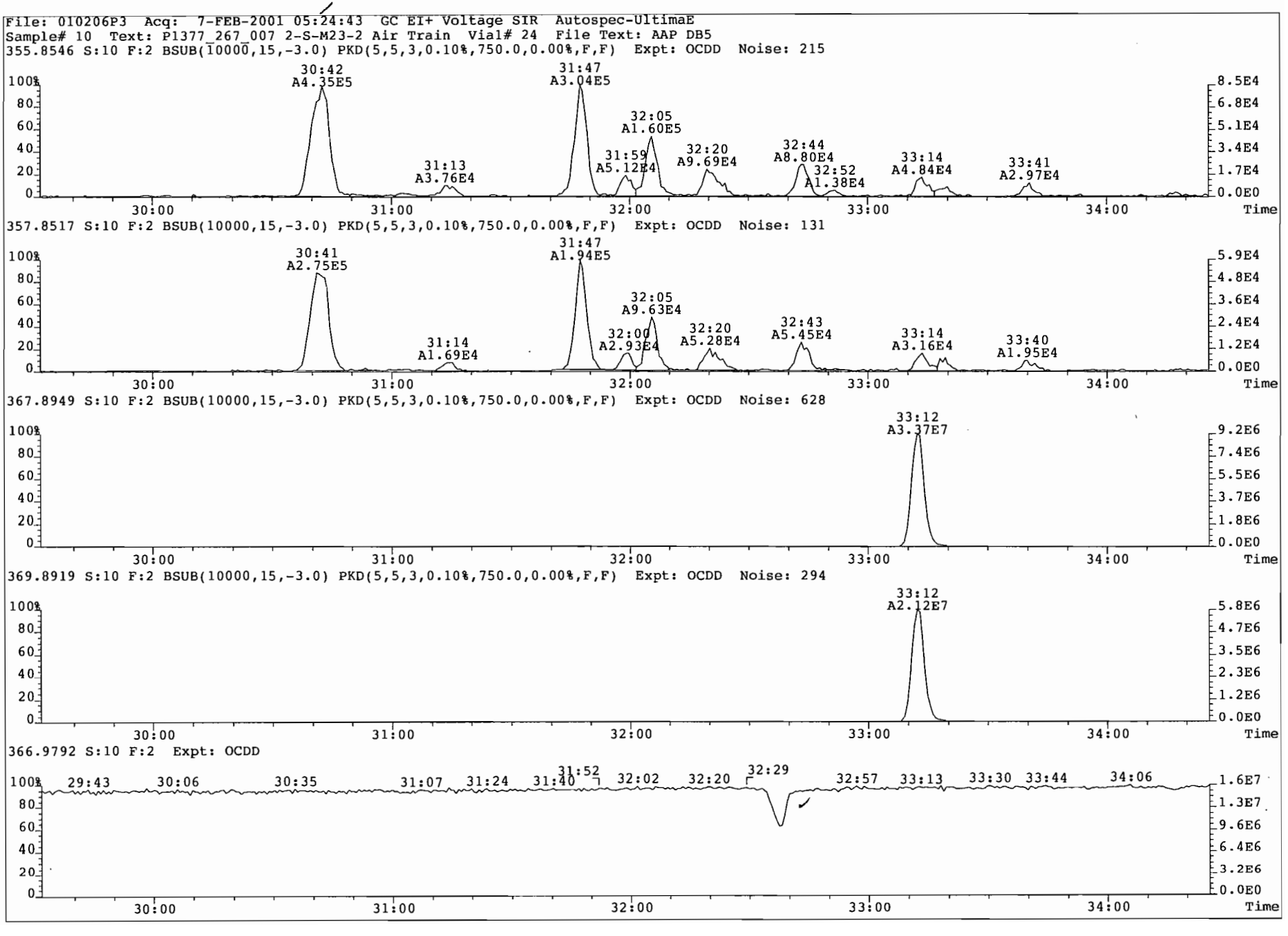
Totals class: HpCDF EMPC Function: 4 Run #: 17
File Name: 010206P3 Sample #: 10 Sample text: P1377_267_007 2-S-M23-2 Air Train

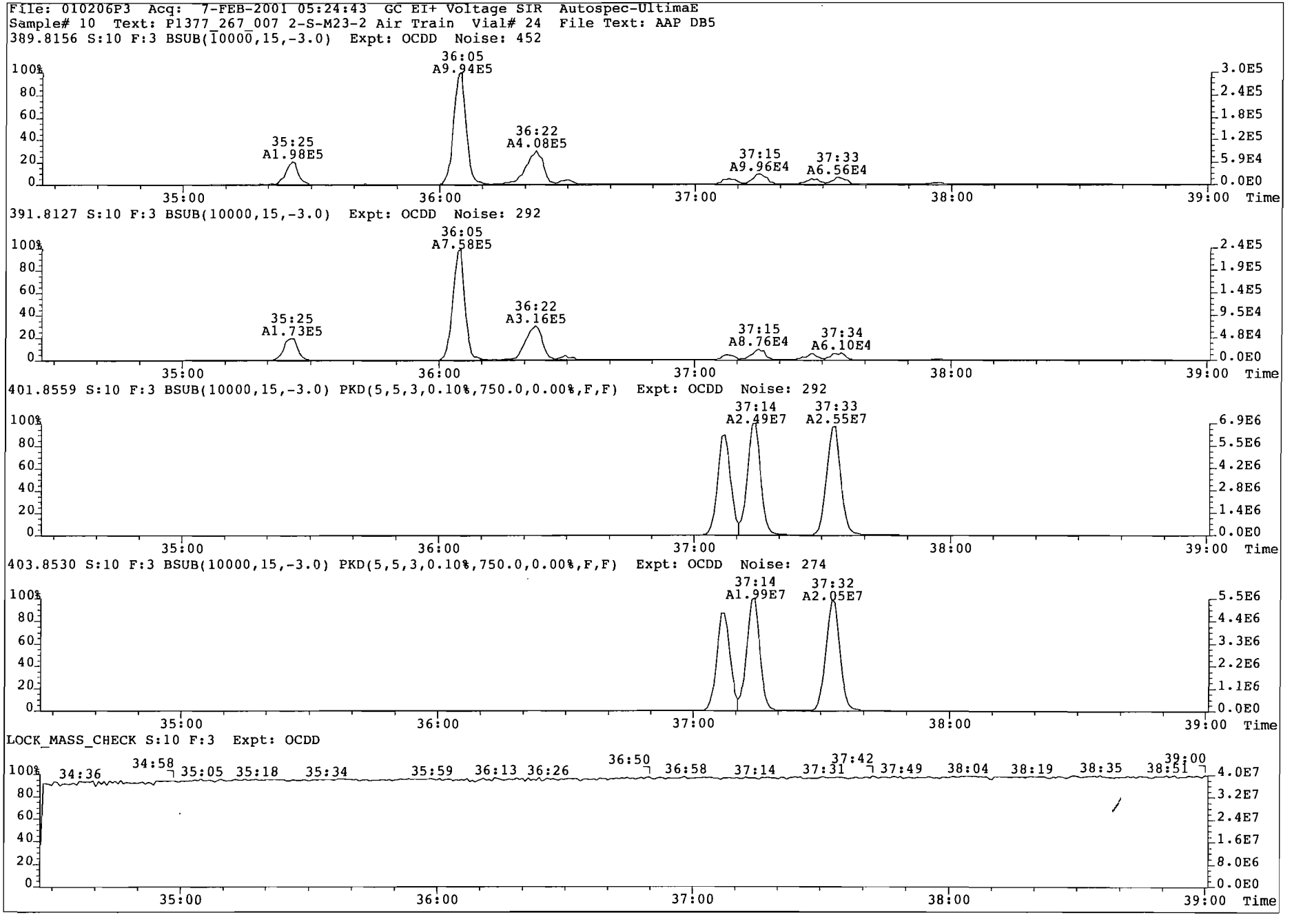
Acquired: 7-FEB-01 05:24:43 Processed: 7-FEB-01 17:17:26

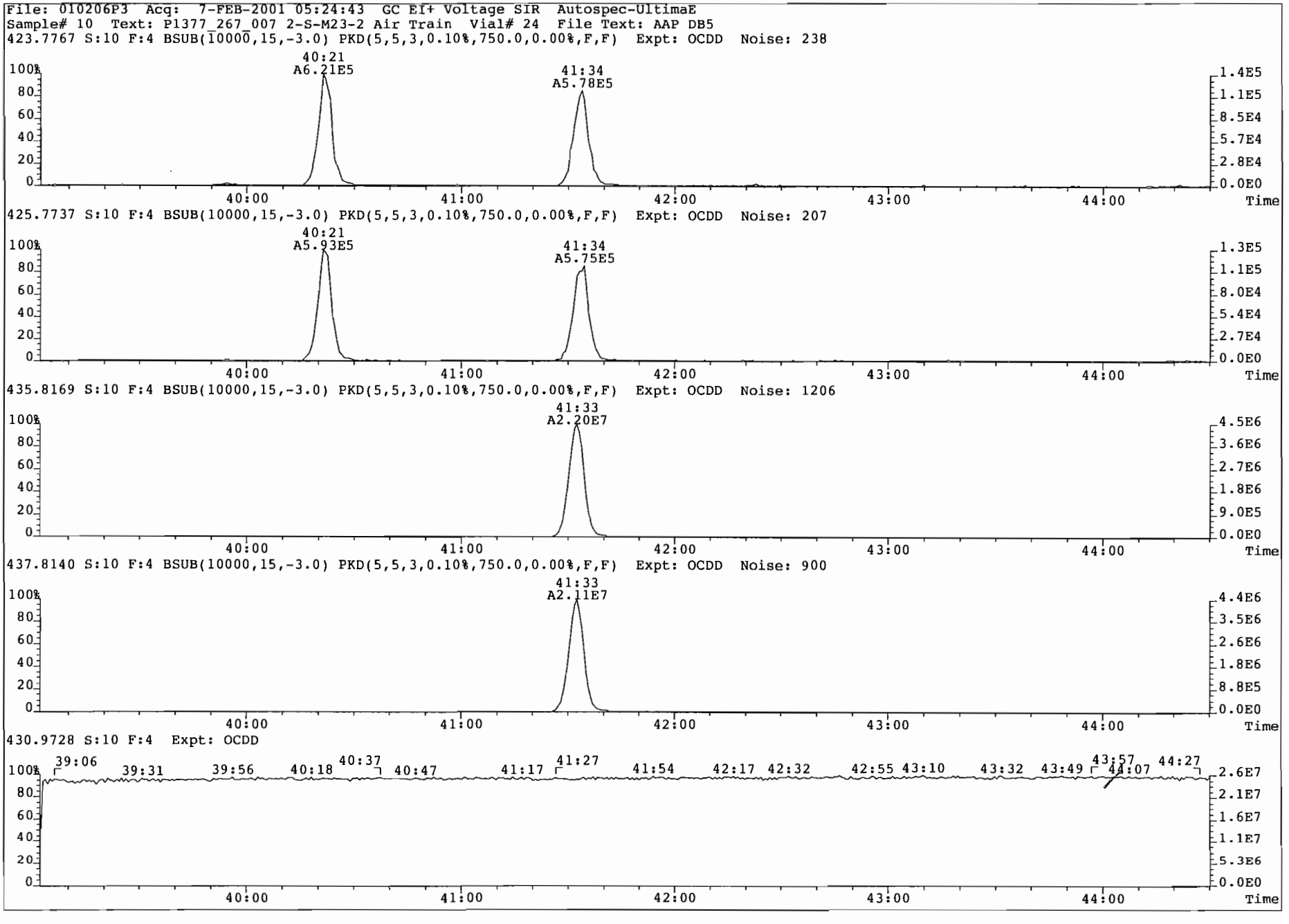
Total Conc.: 118.34 Unnamed Conc.: 24.315

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	6.792e+05	n	6.314e+05	n	1.08	y	1.311e+06	1.311e+06	1.27e+02	y	82.9	1,2,3,4,6,7,8-HpCDF
40:22	9.104e+04	n	8.896e+04	n	1.02	y	1.800e+05	1.800e+05	2.03e+01	y	12.4	
40:36	9.035e+04	n	8.371e+04	n	1.08	y	1.741e+05	1.741e+05	1.69e+01	y	12.0	
42:23	7.610e+04	n	7.177e+04	n	1.06	y	1.479e+05	1.479e+05	1.59e+01	y	11.1	1,2,3,4,7,8,9-HpCDF


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
319.8965 S:10 BSUB(10000,15,-3.0) Expt: OCDD Noise: 289
24:04 A2.97E5
24:27 A1.04E5
24:53 A2.68E4
25:55 A6.28E4
27:08 A3.06E4
27:32 A4.00E4
321.8936 S:10 BSUB(10000,15,-3.0) Expt: OCDD Noise: 196
24:04 A3.77E5
24:27 A1.35E5
24:52 A3.29E4
26:07 A5.79E4
27:08 A3.63E4
27:31 A4.73E4
27:48 A4.02E4
327.8850 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 205
27:48 A3.16E7
331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1086
27:07 A2.43E7
27:46 A2.88E7
333.9339 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 580
27:07 A3.05E7
27:46 A3.68E7
Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
355.8546 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 215
30:42 A4.35E5
31:47 A3.04E5
32:05 A1.60E5
31:13 A3.76E4
31:59 A5.12E4
32:20 A9.69E4
32:44 A8.80E4
32:52 A1.38E4
33:14 A4.84E4
33:41 A2.97E4
357.8517 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 131
30:41 A2.75E5
31:47 A1.94E5
32:05 A9.63E4
31:14 A1.69E4
32:00 A2.93E4
32:20 A5.28E4
32:43 A5.45E4
33:14 A3.16E4
33:40 A1.95E4
367.8949 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 628
33:12 A3.37E7
369.8919 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 294
33:12 A2.12E7
366.9792 S:10 F:2 Expt: OCDD
29:43 30:06 30:35 31:07 31:24 31:40 31:52 32:02 32:20 32:29 32:57 33:13 33:30 33:44 34:06
30:00 31:00 32:00 33:00 34:00 Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
389.8156 S:10 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 452
36:05 A9.94E5
35:25 A1.98E5
36:22 A4.08E5
37:15 A9.96E4
37:33 A6.56E4
391.8127 S:10 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 292
36:05 A7.58E5
35:25 A1.73E5
36:22 A3.16E5
37:15 A8.76E4
37:34 A6.10E4
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 292
37:14 A2.49E7
37:33 A2.55E7
403.8530 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 274
37:14 A1.99E7
37:32 A2.05E7
LOCK_MASS_CHECK S:10 F:3 Expt: OCDD
34:36 34:58 35:05 35:18 35:34 35:59 36:13 36:26 36:50 36:58 37:14 37:31 37:42 37:49 38:04 38:19 38:35 38:51 39:00
35:00 36:00 37:00 38:00 39:00 Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 238
40:21
A6.21E5
41:34
A5.78E5
425.7737 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 207
40:21
A5.93E5
41:34
A5.75E5
435.8169 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1206
41:33
A2.20E7
437.8140 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 900
41:33
A2.11E7
430.9728 S:10 F:4 Expt: OCDD
39:06
39:31
39:56
40:18
40:37
40:47
41:17
41:27
41:54
42:17
42:32
42:55
43:10
43:32
43:49
43:57
44:07
44:27
100%
80
60
40
20
0
40:00
41:00
42:00
43:00
44:00
Time
1.4E5
1.1E5
8.5E4
5.7E4
2.8E4
0.0E0
1.3E5
8.0E4
5.4E4
2.7E4
4.5E6
3.6E6
2.7E6
1.8E6
9.0E5
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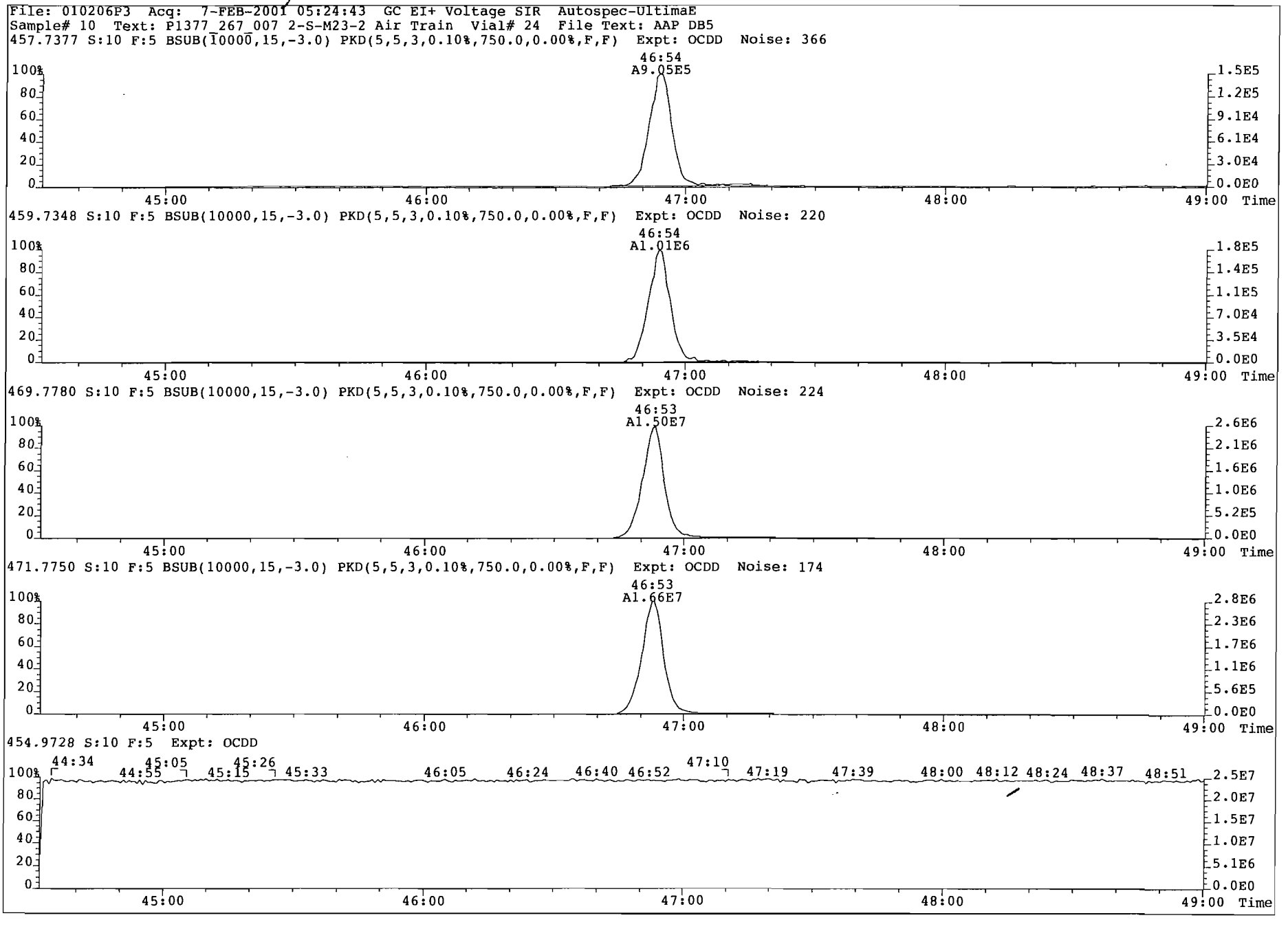
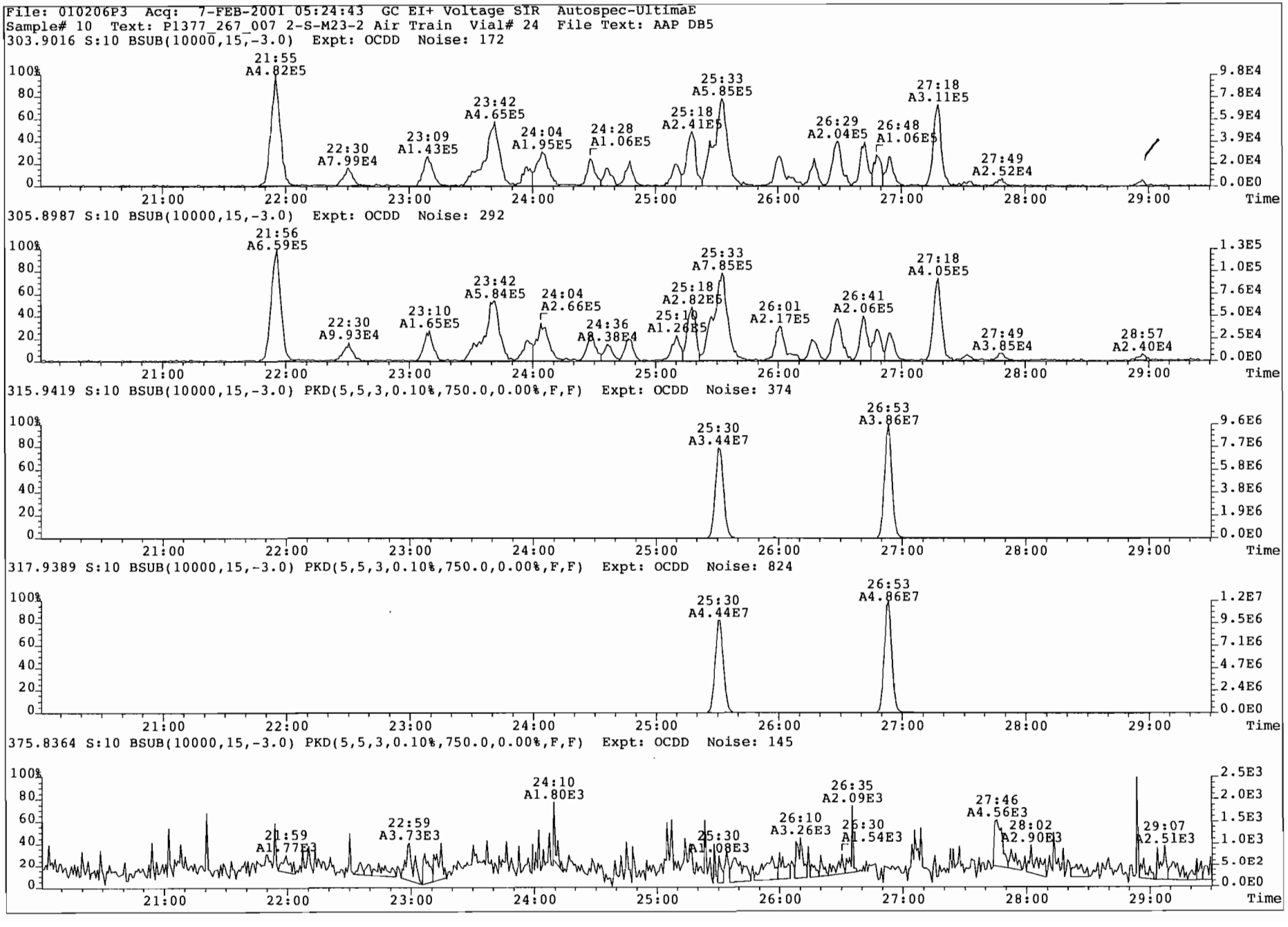
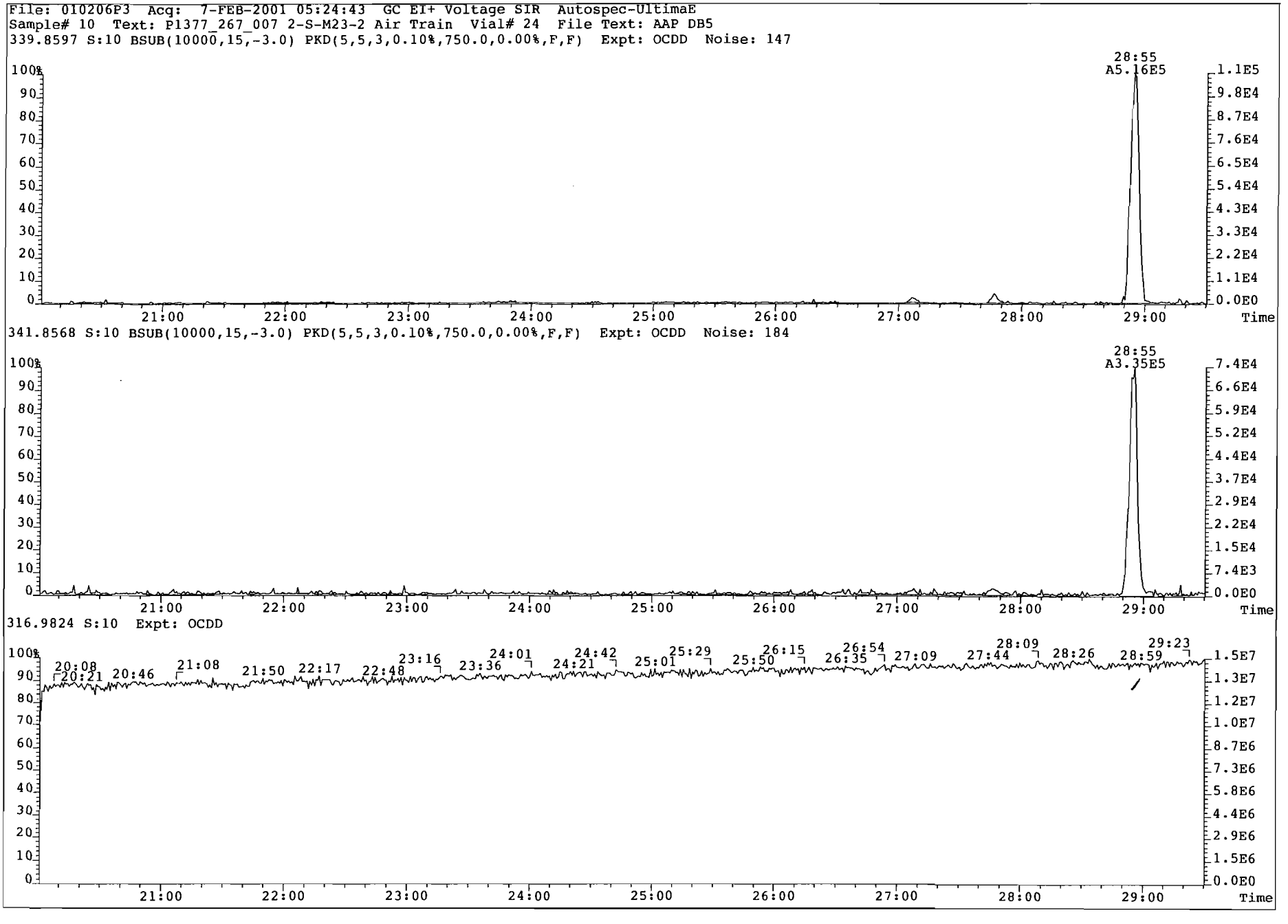
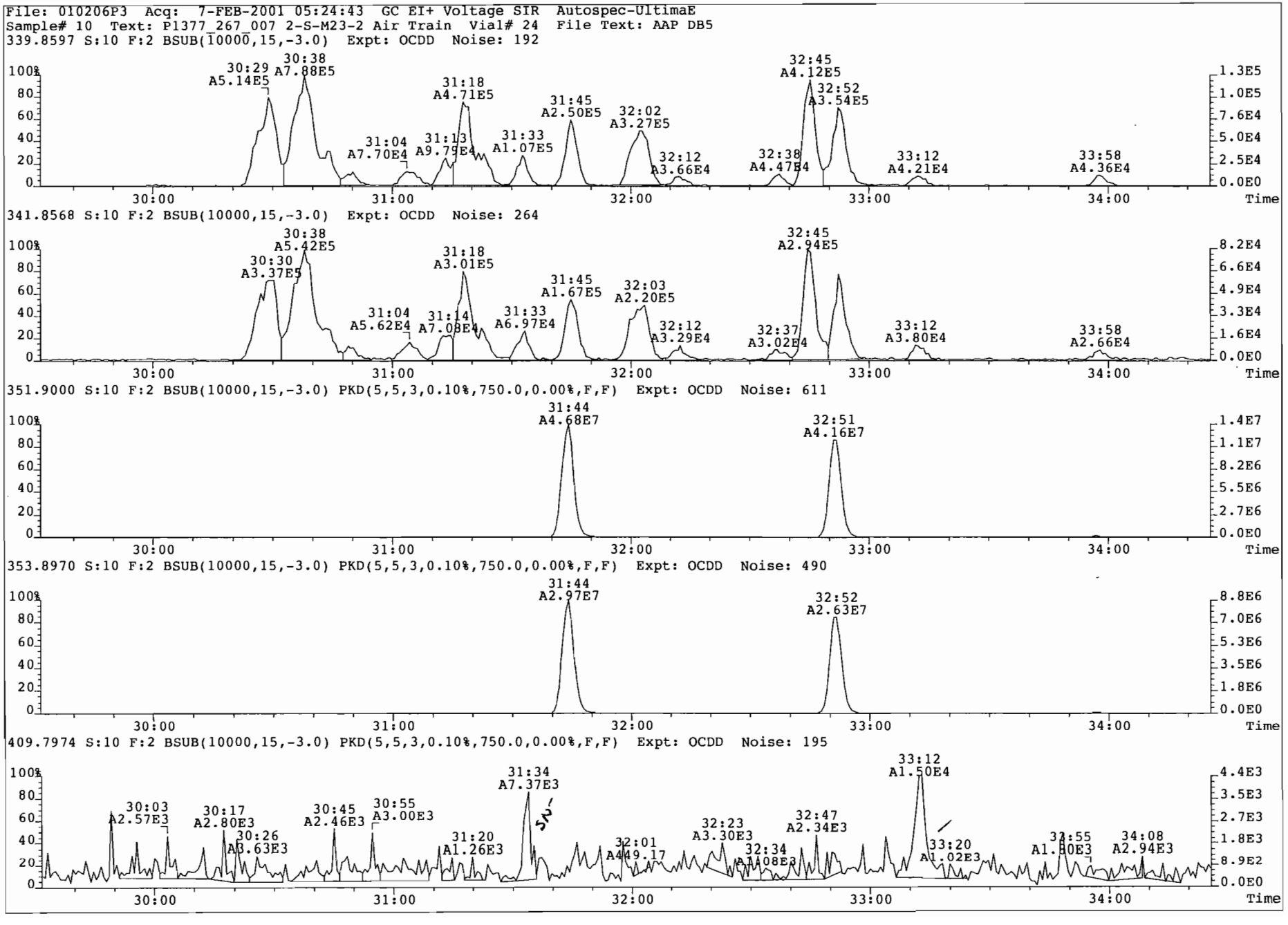
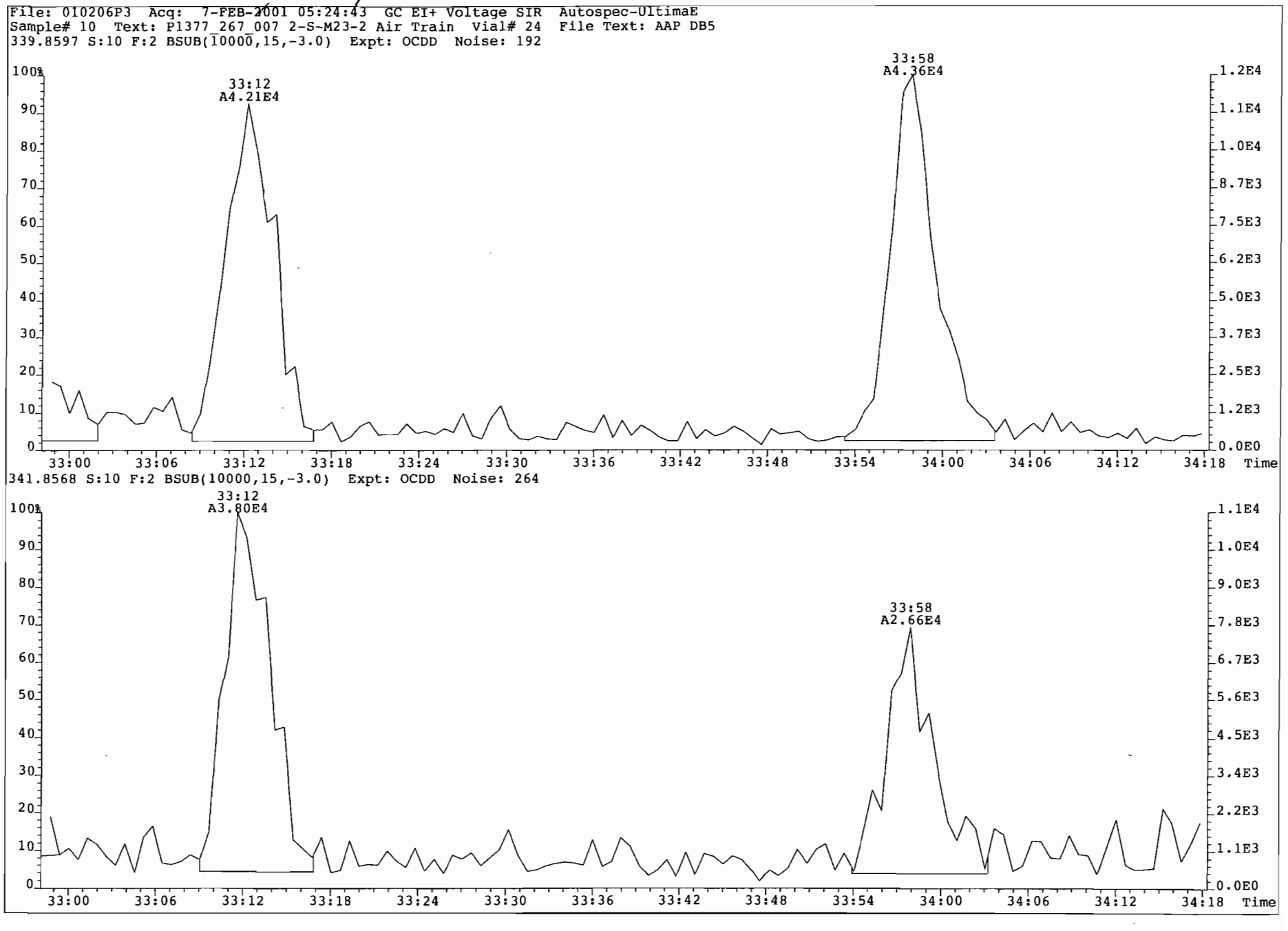
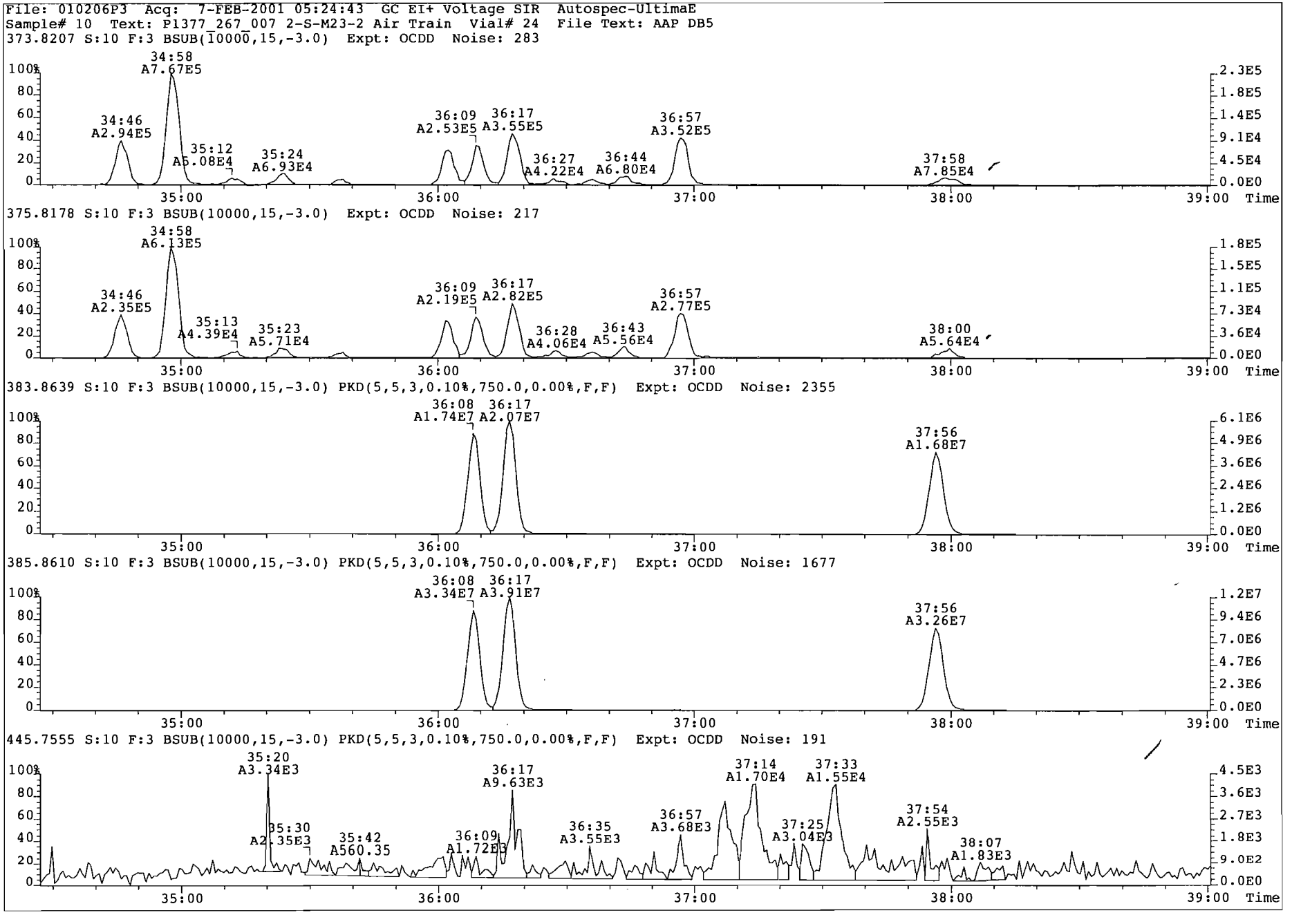

File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 366
46:54
A9.05E5
459.7348 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 220
46:54
A1.01E6
469.7780 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 224
46:53
A1.50E7
471.7750 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 174
46:53
A1.66E7
454.9728 S:10 F:5 Expt: OCDD
Time

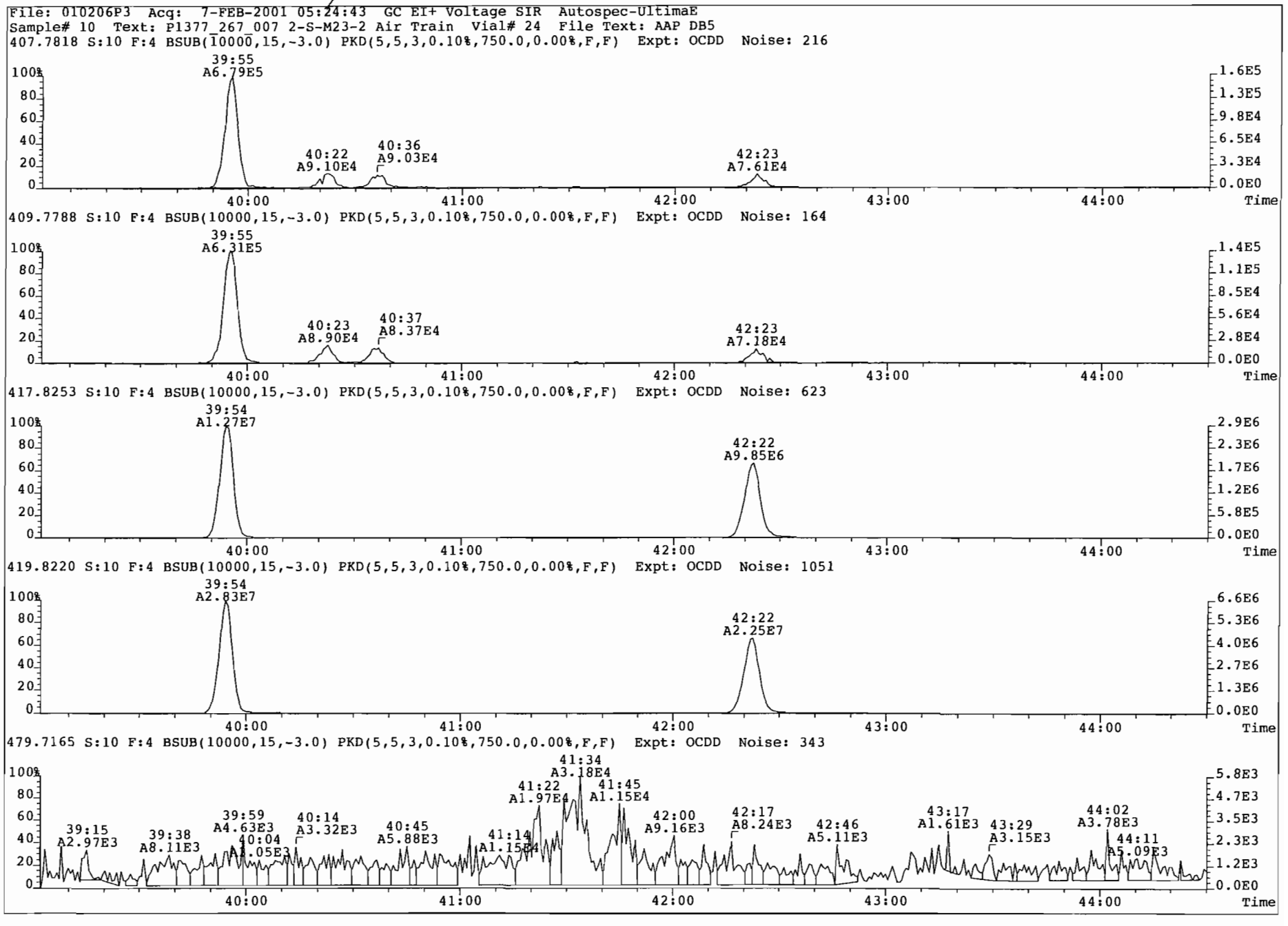

File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
303.9016 S:10 BSUB(10000,15,-3.0) Expt: OCDD Noise: 172
21:55 A4.82E5
22:30 A7.99E4
23:09 A1.43E5
23:42 A4.65E5
24:04 A1.95E5
24:28 A1.06E5
25:18 A2.41E5
25:33 A5.85E5
26:29 A2.04E5
26:48 A1.06E5
27:18 A3.11E5
27:49 A2.52E4
305.8987 S:10 BSUB(10000,15,-3.0) Expt: OCDD Noise: 292
21:56 A6.59E5
22:30 A9.93E4
23:10 A1.65E5
23:42 A5.84E5
24:04 A2.66E5
24:36 A8.38E4
25:10 A1.26E5
25:18 A2.82E5
25:33 A7.85E5
26:01 A2.17E5
26:41 A2.06E5
27:18 A4.05E5
27:49 A3.85E4
28:57 A2.40E4
315.9419 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 374
25:30 A3.44E7
26:53 A3.86E7
317.9389 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 824
25:30 A4.44E7
26:53 A4.86E7
375.8364 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 145
21:59 A1.77E3
22:59 A3.73E3
24:10 A1.80E3
25:30 A1.08E3
26:10 A3.26E3
26:30 A1.54E3
26:35 A2.09E3
27:46 A4.56E3
28:02 A2.90E3
29:07 A2.51E3
Time

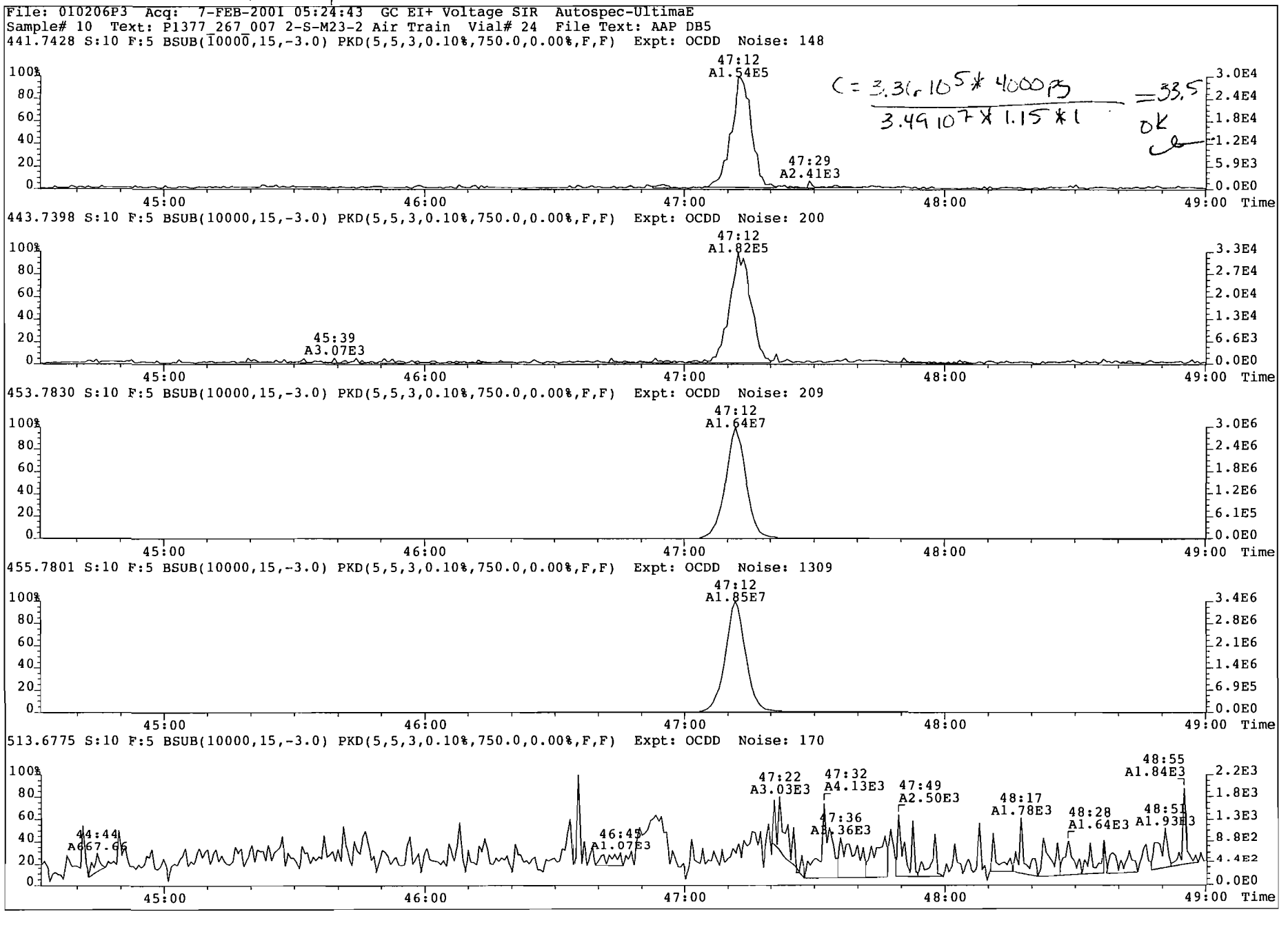

File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
339.8597 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 147
28:55
A5.16E5
341.8568 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 184
28:55
A3.35E5
316.9824 S:10 Expt: OCDD
20:08
20:21
20:46
21:08
21:50
22:17
22:48
23:16
23:36
24:01
24:21
24:42
25:01
25:29
25:50
26:15
26:35
26:54
27:09
27:44
28:09
28:26
28:59
29:23
Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
339.8597 S:10 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 192
30:29 A5.14E5
30:38 A7.88E5
31:04 A7.70E4
31:13 A9.79E4
31:18 A4.71E5
31:33 A1.07E5
31:45 A2.50E5
32:02 A3.27E5
32:12 A3.66E4
32:38 A4.47E4
32:45 A4.12E5
32:52 A3.54E5
33:12 A4.21E4
33:58 A4.36E4
341.8568 S:10 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 264
30:30 A3.37E5
30:38 A5.42E5
31:04 A5.62E4
31:14 A7.08E4
31:18 A3.01E5
31:33 A6.97E4
31:45 A1.67E5
32:03 A2.20E5
32:12 A3.29E4
32:37 A3.02E4
32:45 A2.94E5
33:12 A3.80E4
33:58 A2.66E4
351.9000 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 611
31:44 A4.68E7
32:51 A4.16E7
353.8970 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 490
31:44 A2.97E7
32:52 A2.63E7
409.7974 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 195
30:03 A2.57E3
30:17 A2.80E3
30:26 A3.63E3
30:45 A2.46E3
30:55 A3.00E3
31:20 A1.26E3
31:34 A7.37E3
32:01 A449.17
32:23 A3.30E3
32:34 A1.08E3
32:47 A2.34E3
33:12 A1.50E4
33:20 A1.02E3
33:55 A1.80E3
34:08 A2.94E3
Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
339.8597 S:10 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 192
33:12
A4.21E4
33:58
A4.36E4
341.8568 S:10 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 264
33:12
A3.80E4
33:58
A2.66E4
Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
373.8207 S:10 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 283
34:58 A7.67E5
34:46 A2.94E5
35:12 A5.08E4
35:24 A6.93E4
36:09 A2.53E5
36:17 A3.55E5
36:27 A4.22E4
36:44 A6.80E4
36:57 A3.52E5
37:58 A7.85E4
375.8178 S:10 F:3 BSUB(10000,15,-3.0) Expt: OCDD Noise: 217
34:58 A6.13E5
34:46 A2.35E5
35:13 A4.39E4
35:23 A5.71E4
36:09 A2.19E5
36:17 A2.82E5
36:28 A4.06E4
36:43 A5.56E4
36:57 A2.77E5
38:00 A5.64E4
383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2355
36:08 A1.74E7
36:17 A2.07E7
37:56 A1.68E7
385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1677
36:08 A3.34E7
36:17 A3.91E7
37:56 A3.26E7
445.7555 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 191
35:20 A3.34E3
35:30 A2.35E3
35:42 A560.35
36:09 A1.72E3
36:17 A9.63E3
36:35 A3.55E3
36:57 A3.68E3
37:14 A1.70E4
37:25 A3.04E3
37:33 A1.55E4
37:54 A2.55E3
38:07 A1.83E3
35:00
36:00
37:00
38:00
39:00
Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
407.7818 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 216
39:55 A6.79E5
40:22 A9.10E4
40:36 A9.03E4
42:23 A7.61E4
409.7788 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 164
39:55 A6.31E5
40:23 A8.90E4
40:37 A8.37E4
42:23 A7.18E4
417.8253 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 623
39:54 A1.27E7
42:22 A9.85E6
419.8220 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1051
39:54 A2.83E7
42:22 A2.25E7
479.7165 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 343
39:15 A2.97E3
39:38 A8.11E3
39:59 A4.63E3
40:04 A3.05E3
40:14 A3.32E3
40:45 A5.88E3
41:14 A1.15E4
41:22 A1.97E4
41:34 A3.18E4
41:45 A1.15E4
42:00 A9.16E3
42:17 A8.24E3
42:46 A5.11E3
43:17 A1.61E3
43:29 A3.15E3
44:02 A3.78E3
44:11 A5.09E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 7-FEB-2001 05:24:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 10 Text: P1377_267_007 2-S-M23-2 Air Train Vial# 24 File Text: AAP DB5
441.7428 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 148
47:12
A1.54E5
47:29
A2.41E3
C = 3.36105 * 4000 pg / 3.49107 * 1.15 * 1 = 33.5
OK
443.7398 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 200
47:12
A1.82E5
45:39
A3.07E3
453.7830 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 209
47:12
A1.64E7
455.7801 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1309
47:12
A1.85E7
513.6775 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 170
44:44
A667.66
46:45
A1.07E3
47:22
A3.03E3
47:32
A4.13E3
47:36
A2.36E3
47:49
A2.50E3
48:17
A1.78E3
48:28
A1.64E3
48:51
A1.93E3
48:55
A1.84E3
45:00
46:00
47:00
48:00
49:00
Time

Sample ID: 2-S-M23-3

Method M23

Client Data		Sample Data		Laboratory Data			
Name:	TESTAR	Matrix:	Air	Project No.:	P1377	Date Received:	31 Jan 01
Project ID:	10184	Weight/Volume:	1	Sample ID:	P1377_267_008	Date Extracted:	01 Feb 01
Date Collected:	26 Jan 01			QC Batch No.:	267	Date Analyzed:	7-FEB-01

Analyte	Conc.	DL	EMPC	Qualifier	Recoveries		
	pg	pg	pg		IS	SS	AS
2,3,7,8-TCDD	5.44			A B	101	95.8	95.4
1,2,3,7,8-PeCDD	62.5				104	92	95.4
1,2,3,4,7,8-HxCDD	90.2			B	98.2	97.3	95.4
1,2,3,6,7,8-HxCDD	153				98.2	97.3	95.4
1,2,3,7,8,9-HxCDD	186				98.2	97.3	95.4
1,2,3,4,6,7,8-HpCDD	1390			B	98.7	93.1	95.4
OCDD	4080			B	88.4	93.1	95.4
2,3,7,8-TCDF	93.5				99.3	95.8	95.4
1,2,3,7,8-PeCDF	305				97.3	92	95.4
2,3,4,7,8-PeCDF	328				97.3	92	95.4
1,2,3,4,7,8-HxCDF	561			B	97.9	95.2	95.4
1,2,3,6,7,8-HxCDF	686			B	97.9	95.2	95.4
2,3,4,6,7,8-HxCDF	606			B	97.9	95.2	95.4
1,2,3,7,8,9-HxCDF	316				97.9	95.2	95.4
1,2,3,4,6,7,8-HpCDF	2050			B	95.6	93.1	95.4
1,2,3,4,7,8,9-HpCDF	563				95.6	93.1	95.4
OCDF	1580				88.3	93.1	95.4
Totals & TEQs							
TCDDs	188		192				
PeCDDs	618						
HxCDDs	1820						
HpCDDs	2370						
TCDFs	1600						
PeCDFs	2850						
HxCDFs	4480						
HpCDFs	3740						
Total PCDD/Fs	**23300**		**23300**				
TEQ (ND=0)	**531**		**531**	**ITEF**			
TEQ (ND=DL/2)	**531**		**531**	**ITEF**			

ALTA ANALYTICAL PERSPECTIVES

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Reviewer .....

