US EPA RECORDS CENTER REGION 5
562291

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CASE NARRATIVE

Date:	**January 31, 1999**
Core Laboratories Job Number:	**813554**
Client:	**Ecology and Environment**
Client Project Identification:	**SO5-9811-807**

Soil and water matrix samples were received from the client12/10/98 All initial sample preparations (digestions and extractions) were performed within recommended hold times All soil results are reported on a dry weight basis.

Metals and Inorganics:

The QC limits shown on the analytical report for the metals analysis by EPA method 6010 are indicative of the more restrictive EPA 200 7 limits, rather than EPA Method 6010. This is due to a recent problem related to an information systems upgrade and will be resolved shortly Although some of the LCS recoveries for the metals analysis are outside typical 80 -120%, the recoveries are still within the control limits established by the standard supplier for this soil reference material In some cases, matrix spike (MS) recoveries were below the acceptance criteria, predicating the analysis of a post digestion spike (PDS) For some analyses, matrix spike recoveries were also affected by the much high sample concentration ($\geq$ 5X spike concentration) In these analyses, the much higher sample concentration masked the spike recovery by nature of the calculation itself In some cases, the %RPD for the method duplicate sample(MD) was > 20% which can be attributed to the difficulty in obtaining representative aliquots from a nonhomogeneous soil matrix

Organic Analyses

Some samples required dilutions prior to analysis to overcome the presence of interferences in the sample All analytical results and reporting limits on diluted samples have been adjusted accordingly. All samples were initially analyzed within hold time Reanalyses on samples 3GS-2 (Core 813554-5) and 4GS-8 (Core 813554-12) were completed several days beyond hold time and are reflected in the final report The raw data portion of the data package does contain both the initial analyses within hold time as well as the successful analyses beyond hold time. These multiple analyses are provided as a means of allowing the data user to evaluate the impact of the analysis date on the final use of the data

In the Method 8260 analysis, in those cases where there was no MS/MSD analyzed in the same tune and/or prep batch as client samples, the lab's practice is to evaluate spike recoveries by the analysis of a laboratory control sample (LCS) For the analysis on 12/14/98, the continuing calibration verificatrion sample (CCV) served as the LCS

Linda J. Moore 1/31/99

Linda J. Moore
QA Coordinator

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CORE LABORATORIES

ANALYTICAL REPORT

JOB NUMBER: 813554

Prepared For:

Ecology & Environment Inc.
33 North Dearborn
Suite 900
Chicago, IL 60602

Attention: Mr. Dave Hendren

Date: 01/28/99

Signature

Date: 1/28/99

Name: Thomas F. Mroz

Title: Project Manager

2400 Cumberland Drive
Valparaiso, IN 46383

PHONE: 219-464-2389
FAX..: 219-462-2953

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SAMPLE INFORMATION
Date: 01/28/99

Job Number.: 813554
Customer...: Ecology & Environment Inc.
Attn.....: Mr. Dave Hendren

Project Number.....: 96000627
Customer Project ID....: S05-9811-807
Project Description....: ECOLOGY & ENVIRONMENT

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
813554-1	OEMW-5	Water	12/09/1998	12:20	12/10/1998	12:54
813554-2	OEMW-3	Water	12/09/1998	17:04	12/10/1998	12:54
813554-3	EB-MW-3	Water	12/09/1998	15:10	12/10/1998	12:54
813554-4	3GS-06	Solid	12/09/1998	07:30	12/10/1998	12:57
813554-5	3GS-2	Solid	12/09/1998	07:40	12/10/1998	12:57
813554-6	3GS-4	Solid	12/09/1998	07:40	12/10/1998	12:57
813554-7	3GS-6	Solid	12/09/1998	08:00	12/10/1998	12:57
813554-8	4GS-06	Solid	12/09/1998	09:00	12/10/1998	12:57
813554-9	4GS-2	Solid	12/09/1998	09:10	12/10/1998	12:57
813554-10	4GS-4	Solid	12/09/1998	09:20	12/10/1998	12:57
813554-11	4GS-6	Solid	12/09/1998	09:30	12/10/1998	12:57
813554-12	4GS-8	Solid	12/09/1998	09:40	12/10/1998	12:57
813554-13	4GS-10	Solid	12/09/1998	09:50	12/10/1998	12:57
813554-14	4GS-12	Solid	12/09/1998	09:55	12/10/1998	12:57
813554-15	3GS-0-4	Solid	12/09/1998	09:20	12/10/1998	13:02
813554-16	5GS-2-4	Solid	12/09/1998	14:00	12/10/1998	13:02
813554-17	5GS-06	Solid	12/09/1998	14:00	12/10/1998	12:57
813554-18	5GS-2	Solid	12/09/1998	14:10	12/10/1998	12:57
813554-19	5GS-4	Solid	12/09/1998	14:20	12/10/1998	12:57
813554-20	5GS-6	Solid	12/09/1998	14:30	12/10/1998	12:57
813554-21	5GS-6 DUPLICATE	Solid	12/09/1998	14:30	12/10/1998	12:57
813554-22	5GS-2 DUPLICATE	Solid	12/09/1998	14:10	12/10/1998	12:57
813554-23	3GWS	Water	12/09/1998	08:15	12/10/1998	13:05
813554-24	3GWM	Water	12/09/1998	08:30	12/10/1998	13:05
813554-25	3GWD	Water	12/09/1998	08:45	12/10/1998	13:05
813554-26	4GWD	Water	12/09/1998	10:30	12/10/1998	13:05

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CORE LABORATORIES

SAMPLE INFORMATION
Date:

Job Number.: 813554
Customer...: Ecology & Environment Inc.
Attn.....: Mr. Dave Hendren

Project Number.....: 96000627
Customer Project ID....: S05-9811-807
Project Description....: ECOLOGY & ENVIRONMENT

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
813554-27	4GWD-DUPLICATE	Water	12/09/1998	10:30	12/10/1998	13:05
813554-28	4GWM	Water	12/09/1998	10:15	12/10/1998	13:05
813554-29	4GWS	Water	12/09/1998	10:00	12/10/1998	13:05
813554-30	5GWS	Water	12/09/1998	13:00	12/10/1998	13:05
813554-31	5GWD	Water	12/09/1998	13:30	12/10/1998	13:05
813554-32	5GWM	Water	12/09/1998	13:15	12/10/1998	13:05
813554-33	5GWM-DUPLICATE	Water	12/09/1998	13:15	12/10/1998	13:05
813554-34	EB-G-2	Water	12/09/1998	16:30	12/10/1998	13:05

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: OEMW-5
Date Sampled.....: 12/09/1998
Time Sampled.....: 12:20
Sample Matrix.....: Water

Laboratory Sample ID: 813554-1
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 3010	Acid Digestion, Metals (ICP)	Complete			12/11/98	chh
EPA 3010	Acid Digestion, Metals (ICP), Diss.	Complete			12/11/98	chh
SW-846 3020	Acid Digestion, Total Metals (GFAA)	Complete			12/14/98	chh
SW-846 3020	Acid Digestion, Total Metals (GFAA), Diss.	Complete			12/14/98	chh
SW-846 7041	Antimony (Sb)	<0.005	0.005	mg/L	12/16/98	chh
SW-846 7041	Antimony (Sb), Diss.	<0.005	0.005	mg/L	12/14/98	chh
SW-846 7471	Mercury (Hg)	<0.001	0.001	mg/L	12/17/98	pal
SW-846 7471	Mercury (Hg), Diss.	<0.0002	0.0002	mg/L	12/28/98	amw
EPA 7841	Thallium (Tl)	<0.002	0.002	mg/L	12/17/98	chh
EPA 7841	Thallium (Tl), Diss.	<0.002	0.002	mg/L	12/17/98	chh
EPA 6010	Metals Analysis (ICAP)					
	Aluminum (Al)	0.20	0.05	mg/L	12/12/98	pal
	Aluminum (Al), Diss.	0.1	0.05	mg/L	12/12/98	amw
	Arsenic (As)	<0.02	0.02	mg/L	12/16/98	chh
	Arsenic (As), Diss.	<0.02	0.02	mg/L	12/15/98	chh
	Barium (Ba)	0.04	0.01	mg/L	12/12/98	pal
	Barium (Ba), Diss.	0.04	0.01	mg/L	12/17/98	chh
	Beryllium (Be)	<0.004	0.004	mg/L	12/12/98	pal
	Beryllium (Be), Diss.	<0.004	0.004	mg/L	12/17/98	pal
	Cadmium (Cd)	<0.005	0.005	mg/L	12/12/98	pal
	Cadmium (Cd), Diss.	<0.005	0.005	mg/L	12/12/98	amw
	Calcium (Ca)	71.8	0.5	mg/L	12/12/98	pal
	Calcium (Ca), Diss.	74.0	0.5	mg/L	12/12/98	amw
	Chromium (Cr)	<0.01	0.01	mg/L	12/12/98	pal
	Chromium (Cr), Diss.	<0.01	0.01	mg/L	12/12/98	amw
	Cobalt (Co)	<0.03	0.03	mg/L	12/12/98	pal
	Cobalt (Co), Diss.	<0.02	0.02	mg/L	12/12/98	amw
	Copper (Cu)	<0.01	0.01	mg/L	12/22/98	chh
	Copper (Cu), Diss.	<0.01	0.01	mg/L	12/17/98	pal
	Iron (Fe)	0.33	0.05	mg/L	12/16/98	chh
	Iron (Fe), Diss.	<0.05	0.05	mg/L	12/12/98	amw
	Lead (Pb)	<0.015	0.015	mg/L	12/16/98	chh
	Lead (Pb), Diss.	<0.015	0.015	mg/L	12/15/98	chh
	Magnesium (Mg)	18.6	0.1	mg/L	12/12/98	pal
	Magnesium (Mg), Diss.	19.2	0.1	mg/L	12/12/98	amw
	Manganese (Mn)	0.69	0.01	mg/L	12/12/98	pal
	Manganese (Mn), Diss.	0.54	0.01	mg/L	12/12/98	amw
	Nickel (Ni)	<0.01	0.01	mg/L	12/12/98	pal

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: OEMW-5
Date Sampled.....: 12/09/1998
Time Sampled.....: 12:20
Sample Matrix.....: Water

Laboratory Sample ID: 813554-1
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
	Nickel (Ni), Diss.	0.02	0.01	mg/L	12/12/98	amw
	Potassium (K)	2.0	0.5	mg/L	12/12/98	pal
	Potassium (K), Diss.	2.4	0.5	mg/L	12/17/98	pal
	Selenium (Se)	<0.02	0.02	mg/L	12/16/98	chh
	Selenium (Se), Diss.	<0.02	0.02	mg/L	12/15/98	chh
	Sodium (Na)	24.4	0.5	mg/L	12/22/98	chh
	Sodium (Na), Diss.	28	1	mg/L	12/17/98	pal
	Silver (Ag)	<0.01	0.01	mg/L	12/16/98	chh
	Silver (Ag), Diss.	<0.01	0.01	mg/L	12/17/98	chh
	Vanadium (V)	<0.05	0.05	mg/L	12/12/98	pal
	Vanadium (V), Diss.	<0.05	0.05	mg/L	12/15/98	chh
	Zinc (Zn)	<0.01	0.01	mg/L	12/12/98	pal
	Zinc (Zn), Diss.	<0.01	0.01	mg/L	12/12/98	amw
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	ND	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: OEMW-5
Date Sampled.....: 12/09/1998
Time Sampled.....: 12:20
Sample Matrix.....: Water

Laboratory Sample ID: 813554-1
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: OEMW-3
Date Sampled.....: 12/09/1998
Time Sampled.....: 17:04
Sample Matrix.....: Water

Laboratory Sample ID: 813554-2
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 3010	Acid Digestion, Metals (ICP)	Complete			12/11/98	chh
EPA 3010	Acid Digestion, Metals (ICP), Diss.	Complete			12/11/98	chh
SW-846 3020	Acid Digestion, Total Metals (GFAA)	Complete			12/14/98	chh
SW-846 3020	Acid Digestion, Total Metals (GFAA), Diss.	Complete			12/14/98	chh
SW-846 7041	Antimony (Sb)	<0.005	0.005	mg/L	12/16/98	chh
SW-846 7041	Antimony (Sb), Diss.	<0.005	0.005	mg/L	12/14/98	chh
SW-846 7471	Mercury (Hg)	<0.001	0.001	mg/L	12/17/98	pal
SW-846 7471	Mercury (Hg), Diss.	<0.0002	0.0002	mg/L	12/28/98	amw
EPA 7841	Thallium (Tl)	<0.002	0.002	mg/L	12/17/98	chh
EPA 7841	Thallium (Tl), Diss.	<0.002	0.002	mg/L	12/17/98	chh
EPA 6010	Metals Analysis (ICAP)					
	Aluminum (Al)	0.40	0.05	mg/L	12/12/98	pal
	Aluminum (Al), Diss.	<0.05	0.05	mg/L	12/12/98	amw
	Arsenic (As)	<0.02	0.02	mg/L	12/16/98	chh
	Arsenic (As), Diss.	<0.02	0.02	mg/L	12/15/98	chh
	Barium (Ba)	0.03	0.01	mg/L	12/12/98	pal
	Barium (Ba), Diss.	0.03	0.01	mg/L	12/17/98	chh
	Beryllium (Be)	<0.004	0.004	mg/L	12/12/98	pal
	Beryllium (Be), Diss.	<0.004	0.004	mg/L	12/17/98	pal
	Cadmium (Cd)	<0.005	0.005	mg/L	12/12/98	pal
	Cadmium (Cd), Diss.	<0.005	0.005	mg/L	12/12/98	amw
	Calcium (Ca)	68.8	0.5	mg/L	12/12/98	pal
	Calcium (Ca), Diss.	74.6	0.5	mg/L	12/12/98	amw
	Chromium (Cr)	<0.01	0.01	mg/L	12/12/98	pal
	Chromium (Cr), Diss.	<0.01	0.01	mg/L	12/12/98	amw
	Cobalt (Co)	<0.03	0.03	mg/L	12/12/98	pal
	Cobalt (Co), Diss.	<0.02	0.02	mg/L	12/12/98	amw
	Copper (Cu)	<0.01	0.01	mg/L	12/16/98	chh
	Copper (Cu), Diss.	<0.01	0.01	mg/L	12/17/98	pal
	Iron (Fe)	0.69	0.05	mg/L	12/16/98	chh
	Iron (Fe), Diss.	<0.05	0.05	mg/L	12/12/98	amw
	Lead (Pb)	<0.015	0.015	mg/L	12/16/98	chh
	Lead (Pb), Diss.	<0.015	0.015	mg/L	12/15/98	chh
	Magnesium (Mg)	18.1	0.1	mg/L	12/12/98	pal
	Magnesium (Mg), Diss.	19.8	0.1	mg/L	12/12/98	amw
	Manganese (Mn)	0.71	0.01	mg/L	12/12/98	pal
	Manganese (Mn), Diss.	0.70	0.01	mg/L	12/12/98	amw
	Nickel (Ni)	0.01	0.01	mg/L	12/12/98	pal

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CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: OEMW-3
Date Sampled.....: 12/09/1998
Time Sampled.....: 17:04
Sample Matrix.....: Water

Laboratory Sample ID: 813554-2
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
	Nickel (Ni), Diss.	0.02	0.01	mg/L	12/12/98	amw
	Potassium (K)	2.6	0.5	mg/L	12/12/98	pal
	Potassium (K), Diss.	3.0	0.5	mg/L	12/17/98	pal
	Selenium (Se)	<0.02	0.02	mg/L	12/16/98	chh
	Selenium (Se), Diss.	<0.02	0.02	mg/L	12/15/98	chh
	Sodium (Na)	23.2	0.5	mg/L	12/21/98	chh
	Sodium (Na), Diss.	25	1	mg/L	12/17/98	pal
	Silver (Ag)	0.01	0.01	mg/L	12/16/98	chh
	Silver (Ag), Diss.	<0.01	0.01	mg/L	12/17/98	chh
	Vanadium (V)	<0.05	0.05	mg/L	12/12/98	pal
	Vanadium (V), Diss.	<0.05	0.05	mg/L	12/15/98	chh
	Zinc (Zn)	<0.01	0.01	mg/L	12/12/98	pal
	Zinc (Zn), Diss.	<0.01	0.01	mg/L	12/12/98	amw
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	<5	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	<5	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	39	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: OEMW-3
Date Sampled.....: 12/09/1998
Time Sampled.....: 17:04
Sample Matrix.....: Water

Laboratory Sample ID: 813554-2
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: EB-MW-3
Date Sampled.....: 12/09/1998
Time Sampled.....: 15:10
Sample Matrix.....: Water

Laboratory Sample ID: 813554-3
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 3010	Acid Digestion, Metals (ICP)	Complete			12/11/98	chh
EPA 3010	Acid Digestion, Metals (ICP), Diss.	Complete			12/11/98	chh
SW-846 3020	Acid Digestion, Total Metals (GFAA)	Complete			12/14/98	chh
SW-846 3020	Acid Digestion, Total Metals (GFAA), Diss.	Complete			12/14/98	chh
SW-846 7041	Antimony (Sb)	<0.005	0.005	mg/L	12/16/98	chh
SW-846 7041	Antimony (Sb), Diss.	<0.005	0.005	mg/L	12/14/98	chh
SW-846 7471	Mercury (Hg)	<0.001	0.001	mg/L	12/17/98	pal
SW-846 7471	Mercury (Hg), Diss.	<0.0002	0.0002	mg/L	12/28/98	amw
EPA 7841	Thallium (Tl)	<0.002	0.002	mg/L	12/17/98	chh
EPA 7841	Thallium (Tl), Diss.	<0.002	0.002	mg/L	12/17/98	chh
EPA 6010	Metals Analysis (ICAP)					
	Aluminum (Al)	0.09	0.05	mg/L	12/12/98	pal
	Aluminum (Al), Diss.	0.09	0.05	mg/L	12/12/98	amw
	Arsenic (As)	<0.02	0.02	mg/L	12/16/98	chh
	Arsenic (As), Diss.	<0.02	0.02	mg/L	12/15/98	chh
	Barium (Ba)	<0.01	0.01	mg/L	12/12/98	pal
	Barium (Ba), Diss.	<0.01	0.01	mg/L	12/17/98	chh
	Beryllium (Be)	<0.004	0.004	mg/L	12/12/98	pal
	Beryllium (Be), Diss.	<0.004	0.004	mg/L	12/17/98	pal
	Cadmium (Cd)	<0.005	0.005	mg/L	12/12/98	pal
	Cadmium (Cd), Diss.	<0.005	0.005	mg/L	12/12/98	amw
	Calcium (Ca)	<0.5	0.5	mg/L	12/12/98	pal
	Calcium (Ca), Diss.	<0.5	0.5	mg/L	12/12/98	amw
	Chromium (Cr)	<0.01	0.01	mg/L	12/12/98	pal
	Chromium (Cr), Diss.	<0.01	0.01	mg/L	12/12/98	amw
	Cobalt (Co)	<0.03	0.03	mg/L	12/12/98	pal
	Cobalt (Co), Diss.	<0.02	0.02	mg/L	12/12/98	amw
	Copper (Cu)	<0.01	0.01	mg/L	12/16/98	chh
	Copper (Cu), Diss.	<0.01	0.01	mg/L	12/17/98	pal
	Iron (Fe)	<0.05	0.05	mg/L	12/16/98	chh
	Iron (Fe), Diss.	<0.05	0.05	mg/L	12/12/98	amw
	Lead (Pb)	<0.015	0.015	mg/L	12/16/98	chh
	Lead (Pb), Diss.	<0.015	0.015	mg/L	12/15/98	chh
	Magnesium (Mg)	<0.1	0.1	mg/L	12/12/98	pal
	Magnesium (Mg), Diss.	<0.1	0.1	mg/L	12/12/98	amw
	Manganese (Mn)	<0.01	0.01	mg/L	12/12/98	pal
	Manganese (Mn), Diss.	<0.01	0.01	mg/L	12/12/98	amw
	Nickel (Ni)	<0.01	0.01	mg/L	12/12/98	pal

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: EB-MW-3
Date Sampled.....: 12/09/1998
Time Sampled.....: 15:10
Sample Matrix.....: Water

Laboratory Sample ID: 813554-3
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
	Nickel (Ni), Diss.	0.01	0.01	mg/L	12/12/98	amw
	Potassium (K)	<0.5	0.5	mg/L	12/12/98	pal
	Potassium (K), Diss.	<0.5	0.5	mg/L	12/17/98	pal
	Selenium (Se)	<0.02	0.02	mg/L	12/16/98	chh
	Selenium (Se), Diss.	<0.02	0.02	mg/L	12/15/98	chh
	Sodium (Na)	0.5	0.5	mg/L	12/21/98	chh
	Sodium (Na), Diss.	<1	1	mg/L	12/17/98	pal
	Silver (Ag)	<0.01	0.01	mg/L	12/16/98	chh
	Silver (Ag), Diss.	<0.01	0.01	mg/L	12/17/98	chh
	Vanadium (V)	<0.05	0.05	mg/L	12/12/98	pal
	Vanadium (V), Diss.	<0.05	0.05	mg/L	12/15/98	chh
	Zinc (Zn)	<0.01	0.01	mg/L	12/12/98	pal
	Zinc (Zn), Diss.	<0.01	0.01	mg/L	12/12/98	amw
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	ND	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: EB-MW-3
Date Sampled.....: 12/09/1998
Time Sampled.....: 15:10
Sample Matrix.....: Water

Laboratory Sample ID: 813554-3
Date Received.....: 12/10/1998
Time Received.....: 12:54

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GS-06
Date Sampled.....: 12/09/1998
Time Sampled.....: 07:30
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-4
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	79	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Benzene, Dry Weight	<30	30	ug/Kg	12/21/98	weh
	Bromodichloromethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Bromoform, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Bromomethane, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	2-Butanone, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Carbon disulfide, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Carbon tetrachloride, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Dibromochloromethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Chlorobenzene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Chloroethane, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Chloroform, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Chloromethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,1-Dichloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,2-Dichloroethane, Dry Weight	110	30	ug/Kg	12/21/98	weh
	1,1-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,2-Dichloropropane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Ethylbenzene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	2-Hexanone, Dry Weight	ND	100	ug/Kg	12/21/98	weh
	Methylene chloride, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Styrene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Tetrachloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Toluene, Dry Weight	<30	30	ug/Kg	12/21/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Trichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Vinyl acetate, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Vinyl chloride, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Xylenes (total), Dry Weight	<60	60	ug/Kg	12/21/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GS-2
Date Sampled.....: 12/09/1998
Time Sampled.....: 07:40
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-5
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	83	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND UJ	100	ug/Kg	12/27/98	weh
	Benzene, Dry Weight	100 J	60	ug/Kg	12/27/98	weh
	Bromodichloromethane, Dry Weight	ND UJ	60	ug/Kg	12/27/98	weh
	Bromoform, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Bromomethane, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	2-Butanone, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Carbon disulfide, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Carbon tetrachloride, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Dibromochloromethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Chlorobenzene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Chloroethane, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Chloroform, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Chloromethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1-Dichloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,2-Dichloroethane, Dry Weight	740 J	60	ug/Kg	12/27/98	weh
	1,1-Dichloroethene, Dry Weight	ND UJ	60	ug/Kg	12/27/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,2-Dichloropropane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Ethylbenzene, Dry Weight	<60	60	ug/Kg	12/27/98	weh
	2-Hexanone, Dry Weight	ND	200	ug/Kg	12/27/98	weh
	Methylene chloride, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Styrene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Tetrachloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Toluene, Dry Weight	180 J	60	ug/Kg	12/27/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND UJ	60	ug/Kg	12/27/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Trichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Vinyl acetate, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Vinyl chloride, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Xylenes (total), Dry Weight	200 J	100	ug/Kg	12/27/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GS-4
Date Sampled.....: 12/09/1998
Time Sampled.....: 07:40
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-6
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	85	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	70	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	17	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	44	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	18	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	<10	10	ug/Kg	12/18/98	weh

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CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GS-6
Date Sampled.....: 12/09/1998
Time Sampled.....: 08:00
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-7
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	88	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	60	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	9	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-06
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:00
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-8
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	78	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	240	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	20	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	30	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weigh.	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-2
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:10
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-9
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	92	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	30	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	6	5	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-4
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:20
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-10
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	90	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh.
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-6
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:30
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-11
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	90	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	9	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-8
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:40
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-12
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	79	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND UJ	100	ug/Kg	12/27/98	weh
	Benzene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Bromodichloromethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Bromoform, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Bromomethane, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	2-Butanone, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Carbon disulfide, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Carbon tetrachloride, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Dibromochloromethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Chlorobenzene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Chloroethane, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Chloroform, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Chloromethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1-Dichloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,2-Dichloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1-Dichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,2-Dichloropropane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Ethylbenzene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	2-Hexanone, Dry Weight	ND	300	ug/Kg	12/27/98	weh
	Methylene chloride, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Styrene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Tetrachloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Toluene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Trichloroethene, Dry Weight	ND	60	ug/Kg	12/27/98	weh
	Vinyl acetate, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Vinyl chloride, Dry Weight	ND	100	ug/Kg	12/27/98	weh
	Xylenes (total), Dry Weight	ND	100	ug/Kg	12/27/98	weh

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CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-10
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:50
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-13
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	82	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	20	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	23	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GS-12
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:55
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-14
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	96	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	5	5	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	32	5	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	5	5	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	5	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	<5	5	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	<10	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GS-0-4
Date Sampled.....: 12/09/1998
Time Sampled.....: 09:20
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-15
Date Received.....: 12/10/1998
Time Received.....: 13:02

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Moisture, Solid	16	1.0	%	01/05/99	bjl

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-2-4
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:00
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-16
Date Received.....: 12/10/1998
Time Received.....: 13:02

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Moisture, Solid	4.7	1.0	%	01/05/99	bjl

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-06
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:00
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-17
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	77	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	80	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	30	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-2
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:10
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-18
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	92	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	50	ug/Kg	12/19/98	weh
	Benzene, Dry Weight	<30	30	ug/Kg	12/19/98	weh
	Bromodichloromethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Bromoform, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Bromomethane, Dry Weight	ND	50	ug/Kg	12/19/98	weh
	2-Butanone, Dry Weight	ND	50	ug/Kg	12/19/98	weh
	Carbon disulfide, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Carbon tetrachloride, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Dibromochloromethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Chlorobenzene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Chloroethane, Dry Weight	ND	50	ug/Kg	12/19/98	weh
	Chloroform, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Chloromethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	1,1-Dichloroethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	1,2-Dichloroethane, Dry Weight	90	30	ug/Kg	12/19/98	weh
	1,1-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	1,2-Dichloropropane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Ethylbenzene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	2-Hexanone, Dry Weight	ND	100	ug/Kg	12/19/98	weh
	Methylene chloride, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	50	ug/Kg	12/19/98	weh
	Styrene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Tetrachloroethene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Toluene, Dry Weight	<30	30	ug/Kg	12/19/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Trichloroethene, Dry Weight	ND	30	ug/Kg	12/19/98	weh
	Vinyl acetate, Dry Weight	ND	50	ug/Kg	12/19/98	weh
	Vinyl chloride, Dry Weight	ND	50	ug/Kg	12/19/98	weh
	Xylenes (total), Dry Weight	ND	50	ug/Kg	12/19/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-4
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:20
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-19
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	92	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	50	ug/Kg	12/20/98	weh
	Benzene, Dry Weight	<30	30	ug/Kg	12/20/98	weh
	Bromodichloromethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Bromoform, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Bromomethane, Dry Weight	ND	50	ug/Kg	12/20/98	weh
	2-Butanone, Dry Weight	ND	50	ug/Kg	12/20/98	weh
	Carbon disulfide, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Carbon tetrachloride, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Dibromochloromethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Chlorobenzene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Chloroethane, Dry Weight	ND	50	ug/Kg	12/20/98	weh
	Chloroform, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Chloromethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	1,1-Dichloroethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	1,2-Dichloroethane, Dry Weight	110	30	ug/Kg	12/20/98	weh
	1,1-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	1,2-Dichloropropane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Ethylbenzene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	2-Hexanone, Dry Weight	ND	100	ug/Kg	12/20/98	weh
	Methylene chloride, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	50	ug/Kg	12/20/98	weh
	Styrene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Tetrachloroethene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Toluene, Dry Weight	<30	30	ug/Kg	12/20/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Trichloroethene, Dry Weight	ND	30	ug/Kg	12/20/98	weh
	Vinyl acetate, Dry Weight	ND	50	ug/Kg	12/20/98	weh
	Vinyl chloride, Dry Weight	ND	50	ug/Kg	12/20/98	weh
	Xylenes (total), Dry Weight	<50	50	ug/Kg	12/20/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-6
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:30
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-20
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	88	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	70	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-6 DUPLICATE
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:30
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-21
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	90	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	70	10	ug/Kg	12/18/98	weh
	Benzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromodichloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromoform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Bromomethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	2-Butanone, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Carbon disulfide, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Carbon tetrachloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Dibromochloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chlorobenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloroethane, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Chloroform, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Chloromethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,2-Dichloropropane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Ethylbenzene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	2-Hexanone, Dry Weight	ND	20	ug/Kg	12/18/98	weh
	Methylene chloride, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Styrene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Tetrachloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Toluene, Dry Weight	<6	6	ug/Kg	12/18/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Trichloroethene, Dry Weight	ND	6	ug/Kg	12/18/98	weh
	Vinyl acetate, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Vinyl chloride, Dry Weight	ND	10	ug/Kg	12/18/98	weh
	Xylenes (total), Dry Weight	ND	10	ug/Kg	12/18/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GS-2 DUPLICATE
Date Sampled.....: 12/09/1998
Time Sampled.....: 14:10
Sample Matrix.....: Solid

Laboratory Sample ID: 813554-22
Date Received.....: 12/10/1998
Time Received.....: 12:57

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.3	% Solids, Solid	88	1.0	%	12/30/98	bjl
EPA 8260	Volatile Organic Compounds					
	Acetone, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Benzene, Dry Weight	<30	30	ug/Kg	12/21/98	weh
	Bromodichloromethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Bromoform, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Bromomethane, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	2-Butanone, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Carbon disulfide, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Carbon tetrachloride, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Dibromochloromethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Chlorobenzene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Chloroethane, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Chloroform, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Chloromethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,1-Dichloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,2-Dichloroethane, Dry Weight	100	30	ug/Kg	12/21/98	weh
	1,1-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	trans-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	cis-1,2-Dichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,2-Dichloropropane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	cis-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	trans-1,3-Dichloropropene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Ethylbenzene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	2-Hexanone, Dry Weight	ND	100	ug/Kg	12/21/98	weh
	Methylene chloride, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	4-Methyl-2-pentanone (MIBK), Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Styrene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,1,2,2-Tetrachloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Tetrachloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Toluene, Dry Weight	<30	30	ug/Kg	12/21/98	weh
	1,1,1-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	1,1,2-Trichloroethane, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Trichloroethene, Dry Weight	ND	30	ug/Kg	12/21/98	weh
	Vinyl acetate, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Vinyl chloride, Dry Weight	ND	60	ug/Kg	12/21/98	weh
	Xylenes (total), Dry Weight	<60	60	ug/Kg	12/21/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GWS
Date Sampled.....: 12/09/1998
Time Sampled.....: 08:15
Sample Matrix.....: Water

Laboratory Sample ID: 813554-23
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	<5	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	21	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	16	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GWM
Date Sampled.....: 12/09/1998
Time Sampled.....: 08:30
Sample Matrix.....: Water

Laboratory Sample ID: 813554-24
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	17	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	49	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 3GWD
Date Sampled.....: 12/09/1998
Time Sampled.....: 08:45
Sample Matrix.....: Water

Laboratory Sample ID: 813554-25
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	45	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	<5	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GWD
Date Sampled.....: 12/09/1998
Time Sampled.....: 10:30
Sample Matrix.....: Water

Laboratory Sample ID: 813554-26
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	<5	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	<5	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GWD-DUPLICATE
Date Sampled.....: 12/09/1998
Time Sampled.....: 10:30
Sample Matrix.....: Water

Laboratory Sample ID: 813554-27
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	<5	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	<5	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GWM
Date Sampled.....: 12/09/1998
Time Sampled.....: 10:15
Sample Matrix.....: Water

Laboratory Sample ID: 813554-28
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	<5	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	6	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	<5	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	<5	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	180	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	<5	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	50	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 4GWS
Date Sampled.....: 12/09/1998
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 813554-29
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	<5	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	53	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	<5	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	300	20	ug/L	12/14/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GWS
Date Sampled.....: 12/09/1998
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 813554-30
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	<5	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	<5	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GWD
Date Sampled.....: 12/09/1998
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 813554-31
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	6	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GWM
Date Sampled.....: 12/09/1998
Time Sampled.....: 13:15
Sample Matrix.....: Water

Laboratory Sample ID: 813554-32
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	20	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	37	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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L A B O R A T O R Y T E S T R E S U L T S

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: 5GWM-DUPLICATE
Date Sampled.....: 12/09/1998
Time Sampled.....: 13:15
Sample Matrix.....: Water

Laboratory Sample ID: 813554-33
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	<5	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	5	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 813554 Date: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: S05-9811-807 ATTN: Mr. Dave Hendren

Customer Sample ID: EB-G-2
Date Sampled.....: 12/09/1998
Time Sampled.....: 16:30
Sample Matrix.....: Water

Laboratory Sample ID: 813554-34
Date Received.....: 12/10/1998
Time Received.....: 13:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 8260	Volatile Organic Compounds					
	Acetone	ND	10	ug/L	12/13/98	weh
	Benzene	ND	5	ug/L	12/13/98	weh
	Bromodichloromethane	ND	5	ug/L	12/13/98	weh
	Bromoform	ND	5	ug/L	12/13/98	weh
	Bromomethane	ND	10	ug/L	12/13/98	weh
	2-Butanone	ND	20	ug/L	12/13/98	weh
	Carbon disulfide	ND	5	ug/L	12/13/98	weh
	Carbon tetrachloride	ND	5	ug/L	12/13/98	weh
	Dibromochloromethane	ND	5	ug/L	12/13/98	weh
	Chlorobenzene	ND	5	ug/L	12/13/98	weh
	Chloroethane	ND	10	ug/L	12/13/98	weh
	Chloroform	ND	5	ug/L	12/13/98	weh
	Chloromethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,2-Dichloroethane	ND	5	ug/L	12/13/98	weh
	1,1-Dichloroethene	ND	5	ug/L	12/13/98	weh
	trans-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	cis-1,2-Dichloroethene	ND	5	ug/L	12/13/98	weh
	1,2-Dichloropropane	ND	5	ug/L	12/13/98	weh
	cis-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	trans-1,3-Dichloropropene	ND	5	ug/L	12/13/98	weh
	Ethylbenzene	ND	5	ug/L	12/13/98	weh
	2-Hexanone	ND	20	ug/L	12/13/98	weh
	Methylene chloride	ND	5	ug/L	12/13/98	weh
	4-Methyl-2-pentanone (MIBK)	ND	20	ug/L	12/13/98	weh
	Styrene	ND	5	ug/L	12/13/98	weh
	1,1,2,2-Tetrachloroethane	ND	5	ug/L	12/13/98	weh
	Tetrachloroethene	ND	5	ug/L	12/13/98	weh
	Toluene	ND	5	ug/L	12/13/98	weh
	1,1,1-Trichloroethane	ND	5	ug/L	12/13/98	weh
	1,1,2-Trichloroethane	ND	5	ug/L	12/13/98	weh
	Trichloroethene	ND	5	ug/L	12/13/98	weh
	Vinyl acetate	ND	10	ug/L	12/13/98	weh
	Vinyl chloride	ND	10	ug/L	12/13/98	weh
	Xylenes (total)	ND	10	ug/L	12/13/98	weh

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 160.3 | Batch.....: 33444 | Analyst...: bjl
Method Description.: Solids, Total (TS) | Units.....: %
Parameter.....: % Moisture

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MB			>99.00							01/05/1999	1100
MD	990001-1		21.71			22.39	3.1	R	20	01/05/1999	1104

Test Method.....: EPA 160.3 | Batch.....: 33284 | Analyst...: bjl
Method Description.: Solids, Total (TS) | Units.....: %
Parameter.....: % Solids

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MB			<1.00							12/30/1998	1600
MD	813502-6		78.31			79.83	1.9	R	20	12/30/1998	1602

Test Method.....: EPA 160.3 | Batch.....: 33285 | Analyst...: bjl
Method Description.: Solids, Total (TS) | Units.....: %
Parameter.....: % Solids

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MB			<1.00							12/30/1998	1615
MD	813554-13		81.16			82.13	1.2	R	20	12/30/1998	1617

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Aluminum (Al)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00820		0.00					12/11/1998	2303
CAL		ICPCALSTD	1.77320		10.0					12/11/1998	2308
ICV		V170601B	2.04128		2.00		102.1	%	95-105	12/11/1998	2324
ICB			-0.01530							12/11/1998	2329
ISB		V170601D	514.49700		500.0		102.9	%	80-120	12/11/1998	2334
MD	813435-1		0.15126			0.06174	0.08952	A	0.10000	12/11/1998	2349
MS	813435-1	V01019809	1.17199		1.000000	0.06174	111.0	%	75-125	12/11/1998	2354
CCV		V170601B	1.82742		2.00		91.4	%	95-105	12/12/1998	0028
CCB			-0.01019							12/12/1998	0033
ISB		V170601D	447.34091		500.0		89.5	%	80-120	12/12/1998	0127
CCV		V170601B	1.79189		2.00		89.6	%	95-105	12/12/1998	0134
CCB			-0.00000							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Aluminum (Al)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00600		0.00					12/12/1998	0159
CAL		ICPCALSTD	1.60119		10.0					12/12/1998	0204
ICV		V170602C	2.01746		2.00		100.9	%	95-105	12/12/1998	0221

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Aluminum (Al)
Batch.....: 32430
Units.....: mg/L
Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
ICB			0.02820							12/12/1998	0225
ISB		V170602B	500.99835		500.0		100.2	%	80-120	12/12/1998	0230
PB			0.13852							12/12/1998	0240
LCS		ICPSPK98	2.13664		2.000000		106.8	%	80-120	12/12/1998	0245
MD	813435-1		0.18994			0.19496	0.00502	A	0.10000	12/12/1998	0255
MS	813435-1	ICPSPK98	2.16677		2.000000	0.19496	98.6	%	75-125	12/12/1998	0300
CCV		V170602C	1.99583		2.00		99.8	%	95-105	12/12/1998	0324
CCB			0.00250							12/12/1998	0329
CCV		V170602C	2.01940		2.00		101.0	%	95-105	12/12/1998	0423
CCB			0.02193							12/12/1998	0428
ISB		V170602B	506.19204		500.0		101.2	%	80-120	12/12/1998	0453
CCV		V170602C	2.04616		2.00		102.3	%	95-105	12/12/1998	0500
CCB			0.01065							12/12/1998	0505

Test Method.....: SW-846 7041
Method Description.: Antimony (GFAA)
Parameter.....: Antimony (Sb)
Batch.....: 32868
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		FURNBLK	0.000		0					12/15/1998	1003
CAL		FURNCAL	0.057		0.003000					12/15/1998	1008
CAL		FURNCAL	0.120		0.007500					12/15/1998	1013
CAL		FURNCAL	0.230		0.015000					12/15/1998	1018
CAL		FURNCAL	0.335		0.030					12/15/1998	1023
ICV		V01016905	0.02069		0.020000		103.5	%	90-110	12/15/1998	1028
ICB			0.00031							12/15/1998	1033
PB			0.00021							12/15/1998	1038
LCS		FSPK	0.03205		0.040000		80.1	%	80-120	12/15/1998	1043
CCV		V01016905	0.01975		0.020000		98.8	%	90-110	12/15/1998	1053
CCB			-0.00006							12/15/1998	1058
CCV		V01016905	0.01958		0.020000		97.9	%	90-110	12/15/1998	1128
CCB			-0.00013							12/15/1998	1133
CCV		V01016905	0.01894		0.020000		94.7	%	90-110	12/15/1998	1158
CCB			0.00002							12/15/1998	1203
CAL		FURNBLK	0.000		0					12/16/1998	2053
CAL		FURNCAL	0.045		0.005000					12/16/1998	2058
CAL		FURNCAL	0.079		0.010000					12/16/1998	2103
CAL		FURNCAL	0.158		0.020000					12/16/1998	2108
CAL		FURNCAL	0.235		0.030					12/16/1998	2114
ICV		V01019809	0.02187		0.020000		109.3	%	90-110	12/16/1998	2119
ICB			0.00031							12/16/1998	2124
PB			0.00015							12/16/1998	2129
CCV		V01019809	0.02126		0.020000		106.3	%	90-110	12/16/1998	2134
CCB			0.00020							12/16/1998	2139
LCS		FSPK	0.04226		0.040000		105.7	%	80-120	12/16/1998	2144
CCV		V01019809	0.02167		0.020000		108.3	%	90-110	12/16/1998	2210
CCB			0.00022							12/16/1998	2215
MD	813604-23		0.00084			0.0021	0.00126	A	0.00500	12/16/1998	2241
PDS	813604-23	V01019809	0.01146		0.010000	0.0021	93.6	%	75-125	12/16/1998	2246
CCV		V01019809	0.02132		0.020000		106.6	%	90-110	12/16/1998	2251
CCB			-0.00014							12/16/1998	2256

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: SW-846 7041
Method Description.: Antimony (GFAA)
Parameter.....: Antimony (Sb)
Batch.....: 32868
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MS	813604-23	FSPK	0.03560		0.040000	0.0021	83.8	%	75-125	12/16/1998	2301
CCV		V01019809	0.01902		0.020000		95.1	%	90-110	12/16/1998	2327
CCB			0.00018							12/16/1998	2332
CCV		V01019809	0.01957		0.020000		97.8	%	90-110	12/17/1998	0003
CCB			-0.00014							12/17/1998	0008

Test Method.....: SW-846 7041
Method Description.: Antimony (GFAA)
Parameter.....: Antimony (Sb)
Batch.....: 32869
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		FURNBLK	0.000		0					12/14/1998	1847
CAL		FURNCAL	0.043		0.005000					12/14/1998	1852
CAL		FURNCAL	0.090		0.010000					12/14/1998	1857
CAL		FURNCAL	0.172		0.020000					12/14/1998	1902
CAL		FURNCAL	0.248		0.030					12/14/1998	1907
ICV		V01016905	0.02022		0.020000		101.1	%	90-110	12/14/1998	1913
ICB			-0.00008							12/14/1998	1918
CCV		V01016905	0.02033		0.020000		101.7	%	90-110	12/14/1998	1928
CCB			-0.00012							12/14/1998	1933
MD	813435-1		-0.00065			-0.00038	0.00027	A	0.00500	12/14/1998	1938
CCV		V01016905	0.02078		0.020000		103.9	%	90-110	12/14/1998	2004
CCB			0.00176							12/14/1998	2009
CCV		V01016905	0.02132		0.020000		106.6	%	90-110	12/14/1998	2040
CCB			0.00048							12/14/1998	2045
CCV		V01016905	0.02153		0.020000		107.7	%	90-110	12/14/1998	2115
CCB			-0.00013							12/14/1998	2121
CCV		V01016905	0.02088		0.020000		104.4	%	90-110	12/14/1998	2151
CCB			0.0000							12/14/1998	2156
MD	813659-5		-0.00102			-0.00102	0.00000	A	0.00500	12/14/1998	2207
MS	813659-5	V01016905	0.00952		0.012000	-0.00102	87.8	%	75-125	12/14/1998	2212
CCV		V01016905	0.01975		0.020000		98.8	%	90-110	12/14/1998	2217
CCB			-0.00006							12/14/1998	2222

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Arsenic (As)
Batch.....: 32577
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00695		0.00					12/14/1998	2338
CAL		ICPCALSTD	9.42768		10.0					12/14/1998	2350
ICV		V170601B	2.03024		2.00		101.5	%	95-105	12/15/1998	0008
ICB			0.01284							12/15/1998	0017
MD	813435-1		0.00652			0.00037	0.00615	A	0.01000	12/15/1998	0045
MS	813435-1	V01019809	8.17032		10.000000	0.00037	81.7	%	75-125	12/15/1998	0053
CCV		V170601B	1.97448		2.00		98.7	%	95-105	12/15/1998	0152
CCB			0.01291							12/15/1998	0200
CCV		V170601B	2.01881		2.00		100.9	%	95-105	12/15/1998	0332
CCB			0.01307							12/15/1998	0340

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32643 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Arsenic (As)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00216		0.00					12/16/1998	1714
CAL		ICPCALSTD	8.30701		10.0					12/16/1998	1725
ICV		V170602C	2.00994		2.00		100.5	%	95-105	12/16/1998	1740
ICB			0.00876							12/16/1998	1747
PB			-0.00187							12/16/1998	1822
LCS		ICPSPK98	1.87846		2.000000		93.9	%	80-120	12/16/1998	1832
MD	813435-2		0.01269			0.00277	0.00992	A	0.01000	12/16/1998	1858
MS	813435-2	ICPSPK98	1.82196		2.000000	0.00277	91.0	%	75-125	12/16/1998	1907
CCV		V170602C	2.04996		2.00		102.5	%	95-105	12/16/1998	1942
CCB			0.00727							12/16/1998	1951
CCV		V170602C	2.03306		2.00		101.7	%	95-105	12/16/1998	2132
CCB			0.00254							12/16/1998	2141
CCV		V170602C	2.04329		2.00		102.2	%	95-105	12/16/1998	2238
CCB			0.00134							12/16/1998	2247

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Barium (Ba)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00090		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.68270		1.00					12/12/1998	0212
ICV		V170602C	2.03310		2.00		101.7	%	95-105	12/12/1998	0221
ICB			0.00175							12/12/1998	0225
ISB		V170602B	0.49423		0.50		98.8	%	80-120	12/12/1998	0230
PB			0.00307							12/12/1998	0240
LCS		ICPSPK98	0.78111		0.800000		97.6	%	80-120	12/12/1998	0245
MD	813435-1		0.13897			0.13648	1.8	R	20	12/12/1998	0255
MS	813435-1	ICPSPK98	0.91657		0.800000	0.13648	97.5	%	75-125	12/12/1998	0300
CCV		V170602C	1.95470		2.00		97.7	%	95-105	12/12/1998	0324
CCB			-0.00102							12/12/1998	0329
CCV		V170602C	1.98732		2.00		99.4	%	95-105	12/12/1998	0423
CCB			0.00073							12/12/1998	0428
ISB		V170602B	0.49262		0.50		98.5	%	80-120	12/12/1998	0453
CCV		V170602C	2.02637		2.00		101.3	%	95-105	12/12/1998	0500
CCB			0.00775							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32644 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Barium (Ba)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00139		0.00					12/16/1998	2306
CAL		ICPCALSTD	3.75890		1.00					12/16/1998	2322
ICV		V170602C	1.99377		2.00		99.7	%	95-105	12/16/1998	2338
ICB			0.00042							12/16/1998	2347
ISB		V170602B	0.49048		0.50		98.1	%	80-120	12/16/1998	2356
MD	813788-1		0.27395			0.27667	1.0	R	20	12/17/1998	0013
MS	813788-1	V01019809	2.32774		2.000000	0.27667	102.6	%	75-125	12/17/1998	0021

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32644 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Barium (Ba)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCV		V170602C	1.92207		2.00		96.1	%	95-105	12/17/1998	0122
CCB			0.00015							12/17/1998	0130
ISB		V170602B	0.47049		0.50		94.1	%	80-120	12/17/1998	0305
CCV		V170602C	1.85721		2.00		92.9	%	95-105	12/17/1998	0318
CCB			0.00074							12/17/1998	0326
ISB		V170602B	0.45873		0.50		91.7	%	80-120	12/17/1998	0453
CCV		V170602C	1.95475		2.00		97.7	%	95-105	12/17/1998	0505
CCB			0.00010							12/17/1998	0514

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Beryllium (Be)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00049		0.00					12/12/1998	0159
CAL		ICPCALSTD	1.10730		1.0					12/12/1998	0216
ICV		V170602C	1.98065		2.00		99.0	%	95-105	12/12/1998	0221
ICB			0.00045							12/12/1998	0225
ISB		V170602B	0.46867		0.50		93.7	%	80-120	12/12/1998	0230
PB			0.00017							12/12/1998	0240
LCS		ICPSPK98	0.09245		0.100000		92.5	%	80-120	12/12/1998	0245
MD	813435-1		0.00009			0.00009	0.00000	A	0.00500	12/12/1998	0255
MS	813435-1	ICPSPK98	0.09155		0.100000	0.00009	91.5	%	75-125	12/12/1998	0300
CCV		V170602C	1.90843		2.00		95.4	%	95-105	12/12/1998	0324
CCB			0.00045							12/12/1998	0329
CCV		V170602C	1.94615		2.00		97.3	%	95-105	12/12/1998	0423
CCB			0.00054							12/12/1998	0428
ISB		V170602B	0.46966		0.50		93.9	%	80-120	12/12/1998	0453
CCV		V170602C	1.98650		2.00		99.3	%	95-105	12/12/1998	0500
CCB			0.00009							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32707 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Beryllium (Be)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00060		0.00					12/17/1998	1813
CAL		ICPCALSTD	1.26259		1.0					12/17/1998	1831
ICV		V170602C	2.04815		2.00		102.4	%	95-105	12/17/1998	1835
ICB			0.00015							12/17/1998	1840
ISB		V170602B	0.45713		0.50		91.4	%	80-120	12/17/1998	1845
MD	813788-1		0.00000			0.00000	0.00000	A	0.00500	12/17/1998	1859
MS	813788-1	V01019809	0.16467		0.160000	0.00000	102.9	%	75-125	12/17/1998	1904
CCV		V170602C	2.06066		2.00		103.0	%	95-105	12/17/1998	1938
CCB			0.00007							12/17/1998	1943
ISB		V170602B	0.45301		0.50		90.6	%	80-120	12/17/1998	2031
CCV		V170602C	2.18117		2.00		109.1	%	95-105	12/17/1998	2040
CCB			0.00039							12/17/1998	2045
CCV		V170602C	2.10301		2.00		105.2	%	95-105	12/17/1998	2133

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32707 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Beryllium (Be)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB			0.00023							12/17/1998	2138
MD	813502-12		0.00007			-0.00007	0.00014	A	0.00500	12/17/1998	2153
MS	813502-12	V01019809	0.16633		0.160000	-0.00007	104.0	%	75-125	12/17/1998	2157
ISB		V170602B	0.45571		0.50		91.1	%	80-120	12/17/1998	2202
CCV		V170602C	2.11023		2.00		105.5	%	95-105	12/17/1998	2212
CCB			0.00023							12/17/1998	2216

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Cadmium (Cd)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00080		0.00					12/11/1998	2303
CAL		ICPCALSTD	2.53559		3.00					12/11/1998	2320
ICV		V170601B	1.95377		2.00		97.7	%	95-105	12/11/1998	2324
ICB			-0.00012							12/11/1998	2329
ISB		V170601D	0.86014		1.00		86.0	%	80-120	12/11/1998	2334
MD	813435-1		0.00337			-0.00075	0.00412	A	0.00500	12/11/1998	2349
MS	813435-1	V01019809	0.10295		0.100000	-0.00075	103.7	%	75-125	12/11/1998	2354
CCV		V170601B	1.97861		2.00		98.9	%	95-105	12/12/1998	0028
CCB			0.00106							12/12/1998	0033
ISB		V170601D	0.85863		1.00		85.9	%	80-120	12/12/1998	0127
CCV		V170601B	1.96832		2.00		98.4	%	95-105	12/12/1998	0134
CCB			0.00330							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Cadmium (Cd)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00109		0.00					12/12/1998	0159
CAL		ICPCALSTD	2.55929		3.00					12/12/1998	0216
ICV		V170602C	1.96933		2.00		98.5	%	95-105	12/12/1998	0221
ICB			0.00339							12/12/1998	0225
ISB		V170602B	0.85968		1.00		86.0	%	80-120	12/12/1998	0230
PB			0.00279							12/12/1998	0240
LCS		ICPSPK98	0.09170		0.100000		91.7	%	80-120	12/12/1998	0245
MD	813435-1		0.00221			0.00057	0.00164	A	0.00500	12/12/1998	0255
MS	813435-1	ICPSPK98	0.09006		0.100000	0.00057	89.5	%	75-125	12/12/1998	0300
CCV		V170602C	1.94390		2.00		97.2	%	95-105	12/12/1998	0324
CCB			0.00081							12/12/1998	0329
CCV		V170602C	2.00975		2.00		100.5	%	95-105	12/12/1998	0423
CCB			0.00127							12/12/1998	0428
ISB		V170602B	0.90238		1.00		90.2	%	80-120	12/12/1998	0453
CCV		V170602C	2.06213		2.00		103.1	%	95-105	12/12/1998	0500
CCB			0.00398							12/12/1998	0505

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Calcium (Ca)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.01750		0.00					12/11/1998	2303
CAL		ICPCALSTD	20.22080		50.00					12/11/1998	2308
ICV		V170601B	2.09297		2.00		104.6	%	95-105	12/11/1998	2324
ICB			0.01559							12/11/1998	2329
ISB		V170601D	482.76370		500.0		96.6	%	80-120	12/11/1998	2334
MD	813435-1		163.17111			161.16748	1.2	R	20	12/11/1998	2349
MS	813435-1	V01019809	160.29164		1.000000	161.16748	-87.6	%	75-125	12/11/1998	2354
CCV		V170601B	2.02838		2.00		101.4	%	95-105	12/12/1998	0028
CCB			0.01460							12/12/1998	0033
ISB		V170601D	460.00256		500.0		92.0	%	80-120	12/12/1998	0127
CCV		V170601B	2.00932		2.00		100.5	%	95-105	12/12/1998	0134
CCB			0.01707							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Calcium (Ca)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.02070		0.00					12/12/1998	0159
CAL		ICPCALSTD	19.71789		50.00					12/12/1998	0204
ICV		V170602C	2.08049		2.00		104.0	%	95-105	12/12/1998	0221
ICB			0.01243							12/12/1998	0225
ISB		V170602B	477.67144		500.0		95.5	%	80-120	12/12/1998	0230
PB			0.27745							12/12/1998	0240
LCS		ICPSPK98	97.08740		100.000000		97.1	%	80-120	12/12/1998	0245
MD	813435-1		296.00375			296.33172	0.1	R	20	12/12/1998	0255
MS	813435-1	ICPSPK98	385.23876		100.000000	296.33172	88.9	%	75-125	12/12/1998	0300
CCV		V170602C	2.03683		2.00		101.8	%	95-105	12/12/1998	0324
CCB			0.00736							12/12/1998	0329
CCV		V170602C	2.10791		2.00		105.4	%	95-105	12/12/1998	0423
CCB			0.01294							12/12/1998	0428
ISB		V170602B	492.05645		500.0		98.4	%	80-120	12/12/1998	0453
CCV		V170602C	2.13329		2.00		106.7	%	95-105	12/12/1998	0500
CCB			0.00736							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Chromium (Cr)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00160		0.00					12/11/1998	2303
CAL		ICPCALSTD	0.33689		1.0					12/11/1998	2308
ICV		V170601B	2.01752		2.00		100.9	%	95-105	12/11/1998	2324
ICB			-0.00089							12/11/1998	2329
ISB		V170601D	0.46007		0.50		92.0	%	80-120	12/11/1998	2334
MD	813435-1		0.00178			0.00059	0.00119	A	0.01000	12/11/1998	2349
MS	813435-1	V01019809	0.10850		0.100000	0.00059	107.9	%	75-125	12/11/1998	2354
CCV		V170601B	1.89205		2.00		94.6	%	95-105	12/12/1998	0028
CCB			-0.00238							12/12/1998	0033

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Chromium (Cr)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
ISB		V170601D	0.42440		0.50		84.9	%	80-120	12/12/1998	0127
CCV		V170601B	1.86231		2.00		93.1	%	95-105	12/12/1998	0134
CCB			0.00029							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Chromium (Cr)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00050		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.31859		1.0					12/12/1998	0204
ICV		V170602C	1.98033		2.00		99.0	%	95-105	12/12/1998	0221
ICB			0.00250							12/12/1998	0225
ISB		V170602B	0.45402		0.50		90.8	%	80-120	12/12/1998	0230
PB			0.00281							12/12/1998	0240
LCS		ICPSPK98	0.38554		0.400000		96.4	%	80-120	12/12/1998	0245
MD	813435-1		-0.00281			0.00720	0.01001	A	0.01000	12/12/1998	0255
MS	813435-1	ICPSPK98	0.37647		0.400000	0.00720	92.3	%	75-125	12/12/1998	0300
CCV		V170602C	1.93221		2.00		96.6	%	95-105	12/12/1998	0324
CCB			0.00501							12/12/1998	0329
CCV		V170602C	1.97974		2.00		99.0	%	95-105	12/12/1998	0423
CCB			0.00313							12/12/1998	0428
ISB		V170602B	0.46027		0.50		92.1	%	80-120	12/12/1998	0453
CCV		V170602C	2.02635		2.00		101.3	%	95-105	12/12/1998	0500
CCB			0.00344							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Cobalt (Co)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00260		0.00					12/11/1998	2303
CAL		ICPCALSTD	0.51410		1.00					12/11/1998	2316
ICV		V170601B	1.97739		2.00		98.9	%	95-105	12/11/1998	2324
ICB			0.00464							12/11/1998	2329
ISB		V170601D	0.44198		0.50		88.4	%	80-120	12/11/1998	2334
MD	813435-1		0.00406			0.01044	0.00638	A	0.02000	12/11/1998	2349
MS	813435-1	V01019809	0.51352		0.500000	0.01044	100.6	%	75-125	12/11/1998	2354
CCV		V170601B	1.89651		2.00		94.8	%	95-105	12/12/1998	0028
CCB			0.00657							12/12/1998	0033
ISB		V170601D	0.41819		0.50		83.6	%	80-120	12/12/1998	0127
CCV		V170601B	1.87774		2.00		93.9	%	95-105	12/12/1998	0134
CCB			0.00657							12/12/1998	0139

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Cobalt (Co)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00290		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.48219		1.00					12/12/1998	0212
ICV		V170602C	2.01822		2.00		100.9	%	95-105	12/12/1998	0221
ICB			0.00659							12/12/1998	0225
ISB		V170602B	0.44276		0.50		88.6	%	80-120	12/12/1998	0230
PB			0.00535							12/12/1998	0240
LCS		ICPSPK98	0.93358		1.000000		93.4	%	80-120	12/12/1998	0245
MD	813435-1		0.00700			0.00844	0.00144	A	0.02000	12/12/1998	0255
MS	813435-1	ICPSPK98	0.91338		1.000000	0.00844	90.5	%	75-125	12/12/1998	0300
CCV		V170602C	1.97123		2.00		98.6	%	95-105	12/12/1998	0324
CCB			0.00473							12/12/1998	0329
CCV		V170602C	2.03017		2.00		101.5	%	95-105	12/12/1998	0423
CCB			0.00762							12/12/1998	0428
ISB		V170602B	0.45883		0.50		91.8	%	80-120	12/12/1998	0453
CCV		V170602C	2.07675		2.00		103.8	%	95-105	12/12/1998	0500
CCB			0.00494							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32643 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Copper (Cu)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00019		0.00					12/16/1998	1714
CAL		ICPCALSTD	0.01099		1.00					12/16/1998	1727
ICV		V170602C	1.94444		2.00		97.2	%	95-105	12/16/1998	1740
ICB			0.00000							12/16/1998	1747
ISB		V170602B	0.53703		0.50		107.4	%	80-120	12/16/1998	1755
PB			0.01851							12/16/1998	1822
LCS		ICPSPK98	1.01851		1.000000		101.9	%	80-120	12/16/1998	1832
MD	813435-2		0.01851			0.02777	0.00926	A	0.01000	12/16/1998	1858
MS	813435-2	ICPSPK98	1.03703		1.000000	0.02777	100.9	%	75-125	12/16/1998	1907
CCV		V170602C	1.92592		2.00		96.3	%	95-105	12/16/1998	1942
CCB			0.00000							12/16/1998	1951
ISB		V170602B	0.48148		0.50		96.3	%	80-120	12/16/1998	2119
CCV		V170602C	1.95370		2.00		97.7	%	95-105	12/16/1998	2132
CCB			0.00925							12/16/1998	2141
ISB		V170602B	0.51851		0.50		103.7	%	80-120	12/16/1998	2225
CCV		V170602C	2.05555		2.00		102.8	%	95-105	12/16/1998	2238
CCB			0.00925							12/16/1998	2247

Test Method.....: EPA 6010 | Batch.....: 32707 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Copper (Cu)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00159		0.00					12/17/1998	1813
CAL		ICPCALSTD	0.29670		1.00					12/17/1998	1827
ICV		V170602C	1.96001		2.00		98.0	%	95-105	12/17/1998	1835
ICB			0.00813							12/17/1998	1840

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Copper (Cu)
Batch.....: 32707
Units.....: mg/L
Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
ISB		V170602B	0.44628		0.50		89.3	%	80-120	12/17/1998	1845
MD	813788-1		-0.00542			-0.00542	0.00000	A	0.01000	12/17/1998	1859
MS	813788-1	V01019809	0.51236		0.500000	-0.00542	103.6	%	75-125	12/17/1998	1904
CCV		V170602C	1.97221		2.00		98.6	%	95-105	12/17/1998	1938
CCB			0.00338							12/17/1998	1943
ISB		V170602B	0.44018		0.50		88.0	%	80-120	12/17/1998	2031
CCV		V170602C	2.06302		2.00		103.2	%	95-105	12/17/1998	2040
CCB			-0.00271							12/17/1998	2045
CCV		V170602C	1.98712		2.00		99.4	%	95-105	12/17/1998	2133
CCB			0.00101							12/17/1998	2138
MD	813502-12		-0.00203			-0.00338	0.00135	A	0.01000	12/17/1998	2153
MS	813502-12	V01019809	0.50999		0.500000	-0.00338	102.7	%	75-125	12/17/1998	2157
ISB		V170602B	0.42900		0.50		85.8	%	80-120	12/17/1998	2202
CCV		V170602C	1.98644		2.00		99.3	%	95-105	12/17/1998	2212
CCB			0.00237							12/17/1998	2216

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Copper (Cu)
Batch.....: 32951
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00020		0.00					12/22/1998	2137
CAL		ICPCALSTD	0.17710		1.00					12/22/1998	2150
ICV		V170602C	1.96269		2.00		98.1	%	95-105	12/22/1998	2159
ICB			0.00226							12/22/1998	2204
ISB		V170602B	0.42622		0.50		85.2	%	80-120	12/22/1998	2208
PB			-0.00056							12/22/1998	2218
LCS		ICPSPK99	0.44234		0.500000		88.5	%	80-120	12/22/1998	2223
MD	813659-6		0.00169			-0.00169	0.00338	A	0.01000	12/22/1998	2233
MS	813659-6	ICPSPK99	0.43894		0.500000	-0.00169	88.1	%	75-125	12/22/1998	2238
CCV		V170602C	1.93499		2.00		96.7	%	95-105	12/22/1998	2307
CCB			-0.00113							12/22/1998	2312
ISB		V170602B	0.41040		0.50		82.1	%	80-120	12/22/1998	2352
CCV		V170602C	1.88694		2.00		94.3	%	95-105	12/22/1998	2359
CCB			0.00452							12/23/1998	0004

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Iron (Fe)
Batch.....: 32429
Units.....: mg/L
Analyst...: amw

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00840		0.00					12/11/1998	2303
CAL		ICPCALSTD	62.16210		100.00					12/11/1998	2316
ICV		V170601B	1.98597		2.00		99.3	%	95-105	12/11/1998	2324
ICB			0.02574							12/11/1998	2329
ISB		V170601D	185.08471		200.0		92.5	%	80-120	12/11/1998	2334
MD	813435-1		1.08102			1.06831	1.2	R	20	12/11/1998	2349
MS	813435-1	V01019809	2.00001		1.000000	1.06831	93.2	%	75-125	12/11/1998	2354
CCV		V170601B	1.86414		2.00		93.2	%	95-105	12/12/1998	0028

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Iron (Fe)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB			0.03153							12/12/1998	0033
ISB		V170601D	167.53414		200.0		83.8	%	80-120	12/12/1998	0127
CCV		V170601B	1.85451		2.00		92.7	%	95-105	12/12/1998	0134
CCB			0.04810							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32643 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Iron (Fe)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.01229		0.00					12/16/1998	1714
CAL		ICPCALSTD	0.19949		100.00					12/16/1998	1727
CAL		ICPCALSTD	3.28359		100.00					12/16/1998	1737
ICV		V170602C	1.91043		2.00		95.5	%	95-105	12/16/1998	1740
ICB			0.00243							12/16/1998	1747
ISB		V170602B	177.17608		200.0		88.6	%	80-120	12/16/1998	1755
PB			0.03015							12/16/1998	1822
LCS		ICPSPK98	2.04752		2.000000		102.4	%	80-120	12/16/1998	1832
MD	813435-2		1.08849			1.06443	2.2	R	20	12/16/1998	1858
MS	813435-2	ICPSPK98	2.73785		2.000000	1.06443	83.7	%	75-125	12/16/1998	1907
CCV		V170602C	1.93511		2.00		96.8	%	95-105	12/16/1998	1942
CCB			-0.00060							12/16/1998	1951
ISB		V170602B	176.53112		200.0		88.3	%	80-120	12/16/1998	2119
CCV		V170602C	1.92444		2.00		96.2	%	95-105	12/16/1998	2132
CCB			-0.00060							12/16/1998	2141
ISB		V170602B	177.65966		200.0		88.8	%	80-120	12/16/1998	2225
CCV		V170602C	1.97014		2.00		98.5	%	95-105	12/16/1998	2238
CCB			-0.00182							12/16/1998	2247

Test Method.....: EPA 6010 | Batch.....: 32577 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Lead (Pb)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00020		0.00					12/14/1998	2338
CAL		ICPCALSTD	14.05290		10.0					12/14/1998	2357
ICV		V170601B	1.96209		2.00		98.1	%	95-105	12/15/1998	0008
ICB			-0.00052							12/15/1998	0017
ISB		V170601D	0.97463		1.00		97.5	%	80-120	12/15/1998	0025
MD	813435-1		-0.00565			0.00195	0.00760	A	0.00500	12/15/1998	0045
MS	813435-1	V01019809	7.76686		10.000000	0.00195	77.6	%	75-125	12/15/1998	0053
CCV		V170601B	1.90286		2.00		95.1	%	95-105	12/15/1998	0152
CCB			0.00218							12/15/1998	0200
CCV		V170601B	1.92854		2.00		96.4	%	95-105	12/15/1998	0332
CCB			0.00305							12/15/1998	0340

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Lead (Pb)
Batch.....: 32643
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00279		0.00					12/16/1998	1714
CAL		ICPCALSTD	9.44639		10.0					12/16/1998	1731
ICV		V170602C	1.93436		2.00		96.7	%	95-105	12/16/1998	1740
ICB			0.00244							12/16/1998	1747
ISB		V170602B	0.91710		1.00		91.7	%	80-120	12/16/1998	1755
PB			-0.00666							12/16/1998	1822
LCS		ICPSPK98	1.85848		2.000000		92.9	%	80-120	12/16/1998	1832
MD	813435-2		-0.00486			-0.00888	0.00402	A	0.05000	12/16/1998	1858
MS	813435-2	ICPSPK98	1.84175		2.000000	-0.00888	92.5	%	75-125	12/16/1998	1907
CCV		V170602C	1.98991		2.00		99.5	%	95-105	12/16/1998	1942
CCB			-0.00815							12/16/1998	1951
ISB		V170602B	0.91374		1.00		91.4	%	80-120	12/16/1998	2119
CCV		V170602C	1.98893		2.00		99.4	%	95-105	12/16/1998	2132
CCB			-0.00413							12/16/1998	2141
ISB		V170602B	0.90933		1.00		90.9	%	80-120	12/16/1998	2225
CCV		V170602C	1.95632		2.00		97.8	%	95-105	12/16/1998	2238
CCB			0.00277							12/16/1998	2247

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Magnesium (Mg)
Batch.....: 32429
Units.....: mg/L
Analyst...: amw

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00179		0.00					12/11/1998	2303
CAL		ICPCALSTD	1.96309		20.00					12/11/1998	2312
ICV		V170601B	1.91758		2.00		95.9	%	95-105	12/11/1998	2324
ICB			0.04645							12/11/1998	2329
ISB		V170601D	482.90521		500.0		96.6	%	80-120	12/11/1998	2334
MD	813435-1		24.35157			24.00303	1.4	R	20	12/11/1998	2349
MS	813435-1	V01019809	24.86338		1.000000	24.00303	86.0	%	75-125	12/11/1998	2354
CCV		V170601B	1.90071		2.00		95.0	%	95-105	12/12/1998	0028
CCB			0.04127							12/12/1998	0033
ISB		V170601D	458.20730		500.0		91.6	%	80-120	12/12/1998	0127
CCV		V170601B	1.87014		2.00		93.5	%	95-105	12/12/1998	0134
CCB			0.05017							12/12/1998	0139

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Magnesium (Mg)
Batch.....: 32430
Units.....: mg/L
Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00270		0.00					12/12/1998	0159
CAL		ICPCALSTD	1.91910		20.00					12/12/1998	0208
ICV		V170602C	1.93868		2.00		96.9	%	95-105	12/12/1998	0221
ICB			0.05243							12/12/1998	0225
ISB		V170602B	475.09307		500.0		95.0	%	80-120	12/12/1998	0230
PB			0.10071							12/12/1998	0240
LCS		ICPSPK98	96.07089		100.000000		96.1	%	80-120	12/12/1998	0245
MD	813435-1		44.40088			44.46877	0.2	R	20	12/12/1998	0255

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Magnesium (Mg)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MS	813435-1	ICPSPK98	138.28991		100.000000	44.46877	93.8	%	75-125	12/12/1998	0300
CCV		V170602C	1.93953		2.00		97.0	%	95-105	12/12/1998	0324
CCB			0.04798							12/12/1998	0329
CCV		V170602C	1.96581		2.00		98.3	%	95-105	12/12/1998	0423
CCB			0.01270							12/12/1998	0428
ISB		V170602B	491.61669		500.0		98.3	%	80-120	12/12/1998	0453
CCV		V170602C	2.01534		2.00		100.8	%	95-105	12/12/1998	0500
CCB			0.03454							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Manganese (Mn)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00549		0.00					12/11/1998	2303
CAL		ICPCALSTD	0.72169		2.00					12/11/1998	2320
ICV		V170601B	1.95831		2.00		97.9	%	95-105	12/11/1998	2324
ICB			-0.00026							12/11/1998	2329
ISB		V170601D	0.47140		0.50		94.3	%	80-120	12/11/1998	2334
MD	813435-1		0.39283			0.39116	0.4	R	20	12/11/1998	2349
MS	813435-1	V01019809	0.53246		0.150000	0.39116	94.2	%	75-125	12/11/1998	2354
CCV		V170601B	1.82833		2.00		91.4	%	95-105	12/12/1998	0028
CCB			0.00448							12/12/1998	0033
ISB		V170601D	0.43269		0.50		86.5	%	80-120	12/12/1998	0127
CCV		V170601B	1.79870		2.00		89.9	%	95-105	12/12/1998	0134
CCB			0.00644							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Manganese (Mn)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00779		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.66490		2.00					12/12/1998	0216
ICV		V170602C	1.97060		2.00		98.5	%	95-105	12/12/1998	0221
ICB			0.00062							12/12/1998	0225
ISB		V170602B	0.47202		0.50		94.4	%	80-120	12/12/1998	0230
PB			0.00063							12/12/1998	0240
LCS		ICPSPK98	0.91776		1.000000		91.8	%	80-120	12/12/1998	0245
MD	813435-1		0.71601			0.71845	0.3	R	20	12/12/1998	0255
MS	813435-1	ICPSPK98	1.60758		1.000000	0.71845	88.9	%	75-125	12/12/1998	0300
CCV		V170602C	1.91759		2.00		95.9	%	95-105	12/12/1998	0324
CCB			0.00245							12/12/1998	0329
CCV		V170602C	1.96906		2.00		98.5	%	95-105	12/12/1998	0423
CCB			0.00215							12/12/1998	0428
ISB		V170602B	0.48286		0.50		96.6	%	80-120	12/12/1998	0453
CCV		V170602C	2.01230		2.00		100.6	%	95-105	12/12/1998	0500
CCB			0.00244							12/12/1998	0505

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QUALITY CONTROL RESULTS

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CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: SW-846 7471
Method Description.: Mercury (CVAA)
Parameter.....: Mercury (Hg)

Batch.....: 32689
Units.....: mg/L

Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		HGCALBLK	0.000		0.000					12/17/1998	1500
CAL		V129747A	0.003		0.000200					12/17/1998	1502
CAL		V129747A	0.017		0.000999					12/17/1998	1505
CAL		V129747A	0.083		0.004995					12/17/1998	1507
CAL		V129747A	0.166		0.009991					12/17/1998	1510
CAL		V129747A	0.330		0.019982					12/17/1998	1512
ICV		V129747B	0.00453		0.005000		90.6	%	90-110	12/17/1998	1514
ICB			-0.00001							12/17/1998	1517
PB			-0.00001							12/17/1998	1519
LCS		V129747B	0.00465		0.005000		93.0	%	80-120	12/17/1998	1522
MD	813604-20		0.00045			0.00045	0.00000	A	0.00100	12/17/1998	1526
MS	813604-20	V129747B	0.00479		0.005000	0.00045	86.8	%	75-125	12/17/1998	1529
CCV		V129747A	0.00978		0.009991		97.9	%	90-110	12/17/1998	1534
CCB			0.00005							12/17/1998	1536
CCV		V129747A	0.00985		0.009991		98.6	%	90-110	12/17/1998	1602
CCB			0.00004							12/17/1998	1605
PB			-0.00002							12/17/1998	1622
LCS		V01019702	0.00376		0.003936		95.5	%	80-120	12/17/1998	1624
MD	813460-1		0.00302			0.00491	0.00189	A	0.00100	12/17/1998	1629
CCV		V129747A	0.00973		0.009991		97.4	%	90-110	12/17/1998	1631
CCB			0.00005							12/17/1998	1634
MS	813460-1	V129747B	0.00834		0.005000	0.00491	106.4	%	75-125	12/17/1998	1636
PDS	813721-1	V129747A	0.00196		0.001998	0.00005	95.6	%	75-125	12/17/1998	1655
CCV		V129747A	0.00984		0.009991		98.5	%	90-110	12/17/1998	1658
CCB			0.00008							12/17/1998	1700

Test Method.....: SW-846 7471
Method Description.: Mercury (CVAA)
Parameter.....: Mercury (Hg)

Batch.....: 33071
Units.....: mg/L

Analyst...: amw

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		HGCALBLK	0.000		0.000					12/28/1998	0900
CAL		V129747B	0.002		0.000200					12/28/1998	0907
CAL		V129747B	0.014		0.001000					12/28/1998	0915
CAL		V129747B	0.077		0.005000					12/28/1998	0922
CAL		V129747B	0.152		0.010000					12/28/1998	0929
CAL		V129747B	0.298		0.020000					12/28/1998	0936
ICV		V129747A	0.00546		0.004995		109.3	%	90-110	12/28/1998	0944
ICB			0.00006							12/28/1998	0951
PB			0.00004							12/28/1998	0958
LCS		V129747A	0.00544		0.004995		108.9	%	80-120	12/28/1998	1006
MD	813435-1		0.00010			0.00012	0.00002	A	0.00020	12/28/1998	1020
MS	813435-1	V129747A	0.00521		0.9991	0.00012	101.9	%	75-125	12/28/1998	1028
CCV		V129747B	0.00999		0.010000		99.9	%	90-110	12/28/1998	1111
CCB			0.00009							12/28/1998	1119
CCV		V129747B	0.00999		0.010000		99.9	%	90-110	12/28/1998	1239
CCB			0.00015							12/28/1998	1246
CCV		V129747B	0.01042		0.010000		104.2	%	90-110	12/28/1998	1323
CCB			0.00034							12/28/1998	1330

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32429 | Analyst...: amw
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Nickel (Ni)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00520		0.00					12/11/1998	2303
CAL		ICPCALSTD	0.43079		1.0					12/11/1998	2308
ICV		V170601B	2.02239		2.00		101.1	%	95-105	12/11/1998	2324
ICB			0.01284							12/11/1998	2329
ISB		V170601D	0.90456		1.00		90.5	%	80-120	12/11/1998	2334
MD	813435-1		0.00605			0.01474	0.00869	A	0.01000	12/11/1998	2349
MS	813435-1	V01019809	0.43182		0.400000	0.01474	104.3	%	75-125	12/11/1998	2354
CCV		V170601B	1.96303		2.00		98.2	%	95-105	12/12/1998	0028
CCB			0.01077							12/12/1998	0033
ISB		V170601D	0.86686		1.00		86.7	%	80-120	12/12/1998	0127
CCV		V170601B	1.95593		2.00		97.8	%	95-105	12/12/1998	0134
CCB			0.01375							12/12/1998	0139

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Nickel (Ni)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00559		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.42329		1.0					12/12/1998	0204
ICV		V170602C	1.99827		2.00		99.9	%	95-105	12/12/1998	0221
ICB			0.01794							12/12/1998	0225
ISB		V170602B	0.89479		1.00		89.5	%	80-120	12/12/1998	0230
PB			0.01981							12/12/1998	0240
LCS		ICPSPK98	0.92775		1.000000		92.8	%	80-120	12/12/1998	0245
MD	813435-1		0.01167			0.01167	0.00000	A	0.01000	12/12/1998	0255
MS	813435-1	ICPSPK98	0.88832		1.000000	0.01167	87.7	%	75-125	12/12/1998	0300
CCV		V170602C	1.96030		2.00		98.0	%	95-105	12/12/1998	0324
CCB			0.01375							12/12/1998	0329
CCV		V170602C	2.03090		2.00		101.5	%	95-105	12/12/1998	0423
CCB			0.00488							12/12/1998	0428
ISB		V170602B	0.91139		1.00		91.1	%	80-120	12/12/1998	0453
CCV		V170602C	2.06397		2.00		103.2	%	95-105	12/12/1998	0500
CCB			0.01281							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Potassium (K)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00270		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.45840		20.0					12/12/1998	0204
ICV		V170602C	20.05638		20.00		100.3	%	95-105	12/12/1998	0221
ICB			0.26892							12/12/1998	0225
PB			0.42073							12/12/1998	0240
LCS		ICPSPK98	99.44480		100.000000		99.4	%	80-120	12/12/1998	0245
MD	813435-1		21.43135			21.66991	1.1	R	20	12/12/1998	0255
MS	813435-1	ICPSPK98	121.21015		100.000000	21.66991	99.5	%	75-125	12/12/1998	0300
CCV		V170602C	19.36239		20.00		96.8	%	95-105	12/12/1998	0324

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32430 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Potassium (K)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB			0.11277							12/12/1998	0329
CCV		V170602C	19.90457		20.00		99.5	%	95-105	12/12/1998	0423
CCB			0.04337							12/12/1998	0428
CCV		V170602C	20.16482		20.00		100.8	%	95-105	12/12/1998	0500
CCB			0.23855							12/12/1998	0505

Test Method.....: EPA 6010 | Batch.....: 32707 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Potassium (K)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00329		0.00					12/17/1998	1813
CAL		ICPCALSTD	0.70210		20.0					12/17/1998	1818
ICV		V170602C	20.05437		20.00		100.3	%	95-105	12/17/1998	1835
ICB			0.20320							12/17/1998	1840
MD	813788-1		1.18202			1.18202	0.00000	A	0.50000	12/17/1998	1859
MS	813788-1	V01019809	3.39725		2.000000	1.18202	110.8	%	75-125	12/17/1998	1904
CCV		V170602C	20.19747		20.00		101.0	%	95-105	12/17/1998	1938
CCB			0.04865							12/17/1998	1943
CCV		V170602C	21.29364		20.00		106.5	%	95-105	12/17/1998	2040
CCB			0.01144							12/17/1998	2045
CCV		V170602C	20.60961		20.00		103.0	%	95-105	12/17/1998	2133
CCB			0.05151							12/17/1998	2138
MD	813502-12		1.76016			1.81167	0.05151	A	0.50000	12/17/1998	2153
MS	813502-12	V01019809	3.80366		2.000000	1.81167	99.6	%	75-125	12/17/1998	2157
CCV		V170602C	20.61820		20.00		103.1	%	95-105	12/17/1998	2212
CCB			0.03148							12/17/1998	2216

Test Method.....: EPA 6010 | Batch.....: 32577 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Selenium (Se)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00068		0.00					12/14/1998	2338
CAL		ICPCALSTD	2.43905		4.00					12/14/1998	2357
ICV		V170601B	2.02907		2.00		101.5	%	95-105	12/15/1998	0008
ICB			-0.00259							12/15/1998	0017
MD	813435-1		-0.00088			0.00258	0.00346	A	0.01000	12/15/1998	0045
MS	813435-1	V01019809	8.82559		10.000000	0.00258	88.2	%	75-125	12/15/1998	0053
CCV		V170601B	2.03008		2.00		101.5	%	95-105	12/15/1998	0152
CCB			0.00524							12/15/1998	0200
CCV		V170601B	2.07005		2.00		103.5	%	95-105	12/15/1998	0332
CCB			0.01097							12/15/1998	0340

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32643 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Selenium (Se)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00101		0.00					12/16/1998	1714
CAL		ICPCALSTD	1.62010		4.00					12/16/1998	1731
ICV		V170602C	2.00073		2.00		100.0	%	95-105	12/16/1998	1740
ICB			0.00179							12/16/1998	1747
PB			0.00356							12/16/1998	1822
LCS		ICPSPK98	1.79179		2.000000		89.6	%	80-120	12/16/1998	1832
MD	813435-2		-0.00389			-0.00170	0.00219	A	0.01000	12/16/1998	1858
MS	813435-2	ICPSPK98	1.71136		2.000000	-0.00170	85.7	%	75-125	12/16/1998	1907
CCV		V170602C	2.06172		2.00		103.1	%	95-105	12/16/1998	1942
CCB			-0.00582							12/16/1998	1951
CCV		V170602C	2.03127		2.00		101.6	%	95-105	12/16/1998	2132
CCB			0.00707							12/16/1998	2141
CCV		V170602C	2.07655		2.00		103.8	%	95-105	12/16/1998	2238
CCB			-0.00087							12/16/1998	2247

Test Method.....: EPA 6010 | Batch.....: 32643 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Silver (Ag)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00109		0.00					12/16/1998	1714
CAL		ICPCALSTD	1.40170		1.0					12/16/1998	1722
ICV		V170602C	1.84181		2.00		92.1	%	95-105	12/16/1998	1740
ICB			0.00072							12/16/1998	1747
ISB		V170602B	0.97632		1.00		97.6	%	80-120	12/16/1998	1755
PB			0.00642							12/16/1998	1822
LCS		ICPSPK98	0.77474		0.800000		96.8	%	80-120	12/16/1998	1832
MD	813435-2		0.01142			0.00844	0.00298	A	0.01000	12/16/1998	1858
MS	813435-2	ICPSPK98	0.72271		0.800000	0.00844	89.3	%	75-125	12/16/1998	1907
CCV		V170602C	1.85231		2.00		92.6	%	95-105	12/16/1998	1942
CCB			0.00457							12/16/1998	1951
ISB		V170602B	0.96850		1.00		96.8	%	80-120	12/16/1998	2119
CCV		V170602C	1.85937		2.00		93.0	%	95-105	12/16/1998	2132
CCB			0.00042							12/16/1998	2141
ISB		V170602B	0.97470		1.00		97.5	%	80-120	12/16/1998	2225
CCV		V170602C	1.90608		2.00		95.3	%	95-105	12/16/1998	2238
CCB			-0.00249							12/16/1998	2247

Test Method.....: EPA 6010 | Batch.....: 32644 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Silver (Ag)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00710		0.00					12/16/1998	2306
CAL		ICPCALSTD	1.36660		1.0					12/16/1998	2314
ICV		V170602C	1.95363		2.00		97.7	%	95-105	12/16/1998	2338
ICB			0.00049							12/16/1998	2347
ISB		V170602B	1.00667		1.00		100.7	%	80-120	12/16/1998	2356
MD	813788-1		-0.00138			-0.00323	0.00185	A	0.05000	12/17/1998	0013

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32644 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Silver (Ag)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MS	813788-1	V01019809	0.38364		0.400000	-0.00323	96.7	%	75-125	12/17/1998	0021
CCV		V170602C	1.88660		2.00		94.3	%	95-105	12/17/1998	0122
CCB			-0.00309							12/17/1998	0130
ISB		V170602B	1.00338		1.00		100.3	%	80-120	12/17/1998	0305
CCV		V170602C	1.97616		2.00		98.8	%	95-105	12/17/1998	0318
CCB			-0.00059							12/17/1998	0326
ISB		V170602B	0.96541		1.00		96.5	%	80-120	12/17/1998	0453
CCV		V170602C	1.94839		2.00		97.4	%	95-105	12/17/1998	0505
CCB			0.00233							12/17/1998	0514

Test Method.....: EPA 6010 | Batch.....: 32707 | Analyst...: pal
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Sodium (Na)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.04089		0.00					12/17/1998	1813
CAL		ICPCALSTD	0.75740		10.0					12/17/1998	1818
ICV		V170602C	2.02930		2.00		101.5	%	95-105	12/17/1998	1835
ICB			0.09769							12/17/1998	1840
MD	813788-1		24.37543			24.57083	0.8	R	20	12/17/1998	1859
MS	813788-1	V01019809	25.19330		2.000000	24.57083	31.1	%	75-125	12/17/1998	1904
CCV		V170602C	2.03349		2.00		101.7	%	95-105	12/17/1998	1938
CCB			0.10327							12/17/1998	1943
CCV		V170602C	2.16050		2.00		108.0	%	95-105	12/17/1998	2040
CCB			-0.00279							12/17/1998	2045
CCV		V170602C	2.06559		2.00		103.3	%	95-105	12/17/1998	2133
CCB			0.02372							12/17/1998	2138
MD	813502-12		25.73621			26.64898	3.5	R	20	12/17/1998	2153
MS	813502-12	V01019809	25.68318		2.000000	26.64898	-48.3	%	75-125	12/17/1998	2157
CCV		V170602C	2.05582		2.00		102.8	%	95-105	12/17/1998	2212
CCB			0.03489							12/17/1998	2216

Test Method.....: EPA 6010 | Batch.....: 32825 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Sodium (Na)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.04739		0.00					12/21/1998	1238
CAL		ICPCALSTD	0.64209		10.0					12/21/1998	1242
ICV		V170602C	2.15570		2.00		107.8	%	95-105	12/21/1998	1257
ICB			0.01008							12/21/1998	1301
PB			0.22700							12/21/1998	1315
LCS		ICPSPK98	199.56112		200.000000		99.8	%	80-120	12/21/1998	1320
MD	813435-2		55.32537			55.75584	0.8	R	20	12/21/1998	1333
MS	813435-2	ICPSPK98	261.30316		200.000000	55.75584	102.8	%	75-125	12/21/1998	1337
CCV		V170602C	2.07499		2.00		103.7	%	95-105	12/21/1998	1430
CCB			-0.06726							12/21/1998	1435
CCV		V170602C	2.08844		2.00		104.4	%	95-105	12/21/1998	1531
CCB			-0.06557							12/21/1998	1535

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010 | Batch.....: 32825 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Sodium (Na)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCV		V170602C	2.06995		2.00		103.5	%	95-105	12/21/1998	1556
CCB			-0.05717							12/21/1998	1600

Test Method.....: EPA 6010 | Batch.....: 32951 | Analyst...: chh
Method Description.: Metals Analysis (ICAP) | Units.....: mg/L
Parameter.....: Sodium (Na)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.24630		0.00					12/22/1998	2137
CAL		ICPCALSTD	0.57739		10.0					12/22/1998	2142
ICV		V170602C	2.02355		2.00		101.2	%	95-105	12/22/1998	2159
ICB			0.23557							12/22/1998	2204
PB			0.21141							12/22/1998	2218
LCS		ICPSPK99	88.69224		100.000000		88.7	%	80-120	12/22/1998	2223
MD	813659-6		0.45454			0.50890	0.05436	A	0.50000	12/22/1998	2233
MS	813659-6	ICPSPK99	89.79312		100.000000	0.50890	89.3	%	75-125	12/22/1998	2238
CCV		V170602C	2.10208		2.00		105.1	%	95-105	12/22/1998	2307
CCB			0.18423							12/22/1998	2312
CCV		V170602C	2.15946		2.00		108.0	%	95-105	12/22/1998	2359
CCB			0.28692							12/23/1998	0004

Test Method.....: EPA 7841 | Batch.....: 32888 | Analyst...: chh
Method Description.: Thallium, Total | Units.....: mg/L
Parameter.....: Thallium (Tl)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		FURNBLK	0.000		0					12/17/1998	1641
CAL		FURNCAL	0.023		0.010000					12/17/1998	1646
CAL		FURNCAL	0.059		0.025000					12/17/1998	1651
CAL		FURNCAL	0.111		0.050000					12/17/1998	1656
CAL		FURNCAL	0.208		0.100					12/17/1998	1701
ICV		V129741E	0.0386		0.040		96.5	%	90-110	12/17/1998	1707
ICB			0.0004							12/17/1998	1712
CCV		V129741E	0.0392		0.040		98.0	%	90-110	12/17/1998	1722
CCB			-0.0003							12/17/1998	1727
MD	813435-1		-0.0005			0.0011	0.0016	A	0.0100	12/17/1998	1732
MS	813435-5	V170602C	0.0177		0.020000	-0.0004	90.5	%	75-125	12/17/1998	1803
CCV		V129741E	0.0389		0.040		97.2	%	90-110	12/17/1998	1823
CCB			-0.00016							12/17/1998	1828
CCV		V129741E	0.0384		0.040		96.0	%	90-110	12/17/1998	1924
CCB			-0.0003							12/17/1998	1929
MD	813788-7		-0.0003			0.000	0.0003	A	0.0100	12/17/1998	2015
CCV		V129741E	0.0393		0.040		98.2	%	90-110	12/17/1998	2025
CCB			-0.0005							12/17/1998	2031
MS	813788-5	V170602C	0.0167		0.020000	0.0001	83.0	%	75-125	12/17/1998	2041
CCV		V129741E	0.0365		0.040		91.2	%	90-110	12/17/1998	2046
CCB			-0.0011							12/17/1998	2051

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 7841
Method Description.: Thallium, Total
Parameter.....: Thallium (Tl)
Batch.....: 32890
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		FURNBLK	0.000		0					12/17/1998	1233
CAL		FURNCAL	0.024		0.010000					12/17/1998	1238
CAL		FURNCAL	0.060		0.025000					12/17/1998	1243
CAL		FURNCAL	0.110		0.050000					12/17/1998	1248
CAL		FURNCAL	0.204		0.100					12/17/1998	1254
ICV		V129741E	0.0432		0.040		108.0	%	90-110	12/17/1998	1259
ICB			-0.0007							12/17/1998	1304
PB			-0.0007							12/17/1998	1309
CCV		V129741E	0.0402		0.040		100.5	%	90-110	12/17/1998	1314
CCB			-0.0006							12/17/1998	1319
LCS		FSPK	0.2019		0.200000		101.0	%	80-120	12/17/1998	1324
CCV		V129741E	0.0417		0.040		104.2	%	90-110	12/17/1998	1416
CCB			-0.0008							12/17/1998	1421
MD	813604-23		-0.0009			0.0014	0.0023	A	0.0100	12/17/1998	1512
CCV		V129741E	0.0403		0.040		100.8	%	90-110	12/17/1998	1517
CCB			-0.0001							12/17/1998	1523
MS	813604-23	FSPK	0.1548		0.200000	0.0014	76.7	%	75-125	12/17/1998	1528
CCV		V129741E	0.0415		0.040		103.8	%	90-110	12/17/1998	1533
CCB			-0.0006							12/17/1998	1538

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Vanadium (V)
Batch.....: 32430
Units.....: mg/L
Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	-0.00089		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.86300		1.00					12/12/1998	0212
ICV		V170602C	2.02228		2.00		101.1	%	95-105	12/12/1998	0221
ICB			0.00183							12/12/1998	0225
ISB		V170602B	0.47232		0.50		94.5	%	80-120	12/12/1998	0230
PB			0.00263							12/12/1998	0240
LCS		ICPSPK98	0.98039		1.000000		98.0	%	80-120	12/12/1998	0245
MD	813435-1		-0.00059			-0.00056	0.00003	A	0.02000	12/12/1998	0255
MS	813435-1	ICPSPK98	0.97193		1.000000	-0.00056	97.2	%	75-125	12/12/1998	0300
CCV		V170602C	1.95902		2.00		98.0	%	95-105	12/12/1998	0324
CCB			0.00149							12/12/1998	0329
CCV		V170602C	2.00933		2.00		100.5	%	95-105	12/12/1998	0423
CCB			0.00082							12/12/1998	0428
ISB		V170602B	0.48057		0.50		96.1	%	80-120	12/12/1998	0453
CCV		V170602C	2.04954		2.00		102.5	%	95-105	12/12/1998	0500
CCB			0.00000							12/12/1998	0505

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Vanadium (V)
Batch.....: 32577
Units.....: mg/L
Analyst...: chh

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00029		0.00					12/14/1998	2338
CAL		ICPCALSTD	0.02030		1.00					12/14/1998	2353
ICV		V170601B	1.96999		2.00		98.5	%	95-105	12/15/1998	0008
ICB			0.00000							12/15/1998	0017
ISB		V170601D	0.45999		0.50		92.0	%	80-120	12/15/1998	0025
MD	813435-1		-0.01499			-0.00999	0.00500	A	0.01000	12/15/1998	0045
MS	813435-1	V01019809	4.09499		5.000000	-0.00999	82.1	%	75-125	12/15/1998	0053
CCV		V170601B	1.93499		2.00		96.7	%	95-105	12/15/1998	0152
CCB			-0.01499							12/15/1998	0200
CCV		V170601B	1.85500		2.00		92.8	%	95-105	12/15/1998	0332
CCB			-0.01999							12/15/1998	0340

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Zinc (Zn)
Batch.....: 32429
Units.....: mg/L
Analyst...: amw

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00059		0.00					12/11/1998	2303
CAL		ICPCALSTD	0.67309		3.00					12/11/1998	2320
ICV		V170601B	1.96595		2.00		98.3	%	95-105	12/11/1998	2324
ICB			0.00837							12/11/1998	2329
ISB		V170601D	0.92981		1.00		93.0	%	80-120	12/11/1998	2334
MD	813435-1		0.01636			0.01899	0.00263	A	0.01000	12/11/1998	2349
MS	813435-1	V01019809	0.22474		0.200000	0.01899	102.9	%	75-125	12/11/1998	2354
CCV		V170601B	1.91428		2.00		95.7	%	95-105	12/12/1998	0028
CCB			0.00970							12/12/1998	0033
ISB		V170601D	0.89002		1.00		89.0	%	80-120	12/12/1998	0127
CCV		V170601B	1.89492		2.00		94.7	%	95-105	12/12/1998	0134
CCB			0.00569							12/12/1998	0139

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Zinc (Zn)
Batch.....: 32430
Units.....: mg/L
Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CAL		ICPCALBLK	0.00060		0.00					12/12/1998	0159
CAL		ICPCALSTD	0.64859		3.00					12/12/1998	0216
ICV		V170602C	1.99640		2.00		99.8	%	95-105	12/12/1998	0221
ICB			0.00684							12/12/1998	0225
ISB		V170602B	0.92755		1.00		92.8	%	80-120	12/12/1998	0230
PB			0.01055							12/12/1998	0240
LCS		ICPSPK98	0.91233		1.000000		91.2	%	80-120	12/12/1998	0245
MD	813435-1		0.02649			0.03482	0.00833	A	0.01000	12/12/1998	0255
MS	813435-1	ICPSPK98	0.94824		1.000000	0.03482	91.3	%	75-125	12/12/1998	0300
CCV		V170602C	1.95123		2.00		97.6	%	95-105	12/12/1998	0324
CCB			0.00780							12/12/1998	0329
CCV		V170602C	2.00596		2.00		100.3	%	95-105	12/12/1998	0423
CCB			0.01014							12/12/1998	0428
ISB		V170602B	0.95466		1.00		95.5	%	80-120	12/12/1998	0453

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Test Method.....: EPA 6010
Method Description.: Metals Analysis (ICAP)
Parameter.....: Zinc (Zn)

Batch.....: 32430
Units.....: mg/L

Analyst...: pal

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCV		V170602C	2.05564		2.00		102.8	%	95-105	12/12/1998	0500
CCB			0.00131							12/12/1998	0505

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time

Test Method.....: EPA 8260 | Batch.....: 32449 | Analyst...: weh
Method Description.: Volatile Organic Compounds | Units.....: ug/L

MB	Method Blank				12/12/1998 0957

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
o-Xylene	ND						
1,2-Dichlorobenzene	ND						
Trichlorofluoromethane	ND						
1,2,4-Trimethylbenzene	ND						
2-Chloroethylvinyl ether	ND						
1,3-Dichlorobenzene	ND						
Isopropylbenzene	ND						
1,4-Dichlorobenzene	ND						
Dibromomethane	ND						
Bromobenzene	ND						
m&p-Xylenes	ND						
Dichlorodifluoromethane	ND						
1,1,1,2-Tetrachloroethane	ND						
Acrolein	ND						
Acrylonitrile	ND						
1,2,3-Trichloropropane	ND						
tert-Butyl methyl ether (MTBE)	ND						
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/12/1998	0957

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Vinyl chloride	ND						
Xylenes (total)	ND						

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	CLPVOAMS2			12/12/1998	1027

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	45.78		50		91.6	%	67-127
Chlorobenzene	45.18		50		90.4	%	68-128
1,1-Dichloroethene	39.92		50		79.8	%	66-126
Toluene	45.32		50		90.6	%	72-132
Trichloroethene	43.52		50		87.0	%	74-134

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	CLPVOAMS2	813554-1		12/13/1998	0536

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	45.38		50	ND	90.8	%	74-127
Chlorobenzene	44.90		50	ND	89.8	%	75-130
1,1-Dichloroethene	40.05		50	ND	80.1	%	59-172
Toluene	43.98		50	ND	88.0	%	76-125
Trichloroethene	43.28		50	ND	86.6	%	71-140

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	CLPVOAMS2	813554-1		12/13/1998	0606

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	44.81	45.38	50	ND	89.6	%	74-127
					1.3	R	30
Chlorobenzene	43.59	44.90	50	ND	87.2	%	75-130
					3.0	R	30
1,1-Dichloroethene	39.13	40.05	50	ND	78.3	%	59-172
					2.3	R	30
Toluene	50.46	43.98	50	ND	100.9	%	76-125
					13.7	R	30
Trichloroethene	42.67	43.28	50	ND	85.3	%	71-140
					1.4	R	30

Test Method.....: EPA 8260 | Batch.....: 32505 | Analyst...: weh
Method Description.: Volatile Organic Compounds | Units.....: ug/L

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/13/1998	0809

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						
Bromoform	ND						

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CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 02/01/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/13/1998	0809

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						
Vinyl chloride	ND						
Xylenes (total)	ND						

LCS	Laboratory Control Sample	CLPVOAMS2			12/13/1998	0839

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	45.90		50		91.80	%	67-127
Chlorobenzene	45.26		50		90.52	%	68-128
1,1-Dichloroethene	38.94		50		77.88	%	66-126
Toluene	45.70		50		91.40	%	72-132
Trichloroethene	43.81		50		87.62	%	74-134

MS	Matrix Spike	CLPVOAMS2	813554-28	2	12/13/1998	1345

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	47.09		50	ND	94.2	%	76-127
Chlorobenzene	48.12		50	1.96	92.3	%	75-130
1,1-Dichloroethene	41.28		50	ND	82.6	%	61-145
Toluene	47.30		50	ND	94.6	%	76-125
Trichloroethene	97.11		50	50.45	93.3	%	71-120

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	CLPVOAMS2	813554-28	2	12/13/1998	1416

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	44.33	47.09	50	ND	88.7	%	76-127
					6.0	R	20
Chlorobenzene	47.03	48.12	50	1.96	90.1	%	75-130
					2.3	R	20
1,1-Dichloroethene	38.15	41.28	50	ND	76.3	%	61-145
					7.9	R	20
Toluene	44.05	47.30	50	ND	88.1	%	76-125
					7.1	R	20
Trichloroethene	94.83	97.11	50	50.45	88.8	%	71-120
					2.4	R	20

Test Method.....: EPA 8260 | Batch.....: 32521 | Analyst...: weh
Method Description.: Volatile Organic Compounds | Units.....: ug/L

MB	Method Blank				12/14/1998	1218

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
1,4-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,2-Dichlorobenzene	ND						
Dibromomethane	ND						
Trichlorofluoromethane	ND						
2-Chloroethylvinyl ether	ND						
Dichlorodifluoromethane	ND						
m&p-Xylenes	ND						
Isopropylbenzene	ND						
Acrolein	ND						
Acrylonitrile	ND						
o-Xylene	ND						
1,2,4-Trimethylbenzene	ND						
tert-Butyl methyl ether (MTBE)	ND						
1,1,1,2-Tetrachloroethane	ND						
1,2,3-Trichloropropane	ND						
Bromobenzene	ND						
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/14/1998	1218