Date 12Feb01

Client ID: 2-S-M23-3 Filename: 010206P3 S: 11 Acq: 7-FEB-01 06:16:22 ConCal: 010206P3-
Lab ID: P1377_267_008 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	1.12e+05	0.57	n	1.26	27:47	5.32			693	2.5	0.593	
	1,2,3,7,8-PeCDD	8.85e+05	1.56	y	1.01	33:14	62.5			666	2.5	1.06	
	1,2,3,4,7,8-HxCDD	1.16e+06	1.20	y	1.14	37:08	90.2			4431	2.5	6.81	
	1,2,3,6,7,8-HxCDD	1.76e+06	1.26	y	1.02	37:15	153			4431	2.5	7.58	
	1,2,3,7,8,9-HxCDD	2.40e+06	1.29	y	1.14	37:34	186			4431	2.5	6.78	
	1,2,3,4,6,7,8-HpCDD	1.72e+07	1.03	y	1.13	41:33	1390			4894	2.5	9.27	
	OCDD	3.34e+07	0.88	y	1.03	46:54	4080			1278	2.5	4.11	
	2,3,7,8-TCDF	2.17e+06	0.75	y	1.05	26:54	93.5			1324	2.5	1.10	
	1,2,3,7,8-PeCDF	6.22e+06	1.52	y	1.04	31:45	305			2151	2.5	2.39	
	2,3,4,7,8-PeCDF	6.79e+06	1.54	y	1.05	32:53	328			2151	2.5	2.35	
	1,2,3,4,7,8-HxCDF	9.79e+06	1.22	y	1.13	36:09	561			7040	2.5	5.09	
	1,2,3,6,7,8-HxCDF	1.31e+07	1.24	y	1.24	36:18	686			7040	2.5	4.65	
	2,3,4,6,7,8-HxCDF	1.09e+07	1.24	y	1.16	36:57	606			7040	2.5	4.95	
	1,2,3,7,8,9-HxCDF	4.96e+06	1.23	y	1.02	37:59	316			7040	2.5	5.66	
	1,2,3,4,6,7,8-HpCDF	3.36e+07	1.03	y	1.54	39:55	2050			4546	2.5	4.06	
	1,2,3,4,7,8,9-HpCDF	7.76e+06	1.04	y	1.30	42:23	563			4546	2.5	4.82	
	OCDF	1.59e+07	0.89	y	1.15	47:13	1580			1502	2.5	3.72	
	Total Tetra-Dioxins	3.86e+06	0.76	y	1.26	24:05	183			693	2.5	0.593	
	Total Penta-Dioxins	8.76e+06	1.57	y	1.01	30:42	618			666	2.5	1.06	
	Total Hexa-Dioxins	2.25e+07	1.27	y	1.10	35:26	1820			4431	2.5	7.04	
	Total Hepta-Dioxins	2.94e+07	1.04	y	1.13	40:21	2370			4894	2.5	9.27	
	Total Tetra-Furans	3.72e+07	0.75	y	1.05	21:54	1600			1324	2.5	1.10	
	1st Fnc. Penta-Furans	3.73e+06	1.53	y	1.05	28:55	181			1859	2.5	2.05	
	Total Penta-Furans	5.48e+07	1.56	y	1.05	30:28	2670			2151	2.5	2.37	
	PeCDF Totals:						2850						
	Total Hexa-Furans	7.93e+07	1.20	y	1.14	34:46	4480			7040	2.5	5.06	
	Total Hepta-Furans	5.83e+07	1.03	y	1.42	39:55	3740			4546	2.5	4.41	
IS	13C-2,3,7,8-TCDD	6.70e+07	0.78	y	1.13	27:46	4060						
IS	13C-1,2,3,7,8-PeCDD	5.60e+07	1.56	y	0.93	33:12	4150						
IS	13C-1,2,3,6,7,8-HxCDD	4.50e+07	1.26	y	0.93	37:14	3930						
IS	13C-1,2,3,4,6,7,8-HpCDD	4.39e+07	1.04	y	0.91	41:32	3950						
IS	13C-OCDD	3.19e+07	0.89	y	0.73	46:53	3540						
IS	13C-2,3,7,8-TCDF	8.87e+07	0.79	y	1.06	26:53	3970						
IS	13C-1,2,3,7,8-PeCDF	7.85e+07	1.56	y	0.96	31:44	3890						
IS	13C-1,2,3,6,7,8-HxCDF	6.17e+07	0.52	y	1.28	36:17	3920						
IS	13C-1,2,3,4,6,7,8-HpCDF	4.24e+07	0.45	y	0.90	39:54	3830						
IS	13C-OCDF	3.52e+07	0.88	y	0.81	47:12	3530						
RS/RT	13C-1,2,3,4-TCDD	5.83e+07	0.80	y	1.00	27:07	4000						
RS	13C-1,2,3,4-TCDF	8.42e+07	0.78	y	1.00	25:31	4000						
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.92e+07	1.24	y	1.00	37:33	4000						
PS	37Cl-2,3,7,8-TCDD	3.30e+07			0.51	27:47	3830						
PS	13C-2,3,4,7,8-PeCDF	7.03e+07	1.57	y	0.97	32:52	3680						
PS	13C-1,2,3,4,7,8-HxCDD	4.04e+07	1.27	y	0.92	37:07	3890						
PS	13C-1,2,3,4,7,8-HxCDF	5.34e+07	0.52	y	0.91	36:08	3810						
PS	13C-1,2,3,4,7,8,9-HpCDF	3.38e+07	0.44	y	0.85	42:22	3720						
AS	13C-1,2,3,7,8,9-HxCDF	5.02e+07	0.52	y	1.07	37:57	3820						

	Rec
IS 13C-2,3,7,8-TCDD	101
IS 13C-1,2,3,7,8-PeCDD	104
IS 13C-1,2,3,6,7,8-HxCDD	98.2
IS 13C-1,2,3,4,6,7,8-HpCDD	98.7
IS 13C-OCDD	88.4
IS 13C-2,3,7,8-TCDF	99.3
IS 13C-1,2,3,7,8-PeCDF	97.3
IS 13C-1,2,3,6,7,8-HxCDF	97.9
IS 13C-1,2,3,4,6,7,8-HpCDF	95.6
IS 13C-OCDF	88.3
RS/RT 13C-1,2,3,4-TCDD	-
RS 13C-1,2,3,4-TCDF	-
RS/RT 13C-1,2,3,7,8,9-HxCDD	-
PS 37Cl-2,3,7,8-TCDD	95.8
PS 13C-2,3,4,7,8-PeCDF	92.0
PS 13C-1,2,3,4,7,8-HxCDD	97.3
PS 13C-1,2,3,4,7,8-HxCDF	95.2
PS 13C-1,2,3,4,7,8,9-HpCDF	93.1
AS 13C-1,2,3,7,8,9-HxCDF	95.4

Reviewer: CL

Date: 12 Feb 01

EMPC

Analyst: GAG

Date: 12 Feb 01

Totals class: TCDD EMPC Function: 1 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 191.73 Unnamed Conc.: 186.410

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:05	5.214e+05	n	6.894e+05	n	0.76	y	1.211e+06	1.211e+06	2.02e+02	y	57.3	
24:27	2.361e+05	n	3.022e+05	n	0.78	y	5.383e+05	5.383e+05	9.40e+01	y	25.5	
24:53	6.503e+04	y	7.530e+04	n	0.86	y	1.403e+05	1.403e+05	2.77e+01	y	6.64	
25:55	1.677e+05	y	2.138e+05	y	0.78	y	3.815e+05	3.815e+05	6.15e+01	y	18.1	
26:07	1.428e+05	y	1.897e+05	y	0.75	y	3.324e+05	3.324e+05	6.25e+01	y	15.7	
26:19	7.121e+04	n	9.215e+04	n	0.77	y	1.634e+05	1.634e+05	2.96e+01	y	7.73	
26:34	3.008e+04	y	3.593e+04	y	0.84	y	6.601e+04	6.601e+04	1.66e+01	y	3.12	
26:45	9.281e+04	y	1.171e+05	n	0.79	y	2.099e+05	2.099e+05	4.33e+01	y	9.93	
27:08	6.195e+04	y	8.869e+04	y	0.70	y	1.506e+05	1.506e+05	2.86e+01	y	7.13	
27:15	3.157e+04	y	3.717e+04	y	0.85	y	6.874e+04	6.874e+04	1.47e+01	y	3.25	
27:30	1.428e+05	y	1.912e+05	y	0.75	y	3.340e+05	3.340e+05	4.52e+01	y	15.8	
27:38	2.551e+04	y	3.391e+04	y	0.75	y	5.942e+04	5.942e+04	1.22e+01	y	2.81	
27:47	4.891e+04	y	8.583e+04	y	0.57	n	1.347e+05	1.124e+05	3.02e+01	y	5.32	2,3,7,8-TCDD
28:07	8.830e+04	y	1.142e+05	y	0.77	y	2.025e+05	2.025e+05	4.34e+01	y	9.58	
28:16	2.385e+04	y	2.234e+04	y	1.07	n	4.619e+04	3.954e+04	8.73e+00	y	1.87	
28:47	2.616e+04	y	2.367e+04	y	1.11	n	4.983e+04	4.190e+04	1.01e+01	y	1.98	

Totals class: PeCDD EMPC Function: 2 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 618.09 Unnamed Conc.: 555.608

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:42	1.390e+06	n	8.841e+05	n	1.57	y	2.274e+06	2.274e+06	2.49e+02	y	160	
31:14	1.037e+05	n	6.857e+04	n	1.51	y	1.723e+05	1.723e+05	2.94e+01	y	12.2	
31:48	9.713e+05	n	6.023e+05	n	1.61	y	1.574e+06	1.574e+06	2.50e+02	y	111	
31:59	4.015e+05	n	2.695e+05	n	1.49	y	6.709e+05	6.709e+05	1.16e+02	y	47.3	
32:06	6.839e+05	n	4.229e+05	n	1.62	y	1.107e+06	1.107e+06	1.80e+02	y	78.1	
32:21	4.874e+05	n	3.049e+05	n	1.60	y	7.923e+05	7.923e+05	7.83e+01	y	55.9	
32:44	3.394e+05	n	2.117e+05	n	1.60	y	5.510e+05	5.510e+05	8.23e+01	y	38.9	
33:14	5.393e+05	n	3.462e+05	n	1.56	y	8.855e+05	8.855e+05	1.42e+02	y	62.5	1,2,3,7,8-PeCDD
33:20	1.699e+05	n	1.160e+05	n	1.46	y	2.859e+05	2.859e+05	4.68e+01	y	20.2	
33:41	2.730e+05	n	1.736e+05	n	1.57	y	4.466e+05	4.466e+05	8.01e+01	y	31.5	

Totals class: HxCDD EMPC Function: 3 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 1815.5 Unnamed Conc.: 1386.208

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:26	1.109e+06	n	8.756e+05	n	1.27	y	1.985e+06	1.985e+06	6.32e+01	y	160	
36:05	4.271e+06	n	3.398e+06	n	1.26	y	7.669e+06	7.669e+06	2.27e+02	y	618	
36:22	3.429e+06	n	2.728e+06	n	1.26	y	6.156e+06	6.156e+06	1.42e+02	y	496	
36:30	2.141e+05	n	1.678e+05	n	1.28	y	3.819e+05	3.819e+05	1.04e+01	y	30.8	
37:08	6.323e+05	n	5.247e+05	n	1.20	y	1.157e+06	1.157e+06	3.49e+01	y	90.2	1,2,3,4,7,8-HxCDD
37:15	9.791e+05	n	7.787e+05	n	1.26	y	1.758e+06	1.758e+06	5.44e+01	y	153	1,2,3,6,7,8-HxCDD
37:27	5.554e+05	n	4.455e+05	n	1.25	y	1.001e+06	1.001e+06	3.04e+01	y	80.7	
37:34	1.352e+06	n	1.048e+06	n	1.29	y	2.399e+06	2.399e+06	6.57e+01	y	186	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 2371.9 Unnamed Conc.: 986.523

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:21	6.218e+06	n	6.006e+06	n	1.04	y	1.222e+07	1.222e+07	2.87e+02	y	987	
41:33	8.729e+06	n	8.437e+06	n	1.03	y	1.717e+07	1.717e+07	3.75e+02	y	1390	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 1604.1 Unnamed Conc.: 1510.587

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:54	8.772e+05	n	1.174e+06	n	0.75	y	2.051e+06	2.051e+06	1.63e+02	y	88.4	
22:29	2.096e+05	n	2.741e+05	n	0.76	y	4.838e+05	4.838e+05	3.63e+01	y	20.9	
23:08	3.125e+05	n	3.808e+05	n	0.82	y	6.932e+05	6.932e+05	5.52e+01	y	29.9	
23:40	2.335e+06	n	3.067e+06	y	0.76	y	5.402e+06	5.402e+06	3.40e+02	y	233	
23:57	3.239e+05	y	4.349e+05	y	0.74	y	7.588e+05	7.588e+05	6.29e+01	y	32.7	
24:05	9.666e+05	y	1.224e+06	n	0.79	y	2.191e+06	2.191e+06	1.48e+02	y	94.4	
24:28	3.528e+05	y	4.791e+05	y	0.74	y	8.320e+05	8.320e+05	7.07e+01	y	35.9	
24:37	2.278e+05	y	2.962e+05	y	0.77	y	5.240e+05	5.240e+05	4.62e+01	y	22.6	
24:47	4.389e+05	n	5.771e+05	n	0.76	y	1.016e+06	1.016e+06	9.01e+01	y	43.8	
25:10	6.763e+05	y	8.688e+05	y	0.78	y	1.545e+06	1.545e+06	1.36e+02	y	66.6	
25:17	7.439e+05	y	1.049e+06	y	0.71	y	1.793e+06	1.793e+06	1.63e+02	y	77.3	
25:26	7.279e+05	y	9.317e+05	y	0.78	y	1.660e+06	1.660e+06	1.71e+02	y	71.5	
25:33	1.378e+06	y	1.814e+06	y	0.76	y	3.191e+06	3.191e+06	2.38e+02	y	138	
26:01	9.110e+05	n	1.202e+06	n	0.76	y	2.113e+06	2.113e+06	1.89e+02	y	91.1	
26:17	4.038e+05	n	5.517e+05	n	0.73	y	9.555e+05	9.555e+05	1.00e+02	y	41.2	
26:28	5.764e+05	y	7.371e+05	y	0.78	y	1.314e+06	1.314e+06	1.06e+02	y	56.6	

26:41	9.126e+05	y	1.212e+06	y	0.75	y	2.125e+06	2.125e+06	2.19e+02	y	91.6	
26:48	4.632e+05	y	5.938e+05	y	0.78	y	1.057e+06	1.057e+06	1.08e+02	y	45.6	
26:54	9.297e+05	y	1.240e+06	y	0.75	y	2.170e+06	2.170e+06	2.15e+02	y	93.5	2,3,7,8-TCDF
27:17	2.000e+06	n	2.569e+06	n	0.78	y	4.569e+06	4.569e+06	4.33e+02	y	197	
27:32	9.693e+04	y	1.230e+05	y	0.79	y	2.200e+05	2.200e+05	1.74e+01	y	9.48	
27:48	1.225e+05	n	1.665e+05	n	0.74	y	2.890e+05	2.890e+05	2.99e+01	y	12.5	
28:57	1.099e+05	n	1.497e+05	y	0.73	y	2.595e+05	2.595e+05	2.50e+01	y	11.2	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 181.43 Unnamed Conc.: 181.433

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:55	2.253e+06	n	1.472e+06	n	1.53	y	3.725e+06	3.725e+06	1.84e+02	y	181	

Totals class: PeCDF EMPC Function: 2 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 2667.3 Unnamed Conc.: 2034.065

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	4.039e+06	y	2.586e+06	y	1.56	y	6.625e+06	6.625e+06	2.05e+02	y	323	
30:38	6.669e+06	y	4.321e+06	n	1.54	y	1.099e+07	1.099e+07	3.36e+02	y	535	
30:50	6.492e+05	y	4.432e+05	y	1.46	y	1.092e+06	1.092e+06	5.89e+01	y	53.2	
31:05	6.495e+05	y	4.312e+05	n	1.51	y	1.081e+06	1.081e+06	4.11e+01	y	52.6	
31:17	2.487e+06	y	1.624e+06	y	1.53	y	4.111e+06	4.111e+06	1.70e+02	y	200	
31:23	8.969e+05	y	5.807e+05	y	1.54	y	1.478e+06	1.478e+06	8.25e+01	y	72.0	
31:32	6.623e+05	y	4.320e+05	y	1.53	y	1.094e+06	1.094e+06	5.92e+01	y	53.3	
31:45	3.754e+06	n	2.463e+06	n	1.52	y	6.217e+06	6.217e+06	2.98e+02	y	305	1,2,3,7,8-PeCDF
32:02	3.147e+06	n	2.073e+06	n	1.52	y	5.220e+06	5.220e+06	1.76e+02	y	254	
32:13	9.174e+05	y	5.706e+05	y	1.61	y	1.488e+06	1.488e+06	7.04e+01	y	72.5	
32:37	4.891e+05	y	3.159e+05	y	1.55	y	8.050e+05	8.050e+05	3.65e+01	y	39.2	
32:45	3.702e+06	y	2.421e+06	y	1.53	y	6.123e+06	6.123e+06	3.14e+02	y	298	
32:53	4.114e+06	y	2.676e+06	y	1.54	y	6.790e+06	6.790e+06	3.06e+02	y	328	2,3,4,7,8-PeCDF
33:12	2.452e+05	n	1.693e+05	n	1.45	y	4.145e+05	4.145e+05	2.22e+01	y	20.2	
33:57	7.419e+05	n	5.014e+05	n	1.48	y	1.243e+06	1.243e+06	7.01e+01	y	60.6	

Totals class: HxCDF EMPC Function: 3 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 4478.6 Unnamed Conc.: 2309.567

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	2.488e+06	n	2.068e+06	n	1.20	y	4.555e+06	4.555e+06	8.87e+01	y	259	
34:58	9.081e+06	n	7.394e+06	n	1.23	y	1.647e+07	1.647e+07	3.25e+02	y	938	
35:12	8.820e+05	n	7.595e+05	n	1.16	y	1.642e+06	1.642e+06	2.89e+01	y	93.5	
35:24	1.261e+06	n	1.036e+06	n	1.22	y	2.297e+06	2.297e+06	4.17e+01	y	131	
35:37	5.485e+05	n	4.583e+05	n	1.20	y	1.007e+06	1.007e+06	1.80e+01	y	57.3	
36:02	3.859e+06	n	3.127e+06	n	1.23	y	6.985e+06	6.985e+06	1.40e+02	y	398	
36:09	5.373e+06	n	4.413e+06	n	1.22	y	9.786e+06	9.786e+06	2.00e+02	y	561	1,2,3,4,7,8-HxCDF
36:18	7.246e+06	n	5.863e+06	n	1.24	y	1.311e+07	1.311e+07	2.58e+02	y	686	1,2,3,6,7,8-HxCDF
36:27	1.280e+06	n	1.024e+06	n	1.25	y	2.304e+06	2.304e+06	4.36e+01	y	131	
36:36	7.411e+05	n	6.141e+05	n	1.21	y	1.355e+06	1.355e+06	2.68e+01	y	77.2	
36:43	2.169e+06	n	1.761e+06	n	1.23	y	3.930e+06	3.930e+06	7.50e+01	y	224	
36:57	6.040e+06	n	4.855e+06	n	1.24	y	1.090e+07	1.090e+07	2.03e+02	y	606	2,3,4,6,7,8-HxCDF
37:59	2.734e+06	n	2.224e+06	n	1.23	y	4.958e+06	4.958e+06	5.70e+01	y	316	1,2,3,7,8,9-HxCDF

Totals class: HpCDF EMPC Function: 4 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 3742.7 Unnamed Conc.: 1125.606

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	1.701e+07	n	1.659e+07	n	1.03	y	3.360e+07	3.360e+07	8.99e+02	y	2050	1,2,3,4,6,7,8-HpCDF
40:22	4.643e+06	n	4.555e+06	n	1.02	y	9.198e+06	9.198e+06	2.45e+02	y	610	
40:36	3.932e+06	n	3.832e+06	n	1.03	y	7.763e+06	7.763e+06	1.91e+02	y	515	
42:23	3.948e+06	n	3.811e+06	n	1.04	y	7.759e+06	7.759e+06	1.70e+02	y	563	1,2,3,4,7,8,9-HpCDF

Client ID: 2-S-M23-3 Filename: 010206P3 S: 11 Acq: 7-FEB-01 06:16:22 ConCal: 010206P3-
Lab ID: P1377_267_008 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	1.12e+05	0.57	n	1.26	27:47	5.32			693	2.5	0.593	
	1,2,3,7,8-PeCDD	8.85e+05	1.56	y	1.01	33:14	62.5			666	2.5	1.06	
	1,2,3,4,7,8-HxCDD	1.16e+06	1.20	y	1.14	37:08	90.2			4431	2.5	6.81	
	1,2,3,6,7,8-HxCDD	1.76e+06	1.26	y	1.02	37:15	153			4431	2.5	7.58	
	1,2,3,7,8,9-HxCDD	2.40e+06	1.29	y	1.14	37:34	186			4431	2.5	6.78	
	1,2,3,4,6,7,8-HpCDD	1.72e+07	1.03	y	1.13	41:33	1390			4894	2.5	9.27	
	OCDD	3.34e+07	0.88	y	1.03	46:54	4080			1278	2.5	4.11	
	2,3,7,8-TCDF	2.17e+06	0.75	y	1.05	26:54	93.5			1324	2.5	1.10	
	1,2,3,7,8-PeCDF	6.22e+06	1.52	y	1.04	31:45	305			2151	2.5	2.39	
	2,3,4,7,8-PeCDF	6.79e+06	1.54	y	1.05	32:53	328			2151	2.5	2.35	
	1,2,3,4,7,8-HxCDF	9.79e+06	1.22	y	1.13	36:09	561			7040	2.5	5.09	
	1,2,3,6,7,8-HxCDF	1.31e+07	1.24	y	1.24	36:18	686			7040	2.5	4.65	
	2,3,4,6,7,8-HxCDF	1.09e+07	1.24	y	1.16	36:57	606			7040	2.5	4.95	
	1,2,3,7,8,9-HxCDF	4.96e+06	1.23	y	1.02	37:59	316			7040	2.5	5.66	
	1,2,3,4,6,7,8-HpCDF	3.36e+07	1.03	y	1.54	39:55	2050			4546	2.5	4.06	
	1,2,3,4,7,8,9-HpCDF	7.76e+06	1.04	y	1.30	42:23	563			4546	2.5	4.82	
	OCDF	1.59e+07	0.89	y	1.15	47:13	1580			1502	2.5	3.72	
	Total Tetra-Dioxins	3.86e+06	0.76	y	1.26	24:05	183			693	2.5	0.593	
	Total Penta-Dioxins	8.76e+06	1.57	y	1.01	30:42	618			666	2.5	1.06	
	Total Hexa-Dioxins	2.25e+07	1.27	y	1.10	35:26	1820			4431	2.5	7.04	
	Total Hepta-Dioxins	2.94e+07	1.04	y	1.13	40:21	2370			4894	2.5	9.27	
	Total Tetra-Furans	3.70e+07	0.75	y	1.05	21:54	1590	NE		1324	2.5	1.10	
	1st Fnc. Penta-Furans	3.73e+06	1.53	y	1.05	28:55	181			1859	2.5	2.05	
	Total Penta-Furans	5.48e+07	1.56	y	1.05	30:28	2670	NE		2151	2.5	2.37	
	PeCDF Totals:						2850						
	Total Hexa-Furans	7.93e+07	1.20	y	1.14	34:46	4480			7040	2.5	5.06	
	Total Hepta-Furans	5.83e+07	1.03	y	1.42	39:55	3740			4546	2.5	4.41	
IS	13C-2,3,7,8-TCDD	6.70e+07	0.78	y	1.13	27:46	4060						
IS	13C-1,2,3,7,8-PeCDD	5.60e+07	1.56	y	0.93	33:12	4150						
IS	13C-1,2,3,6,7,8-HxCDD	4.50e+07	1.26	y	0.93	37:14	3930						
IS	13C-1,2,3,4,6,7,8-HpCDD	4.39e+07	1.04	y	0.91	41:32	3950						
IS	13C-OCDD	3.19e+07	0.89	y	0.73	46:53	3540						
IS	13C-2,3,7,8-TCDF	8.87e+07	0.79	y	1.06	26:53	3970						
IS	13C-1,2,3,7,8-PeCDF	7.85e+07	1.56	y	0.96	31:44	3890						
IS	13C-1,2,3,6,7,8-HxCDF	6.17e+07	0.52	y	1.28	36:17	3920						
IS	13C-1,2,3,4,6,7,8-HpCDF	4.24e+07	0.45	y	0.90	39:54	3830						
IS	13C-OCDF	3.52e+07	0.88	y	0.81	47:12	3530						
RS/RT	13C-1,2,3,4-TCDD	5.83e+07	0.80	y	1.00	27:07	4000						
RS	13C-1,2,3,4-TCDF	8.42e+07	0.78	y	1.00	25:31	4000						
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.92e+07	1.24	y	1.00	37:33	4000						
PS	37Cl-2,3,7,8-TCDD	3.30e+07			0.51	27:47	3830						
PS	13C-2,3,4,7,8-PeCDF	7.03e+07	1.57	y	0.97	32:52	3680						
PS	13C-1,2,3,4,7,8-HxCDD	4.04e+07	1.27	y	0.92	37:07	3890						
PS	13C-1,2,3,4,7,8-HxCDF	5.34e+07	0.52	y	0.91	36:08	3810						
PS	13C-1,2,3,4,7,8,9-HpCDF	3.38e+07	0.44	y	0.85	42:22	3720						
AS	13C-1,2,3,7,8,9-HxCDF	5.02e+07	0.52	y	1.07	37:57	3820						

	Rec
IS	101
IS	104
IS	98.2
IS	98.7
IS	88.4
IS	99.3
IS	97.3
IS	97.9
IS	95.6
IS	88.3
RS/RT	-
RS	-
RS/RT	-
PS	95.8
PS	92.0
PS	97.3
PS	95.2
PS	93.1
AS	95.4

Reviewer: CL

Date: 12Feb01

	EMPC
Total Tetra-Dioxins	192
Total Penta-Dioxins	618
Total Hexa-Dioxins	1820
Total Hepta-Dioxins	2370
Total Tetra-Furans	1590
1st Fnc. Penta-Furans	181
Total Penta-Furans	
PeCDF Totals:	2850
Total Hexa-Furans	4480
Total Hepta-Furans	3740

Analyst: GAG

Date: 12Feb01

Totals class: TCDD EMPC Function: 1 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 191.73 Unnamed Conc.: 186.410

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
24:05	5.214e+05	n	6.894e+05	n	0.76	y	1.211e+06	1.211e+06	2.02e+02	y	57.3	
24:27	2.361e+05	n	3.022e+05	n	0.78	y	5.383e+05	5.383e+05	9.40e+01	y	25.5	
24:53	6.503e+04	y	7.530e+04	n	0.86	y	1.403e+05	1.403e+05	2.77e+01	y	6.64	
25:55	1.677e+05	y	2.138e+05	y	0.78	y	3.815e+05	3.815e+05	6.15e+01	y	18.1	
26:07	1.428e+05	y	1.897e+05	y	0.75	y	3.324e+05	3.324e+05	6.25e+01	y	15.7	
26:19	7.121e+04	n	9.215e+04	n	0.77	y	1.634e+05	1.634e+05	2.96e+01	y	7.73	
26:34	3.008e+04	y	3.593e+04	y	0.84	y	6.601e+04	6.601e+04	1.66e+01	y	3.12	
26:45	9.281e+04	y	1.171e+05	n	0.79	y	2.099e+05	2.099e+05	4.33e+01	y	9.93	
27:08	6.195e+04	y	8.869e+04	y	0.70	y	1.506e+05	1.506e+05	2.86e+01	y	7.13	
27:15	3.157e+04	y	3.717e+04	y	0.85	y	6.874e+04	6.874e+04	1.47e+01	y	3.25	
27:30	1.428e+05	y	1.912e+05	y	0.75	y	3.340e+05	3.340e+05	4.52e+01	y	15.8	
27:38	2.551e+04	y	3.391e+04	y	0.75	y	5.942e+04	5.942e+04	1.22e+01	y	2.81	
27:47	4.891e+04	y	8.583e+04	y	0.57	n	1.347e+05	1.124e+05	3.02e+01	y	5.32	2,3,7,8-TCDD
28:07	8.830e+04	y	1.142e+05	y	0.77	y	2.025e+05	2.025e+05	4.34e+01	y	9.58	
28:16	2.385e+04	y	2.234e+04	y	1.07	n	4.619e+04	3.954e+04	8.73e+00	y	1.87	
28:47	2.616e+04	y	2.367e+04	y	1.11	n	4.983e+04	4.190e+04	1.01e+01	y	1.98	

Totals class: PeCDD EMPC Function: 2 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 618.09 Unnamed Conc.: 555.608

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:42	1.390e+06	n	8.841e+05	n	1.57	y	2.274e+06	2.274e+06	2.49e+02	y	160	
31:14	1.037e+05	n	6.857e+04	n	1.51	y	1.723e+05	1.723e+05	2.94e+01	y	12.2	
31:48	9.713e+05	n	6.023e+05	n	1.61	y	1.574e+06	1.574e+06	2.50e+02	y	111	
31:59	4.015e+05	n	2.695e+05	n	1.49	y	6.709e+05	6.709e+05	1.16e+02	y	47.3	
32:06	6.839e+05	n	4.229e+05	n	1.62	y	1.107e+06	1.107e+06	1.80e+02	y	78.1	
32:21	4.874e+05	n	3.049e+05	n	1.60	y	7.923e+05	7.923e+05	7.83e+01	y	55.9	
32:44	3.394e+05	n	2.117e+05	n	1.60	y	5.510e+05	5.510e+05	8.23e+01	y	38.9	
33:14	5.393e+05	n	3.462e+05	n	1.56	y	8.855e+05	8.855e+05	1.42e+02	y	62.5	1,2,3,7,8-PeCDD
33:20	1.699e+05	n	1.160e+05	n	1.46	y	2.859e+05	2.859e+05	4.68e+01	y	20.2	
33:41	2.730e+05	n	1.736e+05	n	1.57	y	4.466e+05	4.466e+05	8.01e+01	y	31.5	

Totals class: HxCDD EMPC Function: 3 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 1815.5 Unnamed Conc.: 1386.208

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
35:26	1.109e+06	n	8.756e+05	n	1.27	y	1.985e+06	1.985e+06	6.32e+01	y	160	
36:05	4.271e+06	n	3.398e+06	n	1.26	y	7.669e+06	7.669e+06	2.27e+02	y	618	
36:22	3.429e+06	n	2.728e+06	n	1.26	y	6.156e+06	6.156e+06	1.42e+02	y	496	
36:30	2.141e+05	n	1.678e+05	n	1.28	y	3.819e+05	3.819e+05	1.04e+01	y	30.8	
37:08	6.323e+05	n	5.247e+05	n	1.20	y	1.157e+06	1.157e+06	3.49e+01	y	90.2	1,2,3,4,7,8-HxCDD
37:15	9.791e+05	n	7.787e+05	n	1.26	y	1.758e+06	1.758e+06	5.44e+01	y	153	1,2,3,6,7,8-HxCDD
37:27	5.554e+05	n	4.455e+05	n	1.25	y	1.001e+06	1.001e+06	3.04e+01	y	80.7	
37:34	1.352e+06	n	1.048e+06	n	1.29	y	2.399e+06	2.399e+06	6.57e+01	y	186	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC Function: 4 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 2371.9 Unnamed Conc.: 986.523

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
40:21	6.218e+06	n	6.006e+06	n	1.04	y	1.222e+07	1.222e+07	2.87e+02	y	987	
41:33	8.729e+06	n	8.437e+06	n	1.03	y	1.717e+07	1.717e+07	3.75e+02	y	1390	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC Function: 1 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 1593.1 Unnamed Conc.: 1499.518

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
21:54	8.772e+05	n	1.174e+06	n	0.75	y	2.051e+06	2.051e+06	1.63e+02	y	88.4	
22:29	2.096e+05	n	2.741e+05	n	0.76	y	4.838e+05	4.838e+05	3.63e+01	y	20.9	
23:08	3.125e+05	n	3.808e+05	n	0.82	y	6.932e+05	6.932e+05	5.52e+01	y	29.9	
23:40	2.335e+06	n	2.810e+06	y	0.83	y	5.146e+06	5.146e+06	3.40e+02	y	222	
23:57	3.241e+05	y	4.349e+05	y	0.75	y	7.590e+05	7.590e+05	6.29e+01	y	32.7	
24:05	9.665e+05	y	1.224e+06	n	0.79	y	2.191e+06	2.191e+06	1.48e+02	y	94.4	
24:28	3.528e+05	y	4.791e+05	y	0.74	y	8.320e+05	8.320e+05	7.07e+01	y	35.9	
24:37	2.278e+05	y	2.962e+05	y	0.77	y	5.240e+05	5.240e+05	4.62e+01	y	22.6	
24:47	4.389e+05	n	5.771e+05	n	0.76	y	1.016e+06	1.016e+06	9.01e+01	y	43.8	
25:10	6.763e+05	y	8.688e+05	y	0.78	y	1.545e+06	1.545e+06	1.36e+02	y	66.6	
25:17	7.439e+05	y	1.049e+06	y	0.71	y	1.793e+06	1.793e+06	1.63e+02	y	77.3	
25:26	7.279e+05	y	9.317e+05	y	0.78	y	1.660e+06	1.660e+06	1.71e+02	y	71.5	
25:33	1.378e+06	y	1.814e+06	y	0.76	y	3.191e+06	3.191e+06	2.38e+02	y	138	
26:01	9.110e+05	n	1.202e+06	n	0.76	y	2.113e+06	2.113e+06	1.89e+02	y	91.1	
26:17	4.038e+05	n	5.517e+05	n	0.73	y	9.555e+05	9.555e+05	1.00e+02	y	41.2	
26:28	5.764e+05	y	7.371e+05	y	0.78	y	1.314e+06	1.314e+06	1.06e+02	y	56.6	

26:41	9.126e+05	y	1.212e+06	y	0.75	y	2.125e+06	2.125e+06	2.19e+02	y	91.6	
26:48	4.632e+05	y	5.938e+05	y	0.78	y	1.057e+06	1.057e+06	1.08e+02	y	45.6	
26:54	9.297e+05	y	1.240e+06	y	0.75	y	2.170e+06	2.170e+06	2.15e+02	y	93.5	2,3,7,8-TCDF
27:17	2.000e+06	n	2.569e+06	n	0.78	y	4.569e+06	4.569e+06	4.33e+02	y	197	
27:32	9.693e+04	y	1.230e+05	y	0.79	y	2.200e+05	2.200e+05	1.74e+01	y	9.48	
27:48	1.225e+05	n	1.665e+05	n	0.74	y	2.890e+05	2.890e+05	2.99e+01	y	12.5	
28:57	1.099e+05	n	1.497e+05	y	0.73	y	2.595e+05	2.595e+05	2.50e+01	y	11.2	

Totals class: 1st Fnc.PeCDF EMPC Function: 1 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 181.43 Unnamed Conc.: 181.433

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
28:55	2.253e+06	n	1.472e+06	n	1.53	y	3.725e+06	3.725e+06	1.84e+02	y	181	

Totals class: PeCDF EMPC Function: 2 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 2667.3 Unnamed Conc.: 2034.065

RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
30:28	4.039e+06	y	2.586e+06	y	1.56	y	6.625e+06	6.625e+06	2.05e+02	y	323	
30:38	6.669e+06	y	4.321e+06	n	1.54	y	1.099e+07	1.099e+07	3.36e+02	y	535	
30:50	6.492e+05	y	4.432e+05	y	1.46	y	1.092e+06	1.092e+06	5.89e+01	y	53.2	
31:05	6.495e+05	y	4.312e+05	n	1.51	y	1.081e+06	1.081e+06	4.11e+01	y	52.6	
31:17	2.487e+06	y	1.624e+06	y	1.53	y	4.111e+06	4.111e+06	1.70e+02	y	200	
31:23	8.969e+05	y	5.807e+05	y	1.54	y	1.478e+06	1.478e+06	8.25e+01	y	72.0	
31:32	6.623e+05	y	4.320e+05	y	1.53	y	1.094e+06	1.094e+06	5.92e+01	y	53.3	
31:45	3.754e+06	n	2.463e+06	n	1.52	y	6.217e+06	6.217e+06	2.98e+02	y	305	1,2,3,7,8-PeCDF
32:02	3.147e+06	n	2.073e+06	n	1.52	y	5.220e+06	5.220e+06	1.76e+02	y	254	
32:13	9.174e+05	y	5.706e+05	y	1.61	y	1.488e+06	1.488e+06	7.04e+01	y	72.5	
32:37	4.891e+05	y	3.159e+05	y	1.55	y	8.050e+05	8.050e+05	3.65e+01	y	39.2	
32:45	3.702e+06	y	2.421e+06	y	1.53	y	6.123e+06	6.123e+06	3.14e+02	y	298	
32:53	4.114e+06	y	2.676e+06	y	1.54	y	6.790e+06	6.790e+06	3.06e+02	y	328	2,3,4,7,8-PeCDF
33:12	2.452e+05	n	1.693e+05	n	1.45	y	4.145e+05	4.145e+05	2.22e+01	y	20.2	
33:57	7.419e+05	n	5.014e+05	n	1.48	y	1.243e+06	1.243e+06	7.01e+01	y	60.6	

Totals class: HxCDF EMPC Function: 3 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

Total Conc.: 4478.6 Unnamed Conc.: 2309.567

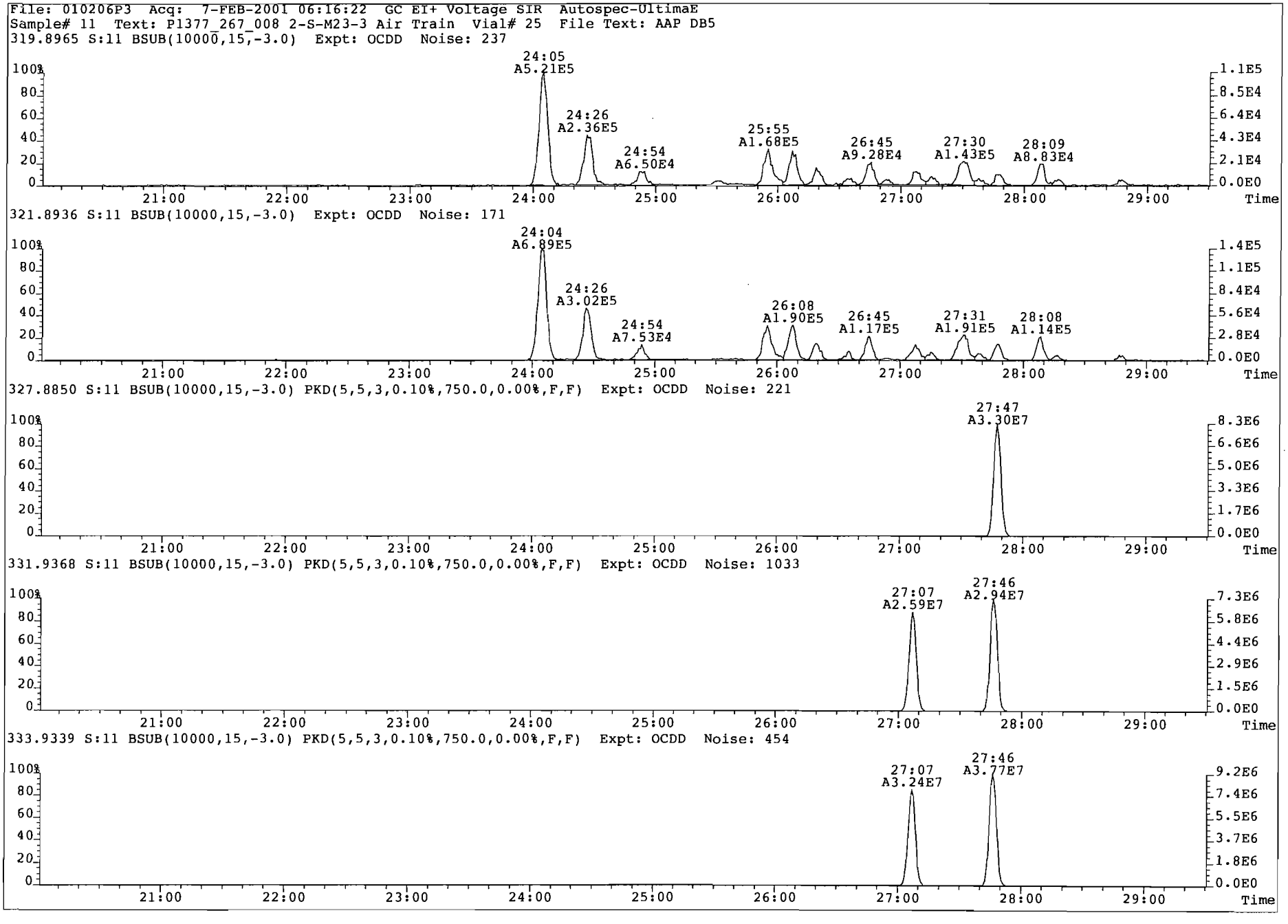
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
34:46	2.488e+06	n	2.068e+06	n	1.20	y	4.555e+06	4.555e+06	8.87e+01	y	259	
34:58	9.081e+06	n	7.394e+06	n	1.23	y	1.647e+07	1.647e+07	3.25e+02	y	938	
35:12	8.820e+05	n	7.595e+05	n	1.16	y	1.642e+06	1.642e+06	2.89e+01	y	93.5	
35:24	1.261e+06	n	1.036e+06	n	1.22	y	2.297e+06	2.297e+06	4.17e+01	y	131	
35:37	5.485e+05	n	4.583e+05	n	1.20	y	1.007e+06	1.007e+06	1.80e+01	y	57.3	
36:02	3.859e+06	n	3.127e+06	n	1.23	y	6.985e+06	6.985e+06	1.40e+02	y	398	
36:09	5.373e+06	n	4.413e+06	n	1.22	y	9.786e+06	9.786e+06	2.00e+02	y	561	1,2,3,4,7,8-HxCDF
36:18	7.246e+06	n	5.863e+06	n	1.24	y	1.311e+07	1.311e+07	2.58e+02	y	686	1,2,3,6,7,8-HxCDF
36:27	1.280e+06	n	1.024e+06	n	1.25	y	2.304e+06	2.304e+06	4.36e+01	y	131	
36:36	7.411e+05	n	6.141e+05	n	1.21	y	1.355e+06	1.355e+06	2.68e+01	y	77.2	
36:43	2.169e+06	n	1.761e+06	n	1.23	y	3.930e+06	3.930e+06	7.50e+01	y	224	
36:57	6.040e+06	n	4.855e+06	n	1.24	y	1.090e+07	1.090e+07	2.03e+02	y	606	2,3,4,6,7,8-HxCDF
37:59	2.734e+06	n	2.224e+06	n	1.23	y	4.958e+06	4.958e+06	5.70e+01	y	316	1,2,3,7,8,9-HxCDF

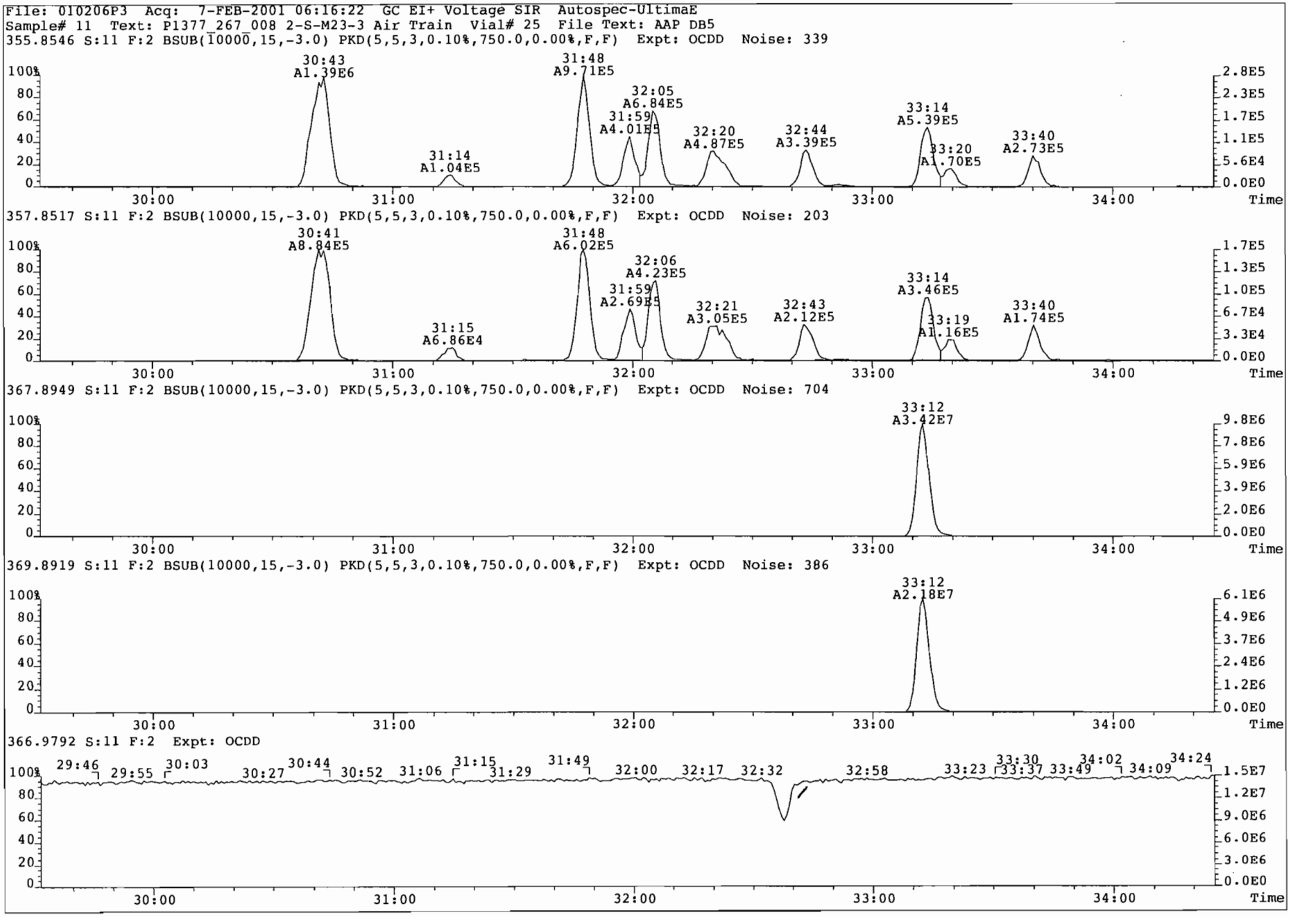
Totals class: HpCDF EMPC Function: 4 Run #: 18
File Name: 010206P3 Sample #: 11 Sample text: P1377_267_008 2-S-M23-3 Air Train

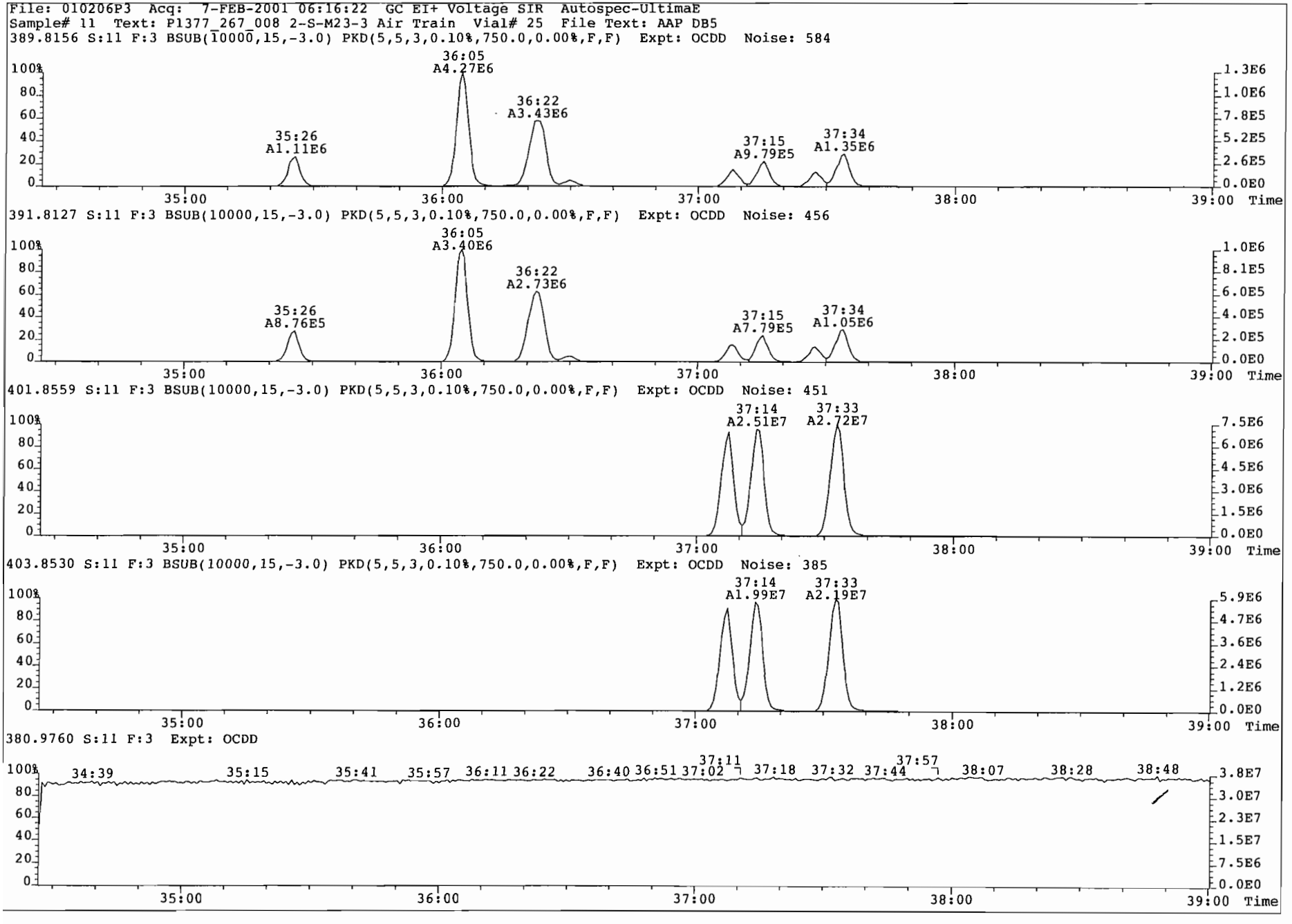
Acquired: 7-FEB-01 06:16:22 Processed: 7-FEB-01 17:17:27

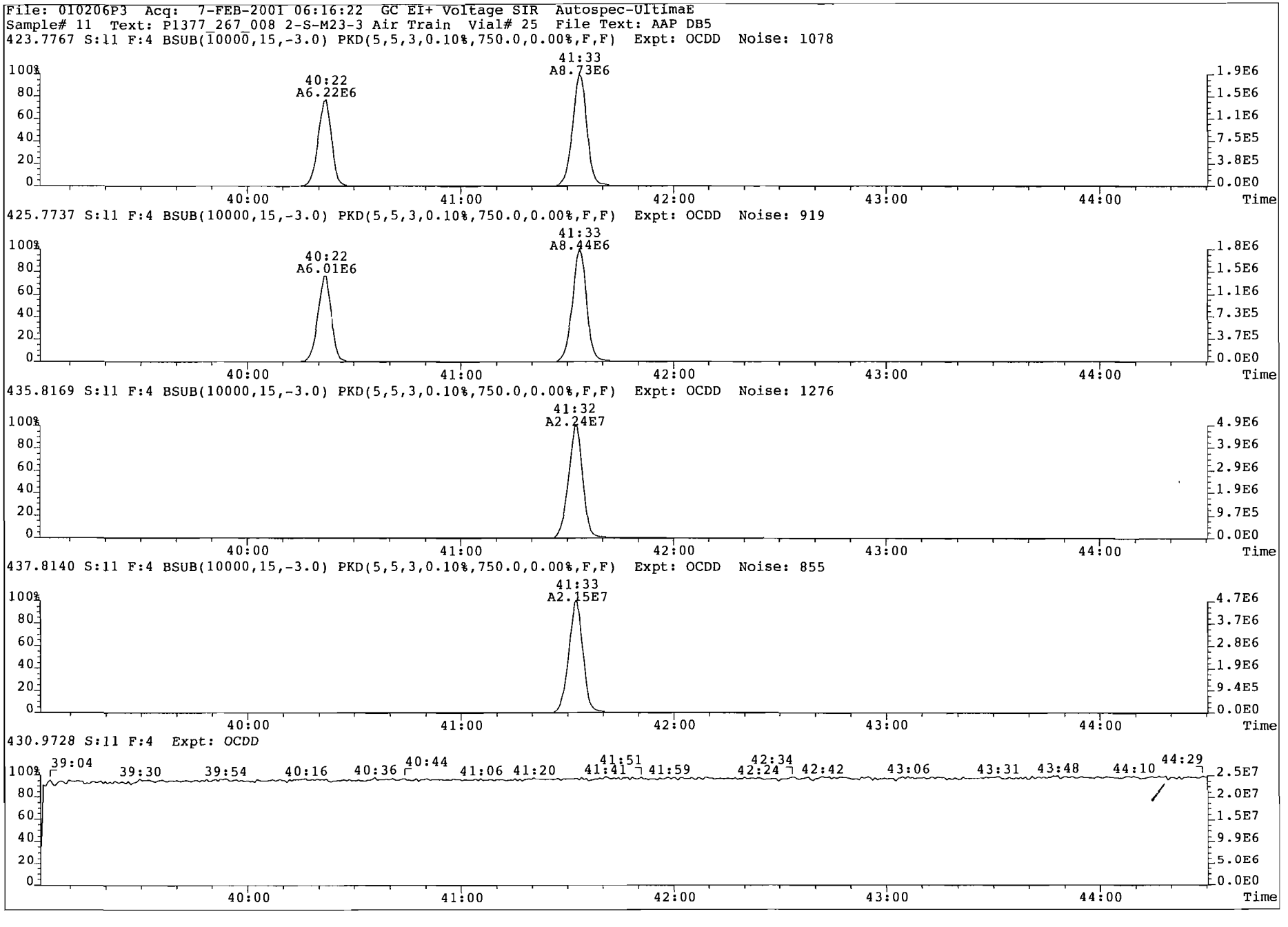
Total Conc.: 3742.7 Unnamed Conc.: 1125.606