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						
Vinyl chloride	ND						
Xylenes (total)	ND						

Test Method.....: EPA 8260 | Batch.....: 32755 | Analyst...: weh
Method Description.: Volatile Organic Compounds | Units.....: ug/L

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/18/1998	0118

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
1,2,4-Trimethylbenzene	ND						
Isopropylbenzene	ND						
m&p-Xylenes	ND						
Dichlorodifluoromethane	ND						
1,2-Dichlorobenzene	ND						
Dibromomethane	ND						
Bromobenzene	ND						
o-Xylene	ND						
1,2,3-Trichloropropane	ND						
1,1,1,2-Tetrachloroethane	ND						
tert-Butyl methyl ether (MTBE)	ND						
Acrylonitrile	ND						
Acrolein	ND						
2-Chloroethylvinyl ether	ND						
Trichlorofluoromethane	ND						
1,4-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: ECOLOGY & ENVIRONMENT ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time
MB	Method Blank				12/18/1998 0118

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						
Vinyl chloride	ND						
Xylenes (total)	ND						

LCS	Laboratory Control Sample	CLPVOAMS2			12/18/1998 1244

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	37.58		50		75.2	%	67-127
Chlorobenzene	42.01		50		84.0	%	68-128
1,1-Dichloroethene	37.73		50		75.5	%	66-126
Toluene	40.36		50		80.7	%	72-132
Trichloroethene	41.48		50		83.0	%	74-134

Test Method.....: EPA 8260 Batch.....: 32756 Analyst...: weh
Method Description.: Volatile Organic Compounds Units.....: ug/L

MB	Method Blank				12/19/1998 1726

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
o-Xylene	ND						
1,2-Dichlorobenzene	ND						
1,2,4-Trimethylbenzene	ND						
Isopropylbenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,2,3-Trichloropropane	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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Job Number.: 813554 Report Date.: 01/28/99

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QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/19/1998	1726

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
m&p-Xylenes	ND						
Dichlorodifluoromethane	ND						
Trichlorofluoromethane	ND						
2-Chloroethylvinyl ether	ND						
Acrolein	ND						
Acrylonitrile	ND						
tert-Butyl methyl ether (MTBE)	ND						
Dibromomethane	ND						
Bromobenzene	ND						
1,1,1,2-Tetrachloroethane	ND						
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						
Vinyl chloride	ND						
Xylenes (total)	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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Job Number.: 813554 Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: ECOLOGY & ENVIRONMENT ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time
LCS	Laboratory Control Sample	CLPVOAMS2			12/19/1998 1801

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	37.83		50		75.7	%	67-127
Chlorobenzene	42.07		50		84.1	%	68-128
1,1-Dichloroethene	40.40		50		80.8	%	66-126
Toluene	39.73		50		79.5	%	72-132
Trichloroethene	42.62		50		85.2	%	74-134

Test Method.....: EPA 8260 Batch.....: 32856 Analyst...: weh
Method Description.: Volatile Organic Compounds Units.....: ug/L

MB	Method Blank				12/21/1998 0409

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
1,2,4-Trimethylbenzene	ND						
Isopropylbenzene	ND						
Acrolein	ND						
Acrylonitrile	ND						
tert-Butyl methyl ether (MTBE)	ND						
1,2,3-Trichloropropane	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,1,1,2-Tetrachloroethane	ND						
1,4-Dichlorobenzene	ND						
Dichlorodifluoromethane	ND						
2-Chloroethylvinyl ether	ND						
Trichlorofluoromethane	ND						
Bromobenzene	ND						
Dibromomethane	ND						
m&p-Xylenes	ND						
o-Xylene	ND						
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time
MB	Method Blank				12/21/1998 0409

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						
Vinyl chloride	ND						
Xylenes (total)	ND						

LCS	Laboratory Control Sample	CLPVOAMS2			12/21/1998 0443

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	44.94		50		89.9	%	67-127
Chlorobenzene	42.23		50		84.5	%	68-128
1,1-Dichloroethene	40.97		50		81.9	%	66-126
Toluene	42.39		50		84.8	%	72-132
Trichloroethene	40.66		50		81.3	%	74-134

Test Method.....: EPA 8260 | Batch.....: 33047 | Analyst...: weh
Method Description.: Volatile Organic Compounds | Units.....: ug/L

MB	Method Blank				12/27/1998 1448

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
o-Xylene	ND						
1,2,4-Trimethylbenzene	ND						
Isopropylbenzene	ND						
Dichlorodifluoromethane	ND						
Dibromomethane	ND						
1,2-Dichlorobenzene	ND						
Bromobenzene	ND						
m&p-Xylenes	ND						
1,2,3-Trichloropropane	ND						
1,3-Dichlorobenzene	ND						
1,1,1,2-Tetrachloroethane	ND						
tert-Butyl methyl ether (MTBE)	ND						
Acrylonitrile	ND						
Acrolein	ND						
2-Chloroethylvinyl ether	ND						
Trichlorofluoromethane	ND						
1,4-Dichlorobenzene	ND						
Acetone	ND						
Benzene	ND						
Bromodichloromethane	ND						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank				12/27/1998	1448

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Bromoform	ND						
Bromomethane	ND						
2-Butanone	ND						
Carbon disulfide	ND						
Carbon tetrachloride	ND						
Dibromochloromethane	ND						
Chlorobenzene	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane	ND						
1,1-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Ethylbenzene	ND						
2-Hexanone	ND						
Methylene chloride	ND						
4-Methyl-2-pentanone (MIBK)	ND						
Styrene	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
Toluene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Vinyl acetate	ND						
Vinyl chloride	ND						
Xylenes (total)	ND						

LCS	Laboratory Control Sample	CLPVOAMS2			12/27/1998	1519

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	40.01		50		80.0	%	67-127
Chlorobenzene	44.66		50		89.3	%	68-128
1,1-Dichloroethene	37.92		50		75.8	%	66-126
Toluene	43.00		50		86.0	%	72-132
Trichloroethene	45.60		50		91.2	%	74-134

MS	Matrix Spike	CLPVOAMS2	814028-2		12/27/1998	1652

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	38.16		50	ND	76.3	%	74-127
Chlorobenzene	43.33		50	ND	86.7	%	75-130
1,1-Dichloroethene	36.87		50	ND	73.7	%	59-172
Toluene	42.58		50	ND	85.2	%	76-125
Trichloroethene	44.35		50	ND	88.7	%	71-140

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 813554 Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: ECOLOGY & ENVIRONMENT ATTN: Mr. Dave Hendren

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time
MSD	Matrix Spike Duplicate	CLPVOAMS2	814028-2		12/27/1998 1722

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits
Benzene	38.91	38.16	50	ND	77.8	% 74-127
					1.9	R 30
Chlorobenzene	43.56	43.33	50	ND	87.1	% 75-130
					0.5	R 30
1,1-Dichloroethene	37.02	36.87	50	ND	74.0	% 59-172
					0.4	R 30
Toluene	42.28	42.58	50	ND	84.6	% 76-125
					0.7	R 30
Trichloroethene	44.11	44.35	50	ND	88.2	% 71-140
					0.5	R 30

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Method.....: Volatile Organic Compounds | Batch.....: 32449
Method Code.....: 826TCL | Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.37	50.00	98.7	76-120		12/12/1998	0957
		LCS		49.83	50.00	99.7	76-120		12/12/1998	1027
813435-1				49.32	50.00	98.6	76-120		12/12/1998	1058
813435-2				49.65	50.00	99.3	76-120		12/12/1998	1128
813435-3				49.54	50.00	99.1	76-120		12/12/1998	1159
813435-4				50.15	50.00	100.3	76-120		12/13/1998	0030
813435-5				49.83	50.00	99.7	76-120		12/13/1998	0100
813438-11				49.42	50.00	98.8	76-120		12/13/1998	0131
813438-12				49.51	50.00	99.0	76-120		12/13/1998	0202
813554-1				50.43	50.00	100.9	76-120		12/13/1998	0232
813554-2				50.05	50.00	100.1	76-120		12/13/1998	0303
813554-3				50.55	50.00	101.1	76-120		12/13/1998	0333
813554-23				50.45	50.00	100.9	76-120		12/13/1998	0404
813554-24				50.95	50.00	101.9	76-120		12/13/1998	0435
813554-25				50.28	50.00	100.6	76-120		12/13/1998	0505
813554-1		MS		50.68	50.00	101.4	76-120		12/13/1998	0536
813554-1		MSD		52.16	50.00	104.3	76-120		12/13/1998	0606

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		47.48	50.00	95.0	86-115		12/12/1998	0957
		LCS		47.22	50.00	94.4	86-115		12/12/1998	1027
813435-1				46.57	50.00	93.1	86-115		12/12/1998	1058
813435-2				46.42	50.00	92.8	86-115		12/12/1998	1128
813435-3				46.42	50.00	92.8	86-115		12/12/1998	1159
813435-4				46.21	50.00	92.4	86-115		12/13/1998	0030
813435-5				45.11	50.00	90.2	86-115		12/13/1998	0100
813438-11				50.05	50.00	100.1	86-115		12/13/1998	0131
813438-12				49.03	50.00	98.1	86-115		12/13/1998	0202
813554-1				46.71	50.00	93.4	86-115		12/13/1998	0232
813554-2				46.49	50.00	93.0	86-115		12/13/1998	0303
813554-3				46.56	50.00	93.1	86-115		12/13/1998	0333
813554-23				46.03	50.00	92.1	86-115		12/13/1998	0404
813554-24				46.88	50.00	93.8	86-115		12/13/1998	0435
813554-25				47.06	50.00	94.1	86-115		12/13/1998	0505
813554-1		MS		47.51	50.00	95.0	86-115		12/13/1998	0536
813554-1		MSD		44.68	50.00	89.4	86-115		12/13/1998	0606

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.57	50.00	99.1	88-110		12/12/1998	0957
		LCS		49.77	50.00	99.5	88-110		12/12/1998	1027
813435-1				49.75	50.00	99.5	88-110		12/12/1998	1058
813435-2				49.65	50.00	99.3	88-110		12/12/1998	1128
813435-3				49.81	50.00	99.6	88-110		12/12/1998	1159
813435-4				49.85	50.00	99.7	88-110		12/13/1998	0030
813435-5				50.23	50.00	100.5	88-110		12/13/1998	0100
813438-11				49.85	50.00	99.7	88-110		12/13/1998	0131
813438-12				49.50	50.00	99.0	88-110		12/13/1998	0202
813554-1				49.76	50.00	99.5	88-110		12/13/1998	0232
813554-2				49.96	50.00	99.9	88-110		12/13/1998	0303
813554-3				50.25	50.00	100.5	88-110		12/13/1998	0333
813554-23				49.93	50.00	99.9	88-110		12/13/1998	0404
813554-24				50.40	50.00	100.8	88-110		12/13/1998	0435
813554-25				50.36	50.00	100.7	88-110		12/13/1998	0505
813554-1		MS		50.46	50.00	100.9	88-110		12/13/1998	0536
813554-1		MSD		ND	50.00	0.0	88-110	X	12/13/1998	0606

Method.....: Volatile Organic Compounds | Batch.....: 32505
Method Code.....: 826TCL | Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		50.64	50.00	101.3	80-120		12/13/1998	0809
		LCS		50.32	50.00	100.6	80-120		12/13/1998	0839
813554-29				50.37	50.00	100.7	80-120		12/13/1998	0910
813554-30				50.50	50.00	101.0	80-120		12/13/1998	0940
813554-31				51.53	50.00	103.1	80-120		12/13/1998	1011
813554-32				51.29	50.00	102.6	80-120		12/13/1998	1042
813554-33				51.51	50.00	103.0	80-120		12/13/1998	1112
813554-34				51.10	50.00	102.2	80-120		12/13/1998	1143
813554-28				51.27	50.00	102.5	80-120		12/13/1998	1213
813554-26				50.10	50.00	100.2	80-120		12/13/1998	1244
813554-27				50.98	50.00	102.0	80-120		12/13/1998	1315
813554-28		MS	2	50.76	50.00	101.5	80-120		12/13/1998	1345
813554-28		MSD	2	51.31	50.00	102.6	80-120		12/13/1998	1416
813502-7				51.39	50.00	102.8	80-120		12/13/1998	1446
813502-8				51.51	50.00	103.0	80-120		12/13/1998	1517
813502-9				52.00	50.00	104.0	80-120		12/13/1998	1548
813502-10				51.43	50.00	102.9	80-120		12/13/1998	1624
813502-11				50.91	50.00	101.8	80-120		12/13/1998	1654
813502-12				51.02	50.00	102.0	80-120		12/13/1998	1725
813502-13				51.42	50.00	102.8	80-120		12/13/1998	1755
813502-14				51.85	50.00	103.7	80-120		12/13/1998	1826

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CORE LABORATORIES

SURROGATE RECOVERIES REPORT

Job Number.: 813554 Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: ECOLOGY & ENVIRONMENT ATTN: Mr. Dave Hendren

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		45.83	50.00	91.7	86-115		12/13/1998	0809
		LCS		45.22	50.00	90.4	86-115		12/13/1998	0839
813554-29				46.00	50.00	92.0	86-115		12/13/1998	0910
813554-30				45.24	50.00	90.5	86-115		12/13/1998	0940
813554-31				43.96	50.00	87.9	86-115		12/13/1998	1011
813554-32				44.02	50.00	88.0	86-115		12/13/1998	1042
813554-33				46.60	50.00	93.2	86-115		12/13/1998	1112
813554-34				43.75	50.00	87.5	86-115		12/13/1998	1143
813554-28				45.72	50.00	91.4	86-115		12/13/1998	1213
813554-26				43.56	50.00	87.1	86-115		12/13/1998	1244
813554-27				45.29	50.00	90.6	86-115		12/13/1998	1315
813554-28		MS	2	43.98	50.00	88.0	86-115		12/13/1998	1345
813554-28		MSD	2	46.78	50.00	93.6	86-115		12/13/1998	1416
813502-7				45.75	50.00	91.5	86-115		12/13/1998	1446
813502-8				43.88	50.00	87.8	86-115		12/13/1998	1517
813502-9				44.04	50.00	88.1	86-115		12/13/1998	1548
813502-10				44.10	50.00	88.2	86-115		12/13/1998	1624
813502-11				45.67	50.00	91.3	86-115		12/13/1998	1654
813502-12				44.82	50.00	89.6	86-115		12/13/1998	1725
813502-13				43.45	50.00	86.9	86-115		12/13/1998	1755
813502-14				43.86	50.00	87.7	86-115		12/13/1998	1826

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.98	50.00	100.0	88-110		12/13/1998	0809
		LCS		50.08	50.00	100.2	88-110		12/13/1998	0839
813554-29				50.31	50.00	100.6	88-110		12/13/1998	0910
813554-30				50.62	50.00	101.2	88-110		12/13/1998	0940
813554-31				50.27	50.00	100.5	88-110		12/13/1998	1011
813554-32				50.70	50.00	101.4	88-110		12/13/1998	1042
813554-33				50.73	50.00	101.5	88-110		12/13/1998	1112
813554-34				50.28	50.00	100.6	88-110		12/13/1998	1143
813554-28				50.89	50.00	101.8	88-110		12/13/1998	1213
813554-26				50.46	50.00	100.9	88-110		12/13/1998	1244
813554-27				50.72	50.00	101.4	88-110		12/13/1998	1315
813554-28		MS	2	50.98	50.00	102.0	88-110		12/13/1998	1345
813554-28		MSD	2	50.54	50.00	101.1	88-110		12/13/1998	1416
813502-7				50.17	50.00	100.3	88-110		12/13/1998	1446
813502-8				50.10	50.00	100.2	88-110		12/13/1998	1517
813502-9				50.67	50.00	101.3	88-110		12/13/1998	1548
813502-10				50.46	50.00	100.9	88-110		12/13/1998	1624
813502-11				50.52	50.00	101.0	88-110		12/13/1998	1654
813502-12				50.41	50.00	100.8	88-110		12/13/1998	1725
813502-13				50.51	50.00	101.0	88-110		12/13/1998	1755
813502-14				50.63	50.00	101.3	88-110		12/13/1998	1826

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CORE LABORATORIES

SURROGATE RECOVERIES REPORT

Job Number.: 813554 Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. PROJECT: ECOLOGY & ENVIRONMENT ATTN: Mr. Dave Hendren

Method.....: Volatile Organic Compounds Batch.....: 32521
Method Code.....: 826TCL Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813556-9				49.67	50.00	99.3	76-120		12/14/1998	0119
813555-7				50.49	50.00	101.0	76-120		12/14/1998	0150
813616-2				50.31	50.00	100.6	76-120		12/14/1998	0220
812889-17	Dry Weight		20	52.84	50.00	105.7	80-120		12/14/1998	0251
813227-1	Dry Weight		10	50.14	50.00	100.3	80-120		12/14/1998	0353
813227-2	Dry Weight		10	47.28	50.00	94.6	80-120		12/14/1998	0423
813227-3	Dry Weight		10	46.54	50.00	93.1	80-120		12/14/1998	0454
813379-1			200	48.36	50.00	96.7	76-120		12/14/1998	0524
813554-29			5	49.96	50.00	99.9	76-120		12/14/1998	0659
813169-2	Dry Weight		10	49.43	50.00	98.9	80-120		12/14/1998	0729
		MB		49.92	50.00	99.8	76-120		12/14/1998	1218
813171-6				51.27	50.00	102.5	76-120		12/14/1998	1248
813438-11			5	49.59	50.00		-		12/14/1998	1828

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813556-9				45.46	50.00	90.9	86-115		12/14/1998	0119
813555-7				48.37	50.00	96.7	86-115		12/14/1998	0150
813616-2				45.83	50.00	91.7	86-115		12/14/1998	0220
812889-17	Dry Weight		20	44.31	50.00	88.6	86-115		12/14/1998	0251
813227-1	Dry Weight		10	50.80	50.00	101.6	86-115		12/14/1998	0353
813227-2	Dry Weight		10	50.72	50.00	101.4	86-115		12/14/1998	0423
813227-3	Dry Weight		10	50.34	50.00	100.7	86-115		12/14/1998	0454
813379-1			200	49.33	50.00	98.7	86-115		12/14/1998	0524
813554-29			5	48.46	50.00	96.9	86-115		12/14/1998	0659
813169-2	Dry Weight		10	49.02	50.00	98.0	86-115		12/14/1998	0729
		MB		46.14	50.00	92.3	86-115		12/14/1998	1218
813171-6				47.89	50.00	95.8	86-115		12/14/1998	1248
813438-11			5	49.10	50.00		-		12/14/1998	1828

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813556-9				49.64	50.00	99.3	88-110		12/14/1998	0119
813555-7				50.68	50.00	101.4	88-110		12/14/1998	0150
813616-2				49.72	50.00	99.4	88-110		12/14/1998	0220
812889-17	Dry Weight		20	49.19	50.00	98.4	88-110		12/14/1998	0251

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813227-1	Dry Weight		10	47.49	50.00	95.0	88-110		12/14/1998	0353
813227-2	Dry Weight		10	47.94	50.00	95.9	88-110		12/14/1998	0423
813227-3	Dry Weight		10	48.17	50.00	96.3	88-110		12/14/1998	0454
813379-1			200	49.42	50.00	98.8	88-110		12/14/1998	0524
813554-29			5	49.47	50.00	98.9	88-110		12/14/1998	0659
813169-2	Dry Weight		10	47.65	50.00	95.3	88-110		12/14/1998	0729
		MB		49.61	50.00	99.2	88-110		12/14/1998	1218
813171-6				49.96	50.00	99.9	88-110		12/14/1998	1248
813438-11			5	49.08	50.00	98.2	88-110		12/14/1998	1828

Method.....: Volatile Organic Compounds | Batch.....: 32755
Method Code.....: 826TCL | Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		43.40	50.00	86.8	76-120		12/18/1998	0118
		LCS		42.95	50.00	85.9	76-120		12/18/1998	1244
813554-6	Dry Weight			44.64	50.00	89.3	80-120		12/18/1998	1426
813554-7	Dry Weight			42.68	50.00	85.4	80-120		12/18/1998	1500
813554-8	Dry Weight			42.37	50.00	84.7	80-120		12/18/1998	1534
813554-9	Dry Weight			43.02	50.00	86.0	80-120		12/18/1998	1608
813554-11	Dry Weight			43.45	50.00	86.9	80-120		12/18/1998	1616
813554-10	Dry Weight			43.03	50.00	86.1	80-120		12/18/1998	1642
813554-13	Dry Weight			42.57	50.00	85.1	80-120		12/18/1998	1824
813554-14	Dry Weight			45.05	50.00	90.1	80-120		12/18/1998	1858
813554-17	Dry Weight			42.97	50.00	85.9	80-120		12/18/1998	1933
813554-20	Dry Weight			44.96	50.00	89.9	80-120		12/18/1998	2115
813554-21	Dry Weight			44.05	50.00	88.1	80-120		12/18/1998	2150

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.28	50.00	98.6	86-115		12/18/1998	0118
		LCS		51.39	50.00	102.8	86-115		12/18/1998	1244
813554-6	Dry Weight			44.20	50.00	88.4	86-115		12/18/1998	1426
813554-7	Dry Weight			48.32	50.00	96.6	86-115		12/18/1998	1500
813554-8	Dry Weight			43.30	50.00	86.6	86-115		12/18/1998	1534
813554-9	Dry Weight			53.93	50.00	107.9	86-115		12/18/1998	1608
813554-11	Dry Weight			54.81	50.00	109.6	86-115		12/18/1998	1616
813554-10	Dry Weight			50.55	50.00	101.1	86-115		12/18/1998	1642

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813554-13	Dry Weight			52.80	50.00	105.6	86-115		12/18/1998	1824
813554-14	Dry Weight			54.43	50.00	108.9	86-115		12/18/1998	1858
813554-17	Dry Weight			51.22	50.00	102.4	86-115		12/18/1998	1933
813554-20	Dry Weight			46.27	50.00	92.5	86-115		12/18/1998	2115
813554-21	Dry Weight			51.35	50.00	102.7	86-115		12/18/1998	2150

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		50.01	50.00	100.0	88-110		12/18/1998	0118
		LCS		49.57	50.00	99.1	88-110		12/18/1998	1244
813554-6	Dry Weight			49.43	50.00	98.9	88-110		12/18/1998	1426
813554-7	Dry Weight			49.06	50.00	98.1	88-110		12/18/1998	1500
813554-8	Dry Weight			46.54	50.00	93.1	88-110		12/18/1998	1534
813554-9	Dry Weight			50.55	50.00	101.1	88-110		12/18/1998	1608
813554-11	Dry Weight			50.68	50.00	101.4	88-110		12/18/1998	1616
813554-10	Dry Weight			50.77	50.00	101.5	88-110		12/18/1998	1642
813554-13	Dry Weight			50.42	50.00	100.8	88-110		12/18/1998	1824
813554-14	Dry Weight			51.27	50.00	102.5	88-110		12/18/1998	1858
813554-17	Dry Weight			50.29	50.00	100.6	88-110		12/18/1998	1933
813554-20	Dry Weight			49.17	50.00	98.3	88-110		12/18/1998	2115
813554-21	Dry Weight			50.02	50.00	100.0	88-110		12/18/1998	2150

Method.....: Volatile Organic Compounds | Batch.....: 32756
Method Code.....: 826TCL | Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		43.57	50.00	87.1	76-120		12/19/1998	1726
		LCS		43.76	50.00	87.5	76-120		12/19/1998	1801
813438-3	Dry Weight		5	44.91	50.00	89.8	80-120		12/19/1998	1835
813438-5	Dry Weight		5	44.25	50.00	88.5	80-120		12/19/1998	1909
813438-9	Dry Weight		5	44.27	50.00	88.5	80-120		12/19/1998	2052
813438-10	Dry Weight		5	41.53	50.00	83.1	80-120		12/19/1998	2126
813502-2	Dry Weight		5	44.82	50.00	89.6	80-120		12/19/1998	2200
813502-3	Dry Weight		5	42.96	50.00	85.9	80-120		12/19/1998	2234
813502-4	Dry Weight		5	42.35	50.00	84.7	80-120		12/19/1998	2308
813554-18	Dry Weight		5	44.69	50.00	89.4	80-120		12/19/1998	2342
813554-19	Dry Weight		5	44.96	50.00	89.9	80-120		12/20/1998	0015
813604-7	Dry Weight		5	42.93	50.00	85.9	80-120		12/20/1998	0123

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.14	50.00	98.3	86-115		12/19/1998	1726
		LCS		51.06	50.00	102.1	86-115		12/19/1998	1801
813438-3	Dry Weight		5	49.26	50.00	98.5	74-115		12/19/1998	1835
813438-5	Dry Weight		5	42.89	50.00	85.8	74-115		12/19/1998	1909
813438-9	Dry Weight		5	45.49	50.00	91.0	74-115		12/19/1998	2052
813438-10	Dry Weight		5	48.07	50.00	96.1	74-115		12/19/1998	2126
813502-2	Dry Weight		5	49.58	50.00	99.2	74-115		12/19/1998	2200
813502-3	Dry Weight		5	49.57	50.00	99.1	74-115		12/19/1998	2234
813502-4	Dry Weight		5	49.01	50.00	98.0	74-115		12/19/1998	2308
813554-18	Dry Weight		5	49.46	50.00	98.9	74-115		12/19/1998	2342
813554-19	Dry Weight		5	50.01	50.00	100.0	74-115		12/20/1998	0015
813604-7	Dry Weight		5	49.53	50.00	99.1	74-115		12/20/1998	0123

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.00	50.00	98.0	88-110		12/19/1998	1726
		LCS		49.28	50.00	98.6	88-110		12/19/1998	1801
813438-3	Dry Weight		5	48.55	50.00	97.1	88-110		12/19/1998	1835
813438-5	Dry Weight		5	46.66	50.00	93.3	88-110		12/19/1998	1909
813438-9	Dry Weight		5	47.69	50.00	95.4	88-110		12/19/1998	2052
813438-10	Dry Weight		5	48.30	50.00	96.6	88-110		12/19/1998	2126
813502-2	Dry Weight		5	47.39	50.00	94.8	88-110		12/19/1998	2200
813502-3	Dry Weight		5	48.18	50.00	96.4	88-110		12/19/1998	2234
813502-4	Dry Weight		5	48.38	50.00	96.8	88-110		12/19/1998	2308
813554-18	Dry Weight		5	48.86	50.00	97.7	88-110		12/19/1998	2342
813554-19	Dry Weight		5	49.70	50.00	99.4	88-110		12/20/1998	0015
813604-7	Dry Weight		5	49.00	50.00	98.0	88-110		12/20/1998	0123

Method.....: Volatile Organic Compounds | Batch.....: 32856
Method Code.....: 826TCL | Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		47.13	50.00	94.3	76-120		12/21/1998	0409
		LCS		47.26	50.00	94.5	76-120		12/21/1998	0443
813554-4	Dry Weight		5	47.98	50.00	96.0	80-120		12/21/1998	0517
813554-22	Dry Weight		5	49.43	50.00	98.9	80-120		12/21/1998	0626
813604-2	Dry Weight			52.58	50.00	105.2	80-120		12/21/1998	0701
813438-6	Dry Weight		10	46.52	50.00	93.0	80-120		12/21/1998	0808

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813438-8	Dry Weight		10	44.98	50.00	90.0	80-120		12/21/1998	0842
813502-2	Dry Weight		10	47.50	50.00	95.0	80-120		12/21/1998	0916
813604-1	Dry Weight		5	49.04	50.00	98.1	80-120		12/21/1998	0951

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		48.39	50.00	96.8	86-115		12/21/1998	0409
		LCS		49.26	50.00	98.5	86-115		12/21/1998	0443
813554-4	Dry Weight		5	44.81	50.00	89.6	74-115		12/21/1998	0517
813554-22	Dry Weight		5	46.26	50.00	92.5	74-115		12/21/1998	0626
813604-2	Dry Weight			40.55	50.00	81.1	74-115		12/21/1998	0701
813438-6	Dry Weight		10	42.26	50.00	84.5	74-115		12/21/1998	0808
813438-8	Dry Weight		10	43.27	50.00	86.5	74-115		12/21/1998	0842
813502-2	Dry Weight		10	46.97	50.00	93.9	74-115		12/21/1998	0916
813604-1	Dry Weight		5	46.16	50.00	92.3	74-115		12/21/1998	0951

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		49.66	50.00	99.3	88-110		12/21/1998	0409
		LCS		49.05	50.00	98.1	88-110		12/21/1998	0443
813554-4	Dry Weight		5	51.20	50.00	102.4	88-110		12/21/1998	0517
813554-22	Dry Weight		5	50.01	50.00	100.0	88-110		12/21/1998	0626
813604-2	Dry Weight			48.73	50.00	97.5	88-110		12/21/1998	0701
813438-6	Dry Weight		10	49.46	50.00	98.9	88-110		12/21/1998	0808
813438-8	Dry Weight		10	49.09	50.00	98.2	88-110		12/21/1998	0842
813502-2	Dry Weight		10	48.92	50.00	97.8	88-110		12/21/1998	0916
813604-1	Dry Weight		5	47.79	50.00	95.6	88-110		12/21/1998	0951

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Method.....: Volatile Organic Compounds | Batch.....: 33047
Method Code.....: 826TCL | Analyst.....: weh

Surrogate	Units
1,2-Dichloroethane-d4 (surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		45.81	50.00	91.6	76-120		12/27/1998	1448
		LCS		46.75	50.00	93.5	76-120		12/27/1998	1519
814028-2				45.83	50.00	91.7	76-120		12/27/1998	1550
814028-1				46.11	50.00	92.2	76-120		12/27/1998	1621
814028-2		MS		45.58	50.00	91.2	76-120		12/27/1998	1652
814028-2		MSD		45.97	50.00	91.9	76-120		12/27/1998	1722
813438-1	Dry Weight		50	44.61	50.00	89.2	80-120		12/27/1998	1753
813438-5	Dry Weight		50	45.44	50.00	90.9	80-120		12/27/1998	1824
813554-12	Dry Weight		10	45.08	50.00	90.2	80-120		12/27/1998	1854
813554-5	Dry Weight		10	45.20	50.00	90.4	80-120		12/27/1998	1925
813897-1	Solid		10	41.71	50.00	83.4	80-120		12/27/1998	1956
813897-2	Solid		10	41.28	50.00	82.6	80-120		12/27/1998	2026
813897-3	Solid		10	41.36	50.00	82.7	80-120		12/27/1998	2057
813897-4	Solid		10	45.76	50.00	91.5	80-120		12/27/1998	2128
813897-5	Solid		10	43.17	50.00	86.3	80-120		12/27/1998	2158
813897-6	Solid		10	41.55	50.00	83.1	80-120		12/27/1998	2229
813897-7	Solid		10	42.58	50.00	85.2	80-120		12/27/1998	2259
813897-8	Solid		10	47.92	50.00	95.8	80-120		12/27/1998	2329
813897-9	Solid		10	43.52	50.00	87.0	80-120		12/28/1998	0000
813897-10	Solid		10	44.69	50.00	89.4	80-120		12/28/1998	0030
813897-11	Solid		10	42.23	50.00	84.5	80-120		12/28/1998	0101
813897-12	Solid		10	43.64	50.00	87.3	80-120		12/28/1998	0131

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		51.02	50.00	102.0	86-115		12/27/1998	1448
		LCS		49.32	50.00	98.6	86-115		12/27/1998	1519
814028-2				50.42	50.00	100.8	86-115		12/27/1998	1550
814028-1				50.74	50.00	101.5	86-115		12/27/1998	1621
814028-2		MS		49.56	50.00	99.1	86-115		12/27/1998	1652
814028-2		MSD		49.37	50.00	98.7	86-115		12/27/1998	1722
813438-1	Dry Weight		50	55.11	50.00	110.2	74-115		12/27/1998	1753
813438-5	Dry Weight		50	53.08	50.00	106.2	74-115		12/27/1998	1824
813554-12	Dry Weight		10	52.49	50.00	105.0	74-115		12/27/1998	1854
813554-5	Dry Weight		10	50.91	50.00	101.8	74-115		12/27/1998	1925
813897-1	Solid		10	54.46	50.00	108.9	74-121		12/27/1998	1956
813897-2	Solid		10	48.94	50.00	97.9	74-121		12/27/1998	2026
813897-3	Solid		10	56.02	50.00	112.0	74-121		12/27/1998	2057
813897-4	Solid		10	50.93	50.00	101.9	74-121		12/27/1998	2128
813897-5	Solid		10	54.02	50.00	108.0	74-121		12/27/1998	2158
813897-6	Solid		10	41.91	50.00	83.8	74-121		12/27/1998	2229
813897-7	Solid		10	54.51	50.00	109.0	74-121		12/27/1998	2259

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CORE LABORATORIES

S U R R O G A T E R E C O V E R I E S R E P O R T

Job Number.: 813554 | Report Date.: 01/28/99

CUSTOMER: Ecology & Environment Inc. | PROJECT: ECOLOGY & ENVIRONMENT | ATTN: Mr. Dave Hendren

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
813897-8	Solid		10	55.12	50.00	110.2	74-121		12/27/1998	2329
813897-9	Solid		10	52.83	50.00	105.7	74-121		12/28/1998	0000
813897-10	Solid		10	55.42	50.00	110.8	74-121		12/28/1998	0030
813897-11	Solid		10	44.18	50.00	88.4	74-121		12/28/1998	0101
813897-12	Solid		10	55.37	50.00	110.7	74-121		12/28/1998	0131

Surrogate	Units
Toluene-d8	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		MB		48.55	50.00	97.1	88-110		12/27/1998	1448
		LCS		49.95	50.00	99.9	88-110		12/27/1998	1519
814028-2				49.69	50.00	99.4	88-110		12/27/1998	1550
814028-1				49.68	50.00	99.4	88-110		12/27/1998	1621
814028-2		MS		48.98	50.00	98.0	88-110		12/27/1998	1652
814028-2		MSD		49.20	50.00	98.4	88-110		12/27/1998	1722
813438-1	Dry Weight		50	49.13	50.00	98.3	88-110		12/27/1998	1753
813438-5	Dry Weight		50	48.24	50.00	96.5	88-110		12/27/1998	1824
813554-12	Dry Weight		10	45.71	50.00	91.4	88-110		12/27/1998	1854
813554-5	Dry Weight		10	45.52	50.00	91.0	88-110		12/27/1998	1925
813897-1	Solid		10	46.50	50.00	93.0	81-117		12/27/1998	1956
813897-2	Solid		10	45.73	50.00	91.5	81-117		12/27/1998	2026
813897-3	Solid		10	47.00	50.00	94.0	81-117		12/27/1998	2057
813897-4	Solid		10	50.24	50.00	100.5	81-117		12/27/1998	2128
813897-5	Solid		10	46.10	50.00	92.2	81-117		12/27/1998	2158
813897-6	Solid		10	45.70	50.00	91.4	81-117		12/27/1998	2229
813897-7	Solid		10	48.20	50.00	96.4	81-117		12/27/1998	2259
813897-8	Solid		10	45.99	50.00	92.0	81-117		12/27/1998	2329
813897-9	Solid		10	48.08	50.00	96.2	81-117		12/28/1998	0000
813897-10	Solid		10	47.73	50.00	95.5	81-117		12/28/1998	0030
813897-11	Solid		10	45.94	50.00	91.9	81-117		12/28/1998	0101
813897-12	Solid		10	47.07	50.00	94.1	81-117		12/28/1998	0131

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QUALITY ASSURANCE FOOTER

METHOD REFERENCES

(1) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, July 1992, and September 1994 updates
(2) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992
(3) EPA 600/4-79-020, Methods of Chemical Analysis for Waters and Wastes, March 1983
(4) Federal Register, Friday, October 26, 1984 (40 CFR Part 136)
(5) American Society for Testing and Materials, Volumes 5.01, 5.02, 5 03, 1992
(6) EPA 600/4-89-001, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Fresh Water Organisms
(7) EPA 600/4-90-027, Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Fresh Water and Marine Organisms, Fourth Edition

COMMENTS

All methods of chemical analysis have a statistical uncertainty associated with the results. Unless otherwise indicated, the data in this report are within the limits of uncertainty as specified in the referenced method. Quality control acceptance criteria are based either on actual laboratory performance or on limits specified in the referenced method. The date and time of analysis indicated on the QA report may not reflect the actual time of analysis for QC samples. All data reported on an "as received" basis unless otherwise indicated. Data reported in the QA report may be lower than sample data due to dilution of samples into the calibration range of the analysis. Sample concentrations for solid samples are calculated on an as received (wet) basis. Unless otherwise indicated, volatiles by gas chromatography (GC) are reported from a single column. Volatiles analyses by GC on low level soil extractions are conducted at room temperature.

FLAGS, FOOTNOTES, AND ABBREVIATIONS (as needed)

NA = Not analyzed
N/A = Not applicable
ug/L = Micrograms per liter
mg/L = Milligrams per liter
N.I. = Not Ignitable
S.I. = Sustains Ignition
I(NS) = Ignites, but does not Sustain Ignition
RPD = Relative Percent Difference
ND = Not detected at a value greater than the reporting limit
NC = Not calculable due to values lower than the detection limit
(a) = Surrogate recoveries were outside acceptable ranges due to matrix effects.
(b) = Surrogate recoveries were not calculated due to dilution of the sample below the detectable range for the surrogate.
(c) = Matrix spike recoveries were outside acceptable ranges due to matrix effects.
(d) = Relative Percent Difference (RPD) for duplicate analysis outside acceptance limits due to actual differences in the sample matrix.
(e) = The limit listed for flammability indicates the upper limit for the test. Samples are not tested at temperatures above 140 Fahrenheit since only samples which will sustain ignition at temperatures below 140 are considered flammable.
(f) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a diesel standard, however, the hydrocarbon pattern did not match a diesel pattern.
(g) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a gasoline standard, however, the hydrocarbon pattern did not match a gasoline pattern.
(h) = High dilution due to matrix effects

QC SAMPLE IDENTIFICATIONS

MB = Method Blank
RB = Reagent Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CS = Calibration Standard
ICB = Initial Calibration Verification
CCV = Continuing Calibration Verification
SB = Storage Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate
MD = Matrix Duplicate
BS = Blank Spike
SS = Surrogate Spike
LCS = Laboratory Control Standard
RS = Reference Standard

SUBCONTRACTED LABORATORY LOCATIONS

Core Laboratories:	Aurora, Colorado	*AU
	Casper, Wyoming	*CA
	Corpus Christi, Texas	*CC
	Edison, New Jersey	*ED
	Houston, Texas (Env)	*HE
	Houston, Texas (Pet)	*HP
	Indianapolis, Indiana	*IN
	Lake Charles, Louisiana	*LC
	Long Beach, California	*LB
	Tampa, Florida	*TP
	Valparaiso, Indiana	*VP
Aquatic Testing Laboratories:		
	Ventura, California	*AT

2400 Cumberland Drive
Valparaiso, IN 46383

rpjsckl | Job Sample Receipt Checklist Report 12/10/98 | V2

Job Number.....: 813554 Location.: 57211 Customer Job ID.....: Job Check List Date.: 12/10/98
Project Number.: 96000627 Project Description.: ECOLOGY & ENVIRONMENT Project Manager.....: lpa
Customer.....: Ecology & Environment Inc. Contact.: Mr. Dave Hendren

Questions ?	(Y/N)	Comments
Chain-of-Custody Present?.....	Y	
Custody seal on shipping container?.....	Y	
...If "yes", custody seal intact?.....	Y	
Custody seals on sample containers?.....		
...If "yes", custody seal intact?.....		
Samples chilled?.....	Y	
Temperature of cooler acceptable? (4 deg C +/- 2).		RECEIVED ON ICE
Samples received intact (good condition)?.....	Y	
Volatile samples acceptable? (no headspace).....	Y	
Correct containers used?.....	Y	
Adequate sample volume provided?.....	Y	
Samples preserved correctly?.....	Y	
Samples received within holding-time?.....	Y	
Agreement between COC and sample labels?.....	Y	
Additional.....		
Comments.....		
Sample Custodian Signature...Jon Bob.....		

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

813554

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Ecology + Environment S05-9811-807

Activity Code:

SAMPLERS: *(Print Name and Sign)* Joe Klemp, [signature] William Sass [signature]

COC 1 of 3

	STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Volatiles (soil)	Volatiles (water)	Total TAL Metals	Dissolved TAL Metals	Moisture Content		TAG NUMBERS
1	OEMW-5	12-9-98	1220		✓	Oliver Elam Well 5	3-40ml 2-1L		✓	✓	✓			All 40ml vials preserved w/ HCl
2	OEMW-3		1704		✓	Oliver Elam Well 5	3-40ml 2-1L		✓	✓	✓			All 1-L bottles preserved w/ HNO_3
3	EB-MW-3		1510		✓	Egpt Blk - MW	3-40ml 2-1L		✓	✓	✓			
4	3GS-06		0730		✓	N central, near river 0-6'	3	✓						Contact: Dave Hendren
5	3GS-2		0740		✓	N central, near river 2 ft.	3	✓						phone: 312-578-9243
6	3GS-4		0740		✓	N central, near river 4ft.	3	✓						fax: 312-578-9345
7	3GS-6		0800		✓	N central, near river 6ft.	3	✓						
8	4GS-06		0900		✓	NNC, near river 0-6ft	3	✓						2 week verbal turnaround
9	4GS-2		0910		✓	NNC, near river 2ft.	3	✓						3 week hardcopy turnaround
10	4GS-4		0920		✓	NNC, near river 4ft	3	✓						QA Level II
11	4GS-6		0930		✓	NNC, near river 6ft	3	✓						
12	4GS-8		0940		✓	NNC, near river 8ft	3	✓						Samples shipped in 2 coolers.
13	4GS-10		0950		✓	NNC, near river 10ft	3	✓						
14	4GS-12		0955		✓	NNC, near river 12ft	3	✓						
15	3GS-0-4		0920		✓	N central, near river 0-4ft	1 bag					✓		

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
[signature]	12/9/98 1900	
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	12/10/98 1200	James Bobo
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)* — Date / Time

Ship To: CORE Laboratories, Inc
2400 Cumberland Dr
Valparaiso, IN 46383
219-464-2389
ATTN: Les Arnold

Airbill Number: 808691852540 FedEx

Chain of Custody Seal Numbers: 187933, 187932, 187934

Distribution White - Accompanies Shipment, Pink - Coordinator Field Files, Yellow - Laboratory File

Printed on Recycled Paper/Printed with Soy-Based Ink

5-26810

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

813554

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO

PROJECT NAME: Ecology + Environment 505-9811-807

Activity Code:

SAMPLERS: *(Print Name and Sign)* Joe Klemp, for a. Klemp

COC 2 of 3

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Volatiles (soil)	Volatiles (water)	Moisture Content				TAG NUMBERS
16	5GS-2-4	12-9-98	1400		✓	SW near	1 bag			✓				All 40ml bottles preserved w/HCl
17	5GS-06		1400		✓	SW near river 0-6ft	3	✓						All 1L bottles preserved w/HNO_3
18	5GS-2		1410		✓	SW near river 2ft	3	✓						
19	5GS-4		1420		✓	SW near river 4ft	3	✓						Contact: Dave Hendren
20	5GS-6		1430		✓	SW near river 6ft	3	✓						phone: 312-578-9243
21	5GS-6Dup		1430		✓	SW near river 6ft. dup	3	✓						fax: 312-578-9345
22	5GS-2Dup		1410		✓	SW near river 2ft dup	3	✓						
23	3GWS		0815		✓	N central, near river shallow	3		✓					3 week hardcopy turnaround
24	3GWM		0830		✓	N central, near river ~~shallow~~ middle	3		✓					2 week verbal turnaround
25	3GWD		0845		✓	N central, near river deep	3		✓					QA Level II
26	4GWD		1030		✓	NNC, near river deep	3		✓					
27	4GWD-Dup		1030		✓	NNC, near river deep dup	3		✓					Samples shipped in 2 coolers
28	4GWM		1015		✓	NNC, near river middle	3		✓					
29	4GWS		1000		✓	NNC, near river shallow	3		✓					
30	5GWS		1300		✓	SW near river shallow	3		✓					

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
for a. Klemp	12/5/98 1900	
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	12/10/98 1200	Jomo Bobo
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)* — Date / Time

Ship To: CORE Laboratories, INC.
2400 Cumberland Dr.
Valparaiso, IN 46383

ATTN: Les Arnold

Airbill Number: 808691852540 Fed Ex

Chain of Custody Seal Numbers: 187933, 187932, 187934

Distribution White - Accompanies Shipment, Pink - Coordinator Field Files, Yellow - Laboratory File

Printed on Recycled Paper/Printed with Soy-Based Ink

5-26811

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

813554

REGION 5
77 West Jackson Boulevard
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ NO.

PROJECT NAME: Ecology + Environment S05-9811-807

SAMPLERS: *(Print Name and Sign)* Joe Klemp, for A. Klemp

Activity Code

COC 3 of 3

92

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Analyte: Volatiles (water)						TAG NUMBERS
31	5GWD	12-9-98	1330		✓	SW near river deep	3	✓						All 40ml bottles preserved w/HCl
32	5GWM		1315		✓	SW near river middle	3	✓						
33	5GWM-Dup		1315		✓	SW near river middle-dup	3	✓						
34	EB-G-2		1630		✓	Eqpt BLK - Geo	3	✓						
														Contact: Dave Hendren
														phone: 312-578-9243
														fax: 312-578-9345
														2 week verbal turnaround
														3 week hardcopy turnaround
														QA Level II
														Samples shipped in 2 coolers

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
for A. Klemp	12/9/98 1900	
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	12/10/98 1200	Jann Bl
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)* — Date / Time

Ship To: CORE Laboratories, Inc.
2400 Cumberland Drive
Valparaiso, IN 46383

ATTN. Les Arnold

Airbill Number: 808691852540

Chain of Custody Seal Numbers: 187933, 187932, 187934

Distribution White - Accompanies Shipment, Pink - Coordinator Field Files; Yellow - Laboratory File

Printed on Recycled Paper/Printed with Soy-Based Ink

5-26814

MERCURY

(CORE-Valparaiso)

MERCURY

Digestion logs

CORE Laboratories - Valparaiso

Mercury Water Digestion

Method #: 245.2/7470

SOP#: See Table of Methods/Matrices

Digestion Batch ID: 1216-2

Matrix (Circle): Water Other _____

Must be 2 hrs!

Plate/Bath: —

Time In: 15 10 Time Out: 17:10

Spike ID: V12974712 K2SO4: V016856 NH2OH-HCL: V016856

LCS ID: 11 HNO3: V16002110 H2SO4: V010106404 KMNO4: V016868

Cal Std ID: _____ Conc (ppb) (Circle): 0.0, 0.2, 1.0, 5.0, 10, 20

	Client ID	Sample #	Volume (mL) Sample	Volume (mL) Duplicate	Volume (mL) Spike	Final Volume (mL)	Comments
MB			100			150	
LCS							
1	EEI	813435-1					
2		2					
3		3					
4		4					
5		5					
6		6					
7		813502 11					
8		12					
9		13					
10		14					
11		813554-1					
12		2					
13		3					
14		813604-19					
15		20		100	100		
16		21					
17		22					
18		23					
19							
20							

Analyst(s): [illegible] Date: 12/16/98

CORE Laboratories - Valparaiso

Mercury Water Digestion

Method #: 245.2

SOP#: See Table of Methods/Matrices

Digestion Batch ID: 1222-1

Matrix (Circle): Water Other _____

Must be 2 hrs!

Plate/Bath _____

Time In: 16:00 Time Out: 18:00

Spike ID: V129747A K2SO4: V016850 NH2OH-HCL: V016856

LCS ID: " HNO3: V16002110 H2SO4: V01016484 KMNO4: V016863

Cal Std ID: V129747B Conc (ppb) (Circle): 0.0, 0.2, 1.0, 5.0, 10, 20

	Client ID	Sample #	Volume (mL) Sample	Duplicate	Spike	Final Volume (mL)	Comments
MB			100			150	
LCS							
1	EEI	813435-1		100	100		
2	DSS	2					
3		3					
4		4					
5		5					
6		813502-11					
7		12					
8		13					
9		14					
10		813554-1					
11		2					
12		3					
13		813404-19					
14		20					
15		21					
16		22					
17		23					
18		813659-1					
19		2					
20		3					

Analyst(s): [signature]

Date: 12/22/98

MERCURY

Raw Data

32685 32689

(P1)

CORE LABORATORIES
GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT	VA 20 VGA					METHOD	245.2 / 7470	ELEMENT	Hg
DATE	12/17/98			ANALYST	GZ				
		SOURCE	DATE	TV		SOURCE (CIRCLE)	TV		
ICV		V129747A		5.00		CCV (CAL/ICV)	10.0	V129747B	
START TIME		10:00		END TIME					

	SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	COMMENT		SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	COMMENT
1	ICV	5.11			34	813459-3 1:10	0.04		
2	ICB	0.01			35	" 3PDS	2.00		
3	~~CRA~~ PB	0.02			36	813466-4	0.09		
4	LCS	5.12			37	CCV	10.26		
5	813450-1	0.03			38	CCB	0.11		
6	-1D	0.04			39	813466-1PDS 1:10	1.39		
7	-1S	5.33			40	PB	0.15		
8	812592-1	0.19			41	LCS	5.03		
9	813565-1	0.09			42	813642-1	0.13		
10	813566-1	0.72			43	-1D	0.13		
11	813568-1	2.59			44	-1S	5.09		
12	" Diss	0.10			45	813642-1	0.15		
13	CCV	10.40			46	813643-1	0.70		
14	CCB	0.07			47	813644-1	7.54		
15	813571-1	3.03			48	813654-1	0.21		
16	813613-1	1.20			49	CCV	10.42		
17	" Diss	0.11			50	CCB	0.18		
18	813614-1	0.08			51	813655-1	1.24		
19	813615-1	0.50			52	813657-1	1.53		
20	813617-1	0.36			53	813682-1	3.45		
21	813620-1	1.31			54	-1Diss	0.19		
22	813451-1 1:10	0.01			55	813683-1	0.43		
23	" PDS	1.87			56	813685-1	0.17		
24	813452-1	-0.01			57	813686-1	0.35		
25	CCV	10.11			58	813679-2 1:10	0.11		
26	CCB	0.03			59	" -2PDS	2.01		
27	813452-1PDS 1:10	1.28			60	813679-3	0.10		
28	813455-1	0.06			61	CCV	8.97		
29	" PDS	1.51			62	CCB	0.17		
30	813459-1	0.07			63	813679-3PDS 1:10	2.09		
31	" PDS	1.94			64	813679-4	0.15		
32	813459-2	0.07			65	" -4PDS	2.08		
33	" PDS	1.96			66	CCV	10.12		
						CCB	0.19		

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(P2)

CORE LABORATORIES
GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT VA 20 VGA					METHOD 245.2/7470		ELEMENT Hg		
DATE 12/17/95				ANALYST PL					
		SOURCE	DATE	TV		SOURCE (CIRCLE)	TV		
ICV		V129747A		5.00		CCV (CAL) ICV	10.0	V129747B	
START TIME				END TIME		PB 12/17/95			
	SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	COMMENT		SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	COMMENT
1	ICV	4.53			34	LCS	3.76		
2	ICB	-0.01			35	~~812885~~ 813460-1	4.91		
3	~~CRA~~ 813626-1 1110	-0.03			36	813460-1D	3.02		
4	813626-1 PDS	1.86			37	CCV	9.73		
5	813627-1	-0.05			38	CCB	0.05		
6	" -1 PDS	1.94			39	813460-1SPK	8.34		
7	PB	-0.01			40	812889-5	1.33		
8	LCS	4.65			41	813513-1	2.82		
9	813604-20	0.45			42	" 2	0.72		
10	D	0.45			43	813550-1	0.06		
11	S	4.79			44	2	0.05		
12	813502-11	0.02			45	3	0.07		
13	CCV	9.78			46	813721-1	0.05		
14	CCB	0.05			47	" PDS	1.96		
15	813435-1	-0.01			48	CCV	9.84		
16	2	0.02			49	CCB	0.08		
17	3	0.01			50				
18	4	0.00			51				
19	5	-0.01			52				
20	6	0.00			53				
21	813502-12	0.07			54				
22	13	-0.04			55				
23	14	-0.01			56				
24	813554-1	-0.00			57				
25	CCV	9.85			58				
26	CCB	0.04			59				
27	813554-2	0.02			60				
28	" 3	-0.00			61				
29	813604-19	-0.01			62				
30	20	0.01			63				
31	22	0.03			64				
32	23	-0.02			65				
33	PB	-0.02			66				

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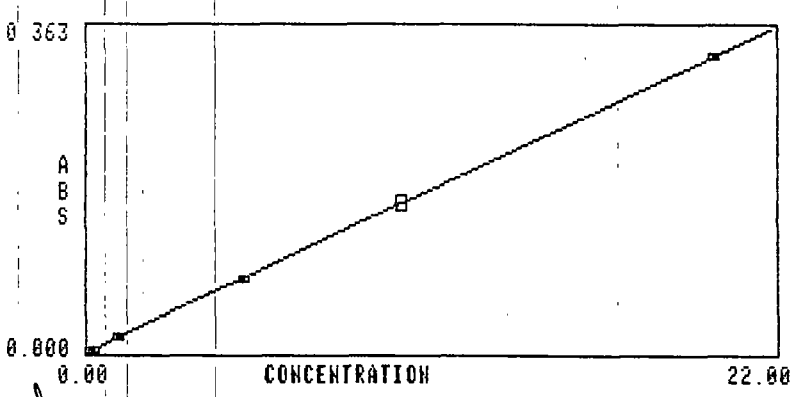
Varian SpectrAA 10/20 System Report

OPERATOR 0
DATE 12.17.98
BATCH NO. 1

PROGRAM JO Hg

RL 12/17/98

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
BLANK	0.00		0.001	0.001	0.001
STANDARD 1	0.20	4.1	0.003	0.003	0.003
STANDARD 2	1.00	0.0	0.017	0.017	0.017
STANDARD 3	5.00	0.7	0.083	0.083	0.084
STANDARD 4	10.00	3.0	0.166	0.169	0.162
STANDARD 5	20.00	0.3	0.330	0.329	0.330



Reblanked + Restarted
[illegible] 12/17/98

.....1	4.97	3.7	0.083	0.085	0.080
.....2	0.09	0.0	0.001	0.001	0.001
.....3	0.09	0.0	0.001	0.001	0.001
.....4	5.19	0.7	0.086	0.086	0.087
.....5	0.13	8.2	0.002	0.002	0.002
.....6	0.31	7.7	0.005	0.005	0.005
.....7	5.37	0.2	0.089	0.089	0.089
.....8	0.31	0.0	0.005	0.005	0.005
.....9	0.25	4.2	0.004	0.004	0.004
.....10	0.86	0.0	0.015	0.015	0.015
.....11	2.74	0.7	0.047	0.046	0.047
.....12	0.25	5.2	0.004	0.004	0.004
.....13	10.56	0.0	0.175	0.175	0.175
.....14	0.26	2.8	0.004	0.004	0.004

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
BLANK	0.00		-0.000	-0.000	-0.000
ICV 1	5.11	0.3	0.085	0.085	0.085
..ICB....2	0.01	0.0	0.000	0.000	0.000
..PB.....3	0.02	0.0	0.000	0.000	0.000
..LCS.....4	5.12	1.0	0.085	0.086	0.085
.813450-1.5	0.03	59.1	0.000	0.001	0.000
.813450-1D.6	0.04	0.0	0.001	0.001	0.001
813450-1S..7	5.33	0.0	0.089	0.089	0.089
813596-1...8	0.19	5.6	0.003	0.003	0.003
.813565-1..9	0.09	5.8	0.001	0.002	0.001
.813566-1..10	0.72	0.9	0.012	0.012	0.013
.813568-1..11	2.59	0.2	0.044	0.044	0.044
.813568-1D.iss12	0.10	9.3	0.002	0.002	0.002
...CCV....13	10.40	0.1	0.172	0.172	0.172
...CCB....14	0.07	0.0	0.001	0.001	0.001
.813571-1..15	3.03	0.1	0.051	0.051	0.051
.813613-1..16	1.20	0.6	0.021	0.021	0.021
.813613-1Diss17	0.11	0.0	0.002	0.002	0.002
.813614-1...18	0.08	7.6	0.001	0.001	0.001
.813615-1...19	0.50	0.0	0.009	0.009	0.009
.813617-1..20	0.36	1.4	0.006	0.006	0.006
.813620-1..21	1.31	0.5	0.023	0.023	0.023
.813451-1...22	0.01	61.5	0.000	0.000	0.000
813451-1pds23	1.87	0.7	0.032	0.032	0.032
813452-1...24	-0.01	39.0	-0.000	-0.000	-0.000
...CCV....25	10.11	0.1	0.167	0.167	0.168
...CCB....26	0.03	11.8	0.001	0.001	0.000
.813452-1pds27	1.28	1.1	0.022	0.022	0.022
.813455-1...28	0.06	0.0	0.001	0.001	0.001
.813455-1pds29	1.51	0.0	0.026	0.026	0.026
813459-1...30	0.07	0.0	0.001	0.001	0.001
.813459-1pds31	1.94	0.0	0.033	0.033	0.033
813459-2...32	0.07	0.0	0.001	0.001	0.001
813459-2pds33	1.96	0.5	0.034	0.034	0.034
813459-3...34	0.04	12.0	0.001	0.001	0.001
813459-3pds35	2.00	0.3	0.034	0.034	0.034
813466-1...36	0.09	4.1	0.001	0.001	0.002
.CCV.....37	10.26	0.3	0.170	0.170	0.170
..CCB.....38	0.11	4.8	0.002	0.002	0.002
813466-1pds.39	1.39	1.0	0.024	0.024	0.024
..PB.....40	0.15	0.0	0.002	0.003	0.002
..LCS.....41	5.03	0.2	0.084	0.083	0.084
.813679-1..42	0.13	2.7	0.002	0.002	0.002
.813679-1D..43	0.13	4.9	0.002	0.002	0.002
.813679-1S.44	5.09	0.3	0.085	0.084	0.085
.813642-1..45	0.15	7.0	0.002	0.003	0.002
.813643-1..46	0.70	1.8	0.012	0.012	0.012
.813644-1..47	7.54	0.3	0.125	0.125	0.125
.813654-1.48	0.21	0.0	0.003	0.003	0.003
...CCV....49	10.42	1.4	0.173	0.174	0.171
...CCB....50	0.18	4.0	0.003	0.003	0.003
..813655.151	1.04	0.0	0.018	0.018	0.018
.813657-1..52	1.53	0.6	0.026	0.027	0.026
.813682-1..53	3.45	0.6	0.058	0.058	0.059
.813682-1Diss54	0.19	1.9	0.003	0.003	0.003
.813683-1..55	0.43	2.4	0.007	0.007	0.007
.813685-1.56	0.17	4.9	0.003	0.003	0.003

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
813686-1 ..57	0.35	0.0	0.006	0.006	0.006
813679-2 ..58	0.11	0.0	0.002	0.002	0.002
813679-2pd ..59	2.01	0.0	0.035	0.035	0.035
813679-3 ..60	0.10	9.8	0.002	0.002	0.002
...CCV....61	8.97	19.7	0.149	0.169	0.128
...CCB....62	0.17	0.0	0.003	0.003	0.003
813679-3pd ..63	2.09	0.0	0.036	0.036	0.036
813679-4 ...64	0.15	4.2	0.003	0.003	0.002
813679-4pd ..65	2.08	0.6	0.036	0.036	0.036
...CCV....66	10.12	0.6	0.168	0.167	0.168
...CCB...67	0.19	5.4	0.003	0.003	0.003

Varian SpectrAA 10/20 System Report

OPERATOR 0
DATE 12.17.98
BATCH NO. 1

PROGRAM 10 Hg

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
BLANK	0.00		0.001	0.001	0.001
ICV 1	4.53	0.4	0.079	0.079	0.080
ICB 2	-0.01	86.5	-0.000	-0.000	-0.000
813626-1 3	-0.03	23.9	-0.000	-0.001	-0.000
813626-1pdS 4	1.86	0.0	0.031	0.031	0.031
813627-1 5	-0.05	20.1	-0.001	-0.001	-0.001
813627-1pdS 6	1.94	0.5	0.033	0.033	0.033
PB 7	-0.01	0.0	-0.000	-0.000	-0.000
LCS 8	4.65	0.3	0.082	0.081	0.082
813604-20 9	0.45	1.6	0.007	0.007	0.007
813604-20D 10	0.45	0.9	0.007	0.007	0.007
813604-20S 11	4.79	0.1	0.084	0.084	0.084
813502-11 12	0.02	0.0	0.000	0.000	0.000
CCV 13	9.78	0.2	0.163	0.162	0.163
CCB 14	0.05	0.0	0.001	0.001	0.001
813435-1 15	-0.01	0.0	-0.000	-0.000	-0.000
813435-2 16	0.02	39.6	0.000	0.000	0.000
813435-3 17	0.01	0.0	0.000	0.000	0.000
813435-4 18	0.00	99.9	0.000	-0.000	0.000
813435-5 19	-0.01	99.9	-0.000	-0.000	-0.000
813435-6 20	0.00	99.9	0.000	-0.000	0.000
813502-12 21	0.07	0.0	0.001	0.001	0.001
813502-13 22	-0.01	99.9	-0.000	0.000	-0.000
813502-14 23	-0.01	0.0	-0.000	-0.000	-0.000
813554-1 24	-0.00	0.0	-0.000	-0.000	-0.000
CCV 25	9.85	0.1	0.164	0.163	0.164
CCB 26	0.04	14.9	0.001	0.001	0.001
813554-2 27	0.02	21.6	0.000	0.000	0.000
813554-3 28	-0.00	0.0	-0.000	-0.000	-0.000
813604-19 29	-0.01	0.0	-0.000	-0.000	-0.000
813604-20 AM 30	0.01	0.0	0.000	0.000	0.000
813604-22 31	0.03	73.0	0.000	0.001	0.000
813604-23 32	-0.00	0.0	-0.000	-0.000	0.000
PB 33	-0.02	32.3	-0.000	-0.000	-0.000
LCS 34	3.76	0.0	0.065	0.065	0.065
813460-1 35	4.91	0.2	0.087	0.086	0.087
813460-1D 36	3.02	0.0	0.052	0.052	0.052
CCV 37	9.73	0.3	0.162	0.161	0.162
CCB 38	0.05	8.2	0.001	0.001	0.001
813460-1S 39	8.34	0.1	0.141	0.141	0.141
812889-5 40	1.33	0.0	0.022	0.022	0.022
813513-1 41	0.82	0.8	0.013	0.013	0.013
813513-2 42	0.72	0.5	0.011	0.012	0.011

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
813550-1..43	0.06	0.0	0.001	0.001	0.001
813556-2..44	0.05	18.8	0.001	0.001	0.001
813550-3.45	0.07	0.0	0.001	0.001	0.001
813721-1..46	0.05	0.0	0.001	0.001	0.001
813721-1pd547	1.96	0.5	0.033	0.033	0.033
..CCV.....48	9.84	0.0	0.163	0.163	0.163
..CCB....49	0.08	14.9	0.001	0.001	0.001

33071
B2
REV 1/12/99

CORE LABORATORIES
GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT AA-20					METHOD 245.1		ELEMENT Hg		
DATE 12/28/98				ANALYST AW					
		SOURCE	DATE	TV	SOURCE (CIRCLE)	TV			
ICV V129747A				5.0	CCV (CAL/ICV)	10.0			
START TIME 0930				END TIME 1245					
	SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	COMMENT	SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	COMMENT	
1	~~ICV~~ ICV	5.46			34 813834-1pds	2.44			
2	~~ICB~~ CCB	0.06			35 813833-1pds	2.47			
3	~~CRA~~ PB 1222-1	0.04			36 813841-1pds	2.47			
4	LCS 1222-1	5.44			37 CCV	10.42			
5	813435-1	0.12			38 CCB	0.34			
6	-1D	0.10			39 813841-2pds	2.50			
7	-1S	5.21			40 CCV	10.17			
8	-2	0.11			41 CCB	0.57			
9	-3	0.08			42				
10	-4	0.09			43				
11	-5	0.09			44				
12	813554-1	0.08			45				
13	CCV	9.99			46				
14	CCB	0.09			47				
15	813554-2	0.14			48				
16	-3	0.12			49				
17	813502-11	0.18			50				
18	-12	0.18			51				
19	-13	0.14			52				
20	-14	0.11			53				
21	813604-19	0.16			54				
22	-20	0.22			55				
23	-21	0.23			56				
24	-22	0.21			57				
25	CCV	9.99			58				
26	CCB	0.15			59				
27	813604-23	0.23			60				
28	813659-1	0.32			61				
29	-2	0.32			62				
30	-3	0.31			63				
31	813536-1pds	2.33			64				
32	-2pds	2.35			65				
33	813832-1pds	2.40			66				

All Diss. 1-30

AW 12/28/98

105

OPERATOR 0
DATE 12.24.98
BATCH NO. 1

PROGRAM 10 Hg

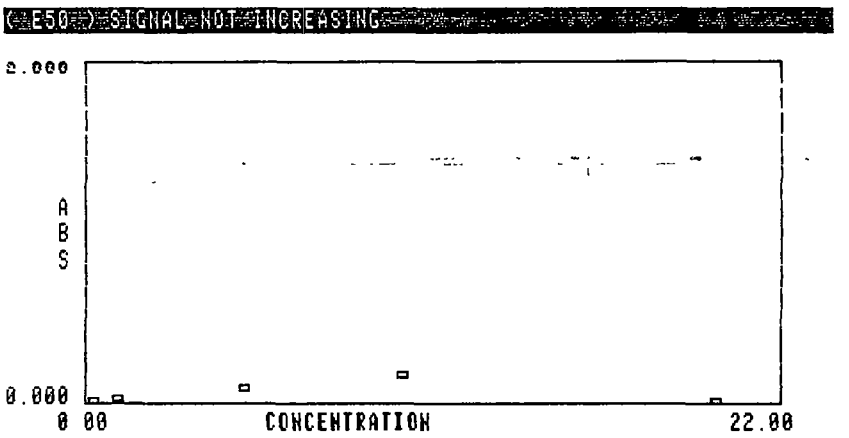
Varian SpectrAA 10/20 System Report

OPERATOR 0
DATE 12.24.98
BATCH NO. 1

PROGRAM 10 Hg

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
BLANK	0.00		0.001	0.001	0.000
STANDARD 1	0.20	40.7	0.000	0.000	0.001
BLANK	0.00		-0.001	-0.001	-0.001
STANDARD 1	0.20	3.9	0.003	0.003	0.003
STANDARD 2	1.00	0.6	0.017	0.017	0.017
STANDARD 3	5.00	0.3	0.077	0.077	0.077
STANDARD 4	10.00	0.2	0.154	0.154	0.154
STANDARD 5	20.00	5.5	0.003	0.003	0.003

(E50) SIGNAL NOT INCREASING



BLANK	0.00		-0.001	-0.001	-0.001
STANDARD 1	0.20	0.0	-0.000	-0.000	-0.000
BLANK	0.00		0.001	0.001	0.001
STANDARD 1	0.20	0.0	0.003	0.003	0.003
STANDARD 2	1.00	0.0	0.015	0.015	0.015
STANDARD 3	5.00	0.0	0.000	0.000	0.000
BLANK	0.00		0.000	-0.000	0.000
STANDARD 1	0.20	16.0	-0.000	-0.000	-0.000

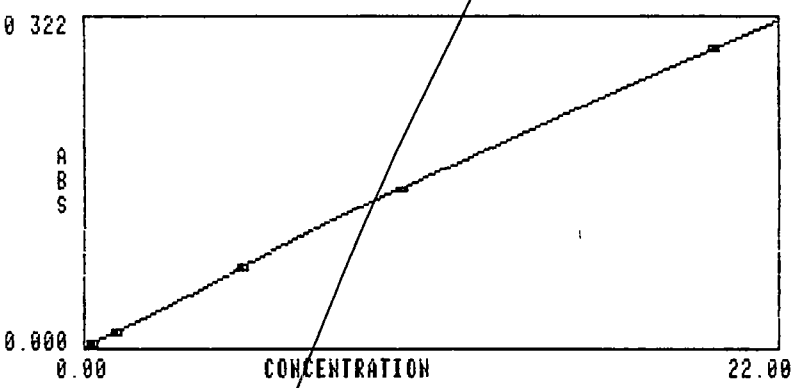
Varian SpectrAA 10/20 System Report

OPERATOR .
DATE 12.24.98
BATCH NO. 1

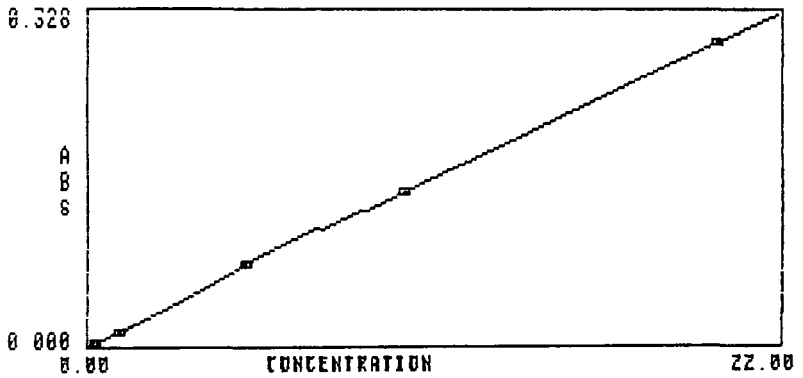
PROGRAM 10 Hg

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
BLANK	0.00		0.001	0.001	0.001
STANDARD 1	0.20	0.0	0.003	0.003	0.003
STANDARD 2	1.00	0.3	0.045	0.045	0.045
BLANK	0.00		-0.000	-0.000	-0.000
STANDARD 1	0.20	3.2	0.003	0.003	0.003
STANDARD 2	1.00	0.8	0.014	0.014	0.014
STANDARD 3	5.00	0.3	0.076	0.076	0.076
STANDARD 4	10.00	0.2	0.152	0.151	0.152
STANDARD 5	20.00	0.0	0.293	0.293	0.293

Chk 1/26/99



.....1	5.14	0.1	0.078	0.078	0.079
.....2	0.10	30.9	0.001	0.002	0.001
.....3	0.11	10.4	0.001	0.002	0.001
.....4	5.20	0.0	0.079	0.079	0.079



ICV 1	5.46	0.1	0.084	0.084	0.084
ICB 2	0.06	0.0	0.001	0.001	0.001
PB1222-1 3	0.04	33.8	0.000	0.001	0.000
LCS1222-1 4	5.44	0.1	0.084	0.084	0.084
813435-1 5	0.12	6.4	0.001	0.001	0.001
-10 6	0.10	5.3	0.001	0.001	0.001
-15 7	5.21	0.0	0.081	0.081	0.081
-2 8	0.11	15.8	0.001	0.001	0.001
-3 9	0.08	6.7	0.001	0.001	0.001
-4 10	0.09	0.0	0.001	0.001	0.001
-5 11	0.09	0.0	0.001	0.001	0.001
813554-1 12	0.08	6.3	0.001	0.001	0.001
CCV 13	9.99	0.3	0.152	0.152	0.152

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
CCB 14	0.09	8.3	0.001	0.001	0.001
813554-2 15	0.14	5.4	0.002	0.002	0.002
-3 16	0.12	6.4	0.001	0.001	0.001
813502-11 17	0.18	0.0	0.002	0.002	0.002
-12 18	0.18	5.1	0.002	0.002	0.002
-13 19	0.14	0.0	0.002	0.002	0.002
-14 20	0.11	9.9	0.001	0.001	0.001
813604-19 21	0.16	6.8	0.002	0.002	0.002
-20 22	0.22	5.4	0.003	0.002	0.003
-21 23	0.23	0.0	0.003	0.003	0.003
-22 24	0.21	8.3	0.002	0.002	0.003
CCV 25	9.99	0.2	0.152	0.152	0.152
CCB 26	0.15	12.4	0.002	0.002	0.002
813604-23 27	0.23	0.0	0.003	0.003	0.003
813659-1 28	0.32	5.4	0.004	0.004	0.004
-2 29	0.32	4.8	0.004	0.004	0.004
-3 30	0.31	0.0	0.004	0.004	0.004
813536-1A 31	2.33	0.0	0.033	0.033	0.033
813536-2A 32	2.35	0.0	0.033	0.033	0.033
813832-1A 33	2.40	0.4	0.034	0.034	0.034

ICV 1	5.46	0.1	0.084	0.084	0.084
ICB 2	0.06	0.0	0.001	0.001	0.001
PB1222-1 3	0.04	33.8	0.000	0.001	0.000
LCS1222-1 4	5.44	0.1	0.084	0.084	0.084
813435-1 5	0.12	6.4	0.001	0.001	0.001
-10 6	0.10	5.3	0.001	0.001	0.001
-15 7	5.21	0.0	0.081	0.081	0.081
-2 8	0.11	15.8	0.001	0.001	0.001
-3 9	0.08	6.7	0.001	0.001	0.001
-4 10	0.09	0.0	0.001	0.001	0.001
-5 11	0.09	0.0	0.001	0.001	0.001
813554-1 12	0.08	6.3	0.001	0.001	0.001
CCV 13	9.99	0.3	0.152	0.152	0.152

SAMPLE	CONC	%RSD	MEAN ABS	READINGS	
CCB 14	0.09	8.3	0.001	0.001	0.001
813554-2 15	0.14	5.4	0.002	0.002	0.002
-3 16	0.12	6.4	0.001	0.001	0.001
813502-11 17	0.18	0.0	0.002	0.002	0.002
-12 18	0.18	5.1	0.002	0.002	0.002
-13 19	0.14	0.0	0.002	0.002	0.002
-14 20	0.11	9.9	0.001	0.001	0.001
813604-19 21	0.16	6.8	0.002	0.002	0.002
-20 22	0.22	5.4	0.003	0.002	0.003
-21 23	0.23	0.0	0.003	0.003	0.003
-22 24	0.21	8.3	0.002	0.002	0.003
CCV 25	9.99	0.2	0.152	0.152	0.152
CCB 26	0.15	12.4	0.002	0.002	0.002
813604-23 27	0.23	0.0	0.003	0.003	0.003
813659-1 28	0.32	5.4	0.004	0.004	0.004
-2 29	0.32	4.8	0.004	0.004	0.004
-3 30	0.31	0.0	0.004	0.004	0.004
813536-1A 31	2.33	0.0	0.033	0.033	0.033
813536-2A 32	2.35	0.0	0.033	0.033	0.033
813832-1A 33	2.40	0.4	0.034	0.034	0.034
813834-1A 34	2.44	0.0	0.035	0.035	0.035
813833-1A 35	2.47	0.3	0.035	0.035	0.035
813841-1A 36	2.47	0.0	0.035	0.035	0.035
CCV 37	10.42	0.0	0.158	0.158	0.158
CCB 38	0.34	0.0	0.004	0.004	0.004
813841-2A 39	2.50	0.2	0.036	0.036	0.036
CCV 40	10.17	0.1	0.155	0.155	0.155
CCB 41	0.57	4.2	0.007	0.007	0.007
42	0.51	1.7	0.006	0.006	0.006
43	0.39	3.7	0.005	0.004	0.005
44	0.42	1.2	0.005	0.005	0.005
45	0.51	5.0	0.006	0.006	0.006

FURNACE METALS

(CORE-Valparaiso)

FURNACE METALS

Digestion Logs

CORE Laboratories - Valparaiso

Metals- Waters Digestions

Method #: 3020

SOP #: See Table of Methods/Matrices

Matrix (Circle) Aqueous TCLP Drinking Water Other _____

Digestion Batch ID: 1214-1

Plate/Bath Temp: 94.5 °C

Start Time: 10:15

HCl ID: —

Spike ID: D V016750D E V016750E

HNO3 ID: V16002110

LCS ID: "

H2O2 ID: —

	Client	Sample ID	Sample Vol (ml)	MD Vol (ml)	MS Vol (ml)	Final Vol (ml)	Comments
MB			100			~~50~~ 25	
LCS							
1	EEI	813435-1					
2		2					
3		3					
4		4					
5		5					
6		6					
7		813502-11					
8		12					
9		13					
10		14					
11		813554-1					
12		2					
13		3					
14		813604-19					
15		20					
16		21					
17		22					
18		23		100	100		
19							
20							

MD = Method Duplicate MS = Matrix Spike

Analyst(s): PZ

Date: 12/14/98

FURNACE METALS

Raw Data

1-23 Piss

32869 RWA DW 12/22/98

CORE LABORATORIES

GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT	VA400				METHOD			ELEMENT	Sb
DATE	12/14/98			ANALYST	Chh				
		SOURCE	DATE	TV	SOURCE (CIRCLE)	TV			
ICV	V01016905		12/14/98	20ppb	CCV (CAL/ICV)	20ppb		Cal V 01019809	
START TIME				END TIME					
	SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	% RECOVERY		SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	% RECOVERY
	ICV	Chh 12/14/98 ~~20.69~~ 20.22			22	813659-5	-0.68		
	ICB	~~0.31~~ -0.08			23	-50	-1.02	9.52	79.3
1	CRA 813435-1	-0.38			24	PB	0.21	11.84	99.5
	CCV	20.33			25	LCS	32.05		
	CCB	-0.12			26	813435-1	0.01		
2	813435-10	-0.65				CCV	19.75		
3	-2	-0.46				CCB	-0.06		
4	-3	-1.10			27	813435-2	-0.09		
5	-4	8-0.69			28	-3	2.88		
6	-5	3.67			29	-4	1.14		
	CCV	20.78	20.69		30	-5	0.01		
	CCB	1.76	0.31		31	-6	0.01		
7	813502-11	0.05				CCV	19.58		
8	-12	-0.01				CCB	-0.13		
9	-13	5.39			32	813502-11	-0.64		
10	-14	-0.17			33	12	-0.53		
11	813554-1	-0.48			34	13	-0.06		
	CCV	21.32			35	14	-0.47		
	CCB	0.48			36	813554-1	~~-0.69~~	Chh 12/16/98	
12	813554-2	0.26				CCV	18.94		
13	" -3	-1.00				CCB	0.02		
14	813604-19	-0.63			37	813554-2			
15	-20	-0.38			38	-3			
16	-21	-0.98			39	813604-19			
	CCV	21.53			40	-20			
	CCB	-0.13			41	-21			
17	813604-22	-0.94				CCV			
18	" -23	3.56	14.45	91%		CCB			
19	813659-1	-0.86			42	813604-22			
20	-2	-0.65			43	-23			
21	-3	-0.77			44	-230		Chh 12/16/98	
	CCV	20.88			45	-235			
	CCB	0.00				CCV			
						CCB			

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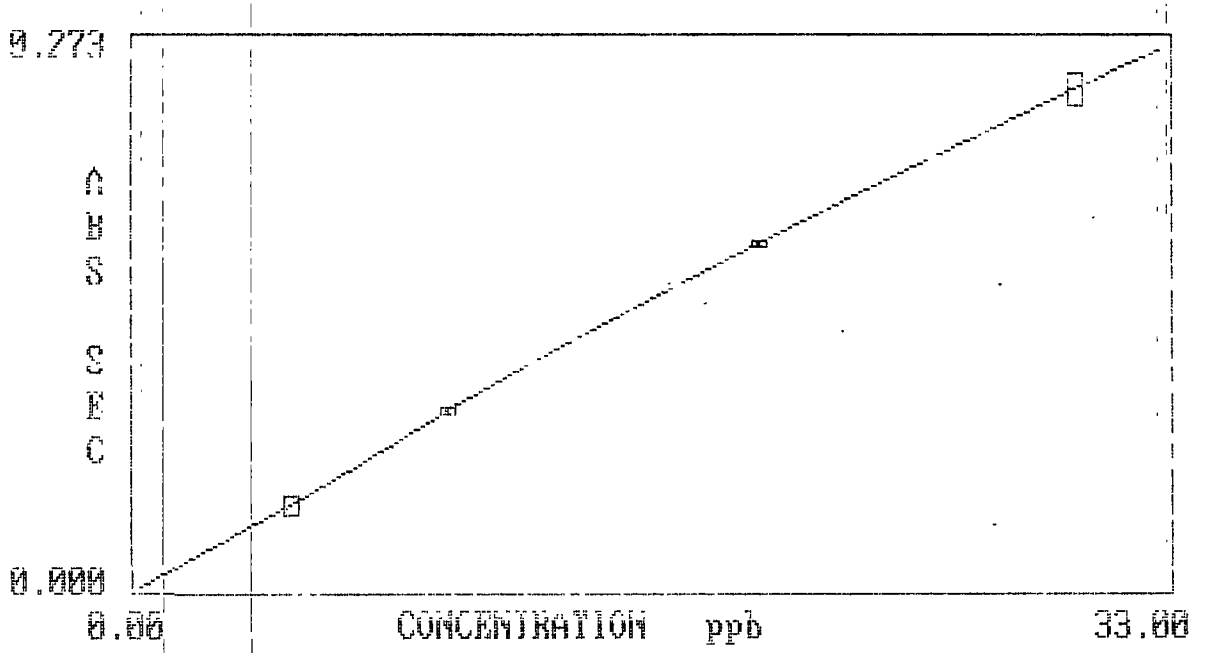
Varian Spectra 400/400 Zeeman
QC Protocol Report

SPECTRAA-400 CORE#11004
ZEEMAN GRAPHITE TUBE ATOMIZER CORE# 11006
AUTOSAMPLER CORE#11005

OPERATOR pal,chh,amw
DATE 12/14/98
BATCH 121498a5

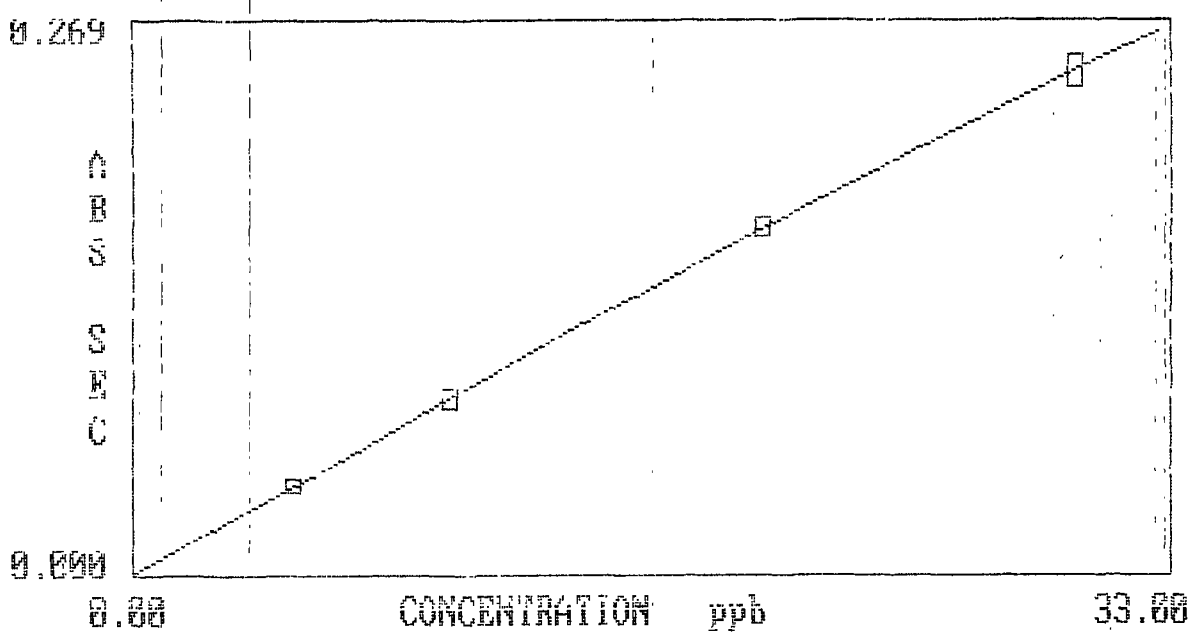
PROGRAM 12 Sb Wall

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK	0.00		0.009	0.007	0.010
QC				14Dec98	18:47
				CONCENTRATION LESS THAN IDL	
STANDARD 1	5.00	7.1	0.043	0.041	0.045
QC				14Dec98	18:51
STANDARD 2	10.00	0.8	0.090	0.090	0.091
QC				14Dec98	18:54
STANDARD 3	20.00	0.3	0.172	0.172	0.173
QC				14Dec98	18:58
STANDARD 4	30.00	2.2	0.248	0.244	0.252
QC				14Dec98	19:02



SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	32.02	0.1	0.262	0.262 14Dec98	0.262 19:05
QCSTANDARD QC	31.20	0.5 Q	0.137	0.138 14Dec98 DF = %R =	0.137 19:09 2.00 156.0

BLANK	0.00		0.006	0.008	0.004
QC				14Dec98	20:11
				CONCENTRATION LESS THAN IDL.	
STANDARD 1	5.00	3.6	0.041	0.040	0.042
QC				14Dec98	20:14
STANDARD 2	10.00	2.8	0.084	0.083	0.086
QC				14Dec98	20:18
STANDARD 3	20.00	1.9	0.167	0.165	0.169
QC				14Dec98	20:22
STANDARD 4	30.00	2.7	0.244	0.240	0.249
QC				14Dec98	20:25



	ppb		ABS	
QCSTANDARD QC	32.15	1.6	0.260	0.257 0.263 14Dec98 20:29
QCSTANDARD QC	30.97	1.3 Q	0.130	0.131 0.129 14Dec98 20:33 DF = 2.00 %R = 154.8
BLANK QC	0.00		-0.001	0.002 -0.004 14Dec98 20:38 CONCENTRATION LESS THAN IDL
QCSTANDARD QC	20.22	2.5	0.169	0.166 0.172 14Dec98 20:41 %R = 101.1
QCBLANK QC	-0.08	99.9	-0.001	0.004 -0.005 14Dec98 20:45 ABS = 0.004 CONCENTRATION LESS THAN IDL
813435-1 SAMPLE 1 QC	-0.38	59.4	-0.003	-0.004 -0.002 14Dec98 20:48 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	8.85	7.3 W	0.074	0.070 0.078 14Dec98 20:52 %R = 73.7 SAMPLE CONC <50% OF SPIKE CONCENTRATIO

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
QCSTANDARD QC	20.33	1.8	0.170	0.168 0.172 14Dec98 20:56 %R = 101.6
QCBLANK QC	-0.12	99.9	-0.001	0.003 -0.005 14Dec98 20:59 ABS = 0.004 CONCENTRATION LESS THAN IDL
813435-1D SAMPLE 2 QC	-0.65	49.9	-0.005	-0.007 -0.003 14Dec98 21:03 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	8.54	6.6 W	0.072	0.068 0.075 14Dec98 21:06 %R = 71.2 SAMPLE CONC <50% OF SPIKE CONCENTRATION
813435-2 SAMPLE 3 QC	-0.46	15.1	-0.004	-0.003 -0.004 14Dec98 21:10 RPD = -33.4 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	9.73	4.3 W	0.082	0.079 0.084 14Dec98 21:14 %R = 81.1

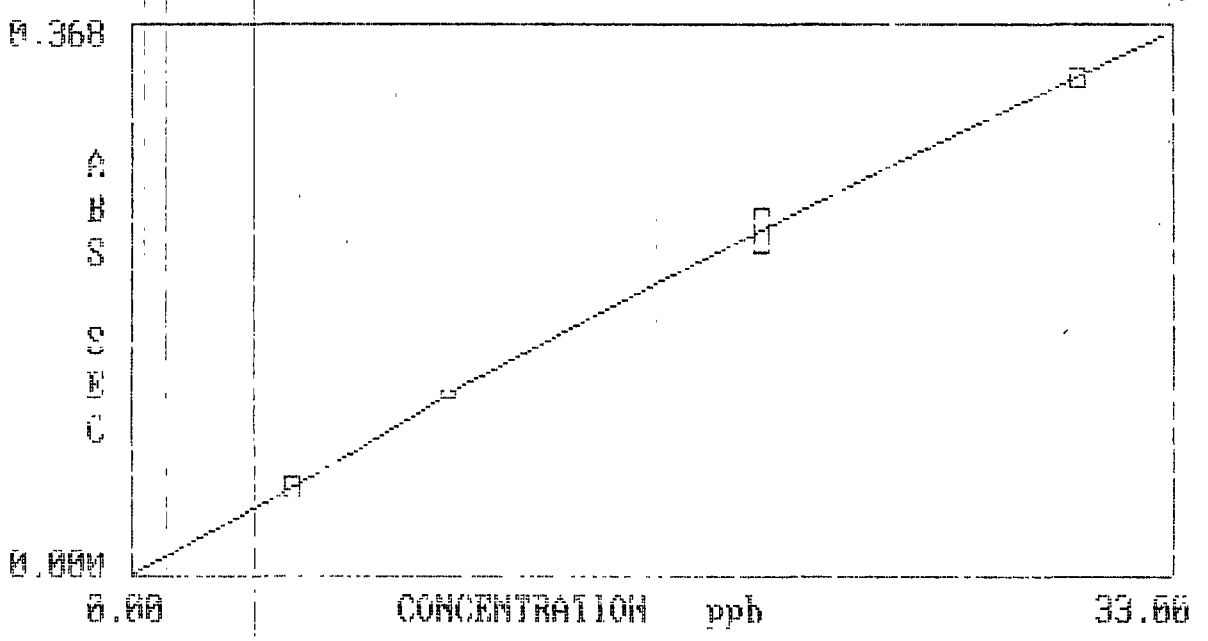
QC		N		14Dec98 21:17 %R = -5.5 CONCENTRATION LESS THAN IDL	
QCSPIKE A QC	8.70	2.2 W	0.073	0.072 14Dec98 21:21 %R = 72.5 SAMPLE CONC (50% OF SPIKE CONCENTRATIO	0.074
813435-4 SAMPLE 5 QC	-0.69	13.7	-0.006	-0.005 14Dec98 21:24 CONCENTRATION LESS THAN IDL	-0.006
QCSPIKE A QC	8.86	6.8 W	0.074	0.071 14Dec98 21:28 %R = 73.9 SAMPLE CONC (50% OF SPIKE CONCENTRATIO	0.078
SAMPLE 6 QC	4.86B	99.9	0.040B	0.001 14Dec98 21:31 %RSD GREATER THAN LIMIT	0.080B
QCSTANDARD QC	20.78	5.3	0.173	0.167 14Dec98 21:35 %R = 103.9	0.180
QCBLANK QC	1.76B	47.1	0.015B	0.020 14Dec98 21:38 %RSD GREATER THAN LIMIT	0.010B

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCBLANK QC	3.25B M	34.1	0.027B	0.033 14Dec98 21:42 ABS = 0.032 REPEATED %RSD STILL GREATER THAN LIMIT	0.020B
813435-5 SAMPLE 6 QC	3.67B	16.4	0.030B	0.027B 14Dec98 21:45	0.034B
QCSPIKE A QC	15.20B	21.1	0.128B	0.109B 14Dec98 21:49 %R = 96.1 %RSD GREATER THAN LIMIT	0.147
SAMPLE 6 QC	8.55	66.5	0.072	0.105 14Dec98 21:52 %RSD GREATER THAN LIMIT	0.038
SAMPLE 6 QC	6.17 M	54.7	0.051	0.031 14Dec98 21:56 REPEATED %RSD STILL GREATER THAN LIMIT	0.071
QCSPIKE A QC	13.35 M	51.9	0.112	0.071 14Dec98 21:59 %R = 59.8 %R FAILED, REPEAT BY STANDARD ADDITION REPEATED %RSD STILL GREATER THAN LIMIT	0.153

QC				14Dec98 22:03	
				%RSD GREATER THAN LIMIT	
SAMPLE 7	14.46B	32.6	0.121B	0.093B	0.150
QC	M			14Dec98	22:06
				REPEATED %RSD STILL GREATER THAN LIMIT	
QCSPIKE A	24.92B	25.2	0.206B	0.243B	0.169B
QC				14Dec98	22:10
				%R =	87.1
				%RSD GREATER THAN LIMIT	
SAMPLE 7	11.89B	5.5	0.100B	0.096B	0.104B
QC				14Dec98	22:13
QCSPIKE A	24.94B	44.3	0.206B	0.142B	0.271B
QC	M			14Dec98	22:17
				%R =	108.7
				REPEATED %RSD STILL GREATER THAN LIMIT	
QCSTANDARD	32.04B	0.4	0.259B	0.260B	0.259
QC				14Dec98	22:20
QCSTANDARD	58.72B	16.1	0.240B	0.267B	0.212B
QC		Q		14Dec98	22:24
				DF =	2.00
				%R =	293.6
BLANK	0.00		0.150B	0.161B	0.138B
QC				14Dec98	22:27
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
STANDARD 1	5.00	17.9	0.204B	0.230B	0.178B
QC				14Dec98	22:31
STANDARD 2	10.00	19.1	0.232B	0.200	0.263B
QC				14Dec98	22:35

BLANK	0.00		-0.808	-0.808	-0.807
QC				15Dec98	10:03
				CONCENTRATION LESS THAN IDL	
				> 2 HRS SINCE MOST RECENT QC STANDARD	
STANDARD 1	5.00	8.1	0.057	0.053	0.060
QC				15Dec98	10:07
				> 2 HRS SINCE MOST RECENT QC STANDARD	
STANDARD 2	10.00	0.8	0.120	0.120	0.119
QC				15Dec98	10:11
				> 2 HRS SINCE MOST RECENT QC STANDARD	
STANDARD 3	20.00	5.4	0.230	0.222	0.239
QC				15Dec98	10:15
				> 2 HRS SINCE MOST RECENT QC STANDARD	
STANDARD 4	30.00	1.4	0.335	0.331	0.338
QC				15Dec98	10:18
				> 2 HRS SINCE MOST RECENT QC STANDARD	



BLANK QC	0.00		0.012	0.015 15Dec98 CONCENTRATION LESS THAN IDL	0.008 10:27

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	20.69	4.2	0.238	0.231 15Dec98 %R =	0.245 10:30 103.4
QCBLANK QC	0.31	99.9	0.004	0.009 15Dec98 ABS = CONCENTRATION LESS THAN IDL	-0.002 10:34 -0.262
813502-11 SAMPLE 7 QC	0.05	99.9	0.001	-0.003 15Dec98 CONCENTRATION LESS THAN IDL	0.004 10:37
QCSPIKE A QC	6.79	11.5 W	0.078	0.072 15Dec98 %R = SAMPLE CONC <50% OF SPIKE CONCENTRATIO	0.085 10:41 56.6
QCSTANDARD QC	21.40	0.9	0.245	0.244 15Dec98 %R =	0.247 10:44 107.0
QCBLANK QC	0.16	99.9	0.002	0.006 15Dec98 ABS = CONCENTRATION LESS THAN IDL.	-0.002 10:48 -0.264
813502-12 SAMPLE 8 QC	-0.01	99.9	-0.000	0.001 15Dec98 CONCENTRATION LESS THAN IDL	-0.001 10:51
QCSPIKE A QC	6.44	2.9 W	0.074	0.072 15Dec98 %R = SAMPLE CONC <50% OF SPIKE CONCENTRATIO	0.075 10:55 53.7
813502-13 SAMPLE 9 QC	5.39	6.9	0.061	0.064 15Dec98 RPD =	0.058 10:58 200.9
QCSPIKE A QC	14.89	3.8	0.175	0.170 15Dec98 %R = %R FAILED, REPEAT BY STANDARD ADDITIO	0.179 11:02 79.1
813502-14 SAMPLE 10 QC	-0.17	99.9 N	-0.002	-0.000 15Dec98 %R = CONCENTRATION LESS THAN IDL	-0.004 11:05 -27.8

%R = 85.1

813554-1

SAMPLE 11	-0.48	1.1	-0.005	-0.005	-0.005
QC				15Dec98	11:12
				CONCENTRATION LESS THAN IDL.	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSPIKE A	7.45	3.5	0.087	0.084	0.089
QC		W		15Dec98	11:16
				%R =	62.1
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813554-2					
SAMPLE 12	0.26	61.9	0.003	0.004	0.002
QC				15Dec98	11:19
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	7.78	1.9	0.091	0.089	0.092
QC		W		15Dec98	11:23
				%R =	64.8
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
QCSTANDARD	21.32	3.3	0.244	0.239	0.250
QC				15Dec98	11:26
				%R =	106.6
QCBLANK	0.48	99.9	0.005	0.010	0.001
QC				15Dec98	11:30
				ABS =	-0.260
				CONCENTRATION LESS THAN IDL	
813554-3					
SAMPLE 13	-1.00	12.8	-0.011	-0.012	-0.010
QC				15Dec98	11:33
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.70	4.6	0.115	0.112	0.119
QC		W		15Dec98	11:37
				%R =	80.8
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813604-19					
SAMPLE 14	-0.63	60.9	-0.007	-0.004	-0.010
QC				15Dec98	11:40
				CONCENTRATION LESS THAN IDL.	
QCSPIKE A	6.29	0.8	0.072	0.072	0.073
QC		W		15Dec98	11:44
				%R =	52.5
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813604-20					
SAMPLE 15	-0.38	22.1	-0.004	-0.004	-0.005
QC				15Dec98	11:47
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	8.84	6.8	0.104	0.099	0.109
QC		W		15Dec98	11:51
				%R =	73.6
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813604-21					

CONCENTRATION LESS THAN IDL

QCSPIKE A QC	8.06	3.5 W	0.094	0.092 15Dec98 %R =	0.097 11:58 67.2

SAMPLE CONC (50% OF SPIKE CONCENTRATI

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
813604-22 SAMPLE 17 QC	-0.94	51.8	-0.011	-0.007 15Dec98 CONCENTRATION LESS THAN IDL	-0.015 12:02
QCSPIKE A QC	7.58	0.4 W	0.088	0.088 15Dec98 %R =	0.088 12:05 63.2

SAMPLE CONC (50% OF SPIKE CONCENTRATI

QCSTANDARD QC	21.53	2.0	0.247	0.250 15Dec98 %R =	0.243 12:09 107.6
QCBLANK QC	-0.13	99.9	-0.001	0.003 15Dec98 ABS =	-0.006 12:12 -0.267

CONCENTRATION LESS THAN IDL

813604-23 SAMPLE 18 QC	3.56	2.4	0.040	0.040 15Dec98	0.041 12:16
QCSPIKE A QC	14.45	6.2	0.170	0.162 15Dec98 %R =	0.177 12:20 90.8
813659-1 SAMPLE 19 QC	-0.86	53.2	-0.010	-0.006 15Dec98	-0.013 12:23

CONCENTRATION LESS THAN IDL

QCSPIKE A QC	8.06	0.3 W	0.094	0.094 15Dec98 %R =	0.094 12:27 67.2

SAMPLE CONC (50% OF SPIKE CONCENTRATI

813659-2 SAMPLE 20 QC	-0.65	29.0	-0.007	-0.006 15Dec98	-0.009 12:30

CONCENTRATION LESS THAN IDL

QCSPIKE A QC	8.05	4.9 W	0.094	0.091 15Dec98 %R =	0.097 12:34 67.1

SAMPLE CONC (50% OF SPIKE CONCENTRATI

813659-3 SAMPLE 21 QC	-0.77	18.3	-0.009	-0.008 15Dec98	-0.010 12:38

CONCENTRATION LESS THAN IDL

QCSPIKE A QC	7.64	6.3 W	0.089	0.085 15Dec98 %R =	0.093 12:41 [illegible]

CONCENTRATION LESS THAN IDL

QCSPIKE A QC	8.06	3.5 W	0.094	0.092 15Dec98 %R =	0.097 11:58 67.2
				SAMPLE CONC (50% OF SPIKE CONCENTRATIO	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
813604-22 SAMPLE 17 QC	-0.94	51.8	-0.011	-0.007 15Dec98 CONCENTRATION LESS THAN IDL	-0.015 12:02
QCSPIKE A QC	7.58	0.4 W	0.088	0.088 15Dec98 %R =	0.088 12:05 63.2
				SAMPLE CONC (50% OF SPIKE CONCENTRATIO	
QCSTANDARD QC	21.53	2.0	0.247	0.250 15Dec98 %R =	0.243 12:09 107.6
QCBLANK QC	-0.13	99.9	-0.001	0.003 15Dec98 ABS =	-0.006 12:12 -0.267
				CONCENTRATION LESS THAN IDL	
813604-23 SAMPLE 18 QC	3.56	2.4	0.040	0.040 15Dec98	0.041 12:16
QCSPIKE A QC	14.45	6.2	0.170	0.162 15Dec98 %R =	0.177 12:20 90.8
813659-1 SAMPLE 19 QC	-0.86	53.2	-0.010	-0.006 15Dec98 CONCENTRATION LESS THAN IDL	-0.013 12:23
QCSPIKE A QC	8.06	0.3 W	0.094	0.094 15Dec98 %R =	0.094 12:27 67.2
				SAMPLE CONC (50% OF SPIKE CONCENTRATIO	
813659-2 SAMPLE 20 QC	-0.65	29.0	-0.007	-0.006 15Dec98 CONCENTRATION LESS THAN IDL	-0.009 12:30
QCSPIKE A QC	8.05	4.9 W	0.094	0.091 15Dec98 %R =	0.097 12:34 67.1
				SAMPLE CONC (50% OF SPIKE CONCENTRATIO	
813659-3 SAMPLE 21 QC	-0.77	18.3	-0.009	-0.008 15Dec98 CONCENTRATION LESS THAN IDL	-0.010 12:38
QCSPIKE A QC	7.64	6.3 W	0.089	0.085 15Dec98 %R =	0.093 12:41 63.7