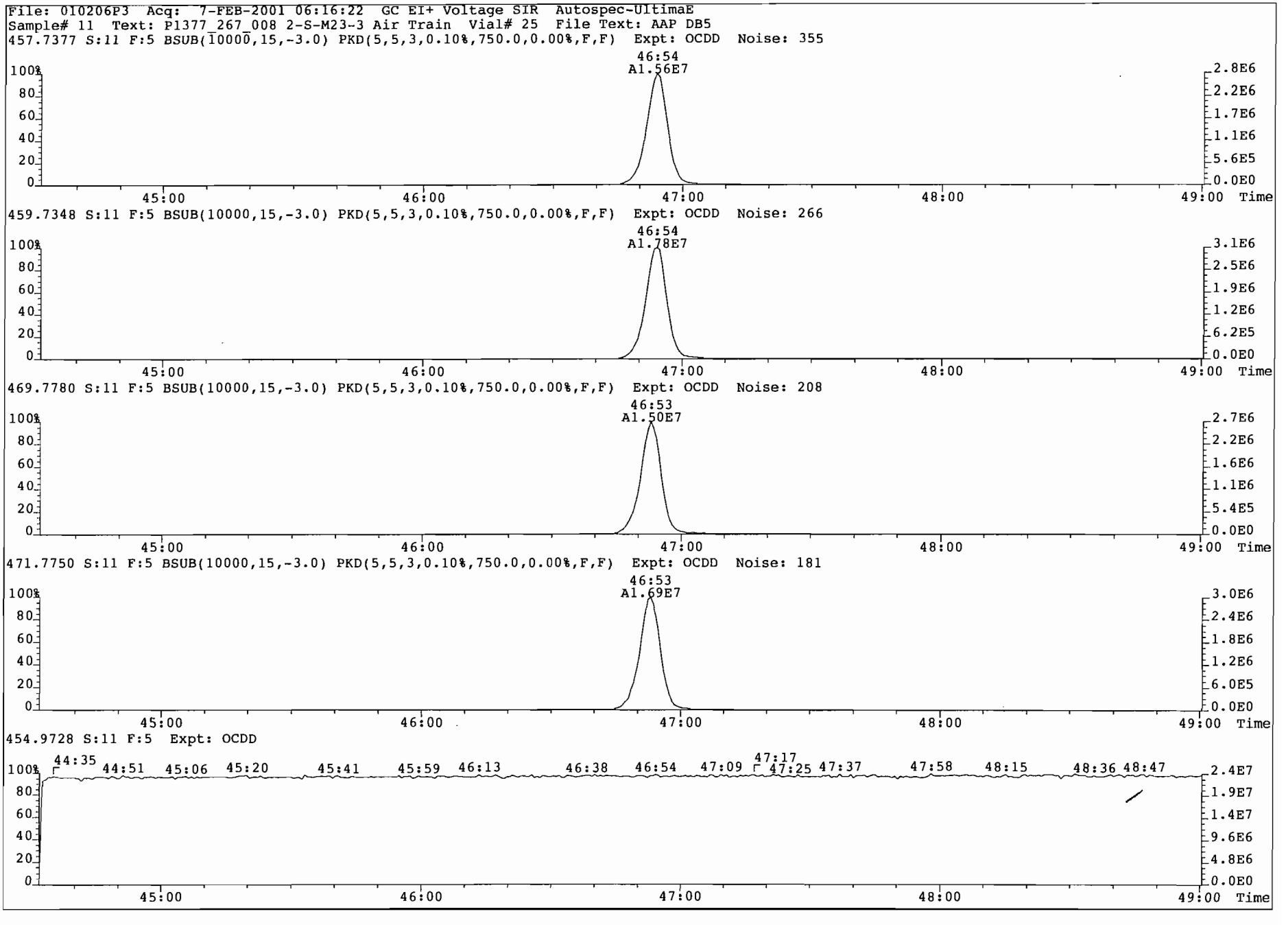
RT	m1 Resp	mod.	m2 Resp	mod.	RA		Resp	Adj_Resp	S/N		Conc.	Name
39:55	1.701e+07	n	1.659e+07	n	1.03	y	3.360e+07	3.360e+07	8.99e+02	y	2050	1,2,3,4,6,7,8-HpCDF
40:22	4.643e+06	n	4.555e+06	n	1.02	y	9.198e+06	9.198e+06	2.45e+02	y	610	
40:36	3.932e+06	n	3.832e+06	n	1.03	y	7.763e+06	7.763e+06	1.91e+02	y	515	
42:23	3.948e+06	n	3.811e+06	n	1.04	y	7.759e+06	7.759e+06	1.70e+02	y	563	1,2,3,4,7,8,9-HpCDF

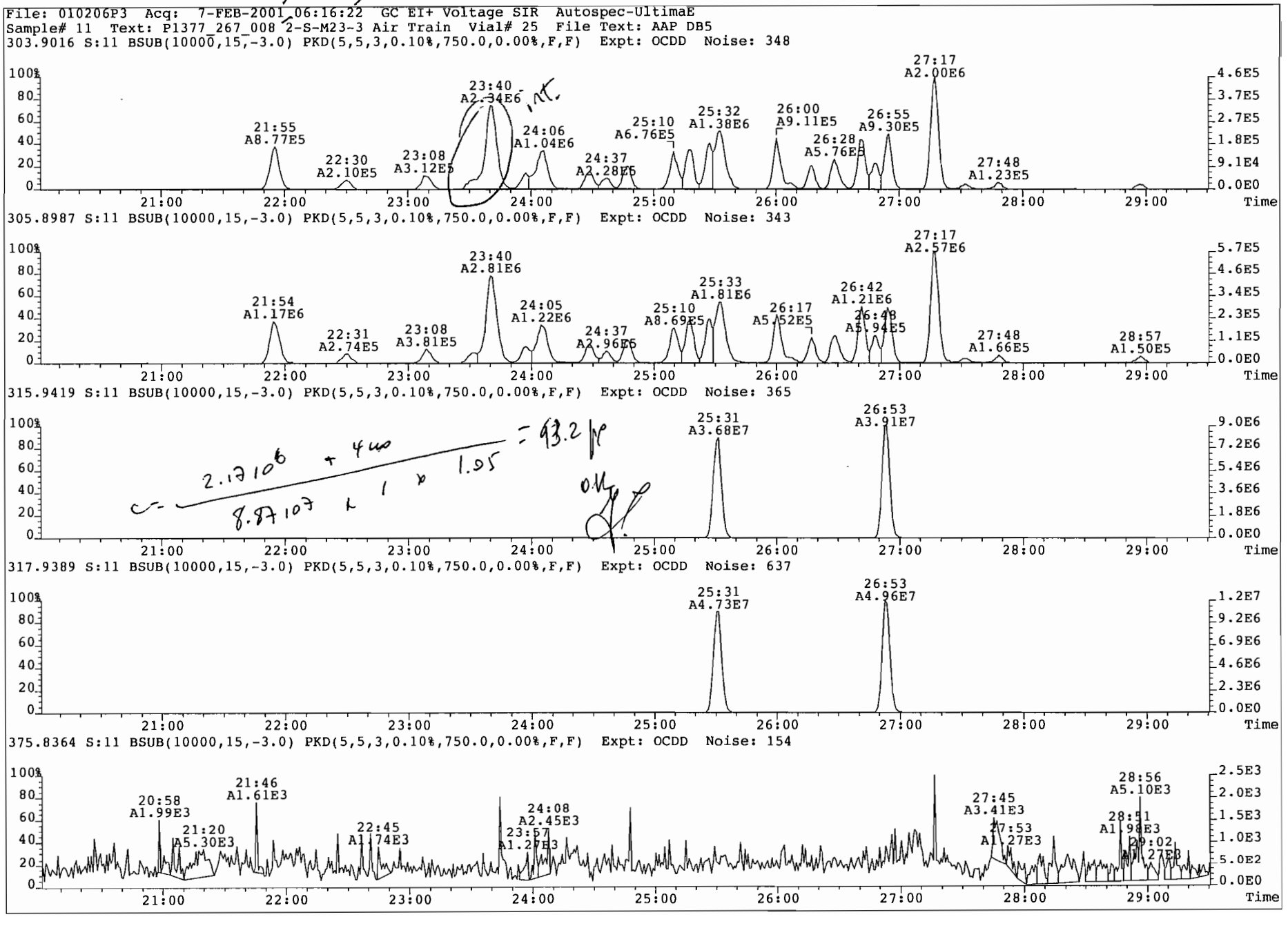

File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
319.8965 S:11 BSUB(10000,15,-3.0) Expt: OCDD Noise: 237
24:05 A5.21E5
24:26 A2.36E5
24:54 A6.50E4
25:55 A1.68E5
26:45 A9.28E4
27:30 A1.43E5
28:09 A8.83E4
321.8936 S:11 BSUB(10000,15,-3.0) Expt: OCDD Noise: 171
24:04 A6.89E5
24:26 A3.02E5
24:54 A7.53E4
26:08 A1.90E5
26:45 A1.17E5
27:31 A1.91E5
28:08 A1.14E5
327.8850 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 221
27:47 A3.30E7
331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1033
27:07 A2.59E7
27:46 A2.94E7
333.9339 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 454
27:07 A3.24E7
27:46 A3.77E7
Time

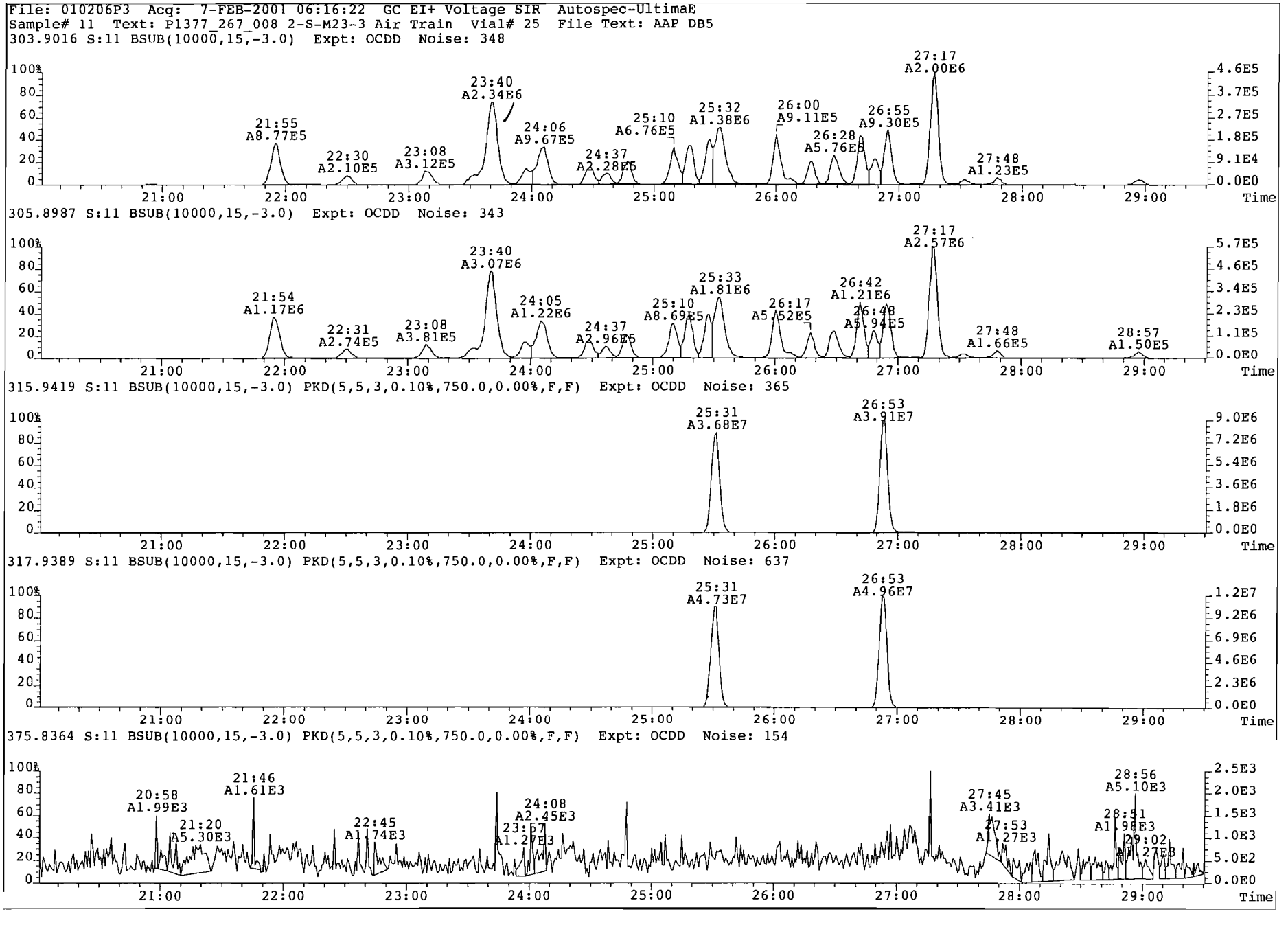

File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
355.8546 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 339
30:43 A1.39E6
31:14 A1.04E5
31:48 A9.71E5
32:05 A6.84E5
31:59 A4.01E5
32:20 A4.87E5
32:44 A3.39E5
33:14 A5.39E5
33:20 A1.70E5
33:40 A2.73E5
357.8517 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 203
30:41 A8.84E5
31:15 A6.86E4
31:48 A6.02E5
32:06 A4.23E5
31:59 A2.69E5
32:21 A3.05E5
32:43 A2.12E5
33:14 A3.46E5
33:19 A1.16E5
33:40 A1.74E5
367.8949 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 704
33:12 A3.42E7
369.8919 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 386
33:12 A2.18E7
366.9792 S:11 F:2 Expt: OCDD
29:46 29:55 30:03 30:27 30:44 30:52 31:06 31:15 31:29 31:49 32:00 32:17 32:32 32:58 33:23 33:30 33:37 33:49 34:02 34:09 34:24
Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 584
36:05 A4.27E6
36:22 A3.43E6
35:26 A1.11E6
37:15 A9.79E5
37:34 A1.35E6
391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 456
36:05 A3.40E6
36:22 A2.73E6
35:26 A8.76E5
37:15 A7.79E5
37:34 A1.05E6
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 451
37:14 A2.51E7
37:33 A2.72E7
403.8530 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 385
37:14 A1.99E7
37:33 A2.19E7
380.9760 S:11 F:3 Expt: OCDD
34:39
35:15
35:41
35:57
36:11
36:22
36:40
36:51
37:02
37:11
37:18
37:32
37:44
37:57
38:07
38:28
38:48
Time

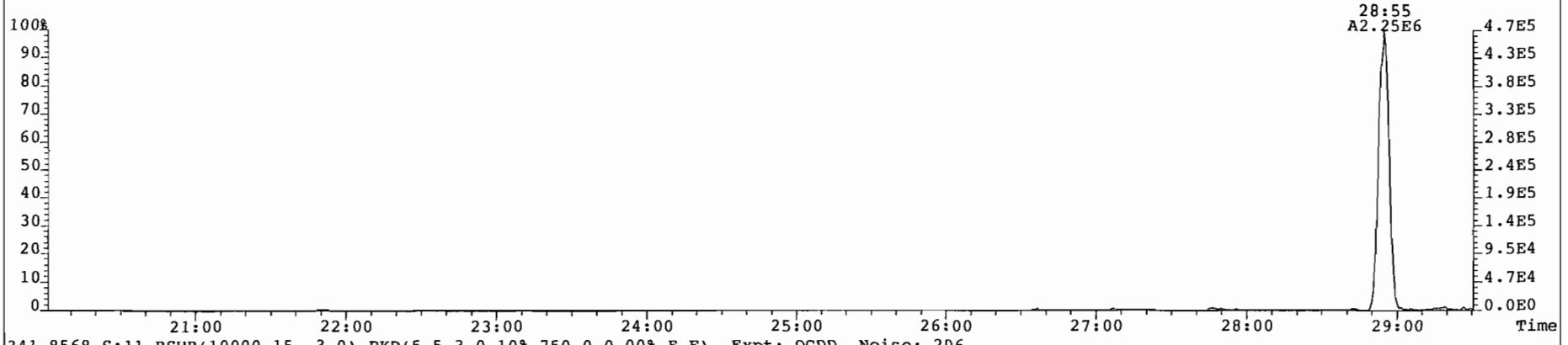

File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1078
40:22 A6.22E6
41:33 A8.73E6
425.7737 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 919
40:22 A6.01E6
41:33 A8.44E6
435.8169 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1276
41:32 A2.24E7
437.8140 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 855
41:33 A2.15E7
430.9728 S:11 F:4 Expt: OCDD
39:04 39:30 39:54 40:16 40:36 40:44 41:06 41:20 41:41 41:51 41:59 42:24 42:34 42:42 43:06 43:31 43:48 44:10 44:29
40:00 41:00 42:00 43:00 44:00 Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 355
46:54
A1.56E7
459.7348 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 266
46:54
A1.78E7
469.7780 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 208
46:53
A1.50E7
471.7750 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 181
46:53
A1.69E7
454.9728 S:11 F:5 Expt: OCDD
44:35
44:51
45:06
45:20
45:41
45:59
46:13
46:38
46:54
47:09
47:17
47:25
47:37
47:58
48:15
48:36
48:47
45:00
46:00
47:00
48:00
49:00
Time

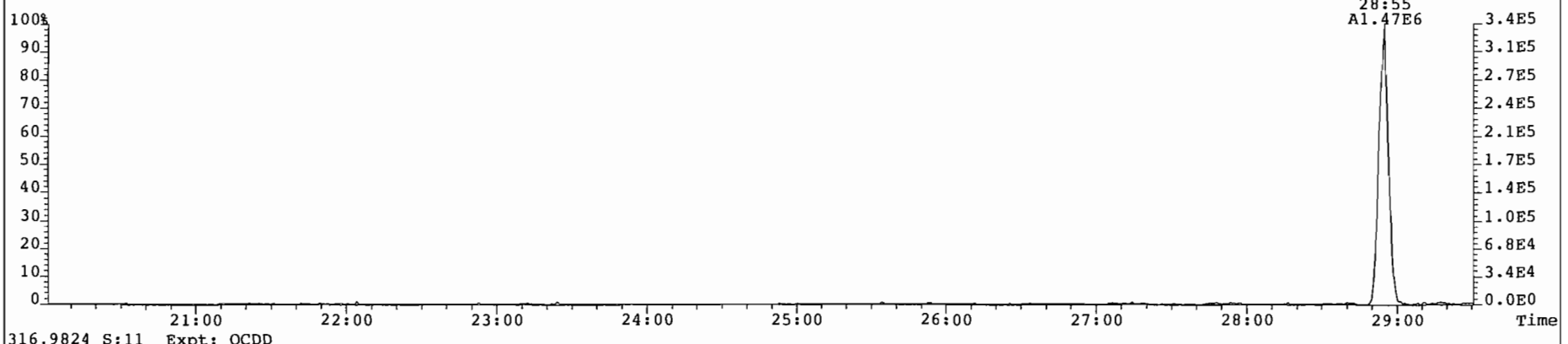

File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 348
21:55 A8.77E5
22:30 A2.10E5
23:08 A3.12E5
23:40 A2.34E6
24:06 A1.04E6
24:37 A2.28E5
25:10 A6.76E5
25:32 A1.38E6
26:00 A9.11E5
26:28 A5.76E5
26:55 A9.30E5
27:17 A2.00E6
27:48 A1.23E5
305.8987 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 343
21:54 A1.17E6
22:31 A2.74E5
23:08 A3.81E5
23:40 A2.81E6
24:05 A1.22E6
24:37 A2.96E5
25:10 A8.69E5
25:33 A1.81E6
26:17 A5.52E5
26:42 A1.21E6
26:48 A5.94E5
27:17 A2.57E6
27:48 A1.66E5
28:57 A1.50E5
315.9419 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 365
25:31 A3.68E7
26:53 A3.91E7
317.9389 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 637
25:31 A4.73E7
26:53 A4.96E7
375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 154
20:58 A1.99E3
21:20 A5.30E3
21:46 A1.61E3
22:45 A1.74E3
23:57 A1.27E3
24:08 A2.45E3
27:45 A3.41E3
27:53 A1.27E3
28:51 A1.98E3
28:56 A5.10E3
29:02 A1.27E3
Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
303.9016 S:11 BSUB(10000,15,-3.0) Expt: OCDD Noise: 348
21:55 A8.77E5
22:30 A2.10E5
23:08 A3.12E5
23:40 A2.34E6
24:06 A9.67E5
24:37 A2.28E5
25:10 A6.76E5
25:32 A1.38E6
26:00 A9.11E5
26:28 A5.76E5
26:55 A9.30E5
27:17 A2.00E6
27:48 A1.23E5
305.8987 S:11 BSUB(10000,15,-3.0) Expt: OCDD Noise: 343
21:54 A1.17E6
22:31 A2.74E5
23:08 A3.81E5
23:40 A3.07E6
24:05 A1.22E6
24:37 A2.96E5
25:10 A8.69E5
25:33 A1.81E6
26:17 A5.52E5
26:42 A1.21E6
26:48 A5.94E5
27:17 A2.57E6
27:48 A1.66E5
28:57 A1.50E5
315.9419 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 365
25:31 A3.68E7
26:53 A3.91E7
317.9389 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 637
25:31 A4.73E7
26:53 A4.96E7
375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 154
20:58 A1.99E3
21:20 A5.30E3
21:46 A1.61E3
22:45 A1.74E3
23:57 A1.27E3
24:08 A2.45E3
27:45 A3.41E3
27:53 A1.27E3
28:51 A1.98E3
28:56 A5.10E3
29:02 A1.27E3
Time

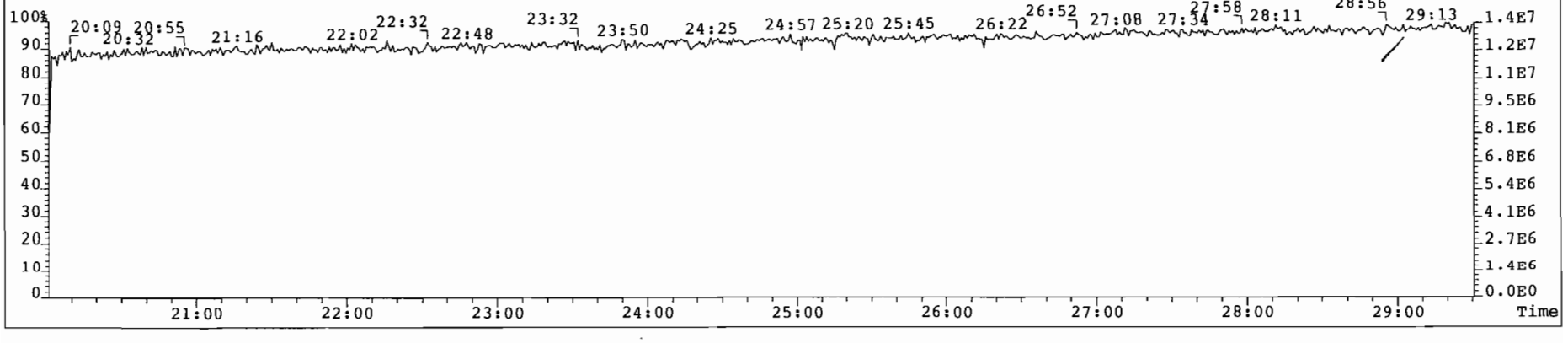
File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 154

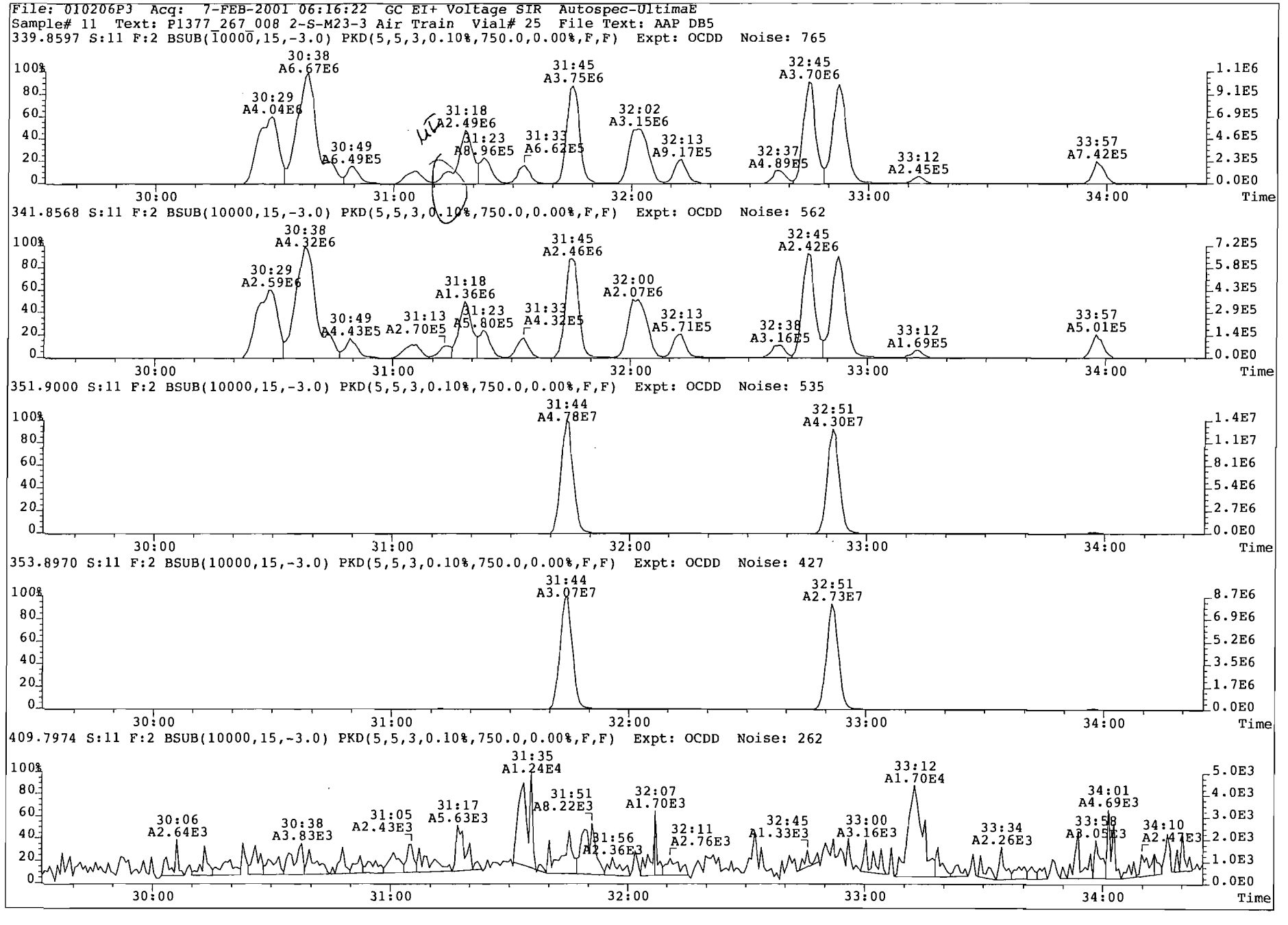


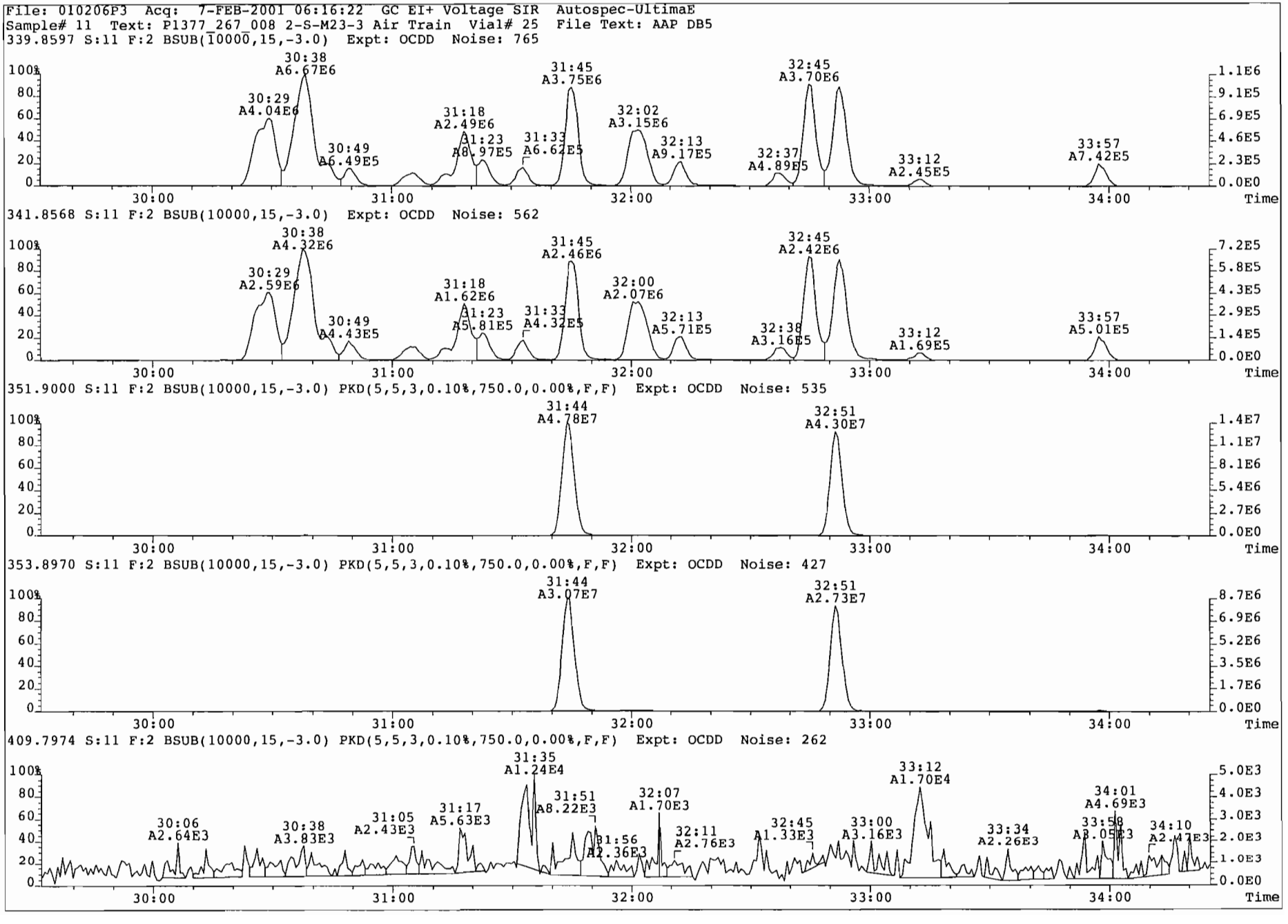
341.8568 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 206

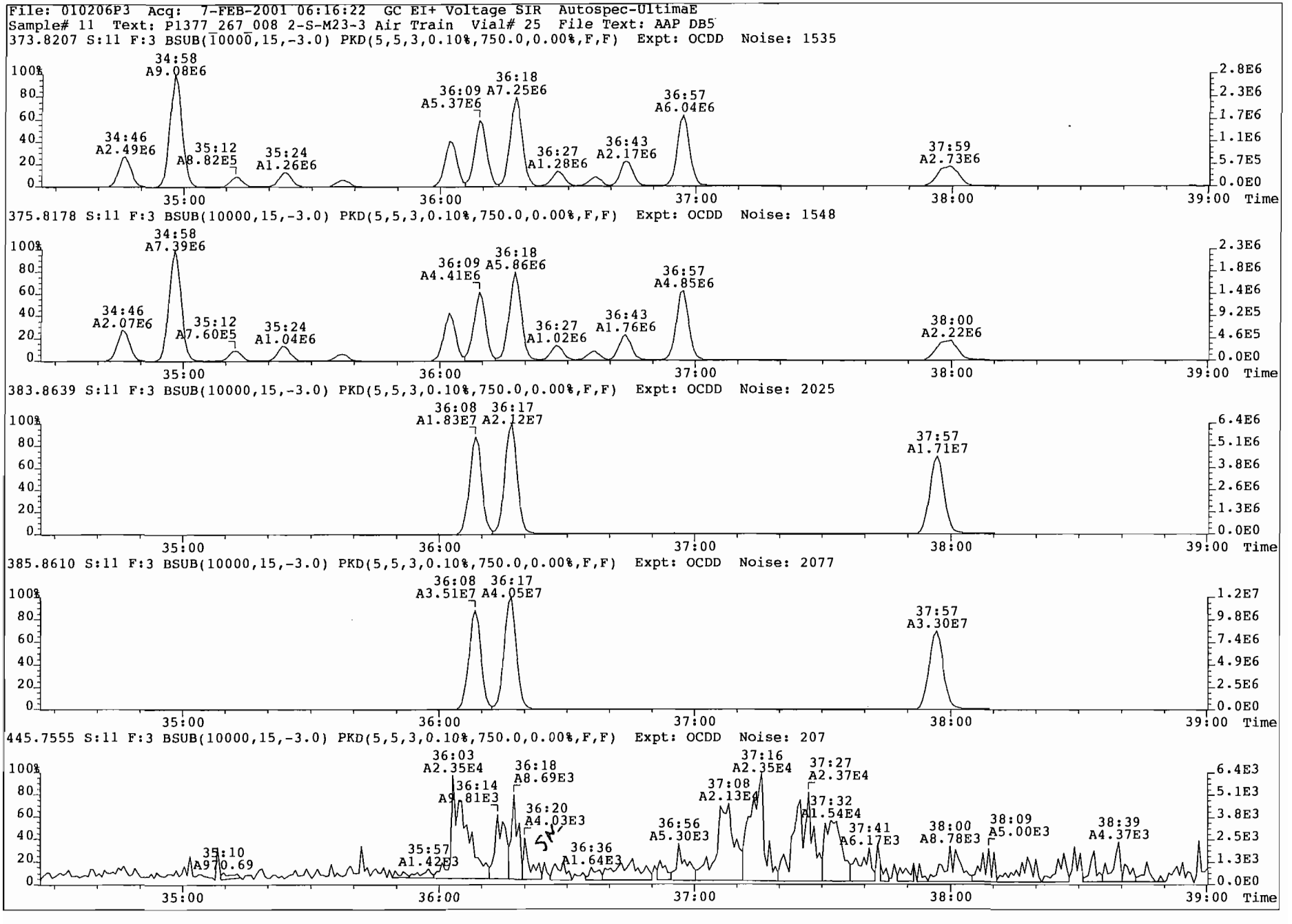


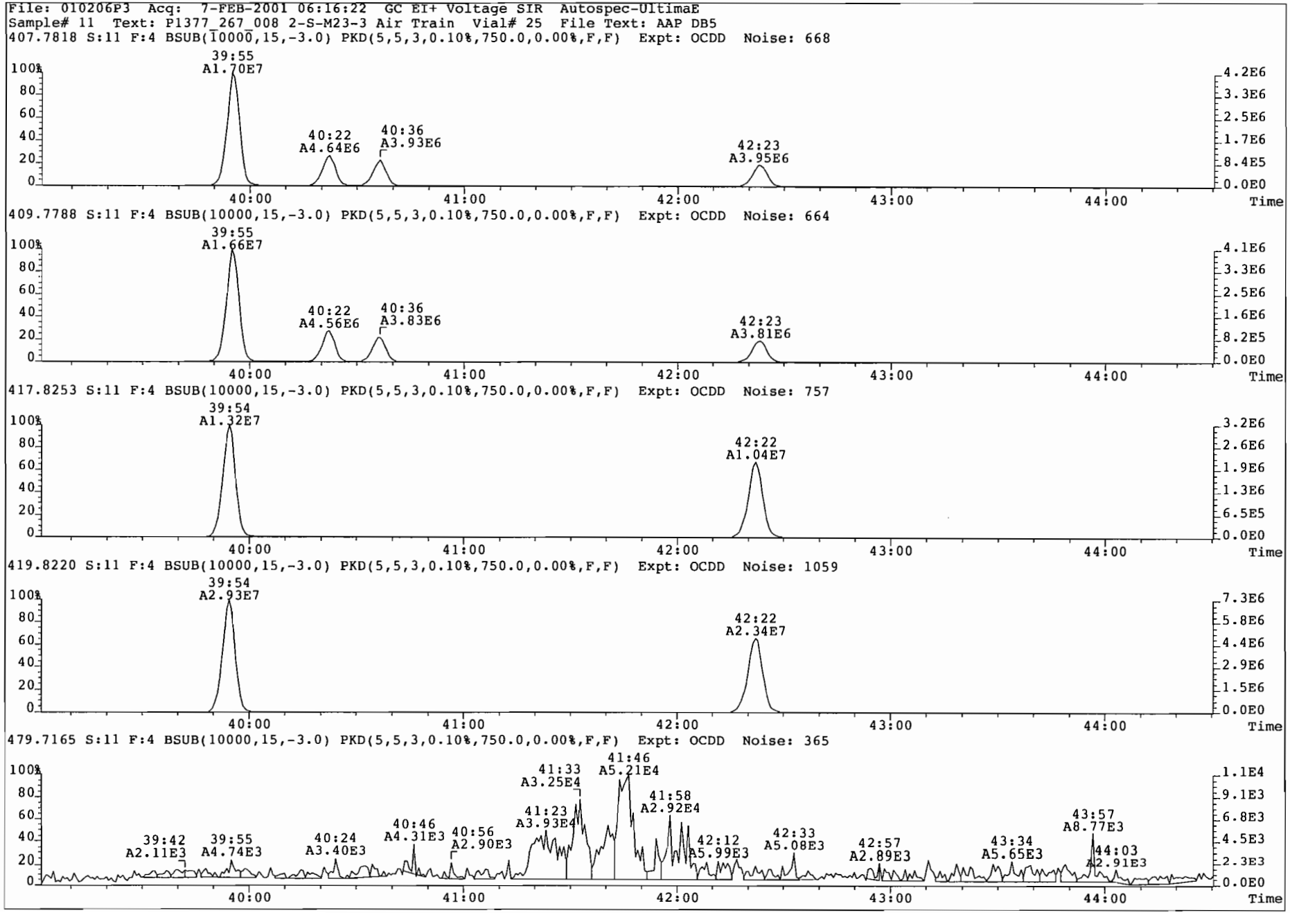
316.9824 S:11 Expt: OCDD

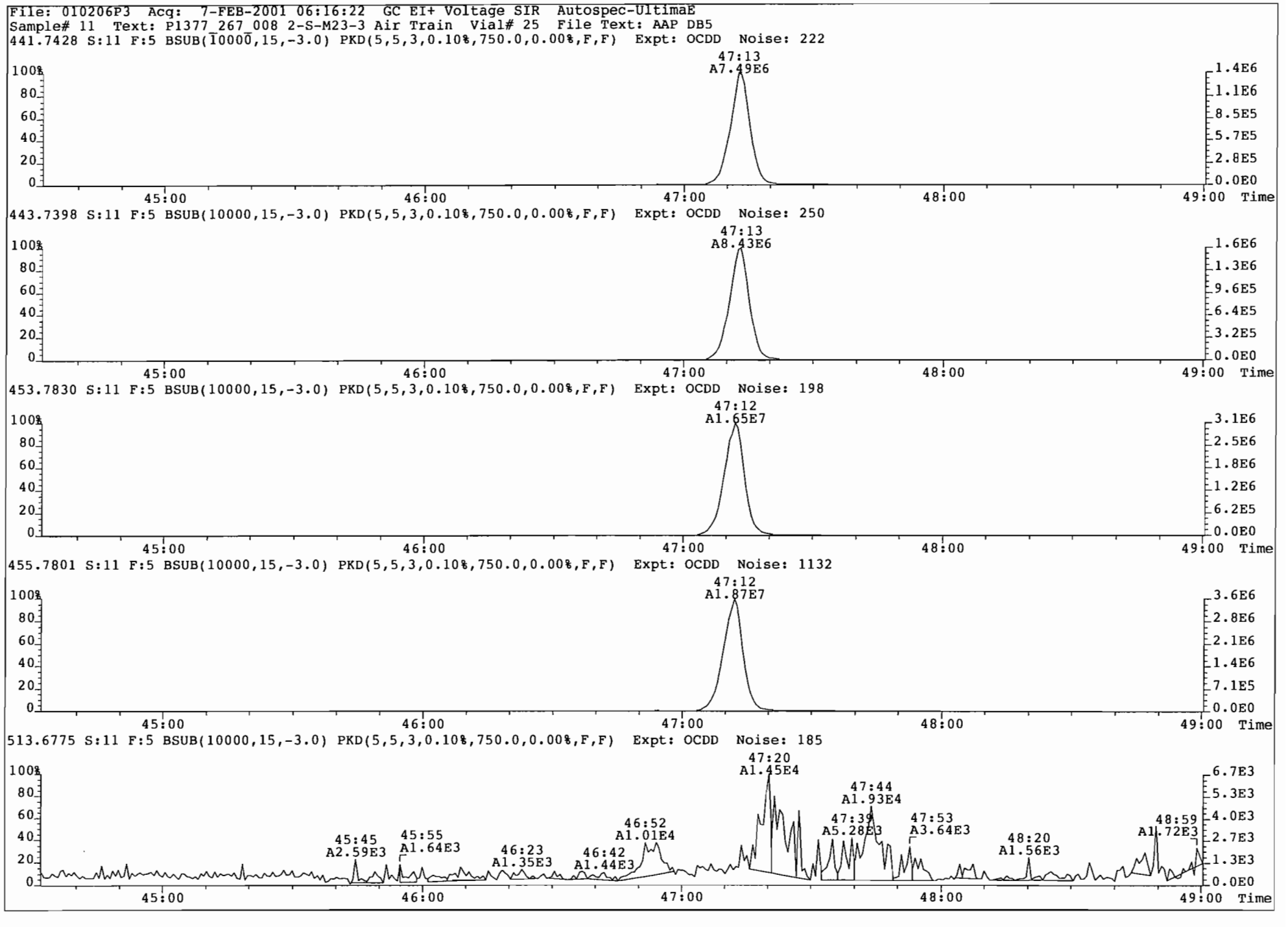



File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 765
30:38 A6.67E6
30:29 A4.04E6
30:49 A6.49E5
31:18 A2.49E6
31:23 A8.96E5
31:33 A6.62E5
31:45 A3.75E6
32:02 A3.15E6
32:13 A9.17E5
32:37 A4.89E5
32:45 A3.70E6
33:12 A2.45E5
33:57 A7.42E5
341.8568 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 562
30:38 A4.32E6
30:29 A2.59E6
30:49 A4.43E5
31:13 A2.70E5
31:18 A1.36E6
31:23 A5.80E5
31:33 A4.32E5
31:45 A2.46E6
32:00 A2.07E6
32:13 A5.71E5
32:38 A3.16E5
32:45 A2.42E6
33:12 A1.69E5
33:57 A5.01E5
351.9000 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 535
31:44 A4.78E7
32:51 A4.30E7
353.8970 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 427
31:44 A3.07E7
32:51 A2.73E7
409.7974 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 262
30:06 A2.64E3
30:38 A3.83E3
31:05 A2.43E3
31:17 A5.63E3
31:35 A1.24E4
31:51 A8.22E3
31:56 A2.36E3
32:07 A1.70E3
32:11 A2.76E3
32:45 A1.33E3
33:00 A3.16E3
33:12 A1.70E4
33:34 A2.26E3
33:58 A3.05E3
34:01 A4.69E3
34:10 A2.47E3
30:00
31:00
32:00
33:00
34:00
Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 765
30:38 A6.67E6
30:29 A4.04E6
30:49 A6.49E5
31:18 A2.49E6
31:23 A8.97E5
31:33 A6.62E5
31:45 A3.75E6
32:02 A3.15E6
32:13 A9.17E5
32:37 A4.89E5
32:45 A3.70E6
33:12 A2.45E5
33:57 A7.42E5
341.8568 S:11 F:2 BSUB(10000,15,-3.0) Expt: OCDD Noise: 562
30:38 A4.32E6
30:29 A2.59E6
30:49 A4.43E5
31:18 A1.62E6
31:23 A5.81E5
31:33 A4.32E5
31:45 A2.46E6
32:00 A2.07E6
32:13 A5.71E5
32:38 A3.16E5
32:45 A2.42E6
33:12 A1.69E5
33:57 A5.01E5
351.9000 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 535
31:44 A4.78E7
32:51 A4.30E7
353.8970 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 427
31:44 A3.07E7
32:51 A2.73E7
409.7974 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 262
30:06 A2.64E3
30:38 A3.83E3
31:05 A2.43E3
31:17 A5.63E3
31:35 A1.24E4
31:51 A8.22E3
31:56 A2.36E3
32:07 A1.70E3
32:11 A2.76E3
32:45 A1.33E3
33:00 A3.16E3
33:12 A1.70E4
33:34 A2.26E3
33:58 A3.05E3
34:01 A4.69E3
34:10 A2.47E3
Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1535
34:58 A9.08E6
34:46 A2.49E6
35:12 A8.82E5
35:24 A1.26E6
36:09 A5.37E6
36:18 A7.25E6
36:27 A1.28E6
36:43 A2.17E6
36:57 A6.04E6
37:59 A2.73E6
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1548
34:58 A7.39E6
34:46 A2.07E6
35:12 A7.60E5
35:24 A1.04E6
36:09 A4.41E6
36:18 A5.86E6
36:27 A1.02E6
36:43 A1.76E6
36:57 A4.85E6
38:00 A2.22E6
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2025
36:08 A1.83E7
36:17 A2.12E7
37:57 A1.71E7
385.8610 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2077
36:08 A3.51E7
36:17 A4.05E7
37:57 A3.30E7
445.7555 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 207
35:10 A9 0.69
35:57 A1.42E3
36:03 A2.35E4
36:14 A9 81E3
36:18 A8.69E3
36:20 A4.03E3
36:36 A1.64E3
36:56 A5.30E3
37:08 A2.13E4
37:16 A2.35E4
37:27 A2.37E4
37:32 A1.54E4
37:41 A6.17E3
38:00 A8.78E3
38:09 A5.00E3
38:39 A4.37E3
Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 668
39:55 A1.70E7
40:22 A4.64E6
40:36 A3.93E6
42:23 A3.95E6
409.7788 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 664
39:55 A1.66E7
40:22 A4.56E6
40:36 A3.83E6
42:23 A3.81E6
417.8253 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 757
39:54 A1.32E7
42:22 A1.04E7
419.8220 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1059
39:54 A2.93E7
42:22 A2.34E7
479.7165 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 365
39:42 A2.11E3
39:55 A4.74E3
40:24 A3.40E3
40:46 A4.31E3
40:56 A2.90E3
41:23 A3.93E4
41:33 A3.25E4
41:46 A5.21E4
41:58 A2.92E4
42:12 A5.99E3
42:33 A5.08E3
42:57 A2.89E3
43:34 A5.65E3
43:57 A8.77E3
44:03 A2.91E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 7-FEB-2001 06:16:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 11 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 25 File Text: AAP DB5
441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 222
47:13
A7.49E6
443.7398 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 250
47:13
A8.43E6
453.7830 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 198
47:12
A1.65E7
455.7801 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1132
47:12
A1.87E7
513.6775 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 185
47:20
A1.45E4
47:44
A1.93E4
45:45
A2.59E3
45:55
A1.64E3
46:23
A1.35E3
46:42
A1.44E3
46:52
A1.01E4
47:39
A5.28E3
47:53
A3.64E3
48:20
A1.56E3
48:59
A1.72E3
45:00
46:00
47:00
48:00
49:00
Time

Client ID: 2-S-M23-3 Filename: 010211Q1 S: 5 Acq: 11-FEB-01 14:02:37
Lab ID: P1377_267_008 GC Column ID: ~~db-5~~ DB-225 ICal: MM2_DB225_000919 Wt/Vol: 1.000
Sample text: P1377_267_008 2-S-M23-3 Air Train Vial: 17

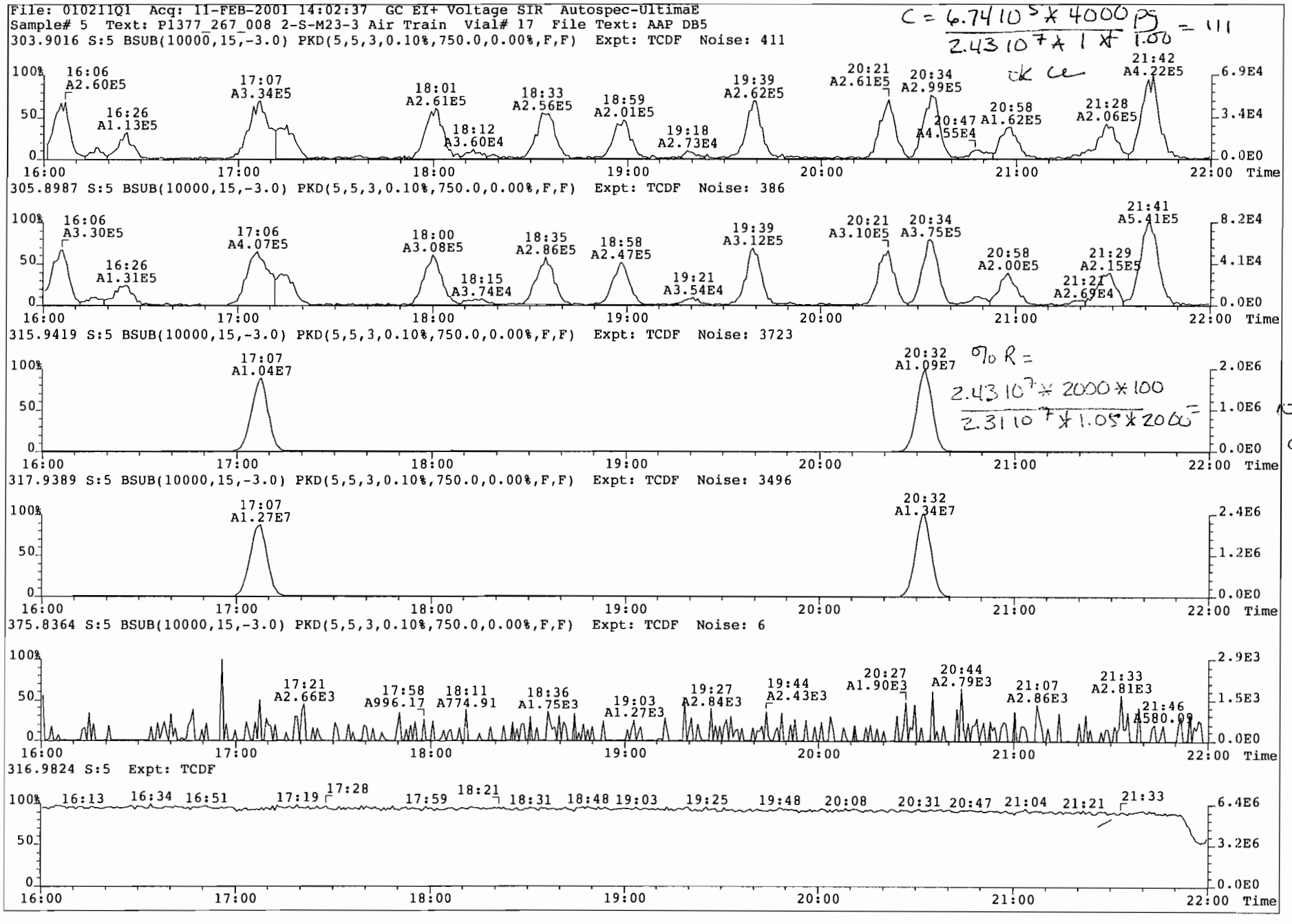
	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Rec
RS	13C-1,2,3,4-TCDF	2.31e+07	0.82 y	-	17:07	109		13984	5.0	-	-
IS/RT	13C-2,3,7,8-TCDF	2.43e+07	0.81 y	1.05	20:32	4010		13984	5.0	124	100
Unk	2,3,7,8-TCDF	6.74e+05	0.80 y	1.00	20:34	110		1544	5.0	12.6	-

Reviewer: CJ

Date: 12 Feb 01

Analyst: GAG

Date: 11 Feb 01


File: 010211Q1 Acq: 11-FEB-2001 14:02:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 5 Text: P1377_267_008 2-S-M23-3 Air Train Vial# 17 File Text: AAP DB5
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 411
16:06 A2.60E5
16:26 A1.13E5
17:07 A3.34E5
18:01 A2.61E5
18:12 A3.60E4
18:33 A2.56E5
18:59 A2.01E5
19:18 A2.73E4
19:39 A2.62E5
20:21 A2.61E5
20:34 A2.99E5
20:47 A4.55E4
20:58 A1.62E5
21:28 A2.06E5
21:42 A4.22E5
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 386
16:06 A3.30E5
16:26 A1.31E5
17:06 A4.07E5
18:00 A3.08E5
18:15 A3.74E4
18:35 A2.86E5
18:58 A2.47E5
19:21 A3.54E4
19:39 A3.12E5
20:21 A3.10E5
20:34 A3.75E5
20:58 A2.00E5
21:21 A2.69E4
21:29 A2.15E5
21:41 A5.41E5
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 3723
17:07 A1.04E7
20:32 A1.09E7
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 3496
17:07 A1.27E7
20:32 A1.34E7
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 6
17:21 A2.66E3
17:58 A996.17
18:11 A774.91
18:36 A1.75E3
19:03 A1.27E3
19:27 A2.84E3
19:44 A2.43E3
20:27 A1.90E3
20:44 A2.79E3
21:07 A2.86E3
21:33 A2.81E3
21:46 A580.99
316.9824 S:5 Expt: TCDF
16:13 16:34 16:51 17:19 17:28 17:59 18:21 18:31 18:48 19:03 19:25 19:48 20:08 20:31 20:47 21:04 21:21 21:33
16:00 17:00 18:00 19:00 20:00 21:00 22:00 Time

ALTA ANALYTICAL PERSPECTIVES

PART 4

SYSTEM PERFORMANCE

MS & GC

CONCAL

DOCUMENTATION FOR THE ANALYSIS
OF
POLYCHLORINATED DIBENZO-*P*-DIOXINS & DIBENZOFURANS

PCDD/PCDF CALIBRATION VERIFICATION

Alta Analytical Perspectives

Reviewer: CL

Initial Calibration Date: 10/05/00

Instrument ID: MM-1 GC Column ID: DB-5

Date: 11 Feb 01

VER Data Filename: 010206P3 S#1 Analysis Date: 6-FEB-01 Time: 21:39:47

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUND. RATIO	QC LIMITS	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	y	5.52 ✓	3.75 - 6.25
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	y	26.94 ✓	18.75-31.25
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	27.22 ✓	18.75-31.25
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	26.20 ✓	18.75-31.25
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	y	26.73 ✓	18.75-31.25
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	y	25.93 ✓	18.75-31.25
OCDD	M+2/M+4	0.89	0.76-1.02	y	52.66 ✓	37 - 65
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	y	4.95 ✓	3.75 - 6.25
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	25.55 ✓	18.75-31.25
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	y	25.32 ✓	18.75-31.25
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	25.61 ✓	18.75-31.25
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	25.27 ✓	18.75-31.25
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	y	25.56 ✓	18.75-31.25
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	y	25.72 ✓	18.75-31.25
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	y	24.79 ✓	18.75-31.25
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	y	24.88 ✓	18.75-31.25
OCDF	M+2/M+4	0.90	0.76-1.02	y	49.70 ✓	35 - 65