QC				15Dec98 12:45 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	9.48	5.4 W	0.113	0.108 0.117 15Dec98 12:49 %R = 79.0 SAMPLE CONC <50% OF SPIKE CONCENTRATIO

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
QCSTANDARD QC	20.88	1.6	0.240	0.237 0.242 15Dec98 12:52 %R = 104.4
QCBLANK QC	0.00	99.9	0.000	0.001 -0.001 15Dec98 12:56 ABS = -0.265 CONCENTRATION LESS THAN IDL
813659-5D SAMPLE 23 QC	-1.02	24.1	-0.012	-0.014 -0.010 15Dec98 12:59 CONCENTRATION LESS THAN IDL
AW 1/13/99 QCSPIKE A QC	9.52	8.2 W	0.113	0.107 0.120 15Dec98 13:03 %R = 79.3 SAMPLE CONC <50% OF SPIKE CONCENTRATIC
PB SAMPLE 24 QC	0.21	99.9	0.002	0.007 -0.002 15Dec98 13:06 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	11.94	1.7	0.142	0.143 0.140 15Dec98 13:10 %R = 99.5
SAMPLE 25 QC	OVER	0.0	0.374	0.374 0.374 15Dec98 13:14
LCS SAMPLE 25 QC	32.05	0.1	0.187	0.187 0.187 15Dec98 13:17 DF = 2.00
QCSPIKE A QC	56.82	0.4	0.318	0.319 0.318 15Dec98 13:21 DF = 2.00 %R = 103.2
813435-1 SAMPLE 26 QC	0.01	99.9	0.000	0.004 -0.003 15Dec98 13:24 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	8.91	3.7 W	0.105	0.108 0.102 15Dec98 13:28 %R = 74.3 SAMPLE CONC <50% OF SPIKE CONCENTRATIC
QCSTANDARD QC	19.75	1.9	0.228	0.225 0.231 15Dec98 13:31 %R = 98.8

QC				15Dec98 13:35	
				ABS = -0.266	
				CONCENTRATION LESS THAN IDL	
813435-2					
SAMPLE 27	-0.09	99.9	-0.001	-0.000	-0.002
QC				15Dec98 13:38	
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSPIKE A	10.16	6.1	0.121	0.116	0.127
QC		W		15Dec98 13:42	
				%R = 84.7	
				SAMPLE CONC <50% OF SPIKE CONCENTRATIC	
813435-3					
SAMPLE 28	2.88	14.6	0.033	0.036	0.029
QC				15Dec98 13:46	
QCSPIKE A	11.98	0.0	0.142	0.142	0.142
QC		W		15Dec98 13:49	
				%R = 75.8	
				SAMPLE CONC <50% OF SPIKE CONCENTRATIC	
SAMPLE 29	1.51	38.8	0.017	0.022	0.012
QC				15Dec98 13:53	
				%RSD GREATER THAN LIMIT	
813435-4					
SAMPLE 29	1.14	8.1	0.013	0.012	0.014
QC				15Dec98 13:56	
QCSPIKE A	11.39	0.4	0.135	0.136	0.135
QC				15Dec98 14:00	
				%R = 85.4	
813435-5					
SAMPLE 30	0.01	99.9	0.000	0.005	-0.005
QC				15Dec98 14:03	
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.75	1.6	0.116	0.117	0.115
QC		W		15Dec98 14:07	
				%R = 81.2	
				SAMPLE CONC <50% OF SPIKE CONCENTRATIC	
QCSTANDARD	19.58	2.2	0.226	0.222	0.229
QC				15Dec98 14:10	
				%R = 97.9	
QCBLANK	-0.13	99.9	-0.002	0.004	-0.007
QC				15Dec98 14:14	
				ABS = -0.267	
				CONCENTRATION LESS THAN IDL	
813435-6					
SAMPLE 31	0.01	99.9	0.000	0.003	-0.003
QC				15Dec98 14:17	
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	10.96	5.2	0.130	0.135	0.126
QC				15Dec98 14:21	
				%R = 91.3	
812502-11					

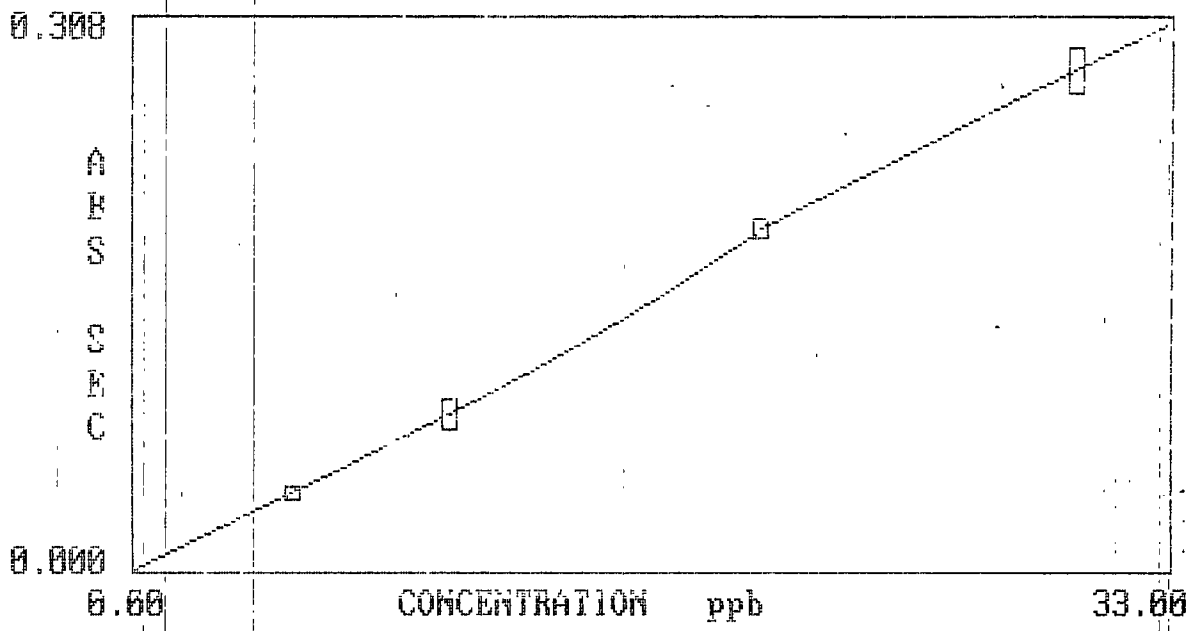
CONCENTRATION LESS THAN IDL

QCSPIKE A QC	5.50	3.5 W	0.063	0.064 0.061 15Dec98 14:28 %R = 45.9 SAMPLE CONC <50% OF SPIKE CONCENTRATIO

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
813502-12 SAMPLE 33 QC	-0.53	25.7	-0.006	-0.005 -0.007 15Dec98 14:32 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	7.47	4.5 W	0.087	0.084 0.089 15Dec98 14:35 %R = 62.2 SAMPLE CONC <50% OF SPIKE CONCENTRATIO
813502-13 SAMPLE 34 QC	-0.06	99.9	-0.001	0.002 -0.003 15Dec98 14:39 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	9.87	7.6 W	0.118	0.124 0.111 15Dec98 14:42 %R = 82.3 SAMPLE CONC <50% OF SPIKE CONCENTRATIO
813502-14 SAMPLE 35 QC	-0.47	71.0	-0.005	-0.003 -0.008 15Dec98 14:46 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	10.42	0.1	0.124	0.124 0.124 15Dec98 14:49 %R = 86.9
QCSTANDARD QC	18.94	6.7	0.219	0.209 0.229 15Dec98 14:53 %R = 94.7
QCBLANK QC	0.02	99.9	0.000	0.007 -0.007 15Dec98 14:56 ABS = -0.265 CONCENTRATION LESS THAN IDL
SAMPLE 36 QC	-0.64	25.8	-0.007	-0.006 -0.009 15Dec98 15:00 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	6.88	8.0 W	0.079	0.075 0.084 15Dec98 15:03 %R = 57.4 SAMPLE CONC <50% OF SPIKE CONCENTRATION
SAMPLE 37 QC	-0.20	99.9	-0.002	0.004 -0.008 15Dec98 15:07 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	6.09	6.0 W	0.070	0.067 0.073 15Dec98 15:10

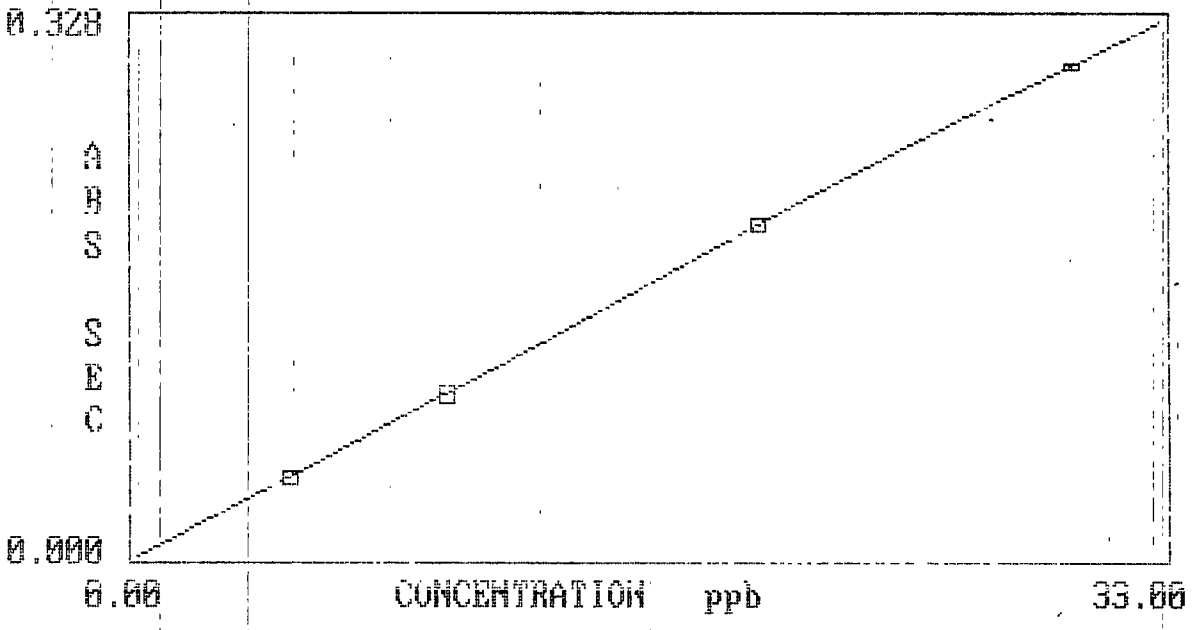
SAMPLE 38 QC	5.56	2.8	0.063	0.065 0.062 15Dec98 15:14
QCSPIKE A QC	13.58	3.4	0.160	0.156 0.164 15Dec98 15:17 %R = 66.8 %R FAILED, REPEAT BY STANDARD ADDITION

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
SAMPLE 39 QC	-0.81	14.1	-0.009	-0.008 -0.010 15Dec98 15:21 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	5.17	0.7 W	0.058	0.059 0.058 15Dec98 15:25 %R = 43.0 SAMPLE CONC (50% OF SPIKE CONCENTRATIC
SAMPLE 40 QC	0.00	99.9	0.000	0.004 -0.004 15Dec98 15:28 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	8.66	4.5 W	0.102	0.099 0.105 15Dec98 15:32 %R = 72.2 SAMPLE CONC (50% OF SPIKE CONCENTRATIC
QCSTANDARD QC	17.32	2.2 Q	0.202	0.198 0.205 15Dec98 15:35 %R = 86.6
BLANK QC	0.00		0.004	0.010 -0.003 15Dec98 15:39 CONCENTRATION LESS THAN IDL
STANDARD 1 QC	5.00	4.2	0.043	0.042 0.044 15Dec98 15:43
STANDARD 2 QC	10.00	8.1	0.087	0.082 0.092 15Dec98 15:46
STANDARD 3 QC	20.00	1.8	0.192	0.190 0.195 15Dec98 15:50
STANDARD 4 QC	30.00	3.5	0.280	0.273 0.287 15Dec98 15:54



SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	22.90	0.4 Q	0.218	0.219	0.217
				15Dec98	15:58
				%R =	114.5
BLANK QC	0.00		0.001	0.009	-0.008
				15Dec98	16:14
				CONCENTRATION LESS THAN IDL	
QCSTANDARD QC	22.33	3.4 Q	0.213	0.208	0.218
				15Dec98	16:17
				%R =	111.6
BLANK	0.00		0.018	0.022	0.014

STANDARD 1	5.00	4.8	0.050	0.052	0.049
QC				15Dec98	16:26
STANDARD 2	10.00	4.4	0.102	0.098	0.105
QC				15Dec98	16:30
STANDARD 3	20.00	0.6	0.204	0.205	0.203
QC				15Dec98	16:34
STANDARD 4	30.00	0.2	0.298	0.299	0.298
QC				15Dec98	16:37



SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD	22.78	1.9	0.231	0.228	0.234
QC		Q		15Dec98	16:41
				%R =	113.9

32868 Rmk DW 12/22/98

CORE LABORATORIES

GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT	VA					METHOD 7041		ELEMENT Sb	
DATE	12/16/98			ANALYST	CAL				
		SOURCE	DATE	TV		SOURCE (CIRCLE)	TV		
ICV	V01019809			20ppb		CCV (CAL/ICV)	20ppb		
START TIME	2053			END TIME					
	SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	% RECOVERY		SAMPLE ID	RESULT (ug/L)	SPIKE RESULT	% RECOVERY
	ICV	21.87			22	813433-3	-0.43		
	ICB	0.31			23	" -4	0.13		
1	CRA PBW1214-1	0.15			24	813596-1	-0.03		
	CCV	21.26			25	813790-1	-0.06		
	CCB	0.20			26	" -2	-0.54		
2	LCSW	42.26	Rem			CCV	19.67		
3	813554-1	0.31				CCB	-0.23		
4	-2	0.87	← CCV 21.67		27				
5	-3	12.16	CCB 0.22		28				
6	813604-19	-0.02			29				
	CCV				30				
	CCB				31				
7	813604-20	0.76				CCV			
8	-21	0.92				CCB			
9	-22	0.425	← CCV 21.32		32				
10	-23	2.10	CCB -0.14		33				
11	-23D	0.84			34				
	CCV				35				
	CCB	RSP 12/18/98	CAL 12/22/98		36				
12	813604-23S	~~35.60~~	~~24.14~~ 35.60			CCV			
13	813788-1	-0.24				CCB			
14	-2	CAL 12/18/98 ~~4.82~~ 0.13			37				
15	-3	~~0.13~~ 0.44			38				
16	-4	-0.00			39			CAL 12/18/98	
	CCV	19.02			40				
	CCB	0.18			41				
17	813788-5	-0.60				CCV			
18	" -7	-0.18				CCB			
19	813433-1	-0.22			42				
20	-1D	0.18			43				
21	-2	0.12			44				
	CCV	19.57			45				
	CCB	-0.14				CCV			
						CCB			

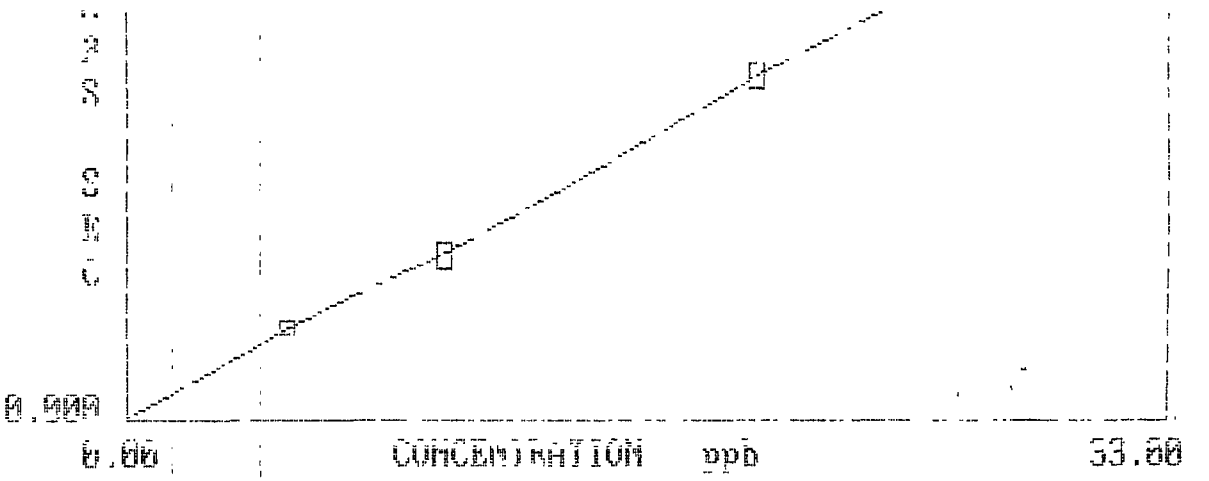
Totals 1-12

100-25

Dis →

DWP

132



SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD	25.95	1.3	0.207	0.205	0.209
QC		Q		16Dec98	19:13
				%R =	129.8

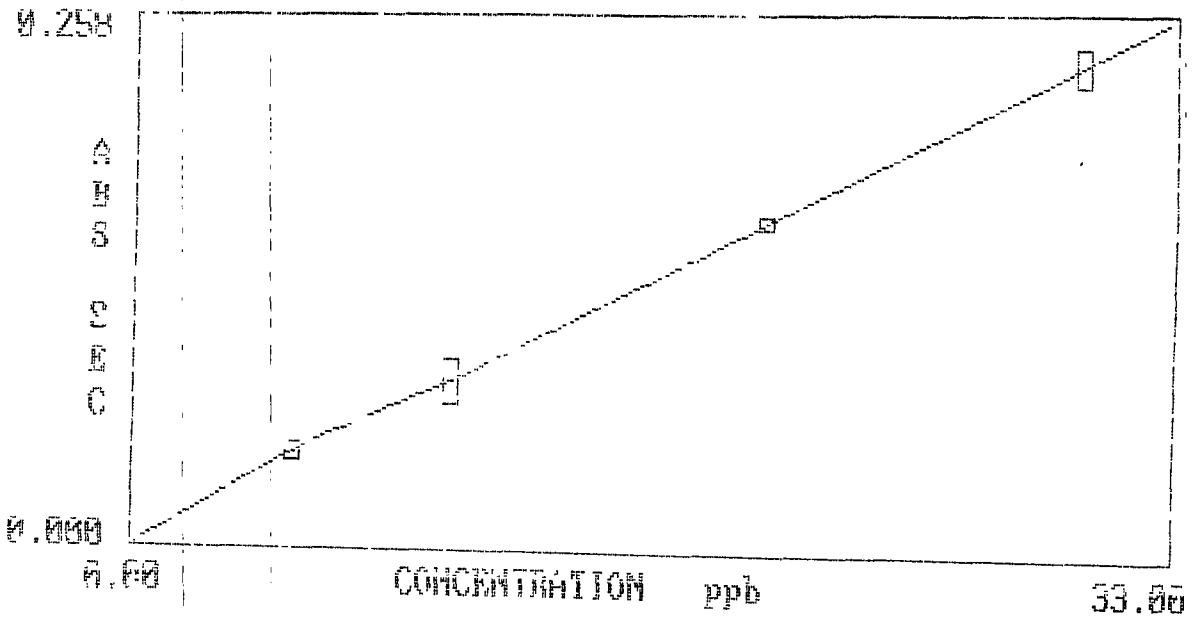
Varian Spectraa 300/400 Zeeman
QC Protocol Report

SPECTRAA-400 CORE#11004
ZEEMAN GRAPHITE TUBE ATOMIZER CORE# 11006
AUTOSAMPLER CORE#11005

OPERATOR pal,chh,amw
DATE 12/16/98
BATCH 121698b5

PROGRAM 12 Sb Wall

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK	0.00		-0.808	-0.809	-0.807
QC				16Dec98	20:53
				CONCENTRATION LESS THAN IDL	
STANDARD 1	5.00	6.6	0.045	0.043	0.047
QC				16Dec98	20:57
STANDARD 2	10.00	11.5	0.079	0.085	0.072
QC				16Dec98	21:01
STANDARD 3	20.00	1.3	0.158	0.159	0.157
QC				16Dec98	21:05
STANDARD 4	30.00	3.1	0.235	0.240	0.229


0.258
ABSORBANCE
0.000
0.00
CONCENTRATION ppb
33.00

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
BLANK QC	0.00		0.009	0.007 0.011 16Dec98 21:17 CONCENTRATION LESS THAN IDL
QCSTANDARD QC	21.87	3.1	0.173	0.169 0.176 16Dec98 21:21 %R = 109.3
QCBLANK QC	0.31	99.9	0.003	0.005 0.000 16Dec98 21:24 ABS = -0.264 CONCENTRATION LESS THAN IDL
PB SAMPLE 1 QC	0.15	99.9	0.001	0.005 -0.002 16Dec98 21:28 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	12.77	5.4	0.101	0.097 0.105 16Dec98 21:32 %R = 106.4
QCSTANDARD QC	21.26	3.5	0.168	0.164 0.172 16Dec98 21:35 %R = 106.3
QCBLANK QC	0.20	99.9	0.002	0.007 -0.003 16Dec98 21:39 ABS = -0.264 CONCENTRATION LESS THAN IDL

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
SAMPLE 2 QC	OVER	2.8	0.323	0.330 0.317 16Dec98 21:42
LCS SAMPLE 2 QC	42.26	0.7	0.167	0.166 0.168 16Dec98 21:45 DF = 2.00
QCSPIKE A QC	65.87	0.1	0.257	0.257 0.257 16Dec98 21:49 DF = 2.00
QCSPIKE A QC	92.23	4.3	0.170	0.165 0.175 16Dec98 21:53 DF = 4.29

				DF = 4.29
QCSPIKE A QC	92.31	3.2	0.170	0.166 0.174 16Dec98 22:00 DF = 4.29 %R = 97.6
813554-1				
SAMPLE 3 QC	0.31	99.9	0.003	0.007 -0.001 16Dec98 22:03 RPD = 197.1 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	7.62	11.4 W	0.064	0.059 0.069 16Dec98 22:07 %R = 63.5 SAMPLE CONC <50% OF SPIKE CONCENTRATI
813554-2				
SAMPLE 4 QC	0.87	13.3 N	0.008	0.007 0.009 16Dec98 22:10 %R = 4.3 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	6.98	0.2 W	0.059	0.059 0.059 16Dec98 22:14 %R = 58.2 SAMPLE CONC <50% OF SPIKE CONCENTRATI
QCSTANDARD QC	21.67	0.9	0.171	0.170 0.172 16Dec98 22:17 %R = 108.4
QCBLANK QC	0.22	99.9	0.002	0.006 -0.002 16Dec98 22:21 ABS = -0.264 CONCENTRATION LESS THAN IDL
813554-3				
SAMPLE 5 QC	12.16	8.6	0.096	0.102 0.090 16Dec98 22:24
QCSPIKE A QC	25.05	0.6	0.197	0.198 0.196 16Dec98 22:28 %R = 107.4

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
813604-19				
SAMPLE 6 QC	-0.02	99.9	-0.000	-0.001 0.000 16Dec98 22:31 CONCENTRATION LESS THAN IDL
QCSPIKE A QC	5.95	11.5 W	0.052	0.048 0.056 16Dec98 22:35 %R = 49.6 SAMPLE CONC <50% OF SPIKE CONCENTRATI
813604-20				
SAMPLE 7 QC	0.76	33.8	0.007	0.005 0.008 16Dec98 22:39 CONCENTRATION LESS THAN IDL
QCSPIKE A	7.50	9.7	0.063	0.059 0.067

813604-21

SAMPLE 8	0.92	32.0	0.008	0.010	0.006
QC				16Dec98	22:46
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.90	4.5	0.078	0.081	0.076
QC		W		16Dec98	22:49
				%R =	82.5
				SAMPLE CONC <50% OF SPIKE CONCENTRAT	

813604-22

SAMPLE 9	0.45	99.9	0.004	0.008	-0.000
QC				16Dec98	22:53
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.12	2.9	0.073	0.075	0.072
QC		W		16Dec98	22:56
				%R =	76.0
				SAMPLE CONC <50% OF SPIKE CONCENTRAT	
QCSTANDARD	21.32	2.1	0.168	0.171	0.166
QC				16Dec98	23:00
				%R =	106.6
QCBLANK	-0.14	13.3	-0.001	-0.001	-0.001
QC				16Dec98	23:03
				ABS =	-0.267
				CONCENTRATION LESS THAN IDL	

813604-23

SAMPLE 10	2.10	14.9	0.019	0.021	0.017
QC				16Dec98	23:07
QCSPIKE A	14.43	3.8	0.114	0.111	0.117
QC				16Dec98	23:10
				%R =	102.8

813604-23D

SAMPLE 11	0.84	47.1	0.008	0.010	0.005
QC				16Dec98	23:14
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	11.46	9.8	0.090	0.084	0.097
QC				16Dec98	23:17
				%R =	95.5

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
SAMPLE 12	OVER	3.3	0.338	0.330	0.346
QC				16Dec98	23:21

813604-23S

SAMPLE 12	35.60	10.0	0.141	0.131	0.151
QC				16Dec98	23:24
				DF =	2.00
QCSPIKE A	65.66	0.2	0.256	0.256	0.256
QC				16Dec98	23:27
				DF =	2.00
QCSPIKE A	70.23	1.2	0.129	0.128	0.131
QC				16Dec98	23:31
				DF =	4.29

				DF =	4.29
				%RSD GREATER THAN LIMIT	
QCSTANDARD	19.95	3.0	0.158	0.154	0.161
QC				16Dec98	23:38
				%R =	99.8
QCBLANK	-0.08	99.9	-0.001	-0.002	0.000
QC				16Dec98	23:41
				ABS =	-0.267
				CONCENTRATION LESS THAN IDL	
SAMPLE 12	24.14	6.1	0.050	0.048	0.052
QC				16Dec98	23:45
				DF =	4.29
QCSPIKE A	73.90	0.8	0.136	0.135	0.137
QC				16Dec98	23:48
				DF =	4.29
				%R =	96.8
813788-1					
SAMPLE 13	-0.24	99.9	-0.002	0.001	-0.005
QC				16Dec98	23:51
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	4.82	2.7	0.043	0.044	0.042
QC		W		16Dec98	23:55
				%R =	40.2
				SAMPLE CONC <50% OF SPIKE CONCENTRATIO	
813788-2					
SAMPLE 14	0.13	99.9	0.001	0.002	0.000
QC				16Dec98	23:59
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	8.37	1.2	0.069	0.069	0.068
QC		W		17Dec98	00:02
				%R =	69.7
				SAMPLE CONC <50% OF SPIKE CONCENTRATIO	
813788-3					
SAMPLE 15	0.44	0.0	0.004	0.004	0.004
QC				17Dec98	00:06
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSPIKE A	8.24	8.1	0.068	0.064	0.072
QC		W		17Dec98	00:09
				%R =	68.6
				SAMPLE CONC <50% OF SPIKE CONCENTRATIO	
813788-4					
SAMPLE 16	-0.00	99.9	-0.000	-0.001	0.001
QC				17Dec98	00:13
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	8.50	3.8	0.070	0.071	0.068
QC		W		17Dec98	00:17
				%R =	70.8
				SAMPLE CONC <50% OF SPIKE CONCENTRATIO	

QCBLANK	0.18	99.9	0.002	0.008	-0.004
QC				17Dec98	00:24
				ABS =	-0.265
				CONCENTRATION LESS THAN IDL	
813788-5					
SAMPLE 17	-0.60	79.8	-0.005	-0.002	-0.008
QC				17Dec98	00:27
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.67	1.1	0.077	0.076	0.077
QC		W		17Dec98	00:31
				%R =	80.6
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813788-7					
SAMPLE 18	-0.18	17.6	-0.002	-0.001	-0.002
QC				17Dec98	00:34
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	6.55	1.1	0.056	0.056	0.057
QC		W		17Dec98	00:38
				%R =	54.6
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813433-1					
SAMPLE 19	-0.22	99.9	-0.002	-0.001	-0.003
QC				17Dec98	00:41
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.37	0.7	0.075	0.075	0.075
QC		W		17Dec98	00:45
				%R =	78.1
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
813433-1D					
SAMPLE 20	0.18	99.9	0.002	0.000	0.003
QC				17Dec98	00:49
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.06	0.4	0.073	0.073	0.073
QC		W		17Dec98	00:52
				%R =	75.5
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
813433-2					
SAMPLE 21	0.12	99.9	0.001	0.003	-0.000
QC				17Dec98	00:56
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	8.70	0.2	0.071	0.071	0.071
QC		W		17Dec98	01:00
				%R =	72.5
				SAMPLE CONC (50% OF SPIKE CONCENTRATI	
QCSTANDARD	19.57	1.2	0.155	0.156	0.153
QC				17Dec98	01:03
				%R =	97.8
QCBLANK	-0.14	99.9	-0.001	0.001	-0.004
QC				17Dec98	01:07

SAMPLE 22	-0.43	99.9	-0.004	-0.001	-0.007
QC				17Dec98	01:10
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	8.73	5.7	0.071	0.068	0.074
QC		W		17Dec98	01:14
				%R =	72.7
				SAMPLE CONC <50% OF SPIKE CONCENTRATI	
813433-4					
SAMPLE 23	0.13	99.9	0.001	0.005	-0.002
QC				17Dec98	01:17
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.40	2.8	0.075	0.074	0.077
QC		W		17Dec98	01:21
				%R =	78.3
				SAMPLE CONC <50% OF SPIKE CONCENTRATI	
813596-1					
SAMPLE 24	-0.03	99.9	-0.000	-0.002	0.001
QC				17Dec98	01:25
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	9.32	4.0	0.075	0.073	0.077
QC		W		17Dec98	01:28
				%R =	77.7
				SAMPLE CONC <50% OF SPIKE CONCENTRATI	
813790-1					
SAMPLE 25	-0.06	99.9	-0.001	-0.002	0.001
QC				17Dec98	01:32
				CONCENTRATION LESS THAN IDL	
QCSPIKE A	8.77	2.1	0.071	0.070	0.072
QC		W		17Dec98	01:36
				%R =	73.1
				SAMPLE CONC <50% OF SPIKE CONCENTRATI	
813790-2					
SAMPLE 26	-0.54	2.5	-0.005	-0.005	-0.005
QC				17Dec98	01:39
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSPIKE A	8.33	3.4	0.068	0.067	0.070
QC		W		17Dec98	01:43
				%R =	69.4
				SAMPLE CONC <50% OF SPIKE CONCENTRATI	
QCSTANDARD	19.67	0.1	0.155	0.155	0.156
QC				17Dec98	01:46
				%R =	98.3
QCBLANK	-0.23	99.9	-0.002	0.004	-0.008
QC				17Dec98	01:50
				ABS =	-0.268
				CONCENTRATION LESS THAN IDL	

32890

P1

CORE LABORATORIES
GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT	VA400				METHOD 7841	ELEMENT Tl	
DATE	12/17/98		ANALYST		CH		
		SOURCE	TV		SOURCE (CIRCLE) TV		
ICV	V129750F		40ppb		CCV (CAL/CV)	40ppb	STD.SOURCE
START TIME	1233		END TIME				

	SAMPLE ID	RESULT (ug/L)	% RECOVERY		SAMPLE ID	RESULT ug/L	% RECOVERY
	ICV	43.2		23			
	ICB	-0.7		24			
1	CRA PBW1244-1	-0.7		25			
	CCV	40.2		26			
	CCB	-0.6		27	CCV	41.5	
2	LCSW	201.9		28	CCB	-0.6	
3	813435-1	-0.8		29			
4	-2	-0.7		30	Restarted at one for next set		
5	-3	-1.0		31	CH 12/18/98		
6	-4	-0.3			CCV		
7	-5	-1.1			CCB		
8	-6	-1.1	CCV 417	32			
9	813502-11	-0.2	CCB -0.8	33			
10	-12	4.2		34			
11	-13	-0.8		35			
	CCV			36			
	CCB			37	CH 12/18/98		
12	813502-14	-0.9		38			
13	813554-1	-0.7		39			
14	-2	-0.3		40			
15	-3	-0.6		41			
16	813604-19	-1.1			CCV		
17	-20	0.0			CCB		
18	-21	10.4	CCV 403	42			
19	-22	1.4	CCB -0.1	43			
20	-23	-0.6		44			
21	-23D	-0.9		45			
	CCV				CCV		
	CCB				CCB		
22	813604-23S	154.8	Bad RSD on Both				

CH 12/18/98

Tl 150.9

Tl 20-25

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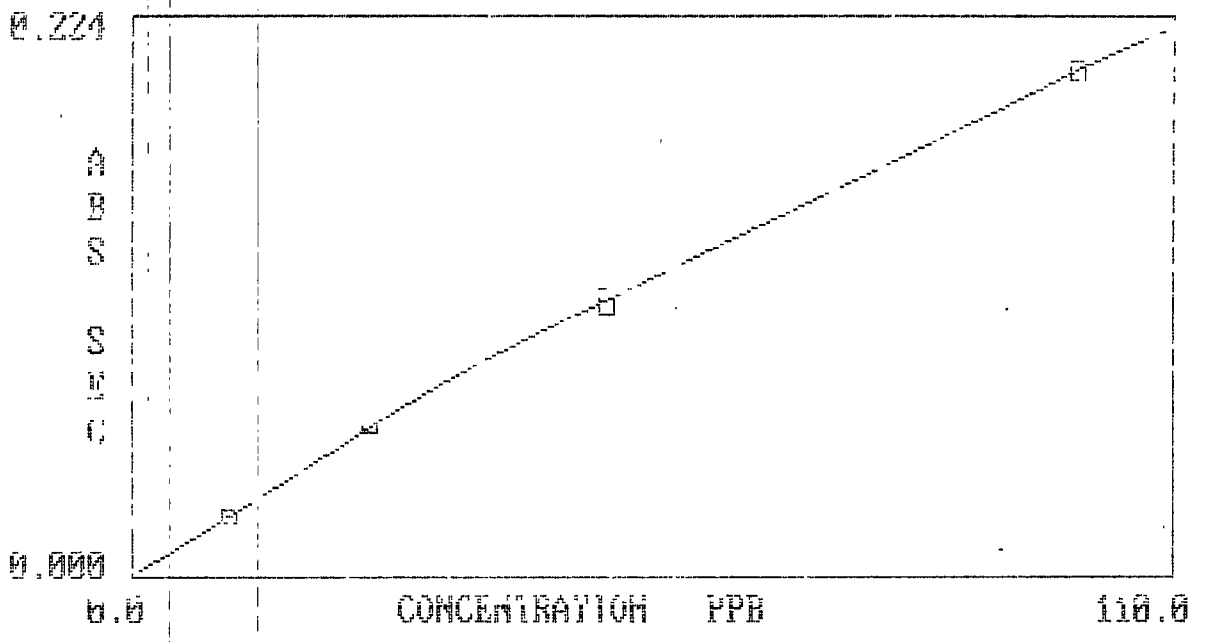
Varian Spectra AA 300/400 Zeeman
QC Processed Report

SPECTRAA-400 CORE#11004
ZEEMAN GRAPHITE TUBE ATOMIZER CORE# 11006
AUTOSAMPLER CORE#11005

OPERATOR pal,chh,amw
DATE 12/17/98
BATCH 121798b5

PROGRAM 3 Tl WALL

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
BLANK	0.0		0.003	0.006	0.000
QC				17Dec98	12:33
				CONCENTRATION LESS THAN IDL	
STANDARD 1	10.0	3.1	0.024	0.024	0.023
QC				17Dec98	12:36
STANDARD 2	25.0	1.9	0.060	0.059	0.060
QC				17Dec98	12:39
STANDARD 3	50.0	3.3	0.110	0.113	0.108
QC				17Dec98	12:42
STANDARD 4	100.0	1.2	0.204	0.206	0.202
QC				17Dec98	12:45



SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	43.2	0.2	0.098	0.098	0.098
				17Dec98	12:49
				%R =	108.0
QCBLANK QC	-0.7	45.4	-0.002	-0.001	-0.002
				17Dec98	12:52
				ABS =	-0.001
				CONCENTRATION LESS THAN IDL	
PB SAMPLE 1 QC	-0.7	20.7	-0.002	-0.001	-0.002
				17Dec98	12:55
				CONCENTRATION LESS THAN IDL	
QCSTANDARD QC	40.2	2.4	0.092	0.094	0.091
				17Dec98	12:58
				%R =	100.5
QCBLANK QC	-0.6	49.2	-0.001	-0.001	-0.002
				17Dec98	13:01
				ABS =	-0.001

SAMPLE 2 QC	OVER	1.0	0.316	0.319	0.314
				17Dec98	13:04
LCS					
SAMPLE 2 QC	201.9	0.6	0.205	0.206	0.204
				17Dec98	13:06
				DF =	2.00

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
SAMPLE 2 QC	152.0	45.5	0.088	0.060	0.116
				17Dec98	13:09
				DF =	4.00
				%RSD GREATER THAN LIMIT	
SAMPLE 2 QC	141.6	49.9	0.083	0.054	0.112
	M			17Dec98	13:12
				DF =	4.00
				REPEATED %RSD STILL GREATER THAN LIMI	
813435-1					
SAMPLE 3 QC	-0.8	63.8	-0.002	-0.001	-0.003
				17Dec98	13:15
				RPD =	202.4
				CONCENTRATION LESS THAN IDL	
813435-2					
SAMPLE 4 QC	-0.7	99.9	-0.002	-0.003	-0.000
	N			17Dec98	13:18
				%R =	-3.7
				CONCENTRATION LESS THAN IDL	
813435-3					
SAMPLE 5 QC	-1.0	37.8	-0.002	-0.003	-0.002
				17Dec98	13:21
				CONCENTRATION LESS THAN IDL	
813435-4					
SAMPLE 6 QC	-0.3	0.0	-0.001	-0.001	-0.001
				17Dec98	13:24
				CONCENTRATION LESS THAN IDL	
813435-5					
SAMPLE 7 QC	-1.1	76.7	-0.003	-0.004	-0.001
				17Dec98	13:26
				CONCENTRATION LESS THAN IDL	
813435-6					
SAMPLE 8 QC	-1.1	77.0	-0.002	-0.001	-0.004
				17Dec98	13:29
				CONCENTRATION LESS THAN IDL	
QCSTANDARD QC	41.7	1.7	0.095	0.096	0.094
				17Dec98	13:32
				%R =	104.3
QCBLANK QC	-0.8	5.8	-0.002	-0.002	-0.002
				17Dec98	13:35
				ABS =	-0.001
				CONCENTRATION LESS THAN IDL	
813502-11					
SAMPLE 9 QC	-0.2	99.9	-0.000	-0.001	-0.000
				17Dec98	13:38
				CONCENTRATION LESS THAN IDL	
813509-12					
SAMPLE 10	4.2	83.8	0.010	0.004	0.016

SAMPLE 11	-0.8	28.3	-0.002	-0.001	-0.002
QC				17Dec98	13:44
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
813502-14					
SAMPLE 12	-0.9	49.7	-0.002	-0.003	-0.001
QC				17Dec98	13:46
				CONCENTRATION LESS THAN IDL	
813554-1					
SAMPLE 13	-0.7	99.9	-0.002	-0.003	-0.000
QC				17Dec98	13:49
				CONCENTRATION LESS THAN IDL	
813554-2					
SAMPLE 14	-0.3	99.9	-0.001	0.000	-0.002
QC				17Dec98	13:52
				CONCENTRATION LESS THAN IDL	
813554-3					
SAMPLE 15	-0.6	44.8	-0.001	-0.001	-0.002
QC				17Dec98	13:55
				CONCENTRATION LESS THAN IDL	
813604-19					
SAMPLE 16	-1.1	6.1	-0.003	-0.003	-0.003
QC				17Dec98	13:58
				CONCENTRATION LESS THAN IDL	
813604-20					
SAMPLE 17	0.0	99.9	0.000	-0.001	0.001
QC				17Dec98	14:01
				CONCENTRATION LESS THAN IDL	
813604-21					
SAMPLE 18	10.4	2.8	0.025	0.024	0.025
QC				17Dec98	14:04
QCSTANDARD	40.3	0.3	0.092	0.093	0.092
QC				17Dec98	14:06
				%R =	100.7
QCBLANK	-0.1	99.9	-0.000	0.001	-0.001
QC				17Dec98	14:09
				ABS =	0.001
				CONCENTRATION LESS THAN IDL	
813604-22					
SAMPLE 19	1.4	99.9	0.003	0.000	0.007
QC				17Dec98	14:12
				CONCENTRATION LESS THAN IDL	
813604-23					
SAMPLE 20	-0.6	27.0	-0.001	-0.001	-0.002
QC				17Dec98	14:15
				CONCENTRATION LESS THAN IDL	
813604-23D					
SAMPLE 21	-0.9	35.8	-0.002	-0.002	-0.003
QC				17Dec98	14:18
				CONCENTRATION LESS THAN IDL	
SAMPLE 22	OVER	0.3	0.339	0.338	0.339
QC				17Dec98	14:21

813604-235

				DF =	2.00
				%RSD GREATER THAN LIMIT	
SAMPLE 22	150.9	37.0	0.158	0.199	0.116
QC	M			17Dec98	14:27
				DF =	2.00
				REPEATED %RSD STILL GREATER THAN LIMI	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
SAMPLE 23	-1.0	27.4	-0.002	-0.003	-0.002
QC				17Dec98	14:30
				CONCENTRATION LESS THAN IDL	
SAMPLE 24	-1.0	18.5	-0.002	-0.003	-0.002
QC				17Dec98	14:33
				CONCENTRATION LESS THAN IDL	
SAMPLE 25	-0.9	27.9	-0.002	-0.003	-0.002
QC				17Dec98	14:36
				CONCENTRATION LESS THAN IDL	
SAMPLE 26	-0.7	81.0	-0.002	-0.001	-0.002
QC				17Dec98	14:39
				CONCENTRATION LESS THAN IDL	
QCSTANDARD	41.5	0.8	0.095	0.094	0.095
QC				17Dec98	14:42
				%R =	103.8
QCBLANK	-0.6	14.0	-0.001	-0.002	-0.001
QC				17Dec98	14:45
				ABS =	-0.001
				CONCENTRATION LESS THAN IDL	
SAMPLE 27	-0.4	8.6	-0.001	-0.001	-0.001
QC				17Dec98	14:48
				CONCENTRATION LESS THAN IDL	
SAMPLE 28	-0.8	5.6	-0.002	-0.002	-0.002
QC				17Dec98	14:51
				CONCENTRATION LESS THAN IDL	
SAMPLE 29	-0.5	28.3	-0.001	-0.002	-0.001
QC				17Dec98	14:54
				CONCENTRATION LESS THAN IDL	
SAMPLE 30	-0.8	3.2	-0.002	-0.002	-0.002
QC				17Dec98	14:57
				CONCENTRATION LESS THAN IDL	
SAMPLE 31	-0.8	63.2	-0.002	-0.003	-0.001
QC				17Dec98	15:00
				CONCENTRATION LESS THAN IDL	
SAMPLE 32	-0.1	99.9	-0.000	0.002	-0.002
QC				17Dec98	15:03
				CONCENTRATION LESS THAN IDL	
SAMPLE 33	-0.8	51.5	-0.002	-0.001	-0.002

SAMPLE 34	-1.1	12.0	[illegible]	[illegible]	[illegible]
QC				17Dec98 15:08	
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
SAMPLE 35	-0.5	33.4	-0.001	-0.001	-0.001
QC				17Dec98 15:11	
				CONCENTRATION LESS THAN IDL	
SAMPLE 36	0.5	99.9	0.001	-0.002	0.004
QC				17Dec98 15:14	
				CONCENTRATION LESS THAN IDL	
QCSTANDARD	42.9	0.2	0.097	0.097	0.098
QC				17Dec98 15:17	
				%R = 107.1	
QCBLANK	-0.8	0.0	-0.002	-0.002	-0.002
QC				17Dec98 15:20	
				ABS = -0.001	
				CONCENTRATION LESS THAN IDL	
SAMPLE 37	-0.4	99.9	-0.001	-0.000	-0.002
QC				17Dec98 15:22	
				CONCENTRATION LESS THAN IDL	
SAMPLE 38	0.1	99.9	0.000	-0.002	0.003
QC				17Dec98 15:25	
				CONCENTRATION LESS THAN IDL	
SAMPLE 39	-0.4	99.9	-0.001	0.001	-0.003
QC				17Dec98 15:28	
				CONCENTRATION LESS THAN IDL	
SAMPLE 40	-0.7	30.1	-0.002	-0.001	-0.002
QC				17Dec98 15:31	
				CONCENTRATION LESS THAN IDL	
SAMPLE 41	-1.1	14.2	-0.003	-0.002	-0.003
QC				17Dec98 15:34	
				CONCENTRATION LESS THAN IDL	
SAMPLE 42	-0.6	39.8	-0.001	-0.002	-0.001
QC				17Dec98 15:37	
				CONCENTRATION LESS THAN IDL	
SAMPLE 43	-0.8	23.4	-0.002	-0.002	-0.002
QC				17Dec98 15:40	
				CONCENTRATION LESS THAN IDL	
SAMPLE 44	-0.8	3.3	-0.002	-0.002	-0.002
QC				17Dec98 15:43	
				CONCENTRATION LESS THAN IDL	
SAMPLE 45	-0.8	0.0	-0.002	-0.002	-0.002
QC				17Dec98 15:46	

32888

P2

CORE LABORATORIES
GFAA ANALYTICAL RUN SAMPLE LIST

INSTRUMENT	VA400			METHOD	7841	ELEMENT	Tl
DATE	12/17/98		ANALYST				
		SOURCE	TV	SOURCE (CIRCLE)	TV		
ICV			40ppb	CCV (CAL/ICV)	40ppb	STD.SOURCE	
START TIME	1641		END TIME				

	SAMPLE ID	RESULT (ug/L)	% RECOVERY		SAMPLE ID	RESULT ug/L	% RECOVERY
	ICV	38.6		23	813659-5	-0.5	
	ICB	0.4		24	813788-1	-0.2	
1	CRA 813435-1	1.1		25	-2	~~-0.5~~ 2 AW 1/13/99	
	CCV	39.2		26	-3	~~-0.5~~ 5 AW 1/13/99	
	CCB	-0.3		27	-4	-0.1	
2	813435-1D	-0.5		28	-5	~~0.0~~ 1 AW 1/13/99	
3	-1S (10ppb)	7.7	77%	29	-7	~~-0.3~~ 0.0 AW 1/13/99	
4	-2	-0.4		30	-7D	-0.3	
5	-3	-1.1		31	-7S (10ppb)	6.8	68%
6	-4	0.9			CCV	39.3	
7	-5	-0.4			CCB	-0.5	
8	~~813502-11~~ -5A (20ppb)	17.7	88.5%	32	813502-11	-0.5	
9	813502-12	-0.7		33	813788-5A (20ppb)	16.7	83.5
10	-13	-1.1		34			
11	-14	-0.7		35			
	CCV	38.9	41.3	36			
	CCB	-1.6	-0.5	37			
12	813554-1	8.5	-0.5 CCV 40.6	38			
13	-2	-1.0	-0.4 CCB -0.1	39			
14	-3	-0.2	-0.4	40			
15	813604-19	-0.3	-0.8	41			
16	-20	-0.7	-0.5		CCV	36.5	
17	-21	0.4	0.1		CCB	-1.1	
18	-22		-0.0	42			
19	-23		-0.4	43			
20	813659-1		-0.1	44			
21	-2		-0.6	45			
	CCV				CCV		
	CCB				CCB		
22	813659-3		-0.5				

CCV 38.4
CCB -0.3

Dissolved Samples

CHA 12/17/98

CHA 12/17/98

148

BLANK	0.0		-0.001	0.000	-0.000
QC				17Dec98	15:53
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
QCSTANDARD	44.9	1.5	0.101	0.102	0.100
QC		0		17Dec98	15:56
				%R =	112.3
BLANK	0.0		-0.001	-0.002	-0.000
QC				17Dec98	16:00
				CONCENTRATION LESS THAN IDL	
STANDARD 1	10.0	1.2	0.029	0.029	0.029
QC				17Dec98	16:04
STANDARD 2	25.0	8.7	0.025	0.026	0.023
QC				17Dec98	16:07
BLANK	0.0		-0.002	-0.001	-0.002
QC				17Dec98	16:13
				CONCENTRATION LESS THAN IDL	
STANDARD 1	10.0	0.9	0.023	0.023	0.023
QC				17Dec98	16:16
STANDARD 2	25.0	59.0	0.015	0.008	0.021
QC				17Dec98	16:19
				%RSD GREATER THAN LIMIT	

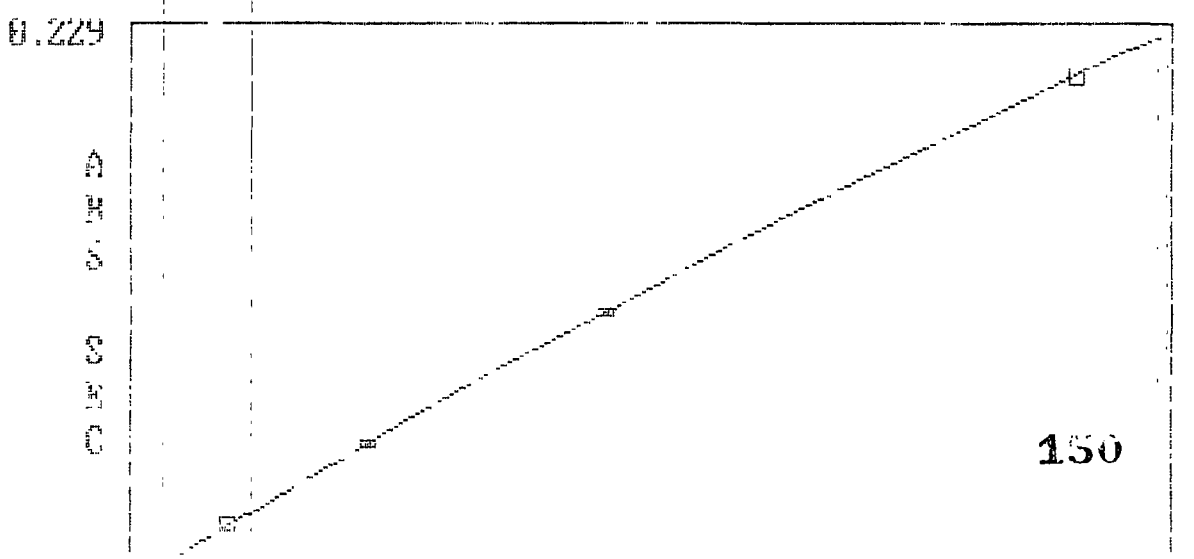
[illegible]

SPECTRAA-400 CORE#11004
ZEEMAN GRAPHITE TUBE ATOMIZER CORE# 11006
AUTOSAMPLER CORE#11005

OPERATOR	pal,chh,amw
DATE	12/17/98
BATCH	121798b5
PROGRAM 3	Tl WALL

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
BLANK	0.0		0.002	-0.000	0.005
QC				17Dec98	16:41
				CONCENTRATION LESS THAN IDL	
STANDARD 1	10.0	3.4	0.024	0.025	0.023
QC				17Dec98	16:44
STANDARD 2	25.0	17.0	0.011	0.008	0.013

BLANK	0.0		0.001	0.000	0.000
QC				17Dec98	17:00
				CONCENTRATION LESS THAN IDL	
STANDARD 1	10.0	3.2	0.023	0.023	0.024
QC				17Dec98	17:03
STANDARD 2	25.0	1.0	0.059	0.059	0.058
QC				17Dec98	17:07
STANDARD 3	50.0	0.0	0.111	0.111	0.111
QC				17Dec98	17:10
STANDARD 4	100.0	1.1	0.208	0.207	0.210
QC				17Dec98	17:13



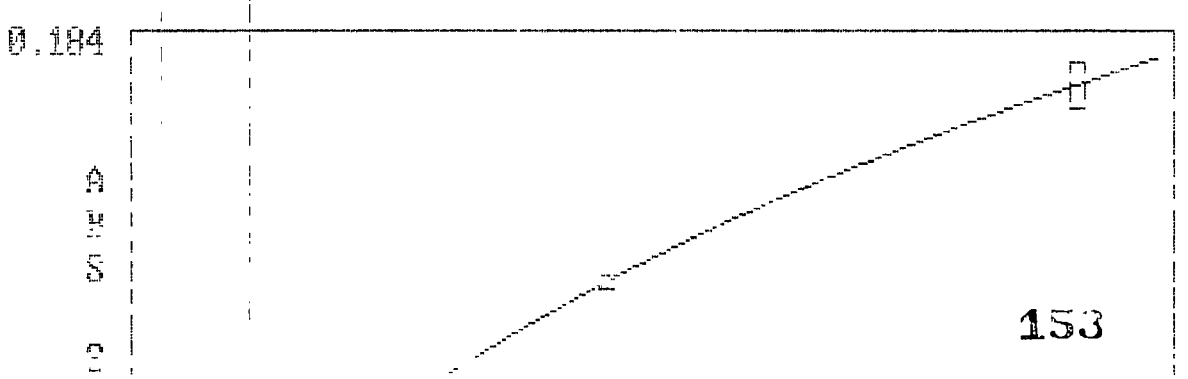
SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	38.6	0.7	0.089	0.088 17Dec98 %R =	0.089 17:16 96.5
QCBLANK QC	0.4	99.9	0.001	-0.002 17Dec98 ABS =	0.004 17:19 0.001
				CONCENTRATION LESS THAN IDL	
813435-1 SAMPLE 1 QC	1.1	0.0	0.003	0.003 17Dec98	0.003 17:22
				CONCENTRATION LESS THAN IDL	
QCSTANDARD QC	39.2	2.9	0.090	0.092 17Dec98 %R =	0.088 17:25 97.9
QCBLANK QC	-0.3	99.9	-0.001	-0.002 17Dec98 ABS =	0.000 17:28 -0.001
				CONCENTRATION LESS THAN IDL	
813435-1D SAMPLE 2 QC	-0.5	99.9	-0.001	-0.003 17Dec98	0.001 17:31
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
813435-1S SAMPLE 3 QC	7.7	6.8	0.018	0.017 17Dec98 RPD =	0.019 17:34 227.6
				CONCENTRATION LESS THAN IDL	
813435-2 SAMPLE 4 QC	-0.4	73.6 N	-0.001	-0.000 17Dec98 %R =	-0.001 17:37 -2.0
				CONCENTRATION LESS THAN IDL	
813435-3 SAMPLE 5 QC	-1.1	96.5	-0.002	-0.004 17Dec98	-0.001 17:40
				CONCENTRATION LESS THAN IDL	
813435-4 SAMPLE 6 QC	0.9	51.1	0.002	0.001 17Dec98	0.003 17:43

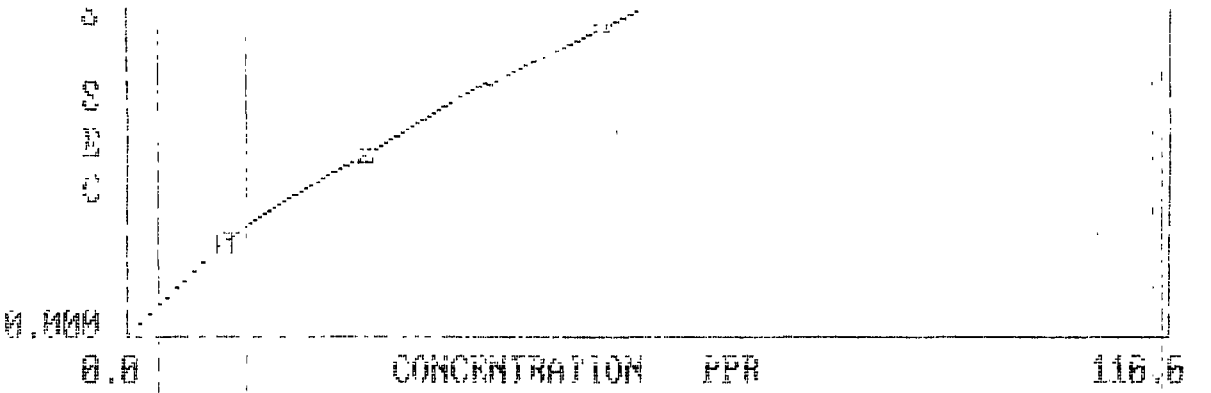
QC				17Dec98 17:45	
				CONCENTRATION LESS THAN IDL	
813435-5A (20ppb) S AW 1/13/99					
SAMPLE 8	17.7	2.5	0.041	0.041	0.042
QC				17Dec98 17:48	
813502-12					
SAMPLE 9	-0.7	64.8	-0.002	-0.002	-0.001
QC				17Dec98 17:51	
				CONCENTRATION LESS THAN IDL	
813502-13					
SAMPLE 10	-1.1	40.9	-0.002	-0.003	-0.002
QC				17Dec98 17:54	
				CONCENTRATION LESS THAN IDL	
813502-14					
SAMPLE 11	-0.7	50.8	-0.002	-0.002	-0.001
QC				17Dec98 17:57	
				CONCENTRATION LESS THAN IDL	
QCSTANDARD	38.9	0.7	0.089	0.090	0.089
QC				17Dec98 17:59	
				%R =	97.2
QCBLANK	-1.6	84.4	-0.004	-0.002	-0.006
QC				17Dec98 18:02	
				ABS =	-0.004
				CONCENTRATION LESS THAN IDL	
813554-1					
SAMPLE 12	-0.5	98.1	-0.001	-0.000	-0.002
QC				17Dec98 18:05	
				CONCENTRATION LESS THAN IDL	
813554-2					
SAMPLE 13	-1.0	6.3	-0.002	-0.002	-0.002
QC				17Dec98 18:08	
				CONCENTRATION LESS THAN IDL	
813554-3					
SAMPLE 14	-0.2	99.9	-0.001	-0.001	0.000
QC				17Dec98 18:11	
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
813604-19					
SAMPLE 15	-0.3	99.9	-0.001	0.000	-0.002
QC				17Dec98 18:14	
				CONCENTRATION LESS THAN IDL	
813604-20					
SAMPLE 16	-0.7	52.5	-0.002	-0.001	-0.002
QC				17Dec98 18:17	
				CONCENTRATION LESS THAN IDL	
813604-21					
SAMPLE 17	0.4	10.7	0.001	0.001	0.001
QC				17Dec98 18:20	
				CONCENTRATION LESS THAN IDL	
BLANK	0.0		-0.006	-0.005	-0.006
QC				17Dec98 19:09	
				CONCENTRATION LESS THAN IDL	

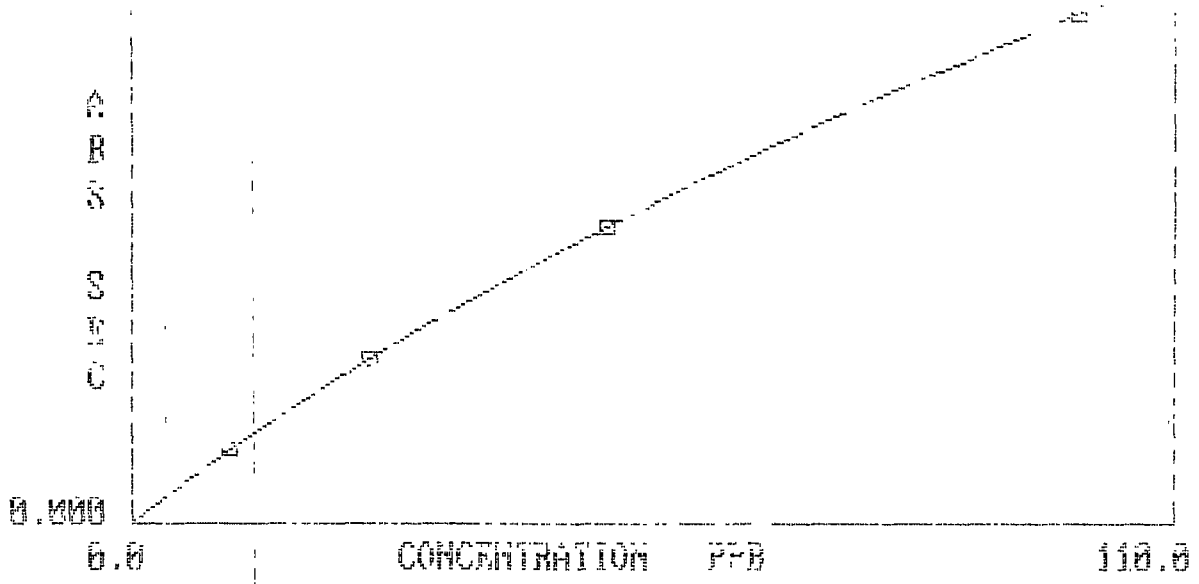
STANDARD 2	25.0	1.0	0.056	0.055	0.055
QC				17Dec98	19:16
STANDARD 3	50.0	1.4	0.102	0.101	0.103
QC				17Dec98	19:19
STANDARD 4	100.0	3.6	0.167	0.163	0.172
QC				17Dec98	19:22



SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	48.0	5.2 Q	0.099	0.095 17Dec98 %R =	0.102 19:25 119.9
BLANK QC	0.0		-0.006	-0.006 17Dec98 CONCENTRATION LESS THAN IDL	-0.006 19:36
STANDARD 1 QC	10.0	5.6	0.033	0.035 17Dec98	0.032 19:39
STANDARD 2 QC	25.0	2.6	0.066	0.065 17Dec98	0.067 19:43
STANDARD 3 QC	50.0	0.5	0.114	0.113 17Dec98	0.114 19:46
STANDARD 4 QC	100.0	1.3	0.187	0.186 17Dec98	0.189 19:49



SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
QCSTANDARD	45.6	6.2	0.106	0.102	0.111
QC		Q		17Dec98	19:52
				%R =	114.0
BLANK	0.0		0.004	0.003	0.004
QC				17Dec98	20:00
				CONCENTRATION LESS THAN IDL	
STANDARD 1	10.0	2.7	0.027	0.028	0.027
QC				17Dec98	20:03
STANDARD 2	25.0	2.0	0.062	0.063	0.061
QC				17Dec98	20:07
STANDARD 3	50.0	1.5	0.113	0.112	0.114
QC				17Dec98	20:10
STANDARD 4	100.0	0.3	0.195	0.194	0.195
QC				17Dec98	20:13



SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	46.7	2.1	0.106	0.105	0.108
		Q		17Dec98	20:16
				%R =	116.7
BLANK QC	0.0		0.005	0.007	0.002
				17Dec98	20:20
				CONCENTRATION LESS THAN IDL	
QCSTANDARD QC	41.3	1.7	0.096	0.097	0.095
				17Dec98	20:23
				%R =	103.3
QCBLANK QC	-0.5	56.0	-0.001	-0.002	-0.001
				17Dec98	20:26
				ABS =	-0.002
				CONCENTRATION LESS THAN IDL	
813554-1					
SAMPLE 12 QC	-0.5	99.9	-0.001	-0.000	-0.002
				17Dec98	20:29
				CONCENTRATION LESS THAN IDL	
QCSTANDARD QC	40.6	1.1	0.095	0.094	0.095
				17Dec98	20:32
				%R =	101.4
QCBLANK QC	-0.1	99.9	-0.000	0.000	-0.000
				17Dec98	20:35
				ABS =	-0.001
				CONCENTRATION LESS THAN IDL	

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS

QC				17Dec98 20:38
				CONCENTRATION LESS THAN IDL
813554-3				
SAMPLE 14	-0.3	0.0	-0.001	-0.001 -0.001
QC				17Dec98 20:41
				RPD = -29.0
				CONCENTRATION LESS THAN IDL
813604-19				
SAMPLE 15	-0.8	30.4	-0.002	-0.002 -0.003
QC		N		17Dec98 20:43
				%R = -3.9
				CONCENTRATION LESS THAN IDL
813604-20				
SAMPLE 16	-0.5	28.3	-0.001	-0.002 -0.001
QC				17Dec98 20:46
				CONCENTRATION LESS THAN IDL
813604-21				
SAMPLE 17	0.1	99.9	0.000	0.000 0.001
QC				17Dec98 20:49
				CONCENTRATION LESS THAN IDL
813604-22				
SAMPLE 18	-0.0	99.9	-0.000	-0.000 0.000
QC				17Dec98 20:52
				CONCENTRATION LESS THAN IDL
813604-23				
SAMPLE 19	-0.4	64.4	-0.001	-0.001 -0.002
QC				17Dec98 20:55
				CONCENTRATION LESS THAN IDL
813659-1				
SAMPLE 20	-0.1	99.9	-0.000	0.001 -0.001
QC				17Dec98 20:58
				CONCENTRATION LESS THAN IDL
813659-2				
SAMPLE 21	-0.6	99.9	-0.002	-0.003 0.000
QC				17Dec98 21:01
				CONCENTRATION LESS THAN IDL
813659-3				
SAMPLE 22	-0.5	79.9	-0.001	-0.001 -0.002
QC				17Dec98 21:04
				CONCENTRATION LESS THAN IDL
QCSTANDARD	38.4	1.9	0.090	0.089 0.092
QC				17Dec98 21:07
				%R = 96.1
QCBLANK	-0.3	97.9	-0.001	-0.000 -0.001
QC				17Dec98 21:10
				ABS = -0.001
				CONCENTRATION LESS THAN IDL
813659-5				
SAMPLE 23	-0.5	49.2	-0.001	-0.002 -0.001
QC				17Dec98 21:13
				CONCENTRATION LESS THAN IDL
813788-1				
SAMPLE 24	-0.2	99.9	-0.001	-0.001 -0.000
QC				17Dec98 21:16
				CONCENTRATION LESS THAN IDL

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS

					CONCENTRATION LESS THAN IDL
813788-3					
SAMPLE 26	-0.5	7.6	-0.001	-0.001	-0.001
QC					17Dec98 21:22
					CONCENTRATION LESS THAN IDL
813788-4					
SAMPLE 27	-0.1	96.2	-0.000	-0.000	-0.001
QC					17Dec98 21:25
					CONCENTRATION LESS THAN IDL
813788-5					
SAMPLE 28	0.1	35.5	0.000	0.000	0.000
QC					17Dec98 21:28
					CONCENTRATION LESS THAN IDL
813788-7					
SAMPLE 29	0.0	99.9	0.000	0.001	-0.001
QC					17Dec98 21:31
					CONCENTRATION LESS THAN IDL
813788-7D					
SAMPLE 30	-0.3	7.8	-0.001	-0.001	-0.001
QC					17Dec98 21:34
					CONCENTRATION LESS THAN IDL
813788-75					
SAMPLE 31	6.8	3.3	0.018	0.019	0.018
QC					17Dec98 21:36
					CONCENTRATION LESS THAN IDL
813502-11					
SAMPLE 32	-0.5	31.9	-0.001	-0.001	-0.002
QC					17Dec98 21:39
					CONCENTRATION LESS THAN IDL
QCSTANDARD	39.3	0.7	0.092	0.092	0.093
QC					17Dec98 21:42
					%R = 98.2
QCBLANK	-0.5	57.9	-0.001	-0.002	-0.001
QC					17Dec98 21:45
					ABS = -0.002
					CONCENTRATION LESS THAN IDL
813788-55					
SAMPLE 33	16.7	5.1	0.043	0.045	0.042
QC					17Dec98 21:48
SAMPLE 34	-0.4	99.9	-0.001	-0.002	-0.000
QC					17Dec98 21:51
					CONCENTRATION LESS THAN IDL
SAMPLE 35	-0.1	99.9	-0.000	-0.001	0.001
QC					17Dec98 21:54
					CONCENTRATION LESS THAN IDL
SAMPLE 36	0.1	99.9	0.000	-0.000	0.001
QC					17Dec98 21:56
					CONCENTRATION LESS THAN IDL
SAMPLE 37	-0.1	49.2	-0.000	-0.000	-0.000
QC					17Dec98 21:59
					CONCENTRATION LESS THAN IDL

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS

QC				17Dec98 22:02 CONCENTRATION LESS THAN IDL	
SAMPLE 39 QC	-0.2	9.9	-0.001	-0.001 17Dec98 22:05 CONCENTRATION LESS THAN IDL	-0.001
SAMPLE 40 QC	-0.0	99.9	-0.000	-0.001 17Dec98 22:08 CONCENTRATION LESS THAN IDL	0.001
QCSTANDARD QC	36.5	1.2	0.087	0.087 17Dec98 22:11 %R = 91.3	0.086
QCBLANK QC	-1.1	11.8	-0.003	-0.003 17Dec98 22:14 ABS = -0.004 CONCENTRATION LESS THAN IDL	-0.003

ICP METALS

(CORE-Valparaiso)

ICP METALS

Digestion logs

CORE Laboratories - Valparaiso

Metals- Waters Digestions

Method #: 3010

SOP #: See Table of Methods/Matrices

Matrix (Circle) Aqueous TCLP Drinking Water Other _____

Digestion Batch ID: 1211-5

Plate/Bath Temp: 91 °C

Start Time: 14:30

HCl ID: V16001005

Spike ID: A V1297426 C V1297426 Ag V01018401 P V170601 H

HNO3 ID: V16002110

LCS ID: 11

H2O2 ID: —

	Client	Sample ID	Sample Vol (ml)	MD Vol (ml)	MS Vol (ml)	Final Vol (ml)	Comments
MB			100			50	
LCS							2ml A, C, Ag, P
1	EEI	813435-1		100	100		11
2		2					
3		3					
4		4					
5		5					
6		6					
7		813502-11					
8		12					
9		13					
10		14					
11		813554-1					
12		2					
13		3					
14		813604-19					
15		-20					
16		-21					
17		-22					
18		-23					
19							
20				2/11/98			

MD = Method Duplicate MS = Matrix Spike

Analyst(s): PZ

Date: 12/11/98

CORE Laboratories - Valparaiso

Metals- Waters Digestions

Method #: 3010

SOP #: See Table of Methods/Matrices

Matrix (Circle) Aqueous TCLP Drinking Water Other _____

Digestion Batch ID: 1214-2

Plate/Bath Temp: 91.5 °C

Start Time: 10:45

HCl ID: V16001606

Spike ID: A V1297426 C V1297426 Ag V01018401 P V1D0601H

HNO3 ID: V16002110

LCS ID: 11

H2O2 ID: —

	Client	Sample ID	Sample Vol (ml)	MD Vol (ml)	MS Vol (ml)	Final Vol (ml)	Comments
MB			100			50	
LCS							4 ml A, Ag, C, D
1	EEI	813435-1		12/14/98			11
2		2		100	100		
3		3					
4		4					
5		5					
6		6					
7		813502-11					
8		12					
9		13					
10		14					
11		813554-1					
12		2					
13		3					
14		813604-19					
15		20					
16		21					
17		22					
18		23					
19				PL			
20				12/14/98			

MD = Method Duplicate MS = Matrix Spike

Analyst(s): PL

Date: 12/14/98

Revision: 001
Effective 04/22/98

VPM00020

CORE Laboratories - Valparaiso

Metals- Waters Digestions

Method #: 3010

SOP #: See Table of Methods/Matrices

Matrix (Circle) Aqueous TCLP Drinking Water Other _____

Digestion Batch ID: 1222-2

Plate/Bath Temp: 94 °C

Start Time: 10:00

HCl ID: V16001665

Spike ID: A V1706058 C V1297470 Ag V1101541 P V1700014

HNO3 ID: V1600210

LCS ID: 〃

H2O2 ID: —

	Client	Sample ID	Sample Vol (ml)	MD Vol (ml)	MS Vol (ml)	Final Vol (ml)	Comments
MB			100			50	
LCS							4ml A, C, Ag, P
1	EEI	813659-1					
2		2					
3		3					
4		5					
5		6		100	100		
6		813788-1					
7		2					
8		3					
9		4					
10		5					
11		7					
12		813554-1					
13	[redacted]	813958-1					
14							
15							
16							
17							
18							
19							
20							

MD = Method Duplicate MS = Matrix Spike

PZ 12/22/98

Analyst(s): PE

Date: 12/22/98

ICP METALS

Raw Data

1/12/99 10:06

Metals Analysis (ICAP) | Status.....: RPT | User Name.....: amw | Location Code..: 57211
Method Code..: 200.7 | Batch Date...: 12/14/98 | QC Code.....: 2007 | Equipment Code.: ICP
Batch Code...: 32429 | Batch Time...: 821 | Calc Code.....: | Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 1	___CALB_ICPCALBLK_		12/11/98 2303	0				0	0	0	0		0	0	0	0	0	0			0	0	0
1 2	___CAL_ICPCALSTD_		12/11/98 2308	0					0	0							0	0					
1 3	___CAL_ICPCALSTD_		12/11/98 2312												0								0
1 4	___CAL_ICPCALSTD_		12/11/98 2316								0		0								0		
1 5	___CAL_ICPCALSTD_		12/11/98 2320					0						0		0						0	
1 6	___ICV_V170601B_		12/11/98 2324	0				0	0	0	0		0	0	0	0	0	0			0	0	0
1 7	___ICB__		12/11/98 2329	0				0	0	0	0		0	0	0	0	B	B			0	0	0
1 8	___ISB_V170601D_		12/11/98 2334	0				0	0	0	0		0	0	0	0	0				0	0	
1 9	813435_1_D___		12/11/98 2344	0				0	0	0	0		0		0	0	0	0			0	0	
1 10	813435_1_D_MD__9		12/11/98 2349	0				0	0	0	0		0	0	0	0	0	0			0	0	*
1 11	813435_1_D_MS_V01019809_9		12/11/98 2354	0				0	0	0	0		0	0	0	0	0	0			0	0	
1 12	813435_2_D___		12/11/98 2359	0				0	0	0	0		0		0	0	0	0			0	0	
1 13	813435_3_D___		12/12/98 0004	0				0	0	0	0		0		0	0	0	0			0	0	
1 14	813435_4_D___		12/12/98 0008	0				0	0	0	0		0		0	0	0	0			0	0	
1 15	813435_5_D___		12/12/98 0013	0				0	0	0	0		0		0	0	0	0			0	0	
1 16	813502_11_D___		12/12/98 0018	0				0	0	0	0		0		0	0	0	0			0	0	
1 17	813502_12_D___		12/12/98 0023	0				0	0	0	0		0		0	0	0	0			0	0	
1 18	___CCV_V170601B_		12/12/98 0028	^				0	0	^	^		^	0	0	^	0	^			^	0	^
1 19	___CCB__		12/12/98 0033	0				0	0	0	0		0	0	0	0	B	B			0	0	B
1 20	813502_13_D___		12/12/98 0038	0				0	0	0	0		0		0	0	0					0	
1 21	813502_14_D___		12/12/98 0043	0				0	0	0	0		0		0	0	0					0	
1 22	813554_1_D___		12/12/98 0048	0				0	0	0	0		0		0	0	0					0	
1 23	813554_2_D___		12/12/98 0053	0				0	0	0	0		0		0	0	0					0	
1 24	813554_3_D___		12/12/98 0058	0				0	0	0	0		0		0	0	0					0	
1 25	813604_19_D___		12/12/98 0102	0				0	0	0	0		0		0	0	0					0	
1 26	813604_20_D___		12/12/98 0107	0				0	0	0	0		0		0	0	0					0	
1 27	813604_21_D___		12/12/98 0112	0				0	0	0	0		0		0	0	0					0	
1 28	813501_22_D___		12/12/98 0117	0				0	0	0	0		0		0	0	0						

1/12/99 10:06

Metals Analysis (ICAP) | Status.....: RPT | User Name.....: amw | Location Code..: 57211
Method Code..: 200.7 | Batch Date...: 12/14/98 | QC Code.....: 2007 | Equipment Code.: ICP
Batch Code...: 32429 | Batch Time...: 821 | Calc Code.....: | Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 29	813604_23_D___		12/12/98 0122	0				0	0	0	0		0		0	0	0					0	
1 30	___ISB_V170601D_		12/12/98 0127	0				0	0	0	0		0	0	0	0	0					0	
1 31	___CCV_V170601B_		12/12/98 0134	^				0	0	^	^		^	0	^	^	0					^	^
1 32	___CCB__		12/12/98 0139	0				0	0	0	0		0	0	0	0	B	B			0	0	B

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	21	22	23	24
1 1	___CALB_ICPCALBLK_		12/11/98 2303		0		0
1 2	___CAL_ICPCALSTD_		12/11/98 2308				
1 3	___CAL_ICPCALSTD_		12/11/98 2312				
1 4	___CAL_ICPCALSTD_		12/11/98 2316				
1 5	___CAL_ICPCALSTD_		12/11/98 2320				
1 6	___ICV_V170601B_		12/11/98 2324				
1 7	___ICB__		12/11/98 2329				
1 8	___ISB_V170601D_		12/11/98 2334				
1 9	813435_1_D___		12/11/98 2344				
1 10	813435_1_D_MD__9		12/11/98 2349				
1 11	813435_1_D_MS_V01019809_9		12/11/98 2354				
1 12	813435_2_D___		12/11/98 2359				
1 13	813435_3_D___		12/12/98 0004				
1 14	813435_4_D___		12/12/98 0008				
1 15	813435_5_D___		12/12/98 0013				
1 16	813502_11_D___		12/12/98 0018				
1 17	813502_12_D___		12/12/98 0023				
1 18	___CCV_V170601B_		12/12/98 0028				
1 19	___CCB__		12/12/98 0033				

1/12/99 10:00

Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32429

Status.....: RPT
Batch Date...: 12/14/98
Batch Time...: 821

User Name.....: amw
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	21	22	23	24
1 20	813502_13_D___		12/12/98 0038				
1 21	813502_14_D___		12/12/98 0043				
1 22	813554_1_D___		12/12/98 0048				
1 23	813554_2_D___		12/12/98 0053				
1 24	813554_3_D___		12/12/98 0058				
1 25	813604_19_D___		12/12/98 0102				
1 26	813604_20_D___		12/12/98 0107				
1 27	813604_21_D___		12/12/98 0112				
1 28	813604_22_D___		12/12/98 0117				
1 29	813604_23_D___		12/12/98 0122				
1 30	___ISB_V170601D_		12/12/98 0127				
1 31	___CCV_V170601B_		12/12/98 0134				
1 32	___CCB__		12/12/98 0139				

Method: CLP Standard: blank
Run Time: 12/11/98 23:03:06

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Avge	.0082	.0114	-.0041	.0003	-.0008	.0175	.0016
SDev	.0003	.0127	.0061	.0007	.0042	.0180	.0006
%RSD	3.449	111.6	148.3	235.7	530.3	102.6	35.36
#1	.0080	.0024	-.0084	-.0002	.0022	.0048	.0012
#2	.0084	.0204	.0002	.0008	-.0038	.0302	.0020

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Avge	-.0026	-.0047	.0084	-.0106	.0018	.0055	-.0052
SDev	.0062	.0075	.0017	.0116	.0124	.0001	.0082
%RSD	239.3	159.5	20.20	109.4	691.4	2.571	157.7
#1	-.0070	-.0100	.0072	-.0188	-.0070	.0056	-.0110
#2	.0018	.0006	.0096	-.0024	.0106	.0054	.0006

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Avge	-.0136	.0238	.1210	-.0001	.0006	.2014	.0367
SDev	.0215	.0008	.0003	.0024	.0011	.0011	.0004
%RSD	158.1	3.565	.2338	2404.	188.6	.5618	1.156
#1	-.0288	.0244	.1212	.0016	-.0002	.2022	.0364
#2	.0016	.0232	.1208	-.0018	.0014	.2006	.0370

Elem	Ti3349	Sn2839	Li6707
Avge	-.0016	-.0016	-.0069
SDev	.0057	.0011	.0106
%RSD	353.6	70.71	153.7
#1	-.0056	-.0024	-.0144
#2	.0024	-.0008	.0006

Standardization Rpt. Fri 12-11-98 11:12:11 PM page 1

Method: CLP Standard: cal4
Run Time: 12/11/98 23:08:01

Elem	Al3082	Ca3179	Cr2677	Ni2316	K 7664	Na5889
Avge	1.773	20.22	.3369	.4308	.5095	.5569
SDev	.006	.07	.0004	.0026	.0021	.0010
%RSD	.3190	.3413	.1259	.5909	.4163	.1778
#1	1.777	20.27	.3372	.4326	.5110	.5576
#2	1.769	20.17	.3366	.4290	.5080	.5562

Standardization Rpt. Fri 12-11-98 11:16:33 PM , page 1

Method: CLP Standard: cal5
Run Time: 12/11/98 23:12:24

Elem	Sb2068	Mg2790	Ag3280	B 2496
Avge	.8510	1.963	.5709	1.213
SDev	.0048	.002	.0016	.001
%RSD	.5650	.0937	.2725	.0466
#1	.8544	1.962	.5698	1.213
#2	.8476	1.964	.5720	1.214

Standardization Rpt. Fri 12-11-98 11:20:46 PM page 1

Method: CLP Standard: cal2
Run Time: 12/11/98 23:16:37

Elem	Ba4934	Co2286	Cu3247	Fe2599	V 2924
Avge	.8182	.5141	.2211	62.16	.9709
SDev	.0008	.0016	.0004	.12	.0021
%RSD	.1037	.3026	.1919	.1932	.2185
#1	.8176	.5130	.2214	62.25	.9724
#2	.8188	.5152	.2208	62.08	.9694

Method: CLP Standard: call
Run Time: 12/11/98 23:20:49

Elem	Be3130	Cd2265	Pb2203	Mn2576	Zn2138
Avge	1.259	2.536	3.351	.7217	.6731
SDev	.012	.025	.022	.0058	.0072
%RSD	.9546	.9816	.6710	.8034	1.072
#1	1.251	2.518	3.335	.7176	.6680
#2	1.268	2.553	3.367	.7258	.6782

Standardization Report Fri 12-11-98 11:24:48 PM page

Method: CLP Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardi
Al3082	308.215	cal4	blank	5.66572	-.046459	12/11/98 11:20
Sb2068	206.838	cal5	blank	4.76417	-.054312	12/11/98 11:20
Ba4934	493.409	cal2	blank	1.21610	.004986	12/11/98 11:20
Be3130	313.042	cal1	blank	.794281	-.000238	12/11/98 11:20
Cd2265	226.502	cal1	blank	1.18278	.000946	12/11/98 11:20
Ca3179	317.933	cal4	blank	2.47484	-.043310	12/11/98 11:20
Cr2677	267.716	cal4	blank	2.98240	-.004772	12/11/98 11:20
Co2286	228.616	cal2	blank	1.93536	.005032	12/11/98 11:20
Cu3247	324.754	cal2	blank	4.42870	.020815	12/11/98 11:20
Fe2599	259.940	cal2	blank	1.60891	-.013515	12/11/98 11:20
Pb2203	220.353	cal1	blank	2.97469	.031532	12/11/98 11:20
Mg2790	279.078	cal5	blank	10.1973	-.018355	12/11/98 11:20
Mn2576	257.610	cal1	blank	2.79252	-.015359	12/11/98 11:20
Ni2316	231.604	cal4	blank	2.29358	.011927	12/11/98 11:20
K 7664	766.491	cal4	blank	38.2336	.519977	12/11/98 11:20
Ag3280	328.068	cal5	blank	1.82742	-.043493	12/11/98 11:20
Na5889	588.995	cal4	blank	22.9410	-2.77587	12/11/98 11:20
V 2924	292.402	cal2	blank	1.01030	.000101	12/11/98 11:20
Zn2138	213.856	cal1	blank	4.46097	-.002677	12/11/98 11:20
B 2496	249.678	cal5	blank	1.97668	-.398102	12/11/98 11:20
Mo2020	202.030	cal3	blank	14.5033	-.532270	12/11/98 11:20
Ti3349	334.941	cal6	blank	1.43416	.002295	12/11/98 11:20
Sn2839	283.999	cal6	blank	8.34794	.013357	12/11/98 11:20
Li6707	670.784	cal6	blank	49.5050	.341584	12/11/98 11:20

Analysis Report QC Standard Fri 12-11-98 11:29:42 PM page

Method: CLP Sample Name: ccv2 Operator: chh
Run Time: 12/11/98 23:24:51
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.041	O2.136	1.995	1.972	1.954	2.093	2.018
SDev	.003	.067	.009	.003	.007	.002	.010
%RSD	.1564	3.132	.4396	.1366	.3340	.1003	.4805
#1	2.044	2.088	2.001	1.974	1.958	2.094	2.024
#2	2.039	O2.183	1.989	1.970	1.949	2.091	2.011
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.977	1.950	1.986	1.944	1.918	1.958	2.022
SDev	.005	.001	.000	.007	.001	.001	.008
%RSD	.2492	.0642	.0223	.3668	.0753	.0605	.3851
#1	1.981	1.949	1.986	1.939	1.917	1.959	2.017
#2	1.974	1.951	1.986	1.949	1.919	1.957	2.028
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.16	O1.873	O1.870	1.988	1.966	1.971	O2.587
SDev	.00	.007	.036	.003	.003	.009	.113
%RSD	.0000	.3725	1.909	.1305	.1577	.4397	4.360
#1	20.16	O1.878	O1.844	1.990	1.964	1.965	O2.508
#2	20.16	O1.868	O1.895	1.986	1.968	1.977	O2.667
Errors	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	O1.737	O.4864	O40.83
SDev	.003	.0069	.03
%RSD	.1518	1.429	.0686
#1	O1.735	O.4913	O40.85
#2	O1.739	O.4815	O40.81
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Fri 12-11-98 11:34:36 PM page 1

Method: CLP Sample Name: ccb2 Operator: chh
Run Time: 12/11/98 23:29:46
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0153	.1078	.0044	.0003	-.0001	.0156	-.0009
SDev	.0088	.0228	.0009	.0001	.0005	.0021	.0030
%RSD	57.59	21.18	19.65	35.35	414.0	13.47	329.5
#1	-.0215	.1239	.0038	.0002	.0002	.0141	.0012
#2	-.0091	.0916	.0050	.0004	-.0005	.0171	-.0030

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0046	.0275	.0257	.0470	.0465	-.0003	.0128
SDev	.0038	.0006	.0046	.0076	.0403	.0016	.0013
%RSD	82.55	2.281	17.68	16.13	86.77	605.5	10.09
#1	.0019	.0270	.0225	.0417	.0180	-.0014	.0119
#2	.0074	.0279	.0290	.0524	.0750	.0009	.0138

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.6003	.0009	-.2455	.0007	.0084	-.0142	.0957
SDev	.1027	.0003	.0097	.0003	.0019	.0056	.0103
%RSD	17.11	28.29	3.965	39.38	22.56	39.28	10.71
#1	.5276	.0007	-.2386	.0005	.0070	-.0103	.1030
#2	.6729	.0011	-.2524	.0009	.0097	-.0182	.0885

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0066	.0156	.3366
SDev	.0004	.0209	.0210
%RSD	6.149	133.8	6.239
#1	.0069	.0008	.3218
#2	.0063	.0304	.3515

Analysis Report QC Standard Fri 12-11-98 11:39:29 PM page 1

Method: CLP Sample Name: isb2 Operator: chh
Run Time: 12/11/98 23:34:39
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	514.5	.3446	.4967	.4686	.8601	482.8	.4601
SDev	6.4	.0222	.0059	.0063	.0102	4.9	.0076
%RSD	1.244	6.444	1.177	1.341	1.188	1.013	1.648
#1	519.0	.3603	.5009	.4730	.8674	486.2	.4654
#2	510.0	.3289	.4926	.4642	.8529	479.3	.4547
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4420	.4686	185.1	.9901	482.9	.4714	.9046
SDev	.0079	.0019	2.1	.0363	5.7	.0063	.0093
%RSD	1.795	.4010	1.120	3.667	1.174	1.337	1.023
#1	.4476	.4699	186.6	1.016	486.9	.4759	.9111
#2	.4364	.4672	183.6	.9644	478.9	.4670	.8980
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4588	.9328	-.5139	.4696	.9298	.0553	.4206
SDev	.0324	.0131	.0130	.0056	.0118	.0045	.0103
%RSD	7.071	1.400	2.525	1.183	1.272	8.081	2.438
#1	.4359	.9420	-.5231	.4735	.9382	.0522	.4133
#2	.4817	.9236	-.5047	.4656	.9215	.0585	.4278
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0169	.7187	.3168
SDev	.0004	.0301	.0210
%RSD	2.397	4.192	6.629
#1	.0172	.6974	.3020
#2	.0166	.7400	.3317
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Analysis Report Fri 12-11-98 11:49:14 PM page 1

Method: CLP Sample Name: 813435d-001 Operator: chh
Run Time: 12/11/98 23:44:23
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0617	L-.0604	.0758	L.0002	L-.0008	161.2	L.0006
SDev	.0120	.0209	.0010	.0000	.0032	.6	.0008
%RSD	19.46	34.63	1.362	.3807	420.3	.3535	141.9
#1	L.0533	L-.0456	.0765	L.0002	L.0015	161.6	L-.0000
#2	L.0702	L-.0752	.0750	L.0002	L-.0030	160.8	L.0012
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0104	.0279	1.068	L.0324	24.00	.3912	.0147
SDev	.0006	.0025	.006	.0400	.01	.0012	.0023
%RSD	5.234	8.979	.5964	123.2	.0305	.3029	15.39
#1	L.0108	.0297	1.064	.0607	24.01	.3920	.0164
#2	L.0101	.0261	1.073	L.0042	24.00	.3903	.0131
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	12.17	L.0012	32.15	L.0018	.0190	.2811	L-.0174
SDev	.10	.0008	.20	.0010	.0006	.0011	.0103
%RSD	.8000	66.19	.6156	55.10	3.205	.3978	58.93
#1	12.23	L.0006	32.29	L.0011	.0194	.2819	L-.0247
#2	12.10	L.0017	32.01	L.0025	.0186	.2803	L-.0102
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0100	.0220	.4653
SDev	.0012	.0134	.0490
%RSD	12.12	61.03	10.53
#1	.0092	.0314	.5000
#2	.0109	.0125	.4307
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Fri 12-11-98 11:54:09 PM page 1

Method: CLP Sample Name: 813435d-001 md Operator: chh
Run Time: 12/11/98 23:49:18
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1513	L-.0767	.0752	L.0002	L.0034	163.2	L.0018
SDev	.0008	.0453	.0002	.0000	.0007	2.0	.0084
%RSD	.5357	59.03	.2274	.6581	19.69	1.251	472.4
#1	.1507	L-.1087	.0753	L.0002	L.0029	161.7	L.0077
#2	.1518	L-.0447	.0750	L.0002	L.0039	164.6	L-.0042
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0041	.0213	1.081	L.0273	24.35	.3928	L.0061
SDev	.0019	.0031	.019	.0194	.30	.0059	.0036
%RSD	47.14	14.73	1.789	70.92	1.248	1.508	58.78
#1	L.0054	.0235	1.067	L.0410	24.14	.3886	L.0086
#2	L.0027	.0190	1.095	L.0136	24.57	.3970	L.0035
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	11.92	L.0017	32.39	L.0023	.0164	.5355	.0189
SDev	.03	.0046	.39	.0017	.0019	.0014	.0041
%RSD	.2269	269.6	1.212	74.25	11.58	.2610	21.76
#1	11.90	L.0050	32.11	L.0036	.0150	.5345	.0218
#2	11.94	L-.0016	32.66	L.0011	.0177	.5365	.0160
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0082	.0020	.4208
SDev	.0022	.0784	.0980
%RSD	27.29	3933.	23.29
#1	.0098	-.0535	.4901
#2	.0066	.0575	.3515
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Fri 12-11-98 11:59:03 PM page 1

Method: CLP Sample Name: 813435d-001 ms Operator: chh
Run Time: 12/11/98 23:54:12
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.172	.3571	1.088	.0786	.1030	160.3	.1085
SDev	.012	.0579	.013	.0009	.0003	2.2	.0004
%RSD	1.023	16.20	1.154	1.136	.3220	1.382	.3778
#1	1.164	.3980	1.079	.0779	.1027	158.7	.1082
#2	1.180	.3162	1.097	.0792	.1032	161.9	.1088
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5135	.2640	2.000	.8942	24.86	.5325	.4318
SDev	.0055	.0056	.028	.0825	.37	.0063	.0042
%RSD	1.066	2.136	1.399	9.223	1.506	1.187	.9783
#1	.5097	.2679	1.980	.8359	24.60	.5280	.4288
#2	.5174	.2600	2.020	.9525	25.13	.5369	.4348
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	12.56	.1756	32.52	.5151	.2247	.4378	.0261
SDev	.03	.0028	.40	.0064	.0007	.0115	.0021
%RSD	.2584	1.616	1.237	1.249	.3032	2.618	7.857
#1	12.58	.1776	32.24	.5105	.2243	.4297	.0247
#2	12.53	.1736	32.81	.5196	.2252	.4459	.0276
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0096	.0315	.4505
SDev	.0039	.0515	.0840
%RSD	40.10	163.4	18.65
#1	.0123	-.0049	.5099
#2	.0069	.0679	.3911
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report QC Standard Sat 12-12-98 00:33:25 AM page 1

Method: CLP Sample Name: ccv2 Operator: chh
Run Time: 12/12/98 00:28:35
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	01.827	02.101	01.731	01.762	1.979	2.028	01.892
SDev	.006	.041	.018	.020	.014	.021	.027
%RSD	.3126	1.947	1.013	1.108	.7017	1.018	1.447
#1	01.831	2.072	01.718	01.748	1.969	2.014	01.873
#2	01.823	02.130	01.743	01.776	1.988	2.043	1.911
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	01.897	01.725	01.864	2.033	1.901	01.828	1.963
SDev	.017	.022	.021	.056	.027	.020	.024
%RSD	.8944	1.270	1.106	2.736	1.428	1.081	1.239
#1	01.885	01.710	01.850	1.993	01.882	01.814	1.946
#2	1.909	01.741	01.879	2.072	1.920	01.842	1.980
Errors	QC Fail	QC Fail	QC Fail	QC Pass	QC Pass	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	018.24	01.721	02.829	01.811	1.914	01.882	02.593
SDev	.23	.015	.016	.021	.015	.037	.105
%RSD	1.275	.8863	.5735	1.171	.7603	1.976	4.034
#1	018.08	01.710	02.817	01.796	1.904	01.855	02.519
#2	018.41	01.731	02.840	01.826	1.925	1.908	02.667
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	01.553	0.5859	033.35
SDev	.017	.0525	.41
%RSD	1.097	8.957	1.218
#1	01.541	0.6230	033.06
#2	01.566	0.5488	033.64
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Sat 12-12-98 00:38:19 AM page 1

Method: CLP Sample Name: ccb2 Operator: chh
Run Time: 12/12/98 00:33:29
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0102	.0797	.0010	.0004	.0011	.0146	-.0024
SDev	.0192	.0102	.0002	.0000	.0028	.0035	.0017
%RSD	188.6	12.83	17.65	.5808	268.0	23.97	70.58
#1	-.0238	.0725	.0009	.0004	.0031	.0171	-.0036
#2	.0034	.0869	.0011	.0004	-.0009	.0121	-.0012

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0066	.0244	.0315	.0408	.0413	.0045	.0108
SDev	.0005	.0013	.0027	.0315	.0073	.0004	.0230
%RSD	8.229	5.143	8.659	77.34	17.58	8.801	213.7
#1	.0062	.0252	.0296	.0185	.0464	.0042	-.0055
#2	.0070	.0235	.0335	.0631	.0361	.0048	.0271

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.6461	.0122	1.069	-.0013	.0097	.1034	.2277
SDev	.0379	.0013	.084	.0026	.0001	.0003	.0205
%RSD	5.858	10.55	7.890	196.2	.6183	.2704	9.008
#1	.6194	.0132	1.009	-.0031	.0097	.1032	.2422
#2	.6729	.0113	1.129	.0005	.0097	.1036	.2132

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0062	-.0756	.2921
SDev	.0010	.0385	.0140
%RSD	16.44	50.88	4.794
#1	.0069	-.0484	.2822
#2	.0054	-.1028	.3020

Analysis Report Sat 12-12-98 00:53:03 AM page 1

Method: CLP Sample Name: 813554d-001 Operator: chh
Run Time: 12/12/98 00:48:13
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0997	L-.0304	.0388	L.0003	L.0034	73.96	L.0003
SDev	.0032	.0134	.0003	.0001	.0015	.60	.0029
%RSD	3.192	44.27	.8857	36.72	43.84	.8125	991.8
#1	L.0975	L-.0399	.0386	L.0004	L.0045	74.39	L-.0018
#2	.1020	L-.0209	.0390	L.0002	L.0024	73.54	L.0024
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0070	.0244	L-.0063	L.0354	19.17	.5426	.0160
SDev	.0022	.0013	.0011	.0366	.13	.0047	.0016
%RSD	31.45	5.143	18.14	103.4	.6622	.8735	10.19
#1	L.0054	.0252	L-.0071	.0612	19.26	.5459	.0171
#2	L.0085	.0235	L-.0055	L.0095	19.08	.5392	.0148
Errors	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.814	.0164	27.29	L.0007	L.0035	.4645	.1363
SDev	.043	.0039	.13	.0046	.0026	.0039	.0021
%RSD	1.537	23.62	.4636	648.0	74.28	.8425	1.504
#1	2.845	.0137	27.38	L-.0025	L.0016	.4673	.1349
#2	2.783	.0192	27.20	L.0039	L.0053	.4618	.1378
Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Low	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0073	.0242	.3911
SDev	.0010	.0661	.0000
%RSD	13.86	273.5	.0000
#1	.0066	.0709	.3911
#2	.0080	-.0226	.3911
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Sat 12-12-98 00:57:58 AM page 1

Method: CLP Sample Name: 813554d-002 Operator: chh
Run Time: 12/12/98 00:53:07
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0493	L-.0899	.0348	L.0005	L.0031	74.57	L.0030
SDev	.0296	.1207	.0019	.0003	.0003	1.19	.0093
%RSD	60.16	134.3	5.436	71.13	10.92	1.595	311.7
#1	L.0702	L-.0045	.0334	L.0002	L.0028	75.41	L-.0036
#2	L.0283	L-.1753	.0361	L.0007	L.0033	73.73	L.0095
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0143	.0452	L-.0093	.0604	19.79	.6968	.0238
SDev	.0066	.0144	.0009	.0518	.28	.0142	.0036
%RSD	45.88	31.89	9.767	85.71	1.421	2.040	14.94
#1	L.0097	.0350	L-.0087	L.0238	19.99	.7068	.0213
#2	L.0190	.0554	L-.0100	.0970	19.59	.6867	.0263
Errors	LC Low	LC Pass	LC Low	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.422	.0115	22.59	L.0031	L.0007	.3374	.1624
SDev	.222	.0041	.33	.0000	.0012	.0109	.0308
%RSD	6.479	36.04	1.479	.6984	166.1	3.231	18.94
#1	3.265	L.0085	22.83	L.0031	L-.0001	.3297	.1407
#2	3.579	.0144	22.35	L.0032	L.0016	.3451	.1842
Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Low	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0095	-.0506	.5792
SDev	.0024	.0328	.1960
%RSD	25.71	64.68	33.84
#1	.0077	-.0738	.4406
#2	.0112	-.0275	.7178
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Sat 12-12-98 01:02:53 AM page

Method: CLP Sample Name: 813554d-003 Operator: chh
Run Time: 12/12/98 00:58:02
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0873	L-.0222	L.0051	L.0004	L.0015	L.0094	L-.0027
SDev	.0000	.0019	.0005	.0000	.0005	.0164	.0055
%RSD	.0024	8.630	10.09	.0940	32.55	174.9	204.2
#1	L.0872	L-.0236	L.0047	L.0004	L.0012	L-.0022	L-.0066
#2	L.0873	L-.0209	L.0055	L.0004	L.0019	L.0210	L.0012
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0066	.0235	L-.0069	L-.0158	L.0828	L.0084	.0124
SDev	.0011	.0038	.0011	.0088	.0014	.0012	.0013
%RSD	16.65	16.01	16.44	55.99	1.726	14.11	10.49
#1	L.0074	.0261	L-.0077	L-.0095	L.0818	L.0076	.0115
#2	L.0058	.0208	L-.0061	L-.0220	L.0838	L.0092	.0133
Errors	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.7035	L.0093	2.553	L.0004	L-.0010	.4428	.1711
SDev	.1622	.0008	.023	.0004	.0013	.0017	.0144
%RSD	23.06	8.318	.8894	104.8	128.0	.3788	8.389
#1	.5888	L.0088	2.537	L.0007	L-.0019	.4440	.1813
#2	.8182	L.0099	2.569	L.0001	L-.0001	.4416	.1610
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0046	.0094	.3515
SDev	.0000	.0049	.0280
%RSD	.0000	52.35	7.967
#1	.0046	.0129	.3317
#2	.0046	.0059	.3713
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report QC Standard Sat 12-12-98 01:32:20 AM page 1

Method: CLP Sample Name: isb2 Operator: chh
Run Time: 12/12/98 01:27:30
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	447.3	.0855	.4106	.4065	.8586	460.0	.4244
SDev	1.6	.0005	.0017	.0018	.0061	1.8	.0059
%RSD	.3582	.6016	.4190	.4412	.7068	.3968	1.393
#1	448.5	.0851	.4118	.4078	.8629	461.3	.4202
#2	446.2	.0858	.4094	.4053	.8543	458.7	.4286
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4182	.4004	167.5	1.112	458.2	.4327	.8669
SDev	.0011	.0044	.8	.017	1.2	.0009	.0036
%RSD	.2616	1.095	.4569	1.506	.2608	.2154	.4160
#1	.4190	.4035	168.1	1.124	459.1	.4334	.8694
#2	.4174	0.3973	167.0	1.101	457.4	.4320	.8643
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5620	.8290	.8649	.4144	.8900	.1722	.4946
SDev	.0703	.0019	.0162	.0039	.0057	.0059	.0041
%RSD	12.51	.2231	1.876	.9281	.6438	3.410	.8294
#1	.5123	.8304	.8534	.4172	.8860	.1680	.4917
#2	.6117	.8277	.8763	.4117	.8941	.1763	.4975
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0172	.7573	.3614
SDev	.0012	.0125	.0280
%RSD	7.071	1.650	7.749
#1	.0181	.7662	.3416
#2	.0163	.7485	.3812
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Analysis Report QC Standard Sat 12-12-98 01:39:39 AM page

Method: CLP Sample Name: ccv2 Operator: chh
Run Time: 12/12/98 01:34:49
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	01.792	1.926	01.678	01.722	1.968	2.009	01.862
SDev	.021	.074	.013	.015	.020	.018	.011
%RSD	1.157	3.845	.7582	.8600	1.037	.9058	.5638
#1	01.807	01.873	01.687	01.732	1.983	2.022	01.870
#2	01.777	1.978	01.669	01.711	1.954	1.996	01.855
Errors	QC Fail	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	01.878	01.679	01.855	2.058	01.870	01.799	1.956
SDev	.020	.007	.027	.017	.027	.017	.010
%RSD	1.064	.4102	1.444	.8423	1.445	.9226	.4968
#1	01.892	01.684	01.873	2.070	01.889	01.810	1.963
#2	01.864	01.674	01.836	2.046	01.851	01.787	1.949
Errors	QC Fail	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	017.88	01.684	03.129	01.776	01.895	01.868	02.637
SDev	.04	.013	.026	.022	.001	.003	.043
%RSD	.2420	.7826	.8295	1.257	.0592	.1347	1.634
#1	017.91	01.694	03.111	01.792	01.894	01.870	02.606
#2	017.85	01.675	03.148	01.760	01.896	01.866	02.667
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	01.515	0.4929	032.17
SDev	.013	.0009	.25
%RSD	.8836	.1813	.7834
#1	01.525	0.4922	032.35
#2	01.506	0.4935	032.00
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Sat 12-12-98 01:44:33 AM page 1

Method: CLP Sample Name: ccb2 Operator: chh
Run Time: 12/12/98 01:39:42
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	.0396	.0050	.0004	.0033	.0171	.0003
SDev	.0016	.0720	.0000	.0000	.0010	.0007	.0029
%RSD	35800.	181.6	.0073	.1279	30.38	4.099	996.3
#1	-.0011	-.0113	.0050	.0004	.0040	.0176	-.0018
#2	.0011	.0906	.0050	.0004	.0026	.0166	.0024

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0066	.0275	.0481	.0262	.0502	.0064	.0138
SDev	.0027	.0006	.0002	.0345	.0029	.0000	.0019
%RSD	41.61	2.281	.4730	131.7	5.756	.0041	14.13
#1	.0085	.0279	.0479	.0506	.0522	.0064	.0151
#2	.0046	.0270	.0483	.0018	.0481	.0064	.0124

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5850	.0137	1.386	.0009	.0057	.1220	.2393
SDev	.0162	.0003	.019	.0006	.0019	.0003	.0369
%RSD	2.773	1.885	1.405	61.41	33.19	.2292	15.43
#1	.5735	.0135	1.372	.0013	.0070	.1218	.2654
#2	.5964	.0139	1.399	.0005	.0044	.1222	.2132

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0070	.0381	.3366
SDev	.0002	.0357	.0210
%RSD	2.886	93.67	6.239
#1	.0072	.0129	.3515
#2	.0069	.0634	.3218

Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32430

Status.....: RPT
Batch Date...: 12/14/98
Batch Time...: 832

User Name.....: pal
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	PE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos		Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	___CALB_ICPCALBLK_		12/12/98 0159	0		0	0	0	0	0	0		0		0	0		0			0	
1	2	___CAL_ICPCALSTD_		12/12/98 0204	0					0	0								0				
1	3	___CAL_ICPCALSTD_		12/12/98 0208												0							
1	4	___CAL_ICPCALSTD_		12/12/98 0212			0					0		0								0	
1	5	___CAL_ICPCALSTD_		12/12/98 0216				0	0								0						
1	6	___ICV_V170602C_		12/12/98 0221	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	7	___ICB__		12/12/98 0225	0		0	0	0	0	0	0		0		0	0	B	0			0	0
1	8	___ISB_V170602B_		12/12/98 0230	0		0	0	0	0	0	0		0		0	0	0				0	0
1	9	___PB__		12/12/98 0240	B		0	0	0	0	0	0		B		0	0	B	0			0	B
1	10	___LCS_ICPSPK98_		12/12/98 0245	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	11	813435_1____		12/12/98 0250	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	12	813435_1__MD__11		12/12/98 0255	0		0	0	0	0	*	0		0		0	0	0	0			0	0
1	13	813435_1__MS_ICPSPK98_11		12/12/98 0300	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	14	813435_2____		12/12/98 0305	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	15	813435_3____		12/12/98 0310	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	16	813435_4____		12/12/98 0314	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	17	813435_5____		12/12/98 0319	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	18	___CCV_V170602C_		12/12/98 0324	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	19	___CCB__		12/12/98 0329	0		0	0	0	0	0	0		B		0	0	B	0			0	0
1	20	813435_6____		12/12/98 0334	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	21	813502_11____		12/12/98 0339	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	22	813502_12____		12/12/98 0344	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	23	813502_13____		12/12/98 0349	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	24	813502_14____		12/12/98 0354	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	25	813554_1____		12/12/98 0359	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	26	813554_2____		12/12/98 0404	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	27	813554_3____		12/12/98 0409	0		0	0	0	0	0	0		0		0	0	0	0			0	0
1	28	813604_19____		12/12/98 0413	0		0	0	0	0	0	0		0		0	0	0	0			0	0

1/12/99 10:02

Metals Analysis (ICAP) | Status.....: RPT | User Name.....: pal | Location Code..: 57211
Method Code..: 200.7 | Batch Date...: 12/14/98 | QC Code.....: 2007 | Equipment Code.: ICP
Batch Code...: 32430 | Batch Time...: 832 | Calc Code.....: | Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 29	813604_20____		12/12/98 0418	0		0	0	0	0	0	0		0		0	0	0	0			0	0	
1 30	___CCV_V170602C_		12/12/98 0423	0		0	0	0	^	0	0		0		0	0	0	0			0	0	
1 31	___CCB__		12/12/98 0428	0		0	0	0	0	0	0		B		0	0	0	0			0	B	
1 32	813604_21____		12/12/98 0433	0		0	0	0	0	0	0		0		0	0	0	0					
1 33	813604_22____		12/12/98 0438	0		0	0	0	0	0	0		0		0	0	0	0			0	0	
1 34	813604_23____		12/12/98 0443	0		0	0	0	0	0	0		0		0	0	0	0			0	0	
1 35	813604_23__PDS_V01019809_34		12/12/98 0448																				
1 36	___ISB_V170602B_		12/12/98 0453	0		0	0	0	0	0	0		0		0	0	0				0	0	
1 37	___CCV_V170602C_		12/12/98 0500	0		0	0	0	^	0	0		0		0	0	0	0			0	0	
1 38	___CCB__		12/12/98 0505	0		0	0	0	0	0	0		0		0	0	B	0			0	0	

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	21	22	23	24
1 1	___CALB_ICPCALBLK_		12/12/98 0159				
1 2	___CAL_ICPCALSTD_		12/12/98 0204				0
1 3	___CAL_ICPCALSTD_		12/12/98 0208				0
1 4	___CAL_ICPCALSTD_		12/12/98 0212				0
1 5	___CAL_ICPCALSTD_		12/12/98 0216				0
1 6	___ICV_V170602C_		12/12/98 0221				
1 7	___ICB__		12/12/98 0225				
1 8	___ISB_V170602B_		12/12/98 0230				
1 9	___PB__		12/12/98 0240				
1 10	___LCS_ICPSPK98_		12/12/98 0245				
1 11	813435_1____		12/12/98 0250				
1 12	813435_1__MD__11		12/12/98 0255				
1 13	813435_1__MS_ICPSPK98_11		12/12/98 0300				

1/12/99 10:0?

Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32430

Status.....: RPT
Batch Date...: 12/14/98
Batch Time...: 832

User Name.....: pal
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS Date / Time	21	22	23	24
1 14	813435_2____		12/12/98 0305				
1 15	813435_3____		12/12/98 0310				
1 16	813435_4____		12/12/98 0314				
1 17	813435_5____		12/12/98 0319				
1 18	___CCV_V170602C_		12/12/98 0324				
1 19	___CCB__		12/12/98 0329				
1 20	813435_6____		12/12/98 0334				
1 21	813502_11____		12/12/98 0339				
1 22	813502_12____		12/12/98 0344				
1 23	813502_13____		12/12/98 0349				
1 24	813502_14____		12/12/98 0354				
1 25	813554_1____		12/12/98 0359				
1 26	813554_2____		12/12/98 0404				
1 27	813554_3____		12/12/98 0409				
1 28	813604_19____		12/12/98 0413				
1 29	813604_20____		12/12/98 0418				
1 30	___CCV_V170602C_		12/12/98 0423				
1 31	___CCB__		12/12/98 0428				
1 32	813604_21____		12/12/98 0433				
1 33	813604_22____		12/12/98 0438				
1 34	813604_23____		12/12/98 0443				
1 35	813604_23__PDS_V01019809_34		12/12/98 0448				
1 36	___ISB_V170602B_		12/12/98 0453				
1 37	___CCV_V170602C_		12/12/98 0500				
1 38	___CCB__		12/12/98 0505				

Standardization Rpt. Sat 12-12-98 02:03:57 AM page 1

Method: CLP Standard: blank
Run Time: 12/12/98 01:59:06

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Avge	.0060	.0154	-.0009	.0005	-.0011	.0207	-.0005
SDev	.0045	.0260	.0016	.0004	.0001	.0103	.0010
%RSD	75.42	169.0	172.8	84.85	12.86	49.87	198.0
#1	.0028	-.0030	-.0020	.0002	-.0012	.0134	-.0012
#2	.0092	.0338	.0002	.0008	-.0010	.0280	.0002

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Avge	-.0029	-.0019	.0145	-.0062	.0027	.0078	-.0056
SDev	.0027	.0050	.0032	.0150	.0055	.0000	.0040
%RSD	92.66	260.5	22.43	241.8	204.3	.0000	70.71
#1	-.0048	-.0054	.0122	-.0168	-.0012	.0078	-.0084
#2	-.0010	.0016	.0168	.0044	.0066	.0078	-.0028

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Avge	-.0027	.0248	.1847	-.0009	.0006	.2637	.0484
SDev	.0083	.0000	.0052	.0018	.0008	.0021	.0028
%RSD	309.0	.0000	2.833	204.3	141.4	.8044	5.844
#1	-.0086	.0248	.1810	.0004	.0000	.2622	.0464
#2	.0032	.0248	.1884	-.0022	.0012	.2652	.0504

Elem	Ti3349	Sn2839	Li6707
Avge	-.0005	-.0075	-.0035
SDev	.0030	.0126	.0047
%RSD	594.0	167.8	133.3
#1	-.0026	-.0164	-.0068
#2	.0016	.0014	-.0002

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Standardization Rpt. Sat 12-12-98 02:08:20 AM page

Method: CLP Standard: cal4
Run Time: 12/12/98 02:04:11

Elem	Al3082	Ca3179	Cr2677	Ni2316	K 7664	Na5889
Avge	1.601	19.72	.3186	.4233	.4584	.5716
SDev	.013	.20	.0014	.0032	.0023	.0023
%RSD	.8126	1.038	.4439	.7684	.4936	.3959
#1	1.592	19.57	.3176	.4210	.4568	.5700
#2	1.610	19.86	.3196	.4256	.4600	.5732

Standardization Rpt. Sat 12-12-98 02:12:43 AM page 1

Method: CLP Standard: cal5
Run Time: 12/12/98 02:08:33

Elem	Sb2068	Mg2790	Ag3280	B 2496
Avge	.8241	1.919	.5150	1.145
SDev	.0016	.030	.0102	.008
%RSD	.1888	1.584	1.977	.6794
#1	.8230	1.941	.5222	1.150
#2	.8252	1.898	.5078	1.139

Standardization Rpt. Sat 12-12-98 02:16:55 AM page 1

Method: CLP Standard: cal2
Run Time: 12/12/98 02:12:46

Elem	Ba4934	Co2286	Cu3247	Fe2599	V 2924
Avge	.6827	.4822	.1897	56.54	.8630
SDev	.0083	.0073	.0021	.48	.0028
%RSD	1.222	1.525	1.118	.8519	.3277
#1	.6768	.4770	.1882	56.20	.8610
#2	.6886	.4874	.1912	56.88	.8650

Standardization Rpt. Sat 12-12-98 02:20:57 AM page 1

Method: CLP Standard: call
Run Time: 12/12/98 02:16:58

Elem	Be3130	Cd2265	Pb2203	Mn2576	Zn2138
Avge	1.107	2.559	3.448	.6649	.6486
SDev	.012	.027	.054	.0072	.0079
%RSD	1.111	1.055	1.579	1.085	1.221
#1	1.099	2.540	3.410	.6598	.6430
#2	1.116	2.578	3.487	.6700	.6542

Standardization Report Sat 12-12-98 02:20:57 AM page 1

Method: CLP Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardi
Al3082	308.215	cal4	blank	6.26881	-.037613	12/12/98 02:16
Sb2068	206.838	cal5	blank	4.94621	-.076172	12/12/98 02:16
Ba4934	493.409	cal2	blank	1.46284	.001317	12/12/98 02:16
Be3130	313.042	cal1	blank	.903506	-.000452	12/12/98 02:16
Cd2265	226.502	cal1	blank	1.17169	.001289	12/12/98 02:16
Ca3179	317.933	cal4	blank	2.53843	-.052546	12/12/98 02:16
Cr2677	267.716	cal4	blank	3.13381	.001567	12/12/98 02:16
Co2286	228.616	cal2	blank	2.06143	.005978	12/12/98 02:16
Cu3247	324.754	cal2	blank	5.21921	.009916	12/12/98 02:16
Fe2599	259.940	cal2	blank	1.76906	-.025651	12/12/98 02:16
Pb2203	220.353	cal1	blank	2.89477	.017948	12/12/98 02:16
Mg2790	279.078	cal5	blank	10.4362	-.028178	12/12/98 02:16
Mn2576	257.610	cal1	blank	3.04368	-.023741	12/12/98 02:16
Ni2316	231.604	cal4	blank	2.33155	.013057	12/12/98 02:16
K 7664	766.491	cal4	blank	43.3745	.117111	12/12/98 02:16
Ag3280	328.068	cal5	blank	2.03954	-.050580	12/12/98 02:16
Na5889	588.995	cal4	blank	25.8465	-4.77384	12/12/98 02:16
V 2924	292.402	cal2	blank	1.13555	.001022	12/12/98 02:16
Zn2138	213.856	cal1	blank	4.62963	-.002778	12/12/98 02:16
B 2496	249.678	cal5	blank	2.26963	-.598502	12/12/98 02:16
Mo2020	202.030	cal3	blank	15.8479	-.767036	12/12/98 02:16
Ti3349	334.941	cal6	blank	1.43439	.000717	12/12/98 02:16
Sn2839	283.999	cal6	blank	8.30703	.062303	12/12/98 02:16
Li6707	670.784	cal6	blank	50.3525	.176234	12/12/98 02:16

Analysis Report QC Standard Sat 12-12-98 02:25:51 AM page 1

Method: CLP Sample Name: ccv2 Operator: chh
Run Time: 12/12/98 02:21:00
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.017	2.027	2.033	1.981	1.969	2.080	1.980
SDev	.044	.022	.040	.040	.028	.039	.042
%RSD	2.188	1.096	1.984	2.030	1.439	1.881	2.144
#1	1.986	2.011	2.005	1.952	1.949	2.053	1.950
#2	2.049	2.043	2.062	2.009	1.989	02.108	2.010
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.018	1.986	2.013	2.006	1.939	1.971	1.998
SDev	.045	.032	.043	.095	.019	.039	.040
%RSD	2.224	1.635	2.116	4.743	.9612	1.967	1.995
#1	1.986	1.963	1.983	1.939	1.926	1.943	1.970
#2	2.050	2.009	2.043	2.074	1.952	1.998	2.026
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.06	01.896	01.861	2.022	1.996	2.012	02.719
SDev	.33	.045	.011	.038	.034	.030	.143
%RSD	1.621	2.373	.5893	1.872	1.711	1.500	5.274
#1	19.83	01.865	01.869	1.996	1.972	1.990	02.618
#2	20.29	1.928	01.853	2.049	2.021	2.033	02.821
Errors	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	01.537	0.4766	032.87
SDev	.034	.0150	.58
%RSD	2.191	3.138	1.755
#1	01.513	0.4872	032.46
#2	01.560	0.4660	033.28
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000

Analysis Report Blank Sample Sat 12-12-98 02:30:45 AM page 1

Method: CLP Sample Name: ccb2 Operator: chh
Run Time: 12/12/98 02:25:54
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0282	.0115	.0018	.0005	.0034	.0124	.0025
SDev	.0044	.1084	.0006	.0000	.0036	.0029	.0013
%RSD	15.73	945.3	35.37	.0955	107.4	23.09	53.14
#1	.0251	-.0652	.0022	.0004	.0060	.0104	.0016
#2	.0313	.0881	.0013	.0005	.0008	.0145	.0034

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0066	.0214	.0453	-.0011	.0524	.0006	.0179
SDev	.0050	.0044	.0008	.0082	.0118	.0000	.0010
%RSD	75.18	20.70	1.657	713.5	22.54	.3677	5.482
#1	.0031	.0183	.0448	.0046	.0608	.0006	.0173
#2	.0101	.0245	.0458	-.0069	.0441	.0006	.0186

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2689	.0106	-.0491	.0018	.0068	.0048	.0856
SDev	.0429	.0029	.0439	.0005	.0007	.0006	.0359
%RSD	15.97	27.19	89.32	26.12	9.825	13.47	41.90
#1	.2993	.0126	-.0181	.0022	.0073	.0052	.0602
#2	.2386	.0086	-.0801	.0015	.0064	.0043	.1109

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0059	.0906	.2216
SDev	.0012	.0715	.0356
%RSD	20.70	78.86	16.07
#1	.0067	.1412	.1964
#2	.0050	.0401	.2467

Analysis Report QC Standard Sat 12-12-98 02:35:38 AM page

Method: CLP Sample Name: isb2 Operator: chh
Run Time: 12/12/98 02:30:48
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0501.0	0.2391	0.4942	0.4687	0.8597	0477.7	0.4540
SDev	7.9	.1168	.0070	.0075	.0166	7.4	.0075
%RSD	1.578	48.83	1.423	1.607	1.931	1.552	1.656
#1	0506.6	0.3217	0.4992	0.4740	0.8714	0482.9	0.4593
#2	0495.4	0.1566	0.4893	0.4633	0.8479	0472.4	0.4487
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.4428	0.4609	0186.4	01.055	0475.1	0.4720	0.8948
SDev	.0058	.0000	3.0	.013	7.3	.0066	.0029
%RSD	1.317	.0000	1.587	1.238	1.544	1.391	.3206
#1	0.4469	0.4609	0188.5	01.065	0480.3	0.4767	0.8968
#2	0.4386	0.4609	0184.3	01.046	0469.9	0.4674	0.8928
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	0.0477	0.9320	0-.7134	0.4723	0.9276	0.0574	0.4105
SDev	.1227	.0106	.0987	.0068	.0096	.0077	.0471
%RSD	257.1	1.134	13.83	1.449	1.038	13.42	11.47
#1	0-.0390	0.9395	0-.7831	0.4772	0.9344	0.0629	0.4437
#2	0.1345	0.9245	0-.6436	0.4675	0.9208	0.0520	0.3772
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	0.0156	0.6995	0.1309
SDev	.0032	.1325	.0926
%RSD	20.76	18.94	70.71
#1	0.0133	0.7932	0.0655
#2	0.0179	0.6059	0.1964
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Sat 12-12-98 02:45:23 AM page 1

Method: CLP Sample Name: pb Operator: chh
Run Time: 12/12/98 02:40:32
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1385	.1198	L.0031	L.0002	L.0028	L.2775	L.0028
SDev	.0328	.0099	.0008	.0001	.0002	.0036	.0062
%RSD	23.67	8.280	26.97	70.83	5.951	1.294	220.3
#1	.1153	.1268	L.0037	L.0001	L.0027	L.2800	L-.0016
#2	.1617	.1128	L.0025	L.0003	L.0029	L.2749	L.0072
Errors	LC Pass	LC Pass	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0054	.0183	.0893	L.0399	L.1007	L.0006	.0198
SDev	.0026	.0000	.0015	.0041	.0015	.0009	.0050
%RSD	49.03	.0000	1.681	10.25	1.496	135.7	24.97
#1	L.0035	.0183	.0904	L.0370	L.0996	L.0000	.0233
#2	L.0072	.0183	.0883	L.0428	L.1018	L.0012	.0163
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Low	LC Low	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.4207	.0118	L.3205	L.0026	.0106	.2188	L.0095
SDev	.0613	.0040	.0768	.0016	.0006	.0042	.0045
%RSD	14.58	34.12	23.95	61.48	5.898	1.907	47.14
#1	L.3774	L.0090	L.2662	L.0015	.0110	.2158	.0127
#2	L.4641	.0147	L.3748	L.0038	.0101	.2217	L.0063
Errors	LC Low	LC Pass	LC Low	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0030	.0480	.1863
SDev	.0016	.0843	.0142
%RSD	53.87	175.7	7.644
#1	.0019	-.0116	.1762
#2	.0042	.1075	.1964
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Sat 12-12-98 02:50:18 AM page 1

Method: CLP Sample Name: lcs Operator: chh
Run Time: 12/12/98 02:45:27
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.137	1.279	.7811	.0925	.0917	97.09	.3855
SDev	.016	.128	.0118	.0013	.0038	1.35	.0057
%RSD	.7432	10.02	1.510	1.366	4.157	1.391	1.487
#1	2.125	1.189	.7728	.0916	.0890	96.13	.3815
#2	2.148	1.370	.7894	.0933	.0944	98.04	.3896
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9336	.4624	.9692	.9247	96.07	.9178	.9278
SDev	.0102	.0022	.0120	.0103	1.40	.0112	.0175
%RSD	1.092	.4789	1.238	1.111	1.459	1.220	1.888
#1	.9264	.4609	.9607	.9174	95.08	.9099	.9154
#2	.9408	.4640	.9777	.9319	97.06	.9257	.9401
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.44	.3843	98.48	.9804	.9123	1.318	L-.0190
SDev	1.42	.0072	1.32	.0162	.0119	.017	.0090
%RSD	1.431	1.880	1.340	1.656	1.299	1.266	47.14
#1	98.44	.3792	97.54	.9689	.9040	1.306	L-.0254
#2	100.5	.3895	99.41	.9919	.9207	1.330	L-.0127
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0080	.1712	15.61
SDev	.0010	.0683	.20
%RSD	12.63	39.87	1.277
#1	.0087	.1229	15.47
#2	.0073	.2195	15.76
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Sat 12-12-98 02:55:13 AM page 1

Method: CLP Sample Name: 813435 -001 Operator: chh
Run Time: 12/12/98 02:50:22
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1950	L.0069	.1365	L.0001	L.0006	296.3	L.0072
SDev	.0027	.0055	.0046	.0000	.0018	6.1	.0053
%RSD	1.362	79.74	3.334	.9735	313.3	2.059	73.75
#1	.1931	L.0030	.1333	L.0001	L-.0007	292.0	L.0034
#2	.1968	L.0108	.1397	L.0001	L.0019	300.6	.0110
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0084	.0574	2.293	L.0286	44.47	.7185	.0117
SDev	.0018	.0037	.046	.0037	.89	.0134	.0033
%RSD	20.71	6.428	2.019	12.91	2.003	1.858	28.01
#1	L.0072	.0600	2.260	L.0260	43.84	.7090	.0140
#2	L.0097	.0548	2.325	L.0312	45.10	.7279	L.0094
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	21.67	L.0072	60.46	L-.0006	.0348	.7236	L-.0285
SDev	.45	.0032	1.03	.0010	.0013	.0048	.0269
%RSD	2.066	43.80	1.705	173.0	3.689	.6654	94.28
#1	21.35	L.0095	59.73	L-.0013	.0357	.7202	L-.0475
#2	21.99	L.0050	61.19	L.0001	.0339	.7270	L-.0095
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0120	-.0333	.2769
SDev	.0002	.0212	.0285
%RSD	1.684	63.71	10.29
#1	.0122	-.0183	.2971
#2	.0119	-.0484	.2568
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Sat 12-12-98 03:00:08 AM page 1

Method: CLP Sample Name: 813435 -001 md Operator: chh
Run Time: 12/12/98 02:55:16
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1899	L-.0478	.1390	L.0001	L.0022	296.0	L-.0028
SDev	.0080	.0064	.0006	.0000	.0015	1.0	.0036
%RSD	4.191	13.37	.4469	3.801	67.16	.3481	126.0
#1	.1843	L-.0524	.1385	L.0001	L.0012	295.3	L-.0003
#2	.1956	L-.0433	.1394	L.0001	L.0033	296.7	L-.0053
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0070	.0558	2.295	L.0497	44.40	.7160	.0117
SDev	.0003	.0059	.006	.0033	.18	.0030	.0013
%RSD	4.156	10.57	.2834	6.591	.4153	.4214	11.35
#1	L.0068	.0517	2.291	.0520	44.27	.7139	.0107
#2	L.0072	.0600	2.300	L.0474	44.53	.7181	.0126
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	21.43	L.0050	60.48	L-.0006	.0265	.6739	L-.0016
SDev	.17	.0012	.14	.0038	.0013	.0039	.0247
%RSD	.8014	23.23	.2236	649.2	4.886	.5716	1556.
#1	21.31	L.0042	60.38	L-.0033	.0274	.6711	L-.0190
#2	21.55	L.0058	60.57	L.0021	.0256	.6766	.0158
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0106	.1187	.2870
SDev	.0010	.0299	.0570
%RSD	9.555	25.17	19.85
#1	.0099	.1398	.2467
#2	.0113	.0976	.3273
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Sat 12-12-98 03:05:03 AM page 1

Method: CLP Sample Name: 813435 -001 ms Operator: chh
Run Time: 12/12/98 03:00:12
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.167	1.117	.9166	.0916	.0901	385.2	.3765
SDev	.078	.071	.0312	.0030	.0020	13.0	.0336
%RSD	3.592	6.396	3.408	3.310	2.198	3.383	8.928
#1	2.112	1.168	.8945	.0894	.0887	376.0	.3527
#2	2.222	1.067	.9387	.0937	.0915	394.5	.4002
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9134	.5068	3.177	.9315	138.3	1.608	.8883
SDev	.0335	.0295	.107	.0014	4.8	.048	.0259
%RSD	3.670	5.826	3.370	.1446	3.478	2.974	2.910
#1	.8897	.4859	3.101	.9306	134.9	1.574	.8700
#2	.9371	.5277	3.252	.9325	141.7	1.641	.9066
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	121.2	.3783	157.4	.9719	.9482	1.591	L-.0127
SDev	4.1	.0246	5.1	.0398	.0303	.045	.0045
%RSD	3.370	6.496	3.209	4.091	3.195	2.804	35.36
#1	118.3	.3609	153.8	.9438	.9268	1.559	L-.0095
#2	124.1	.3957	161.0	1.000	.9697	1.623	L-.0158
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0118	.2417	15.81
SDev	.0039	.1077	.53
%RSD	32.77	44.57	3.378
#1	.0090	.3179	15.43
#2	.0145	.1655	16.19
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report QC Standard Sat 12-12-98 03:29:36 AM page 1

Method: CLP Sample Name: ccv2 Operator: chh
Run Time: 12/12/98 03:24:46
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.996	Q1.736	1.955	1.908	1.944	2.037	1.932
SDev	.006	.115	.019	.015	.023	.019	.012
%RSD	.3076	6.650	.9630	.7961	1.176	.9341	.6407
#1	2.000	Q1.654	1.968	1.919	1.960	2.050	1.941
#2	1.991	Q1.818	1.941	Q1.898	1.928	2.023	1.923
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.971	1.924	1.950	1.995	1.940	1.918	1.960
SDev	.018	.013	.017	.011	.016	.015	.012
%RSD	.9168	.6522	.8564	.5294	.8260	.8086	.6048
#1	1.984	1.933	1.961	1.988	1.951	1.929	1.969
#2	1.958	1.915	1.938	2.003	1.928	1.907	1.952
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.36	Q1.840	Q2.287	1.959	1.951	1.967	Q2.639
SDev	.08	.021	.073	.014	.014	.015	.025
%RSD	.4118	1.129	3.196	.6985	.7070	.7670	.9343
#1	19.42	Q1.855	Q2.236	1.969	1.961	1.978	Q2.621
#2	19.31	Q1.826	Q2.339	1.949	1.941	1.956	Q2.656
Errors	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	Q1.479	Q.4623	Q31.39
SDev	.008	.0257	.23
%RSD	.5622	5.569	.7486
#1	Q1.485	Q.4805	Q31.56
#2	Q1.474	Q.4441	Q31.22
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Sat 12-12-98 03:34:30 AM page 1

Method: CLP Sample Name: ccb2 Operator: chh
Run Time: 12/12/98 03:29:40
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0025	-.0524	-.0010	.0005	.0008	.0074	.0050
SDev	.0071	.0489	.0033	.0000	.0027	.0050	.0040
%RSD	283.4	93.28	323.1	.2581	326.6	68.27	79.55
#1	.0075	-.0178	-.0034	.0004	.0027	.0038	.0078
#2	-.0025	-.0870	.0013	.0005	-.0011	.0109	.0022

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0047	.0110	.0614	.0084	.0480	.0025	.0138
SDev	.0018	.0015	.0030	.0323	.0147	.0009	.0016
%RSD	36.93	13.47	4.891	384.4	30.64	35.12	11.99
#1	.0060	.0099	.0635	.0313	.0584	.0018	.0126
#2	.0035	.0120	.0593	-.0145	.0376	.0031	.0149

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1128	.0098	.2585	.0015	.0078	.0347	.1046
SDev	.1166	.0046	.0037	.0013	.0006	.0039	.0179
%RSD	103.3	47.13	1.414	86.33	8.129	11.09	17.14
#1	.0304	.0131	.2610	.0024	.0074	.0374	.0919
#2	.1952	.0065	.2559	.0006	.0083	.0320	.1173

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0053	.0107	.1460
SDev	.0000	.0257	.0000
%RSD	.0000	240.2	.0000
#1	.0053	.0289	.1460
#2	.0053	-.0075	.1460

Analysis Report Sat 12-12-98 04:04:01 AM page 1

Method: CLP Sample Name: 813554 -001 Operator: chh
Run Time: 12/12/98 03:59:10
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3937	L-.1026	.0755	L-.0002	L.0004	143.5	.0113
SDev	.0337	.0708	.0048	.0006	.0032	6.3	.0004
%RSD	8.560	69.07	6.304	344.8	830.0	4.358	3.906
#1	.3698	L-.0525	.0788	L.0003	L.0026	139.1	.0116
#2	.4175	L-.1526	.0721	L-.0006	L-.0019	148.0	.0110
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0016	L-.0183	.5638	L-.0240	37.30	1.378	L.0021
SDev	.0219	.0664	.0325	.1287	1.53	.062	.0184
%RSD	1326.	363.7	5.769	537.1	4.099	4.495	865.5
#1	L.0171	.0287	.5408	.0670	36.22	1.334	.0151
#2	L-.0138	L-.0652	.5868	L-.1149	38.38	1.422	L-.0109
Errors	LC Low	LC Low	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.025	.2177	54.63	L.0047	L.0084	.5722	.0586
SDev	.693	.0017	2.39	.0014	.0050	.0064	.0605
%RSD	17.22	.8000	4.369	30.80	60.26	1.122	103.2
#1	4.515	.2165	52.95	L.0057	.0119	.5676	.1014
#2	3.535	.2189	56.32	L.0037	L.0048	.5767	.0158
Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Low	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0037	-.0063	-.0856
SDev	.0172	.0036	.6266
%RSD	462.3	57.88	732.1
#1	.0159	-.0037	.3575
#2	-.0085	-.0089	-.5287
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report Sat 12-12-98 04:08:56 AM page 1

Method: CLP Sample Name: 813554 -002 Operator: chh
Run Time: 12/12/98 04:04:05
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8093	L-.0465	.0692	L.0003	L.0034	137.6	L.0075
SDev	.0027	.0099	.0021	.0003	.0007	.1	.0066
%RSD	.3310	21.36	2.989	95.75	19.44	.1077	88.49
#1	.8112	L-.0535	.0707	L.0005	L.0039	137.7	.0122
#2	.8074	L-.0395	.0677	L.0001	L.0029	137.5	L.0028
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0080	.0230	1.406	L.0291	36.29	1.417	.0210
SDev	.0012	.0185	.004	.0369	.07	.003	.0016
%RSD	14.51	80.35	.2669	126.6	.1832	.1816	7.862
#1	L.0089	.0360	1.404	.0551	36.34	1.416	.0221
#2	L.0072	L.0099	1.409	L.0030	36.24	1.419	.0198
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.253	.3389	43.33	L.0006	.0109	.5488	.0238
SDev	.196	.0121	.01	.0038	.0039	.0022	.0157
%RSD	3.737	3.575	.0337	613.5	35.39	.4094	66.00
#1	5.391	.3474	43.32	L-.0021	.0136	.5504	.0349
#2	5.114	.3303	43.34	L.0033	L.0082	.5472	.0127
Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0179	.9814	.2669
SDev	.0053	1.042	.1709
%RSD	29.42	106.2	64.04
#1	.0217	.2442	.3877
#2	.0142	1.718	.1460
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Sat 12-12-98 04:13:51 AM page 1

Method: CLP Sample Name: 813554 -003 Operator: chh
Run Time: 12/12/98 04:09:00
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1730	L-.0741	.0190	L-.0000	L.0009	L.2442	L-.0009
SDev	.0124	.0222	.0002	.0001	.0038	.0018	.0080
%RSD	7.171	29.95	1.093	7905.	405.5	.7350	845.8
#1	.1642	L-.0584	.0189	L.0001	L.0036	L.2429	L.0047
#2	.1818	L-.0898	.0192	L-.0001	L-.0018	L.2455	L-.0066
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0078	.0172	L-.0037	L.0066	L.1086	L.0006	.0107
SDev	.0020	.0015	.0025	.0471	.0045	.0009	.0086
%RSD	26.09	8.571	67.33	713.9	4.121	139.7	79.98
#1	L.0093	.0162	L-.0019	L-.0267	L.1054	L.0000	L.0047
#2	L.0064	.0183	L-.0055	L.0399	L.1118	L.0012	.0168
Errors	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.3687	L.0090	1.047	L.0018	L.0064	.4864	L-.0396
SDev	.1104	.0006	.051	.0011	.0000	.0026	.0022
%RSD	29.95	6.427	4.889	60.90	.3908	.5279	5.657
#1	L.2906	L.0086	1.011	L.0010	L.0064	.4882	L-.0380
#2	L.4468	L.0094	1.083	L.0026	L.0064	.4846	L-.0412
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0029	.0766	.1511
SDev	.0014	.0314	.0641
%RSD	49.50	41.00	42.43
#1	.0039	.0544	.1057
#2	.0019	.0988	.1964
Errors	NOCHECK	NOCHECK	NOCHECK
High			

Analysis Report QC Standard Sat 12-12-98 04:28:35 AM page 1

Method: CLP Sample Name: ccv2 Operator: chh
Run Time: 12/12/98 04:23:45
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.019	O1.703	1.987	1.946	2.010	O2.108	1.980
SDev	.005	.119	.018	.015	.017	.018	.015
%RSD	.2244	6.980	.9160	.7541	.8246	.8345	.7590
#1	2.023	O1.619	1.974	1.936	1.998	2.095	1.969
#2	2.016	O1.787	2.000	1.957	2.021	O2.120	1.990
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.030	1.954	2.013	2.040	1.966	1.969	2.031
SDev	.020	.016	.017	.005	.031	.014	.005
%RSD	.9764	.8312	.8419	.2361	1.588	.7219	.2427
#1	2.016	1.942	2.001	2.043	1.988	1.959	2.027
#2	2.044	1.965	2.025	2.036	1.944	1.979	2.034
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.90	O1.891	O2.647	2.009	2.006	2.040	O2.756
SDev	.10	.016	.033	.020	.013	.010	.052
%RSD	.4931	.8697	1.243	1.001	.6261	.4877	1.870
#1	19.84	O1.879	O2.623	1.995	1.997	2.033	O2.719
#2	19.97	1.902	O2.670	2.024	2.015	2.047	O2.792
Errors	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	O1.517	O.5694	O31.66
SDev	.011	.0184	.26
%RSD	.7490	3.226	.8322
#1	O1.509	O.5824	O31.48
#2	O1.525	O.5564	O31.85
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Sat 12-12-98 04:33:29 AM page 1

Method: CLP Sample Name: ccb2 Operator: chh
Run Time: 12/12/98 04:28:39
Comment: 6010 diss
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0219	.0247	.0007	.0005	.0013	.0129	.0031
SDev	.0062	.0727	.0004	.0001	.0027	.0057	.0004
%RSD	28.32	294.1	56.61	23.39	208.1	44.37	14.07
#1	.0263	.0762	.0010	.0005	-.0006	.0089	.0028
#2	.0175	-.0267	.0004	.0006	.0031	.0170	.0034

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0076	.0089	.1097	.0336	.0127	.0022	.0049
SDev	.0023	.0015	.0022	.0172	.0251	.0013	.0030
%RSD	30.59	16.64	2.052	51.19	197.3	59.98	60.76
#1	.0093	.0078	.1081	.0458	-.0050	.0012	.0028
#2	.0060	.0099	.1113	.0214	.0304	.0031	.0070

Elem	K 7664	Ag3280	Na5889	V 2924	Zn2138	B 2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0434	.0120	.5066	.0008	.0101	.0524	.1632
SDev	.0061	.0014	.0183	.0013	.0052	.0026	.0202
%RSD	14.14	11.98	3.608	156.2	51.59	4.898	12.36
#1	.0477	.0131	.5195	-.0001	.0064	.0542	.1775
#2	.0390	.0110	.4937	.0017	.0138	.0506	.1490

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0053	.0166	.1158
SDev	.0020	.0798	.0285
%RSD	38.22	481.0	24.60
#1	.0067	-.0398	.0957
#2	.0039	.0730	.1360

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Metals Analysis(ICAP), Trace
Method Code..: 200.7T
Batch Code...: 32577

Status.....: RPT
Batch Date...: 12/15/98
Batch Time...: 1812

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICPT
Import Code....:

SAMPLE: Grp	Pos	Sample ID	Dilution	TEST CODE / Date / Time	AG	AS	BA	CD	CR	PB	SE	TL	AL	CA	CO	CU	FE	MG	MN	NI	V	ZN
				TEST POS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1	___CCB__		12/14/98 2319																		
1	2	___CALB_ICPCALBLK_		12/14/98 2338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	3	___CAL_ICPCALSTD_		12/14/98 2346	0							0						0				
1	4	___CAL_ICPCALSTD_		12/14/98 2350		0																
1	5	___CAL_ICPCALSTD_		12/14/98 2353			0								0	0	0				0	
1	6	___CAL_ICPCALSTD_		12/14/98 2357				0		0	0								0			0
1	7	___CAL_ICPCALSTD_		12/15/98 0002					0				0	0						0		
1	8	___CAL_ICPCALSTD_		12/15/98 0005													0					
1	9	___ICV_V170601B_		12/15/98 0008	^	0	0	0	0	0	0	0	0	^	0	0	0	0	0	0	0	0
1	10	___ICB__		12/15/98 0017	0	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	11	___ISB_V170601D_		12/15/98 0025	0		0	0	0	0			0	0	0	0	0	0	0	0	0	0
1	12	813435_1_D___		12/15/98 0036		0	0			0	0					0						
1	13	813435_1_D_MD__12		12/15/98 0045	0	0	0	0	0	*	0	0	0		0	*	0		0	0	0	0
1	14	813435_1_D_MS_V01019809_12		12/15/98 0053	Y	0	0	0	0	0	0		0		0	0	0		0	0	0	0
1	15	813435_2_D___		12/15/98 0102		0	0			0	0					0						
1	16	813435_3_D___		12/15/98 0110		0	0			0	0					0						
1	17	813435_4_D___		12/15/98 0118		0	0			0	0					0						
1	18	813435_5_D___		12/15/98 0127		0	0			0	0					0						
1	19	813502_11_D___		12/15/98 0135		0	0			0	0					0						
1	20	813502_12_D___		12/15/98 0143		0	0			0	0					0						
1	21	___CCV_V170601B_		12/15/98 0152	^	0	^	0	^	0	0	^	0	^	0	^	0	^	^	0	0	0
1	22	___CCB__		12/15/98 0200	0	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	B	0
1	23	813502_13_D___		12/15/98 0208		0				0	0										0	
1	24	813502_14_D___		12/15/98 0217		0				0	0										0	
1	25	813554_1_D___		12/15/98 0225		0				0	0										0	
1	26	813554_2_D___		12/15/98 0233		0				0	0										0	
1	27	813554_3_D___		12/15/98 0242		0				0	0										0	
1	28	813604_19_D___		12/15/98 0250		0				0	0										0	

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Metals Analysis(ICAP), Trace
Method Code..: 200.7T
Batch Code...: 32577

Status.....: RPT
Batch Date...: 12/15/98
Batch Time...: 1812

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICPT
Import Code....:

			TEST CODE	AG	AS	BA	CD	CR	PB	SE	TL	AL	CA	CO	CU	FE	MG	MN	NI	V	ZN
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 29	813604_20_D___		12/15/98 0258		0				0	0										0	
1 30	813604_21_D___		12/15/98 0307		0				0	0										0	
1 31	813604_22_D___		12/15/98 0315		0				0	0										0	
1 32	813604_23_D___		12/15/98 0323		0				0	0										0	
1 33	___CCV_V170601B_		12/15/98 0332	-	0	-	0	-	0	0	-	0	-	0	-	-	-	-	0	-	0
1 34	___CCB__		12/15/98 0340	0	B	0	0	0	0	B	0	0	0	0	0	0	0	0	0	B	0
1 35	813659_1_D___		12/15/98 0348																		
1 36	813659_2_D___		12/15/98 0357																		
1 37	813659_3_D___		12/15/98 0405																		
1 38	___ISB_V170601D_		12/15/98 0413																		
1 39	___CCV_V170601B_		12/15/98 0423																		
1 40	___CCB__		12/15/98 0432																		

Method: RCRAHI Standard: CALB
Run Time: 12/14/98 23:38:16

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Avge	-.0034	-.0070	.0106	-.0005	.0026	-.0002	-.0007
SDev	.0173	.0008	.0031	.0035	.0020	.0113	.0018
%RSD	507.5	12.01	29.35	707.1	76.15	5657.	266.4
#1	-.0156	-.0075	.0084	-.0030	.0040	.0078	-.0020
#2	.0088	-.0064	.0128	.0020	.0012	-.0082	.0006

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Fe
Avge	.0005	.0009	.0008	-.0002	.0001	.0163	.0005
SDev	.0010	.0001	.0003	.0003	.0001	.0004	.0001
%RSD	198.0	15.71	35.36	141.4	141.4	2.603	20.28
#1	.0012	.0010	.0010	.0000	.0002	.0166	.0006
#2	-.0002	.0008	.0006	-.0004	.0000	.0160	.0004

Elem	Mg2790	Mn2576	Ni2316	V_2924	Zn2138
Avge	.0002	.0001	.0000	.0003	.0031
SDev	.0000	.0004	.0003	.0001	.0001
%RSD	.0000	424.3	.0000	47.14	4.493
#1	.0002	.0004	.0002	.0002	.0030
#2	.0002	-.0002	-.0002	.0004	.0032

Method: RCRAHI Standard: CAL5
Run Time: 12/14/98 23:46:41

Elem	Ag3280	Tl1908	Mg2790
Avge	1.815	3.333	.0718
SDev	.040	.009	.0005
%RSD	2.228	.2568	.6889
#1	1.844	3.340	.0722
#2	1.787	3.327	.0715

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CHR Rudi 12/15/98

Method: RCRAHI Standard: CAL3
Run Time: 12/14/98 23:50:24

Elem	As1890
Avge	9.428
SDev	.075
%RSD	.7927
#1	9.375
#2	9.481

Method: RCRAHI Standard: CAL2
Run Time: 12/14/98 23:53:37

Elem	Ba4934	Co2286	Cu3247	Fe	V_2924
Avge	4.323	.0562	.0140	.2729	.0203
SDev	.009	.0003	.0003	.0032	.0004
%RSD	.2192	.5033	2.020	1.192	2.090

Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0030	.0065	H.0663	H.0000	L-.0037	L-.0057	-.0009
SDev	.0018	.0010	.0009	.0003	.0057	.0000	.0060
%RSD	59.25	15.52	1.424	668.6	153.0	.1780	678.7
#1	H.0043	.0058	H.0675	H.0003	L.0000	L-.0057	.0034
#2	H.0017	.0072	H.0661	L-.0002	L-.0078	L-.0056	-.0051
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0079	H.1699	H144.4	H.0035	.0000	H1.016	H21.25
SDev	.0075	.0001	2.6	.0050	.0102	.016	.55
%RSD	95.04	.0571	1.809	141.4	.0000	1.591	2.454
#1	.0026	H.1700	H146.2	H.0071	H.0072	H1.027	H21.86
#2	.0133	H.1698	H142.6	L-.0000	L-.0072	H1.005	H20.64
Errors	NOCHECK	LC High	LC High	LC High	LC Pass	LC High	LC High
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	H.3663	H.0035	L-.0150	.0178
SDev	.0169	.0017	.0000	.0003
%RSD	4.628	47.00	.0000	1.960
#1	H.3783	H.0047	L-.0150	.0175
#2	H.3543	H.0024	L-.0150	.0180
Errors	LC High	LC High	LC Low	LC Pass
High	.0000	.0000	.0000	8.000
Low	.0000	.0000	.0000	.0020

Method: RCRAHI Sample Name: 81G435d-001 ms Operator: chh
Run Time: 12/15/98 00:53:40
Comment: 6010
Mode: CONC Corr. Factor: 1

220

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H1.181	8.170	H8.618	H.8066	.8000	7.767	8.826
SDev	.013	.049	.094	.0217	.0089	.076	.179
%RSD	1.073	.5998	1.090	2.691	1.114	.9770	2.025
#1	H1.172	8.205	H8.684	H.8220	.7937	7.713	8.952
#2	H1.189	8.136	H8.551	H.7912	.8063	7.821	8.699
Errors	LC High	NOCHECK	LC High	LC High	LC Pass	LC Pass	NOCHECK
High	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	7.676	H8.437	H135.1	H4.161	H2.000	H3.879	H28.23
SDev	.098	.278	2.2	.003	.031	.388	.02
%RSD	1.272	3.297	1.665	.0602	1.526	4.369	.0700
#1	7.607	H8.634	H136.7	H4.163	H1.978	H9.153	H28.22
#2	7.745	H8.240	H133.5	H4.160	H2.022	H3.604	H28.25
Errors	NOCHECK	LC High	LC High	LC High	LC High	LC High	LC High
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	H1.502	H3.202	H4.095	1.656
SDev	.034	.044	.184	.012
%RSD	2.248	1.361	4.490	.6988
#1	H1.478	H3.171	H3.965	1.664
#2	H1.526	H3.233	H4.225	1.648
Errors	LC High	LC High	LC High	LC Pass
High	.0000	.0000	.0000	8.000
Low	.0000	.0000	.0000	.0020

Method: RCRAHI Sample Name: 813455d-00C Operator: chh
Run Time: 12/15/98 01:02:00
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2200	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0062	.0215	H.0717	H.0005	L-.0026	L.0006	.0117
SDev	.0100	.0019	.0002	.0004	.0003	.0027	.0085
%RSD	159.9	8.950	.2746	79.31	9.313	337.4	73.02
#1	H.0133	.0228	H.0715	H.0005	L-.0030	L-.0011	.0056
#2	L-.0008	.0201	H.0718	H.0010	L-.0026	L.0027	.0177
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0030	

221

Elem	Tl1908	Al3082	Ca3179	Co2786	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0060	H.2660	H87.33	H.0055	H.0504	H.4445	H20.18
SDev	.0036	.0001	4.34	.0075	.0000	.0018	.63
%RSD	52.93	.0547	4.971	141.4	.0000	.4041	3.100
#1	-.0093	H.2662	H84.26	L-.0000	H.0504	H.4432	H19.73
#2	-.0043	H.2664	H90.40	H.0106	H.0504	H.4458	H20.63
Errors	NOCHECK	LC High	LC High	LC High	LC High	LC High	LC High

#2	H.3366	H.0047	L-.0150	.0024

Errors	LC High	LC High	LC Low	LC Pass
High	.0000	.0000	.0000	8.000
Low	.0000	.0000	.0000	.0020

Method: RCRAHT Sample Name: ccv2 Operator: chh
Run Time: 12/15/98 01:52:00
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.759	1.974	Q1.852	1.967	Q1.883	1.901	2.000
SDev	.012	.020	.076	.037	.014	.012	.017
%RSD	.6915	1.024	4.112	1.879	.7680	.6060	.8461
#1	Q1.768	1.989	Q1.798	1.961	Q1.893	Q1.895	2.018
#2	Q1.751	1.960	1.906	2.013	Q1.873	1.911	2.042
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.896	2.005	Q1.847	2.044	Q1.842	1.956	Q1.870
SDev	.025	.066	.091	.053	.010	.016	.039
%RSD	1.300	3.300	4.925	2.576	.5524	.8265	2.111
#1	Q1.879	1.958	Q1.783	2.082	Q1.849	1.967	Q1.898
#2	1.913	2.052	1.912	2.007	Q1.835	1.944	Q1.842
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	Q1.776	2.012	1.965	1.919
SDev	.035	.029	.057	.007
%RSD	1.996	1.470	2.923	.3618
#1	Q1.751	1.992	Q1.895	1.914
#2	Q1.802	2.032	1.975	1.924
Errors	QC Fail	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RCRAHT Sample Name: ccb2 Operator: chh
Run Time: 12/15/98 02:00:21
Comment: 6010
Mode: CONC Corr. Factor: 1

Avge	.0071	.0129	-.0007	.0006	-.0002	.0022	.0052
SDev	.0019	.0030	.0004	.0004	.0024	.0001	.0066
%RSD	27.56	23.28	53.64	45.11	1319.	5.200	125.5
#1	.0084	.0150	-.0009	.0011	-.0019	.0021	.0099
#2	.0057	.0108	-.0004	.0006	.0015	.0023	.0006

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0018	.0730	-.0184	.0018	.0000	.0140	-.0279
SDev	.0020	.0684	.0000	.0025	.0102	.0000	.0395
%RSD	109.2	93.73	.0000	141.4	.0000	.0000	141.5
#1	.0004	.1214	-.0184	-.0000	-.0072	.0140	-.0558
#2	.0033	.0246	-.0184	.0035	.0072	.0140	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	-.0048	-.0024	-.0150	.0009
SDev	.0017	.0000	.0000	.0007
%RSD	35.28	.1617	.0000	82.60
#1	-.0060	-.0024	-.0150	.0004
#2	-.0036	-.0024	-.0150	.0014

Method: RCRAHI Sample Name: 8135028-013 Operator: chh
Run Time: 12/15/98 02:08:42
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0032	.0180	L-.0009	H.0002	L-.0052	L-.0007	-.0028
SDev	.0051	.0110	.0002	.0003	.0003	.0136	.0126
%RSD	157.1	61.20	22.33	131.5	5.309	2010.	445.7
#1	L-.0004	.0102	L-.0007	L-.0000	L-.0050	L-.0103	.0061
#2	H.0068	.0258	L-.0010	H.0003	L-.0054	.0089	-.0117

Errors	LC High	NOCHECK	LC Low	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

223

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0080	H.0731	L-.0735	H.0106	H.0072	L-.0025	H.0279
SDev	.0020	.0687	.0000	.0050	.0000	.0054	.0395
%RSD	25.32	94.07	.0000	47.14	.0000	212.1	141.3
#1	.0094	H.1217	L-.0735	H.0142	H.0072	H.0013	H.0000
#2	.0066	H.0245	L-.0735	H.0071	H.0072	L-.0064	H.0558

Errors	NOCHECK	LC High	LC Low	LC High	LC High	LC Low	LC High
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Method: RCRAHI Sample Name: 813554d-001 Operator: chh
Run Time: 12/15/98 02:25:21
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0015	.0135	H.0353	H.0001	L-.0044	L-.0020	-.0074
SDev	.0026	.0111	.0005	.0007	.0022	.0047	[illegible]
%RSD	174.4	82.41	1.469	935.7	49.88	235.[illegible]	[illegible]
#1	H.0034	.0056	H.0319	H.0006	L-.0059	L-.0053	-.0113
#2	L-.0003	.0214	H.0356	L-.0004	L-.0028	L.0013	-.0035

Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0032	H.0214	H69.13	H.0053	H.0072	H.0013	H18.41
SDev	.0010	.0680	.90	.0075	.0204	.0072	.73
%RSD	32.11	278.4	1.297	141.4	282.8	565.7	3.967
#1	-.0039	L-.0237	H69.76	H.0106	H.0216	H.0064	H18.93
#2	-.0024	H.0725	H68.49	L-.0000	L-.0072	L-.0038	H17.89

Errors	NOCHECK	LC High	LC High	LC High	LC High	LC High	LC High
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	H.5136	H.0012	L-.0050	.0026
SDev	.0119	.0050	.0141	.0009
%RSD	2.318	428.2	282.8	35.04
#1	H.5052	L-.0024	L-.0150	.0033
#2	H.5220	H.0047	H.0050	L.0020

Errors	LC High	LC High	LC Low	LC Pass
High	.0000	.0000	.0000	6.000
Low	.0000	.0000	.0000	.0020

Method: RCRAHI Sample Name: 813554d-002 Operator: chh
Run Time: 12/15/98 02:33:41
Comment: 6010
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0010	.0091	H.0234	L-.0001	L-.0028	L.0027	.0121
SDev	.0001	.0048	.0005	.0005	.0005	.0058	.0014
%RSD	5.828	52.65	2.107	627.7	19.23	214.1	11.53
#1	H.0011	.0057	H.0237	L-.0004	L-.0032	L.0069	.0131
#2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Errors	LC High	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0033	H.0734	H67.68	H.0035	H.0144	L .0025	H19.13
SDev	.0100	.0002	.79	.0000	.0102	.0054	.12
%RSD	302.9	.2209	1.138	.0000	70.71	212.1	1.135
#1	.0104	H.0735	H69.12	H.0035	H.0216	H.0013	H19.98
#2	-.0038	H.0733	H70.24	H.0035	H.0072	L-.0064	H19.29

Errors	NOCHECK	LC High	LC High	LC High	LC High	LC Low	LC High
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	H.6520	H.0059	L-.0300	L.0011
SDev	.0116	.0084	.0071	.0014
%RSD	1.317	141.6	23.57	133.3
#1	H.6604	L-.0000	L-.0350	L.0001
#2	H.6437	H.0118	L-.0250	.0021

Errors	LC High	LC High	LC Low	LC Low
High	.0000	.0000	.0000	8.000
Low	.0000	.0000	.0000	.0020

Method: RCHAHI Sample Name: 813554d-003 Operator: chh
Run Time: 12/15/98 02:42:02
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0016	.0093	L-.0014	H.0002	L-.0002	L.0070	.0063
SDev	.0063	.0034	.0010	.0009	.0003	.0005	.0030
%RSD	307.6	36.57	71.07	455.1	146.6	6.965	46.90
#1	L-.0061	.0069	L-.0007	H.0008	L.0000	L.0073	.0042
#2	H.0028	.0117	L-.0021	L-.0004	L-.0004	L.0066	.0084

Errors	LC Low	NOCHECK	LC Low	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

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Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0062	H.2163	L-.0735	H.0035	H.0072	L-.0000	L-.0140
SDev	.0008	.0685	.0000	.0000	.0000	.0018	.0197
%RSD	13.66	31.67	.0000	.0000	.0000	1543e6	141.4
#1	-.0066	H.2608	L-.0735	H.0035	H.0072	H.0013	L-.0279

Errors	NOCHECK	LC High	LC Low	LC High	LC High	LC Low	LC Low
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	L-.0060	H.0047	L-.0150	L-.0001
SDev	.0000	.0000	.0000	.0000
%RSD	.0397	.0000	.0000	92.17
#1	L-.0060	H.0047	L-.0150	L-.0001
#2	L-.0060	H.0047	L-.0150	L-.0001

Errors	LC Low	LC High	LC Low	LC Low
High	.0000	.0000	.0000	0.000
Low	.0000	.0000	.0000	.0020

Method: PCRAHI Sample Name: 813004d-017 Operator: chh
Run Time: 12/15/98 02:50:22
Comment: e010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0029	.0049	H.0260	H.0006	L-.0021	L.0046	.0040
SDev	.0013	.0013	.0017	.0015	.0041	.0026	.0031
%RSD	45.26	26.07	6.149	173.8	190.0	43.92	167.9
#1	L-.0038	.0058	H.0295	H.0019	L-.0050	L.0060	.0105
#2	L-.0020	.0040	H.0270	L-.0002	L.0007	L.0031	-.0009

Errors	LC Low	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0030	

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0100	H.0731	H106.0	H.0035	H.0360	L-.0025	H28.14
SDev	.0033	.0635	1.0	.0000	.0407	.0018	.08
%RSD	30.86	93.75	1.655	.0000	113.1	70.71	.2806
#1	-.0132	H.1215	H107.3	H.0035	H.0647	L-.0038	H28.06
#2	-.0035	H.0246	H104.6	H.0035	H.0072	L-.0013	H28.19

Errors	NOCHECK	LC High	LC High	LC High	LC High	LC Low	LC High
High		.0000	.0000	.0000	.0000	.0000	.0000
Low		.0000	.0000	.0000	.0000	.0000	.0000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	H1.844	H.0059	L-.0150	.0040
SDev	.027	.0050	.0000	.0002
%RSD	1.465	84.93	.0000	4.659
#1	H1.825	H.0024	L-.0150	.0038
#2	[illegible]	[illegible]	[illegible]	[illegible]

%RSD	.3976	233.7	.0000	22.67
#1	L-.0012	H.0071	L-.0250	L-.0014
#2	L .0012	L-.0024	L-.0250	L-.0010

Errors	LC Low	LC High	LC Low	LC Low
High	.0000	.0000	.0000	3.000
Low	.0000	.0000	.0000	.0020

Method: RCRAHI Sample Name: ccb1 Operator: chh
Run Time: 12/15/93 03:32:04
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.712	2.019	Q1.705	1.960	Q1.884	1.929	2.070
SDev	.001	.029	.038	.063	.007	.014	.032
%RSD	.0866	1.457	2.230	3.226	.3601	.7116	1.523
#1	Q1.711	1.998	Q1.731	2.004	Q1.888	1.938	2.092
#2	Q1.713	2.040	Q1.679	1.915	Q1.879	1.919	2.046
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.845	1.932	Q1.857	1.920	Q1.777	Q1.887	Q1.898
SDev	.005	.101	.000	.028	.061	.005	.039
%RSD	.2490	5.206	.0000	1.436	3.435	.2855	2.080
#1	Q1.848	2.003	Q1.857	1.901	Q1.734	Q1.883	1.926
#2	Q1.842	Q1.861	Q1.857	1.940	Q1.820	Q1.891	Q1.870
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	Q1.745	1.916	Q1.855	1.943
SDev	.008	.027	.071	.038
%RSD	.4840	1.397	3.812	1.963
#1	Q1.739	Q1.896	1.905	1.921
#2	Q1.751	1.935	Q1.805	1.975
Errors	QC Fail	QC Pass	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

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Method: RCRAHI Sample Name: ccb2 Operator: chh
Run Time: 12/15/93 03:40:25
Comment: 6010

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Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0119	.0131	-.0018	-.0003	-.0027	.0031	.0110
SDev	.0050	.0010	.0005	.0003	.0038	.0051	.0048
%RSD	42.40	7.870	27.55	94.55	141.7	167.7	43.78
#1	.0155	.0136	-.0021	-.0001	-.0054	-.0006	.0076
#2	.0083	.0124	-.0014	-.0006	.0000	.0067	.0144

Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0064	-.0237	-.0000	.0016	.0000	.0152	-.0698
SDev	.0035	.0001	.0000	.0025	.0102	.0054	.0592
%RSD	54.75	.4769	.0000	141.4	.0000	35.36	81.84
#1	-.0089	-.0236	-.0000	.0000	.0072	.0191	-.1117
#2	.0039	-.0238	-.0000	.0033	-.0072	.0114	-.0279

Elem	Mn2576	Ni2316	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm
Avge	-.0012	.0012	-.0200	.0001
SDev	.0000	.0017	.0071	.0010
%RSD	.5992	141.4	35.36	912.6
#1	-.0012	.0000	-.0250	-.0006
#2	-.0012	-.0024	-.0150	.0008

Method: RCRAHI | Sample Name: 816859d-001 Operator: chh
Run Time: 12/15/98 03:46:46
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0114	.0059	H.0832	H.0005	L-.0035	L.0018	.0053
SDev	.0057	.0028	.0007	.0009	.0008	.0066	.0016
%RSD	50.08	47.04	.7863	174.8	23.14	372.1	48.49
#1	H.0154	.0040	H.0837	H.0011	L-.0030	L.0065	.0021
#2	H.0073	.0079	H.0827	L-.0001	L-.0041	L-.0029	.0044
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

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Elem	Tl1908	Al3082	Ca3179	Co2286	Cu3247	Fe	Mg2790
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	H.1215	H161.4	H.0069	.0000	L-.0025	H30.40
SDev	.0024	.0001	.6	.0025	.0102	.0018	.04
%RSD	101.1	.0935	.3865	36.28	.0000	70.71	.1290
#1	-.0007	H.1214	H161.9	H.0106	L-.0072	L-.0013	H30.43
#2	-.0040	H.1215	H161.0	H.0071	H.0072	L-.0038	H30.37

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Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32643

Status.....: RPT
Batch Date...: 12/17/98
Batch Time...: 933

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICPT
Import Code....:

			TEST CODE	AG	AS	BA	CD	CR	PB	SE	TL	CU	NI	ZN	AL	CA	FE	MG	CO	MN	V
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 1	___CALB_ICPCALBLK_		12/16/98 1714	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 2	___CAL_ICPCALSTD_		12/16/98 1722	0							0							0			
1 3	___CAL_ICPCALSTD_		12/16/98 1725		0																
1 4	___CAL_ICPCALSTD_		12/16/98 1727									0					0		0		0
1 5	___CAL_ICPCALSTD_		12/16/98 1731				0		0	0				0						0	
1 6	___CAL_ICPCALSTD_		12/16/98 1734					0							0	0					
1 7	___CAL_ICPCALSTD_		12/16/98 1737														0				
1 8	___ICV_V170602C_		12/16/98 1740	^	0		0	0	0	0	0	0		0	0	0	0	^	0	^	0
1 9	___ICB__		12/16/98 1747	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 10	___ISB_V170602B_		12/16/98 1755	0			0	0	0			0		0	0	0	0	0	0	^	^
1 11	___PB__		12/16/98 1822	0	0		0	0	0	0	0	B		0	0	0	0	0	0	0	0
1 12	___LCS_ICPSPK98_		12/16/98 1832	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 13	813435_1____		12/16/98 1841	0	0				0	0											
1 14	813435_2____		12/16/98 1850	0	0				0	0											
1 15	813435_2__MD__14		12/16/98 1858	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 16	813435_2__MS_ICPSPK98_14		12/16/98 1907	0	0		0	0	0	0	0	0		0	0	Y	0	0	0	Y	0
1 17	813435_3____		12/16/98 1916	0	0				0	0											
1 18	813435_4____		12/16/98 1925	0	0				0	0		0									
1 19	813435_5____		12/16/98 1934	0	0				0	0		0									
1 20	___CCV_V170602C_		12/16/98 1942	^	0		0	0	0	0	0	0		0	^	0	0	0	0	0	^
1 21	___CCB__		12/16/98 1951	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 22	813435_6____		12/16/98 2000	0	0				0	0		0									
1 23	813502_11____		12/16/98 2009	0	0				0	0		0									
1 24	813502_12____		12/16/98 2018	0	0				0	0		0									
1 25	813502_13____		12/16/98 2026	0	0				0	0		0									
1 26	813502_14____		12/16/98 2035	0	0				0	0		0									
1 27	813554_1____		12/16/98 2044	0	0				0	0											
1 28	813554_2____		12/16/98 2053	0	0				0	0		0									

1/12/99 10:03

Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32643

Status.....: RPT
Batch Date...: 12/17/98
Batch Time...: 933

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICPT
Import Code....:

			TEST CODE	AG	AS	BA	CD	CR	PB	SE	TL	CU	NI	ZN	AL	CA	FE	MG	CO	MN	V
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 29	813554_3____		12/16/98 2102	0	0				0	0		0									
1 30	813604_19____		12/16/98 2110	0	0				0	0		0									
1 31	___ISB_V170602B_		12/16/98 2119	0			0	0	0			0		0	0	0	0	0	0	^	^
1 32	___CCV_V170602C_		12/16/98 2132	^	0		0	0	0	0	0	0		0	0	0	0	^	0	^	^
1 33	___CCB__		12/16/98 2141	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 34	813604_20____		12/16/98 2150	0	0				0	0											
1 35	813604_21____		12/16/98 2158	0	0				0	0		0									
1 36	813604_22____		12/16/98 2207	0	0				0	0											
1 37	813604_23____		12/16/98 2216	0	0				0	0		0									
1 38	___ISB_V170602B_		12/16/98 2225	0			0	0	0			0		0	0	0	0	0	0	^	^
1 39	___CCV_V170602C_		12/16/98 2238	0	0		0	0	0	0	0	0		0	^	0	0	^	0	0	^
1 40	___CCB__		12/16/98 2247	0	0		0	0	0	0	0	0		0	B	0	0	0	0	0	0

Standardization Rpt. Wed 12-16-98 05:22:08 PM page

Method: RCRA1 Standard: CAL8
Run Time: 12/16/98 17:14:36

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Avge	-.0011	-.0022	.0045	.0007	.0018	.0028	.0010
SDev	.0109	.0045	.0027	.0007	.0008	.0079	.0003
%RSD	989.9	208.4	59.71	101.0	47.14	282.8	29.91
#1	.0066	.0010	.0036	.0002	.0012	.0081	.0008
#2	-.0088	-.0054	.0064	.0012	.0024	-.0028	.0012

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Cd3179	Fe
Avge	-.0015	.0002	.0005	.0025	.0013	-.0002	.0123
SDev	.0030	.0003	.0004	.0004	.0004	.0000	.0001
%RSD	198.0	141.4	84.55	17.75	32.64	.0000	1.150
#1	.0006	.0000	.0002	.0028	.0010	-.0002	.0124
#2	-.0036	.0004	.0008	.0021	.0016	-.0002	.0122

Elem	Fe	Mg2790	Co2286	Mn2576	V_2924
Avge	.0011	.0001	.0000	.0000	.0000
SDev	.0010	.0001	.0000	.0000	.0000
%RSD	90.00	47.14	.0000	.0000	.0000
#1	.0004	.0002	.0000	.0000	.0000
#2	.0018	.0001	.0000	.0000	.0000

Method: RCRA1 Standard: CAL5
Run Time: 12/16/98 17:22:17

Elem	Ag3280	Tl1908	Mg2790
Avge	1.402	2.258	.0466
SDev	.001	.014	.0003
%RSD	.0908	.6137	.6070
#1	1.403	2.268	.0464
#2	1.401	2.249	.0468

Method: RCRA1 Standard: CAL3
Run Time: 12/16/98 17:25:18

Elem	As1890
Avge	8.307
SDev	.022
%RSD	.2707
#1	8.323
#2	8.291

Method: RCRA1 Standard: CAL2
Run Time: 12/16/98 17:27:49

Elem	Ba4934	Cu3247	Fe	Co2286	V_2924
Avge	3.670	.0110	.1995	.0419	.0156
SDev	.012	.0003	.0098	.0007	.0000
%RSD	.3314	2.571	4.891	1.688	.0000
#1	[illegible]	.0108	[illegible]	[illegible]	.0156

#2	3.678	.0112	.2064	.0414	.0156

Method: RCRA1 Standard: CAL1
Run Time: 12/16/98 17:31:03

Elem	Cd2265	Pb2203	Se1960	Zn2138	Mn2576
Avge	5.438	9.446	1.620	4.077	.1253
SDev	.103	.036	.007	.010	.0013
%RSD	1.899	.3863	.4617	.2342	1.016
#1	5.511	9.472	1.625	4.070	.1261
#2	5.365	9.421	1.615	4.084	.1244

Method: RCRA1 Standard: CAL4
Run Time: 12/16/98 17:34:48

Elem	Cr2677	Ni2316	Al3082	Ca3179
Avge	.3772	.0562	.0300	.3677
SDev	.0003	.0006	.0000	.0021
%RSD	.0750	1.510	.0000	.6201
#1	.3774	.0568	.0300	.3691
#2	.3770	.0556	.0300	.3860

Method: RCRA1 Standard: cal2b
Run Time: 12/16/98 17:37:59

Elem	Fe
Avge	3.284
SDev	.025
%RSD	.7663
#1	3.266
#2	3.301

Method: RCRA1 Slope : Conc(SIR)/IR

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Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardi
Ag3280	328.068	CAL5	CALB	.712860	.000784	12/16/98 05:37
As1890	189.042	CAL3	CALB	1.20349	.002606	12/16/98 05:37
Ba4934	493.409	CAL2	CALB	.272844	-.001228	12/16/98 05:37
Cd2265	226.502	CAL1	CALB	.551785	-.000386	12/16/98 05:37
Cr2677	267.716	CAL4	CALB	2.66383	-.004795	12/16/98 05:37
Pb2203	220.353	CAL1	CALB	1.05845	-.002965	12/16/98 05:37
Se1960	196.090	CAL1	CALB	2.47096	-.002497	12/16/98 05:37
Tl1908	190.864	CAL5	CALB	1.76999	.002655	12/16/98 05:37
Cu3247	324.754	CAL2	CALB	92.5926	-.018519	12/16/98 05:37
Ni2316	231.604	CAL4	CALB	17.9533	-.008977	12/16/98 05:37
Zn2138	213.856	CAL1	CALB	736321	-.001810	12/16/98 05:37
Al3082	308.215	CAL4	CALB	548.452	-.452962	12/16/98 05:37
Ca3179	317.933	CAL4	CALB	128.910	.025782	12/16/98 05:37
Co	259.940	cal2b	CALB	3.04640	-.003351	12/16/98 05:37
Fe	271.441	CAL2	CALB	537.102	-6.60636	12/16/98 05:37
Mg2790	279.079	CAL5	CALB	430.570	-.064566	12/16/98 05:37
Co2286	228.616	CAL2	CALB	23.8663	.000000	12/16/98 05:37
Mn2576	257.610	CAL1	CALB	15.9617	.000000	12/16/98 05:37

Standardization Report Wed 12-16-98 05:40:14 PM page

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardi
V_2924	292.402	CAL2	CAL6	70.5424	.000000	12/16/98 05:37

Method: RCRA1 Sample Name: icv Operator: pal
Run Time: 12/16/98 17:40:16
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.842	2.010	1.993	1.933	1.971	1.934	2.001
SDev	.014	.035	.013	.054	.016	.002	.017
%RSD	.7681	1.750	.9217	2.777	.8254	.0869	.8737
#1	Q1.852	2.035	2.006	Q1.895	1.983	1.933	2.013
#2	Q1.832	1.985	1.980	1.971	1.960	1.936	1.988
Errors	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.947	1.944	2.078	2.020	2.012	1.907	1.910
SDev	.055	.105	.122	.094	.049	.019	.077
%RSD	2.833	5.387	5.860	4.665	2.423	.9924	4.014
#1	1.986	2.019	1.992	1.954	1.977	1.921	Q1.854
#2	1.908	Q1.870	Q2.164	2.087	2.046	Q1.894	1.965
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	Q1.399	1.930	Q1.888	2.028
SDev	.122	.068	.011	.080
%RSD	8.703	3.500	.5985	3.935
#1	Q1.485	Q1.883	Q1.880	1.972
#2	Q1.313	1.978	Q1.896	2.085
Errors	QC Fail	QC Pass	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RCRA1 Sample Name: icb Operator: pal
Run Time: 12/16/98 17:47:53
Comment:

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Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0007	.0088	.0003	.0013	-.0003	.0024	.0018
SDev	.0048	.0020	.0015	.0006	.0034	.0007	.0031
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

#1	-.0026	.0073	-.0007	.0017	.0021	.0030	.0040
#2	.0041	.0102	.0013	.0009	-.0027	.0019	-.0004

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0161	.0000	-.0036	-.0000	-.0350	.0253	.0024
SDev	.0030	.0000	.0076	.0001	.0003	.0000	.0013
%RSD	18.66	.0000	211.8	205.9	.8432	.0162	53.03

#1	.0139	.0000	.0018	-.0001	-.0348	.0258	.0034
#2	.0182	.0000	-.0090	.0000	-.0352	.0250	.0015

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	-.0430	.0024	.0016	.0071
SDev	.0304	.0034	.0023	.0100
%RSD	70.71	140.7	141.2	141.9

#1	-.0215	.0048	.0000	-.0000
#2	-.0646	.0000	.0032	.0141

Method: RCRA1 Sample Name: isb Operator: pal
Run Time: 12/16/98 17:55:29
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9763	\.0229	Q-.0004	.8778	.4368	.9171	-.0045
SDev	.0221	.0200	.0005	.0125	.0030	.0214	.0048
%RSD	2.263	87.43	152.3	1.422	.6894	2.337	108.2

#1	.9920	.0088	Q.0000	.8867	.4389	.9323	-.0079
#2	.9607	\.0371	Q-.0007	.8690	.4346	.9019	-.0010

Errors	QC Pass	NOCHECK	QC Fail	QC Pass	QC Pass	QC Pass	NOCHECK
Value	1.000		.5000	1.000	.5000	1.000	
Range	20.00		20.00	20.00	20.00	20.00	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1645	.5370	Q.2920	1.005	506.3	413.3	177.2
SDev	.0010	.0000	.1930	.003	13.0	11.0	1.4
%RSD	.6123	.0000	66.08	.3277	2.560	2.668	.8119

#1	.1652	.5370	Q.4285	1.008	497.1	421.1	178.2
#2	.1638	.5370	Q.1556	1.003	515.4	405.5	176.2

Errors	NOCHECK	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass
Value		.5000	1.000	1.000	500.0	500.0	200.0
Range		20.00	20.00	20.00	20.00	20.00	20.00

Elem	Mg2790	Co2286	Mn2576	V_1924
Units	ppm	ppm	ppm	ppm
Avge	464.8	.4076	Q-.0558	Q.5007
SDev	12.1	.0037	.0023	.0085

%RSD	4.113	.9153	4.113	2.657
#1	478.3	.4050	Q-.0574	Q.3268
#2	451.3	.4103	Q-.0542	Q.3147
Errors	QC Pass	QC Pass	QC Fail	QC Fail
Value	500.0	.5000	.5000	.5000
Range	20.00	20.00	20.00	20.00

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Method: RCRA1 Sample Name: pb Operator: aw
Run Time: 12/16/98 18:22:24
Comment: 6010 1214-2
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0064	-.0019	L-.0005	L-.0007	L-.0013	L-.0067	.0006
SDev	.0037	.0007	.0008	.0012	.0026	.0038	.0002
%RSD	58.35	39.14	166.4	176.5	197.1	56.46	4.941
#1	H.0038	-.0014	H.0001	H.0002	L-.0032	L-.0095	.0034
#2	H.0091	-.0024	L-.0010	L-.0015	L.0005	L-.0040	.0037
Errors	LC High	NOCHECK	LC Low	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	H.0185	L-.0103	L.0017	L-.0002	H.1676	H.0302
SDev	.0015	.0000	.0025	.0001	.0496	.0182	.0000
%RSD	122.1	.0000	23.53	7.497	23860.	10.89	.0000
#1	.0002	H.0185	L-.0090	L.0018	H.0346	H.1805	H.0302
#2	.0023	H.0185	L-.0126	L.0016	L-.0353	H.1547	H.0302
Errors	NOCHECK	LC High	LC Low	LC Low	LC Low	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	L-.0430	L-.0024	H.0064	H.0070
SDev	.0304	.0034	.0000	.0100
%RSD	70.71	142.2	.0572	141.6
#1	L-.0646	H.0000	H.0064	L-.0000
#2	L-.0215	L-.0048	H.0064	H.0141
Errors	LC Low	LC Low	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Analysis Report Wed 12-16-98 06:41:17 PM page

Method: RCRA1 Sample Name: lcs Operator: aw
Run Time: 12/16/98 18:32:37
Comment: 6010 1214 2
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.7747	1.878	H1.662	H.1735	.7748	1.858	1.792
SDev	.0002	.023	.046	.0094	.0011	.031	.073
%RSD	.0306	1.271	2.753	5.244	.1476	1.681	4.057
#1	H.7749	1.862	H1.660	H.1719	.7740	1.836	1.740
#2	H.7746	1.895	H1.695	H.1851	.7756	1.881	1.843
Errors	LC High	NOCHECK	LC High	LC High	LC Pass	LC Pass	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.786	H1.019	H1.952	1.901	H4.203	H171.9	H2.048
SDev	.011	.026	.081	.052	.001	.2	.018
%RSD	.6181	2.571	4.162	1.668	.0156	.0952	.8657
#1	1.778	H1.000	H2.010	1.879	H4.203	H172.0	H2.035
#2	1.793	H1.037	H1.895	1.923	H4.204	H171.7	H2.060
Errors	NOCHECK	LC High	LC High	LC Pass	LC High	LC High	LC High
High		.0000	.0000	5.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H180.4	H1.853	H1.785	H2.121
SDev	6.9	.010	.026	.070
%RSD	3.814	.5529	1.471	.9422
#1	H185.3	H1.846	H1.804	H2.175
#2	H175.5	H1.860	H1.767	H2.107
Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 813435 -001 Operator: aw
Run Time: 12/16/98 18:41:20
Comment: 6010 total leei
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0053	.0036	H.1136	L-.0001	L-.0028	L-.0017	-.0032
SDev	.0041	.0010	.0019	.0012	.0000	.0094	.0080
%RSD	76.91	56.45	1.317	2185.	.0127	547.7	250.9
#1	H.0081	.0051	H.1420	H.0008	L-.0028	L-.0084	-.0088
#2	H.0024	.0022	H.1449	L-.0009	L-.0028	L.0049	.0025

Errors	LC High	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0089	H.0556	L-.0036	.0331	H.1049	H276.4	H2.35[illegible]
SDev	.0005	.0000	.0025	.0017	.0002	3.0	.002
%RSD	5.968	.0000	70.38	5.131	.1558	1.087	.0737
#1	.0085	H.0556	L-.0018	.0319	H.1048	H274.3	H2.357
#2	.0093	H.0556	L-.0054	.0343	H.1050	H278.5	H2.354

Errors	NOCHECK	LC High	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	H42.91	H.0064	H.7004	L-.0094
SDev	.06	.0034	.0181	.0100
%RSD	.1419	52.73	2.580	106.3
#1	H42.95	H.0058	H.6876	L-.0023
#2	H42.86	H.0040	H.7131	L-.0164

Errors	LC High	LC High	LC High	LC Low
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: n13435 -002 Operator: aw
Run Time: 12/16/98 18:50:08
Comment: 6010 total aei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0084	.0028	H.1535	L-.0007	L-.0062	L-.0089	-.0017
SDev	.0051	.0092	.0019	.0002	.0027	.0003	.0085
%RSD	59.91	330.7	1.911	21.72	42.48	3.246	495.8
#1	H.0049	-.0037	H.1514	L-.0008	L-.0081	L-.0087	.0043
#2	H.0120	.0093	H.1555	L-.0006	L-.0044	L-.0091	-.0077

Errors	LC High	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

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Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0053	H.0278	H.0016	.0092	H.0346	H175.1	H1.064
SDev	.0076	.0131	.0051	.0003	.0000	.1	.014
%RSD	144.2	47.14	2[illegible].8	3.481	.0013	.0417	1.336
#1	-.0001	H.0185	H.0054	.0090	H.0346	H175.1	H1.054
#2	.0107	H.0370	L-.0018	.0094	H.0346	H175.2	H1.074

Errors	NOCHECK	LC High	LC High	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H39.55	H.0041	H2.811	H.0131
SDev	.30	.0000	.075	.0000
%RSD	.7699	.3836	2.620	.2550
#1	H39.35	H.0041	H2.877	H.0131
#2	H39.76	H.0041	H2.792	H.0131

Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 013436 -002 md Operator: AW
Run Time: 12/16/98 18:58:55
Comment: 6010 total eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0114	.0127	H.1557	L-.0000	L-.0030	L-.0049	-.0039
SDev	.0000	.0158	.0070	.0007	.0011	.0009	.0019
%RSD	.0958	124.8	4.564	52660.	37.51	18.53	49.20
#1	H.0114	.0239	H.1571	H.0005	L-.0039	L-.0055	-.0025
#2	H.0114	.0015	H.1543	L-.0005	L-.0022	L-.0042	-.0052

Errors	LC High	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0032	H.0185	L-.0018	.0038	H.0696	H169.7	H1.088
SDev	.0016	.0000	.0101	.0006	.0494	4.9	.001
%RSD	51.60	.0000	566.0	6.872	70.90	2.912	.0792
#1	.0020	H.0185	H.0054	.0084	H.0347	H166.2	H1.089
#2	.0044	H.0185	L-.0090	.0093	H.1045	H173.2	H1.088

Errors	NOCHECK	LC High	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H39.12	H.0041	H2.835	H.0060
SDev	.79	.0068	.038	.0100
%RSD	2.024	165.9	1.357	166.6
#1	H38.56	H.0089	H2.862	H.0130
#2	H39.68	L-.0007	H2.808	L-.0011

Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 81[illegible]435 -002 ms Operator: aw
Run Time: 12/16/98 19:07.43
Comment: 6010 total eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.7227	1.822	H1.940	H.1812	.7851	1.842	1.711
SDev	.0033	.004	.070	.0013	.0150	.020	.026
%RSD	.4530	.2455	3.694	.7315	1.916	1.084	[illegible]
#1	H.7250	1.825	H1.890	H.1832	.7957	1.856	[illegible]
#2	H.7204	1.819	H1.990	H.1803	[illegible]	[illegible]	[illegible]
Errors	LC High	NOCHECK	LC High	[illegible]	[illegible]	[illegible]	NOCHECK
High	.0000		[illegible]	[illegible]	[illegible]	[illegible]	
Low	.0000		[illegible]	[illegible]	[illegible]	[illegible]	

Elem	Tl1908	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	[illegible]	H[illegible]	H[illegible]	1.[illegible]	H4.[illegible]	H[illegible]	[illegible]
SDev	[illegible]	.052	[illegible]	[illegible]	[illegible]	3.2	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
#1	1.729	H1.000	H[illegible]	[illegible]	H[illegible]	H312.5	[illegible]
#2	1.759	H[illegible]	H[illegible]	[illegible]	[illegible]	H[illegible]	[illegible]
Errors	NOCHECK	LC High	LC High	[illegible]	LC High	LC High	LC High
High		[illegible]	[illegible]	[illegible]	.0000	.0000	.0000
Low		[illegible]	[illegible]	[illegible]	.0000	.0000	.0000

Elem	[illegible]	[illegible]	[illegible]	V 2924
Units	ppm	ppm	ppm	ppm
Avge	[illegible]	H[illegible]	H4.194	H2.198
SDev	[illegible]	.003	.004	.070
%RSD	[illegible]	.1871	.1056	3.175
#1	H273.3	H1.769	H4.197	H[illegible].245
#2	H[illegible].3	H1.764	H4.190	H2.149

Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 81[illegible]435 -003 Operator: aw
Run Time: 12/16/98 19:16:30
Comment: 6010 total eei
Mode: CONC Corr. Factor: 1

240

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0303	.0083	H.1213	L-.0004	L-.0011	.0108	.0016
SDev	.0050	.0008	.0000	.0006	.0072	.0012	.0005

%RSD	1.873	626.1	.6031	143.0
#1	H41.70	H.0088	H.7675	H.0140
#2	H42.82	L-.0056	H.7610	L-.0001
Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: ccv Operator: aw
Run Time: 12/16/98 19:42:52
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.852	2.050	2.022	1.95[illegible]	2.019	1.990	2.062
SDev	.033	.019	.005	.019	.024	.003	.001
%RSD	1.758	.9244	.2326	.9867	1.213	.1324	.0645
#1	Q1.829	2.037	2.025	1.939	2.037	1.988	2.061
#2	Q1.875	2.063	2.018	1.966	2.002	1.992	2.063
Errors	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.022	1.926	Q2.101	2.060	Q2.185	2.023	1.965
SDev	.011	.079	.008	.078	.001	.073	.031
%RSD	.5679	4.079	.3606	3.772	.0657	3.601	1.625
#1	2.030	Q1.870	2.096	Q2.114	Q2.184	2.074	1.913
#2	2.014	1.981	Q2.106	2.005	Q2.186	1.971	1.957
Errors	QC Pass	QC Pass	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	1.938	2.011	1.904	Q2.141
SDev	.030	.027	.079	.040
%RSD	1.571	1.347	4.150	1.858
#1	1.959	1.992	Q1.848	Q2.169
#2	1.916	2.030	1.960	Q2.112
Errors	QC Pass	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RCRA1 Sample Name: ccb Operator: aw
Run Time: 12/16/98 19:51:41
Comment: 6010

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Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0046	.0073	-.0006	-.0009	-.0048	-.0060	-.0058
SDev	.0007	.0080	.0003	.0002	.0045	.0049	.0074
%RSD	14.05	114.4	24.60	16.85	94.31	80.63	126.7
#1	.0041	.0014	-.0005	-.0008	-.0080	-.0047	-.0110
#2	.0051	.0132	-.0007	-.0010	-.0016	-.0116	-.0006

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0104	.0000	-.0103	-.0006	-.0002	-.0129	-.0006
SDev	.0030	.0000	.0025	.0005	.0489	.0182	.0013
%RSD	28.58	.0000	23.67	86.71	30160.	141.4	212.1
#1	.0083	.0000	-.0090	-.0002	.0344	-.0000	.0015
#2	.0125	.0000	-.0126	-.0009	-.0348	-.0257	.0003

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	.0000	.0000	-.0000	.0071
SDev	.0913	.0067	.0000	.0100
%RSD	237600.	36560.	237600.	141.3
#1	.0646	-.0047	-.0000	.0141
#2	-.0645	.0048	.0000	.0000

Method: RCRA1 Sample Name: 915435 -006 Operator: aw
Run Time: 12/16/98 20:00:29
Comment: 6010 total cei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0055	.0000	H.0003	H .0007	L-.0027	L-.0015	-.0019
SDev	.0014	.0020	.0010	.0004	.0053	.0018	.0096
%RSD	24 45	13500.	353.6	58.67	197.9	121.3	501.6
#1	H.0068	.0014	H.0010	H.0009	L .0011	L-.0002	.0049
#2	H.0048	-.0014	L-.0004	H.0004	L-.0064	L-.0028	-.0087
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

242

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0039	H.0185	L-.0018	.0098	H.0348	H.2578	H.0466
SDev	.0007	.0000	.0101	.0002	.0984	.0000	.0009
%RSD	17.76	.0000	565.1	1.951	282.5	.0158	1.849
#1	-.0034	H.0185	H.0054	.0096	L-.0347	H.2578	H.0460
#2	-.0044	H.0185	L-.0090	.0099	H.1044	H.2579	H.0472
Errors	NOCHECK	LC High	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	5.000	.0000	.0000	.0000

#1	.0080	H.0165	L-.0018	.0028	L-.0353	H.1289	H.0759
#2	.0026	H.0000	L-.0054	.0024	H.1041	H.0773	H.0750

Errors	NOCHECK	LC High	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	L-.0430	L-.0048	H.0000	H.0140
SDev	.1522	.0000	.0000	.0000
%RSD	353.6	.0077	353.6	.0194
#1	L-.1507	L-.0048	H.0000	H.0140
#2	H.0646	L-.0048	L-.0000	H.0140

Errors	LC Low	LC Low	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 8J3554 -001 Operator: aw
Run Time: 12/16/98 20.44:30
Comment: 6010 total eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0085	-.0013	H.1689	L-.0001	L-.0032	L-.0026	-.0140
SDev	.0039	.0023	.0003	.0002	.0011	.0003	.0028
%RSD	46.27	187.2	.2056	211.3	34.83	11.61	19.77
#1	H.0113	.0004	H.1686	H.0001	L-.0040	L-.0028	-.0121
#2	H.0057	-.0029	H.1691	L-.0003	L-.0024	L-.0024	-.0160

Errors	LC High	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	L-.0185	L-.0018	.0126	H.2785	H140.6	H.6568
SDev	.0095	.0000	.0051	.0003	.0491	.7	.0030
%RSD	918.3	.0000	281.2	2.356	17.65	.4663	.4592
#1	-.0057	L-.0185	L-.0054	.0123	H.3133	H140.1	H.6547
#2	.0077	L-.0185	H.0018	.0126	H.2438	H141.1	H.6589

Errors	NOCHECK	LC Low	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H35.18	H.0041	H1.359	H.0135
SDev	1.13	.0068	.000	.0000
%RSD	3.175	163.2	.0099	.1213

#1	H36.28	L-.0006	H1.359	H.0135
#2	H34.68	H.0089	H1.359	H.0135
Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 813554 -002 Operator: aw
Run Time: 12/16/98 20:53:18
Comment: 6010 total eej
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0251	.0013	H.0682	L-.0011	L-.0011	L-.0028	-.0092
SDev	.0022	.0031	.0012	.0001	.0019	.0023	.0168
%RSD	8.778	233.0	1.754	7.256	166.1	81.43	182.5
#1	H.0235	.0065	H.0674	L-.0012	L-.0025	L-.0017	.0027
#2	H.0267	-.0009	H.0691	L-.0010	L.0002	L-.0044	.0211
Errors	LC High	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	.50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni3416	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0044	H.0000	L-.0036	.0112	H.5225	H134.6	H1.382
SDev	.0076	.0000	.0025	.0001	.0982	7.0	.002
%RSD	172.5	.0000	71.02	1.205	18.79	5.202	.1558
#1	-.0098	H.0000	L-.0054	.0111	H.4531	H139.5	H1.384
#2	.0010	H.0000	L-.0018	.0113	H.5919	H129.6	H1.381
Errors	NOCHECK	LC High	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H35.67	L-.0006	H1.472	H.0057
SDev	.18	.0068	.038	.0100
%RSD	.5121	1059.	2.605	175.4
#1	H35.80	H.0041	H1.499	L-.0014
#2	H35.54	L-.0051	H1.445	H.0127
Errors	LC High	LC Low	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 813554 -003 Operator: aw
Run Time: 12/16/98 21:02:05
Comment: 6010 total eej
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0044	-.0036	H.0911	H.0009	L-.0024	L-.0035	-.0125
SDev	.0036	.0033	.0099	.0016	.0004	.0061	.0042
%RSD	82.70	104.3	10.87	166.9	15.53	174.0	33.76
#1	H.0016	-.0009	H.1051	L-.0002	L-.0021	L.0008	-.0155
#2	H.0069	-.0063	H.0911	H.0020	L-.0027	L-.0078	-.0095
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0148	H.0000	L-.0072	.0216	H.0349	H.1676	H.0829
SDev	.0088	.0000	.0035	.0011	.0983	.0347	.0022
%RSD	59.57	.0000	35.28	6.420	282.0	32.66	2.600
#1	.0085	H.0000	L-.0054	.0225	H.1044	H.1289	H.0844
#2	.0210	H.0000	L-.0090	.0206	L-.0347	H.2063	H.0813
Errors	NOCHECK	LC High	LC Low	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H.0215	H.0096	H.0032	H.0070
SDev	.0609	.0000	.0000	.0100
%RSD	282.8	.0035	2.291	142.8
#1	L-.0215	H.0096	H.0032	H.0140
#2	H.0646	H.0096	H.0032	L-.0001
Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRAt Sample Name: 313604 -019 Operator: aw
Run Time: 12/16/98 21:10:53
Comment: 6010 total ees
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0033	.0102	H.0741	H.0003	L-.0007	L-.0033	-.0068
SDev	.0046	.0081	.0009	.0006	.0057	.0019	.0005
%RSD	137.9	79.41	1.265	227.7	807.4	57.49	7.376
#1	H.0066	.0045	H.0747	H.0007	.0033	L-.0047	-.0064
#2	H.0001	.0159	H.0734	L-.0002	L-.0047	L-.0020	-.0071
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00.0	H.0000	H.0160	.0149	H.3135	H201.8	H.7760
SDev	.0139	.0000	.0026	.0007	.0985	.3	.0116
%RSD	704.2	.0000	14.23	4.852	31.43	.1355	1.499
#1	-.0078	H.0000	H.0198	.0144	H.2438	H202.0	H.7680
#2	.0118	H.0000	H.0161	.0154	H.3831	H201.6	H.7845
Errors	NOCHECK	LC High	LC High	LC Pass	LC High	LC High	LC High
High		.0000	.0000	H.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn1576	V 1924
Units	ppm	ppm	ppm	ppm
Avge	H53.15	H.0014	H4.221	H.0063
SDev	1.10	.0102	.016	.0100
%RSD	2.062	709.7	.3765	159.1
#1	H53.93	L-.0058	H4.220	L-.0006
#2	H52.38	H.0086	H4.243	H.0134
Errors	LC High	UC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRAI Sample Name: lsb Operator: aw
Run Time: 12/16/98 21:19:41
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9685	.0386	.4889	.8551	.4161	.9137	-.0171
SDev	.0032	.0063	.0057	.0030	.0019	.0110	.0203
%RSD	.3250	16.35	1.160	.3464	.4520	1.207	118.8
#1	.9707	.0431	.4849	.8572	.4175	.9059	-.0314
#2	.9663	.0341	.4929	.8530	.4148	.9215	-.0027
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	NOCHEC
Value	1.000		.5000	1.000	.5000	1.000	
Range	20.00		20.00	20.00	20.00	20.00	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1575	.4815	.8791	.9809	484.8	406.0	176.5
SDev	.0097	.0000	.0076	.0044	14.3	13.8	.4
%RSD	6.129	.0000	.8646	.4499	2.958	3.408	.2122
#1	.1644	.4815	.8845	.9840	494.9	415.8	176.8
#2	.1507	.4815	.8737	.9777	474.7	Q396.2	176.3
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pas
Value		.5000	1.000	1.000	500.0	500.0	200.0
Range		20.00	20.00	20.00	20.00	20.00	20.00

Units	ppm	ppm	ppm	ppm
Avge	458.6	.4126	Q.3967	Q.3215
SDev	25.1	.0106	.0083	.0096
%RSD	5.464	2.562	2.087	2.980
#1	440.9	.4201	Q.3908	Q.3283
#2	476.3	.4051	.4025	Q.3147
Errors	QC Pass	QC Pass	QC Fail	QC Fail
Value	500.0	.5000	.5000	.5000
Range	20.00	20.00	20.00	20.00

Method: RCRA1 Sample Name: ccv Operator: dw
Run Time: 12/16/98 21:53:36
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4554	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.859	2.033	1.984	1.941	2.015	1.989	2.031
SDev	.008	.036	.091	.009	.008	.021	.024
%RSD	.4401	1.791	4.576	.4587	.4128	1.041	1.195
#1	Q1.854	2.059	2.048	1.947	2.021	2.004	2.014
#2	Q1.865	2.007	1.920	1.935	2.009	1.974	2.048
Errors	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.005	1.954	Q2.123	2.023	2.080	2.061	1.924
SDev	.001	.013	.069	.017	.148	.091	.028
%RSD	.0388	.6702	3.227	.8244	7.101	4.406	1.433
#1	2.004	1.944	2.074	2.035	Q2.184	1.997	1.944
#2	2.005	1.963	Q2.171	2.011	1.975	Q2.126	1.905
Errors	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	Q1.851	1.980	Q1.677	Q2.141
SDev	.030	.030	.075	.020
%RSD	1.645	1.536	5.051	.9351
#1	Q1.830	1.959	Q1.810	Q2.126
#2	Q1.873	2.002	1.944	Q2.155
Errors	QC Fail	QC Pass	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RCRA1 Sample Name: ccb Operator: aw
Run Time: 12/16/98 21:41:24
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0025	.0006	-.0013	-.0008	-.0041	.0071
SDev	.0051	.0044	.0007	.0001	.0004	.0023	.0049
%RSD	1202.	173.4	109.3	5.813	47.14	54.59	69.21
#1	-.0032	.0057	.0011	-.0013	-.0011	-.0025	.0036
#2	.0041	-.0006	.0001	-.0014	-.0005	-.0057	.0105

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0014	.0093	-.0072	-.0005	.0000	.0258	-.0006
SDev	.0013	.0131	.0025	.0001	.0492	.0000	.0013
%RSD	91.65	141.4	35.27	23.56	106600.	.0395	212.1
#1	.0005	.0000	-.0054	-.0006	-.0348	.0258	-.0015
#2	.0023	.0185	-.0090	-.0004	.0348	.0258	.0003

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	-.0215	.0024	.0000	.0000
SDev	.0609	.0034	.0000	.0000
%RSD	282.8	141.3	282.8	31.60
#1	-.0646	.0048	.0000	.0000
#2	.0215	.0000	-.0000	.0000

Method: RCRA1 Sample Name: 813604 -020 Operator: aw
Run Time: 12/16/98 21:50:11
Comment: 6010 total oei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0042	.0080	H.1148	L-.0000	.0395	.0280	-.0005
SDev	.0033	.0049	.0002	.0018	.0011	.0056	.0052
%RSD	79.21	61.61	.1680	150900.	2.867	19.89	1003.
#1	H.0065	.0045	H.1147	H.0015	.0387	.0319	-.0042
#2	H.0018	.0114	H.1147	L-.0013	.0403	.0240	.0031
Errors	LC High	NOCHECK	LC High	LC Low	LC Pass	LC Pass	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0030	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0026	H.0556	H.0700	.0718	H4.146	H164.5	H10.20
SDev	.0085	.0000	.0000	.0011	.097	2.4	.08
%RSD	377.8	.0000	.0000	1.475	2.377	1.463	.7449
#1	-.0038	H.0556	H.0700	.0710	H4.076	H162.8	H10.15
#2	.0085	H.0556	H.0700	.0725	H4.216	H166.2	H10.26

*** RUN LOG *** (V2)

1/12/99 10:25

Metals Analysis(ICAP), Trace
Method Code..: 200.7T
Batch Code...: 32644

Status.....: RPT
Batch Date...: 12/17/98
Batch Time...: 943

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICPT
Import Code....:

			TEST CODE	AG	AS	BA	CD	CR	PB	SE	TL	CU	NI	ZN	AL	CA	FE	MG	CO	MN	V
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 1	___ICB__		12/16/98 2247	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
1 2	___CALB_ICPCALBLK_		12/16/98 2306	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
1 3	___CAL_ICPCALSTD_		12/16/98 2314	0							0							0			
1 4	___CAL_ICPCALSTD_		12/16/98 2318		0																
1 5	___CAL_ICPCALSTD_		12/16/98 2322			0						0					0		0		0
1 6	___CAL_ICPCALSTD_		12/16/98 2326				0		0	0				0							
1 7	___CAL_ICPCALSTD_		12/16/98 2331					0					0			0					
1 8	___CAL_ICPCALSTD_		12/16/98 2335														0				
1 9	___ICV_V170602C_		12/16/98 2338	0	0	0	0	0	0	0	0	-	0	0		0	0	0	0		-
1 10	___ICB__		12/16/98 2347	0	0	0	0	0	0	0	0	B	0	0		0	0	0	0		0
1 11	___ISB_V170602B_		12/16/98 2356	0		0	0	0	0			0	0	0		0	0	0	0		-
1 12	813788_1_D___		12/17/98 0004	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 13	813788_1_D_MD__12		12/17/98 0013	0	0	0	0	0	0	0	0	*	0	0		0	0	0	0		
1 14	813788_1_D_MS_V01019809_12		12/17/98 0021	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
1 15	813788_2_D___		12/17/98 0030	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 16	813788_3_D___		12/17/98 0039	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 17	813788_4_D___		12/17/98 0047	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 18	813788_5_D___		12/17/98 0056	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 19	813788_7_D___		12/17/98 0105	0	0	0		0	0	0			0	0		0	0	0	0		
1 20	813604_21_D___		12/17/98 0113	0		0															
1 21	___CCV_V170602C_		12/17/98 0122	-	0	0	0	0	0	0	0	0	0	0		0	-	0	0		-
1 22	___CCB__		12/17/98 0130	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
1 23	813604_22_D___		12/17/98 0139	0		0															
1 24	813604_23_D___		12/17/98 0148	0		0															
1 25	813659_1_D___		12/17/98 0156	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 26	813659_2_D___		12/17/98 0205	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 27	813659_3_D___		12/17/98 0214	0	0	0	0	0	0	0			0	0		0	0	0	0		
1 28	813659_5_D___		12/17/98 0222	0	0	0	0	0	0	0			0	0		0	0	0	0		