Analyst: GAG

Date: 11 Feb 01

PCDD/PCDF CALIBRATION VERIFICATION

Alta Analytical Perspectives

Reviewer: CA

Date: 11 Feb 01

Initial Calibration Date: 10/05/00

Instrument ID: MM-1 GC Column ID: DB-5

VER Data Filename: 010206P3 S#1 Analysis Date: 6-FEB-01 Time: 21:39:47

LABELED COMPOUNDS	M/Z'S FORMING RATIO	ION ABUND. RATIO	QC LIMITS	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	96.7	70.0 - 130.0
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	y	99.3	70.0 - 130.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	93.0	70.0 - 130.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	94.5	70.0 - 130.0
13C-OCDD	M+2/M+4	0.89	0.76-1.02	y	90.0	70.0 - 130.0
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	y	93.4	70.0 - 130.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	92.4	70.0 - 130.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	88.5	70.0 - 130.0
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	y	89.5	70.0 - 130.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	87.0	70.0 - 130.0
37Cl-2,3,7,8-TCDD					104.0	75.0 - 125.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	101.7	75.0 - 125.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	103.6	75.0 - 125.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	106.8	75.0 - 125.0
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	y	103.4	75.0 - 125.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	93.6	75.0 - 125.0

Analyst: GAG

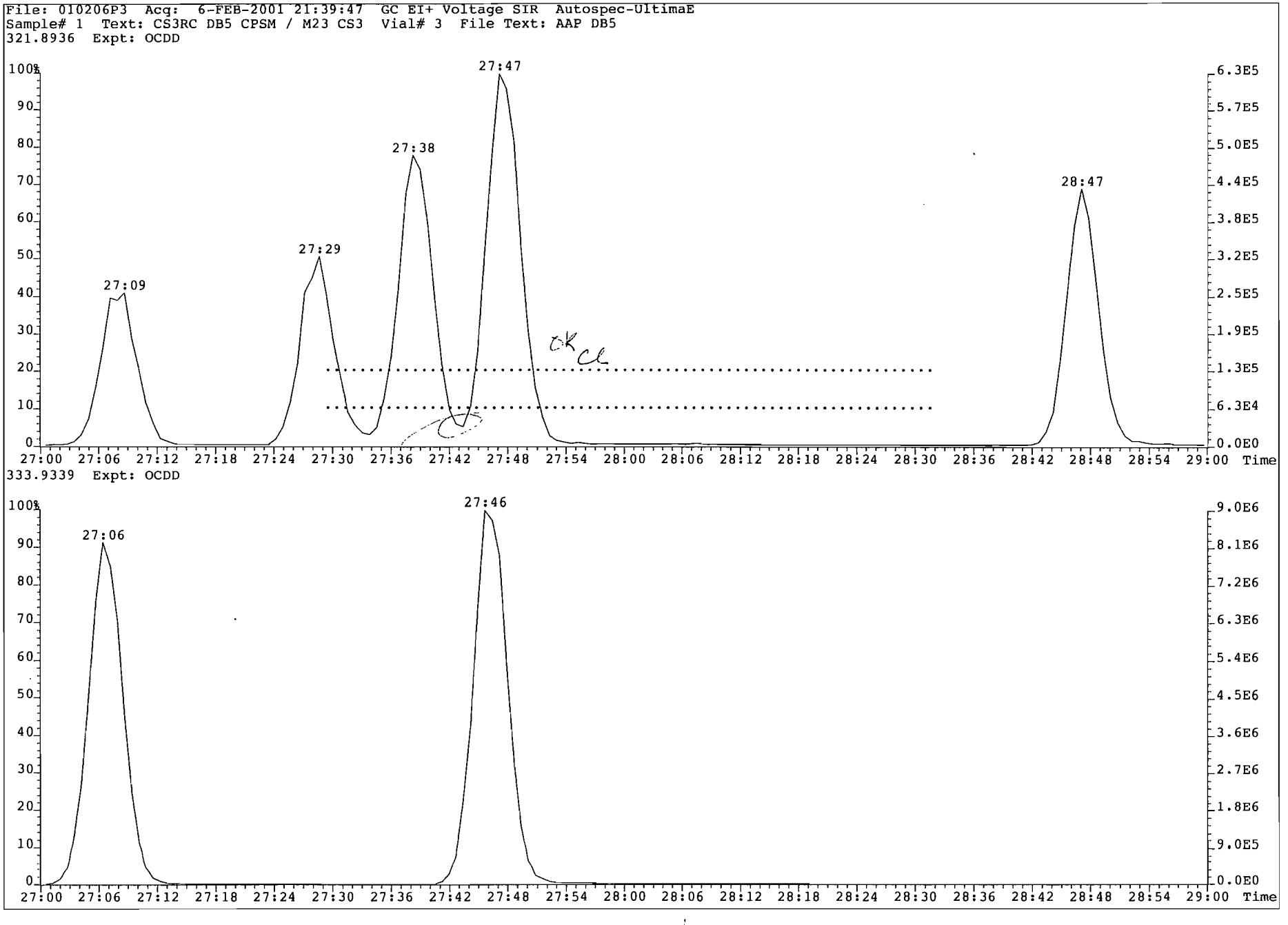
Date: 11 Feb 01

Client ID: DB5 CPSM / M23 CS3 Filename: 010206P3 S: 1 Acq: 6-FEB-01 21:39:47 ConCal: 010206P3- Page 1 of 1
Lab ID: CS3RC ✓ GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

	Name	Resp	RA	RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	4.54e+06	0.77 y✓	1.26	27:48	5.52			881	2.5	0.0197	
	1,2,3,7,8-PeCDD	1.49e+07	1.57 y	1.01	33:14	26.9			511	2.5	0.0215	
	1,2,3,4,7,8-HxCDD	1.42e+07	1.25 y✓	1.14	37:08	27.2			2162	2.5	0.0835	
	1,2,3,6,7,8-HxCDD	1.23e+07	1.25 y	1.02	37:15	26.2			2162	2.5	0.0929	
	1,2,3,7,8,9-HxCDD	1.40e+07	1.23 y✓	1.14	37:34	26.7			2162	2.5	0.0832	
	1,2,3,4,6,7,8-HpCDD	1.32e+07	1.03 y	1.13	41:34	25.9			3488	2.5	0.163	
	OCDD	1.89e+07	0.89 y✓	1.03	46:54	52.7			1124	2.5	0.0882	
	2,3,7,8-TCDF	4.41e+06	0.75 y✓	1.05	26:55	4.95			1920	2.5	0.0404	
	1,2,3,7,8-PeCDF	2.02e+07	1.52 y	1.04	31:45	25.5			974	2.5	0.0275	
	2,3,4,7,8-PeCDF	2.03e+07	1.54 y✓	1.05	32:53	25.3			974	2.5	0.0271	
	1,2,3,4,7,8-HxCDF	1.74e+07	1.24 y	1.13	36:09	25.6			3466	2.5	0.0638	
	1,2,3,6,7,8-HxCDF	1.87e+07	1.24 y✓	1.24	36:18	25.3			3466	2.5	0.0583	
	2,3,4,6,7,8-HxCDF	1.78e+07	1.21 y	1.16	36:57	25.6			3466	2.5	0.0620	
	1,2,3,7,8,9-HxCDF	1.57e+07	1.23 y✓	1.02	37:58	25.7			3466	2.5	0.0709	
	1,2,3,4,6,7,8-HpCDF	1.63e+07	1.04 y	1.54	39:55	24.8			3143	2.5	0.0756	
	1,2,3,4,7,8,9-HpCDF	1.38e+07	1.04 y✓	1.30	42:23	24.9			3143	2.5	0.0897	
	OCDF	2.13e+07	0.90 y✓	1.15	47:13	49.7			994	2.5	0.0600	
	Total Tetra-Dioxins	1.81e+07	0.76 y	1.26	24:05	22.0			881	2.5	0.0197	
	Total Penta-Dioxins	3.99e+07	1.56 y	1.01	30:42	72.1			511	2.5	0.0215	
	Total Hexa-Dioxins	4.20e+07	1.22 y	1.10	35:25	83.1			2162	2.5	0.0863	
	Total Hepta-Dioxins	2.44e+07	1.02 y	1.13	40:22	47.8			3488	2.5	0.163	
	Total Tetra-Furans	1.09e+07	0.75 y	1.05	21:55	12.2			1920	2.5	0.0404	
	1st Fnc. Penta-Furans	1.76e+07	1.60 y	1.05	28:54	22.0			2095	2.5	0.0587	
	Total Penta-Furans	5.71e+07	1.52 y	1.05	31:45	71.7			974	2.5	0.0273	
	PeCDF Totals:					93.7						
	Total Hexa-Furans	7.17e+07	1.28 y	1.14	34:46	105			3466	2.5	0.0634	
	Total Hepta-Furans	3.01e+07	1.04 y	1.42	39:55	49.7			3143	2.5	0.0820	
IS	13C-2,3,7,8-TCDD	6.53e+07	0.79 y✓	1.13	27:46	96.7						
IS	13C-1,2,3,7,8-PeCDD	5.47e+07	1.56 y	0.93	33:13	99.3						
IS	13C-1,2,3,6,7,8-HxCDD	4.58e+07	1.25 y✓	0.93	37:14	93.0						
IS	13C-1,2,3,4,6,7,8-HpCDD	4.52e+07	1.05 y	0.91	41:32	94.5						
IS	13C-OCDD	3.49e+07	0.89 y	0.73	46:53	90.0						
IS	13C-2,3,7,8-TCDF	8.52e+07	0.79 y	1.06	26:53	93.4						
IS	13C-1,2,3,7,8-PeCDF	7.62e+07	1.58 y	0.96	31:44	92.4						
IS	13C-1,2,3,6,7,8-HxCDF	5.99e+07	0.52 y✓	1.28	36:17	88.5						
IS	13C-1,2,3,4,6,7,8-HpCDF	4.26e+07	0.46 y	0.90	39:54	89.5						
IS	13C-OCDF	3.72e+07	0.89 y✓	0.81	47:12	87.0						
RS/RT	13C-1,2,3,4-TCDD	5.95e+07	0.79 y✓	1.00	27:06	100						
RS	13C-1,2,3,4-TCDF	8.60e+07	0.78 y	1.00	25:31	100						
RS/RT	13C-1,2,3,7,8,9-HxCDD	5.28e+07	1.24 y✓	1.00	37:33	100						
PS	37Cl-2,3,7,8-TCDD	3.49e+07		0.51	27:48	104						
PS	13C-2,3,4,7,8-PeCDF	7.54e+07	1.59 y✓	0.97	32:52	102						
PS	13C-1,2,3,4,7,8-HxCDD	4.38e+07	1.26 y	0.92	37:07	104						
PS	13C-1,2,3,4,7,8-HxCDF	5.82e+07	0.52 y✓	0.91	36:08	107						
PS	13C-1,2,3,4,7,8,9-HpCDF	3.77e+07	0.44 y	0.85	42:22	103						
AS	13C-1,2,3,7,8,9-HxCDF	5.29e+07	0.52 y✓	1.07	37:57	93.6						

	EMPC	Rec
	22.0	
	72.1	
	83.5	
	47.8	
	12.2	
	22.1	
	93.9	
	105	
	49.7	
		96.7 —
		99.3 —
		93.0 —
		94.5 —
		90.0 —
		93.4 —
		92.4 —
		88.5 —
		89.5 —
		87.0 —
		-
		-
		-
		104 —
		102 —
		104 —
		107 —
		103 —
		93.6 —

Reviewer: CG
Date: 11 Feb 01
Analyst: GAG
Date: 11 Feb 01


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
321.8936 Expt: OCDD
27:09
27:29
27:38
27:47
28:47
ok cl
333.9339 Expt: OCDD
27:06
27:46
Time

FORM 5
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Alta Analytical Perspectives Episode No.:

Contract No.: SAS No.:

Reviewer: Ce

Instrument ID: MM-1 Initial Calibration Date: 07/25/00

RT Window Data Filename: 010206P3 S#1 Analysis Date: 6-FEB-01 Time: 21:39:47

Date: 11 Feb 01

DB-5 IS Data Filename: 010206P3 S#1 Analysis Date: 6-FEB-01 Time: 21:39:47

DB_225 IS Data Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:05	1,3,6,8-TCDF (F)	21:55
1,2,8,9-TCDD (L)	28:47	1,2,8,9-TCDF (L)	28:57
1,2,4,7,9-PeCDD (F)	30:42	1,3,4,6,8-PeCDF (F)	28:54
1,2,3,8,9-PeCDD (L)	33:40	1,2,3,8,9-PeCDF (L)	33:58
1,2,4,6,7,9-HxCDD (F)	35:25	1,2,3,4,6,8-HxCDF (F)	34:46
1,2,3,7,8,9-HxCDD (L)	37:34	1,2,3,7,8,9-HxCDF (L)	37:58
1,2,3,4,6,7,9-HpCDD (F)	40:22	1,2,3,4,6,7,8-HpCDF (F)	39:55
1,2,3,4,6,7,8-HpCDD (L)	41:34	1,2,3,4,7,8,9-HpCDF (L)	42:23

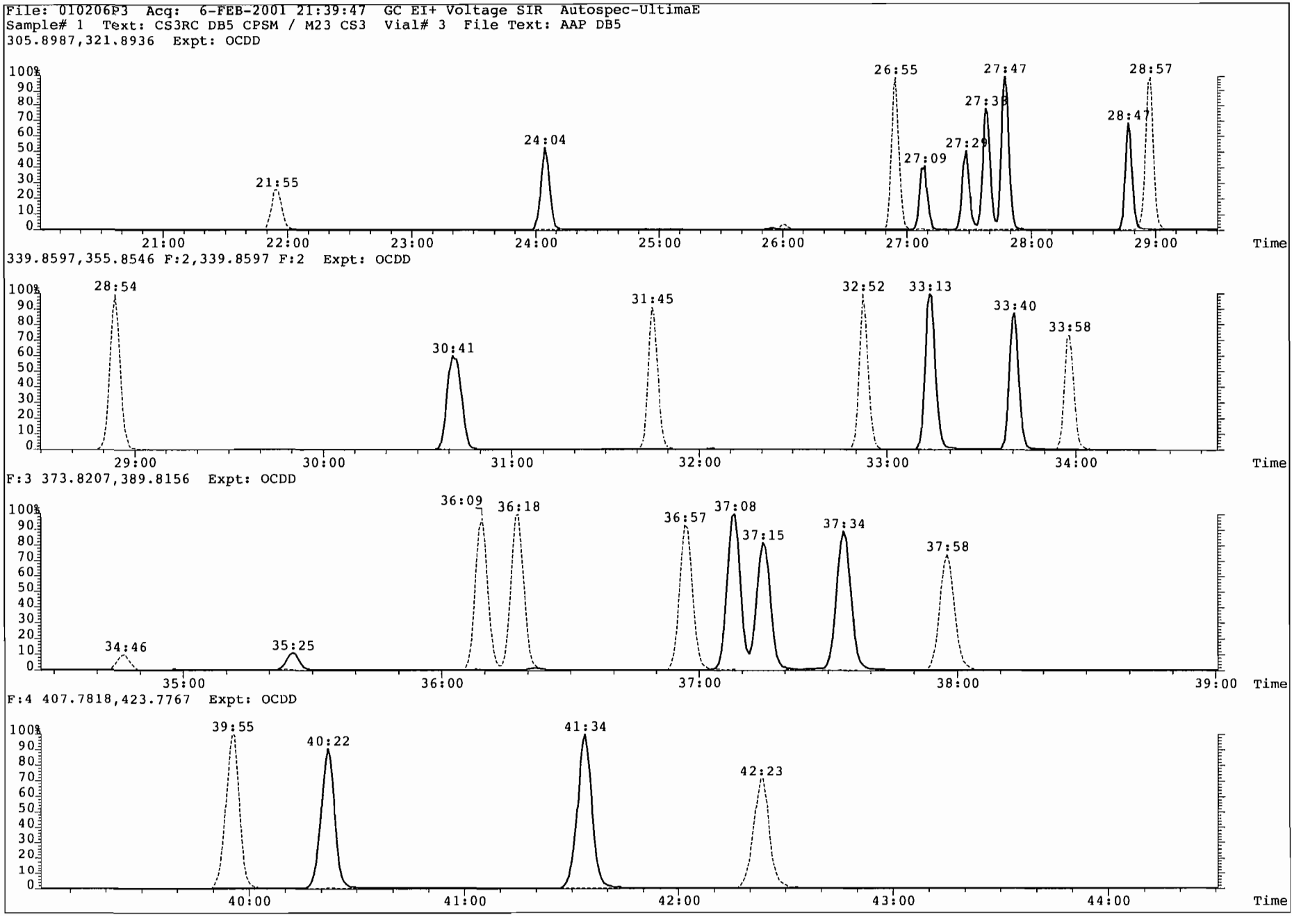
(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

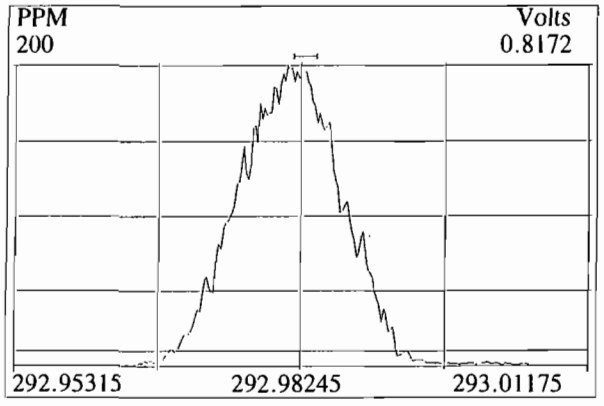
COMPARED PEAKS (1)	% VALLEY HEIGHT BETWEEN
	<25%

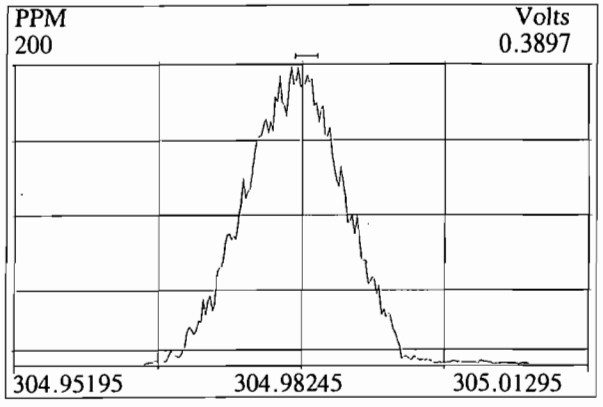
Analyst: GAG

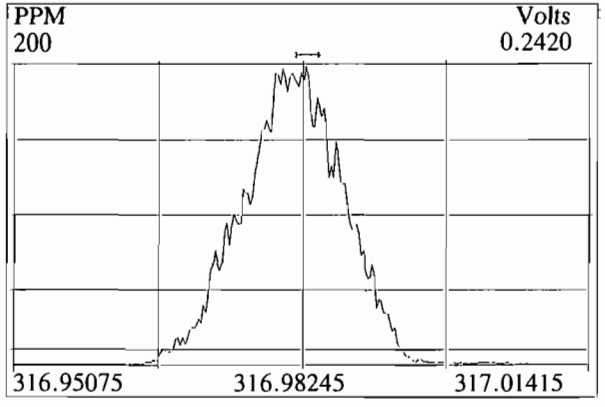
Date: 11 Feb 01

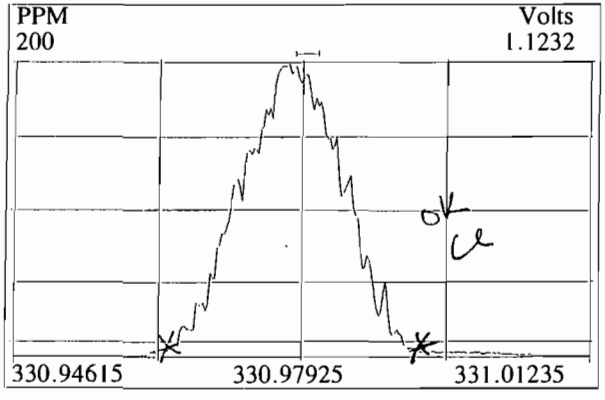

File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
305.8987,321.8936 Expt: OCDD
21:55
24:04
26:55
27:09
27:29
27:38
27:47
28:47
28:57
339.8597,355.8546 F:2,339.8597 F:2 Expt: OCDD
28:54
30:41
31:45
32:52
33:13
33:40
33:58
F:3 373.8207,389.8156 Expt: OCDD
34:46
35:25
36:09
36:18
36:57
37:08
37:15
37:34
37:58
F:4 407.7818,423.7767 Expt: OCDD
39:55
40:22
41:34
42:23
Time

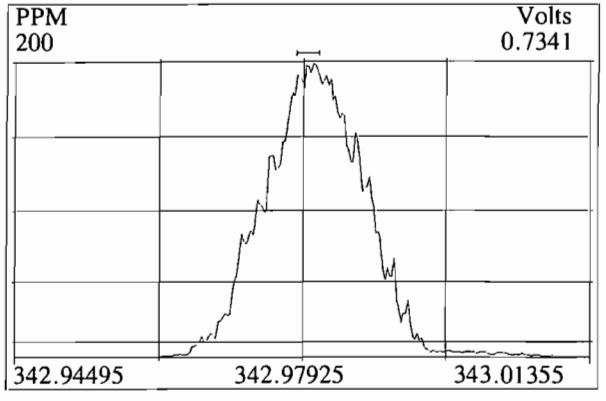
Peak Locate Examination: 6-FEB-2001 20:45 File:010206P2
Experiment:OCDD Function:1 Reference:PFK2

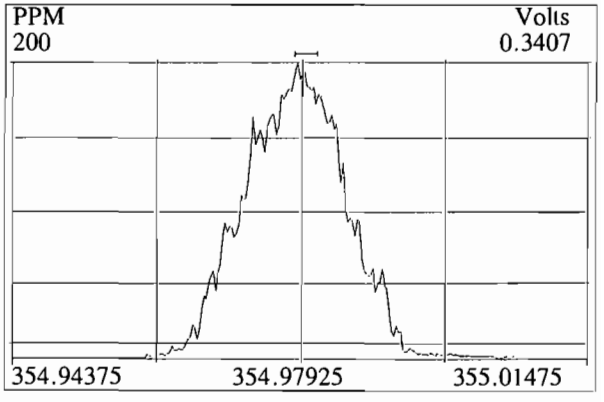


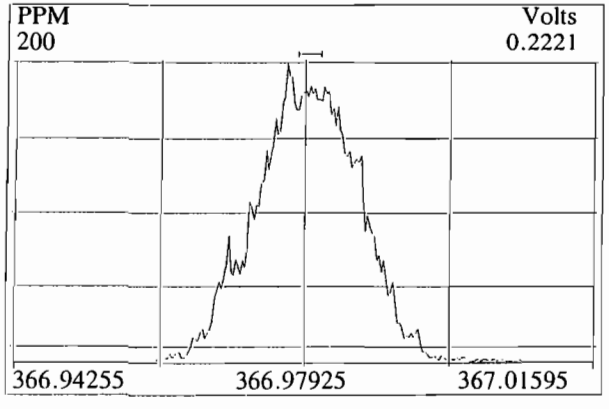


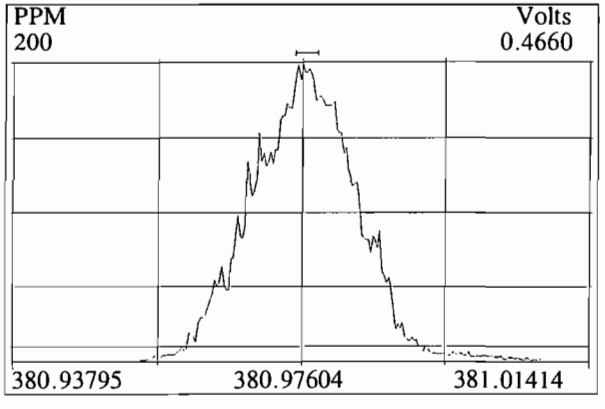




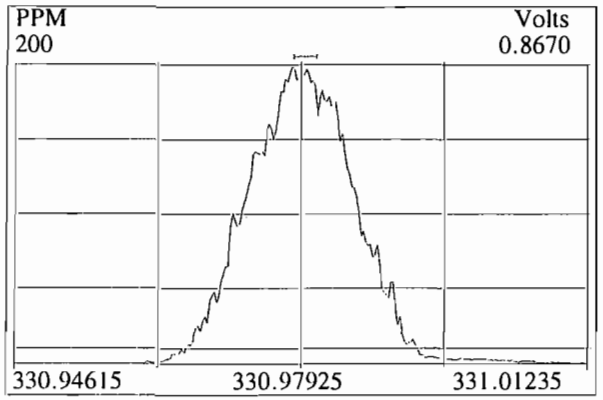


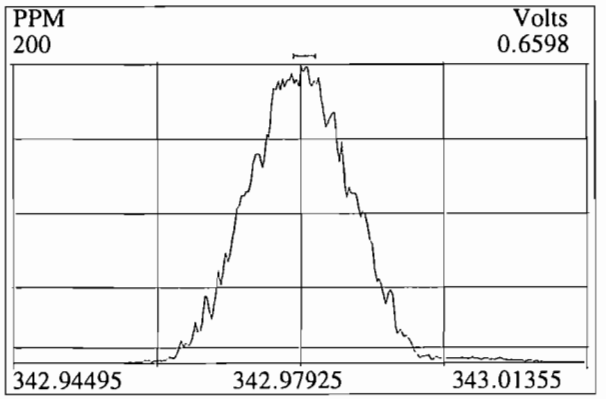


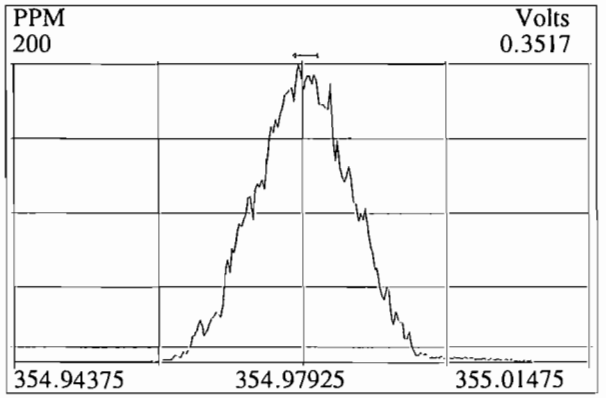


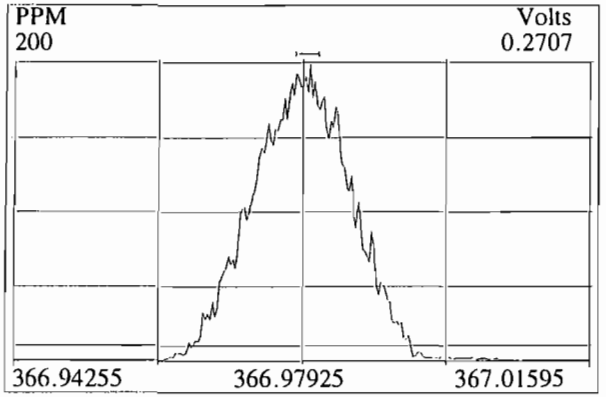


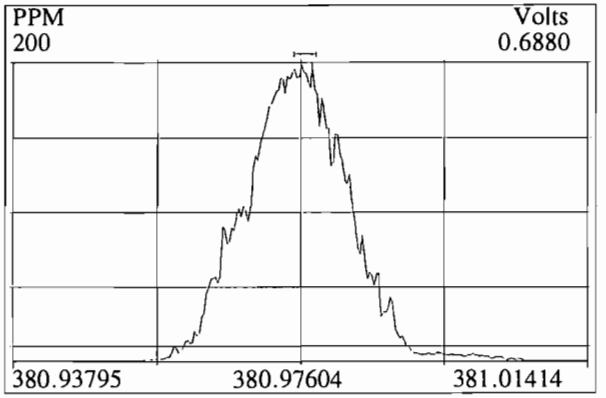
Peak Locate Examination: 6-FEB-2001:20:46 File:010206P2
Experiment:OCDD Function:2 Reference:PFK2

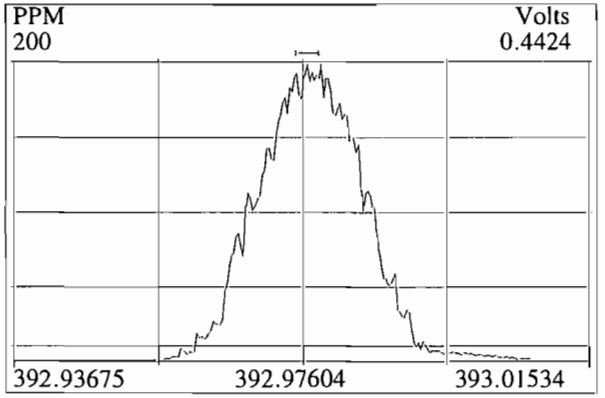


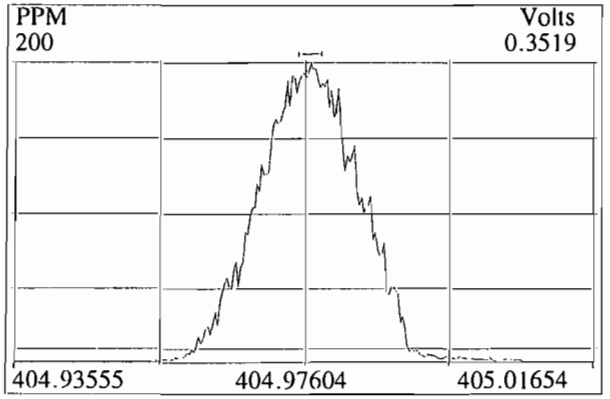


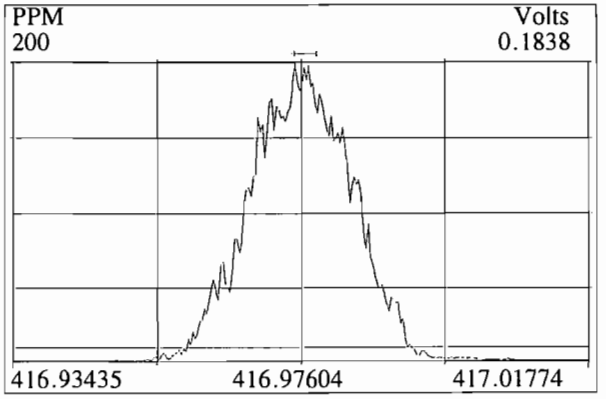




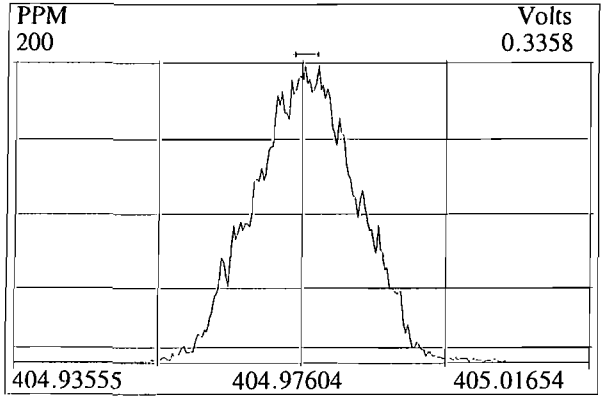


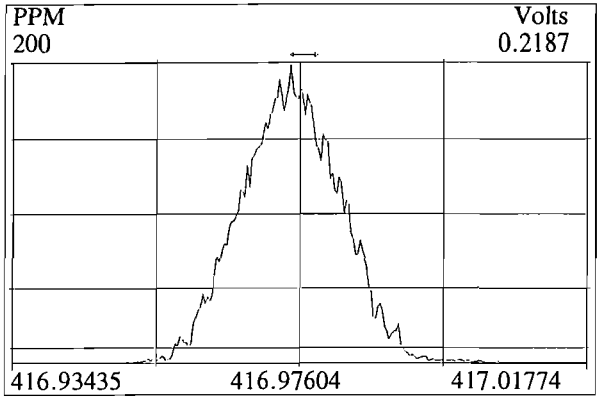


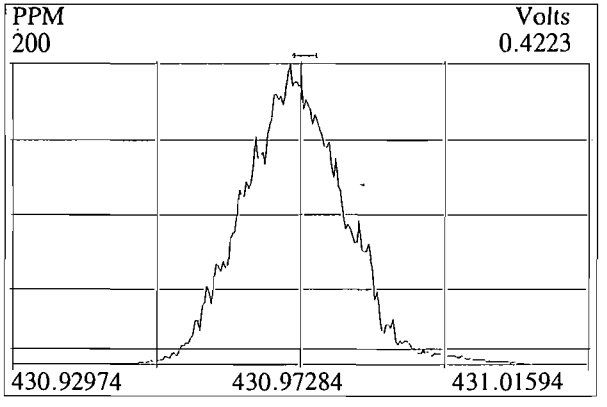


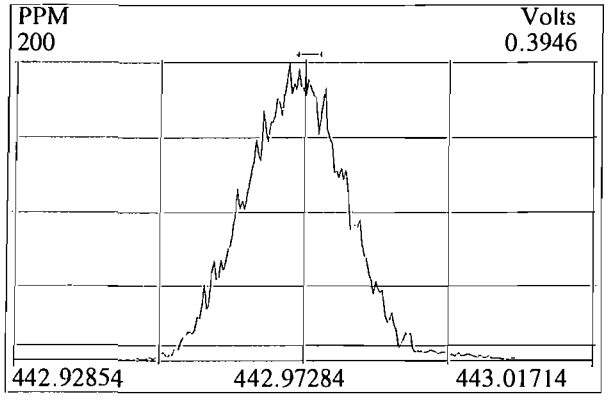


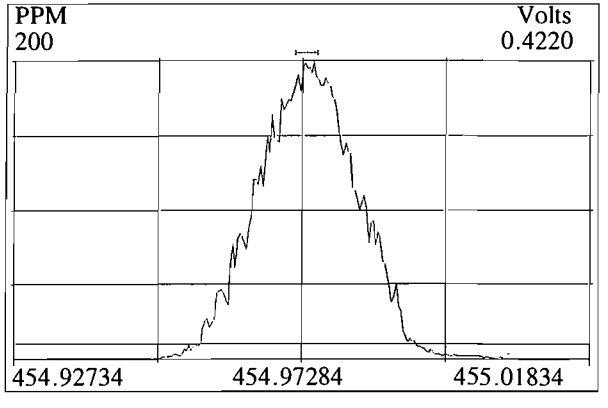
Peak Locate Examination: 6-FEB-2001:20:46 File:010206P2
Experiment:OCDD Function:4 Reference:PFK2

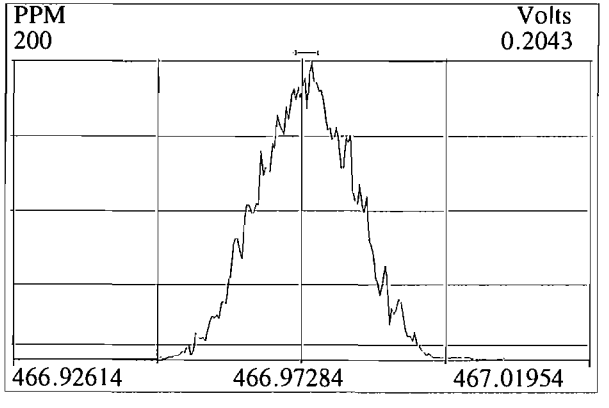


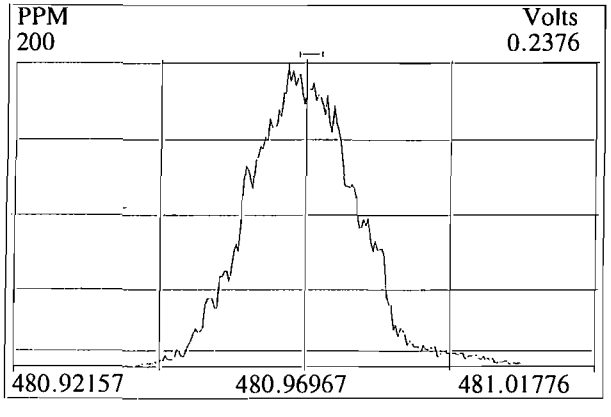




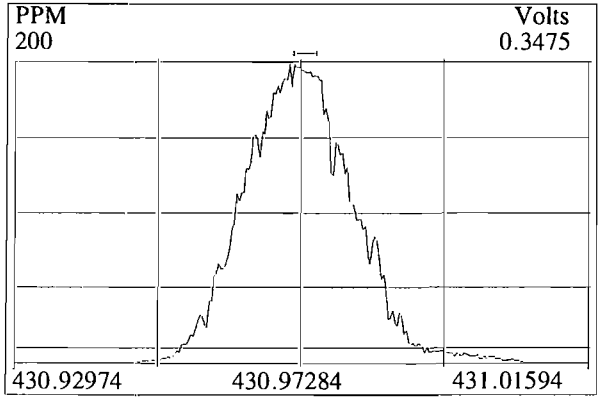


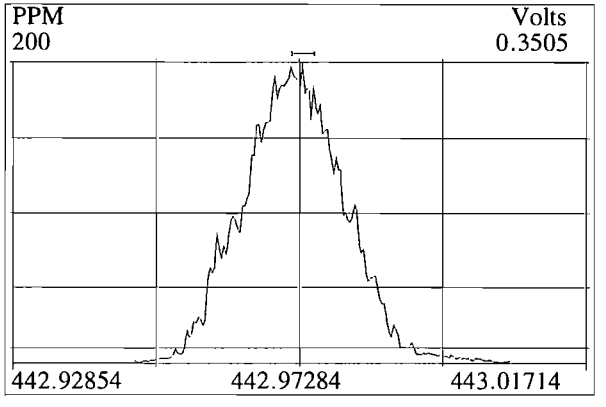


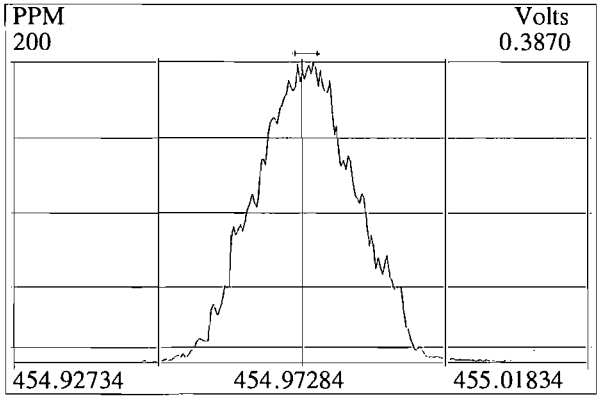


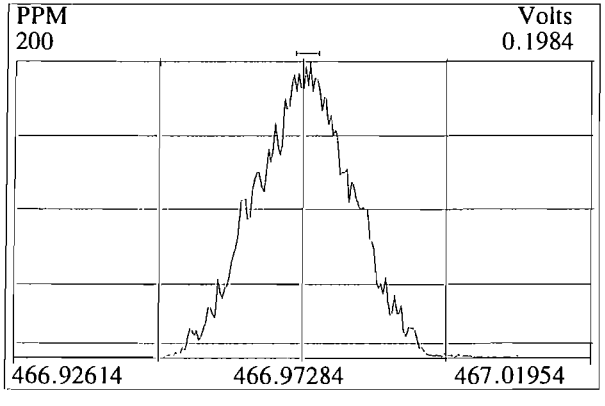


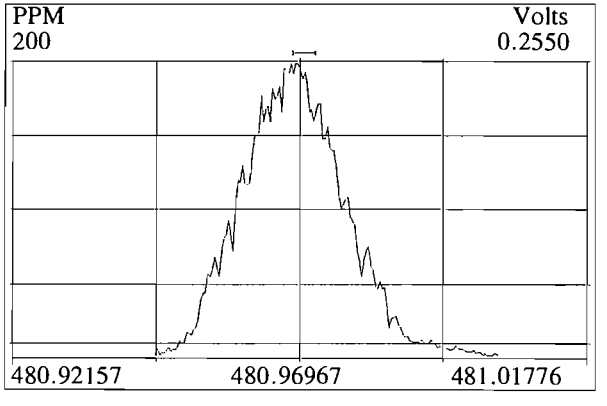
Peak Locate Examination: 6-FEB-2001:20:47 File:010206P2
Experiment:OCDD Function:5 Reference:PFK2