1/12/99 10:25

Metals Analysis(ICAP), Trace
Method Code..: 200.7T
Batch Code...: 32644

Status.....: RPT
Batch Date...: 12/17/98
Batch Time...: 943

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICPT
Import Code....:

			TEST CODE	AG	AS	BA	CD	CR	PB	SE	TL	CU	NI	ZN	AL	CA	FE	MG	CO	MN	V
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 29	813502_13_D___		12/17/98 0231	0		0															
1 30	813502_14_D___		12/17/98 0239	0		0															
1 31	813554_1_D___		12/17/98 0248	0		0															
1 32	813554_2_D___		12/17/98 0257	0		0															
1 33	___ISB_V170602B_		12/17/98 0305	0		0	0	0	0			0	0	0		0	0	0	0		^
1 34	___CCV_V170602C_		12/17/98 0318	0	^	^	0	0	0	0	0	0	^	^		^	^	^	0		^
1 35	___CCB__		12/17/98 0326	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
1 36	813554_3_D___		12/17/98 0335	0		0															
1 37	813604_19_D___		12/17/98 0344	0		0															
1 38	813604_20_D___		12/17/98 0352	0		0															
1 39	813502_11_D___		12/17/98 0401	0																	
1 40	813435_5_D___		12/17/98 0410	0																	
1 41	813435_1_D___		12/17/98 0418	0																	
1 42	813435_3_D___		12/17/98 0427	0																	
1 43	813435_2_D___		12/17/98 0435	0																	
1 44	813502_12_D___		12/17/98 0444	0																	
1 45	___ISB_V170602B_		12/17/98 0453	0		0	0	0	0			0	0	0					0		^
1 46	___CCV_V170602C_		12/17/98 0505	0	^	0	^	0	^	^	^	0	^	0					0		^
1 47	___CCB__		12/17/98 0514	0	0	0	0	0	0	0	0	0	0	0					0		0

#1	.0042	.0004	.0000	.0025	.0012	.0000	.0120
#2	.0053	.0002	.0000	.0025	.0016	.0000	.0124

Elem	Fe	Mg2790	Co2286	Mn2576	V_2924
Avge	.0014	.0000	-.0001	.0000	.0001
SDev	.0003	.0000	.0001	.0000	.0001
%RSD	20.20	.0000	141.4	.0000	141.4
#1	.0012	.0000	.0000	.0000	.0000
#2	.0016	.0000	-.0002	.0000	.0000

Method: RCRA1 Standard: CAL5
Run Time: 12/16/98 23:14:50

Elem	Ag3280	Tl1908	Mg2790
Avge	1.367	2.271	.0452
SDev	.005	.008	.0017
%RSD	.3932	.3487	3.755
#1	1.370	2.277	.0464
#2	1.363	2.266	.0440

Method: RCRA1 Standard: CAL5
Run Time: 12/16/98 23:18:50

Elem	As1890
Avge	8.271
SDev	.027
%RSD	.3264
#1	8.290
#2	8.252

Method: RCRA1 Standard: CAL5
Run Time: 12/16/98 23:22:17

Elem	Ba1934	Cu3247	Fe	Co2286	V_2924
Avge	3.759	.0113	.0115	.0117	.0154
SDev	.102	.0007	.0016	.0007	.0003
%RSD	2.705	6.258	13.696	6.088	1.837
#1	3.831	.0108	.0102	.0124	.0156
#2	3.687	.0118	.0128	.0114	.0152

Method: RCRA1 Standard: CAL1
Run Time: 12/16/98 23:26:33

Elem	Cd2265	Pb2203	Se1960	Zn2138	Mn2576
Avge	5.680	9.473	1.657	4.144	.1246
SDev	.077	.094	.018	.058	.0006
%RSD	1.455	.9943	1.063	1.403	.4540
#1	5.325	9.406	1.644	4.185	.1247
#2	5.434	9.539	1.669	4.103	.1250

Method: RCRA1 Standard: CAL4
Run Time: 12/16/98 23:31:17

Elem	Cr2677	Ni2316	Al3082	Ca3179
Avge	.3792	.0581	.0206	.3750
SDev	.0014	.0021	.0011	.0170
%RSD	.3729	3.651	3.677	4.529
R1	.3802	.0566	.0214	.3630
R2	.3783	.0596	.0206	.3870

Method: RCRA1 Standard: CAL6
Run Time: 12/16/98 23:35:25

Elem	Fe
Avge	3.063
SDev	.007
%RSD	.2170
R1	3.060
R2	3.058

Method: RCRA1 Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standard
Ag3280	328.068	CAL5	CAL6	.735565	.005223	12/16/98 11:3
As1890	189.042	CAL3	CAL6	1.20952	-.004078	12/16/98 11:3
Ba4934	493.409	CAL2	CAL6	.266134	-.000373	12/16/98 11:3
Cd2265	226.502	CAL1	CAL6	.557745	-.000502	12/16/98 11:3
Cr2677	267.716	CAL4	CAL6	2.64901	-.004503	12/16/98 11:3
Pb2203	220.353	CAL1	CAL6	1.05527	.004116	12/16/98 11:3
Se1960	196.090	CAL1	CAL6	2.41915	-.006733	12/16/98 11:3
Tl1908	190.864	CAL5	CAL6	1.76484	-.008295	12/16/98 11:3
Cu3247	324.754	CAL2	CAL6	90.9091	-.027273	12/16/98 11:3
Ni2316	231.604	CAL4	CAL6	17.2117	.000000	12/16/98 11:3
Zn2138	213.856	CAL1	CAL6	.724366	-.001823	12/16/98 11:3
Al3082	308.215	CAL4	CAL6	342.466	-.479452	12/16/98 11:3
Ca3179	317.933	CAL4	CAL6	133.344	.000000	12/16/98 11:3
Fe	259.940	CAL6	CAL6	3.26616	-.004573	12/16/98 11:3
Fe	271.441	CAL2	CAL6	504.493	-6.15452	12/16/98 11:3
Mg2790	279.079	CAL5	CAL6	142.478	.000000	12/16/98 11:3
Co2286	228.616	CAL2	CAL6	23.8095	.002381	12/16/98 11:3
Mn2576	257.610	CAL1	CAL6	16.0514	.000000	12/16/98 11:3
V2924	292.402	CAL2	CAL6	71.9256	-.007193	12/16/98 11:3

Method: RCRA1 Sample Name: icv Operator: aw
Run Time: 12/16/98 23:38:46
Comment: 6010
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.954	2.064	1.994	1.968	2.008	2.004	1.985
SDev	.030	.027	.053	.101	.010	.019	.001
%RSD	1.549	1.306	2.643	5.117	.5030	.9592	.0733
R1	1.975	2.083	2.031	2.040	2.015	2.017	1.986
R2	1.932	2.045	1.957	1.897	2.001	1.991	1.984

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.027	Q1.891	1.997	2.027	1.976	2.067	2.030
SDev	.014	.039	.010	.012	.098	.038	.047
%RSD	.6759	2.040	.4866	.5919	4.959	1.838	2.046
#1	2.017	1.918	2.004	2.035	1.907	2.095	2.001
#2	2.037	Q1.864	1.990	2.018	2.045	2.040	2.007

Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	2.058	1.978	1.969	Q2.116
SDev	.031	.010	.002	.011
%RSD	1.570	.5068	.1155	1.915
#1	2.035	1.985	1.971	Q2.147
#2	2.080	1.971	1.968	2.089

Errors	QC Pass	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RCRA1 Sample Name. icb Operator: aw
Run Time: 12/16/98 23:47:24
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.0037	/.0004	-.0009	-.0037	.0051	-.0180
SDev	.0102	.0063	.0018	.0001	.0011	.0014	.0019
%RSD	2041.	167.5	424.3	8.726	30.33	26.39	10.44
#1	.0077	-.0082	.0017	-.0009	-.0029	.0061	-.0193
#2	-.0067	.0007	/-.0009	-.0008	-.0045	.0042	-.0167

Elem	Ti1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0116	-.0182	.0051	-.0012	-.2053	-.0133	-.0010
SDev	.0038	.0129	.0073	.0006	.0001	.0189	.0014
%RSD	32.45	70.71	141.3	45.04	.0317	141.6	141.4
#1	-.0090	-.0273	.0000	-.0008	-.2054	.0000	-.0000
#2	-.0143	-.0091	.0103	-.0016	-.2053	-.0267	-.0020

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	-.0021	.0000	.0006	.0072

SDev	.1564	.0051	.0000	.0000
%RSD	707.8	23030.	707.8	.0971
#1	-.1327	-.0024	.0000	-.0072
#2	.0885	.0024	-.0000	-.0072

Method: RCRA1 Sample Name: 1561 Operator: aw
Run Time: 12/16/98 23:56:02
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.007	-.0069	.4905	.8731	.4265	.9291	.0048
SDev	.020	.0023	.0017	.0112	.0045	.0131	.0023
%RSD	1.978	32.86	.9515	1.282	1.056	1.305	44.92
#1	1.021	.0053	.4938	.8613	.4297	.9205	-.0061
#2	.9926	-.0085	.4872	.8854	.4233	.9376	-.0033
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value	1.000		.5000	1.000	.5000	1.000	
Range	20.00		20.00	20.00	20.00	20.00	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1460	.4636	.8892	.9763	486.4	425.0	165.6
SDev	.0036	.0000	.0316	.0067	7.8	2.6	3.9
%RSD	2.480	.0000	3.556	.6876	1.613	.6034	2.360
#1	.1485	.4636	.9115	.9720	492.0	426.9	162.9
#2	.1434	.4636	.8668	.9815	480.9	423.2	168.4
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value		.5000	1.000	1.000	500.0	500.0	200.0
Range		20.00	20.00	20.00	20.00	20.00	20.00

Elem	Mg3790	Co2286	Mn2576	V[illegible]924
Units	ppm	ppm	ppm	ppm
Avge	453.2	.4235	0.3918	0.3493
SDev	6.1	.0264	.0083	.0267
%RSD	1.339	5.585	2.131	7.634
#1	457.5	.4401	0.3978	0.3305
#2	448.9	.4070	0.3859	0.3682
Errors	QC Pass	QC Pass	QC Fail	QC Fail
Value	500.0	.5000	.5000	.5000
Range	20.00	20.00	20.00	20.00

Method: RCRA1 Sample Name. 813788d-001 Operator: aw
Run Time: 12/17/98 00:04:39
Comment: 6010 diss oei
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm

Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: A13601d-021 Operator: awl
Run Time: 12/17/98 01:13:36
Comment: 6010 diss ccl
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0010	-.0020	H.2278	H.0008	L-.0015	L.0063	-.0052
SDev	.0017	.0097	.0063	.0006	.0026	.0013	.0160
%RSD	178.2	486.5	2.743	71.82	169.7	20.90	306.9
#1	H.0022	-.0088	H.2231	H.0012	L-.0034	L.0071	.0061
#2	L-.0002	.0048	H.2322	H.0004	L.0000	L.0053	.0165

Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Hg2536	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0116	H.0000	H.0170	.0100	H1.302	H36.46	H30.85
SDev	.0046	.0129	.0073	.0001	.195	1.21	.20
%RSD	39.87	276166	60.9%	.0768	14.97	3.310	.6406
#1	.0148	H.0091	H.0172	.0130	H1.440	H35.60	H30.69
#2	.0083	L-.0091	H.0068	.0131	H1.164	H37.31	H30.97

Errors	NOCHECK	LC High	LC High	LC Pass	LC High	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H11.26	H.0403	H4.415	L-.0164
SDev	.09	.0000	.014	.0303
%RSD	.6338	.0291	.306	185.1
#1	H11.19	H.0403	H4.405	L-.0378
#2	H11.33	H.0403	H4.424	H.0050

Errors	LC High	LC High	LC High	LC Low
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: ccv1 Operator: aw
Run Time: 12/17/98 01:22:16
Comment: 6010
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	01.887	2.068	1.922	2.015	1.996	1.990	2.015
SDev	.007	.021	.043	.013	.015	.013	.027

%RSD	.3844	1.039	2.174	.9595	.7687	.6775	1.146
#1	01.892	2.053	1.952	2.029	1.985	2.000	[illegible]
#2	01.881	2.083	01.893	2.002	2.006	1.961	[illegible]
Errors	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	[illegible]
Value	2.000	2.000	2.000	[illegible]	[illegible]	2.000	[illegible]
Range	5.000	5.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Elem	Tl1908	[illegible]	[illegible]	[illegible]	Al[illegible]	[illegible]	[illegible]
Units	ppm	ppm	ppm	ppm	ppm	ppm	[illegible]
Avge	[illegible]	[illegible]	[illegible]	[illegible]	2.007	[illegible]	[illegible]
SDev	[illegible]	.077	[illegible]	[illegible]	.019	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	45[illegible]	[illegible]	[illegible]
#1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
#2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Errors	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	QC Fail
Value	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.000	2.000
Range	[illegible]	[illegible]	[illegible]	[illegible]	5.000	5.000	5.000
Elem	[illegible]	[illegible]	[illegible]	[illegible]			
Units	[illegible]	ppm	[illegible]	ppm			
Avge	[illegible]	[illegible]	01.362	01.235			
SDev	[illegible]	.047	.009	.061			
%RSD	[illegible]	2.424	.4873	2.775			
#1	02.124	1.909	01.868	01.190			
#2	2.035	1.976	01.855	01.276			
Errors	QC Pass	QC Pass	QC Fail	QC Fail			
Value	2.000	2.000	2.000	2.000			
Range	5.000	5.000	5.000	5.000			

Method: RCRA1 Sample Name: ccb1 Operator: aw
Run Time: 12/17/98 01:30:56
Comment: 6010
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0031	.0019	.0002	-.0000	-.0021	-.0051	-.0171
SDev	.0001	.0024	.0008	.0006	.0041	.0074	.0016
%RSD	4.072	124.3	518.5	2386	194.2	144.6	9.213
#1	-.0030	-.0002	-.0004	-.0004	.0008	-.0104	-.0183
#2	-.0032	-.0036	.0007	.0004	-.0050	.0001	-.0160

Elem	Tl1908	Cu3247	Ni2316	Zn1138	Mn3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.0021	-.0000	-.0008	-.1027	-.0000	.0003
SDev	.0045	.0257	.0000	.0006	.0487	.0000	.0023
%RSD	2617.	282.8	43700	76.64	47.43	6760.	707.1
#1	-.0030	.0273	.0000	-.0004	-.1372	-.0000	.0020
#2	.0034	-.0091	-.0000	-.0013	-.0683	.0000	-.0013

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	.0221	.0000	.0032	.0000
SDev	.0313	.0034	.0000	.0101
%RSD	141.4	43700.	.1171	67540.
#1	.0443	-.0024	.0032	.0072
#2	.0000	.0024	.0032	-.0072

Method: RCRA1 Sample Name: 813604d 02X Operator: aw.
Run Time: 12/17/98 01:39:35
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H.0032	-.0013	H.0170	H.0000	L-.0032	L.0019	.0049
SDev	.0097	.0044	.0004	.0016	.0060	.0070	.0038
%RSD	302.9	352.0	.8814	545.5	184.7	366.9	77.04
#1	H.0101	.0019	H.0467	H.0016	L-.0075	L.0069	.0076
#2	L-.0037	-.0044	H.0473	L-.0010	L.0010	L-.0031	.0023
Errors	LC High	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0100	H.0000	H.0206	.0043	L-.0346	H105.5	H.0098
SDev	.0034	.0129	.0000	.0001	.0484	4.2	.0046
%RSD	33.76	276186	.0001	1.568	139.9	3.984	47.14
#1	-.0124	H.0091	H.0206	.0044	L-.0689	H102.6	H.0065
#2	-.0076	L-.0091	H.0206	.0043	L-.0004	H108.5	H.0131
Errors	NOCHECK	LC High	LC High	LC Pass	LC Low	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	H17.74	H.0068	H1.381	H.0216
SDev	.69	.0000	.068	.0001
%RSD	3.879	.1546	4.935	.2213
#1	H18.23	H.0068	H1.333	H.0216
#2	H17.26	H.0068	H1.430	H.0216
Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

%RSD	9.656	70.71	141.9	17.31	54.71	141.9	990.0
#1	-.0106	L-.0273	L-.0000	L-.0018	L-.0007	L-.0001	H.0026
#2	-.0121	L-.0091	H.0069	L-.0014	L-.0003	H.0533	L-.0020
Errors	NOCHECK	LC Low	LC High	LC Low	LC Low	LC High	LC High
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H.0442	H.0000	L-.0000	H.0216
SDev	.0626	.0101	.0000	.0203
%RSD	141.4	96920.	141.4	94.16
#1	H.0385	H.0072	L-.0000	H.0360
#2	.0000	L-.0071	.0000	H.0072
Errors	LC High	LC High	LC Low	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: S135544-001 Operator: aw
Run Time: 12/17/98 02:48:35
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0024	.0025	H.0362	H.0009	L-.0054	L-.0007	.0017
SDev	.0041	.0133	.0002	.0031	.0019	.0004	.0073
%RSD	170.0	521.8	.5203	345.3	34.35	61.26	439.6
#1	H.0005	-.0119	H.0360	H.0031	L-.0041	L-.0010	-.0035
#2	L-.0053	.0068	H.0363	L-.0013	L-.0067	L-.0004	.0068
Errors	LC Low	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0024	H.0000	H.0103	.0027	L-.1022	H73.38	L-.0023
SDev	.0014	.0129	.0049	.0001	.0490	.47	.003[illegible]
%RSD	58.81	276166	47.22	5.689	47.93	.6426	141.4
#1	.0034	H.0091	H.0138	.0028	L-.1368	H73.05	L-.0046
#2	.0014	L-.0091	H.0069	.0026	L-.0675	H73.71	L-.0000
Errors	NOCHECK	LC High	LC High	LC Pass	LC Low	LC High	LC Low
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H19.25	H.0044	H.5739	L-.0215
SDev	[illegible]	[illegible]	[illegible]	[illegible]

%RSD	3.576	76.34	1.714	94.41
#1	H19.73	H.0000	H.5651	L-.0072
#2	H18.76	H.0068	H.5628	L-.0359
Errors	LC High	LC High	LC High	LC Low
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: FCRA1 Sample Name: 313554d-001 Operator: aw
Run Time: 12/17/98 02:57:13
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0051	-.0046	H.0290	L-.0008	L-.0015	L.0024	-.0129
SDev	.0013	.0054	.0002	.0006	.0015	.0010	.0006
%RSD	25.09	117.0	.7728	70.72	100.4	42.39	4.992
#1	L-.0042	-.0084	H.0291	L-.0004	L-.0004	L.0017	-.0125
#2	L-.0061	-.0008	H.0291	L-.0012	L-.0026	L.0032	-.0134
Errors	LC Low	NOCHECK	LC High	LC Low	LC Low	LC Low	NOCHEC
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni3316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0097	L-.0091	H.0034	L.0005	L-.0348	H76.29	H.0003
SDev	.0126	.0000	.0000	.0006	.0478	.06	.0005
%RSD	130.5	.0000	.1501	109.1	137.3	.0743	141.4
#1	-.0007	L-.0091	H.0034	L.0009	L-.0686	H76.33	L-.0000
#2	-.0186	L-.0091	H.0034	L.0001	L-.0010	H76.25	H.0007
Errors	NOCHECK	LC Low	LC High	LC Low	LC Low	LC High	LC Hig
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H21.08	H.0044	H.7567	H.0288
SDev	.09	.0034	.0159	.0305
%RSD	.4451	76.83	2.098	106.1
#1	H21.02	H.0020	H.7455	H.0072
#2	H21.15	H.0068	H.7679	H.0504
Errors	LC High	LC High	LC High	LC High
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: isb1 Operator: aw
Run Time: 12/17/98 03:05:50
Comment: 6010

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Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.003	-.0071	.4705	.8889	.4498	.9801	-.0086
SDev	.015	.0109	.0045	.0235	.0255	.0171	.0224
%RSD	1.496	152.2	.9519	2.644	5.665	1.747	259.0
#1	.9941	.0148	.4737	.9055	.4318	.9680	.0245
#2	1.014	.0005	.4673	.8722	.4679	.9922	.0072
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value	1.000		.5000	1.000	.5000	1.000	
Range	20.00		20.00	20.00	20.00	20.00	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1320	.4818	.9288	1.023	503.0	440.3	167.0
SDev	.0036	.0257	.0390	.005	32.0	4.8	4.9
%RSD	2.718	5.337	4.194	.4600	6.364	1.088	2.939
#1	.1294	.5000	.9013	1.019	525.7	436.9	170.5
#2	.1345	.4636	.9563	1.026	480.4	443.7	163.6
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value		.5000	1.000	1.000	500.0	500.0	200.0
Range		20.00	20.00	20.00	20.00	20.00	20.00

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	504.5	.4154	.4194	0.3621
SDev	31.9	.0063	.0030	.0256
%RSD	6.320	1.507	.7115	7.125
#1	527.0	.4198	.4215	0.3804
#2	481.9	.4110	.4173	0.3439
Errors	QC Pass	QC Pass	QC Pass	QC Fail
Value	500.0	.5000	.5000	.5000
Range	20.00	20.00	20.00	20.00

Method: RCRA1 Sample Name: ccv1 Operator: AW
Run Time: 12/17/98 03:18:13
Comment: 6010

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Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.976	Q2.125	Q1.867	2.074	2.092	2.052	2.062
SDev	.046	.026	.027	.015	.025	.031	.022
%RSD	2.329	1.203	1.473	.7000	1.219	1.522	1.090
#1	2.009	Q2.143	Q1.877	2.064	Q2.110	2.030	2.076
#2	1.944	Q2.106	Q1.858	2.083	2.074	2.074	2.046
Errors	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

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Elem	Ti1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.027	1.977	02.114	02.107	02.111	02.119	02.180
SDev	.034	.015	.117	.097	.194	.000	.103
%RSD	1.698	.0671	5.528	4.615	9.201	.0184	1.720
#1	2.002	1.936	02.197	2.038	02.248	02.119	02.255
#2	2.051	1.918	2.031	02.175	1.974	02.120	02.107
Errors	QC Pass	QC Pass	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	02.212	2.001	1.916	02.225
SDev	.063	.010	.059	.031
%RSD	2.829	.5095	3.080	1.384
#1	02.168	1.994	01.875	02.203
#2	02.257	2.009	1.958	02.247
Errors	QC Fail	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RCRA1 | Sample Name: ccb1 | Operator: aw
Run Time: 12/17/98 03:26:52
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	-.0031	.0007	.0002	-.0034	-.0014	-.0019
SDev	.0003	.0002	.0003	.0005	.0008	.0037	.0194
%RSD	49.38	4.909	40.41	473.4	21.89	258.3	1010.
#1	-.0008	.0032	.0009	.0007	-.0040	-.0041	-.0156
#2	-.0004	-.0030	.0010	-.0004	-.0029	.0012	.0118

Elem	Ti1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	-.0091	-.0000	.0003	-.1712	-.0000	.0013
SDev	.0054	.0000	.0019	.0003	.0487	.0000	.0037
%RSD	430.9	.0000	132900.	83.03	28.43	109800.	282.8
#1	.0026	-.0091	.0034	.0001	-.2056	-.0000	.0039
#2	-.0051	-.0091	-.0034	.0005	-.1368	.0000	-.0013

Elem	Mg2790	Co2286	Mn2576	V 2924
Units	ppm	ppm	ppm	ppm
Avge	.0221	.0024	.0064	.0000
SDev	.0939	.0000	.0046	.0107
%RSD	424.3	.1916	70.92	46630.
#1	-.0443	.0024	.0096	.0077

#7	.0065	.0074	.0032	-.0072

Method: RCRA1 Sample Name: 813-544-003 Operator: aw
Run Time: 12/17/98 03:35:30
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba1934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0063	.0008	\.0009	H.0004	L-.0045	L-.0020	-.0095
SDev	.0071	.0069	.0010	.0001	.0030	.0007	.0060
%RSD	112.8	869.3	452.6	17.71	66.56	15.18	63.17
#1	L-.0113	.0057	L-.0005	H.0004	L-.0024	L-.0018	-.0136
#2	L-.0013	-.0041	\.0009	H.0005	L-.0066	L-.0022	.0057
Errors	LC Low	NOCHECK	LC High	LC High	LC Low	LC Low	NOCHECK
High	.0000		.0000	.0000	50.00	50.00	
Low	.0000		.0000	.0000	.0030	.0080	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0051	L-.0091	H.0120	L.0001	L-.2053	L-.0000	L-.0007
SDev	.0125	.0000	.0021	.0004	.0000	.0000	.0018
%RSD	243.8	.0000	20.71	813.9	.0002	32.58	282.8
#1	-.0139	L-.0091	H.0138	L.0004	L-.2053	L-.0000	H.0007
#2	.0037	L-.0091	H.0103	L-.0003	L-.2053	L-.0000	L-.0020
Errors	NOCHECK	LC Low	LC High	LC Low	LC Low	LC Low	LC Low
High		.0000	.0000	8.000	.0000	.0000	.0000
Low		.0000	.0000	.0020	.0000	.0000	.0000

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	H.1770	H.0024	H.0048	L-.0072
SDev	.0000	.0000	.0023	.0000
%RSD	.0000	.4804	47.35	.3285
#1	H.1770	H.0024	H.0064	L-.0072
#2	H.1770	H.0024	H.0032	L-.0071
Errors	LC High	LC High	LC High	LC Low
High	.0000	.0000	.0000	.0000
Low	.0000	.0000	.0000	.0000

Method: RCRA1 Sample Name: 813604d-019 Operator: aw
Run Time: 12/17/98 03:44:08
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

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Elem	Ag3280	As1890	Ba1934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0065	.0103	H.0313	L-.0009	L-.0044	L.0018	-.0027
SDev	.0052	.0050	.0002	.0014	.0015	.0067	.0029
%RSD	80.12	48.86	.7215	149.9	34.05	367.9	105.9

Method: RCRA1 Sample Name: 1tb2 Operator: aw
Run Time: 12/17/98 04:53:12
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9654	-.0007	.4567	.9615	.4459	1.041	.0023
SDev	.0145	.0054	.0052	.0065	.0019	[illegible]	.0102
%RSD	1.503	50.88	1.124	3.622	.4175	.6240	433.6
#1	.9757	-.0091	.4624	.9878	.4472	1.037	-.0049
#2	.9552	.0043	.4551	.9353	.4446	1.046	.0095
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value	1.000		.5000	1.000	.5000	1.000	
Range	20.00		20.00	20.00	20.00	20.00	

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1410	.4666	.9155	1.095	475.4	433.4	169.0
SDev	.0318	.0257	.0146	.010	17.8	13.1	5.4
%RSD	22.52	5.546	1.591	.9736	3.749	3.011	3.175
#1	.1185	.4818	.9260	.9966	462.8	424.2	165.2
#2	.1634	.4455	.9081	1.012	488.0	442.7	172.8
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value		.5000	1.000	1.000	500.0	500.0	200.0
Range		20.00	20.00	20.00	20.00	20.00	20.00

Elem	Mg2790	Co2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	490.0	.4252	.4067	Q.3550
SDev	3.8	.0068	.0132	.0257
%RSD	.7726	1.602	3.237	7.275
#1	492.7	.4204	.4160	Q.3710
#2	487.3	.4300	Q.3974	Q.3549
Errors	QC Pass	QC Pass	QC Pass	QC Fail
Value	500.0	.5000	.5000	.5000
Range	20.00	20.00	20.00	20.00

Method: RCRA1 Sample Name: ccv2 Operator: aw
Run Time: 12/17/98 05:05:35
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.948	Q2.178	1.955	Q2.156	2.096	Q2.167	Q2.201
SDev	.002	.023	.095	.005	.039	.033	.025
%RSD	.0897	1.061	4.837	.2327	1.839	1.507	1.139
#1	1.947	Q2.194	Q1.888	Q2.160	Q2.123	Q2.190	Q2.183
#2	1.950	Q2.161	2.022	Q2.153	2.068	Q2.144	Q2.219

Errors	QC Pass	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	02.138	1.909	02.171	2.070	02.729	02.799	02.215
SDev	.044	.013	.080	.043	.096	.057	.019
%RSD	2.043	.6734	3.690	2.095	3.530	2.043	.8756
#1	02.107	1.918	02.227	02.100	02.797	02.759	02.201
#2	02.169	01.900	02.114	2.039	02.661	02.840	02.229

Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Mg2790	Cr2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	02.832	2.016	1.964	02.182
SDev	.125	.104	.009	.112
%RSD	4.419	5.171	.4505	5.110
#1	02.743	2.089	1.960	02.261
#2	02.920	1.942	1.977	02.103

Errors	QC Fail	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000

Method: RRA1 Sample Name: ccb1 Operator: aw
Run Time: 12/17/98 05:14:14
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Ag3280	As1890	Ba4934	Cd2265	Cr2677	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0023	-.0001	.0001	.0009	.0000	.0048	-.0059
SDev	.0016	.0112	.0000	.0006	.0011	.0051	.0165
%RSD	66.77	9138.	.0000	66.54	126300.	105.9	281.5
#1	.0012	-.0060	.0001	.0014	-.0008	.0084	-.0175
#2	.0034	.0078	.0001	.0005	.0008	.0012	.0058

Elem	Tl1908	Cu3247	Ni2316	Zn2138	Al3082	Ca3179	Fe
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0104	-.0091	-.0054	.0020	-.2395	.0534	.0065
SDev	.0140	.0000	.0000	.0002	.0484	.0377	.0037
%RSD	134.1	.0000	.1496	10.91	20.20	70.67	56.57
#1	-.0203	-.0091	-.0054	.0022	-.2757	.0800	.0039
#2	-.0005	-.0091	-.0054	.0019	.2053	.0267	.0091

Elem	Mg2790	Cr2286	Mn2576	V_2924
Units	ppm	ppm	ppm	ppm
Avge	.1627	.0048	.0080	-.0072
SDev	.0030	.0034	.0024	.0000

%RSD	47.14	70.80	28.25	.1284
#1	.0885	.0071	.0064	-.0072
#2	.1770	.0034	.0096	-.0077

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Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32707

Status.....: RPT
Batch Date...: 12/18/98
Batch Time...: 913

User Name.....: pal
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	[illegible]	[illegible]	[illegible]
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 1	___CALB_ICPCALBLK_		12/17/98 1813	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 2	___CAL_ICPCALSTD_		12/17/98 1818	0					0	0							0	0		0			
1 3	___CAL_ICPCALSTD_		12/17/98 1822												0				0				
1 4	___CAL_ICPCALSTD_		12/17/98 1827			0					0	0	0								0		
1 5	___CAL_ICPCALSTD_		12/17/98 1831				0	0						0		0						0	
1 6	___ICV_V170602C_		12/17/98 1835	0		0	0	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	0	0	
1 7	___ICB__		12/17/98 1840	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	B	
1 8	___ISB_V170602B_		12/17/98 1845	0		0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	
1 9	813788_1_D___		12/17/98 1854	0			0					0				0		0		0	0		
1 10	813788_1_D_MD__9		12/17/98 1859	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 11	813788_1_D_MS_V01019809_9		12/17/98 1904	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 12	813788_2_D___		12/17/98 1909	0			0					0				0		0		0	0		
1 13	813788_3_D___		12/17/98 1914	0			0					0				0		0		0	0		
1 14	813788_4_D___		12/17/98 1918	0			0					0				0		0		0	0		
1 15	813788_5_D___		12/17/98 1923	0			0					0				0		0		0	0		
1 16	813788_7_D___		12/17/98 1928	0			0	0				0				0		0		0	0		
1 17	813604_21_D___		12/17/98 1933				0					0						0		0			
1 18	___CCV_V170602C_		12/17/98 1938	0		0	0	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	0	0	
1 19	___CCB__		12/17/98 1943	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	B	
1 20	813604_22_D___		12/17/98 1947				0					0						0		0			
1 21	813604_23_D___		12/17/98 1952				0					0						0		0			
1 22	813659_1_D___		12/17/98 1957	0			0					0				0		0		0	0		
1 23	813659_2_D___		12/17/98 2002	0			0					0				0		0		0	0		
1 24	813659_3_D___		12/17/98 2007	0			0					0				0		0		0	0		
1 25	813659_5_D___		12/17/98 2011	0			0					0				0		0		0	0		
1 26	813502_13_D___		12/17/98 2016				0					0						0		0			
1 27	813502_14_D___		12/17/98 2021				0					0						0		0			
1 28	813554_1_D___		12/17/98 2026				0					0						0		0			

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Metals Analysis (ICAP) | Status.....: RPT | User Name.....: pal | Location Code..: 57211
Method Code..: 200.7 | Batch Date...: 12/18/98 | QC Code.....: 2007 | Equipment Code.: ICP
Batch Code...: 32707 | Batch Time...: 913 | Calc Code.....: | Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 29	___ISB_V170602B_		12/17/98 2031	0		0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	
1 30	___CCV_V170602C_		12/17/98 2040	^		^	^	^	^	^	0	0	^	^	0	^	^	^	0	^	0	^	
1 31	___CCB__		12/17/98 2045	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 32	813554_2_D___		12/17/98 2050				0					0						0		0			
1 33	813554_3_D___		12/17/98 2055				0					0						0		0			
1 34	813604_19_D___		12/17/98 2059				0					0						0		0			
1 35	813604_20_D___		12/17/98 2104				0					0						0		0			
1 36	813502_11_D___		12/17/98 2109				0													0			
1 37	813435_5_D___		12/17/98 2114				0													0			
1 38	813435_1_D___		12/17/98 2119				0													0			
1 39	813435_4_D___		12/17/98 2124				0												0	0			
1 40	813435_3_D___		12/17/98 2128				0													0			
1 41	___CCV_V170602C_		12/17/98 2133	0		0	^	^	0	0	0	0	0	^	0	0	0	0	0	0	0	^	
1 42	___CCB__		12/17/98 2138	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 43	813435_2_D___		12/17/98 2143				0													0			
1 44	813502_12_D___		12/17/98 2148				0													0			
1 45	813502_12_D_MD__44		12/17/98 2153	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 46	813502_12_D_MS_V01019809_44		12/17/98 2157	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1 47	___ISB_V170602B_		12/17/98 2202	0		0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	
1 48	___CCV_V170602C_		12/17/98 2212	0		0	^	^	^	0	0	0	0	^	0	^	^	0	0	0	0	^	
1 49	___CCB__		12/17/98 2216	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	21	22	23	24
1 1	___CALB_ICPCALBLK_		12/17/98 1813	0	0	0	0
1 2	___CAL_ICPCALSTD_		12/17/98 1818				

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Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32707

Status.....: RPT
Batch Date...: 12/18/98
Batch Time...: 913

User Name.....: pal
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS Date / Time	21	22	23	24
1 3	___CAL_ICPCALSTD_		12/17/98 1822				0
1 4	___CAL_ICPCALSTD_		12/17/98 1827				0
1 5	___CAL_ICPCALSTD_		12/17/98 1831				0
1 6	___ICV_V170602C_		12/17/98 1835	0	0		0
1 7	___ICB__		12/17/98 1840	0	0	0	0
1 8	___ISB_V170602B_		12/17/98 1845				
1 9	813788_1_D___		12/17/98 1854				
1 10	813788_1_D_MD__9		12/17/98 1859	0	0	0	0
1 11	813788_1_D_MS_V01019809_9		12/17/98 1904				
1 12	813788_2_D___		12/17/98 1909				
1 13	813788_3_D___		12/17/98 1914				
1 14	813788_4_D___		12/17/98 1918				
1 15	813788_5_D___		12/17/98 1923				
1 16	813788_7_D___		12/17/98 1928				
1 17	813604_21_D___		12/17/98 1933				
1 18	___CCV_V170602C_		12/17/98 1938	0	0		0
1 19	___CCB__		12/17/98 1943	0	0	0	0
1 20	813604_22_D___		12/17/98 1947				
1 21	813604_23_D___		12/17/98 1952				
1 22	813659_1_D___		12/17/98 1957				
1 23	813659_2_D___		12/17/98 2002				
1 24	813659_3_D___		12/17/98 2007				
1 25	813659_5_D___		12/17/98 2011				
1 26	813502_13_D___		12/17/98 2016				
1 27	813502_14_D___		12/17/98 2021				
1 28	813554_1_D___		12/17/98 2026				
1 29	___ISB_V170602B_		12/17/98 2031				
1 30	___CCV_V170602C_		12/17/98 2040				0

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Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32707

Status.....: RPT
Batch Date...: 12/18/98
Batch Time...: 913

User Name.....: pal
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS Date / Time	21	22	23	24
1 31	___CCB__		12/17/98 2045	0	0	0	0
1 32	813554_2_D___		12/17/98 2050				
1 33	813554_3_D___		12/17/98 2055				
1 34	813604_19_D___		12/17/98 2059				
1 35	813604_20_D___		12/17/98 2104				
1 36	813502_11_D___		12/17/98 2109				
1 37	813435_5_D___		12/17/98 2114				
1 38	813435_1_D___		12/17/98 2119				
1 39	813435_4_D___		12/17/98 2124				
1 40	813435_3_D___		12/17/98 2128				
1 41	___CCV_V170602C_		12/17/98 2133	0	0		0
1 42	___CCB__		12/17/98 2138	0	0	0	0
1 43	813435_2_D___		12/17/98 2143				
1 44	813502_12_D___		12/17/98 2148				
1 45	813502_12_D_MD__44		12/17/98 2153	0	0	0	0
1 46	813502_12_D_MS_V01019809_44		12/17/98 2157				
1 47	___ISB_V170602B_		12/17/98 2202				
1 48	___CCV_V170602C_		12/17/98 2212	0	0		0
1 49	___CCB__		12/17/98 2216	0	0	0	0

Method: CLP Standard: blank
Run Time: 12/17/98 18:13:58

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Avge	.0113	.0078	.0000	.0006	.0006	.0057	.0007
SDev	.0010	.0048	.0000	.0000	.0003	.0001	.0010
%RSD	8.761	61.65	.0000	.0000	47.14	2.481	141.4
#1	.0106	.0044	.0000	.0006	.0004	.0058	.0014
#2	.0120	.0112	.0000	.0006	.0008	.0056	.0000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Avge	-.0001	.0016	.0022	-.0025	.0010	.0018	.0004
SDev	.0007	.0000	.0006	.0033	.0006	.0000	.0003
%RSD	707.1	.0000	25.71	130.1	56.57	.0000	70.71
#1	-.0006	.0016	.0018	-.0002	.0006	.0018	.0006
#2	.0004	.0016	.0026	-.0048	.0014	.0018	.0002

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Avge	.0033	.0141	.0409	-.0002	.0006	.0850	.0162
SDev	.0021	.0001	.0004	.0000	.0000	.0003	.0008
%RSD	64.28	1.003	1.037	.0000	.0000	.3328	5.238
#1	.0018	.0140	.0412	-.0002	.0006	.0848	.0168
#2	.0048	.0142	.0406	-.0002	.0006	.0852	.0156

Elem	Ti3349	Sn2839	Li6707
Avge	.0012	-.0054	.0001
SDev	.0006	.0003	.0001
%RSD	47.14	5.238	141.4
#1	.0008	-.0052	.0002
#2	.0016	-.0056	.0000

Method: CLP Standard: cal4
Run Time: 12/17/98 18:18:47

Elem	Al3082	Ca3179	Cr2677	Ni2316	K_7664	Na5889
Avge	2.167	14.80	.2912	.3268	.7021	.7574
SDev	.011	.00	.0008	.0020	.0052	.0008
%RSD	.5220	.0096	.2914	.6058	.7453	.1120
#1	2.175	14.80	.2918	.3282	.7058	.7568
#2	2.159	14.80	.2906	.3254	.6984	.7580

Method: CLP Standard: cal5
Run Time: 12/17/98 18:22:55

Elem	Sb2068	Mg2790	Ag3280	B_2496
Avge	.6324	1.664	.5957	1.166
SDev	.0107	.001	.0007	.004
%RSD	1.700	.0340	.1187	.3153
#1	.6400	1.665	.5952	1.164
#2	.6248	1.664	.5962	1.169

Method: CLP Standard: cal2
Run Time: 12/17/98 18:27:03

Elem	Ba4934	Co2286	Cu3247	Fe2599	V_2924
Avge	1.257	.4201	.2967	58.41	1.013
SDev	.009	.0024	.0013	.22	.002
%RSD	.6866	.5723	.4290	.3719	.2233
#1	1.263	.4218	.2976	58.56	1.015
#2	1.250	.4184	.2958	58.26	1.012

Method: CLP Standard: cal1
Run Time: 12/17/98 18:31:10

Elem	Be3130	Cd2265	Pb2203	Mn2576	Zn2138
Avge	1.263	1.594	2.025	.6229	.5295
SDev	.009	.004	.004	.0024	.0044
%RSD	.6945	.2750	.2096	.3860	.8280
#1	1.269	1.597	2.028	.6246	.5326
#2	1.256	1.591	2.022	.6212	.5264

Standardization Report Thu 12-17-98 06:35:30 PM page 1

Method: CLP Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Al3082	308.215	cal4	blank	4.63843	-.052414	12/17/98 06:31:10
Sb2068	206.838	cal5	blank	6.40410	-.049952	12/17/98 06:31:10
Ba4934	493.409	cal2	blank	.795862	.000000	12/17/98 06:31:10
Be3130	313.042	cal1	blank	.792393	-.000475	12/17/98 06:31:10
Cd2265	226.502	cal1	blank	1.88241	-.001129	12/17/98 06:31:10
Ca3179	317.933	cal4	blank	3.37899	-.019260	12/17/98 06:31:10
Cr2677	267.716	cal4	blank	3.44234	-.002410	12/17/98 06:31:10
Co2286	228.616	cal2	blank	2.37982	.000238	12/17/98 06:31:10
Cu3247	324.754	cal2	blank	3.38868	-.005422	12/17/98 06:31:10
Fe2599	259.940	cal2	blank	1.71209	-.003767	12/17/98 06:31:10
Pb2203	220.353	cal1	blank	4.93316	.012333	12/17/98 06:31:10
Mg2790	279.078	cal5	blank	12.0236	-.012024	12/17/98 06:31:10
Mn2576	257.610	cal1	blank	3.22009	-.005796	12/17/98 06:31:10
Ni2316	231.604	cal4	blank	3.06373	-.001225	12/17/98 06:31:10
K_7664	766.491	cal4	blank	28.6205	-.094448	12/17/98 06:31:10
Ag3280	328.068	cal5	blank	1.71902	-.024238	12/17/98 06:31:10
Na5889	588.995	cal4	blank	13.9567	-.570830	12/17/98 06:31:10
V_2924	292.402	cal2	blank	.967837	.000194	12/17/98 06:31:10
Zn2138	213.856	cal1	blank	5.67215	-.003403	12/17/98 06:31:10
B_2496	249.678	cal5	blank	1.84980	-.157233	12/17/98 06:31:10
Mo2020	202.030	cal3	blank	12.6263	-.204545	12/17/98 06:31:10
Ti3349	334.941	cal6	blank	1.46291	-.001755	12/17/98 06:31:10
Sn2839	283.999	cal6	blank	8.93895	.048270	12/17/98 06:31:10
Li6707	670.784	cal6	blank	1.26533	-.000127	12/17/98 06:31:10

Analysis Report QC Standard Thu 12-17-98 06:40:20 PM page 1

Method: CLP Sample Name: ccv Operator: aw
Run Time: 12/17/98 18:35:35
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.049	Q2.335	1.986	2.048	2.038	2.045	2.008
SDev	.022	.205	.037	.029	.003	.008	.013
%RSD	1.052	8.769	1.887	1.422	.1699	.3973	.6523
#1	2.064	Q2.190	2.013	2.069	2.040	2.051	2.017
#2	2.034	Q2.480	1.960	2.028	2.035	2.039	1.999
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.968	1.960	1.992	2.078	Q1.897	2.031	2.030
SDev	.014	.039	.015	.000	.010	.018	.002
%RSD	.7183	2.005	.7714	.0028	.5285	.8981	.1062
#1	1.978	1.988	2.003	2.078	1.904	2.044	2.032
#2	1.958	1.932	1.981	2.078	Q1.890	2.018	2.029
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.05	1.943	2.029	1.972	2.051	Q2.123	1.980
SDev	.24	.019	.010	.019	.005	.021	.043
%RSD	1.211	.9883	.4863	.9804	.2382	1.010	2.165
#1	20.23	1.957	2.036	1.986	2.054	Q2.138	1.949
#2	19.88	1.930	2.022	1.958	2.047	Q2.108	2.010
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	2.006	Q.0748	1.948
SDev	.027	.0434	.043
%RSD	1.361	58.02	2.214
#1	2.026	Q.0441	1.978
#2	1.987	Q.1054	1.917
Errors	QC Pass	QC Fail	QC Pass
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report | Blank Sample | Thu 12-17-98 06:45:08 PM | page 1

Method: CLP | Sample Name: ccb | Operator: aw
Run Time: 12/17/98 18:40:23
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0116	.0532	.0000	.0002	.0008	.1024	-.0007
SDev	.0092	.0082	.0000	.0000	.0021	.0057	.0044
%RSD	79.27	15.36	630.7	.4804	283.2	5.601	630.7
#1	.0181	.0474	-.0000	.0002	.0023	.1064	.0024
#2	.0051	.0590	.0000	.0002	-.0008	.0983	-.0038

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0024	.0081	.0098	.0316	.0359	.0006	.0046
SDev	.0017	.0038	.0017	.0132	.0204	.0000	.0082
%RSD	70.65	47.14	17.37	41.97	56.75	.3368	179.1
#1	.0036	.0108	.0110	.0222	.0503	.0007	.0104
#2	.0012	.0054	.0086	.0409	.0215	.0006	-.0012

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2032	.0043	.0977	.0033	.0108	.0018	.0379
SDev	.0324	.0005	.0257	.0008	.0040	.0042	.0036
%RSD	15.93	11.32	26.26	25.28	36.95	226.3	9.428
#1	.2261	.0046	.1158	.0039	.0136	.0048	.0404
#2	.1803	.0040	.0796	.0027	.0080	-.0011	.0354

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0020	.0868	.0013
SDev	.0021	.0680	.0016
%RSD	101.0	78.34	127.3
#1	.0035	.1349	.0024
#2	.0006	.0387	.0001

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Method: CLP Sample Name: isb Operator: aw
Run Time: 12/17/98 18:45:11
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	482.7	.0383	.4492	.4571	.8697	453.9	.4266
SDev	1.3	.0218	.0024	.0007	.0036	1.4	.0034
%RSD	.2745	56.84	.5261	.1467	.4110	.3124	.7979
#1	481.8	.0537	.4475	.4567	.8722	452.9	.4242
#2	483.7	.0229	.4509	.4576	.8672	454.9	.4290
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4158	.4463	169.5	.8990	476.4	.4534	.8535
SDev	.0003	.0024	.7	.0001	1.2	.0024	.0022
%RSD	.0811	.5369	.4275	.0076	.2511	.5317	.2584
#1	.4160	.4446	169.0	.8991	475.5	.4517	.8519
#2	.4155	.4480	170.0	.8990	477.2	.4551	.8550
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0859	.9106	-.0544	.4366	.9154	.0762	.3422
SDev	.0526	.0047	.0158	.0021	.0056	.0021	.0054
%RSD	61.28	.5115	29.01	.4723	.6074	2.746	1.566
#1	-.0487	.9073	-.0656	.4352	.9115	.0777	.3384
#2	-.1231	.9139	-.0433	.4381	.9194	.0747	.3460
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0070	.4226	-.0000
SDev	.0008	.0044	.0005
%RSD	11.79	1.037	3689e6
#1	.0064	.4257	.0004
#2	.0076	.4195	-.0004
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Method: CLP Sample Name: ccv Operator: aw
Run Time: 12/17/98 19:38:12
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.052	Q2.302	2.007	2.061	2.036	2.042	1.996
SDev	.001	.150	.007	.003	.005	.009	.006
%RSD	.0638	6.531	.3702	.1522	.2615	.4212	.3172
#1	2.053	Q2.195	2.012	2.063	2.032	2.036	1.991
#2	2.051	Q2.408	2.002	2.058	2.040	2.048	2.000
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.963	1.972	2.050	1.980	Q1.882	2.025	2.016
SDev	.004	.006	.000	.036	.019	.000	.014
%RSD	.2055	.2916	.0125	1.798	.9934	.0001	.7091
#1	1.960	1.976	2.050	1.954	Q1.869	2.025	2.006
#2	1.966	1.968	2.051	2.005	Q1.896	2.025	2.026
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.20	1.945	2.033	1.975	2.050	Q2.118	2.020
SDev	.17	.002	.012	.001	.004	.007	.068
%RSD	.8417	.1000	.5824	.0339	.1979	.3088	3.359
#1	20.32	1.947	2.042	1.976	2.053	Q2.114	1.972
#2	20.08	1.944	2.025	1.975	2.047	Q2.123	2.068
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	2.017	Q.0538	1.980
SDev	.004	.0197	.025
%RSD	.1949	36.52	1.238
#1	2.020	Q.0399	1.997
#2	2.014	Q.0677	1.963
Errors	QC Pass	QC Fail	QC Pass
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

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Method: CLP Sample Name: ccb Operator: aw
Run Time: 12/17/98 19:43:00
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	.1198	.0000	.0001	.0013	.1112	-.0021
SDev	.0039	.0118	.0000	.0001	.0003	.0029	.0005
%RSD	855.9	9.834	23.59	143.3	20.31	2.579	23.59
#1	.0032	.1115	.0000	-.0000	.0011	.1091	-.0024
#2	-.0023	.1281	.0000	.0002	.0015	.1132	-.0017

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0005	.0034	.0209	-.0158	.0165	.0010	.0000
SDev	.0024	.0000	.0005	.0147	.0034	.0005	.0017
%RSD	494.9	.0000	2.321	92.87	20.61	46.88	148800.
#1	-.0021	.0034	.0212	-.0262	.0189	.0013	-.0012
#2	.0012	.0034	.0205	-.0054	.0141	.0006	.0012

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0487	.0012	.1033	.0009	.0108	.0007	.0379
SDev	.0000	.0000	.0296	.0004	.0008	.0000	.0000
%RSD	.0000	.0047	28.67	47.07	7.352	.0000	.0000
#1	.0487	.0012	.1242	.0012	.0102	.0007	.0379
#2	.0487	.0012	.0823	.0006	.0113	.0007	.0379

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0015	.0059	-.0004
SDev	.0012	.1028	.0000
%RSD	84.85	1743.	.0000
#1	.0023	.0786	-.0004
#2	.0006	-.0668	-.0004

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Method: CLP Sample Name: 813554d-001 Operator: aw
Run Time: 12/17/98 20:26:23
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1758	L-.0161	.0394	L-.0001	L-.0011	77.02	L.0041
SDev	.0118	.0080	.0019	.0001	.0021	.64	.0092
%RSD	6.707	50.06	4.860	135.6	188.7	.8252	223.9
#1	.1675	L-.0217	.0407	L-.0002	L.0004	77.47	L-.0024
#2	.1841	L-.0104	.0380	L-.0000	L-.0026	76.57	.0107
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0012	L.0024	L-.0014	L.0142	20.10	.5983	L.0025
SDev	.0013	.0034	.0034	.0084	.42	.0082	.0060
%RSD	113.1	141.4	247.5	58.92	2.098	1.370	244.0
#1	L.0002	L.0000	L-.0038	L.0083	20.40	.6041	L-.0018
#2	L.0021	L.0047	L.0010	L.0201	19.81	.5925	L.0068
Errors	LC Low	LC Low	LC Low	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.413	L.0014	28.50	L.0011	L.0023	.6215	L.0076
SDev	.024	.0015	.98	.0037	.0016	.0126	.0179
%RSD	1.007	107.2	3.428	346.1	70.97	2.020	235.7
#1	2.430	L.0003	29.19	L-.0016	L.0011	.6304	L-.0051
#2	2.396	L.0024	27.81	L.0037	L.0034	.6127	.0202
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0018	.0931	.0028
SDev	.0017	.1373	.0016
%RSD	94.28	147.5	57.85
#1	.0006	-.0040	.0016
#2	.0029	.1902	.0039
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: isb1 Operator: aw
Run Time: 12/17/98 20:31:12
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	476.1	-.1020	.4420	.4530	.8689	454.7	.4311
SDev	.6	.0443	.0001	.0002	.0069	1.4	.0029
%RSD	.1358	43.47	.0254	.0496	.7888	.3003	.6779
#1	476.6	-.0706	.4421	.4532	.8641	453.7	.4331
#2	475.7	-.1333	.4420	.4529	.8737	455.7	.4290
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4117	.4402	168.6	.9270	472.9	.4519	.8714
SDev	.0007	.0034	.4	.0813	.4	.0004	.0017
%RSD	.1636	.7621	.2550	8.771	.0879	.0837	.1974
#1	.4112	.4426	168.3	.8695	472.6	.4522	.8727
#2	.4122	.4378	168.9	.9845	473.2	.4517	.8702
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0172	.9076	.1228	.4321	.9188	.0814	.3106
SDev	.0607	.0019	.0099	.0008	.0024	.0021	.0107
%RSD	353.6	.2121	8.035	.1757	.2603	2.571	3.449
#1	-.0258	.9089	.1158	.4316	.9171	.0829	.3182
#2	.0601	.9062	.1298	.4326	.9205	.0799	.3030
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0085	.4321	.0006
SDev	.0004	.0264	.0000
%RSD	4.877	6.114	.0000
#1	.0082	.4134	.0006
#2	.0088	.4508	.0006
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

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Method: CLP Sample Name: ccv1 Operator: aw
Run Time: 12/17/98 20:40:39
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q2.131	Q2.454	Q2.102	Q2.181	Q2.156	Q2.130	Q2.123
SDev	.010	.065	.006	.002	.013	.007	.010
%RSD	.4630	2.654	.2946	.0717	.6053	.3141	.4811
#1	Q2.138	Q2.408	Q2.106	Q2.180	Q2.147	Q2.125	Q2.116
#2	Q2.124	Q2.500	2.097	Q2.182	Q2.165	Q2.135	Q2.130
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.086	2.063	Q2.103	Q2.206	2.014	Q2.152	Q2.155
SDev	.013	.007	.000	.027	.022	.005	.003
%RSD	.6292	.3252	.0234	1.236	1.099	.2329	.1201
#1	2.077	2.058	Q2.104	Q2.187	1.999	Q2.149	Q2.153
#2	2.095	2.068	Q2.103	Q2.225	2.030	Q2.156	Q2.157
Errors	QC Pass	QC Pass	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q21.29	2.051	Q2.161	2.083	Q2.151	Q2.244	Q2.128
SDev	.04	.001	.014	.005	.012	.006	.048
%RSD	.1711	.0593	.6395	.2509	.5603	.2565	2.266
#1	Q21.32	2.050	Q2.170	2.079	Q2.143	Q2.240	2.093
#2	Q21.27	2.051	Q2.151	2.087	Q2.160	Q2.248	Q2.162
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	Q2.119	Q.1340	2.062
SDev	.006	.0105	.000
%RSD	.2636	7.852	.0087
#1	Q2.115	Q.1265	2.063
#2	Q2.123	Q.1414	2.062
Errors	QC Fail	QC Fail	QC Pass
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Thu 12-17-98 08:50:14 PM page 1

Method: CLP Sample Name: ccb1 Operator: aw
Run Time: 12/17/98 20:45:29
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0023	.0666	.0000	.0004	-.0023	.0233	-.0021
SDev	.0052	.0218	.0000	.0003	.0048	.0010	.0034
%RSD	226.3	32.74	165.2	84.43	212.0	4.099	165.2
#1	-.0060	.0512	-.0000	.0002	-.0056	.0240	.0003
#2	.0014	.0820	.0000	.0006	.0011	.0226	-.0045

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0027	.0043	.0074	.0083	-.0000	-.0049
SDev	.0010	.0038	.0041	.0154	.0290	.0009	.0000
%RSD	77140.	141.4	96.17	207.5	347.3	166900.	.0067
#1	.0007	.0000	.0014	.0183	.0288	-.0006	-.0049
#2	-.0007	-.0054	.0072	-.0035	-.0121	.0006	-.0049

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0114	.0015	-.0028	-.0006	.0017	.0024	.0366
SDev	.0283	.0019	.0059	.0014	.0008	.0003	.0054
%RSD	247.5	125.7	212.1	232.8	47.79	10.88	14.63
#1	.0315	.0002	-.0070	-.0015	.0011	.0026	.0328
#2	-.0086	.0029	.0014	.0004	.0023	.0022	.0404

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0012	.0227	-.0003
SDev	.0000	.0481	.0002
%RSD	.0000	211.7	70.71
#1	.0012	.0567	-.0004
#2	.0012	-.0113	-.0001

Method: CLP Sample Name: 813554d-002 Operator: aw
Run Time: 12/17/98 20:50:18
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1317	L-.0333	.0309	L-.0000	L-.0002	80.75	L.0010
SDev	.0177	.0273	.0004	.0000	.0019	.33	.0097
%RSD	13.45	81.99	1.454	23.48	987.0	.4089	945.6
#1	.1192	L-.0140	.0306	L-.0000	L-.0015	80.51	L-.0059
#2	.1442	L-.0526	.0312	L-.0000	L.0011	80.98	L.0079
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0005	L-.0027	L.0024	L-.0016	21.52	.8070	L.0019
SDev	.0010	.0010	.0024	.0265	.13	.0036	.0095
%RSD	212.4	35.36	101.0	1701.	.6242	.4516	498.1
#1	L.0002	L-.0034	L.0007	L-.0203	21.42	.8044	L-.0048
#2	L-.0012	L-.0020	L.0041	L.0172	21.61	.8095	L.0087
Errors	LC Low	LC Low	LC Low	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.011	L.0014	24.70	L.0016	L.0051	.4750	L.0025
SDev	.045	.0010	.09	.0004	.0008	.0005	.0107
%RSD	1.479	71.91	.3676	23.48	14.87	.1101	424.3
#1	2.979	L.0020	24.63	L.0019	L.0046	.4747	.0101
#2	3.042	L.0007	24.76	L.0014	L.0057	.4754	L-.0051
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0000	.1256	.0014
SDev	.0000	.0053	.0000
%RSD	.0000	4.244	.0000
#1	.0000	.1294	.0014
#2	.0000	.1219	.0014
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Thu 12-17-98 08:59:53 PM

Method: CLP Sample Name: 813554d-003 Operator: aw
Run Time: 12/17/98 20:55:08
Comment: 6010 diss eei
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0672	L-.0660	L.0001	L-.0002	L-.0011	L.0220	L.0028
SDev	.0013	.0008	.0008	.0000	.0011	.0057	.0083
%RSD	1.935	1.144	992.9	1.240	94.17	26.11	300.7
#1	L.0682	L-.0655	L.0006	L-.0002	L-.0019	L.0260	L.0086
#2	L.0663	L-.0666	L-.0005	L-.0002	L-.0004	L.0179	L-.0031
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0000	L-.0024	L.0022	L.0044	L.0348	L-.0006	L-.0034
SDev	.0024	.0034	.0022	.0112	.0425	.0000	.0030
%RSD	262000.	141.4	97.88	253.3	122.2	.1931	90.05
#1	L.0017	L.0000	L.0007	L-.0035	L.0649	L-.0006	L-.0055
#2	L-.0017	L-.0047	L.0038	L.0123	L.0047	L-.0006	L-.0012
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0458	L.0028	.5750	L.0017	L-.0022	.2457	L-.0051
SDev	.1498	.0032	.0099	.0022	.0016	.0026	.0000
%RSD	327.0	114.9	1.716	126.3	72.78	1.065	.0000
#1	L.1517	L.0050	.5680	L.0033	L-.0011	.2438	L-.0051
#2	L-.0601	L.0005	.5820	L.0002	L-.0034	.2475	L-.0051
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	-.0004	.0735	.0001
SDev	.0006	.0431	.0014
%RSD	141.4	58.55	1131.
#1	.0000	.0431	.0011
#2	-.0009	.1040	-.0009
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report QC Standard Thu 12-17-98 09:38:29 PM page 1

Method: CLP Sample Name: ccv1 Operator: aw
Run Time: 12/17/98 21:33:43
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.083	Q2.420	2.010	Q2.103	Q2.105	2.098	2.067
SDev	.006	.160	.011	.009	.013	.007	.011
%RSD	.2803	6.590	.5711	.4097	.6197	.3416	.5169
#1	2.087	Q2.308	2.018	Q2.109	2.096	2.093	2.074
#2	2.079	Q2.533	2.002	2.097	Q2.115	Q2.103	2.059
Errors	QC Pass	QC Fail	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.038	1.987	2.054	Q2.159	1.960	2.099	2.098
SDev	.001	.015	.015	.004	.008	.006	.004
%RSD	.0661	.7717	.7410	.1938	.4218	.2826	.1861
#1	2.037	1.998	2.064	Q2.162	1.965	Q2.103	Q2.101
#2	2.039	1.976	2.043	Q2.156	1.954	2.094	2.095
Errors	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.61	1.999	2.066	2.022	Q2.130	Q2.170	2.069
SDev	.19	.002	.010	.013	.017	.013	.037
%RSD	.9427	.1096	.4778	.6649	.7942	.5786	1.812
#1	20.75	2.000	2.073	2.031	Q2.141	Q2.179	2.043
#2	20.47	1.997	2.059	2.012	Q2.118	Q2.161	2.096
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail	QC Pass
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	2.049	Q.0492	1.976
SDev	.010	.0482	.025
%RSD	.5049	98.04	1.268
#1	2.056	Q.0833	1.994
#2	2.042	Q.0151	1.959
Errors	QC Pass	QC Fail	QC Pass
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Thu 12-17-98 09:43:18 PM page 1

Method: CLP Sample Name: ccb1 Operator: aw
Run Time: 12/17/98 21:38:33
Comment: 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0787	-.0000	.0002	-.0008	.0226	.0014
SDev	.0059	.0282	.0000	.0001	.0021	.0019	.0024
%RSD	633.6	35.76	177.2	47.90	283.0	8.443	177.2
#1	-.0051	.0986	.0000	.0002	.0008	.0213	-.0003
#2	.0032	.0588	-.0000	.0003	-.0023	.0240	.0031

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0019	.0010	.0033	.0143	.0264	-.0003	-.0074
SDev	.0030	.0034	.0027	.0196	.0137	.0005	.0009
%RSD	158.9	330.0	81.89	136.6	51.73	142.3	11.75
#1	.0040	.0034	.0014	.0281	.0360	.0000	-.0067
#2	-.0002	-.0014	.0051	.0005	.0167	-.0006	-.0080

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0515	.0021	.0237	.0011	.0017	.0048	.0455
SDev	.0526	.0017	.0040	.0015	.0008	.0005	.0036
%RSD	102.1	82.48	16.64	140.3	46.07	10.88	7.857
#1	.0143	.0033	.0209	.0021	.0012	.0052	.0480
#2	.0887	.0009	.0265	.0000	.0023	.0044	.0429

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0026	.0377	.0005
SDev	.0012	.0740	.0013
%RSD	47.14	196.3	247.5
#1	.0035	.0900	.0014
#2	.0018	-.0146	-.0004

1/12/99 10:05

ls Analysis (ICAP) | Status.....: RVWD | User Name.....: chh | Location Code..: 57211
od Code..: 200.7 | Batch Date...: 12/21/98 | QC Code.....: 2007 | Equipment Code.: ICP
h Code...: 32825 | Batch Time...: 1610 | Calc Code.....: | Import Code....:

PLE: Grp	Pos	Sample ID	Dilution	TEST CODE / TEST POS / Date / Time	AL 1	SB 2	BA 3	BE 4	CD 5	CA 6	CR 7	CO 8	CU 9	FE 10	PB 11	MG 12	MN 13	NI 14	K 15	AG 16	NA 17	V 18	N 19	B 20
1	1	___CCB__		12/21/98 1225																				
1	2	___PB__		12/21/98 1229																				
1	3	___CALB_ICPCALBLK_		12/21/98 1238	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	4	___CAL_ICPCALSTD_		12/21/98 1242	0					0	0							0	0		0			
1	5	___CAL_ICPCALSTD_		12/21/98 1246												0				0				0
1	6	___CAL_ICPCALSTD_		12/21/98 1249			0					0	0	0								0		
1	7	___CAL_ICPCALSTD_		12/21/98 1253				0	0						0		0						0	
1	8	___ICV_V170602C_		12/21/98 1257	0		0	0	0	0	0	0	0	0	0	-	0	0	0	0	-	0	0	-
1	9	___ICB__		12/21/98 1301	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	10	___ISB_V170602B_		12/21/98 1305	0		0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	
1	11	___PB__		12/21/98 1315	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	B
1	12	___LCS_ICPSPK98_		12/21/98 1320	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	13	813435_1____		12/21/98 1324									0								0			
1	14	813435_2____		12/21/98 1328									0								0			
1	15	813435_2__MD__14		12/21/98 1333	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	16	813435_2__MS_ICPSPK98_14		12/21/98 1337	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	17	813435_3____		12/21/98 1341									0								0			
1	18	813435_4____		12/21/98 1346																	0			
1	19	813435_5____		12/21/98 1350																	0			
1	20	813435_6____		12/21/98 1354																	0			
1	21	___CCV_V170602C_		12/21/98 1359																				
1	22	___CCV_V170602C_		12/21/98 1405																				
1	23	___CCB__		12/21/98 1409																				
1	24	___CCV_V170602C_		12/21/98 1430	0		0	0	-	-	-	-	0	0	-	-	-	-	-	-	0	-	-	-
1	25	___CCB__		12/21/98 1435	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	26	813502_11____		12/21/98 1439																	0			
1	27	813502_12____		12/21/98 1443																	0			
1	28	813502_13____		12/21/98 1448																	0			

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1/12/99 10:05

als Analysis (ICAP) | Status.....: RVWD | User Name.....: chh | Location Code..: 57211
hod Code..: 200.7 | Batch Date...: 12/21/98 | QC Code.....: 2007 | Equipment Code.: ICP
ch Code...: 32825 | Batch Time...: 1610 | Calc Code.....: | Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
			TEST POS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLE: Grp Pos	Sample ID	Dilution	Date / Time																				
1 29	813502_14____		12/21/98 1452																	0			
1 30	803554_1____		12/21/98 1456																				
1 31	813554_2____		12/21/98 1501																	0			
1 32	813554_3____		12/21/98 1505																	0			
1 33	813604_19____		12/21/98 1509																	0			
1 34	813604_20____		12/21/98 1514									0								0			
1 35	813604_21____		12/21/98 1518																	0			
1 36	___ISB_V170602B_		12/21/98 1523	0		0	0	0	0	0	0	0	0	^	0	0	0		0		0	0	
1 37	___CCV_V170602C_		12/21/98 1531	0		0	0	^	^	0	^	^	0	^	^	^	0	^	^	0	0	0	^
1 38	___CCB__		12/21/98 1535	0		0	0	0	0	0	0	0	B	0	0	0	B	0	0	0	0	0	0
1 39	813604_22____		12/21/98 1539									0								0			
1 40	813604_23____		12/21/98 1544																	0			
1 41	___ISB_V170602B_		12/21/98 1548	0		0	0	0	0	0	0	0	0	^	0	0	0		0		0	0	
1 42	___CCV_V170602C_		12/21/98 1556	^		0	0	^	^	0	^	0	0	^	^	^	0	^	^	0	0	0	^
1 43	___CCB__		12/21/98 1600	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

			TEST CODE	MO	TI	SN	LI
			TEST POS	21	22	23	24
PLE: Grp Pos	Sample ID	Dilution	Date / Time				
1 1	___CCB__		12/21/98 1225				
1 2	___PB__		12/21/98 1229				
1 3	___CALB_ICPCALBLK_		12/21/98 1238	0	0	0	0
1 4	___CAL_ICPCALSTD_		12/21/98 1242				0
1 5	___CAL_ICPCALSTD_		12/21/98 1246				0
1 6	___CAL_ICPCALSTD_		12/21/98 1249				0
1 7	___CAL_ICPCALSTD_		12/21/98 1253				0
1 8	___ICV_V170602C_		12/21/98 1257	^	0		^

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ıls Analysis (ICAP) | Status.....: RVWD | User Name.....: chh | Location Code..: 57211
ıod Code..: 200.7 | Batch Date...: 12/21/98 | QC Code.....: 2007 | Equipment Code.: ICP
·h Code...: 32825 | Batch Time...: 1610 | Calc Code.....: | Import Code....:

				TEST CODE	MO	TI	SN	LI
PLE:	Grp	Pos	Sample ID	Dilution	TEST POS Date / Time	21	22	23	24
	1	9	___ICB__		12/21/98 1301	0	0	0	0
	1	10	___ISB_V170602B_		12/21/98 1305				
	1	11	___PB__		12/21/98 1315	0	0	0	0
	1	12	___LCS_ICPSPK98_		12/21/98 1320	~			0
	1	13	813435_1____		12/21/98 1324				
	1	14	813435_2____		12/21/98 1328				
	1	15	813435_2__MD__14		12/21/98 1333	0	0	0	0
	1	16	813435_2__MS_ICPSPK98_14		12/21/98 1337	Y			0
	1	17	813435_3____		12/21/98 1341				
	1	18	813435_4____		12/21/98 1346				
	1	19	813435_5____		12/21/98 1350				
	1	20	813435_6____		12/21/98 1354				
	1	21	___CCV_V170602C_		12/21/98 1359				
	1	22	___CCV_V170602C_		12/21/98 1405				
	1	23	___CCB__		12/21/98 1409				
	1	24	___CCV_V170602C_		12/21/98 1430	~	~		0
	1	25	___CCB__		12/21/98 1435	0	0	0	0
	1	26	813502_11____		12/21/98 1439				
	1	27	813502_12____		12/21/98 1443				
	1	28	813502_13____		12/21/98 1448				
	1	29	813502_14____		12/21/98 1452				
	1	30	803554_1____		12/21/98 1456				
	1	31	813554_2____		12/21/98 1501				
	1	32	813554_3____		12/21/98 1505				
	1	33	813604_19____		12/21/98 1509				
	1	34	813604_20____		12/21/98 1514				
	1	35	813604_21____		12/21/98 1518				
	1	36	___ISB_V170602B_		12/21/98 1523				

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ls Analysis (ICAP) Status.....: RVWD User Name.....: chh Location Code..: 57211
od Code..: 200.7 Batch Date...: 12/21/98 QC Code.....: 2007 Equipment Code.: ICP
h Code...: 32825 Batch Time...: 1610 Calc Code.....: Import Code....:

			TEST CODE	M O	T I	S N	L I
'E: Grp Pos	Sample ID	Dilution	TEST POS Date / Time	2 1	2 2	2 3	2 4
1 37	___CCV_V170602C_		12/21/98 1531	-	0		0
1 38	___CCB__		12/21/98 1535	0	0	0	0
1 39	813604_22____		12/21/98 1539				
1 40	813604_23____		12/21/98 1544				
1 41	___ISB_V170602B_		12/21/98 1548				
1 42	___CCV_V170602C_		12/21/98 1556	-	-		0
1 43	___CCB__		12/21/98 1600	0	0	0	0

Method: CLP Standard: cal4
Run Time: 12/21/98 12:42:38

Elem	Al3082	Ca3179	Cr2677	Ni2316	K_7664	Na5889
Avge	2.045	15.05	.2892	.3249	.6576	.6421
SDev	.010	.01	.0017	.0010	.0034	.0047
%RSD	.4703	.0742	.5868	.3047	.5161	.7268
#1	2.052	15.06	.2880	.3256	.6600	.6454
#2	2.038	15.04	.2904	.3242	.6552	.6388

Method: CLP Standard: cal5
Run Time: 12/21/98 12:46:17

Elem	Sb2068	Mg2790	Ag3280	B_2496
Avge	.5656	1.604	.5796	1.143
SDev	.0037	.017	.0034	.014
%RSD	.6501	1.067	.5856	1.212
#1	.5630	1.616	.5820	1.153
#2	.5682	1.591	.5772	1.133

Method: CLP Standard: cal2
Run Time: 12/21/98 12:49:56

Elem	Ba4934	Co2286	Cu3247	Fe2599	V_2924
Avge	1.151	.4127	.2713	57.05	.9680
SDev	.006	.0001	.0016	.15	.0017
%RSD	.5035	.0343	.5734	.2561	.1753
#1	1.156	.4128	.2724	57.16	.9692
#2	1.147	.4126	.2702	56.95	.9668

Method: CLP Standard: cal1
Run Time: 12/21/98 12:53:36

Elem	Be3130	Cd2265	Pb2203	Mn2576	Zn2138
Avge	1.279	1.649	2.111	.6371	.5334
SDev	.006	.002	.008	.0016	.0003
%RSD	.4643	.1200	.3751	.2442	.0530
#1	1.283	1.648	2.106	.6382	.5336
#2	1.275	1.651	2.117	.6360	.5332

Method: CLP Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardiz
Al3082	308.215	cal4	blank	4.91039	-.041738	12/21/98 12:53:
Sb2068	206.838	cal5	blank	7.08717	-.008505	12/21/98 12:53:
Ba4934	493.409	cal2	blank	.868432	.000000	12/21/98 12:53:
Be3130	313.042	cal1	blank	.782167	-.000548	12/21/98 12:53:
Cd2265	226.502	cal1	blank	1.82127	-.004007	12/21/98 12:53:
Ca3179	317.933	cal4	blank	3.32458	-.028591	12/21/98 12:53:
Cr2677	267.716	cal4	blank	3.47102	-.003818	12/21/98 12:53:
Co2286	228.616	cal2	blank	2.42424	-.000485	12/21/98 12:53:
Cu3247	324.754	cal2	blank	3.70645	-.005560	12/21/98 12:53:
Fe2599	259.940	cal2	blank	1.75289	-.007537	12/21/98 12:53:
Pb2203	220.353	cal1	blank	4.73373	.005207	12/21/98 12:53:
Mg2790	279.078	cal5	blank	12.4828	-.016228	12/21/98 12:53:
Mn2576	257.610	cal1	blank	3.14911	-.006298	12/21/98 12:53:
Ni2316	231.604	cal4	blank	3.08261	-.001541	12/21/98 12:53:
K_7664	766.491	cal4	blank	30.5857	-.113167	12/21/98 12:53:
Ag3280	328.068	cal5	blank	1.78468	-.034623	12/21/98 12:53:
Na5889	588.995	cal4	blank	16.8152	-.797040	12/21/98 12:53:
V_2924	292.402	cal2	blank	1.01291	.000506	12/21/98 12:53:
Zn2138	213.856	cal1	blank	5.62641	-.001125	12/21/98 12:53:
B_2496	249.678	cal5	blank	1.91040	-.183972	12/21/98 12:53:
Mo2020	202.030	cal3	blank	11.3443	-.209870	12/21/98 12:53:
Ti3349	334.941	cal6	blank	1.46295	-.002048	12/21/98 12:53:
Sn2839	283.999	cal6	blank	8.98150	.000898	12/21/98 12:53:
Li6707	670.784	cal6	blank	1.26534	-.000253	12/21/98 12:53:

Method: CLP Sample Name: ccv Operator: pal
Run Time: 12/21/98 12:57:05
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.069	Q2.429	1.987	1.989	1.995	2.029	2.010
SDev	.009	.038	.011	.009	.019	.007	.009
%RSD	.4340	1.567	.5500	.4779	.9685	.3244	.4386
#1	2.063	Q2.402	1.979	1.982	1.981	2.025	2.004
#2	2.076	Q2.456	1.995	1.995	2.008	2.034	2.016
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.998	1.987	2.005	1.961	Q1.887	1.975	2.036
SDev	.010	.006	.009	.001	.005	.007	.006
%RSD	.4803	.2901	.4553	.0362	.2739	.3385	.2780
#1	1.992	1.983	1.999	1.960	Q1.883	1.970	2.032
#2	2.005	1.991	2.012	1.961	Q1.891	1.980	2.040
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.98	Q1.900	Q2.156	2.001	2.015	Q2.293	Q1.662
SDev	.04	.002	.019	.010	.002	.016	.055
%RSD	.1949	.1063	.8825	.4880	.0815	.6952	3.282
#1	19.95	Q1.898	Q2.142	1.994	2.014	Q2.282	Q1.623
#2	20.01	1.901	Q2.169	2.008	2.016	Q2.304	Q1.701
Errors	QC Pass	QC Fail	QC Fail	QC Pass	QC Pass	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	1.914	Q.0514	Q1.815
SDev	.010	.0021	.007
%RSD	.5188	4.116	.3649
#1	1.907	Q.0499	Q1.810
#2	1.921	Q.0529	Q1.819
Errors	QC Pass	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Method: CLP Sample Name: ccb Operator: pal
Run Time: 12/21/98 13:01:28
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0044	.4274	.0000	-.0001	-.0007	.0040	-.0017
SDev	.0292	.0872	.0000	.0000	.0026	.0000	.0010
%RSD	658.9	20.41	56.51	.3204	353.9	.0000	56.51
#1	-.0251	.4891	.0000	-.0001	.0011	.0040	-.0024
#2	.0162	.3657	.0000	-.0001	-.0025	.0040	-.0010

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0010	-.0033	-.0014	-.0175	-.0125	-.0006	.0006
SDev	.0021	.0031	.0012	.0268	.0053	.0009	.0048
%RSD	212.0	94.28	88.41	152.8	42.36	140.8	778.8
#1	.0024	-.0011	-.0023	-.0364	-.0162	-.0013	.0040
#2	-.0005	-.0056	-.0005	.0014	-.0087	-.0000	-.0028

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0612	-.0055	.0101	.0015	-.0005	.0011	.0613
SDev	.0043	.0003	.0000	.0003	.0008	.0030	.0048
%RSD	7.071	4.561	.0000	18.74	142.1	259.3	7.857
#1	-.0642	-.0057	.0101	.0017	.0000	.0032	.0579
#2	-.0581	-.0054	.0101	.0013	-.0011	-.0010	.0647

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0020	-.0309	-.0004
SDev	.0000	.0223	.0005
%RSD	.0000	72.19	141.4
#1	.0020	-.0151	-.0008
#2	.0020	-.0467	.0000

Method: CLP Sample Name: isb Operator: pal
Run Time: 12/21/98 13:05:49
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	499.2	.1658	.4850	.4769	.8988	474.0	.4582
SDev	2.4	.0321	.0038	.0022	.0079	.8	.0059
%RSD	.4779	19.33	.7852	.4637	.8830	.1778	1.286
#1	500.8	.1431	.4877	.4785	.9044	474.6	.4540
#2	497.5	.1884	.4823	.4754	.8932	473.4	.4624
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4434	.4707	177.1	.8824	492.8	.4722	.9331
SDev	.0021	.0005	.3	.0215	1.4	.0027	.0139
%RSD	.4631	.1114	.1716	2.433	.2923	.5775	1.490
#1	.4419	.4703	177.3	.8672	493.8	.4742	.9233
#2	.4448	.4711	176.9	.8976	491.8	.4703	.9430
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.1468	.9645	-.0521	.4708	.9568	.0860	.3006
SDev	.0649	.0043	.0071	.0006	.0040	.0035	.0032
%RSD	44.19	.4476	13.69	.1310	.4193	4.086	1.067
#1	-.1927	.9675	-.0572	.4712	.9596	.0835	.3029
#2	-.1009	.9614	-.0471	.4704	.9539	.0885	.2984
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0076	.4716	-.0001
SDev	.0004	.0368	.0005
%RSD	5.439	7.798	424.3
#1	.0079	.4977	-.0005
#2	.0073	.4456	.0003
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Method: CLP Sample Name: pb Operator: pal
Run Time: 12/21/98 13:15:46
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0766	.1757	L.0006	L-.0000	L-.0044	L.1526	L.0021
SDev	.0146	.0381	.0009	.0001	.0015	.0070	.0015
%RSD	19.03	21.68	141.5	5593.	35.30	4.622	71.03
#1	L.0869	.2027	L-.0000	L-.0001	L-.0033	L.1476	L.0010
#2	L.0663	.1488	L.0012	L.0001	L-.0055	L.1576	L.0031
Errors	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0007	L.0026	L.0396	L-.0024	L.0667	L.0016	L-.0022
SDev	.0010	.0052	.0022	.0107	.0265	.0004	.0052
%RSD	141.7	202.0	5.633	443.8	39.74	28.00	242.9
#1	L.0000	L-.0011	L.0412	L.0052	L.0480	L.0019	L-.0059
#2	L-.0015	L.0063	L.0380	L-.0100	L.0855	L.0013	L.0015
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0734	L.0039	L.2270	L.0022	L.0040	.1072	L-.0034
SDev	.1341	.0025	.0071	.0022	.0008	.0054	.0032
%RSD	182.7	64.25	3.143	95.75	21.36	5.042	94.28
#1	L-.0214	L.0057	L.2320	L.0038	L.0046	.1034	L-.0011
#2	L.1682	L.0021	L.2220	L.0007	L.0034	.1110	L-.0057
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0015	.0356	.0005
SDev	.0000	.0445	.0022
%RSD	.0000	125.0	424.3
#1	.0015	.0671	-.0010
#2	.0015	.0041	.0020
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report

Mon 12-21-98 01:24:25 PM

Method: CLP
Sample Name: lcs
Operator: pal
Run Time: 12/21/98 13:20:07
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.290	3.321	1.666	.1912	.1803	192.7	.7906
SDev	.001	.036	.006	.0002	.0044	.8	.0054
%RSD	.0161	1.089	.3538	.1154	2.430	.3915	.6832
#1	4.290	3.346	1.671	.1913	.1772	192.2	.7867
#2	4.289	3.295	1.662	.1910	.1834	193.3	.7944
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.928	.9896	2.151	1.901	200.1	1.840	1.867
SDev	.006	.0016	.000	.017	.0	.003	.003
%RSD	.3023	.1589	.0115	.8790	.0230	.1452	.1399
#1	1.923	.9907	2.151	1.913	200.0	1.838	1.865
#2	1.932	.9885	2.151	1.889	200.1	1.842	1.869
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	205.0	.7778	199.6	1.972	1.887	2.165	.0295
SDev	.5	.0048	1.6	.001	.010	.001	.0080
%RSD	.2532	.6166	.8067	.0357	.5066	.0250	27.20
#1	205.3	.7744	200.7	1.972	1.894	2.166	.0352
#2	204.6	.7812	198.4	1.971	1.880	2.165	.0238
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0047	.0873	1.804
SDev	.0004	.0560	.010
%RSD	8.839	64.12	.5554
#1	.0044	.0477	1.811
#2	.0050	.1268	1.797
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: 813435 -002 Operator: pal
Run Time: 12/21/98 13:28:48
Comment: eei 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1237	L.0141	.1626	L-.0002	L-.0038	190.9	L.0021
SDev	.0104	.0140	.0022	.0001	.0005	1.1	.0005
%RSD	8.411	98.85	1.360	69.68	13.53	.5599	23.72
#1	.1311	L.0043	.1610	L-.0001	L-.0035	190.1	L.0017
#2	.1164	L.0240	.1641	L-.0002	L-.0042	191.6	L.0024
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0012	L.0078	1.175	L-.0034	43.88	3.105	L.0005
SDev	.0003	.0000	.016	.0161	.42	.027	.0052
%RSD	28.17	.0000	1.351	475.5	.9612	.8606	1091.
#1	L.0015	L.0078	1.163	L-.0147	43.58	3.086	L.0042
#2	L.0010	L.0078	1.186	L.0080	44.18	3.124	L-.0032
Errors	LC Low	LC Low	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.741	L-.0027	55.76	L.0001	.0111	.2967	L.0023
SDev	.017	.0015	.80	.0017	.0000	.0011	.0016
%RSD	.3014	56.66	1.442	1352.	.0272	.3643	70.71
#1	5.729	L-.0037	55.19	L.0013	.0111	.2959	L.0034
#2	5.753	L-.0016	56.32	L-.0011	.0111	.2974	L.0011
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0026	-.0254	.0038
SDev	.0017	.0401	.0007
%RSD	62.85	157.9	18.86
#1	.0038	.0030	.0043
#2	.0015	-.0537	.0033
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: 813435 -002 md Operator: pal
Run Time: 12/21/98 13:33:08
Comment: eei 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1286	L-.0439	.1555	L-.0002	L-.0044	193.1	L-.0000
SDev	.0049	.0098	.0040	.0001	.0018	.3	.0044
%RSD	3.771	22.43	2.605	68.72	41.28	.1334	116200.
#1	.1321	L-.0509	.1527	L-.0001	L-.0056	192.9	L-.0031
#2	.1252	L-.0369	.1584	L-.0002	L-.0031	193.3	L.0031
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0024	.0119	1.148	L-.0010	44.11	3.103	L.0045
SDev	.0014	.0005	.001	.0261	.29	.008	.0152
%RSD	56.76	4.419	.0647	2587.	.6605	.2583	339.5
#1	L.0015	.0122	1.149	L-.0195	43.90	3.097	.0153
#2	L.0034	.0115	1.148	L.0175	44.31	3.108	L-.0063
Errors	LC Low	LC Pass	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.778	L.0002	55.33	L.0021	.0100	.3305	L.0034
SDev	.104	.0000	.70	.0020	.0015	.0067	.0064
%RSD	1.797	1.120	1.264	93.11	15.50	2.044	188.6
#1	5.704	L.0002	54.83	L.0036	.0111	.3257	L-.0011
#2	5.851	L.0002	55.82	L.0007	L.0089	.3353	L.0079
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0020	.0205	.0038
SDev	.0008	.0186	.0004
%RSD	40.41	90.42	9.428
#1	.0026	.0336	.0035
#2	.0015	.0074	.0040
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: 813435 -002 ms Operator: pal
Run Time: 12/21/98 13:37:29
Comment: eei 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.589	3.501	1.949	.1999	.1880	370.8	.8147
SDev	.001	.027	.007	.0001	.0005	.6	.0044
%RSD	.0303	.7712	.3339	.0553	.2751	.1736	.5423
#1	4.590	3.520	1.954	.2000	.1883	370.3	.8178
#2	4.588	3.482	1.945	.1999	.1876	371.2	.8115
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.955	1.055	3.109	1.917	245.1	4.707	1.834
SDev	.003	.008	.008	.012	.0	.000	.002
%RSD	.1578	.7454	.2551	.6293	.0008	.0095	.1187
#1	1.957	1.060	3.104	1.925	245.1	4.707	1.836
#2	1.952	1.049	3.115	1.908	245.1	4.706	1.833
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	217.2	.7325	261.3	2.072	1.886	2.406	.0261
SDev	.9	.0005	.4	.000	.006	.001	.0064
%RSD	.4122	.0689	.1411	.0004	.3363	.0561	24.59
#1	217.8	.7328	261.6	2.072	1.890	2.407	.0216
#2	216.6	.7321	261.0	2.072	1.881	2.405	.0306
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0056	.0963	1.874
SDev	.0000	.0093	.012
%RSD	.0000	9.617	.6588
#1	.0056	.0898	1.883
#2	.0056	.1029	1.866
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: ccv Operator: pal
Run Time: 12/21/98 14:05:06
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q2.300	Q2.638	Q2.314	2.073	Q1.787	Q1.770	1.909
SDev	.020	.106	.003	.003	.009	.002	.000
%RSD	.8758	4.025	.1221	.1228	.4756	.1328	.0258
#1	Q2.286	Q2.563	Q2.312	2.071	Q1.781	Q1.768	1.909
#2	Q2.314	Q2.713	Q2.316	2.075	Q1.793	Q1.771	1.909
Errors	QC Fail	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.897	Q2.300	1.980	Q1.761	1.978	1.908	Q1.879
SDev	.001	.008	.000	.045	.004	.002	.008
%RSD	.0543	.3647	.0006	2.546	.1790	.1169	.4177
#1	Q1.896	Q2.294	1.980	Q1.729	1.976	1.907	Q1.884
#2	Q1.898	Q2.306	1.980	Q1.793	1.981	1.910	Q1.873
Errors	QC Fail	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q23.66	1.934	Q2.386	2.011	1.939	Q2.264	Q1.657
SDev	.27	.002	.021	.001	.002	.001	.038
%RSD	1.134	.0913	.8970	.0498	.0820	.0239	2.323
#1	Q23.47	1.933	Q2.371	2.011	1.940	Q2.264	Q1.630
#2	Q23.85	1.935	Q2.401	2.010	1.937	Q2.264	Q1.685
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	2.012	Q.0265	Q2.349
SDev	.004	.0411	.016
%RSD	.1851	155.0	.6855
#1	2.010	Q.0556	Q2.338
#2	2.015	Q-.0026	Q2.361
Errors	QC Pass	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

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Method: CLP Sample Name: ccb Operator: pal
Run Time: 12/21/98 14:09:28
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0123	.3728	.0003	.0001	-.0031	.0003	-.0014
SDev	.0014	.0722	.0004	.0000	.0008	.0005	.0054
%RSD	11.30	19.38	141.6	.3147	24.97	141.4	388.9
#1	.0133	.4239	.0005	.0001	-.0025	.0000	-.0052
#2	.0113	.3217	-.0000	.0001	-.0036	.0007	.0024

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0022	-.0004	-.0000	.0095	-.0162	-.0019	.0012
SDev	.0010	.0010	.0007	.0234	.0000	.0000	.0031
%RSD	47.18	282.8	214300.	247.5	.0801	.0344	248.1
#1	.0029	.0004	.0005	.0260	-.0162	-.0019	-.0009
#2	.0015	-.0011	-.0005	-.0071	-.0162	-.0019	.0034

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0428	-.0032	-.1160	.0001	.0006	-.0266	.0352
SDev	.0822	.0015	.0024	.0003	.0008	.0011	.0064
%RSD	191.9	47.14	2.050	279.4	140.1	4.070	18.25
#1	.0153	-.0021	-.1143	.0003	.0000	-.0273	.0397
#2	-.1009	-.0043	-.1177	-.0001	.0011	-.0258	.0306

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0032	.0018	.0001
SDev	.0017	.0090	.0005
%RSD	51.43	490.4	424.3
#1	.0044	-.0046	.0005
#2	.0020	.0082	-.0003

Method: CLP Sample Name: ccv Operator: pal
Run Time: 12/21/98 14:30:51
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.075	Q2.785	2.071	1.924	Q1.722	Q1.729	Q1.838
SDev	.015	.196	.046	.031	.016	.004	.014
%RSD	.7310	7.050	2.212	1.603	.9276	.2176	.7716
#1	2.065	Q2.646	2.038	1.902	Q1.710	Q1.726	Q1.828
#2	2.086	Q2.924	Q2.103	1.945	Q1.733	Q1.731	Q1.848
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.808	2.086	1.900	Q1.707	Q1.858	Q1.817	Q1.812
SDev	.016	.043	.024	.019	.019	.018	.002
%RSD	.8911	2.060	1.258	1.094	1.027	1.006	.0968
#1	Q1.797	2.056	Q1.883	Q1.721	Q1.845	Q1.805	Q1.813
#2	Q1.820	Q2.117	1.917	Q1.694	Q1.872	Q1.830	Q1.810
Errors	QC Fail	QC Pass	QC Pass	QC Fail	QC Fail	QC Fail	QC Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q21.40	Q1.834	2.075	Q1.889	Q1.851	Q2.118	Q1.643
SDev	.36	.022	.033	.022	.015	.039	.034
%RSD	1.698	1.225	1.604	1.178	.8223	1.836	2.051
#1	Q21.14	Q1.818	2.051	Q1.873	Q1.840	2.091	Q1.619
#2	Q21.66	Q1.850	2.099	1.904	Q1.862	Q2.146	Q1.666
Errors	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	Q1.868	Q.0573	2.089
SDev	.034	.0502	.047
%RSD	1.817	87.64	2.270
#1	Q1.844	Q.0927	2.055
#2	Q1.892	Q.0218	Q2.122
Errors	QC Fail	QC Fail	QC Pass
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

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Method: CLP | Sample Name: ccb | Operator: pal
Run Time: 12/21/98 14:35:13
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0167	.4195	-.0000	-.0000	-.0013	-.0000	.0017
SDev	.0132	.0481	.0000	.0001	.0013	.0009	.0010
%RSD	79.03	11.46	56.50	5430.	100.9	108e6	56.50
#1	.0260	.4536	-.0000	.0001	-.0022	-.0007	.0024
#2	.0074	.3855	-.0000	-.0001	-.0004	.0007	.0010

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0012	.0004	.0093	-.0047	.0023	-.0003	-.0009
SDev	.0010	.0010	.0010	.0127	.0194	.0004	.0000
%RSD	84.84	282.8	10.68	268.3	831.7	142.4	.0810
#1	.0005	.0011	.0086	.0042	-.0114	.0000	-.0009
#2	.0019	-.0004	.0100	-.0137	.0160	-.0006	-.0009

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0122	-.0043	-.0673	.0022	.0006	-.0187	.0329
SDev	.0216	.0020	.0048	.0019	.0008	.0008	.0128
%RSD	176.8	47.15	7.071	83.44	138.7	4.329	39.01
#1	.0031	-.0057	-.0639	.0036	.0012	-.0193	.0420
#2	-.0275	-.0029	-.0706	.0009	.0000	-.0181	.0238

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0023	.0333	.0005
SDev	.0004	.0746	.0007
%RSD	17.68	224.0	141.4
#1	.0026	.0861	.0010
#2	.0020	-.0194	.0000

Method: CLP Sample Name: 803554 -01 Operator: pal
Run Time: 12/21/98 14:56:57
Comment: eei 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4463	L.0176	.1706	L-.0001	L-.0017	129.1	L.0076
SDev	.0514	.0209	.0017	.0000	.0044	.5	.0083
%RSD	11.51	118.4	1.007	.4596	251.7	.3530	109.4
#1	.4100	L.0324	.1718	L-.0001	L-.0048	128.8	.0135
#2	.4827	L.0029	.1693	L-.0001	L.0014	129.4	L.0017
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0034	L.0004	.6433	L.0017	36.66	1.317	L.0070
SDev	.0034	.0000	.0072	.0060	.04	.004	.0018
%RSD	101.1	.0000	1.117	364.0	.1104	.2706	24.84
#1	L.0010	L.0004	.6382	L-.0026	36.64	1.315	L.0083
#2	L.0058	L.0004	.6484	L.0059	36.69	1.320	L.0058
Errors	LC Low	LC Low	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.814	L-.0061	56.90	L.0024	.0123	.5445	L-.0091
SDev	.195	.0005	.12	.0004	.0016	.0014	.0016
%RSD	4.043	8.209	.2132	17.36	12.99	.2481	17.68
#1	4.677	L-.0058	56.98	L.0021	.0112	.5454	L-.0079
#2	4.952	L-.0065	56.81	L.0027	.0135	.5435	L-.0102
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0085	.0180	.0033
SDev	.0050	.0107	.0011
%RSD	58.52	59.31	32.64
#1	.0050	.0105	.0025
#2	.0120	.0256	.0040
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: 813554 -002 Operator: pal
Run Time: 12/21/98 15:01:18
Comment: eei 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.7277	L-.0113	.0691	L-.0000	L-.0019	129.6	L.0003
SDev	.0063	.0583	.0005	.0001	.0023	.5	.0088
%RSD	.8599	515.9	.7122	8225.	124.8	.3870	2563.
#1	.7233	L-.0525	.0688	L.0001	L-.0035	129.3	L.0066
#2	.7321	L.0299	.0695	L-.0001	L-.0002	130.0	L-.0059
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0007	L-.0004	1.379	L-.0194	37.38	1.404	L.0074
SDev	.0003	.0010	.016	.0127	.40	.011	.0065
%RSD	47.51	282.8	1.186	65.74	1.067	.7929	88.67
#1	L.0005	L.0004	1.367	L-.0104	37.10	1.397	.0120
#2	L.0010	L-.0011	1.391	L-.0283	37.66	1.412	L.0027
Errors	LC Low	LC Low	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.548	.0162	46.43	L.0015	.0100	.5278	L-.0170
SDev	.030	.0033	1.04	.0016	.0016	.0114	.0000
%RSD	.5457	20.25	2.238	107.8	15.80	2.150	.0000
#1	5.527	.0185	45.70	L.0026	.0111	.5198	L-.0170
#2	5.570	.0139	47.17	L.0004	L.0089	.5359	L-.0170
Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0135	.0181	.0035
SDev	.0012	.0821	.0011
%RSD	9.223	454.2	30.30
#1	.0143	.0761	.0043
#2	.0126	-.0400	.0028
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

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Method: CLP Sample Name: 813554 -003 Operator: pal
Run Time: 12/21/98 15:05:39
Comment: eei 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1817	L.0227	.1078	L-.0002	L-.0066	L.1297	L-.0007
SDev	.0021	.0200	.0004	.0001	.0010	.0009	.0005
%RSD	1.150	88.41	.3418	71.03	15.67	.7252	70.85
#1	.1802	L.0369	.1075	L-.0002	L-.0058	L.1290	L-.0010
#2	.1832	L.0085	.1080	L-.0001	L-.0073	L.1303	L-.0003
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L-.0015	L.0011	.1197	L-.0034	L.0329	L-.0003	L-.0018
SDev	.0007	.0010	.0005	.0147	.0406	.0004	.0013
%RSD	47.13	94.28	.4137	430.1	123.6	152.5	70.83
#1	L-.0019	L.0004	.1194	L.0070	L.0041	L-.0006	L-.0028
#2	L-.0010	L.0019	.1201	L-.0138	L.0616	L.0000	L-.0009
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	LC Low	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0703	L-.0020	1.078	L.0010	.0248	.4959	L-.0193
SDev	.0346	.0003	.021	.0013	.0032	.0100	.0160
%RSD	49.19	12.87	1.986	124.6	12.93	2.016	83.19
#1	L.0459	L-.0018	1.063	L.0019	.0270	.4889	L-.0079
#2	L.0948	L-.0021	1.093	L.0001	.0225	.5030	L-.0306
Errors	LC Low	LC Low	LC Pass	LC Low	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0006	-.0754	-.0008
SDev	.0004	.0210	.0004
%RSD	70.71	27.89	47.14
#1	.0003	-.0903	-.0010
#2	.0009	-.0605	-.0005
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: CLP Sample Name: isb Operator: pal
Run Time: 12/21/98 15:23:01
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	514.4	-.0590	.5046	.4681	.8049	427.3	.4280
SDev	.9	.0270	.0001	.0012	.0059	.1	.0015
%RSD	.1841	45.81	.0243	.2592	.7355	.0200	.3424
#1	515.0	-.0782	.5047	.4690	.8007	427.4	.4291
#2	513.7	-.0399	.5045	.4673	.8091	427.3	.4270
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4197	.5007	167.2	Q.7954	481.3	.4424	.8489
SDev	.0034	.0032	.0	.0213	.4	.0004	.0061
%RSD	.8174	.6281	.0174	2.680	.0845	.0998	.7209
#1	.4172	.5030	167.2	Q.7803	481.5	.4427	.8533
#2	.4221	.4985	167.2	.8104	481.0	.4421	.8446
Errors	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.1590	.9522	-.1497	.4499	.9205	.0650	.2552
SDev	.0303	.0008	.0024	.0036	.0008	.0046	.0064
%RSD	19.04	.0791	1.589	.7955	.0869	7.071	2.514
#1	-.1376	.9517	-.1513	.4524	.9211	.0617	.2598
#2	-.1805	.9528	-.1480	.4474	.9199	.0682	.2507
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0073	.3917	-.0003
SDev	.0008	.0671	.0000
%RSD	11.31	17.13	.0000
#1	.0067	.4392	-.0003
#2	.0079	.3443	-.0003
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Analysis Report QC Standard Mon 12-21-98 03:35:24 PM page

Method: CLP Sample Name: ccv Operator: pal
Run Time: 12/21/98 15:31:06
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.096	Q2.149	2.095	1.979	Q1.816	Q1.813	1.934
SDev	.016	.137	.014	.006	.007	.000	.004
%RSD	.7614	6.389	.6506	.2906	.3972	.0259	.2034
#1	Q2.107	2.052	Q2.105	1.983	Q1.821	Q1.813	1.932
#2	2.085	Q2.246	2.086	1.975	Q1.810	Q1.813	1.937
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Fail	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q1.882	Q2.103	2.053	Q1.780	Q1.873	Q1.891	1.901
SDev	.002	.017	.003	.038	.030	.003	.013
%RSD	.1095	.7977	.1316	2.144	1.604	.1653	.6881
#1	Q1.883	Q2.115	2.055	Q1.753	Q1.852	Q1.893	Q1.892
#2	Q1.880	2.091	2.051	Q1.807	Q1.895	Q1.889	1.910
Errors	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail	QC Fail	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	Q21.40	Q1.888	2.088	1.946	1.915	Q2.170	Q1.563
SDev	.32	.003	.029	.003	.014	.001	.027
%RSD	1.475	.1738	1.366	.1320	.7080	.0498	1.745
#1	Q21.63	Q1.890	Q2.109	1.948	1.925	Q2.171	Q1.544
#2	Q21.18	Q1.885	2.068	1.944	1.906	Q2.170	Q1.583
Errors	QC Fail	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	1.908	Q.0427	2.063
SDev	.003	.0132	.028
%RSD	.1410	30.96	1.379
#1	1.910	Q.0521	2.083
#2	1.906	Q.0334	2.043
Errors	QC Pass	QC Fail	QC Pass
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Mon 12-21-98 03:39:46 PM page 1

Method: CLP Sample Name: ccb Operator: pal
Run Time: 12/21/98 15:35:28
Comment: 200.7/6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0118	.3302	-.0000	.0001	-.0027	-.0003	.0069
SDev	.0104	.0601	.0000	.0000	.0023	.0005	.0015
%RSD	88.44	18.19	21.22	.1711	84.58	141.4	21.22
#1	.0191	.2877	-.0000	.0001	-.0011	-.0007	.0059
#2	.0044	.3727	-.0000	.0001	-.0044	.0000	.0080

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0010	-.0007	.0519	.0076	.0016	.0003	.0117
SDev	.0021	.0005	.0007	.0087	.0265	.0004	.0083
%RSD	211.7	70.71	1.433	115.3	1664.	137.3	70.71
#1	-.0024	-.0011	.0514	.0014	-.0171	.0006	.0176
#2	.0005	-.0004	.0524	.0137	.0203	.0000	.0059

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0428	-.0064	-.0656	.0012	.0005	-.0170	.0261
SDev	.0043	.0005	.0166	.0001	.0040	.0011	.0032
%RSD	10.10	7.853	25.38	11.83	759.9	6.356	12.30
#1	-.0459	-.0061	-.0538	.0011	-.0023	-.0178	.0284
#2	-.0398	-.0068	-.0773	.0013	.0034	-.0162	.0238

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0015	-.0200	-.0006
SDev	.0000	.0194	.0002
%RSD	.0000	96.98	28.28
#1	.0015	-.0337	-.0008
#2	.0015	-.0063	-.0005

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Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32951

Status.....: RVWD
Batch Date...: 12/23/98
Batch Time...: 1110

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 1	___CALB_ICPCALBLK_		12/22/98 2137	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 2	___CAL_ICPCALSTD_		12/22/98 2142	0					0	0							0	0		0			
1 3	___CAL_ICPCALSTD_		12/22/98 2146												0				0				0
1 4	___CAL_ICPCALSTD_		12/22/98 2150			0					0	0	0								0		
1 5	___CAL_ICPCALSTD_		12/22/98 2155				0	0						0		0						0	
1 6	___ICV_V170602C_		12/22/98 2159	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
1 7	___ICB__		12/22/98 2204	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 8	___ISB_V170602B_		12/22/98 2208	0		0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	
1 9	___PB__		12/22/98 2218	B		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	B
1 10	___LCS_ICPSPK99_		12/22/98 2223	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 11	813659_6____		12/22/98 2228			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 12	813659_6__MD__11		12/22/98 2233	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 13	813659_6__MS_ICPSPK99_11		12/22/98 2238	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 14	813554_1____		12/22/98 2243									0								0			
1 15	813659_1____		12/22/98 2248	0		0	0		0	0	0	0	0		0	0	0	0	0	0	0	0	
1 16	813659_2____		12/22/98 2253	0		0	0		0	0	0	0	0		0	0	0	0	0	0	0	0	
1 17	813659_3____		12/22/98 2258	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 18	813659_5____		12/22/98 2302			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 19	___CCV_V170602C_		12/22/98 2307	0		0	0	0	0	0	0	0	0	0		0	0	0	0		0	0	0
1 20	___CCB__		12/22/98 2312	0		0	0	0	0	0	0	0	0	B	0	0	0	0	0	0	0	0	0
1 21	813788_1____		12/22/98 2317	0		0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	
1 22	813788_2____		12/22/98 2322			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 23	813788_3____		12/22/98 2327	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 24	813788_4____		12/22/98 2332	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 25	813788_5____		12/22/98 2337			0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
1 26	813788_7____		12/22/98 2342	0		0	0		0	0	0	0	0		0	0	0	0	0	0	0	0	
1 27	813958_1_T___		12/22/98 2347	0									0									0	
1 28	___ISB_V170602B_		12/22/98 2352	0		0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	

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Metals Analysis (ICAP) | Status.....: RVWD | User Name.....: chh | Location Code..: 57211
Method Code..: 200.7 | Batch Date...: 12/23/98 | QC Code.....: 2007 | Equipment Code.: ICP
Batch Code...: 32951 | Batch Time...: 1110 | Calc Code.....: | Import Code....:

			TEST CODE	AL	SB	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	NI	K	AG	NA	V	ZN	B
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 29	___CCV_V170602C_		12/22/98 2359	0		0	0	0	0	^	0	^	^	0	^	0	0	0	^	^	0	0	0
1 30	___CCB__		12/23/98 0004	0		0	0	0	0	B	0	0	0	0	0	0	0	0	0	0	0	0	0

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	21	22	23	24
1 1	___CALB_ICPCALBLK_		12/22/98 2137	0	0	0	0
1 2	___CAL_ICPCALSTD_		12/22/98 2142				
1 3	___CAL_ICPCALSTD_		12/22/98 2146				
1 4	___CAL_ICPCALSTD_		12/22/98 2150				
1 5	___CAL_ICPCALSTD_		12/22/98 2155				
1 6	___ICV_V170602C_		12/22/98 2159	^	^		^
1 7	___ICB__		12/22/98 2204	0	0	0	0
1 8	___ISB_V170602B_		12/22/98 2208				
1 9	___PB__		12/22/98 2218	0	0	0	0
1 10	___LCS_ICPSPK99_		12/22/98 2223				^
1 11	813659_6____		12/22/98 2228				
1 12	813659_6__MD__11		12/22/98 2233	0	0	0	0
1 13	813659_6__MS_ICPSPK99_11		12/22/98 2238				Y
1 14	813554_1____		12/22/98 2243				
1 15	813659_1____		12/22/98 2248				
1 16	813659_2____		12/22/98 2253				
1 17	813659_3____		12/22/98 2258				
1 18	813659_5____		12/22/98 2302				
1 19	___CCV_V170602C_		12/22/98 2307	^	^		^
1 20	___CCB__		12/22/98 2312	0	0	0	0
1 21	813788_1____		12/22/98 2317				

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Metals Analysis (ICAP)
Method Code..: 200.7
Batch Code...: 32951

Status.....: RVWD
Batch Date...: 12/23/98
Batch Time...: 1110

User Name.....: chh
QC Code.....: 2007
Calc Code.....:

Location Code..: 57211
Equipment Code.: ICP
Import Code....:

			TEST CODE	MO	TI	SN	LI
SAMPLE: Grp Pos	Sample ID	Dilution	TEST POS / Date / Time	21	22	23	24
1 22	813788_2____		12/22/98 2322				
1 23	813788_3____		12/22/98 2327				
1 24	813788_4____		12/22/98 2332				
1 25	813788_5____		12/22/98 2337				
1 26	813788_7____		12/22/98 2342				
1 27	813958_1_T___		12/22/98 2347				
1 28	___ISB_V170602B_		12/22/98 2352				
1 29	___CCV_V170602C_		12/22/98 2359	^	^		^
1 30	___CCB__		12/23/98 0004	0	0	0	0

Standardization Rpt. Tue 12-22-98 09:42:19 PM page 1

Method: CLP Standard: blank
Run Time: 12/22/98 21:37:28

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Avge	.0023	-.0055	-.0010	.0006	-.0007	.0081	.0030
SDev	.0004	.0035	.0011	.0003	.0013	.0018	.0023
%RSD	18.45	64.28	113.1	47.14	181.8	22.70	75.42
#1	.0026	-.0030	-.0018	.0004	-.0016	.0068	.0014
#2	.0020	-.0080	-.0002	.0008	.0002	.0094	.0046

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Avge	-.0013	.0002	.0265	.0022	.0064	.0102	-.0032
SDev	.0018	.0014	.0001	.0073	.0003	.0003	.0034
%RSD	141.4	707.1	.5337	334.3	4.419	2.773	106.1
#1	-.0026	-.0008	.0264	-.0030	.0062	.0104	-.0056
#2	.0000	.0012	.0266	.0074	.0066	.0100	-.0008

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Avge	.0026	.0295	.2463	-.0012	.0006	.3274	.0569
SDev	.0031	.0004	.0004	.0006	.0000	.0000	.0016
%RSD	119.7	1.438	.1723	47.14	.0000	.0000	2.734
#1	.0004	.0298	.2460	-.0008	.0006	.3274	.0558
#2	.0048	.0292	.2466	-.0016	.0006	.3274	.0580

Elem	Ti3349	Sn2839	Li6707
Avge	.0020	-.0117	-.0009
SDev	.0008	.0092	.0016
%RSD	42.43	78.57	172.8
#1	.0014	-.0182	-.0020
#2	.0026	-.0052	.0002

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32951
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12/23/98

Standardization Rpt. Tue 12-22-98 09:46:33 PM page 1

Method: CLP Standard: cal4
Run Time: 12/22/98 21:42:23

Elem	Al3082	Ca3179	Cr2677	Ni2316	K_7664	Na5889
Avge	1.545	20.12	.2849	.4226	.4541	.5774
SDev	.023	.27	.0047	.0003	.0083	.0054
%RSD	1.520	1.323	1.638	.0669	1.837	.9307
#1	1.561	20.31	.2882	.4224	.4600	.5812
#2	1.528	19.94	.2816	.4228	.4482	.5736

Method: CLP Standard: cal5
Run Time: 12/22/98 21:46:37

Elem	Sb2068	Mg2790	Ag3280	B_2496
Avge	.7102	1.913	.4947	1.099
SDev	.0232	.011	.0001	.001
%RSD	3.266	.5691	.0286	.0772
#1	.7266	1.921	.4948	1.099
#2	.6938	1.906	.4946	1.100

Method: CLP Standard: cal2
Run Time: 12/22/98 21:50:50

Elem	Ba4934	Co2286	Cu3247	Fe2599	V_2924
Avge	.6747	.4768	.1771	55.93	.7749
SDev	.0106	.0045	.0030	.91	.0140
%RSD	1.572	.9491	1.677	1.632	1.807
#1	.6672	.4736	.1750	55.28	.7650
#2	.6822	.4800	.1792	56.57	.7848

Standardization Rpt. Tue 12-22-98 09:59:01 PM page 1

Method: CLP Standard: cal1
Run Time: 12/22/98 21:55:02

Elem	Be3130	Cd2265	Pb2203	Mn2576	Zn2138
Avge	1.013	2.584	3.509	.6421	.6306
SDev	.001	.002	.018	.0013	.0026
%RSD	.1395	.0657	.5038	.1982	.4037
#1	1.014	2.582	3.521	.6430	.6324
#2	1.012	2.585	3.496	.6412	.6288

Standardization Report Tue 12-22-98 09:59:01 PM page 1

Method: CLP Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Al3082	308.215	cal4	blank	6.48382	-.014913	12/22/98 09:55:02
Sb2068	206.838	cal5	blank	5.58893	.030739	12/22/98 09:55:02
Ba4934	493.409	cal2	blank	1.47995	.001480	12/22/98 09:55:02
Be3130	313.042	cal1	blank	.987362	-.000592	12/22/98 09:55:02
Cd2265	226.502	cal1	blank	1.16086	.000813	12/22/98 09:55:02
Ca3179	317.933	cal4	blank	2.48555	-.020133	12/22/98 09:55:02
Cr2677	267.716	cal4	blank	3.54736	-.010642	12/22/98 09:55:02
Co2286	228.616	cal2	blank	2.09161	.002719	12/22/98 09:55:02
Cu3247	324.754	cal2	blank	5.65291	-.001131	12/22/98 09:55:02
Fe2599	259.940	cal2	blank	1.78889	-.047406	12/22/98 09:55:02
Pb2203	220.353	cal1	blank	2.85201	-.006274	12/22/98 09:55:02
Mg2790	279.078	cal5	blank	10.4882	-.067125	12/22/98 09:55:02
Mn2576	257.610	cal1	blank	3.16506	-.032284	12/22/98 09:55:02
Ni2316	231.604	cal4	blank	2.34852	.007515	12/22/98 09:55:02
K_7664	766.491	cal4	blank	44.2968	-.115172	12/22/98 09:55:02
Ag3280	328.068	cal5	blank	2.14914	-.063400	12/22/98 09:55:02
Na5889	588.995	cal4	blank	30.2024	-7.43884	12/22/98 09:55:02
V_2924	292.402	cal2	blank	1.26401	.001517	12/22/98 09:55:02
Zn2138	213.856	cal1	blank	4.76190	-.002857	12/22/98 09:55:02
B_2496	249.678	cal5	blank	2.59134	-.848406	12/22/98 09:55:02
Mo2020	202.030	cal3	blank	10.5652	-.601162	12/22/98 09:55:02
Ti3349	334.941	cal6	blank	1.46308	-.002926	12/22/98 09:55:02
Sn2839	283.999	cal6	blank	8.88889	.104000	12/22/98 09:55:02
Li6707	670.784	cal6	blank	1.26517	.001139	12/22/98 09:55:02

Analysis Report QC Standard Tue 12-22-98 10:03:56 PM page 1

Method: CLP Sample Name: ccv1 Operator: chh
Run Time: 12/22/98 21:59:05
Comment: 1222-2 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.058	Q2.315	1.999	1.995	1.995	2.002	1.949
SDev	.020	.102	.037	.035	.039	.039	.040
%RSD	.9701	4.399	1.874	1.769	1.959	1.967	2.055
#1	2.044	Q2.243	1.973	1.970	1.967	1.974	1.921
#2	2.072	Q2.387	2.026	2.020	2.023	2.029	1.977
Errors	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.976	1.963	1.947	2.036	Q1.875	1.984	1.997
SDev	.046	.035	.038	.015	.022	.039	.036
%RSD	2.335	1.792	1.941	.7431	1.162	1.964	1.828
#1	1.943	1.938	1.920	2.026	Q1.860	1.957	1.971
#2	2.008	1.988	1.974	2.047	Q1.891	2.012	2.022
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.04	1.928	2.024	2.010	2.015	2.083	Q1.777
SDev	.41	.034	.081	.043	.031	.034	.052
%RSD	2.031	1.781	4.010	2.140	1.545	1.653	2.943
#1	19.76	1.904	1.966	1.979	1.993	2.059	Q1.740
#2	20.33	1.953	2.081	2.040	2.037	Q2.108	Q1.814
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	Q1.454	Q.5623	Q.7359
SDev	.031	.0409	.0122
%RSD	2.134	7.270	1.653
#1	Q1.432	Q.5334	Q.7273
#2	Q1.476	Q.5912	Q.7446
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Tue 12-22-98 10:08:50 PM page 1

Method: CLP Sample Name: ccb1 Operator: chh
Run Time: 12/22/98 22:04:00
Comment: 1222-2 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0227	.2668	.0015	.0012	.0046	.0017	-.0082
SDev	.0018	.1738	.0000	.0000	.0054	.0021	.0005
%RSD	8.093	65.14	.0042	.0272	116.5	121.2	6.137
#1	.0214	.3897	.0015	.0012	.0008	.0002	-.0078
#2	.0240	.1439	.0015	.0012	.0085	.0032	-.0085

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	.0023	-.0344	-.0205	-.0172	-.0000	.0075
SDev	.0053	.0016	.0003	.0242	.0252	.0009	.0120
%RSD	149.7	70.71	.7365	118.0	146.4	17280.	159.1
#1	-.0002	.0011	-.0342	-.0377	-.0351	.0006	-.0009
#2	.0073	.0034	-.0345	-.0034	.0006	-.0006	.0160

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0266	.0028	.2356	.0022	.0014	.0098	.0666
SDev	.0000	.0018	.0043	.0004	.0034	.0015	.0179
%RSD	.0000	65.31	1.813	15.95	241.0	14.89	26.94
#1	.0266	.0015	.2386	.0025	.0038	.0109	.0792
#2	.0266	.0041	.2326	.0020	-.0010	.0088	.0539

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0018	.0576	.0010
SDev	.0004	.0588	.0002
%RSD	23.57	102.1	17.68
#1	.0020	.0992	.0009
#2	.0015	.0160	.0011

Analysis Report QC Standard Tue 12-22-98 10:13:46 PM page 1

Method: CLP Sample Name: isb Operator: chh
Run Time: 12/22/98 22:08:54
Comment: 1222-2 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	475.1	.1784	.4621	.4539	.8332	453.8	.4169
SDev	9.2	.0174	.0065	.0091	.0243	8.9	.0130
%RSD	1.944	9.756	1.404	1.998	2.914	1.969	3.124
#1	468.6	.1661	.4575	.4475	.8160	447.5	.4077
#2	481.7	.1907	.4667	.4603	.8504	460.1	.4261
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.0		.5000	.5000	1.000	500.0	.5000
Range	20.00		20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4145	.4262	175.5	1.060	452.1	.4438	.8378
SDev	.0077	.0000	3.3	.056	9.3	.0033	.0312
%RSD	1.853	.0000	1.871	5.282	2.060	.7405	3.722
#1	.4091	.4262	173.1	1.021	445.5	.4415	.8157
#2	.4200	.4262	177.8	1.100	458.7	.4461	.8598
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.5000	.5000	200.0	1.000	500.0	.5000	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0753	.9004	-.7218	.4387	.8844	.0565	.2250
SDev	.0439	.0175	.0854	.0087	.0132	.0051	.0000
%RSD	58.23	1.948	11.83	1.983	1.488	9.082	.0000
#1	-.0443	.8880	-.6614	.4325	.8751	.0529	.2250
#2	-.1063	.9128	-.7822	.4448	.8937	.0601	.2250
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value		1.000		.5000	1.000		
Range		20.00		20.00	20.00		

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0157	.9769	.0020
SDev	.0010	.1343	.0027
%RSD	6.608	13.75	132.6
#1	.0164	.8819	.0039
#2	.0149	1.072	.0001
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Analysis Report Tue 12-22-98 10:23:31 PM page 1

Method: CLP Sample Name: pb Operator: chh
Run Time: 12/22/98 22:18:40
Comment: 1222-2 6010
Mode: CONC Corr. Factor: .5

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1138	L.0498	L.0007	L.0000	L.0017	L.0641	L-.0041
SDev	.0073	.0375	.0000	.0000	.0004	.0093	.0023
%RSD	6.437	75.20	.0379	499.2	23.56	14.53	55.45
#1	.1086	.0763	L.0007	L.0000	L.0020	L.0707	L-.0025
#2	.1190	L.0233	L.0007	L-.0000	L.0014	L.0575	L-.0057
Errors	LC Pass	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0020	L-.0006	L.0302	L-.0073	L.0304	L-.0009	L-.0008
SDev	.0018	.0000	.0044	.0200	.0051	.0000	.0032
%RSD	89.27	.0000	14.64	272.3	16.82	.0858	383.2
#1	L.0007	L-.0006	L.0334	L.0068	L.0340	L-.0009	L-.0031
#2	L.0032	L-.0006	L.0271	L-.0214	L.0268	L-.0009	L.0014
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0598	L.0043	L.2114	L-.0004	L.0040	.1950	L-.0005
SDev	.0157	.0023	.0149	.0022	.0003	.0053	.0075
%RSD	26.19	53.01	7.071	499.2	8.123	2.725	1414.
#1	L.0487	L.0059	L.2008	L-.0020	L.0043	.1912	L.0048
#2	L.0709	L.0027	L.2220	L.0011	L.0038	.1988	L-.0058
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0002	.0207	-.0001
SDev	.0007	.0106	.0000
%RSD	330.0	51.38	.0000
#1	-.0003	.0282	-.0001
#2	.0007	.0132	-.0001
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report

Tue 12-22-98 10:28:26 PM

Method: CLP
Sample Name: lcs
Run Time: 12/22/98 22:23:35
Operator: chh
Comment: 1222-2 6010
Mode: CONC Corr. Factor: .5

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.961	1.320	.9224	.0887	.0857	92.04	.3578
SDev	.032	.028	.0111	.0011	.0002	1.06	.0078
%RSD	1.611	2.123	1.202	1.248	.1902	1.155	2.168
#1	1.938	1.340	.9146	.0879	.0858	91.29	.3523
#2	1.983	1.300	.9302	.0895	.0856	92.79	.3633
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8724	.4423	.9722	.8774	92.31	.9156	.8929
SDev	.0138	.0044	.0140	.0309	1.11	.0101	.0090
%RSD	1.576	.9940	1.444	3.522	1.201	1.100	1.007
#1	.8627	.4392	.9623	.8555	91.52	.9084	.8865
#2	.8821	.4454	.9822	.8992	93.09	.9227	.8992
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	96.95	.3762	88.69	.9430	.9336	1.035	L-.0000
SDev	1.29	.0040	1.28	.0112	.0085	.015	.0082
%RSD	1.331	1.054	1.447	1.187	.9074	1.435	221e6
#1	96.04	.3734	87.78	.9351	.9276	1.024	L-.0058
#2	97.86	.3790	89.60	.9510	.9396	1.045	L.0058
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0038	.1967	.3460
SDev	.0008	.0033	.0039
%RSD	21.76	1.678	1.138
#1	.0044	.1991	.3432
#2	.0032	.1944	.3487
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Tue 12-22-98 10:33:21 PM page 1

Method: CLP Sample Name: 813659 -006 Operator: chh
Run Time: 12/22/98 22:28:30
Comment: 1222-2 6010
Mode: CONC Corr. Factor: .5

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0973	L.0468	L.0013	L-.0000	L-.0003	L.1250	L-.0051
SDev	.0197	.0135	.0001	.0000	.0015	.0023	.0028
%RSD	20.27	28.88	8.342	142.6	504.6	1.828	53.66
#1	L.0833	L.0372	L.0012	L.0000	L.0008	L.1234	L-.0032
#2	.1112	.0563	L.0013	L-.0000	L-.0013	L.1266	L-.0071
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0010	L-.0017	L.0183	L.0074	L.0741	L.0000	L.0018
SDev	.0001	.0016	.0008	.0057	.0133	.0000	.0032
%RSD	14.23	94.28	4.139	76.84	17.99	25.52	179.0
#1	L.0012	L-.0006	L.0178	L.0114	L.0647	L.0000	L-.0005
#2	L.0009	L-.0028	L.0189	L.0034	L.0836	L.0000	L.0040
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.1041	L.0032	.5089	L.0005	L.0024	.2476	L-.0005
SDev	.0219	.0005	.0256	.0007	.0034	.0050	.0075
%RSD	21.06	14.13	5.036	142.6	141.3	1.998	1414.
#1	L.1196	L.0035	L.4908	L-.0000	L.0000	.2511	L.0048
#2	L.0886	L.0029	.5270	L.0010	L.0048	.2441	L-.0058
Errors	LC Low	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	-.0004	.0345	-.0001
SDev	.0001	.0565	.0001
%RSD	28.28	163.5	70.71
#1	-.0003	.0745	-.0001
#2	-.0004	-.0054	-.0002
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Tue 12-22-98 10:38:16 PM page 1

Method: CLP Sample Name: 813659 -006 md Operator: chh
Run Time: 12/22/98 22:33:25
Comment: 1222-2 6010
Mode: CONC Corr. Factor: .5

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0882	L.0311	L.0009	L.0000	L-.0003	L.0483	L-.0048
SDev	.0023	.0063	.0000	.0001	.0008	.0021	.0043
%RSD	2.610	20.19	.0595	145.7	277.5	4.363	88.96
#1	L.0866	L.0356	L.0009	L-.0000	L.0003	L.0469	L-.0018
#2	L.0898	L.0267	L.0009	L.0001	L-.0009	L.0498	L-.0078
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0017	L.0017	L.0389	L-.0025	L.0192	L.0000	L.0012
SDev	.0004	.0000	.0028	.0151	.0089	.0004	.0053
%RSD	26.61	.0000	7.152	612.9	46.00	5635.	453.0
#1	L.0014	L.0017	L.0369	L-.0132	L.0130	L-.0003	L.0049
#2	L.0020	L.0017	L.0409	L.0082	L.0255	L.0003	L-.0026
Errors	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0487	.0113	L.4545	L.0003	L.0024	.2067	L-.0058
SDev	.0251	.0012	.0043	.0019	.0000	.0094	.0000
%RSD	51.43	10.77	.9397	604.7	.1252	4.522	.0000
#1	L.0664	.0104	L.4515	L.0016	L.0024	.2001	L-.0058
#2	L.0310	.0121	L.4576	L-.0010	L.0024	.2133	L-.0058
Errors	LC Low	LC Pass	LC Low	LC Low	LC Low	NOCHECK.	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0009	.0551	.0002
SDev	.0008	.0679	.0004
%RSD	94.28	123.3	188.6
#1	.0015	.0071	-.0001
#2	.0003	.1031	.0004
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Tue 12-22-98 10:43:11 PM page 1

Method: CLP Sample Name: 813659 -006 ms Operator: chh
Run Time: 12/22/98 22:38:20
Comment: 1222-2 6010
Mode: CONC Corr. Factor: .5

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.954	1.341	.9290	.0892	.0859	92.36	.3596
SDev	.010	.035	.0041	.0004	.0014	.31	.0002
%RSD	.5153	2.646	.4393	.4659	1.626	.3368	.0678
#1	1.961	1.316	.9319	.0895	.0868	92.58	.3597
#2	1.947	1.366	.9261	.0889	.0849	92.14	.3594
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8759	.4389	.9300	.8775	92.79	.9143	.8929
SDev	.0052	.0004	.0014	.0189	.36	.0029	.0086
%RSD	.5907	.0911	.1494	2.158	.3924	.3182	.9680
#1	.8796	.4387	.9310	.8641	93.05	.9164	.8990
#2	.8723	.4392	.9290	.8909	92.54	.9122	.8868
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	97.58	.3778	89.79	.9466	.9318	1.053	L-.0058
SDev	.46	.0005	.15	.0037	.0071	.009	.0000
%RSD	.4719	.1218	.1665	.3966	.7591	.8179	.0000
#1	97.91	.3781	89.90	.9493	.9368	1.059	L-.0058
#2	97.26	.3775	89.69	.9440	.9268	1.047	L-.0058
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0031	.2239	.3478
SDev	.0001	.0196	.0008
%RSD	3.289	8.764	.2315
#1	.0031	.2101	.3484
#2	.0032	.2378	.3472
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report Tue 12-22-98 10:48:06 PM page 1

Method: CLP Sample Name: 813554 -001 Operator: chh
Run Time: 12/22/98 22:43:15
Comment: 1222-2 6010
Mode: CONC Corr. Factor: .5

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2441	L.0143	.0397	L.0000	L.0006	67.27	L-.0023
SDev	.0138	.0387	.0016	.0001	.0008	.00	.0003
%RSD	5.635	270.0	3.950	143.2	140.9	.0073	10.88
#1	.2538	L.0417	.0386	L.0001	L.0012	67.27	L-.0021
#2	.2344	L-.0130	.0408	L-.0000	L.0000	67.28	L-.0025
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	LC Pass	LC Low
High	700.0	200.0	100.0	50.00	200.0	700.0	300.0
Low	.1000	.0500	.0100	.0050	.0050	.5000	.0100

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	L.0065	L.0051	.3673	L-.0068	17.53	.6711	L.0026
SDev	.0022	.0016	.0018	.0180	.01	.0004	.0018
%RSD	34.21	31.43	.4822	263.6	.0802	.0665	71.54
#1	L.0049	L.0040	.3661	L-.0195	17.52	.6714	L.0013
#2	L.0081	L.0062	.3686	L.0059	17.54	.6707	L.0038
Errors	LC Low	LC Low	LC Pass	LC Low	LC Pass	LC Pass	LC Low
High	200.0	100.0	300.0	400.0	1000.	100.0	300.0
Low	.0200	.0100	.0500	.0500	.5000	.0100	.0100

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.171	L-.0014	24.40	L.0006	L.0057	.3085	L-.0058
SDev	.063	.0008	.04	.0001	.0007	.0016	.0000
%RSD	2.886	55.32	.1663	14.08	11.71	.5346	.0000
#1	2.126	L-.0008	24.43	L.0006	L.0052	.3097	L-.0058
#2	2.215	L-.0019	24.37	L.0007	L.0061	.3073	L-.0058
Errors	LC Pass	LC Low	LC Pass	LC Low	LC Low	NOCHECK	LC Low
High	300.0	100.0	500.0	200.0	200.0		600.0
Low	.5000	.0100	.5000	.0200	.0100		.0100

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0058	.0384	.0014
SDev	.0001	.0149	.0001
%RSD	1.790	38.80	6.428
#1	.0057	.0490	.0013
#2	.0059	.0279	.0015
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Analysis Report QC Standard Tue 12-22-98 11:12:41 PM page 1

Method: CLP Sample Name: ccv1 Operator: chh
Run Time: 12/22/98 23:07:50
Comment: 1222-2 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.010	1.992	1.963	1.953	1.963	1.971	1.924
SDev	.011	.201	.007	.008	.014	.012	.021
%RSD	.5450	10.11	.3731	.3856	.7192	.5885	1.094
#1	2.002	Q1.850	1.958	1.948	1.953	1.963	1.909
#2	2.018	Q2.134	1.968	1.959	1.973	1.979	1.939
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.946	1.935	1.915	1.962	Q1.849	1.954	1.953
SDev	.012	.010	.009	.006	.030	.003	.010
%RSD	.5928	.5371	.4474	.3109	1.611	.1607	.4926
#1	1.937	1.928	1.909	1.957	Q1.870	1.952	1.946
#2	1.954	1.942	1.921	1.966	Q1.828	1.956	1.960
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	19.76	1.908	Q2.102	1.972	1.993	2.051	Q1.724
SDev	.03	.012	.064	.010	.001	.002	.016
%RSD	.1268	.6531	3.048	.5102	.0352	.0894	.9532
#1	19.77	Q1.899	2.057	1.965	1.992	2.052	Q1.736
#2	19.74	1.917	Q2.147	1.979	1.993	2.049	Q1.713
Errors	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail
Value	20.00	2.000	2.000	2.000	2.000	2.000	2.000
Range	5.000	5.000	5.000	5.000	5.000	5.000	5.000

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	Q1.428	Q.7289	Q.7229
SDev	.008	.1104	.0038
%RSD	.5507	15.15	.5197
#1	Q1.422	Q.8070	Q.7203
#2	Q1.433	Q.6509	Q.7256
Errors	QC Fail	QC Fail	QC Fail
Value	2.000	20.00	2.000
Range	5.000	5.000	5.000

Analysis Report Blank Sample Tue 12-22-98 11:17:35 PM page 1

Method: CLP Sample Name: ccb1 Operator: chh
Run Time: 12/22/98 23:12:44
Comment: 1222-2 6010
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	Ba4934	Be3130	Cd2265	Ca3179	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0045	.2315	.0015	.0008	.0007	.0020	-.0060
SDev	.0330	.0799	.0000	.0003	.0021	.0010	.0025
%RSD	727.2	34.49	.0210	35.33	303.6	53.03	41.59
#1	-.0188	.2880	.0015	.0010	-.0008	.0012	-.0043
#2	.0279	.1751	.0015	.0006	.0022	.0027	-.0078

Elem	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0036	-.0011	-.0331	-.0593	-.0005	-.0010	.0028
SDev	.0024	.0032	.0015	.0008	.0104	.0004	.0100
%RSD	66.49	282.8	4.590	1.311	2183.	46.62	353.9
#1	.0052	-.0034	-.0342	-.0599	-.0078	-.0006	.0099
#2	.0019	.0011	-.0320	-.0588	.0068	-.0013	-.0042

Elem	K_7664	Ag3280	Na5889	V_2924	Zn2138	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.1240	-.0002	.1842	-.0001	-.0014	.0148	.0370
SDev	.0251	.0049	.0598	.0002	.0020	.0084	.0209
%RSD	20.20	2251.	32.46	125.4	138.8	57.06	56.57
#1	-.1417	.0032	.2265	-.0000	-.0000	.0207	.0518
#2	-.1063	-.0037	.1420	-.0003	-.0028	.0088	.0222

Elem	Ti3349	Sn2839	Li6707
Units	ppm	ppm	ppm
Avge	.0019	.1286	.0005
SDev	.0014	.1278	.0005
%RSD	76.15	99.39	106.1
#1	.0029	.2190	.0001
#2	.0009	.0382	.0009

GCMS VOA

(CORE-Valparaiso)

GCMS VOA

Matrix Spike Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1263.D Vial: 22
Acq On : 13 Dec 1998 5:36 am Operator:
Sample : 813554 1ms Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:43 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.71	128	572231	50.00 ug/l	0.12
27) 1,4-Difluorobenzene	7.75	114	3586178	50.00 ug/l	0.10
41) Chlorobenzene-d5	11.29	117	2970824	50.00 ug/l	0.08
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.31	65	1362634	50.68 ug/l	0.11
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.36%		
34) Toluene-d8	9.46	98	3921878	50.36 ug/l	0.08
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.72%		
50) Bromofluorobenzene	12.86	95	1381563	47.51 ug/l	0.07
Spiked Amount 50.000	Range 74 - 115		Recovery = 95.02%		

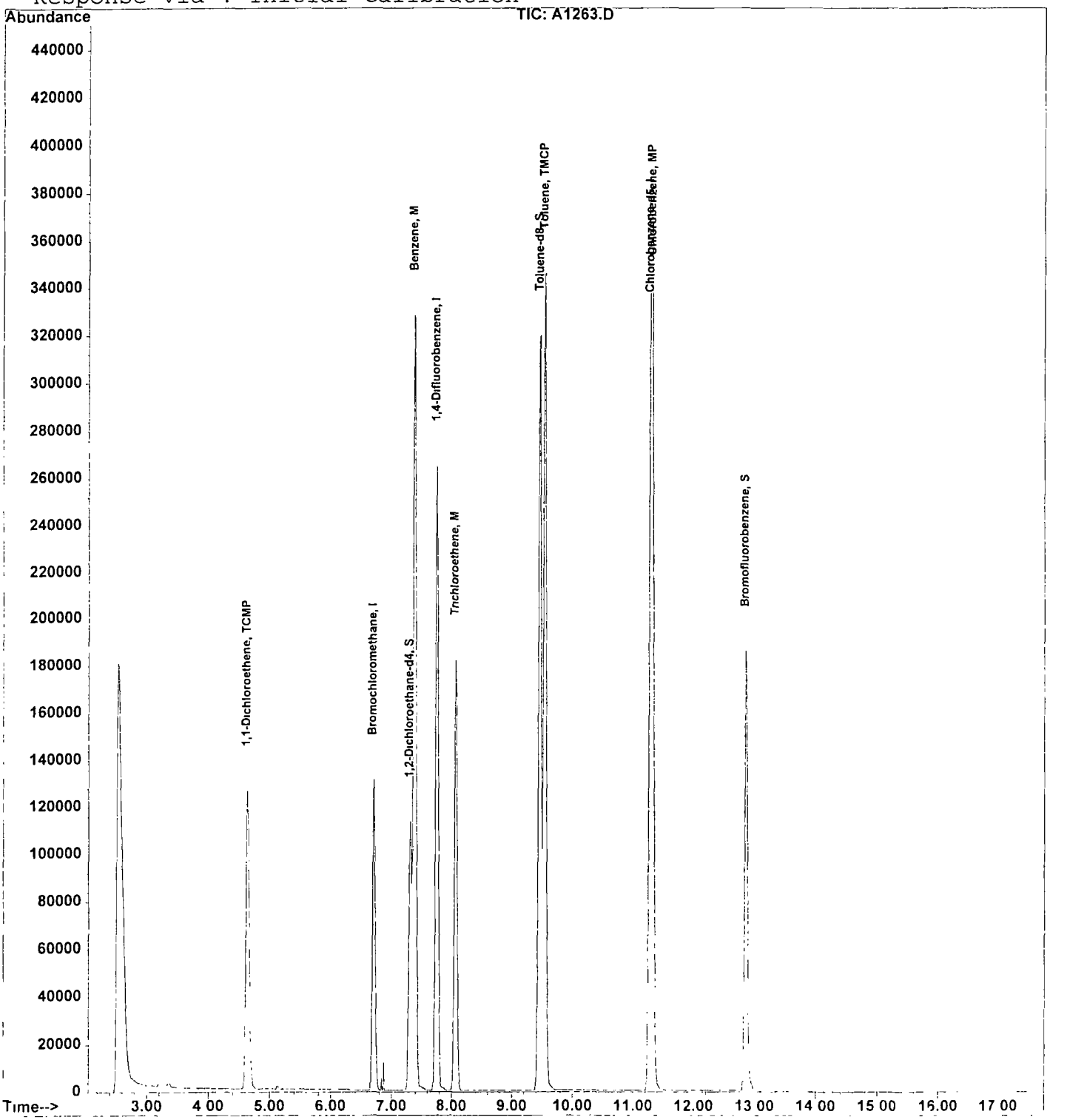
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.64	96	937401	40.05 ug/l	98
26) Benzene	7.38	78	4944096	45.38 ug/l	100
28) Trichloroethene	8.07	130	1034739	43.28 ug/l	96
35) Toluene	9.54	92	2608483	45.36 ug/l	99
42) Chlorobenzene	11.32	112	2731971	44.90 ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1263.D Vial: 22
Acq On : 13 Dec 1998 5:36 am Operator:
Sample : 813554 1ms Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:43 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1264.D Vial: 23
Acq On : 13 Dec 1998 6:06 am Operator:
Sample : 813554 1msd Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:45 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

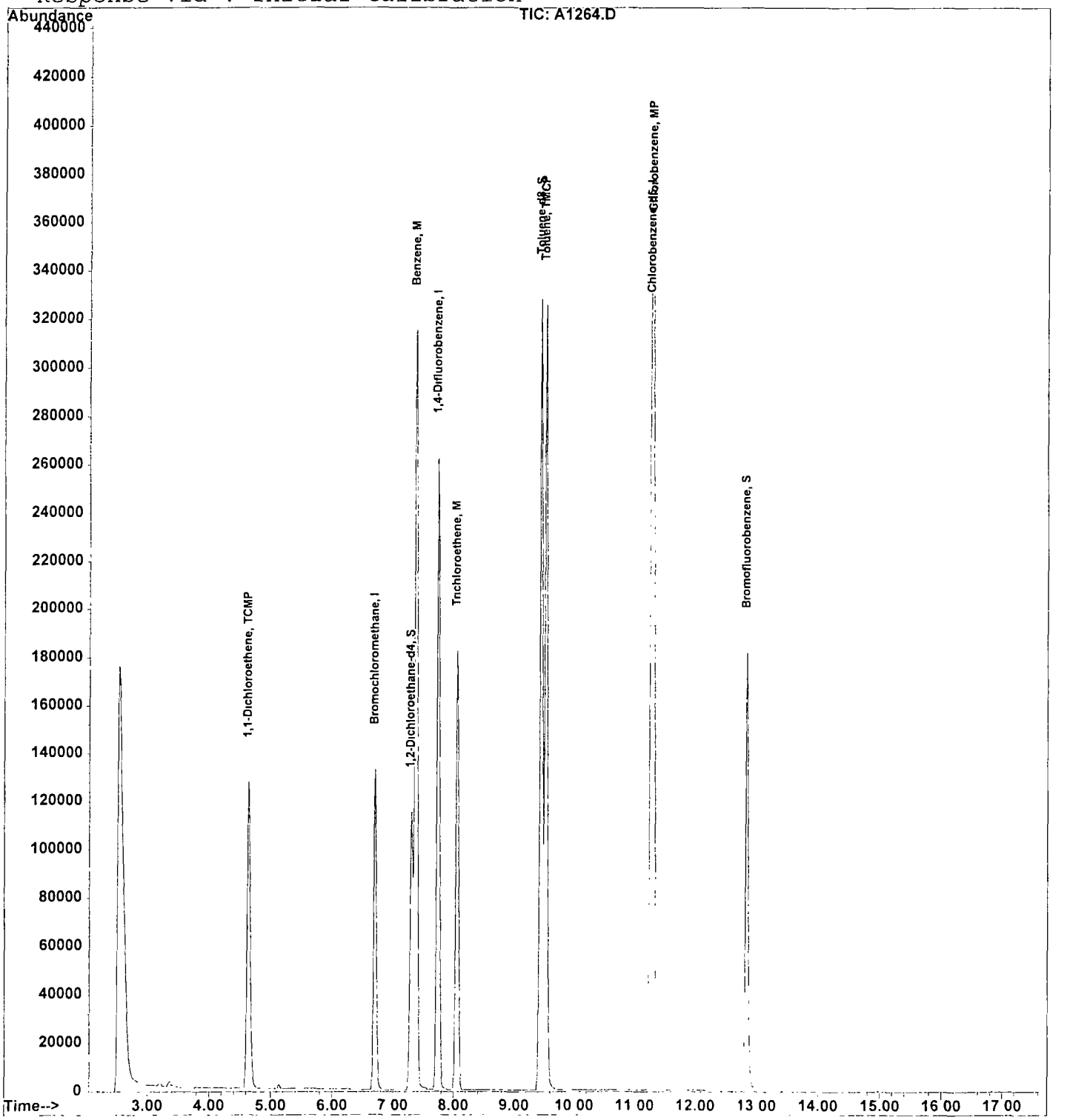
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	563027	50.00	ug/l	0.11
27) 1,4-Difluorobenzene	7.75	114	3531522	50.00	ug/l	0.09
41) Chlorobenzene-d5	11.27	117	2957495	50.00	ug/l	0.06
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1379945	52.16	ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.32%			
34) Toluene-d8	9.45	98	3869875	50.46	ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.92%			
50) Bromofluorobenzene	12.85	95	1293346	44.68	ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 89.36%			
Target Compounds						Qvalue
9) 1,1-Dichloroethene	4.64	96	901158	39.13	ug/l	98
26) Benzene	7.38	78	4803278	44.81	ug/l	100
28) Trichloroethene	8.06	130	1004388	42.67	ug/l	95
35) Toluene	9.53	92	2490446	43.98	ug/l	98
42) Chlorobenzene	11.31	112	2640088	43.59	ug/l	95

(#) = qualifier out of range (m) = manual integration
A1264.D 8260A.M Sun Dec 13 13:45:28 1998 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1264.D Vial: 23
Acq On : 13 Dec 1998 6:06 am Operator:
Sample : 813554 1msd Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:45 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1279.D Vial: 38
Acq On : 13 Dec 1998 1:45 pm Operator:
Sample : 813554 28ms Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:11 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.70	128	549756	50.00 ug/l	0.11
27) 1,4-Difluorobenzene	7.74	114	3411500	50.00 ug/l	0.09
41) Chlorobenzene-d5	11.27	117	2868932	50.00 ug/l	0.06
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.30	65	1311151	50.76 ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.52%		
34) Toluene-d8	9.45	98	3777161	50.98 ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.96%		
50) Bromofluorobenzene	12.85	95	1235103	43.98 ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 87.96%		

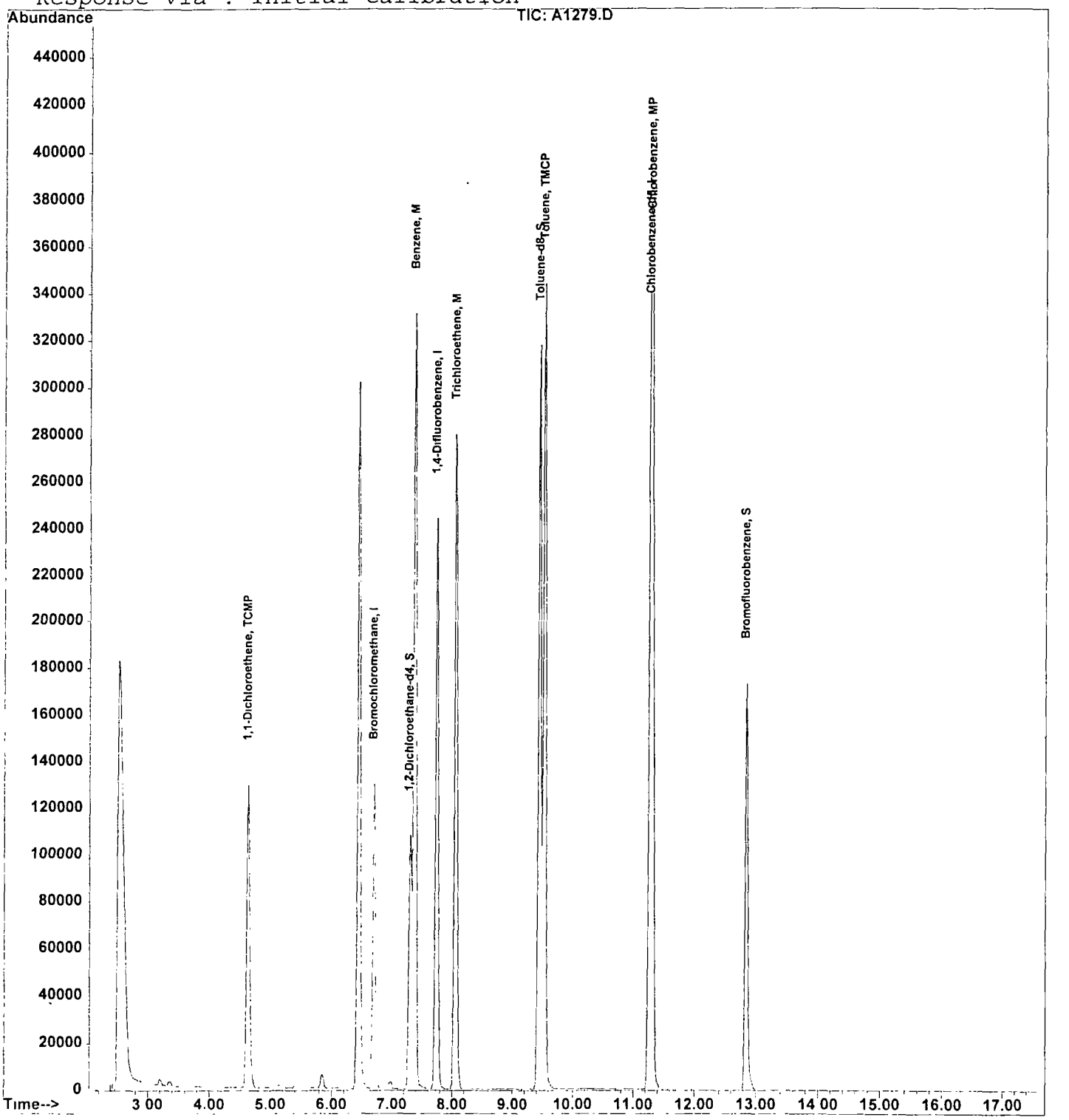
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.63	96	928166	41.28 ug/l	99
26) Benzene	7.37	78	4928860	47.09 ug/l	100
28) Trichloroethene	8.06	130	1634554	71.88 ug/l	95
35) Toluene	9.53	92	2587733	47.30 ug/l	97
42) Chlorobenzene	11.31	112	2827170	48.12 ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1279.D Vial: 38
Acq On : 13 Dec 1998 1:45 pm Operator:
Sample : 813554 28ms Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:11 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1280.D Vial: 39
Acq On : 13 Dec 1998 2:16 pm Operator:
Sample : 813554 28msd Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 15 7:50 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

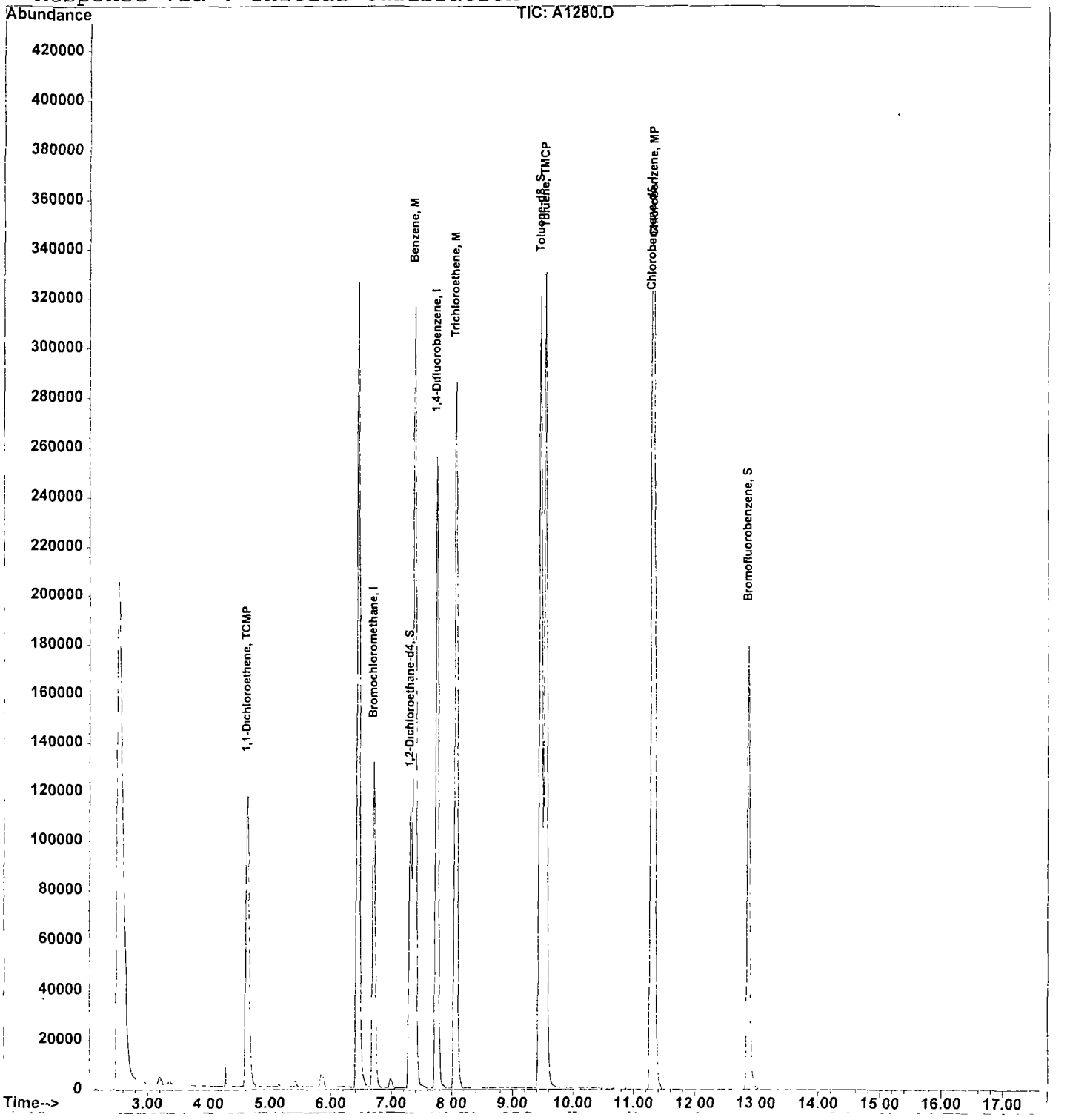
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.71	128	555641	50.00 ug/l	0.11
27) 1,4-Difluorobenzene	7.75	114	3476474	50.00 ug/l	0.10
41) Chlorobenzene-d5	11.30	117	2782404	50.00 ug/l	0.09
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.31	65	1339624	51.31 ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.62%		
34) Toluene-d8	9.46	98	3815769	50.54 ug/l	0.08
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.08%		
50) Bromofluorobenzene	12.88	95	1274082	46.78 ug/l	0.09
Spiked Amount 50.000	Range 74 - 115		Recovery = 93.56%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.63	96	867112	38.15 ug/l	98
26) Benzene	7.38	78	4689809	44.33 ug/l	100
28) Trichloroethene	8.07	130	1612972	69.60 ug/l	96
35) Toluene	9.55	92	2455487	44.05 ug/l	97
42) Chlorobenzene	11.34	112	2679710	47.03 ug/l	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1280.D Vial: 39
Acq On : 13 Dec 1998 2:16 pm Operator:
Sample : 813554 28msd Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 15 7:50 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1668.D Vial: 3
Acq On : 27 Dec 1998 3:50 pm Operator:
Sample : 814028 2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:36 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.66	128	596956	50.00 ug/l	-0.03
27) 1,4-Difluorobenzene	7.70	114	3788016	50.00 ug/l	-0.03
41) Chlorobenzene-d5	11.22	117	3266985	50.00 ug/l	-0.05

System Monitoring Compounds

25) 1,2-Dichloroethane-d4	7.26	65	1285511	45.83 ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 91.66%		
34) Toluene-d8	9.40	98	4088120	49.69 ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.38%		
50) Bromofluorobenzene	12.79	95	1612334	50.42 ug/l	-0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 100.84%		

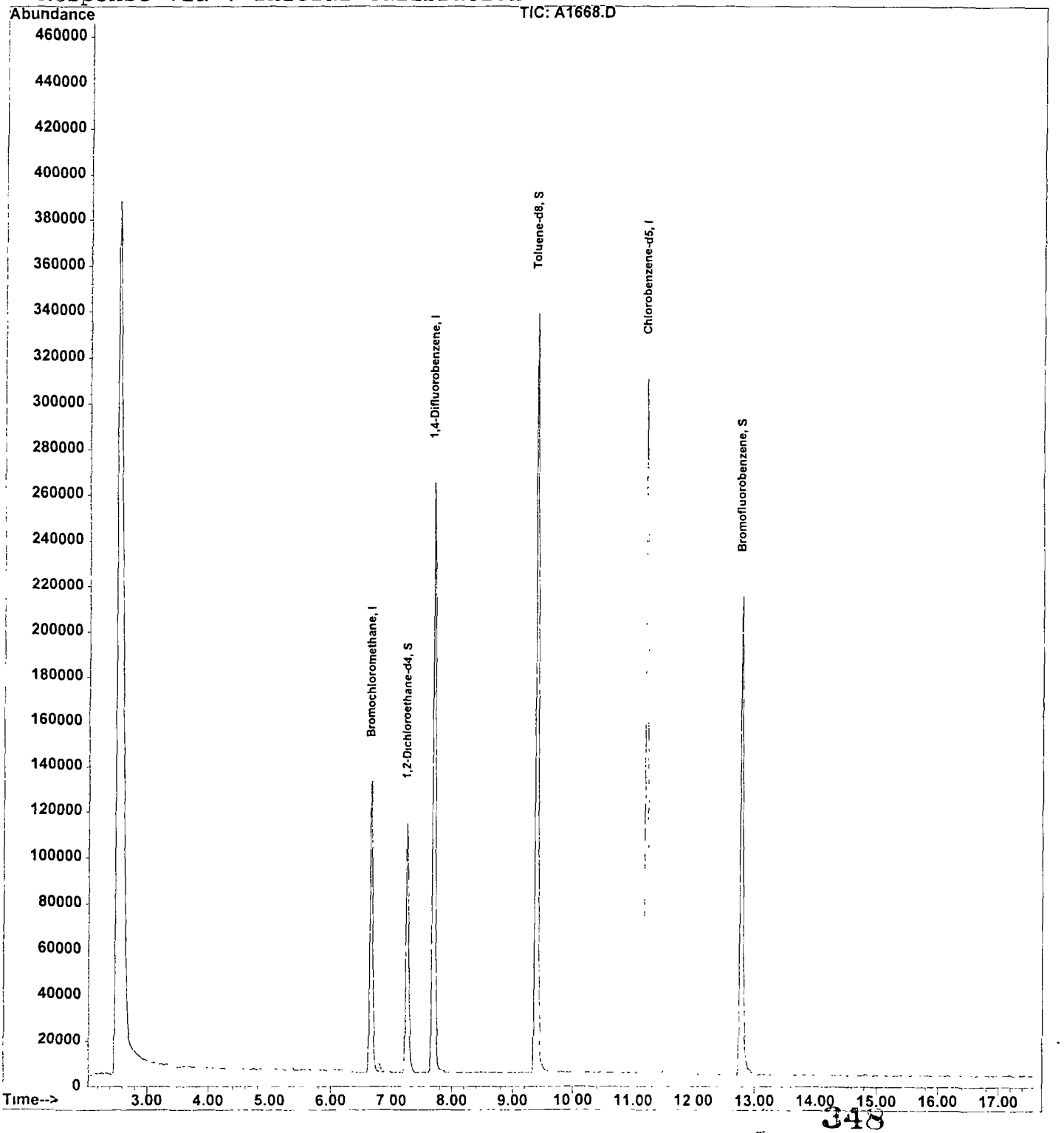
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1668.D Vial: 3
Acq On : 27 Dec 1998 3:50 pm Operator:
Sample : 814028 2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:36 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1670.D Vial: 5
Acq On : 27 Dec 1998 4:52 pm Operator:
Sample : 814028 2ms Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:38 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.66	128	603963	50.00	ug/l	-0.03
27) 1,4-Difluorobenzene	7.70	114	3770522	50.00	ug/l	-0.03
41) Chlorobenzene-d5	11.22	117	3293090	50.00	ug/l	-0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.26	65	1293449	45.58	ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 91.16%			
34) Toluene-d8	9.40	98	4010619	48.98	ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 97.96%			
50) Bromofluorobenzene	12.79	95	1597576	49.56	ug/l	-0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 99.12%			

Target Compounds						Qvalue
9) 1,1-Dichloroethene	4.60	96	910837	36.87	ug/l	93
26) Benzene	7.33	78	4388303	38.16	ug/l	100
28) Trichloroethene	8.02	130	1114794	44.35	ug/l	92
35) Toluene	9.48	92	2574771	42.58	ug/l	99
42) Chlorobenzene	11.26	112	2922615	43.33	ug/l	95

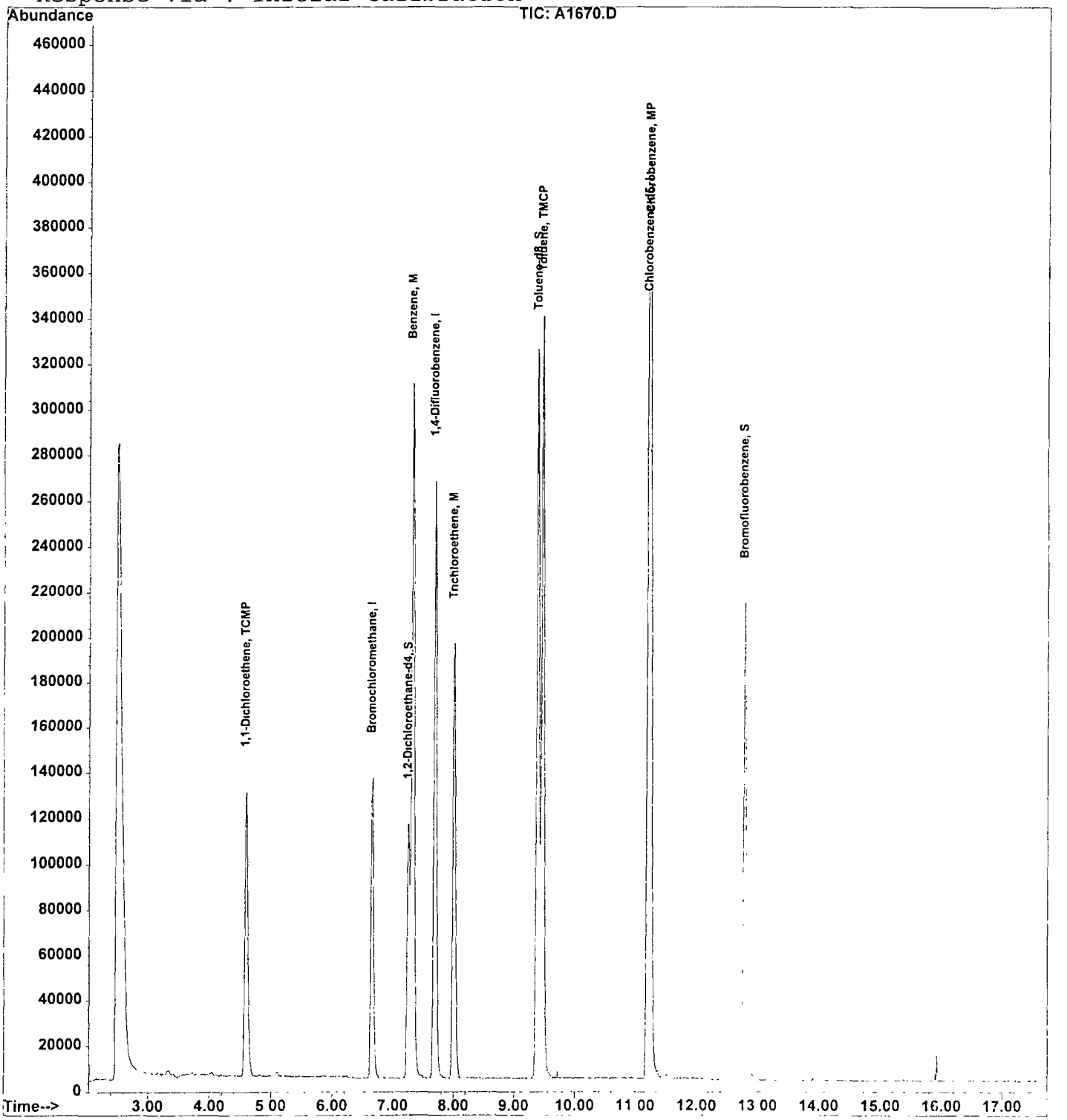
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1670.D
Acq On : 27 Dec 1998 4:52 pm
Sample : 814028 2ms
Misc :
MS Integration Params: events.e
Quant Time: Dec 28 8:38 1998

Vial: 5
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1671.D Vial: 6
Acq On : 27 Dec 1998 5:22 pm Operator:
Sample : 814028 2msd Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:38 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

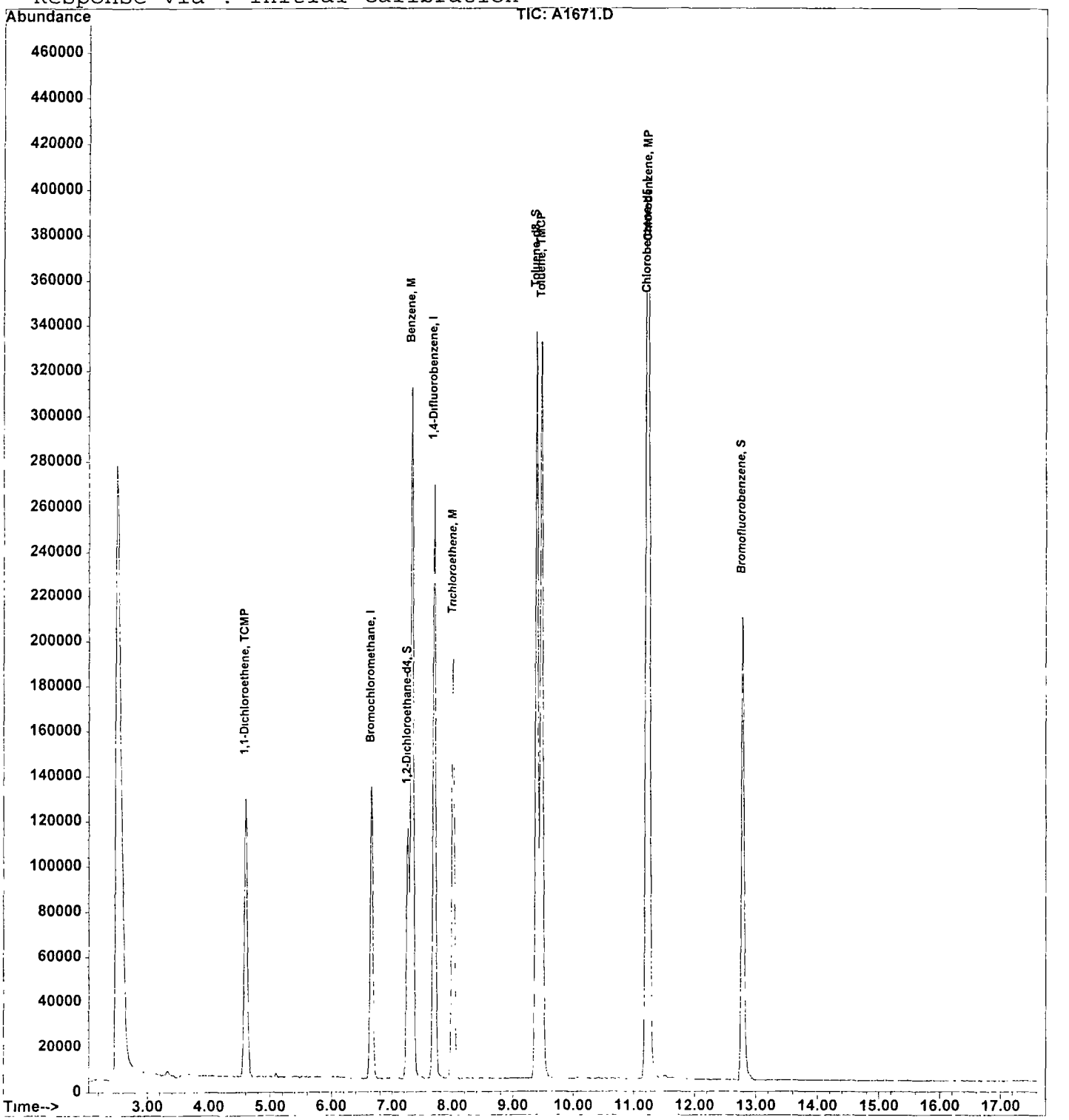
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.66	128	596060	50.00 ug/l	-0.03
27) 1,4-Difluorobenzene	7.70	114	3770281	50.00 ug/l	-0.03
41) Chlorobenzene-d5	11.22	117	3291047	50.00 ug/l	-0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.26	65	1287405	45.97 ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 91.94%		
34) Toluene-d8	9.40	98	4028941	49.20 ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 98.40%		
50) Bromofluorobenzene	12.79	95	1590461	49.37 ug/l	-0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 98.74%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.60	96	902422	37.02 ug/l	94
26) Benzene	7.33	78	4416141	38.91 ug/l	100
28) Trichloroethene	8.01	130	1108653	44.11 ug/l	92
35) Toluene	9.48	92	2556463	42.28 ug/l	99
42) Chlorobenzene	11.26	112	2936039	43.56 ug/l	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1671.D Vial: 6
Acq On : 27 Dec 1998 5:22 pm Operator:
Sample : 814028 2msd Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:38 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration



GCMS VOA

Laboratory Control Samples

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1249.D Vial: 8
Acq On : 12 Dec 1998 10:27 pm Operator:
Sample : lcs1212981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:26 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

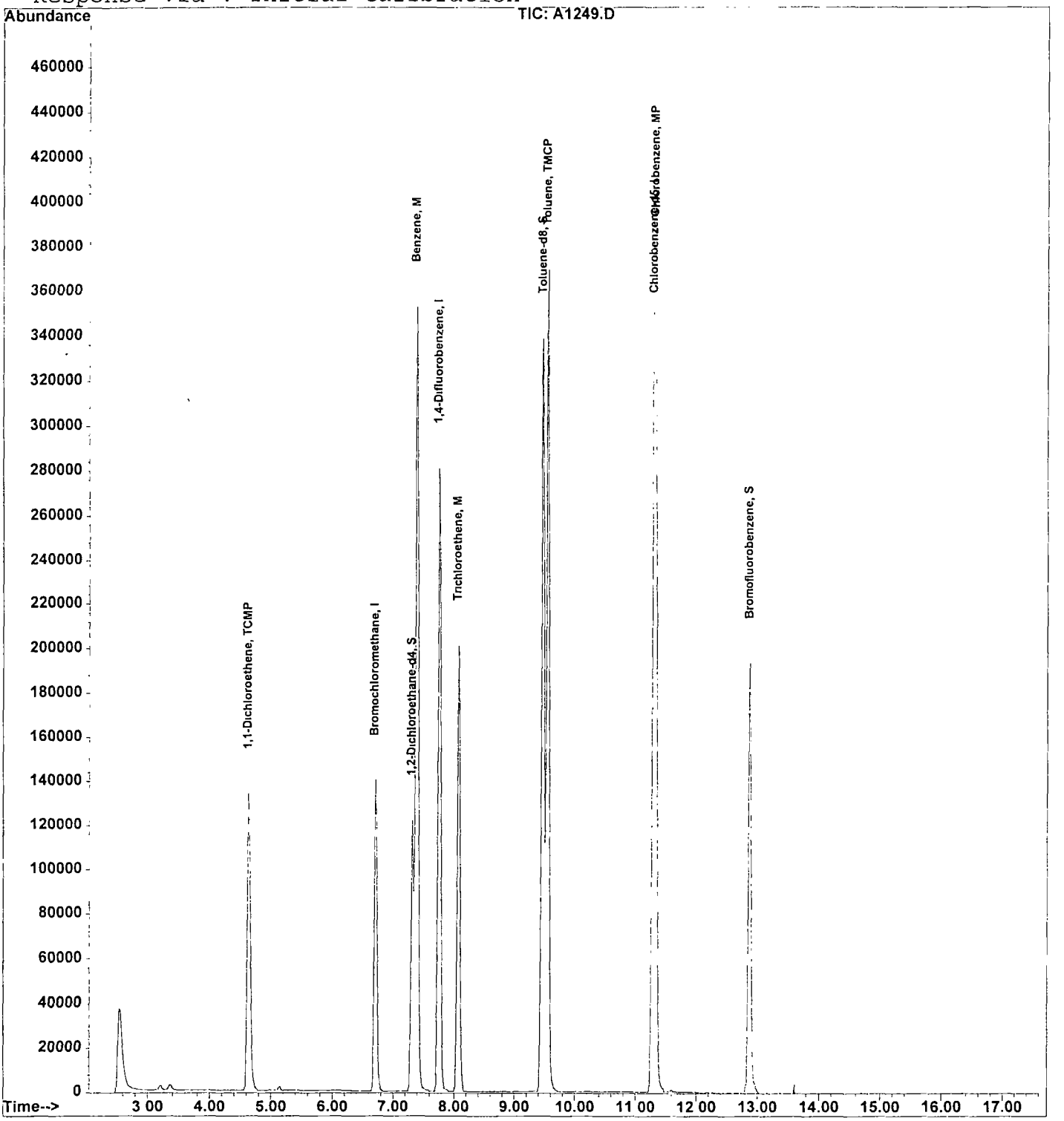
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.71	128	610954	50.00 ug/l	0.12
27) 1,4-Difluorobenzene	7.76	114	3865313	50.00 ug/l	0.10
41) Chlorobenzene-d5	11.30	117	3179505	50.00 ug/l	0.09
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.32	65	1430609	49.83 ug/l	0.11
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.66%		
34) Toluene-d8	9.47	98	4178290	49.77 ug/l	0.09
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.54%		
50) Bromofluorobenzene	12.87	95	1469611	47.22 ug/l	0.09
Spiked Amount 50.000	Range 74 - 115		Recovery = 94.44%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.64	96	997569	39.92 ug/l	99
26) Benzene	7.39	78	5325995	45.78 ug/l	100
28) Trichloroethene	8.08	130	1121430	43.52 ug/l	95
35) Toluene	9.55	92	2809332	45.32 ug/l	100
42) Chlorobenzene	11.34	112	2941821	45.18 ug/l	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1249.D Vial: 8
Acq On : 12 Dec 1998 10:27 pm Operator:
Sample : lcs1212981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:26 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1269.D Vial: 28
Acq On : 13 Dec 1998 8:39 am Operator:
Sample : lcs1213981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:59 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

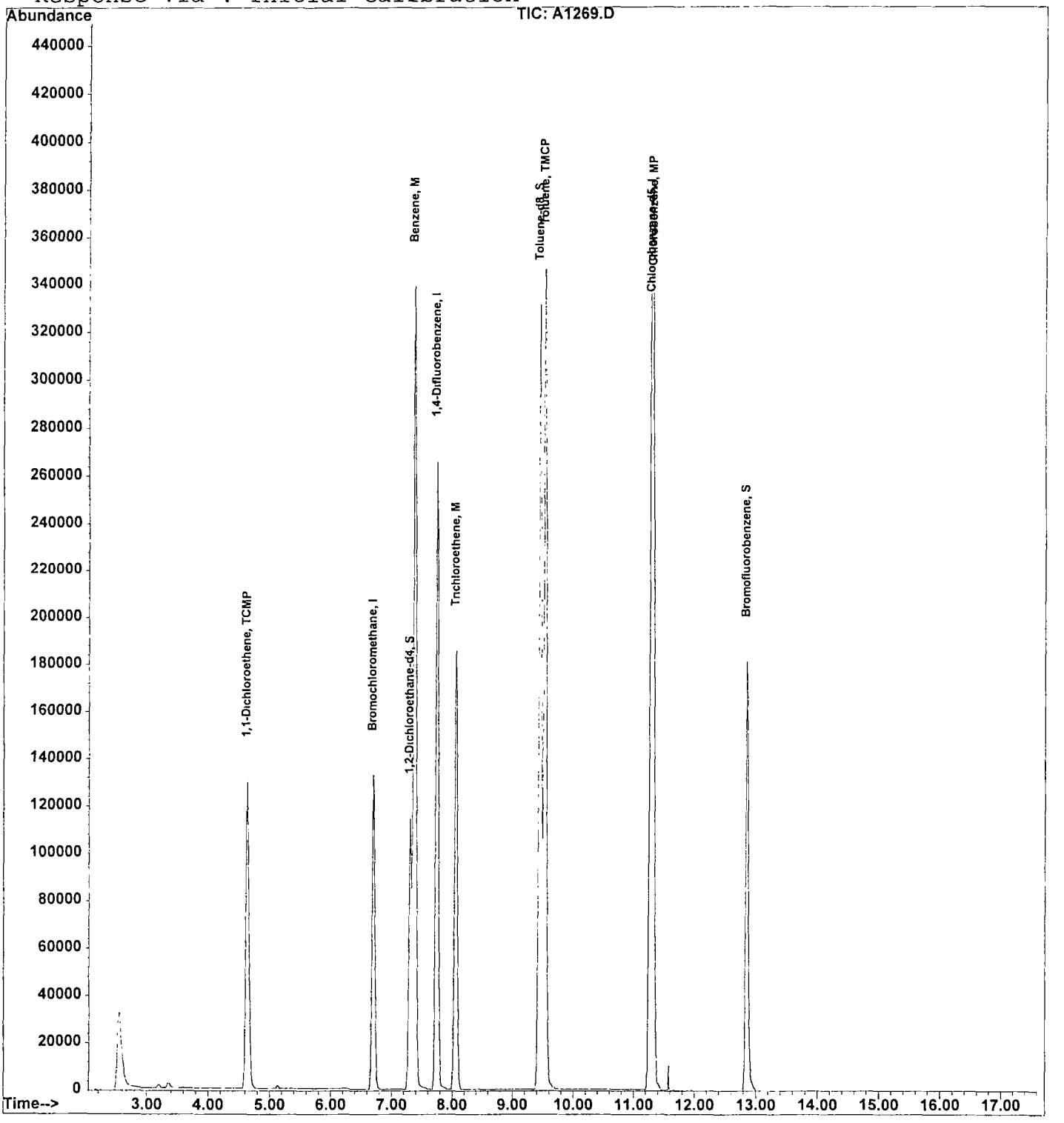
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.71	128	574977	50.00 ug/l	0.11
27) 1,4-Difluorobenzene	7.75	114	3609839	50.00 ug/l	0.09
41) Chlorobenzene-d5	11.28	117	2980783	50.00 ug/l	0.07
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.31	65	1359437	50.32 ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.64%		
34) Toluene-d8	9.45	98	3925918	50.08 ug/l	0.07
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.16%		
50) Bromofluorobenzene	12.86	95	1319252	45.22 ug/l	0.07
Spiked Amount 50.000	Range 74 - 115		Recovery = 90.44%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.64	96	915854	38.94 ug/l	97
26) Benzene	7.38	78	5024541	45.90 ug/l	100
28) Trichloroethene	8.06	130	1054139	43.81 ug/l	95
35) Toluene	9.53	92	2645489	45.70 ug/l	98
42) Chlorobenzene	11.32	112	2763068	45.26 ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1269.D Vial: 28
Acq On : 13 Dec 1998 8:39 am Operator:
Sample : lcs1213981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:59 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Continuing Calibration Operator:
Sample : vstd050:50ug/l Standard also used as LCS Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 14 11:58 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	667748	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	4090179	50.00	ug/l	0.08
41) Chlorobenzene-d5	11.26	117	3261252	50.00	ug/l	0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1619574	51.62	ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.24%			
34) Toluene-d8	9.44	98	4422778	49.79	ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.58%			
50) Bromofluorobenzene	12.84	95	1630598	51.08	ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 102.16%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.79	85	557575	51.58	ug/l	94
3) Chloromethane	3.07	50	2341148	53.04	ug/l	100
4) Vinyl Chloride	3.21	62	2148360	50.61	ug/l	99
5) Bromomethane	3.63	94	619783	37.37	ug/l	96
6) Chloroethane	3.75	64	1230379	47.55	ug/l	100
7) Trichlorofluoromethane	4.06	101	2064530	51.28	ug/l	100
9) 1,1-Dichloroethene	4.63	96	1334763	48.87	ug/l	97
10) Acetone	4.68	58	100816	54.96	ug/l #	91
11) Carbon Disulfide	4.89	76	5098004	49.02	ug/l	99
12) Methylene Chloride	5.13	84	1633620	50.59	ug/l	93
13) Acrylonitrile	5.38	53	415909	48.84	ug/l	99
14) Methyl-tert-butyl ether	5.40	73	3249157	47.15	ug/l	97
15) trans-1,2-Dichloroethene	5.41	96	1475799	50.62	ug/l	98
16) Vinyl Acetate	5.86	43	2634616	46.32	ug/l	98
17) 1,1-Dichloroethane	5.85	63	2957166	49.73	ug/l	100
18) 2-Butanone	6.44	72	121156	55.20	ug/l #	87
19) cis-1,2-Dichloroethene	6.44	96	1488917	49.66	ug/l	96
20) Chloroform	6.76	83	2661006	50.00	ug/l	100
21) 1,1,1-Trichloroethane	6.97	97	2001428	50.05	ug/l	98
22) 1,2-Dichloroethane	7.38	62	1941610	49.81	ug/l	99
23) Carbon Tetrachloride	7.15	117	1150729	48.47	ug/l	98
24) 2-Chloroethyl vinyl ether	7.37	63	571989	49.95	ug/l	100
26) Benzene	7.37	78	6380414	50.18	ug/l	100
28) Trichloroethene	8.05	130	1381232	50.66	ug/l	94
29) 1,2-Dichloropropane	8.31	63	1716009	50.23	ug/l	98
30) Dibromomethane	8.45	93	743319	48.71	ug/l	89
31) Bromodichloromethane	8.60	83	1727173	51.12	ug/l	99
32) cis-1,3-Dichloropropene	9.11	75	2351052	50.58	ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D
Acq On : 14 Dec 1998 11:40 am
Sample : vstd050:50ug/l
Misc :
MS Integration Params: events.e
Quant Time: Dec 14 11:58 1998

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

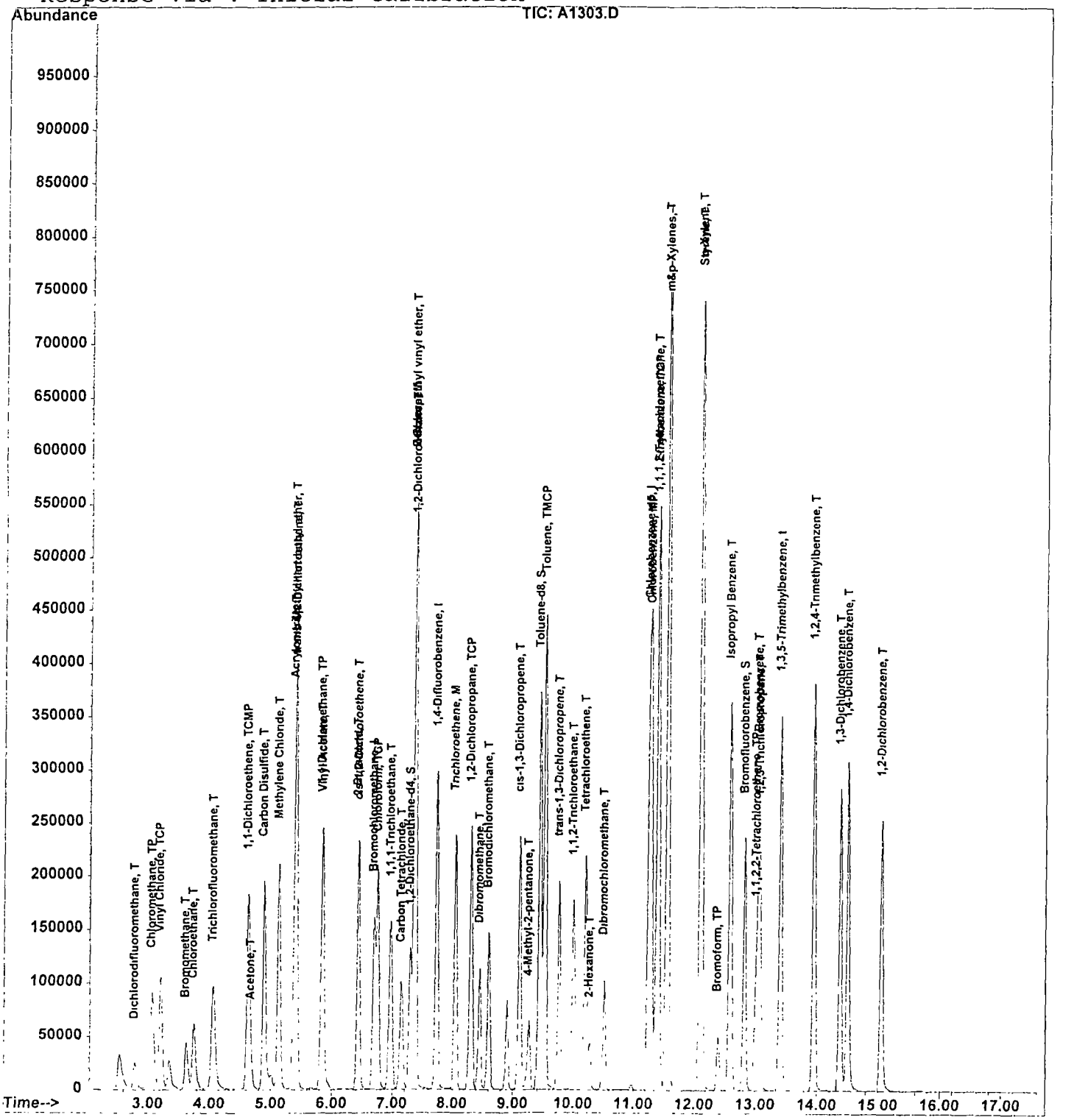
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) 4-Methyl-2-pentanone	9.26	43	969639	48.43 ug/l	95
35) Toluene	9.52	92	3369759	51.38 ug/l	99
36) trans-1,3-Dichloropropene	9.76	75	1793189	50.87 ug/l	95
37) 1,1,2-Trichloroethane	10.00	83	932549	49.26 ug/l	96
38) 2-Hexanone	10.28	43	624441	49.98 ug/l	98
39) Tetrachloroethene	10.20	164	899460	51.62 ug/l #	70
40) Dibromochloromethane	10.52	129	984743	50.31 ug/l	100
42) Chlorobenzene	11.30	112	3432457	51.39 ug/l	96
43) 1,1,1,2-Tetrachloroethane	11.39	131	998342	53.01 ug/l	98
44) Ethylbenzene	11.42	91	5967721	52.58 ug/l	99
45) m&p-Xylenes	11.57	91	9559155	108.13 ug/l	99
46) o-Xylene	12.11	91	4719448	53.48 ug/l	97
47) Styrene	12.13	104	3652380	53.25 ug/l	91
48) Bromoform	12.41	173	437095	49.74 ug/l	99
49) Isopropyl Benzene	12.60	105	4918850	52.57 ug/l	99
51) 1,1,2,2-Tetrachloroethane	13.02	83	1118333	50.30 ug/l	98
52) 1,2,3-Trichloropropane	13.09	75	1036207	49.55 ug/l #	57
53) Bromobenzene	13.06	156	1117996	51.38 ug/l #	84
54) 1,3,5-Trimethylbenzene	13.41	105	3932671	52.89 ug/l	100
55) 1,2,4-Trimethylbenzene	13.95	105	4321880	54.00 ug/l	100
56) 1,3-Dichlorobenzene	14.38	146	2106521	52.77 ug/l	99
57) 1,4-Dichlorobenzene	14.51	146	2360836	53.21 ug/l	96
58) 1,2-Dichlorobenzene	15.05	146	1960509	52.88 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 14 11:58 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	110	0.10
2	T	Dichlorodifluoromethane	0.809	0.835	-3.2	108	0.17
3	TP	Chloromethane	3.305	3.506	-6.1	111	0.17
4	TCP	Vinyl Chloride	3.179	3.217	-1.2	107	0.17
5	T	Bromomethane	1.242	0.928	25.3	73	0.17
6	T	Chloroethane	1.938	1.843	4.9	99	0.17
7	T	Trichlorofluoromethane	3.014	3.092	-2.6	107	0.16
8	T	Acrolein	0.000	0.123	0.0	0#	1.02#
9	TCMP	1,1-Dichloroethene	2.045	1.999	2.2	106	0.15
10	T	Acetone	0.137	0.151	-10.2	118	0.13
11	T	Carbon Disulfide	7.787	7.635	2.0	105	0.15
12	T	Methylene Chloride	2.418	2.446	-1.2	109	0.14
13	T	Acrylonitrile	0.638	0.623	2.4	101	0.13
14	T	Methyl-tert-butyl ether	5.160	4.866	5.7	100	0.12
15	T	trans-1,2-Dichloroethene	2.183	2.210	-1.2	107	0.13
16	T	Vinyl Acetate	4.259	3.946	7.3	97	0.11
17	TP	1,1-Dichloroethane	4.453	4.429	0.5	106	0.13
18	T	2-Butanone	0.164	0.181	-10.4	108	0.10
19	T	cis-1,2-Dichloroethene	2.245	2.230	0.7	106	0.11
20	TCP	Chloroform	3.985	3.985	0.0	107	0.10
21	T	1,1,1-Trichloroethane	2.994	2.997	-0.1	108	0.10
22	T	1,2-Dichloroethane	2.919	2.908	0.4	105	0.09
23	T	Carbon Tetrachloride	1.662	1.723	-3.7	109	0.10
24	T	2-Chloroethyl vinyl ether	0.857	0.857	0.0	106	0.09
25	S	1,2-Dichloroethane-d4	2.349	2.425	-3.2	109	0.09
26	M	Benzene	9.520	9.555	-0.4	106	0.09
27	I	1,4-Difluorobenzene	1.000	1.000	0.0	106	0.08
28	M	Trichloroethene	0.333	0.338	-1.5	105	0.08
29	TCP	1,2-Dichloropropane	0.418	0.420	-0.5	105	0.07
30	T	Dibromomethane	0.187	0.182	2.7	101	0.07
31	T	Bromodichloromethane	0.413	0.422	-2.2	106	0.07
32	T	cis-1,3-Dichloropropene	0.568	0.575	-1.2	105	0.06
33	T	4-Methyl-2-pentanone	0.245	0.237	3.3	100	0.05
34	S	Toluene-d8	1.086	1.081	0.5	105	0.05
35	TMCP	Toluene	0.802	0.824	-2.7	105	0.05
36	T	trans-1,3-Dichloropropene	0.431	0.438	-1.6	106	0.05
37	T	1,1,2-Trichloroethane	0.231	0.228	1.3	101	0.05
38	T	2-Hexanone	0.153	0.153	0.0	102	0.04
39	T	Tetrachloroethene	0.213	0.220	-3.3	108	0.05
40	T	Dibromochloromethane	0.239	0.241	-0.8	106	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D
Acq On : 14 Dec 1998 11:40 am
Sample : vstd050:50ug/l
Misc :
MS Integration Params: events.e

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.05
42	MP	Chlorobenzene	1.024	1.052	-2.7	104	0.05
43	T	1,1,1,2-Tetrachloroethane	0.289	0.306	-5.9	107	0.05
44	TCP	Ethylbenzene	1.740	1.830	-5.2	105	0.05
45	T	m&p-Xylenes	1.355	1.466	-8.2	107	0.05
46	T	o-Xylene	1.353	1.447	-6.9	106	0.05
47	T	Styrene	1.052	1.120	-6.5	105	0.04
48	TP	Bromoform	0.126	0.134	-6.3	110	0.05
49	T	Isopropyl Benzene	1.435	1.508	-5.1	105	0.05
50	S	Bromofluorobenzene	0.489	0.500	-2.2	106	0.05
51	TP	1,1,2,2-Tetrachloroethane	0.341	0.343	-0.6	102	0.05
52	T	1,2,3-Trichloropropane	0.321	0.318	0.9	101	0.05
53	T	Bromobenzene	0.334	0.343	-2.7	103	0.05
54	t	1,3,5-Trimethylbenzene	1.140	1.206	-5.8	106	0.05
55	T	1,2,4-Trimethylbenzene	1.227	1.325	-8.0	107	0.05
56	T	1,3-Dichlorobenzene	0.612	0.646	-5.6	107	0.05
57	T	1,4-Dichlorobenzene	0.680	0.724	-6.5	106	0.05
58	T	1,2-Dichlorobenzene	0.568	0.601	-5.8	106	0.05

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1448.D Vial: 2
Acq On : 18 Dec 1998 12:44 pm Operator:
Sample : lcs1218981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:29 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	118842	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.71	114	744163	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	587585	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.27	65	243718	42.95 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 85.90%		
34) Toluene-d8	9.41	98	808015	49.57 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.14%		
50) Bromofluorobenzene	12.83	95	322699	51.39 ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 102.78%		

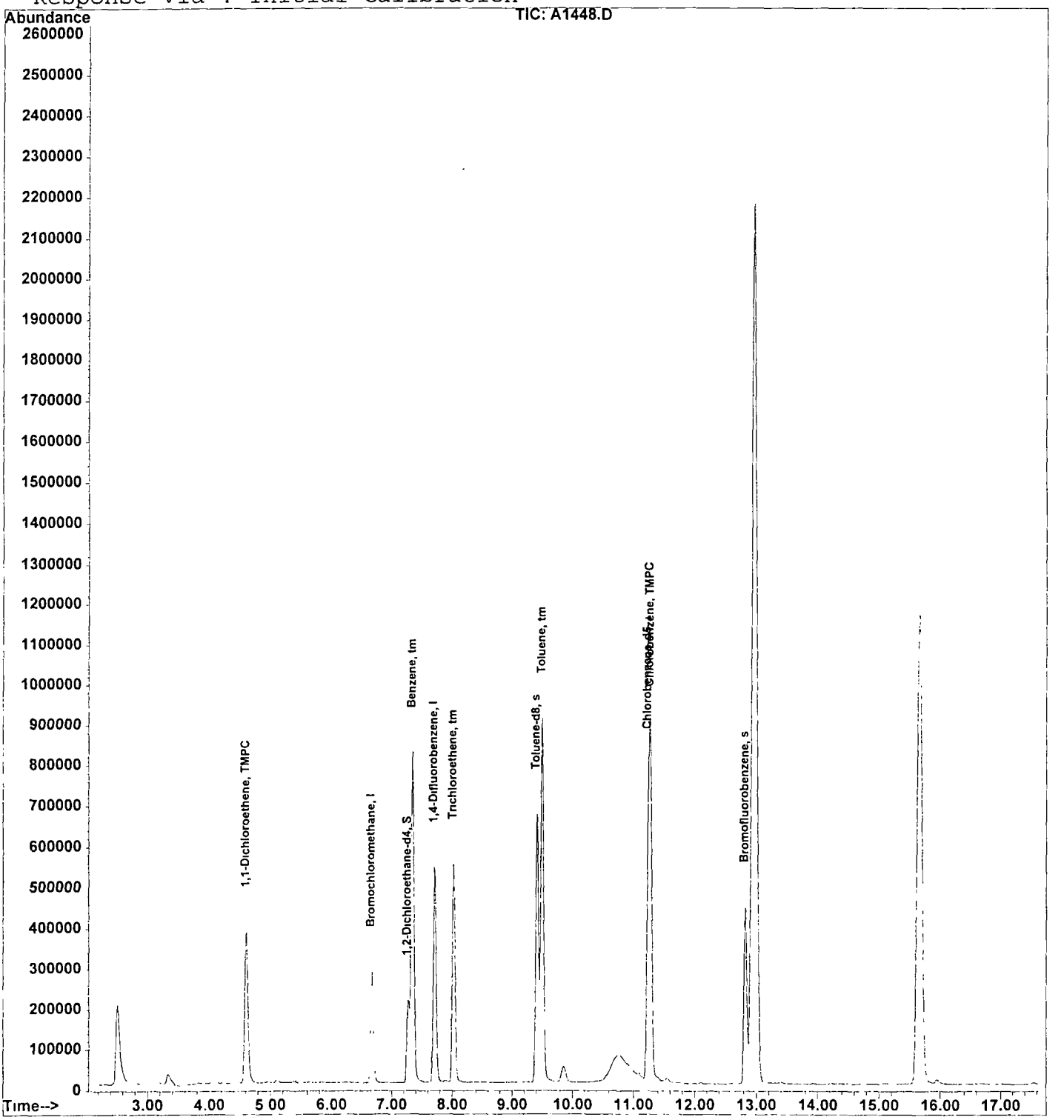
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.61	96	276321	37.73 ug/l	99
26) Benzene	7.35	78	1217533	37.58 ug/l	100
28) Trichloroethene	8.02	130	304713	41.48 ug/l	100
35) Toluene	9.50	92	696685	40.36 ug/l	98
42) Chlorobenzene	11.28	112	741154	42.01 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1448.D Vial: 2
Acq On : 18 Dec 1998 12:44 pm Operator:
Sample : lcs1218981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:29 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1491.D Vial: 4
Acq On : 19 Dec 1998 6:01 pm Operator:
Sample : lcs1219981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:46 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

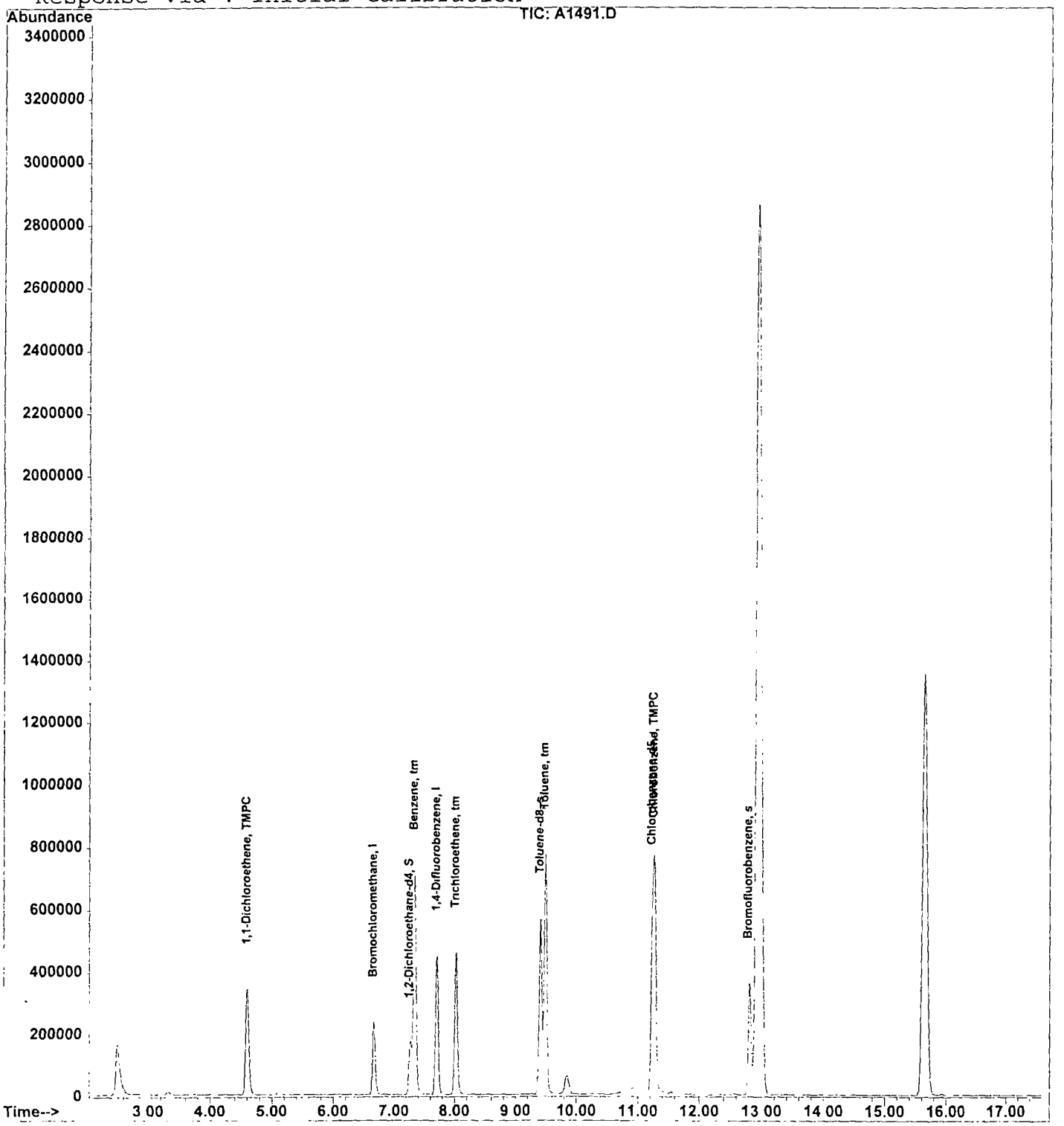
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	98849	50.00 ug/l	-0.01
27) 1,4-Difluorobenzene	7.71	114	627860	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.24	117	506949	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.26	65	206550	43.76 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 87.52%		
34) Toluene-d8	9.42	98	677785	49.28 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.56%		
50) Bromofluorobenzene	12.81	95	276592	51.06 ug/l	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 102.12%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.60	96	246090	40.40 ug/l	98
26) Benzene	7.34	78	1019674	37.83 ug/l	100
28) Trichloroethene	8.03	130	264157	42.62 ug/l	99
35) Toluene	9.50	92	578637	39.73 ug/l	98
42) Chlorobenzene	11.28	112	640464	42.07 ug/l	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1491.D Vial: 4
Acq On : 19 Dec 1998 6:01 pm Operator:
Sample : lcs1219981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:46 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1547.D Vial: 7
Acq On : 21 Dec 1998 4:43 pm Operator:
Sample : lcs1221981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:04 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

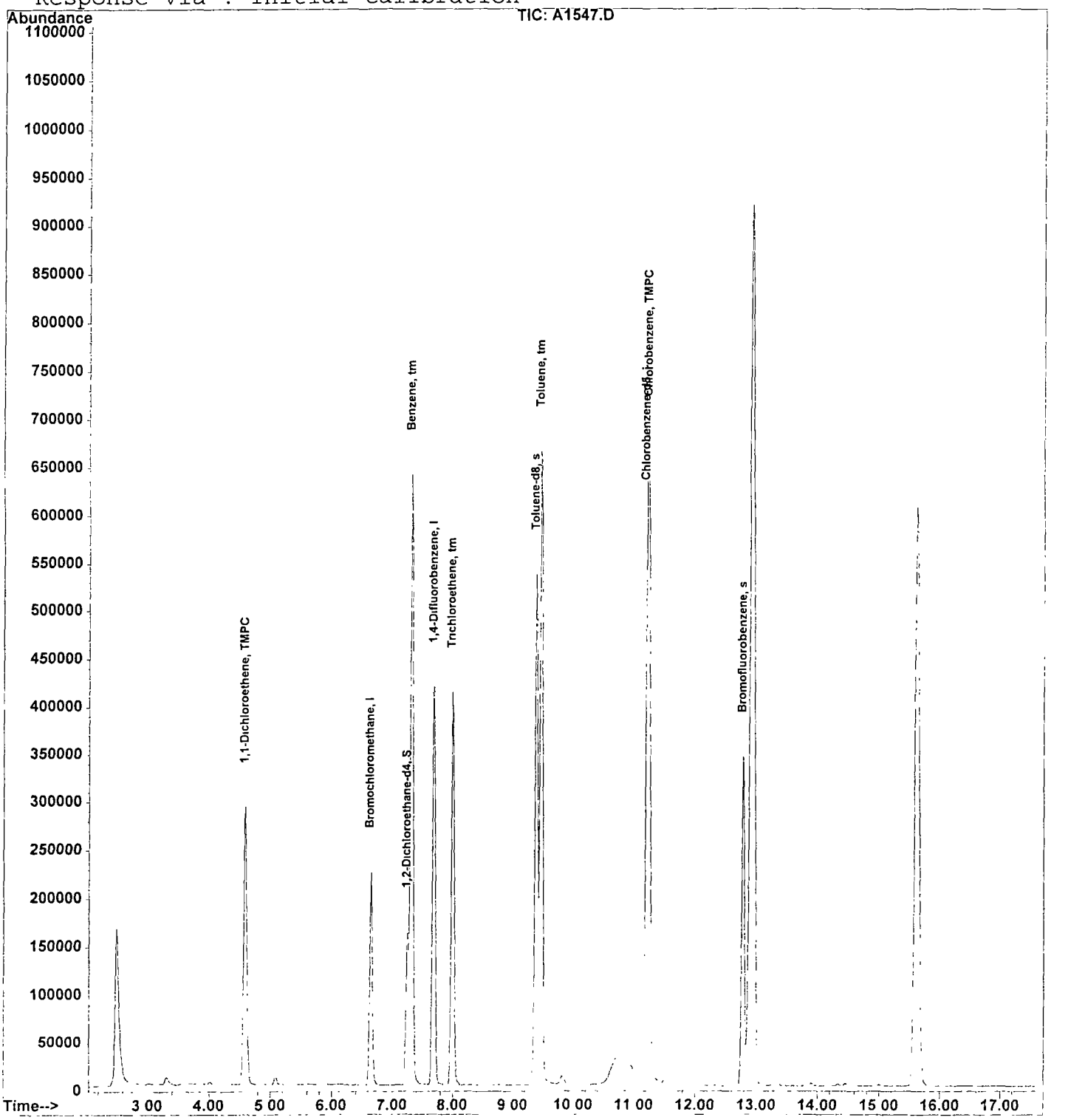
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.64	128	98157	50.00 ug/l	-0.03
27) 1,4-Difluorobenzene	7.69	114	612316	50.00 ug/l	-0.02
41) Chlorobenzene-d5	11.21	117	493209	50.00 ug/l	-0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.25	65	185409	47.26 ug/l	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 94.52%		
34) Toluene-d8	9.38	98	646464	49.05 ug/l	-0.03
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.10%		
50) Bromofluorobenzene	12.79	95	254995	49.26 ug/l	-0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 98.52%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.59	96	215681	40.97 ug/l	92
26) Benzene	7.32	78	911301	44.94 ug/l	100
28) Trichloroethene	8.00	130	238859	40.66 ug/l	96
35) Toluene	9.46	92	519602	42.39 ug/l	98
42) Chlorobenzene	11.24	112	571427	42.23 ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1547.D Vial: 7
Acq On : 21 Dec 1998 4:43 pm Operator:
Sample : lcs1221981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:04 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration