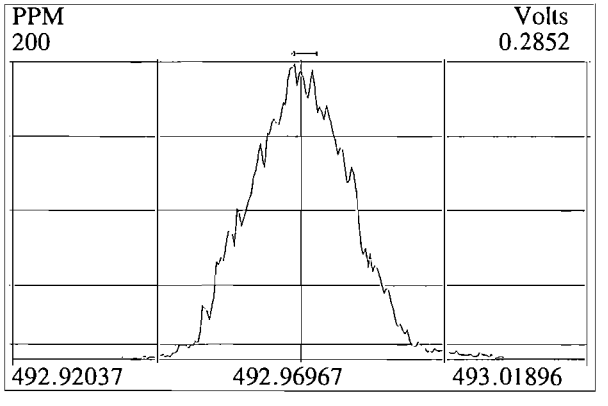


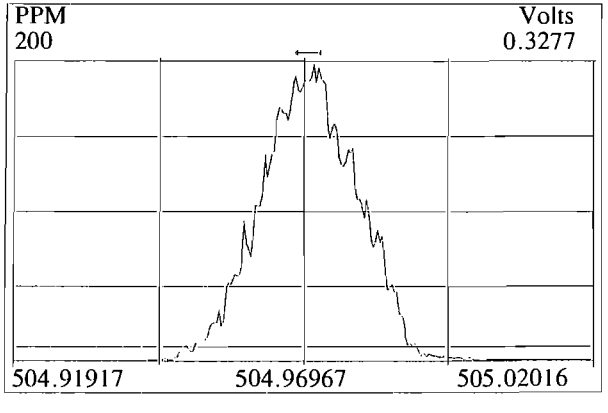


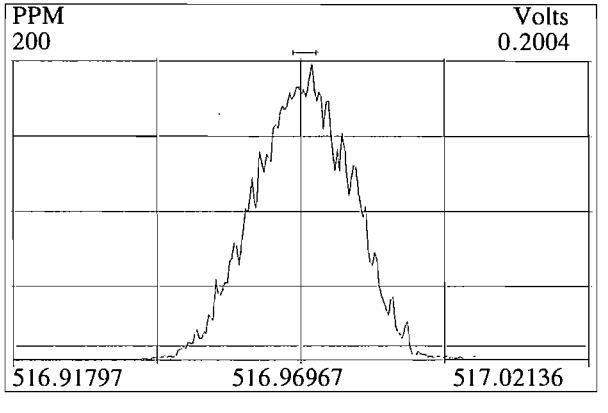


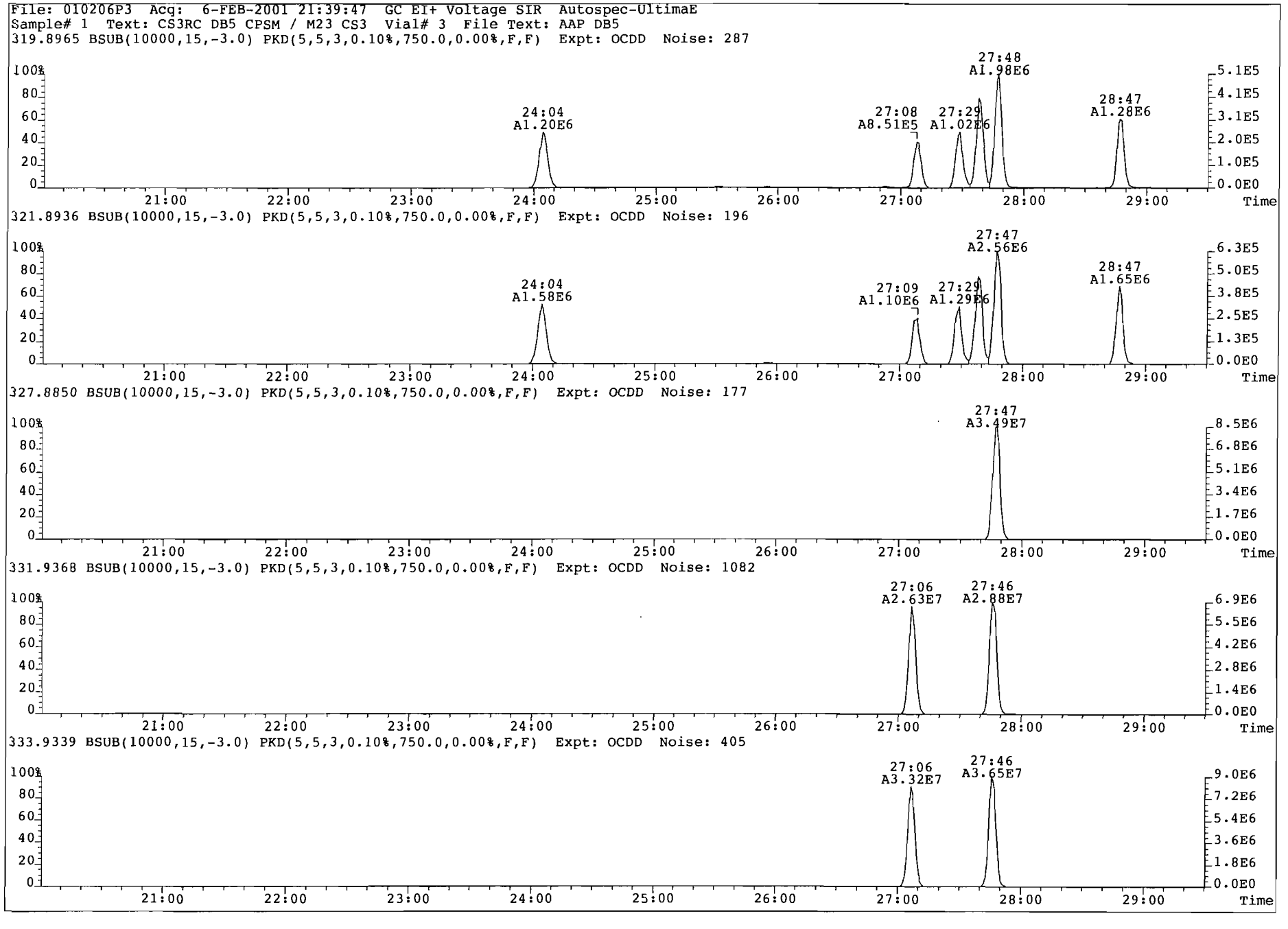


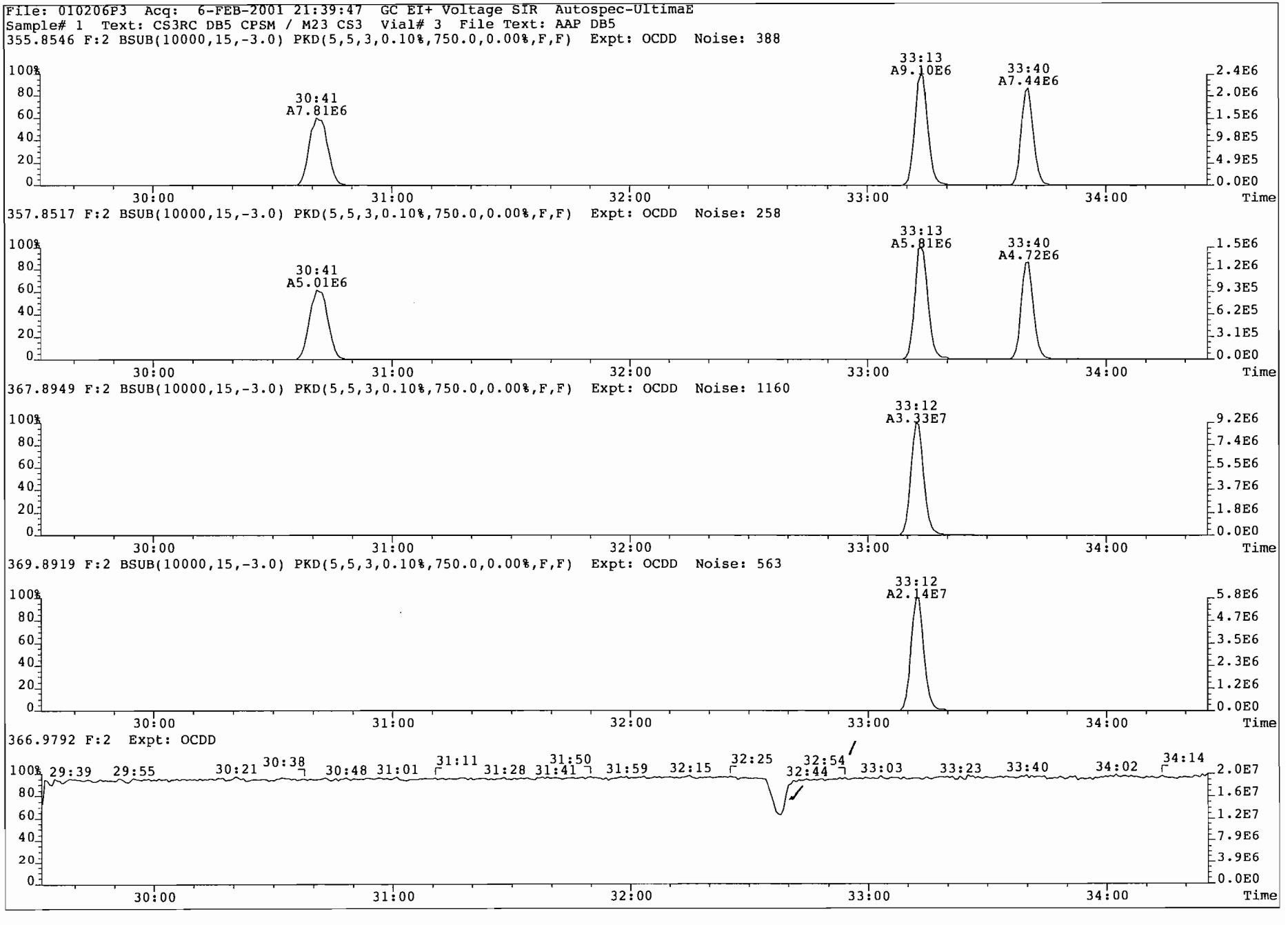


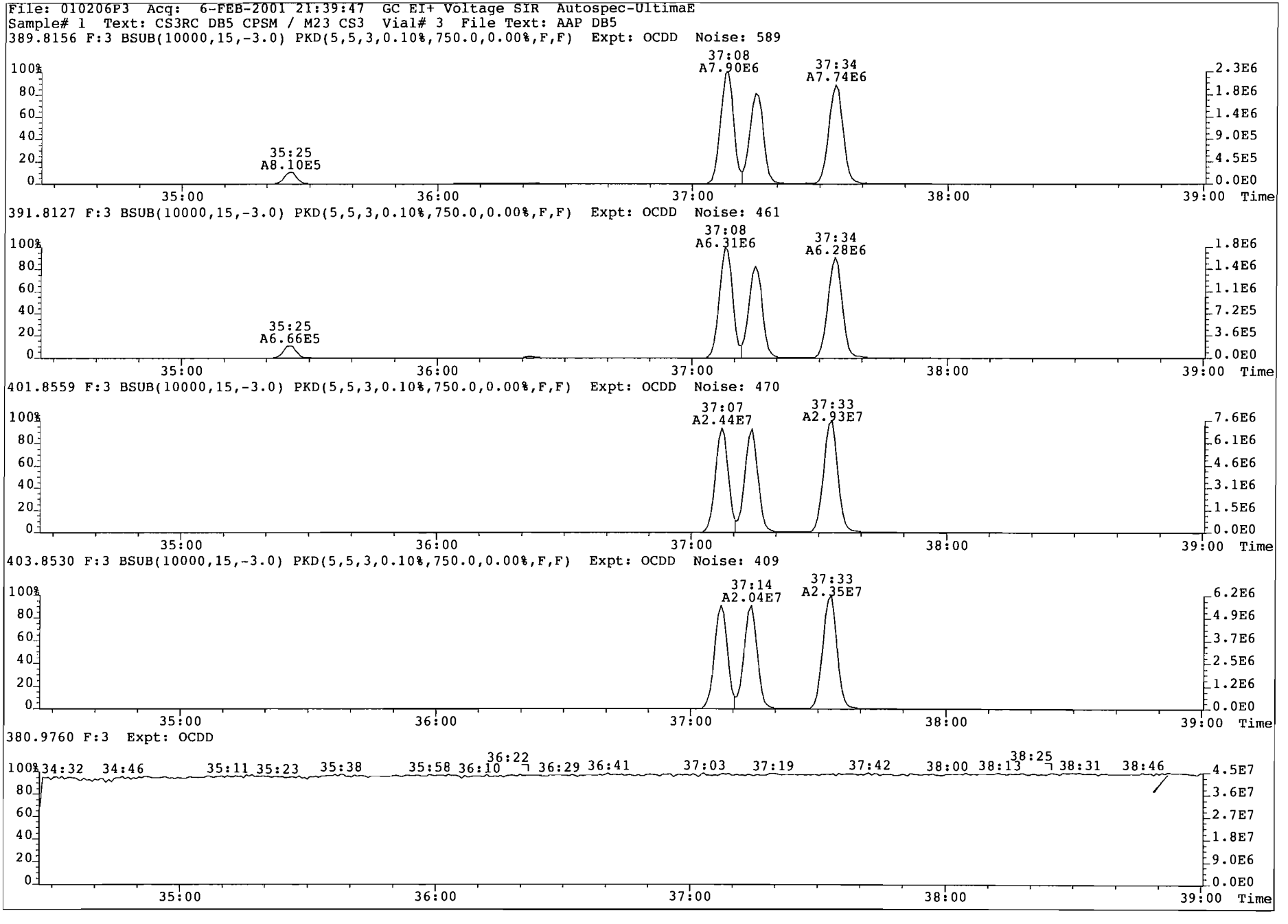


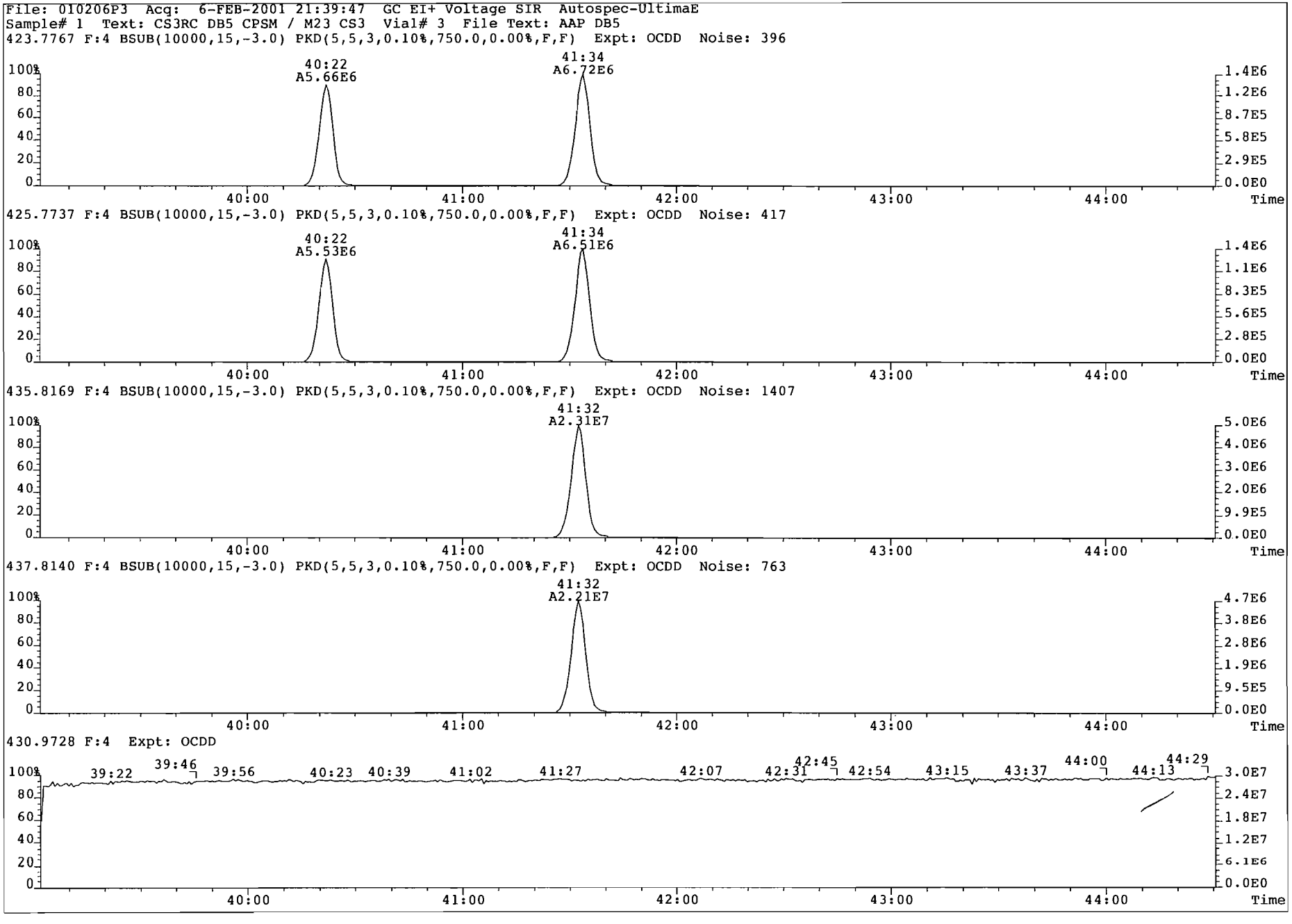


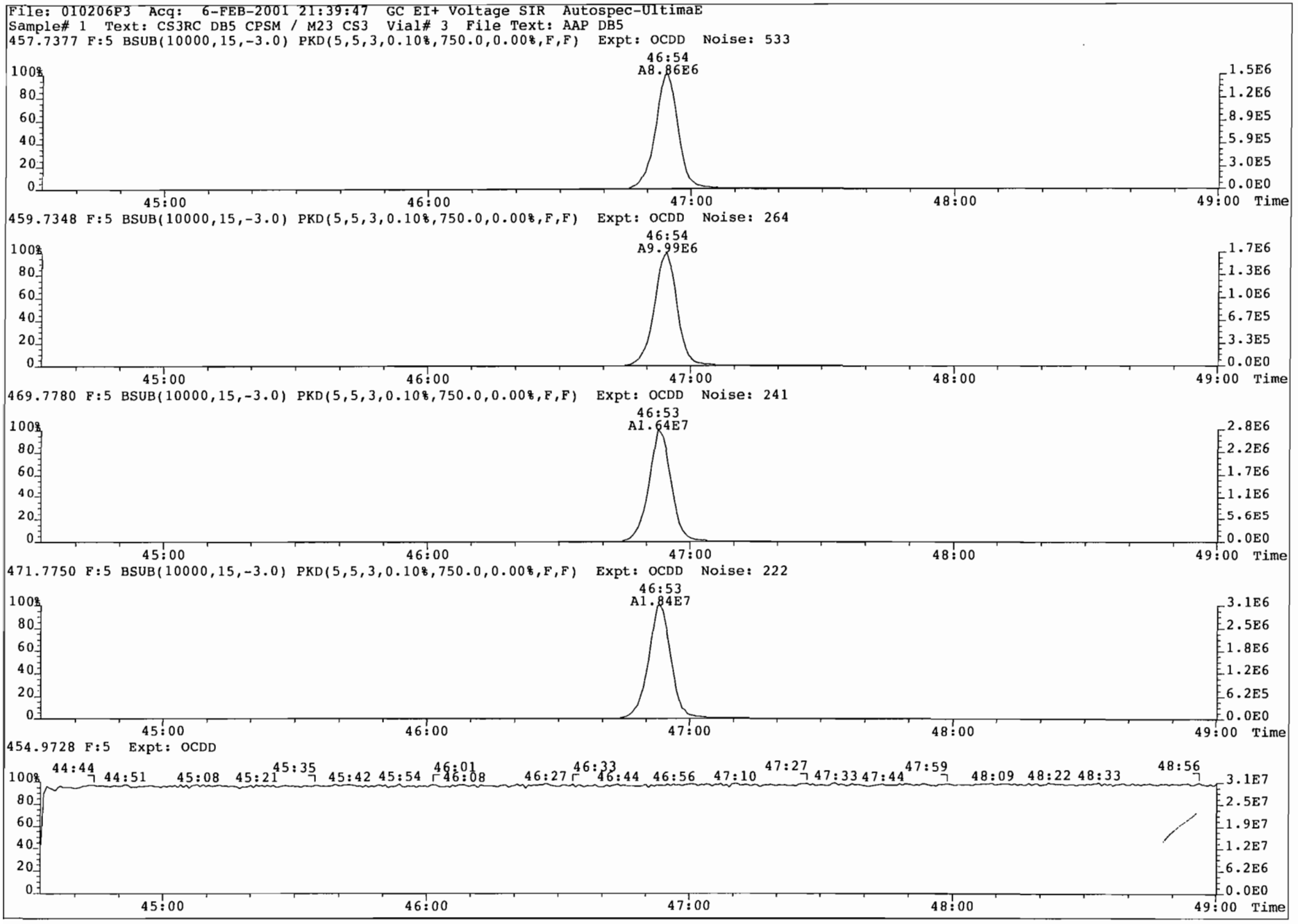


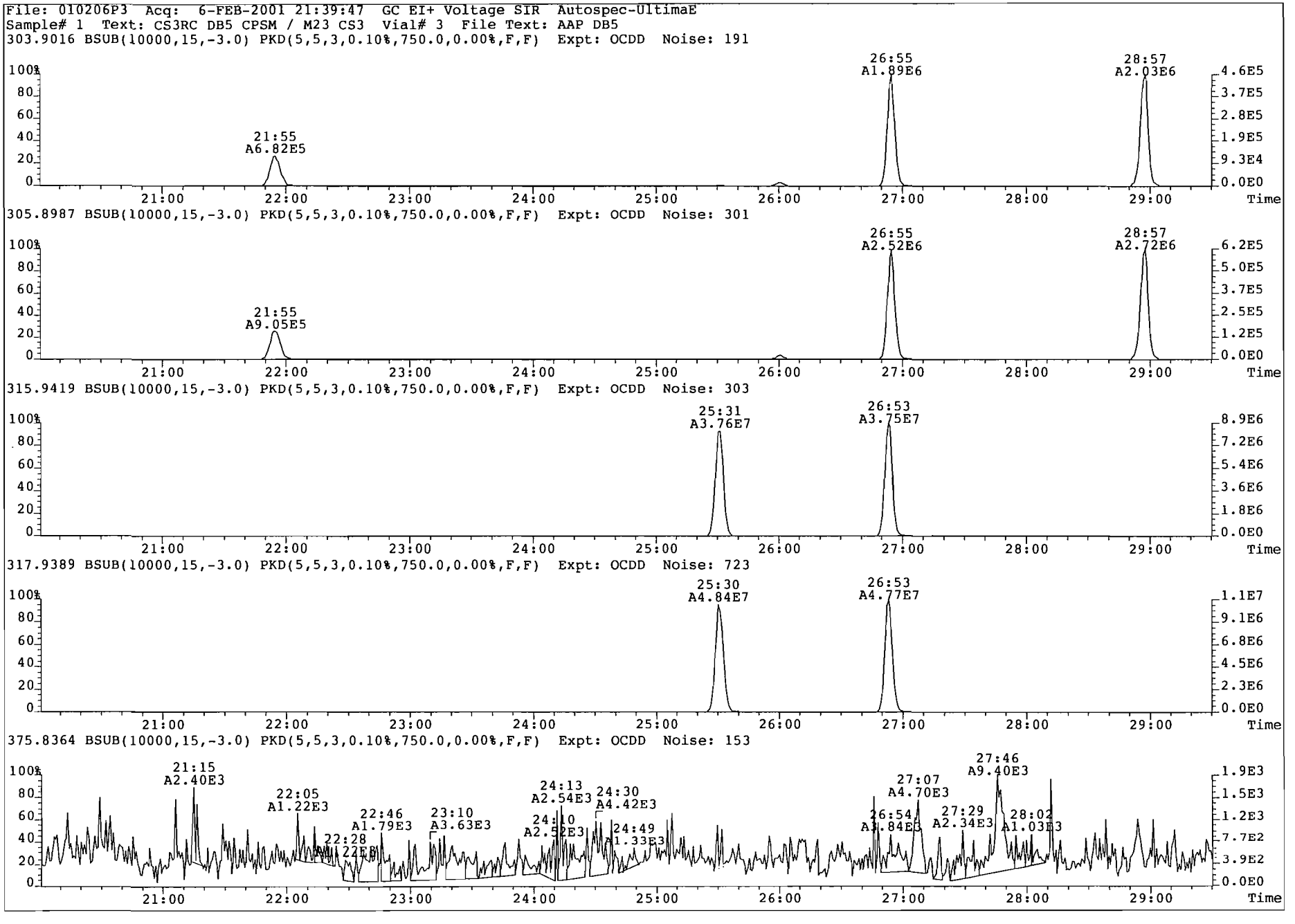

File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 287
24:04 A1.20E6
27:08 A8.51E5
27:29 A1.02E6
27:48 A1.98E6
28:47 A1.28E6
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 196
24:04 A1.58E6
27:09 A1.10E6
27:29 A1.29E6
27:47 A2.56E6
28:47 A1.65E6
327.8850 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 177
27:47 A3.49E7
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1082
27:06 A2.63E7
27:46 A2.88E7
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 405
27:06 A3.32E7
27:46 A3.65E7
Time


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 388
30:41 A7.81E6
33:13 A9.10E6
33:40 A7.44E6
357.8517 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 258
30:41 A5.01E6
33:13 A5.81E6
33:40 A4.72E6
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1160
33:12 A3.33E7
369.8919 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 563
33:12 A2.14E7
366.9792 F:2 Expt: OCDD
29:39 29:55 30:21 30:38 30:48 31:01 31:11 31:28 31:41 31:50 31:59 32:15 32:25 32:44 32:54 33:03 33:23 33:40 34:02 34:14
30:00 31:00 32:00 33:00 34:00 Time

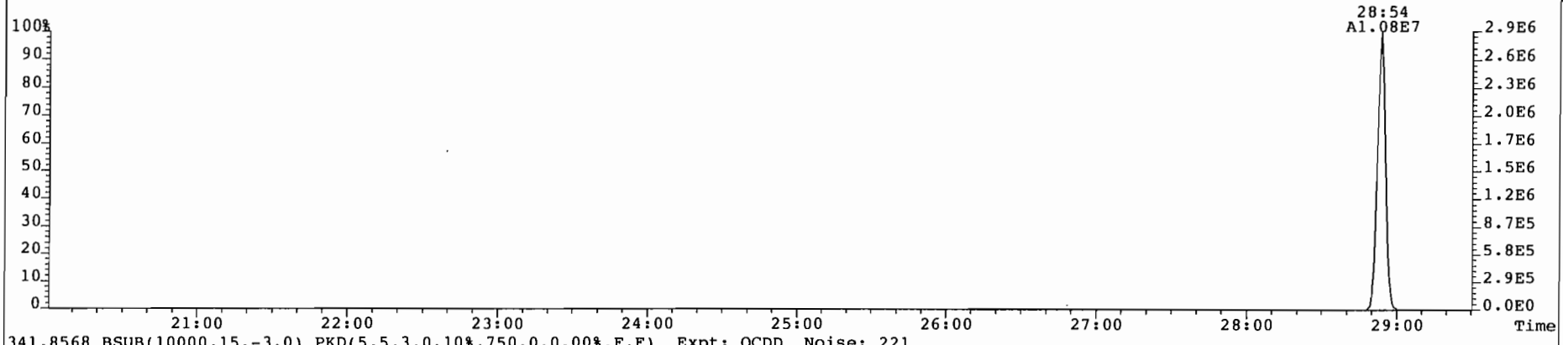

File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 589
37:08 A7.90E6
37:34 A7.74E6
35:25 A8.10E5
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 461
37:08 A6.31E6
37:34 A6.28E6
35:25 A6.66E5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 470
37:07 A2.44E7
37:33 A2.93E7
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 409
37:14 A2.04E7
37:33 A2.35E7
380.9760 F:3 Expt: OCDD
34:32 34:46 35:11 35:23 35:38 35:58 36:10 36:22 36:29 36:41 37:03 37:19 37:42 38:00 38:13 38:25 38:31 38:46
35:00 36:00 37:00 38:00 39:00 Time


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 396
40:22
A5.66E6
41:34
A6.72E6
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 417
40:22
A5.53E6
41:34
A6.51E6
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1407
41:32
A2.31E7
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 763
41:32
A2.21E7
430.9728 F:4 Expt: OCDD
39:22
39:46
39:56
40:23
40:39
41:02
41:27
42:07
42:31
42:45
42:54
43:15
43:37
44:00
44:13
44:29
40:00
41:00
42:00
43:00
44:00
Time

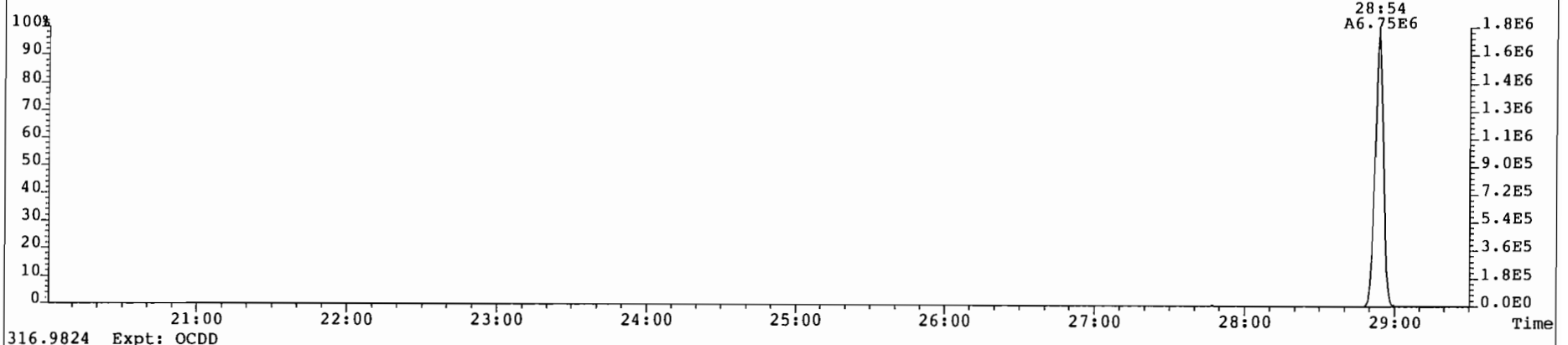

File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 533
46:54
A8.86E6
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 264
46:54
A9.99E6
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 241
46:53
A1.64E7
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 222
46:53
A1.84E7
454.9728 F:5 Expt: OCDD
44:44 44:51 45:08 45:21 45:35 45:42 45:54 46:01 46:08 46:27 46:33 46:44 46:56 47:10 47:27 47:33 47:44 47:59 48:09 48:22 48:33 48:56
45:00 46:00 47:00 48:00 49:00 Time


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 191
21:55 A6.82E5
26:55 A1.89E6
28:57 A2.03E6
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 301
21:55 A9.05E5
26:55 A2.52E6
28:57 A2.72E6
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 303
25:31 A3.76E7
26:53 A3.75E7
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 723
25:30 A4.84E7
26:53 A4.77E7
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 153
21:15 A2.40E3
22:05 A1.22E3
22:46 A1.79E3
23:10 A3.63E3
24:13 A2.54E3
24:30 A4.42E3
24:49 A1.33E3
26:54 A3.84E3
27:07 A4.70E3
27:29 A2.34E3
27:46 A9.40E3
28:02 A1.03E3
Time

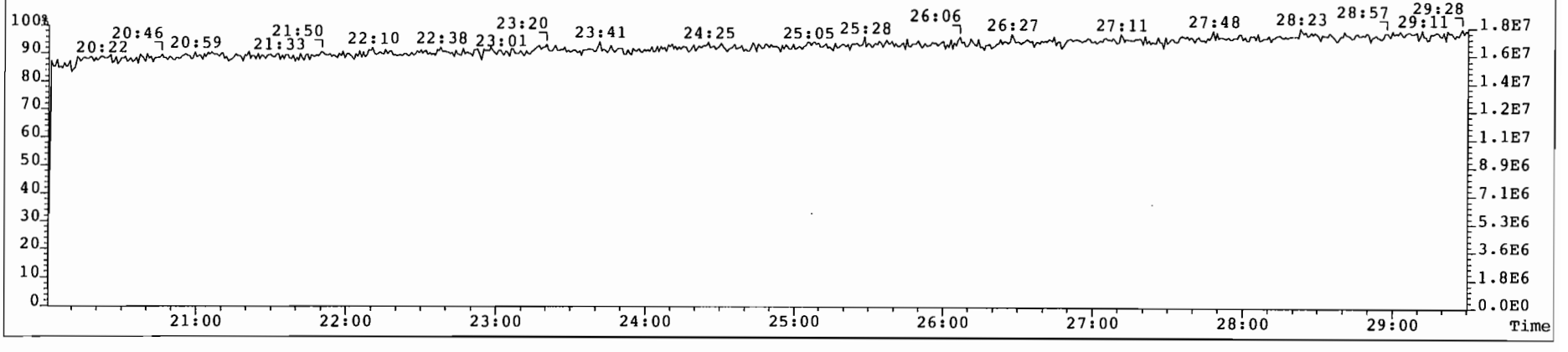
File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 146

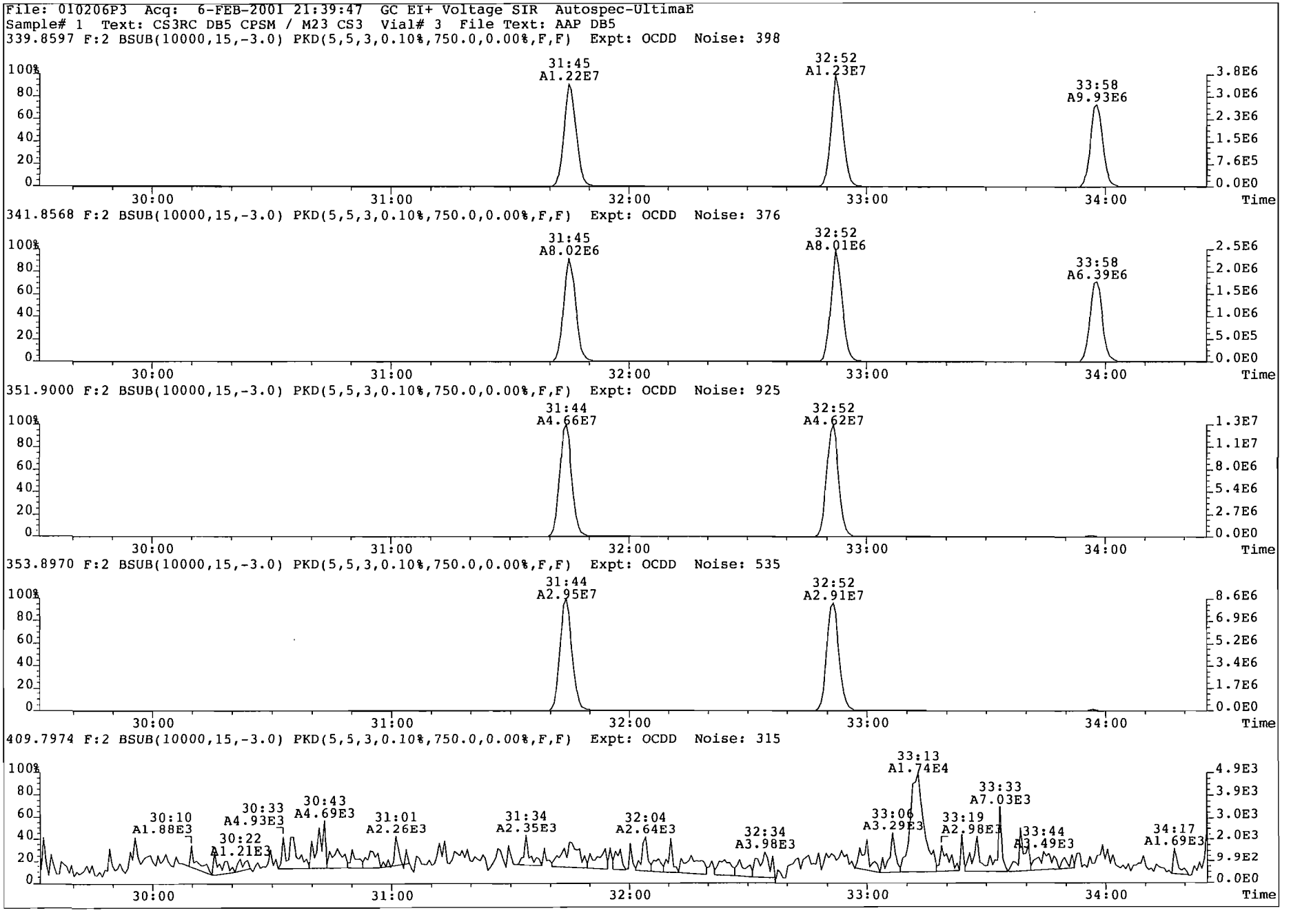


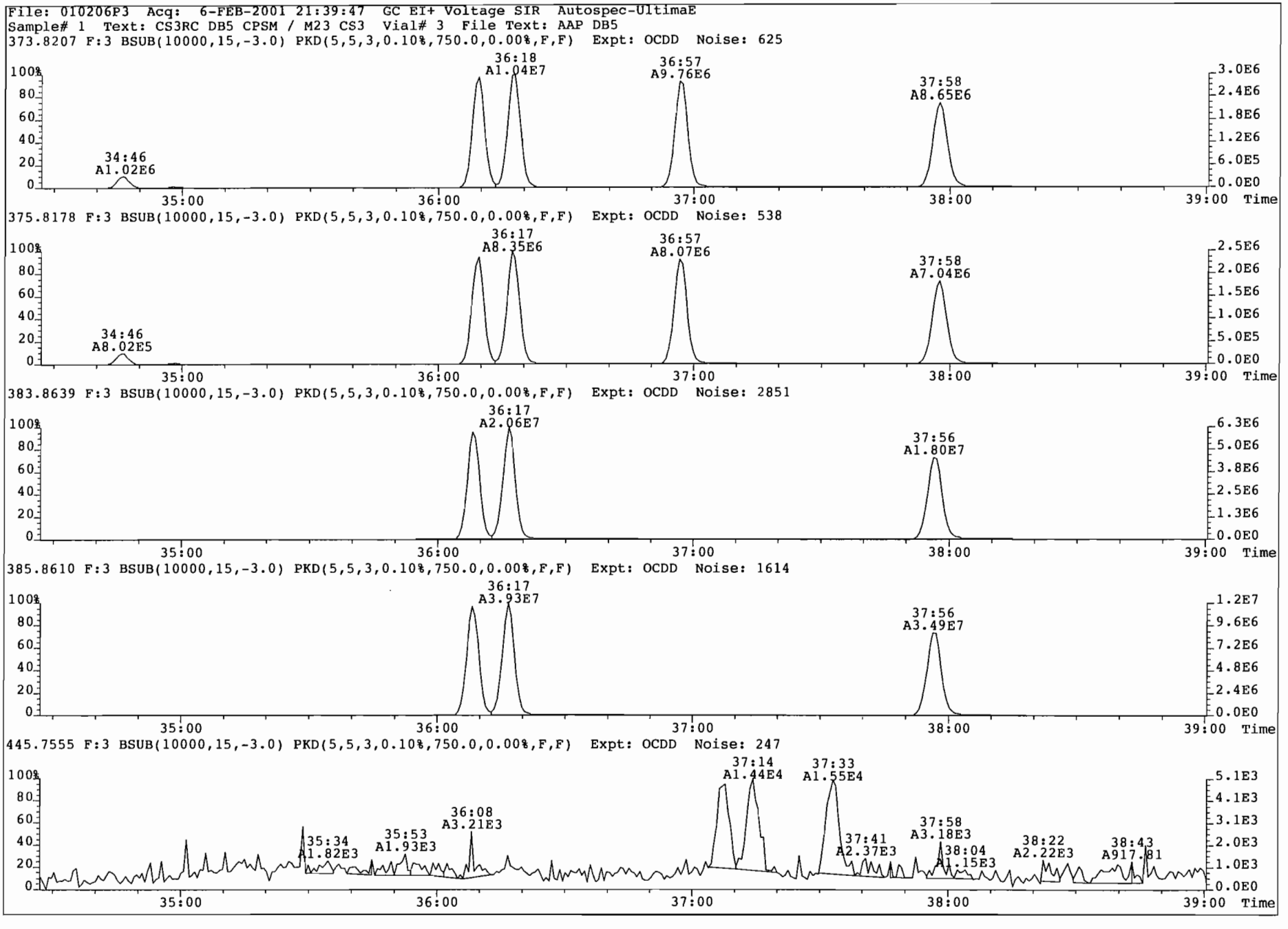
341.8568 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 221

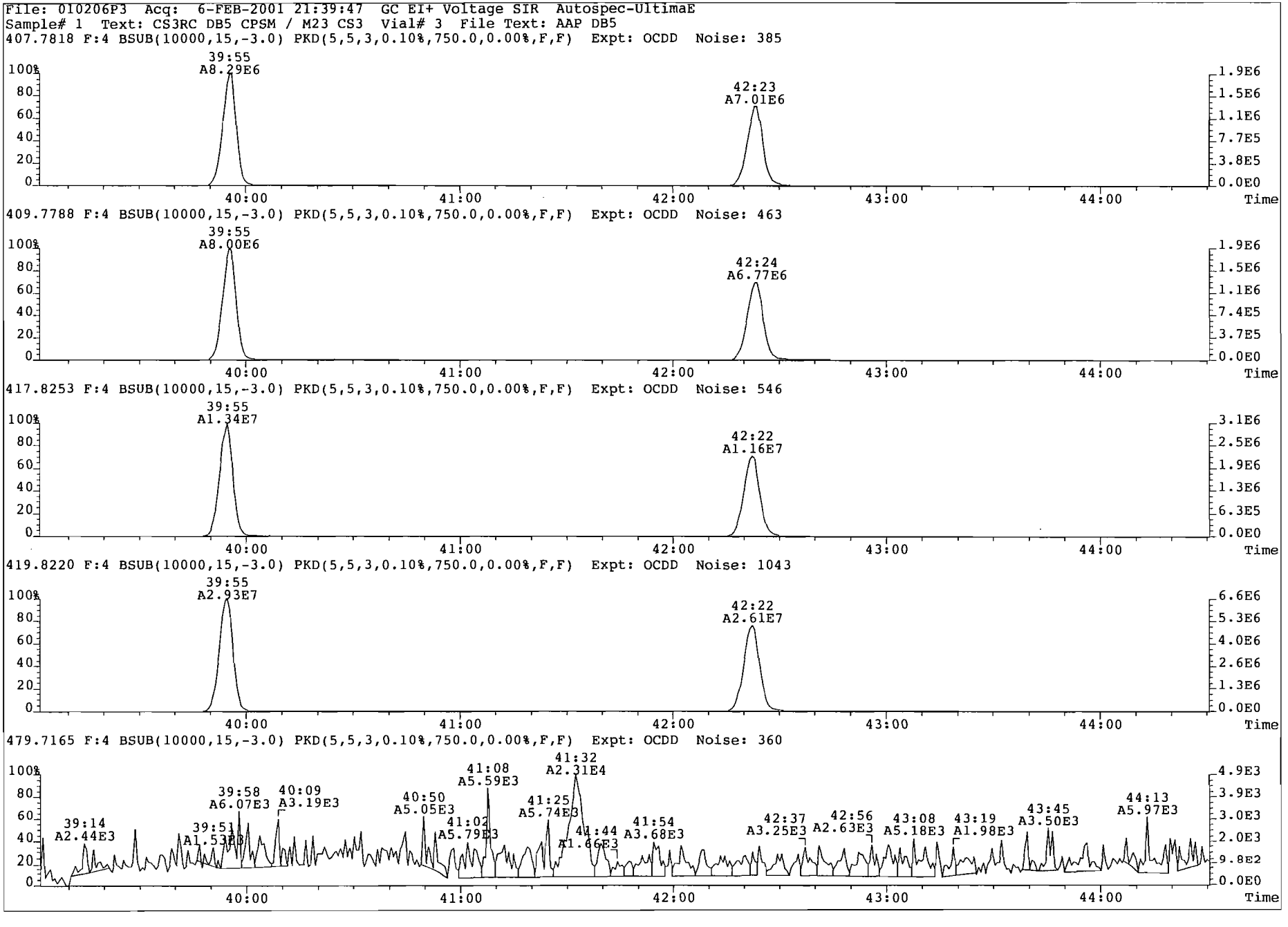


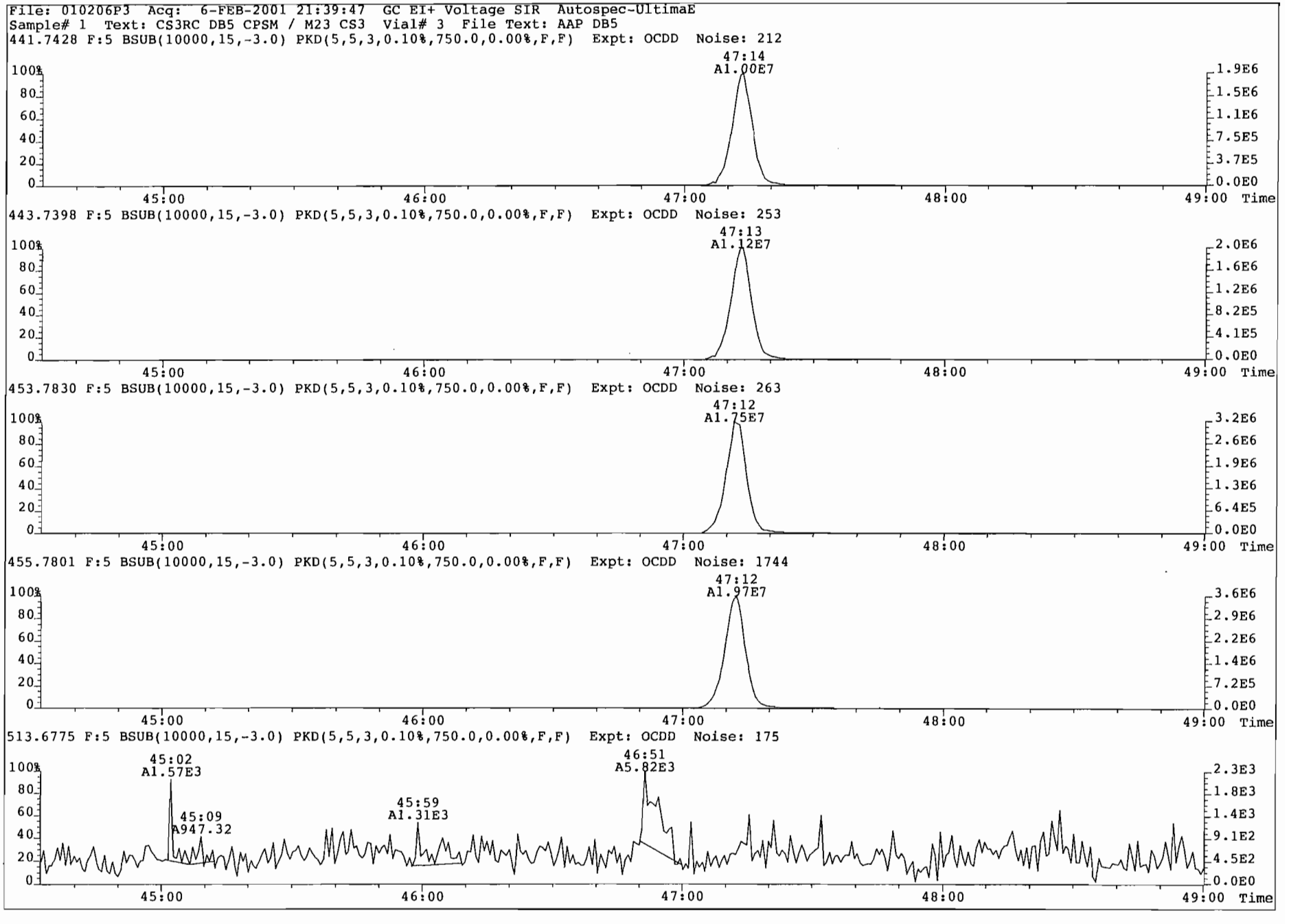
316.9824 Expt: OCDD




File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 398
31:45 A1.22E7
32:52 A1.23E7
33:58 A9.93E6
341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 376
31:45 A8.02E6
32:52 A8.01E6
33:58 A6.39E6
351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 925
31:44 A4.66E7
32:52 A4.62E7
353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 535
31:44 A2.95E7
32:52 A2.91E7
409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 315
33:13 A1.74E4
30:10 A1.88E3
30:33 A4.93E3
30:43 A4.69E3
30:22 A1.21E3
31:01 A2.26E3
31:34 A2.35E3
32:04 A2.64E3
32:34 A3.98E3
33:06 A3.29E3
33:19 A2.98E3
33:33 A7.03E3
33:44 A3.49E3
34:17 A1.69E3
Time


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 625
34:46 A1.02E6
36:18 A1.04E7
36:57 A9.76E6
37:58 A8.65E6
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 538
34:46 A8.02E5
36:17 A8.35E6
36:57 A8.07E6
37:58 A7.04E6
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2851
36:17 A2.06E7
37:56 A1.80E7
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1614
36:17 A3.93E7
37:56 A3.49E7
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 247
35:34 A1.82E3
35:53 A1.93E3
36:08 A3.21E3
37:14 A1.44E4
37:33 A1.55E4
37:41 A2.37E3
37:58 A3.18E3
38:04 A1.15E3
38:22 A2.22E3
38:43 A917.81
35:00
36:00
37:00
38:00
39:00
Time


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 385
39:55 A8.29E6
42:23 A7.01E6
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 463
39:55 A8.00E6
42:24 A6.77E6
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 546
39:55 A1.34E7
42:22 A1.16E7
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1043
39:55 A2.93E7
42:22 A2.61E7
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 360
39:14 A2.44E3
39:51 A1.53E3
39:58 A6.07E3
40:09 A3.19E3
40:50 A5.05E3
41:02 A5.79E3
41:08 A5.59E3
41:25 A5.74E3
41:32 A2.31E4
41:44 A1.66E3
41:54 A3.68E3
42:37 A3.25E3
42:56 A2.63E3
43:08 A5.18E3
43:19 A1.98E3
43:45 A3.50E3
44:13 A5.97E3
40:00
41:00
42:00
43:00
44:00
Time


File: 010206P3 Acq: 6-FEB-2001 21:39:47 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 212
47:14
A1.00E7
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 253
47:13
A1.12E7
453.7830 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 263
47:12
A1.75E7
455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1744
47:12
A1.97E7
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 175
45:02
A1.57E3
45:09
A947.32
45:59
A1.31E3
46:51
A5.82E3
100%
80
60
40
20
0
45:00
46:00
47:00
48:00
49:00
Time
1.9E6
1.5E6
1.1E6
7.5E5
3.7E5
0.0E0
2.0E6
1.6E6
1.2E6
8.2E5
4.1E5
0.0E0
3.2E6
2.6E6
1.9E6
1.3E6
6.4E5
0.0E0
3.6E6
2.9E6
2.2E6
1.4E6
7.2E5
0.0E0
2.3E3
1.8E3
1.4E3
9.1E2
4.5E2
0.0E0

PCDD/PCDF CALIBRATION VERIFICATION

Alta Analytical Perspectives

Reviewer: G

Initial Calibration Date: 10/05/00

Date: 11 Feb 01

Instrument ID: MM-1 GC Column ID: DB-5

VER Data Filename: 010206P3 S#12 Analysis Date: 7-FEB-01 Time: 07:08:01

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUND. RATIO	QC LIMITS	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	y	5.45 ✓	3.75 - 6.25
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	y	26.86 ✓	18.75-31.25
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	27.30 ✓	18.75-31.25
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	26.37 ✓	18.75-31.25
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	27.11 ✓	18.75-31.25
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	25.93 ✓	18.75-31.25
OCDD	M+2/M+4	0.89	0.76-1.02	y	52.86 ✓	37 - 65
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	y	4.91 ✓	3.75 - 6.25
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	25.38 ✓	18.75-31.25
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	y	25.31 ✓	18.75-31.25
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	25.67 ✓	18.75-31.25
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	25.37 ✓	18.75-31.25
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	25.86 ✓	18.75-31.25
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	y	25.95 ✓	18.75-31.25
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	24.88 ✓	18.75-31.25
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	y	24.62 ✓	18.75-31.25
OCDF	M+2/M+4	0.92	0.76-1.02	y	49.48 ✓	35 - 65

Analyst: GAG

Date: 11 Feb 01

PCDD/PCDF CALIBRATION VERIFICATION

Alta Analytical Perspectives

Reviewer: CE

Date: 11 Feb 01

Initial Calibration Date: 10/05/00

Instrument ID: MM-1 GC Column ID: DB-5

VER Data Filename: 010206P3 S#12 Analysis Date: 7-FEB-01 Time: 07:08:01

	M/Z'S FORMING RATIO	ION ABUND. RATIO	QC LIMITS	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	y	97.6 ✓	70.0 - 130.0
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	y	98.3 ✓	70.0 - 130.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	93.0 ✓	70.0 - 130.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	94.7 ✓	70.0 - 130.0
13C-OCDD	M+2/M+4	0.90	0.76-1.02	y	89.2 ✓	70.0 - 130.0
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	y	92.9 ✓	70.0 - 130.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	90.7 ✓	70.0 - 130.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	90.9 ✓	70.0 - 130.0
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	y	91.3 ✓	70.0 - 130.0
13C-OCDF	M+2/M+4	0.90	0.76-1.02	y	87.8 ✓	70.0 - 130.0
37Cl-2,3,7,8-TCDD					105.2 ✓	75.0 - 125.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	102.3 ✓	75.0 - 125.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	106.0 ✓	75.0 - 125.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	105.5 ✓	75.0 - 125.0
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	y	102.7 ✓	75.0 - 125.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	96.3 ✓	75.0 - 125.0

Analyst: GAG

Date: 11 Feb 01

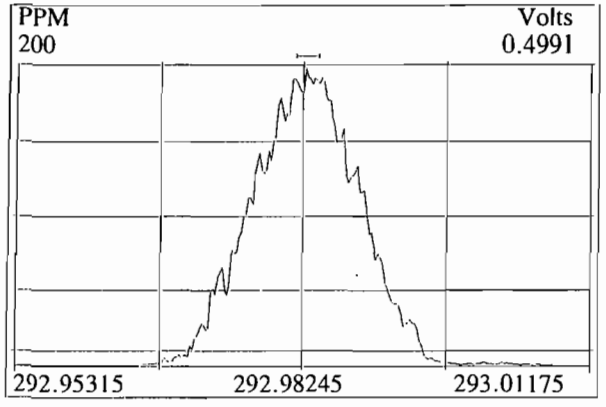
Client ID: DB5 CPSM / M23 CS3 Filename: 010206P3 S: 12 Acq: 7-FEB-01 07:08:01 ConCal: 010206P3-
Lab ID: CS3RC GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

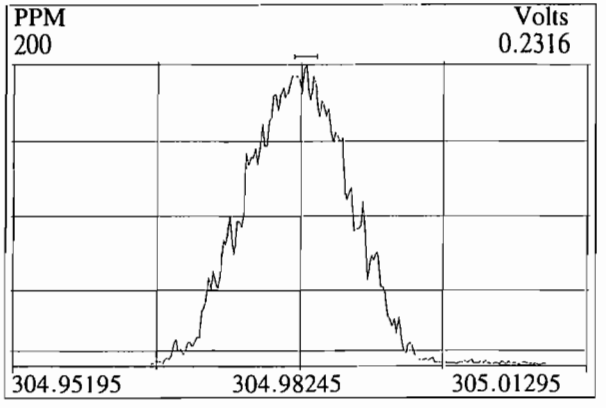
	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	4.50e+06	0.76	y	1.26	27:47	5.45			1068	2.5	0.0233	
	1,2,3,7,8-PeCDD	1.46e+07	1.57	y	1.01	33:13	26.9			597	2.5	0.0266	
	1,2,3,4,7,8-HxCDD	1.34e+07	1.25	y	1.14	37:07	27.3			1617	2.5	0.0699	
	1,2,3,6,7,8-HxCDD	1.16e+07	1.26	y	1.02	37:14	26.4			1617	2.5	0.0778	
	1,2,3,7,8,9-HxCDD	1.33e+07	1.26	y	1.14	37:33	27.1			1617	2.5	0.0696	
	1,2,3,4,6,7,8-HpCDD	1.25e+07	1.04	y	1.13	41:32	25.9			4163	2.5	0.230	
	OCDD	1.76e+07	0.89	y	1.03	46:53	52.9			652	2.5	0.0567	
	2,3,7,8-TCDF	4.38e+06	0.77	y	1.05	26:54	4.91			1173	2.5	0.0247	
	1,2,3,7,8-PeCDF	1.98e+07	1.53	y	1.04	31:44	25.4			1607	2.5	0.0466	
	2,3,4,7,8-PeCDF	2.01e+07	1.54	y	1.05	32:52	25.3			1607	2.5	0.0459	
	1,2,3,4,7,8-HxCDF	1.68e+07	1.23	y	1.13	36:08	25.7			3752	2.5	0.0771	
	1,2,3,6,7,8-HxCDF	1.81e+07	1.23	y	1.24	36:17	25.4			3752	2.5	0.0705	
	2,3,4,6,7,8-HxCDF	1.74e+07	1.23	y	1.16	36:56	25.9			3752	2.5	0.0749	
	1,2,3,7,8,9-HxCDF	1.53e+07	1.24	y	1.02	37:57	25.9			3752	2.5	0.0857	
	1,2,3,4,6,7,8-HpCDF	1.57e+07	1.03	y	1.54	39:54	24.9			3062	2.5	0.0776	
	1,2,3,4,7,8,9-HpCDF	1.31e+07	1.03	y	1.30	42:22	24.6			3062	2.5	0.0921	
	OCDF	2.01e+07	0.92	y	1.15	47:12	49.5			1148	2.5	0.0791	
	Total Tetra-Dioxins	1.81e+07	0.77	y	1.26	24:04	21.9			1068	2.5	0.0233	
	Total Penta-Dioxins	3.88e+07	1.58	y	1.01	30:41	71.4			597	2.5	0.0266	
	Total Hexa-Dioxins	3.98e+07	1.27	y	1.10	35:25	83.8			1617	2.5	0.0723	
	Total Hepta-Dioxins	2.30e+07	1.04	y	1.13	40:21	47.8			4163	2.5	0.230	
	Total Tetra-Furans	1.07e+07	0.76	y	1.05	21:54	12.0			1173	2.5	0.0247	
	1st Fnc. Penta-Furans	1.72e+07	1.59	y	1.05	28:53	21.8			2132	2.5	0.0614	
	Total Penta-Furans	5.61e+07	1.53	y	1.05	31:44	71.2			1607	2.5	0.0463	
	PeCDF Totals:						93.1						
	Total Hexa-Furans	6.95e+07	1.22	y	1.14	34:45	106			3752	2.5	0.0767	
	Total Hepta-Furans	2.87e+07	1.03	y	1.42	39:54	49.5			3062	2.5	0.0842	
IS	13C-2,3,7,8-TCDD	6.54e+07	0.78	y	1.13	27:45	97.6						
IS	13C-1,2,3,7,8-PeCDD	5.37e+07	1.57	y	0.93	33:12	98.3						
IS	13C-1,2,3,6,7,8-HxCDD	4.30e+07	1.27	y	0.93	37:13	93.0						
IS	13C-1,2,3,4,6,7,8-HpCDD	4.25e+07	1.04	y	0.91	41:31	94.7						
IS	13C-OCDD	3.24e+07	0.90	y	0.73	46:52	89.2						
IS	13C-2,3,7,8-TCDF	8.53e+07	0.79	y	1.06	26:52	92.9						
IS	13C-1,2,3,7,8-PeCDF	7.54e+07	1.58	y	0.96	31:43	90.7						
IS	13C-1,2,3,6,7,8-HxCDF	5.78e+07	0.52	y	1.28	36:16	90.9						
IS	13C-1,2,3,4,6,7,8-HpCDF	4.09e+07	0.44	y	0.90	39:53	91.3						
IS	13C-OCDF	3.53e+07	0.90	y	0.81	47:11	87.8						
RS/RT	13C-1,2,3,4-TCDD	5.91e+07	0.80	y	1.00	27:06	100						
RS	13C-1,2,3,4-TCDF	8.66e+07	0.78	y	1.00	25:30	100						
RS/RT	13C-1,2,3,7,8,9-HxCDD	4.96e+07	1.24	y	1.00	37:32	100						
PS	37Cl-2,3,7,8-TCDD	3.54e+07			0.51	27:47	105						
PS	13C-2,3,4,7,8-PeCDF	7.51e+07	1.58	y	0.97	32:51	102						
PS	13C-1,2,3,4,7,8-HxCDD	4.21e+07	1.25	y	0.92	37:06	106						
PS	13C-1,2,3,4,7,8-HxCDF	5.55e+07	0.52	y	0.91	36:07	106						
PS	13C-1,2,3,4,7,8,9-HpCDF	3.59e+07	0.44	y	0.85	42:21	103						
AS	13C-1,2,3,7,8,9-HxCDF	5.11e+07	0.52	y	1.07	37:56	96.3						

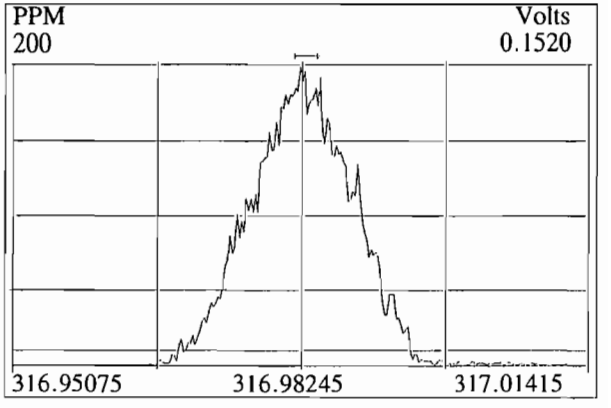
	Rec
IS	97.6
IS	98.3
IS	93.0
IS	94.7
IS	89.2
IS	92.9
IS	90.7
IS	90.9
IS	91.3
IS	87.8
RS/RT	-
RS	-
RS/RT	-
PS	105
PS	102
PS	106
PS	106
PS	103
AS	96.3

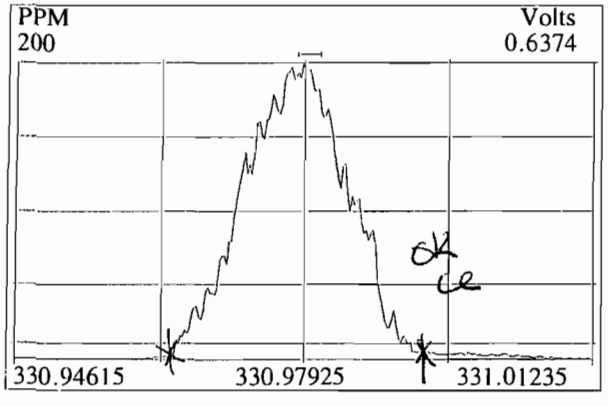
Reviewer: CE
Date: 11 Feb01
Analyst: GAG
Date: 11 Feb01

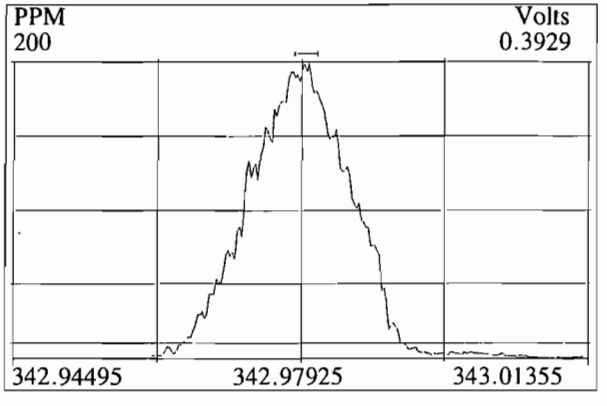
Peak Locate Examination: 7-FEB-2001:08:04 File:RES_CHECK
Experiment:OCDD Function:1 Reference:PFK2

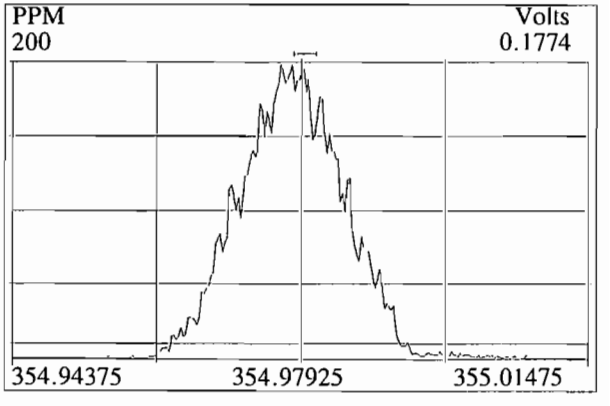


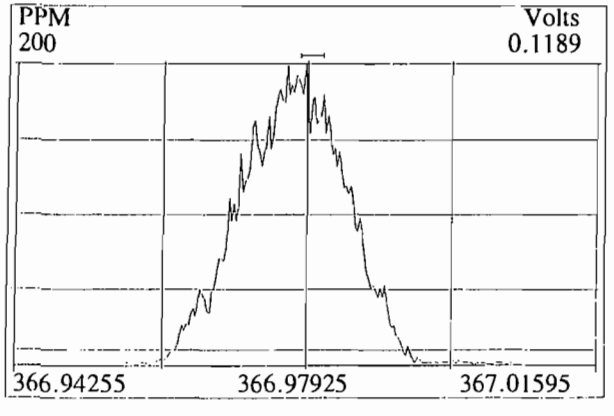


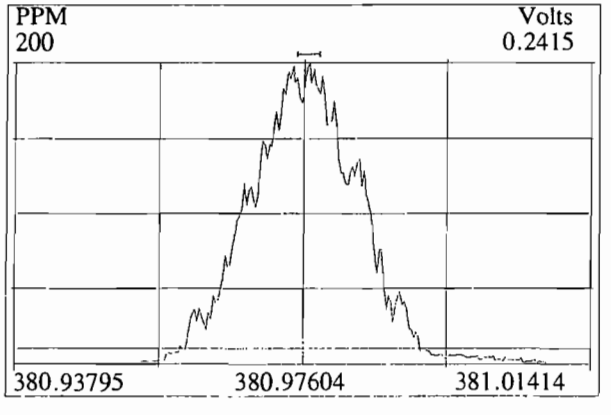




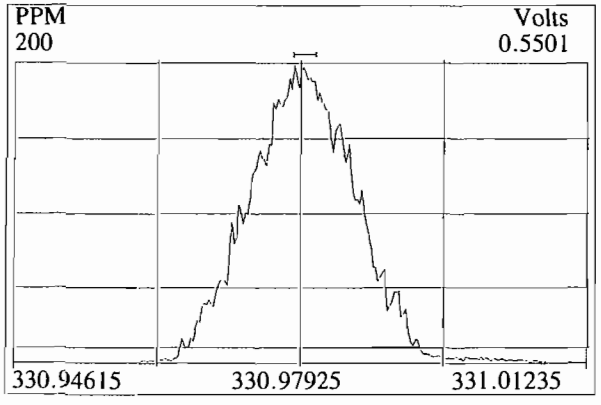


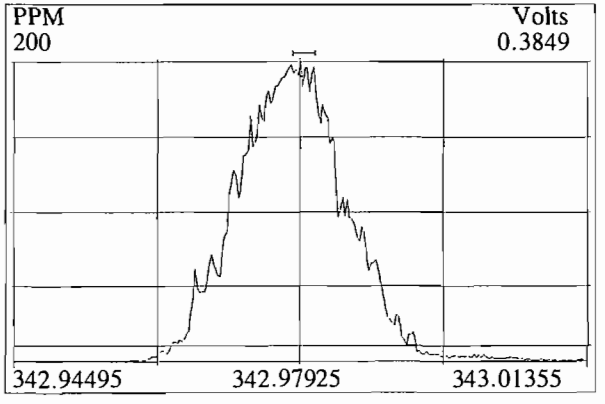


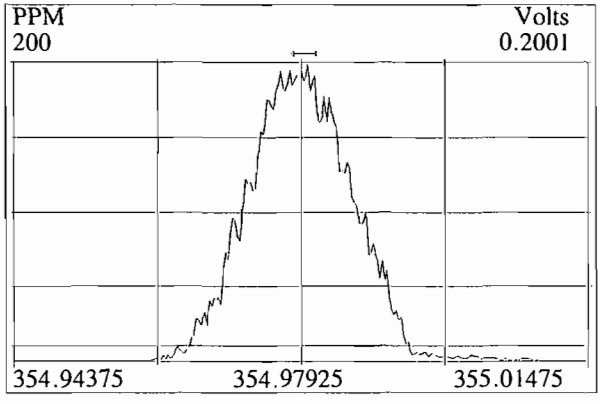


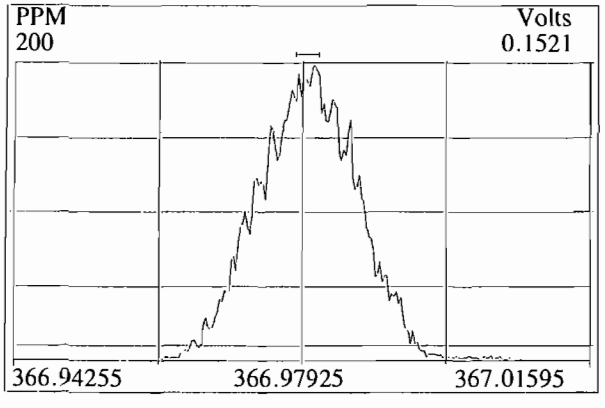


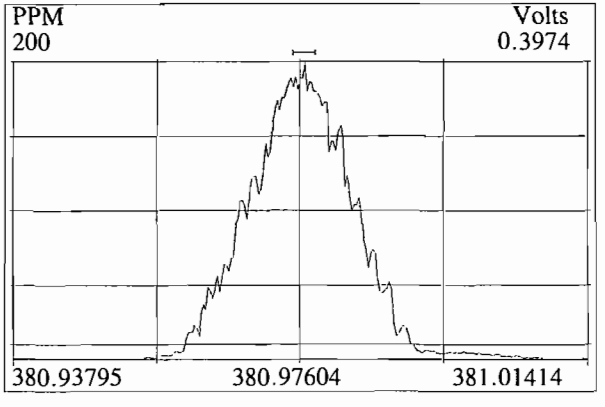
Peak Locate Examination: 7-FEB-2001:08:05 File:RES_CHECK
Experiment:OCDD Function:2 Reference:PFK2