A1547.D 8260S.M Tue Dec 22 08:04:11 1998 Page 2

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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1667.D Vial: 2
Acq On : 27 Dec 1998 3:19 pm Operator:
Sample : lcs1227981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:36 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

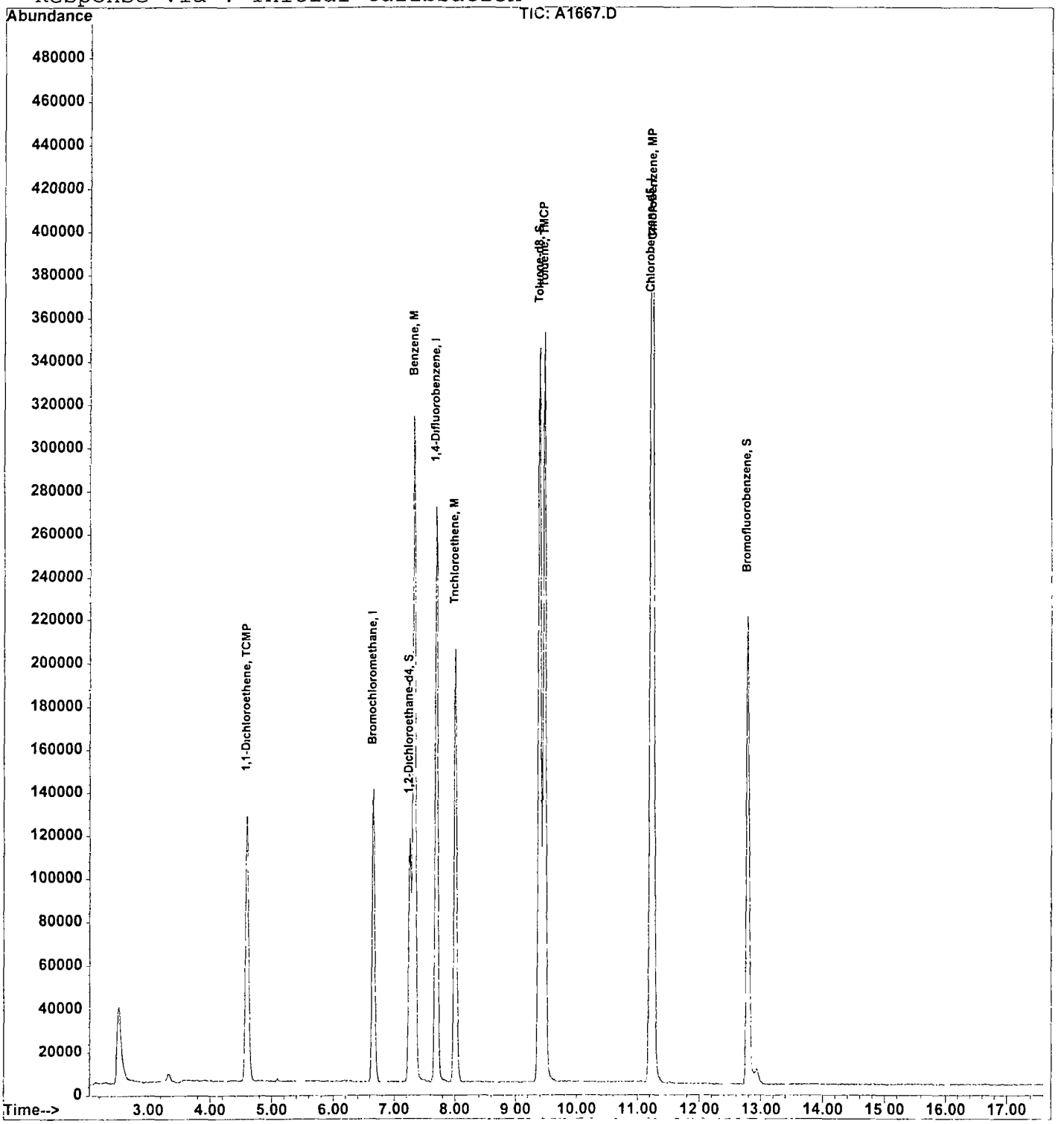
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.66	128	605210	50.00 ug/l	-0.04
27) 1,4-Difluorobenzene	7.70	114	3840585	50.00 ug/l	-0.04
41) Chlorobenzene-d5	11.22	117	3455191	50.00 ug/l	-0.04
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.26	65	1329436	46.75 ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 93.50%		
34) Toluene-d8	9.40	98	4166121	49.95 ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.90%		
50) Bromofluorobenzene	12.80	95	1668087	49.32 ug/l	-0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 98.64%		
Target Compounds					Qvalue
9) 1,1-Dichloroethene	4.60	96	938564	37.92 ug/l	94
26) Benzene	7.33	78	4609920	40.01 ug/l	100
28) Trichloroethene	8.01	130	1167494	45.60 ug/l	92
35) Toluene	9.48	92	2648235	43.00 ug/l	98
42) Chlorobenzene	11.26	112	3159970	44.66 ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1667.D Vial: 2
Acq On : 27 Dec 1998 3:19 pm Operator:
Sample : lcs1227981 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:36 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration



GCMS VOA

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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1248.D Vial: 7
Acq On : 12 Dec 1998 9:57 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:25 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	616844	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3872796	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.25	117	3161177	50.00 ug/l	0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	1430910	49.37 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.74%		
34) Toluene-d8	9.43	98	4169248	49.57 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.14%		
50) Bromofluorobenzene	12.83	95	1469285	47.48 ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 94.96%		

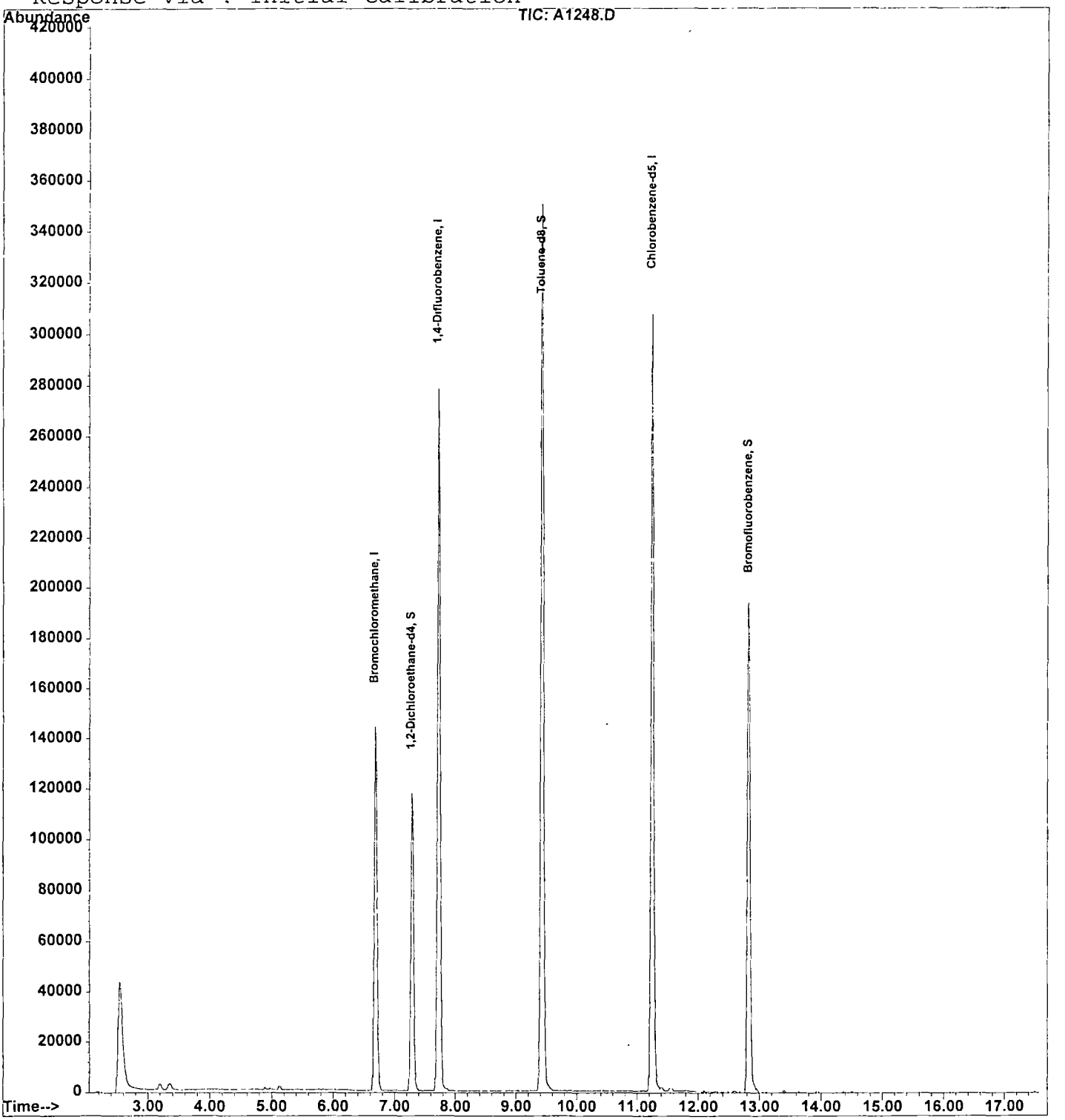
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1248.D Vial: 7
Acq On : 12 Dec 1998 9:57 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:25 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1268.D Vial: 27
Acq On : 13 Dec 1998 8:09 am Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:59 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.71	128	581533	50.00 ug/l	0.11
27) 1,4-Difluorobenzene	7.75	114	3651703	50.00 ug/l	0.09
41) Chlorobenzene-d5	11.28	117	2985786	50.00 ug/l	0.07
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.31	65	1383697	50.64 ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.28%		
34) Toluene-d8	9.45	98	3963471	49.98 ug/l	0.07
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.96%		
50) Bromofluorobenzene	12.86	95	1339556	45.83 ug/l	0.07
Spiked Amount 50.000	Range 74 - 115		Recovery = 91.66%		

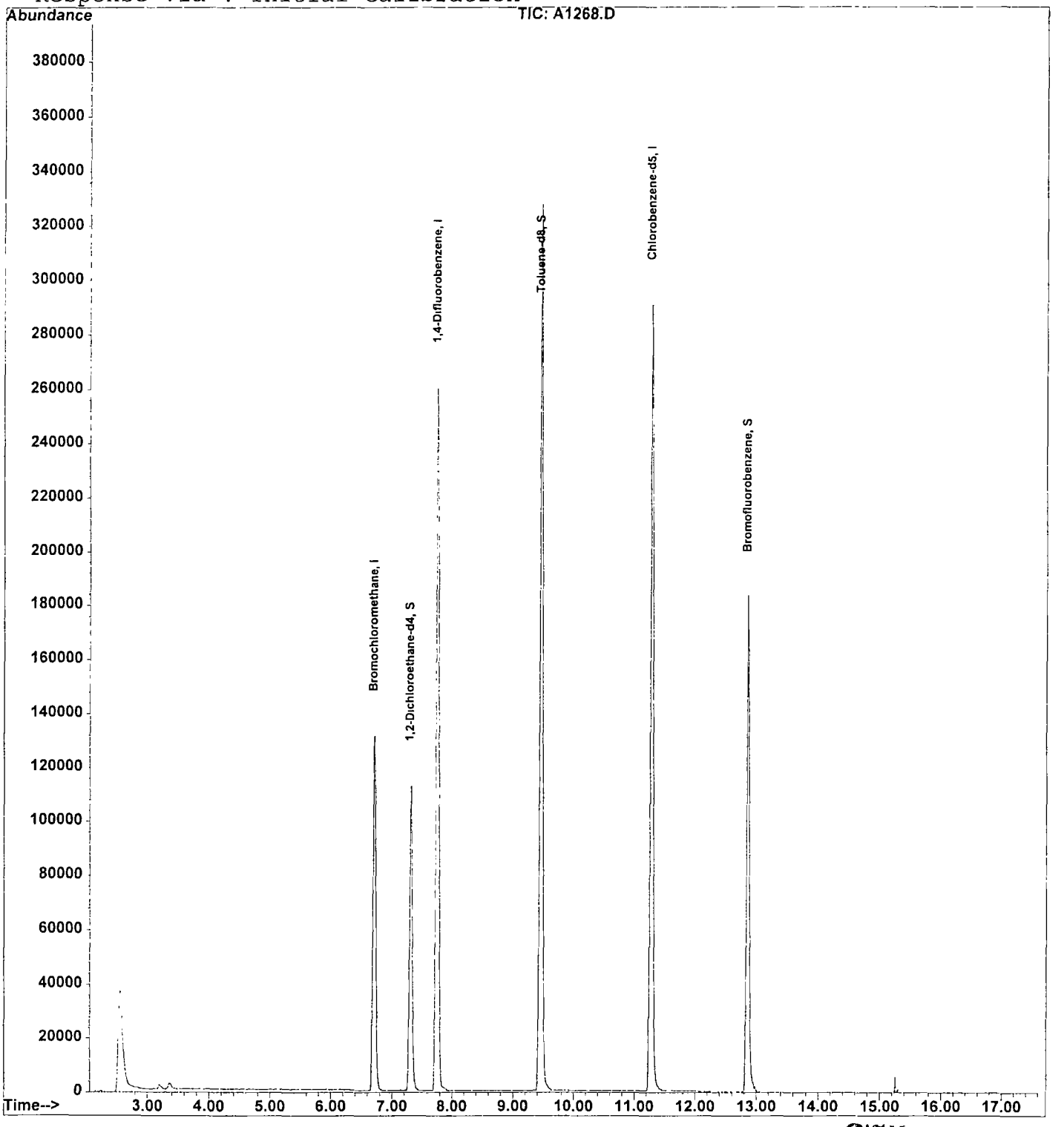
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1268.D Vial: 27
Acq On : 13 Dec 1998 8:09 am Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:59 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1304.D Vial: 1
Acq On : 14 Dec 1998 12:18 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 15 9:17 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	635958	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	3956201	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.26	117	3213364	50.00 ug/l	0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.30	65	1491780	49.92 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.84%		
34) Toluene-d8	9.43	98	4262132	49.61 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.22%		
50) Bromofluorobenzene	12.84	95	1451205	46.14 ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 92.28%		

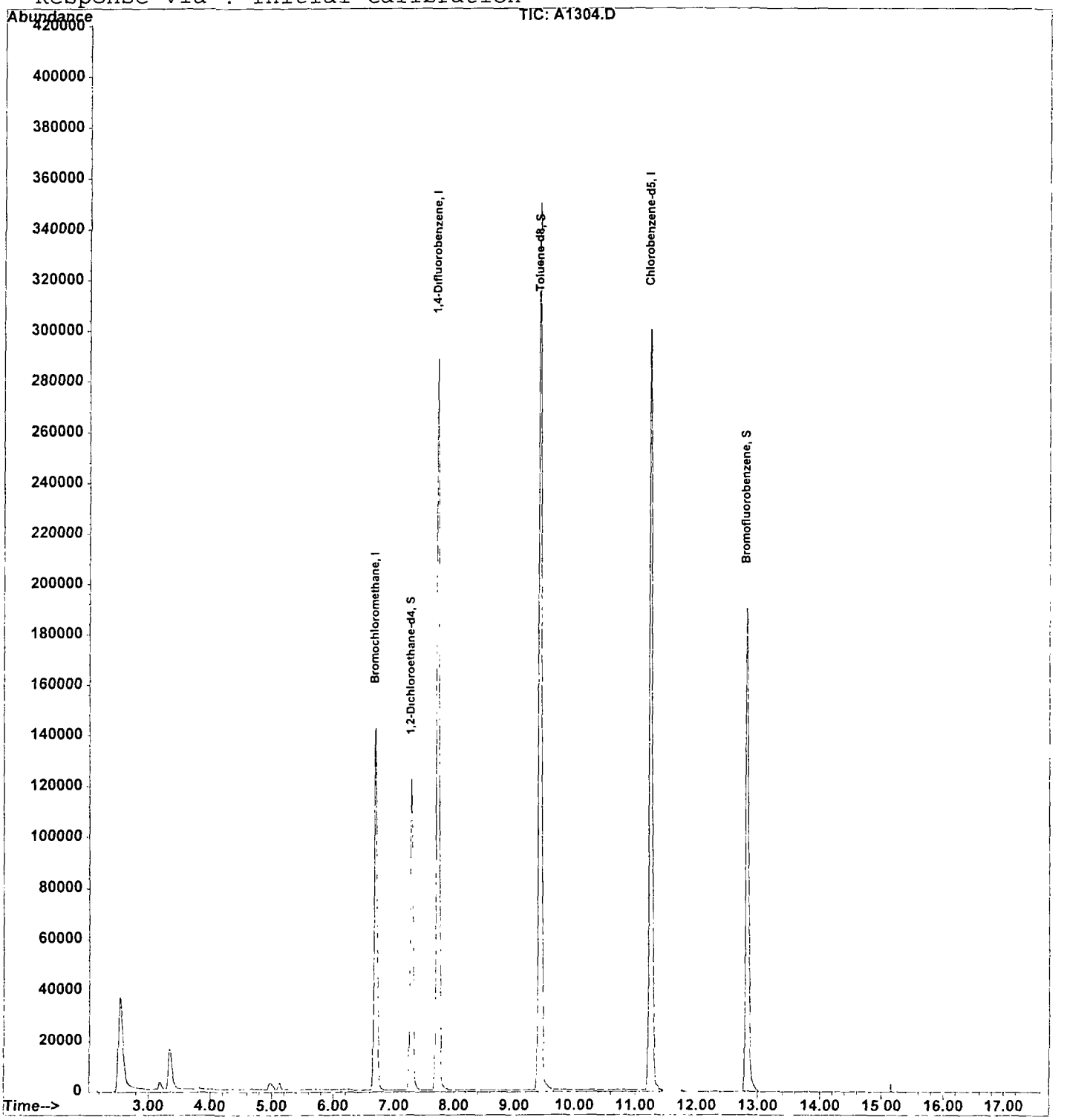
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1304.D Vial: 1
Acq On : 14 Dec 1998 12:18 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 15 9:17 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1447.D Vial: 2
Acq On : 18 Dec 1998 1:18 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:28 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	113975	50.00 ug/l	-0.01
27) 1,4-Difluorobenzene	7.71	114	709812	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.24	117	597718	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.27	65	236161	43.40 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 86.80%		
34) Toluene-d8	9.42	98	777573	50.01 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.02%		
50) Bromofluorobenzene	12.82	95	314790	49.28 ug/l	0.01
Spiked Amount 50.000	Range 86 - 115		Recovery = 98.56%		

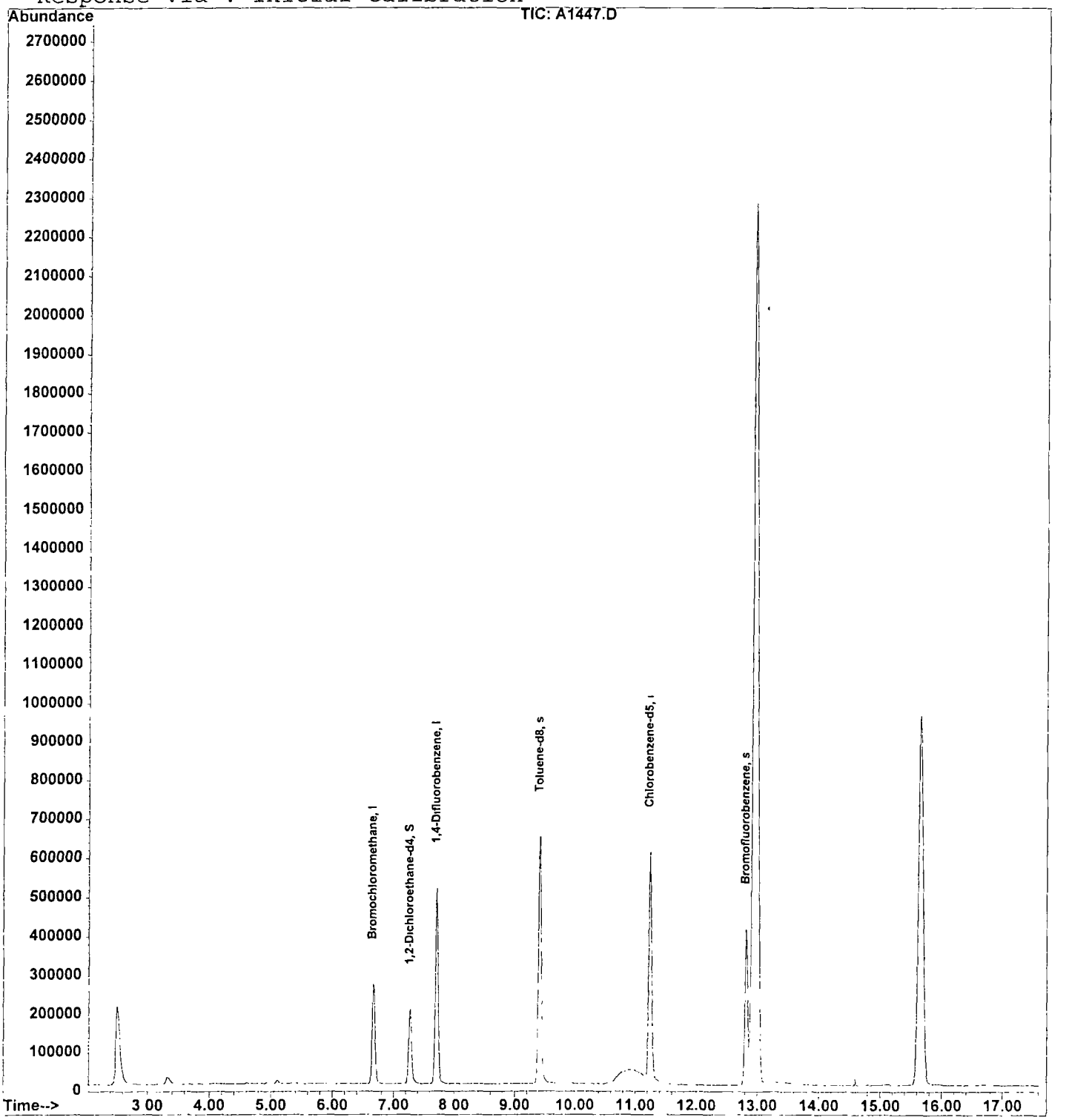
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1447.D Vial: 2
Acq On : 18 Dec 1998 1:18 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:28 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1490.D Vial: 3
Acq On : 19 Dec 1998 5:26 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:45 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	94760	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.71	114	626657	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.24	117	507009	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.27	65	197148	43.57 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 87.14%		
34) Toluene-d8	9.41	98	672555	49.00 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.00%		
50) Bromofluorobenzene	12.82	95	266248	49.14 ug/l	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 98.28%		

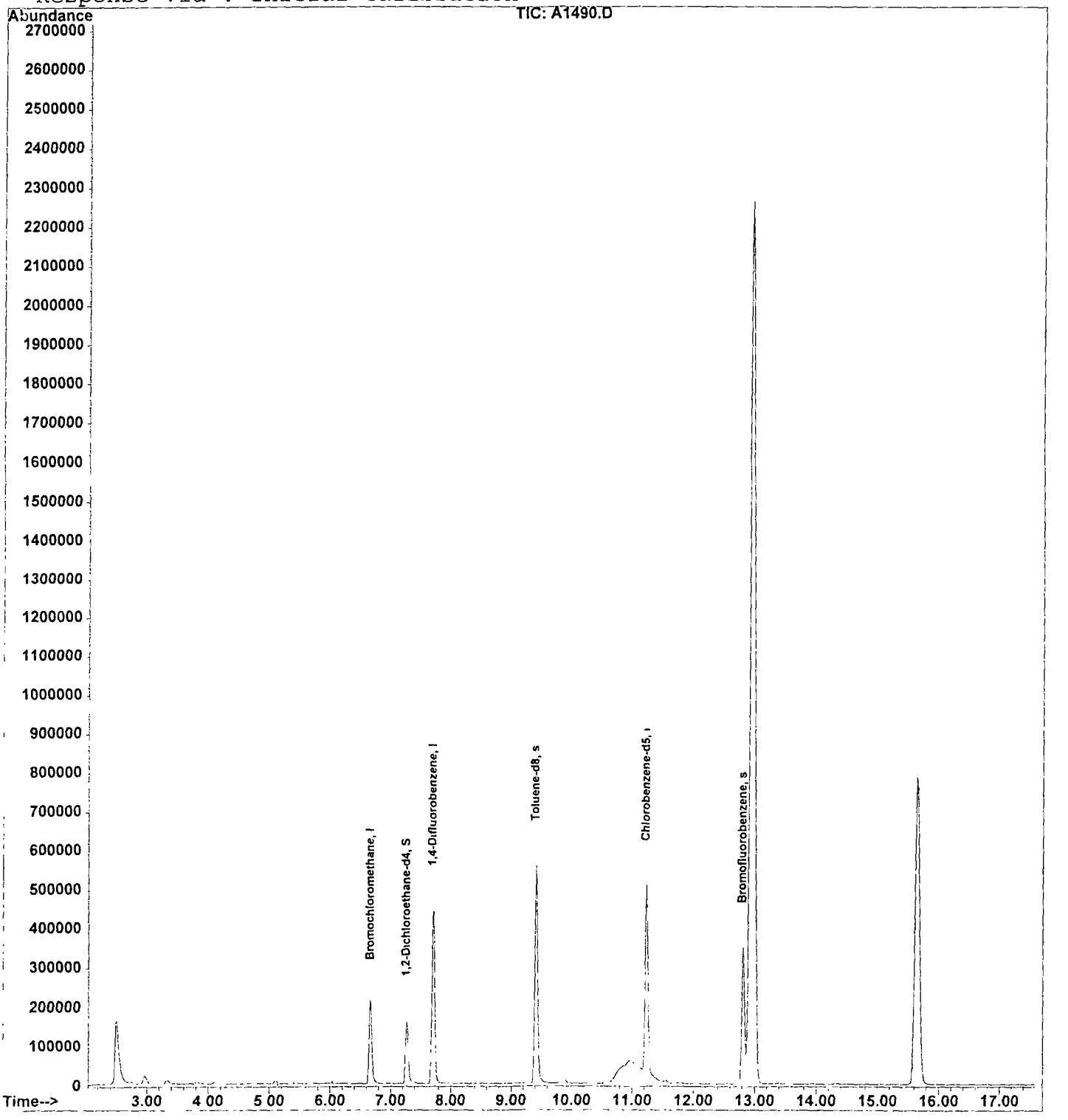
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1490.D Vial: 3
Acq On : 19 Dec 1998 5:26 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:45 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1546.D Vial: 6
Acq On : 21 Dec 1998 4:09 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:03 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.65	128	93797	50.00 ug/l	-0.02
27) 1,4-Difluorobenzene	7.69	114	581410	50.00 ug/l	-0.02
41) Chlorobenzene-d5	11.20	117	470719	50.00 ug/l	-0.04
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.25	65	176681	47.13 ug/l	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 94.26%		
34) Toluene-d8	9.39	98	621399	49.66 ug/l	-0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.32%		
50) Bromofluorobenzene	12.77	95	239105	48.39 ug/l	-0.03
Spiked Amount 50.000	Range 86 - 115		Recovery = 96.78%		

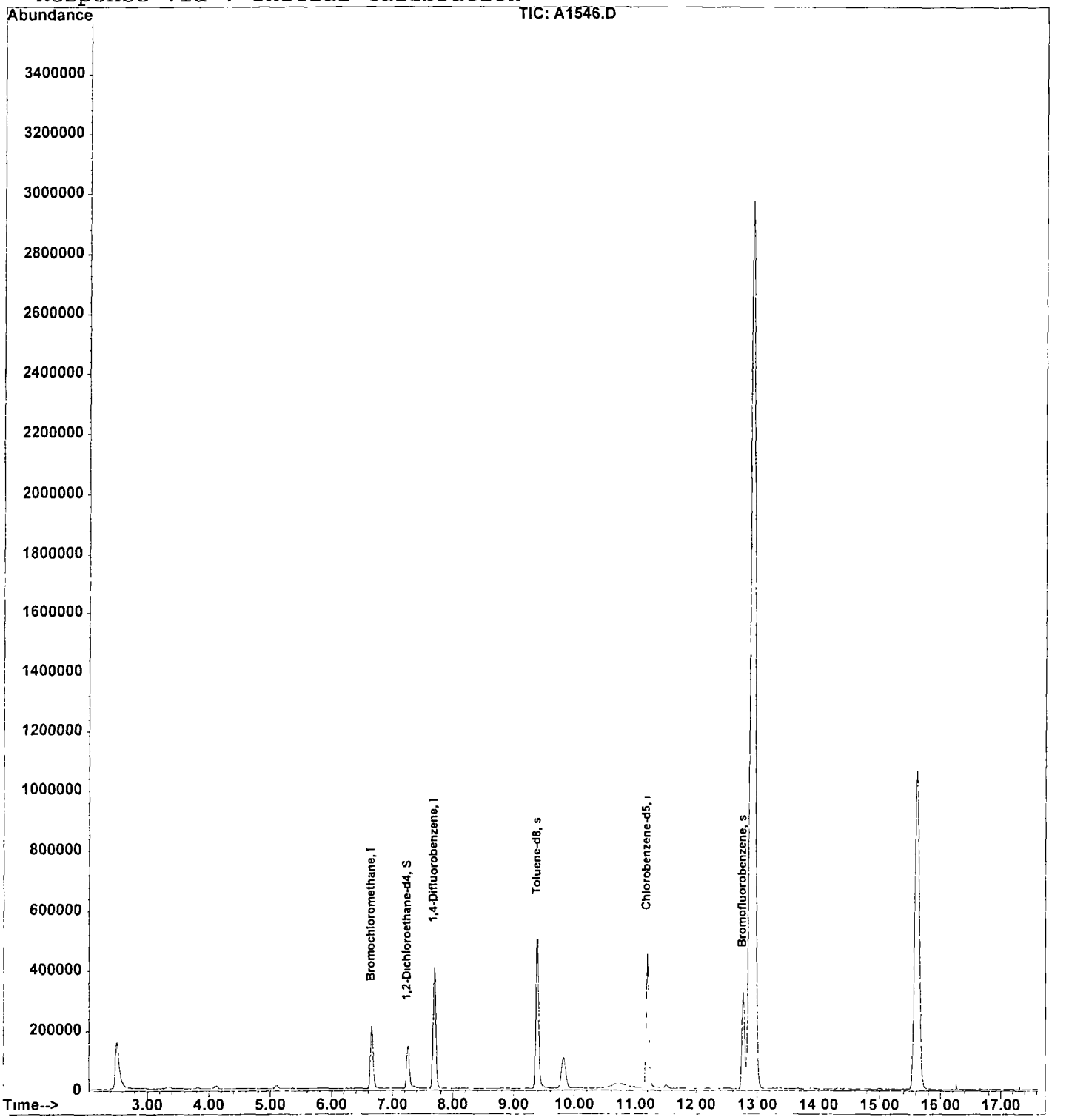
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1546.D Vial: 6
Acq On : 21 Dec 1998 4:09 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:03 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1666.D Vial: 1
Acq On : 27 Dec 1998 2:48 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:35 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.66	128	635651	50.00	ug/l	-0.03
27) 1,4-Difluorobenzene	7.70	114	3970536	50.00	ug/l	-0.03
41) Chlorobenzene-d5	11.22	117	3425731	50.00	ug/l	-0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.26	65	1368148	45.81	ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 91.62%			
34) Toluene-d8	9.40	98	4186336	48.55	ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 97.10%			
50) Bromofluorobenzene	12.79	95	1710756	51.02	ug/l	-0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 102.04%			

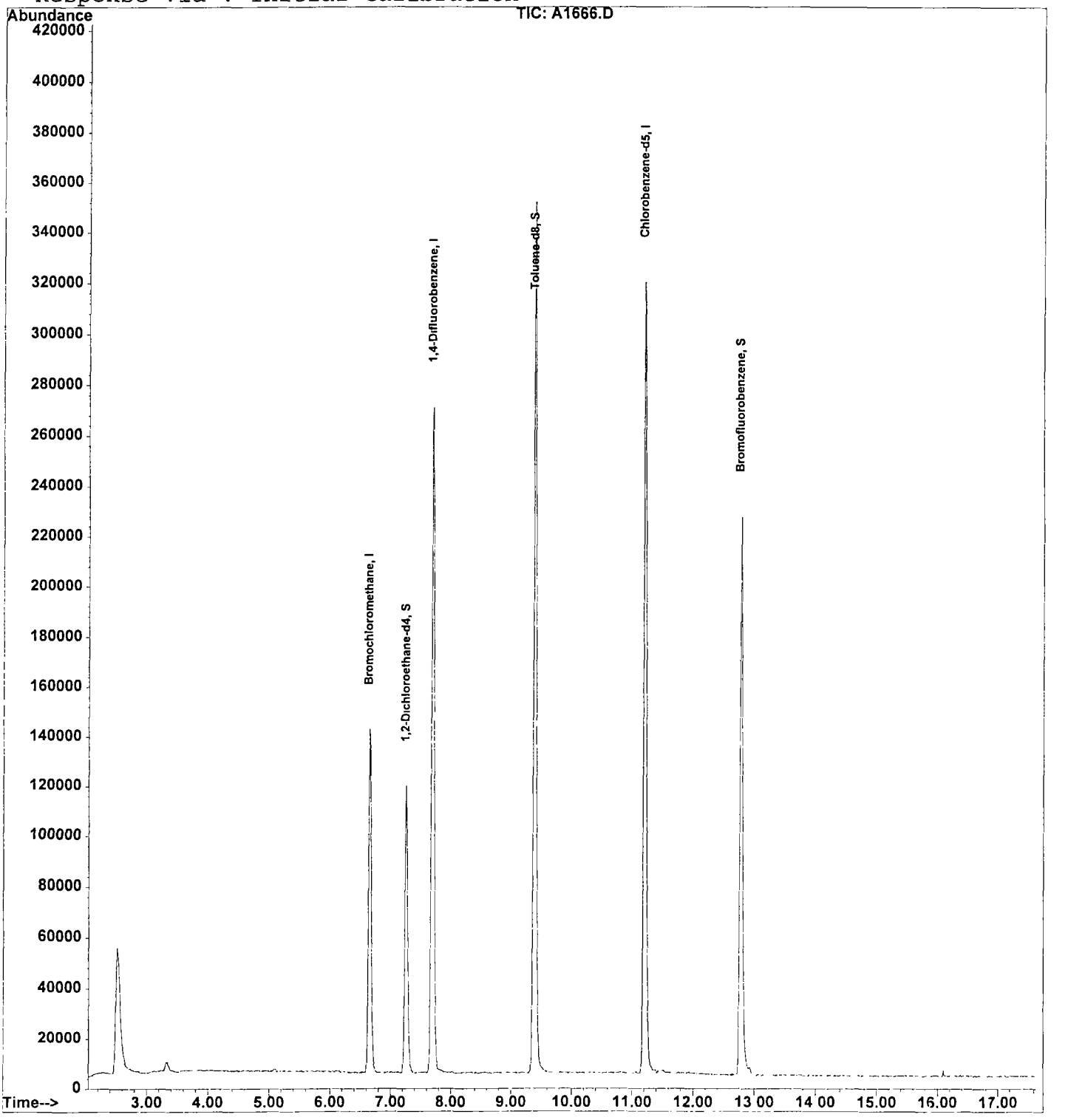
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1666.D Vial: 1
Acq On : 27 Dec 1998 2:48 pm Operator:
Sample : mb Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 8:35 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration

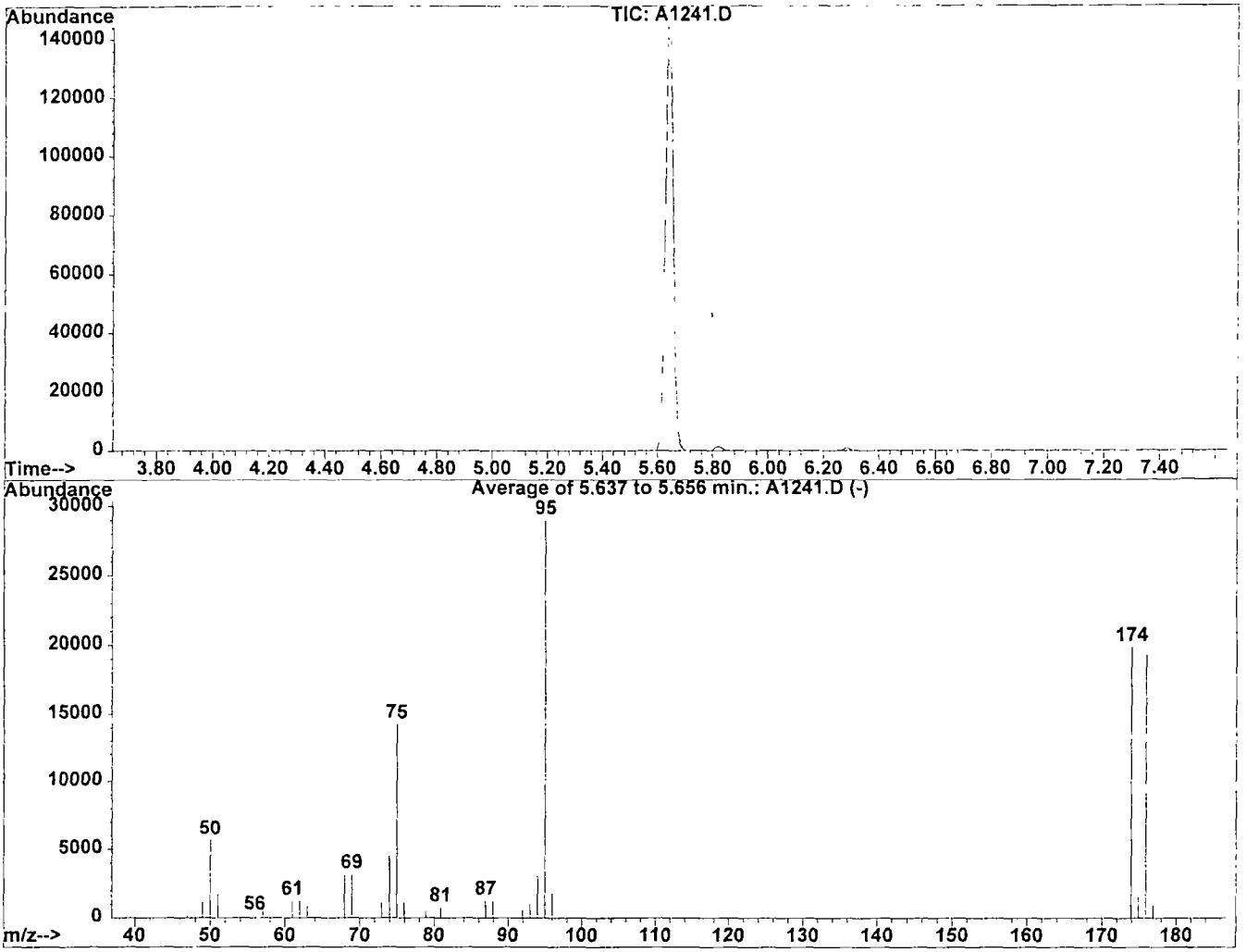


GCMS VOA

BFB Tunes

CLPBFB

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1241.D Vial: 1
Acq On : 12 Dec 1998 6:35 pm Operator:
Sample : bfb1212981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration

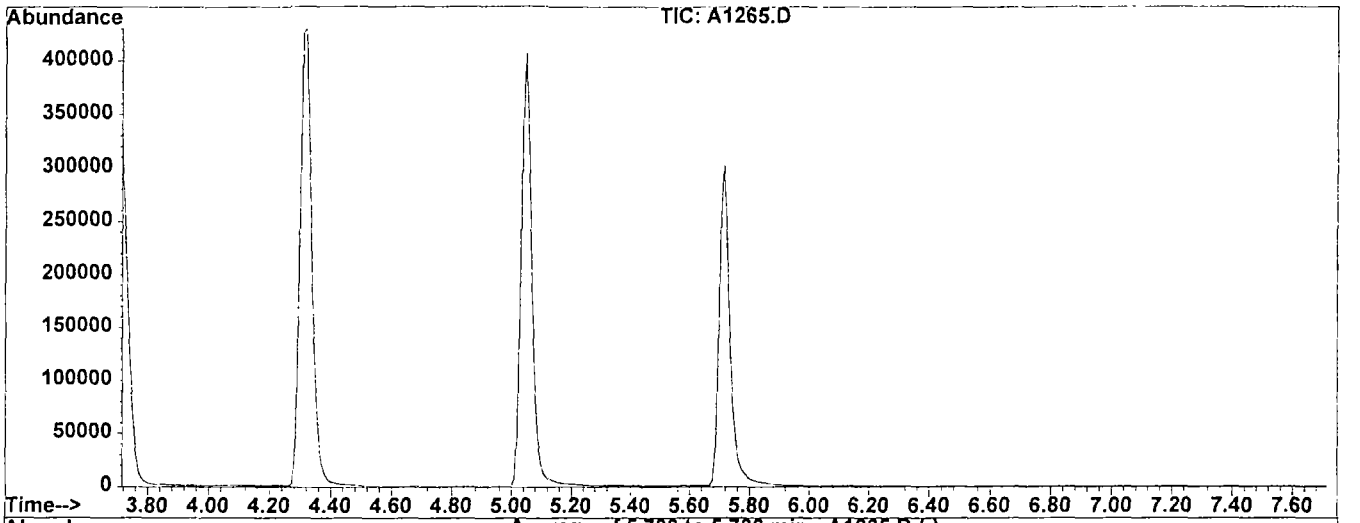


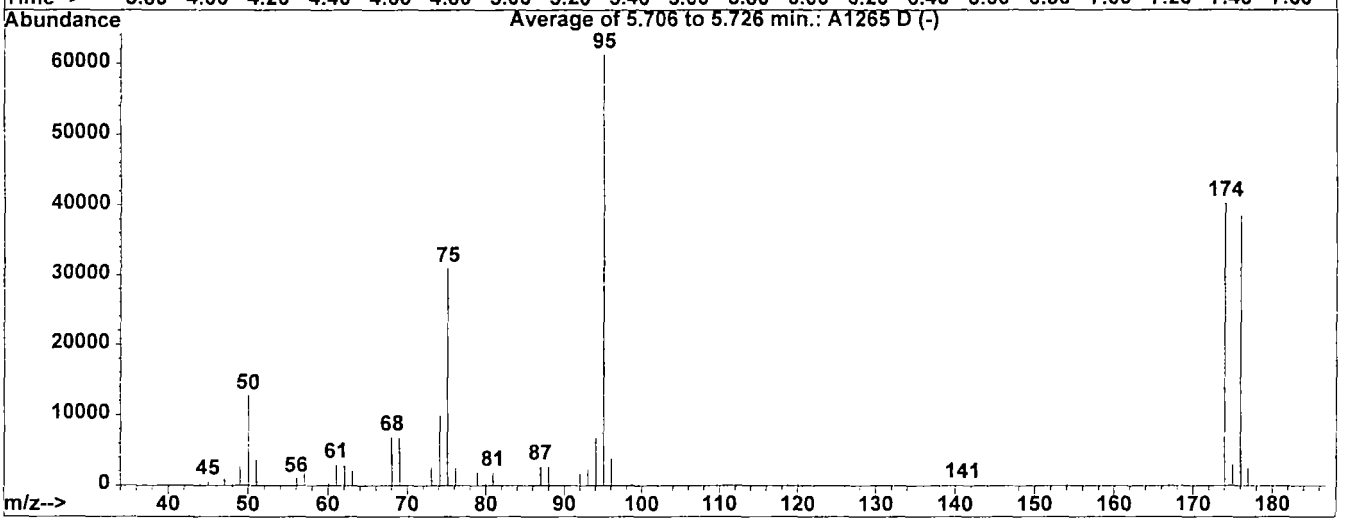
AutoFind: Scans 269, 270, 271; Background Corrected with Scan 263

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	5688	PASS
75	95	30	60	49.3	14288	PASS
95	95	100	100	100.0	28968	PASS
96	95	5	9	6.6	1910	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	68.4	19817	PASS
175	174	5	9	7.8	1551	PASS
176	174	95	101	97.3	19290	PASS
177	176	5	9	6.5	1263	PASS

CLPBFB

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1265.D Vial: 24
Acq On : 13 Dec 1998 6:37 am Operator:
Sample : bfb1213981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration



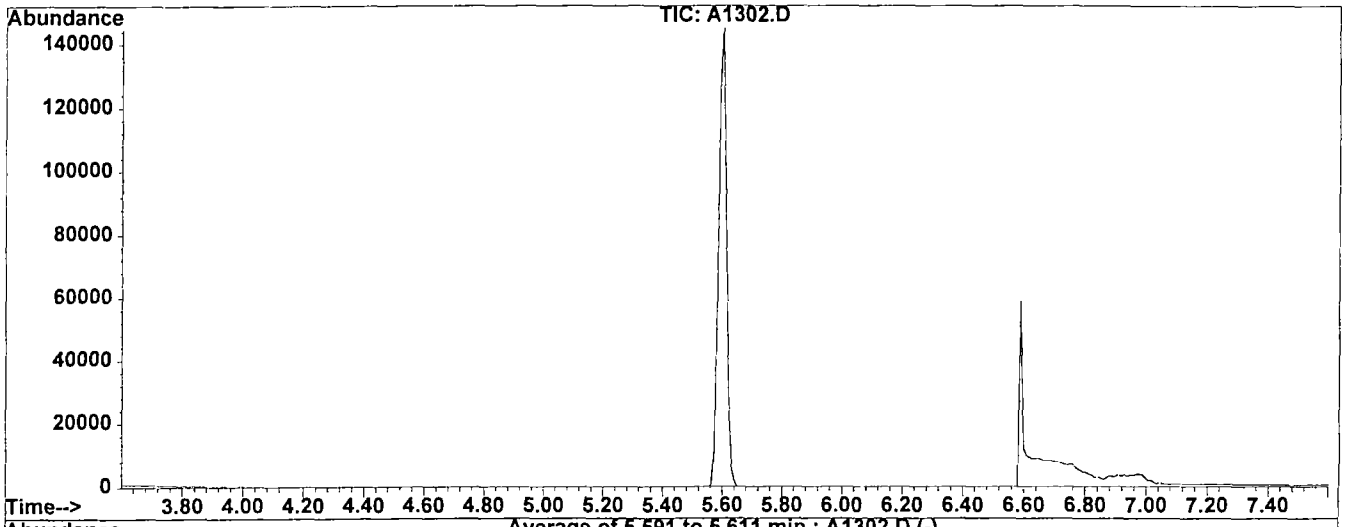


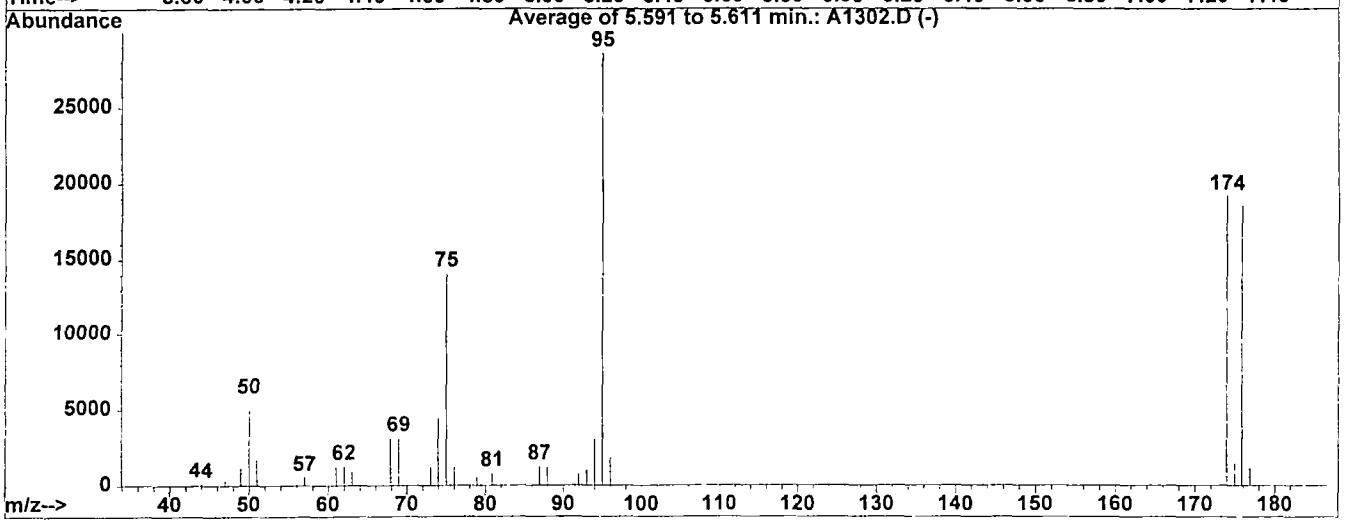
AutoFind: Scans 276, 277, 278; Background Corrected with Scan 270

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.8	12747	PASS
75	95	30	60	50.6	31051	PASS
95	95	100	100	100.0	61336	PASS
96	95	5	9	6.6	4025	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	65.8	40368	PASS
175	174	5	9	7.5	3009	PASS
176	174	95	101	95.6	38595	PASS
177	176	5	9	6.5	2521	PASS

CLPBFB

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1302.D Vial: 1
Acq On : 14 Dec 1998 11:10 am Operator:
Sample : bfb1214981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration





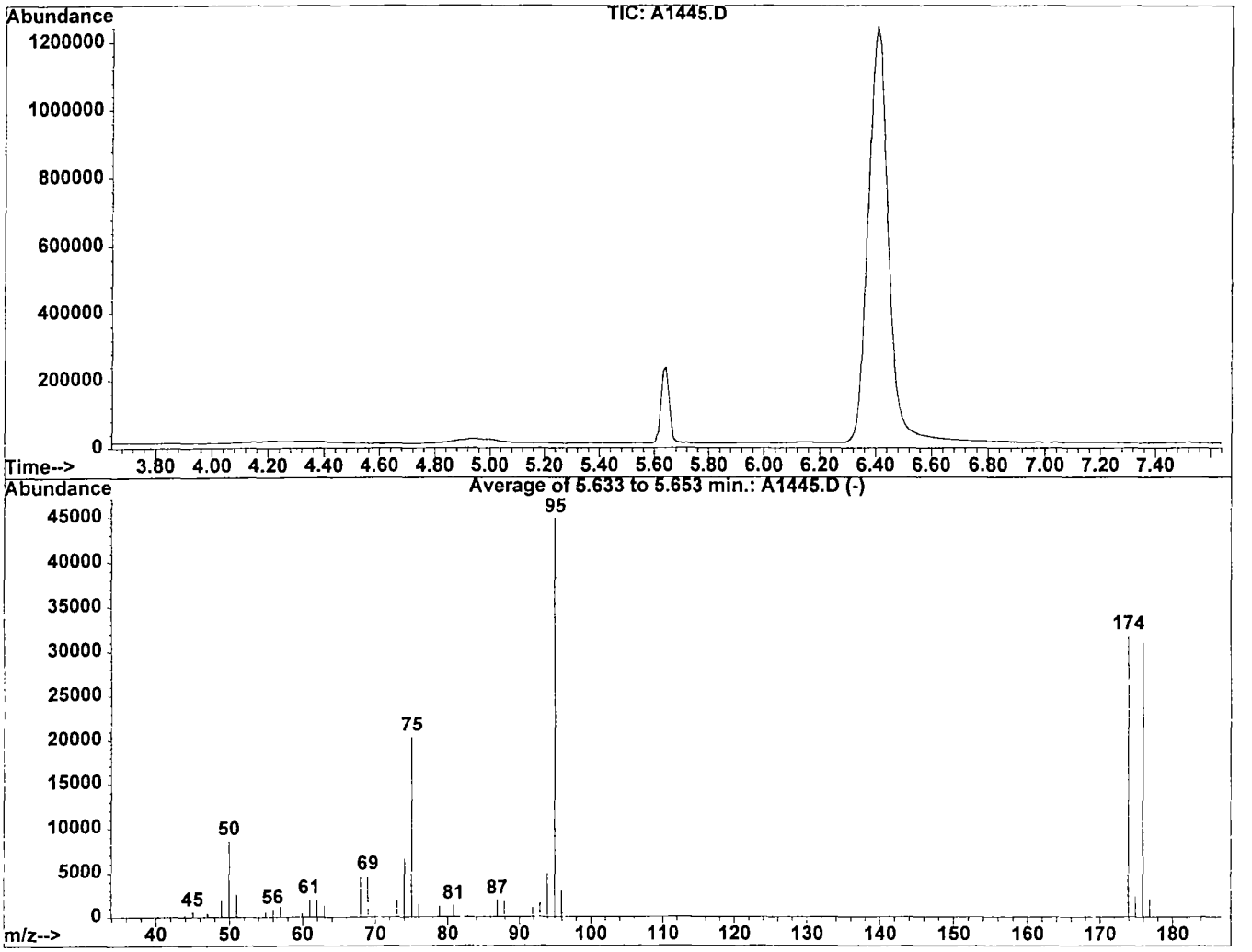
AutoFind: Scans 264, 265, 266; Background Corrected with Scan 258

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.1	5737	PASS
75	95	30	60	49.3	14088	PASS
95	95	100	100	100.0	28549	PASS
96	95	5	9	6.7	1901	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	67.1	19158	PASS
175	174	5	9	7.5	1439	PASS
176	174	95	101	96.8	18549	PASS
177	176	5	9	6.4	1195	PASS

A1302.D 8260S.M Tue Dec 15 09:11:12 1998

CLPBFB

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1445.D Vial: 1
Acq On : 18 Dec 1998 11:06 am Operator:
Sample : bfb1218981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration



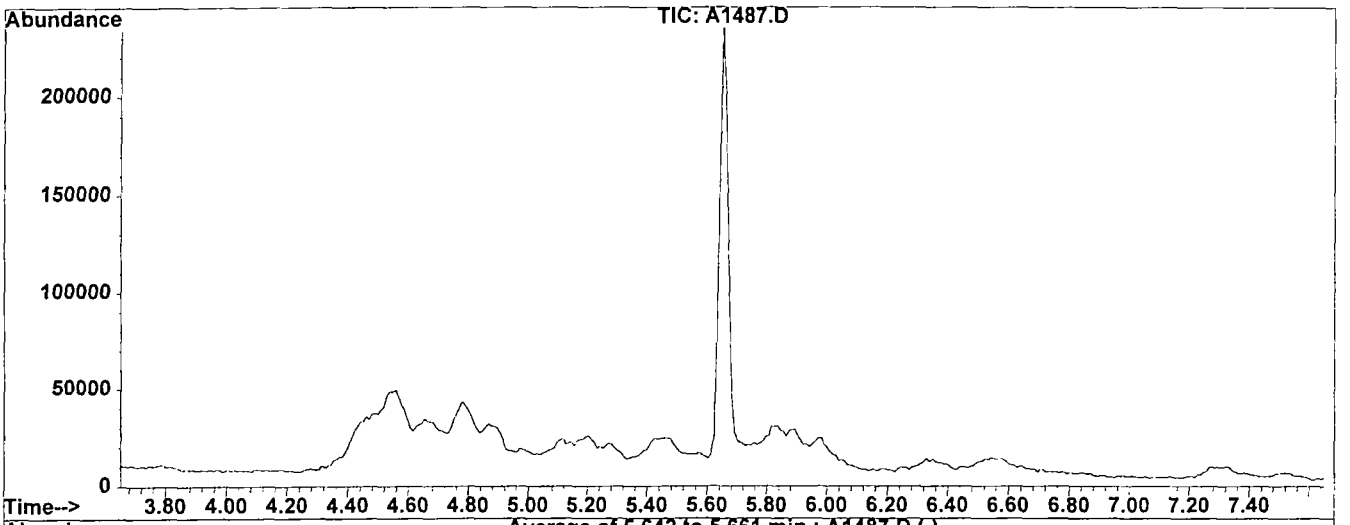
AutoFind: Scans 269, 270, 271; Background Corrected with Scan 263

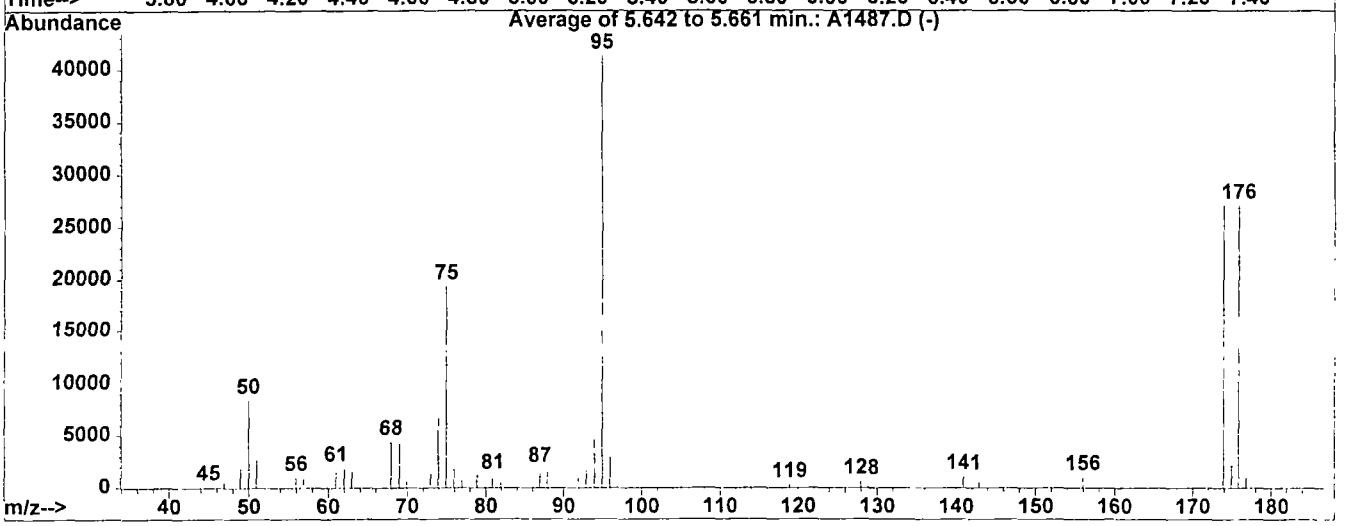
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	8651	PASS
75	95	30	60	45.4	20389	PASS
95	95	100	100	100.0	44867	PASS
96	95	5	9	6.7	3012	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.7	31741	PASS
175	174	5	9	7.6	2415	PASS
176	174	95	101	97.6	30968	PASS
177	176	5	9	6.7	2064	PASS

A1445.D 8260S.M Fri Dec 18 11:27:11 1998

CLPBFB

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1487.D Vial: 1
Acq On : 19 Dec 1998 3:58 pm Operator:
Sample : bfb1219981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration



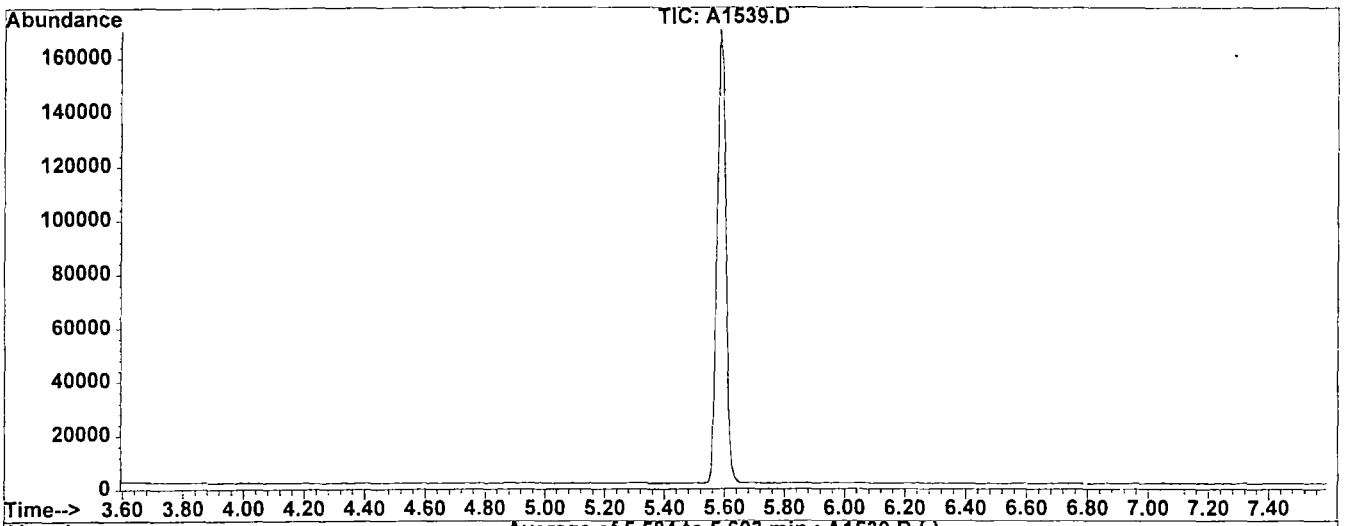


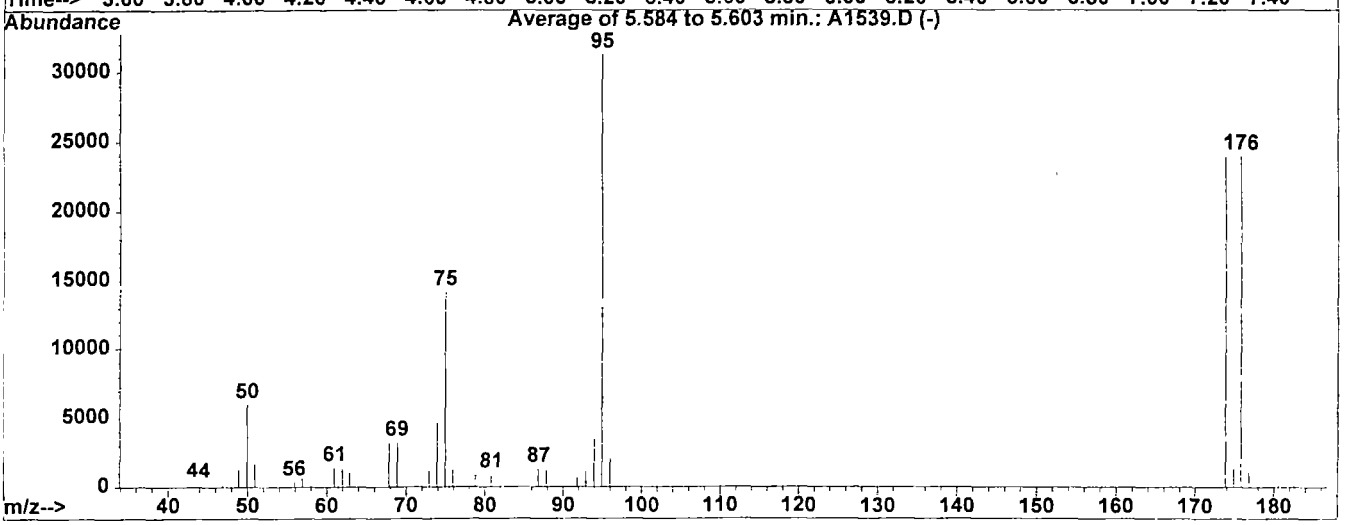
AutoFind: Scans 270, 271, 272; Background Corrected with Scan 262

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	8530	PASS
75	95	30	60	47.0	19424	PASS
95	95	100	100	100.0	41356	PASS
96	95	5	9	7.2	2968	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	65.3	27021	PASS
175	174	5	9	8.1	2199	PASS
176	174	95	101	100.2	27088	PASS
177	176	5	9	6.9	1872	PASS

CLPBFB

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1539.D Vial: 1
Acq On : 21 Dec 1998 11:36 am Operator:
Sample : bfb1221981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration



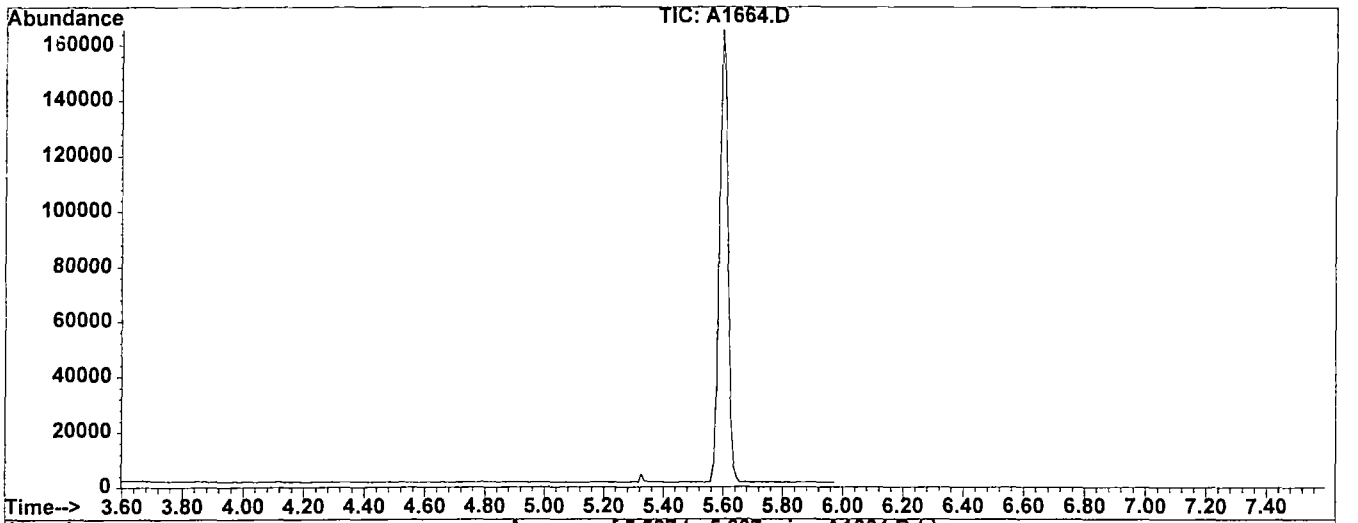


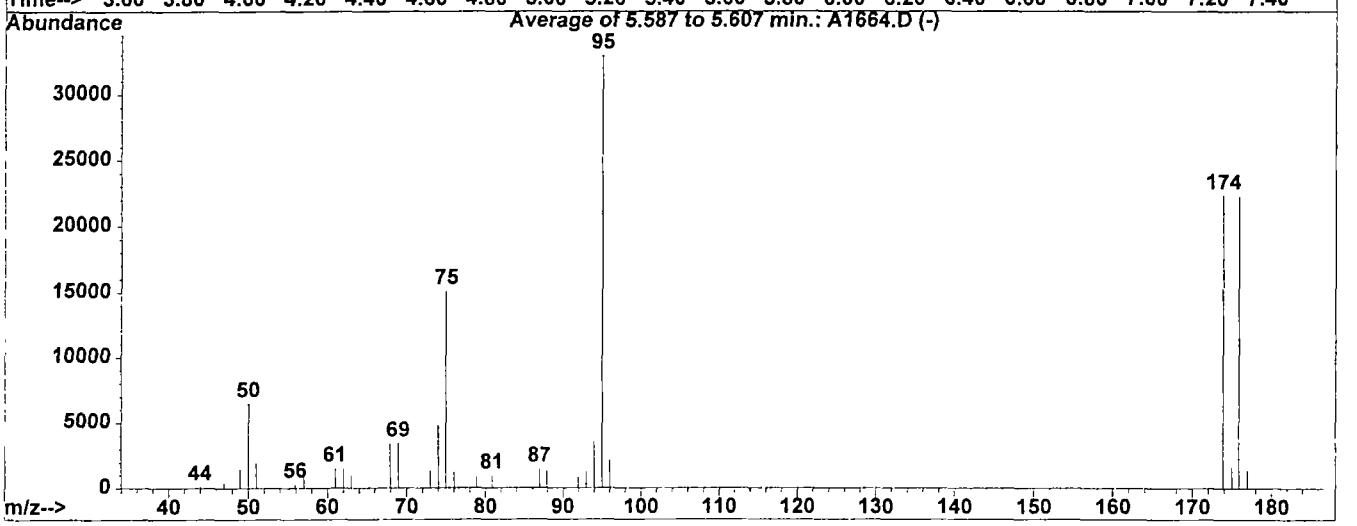
AutoFind: Scans 264, 265, 266; Background Corrected with Scan 258

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	6046	PASS
75	95	30	60	45.3	14183	PASS
95	95	100	100	100.0	31285	PASS
96	95	5	9	6.7	2096	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	76.3	23867	PASS
175	174	5	9	5.5	1324	PASS
176	174	95	101	100.4	23960	PASS
177	176	5	9	6.5	1555	PASS

BFB

Data File : C:\HPCHEM\1\DATA\DEC2798\A1664.D Vial: 1
Acq On : 27 Dec 1998 1:46 pm Operator:
Sample : bfb1227981:50ng Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\BFB.M (RTE Integrator)
Title :





AutoFind: Scans 264, 265, 266; Background Corrected with Scan 259

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.9	6548	PASS
75	95	30	60	45.9	15124	PASS
95	95	100	100	100.0	32941	PASS
96	95	5	9	6.7	2215	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	67.8	22349	PASS
175	174	5	9	7.4	1652	PASS
176	174	95	101	99.7	22275	PASS
177	176	5	9	6.5	1439	PASS

A1664.D BFB.M Sun Dec 27 13:52:40 1998

GCMS VOA

Initial Calibrations
(In order by Instrument, then date)

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1242.D Vial: 1
Acq On : 12 Dec 1998 6:53 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:05 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	603270	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3895792	50.00 ug/l	0.07
41) Chlorobenzene-d5	11.24	117	3102604m	50.00 ug/l	0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	1418595	47.31 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 94.62%		
34) Toluene-d8	9.43	98	4168358	50.48 ug/l	0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.96%		
50) Bromofluorobenzene	12.82	95	1499606	48.96 ug/l	0.03
Spiked Amount 50.000	Range 74 - 115		Recovery = 97.92%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.79	85	98687	9.81 ug/l	85
3) Chloromethane	3.07	50	428155	9.61 ug/l	98
4) Vinyl Chloride	3.21	62	398668	9.52 ug/l	99
5) Bromomethane	3.64	94	181351	10.82 ug/l	96
6) Chloroethane	3.76	64	252263	9.97 ug/l	96
7) Trichlorofluoromethane	4.07	101	361120	9.37 ug/l	100
9) 1,1-Dichloroethene	4.63	96	259048	9.92 ug/l	98
11) Carbon Disulfide	4.90	76	941466	9.12 ug/l	98
12) Methylene Chloride	5.13	84	303869	9.78 ug/l	92
13) Acrylonitrile	5.38	53	64825	8.88 ug/l	89
14) Methyl-tert-butyl ether	5.40	73	604264	10.12 ug/l	97
15) trans-1,2-Dichloroethene	5.41	96	263291	9.35 ug/l	98
16) Vinyl Acetate	5.86	43	445940	8.69 ug/l	95
17) 1,1-Dichloroethane	5.84	63	539165	9.09 ug/l	99
18) 2-Butanone	6.43	72	11661	7.35 ug/l #	17
19) cis-1,2-Dichloroethene	6.44	96	269475	9.40 ug/l	94
20) Chloroform	6.75	83	491062	9.30 ug/l	99
21) 1,1,1-Trichloroethane	6.97	97	359914	8.93 ug/l	97
22) 1,2-Dichloroethane	7.37	62	370888	9.85 ug/l	93
23) Carbon Tetrachloride	7.14	117	119112	13.98 ug/l	94
24) 2-Chloroethyl vinyl ether	7.37	63	105847	9.57 ug/l	100
26) Benzene	7.36	78	1200148	10.12 ug/l	100
28) Trichloroethene	8.04	130	255733	9.71 ug/l	94
29) 1,2-Dichloropropane	8.30	63	317488	9.37 ug/l #	88
30) Dibromomethane	8.44	93	139888	9.93 ug/l #	87
31) Bromodichloromethane	8.60	83	279517	8.44 ug/l	99
32) cis-1,3-Dichloropropene	9.10	75	387096	8.90 ug/l	99
33) 4-Methyl-2-pentanone	9.26	43	160478	9.38 ug/l #	69

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1242.D Vial: 1
Acq On : 12 Dec 1998 6:53 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:05 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

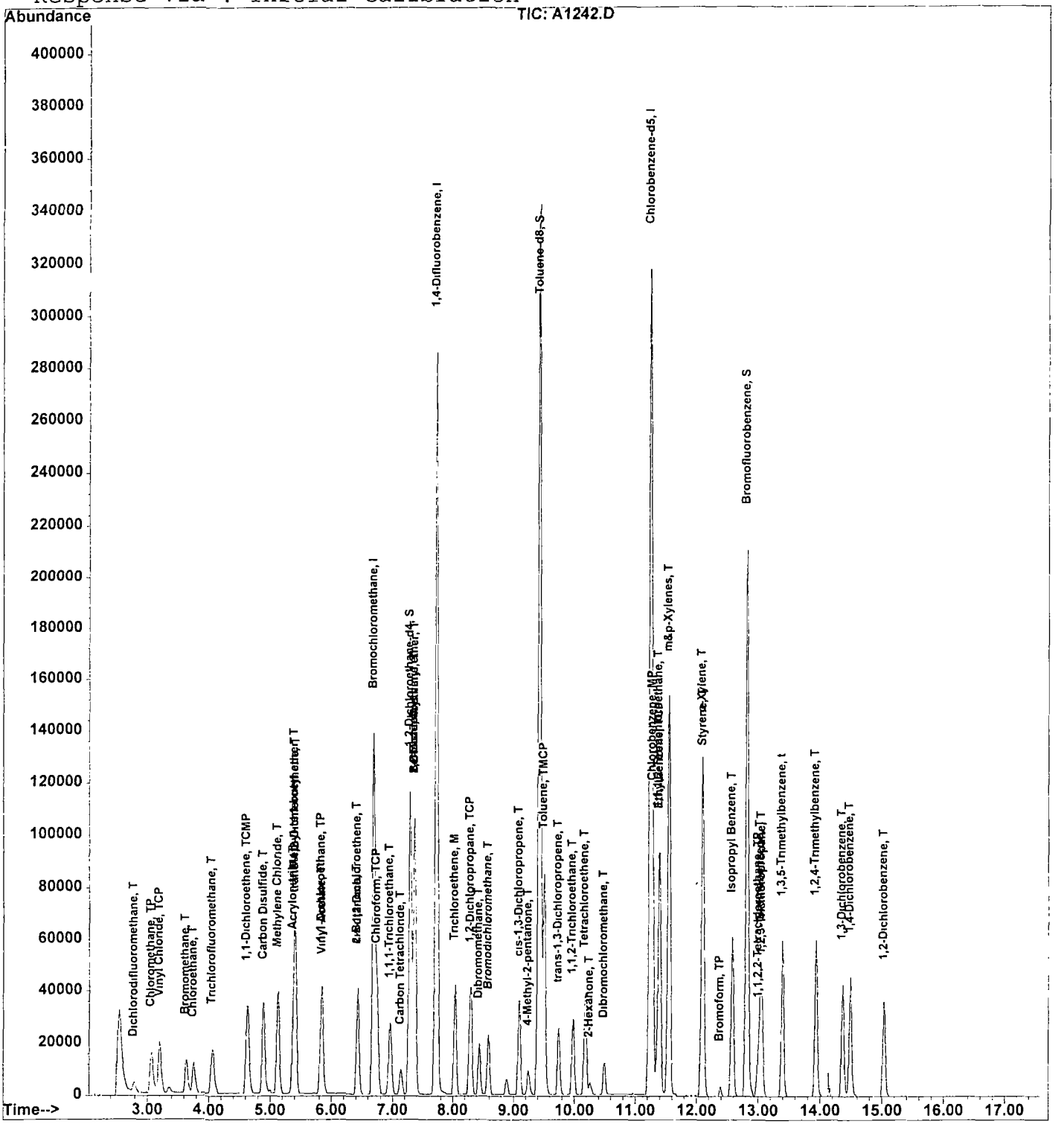
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
35)	Toluene	9.51	92	626514	9.95	ug/l		96
36)	trans-1,3-Dichloropropene	9.75	75	271746	8.48	ug/l		94
37)	1,1,2-Trichloroethane	9.99	83	170059	9.77	ug/l		93
38)	2-Hexanone	10.27	43	88527	8.80	ug/l		87
39)	Tetrachloroethene	10.19	164	161150	9.42	ug/l	#	68
40)	Dibromochloromethane	10.50	129	137869	7.78	ug/l		94
42)	Chlorobenzene	11.29	112	645158	9.89	ug/l		
43)	1,1,1,2-Tetrachloroethane	11.38	131	159191	8.60	ug/l		
44)	Ethylbenzene	11.40	91	1086427m	9.79	ug/l		
45)	m&p-Xylenes	11.55	91	1720196	19.84	ug/l		
46)	o-Xylene	12.10	91	823561	9.54	ug/l		
47)	Styrene	12.11	104	618487	9.39	ug/l		
48)	Bromoform	12.39	173	47771m	15.28	ug/l		
49)	Isopropyl Benzene	12.59	105	860626	9.27	ug/l		
51)	1,1,2,2-Tetrachloroethane	13.00	83	192271	9.74	ug/l	#	
52)	1,2,3-Trichloropropane	13.08	75	197757	10.63	ug/l	#	
53)	Bromobenzene	13.05	156	201910	9.64	ug/l	#	
54)	1,3,5-Trimethylbenzene	13.40	105	689083	9.26	ug/l		
55)	1,2,4-Trimethylbenzene	13.94	105	693702	8.61	ug/l		
56)	1,3-Dichlorobenzene	14.36	146	357209m	8.93	ug/l		
57)	1,4-Dichlorobenzene	14.50	146	397056	9.10	ug/l		
58)	1,2-Dichlorobenzene	15.04	146	316217	8.62	ug/l		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1242.D Vial: 1
Acq On : 12 Dec 1998 6:53 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:05 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1243.D Vial: 2
Acq On : 12 Dec 1998 7:23 pm Operator:
Sample : vstd020:20ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:06 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	598950	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3839036	50.00 ug/l	0.07
41) Chlorobenzene-d5	11.25	117	3146387	50.00 ug/l	0.04
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	1442377	48.45 ug/l	0.08
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.90%		
34) Toluene-d8	9.43	98	4154522	51.06 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 102.12%		
50) Bromofluorobenzene	12.82	95	1507779	48.54 ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 97.08%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.79	85	197099	19.74 ug/l	93
3) Chloromethane	3.07	50	777935	17.58 ug/l	99
4) Vinyl Chloride	3.21	62	772722	18.58 ug/l	99
5) Bromomethane	3.64	94	316728	19.03 ug/l	94
6) Chloroethane	3.76	64	468626	18.65 ug/l	98
7) Trichlorofluoromethane	4.07	101	713955	18.66 ug/l	100
9) 1,1-Dichloroethene	4.63	96	494818	19.09 ug/l	98
10) Acetone	4.68	58	29985	22.90 ug/l	93
11) Carbon Disulfide	4.89	76	1846559	18.03 ug/l	99
12) Methylene Chloride	5.13	84	579105	18.77 ug/l	92
13) Acrylonitrile	5.38	53	153027	21.12 ug/l	97
14) Methyl-tert-butyl ether	5.40	73	1226132	20.68 ug/l	95
15) trans-1,2-Dichloroethene	5.41	96	521397	18.66 ug/l	95
16) Vinyl Acetate	5.86	43	977385	19.19 ug/l	96
17) 1,1-Dichloroethane	5.84	63	1075748	18.26 ug/l	98
18) 2-Butanone	6.43	72	37027	23.50 ug/l #	91
19) cis-1,2-Dichloroethene	6.43	96	529227	18.59 ug/l	97
20) Chloroform	6.75	83	955130	18.22 ug/l	99
21) 1,1,1-Trichloroethane	6.97	97	718265	17.95 ug/l	98
22) 1,2-Dichloroethane	7.37	62	720571	19.28 ug/l	97
23) Carbon Tetrachloride	7.15	117	353667	22.26 ug/l	99
24) 2-Chloroethyl vinyl ether	7.37	63	205366	18.71 ug/l	100
26) Benzene	7.36	78	2330104	19.79 ug/l	100
28) Trichloroethene	8.04	130	498284	19.19 ug/l	94
29) 1,2-Dichloropropane	8.30	63	620868	18.60 ug/l	94
30) Dibromomethane	8.44	93	284942	20.52 ug/l #	87
31) Bromodichloromethane	8.60	83	602412	18.46 ug/l	98
32) cis-1,3-Dichloropropene	9.10	75	816061	19.05 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1243.D Vial: 2
Acq On : 12 Dec 1998 7:23 pm Operator:
Sample : vstd020:20ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:06 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

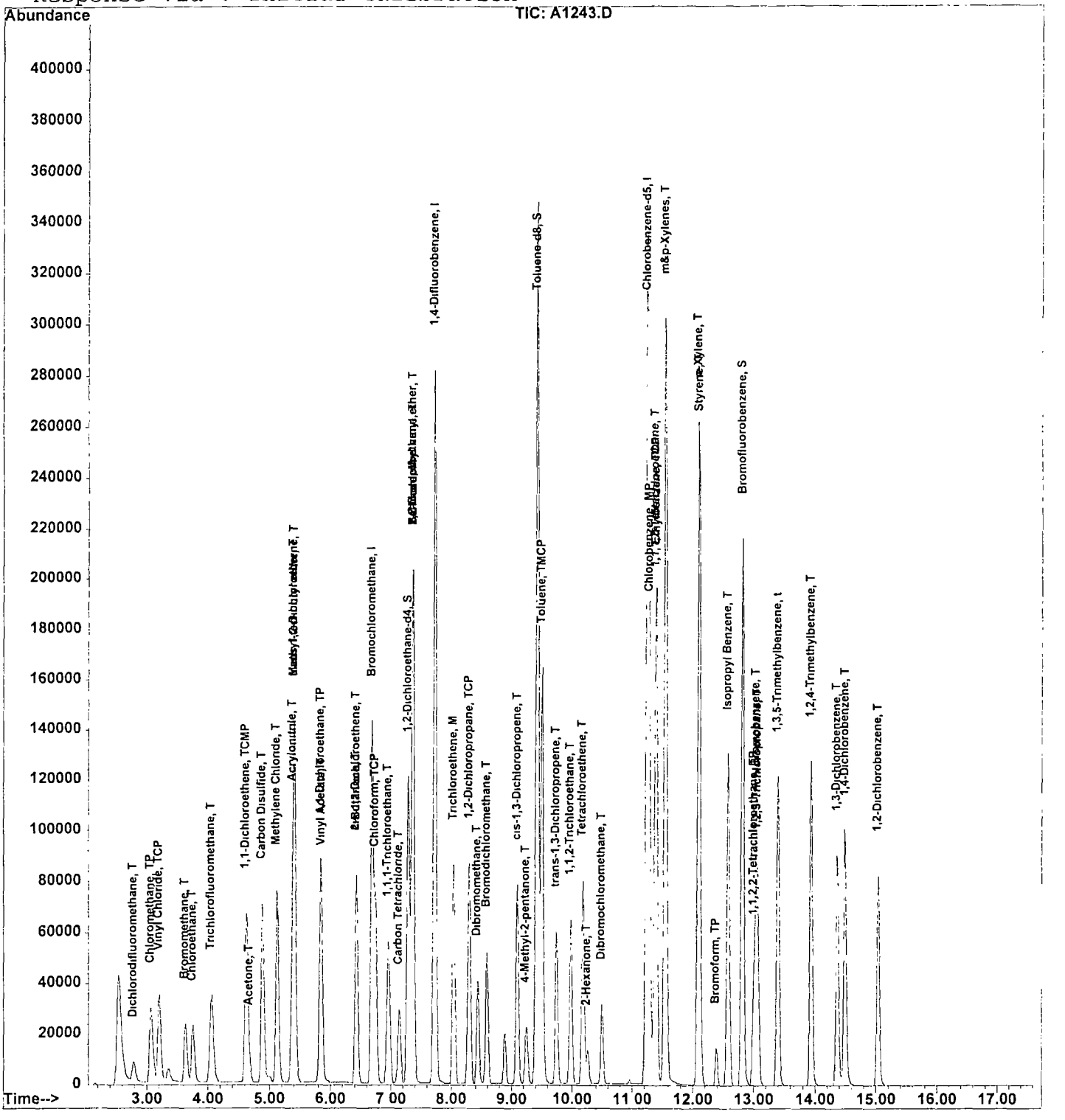
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.25	43	362390	21.49 ug/l		91
35)	Toluene	9.51	92	1214230	19.56 ug/l		98
36)	trans-1,3-Dichloropropene	9.75	75	599144	18.98 ug/l		95
37)	1,1,2-Trichloroethane	9.99	83	346113	20.18 ug/l		95
38)	2-Hexanone	10.27	43	223764	22.57 ug/l		92
39)	Tetrachloroethene	10.19	164	319826	18.97 ug/l	#	70
40)	Dibromochloromethane	10.50	129	329140	18.85 ug/l		99
42)	Chlorobenzene	11.29	112	1274065	19.26 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.38	131	341959	18.22 ug/l		97
44)	Ethylbenzene	11.40	91	2151418	19.12 ug/l		100
45)	m&p-Xylenes	11.56	91	3412843	38.81 ug/l		98
46)	o-Xylene	12.10	91	1649085	18.83 ug/l		98
47)	Styrene	12.12	104	1286439	19.25 ug/l		91
48)	Bromoform	12.40	173	129898	23.41 ug/l		96
49)	Isopropyl Benzene	12.59	105	1763818	18.74 ug/l		99
51)	1,1,2,2-Tetrachloroethane	13.01	83	416850	20.83 ug/l		96
52)	1,2,3-Trichloropropane	13.08	75	414965	22.00 ug/l	#	71
53)	Bromobenzene	13.05	156	412294	19.41 ug/l	#	84
54)	1,3,5-Trimethylbenzene	13.40	105	1367853	18.14 ug/l		99
55)	1,2,4-Trimethylbenzene	13.94	105	1432389	17.52 ug/l		99
56)	1,3-Dichlorobenzene	14.37	146	721878	17.79 ug/l		99
57)	1,4-Dichlorobenzene	14.50	146	818462	18.50 ug/l		97
58)	1,2-Dichlorobenzene	15.04	146	668823	17.97 ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1243.D Vial: 2
Acq On : 12 Dec 1998 7:23 pm Operator:
Sample : vstd020:20ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:06 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1244.D Vial: 3
Acq On : 12 Dec 1998 7:54 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:07 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	607339	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3855186	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.25	117	3131813	50.00 ug/l	0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	1490215	49.37 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.74%		
34) Toluene-d8	9.43	98	4201986	51.42 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 102.84%		
50) Bromofluorobenzene	12.83	95	1531742	49.54 ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 99.08%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.79	85	517869	51.15 ug/l	96
3) Chloromethane	3.07	50	2105739	46.92 ug/l	99
4) Vinyl Chloride	3.20	62	2007593	47.61 ug/l	99
5) Bromomethane	3.64	94	845376	50.08 ug/l	95
6) Chloroethane	3.76	64	1239021	48.63 ug/l	100
7) Trichlorofluoromethane	4.06	101	1924825	49.60 ug/l	100
9) 1,1-Dichloroethene	4.63	96	1264858	48.13 ug/l	98
10) Acetone	4.68	58	85111	64.11 ug/l #	84
11) Carbon Disulfide	4.89	76	4841280	46.61 ug/l	99
12) Methylene Chloride	5.13	84	1493061	47.72 ug/l	92
13) Acrylonitrile	5.38	53	410930	55.92 ug/l	98
14) Methyl-tert-butyl ether	5.40	73	3252638	54.11 ug/l	97
15) trans-1,2-Dichloroethene	5.41	96	1373370	48.47 ug/l	97
16) Vinyl Acetate	5.85	43	2704901	52.37 ug/l	97
17) 1,1-Dichloroethane	5.84	63	2793277	46.76 ug/l	100
18) 2-Butanone	6.43	72	112174	70.21 ug/l #	84
19) cis-1,2-Dichloroethene	6.43	96	1408950	48.80 ug/l	97
20) Chloroform	6.75	83	2497296	46.97 ug/l	100
21) 1,1,1-Trichloroethane	6.97	97	1860194	45.84 ug/l	98
22) 1,2-Dichloroethane	7.37	62	1845547	48.69 ug/l	98
23) Carbon Tetrachloride	7.15	117	1053022	46.35 ug/l	98
24) 2-Chloroethyl vinyl ether	7.37	63	537543	48.29 ug/l	100
26) Benzene	7.36	78	6024426	50.45 ug/l	100
28) Trichloroethene	8.05	130	1313813	50.40 ug/l	94
29) 1,2-Dichloropropane	8.30	63	1641575	48.97 ug/l	97
30) Dibromomethane	8.45	93	738181	52.93 ug/l	89
31) Bromodichloromethane	8.60	83	1630963	49.78 ug/l	100
32) cis-1,3-Dichloropropene	9.10	75	2239193	52.04 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1244.D Vial: 3
Acq On : 12 Dec 1998 7:54 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:07 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

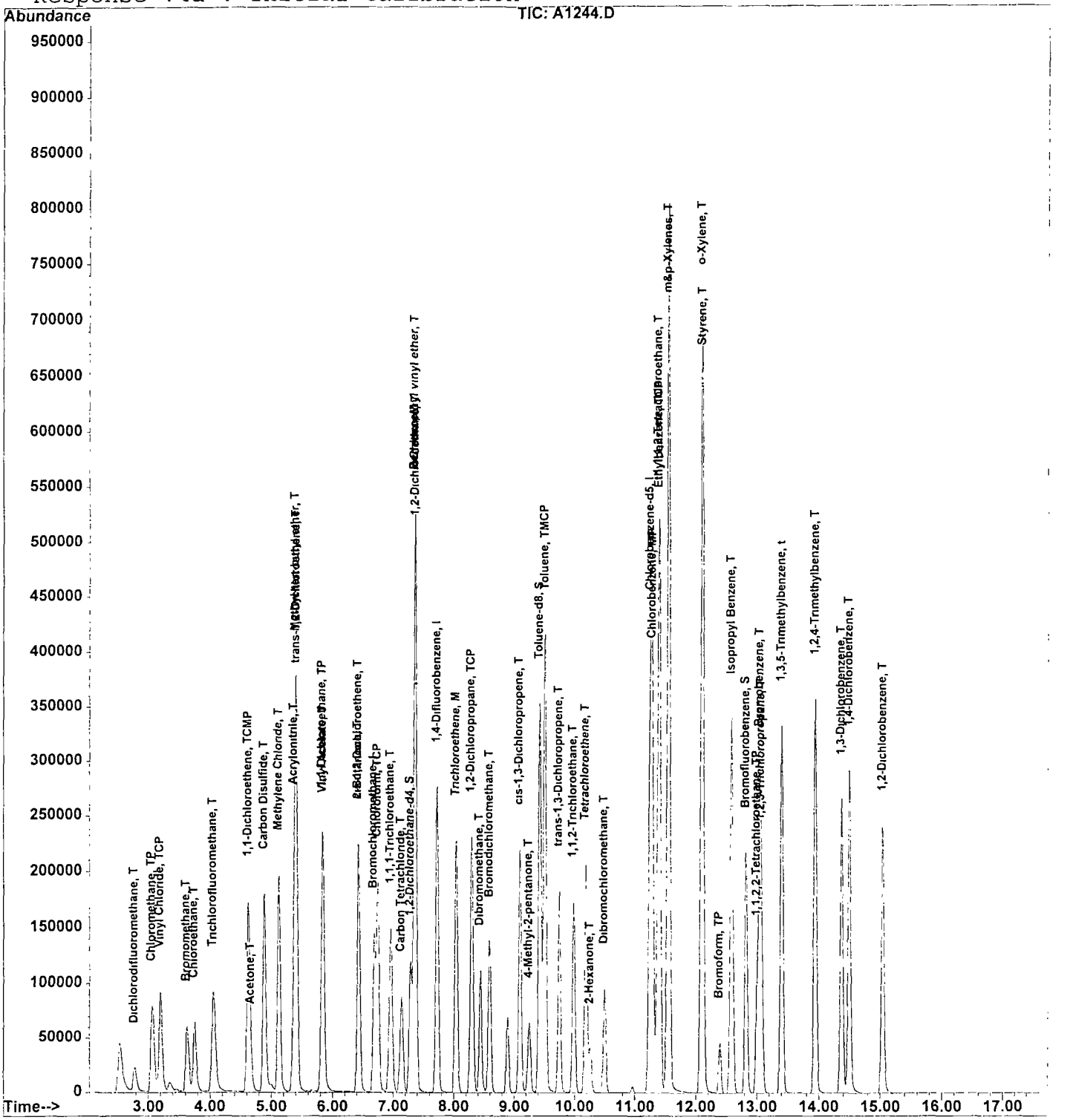
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.26	43	969695	57.27 ug/l		94
35)	Toluene	9.51	92	3206494	51.44 ug/l		99
36)	trans-1,3-Dichloropropene	9.75	75	1696206	53.50 ug/l		95
37)	1,1,2-Trichloroethane	9.99	83	926110	53.76 ug/l		94
38)	2-Hexanone	10.27	43	609367	61.20 ug/l		98
39)	Tetrachloroethene	10.19	164	834955	49.32 ug/l	#	68
40)	Dibromochloromethane	10.51	129	926074	52.82 ug/l		99
42)	Chlorobenzene	11.29	112	3314587	50.35 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.39	131	933989	49.99 ug/l		98
44)	Ethylbenzene	11.41	91	5695938	50.87 ug/l		99
45)	m&p-Xylenes	11.56	91	8956248	102.33 ug/l		98
46)	o-Xylene	12.10	91	4470967	51.29 ug/l		97
47)	Styrene	12.12	104	3473949	52.22 ug/l		91
48)	Bromoform	12.40	173	397442	50.30 ug/l		99
49)	Isopropyl Benzene	12.59	105	4685506	50.02 ug/l		98
51)	1,1,2,2-Tetrachloroethane	13.01	83	1092962	54.88 ug/l		99
52)	1,2,3-Trichloropropane	13.08	75	1027857	54.74 ug/l	#	62
53)	Bromobenzene	13.06	156	1080558	51.11 ug/l	#	84
54)	1,3,5-Trimethylbenzene	13.41	105	3705236	49.35 ug/l		100
55)	1,2,4-Trimethylbenzene	13.95	105	4044040	49.70 ug/l		99
56)	1,3-Dichlorobenzene	14.38	146	1962737	48.59 ug/l		99
57)	1,4-Dichlorobenzene	14.50	146	2233700	50.73 ug/l		97
58)	1,2-Dichlorobenzene	15.05	146	1853169	50.03 ug/l		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1244.D Vial: 3
Acq On : 12 Dec 1998 7:54 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:07 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1245.D Vial: 4
Acq On : 12 Dec 1998 8:25 pm Operator:
Sample : vstd100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:08 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.69	128	616067	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3885791	50.00	ug/l	0.07
41) Chlorobenzene-d5	11.25	117	3186866	50.00	ug/l	0.04
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.29	65	1416225	46.25	ug/l	0.08
Spiked Amount 50.000	Range 80 - 120		Recovery = 92.50%			
34) Toluene-d8	9.43	98	4222319	51.27	ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 102.54%			
50) Bromofluorobenzene	12.83	95	1570645	49.92	ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 99.84%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.79	85	983633	95.78	ug/l	96
3) Chloromethane	3.07	50	3979982	87.43	ug/l	99
4) Vinyl Chloride	3.20	62	3802220	88.88	ug/l	99
5) Bromomethane	3.63	94	1493137	87.20	ug/l	94
6) Chloroethane	3.75	64	2307186	89.28	ug/l	100
7) Trichlorofluoromethane	4.06	101	3639238	92.45	ug/l	100
9) 1,1-Dichloroethene	4.63	96	2534643	95.09	ug/l	99
10) Acetone	4.68	58	179948	133.62	ug/l #	78
11) Carbon Disulfide	4.89	76	9892764	93.89	ug/l	99
12) Methylene Chloride	5.13	84	3036605	95.68	ug/l	93
13) Acrylonitrile	5.37	53	832431	111.68	ug/l	98
14) Methyl-tert-butyl ether	5.39	73	6540536	107.26	ug/l	98
15) trans-1,2-Dichloroethene	5.41	96	2762060	96.09	ug/l	98
16) Vinyl Acetate	5.85	43	5624578	107.36	ug/l	98
17) 1,1-Dichloroethane	5.84	63	5611151	92.61	ug/l	99
18) 2-Butanone	6.43	72	231400	142.78	ug/l #	84
19) cis-1,2-Dichloroethene	6.43	96	2849862	97.30	ug/l	97
20) Chloroform	6.75	83	5000140	92.71	ug/l	99
21) 1,1,1-Trichloroethane	6.96	97	3757163	91.27	ug/l	98
22) 1,2-Dichloroethane	7.37	62	3677492	95.65	ug/l	99
23) Carbon Tetrachloride	7.14	117	2318245	89.09	ug/l	98
24) 2-Chloroethyl vinyl ether	7.37	63	1075737	95.28	ug/l	100
26) Benzene	7.36	78	11984841	98.94	ug/l	100
28) Trichloroethene	8.04	130	2639999	100.47	ug/l	95
29) 1,2-Dichloropropane	8.30	63	3360328	99.44	ug/l	97
30) Dibromomethane	8.44	93	1481986	105.42	ug/l	88
31) Bromodichloromethane	8.60	83	3391370	102.70	ug/l	99
32) cis-1,3-Dichloropropene	9.10	75	4708198	108.56	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1245.D Vial: 4
Acq On : 12 Dec 1998 8:25 pm Operator:
Sample : vstd100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:08 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