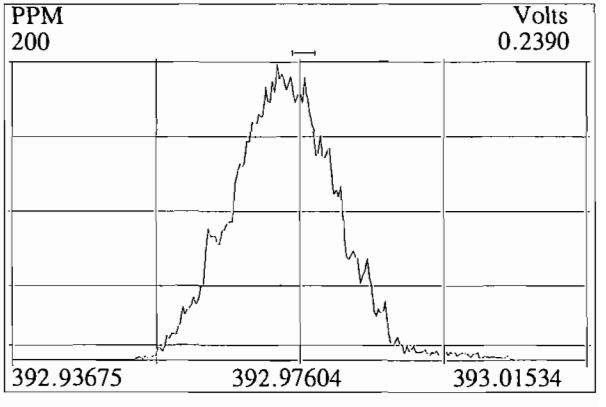


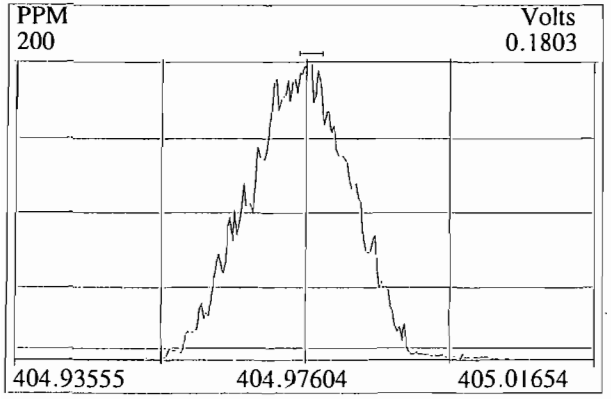


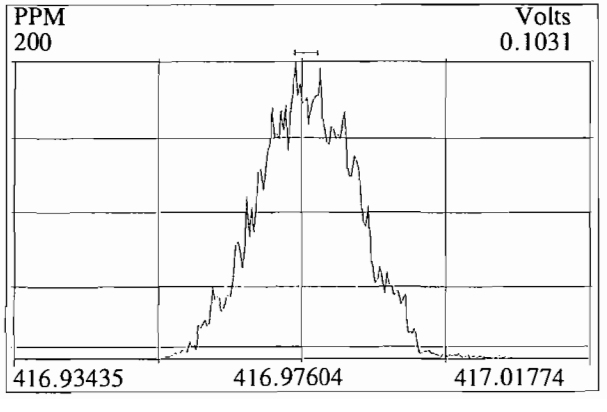




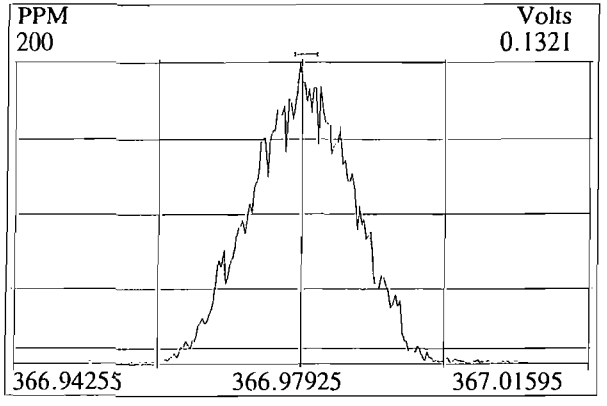


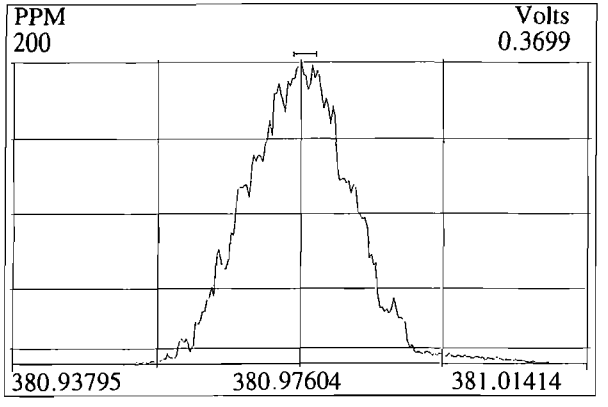


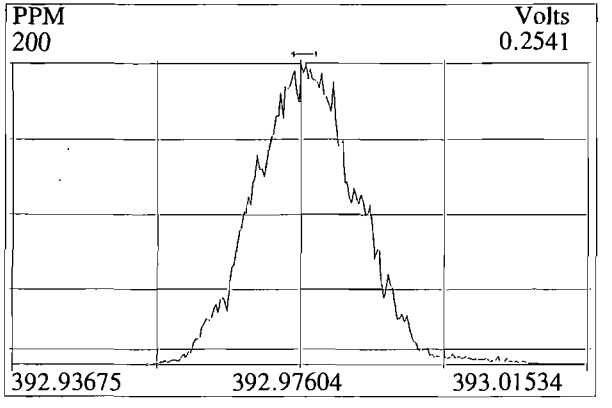


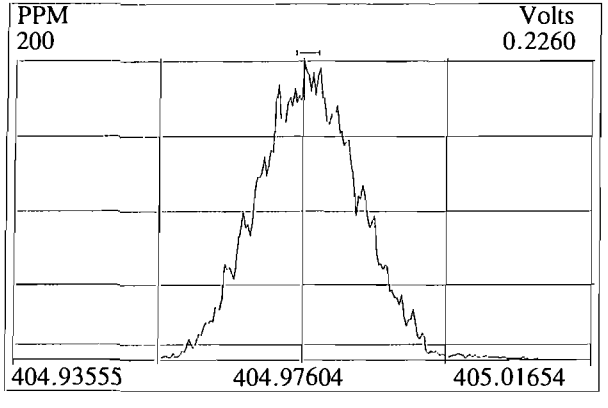


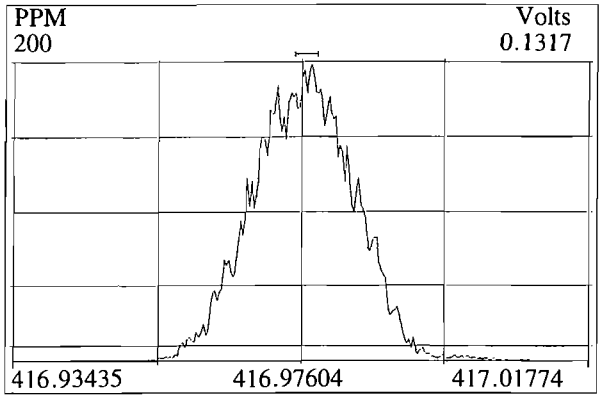
Peak Locate Examination: 7-FEB-2001:08:06 File:RES_CHECK
Experiment:OCDD Function:3 Reference:PFK2

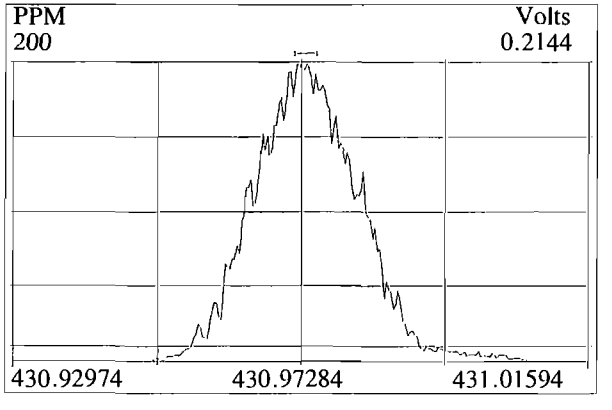


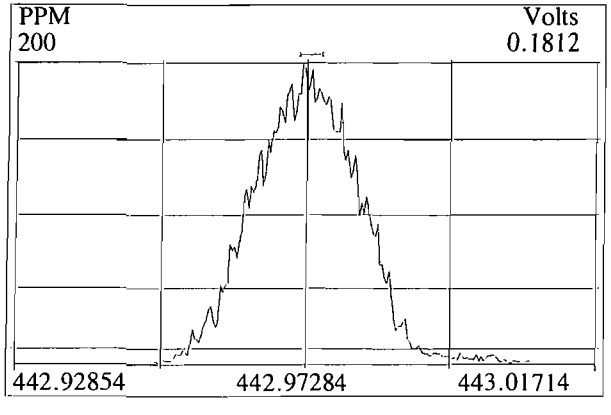


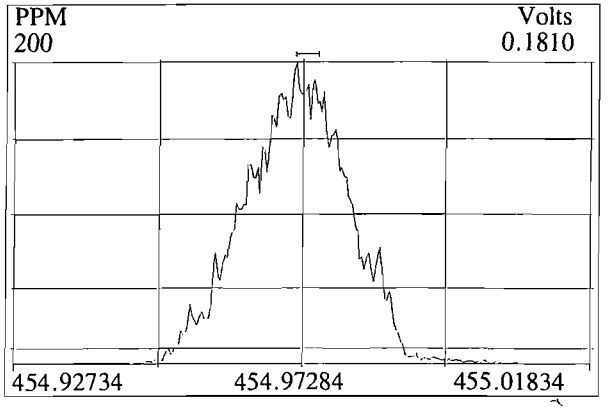




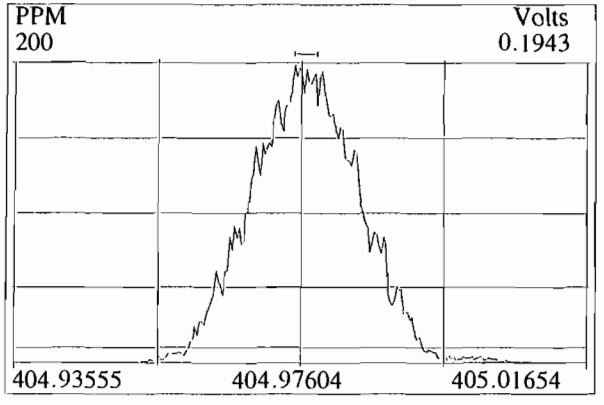


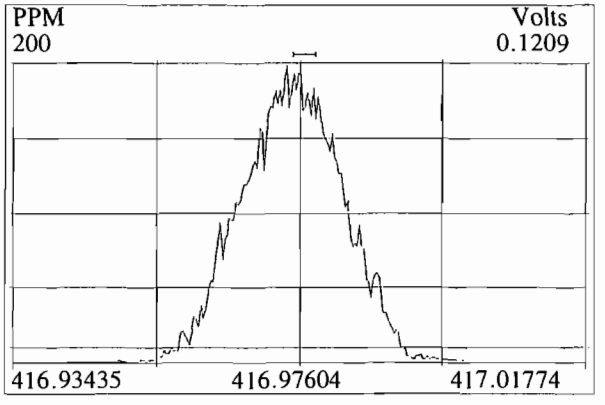


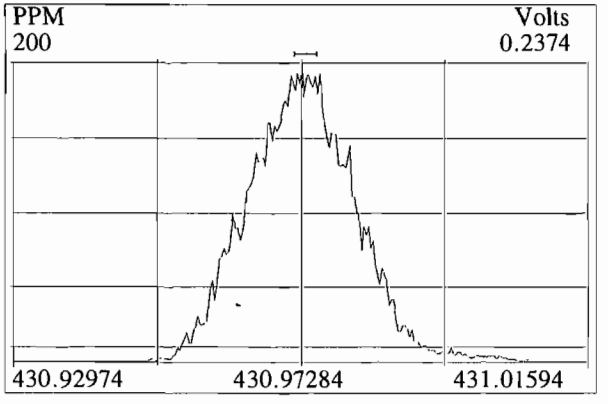


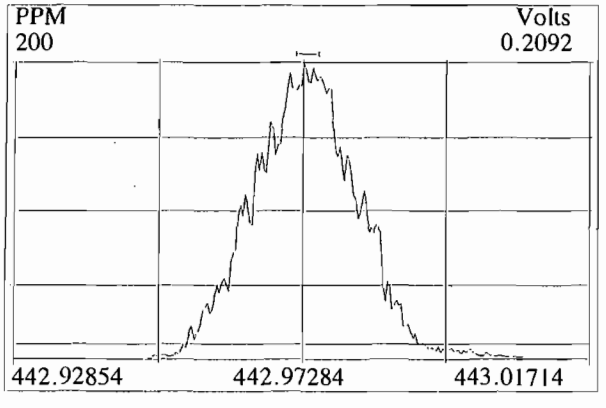


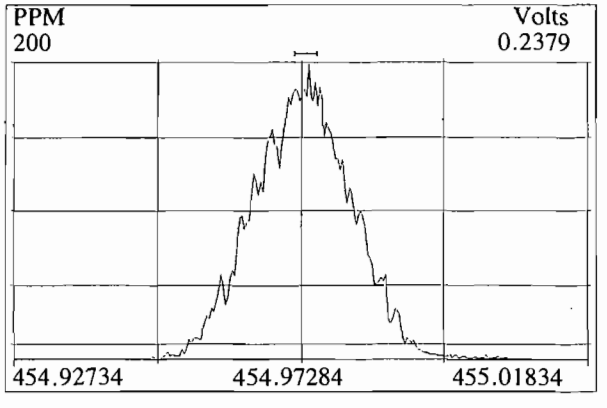
Peak Locate Examination: 7-FEB-2001:08:07 File:RES_CHECK
Experiment:OCDD Function:4 Reference:PFK2

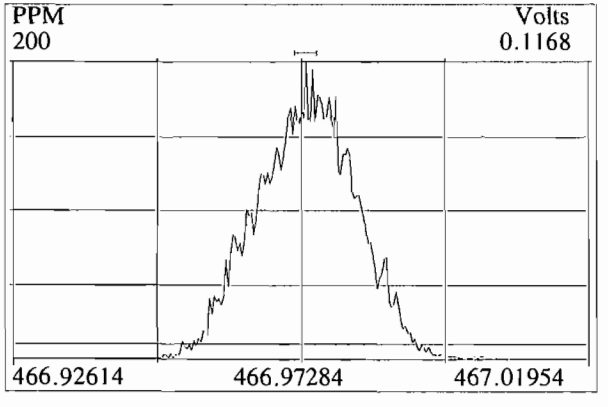


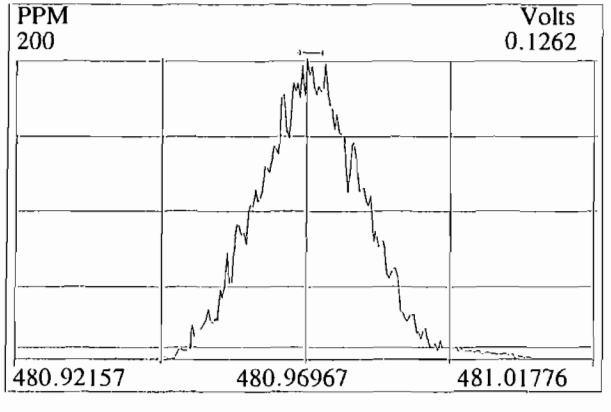




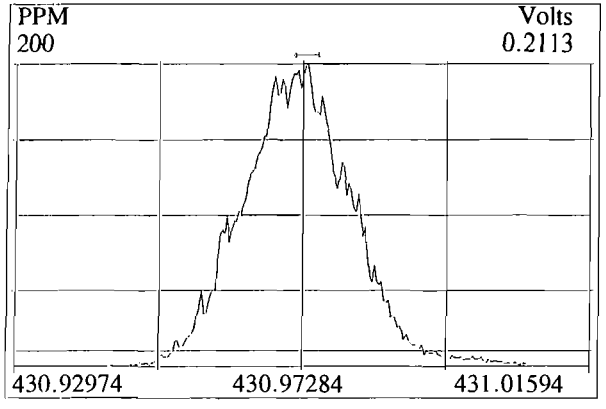


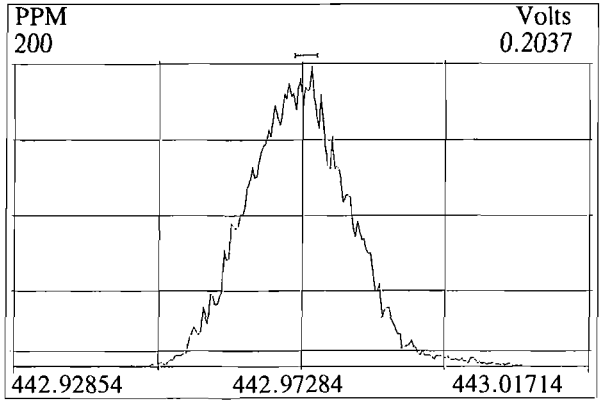


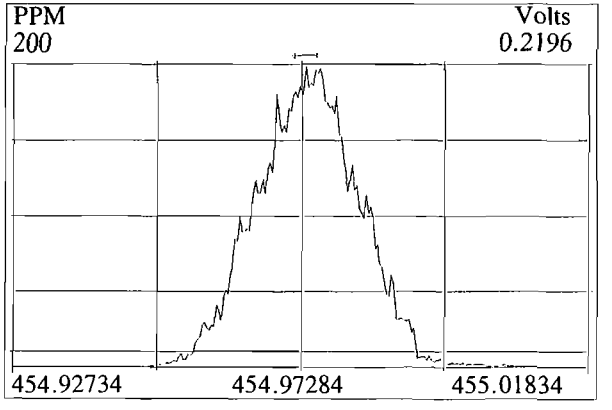


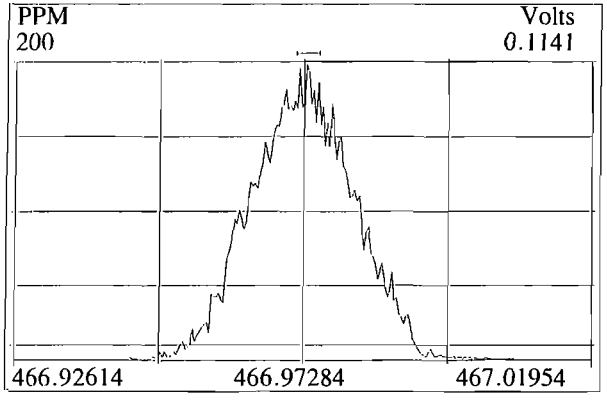


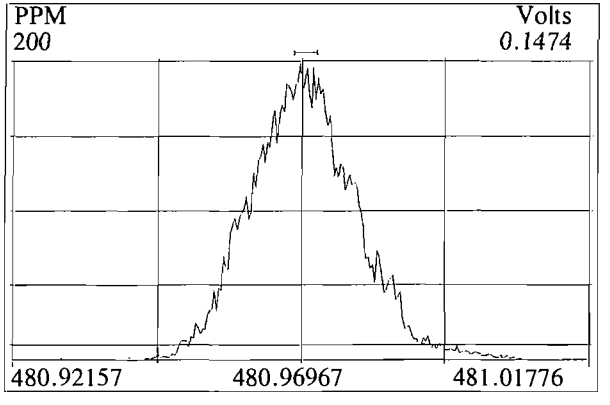
Peak Locate Examination: 7-FEB-2001:08:08 File:RES_CHECK
Experiment:OCDD Function:5 Reference:PFK2

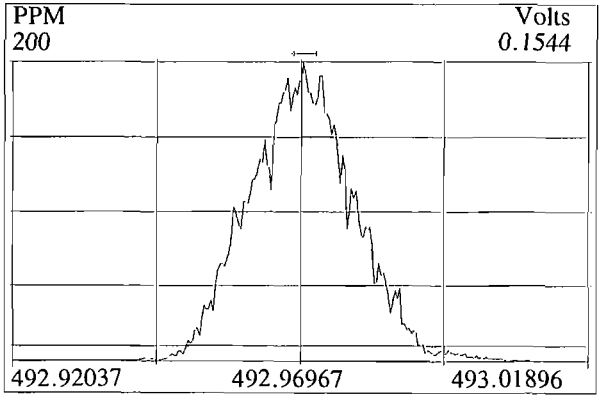


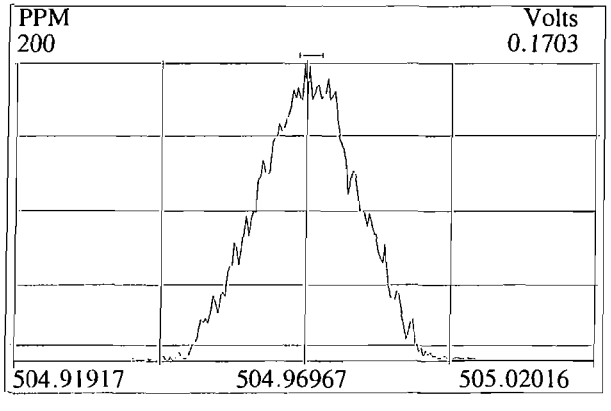


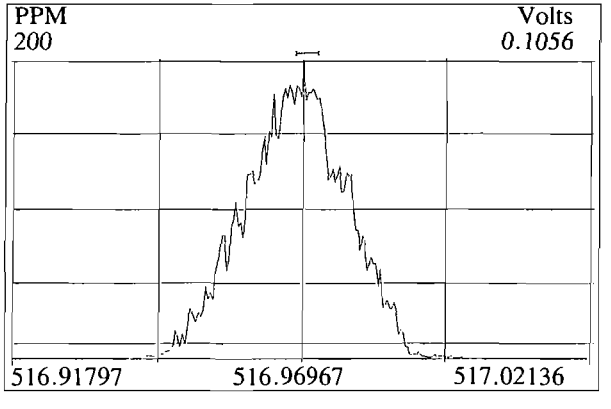


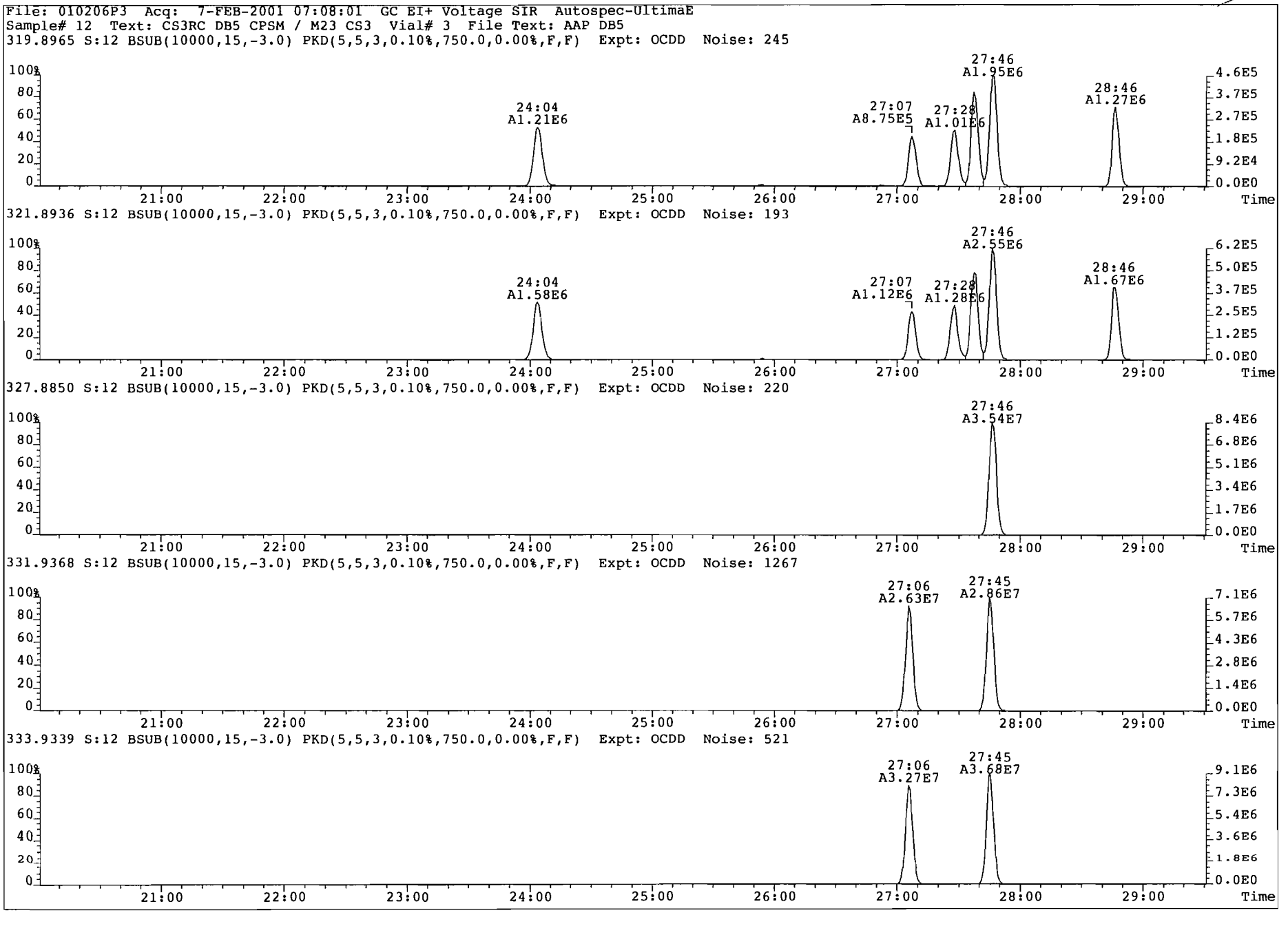


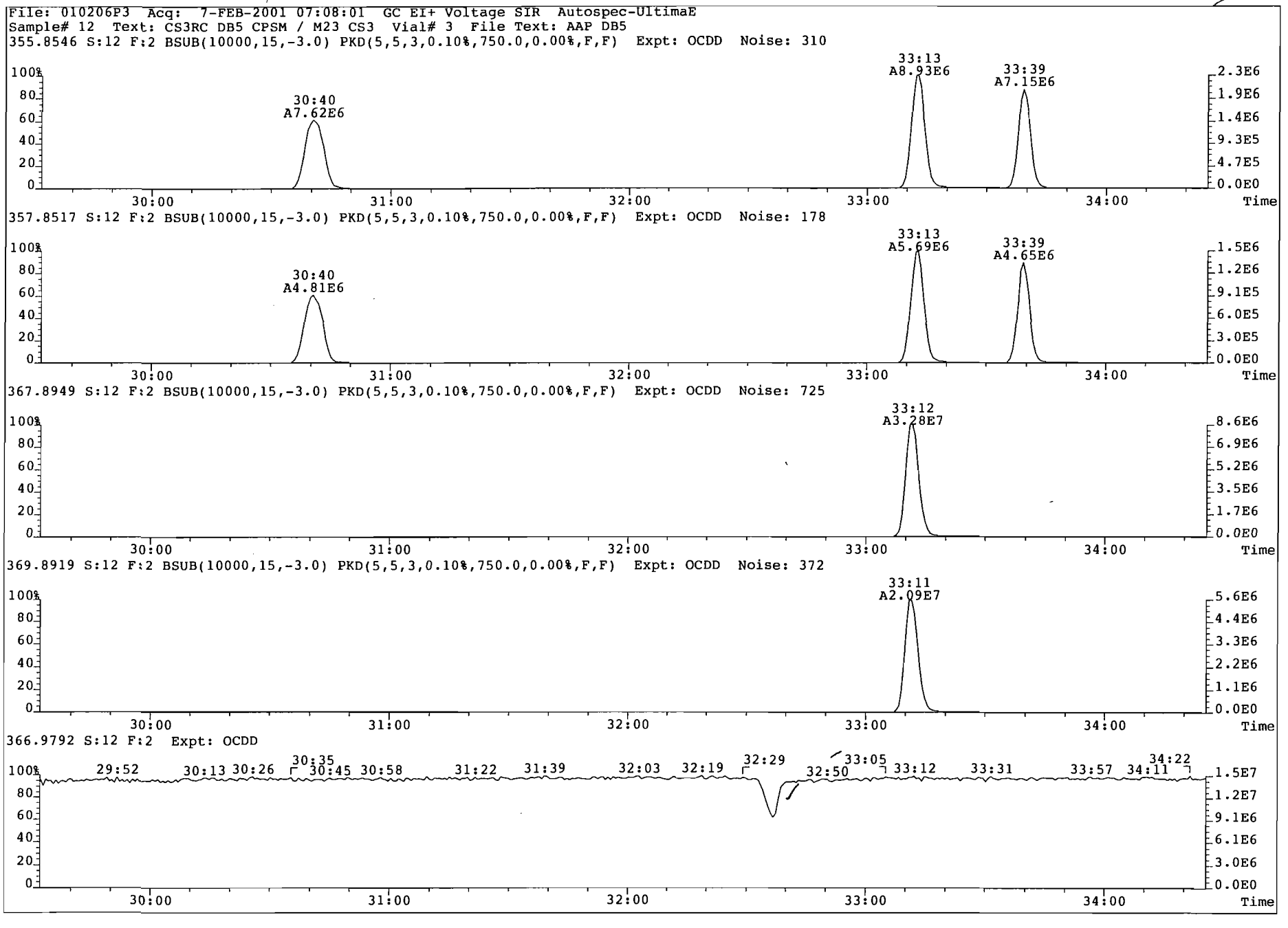


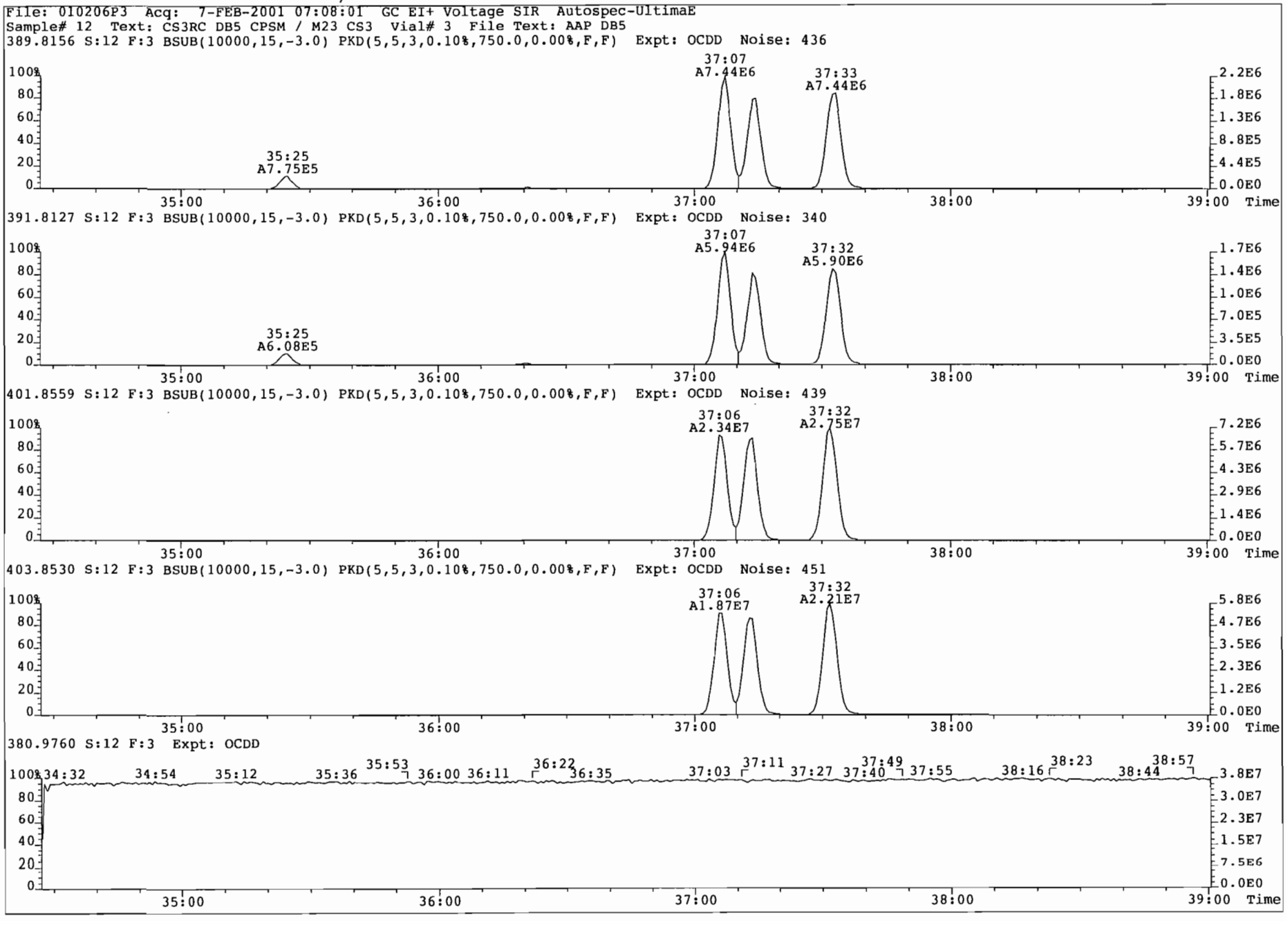




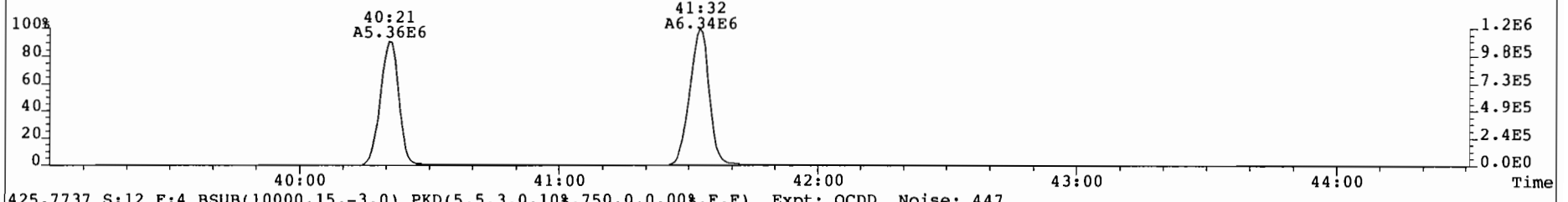



File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 245
24:04 A1.21E6
27:07 A8.75E5
27:28 A1.01E6
27:46 A1.95E6
28:46 A1.27E6
321.8936 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 193
24:04 A1.58E6
27:07 A1.12E6
27:28 A1.28E6
27:46 A2.55E6
28:46 A1.67E6
327.8850 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 220
27:46 A3.54E7
331.9368 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1267
27:06 A2.63E7
27:45 A2.86E7
333.9339 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 521
27:06 A3.27E7
27:45 A3.68E7
Time

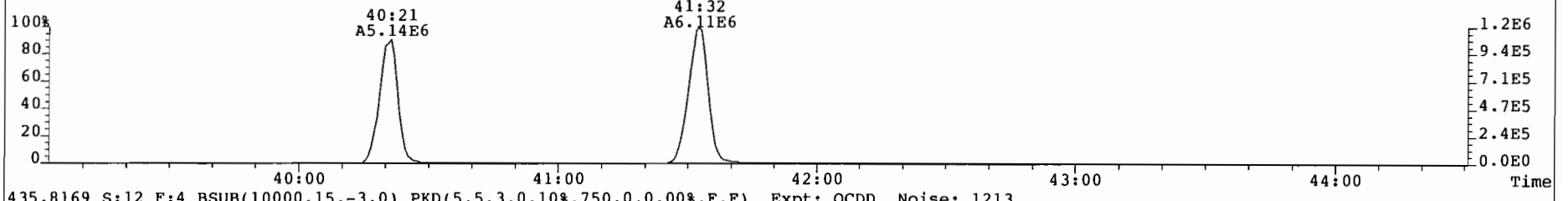

File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
355.8546 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 310
30:40 A7.62E6
33:13 A8.93E6
33:39 A7.15E6
357.8517 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 178
30:40 A4.81E6
33:13 A5.69E6
33:39 A4.65E6
367.8949 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 725
33:12 A3.28E7
369.8919 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 372
33:11 A2.09E7
366.9792 S:12 F:2 Expt: OCDD
30:00
31:00
32:00
33:00
34:00
Time


File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 436
37:07 A7.44E6
37:33 A7.44E6
35:25 A7.75E5
391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 340
37:07 A5.94E6
37:32 A5.90E6
35:25 A6.08E5
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 439
37:06 A2.34E7
37:32 A2.75E7
403.8530 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 451
37:06 A1.87E7
37:32 A2.21E7
380.9760 S:12 F:3 Expt: OCDD
34:32 34:54 35:12 35:36 35:53 36:00 36:11 36:22 36:35 37:03 37:11 37:27 37:40 37:49 37:55 38:16 38:23 38:44 38:57
35:00 36:00 37:00 38:00 39:00 Time

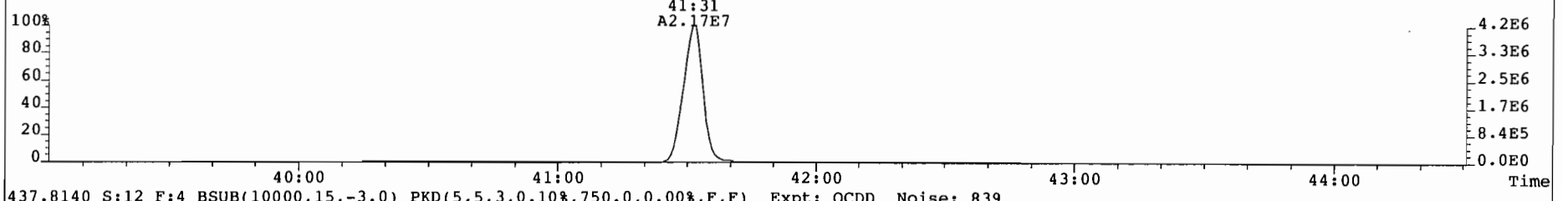
File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 510



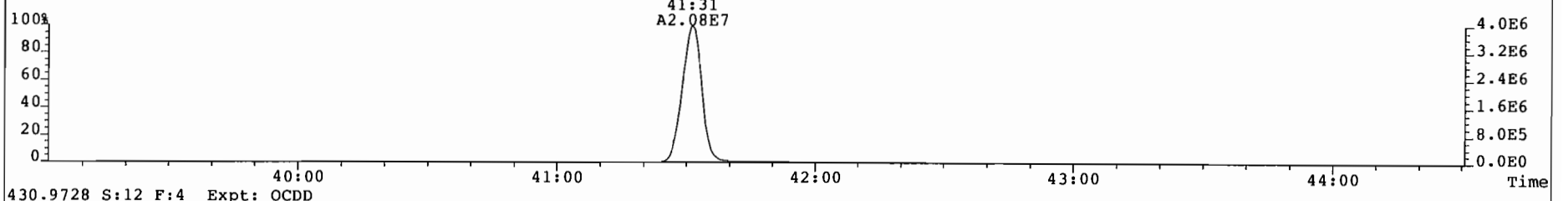
425.7737 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 447



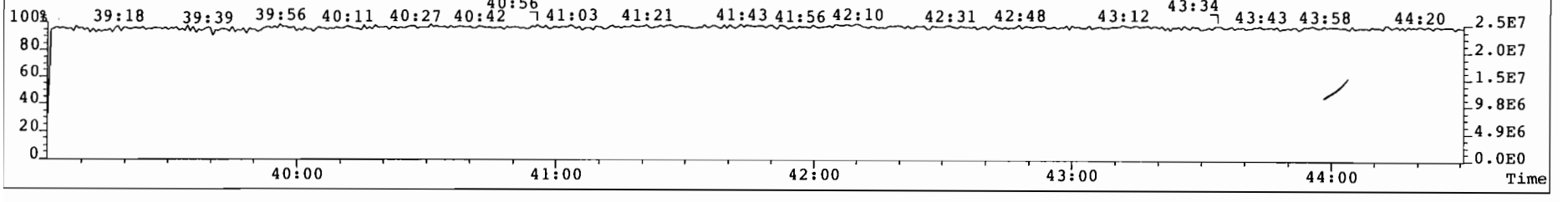
435.8169 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1213

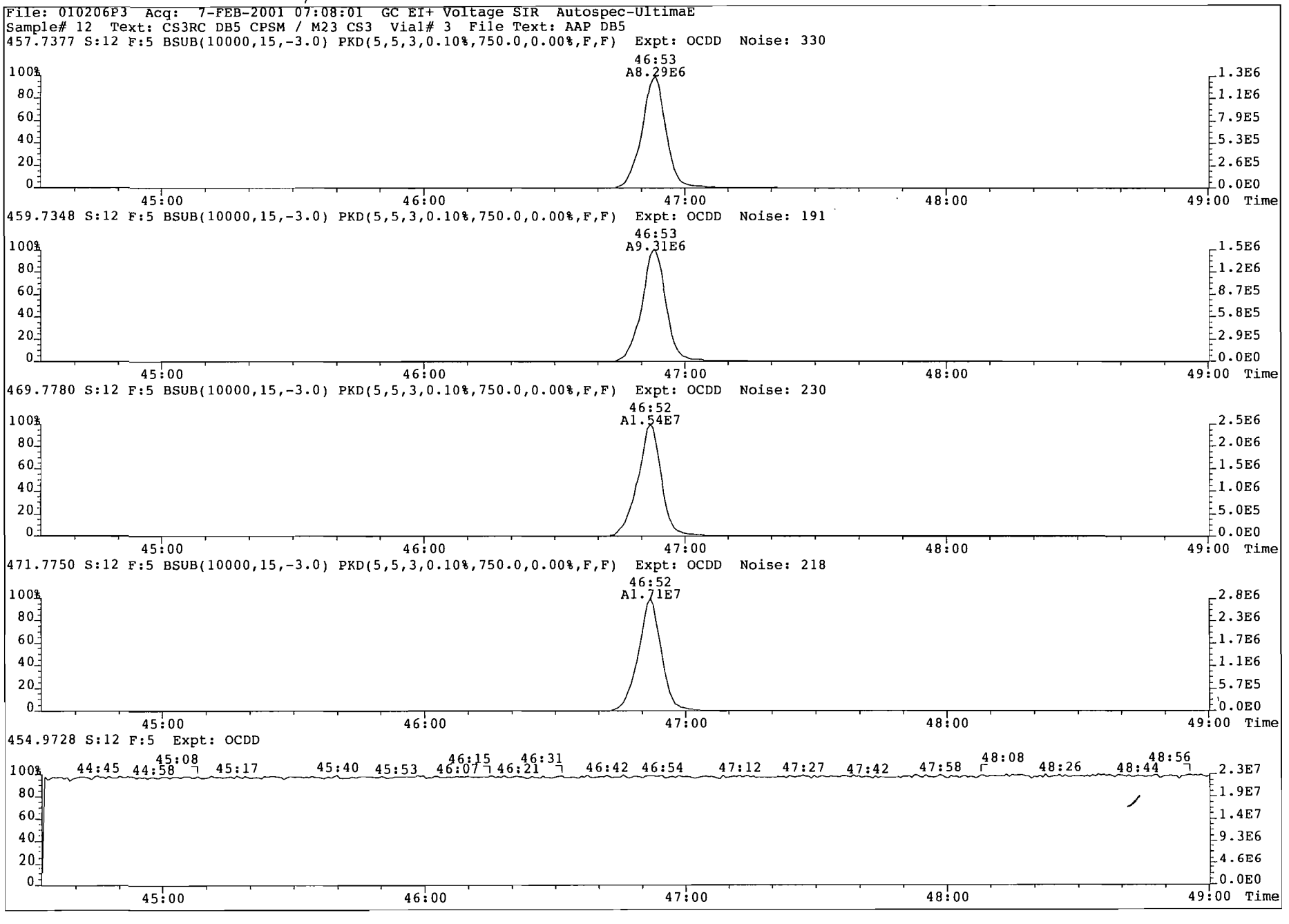


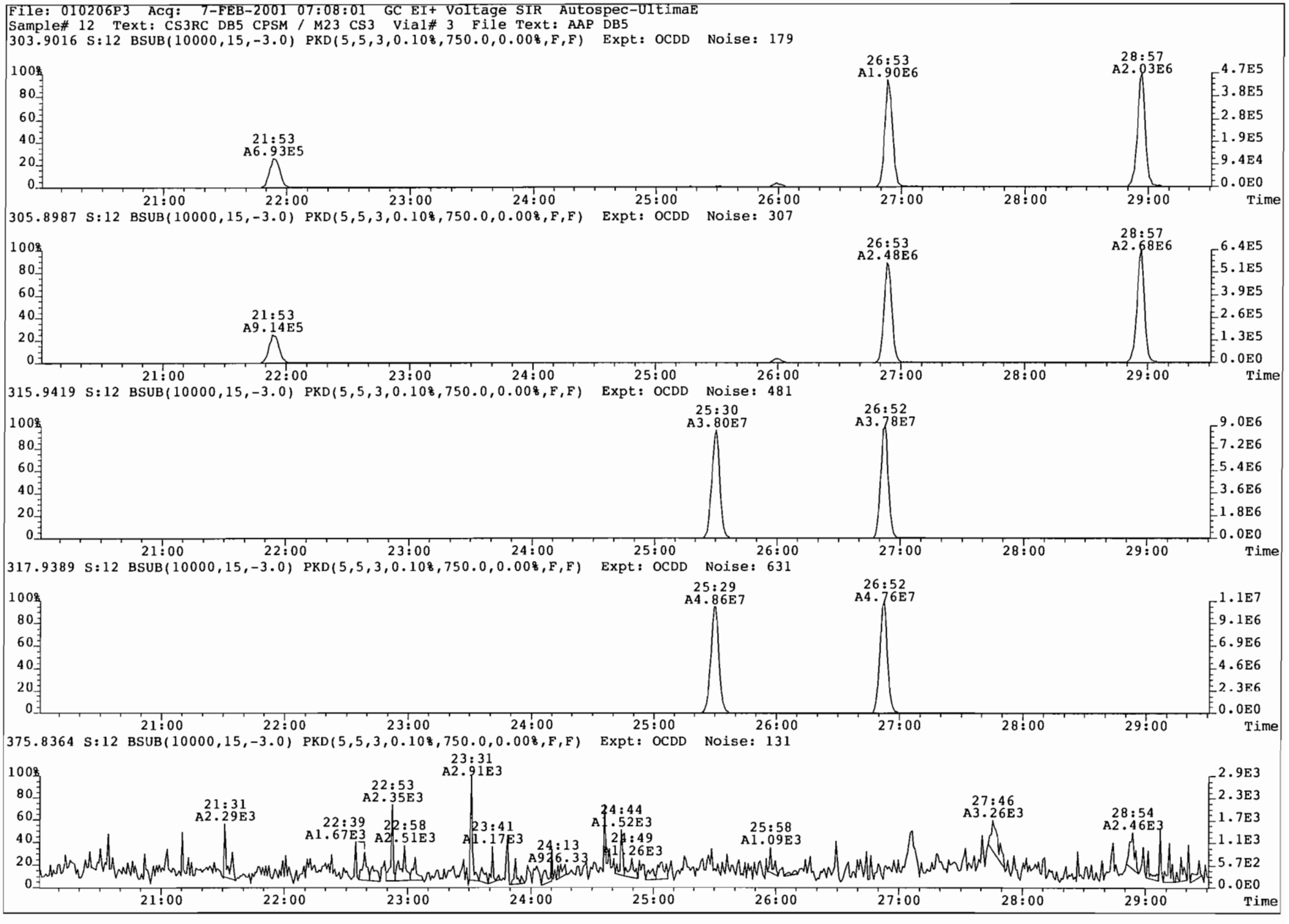
437.8140 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 839

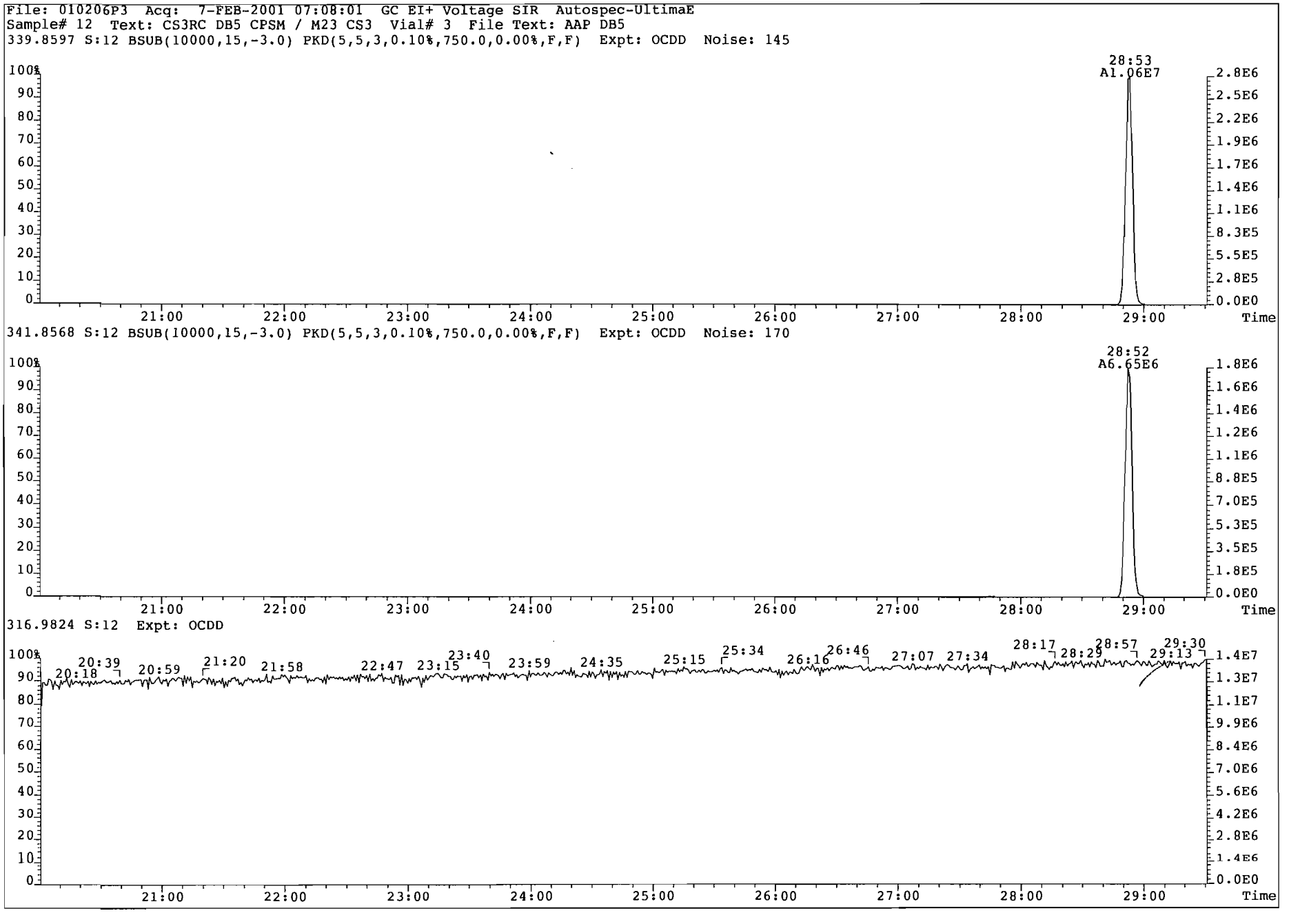


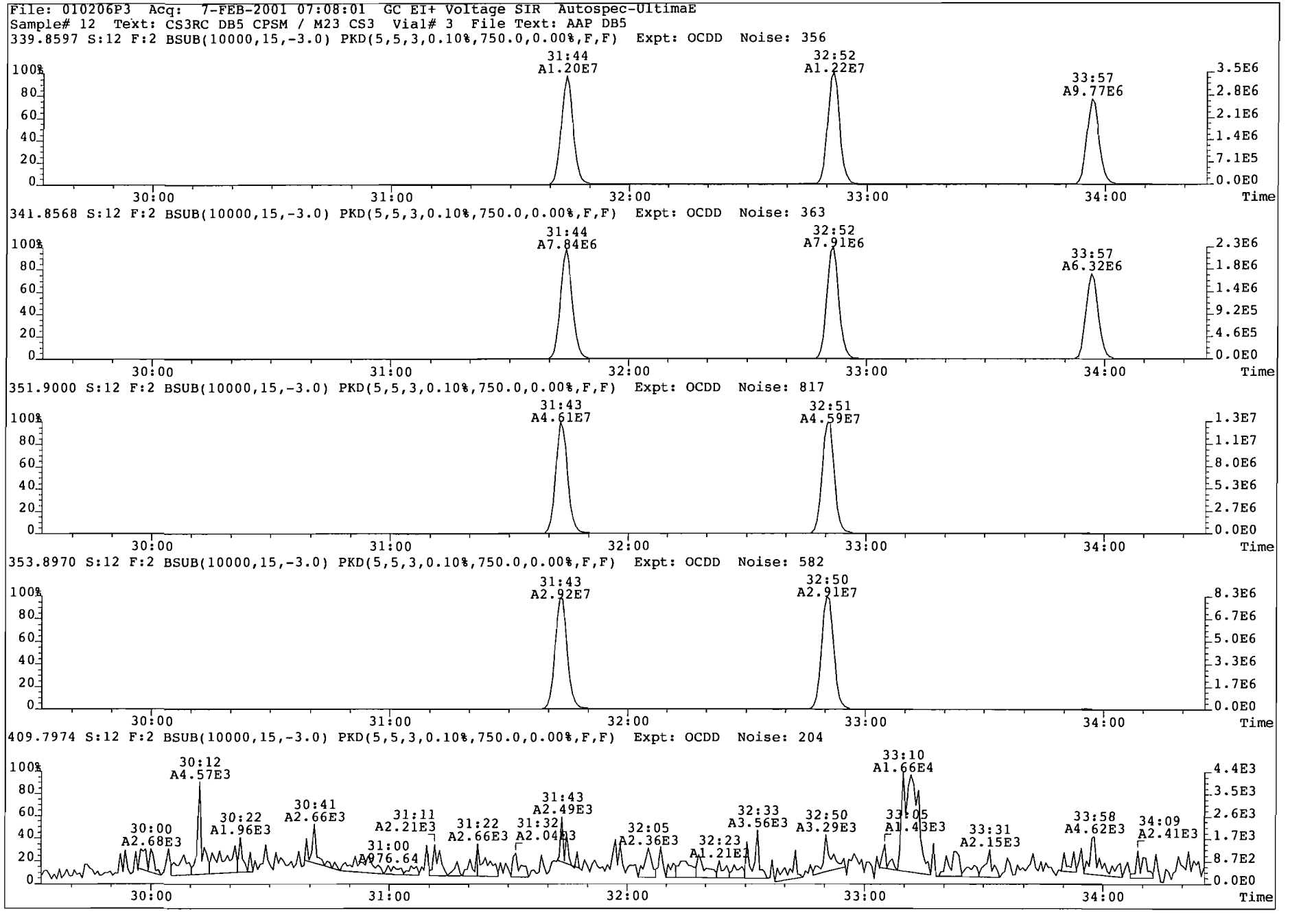
430.9728 S:12 F:4 Expt: OCDD

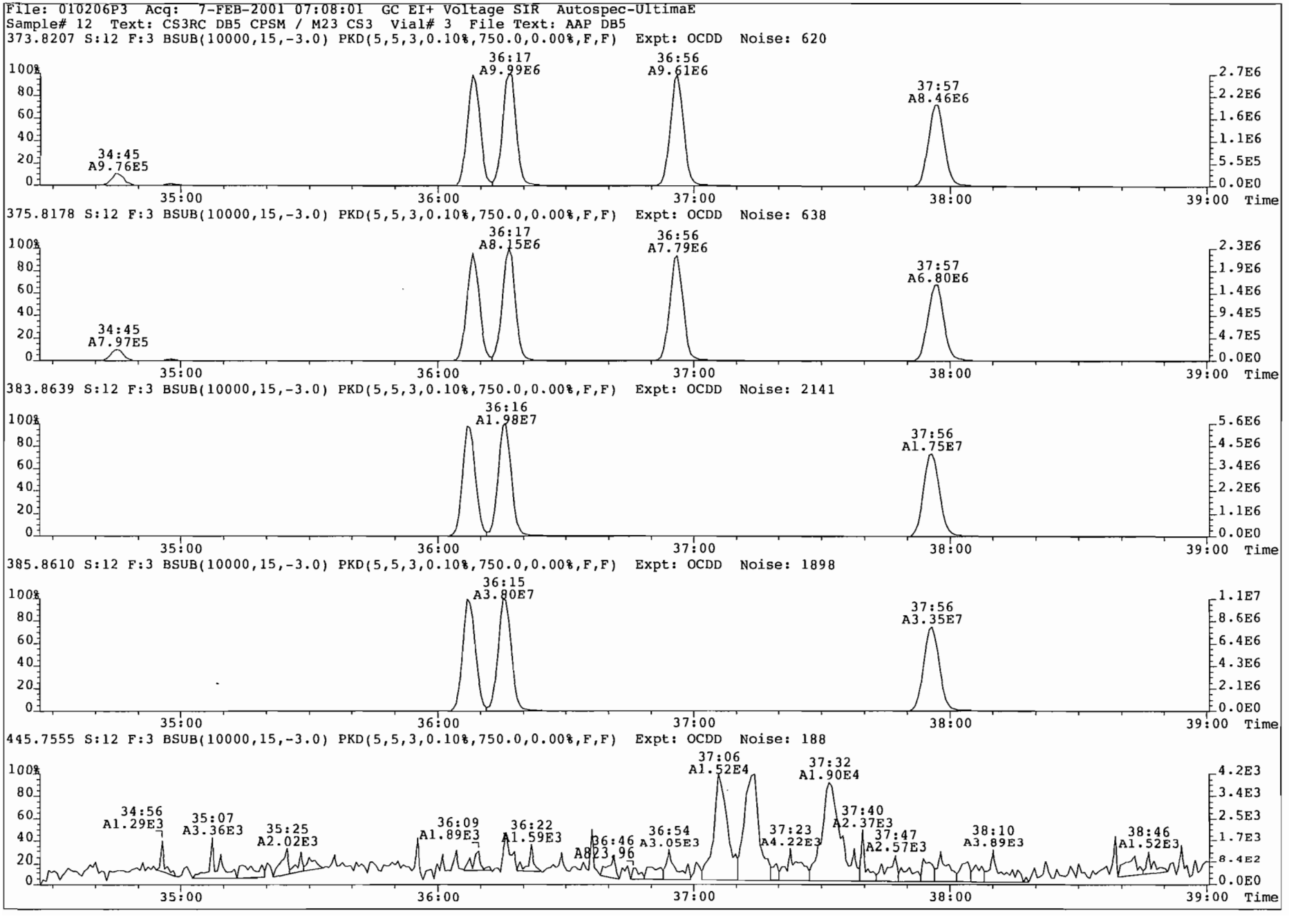


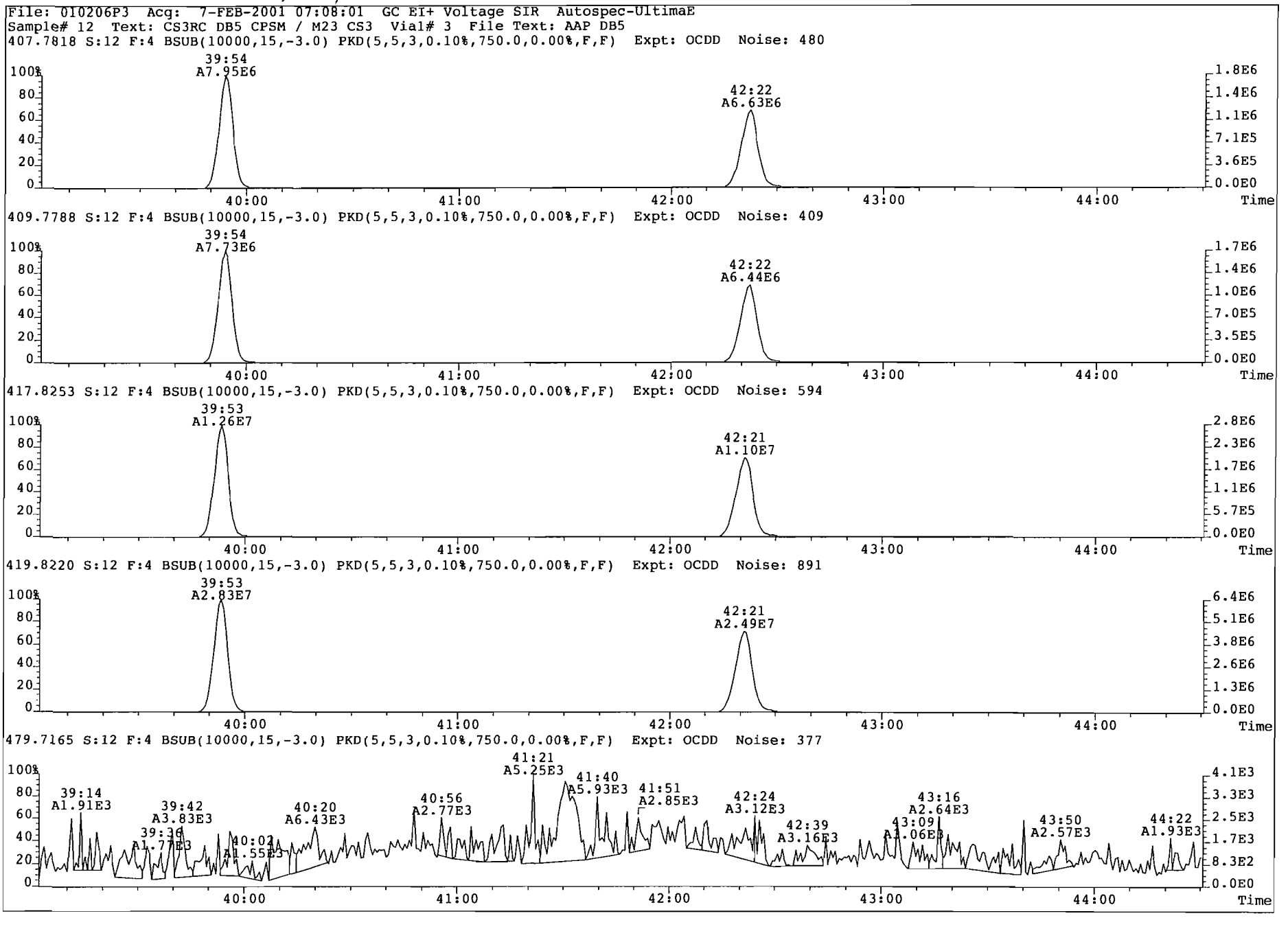

File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 330
46:53
A8.29E6
459.7348 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 191
46:53
A9.31E6
469.7780 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 230
46:52
A1.54E7
471.7750 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 218
46:52
A1.71E7
454.9728 S:12 F:5 Expt: OCDD
45:08
46:15
46:31
48:08
48:56
44:45 44:58 45:17 45:40 45:53 46:07 46:21 46:42 46:54 47:12 47:27 47:42 47:58 48:26 48:44
45:00 46:00 47:00 48:00 49:00 Time

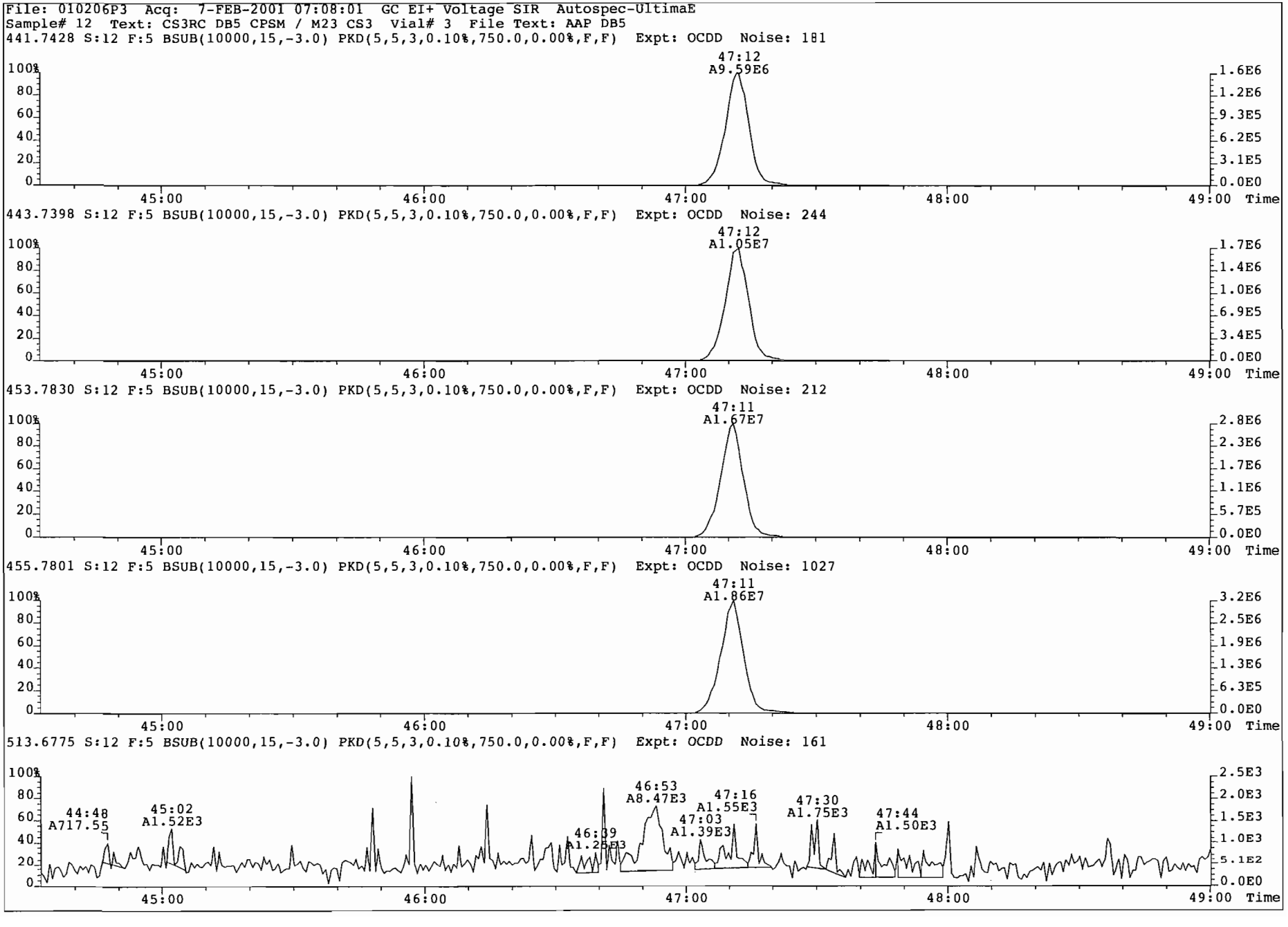

File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 179
21:53 A6.93E5
26:53 A1.90E6
28:57 A2.03E6
305.8987 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 307
21:53 A9.14E5
26:53 A2.48E6
28:57 A2.68E6
315.9419 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 481
25:30 A3.80E7
26:52 A3.78E7
317.9389 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 631
25:29 A4.86E7
26:52 A4.76E7
375.8364 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 131
21:31 A2.29E3
22:39 A1.67E3
22:53 A2.35E3
22:58 A2.51E3
23:31 A2.91E3
23:41 A1.17E3
24:13 A926.33
24:44 A1.52E3
24:49 A1.26E3
25:58 A1.09E3
27:46 A3.26E3
28:54 A2.46E3
Time


File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 145
28:53
A1.06E7
341.8568 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 170
28:52
A6.65E6
316.9824 S:12 Expt: OCDD
20:18
20:39
20:59
21:20
21:58
22:47
23:15
23:40
23:59
24:35
25:15
25:34
26:16
26:46
27:07
27:34
28:17
28:29
28:57
29:13
29:30
Time


File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 356
31:44 A1.20E7
32:52 A1.22E7
33:57 A9.77E6
341.8568 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 363
31:44 A7.84E6
32:52 A7.91E6
33:57 A6.32E6
351.9000 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 817
31:43 A4.61E7
32:51 A4.59E7
353.8970 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 582
31:43 A2.92E7
32:50 A2.91E7
409.7974 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 204
30:12 A4.57E3
30:00 A2.68E3
30:22 A1.96E3
30:41 A2.66E3
31:11 A2.21E3
31:00 A976.64
31:22 A2.66E3
31:32 A2.04E3
31:43 A2.49E3
32:05 A2.36E3
32:23 A1.21E3
32:33 A3.56E3
32:50 A3.29E3
33:10 A1.66E4
33:05 A1.43E3
33:31 A2.15E3
33:58 A4.62E3
34:09 A2.41E3
Time


File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 620
34:45 A9.76E5
36:17 A9.99E6
36:56 A9.61E6
37:57 A8.46E6
375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 638
34:45 A7.97E5
36:17 A8.15E6
36:56 A7.79E6
37:57 A6.80E6
383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2141
36:16 A1.98E7
37:56 A1.75E7
385.8610 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1898
36:15 A3.80E7
37:56 A3.35E7
445.7555 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 188
34:56 A1.29E3
35:07 A3.36E3
35:25 A2.02E3
36:09 A1.89E3
36:22 A1.59E3
36:46 A823.96
36:54 A3.05E3
37:06 A1.52E4
37:23 A4.22E3
37:32 A1.90E4
37:40 A2.37E3
37:47 A2.57E3
38:10 A3.89E3
38:46 A1.52E3
35:00
36:00
37:00
38:00
39:00
Time


File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 480
39:54 A7.95E6
42:22 A6.63E6
409.7788 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 409
39:54 A7.73E6
42:22 A6.44E6
417.8253 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 594
39:53 A1.26E7
42:21 A1.10E7
419.8220 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 891
39:53 A2.83E7
42:21 A2.49E7
479.7165 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 377
39:14 A1.91E3
39:42 A3.83E3
39:36 A1.77E3
40:02 A1.55E3
40:20 A6.43E3
40:56 A2.77E3
41:21 A5.25E3
41:40 A5.93E3
41:51 A2.85E3
42:24 A3.12E3
42:39 A3.16E3
43:09 A1.06E3
43:16 A2.64E3
43:50 A2.57E3
44:22 A1.93E3
Time


File: 010206P3 Acq: 7-FEB-2001 07:08:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 12 Text: CS3RC DB5 CPSM / M23 CS3 Vial# 3 File Text: AAP DB5
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 181
47:12
A9.59E6
443.7398 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 244
47:12
A1.05E7
453.7830 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 212
47:11
A1.67E7
455.7801 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1027
47:11
A1.86E7
513.6775 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 161
44:48
A717.55
45:02
A1.52E3
46:39
A1.25E3
46:53
A8.47E3
47:03
A1.39E3
47:16
A1.55E3
47:30
A1.75E3
47:44
A1.50E3
45:00
46:00
47:00
48:00
49:00
Time

Client ID: M23 CS3
Lab ID: CS3
Sample text: M23 CS3

Filename: 010211Q1 S: 1 Acq: 11-FEB-01 11:37:06
GC Column ID: ~~db-5~~ DB-225 ICal: MM2_DB225_000919 Wt/Vol: 1.000
Vial: 3
& 12 Feb 01

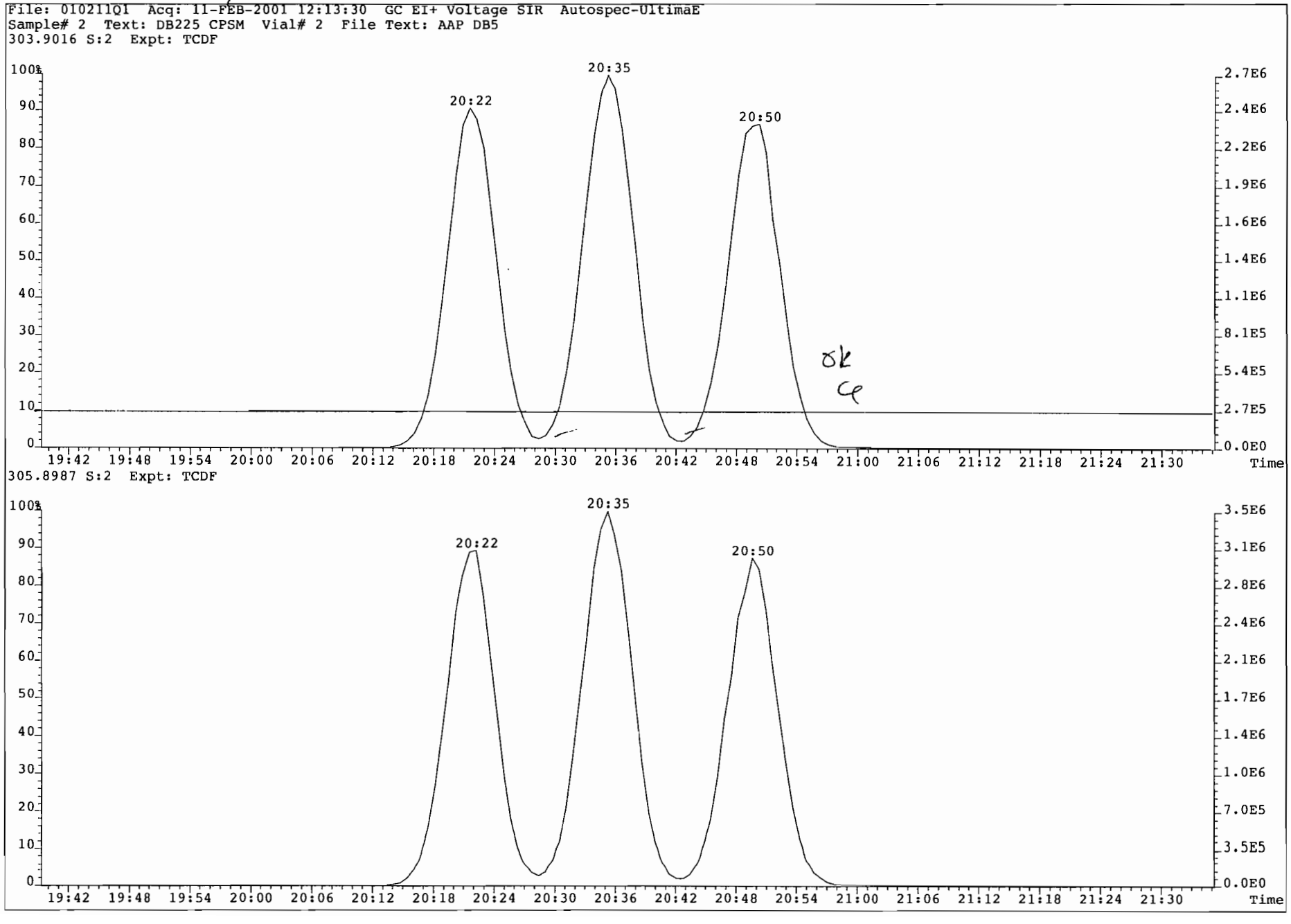
	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL	Rec
RS	13C-1,2,3,4-TCDF	1.49e+07	0.82	y	-	17:09	70.6		9748	5.0	-	-
IS/RT	13C-2,3,7,8-TCDF	1.48e+07	0.80	y	1.05	20:34	94.0		9748	5.0	3.37	94.0
Unk	2,3,7,8-TCDF	8.36e+05	0.83	y	1.00	20:36	5.63		1340	5.0	0.447	-

Reviewer: CL

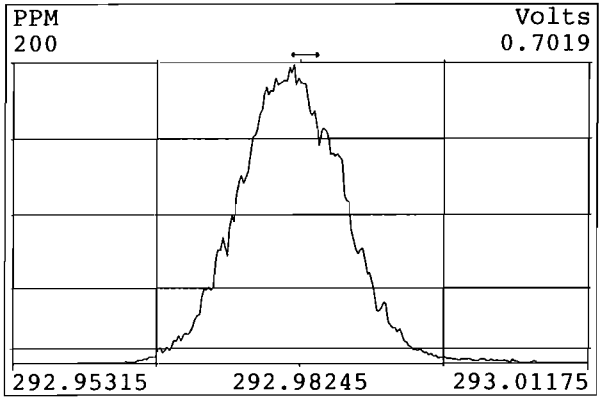
Date: 12 Feb 01

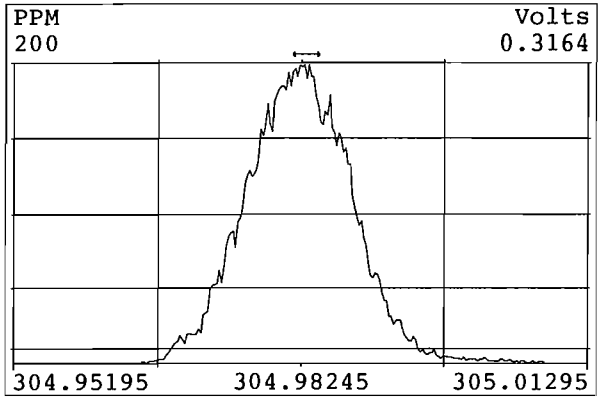
Analyst: GAG

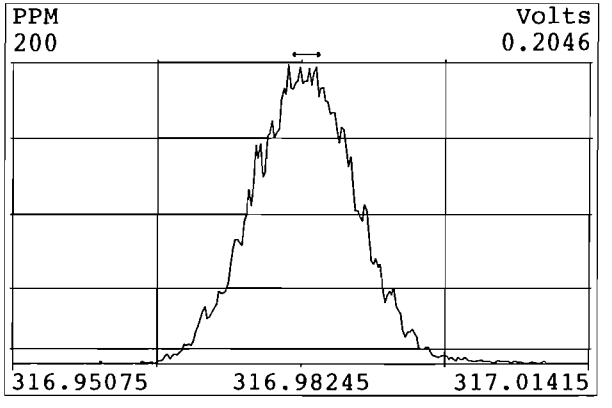
Date: 11 Feb 01

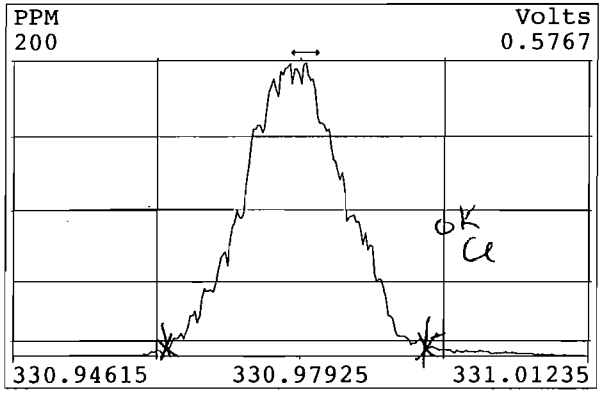

File: 010211Q1 Acq: 11-FEB-2001 12:13:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: DB225 CPSM Vial# 2 File Text: AAP DB5
303.9016 S:2 Expt: TCDF
20:22
20:35
20:50
ok
ce
305.8987 S:2 Expt: TCDF
20:22
20:35
20:50
Time

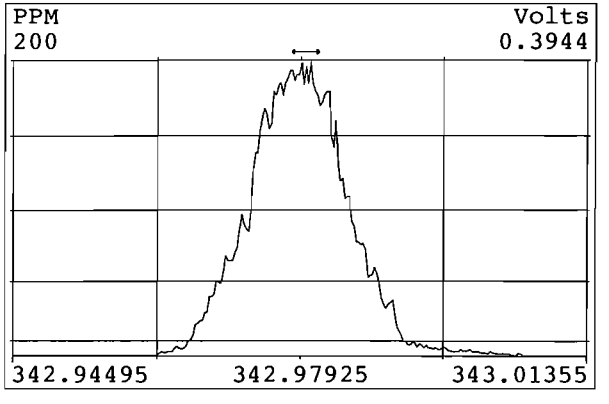
Peak Locate Examination:11-FEB-2001:11:36 File:010211Q1
Experiment:TCDF Function:1 Reference:PFK2

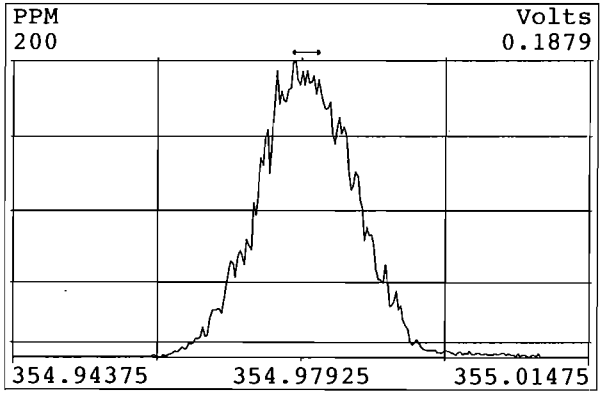


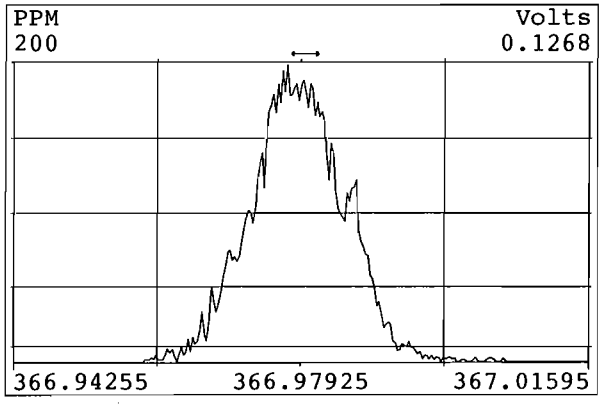


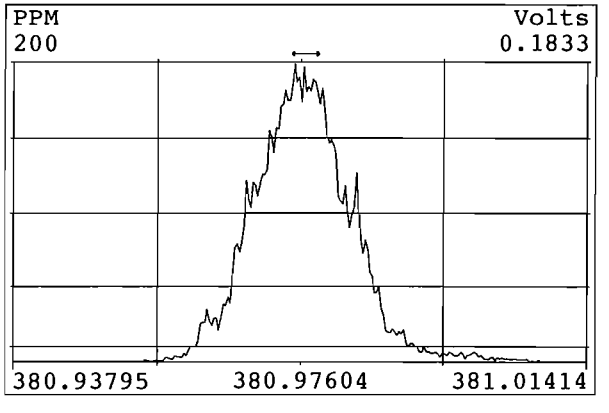


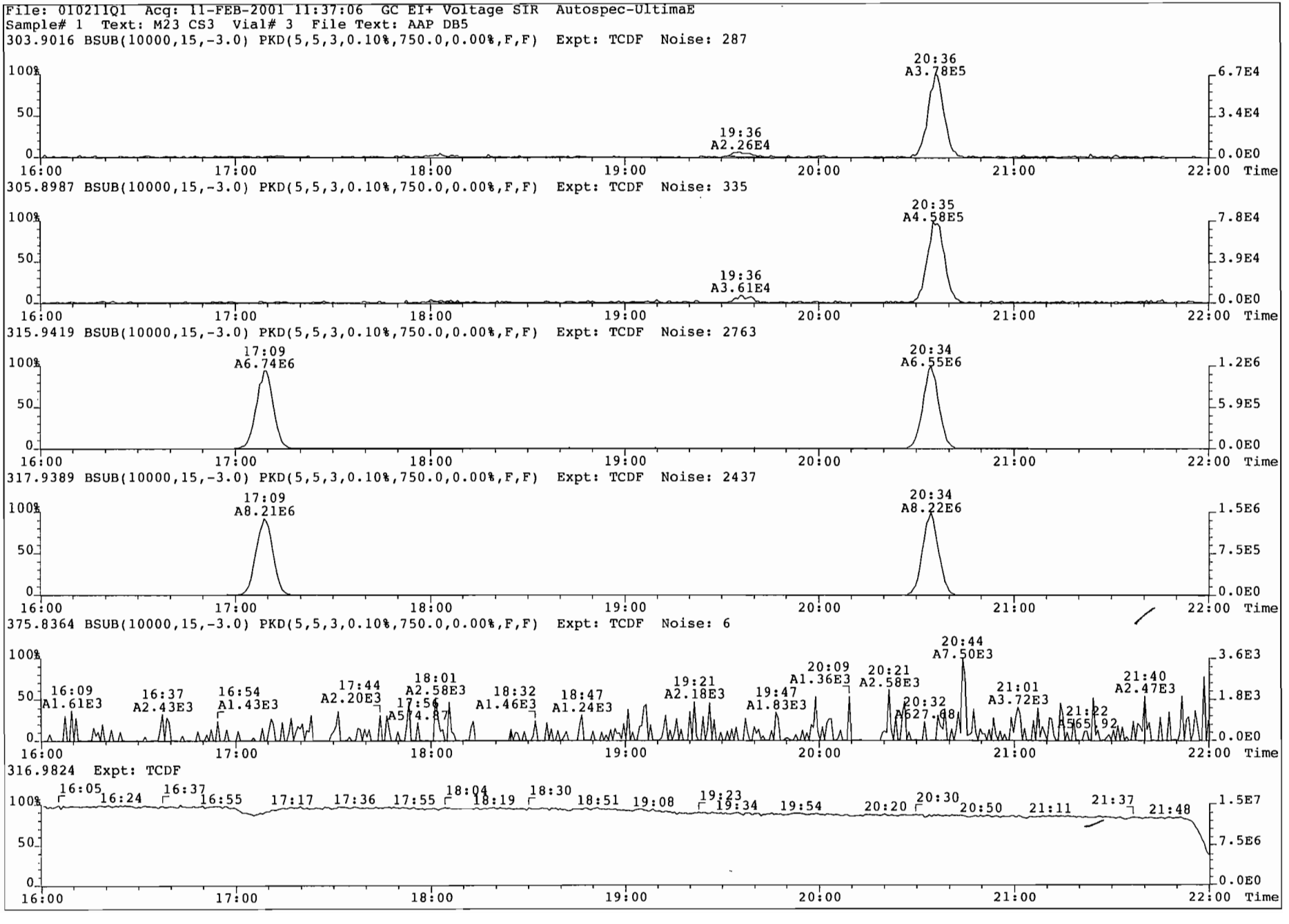











File: 01021IQ1 Acq: 11-FEB-2001 11:37:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 1 Text: M23 CS3 Vial# 3 File Text: AAP DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 287
20:36 A3.78E5
19:36 A2.26E4
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 335
20:35 A4.58E5
19:36 A3.61E4
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 2763
17:09 A6.74E6
20:34 A6.55E6
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 2437
17:09 A8.21E6
20:34 A8.22E6
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 6
20:44 A7.50E3
316.9824 Expt: TCDF
Time

Client ID: M23 CS3
Lab ID: CS3
Sample text: M23CS3

Filename: 010211Q1 S: 6 Acq: 11-FEB-01 14:38:59
GC Column ID: ~~db-5~~ DB-225 ICal: MM2_DB225_000919 Wt/Vol: 1.000
Vial: 3

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Rec
RS	13C-1,2,3,4-TCDF	1.79e+07	0.81 y	-	17:06	84.4		15236	5.0	-	-
IS/RT	13C-2,3,7,8-TCDF	1.74e+07	0.80 y	1.05	20:31	93.0		15236	5.0	4.45	93.0
Unk	2,3,7,8-TCDF	1.03e+06	0.79 y	1.00	20:33	5.85		1340	5.0	0.389	-

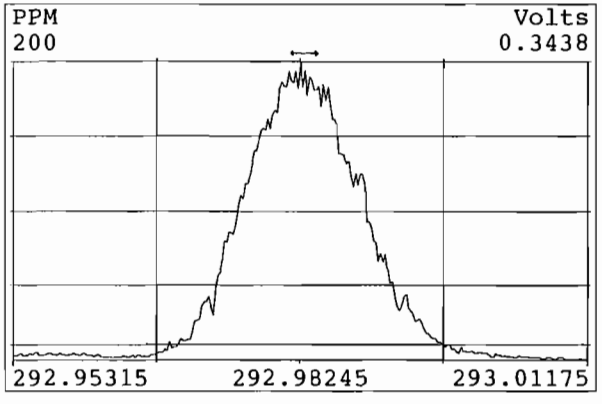
Reviewer: CO

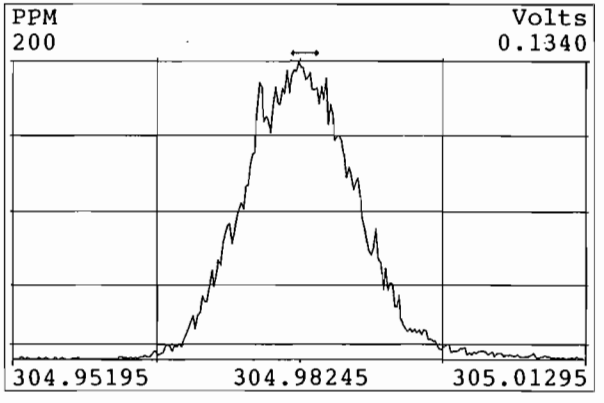
Date: 12 Feb01

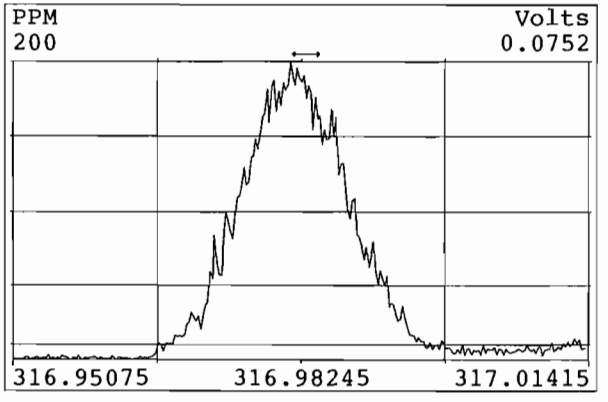
Analyst: GAG

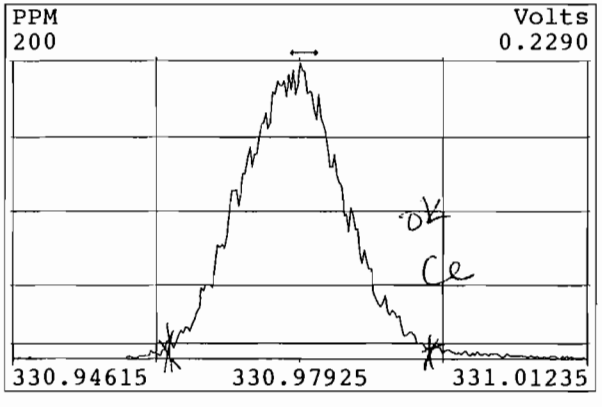
Date: 11 Feb01

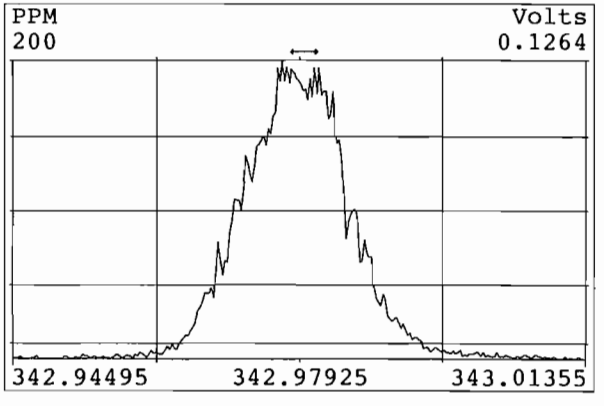
Peak Locate Examination:11-FEB-2001:15:22 File:RES_CHECK
Experiment:TCDF Function:1 Reference:PFK2

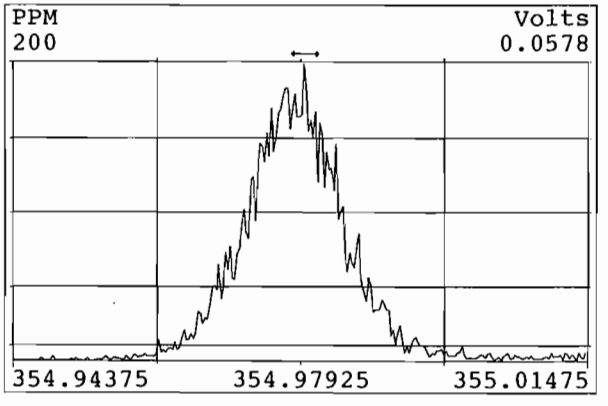


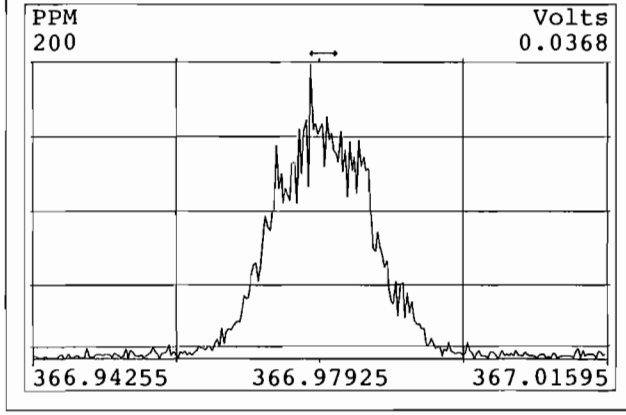


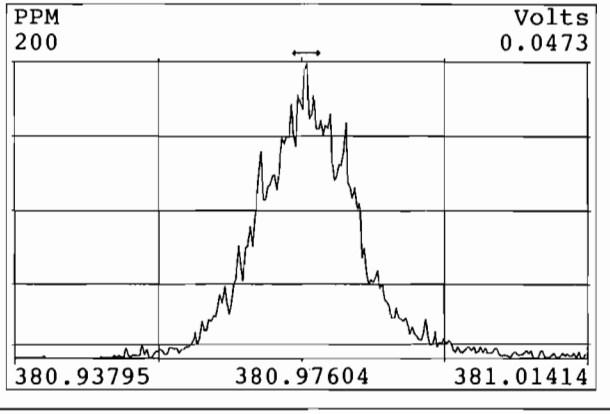


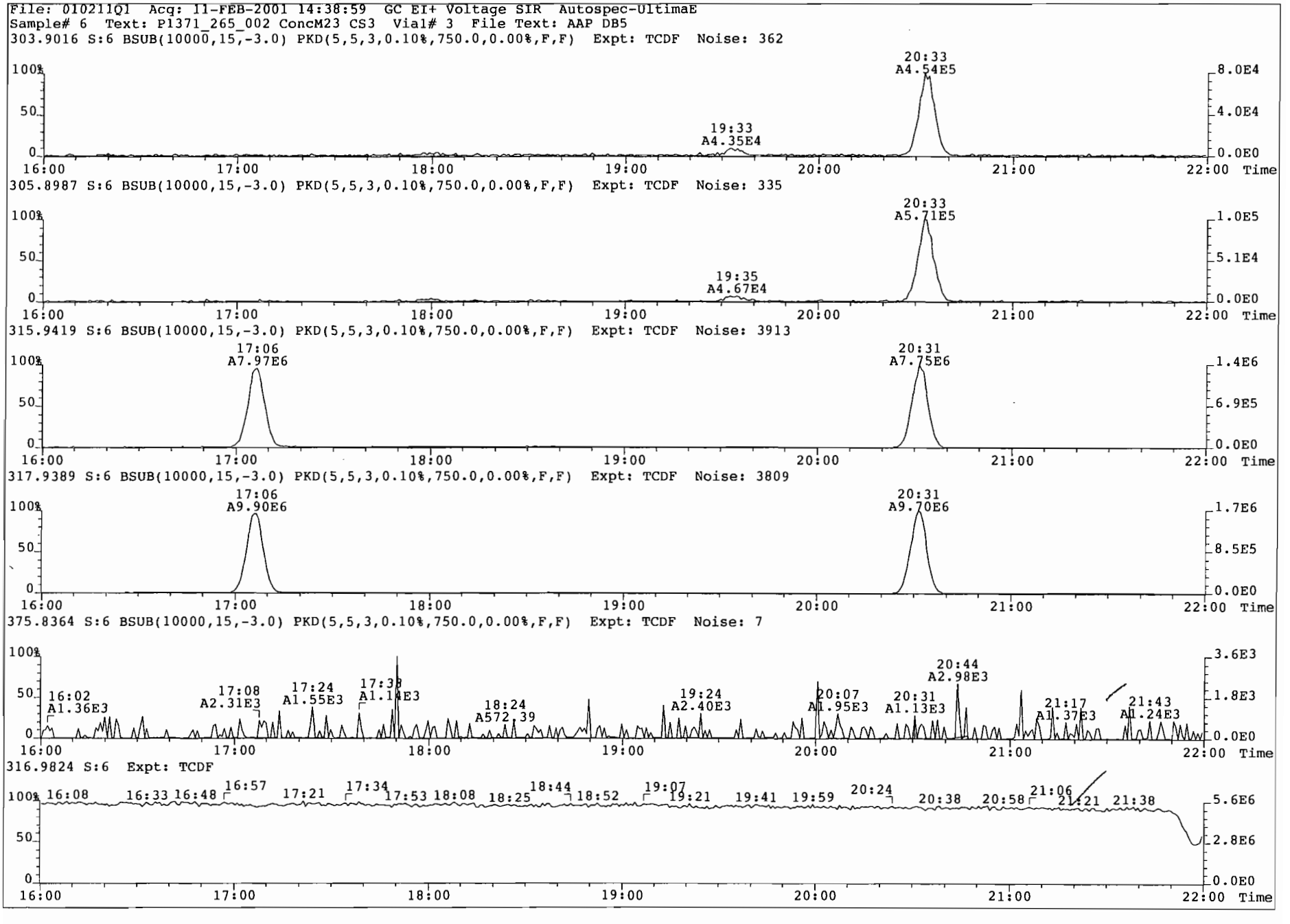











File: 010211Q1 Acq: 11-FEB-2001 14:38:59 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 6 Text: P1371_265_002 ConcM23 CS3 Vial# 3 File Text: AAP DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 362
20:33 A4.54E5
19:33 A4.35E4
305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 335
20:33 A5.71E5
19:35 A4.67E4
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 3913
17:06 A7.97E6
20:31 A7.75E6
317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 3809
17:06 A9.90E6
20:31 A9.70E6
375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: TCDF Noise: 7
16:02 A1.36E3
17:08 A2.31E3
17:24 A1.55E3
17:38 A1.14E3
18:24 A572.39
19:24 A2.40E3
20:07 A1.95E3
20:31 A1.13E3
20:44 A2.98E3
21:17 A1.37E3
21:43 A1.24E3
316.9824 S:6 Expt: TCDF
16:08 16:33 16:48 16:57 17:21 17:34 17:53 18:08 18:25 18:44 18:52 19:07 19:21 19:41 19:59 20:24 20:38 20:58 21:06 21:21 21:38
Time

ALTA ANALYTICAL PERSPECTIVES

PART 4D

SYSTEM PERFORMANCE

"INITIAL CALIBRATION"

DOCUMENTATION FOR THE ANALYSIS
OF
POLYCHLORINATED DIBENZO-*P*-DIOXINS & DIBENZOFURANS

Initial Calibration RRF Summary (ICAL) Alta Analytical Perspectives

Run: 001005P1 Analyte: m23mm1_cal Cal: mm1_m23_000919 Inst. ID. MM-1

Data filename: 001005P1

Name	Mean RRF	%RSD	Samp# 3 0.25 RRF#1	Samp# 4 0.50 RRF#2	Samp# 5 1.0 RRF#3	Samp# 6 5.0 RRF#4	Samp# 7 50 RRF#5	Samp# 8 100 RRF#6	Samp# 9 500 RRF#7
2,3,7,8-TCDD	1.26	2.04 %	1.30	1.21	1.25	1.27	1.27	1.27	1.26
1,2,3,7,8-PeCDD	1.01	5.08 %	0.98	0.93	0.99	1.06	1.06	1.01	1.06
1,2,3,4,7,8-HxCDD	1.14	5.15 %	1.08	1.08	1.12	1.19	1.21	1.10	1.20
1,2,3,6,7,8-HxCDD	1.02	4.04 %	1.04	0.97	1.03	1.07	1.07	0.97	1.01
1,2,3,7,8,9-HxCDD	1.14	4.26 %	1.11	1.10	1.12	1.21	1.20	1.09	1.16
1,2,3,4,6,7,8-HpCDD	1.13	5.87 %	1.10	1.05	1.07	1.17	1.19	1.10	1.22
OCDD	1.03	5.02 %	1.00	0.95	0.99	1.08	1.08	1.08	1.01
2,3,7,8-TCDF	1.05	7.26 %	1.01	0.97	0.98	1.04	1.06	1.19	1.08
1,2,3,7,8-PeCDF	1.04	4.06 %	1.02	0.98	1.01	1.09	1.09	1.01	1.06
2,3,4,7,8-PeCDF	1.05	4.68 %	1.01	1.01	1.03	1.12	1.12	1.02	1.08
1,2,3,4,7,8-HxCDF	1.13	5.67 %	1.11	1.05	1.13	1.20	1.20	1.05	1.17
1,2,3,6,7,8-HxCDF	1.24	4.10 %	1.21	1.20	1.23	1.29	1.29	1.16	1.28
2,3,4,6,7,8-HxCDF	1.16	5.47 %	1.16	1.11	1.15	1.24	1.25	1.08	1.17
1,2,3,7,8,9-HxCDF	1.02	5.76 %	0.97	0.97	1.01	1.09	1.10	0.96	1.04
1,2,3,4,6,7,8-HpCDF	1.54	4.77 %	1.49	1.45	1.51	1.63	1.63	1.50	1.58
1,2,3,4,7,8,9-HpCDF	1.30	6.39 %	1.24	1.19	1.27	1.39	1.39	1.23	1.38
OCDF	1.15	4.37 %	1.15	1.05	1.13	1.19	1.19	1.19	1.14
13C-2,3,7,8-TCDD	1.13	3.53 %	1.12	1.13	1.12	1.07	1.19	1.18	1.13
13C-1,2,3,7,8-PeCDD	0.93	6.05 %	0.90	0.90	0.88	0.86	0.96	0.99	1.00
13C-1,2,3,6,7,8-HxCDD	0.93	2.49 %	0.95	0.94	0.93	0.89	0.95	0.95	0.92
13C-1,2,3,4,6,7,8-HpCDD	0.91	4.58 %	0.96	0.88	0.94	0.86	0.93	0.91	0.85
13C-OCDD	0.73	4.88 %	0.77	0.71	0.75	0.68	0.74	0.71	0.77
13C-2,3,7,8-TCDF	1.06	3.69 %	1.05	1.11	1.04	1.01	1.08	1.11	1.03
13C-1,2,3,7,8-PeCDF	0.96	6.91 %	0.90	0.97	0.89	0.91	0.96	1.08	1.00
13C-1,2,3,6,7,8-HxCDF	1.28	3.33 %	1.31	1.31	1.28	1.21	1.30	1.33	1.24
13C-1,2,3,4,6,7,8-HpCDF	0.90	4.81 %	0.96	0.90	0.94	0.85	0.92	0.90	0.85
13C-OCDF	0.81	4.90 %	0.84	0.78	0.83	0.74	0.83	0.81	0.85
13C-1,2,3,4-TCDD	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,7,8,9-HxCDD	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00	1.00
37Cl-2,3,7,8-TCDD	0.51	1.94 %	0.50	0.51	0.51	0.52	0.50	0.52	0.53
13C-2,3,4,7,8-PeCDF	0.97	2.54 %	0.96	0.98	0.99	1.01	0.99	0.96	0.93
13C-1,2,3,4,7,8-HxCDD	0.92	1.53 %	0.90	0.93	0.93	0.93	0.93	0.93	0.90
13C-1,2,3,4,7,8-HxCDF	0.91	2.76 %	0.92	0.91	0.92	0.94	0.92	0.88	0.87
13C-1,2,3,4,7,8,9-HpCDF	0.85	2.09 %	0.85	0.83	0.85	0.89	0.86	0.86	0.85
13C-1,2,3,7,8,9-HxCDF	1.07	3.11 %	1.08	1.08	1.09	1.06	1.10	1.06	1.00

METHOD 23 / TO9A

ICAL 919 STANDARDS 05 OCT 2000.

OK

23 OCT 2000

Initial Calibration RRF Summary (ICAL) Alta Analytical Perspectives

Run: 001122q2 Analyte: TCDF Cal: TCDFMM2

Data filename: 001122Q2

Name	Mean RRF	%RSD	Samp# 3 0.50 RRF#1	Samp# 4 1.0 RRF#2	Samp# 5 5.0 RRF#3	Samp# 6 50 RRF#4	Samp# 7 100 RRF#5
13C-1,2,3,4-TCDF	-	- %	-	-	-	-	-
13C-2,3,7,8-TCDF	1.05	3.24 %	0.99	1.05	1.08	1.07	1.07
2,3,7,8-TCDF	1.00	16.42 %	0.89	0.83	1.04	1.01	1.26

MM2

M23
919 series
DB-225
ICAL
MM2
22NOV00.

26 NOV 00

JTH
26-Nov-00

ALTA ANALYTICAL PERSPECTIVES

PART 4E

SYSTEM PERFORMANCE

"ON-GOING PRECISION & ACCURACY"

DOCUMENTATION FOR THE ANALYSIS
OF
POLYCHLORINATED DIBENZO-*p*-DIOXINS & DIBENZOFURANS

EPA METHOD 23 / TO9A / 428

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Alta Analytical Perspectives

Reviewer: CP

Matrix (MM5/PUF): OPR Data Filename: 010206P3-2

Ext. Date: Shift: Analysis Date: 6-FEB-01 Time: 22:31:25

Date: 11 Feb 01

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

#267_OPR_23.TIF

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)
NATIVE ANALYTES			
2,3,7,8-TCDD	5.0	5.06	3.75 - 6.25
1,2,3,7,8-PeCDD	25	25.3	18.8 - 31.2
1,2,3,4,7,8-HxCDD	25	26.2	18.8 - 31.2
1,2,3,6,7,8-HxCDD	25	25.3	18.8 - 31.2
1,2,3,7,8,9-HxCDD	25	26.1	18.8 - 31.2
1,2,3,4,6,7,8-HpCDD	25	24.3	18.8 - 31.2
OCDD	50	49.3	37.5 - 62.5
2,3,7,8-TCDF	5.0	4.59	3.75 - 6.25
1,2,3,7,8-PeCDF	25	23.7	18.8 - 31.2
2,3,4,7,8-PeCDF	25	23.5	18.8 - 31.2
1,2,3,4,7,8-HxCDF	25	24.8	18.8 - 31.2
1,2,3,6,7,8-HxCDF	25	25.0	18.8 - 31.2
2,3,4,6,7,8-HxCDF	25	25.8	18.8 - 31.2
1,2,3,7,8,9-HxCDF	25	25.6	18.8 - 31.2
1,2,3,4,6,7,8-HpCDF	25	23.2	18.8 - 31.2
1,2,3,4,7,8,9-HpCDF	25	23.0	18.8 - 31.2
OCDF	50	46.6	37.5 - 62.5

Analyst: GAG

Date: 11 Feb 01

EPA METHOD 23 / TO9A / 428

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Alta Analytical Perspectives

Reviewer: CL

Matrix (MM5/PUF): OPR Data Filename: 010206P3-2

Ext. Date: Shift: Analysis Date: 6-FEB-01 Time: 22:31:25

Date: 11 Feb 01

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	200	196	80.0 - 260
13C-1,2,3,7,8-PeCDD	200	202	80.0 - 260
13C-1,2,3,6,7,8-HxCDD	200	189	80.0 - 260
13C-1,2,3,4,6,7,8-HpCDD	200	197	80.0 - 260
13C-OCDD	200	184	80.0 - 260
13C-2,3,7,8-TCDF	200	189	80.0 - 260
13C-1,2,3,7,8-PeCDF	200	187	80.0 - 260
13C-1,2,3,6,7,8-HxCDF	200	178	80.0 - 260
13C-1,2,3,4,6,7,8-HpCDF	200	187	80.0 - 260
13C-OCDF	200	180	80.0 - 260

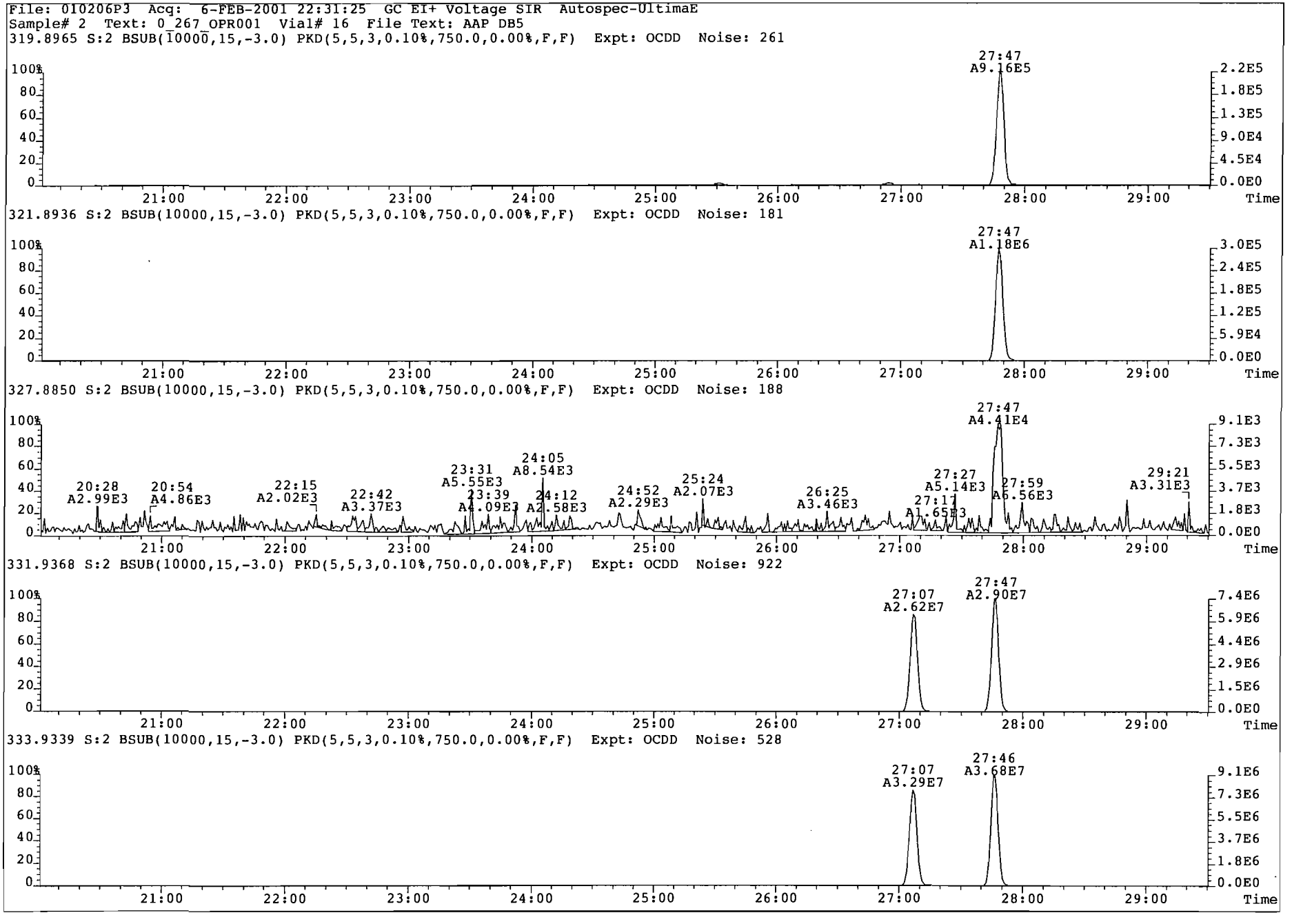
Analyst: GAG

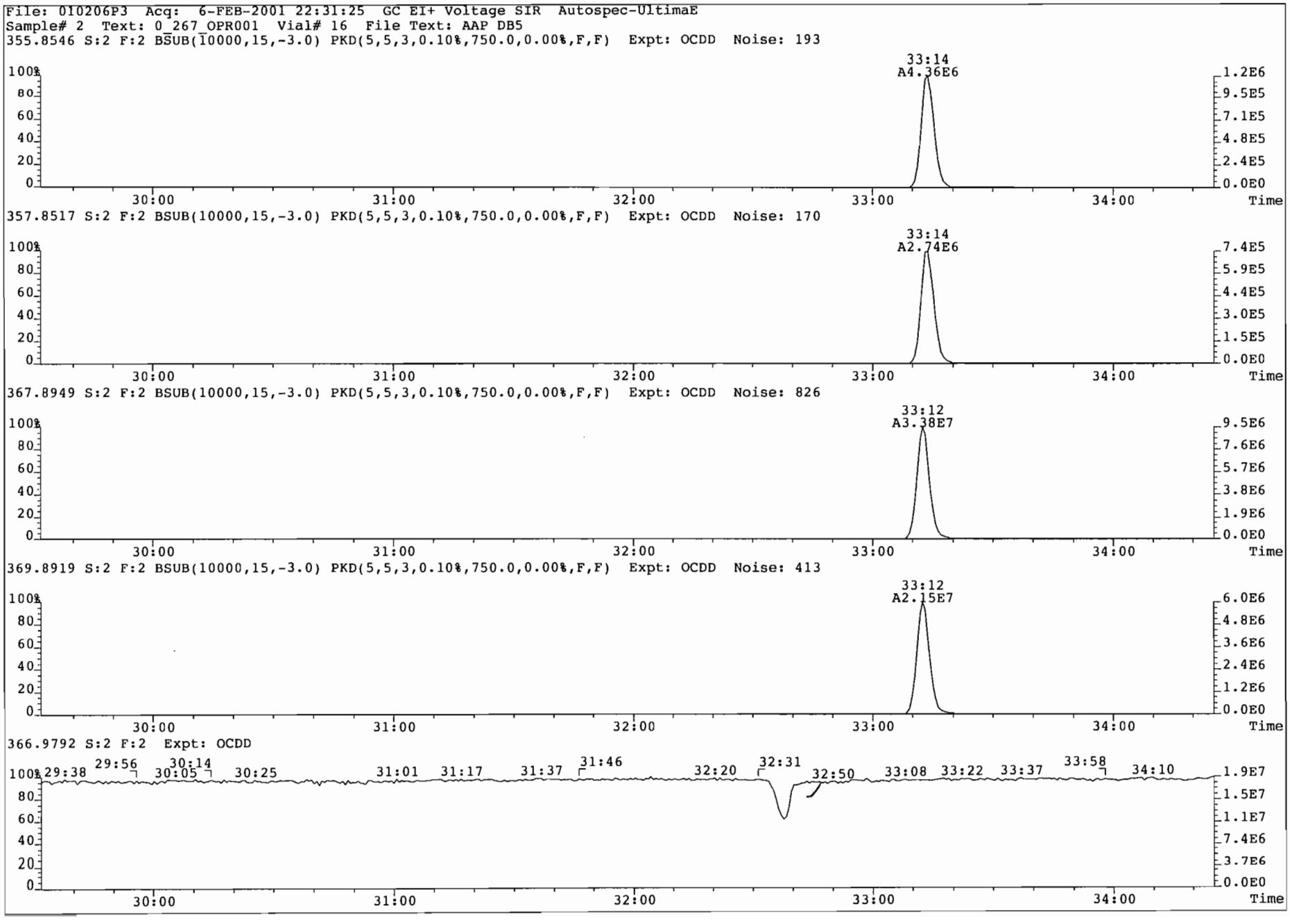
Date: 11 Feb 01

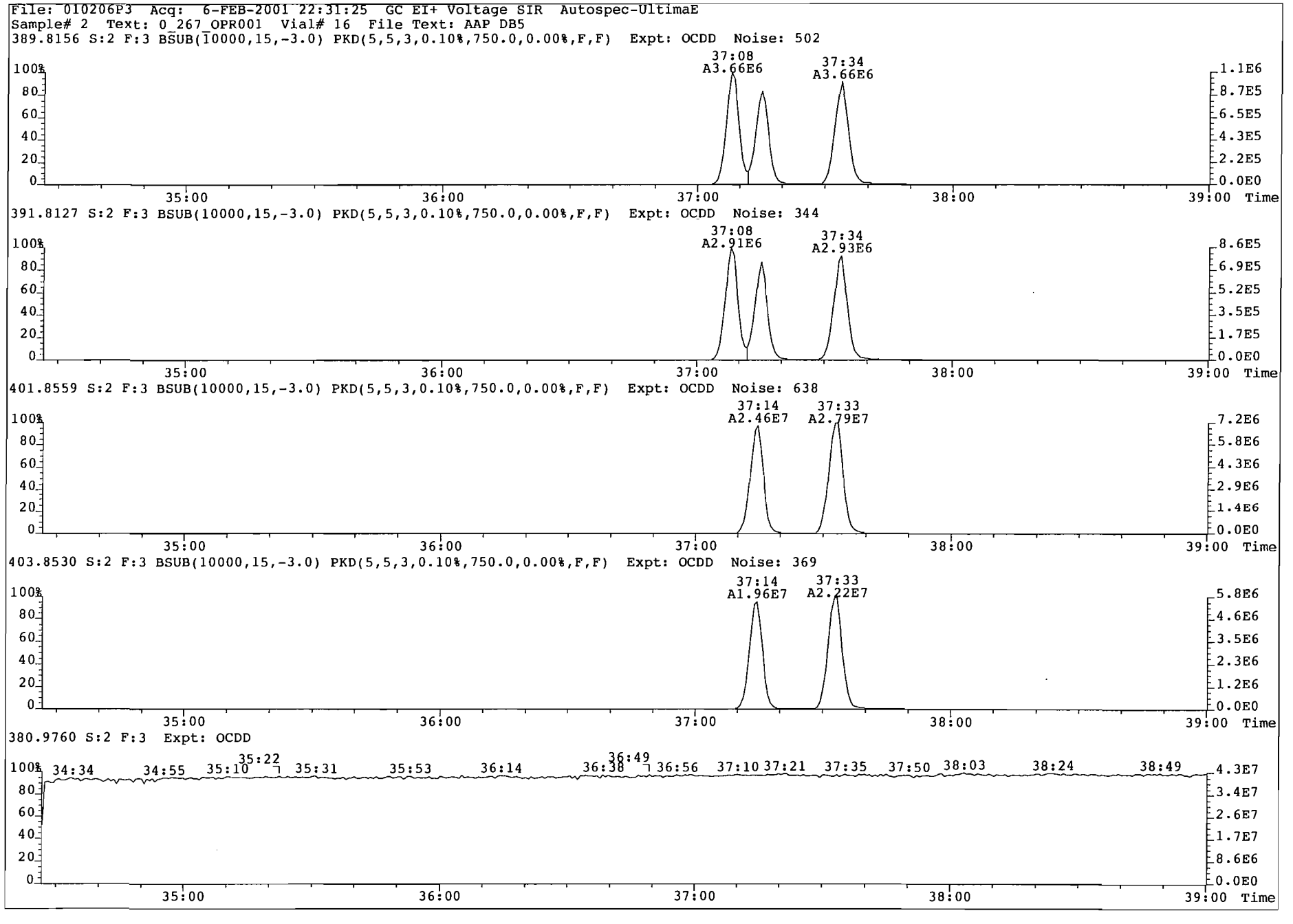
Client ID: 0_267_OPR001 Filename: 010206P3 S: 2 Acq: 6-FEB-01 22:31:25 ConCal: 010206P3-
Lab ID: 0_267_OPR001 GC Column ID: db-5 ICal: mm1_m23_0» wt/vol: 1.000 EndCal: 010206P3-

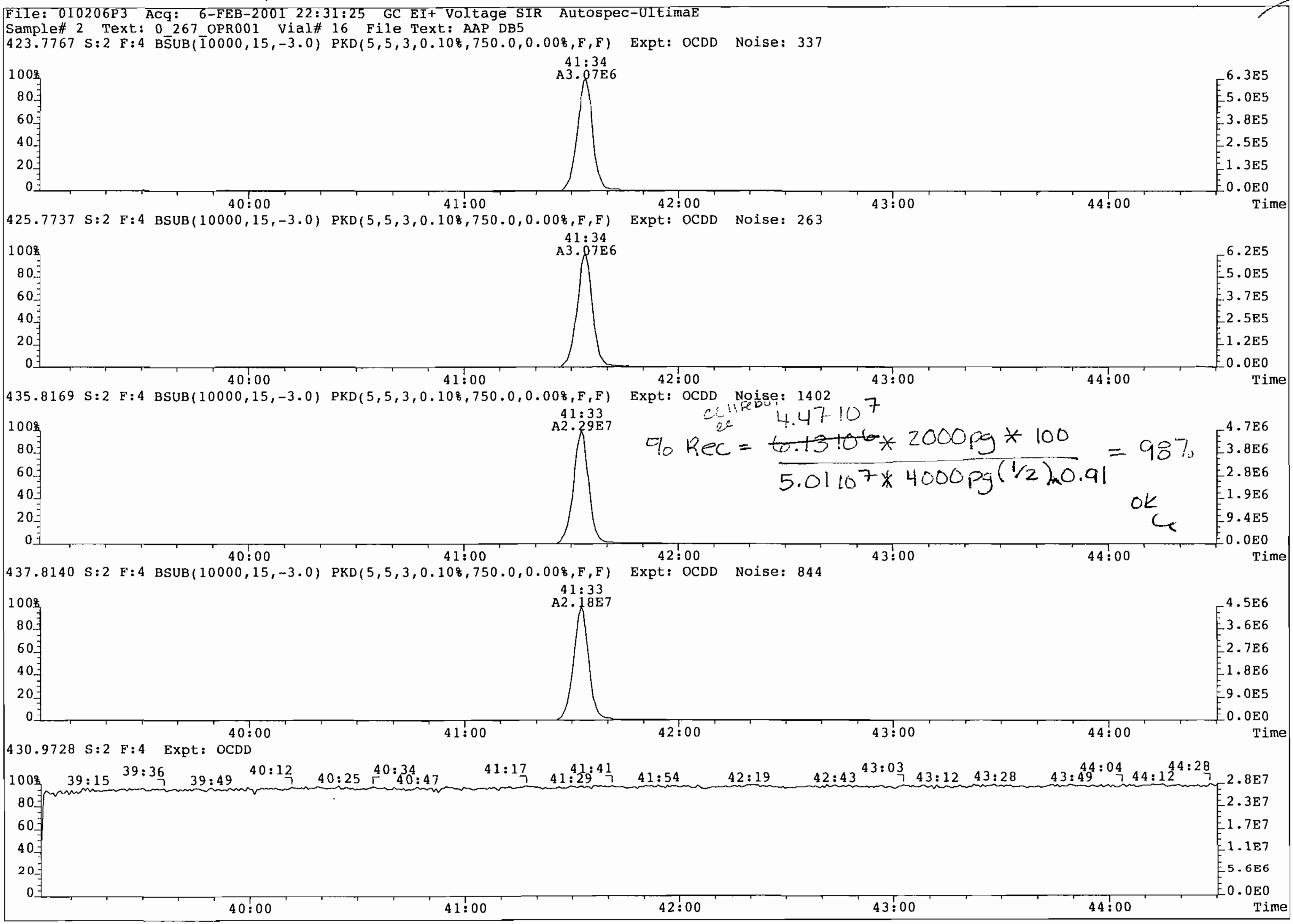
	Name	Resp	RA		RRF	RT	Conc	Qualif.	CDE	noise	Fac	DL	
	2,3,7,8-TCDD	2.10e+06	0.77	y	1.26	27:48	5.06			1296	2.5	0.0556	
	1,2,3,7,8-PeCDD	7.10e+06	1.59	y	1.01	33:14	25.3			697	2.5	0.0574	
	1,2,3,4,7,8-HxCDD	6.57e+06	1.26	y	1.14	37:08	26.2			1549	2.5	0.122	
	1,2,3,6,7,8-HxCDD	5.71e+06	1.25	y	1.02	37:15	25.3			1549	2.5	0.135	
	1,2,3,7,8,9-HxCDD	6.58e+06	1.25	y	1.14	37:34	26.1			1549	2.5	0.121	
	1,2,3,4,6,7,8-HpCDD	6.13e+06	1.00	y	1.13	41:34	24.3			2458	2.5	0.241	
	OCDD	8.54e+06	0.88	y	1.03	46:54	49.3			1639	2.5	0.273	
	2,3,7,8-TCDF	2.04e+06	0.75	y	1.05	26:55	4.59			1241	2.5	0.0505	
	1,2,3,7,8-PeCDF	9.35e+06	1.57	y	1.04	31:45	23.7			1255	2.5	0.0724	
	2,3,4,7,8-PeCDF	9.40e+06	1.53	y	1.05	32:53	23.5			1255	2.5	0.0713	
	1,2,3,4,7,8-HxCDF	8.01e+06	1.22	y	1.13	36:10	24.8			2690	2.5	0.108	
	1,2,3,6,7,8-HxCDF	8.85e+06	1.22	y	1.24	36:17	25.0			2690	2.5	0.0983	
	2,3,4,6,7,8-HxCDF	8.58e+06	1.24	y	1.16	36:57	25.8			2690	2.5	0.105	
	1,2,3,7,8,9-HxCDF	7.46e+06	1.24	y	1.02	37:58	25.6			2690	2.5	0.120	
	1,2,3,4,6,7,8-HpCDF	7.57e+06	1.04	y	1.54	39:55	23.2			1663	2.5	0.0823	
	1,2,3,4,7,8,9-HpCDF	6.30e+06	1.04	y	1.30	42:24	23.0			1663	2.5	0.0977	
	OCDF	9.77e+06	0.90	y	1.15	47:13	46.6			998	2.5	0.131	
													EMPC
	Total Tetra-Dioxins	2.10e+06	0.77	y	1.26	27:48	5.06			1296	2.5	0.0556	5.06
	Total Penta-Dioxins	7.10e+06	1.59	y	1.01	33:14	25.3			697	2.5	0.0574	25.4
	Total Hexa-Dioxins	1.89e+07	1.26	y	1.10	37:08	77.6			1549	2.5	0.126	77.6
	Total Hepta-Dioxins	6.13e+06	1.00	y	1.13	41:34	24.3			2458	2.5	0.241	24.3
	Total Tetra-Furans	2.09e+06	0.70	y	1.05	26:00	4.70			1241	2.5	0.0505	4.70
	1st Fnc. Penta-Furans	*	*	n	1.05	NotF»	*			1533	2.5	0.0877	0.0695
	Total Penta-Furans	1.89e+07	1.57	y	1.05	31:45	47.5			1255	2.5	0.0718	
	PeCDF Totals:						47.5						47.8
	Total Hexa-Furans	3.29e+07	1.22	y	1.14	36:10	101			2690	2.5	0.107	101
	Total Hepta-Furans	1.39e+07	1.04	y	1.42	39:55	46.2			1663	2.5	0.0893	46.2
													Rec
IS	13C-2,3,7,8-TCDD	6.58e+07	0.79	y	1.13	27:47	196						98.1
IS	13C-1,2,3,7,8-PeCDD	5.53e+07	1.57	y	0.93	33:13	202						101
IS	13C-1,2,3,6,7,8-HxCDD	4.41e+07	1.26	y	0.93	37:14	189						94.4
IS	13C-1,2,3,4,6,7,8-HpCDD	4.47e+07	1.05	y	0.91	41:33	197						98.6
IS	13C-OCDD	3.37e+07	0.90	y	0.73	46:53	184						91.9
IS	13C-2,3,7,8-TCDF	8.50e+07	0.79	y	1.06	26:53	189						94.5
IS	13C-1,2,3,7,8-PeCDF	7.60e+07	1.57	y	0.96	31:44	187						93.5
IS	13C-1,2,3,6,7,8-HxCDF	5.72e+07	0.52	y	1.28	36:17	178						89.1
IS	13C-1,2,3,4,6,7,8-HpCDF	4.22e+07	0.45	y	0.90	39:54	187						93.4
IS	13C-OCDF	3.65e+07	0.88	y	0.81	47:12	180						89.9
RS/RT	13C-1,2,3,4-TCDD	5.92e+07	0.80	y	1.00	27:07	200						-
RS	13C-1,2,3,4-TCDF	8.48e+07	0.78	y	1.00	25:31	200						-
RS/RT	13C-1,2,3,7,8,9-HxCDD	5.01e+07	1.25	y	1.00	37:33	200						-
PS	37Cl-2,3,7,8-TCDD	4.41e+04			0.51	27:48	0.260						0.130
PS	13C-2,3,4,7,8-PeCDF	8.03e+04	0.98	n	0.97	32:52	0.217						0.108
PS	13C-1,2,3,4,7,8-HxCDD	*	*	n	0.92	NotF»	*						*
PS	13C-1,2,3,4,7,8-HxCDF	2.16e+05	0.53	y	0.91	36:09	0.829						0.414
PS	13C-1,2,3,4,7,8,9-HpCDF	1.53e+05	0.51	n	0.85	42:23	0.850						0.425
AS	13C-1,2,3,7,8,9-HxCDF	5.29e+07	0.52	y	1.07	37:57	198						98.8

Reviewer: C
Date: 11 Feb 01
Analyst: GAC
Date: 11 Feb 01

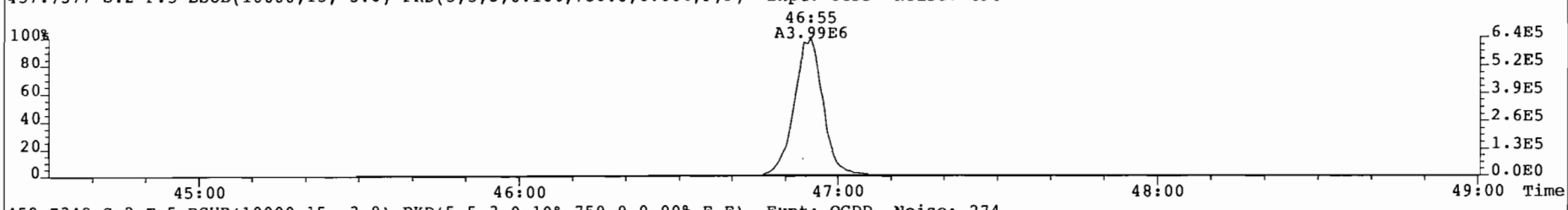

File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 261
27:47
A9.16E5
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 181
27:47
A1.18E6
327.8850 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 188
27:47
A4.41E4
20:28
A2.99E3
20:54
A4.86E3
22:15
A2.02E3
22:42
A3.37E3
23:31
A5.55E3
23:39
A4.09E3
24:05
A8.54E3
24:12
A2.58E3
24:52
A2.29E3
25:24
A2.07E3
26:25
A3.46E3
27:11
A1.65E3
27:27
A5.14E3
27:59
A6.56E3
29:21
A3.31E3
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 922
27:07
A2.62E7
27:47
A2.90E7
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 528
27:07
A3.29E7
27:46
A3.68E7
Time


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 193
33:14
A4.36E6
357.8517 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 170
33:14
A2.74E6
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 826
33:12
A3.38E7
369.8919 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 413
33:12
A2.15E7
366.9792 S:2 F:2 Expt: OCDD
29:38
29:56
30:05
30:14
30:25
31:01
31:17
31:37
31:46
32:20
32:31
32:50
33:08
33:22
33:37
33:58
34:10
30:00
31:00
32:00
33:00
34:00
Time

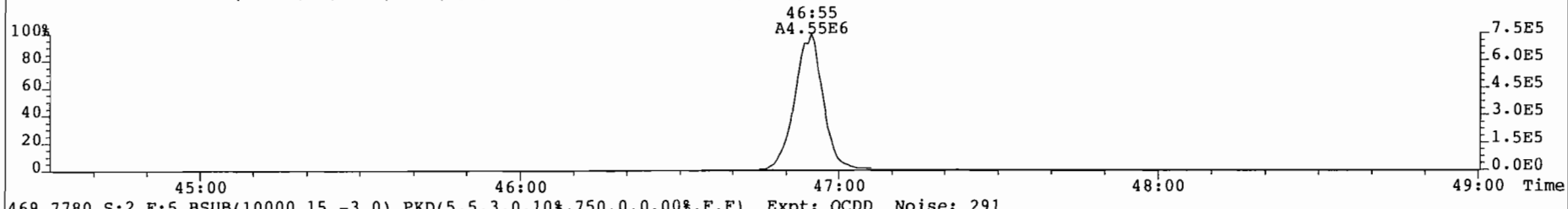

File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 502
37:08 A3.66E6
37:34 A3.66E6
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 344
37:08 A2.91E6
37:34 A2.93E6
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 638
37:14 A2.46E7
37:33 A2.79E7
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 369
37:14 A1.96E7
37:33 A2.22E7
380.9760 S:2 F:3 Expt: OCDD
34:34 34:55 35:10 35:22 35:31 35:53 36:14 36:38 36:49 36:56 37:10 37:21 37:35 37:50 38:03 38:24 38:49
35:00 36:00 37:00 38:00 39:00 Time


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 337
41:34
A3.07E6
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 263
41:34
A3.07E6
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1402
41:33
A2.29E7
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 844
41:33
A2.18E7
430.9728 S:2 F:4 Expt: OCDD
40:00
41:00
42:00
43:00
44:00
Time
% Rec = 4.47 10^7 * 2000pg * 100 / 5.01 10^7 * 4000pg (1/2) * 0.91 = 98%
ok

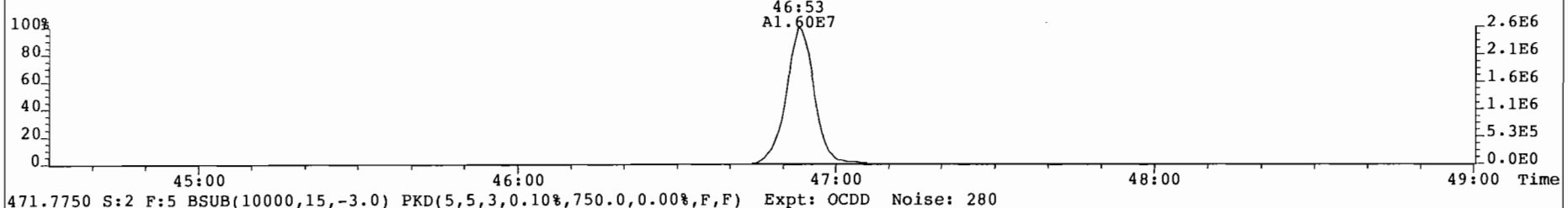
File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 494



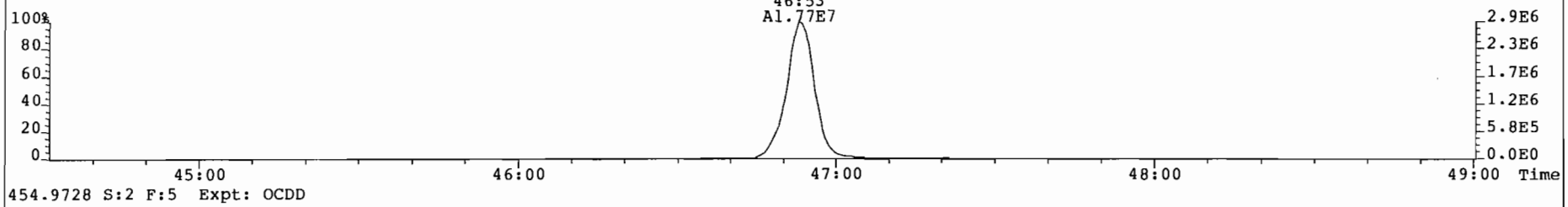
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 274



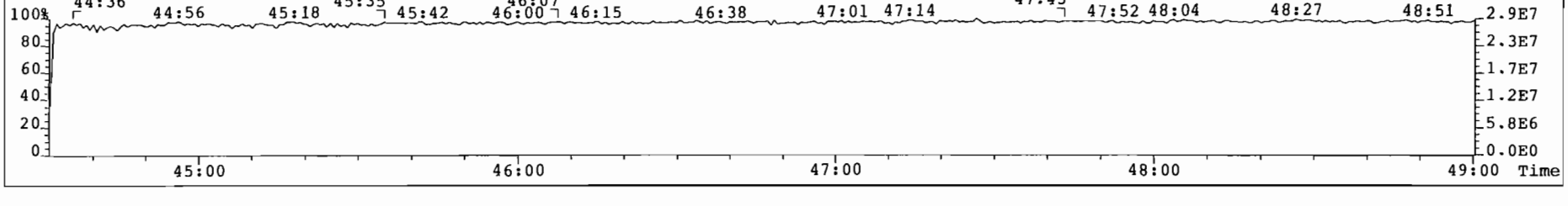
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 291

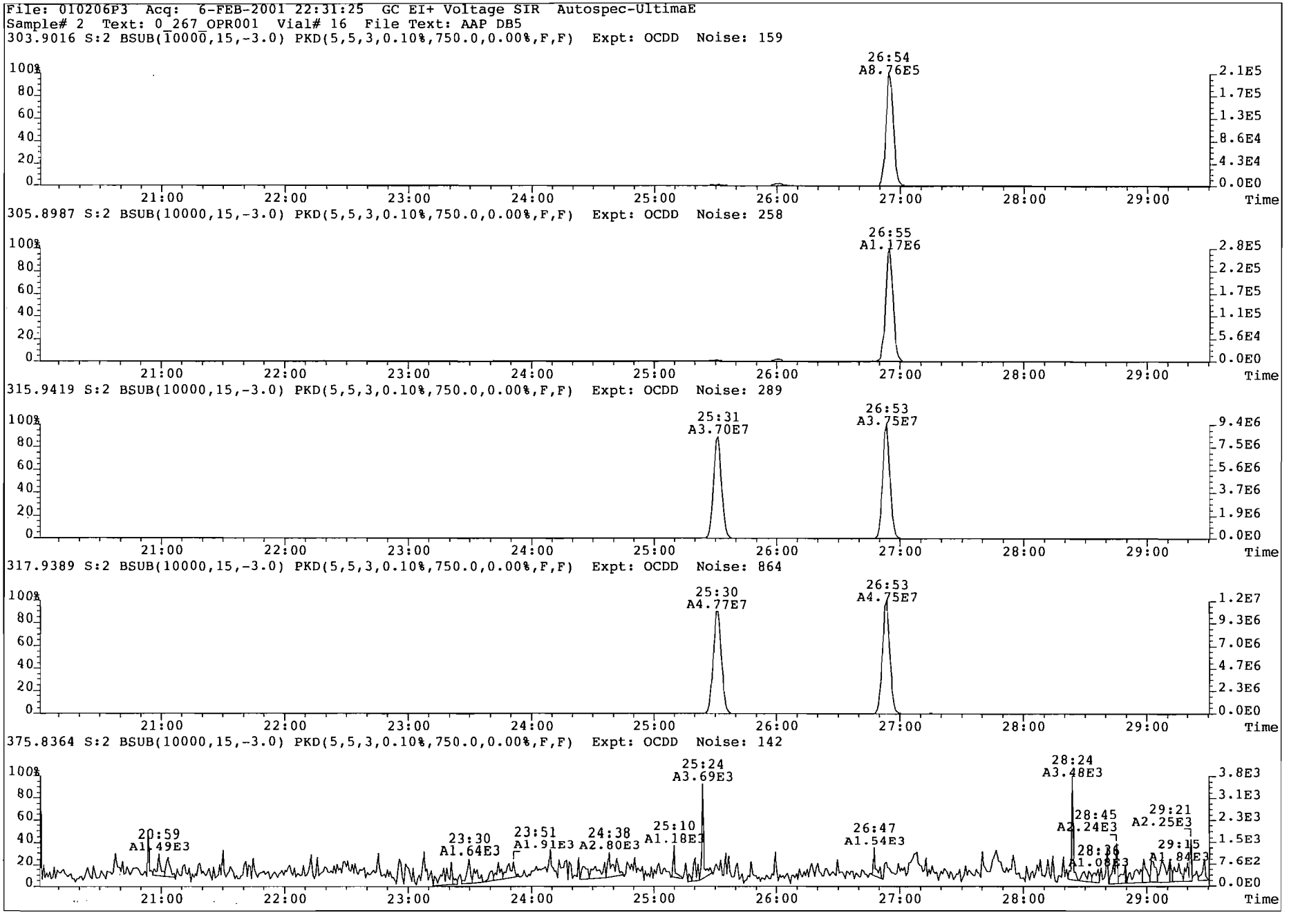


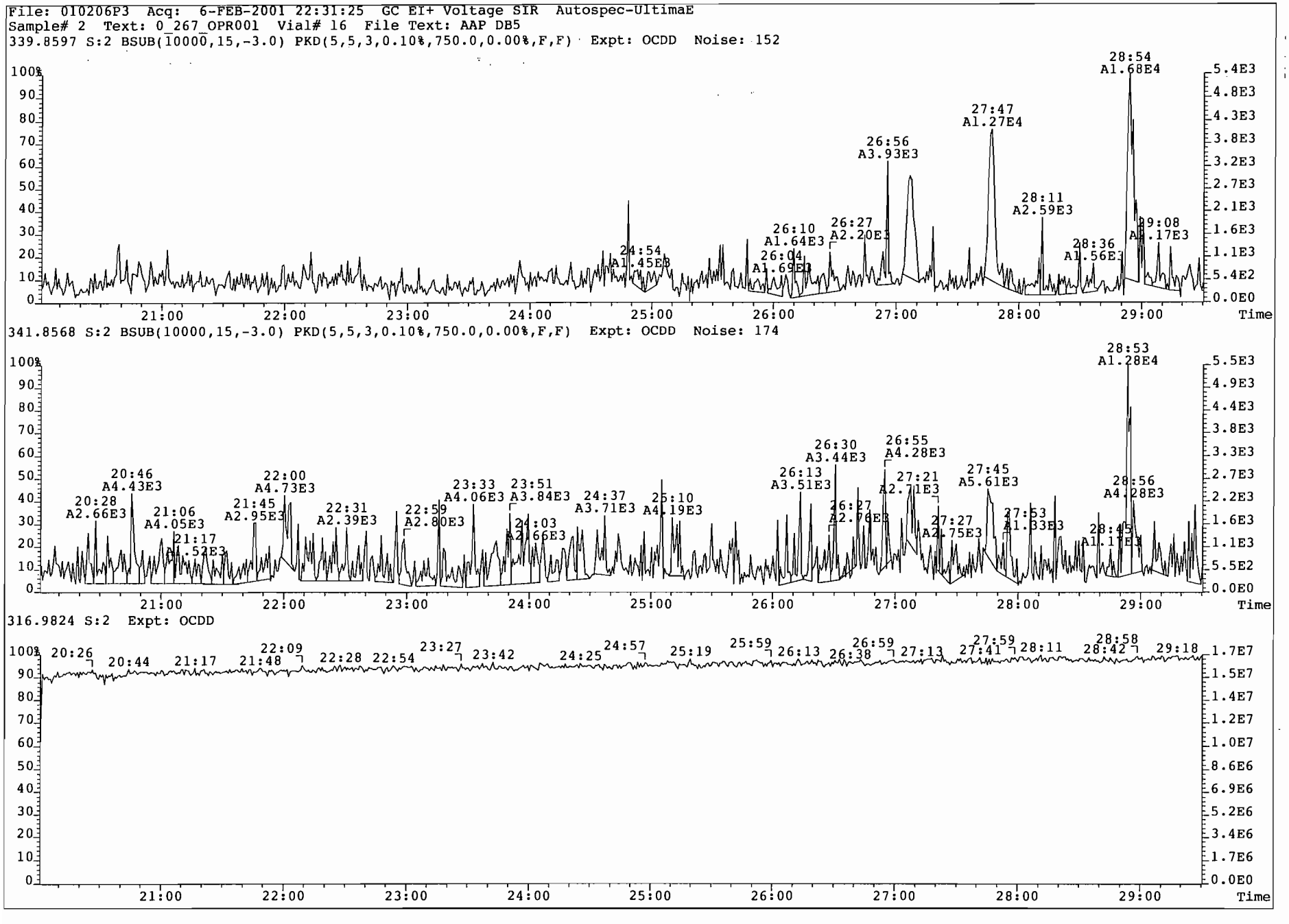
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 280

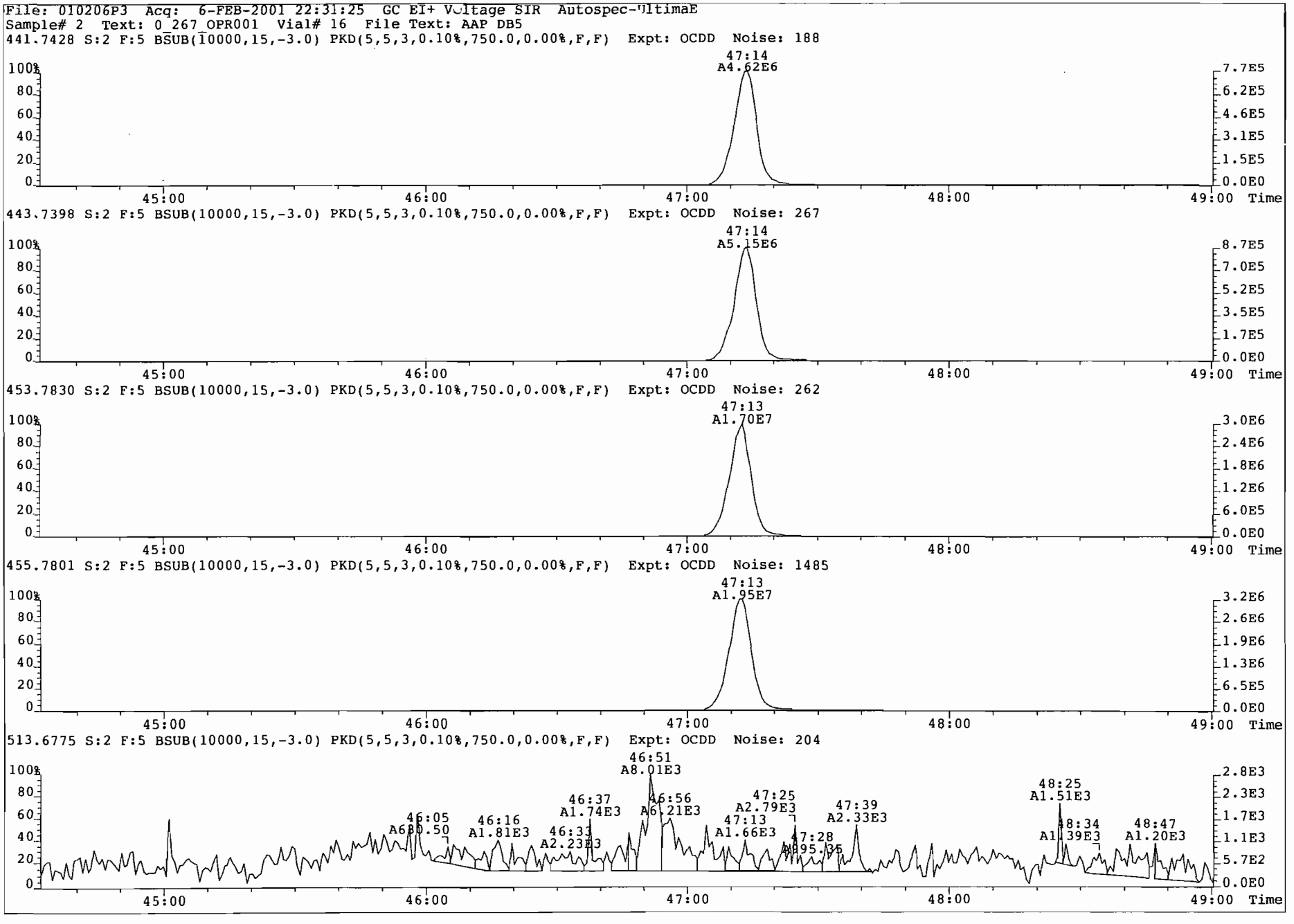


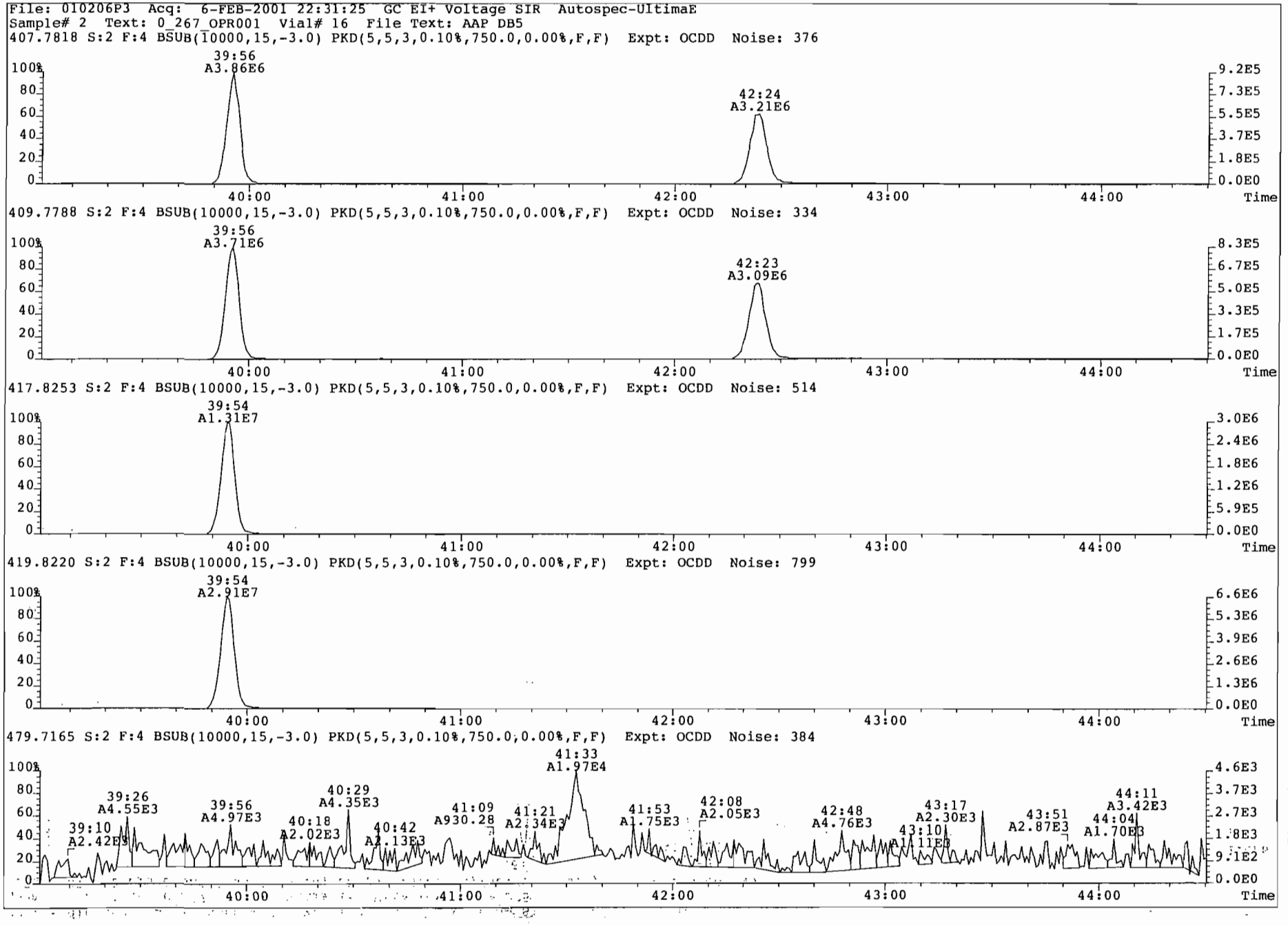
454.9728 S:2 F:5 Expt: OCDD

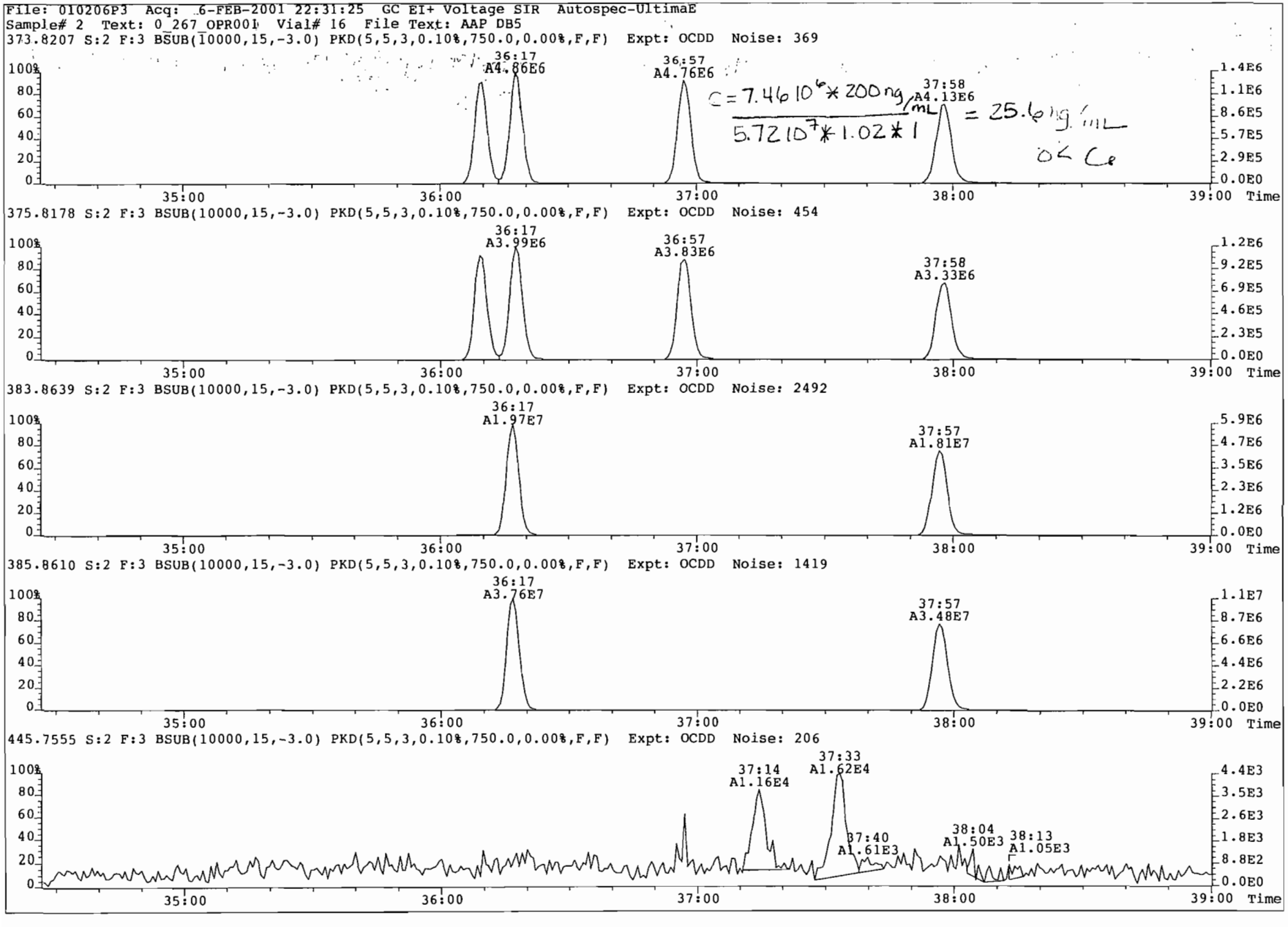


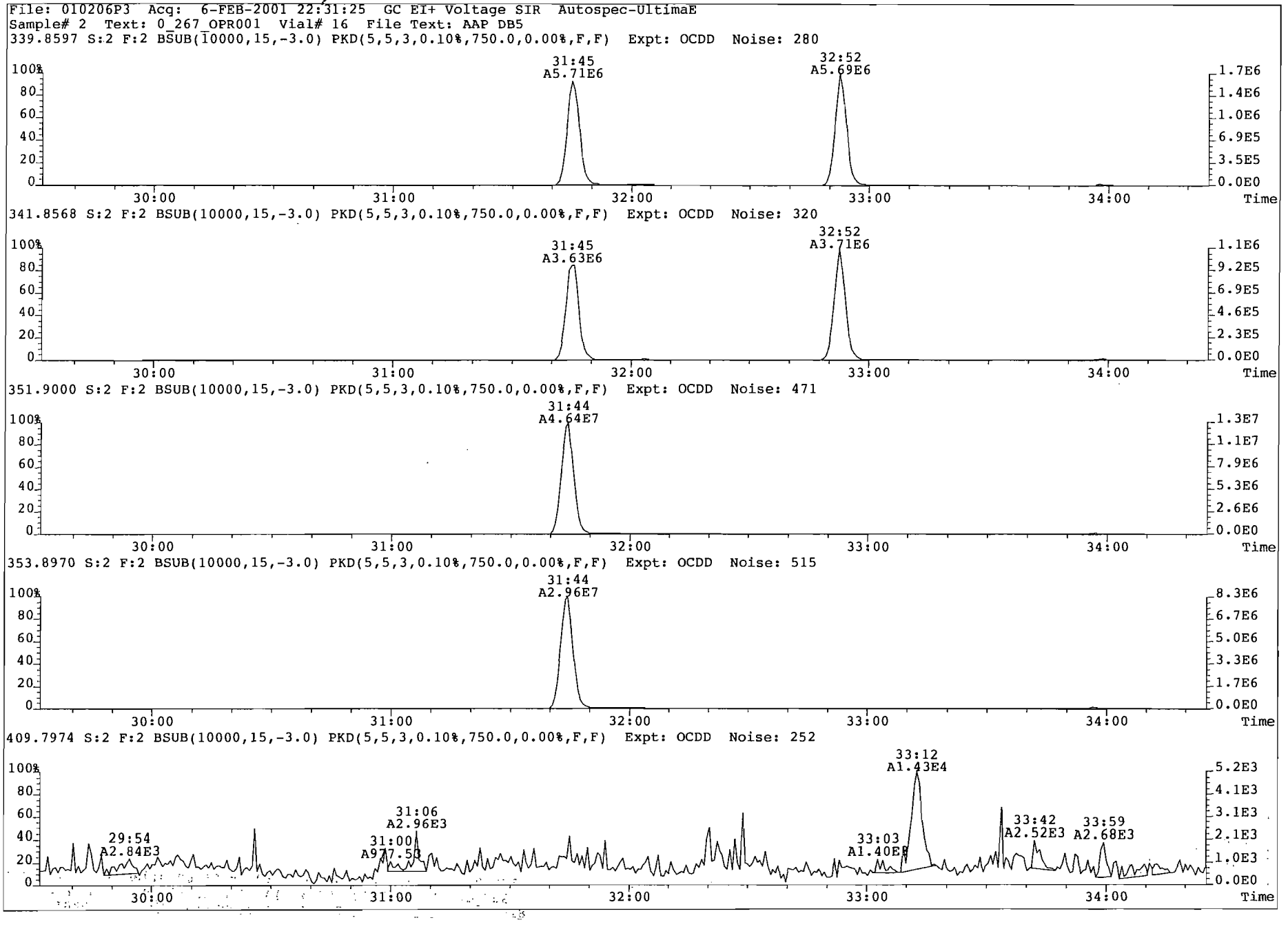

File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 159
26:54
A8.76E5
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 258
26:55
A1.17E6
315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 289
25:31
A3.70E7
26:53
A3.75E7
317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 864
25:30
A4.77E7
26:53
A4.75E7
375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 142
25:24
A3.69E3
28:24
A3.48E3
20:59
A1.49E3
23:30
A1.64E3
23:51
A1.91E3
24:38
A2.80E3
25:10
A1.18E3
26:47
A1.54E3
28:45
A2.24E3
29:21
A2.25E3
28:36
A1.08E3
29:15
A1.84E3
Time


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 152
28:54 A1.68E4
27:47 A1.27E4
26:56 A3.93E3
28:11 A2.59E3
26:10 A1.64E3
26:27 A2.20E3
24:54 A1.45E3
26:04 A1.69E3
28:36 A1.56E3
29:08 A4.17E3
Time
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 174
28:53 A1.28E4
26:30 A3.44E3
26:55 A4.28E3
20:46 A4.43E3
22:00 A4.73E3
23:33 A4.06E3
23:51 A3.84E3
26:13 A3.51E3
27:45 A5.61E3
20:28 A2.66E3
21:06 A4.05E3
21:45 A2.95E3
22:31 A2.39E3
22:59 A2.80E3
24:37 A3.71E3
25:10 A4.19E3
27:21 A2.71E3
28:56 A4.28E3
Time
316.9824 S:2 Expt: OCDD
20:26
20:44
21:17
21:48
22:09
22:28
22:54
23:27
23:42
24:25
24:57
25:19
25:59
26:13
26:38
26:59
27:13
27:41
27:59
28:11
28:42
28:58
29:18
Time


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 188
47:14
A4.62E6
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 267
47:14
A5.15E6
453.7830 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 262
47:13
A1.70E7
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1485
47:13
A1.95E7
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 204
46:51
A8.01E3
46:05
A6.30E3
46:16
A1.81E3
46:33
A2.23E3
46:37
A1.74E3
46:56
A6.21E3
47:13
A1.66E3
47:25
A2.79E3
47:28
A1.95E3
47:39
A2.33E3
48:25
A1.51E3
48:34
A1.39E3
48:47
A1.20E3
100%
80
60
40
20
0
45:00
46:00
47:00
48:00
49:00
Time
7.7E5
6.2E5
4.6E5
3.1E5
1.5E5
0.0E0
8.7E5
7.0E5
5.2E5
3.5E5
1.7E5
0.0E0
3.0E6
2.4E6
1.8E6
1.2E6
6.0E5
0.0E0
3.2E6
2.6E6
1.9E6
1.3E6
6.5E5
0.0E0
2.8E3
2.3E3
1.7E3
1.1E3
5.7E2
0.0E0


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 376
39:56 A3.86E6
42:24 A3.21E6
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 334
39:56 A3.71E6
42:23 A3.09E6
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 514
39:54 A1.31E7
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 799
39:54 A2.91E7
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 384
41:33 A1.97E4
39:26 A4.55E3
39:10 A2.42E3
39:56 A4.97E3
40:18 A2.02E3
40:29 A4.35E3
40:42 A2.13E3
41:09 A930.28
41:21 A2.34E3
41:53 A1.75E3
42:08 A2.05E3
42:48 A4.76E3
43:10 A1.11E3
43:17 A2.30E3
43:51 A2.87E3
44:04 A1.70E3
44:11 A3.42E3
Time


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 369
36:17 A4.86E6
36:57 A4.76E6
37:58 A4.13E6
C = 7.46 10^6 * 200 ng/mL / 5.72 10^7 * 1.02 * 1 = 25.6 ng/mL
OK Ce
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 454
36:17 A3.99E6
36:57 A3.83E6
37:58 A3.33E6
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 2492
36:17 A1.97E7
37:57 A1.81E7
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 1419
36:17 A3.76E7
37:57 A3.48E7
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 206
37:14 A1.16E4
37:33 A1.62E4
37:40 A1.61E3
38:04 A1.50E3
38:13 A1.05E3
35:00
36:00
37:00
38:00
39:00 Time


File: 010206P3 Acq: 6-FEB-2001 22:31:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample# 2 Text: 0_267_OPR001 Vial# 16 File Text: AAP DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 280
31:45 A5.71E6
32:52 A5.69E6
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 320
31:45 A3.63E6
32:52 A3.71E6
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 471
31:44 A4.64E7
353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 515
31:44 A2.96E7
409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,750.0,0.00%,F,F) Expt: OCDD Noise: 252
33:12 A1.43E4
29:54 A2.84E3
31:06 A2.96E3
31:00 A977.58
33:03 A1.40E4
33:42 A2.52E3
33:59 A2.68E3
Time