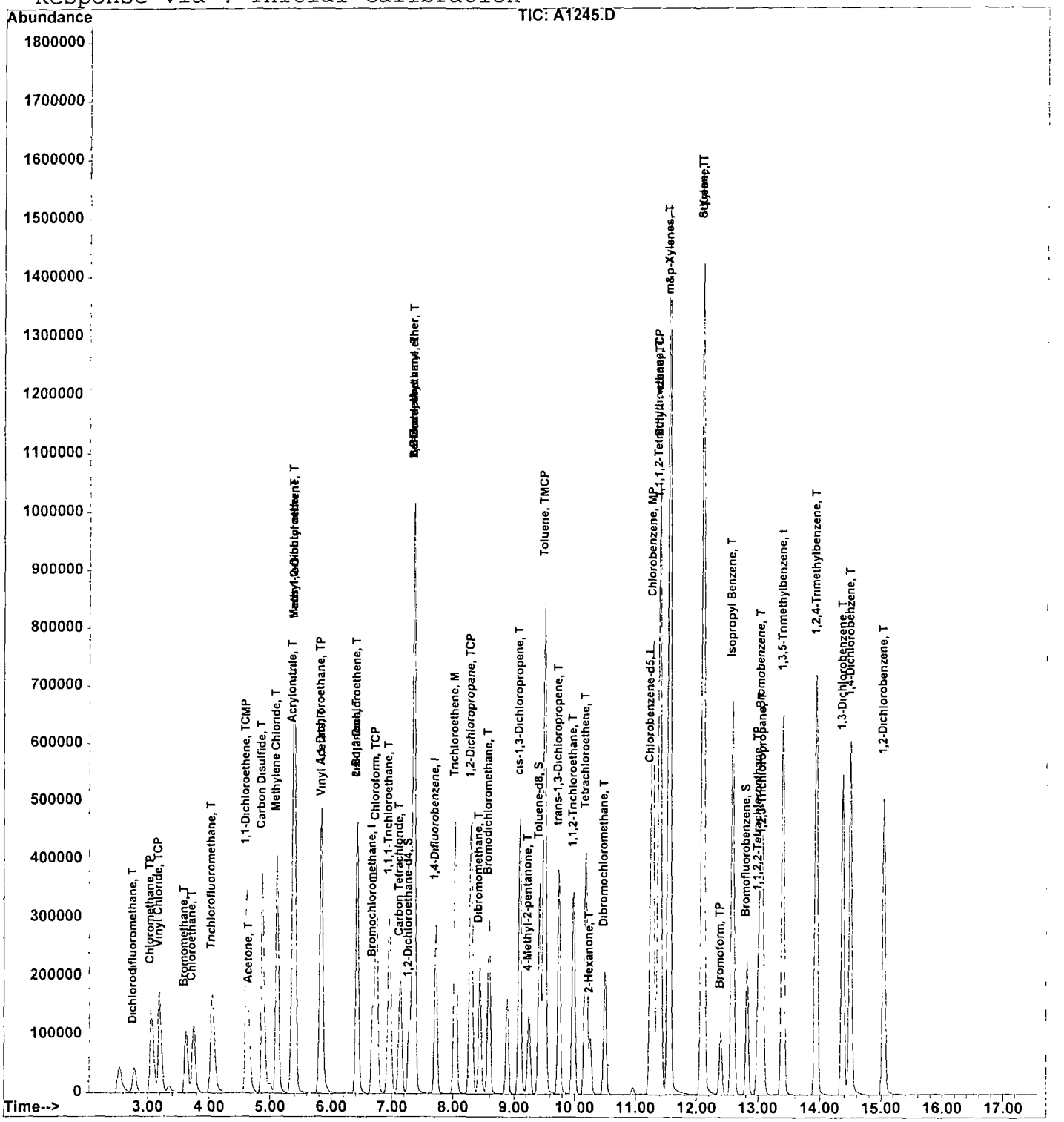
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.25	43	2034920	119.24 ug/l		96
35)	Toluene	9.51	92	6391424	101.72 ug/l		98
36)	trans-1,3-Dichloropropene	9.75	75	3641884	113.97 ug/l		94
37)	1,1,2-Trichloroethane	9.99	83	1846687	106.36 ug/l		96
38)	2-Hexanone	10.26	43	1301228	129.66 ug/l		99
39)	Tetrachloroethene	10.19	164	1705332	99.94 ug/l	#	68
40)	Dibromochloromethane	10.50	129	2042850	115.59 ug/l		99
42)	Chlorobenzene	11.29	112	6670565	99.57 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.38	131	1931030	101.58 ug/l		97
44)	Ethylbenzene	11.41	91	11383924	99.91 ug/l		99
45)	m&p-Xylenes	11.56	91	17492685	196.42 ug/l		99
46)	o-Xylene	12.10	91	8959627	101.00 ug/l		98
47)	Styrene	12.12	104	7051618	104.18 ug/l		90
48)	Bromoform	12.40	173	911539	100.26 ug/l		97
49)	Isopropyl Benzene	12.59	105	9377735	98.38 ug/l		98
51)	1,1,2,2-Tetrachloroethane	13.01	83	2280301	112.51 ug/l		98
52)	1,2,3-Trichloropropane	13.08	75	2044572	107.01 ug/l	#	60
53)	Bromobenzene	13.05	156	2165843	100.67 ug/l	#	84
54)	1,3,5-Trimethylbenzene	13.40	105	7440016	97.39 ug/l		99
55)	1,2,4-Trimethylbenzene	13.94	105	8321926	100.50 ug/l		99
56)	1,3-Dichlorobenzene	14.38	146	4068701	98.99 ug/l		99
57)	1,4-Dichlorobenzene	14.50	146	4527969	101.07 ug/l		96
58)	1,2-Dichlorobenzene	15.05	146	3825701	101.49 ug/l		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1245.D Vial: 4
Acq On : 12 Dec 1998 8:25 pm Operator:
Sample : vstd100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:08 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1246.D Vial: 5
Acq On : 12 Dec 1998 8:55 pm Operator:
Sample : vstd150:150ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:09 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	630800	50.00	ug/l	0.11
27) 1,4-Difluorobenzene	7.74	114	3887036	50.00	ug/l	0.08
41) Chlorobenzene-d5	11.26	117	3183003m	50.00	ug/l	0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1454119	46.38	ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 92.76%			
34) Toluene-d8	9.44	98	4271479	51.85	ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 103.70%			
50) Bromofluorobenzene	12.83	95	1576577	50.17	ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 100.34%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.79	85	1514253	144.01	ug/l	98
3) Chloromethane	3.07	50	6091395	130.69	ug/l	99
4) Vinyl Chloride	3.21	62	5900938	134.72	ug/l	99
5) Bromomethane	3.63	94	2124161	121.15	ug/l	94
6) Chloroethane	3.76	64	3548795	134.11	ug/l	100
7) Trichlorofluoromethane	4.07	101	5774308	143.26	ug/l	100
9) 1,1-Dichloroethene	4.64	96	3754006	137.54	ug/l	99
10) Acetone	4.68	58	268326	194.59	ug/l #	76
11) Carbon Disulfide	4.90	76	14563135	134.99	ug/l	100
12) Methylene Chloride	5.13	84	4410382	135.72	ug/l	93
13) Acrylonitrile	5.38	53	1243104	162.88	ug/l	100
14) Methyl-tert-butyl ether	5.40	73	9779614	156.64	ug/l	98
15) trans-1,2-Dichloroethene	5.42	96	4067799	138.22	ug/l	98
16) Vinyl Acetate	5.86	43	8387570	156.35	ug/l	98
17) 1,1-Dichloroethane	5.85	63	8240227	132.82	ug/l	100
18) 2-Butanone	6.44	72	349462	210.58	ug/l #	80
19) cis-1,2-Dichloroethene	6.44	96	4197075	139.95	ug/l	97
20) Chloroform	6.76	83	7338081	132.88	ug/l	100
21) 1,1,1-Trichloroethane	6.97	97	5597918	132.82	ug/l	98
22) 1,2-Dichloroethane	7.38	62	5213612	132.44	ug/l	99
23) Carbon Tetrachloride	7.15	117	3728490	134.32	ug/l	98
24) 2-Chloroethyl vinyl ether	7.38	63	1611766	139.42	ug/l	100
26) Benzene	7.37	78	17192401	138.62	ug/l	100
28) Trichloroethene	8.05	130	3929833	149.51	ug/l	94
29) 1,2-Dichloropropane	8.31	63	4920739	145.58	ug/l	98
30) Dibromomethane	8.45	93	2193425	155.97	ug/l	89
31) Bromodichloromethane	8.60	83	5066012	153.36	ug/l	99
32) cis-1,3-Dichloropropene	9.11	75	6993434	161.20	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1246.D Vial: 5
Acq On : 12 Dec 1998 8:55 pm Operator:
Sample : vstd150:150ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:09 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

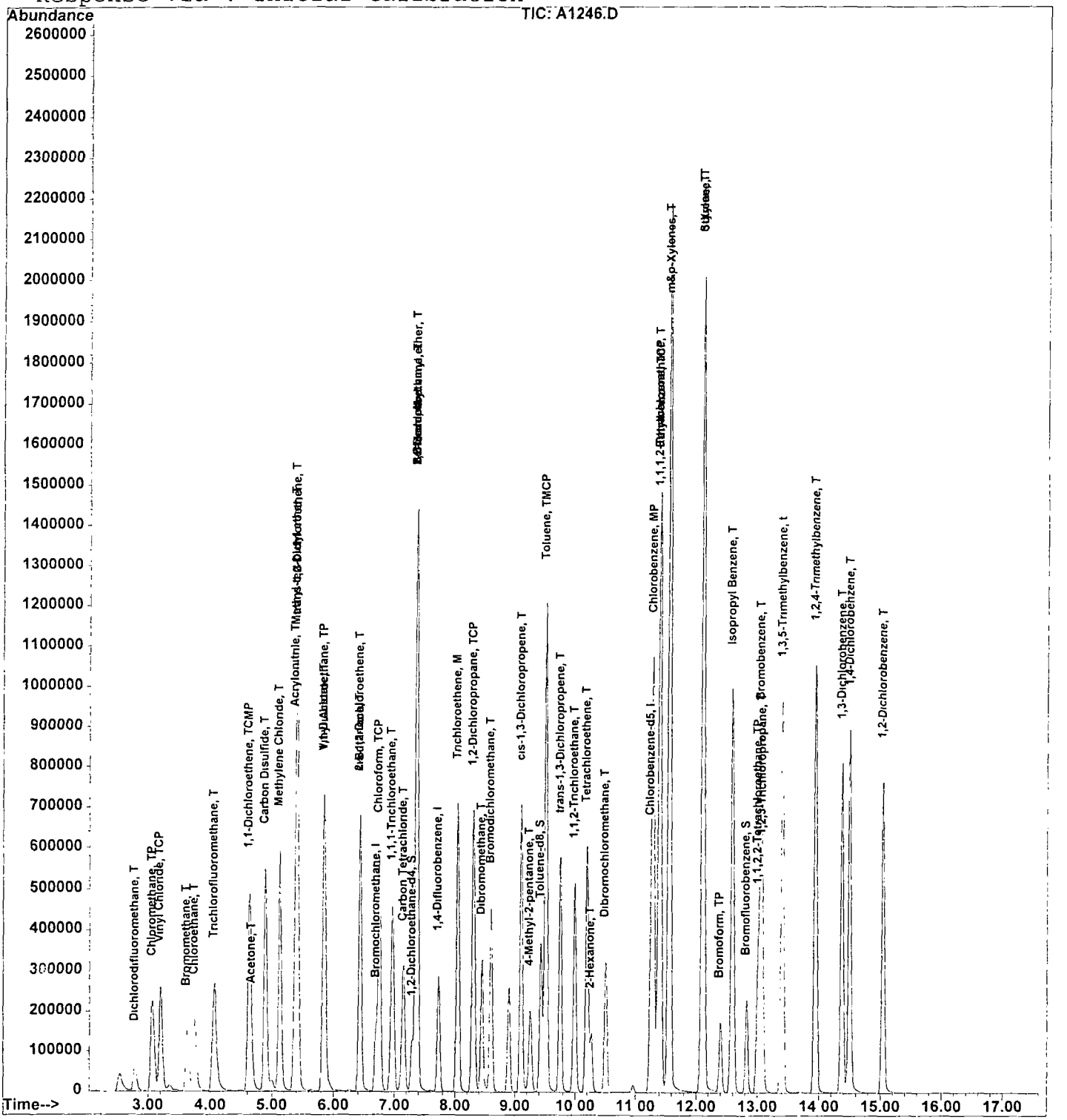
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.26	43	3009350	176.29 ug/l		96
35)	Toluene	9.52	92	9237338	146.97 ug/l		99
36)	trans-1,3-Dichloropropene	9.76	75	5495742	171.93 ug/l		95
37)	1,1,2-Trichloroethane	10.00	83	2740377	157.78 ug/l		96
38)	2-Hexanone	10.27	43	1953312	194.57 ug/l		99
39)	Tetrachloroethene	10.20	164	2512442	147.19 ug/l	#	68
40)	Dibromochloromethane	10.51	129	3150353	178.20 ug/l		99
42)	Chlorobenzene	11.30	112	9642642	144.11 ug/l		
43)	1,1,1,2-Tetrachloroethane	11.39	131	2900979	152.78 ug/l		
44)	Ethylbenzene	11.41	91	16401045m	144.11 ug/l		
45)	m&p-Xylenes	11.57	91	25095576	282.13 ug/l		
46)	o-Xylene	12.11	91	12770258	144.13 ug/l		
47)	Styrene	12.13	104	10043799	148.56 ug/l		
48)	Bromoform	12.41	173	1447111	153.20 ug/l		
49)	Isopropyl Benzene	12.60	105	13824535	145.20 ug/l		
51)	1,1,2,2-Tetrachloroethane	13.01	83	3349397	165.47 ug/l		
52)	1,2,3-Trichloropropane	13.09	75	3024277m	158.48 ug/l		
53)	Bromobenzene	13.06	156	3195779	148.73 ug/l	#	
54)	1,3,5-Trimethylbenzene	13.41	105	11121064	145.75 ug/l		
55)	1,2,4-Trimethylbenzene	13.95	105	12118788	146.54 ug/l		
56)	1,3-Dichlorobenzene	14.38	146	6045389m	147.26 ug/l		
57)	1,4-Dichlorobenzene	14.51	146	6601378	147.53 ug/l		
58)	1,2-Dichlorobenzene	15.05	146	5686639	151.04 ug/l		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1246.D Vial: 5
Acq On : 12 Dec 1998 8:55 pm Operator:
Sample : vstd150:150ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:09 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1247.D Vial: 6
Acq On : 12 Dec 1998 9:26 pm Operator:
Sample : vstd200:200ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:10 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.69	128	635710	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3899317	50.00	ug/l	0.07
41) Chlorobenzene-d5	11.25	117	3188452	50.00	ug/l	0.04
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.29	65	1448822	45.85	ug/l	0.08
Spiked Amount 50.000	Range 80 - 120		Recovery = 91.70%			
34) Toluene-d8	9.43	98	4241439	51.32	ug/l	0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 102.64%			
50) Bromofluorobenzene	12.82	95	1583795	50.32	ug/l	0.03
Spiked Amount 50.000	Range 74 - 115		Recovery = 100.64%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.79	85	1945426	183.59	ug/l	97
3) Chloromethane	3.07	50	7930261	168.83	ug/l	99
4) Vinyl Chloride	3.21	62	7712442	174.72	ug/l	99
5) Bromomethane	3.62	94	2288552	129.52	ug/l	95
6) Chloroethane	3.75	64	4555034	170.81	ug/l	100
7) Trichlorofluoromethane	4.06	101	7473506	183.99	ug/l	100
9) 1,1-Dichloroethene	4.63	96	4919312	178.84	ug/l	99
10) Acetone	4.68	58	339903	244.59	ug/l #	77
11) Carbon Disulfide	4.89	76	19114175	175.80	ug/l	99
12) Methylene Chloride	5.13	84	5896611	180.05	ug/l	94
13) Acrylonitrile	5.38	53	1629453	211.85	ug/l	98
14) Methyl-tert-butyl ether	5.39	73	12713121	202.05	ug/l	99
15) trans-1,2-Dichloroethene	5.41	96	5306079	178.90	ug/l	97
16) Vinyl Acetate	5.85	43	11006817	203.59	ug/l	98
17) 1,1-Dichloroethane	5.84	63	10803990	172.80	ug/l	100
18) 2-Butanone	6.43	72	452006	270.27	ug/l #	78
19) cis-1,2-Dichloroethene	6.43	96	5536936	183.20	ug/l	95
20) Chloroform	6.75	83	9682544	173.98	ug/l	100
21) 1,1,1-Trichloroethane	6.96	97	7408306	174.41	ug/l	99
22) 1,2-Dichloroethane	7.37	62	6744744	170.02	ug/l	99
23) Carbon Tetrachloride	7.14	117	4884853	171.68	ug/l	98
24) 2-Chloroethyl vinyl ether	7.37	63	2035350	174.70	ug/l	100
26) Benzene	7.36	78	22164264	177.32	ug/l	100
28) Trichloroethene	8.04	130	5140950	194.98	ug/l	94
29) 1,2-Dichloropropane	8.30	63	6455455	190.38	ug/l	98
30) Dibromomethane	8.44	93	2868337	203.33	ug/l	89
31) Bromodichloromethane	8.59	83	6756274	203.89	ug/l	99
32) cis-1,3-Dichloropropene	9.10	75	9277897	213.19	ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1247.D Vial: 6
Acq On : 12 Dec 1998 9:26 pm Operator:
Sample : vstd200:200ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:10 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.25	43	3979247	232.37 ug/l		96
35)	Toluene	9.51	92	12004447	190.39 ug/l		99
36)	trans-1,3-Dichloropropene	9.75	75	7281278	227.07 ug/l		95
37)	1,1,2-Trichloroethane	9.99	83	3620572	207.80 ug/l		94
38)	2-Hexanone	10.26	43	2559698	254.17 ug/l		99
39)	Tetrachloroethene	10.19	164	3297437	192.57 ug/l	#	67
40)	Dibromochloromethane	10.50	129	4230950	238.57 ug/l		100
42)	Chlorobenzene	11.29	112	12463761	185.95 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.38	131	3817047	200.68 ug/l		97
44)	Ethylbenzene	11.41	91	21146273	185.49 ug/l		100
45)	m&p-Xylenes	11.56	91	32490434	364.64 ug/l		100
46)	o-Xylene	12.10	91	16693992	188.09 ug/l		97
47)	Styrene	12.12	104	13056067	192.79 ug/l		88
48)	Bromoform	12.40	173	1984120	205.84 ug/l		99
49)	Isopropyl Benzene	12.59	105	17911753	187.81 ug/l		98
51)	1,1,2,2-Tetrachloroethane	13.00	83	4419701	217.97 ug/l		98
52)	1,2,3-Trichloropropane	13.07	75	3947467	206.50 ug/l	#	61
53)	Bromobenzene	13.05	156	4197839	195.03 ug/l	#	85
54)	1,3,5-Trimethylbenzene	13.40	105	14376734	188.10 ug/l		99
55)	1,2,4-Trimethylbenzene	13.94	105	15821502	190.98 ug/l		97
56)	1,3-Dichlorobenzene	14.37	146	7965574	193.70 ug/l		99
57)	1,4-Dichlorobenzene	14.50	146	8628177	192.49 ug/l		95
58)	1,2-Dichlorobenzene	15.04	146	7421769	196.79 ug/l		99

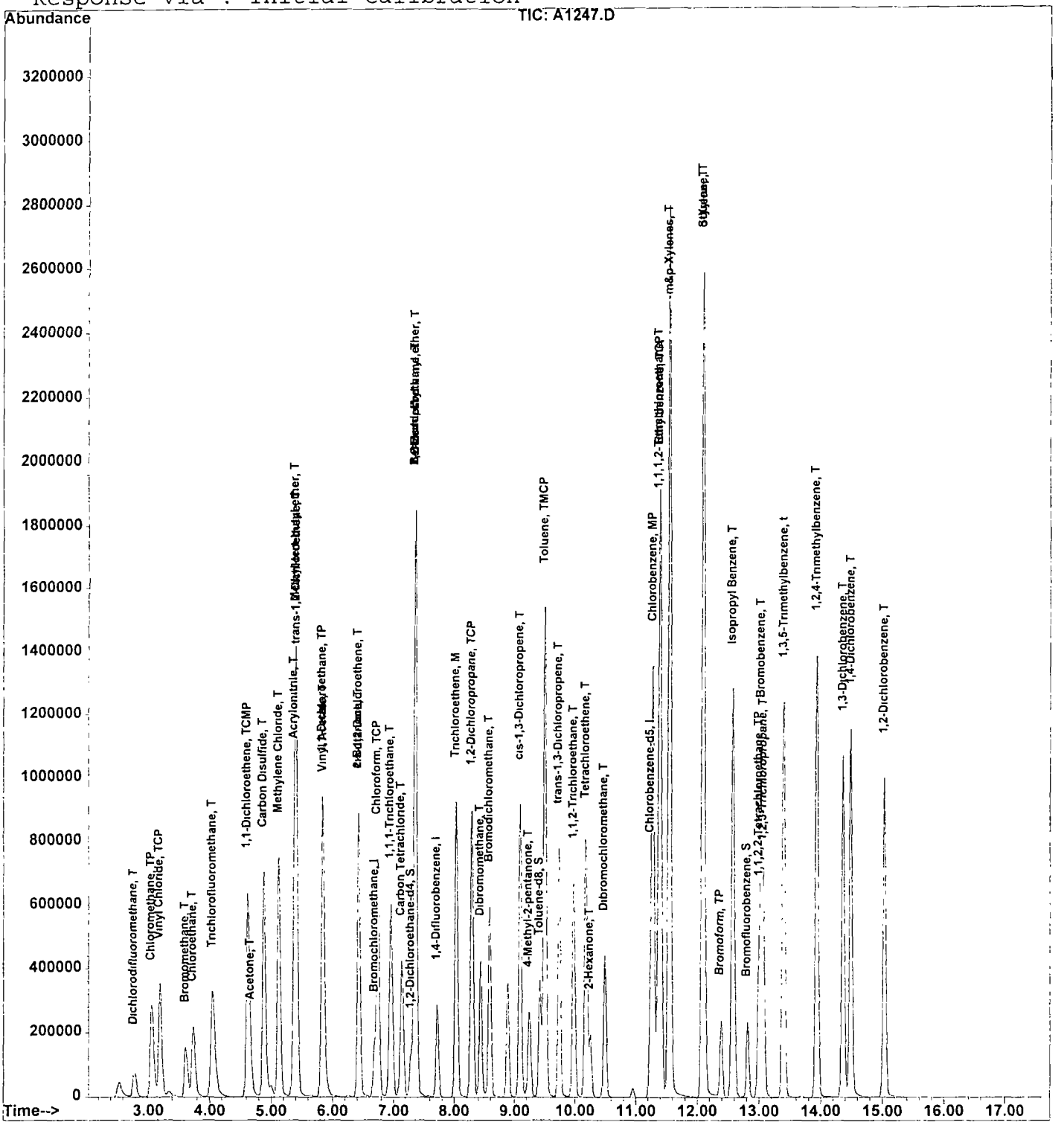
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1247.D
Acq On : 12 Dec 1998 9:26 pm
Sample : vstd200:200ug/l
Misc :
MS Integration Params: events.e
Quant Time: Dec 13 13:10 1998

Vial: 6
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

Calibration Files
10 =A1242.D 20 =A1243.D 50 =A1244.D
100 =A1245.D 150 =A1246.D 200 =A1247.D

		Compound	10	20	50	100	150	200	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Dichlorodifluoromet	0.818	0.823	0.853	0.798	0.800	0.765	0.809	3.62
3)	TP	Chloromethane	3.549	3.247	3.467	3.230	3.219	3.119	3.305	5.00
4)	TCP	Vinyl Chloride	3.304	3.225	3.306	3.086	3.118	3.033	3.179	3.66
5)	T	Bromomethane	1.503	1.322	1.392	1.212	1.122	0.900	1.242	17.24
6)	T	Chloroethane	2.091	1.956	2.040	1.873	1.875	1.791	1.938	5.83
7)	T	Trichlorofluorometh	2.993	2.980	3.169	2.954	3.051	2.939	3.014	2.83
8)	T	Acrolein							0.000	-1.00
9)	TCMP	1,1-Dichloroethene	2.147	2.065	2.083	2.057	1.984	1.935	2.045	3.68
10)	T	Acetone		0.125	0.140	0.146	0.142	0.134	0.137	5.93
11)	T	Carbon Disulfide	7.803	7.707	7.971	8.029	7.696	7.517	7.787	2.44
12)	T	Methylene Chloride	2.519	2.417	2.458	2.465	2.331	2.319	2.418	3.28
13)	T	Acrylonitrile	0.537	0.639	0.677	0.676	0.657	0.641	0.638	8.12
14)	T	Methyl-tert-butyl e	5.008	5.118	5.356	5.308	5.168	5.000	5.160	2.89
15)	T	trans-1,2-Dichloroe	2.182	2.176	2.261	2.242	2.150	2.087	2.183	2.90
16)	T	Vinyl Acetate	3.696	4.080	4.454	4.565	4.432	4.329	4.259	7.54
17)	TP	1,1-Dichloroethane	4.469	4.490	4.599	4.554	4.354	4.249	4.453	2.92
18)	T	2-Butanone	0.097	0.155	0.185	0.188	0.185	0.178	0.164	21.49
19)	T	cis-1,2-Dichloroeth	2.233	2.209	2.320	2.313	2.218	2.177	2.245	2.59
20)	TCP	Chloroform	4.070	3.987	4.112	4.058	3.878	3.808	3.985	3.00
21)	T	1,1,1-Trichloroetha	2.983	2.998	3.063	3.049	2.958	2.913	2.994	1.87
22)	T	1,2-Dichloroethane	3.074	3.008	3.039	2.985	2.755	2.652	2.919	5.90
23)	T	Carbon Tetrachlorid	0.987	1.476	1.734	1.881	1.970	1.921	1.662	22.60
24)	T	2-Chloroethyl vinyl	0.877	0.857	0.885	0.873	0.852	0.800	0.857	3.57
25)	S	1,2-Dichloroethane-	2.352	2.408	2.454	2.299	2.305	2.279	2.349	2.94
26)	M	Benzene	9.947	9.726	9.919	9.727	9.085	8.716	9.520	5.28
27)	I	1,4-Difluorobenzene	----------ISTD----------							
28)	M	Trichloroethene	0.328	0.324	0.341	0.340	0.337	0.330	0.333	2.03
29)	TCP	1,2-Dichloropropane	0.407	0.404	0.426	0.432	0.422	0.414	0.418	2.62
30)	T	Dibromomethane	0.180	0.186	0.191	0.191	0.188	0.184	0.187	2.41
31)	T	Bromodichloromethan	0.359	0.392	0.423	0.436	0.434	0.433	0.413	7.57
32)	T	cis-1,3-Dichloropro	0.497	0.531	0.581	0.606	0.600	0.595	0.568	7.76
33)	T	4-Methyl-2-pentanon	0.206	0.236	0.252	0.262	0.258	0.255	0.245	8.58
34)	S	Toluene-d8	1.070	1.082	1.090	1.087	1.099	1.088	1.086	0.88
35)	TMCP	Toluene	0.804	0.791	0.832	0.822	0.792	0.770	0.802	2.83
36)	T	trans-1,3-Dichlorop	0.349	0.390	0.440	0.469	0.471	0.467	0.431	11.76
37)	T	1,1,2-Trichloroetha	0.218	0.225	0.240	0.238	0.235	0.232	0.231	3.56
38)	T	2-Hexanone	0.114	0.146	0.158	0.167	0.168	0.164	0.153	13.64
39)	T	Tetrachloroethene	0.207	0.208	0.217	0.219	0.215	0.211	0.213	2.33
40)	T	Dibromochloromethan	0.177	0.214	0.240	0.263	0.270	0.271	0.239	15.68
41)	I	Chlorobenzene-d5	----------ISTD----------							

(#) = Out of Range

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

Calibration Files
10 =A1242.D 20 =A1243.D 50 =A1244.D
100 =A1245.D 150 =A1246.D 200 =A1247.D

		Compound	10	20	50	100	150	200	Avg	%RSD
42)	MP	Chlorobenzene	1.040	1.012	1.058	1.047	1.010	0.977	1.024	2.92
43)	T	1,1,1,2-Tetrachloro	0.257	0.272	0.298	0.303	0.304	0.299	0.289	6.85
44)	TCP	Ethylbenzene	1.751	1.709	1.819	1.786	1.718	1.658	1.740	3.31
45)	T	m&p-Xylenes	1.386	1.356	1.430	1.372	1.314	1.274	1.355	4.06
46)	T	o-Xylene	1.327	1.310	1.428	1.406	1.337	1.309	1.353	3.77
47)	T	Styrene	0.997	1.022	1.109	1.106	1.052	1.024	1.052	4.46
48)	TP	Bromoform	0.077	0.103	0.127	0.143	0.152	0.156	0.126	24.39
49)	T	Isopropyl Benzene	1.387	1.401	1.496	1.471	1.448	1.404	1.435	3.05
50)	S	Bromofluorobenzene	0.483	0.479	0.489	0.493	0.495	0.497	0.489	1.42
51)	TP	1,1,2,2-Tetrachloro	0.310	0.331	0.349	0.358	0.351	0.347	0.341	5.14
52)	T	1,2,3-Trichloroprop	0.319	0.330	0.328	0.321	0.317	0.310	0.321	2.34
53)	T	Bromobenzene	0.325	0.328	0.345	0.340	0.335	0.329	0.334	2.30
54)	t	1,3,5-Trimethylbenz	1.110	1.087	1.183	1.167	1.165	1.127	1.140	3.30
55)	T	1,2,4-Trimethylbenz	1.118	1.138	1.291	1.306	1.269	1.241	1.227	6.53
56)	T	1,3-Dichlorobenzene	0.576	0.574	0.627	0.638	0.633	0.625	0.612	4.80
57)	T	1,4-Dichlorobenzene	0.640	0.650	0.713	0.710	0.691	0.677	0.680	4.49
58)	T	1,2-Dichlorobenzene	0.510	0.531	0.592	0.600	0.596	0.582	0.568	6.72

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1380.D
Acq On : 16 Dec 1998 2:32 pm
Sample : vstd010:10ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 16 14:50 1998

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.68	128	86172	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.73	114	539736	50.00 ug/l	0.02
41) Chlorobenzene-d5	11.27	117	435594	50.00 ug/l	0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	203783	55.97 ug/l	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 111.94%		
34) Toluene-d8	9.43	98	588191	49.63 ug/l	0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.26%		
50) Bromofluorobenzene	12.85	95	219131	49.29 ug/l	0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 98.58%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.77	85	23548	11.84 ug/l	95
3) Chloromethane	3.04	50	90608	10.99 ug/l	99
4) Vinyl Chloride	3.19	62	87158	10.90 ug/l	100
6) Chloroethane	3.74	64	50890	9.90 ug/l	99
7) Trichlorofluoromethane	4.05	101	90099	11.03 ug/l	100
9) 1,1-Dichloroethene	4.61	96	57156	11.20 ug/l	94
10) Acetone	4.67	58	4694	12.76 ug/l #	78
11) Carbon Disulfide	4.87	76	214882	11.08 ug/l	99
12) Methylene Chloride	5.12	84	65100	11.95 ug/l	94
13) Acrylonitrile	5.36	53	16187	13.11 ug/l	98
14) Methyl-tert-butyl ether	5.38	73	149612	13.39 ug/l	97
15) trans-1,2-Dichloroethene	5.40	96	62063	11.43 ug/l #	78
16) Vinyl Acetate	5.84	43	101553	11.92 ug/l	95
17) 1,1-Dichloroethane	5.83	63	127580	11.52 ug/l	99
18) 2-Butanone	6.41	72	5310	12.00 ug/l	99
19) cis-1,2-Dichloroethene	6.42	96	59063	11.05 ug/l #	86
20) Chloroform	6.74	83	107029	11.40 ug/l	98
21) 1,1,1-Trichloroethane	6.97	97	91939	11.64 ug/l	97
22) 1,2-Dichloroethane	7.37	62	77116	12.73 ug/l	90
23) Carbon Tetrachloride	7.15	117	63710	10.41 ug/l	99
24) 2-Chloroethyl vinyl ether	7.37	63	21822	11.70 ug/l #	62
26) Benzene	7.36	78	251855	11.39 ug/l	100
28) Trichloroethene	8.05	130	54911	10.04 ug/l	95
29) 1,2-Dichloropropane	8.31	63	66500	10.32 ug/l	94
30) Dibromomethane	8.45	93	29242	11.88 ug/l #	82
31) Bromodichloromethane	8.60	83	68658	10.17 ug/l	100
32) cis-1,3-Dichloropropene	9.11	75	84895	9.66 ug/l	99
33) 4-Methyl-2-pentanone	9.26	43	50078	11.68 ug/l #	69

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1380.D Vial: 1
Acq On : 16 Dec 1998 2:32 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 14:50 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

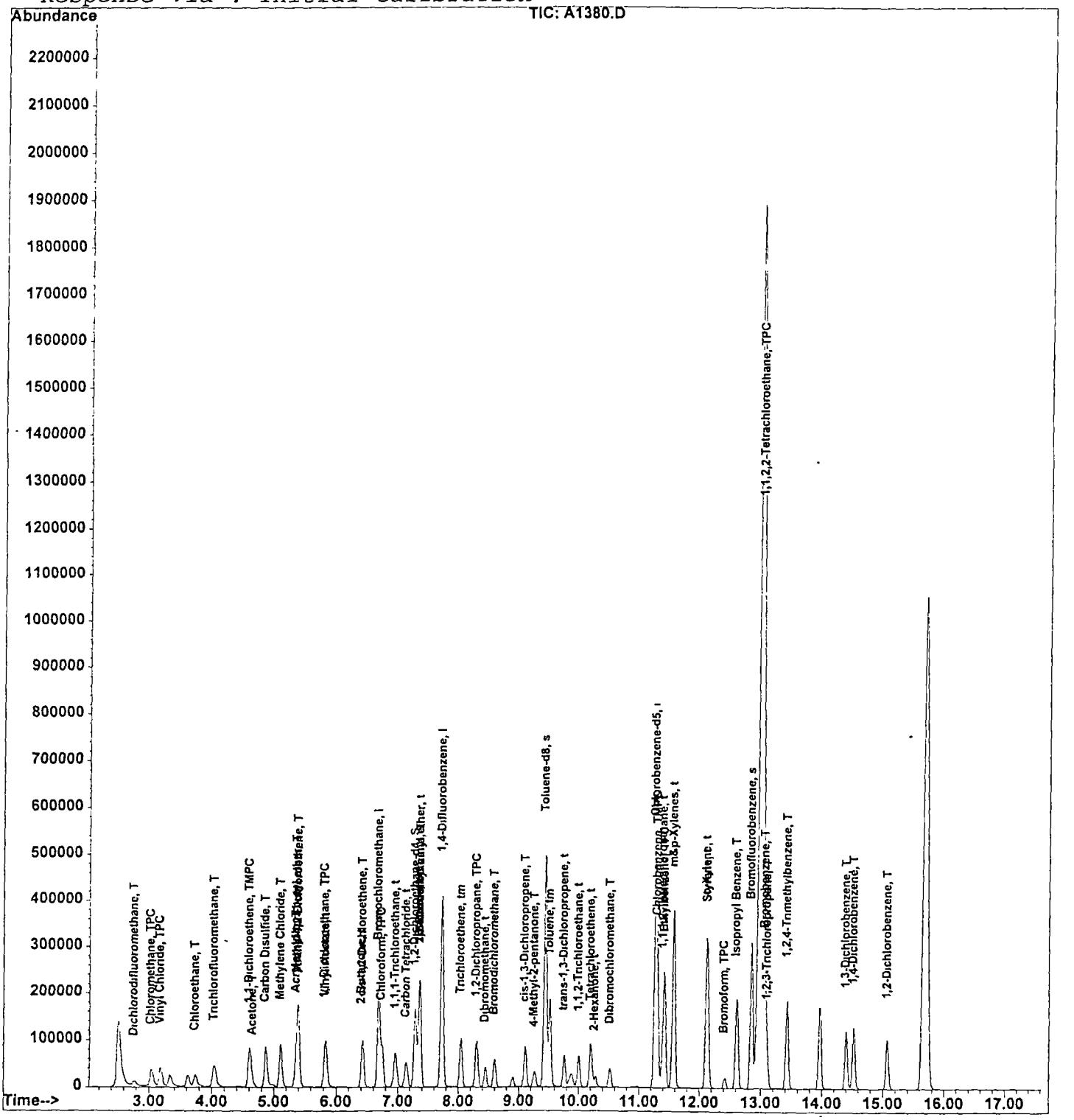
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
35)	Toluene	9.52	92	132465	10.50 ug/l		98
36)	trans-1,3-Dichloropropene	9.76	75	64150	9.70 ug/l		98
37)	1,1,2-Trichloroethane	10.01	83	32828	10.28 ug/l		97
38)	2-Hexanone	10.28	43	34591	11.37 ug/l		93
39)	Tetrachloroethene	10.21	164	35593	10.19 ug/l	#	63
40)	Dibromochloromethane	10.53	129	38309	9.66 ug/l		97
42)	Chlorobenzene	11.30	112	145977	11.32 ug/l		94
43)	1,1,1,2-Tetrachloroethane	11.41	131	45199	11.93 ug/l		98
44)	Ethylbenzene	11.43	91	260493	11.03 ug/l		97
45)	m&p-Xylenes	11.58	91	417303	22.66 ug/l		97
46)	o-Xylene	12.13	91	201438	11.00 ug/l		96
47)	Styrene	12.14	104	149450	11.02 ug/l		90
48)	Bromoform	12.42	173	18397	9.46 ug/l		98
49)	Isopropyl Benzene	12.61	105	256241	12.12 ug/l		99
51)	1,1,2,2-Tetrachloroethane	13.03	83	51621	12.95 ug/l		93
52)	1,2,3-Trichloropropane	13.11	75	51098	12.13 ug/l	#	100
53)	Bromobenzene	13.07	156	49607	12.33 ug/l	#	76
54)	1,2,4-Trimethylbenzene	13.44	105	211209	12.33 ug/l		96
55)	1,3-Dichlorobenzene	14.40	146	88406	10.75 ug/l		97
56)	1,4-Dichlorobenzene	14.53	146	95372	10.97 ug/l		98
57)	1,2-Dichlorobenzene	15.08	146	76920	10.46 ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1380.D Vial: 1
Acq On : 16 Dec 1998 2:32 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 14:50 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1381.D
Acq On : 16 Dec 1998 3:06 pm
Sample : vstd020:20ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 16 15:26 1998

Vial: 2
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	88636	50.00 ug/l	0.02
27) 1,4-Difluorobenzene	7.74	114	552678	50.00 ug/l	0.03
41) Chlorobenzene-d5	11.27	117	438840	50.00 ug/l	0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	212731	56.80 ug/l	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 113.60%		
34) Toluene-d8	9.44	98	603371	49.72 ug/l	0.03
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.44%		
50) Bromofluorobenzene	12.86	95	233232	52.07 ug/l	0.05
Spiked Amount 50.000	Range 86 - 115		Recovery = 104.14%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.77	85	44480	21.74 ug/l	98
3) Chloromethane	3.05	50	173861	20.50 ug/l	99
4) Vinyl Chloride	3.19	62	173038	21.04 ug/l	99
5) Bromomethane	3.62	94	63025	26.13 ug/l	100
6) Chloroethane	3.74	64	102175	20.14 ug/l	98
7) Trichlorofluoromethane	4.05	101	180368	21.46 ug/l	100
9) 1,1-Dichloroethene	4.62	96	111628	21.27 ug/l	94
10) Acetone	4.68	58	9523	25.16 ug/l	99
11) Carbon Disulfide	4.88	76	419952	21.05 ug/l	99
12) Methylene Chloride	5.12	84	122306	21.82 ug/l	92
13) Acrylonitrile	5.38	53	25467	20.05 ug/l	95
14) Methyl-tert-butyl ether	5.39	73	227338	19.79 ug/l	97
15) trans-1,2-Dichloroethene	5.40	96	121582	21.77 ug/l #	77
16) Vinyl Acetate	5.85	43	204100	23.28 ug/l	96
17) 1,1-Dichloroethane	5.84	63	253988	22.30 ug/l	100
18) 2-Butanone	6.44	72	10662	23.43 ug/l	100
19) cis-1,2-Dichloroethene	6.44	96	117957	21.46 ug/l #	86
20) Chloroform	6.75	83	212433	21.99 ug/l	99
21) 1,1,1-Trichloroethane	6.97	97	181453	22.33 ug/l	96
22) 1,2-Dichloroethane	7.38	62	153465	24.62 ug/l	90
23) Carbon Tetrachloride	7.16	117	135436	21.52 ug/l	99
24) 2-Chloroethyl vinyl ether	7.37	63	44456	23.18 ug/l #	62
26) Benzene	7.37	78	499349	21.95 ug/l	100
28) Trichloroethene	8.06	130	110196	19.68 ug/l	97
29) 1,2-Dichloropropane	8.31	63	133535	20.24 ug/l	97
30) Dibromomethane	8.45	93	45909	18.22 ug/l #	81
31) Bromodichloromethane	8.61	83	139654	20.20 ug/l	100
32) cis-1,3-Dichloropropene	9.12	75	177058	19.67 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1381.D
Acq On : 16 Dec 1998 3:06 pm
Sample : vstd020:20ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 16 15:26 1998

Vial: 2
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

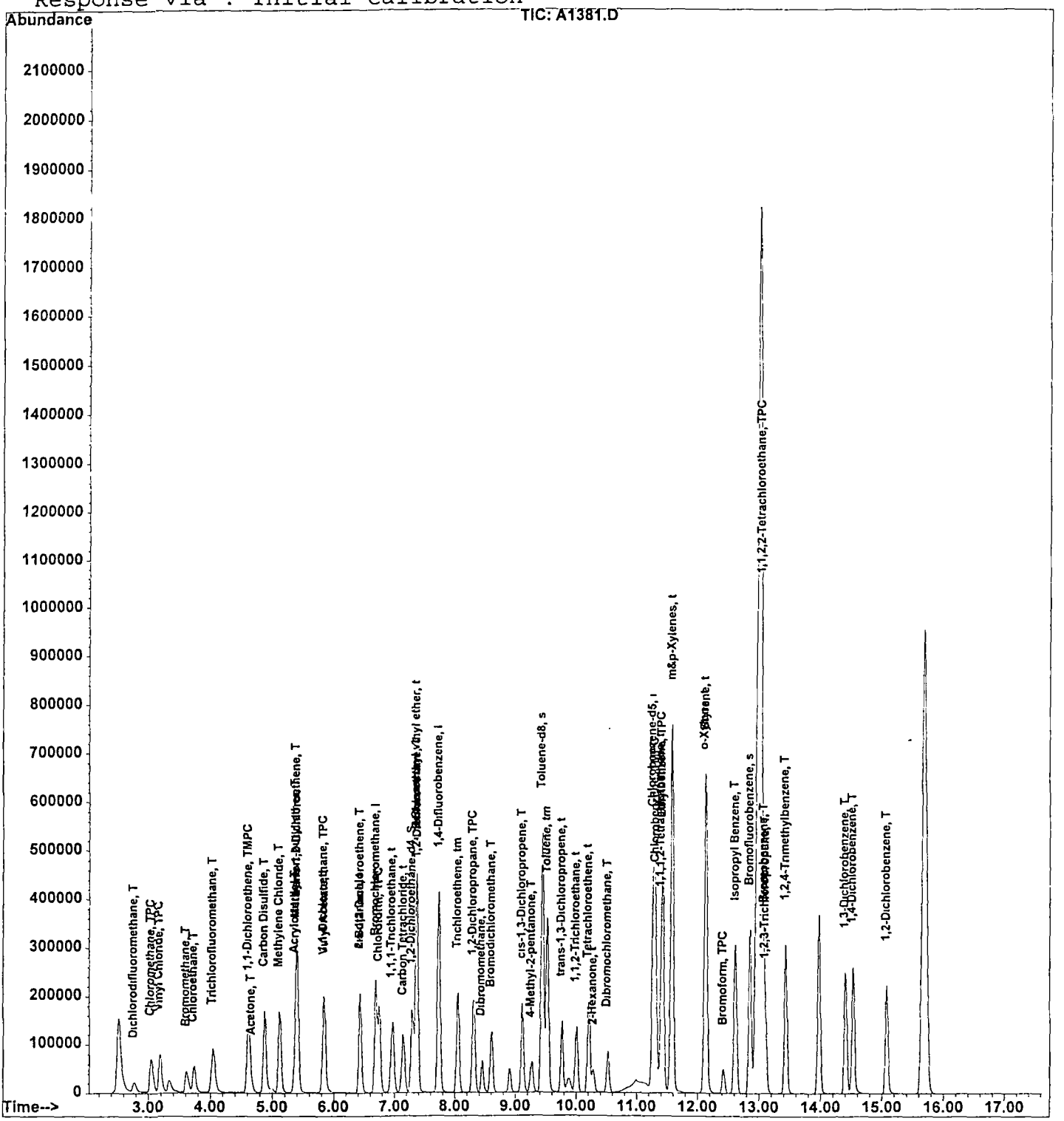
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33) 4-Methyl-2-pentanone	9.28	43	96637	22.01 ug/l	#	69
35) Toluene	9.52	92	258478	20.01 ug/l		97
36) trans-1,3-Dichloropropene	9.77	75	135468	20.01 ug/l		98
37) 1,1,2-Trichloroethane	10.01	83	67090	20.53 ug/l		96
38) 2-Hexanone	10.29	43	67520	21.68 ug/l		97
39) Tetrachloroethene	10.21	164	71075	19.87 ug/l	#	65
40) Dibromochloromethane	10.53	129	79127	19.48 ug/l		100
42) Chlorobenzene	11.32	112	270913	20.85 ug/l		94
43) 1,1,1,2-Tetrachloroethane	11.41	131	69875	18.31 ug/l		99
44) Ethylbenzene	11.43	91	513343	21.57 ug/l		98
45) m&p-Xylenes	11.59	91	844223	45.51 ug/l		97
46) o-Xylene	12.13	91	415837	22.55 ug/l		96
47) Styrene	12.14	104	307578	22.51 ug/l		91
48) Bromoform	12.43	173	40678	20.76 ug/l		98
49) Isopropyl Benzene	12.62	105	413160	19.41 ug/l		99
51) 1,1,2,2-Tetrachloroethane	13.04	83	98934	24.63 ug/l		95
52) 1,2,3-Trichloropropane	13.11	75	87383	20.59 ug/l	#	100
53) Bromobenzene	13.09	156	80598	19.89 ug/l	#	77
54) 1,2,4-Trimethylbenzene	13.44	105	340403	19.73 ug/l		97
55) 1,3-Dichlorobenzene	14.40	146	178625	21.56 ug/l		98
56) 1,4-Dichlorobenzene	14.53	146	191474	21.87 ug/l		98
57) 1,2-Dichlorobenzene	15.08	146	159837	21.56 ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1381.D Vial: 2
Acq On : 16 Dec 1998 3:06 pm Operator:
Sample : vstd020:20ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 15:26 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1382.D Vial: 3
Acq On : 16 Dec 1998 3:40 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 15:57 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	88779	50.00 ug/l	0.01
27) 1,4-Difluorobenzene	7.74	114	541568	50.00 ug/l	0.02
41) Chlorobenzene-d5	11.28	117	438607	50.00 ug/l	0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.30	65	221576	59.07 ug/l	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 118.14%		
34) Toluene-d8	9.45	98	590385	49.64 ug/l	0.03
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.28%		
50) Bromofluorobenzene	12.86	95	238209	53.21 ug/l	0.06
Spiked Amount 50.000	Range 86 - 115		Recovery = 106.42%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.78	85	104936	51.20 ug/l	99
3) Chloromethane	3.05	50	418669	49.29 ug/l	100
4) Vinyl Chloride	3.18	62	420534	51.05 ug/l	100
5) Bromomethane	3.61	94	117910	75.48 ug/l	98
6) Chloroethane	3.73	64	244780	56.73 ug/l	99
7) Trichlorofluoromethane	4.04	101	440733	52.36 ug/l	100
9) 1,1-Dichloroethene	4.61	96	259241	49.31 ug/l	93
10) Acetone	4.66	58	21056	55.54 ug/l	100
11) Carbon Disulfide	4.87	76	990567	49.57 ug/l	99
12) Methylene Chloride	5.12	84	275677	49.11 ug/l	93
13) Acrylonitrile	5.37	53	66781	52.50 ug/l	98
14) Methyl-tert-butyl ether	5.39	73	571118	49.63 ug/l	98
15) trans-1,2-Dichloroethene	5.40	96	283297	50.65 ug/l #	78
16) Vinyl Acetate	5.85	43	466708	53.16 ug/l	96
17) 1,1-Dichloroethane	5.83	63	592134	51.91 ug/l	100
18) 2-Butanone	6.43	72	25838	56.69 ug/l #	87
19) cis-1,2-Dichloroethene	6.43	96	274349	49.82 ug/l #	83
20) Chloroform	6.76	83	493205	50.97 ug/l	99
21) 1,1,1-Trichloroethane	6.97	97	424108	52.10 ug/l	96
22) 1,2-Dichloroethane	7.38	62	350503	56.15 ug/l	91
23) Carbon Tetrachloride	7.15	117	324899	51.55 ug/l	99
24) 2-Chloroethyl vinyl ether	7.38	63	103285	53.76 ug/l #	62
26) Benzene	7.36	78	1153855	50.63 ug/l	100
28) Trichloroethene	8.05	130	256058	46.67 ug/l	97
29) 1,2-Dichloropropane	8.31	63	312019	48.27 ug/l	98
30) Dibromomethane	8.46	93	114572	46.40 ug/l #	81
31) Bromodichloromethane	8.62	83	330469	48.78 ug/l	99
32) cis-1,3-Dichloropropene	9.12	75	421572	47.80 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1382.D
Acq On : 16 Dec 1998 3:40 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 16 15:57 1998

Vial: 3
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) 4-Methyl-2-pentanone	9.27	43	221316	51.45 ug/l	93
35) Toluene	9.53	92	595786	47.08 ug/l	97
36) trans-1,3-Dichloropropene	9.78	75	325083	48.99 ug/l	98
37) 1,1,2-Trichloroethane	10.01	83	154459	48.23 ug/l	95
38) 2-Hexanone	10.29	43	156231	51.19 ug/l	99
39) Tetrachloroethene	10.22	164	163258	46.57 ug/l #	65
40) Dibromochloromethane	10.53	129	188735	47.43 ug/l	99
42) Chlorobenzene	11.32	112	616785	47.50 ug/l	95
43) 1,1,1,2-Tetrachloroethane	11.41	131	169940	44.55 ug/l	98
44) Ethylbenzene	11.43	91	1153519	48.50 ug/l	97
45) m&p-Xylenes	11.59	91	1891234	102.00 ug/l	96
46) o-Xylene	12.13	91	955711	51.85 ug/l	96
47) Styrene	12.14	104	717167	52.51 ug/l	90
48) Bromoform	12.44	173	101276	51.71 ug/l	98
49) Isopropyl Benzene	12.63	105	1016103	47.75 ug/l	100
51) 1,1,2,2-Tetrachloroethane	13.05	83	223453	55.65 ug/l	99
52) 1,2,3-Trichloropropane	13.11	75	201302	47.46 ug/l #	100
53) Bromobenzene	13.09	156	192344	47.50 ug/l #	79
54) 1,2,4-Trimethylbenzene	13.44	105	823021	47.74 ug/l	96
55) 1,3-Dichlorobenzene	14.42	146	414926	50.12 ug/l	98
56) 1,4-Dichlorobenzene	14.54	146	442502	50.57 ug/l	98
57) 1,2-Dichlorobenzene	15.09	146	374899	50.61 ug/l	97

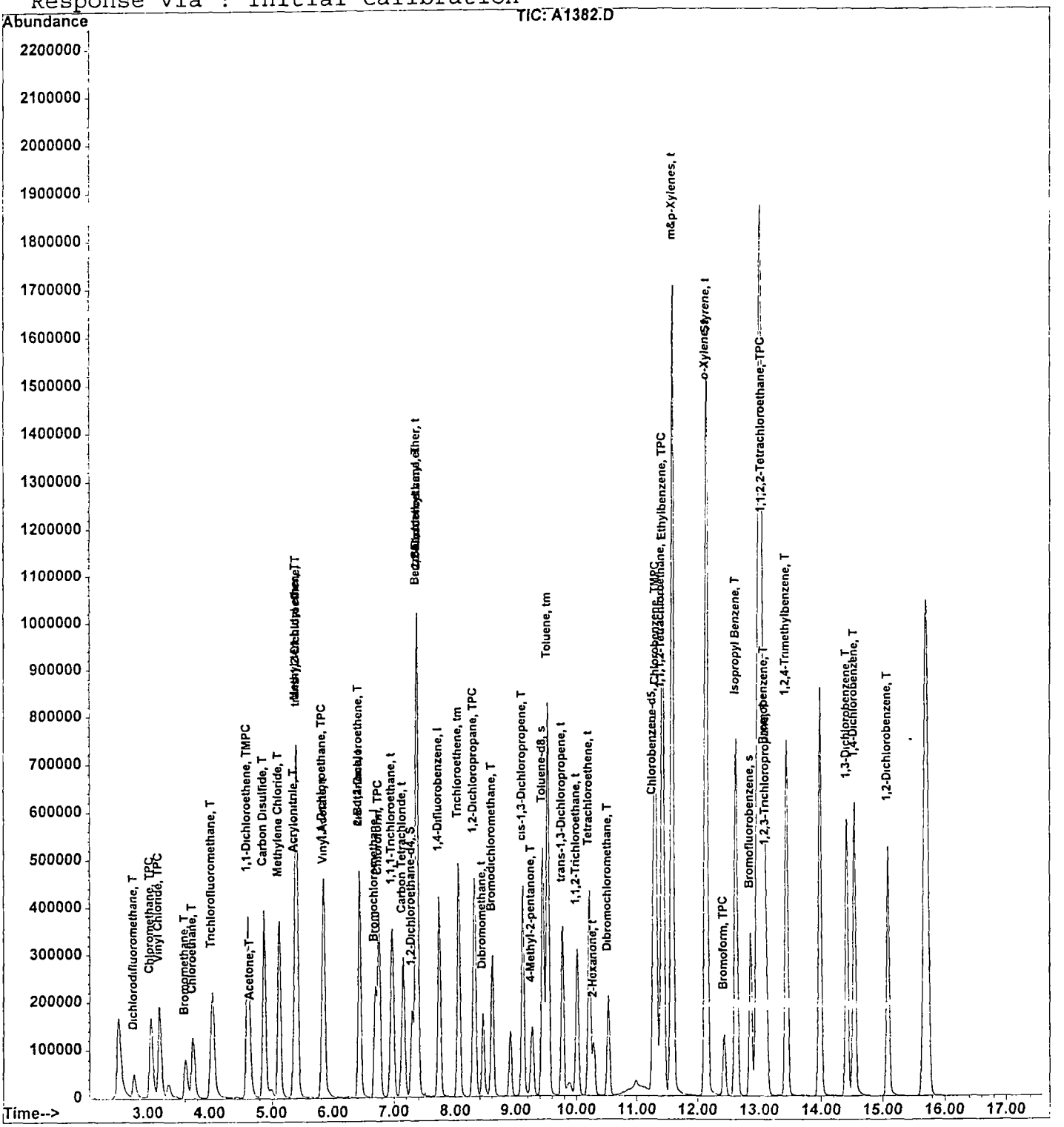
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1382.D
Acq On : 16 Dec 1998 3:40 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 16 15:57 1998

Vial: 3
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1383.D
Acq On : 16 Dec 1998 4:13 pm
Sample : vstd075:75ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 16 16:31 1998

Vial: 4
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.68	128	88276	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	535183	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.26	117	433404	50.00 ug/l	0.02
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	208728	55.96 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 111.92%		
34) Toluene-d8	9.43	98	586637	49.92 ug/l	0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.84%		
50) Bromofluorobenzene	12.84	95	237284	53.64 ug/l	0.03
Spiked Amount 50.000	Range 86 - 115		Recovery = 107.28%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.77	85	157498	77.28 ug/l	99
3) Chloromethane	3.04	50	652371	77.25 ug/l	100
4) Vinyl Chloride	3.19	62	626618	76.50 ug/l	100
5) Bromomethane	3.61	94	155148	107.80 ug/l	98
6) Chloroethane	3.72	64	345185	105.15 ug/l	99
7) Trichlorofluoromethane	4.04	101	645918	77.17 ug/l	100
9) 1,1-Dichloroethene	4.61	96	398634	76.26 ug/l	94
10) Acetone	4.67	58	29627	78.60 ug/l	95
11) Carbon Disulfide	4.87	76	1502481	75.61 ug/l	99
12) Methylene Chloride	5.12	84	408070	73.10 ug/l	93
13) Acrylonitrile	5.37	53	96701	76.46 ug/l	98
14) Methyl-tert-butyl ether	5.38	73	855155	74.73 ug/l	98
15) trans-1,2-Dichloroethene	5.40	96	424156	76.26 ug/l #	78
16) Vinyl Acetate	5.84	43	684551	78.41 ug/l	96
17) 1,1-Dichloroethane	5.83	63	883614	77.91 ug/l	100
18) 2-Butanone	6.43	72	35251	77.79 ug/l #	92
19) cis-1,2-Dichloroethene	6.43	96	411996	75.25 ug/l #	85
20) Chloroform	6.74	83	729141	75.79 ug/l	99
21) 1,1,1-Trichloroethane	6.95	97	633590	78.28 ug/l	96
22) 1,2-Dichloroethane	7.36	62	505097	81.38 ug/l	91
23) Carbon Tetrachloride	7.14	117	497662	79.41 ug/l	99
24) 2-Chloroethyl vinyl ether	7.36	63	168332	88.11 ug/l #	85
26) Benzene	7.36	78	1751971	77.32 ug/l	100
28) Trichloroethene	8.04	130	384112	70.84 ug/l	96
29) 1,2-Dichloropropane	8.30	63	463998	72.64 ug/l	98
30) Dibromomethane	8.44	93	171114	70.13 ug/l #	81
31) Bromodichloromethane	8.59	83	495162	73.97 ug/l	100
32) cis-1,3-Dichloropropene	9.11	75	631994	72.51 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1383.D Vial: 4
Acq On : 16 Dec 1998 4:13 pm Operator:
Sample : vstd075:75ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 16:31 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

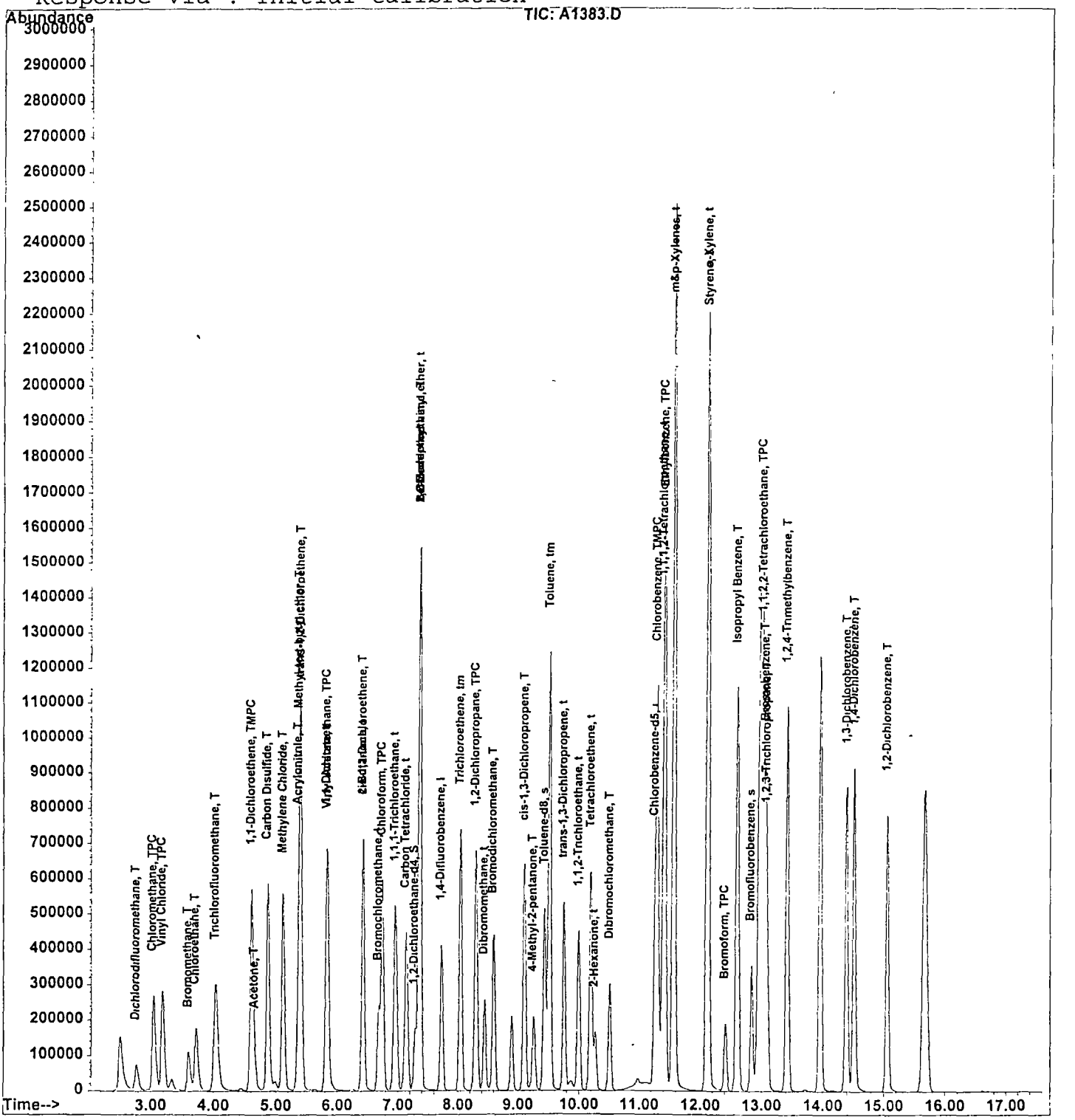
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.25	43	308259	72.52 ug/l		94
35)	Toluene	9.51	92	900820	72.03 ug/l		97
36)	trans-1,3-Dichloropropene	9.75	75	487203	74.30 ug/l		98
37)	1,1,2-Trichloroethane	10.00	83	225559	71.27 ug/l		95
38)	2-Hexanone	10.27	43	221089	73.30 ug/l		99
39)	Tetrachloroethene	10.20	164	237407	68.53 ug/l	#	64
40)	Dibromochloromethane	10.52	129	281858	71.67 ug/l		99
42)	Chlorobenzene	11.29	112	926069	72.18 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.40	131	269952	71.62 ug/l		98
44)	Ethylbenzene	11.42	91	1779314	75.70 ug/l		97
45)	m&p-Xylenes	11.56	91	2804256	153.06 ug/l		95
46)	o-Xylene	12.12	91	1389307	76.27 ug/l		95
47)	Styrene	12.13	104	1053562	78.06 ug/l		90
48)	Bromoform	12.41	173	152174	78.64 ug/l		98
49)	Isopropyl Benzene	12.60	105	1562652	74.32 ug/l		100
51)	1,1,2,2-Tetrachloroethane	13.02	83	317961	80.14 ug/l		99
52)	1,2,3-Trichloropropane	13.09	75	291180	69.47 ug/l	#	100
53)	Bromobenzene	13.06	156	289960	72.46 ug/l	#	80
54)	1,2,4-Trimethylbenzene	13.41	105	1240251	72.80 ug/l		95
55)	1,3-Dichlorobenzene	14.39	146	612704	74.90 ug/l		98
56)	1,4-Dichlorobenzene	14.52	146	639805	73.99 ug/l		97
57)	1,2-Dichlorobenzene	15.06	146	550572	75.21 ug/l		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1383.D Vial: 4
Acq On : 16 Dec 1998 4:13 pm Operator:
Sample : vstd075:75ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 16:31 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1379.D Vial: 5
Acq On : 16 Dec 1998 4:47 pm Operator:
Sample : vst100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 17:05 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.68	128	90418	50.00	ug/l	0.00
27) 1,4-Difluorobenzene	7.73	114	522316	50.00	ug/l	0.02
41) Chlorobenzene-d5	11.27	117	436803	50.00	ug/l	0.03
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.29	65	209030	54.72	ug/l	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 109.44%			
34) Toluene-d8	9.45	98	578883	50.47	ug/l	0.03
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.94%			
50) Bromofluorobenzene	12.85	95	238653	53.53	ug/l	0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 107.06%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.77	85	205935	98.65	ug/l	99
3) Chloromethane	3.04	50	875553	101.22	ug/l	100
4) Vinyl Chloride	3.19	62	847577	101.03	ug/l	99
5) Bromomethane	3.60	94	174548	120.41	ug/l	99
6) Chloroethane	3.72	64	341272	95.83	ug/l	99
7) Trichlorofluoromethane	4.02	101	872865	101.82	ug/l	100
9) 1,1-Dichloroethene	4.61	96	544418	101.68	ug/l	94
10) Acetone	4.67	58	41651	107.88	ug/l	96
11) Carbon Disulfide	4.87	76	2072228	101.82	ug/l	99
12) Methylene Chloride	5.12	84	571227	99.91	ug/l	94
13) Acrylonitrile	5.36	53	202477	156.30	ug/l	97
14) Methyl-tert-butyl ether	5.39	73	1747344	149.08	ug/l	98
15) trans-1,2-Dichloroethene	5.40	96	587660	103.15	ug/l #	78
16) Vinyl Acetate	5.85	43	886918	99.19	ug/l	96
17) 1,1-Dichloroethane	5.83	63	1228788	105.78	ug/l	100
18) 2-Butanone	6.42	72	52048	112.13	ug/l #	85
19) cis-1,2-Dichloroethene	6.42	96	575159	102.56	ug/l #	85
20) Chloroform	6.75	83	1018706	103.38	ug/l	99
21) 1,1,1-Trichloroethane	6.97	97	884889	106.74	ug/l	97
22) 1,2-Dichloroethane	7.37	62	688937	108.37	ug/l	92
23) Carbon Tetrachloride	7.15	117	694588	108.21	ug/l	99
24) 2-Chloroethyl vinyl ether	7.37	63	223757	114.35	ug/l #	88
26) Benzene	7.36	78	2393736	103.14	ug/l	100
28) Trichloroethene	8.05	130	532024	100.53	ug/l	97
29) 1,2-Dichloropropane	8.31	63	647170	103.81	ug/l	98
30) Dibromomethane	8.45	93	349230	146.65	ug/l #	82
31) Bromodichloromethane	8.60	83	691207	105.79	ug/l	100
32) cis-1,3-Dichloropropene	9.11	75	888742	104.48	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1379.D Vial: 5
Acq On : 16 Dec 1998 4:47 pm Operator:
Sample : vst100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 17:05 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

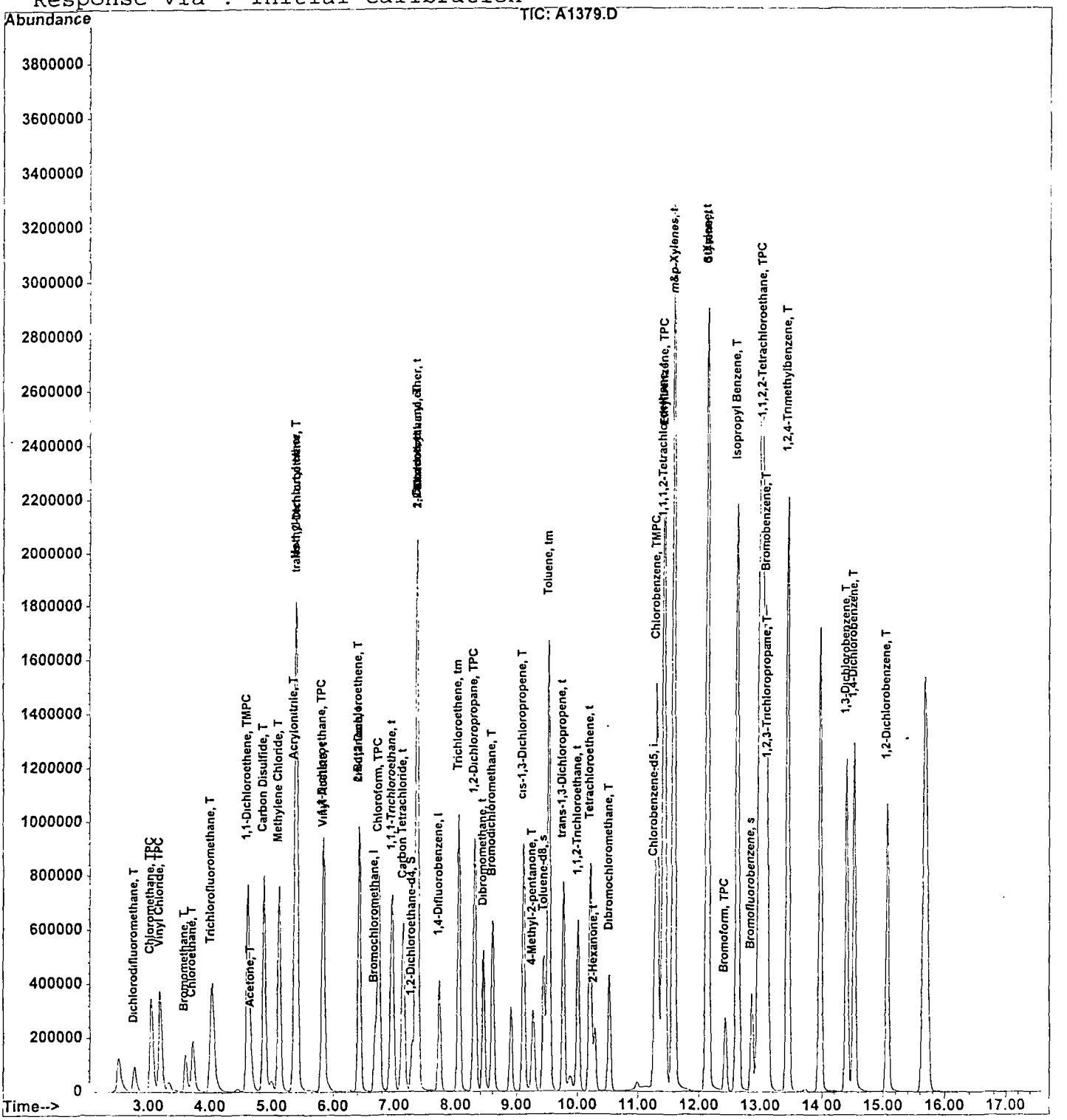
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.26	43	441340	106.38 ug/l		93
35)	Toluene	9.52	92	1233223	101.03 ug/l		98
36)	trans-1,3-Dichloropropene	9.76	75	695144	108.62 ug/l		98
37)	1,1,2-Trichloroethane	10.01	83	316603	102.49 ug/l		95
38)	2-Hexanone	10.28	43	316004	107.35 ug/l		99
39)	Tetrachloroethene	10.21	164	328210	97.08 ug/l	#	63
40)	Dibromochloromethane	10.53	129	401305	104.56 ug/l		99
42)	Chlorobenzene	11.31	112	1272835	98.43 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.41	131	533873	140.53 ug/l		97
44)	Ethylbenzene	11.43	91	2353268	99.34 ug/l		97
45)	m&p-Xylenes	11.59	91	3756188	203.42 ug/l		96
46)	o-Xylene	12.13	91	1892287	103.08 ug/l		94
47)	Styrene	12.14	104	1443837	106.15 ug/l		90
48)	Bromoform	12.42	173	220399	113.00 ug/l		98
49)	Isopropyl Benzene	12.61	105	3059571	144.37 ug/l		100
51)	1,1,2,2-Tetrachloroethane	13.03	83	419014	104.79 ug/l		99
52)	1,2,3-Trichloropropane	13.11	75	591432	140.01 ug/l	#	100
53)	Bromobenzene	13.09	156	581598	144.21 ug/l	#	82
54)	1,2,4-Trimethylbenzene	13.44	105	2479305	144.39 ug/l		94
55)	1,3-Dichlorobenzene	14.40	146	860794	104.40 ug/l		98
56)	1,4-Dichlorobenzene	14.53	146	883868	101.42 ug/l		97
57)	1,2-Dichlorobenzene	15.07	146	772008	104.64 ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1698A\A1379.D Vial: 5
Acq On : 16 Dec 1998 4:47 pm Operator:
Sample : vst100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 16 17:05 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 16 04:13:35 1998
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:09:29 1998
Response via : Initial Calibration

Calibration Files
10 =A1380.D 20 =A1381.D 50 =A1382.D
75 =A1383.D 100 =A1379.D

		Compound	10	20	50	75	100	Avg		%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Dichlorodifluorometha	1.366	1.255	1.182	1.189	1.139	1.226		7.22
3)	TPC	Chloromethane	5.257	4.904	4.716	4.927	4.842	4.929		4.08
4)	TPC	Vinyl Chloride	5.057	4.881	4.737	4.732	4.687	4.819		3.15
5)	T	Bromomethane	2.038	1.778	1.328	1.172	0.965	1.456		30.34
6)	T	Chloroethane	2.953	2.882	2.757	2.607	1.887	2.617		16.38
7)	T	Trichlorofluoromethan	5.228	5.087	4.964	4.878	4.827	4.997		3.25
8)	T	Acrolein	0.418	0.321	0.295	0.287	0.405	0.345		18.04
9)	TMPC	1,1-Dichloroethene	3.316	3.148	2.920	3.011	3.011	3.081		5.02
10)	T	Acetone	0.272	0.269	0.237	0.224	0.230	0.246		9.13
11)	T	Carbon Disulfide	1.247	1.184	1.116	1.135	1.146	1.166	E1	4.45
12)	T	Methylene Chloride	3.777	3.450	3.105	3.082	3.159	3.315		8.98
13)	T	Acrylonitrile	0.939	0.718	0.752	0.730	1.120	0.852		20.49
14)	T	Methyl-tert-butyl eth	8.681	6.412	6.433	6.458	9.663	7.529		20.44
15)	T	trans-1,2-Dichloroeth	3.601	3.429	3.191	3.203	3.250	3.335		5.30
16)	t	Vinyl Acetate	5.892	5.757	5.257	5.170	4.905	5.396		7.69
17)	TPC	1,1-Dichloroethane	7.403	7.164	6.670	6.673	6.795	6.941		4.72
18)	t	2-Butanone	0.308	0.301	0.291	0.266	0.288	0.291		5.47
19)	T	cis-1,2-Dichloroethen	3.427	3.327	3.090	3.111	3.181	3.227		4.50
20)	TPC	Chloroform	6.210	5.992	5.555	5.507	5.633	5.779		5.31
21)	t	1,1,1-Trichloroethane	5.335	5.118	4.777	4.785	4.893	4.982		4.83
22)	T	1,2-Dichloroethane	4.475	4.329	3.948	3.815	3.810	4.075		7.55
23)	t	Carbon Tetrachloride	3.697	3.820	3.660	3.758	3.841	3.755		2.07
24)	t	2-Chloroethyl vinyl e	1.266	1.254	1.163	1.271	1.237	1.238		3.55
25)	S	1,2-Dichloroethane-d4	2.365	2.400	2.496	2.364	2.312	2.387		2.86
26)	tm	Benzene	1.461	1.408	1.300	1.323	1.324	1.363	E1	5.04
27)	I	1,4-Difluorobenzene	----------ISTD----------							
28)	tm	Trichloroethene	0.509	0.498	0.473	0.478	0.509	0.494		3.45
29)	TPC	1,2-Dichloropropane	0.616	0.604	0.576	0.578	0.620	0.599		3.44
30)	t	Dibromomethane	0.271	0.208	0.212	0.213	0.334	0.248		22.26
31)	T	Bromodichloromethane	0.636	0.632	0.610	0.617	0.662	0.631		3.17
32)	T	cis-1,3-Dichloroprope	0.786	0.801	0.778	0.787	0.851	0.801		3.63
33)	T	4-Methyl-2-pentanone	0.464	0.437	0.409	0.384	0.422	0.423		7.09
34)	s	Toluene-d8	1.090	1.092	1.090	1.096	1.108	1.095		0.71
35)	tm	Toluene	1.227	1.169	1.100	1.122	1.181	1.160		4.32
36)	t	trans-1,3-Dichloropro	0.594	0.613	0.600	0.607	0.665	0.616		4.63
37)	t	1,1,2-Trichloroethane	0.304	0.303	0.285	0.281	0.303	0.295		3.83
38)	t	2-Hexanone	0.320	0.305	0.288	0.275	0.303	0.298		5.75
39)	t	Tetrachloroethene	0.330	0.322	0.301	0.296	0.314	0.313		4.48
40)	T	Dibromochloromethane	0.355	0.358	0.348	0.351	0.384	0.359		3.99
41)	i	Chlorobenzene-d5	----------ISTD----------							

(#) = Out of Range

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:09:29 1998
Response via : Initial Calibration

Calibration Files
10 =A1380.D 20 =A1381.D 50 =A1382.D
75 =A1383.D 100 =A1379.D

		Compound	10	20	50	75	100	Avg	%RSD
42)	TMPC	Chlorobenzene	1.676	1.543	1.406	1.424	1.457	1.501	7.38
43)	t	1,1,1,2-Tetrachloroet	0.519	0.398	0.387	0.415	0.611	0.466	20.69
44)	TPC	Ethylbenzene	2.990	2.924	2.630	2.737	2.694	2.795	5.53
45)	t	m&p-Xylenes	2.395	2.405	2.156	2.157	2.150	2.252	5.98
46)	t	o-Xylene	2.312	2.369	2.179	2.137	2.166	2.233	4.55
47)	t	Styrene	1.715	1.752	1.635	1.621	1.653	1.675	3.36
48)	TPC	Bromoform	0.211	0.232	0.231	0.234	0.252	0.232	6.29
49)	T	Isopropyl Benzene	2.941	2.354	2.317	2.404	3.502	2.704	19.01
50)	s	Bromofluorobenzene	0.503	0.531	0.543	0.547	0.546	0.534	3.48
51)	TPC	1,1,2,2-Tetrachloroet	0.593	0.564	0.509	0.489	0.480	0.527	9.31
52)	T	1,2,3-Trichloropropan	0.587	0.498	0.459	0.448	0.677	0.534	18.16
53)	T	Bromobenzene	0.569	0.459	0.439	0.446	0.666	0.516	19.24
54)	T	1,2,4-Trimethylbenzen	2.424	1.939	1.876	1.908	2.838	2.197	19.25
55)	T	1,3-Dichlorobenzene	1.015	1.018	0.946	0.942	0.985	0.981	3.68
56)	T	1,4-Dichlorobenzene	1.095	1.091	1.009	0.984	1.012	1.038	4.92
57)	T	1,2-Dichlorobenzene	0.883	0.911	0.855	0.847	0.884	0.876	2.91

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1541.D Vial: 1
Acq On : 21 Dec 1998 1:18 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.64	128	95064	50.00 ug/l	-0.04
27) 1,4-Difluorobenzene	7.67	114	598346	50.00 ug/l	-0.04
41) Chlorobenzene-d5	11.19	117	484616	50.00 ug/l	-0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.23	65	186430	41.07 ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 82.14%		
34) Toluene-d8	9.38	98	632403	48.25 ug/l	-0.04
Spiked Amount 50.000	Range 88 - 110		Recovery = 96.50%		
50) Bromofluorobenzene	12.77	95	250841	48.44 ug/l	-0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 96.88%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.75	85	58189	24.96 ug/l	98
3) Chloromethane	3.02	50	88297	9.42 ug/l	99
4) Vinyl Chloride	3.15	62	82261	8.98 ug/l	98
5) Bromomethane	3.59	94	38832	9.73 ug/l	97
6) Chloroethane	3.71	64	48086	7.07 ug/l	98
7) Trichlorofluoromethane	4.01	101	105513	11.11 ug/l	100
9) 1,1-Dichloroethene	4.59	96	56456	9.64 ug/l	93
10) Acetone	4.63	58	3889	8.30 ug/l #	73
11) Carbon Disulfide	4.85	76	182791	8.25 ug/l	98
12) Methylene Chloride	5.08	84	59872	9.50 ug/l	99
13) Acrylonitrile	5.33	53	14573	9.00 ug/l	99
14) Methyl-tert-butyl ether	5.34	73	132458	9.25 ug/l	94
15) trans-1,2-Dichloroethene	5.36	96	60337	9.52 ug/l #	87
16) Vinyl Acetate	5.80	43	87536	8.53 ug/l	95
17) 1,1-Dichloroethane	5.79	63	113107	8.57 ug/l	99
18) 2-Butanone	6.38	72	4137	7.48 ug/l #	81
19) cis-1,2-Dichloroethene	6.38	96	60639	9.88 ug/l	94
20) Chloroform	6.69	83	101229	9.21 ug/l	99
21) 1,1,1-Trichloroethane	6.91	97	91189	9.63 ug/l	99
22) 1,2-Dichloroethane	7.31	62	67767	8.75 ug/l	92
23) Carbon Tetrachloride	7.09	117	63124	8.84 ug/l	99
24) 2-Chloroethyl vinyl ether	7.31	63	20384	8.66 ug/l #	62
26) Benzene	7.31	78	218993	8.45 ug/l	100
28) Trichloroethene	7.99	130	59957	10.15 ug/l	96
29) 1,2-Dichloropropane	8.25	63	59285	8.27 ug/l	97
30) Dibromomethane	8.38	93	28856	9.74 ug/l	92
31) Bromodichloromethane	8.54	83	65498	8.67 ug/l	98
32) cis-1,3-Dichloropropene	9.05	75	76570	7.99 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1541.D Vial: 1
Acq On : 21 Dec 1998 1:18 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

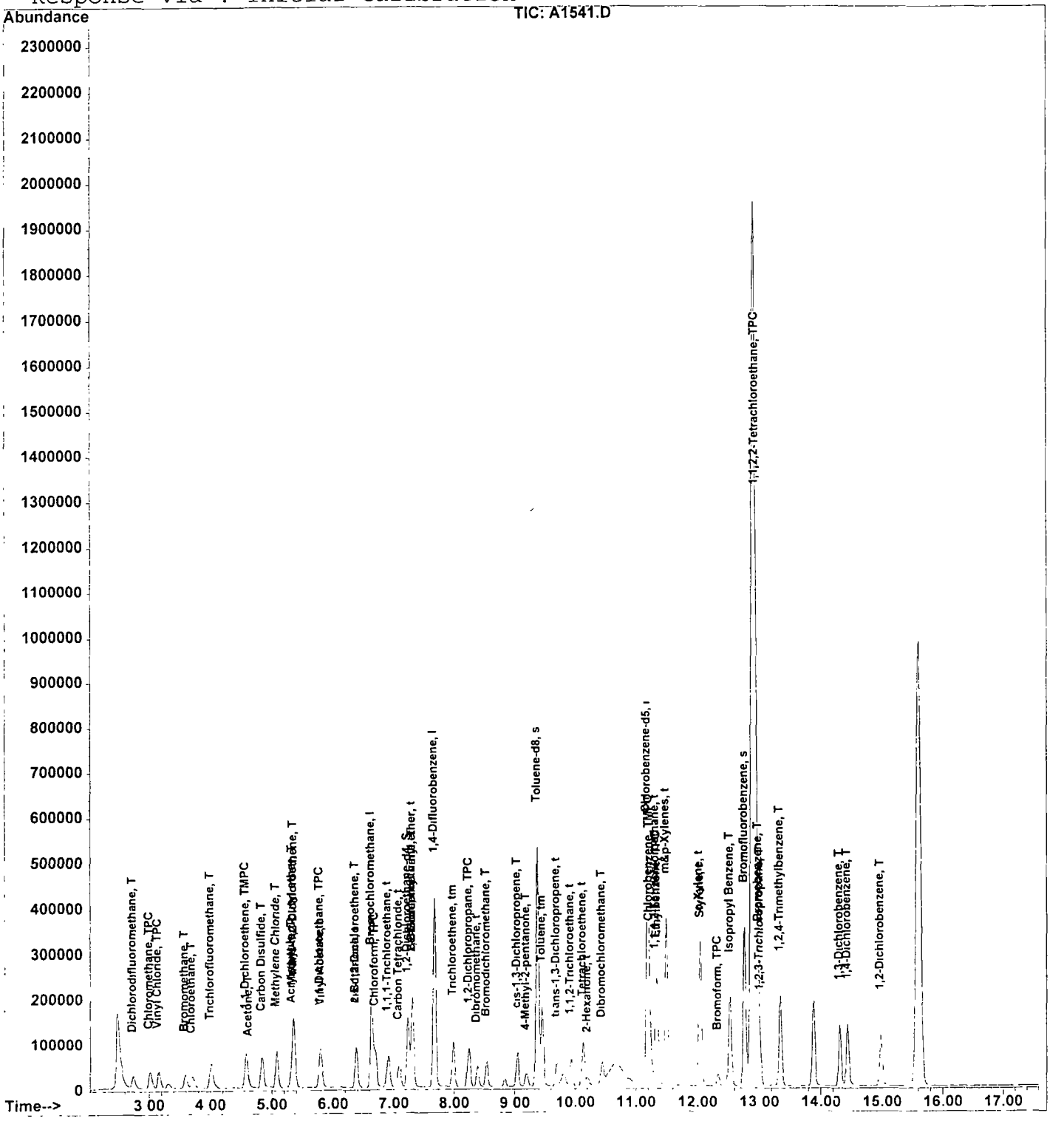
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.20	43	44467	8.78 ug/l	#	69
35)	Toluene	9.46	92	130551	9.41 ug/l		98
36)	trans-1,3-Dichloropropene	9.69	75	54872	7.44 ug/l		95
37)	1,1,2-Trichloroethane	9.93	83	31303	8.86 ug/l		99
38)	2-Hexanone	10.21	43	30837	8.63 ug/l		99
39)	Tetrachloroethene	10.13	164	42326	11.32 ug/l	#	70
40)	Dibromochloromethane	10.45	129	42811	9.96 ug/l		97
42)	Chlorobenzene	11.23	112	147488	10.14 ug/l		97
43)	1,1,1,2-Tetrachloroethane	11.33	131	46954	10.39 ug/l		98
44)	Ethylbenzene	11.35	91	256703	9.48 ug/l		95
45)	m&p-Xylenes	11.50	91	411388	18.84 ug/l		94
46)	o-Xylene	12.04	91	203955	9.43 ug/l		93
47)	Styrene	12.06	104	159449	9.82 ug/l		100
48)	Bromoform	12.34	173	22686	10.09 ug/l		99
49)	Isopropyl Benzene	12.53	105	280353	10.70 ug/l		99
51)	1,1,2,2-Tetrachloroethane	12.95	83	47636	9.33 ug/l		99
52)	1,2,3-Trichloropropane	13.02	75	46946	9.08 ug/l	#	100
53)	Bromobenzene	12.99	156	57251	11.45 ug/l		95
54)	1,2,4-Trimethylbenzene	13.34	105	234301	11.00 ug/l		94
55)	1,3-Dichlorobenzene	14.31	146	109375	11.50 ug/l		100
56)	1,4-Dichlorobenzene	14.44	146	114709	11.40 ug/l		99
57)	1,2-Dichlorobenzene	14.98	146	97725	11.51 ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1541.D Vial: 1
Acq On : 21 Dec 1998 1:18 pm Operator:
Sample : vstd010:10ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1542.D Vial: 2
Acq On : 21 Dec 1998 1:52 pm Operator:
Sample : vstd020:20ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:29 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.64	128	95531	50.00 ug/l	-0.04
27) 1,4-Difluorobenzene	7.68	114	611389	50.00 ug/l	-0.04
41) Chlorobenzene-d5	11.19	117	493411	50.00 ug/l	-0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.24	65	190235	41.71 ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 83.42%		
34) Toluene-d8	9.37	98	652595	48.73 ug/l	-0.05
Spiked Amount 50.000	Range 88 - 110		Recovery = 97.46%		
50) Bromofluorobenzene	12.76	95	256744	48.69 ug/l	-0.05
Spiked Amount 50.000	Range 86 - 115		Recovery = 97.38%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.75	85	117888	50.32 ug/l	99
3) Chloromethane	3.02	50	182055	19.33 ug/l	100
4) Vinyl Chloride	3.16	62	169712	18.43 ug/l	99
5) Bromomethane	3.59	94	74982	23.64 ug/l	97
6) Chloroethane	3.71	64	98103	14.92 ug/l	98
7) Trichlorofluoromethane	4.01	101	213990	22.41 ug/l	100
9) 1,1-Dichloroethene	4.58	96	103870	17.64 ug/l	95
10) Acetone	4.63	58	7778	16.52 ug/l	100
11) Carbon Disulfide	4.84	76	345820	15.53 ug/l	99
12) Methylene Chloride	5.09	84	106511	16.82 ug/l	98
13) Acrylonitrile	5.32	53	27281	16.76 ug/l	97
14) Methyl-tert-butyl ether	5.34	73	251173	17.46 ug/l	95
15) trans-1,2-Dichloroethene	5.36	96	114516	17.97 ug/l #	87
16) Vinyl Acetate	5.81	43	164874	15.99 ug/l	97
17) 1,1-Dichloroethane	5.78	63	213554	16.10 ug/l	99
18) 2-Butanone	6.38	72	8183	14.73 ug/l	96
19) cis-1,2-Dichloroethene	6.38	96	113483	18.40 ug/l	95
20) Chloroform	6.70	83	191226	17.32 ug/l	99
21) 1,1,1-Trichloroethane	6.91	97	171801	18.05 ug/l	99
22) 1,2-Dichloroethane	7.32	62	126160	16.20 ug/l	93
23) Carbon Tetrachloride	7.09	117	125170	17.45 ug/l	98
24) 2-Chloroethyl vinyl ether	7.31	63	37972	16.05 ug/l #	62
26) Benzene	7.31	78	410737	15.77 ug/l	100
28) Trichloroethene	7.99	130	113920	18.88 ug/l	96
29) 1,2-Dichloropropane	8.24	63	113714	15.53 ug/l	99
30) Dibromomethane	8.39	93	54282	17.94 ug/l	91
31) Bromodichloromethane	8.53	83	125727	16.29 ug/l	99
32) cis-1,3-Dichloropropene	9.04	75	148087	15.12 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1542.D Vial: 2
Acq On : 21 Dec 1998 1:52 pm Operator:
Sample : vstd020:20ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:29 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.20	43	79041	15.27 ug/l	#	69
35)	Toluene	9.46	92	244739	17.26 ug/l		98
36)	trans-1,3-Dichloropropene	9.70	75	107140	14.23 ug/l		96
37)	1,1,2-Trichloroethane	9.93	83	58730	16.26 ug/l		99
38)	2-Hexanone	10.20	43	56787	15.56 ug/l		99
39)	Tetrachloroethene	10.13	164	80502	21.07 ug/l	#	73
40)	Dibromochloromethane	10.45	129	81519	18.55 ug/l		99
42)	Chlorobenzene	11.23	112	275588	18.60 ug/l		96
43)	1,1,1,2-Tetrachloroethane	11.32	131	92262	20.06 ug/l		98
44)	Ethylbenzene	11.34	91	480354	17.42 ug/l		95
45)	m&p-Xylenes	11.50	91	765510	34.44 ug/l		93
46)	o-Xylene	12.04	91	377115	17.12 ug/l		93
47)	Styrene	12.05	104	292367	17.69 ug/l		99
48)	Bromoform	12.33	173	44318	19.35 ug/l		99
49)	Isopropyl Benzene	12.52	105	530843	19.90 ug/l		99
51)	1,1,2,2-Tetrachloroethane	12.94	83	84140	16.18 ug/l		99
52)	1,2,3-Trichloropropane	13.02	75	84310	16.01 ug/l	#	100
53)	Bromobenzene	12.99	156	106874	21.00 ug/l		93
54)	1,2,4-Trimethylbenzene	13.35	105	438223	20.21 ug/l		93
55)	1,3-Dichlorobenzene	14.32	146	203502	21.02 ug/l		100
56)	1,4-Dichlorobenzene	14.44	146	213146	20.81 ug/l		99
57)	1,2-Dichlorobenzene	14.98	146	182527	21.12 ug/l		99

(#) = qualifier out of range (m) = manual integration

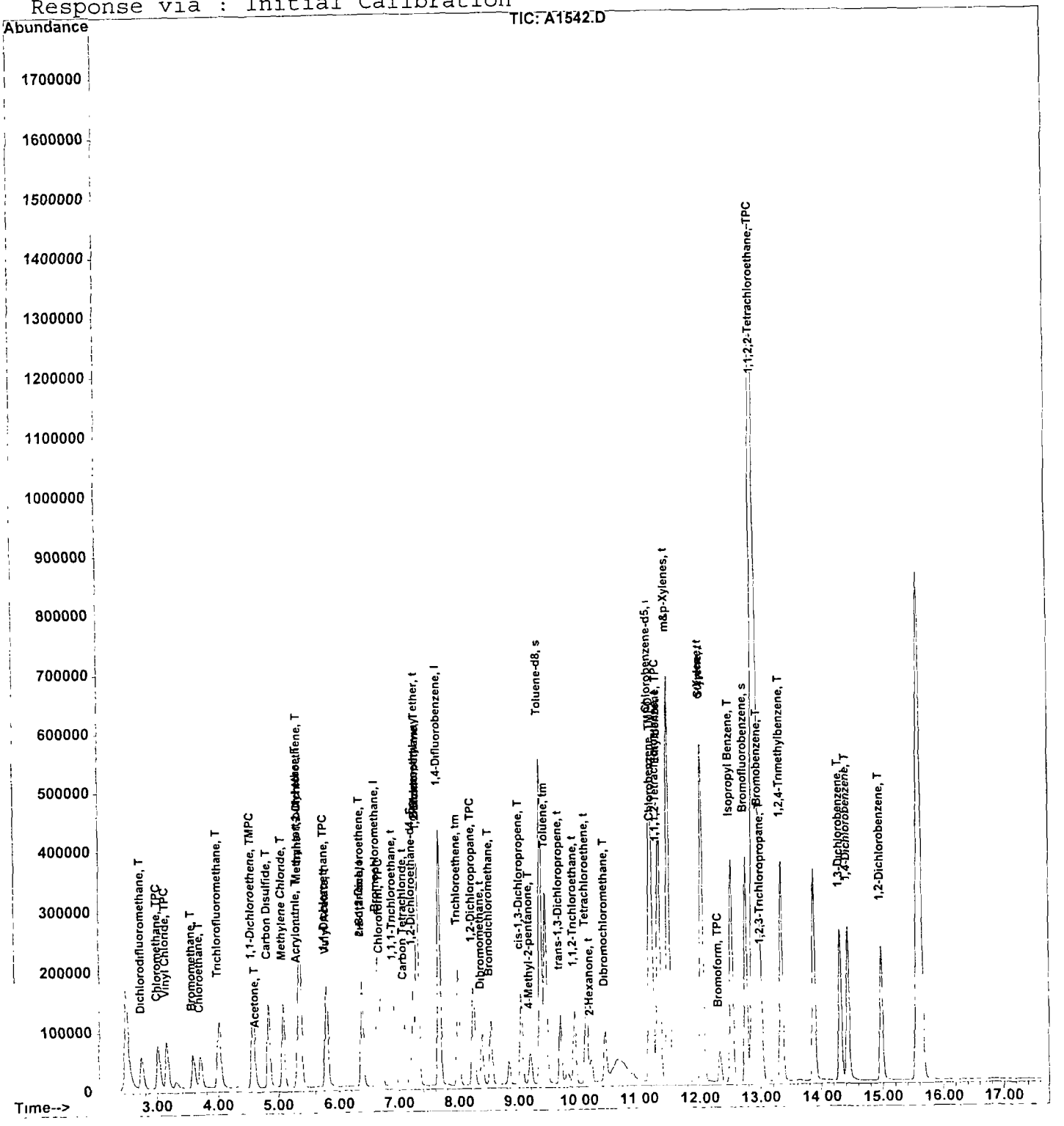
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1542.D
Acq On : 21 Dec 1998 1:52 pm
Sample : vstd020:20ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 22 7:29 1998

Vial: 2
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1540.D Vial: 1
Acq On : 21 Dec 1998 12:39 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.64	128	95235	50.00 ug/l	-0.03
27) 1,4-Difluorobenzene	7.68	114	595380	50.00 ug/l	-0.03
41) Chlorobenzene-d5	11.19	117	487093	50.00 ug/l	-0.06
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.24	65	199054	43.77 ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 87.54%		
34) Toluene-d8	9.37	98	631215	48.40 ug/l	-0.04
Spiked Amount 50.000	Range 88 - 110		Recovery = 96.80%		
50) Bromofluorobenzene	12.76	95	253853	48.77 ug/l	-0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 97.54%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.74	85	267120	114.37 ug/l	100
3) Chloromethane	3.01	50	409576	43.63 ug/l	99
4) Vinyl Chloride	3.16	62	389601	42.45 ug/l	100
5) Bromomethane	3.58	94	119842	44.76 ug/l	96
6) Chloroethane	3.70	64	209907	35.80 ug/l	99
7) Trichlorofluoromethane	4.01	101	482077	50.65 ug/l	100
9) 1,1-Dichloroethene	4.58	96	259054	44.14 ug/l	94
10) Acetone	4.63	58	19834	42.25 ug/l	96
11) Carbon Disulfide	4.84	76	868374	39.12 ug/l	99
12) Methylene Chloride	5.08	84	260788	41.31 ug/l	99
13) Acrylonitrile	5.32	53	71390	43.99 ug/l	99
14) Methyl-tert-butyl ether	5.35	73	617127	43.03 ug/l	97
15) trans-1,2-Dichloroethene	5.36	96	286335	45.08 ug/l	88
16) Vinyl Acetate	5.81	43	431885	42.02 ug/l	98
17) 1,1-Dichloroethane	5.79	63	526389	39.82 ug/l	100
18) 2-Butanone	6.37	72	23171	41.84 ug/l #	85
19) cis-1,2-Dichloroethene	6.38	96	286425	46.60 ug/l	96
20) Chloroform	6.70	83	471449	42.83 ug/l	99
21) 1,1,1-Trichloroethane	6.91	97	423105	44.59 ug/l	99
22) 1,2-Dichloroethane	7.32	62	315670	40.67 ug/l	94
23) Carbon Tetrachloride	7.09	117	331458	46.34 ug/l	99
24) 2-Chloroethyl vinyl ether	7.31	63	91623	38.84 ug/l #	62
26) Benzene	7.31	78	1014007	39.05 ug/l	100
28) Trichloroethene	8.00	130	286984	48.83 ug/l	95
29) 1,2-Dichloropropane	8.24	63	279444	39.19 ug/l	100
30) Dibromomethane	8.39	93	135513	45.98 ug/l	92
31) Bromodichloromethane	8.54	83	317784	42.27 ug/l	100
32) cis-1,3-Dichloropropene	9.04	75	384119	40.28 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1540.D Vial: 1
Acq On : 21 Dec 1998 12:39 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

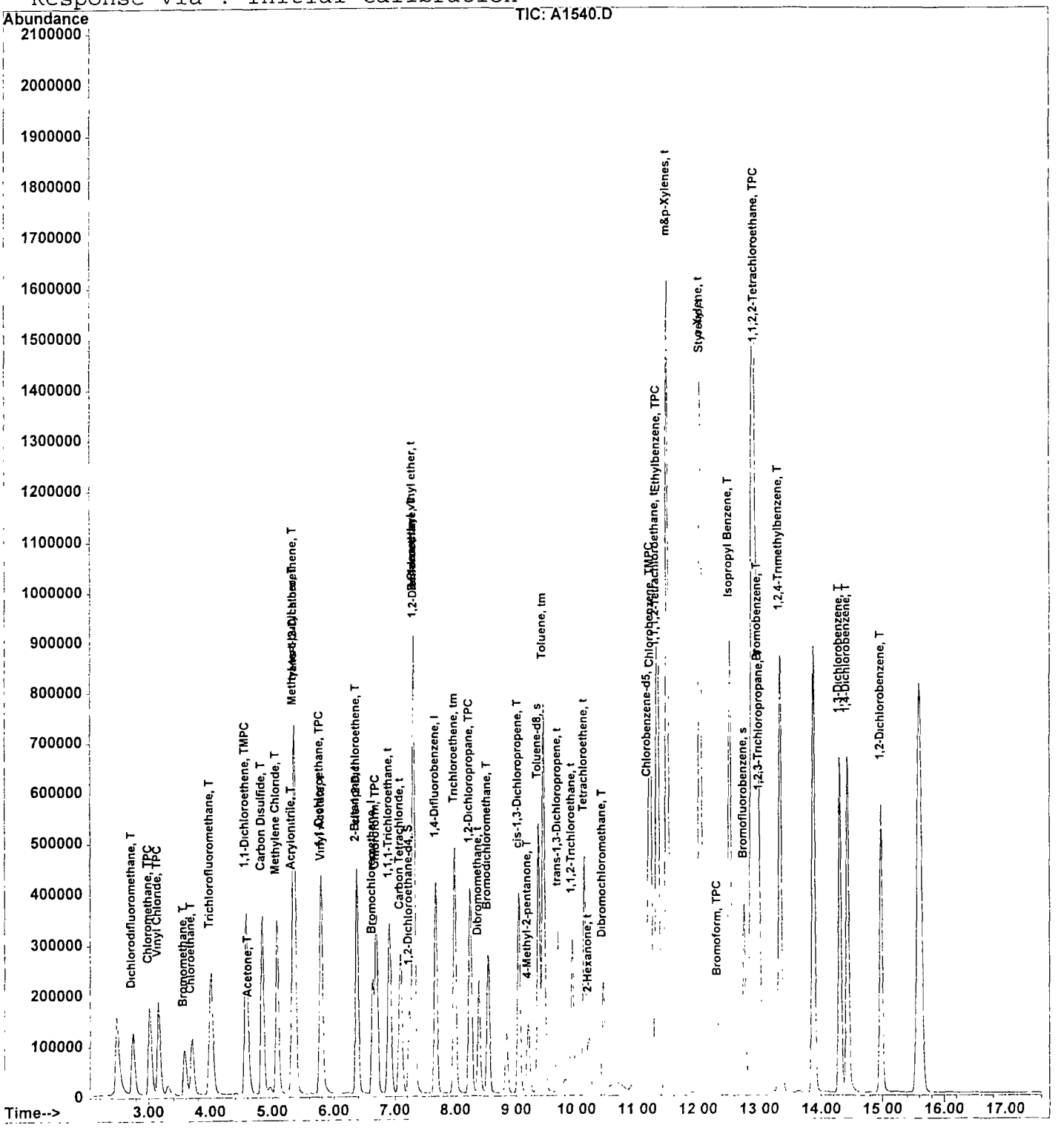
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.20	43	202366	40.15 ug/l		99
35)	Toluene	9.45	92	595077	43.09 ug/l		97
36)	trans-1,3-Dichloropropene	9.70	75	287699	39.23 ug/l		96
37)	1,1,2-Trichloroethane	9.93	83	147556	41.95 ug/l		98
38)	2-Hexanone	10.21	43	145511	40.94 ug/l		96
39)	Tetrachloroethene	10.14	164	197735	53.13 ug/l	#	70
40)	Dibromochloromethane	10.44	129	213167	49.82 ug/l		99
42)	Chlorobenzene	11.23	112	677828	46.34 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.32	131	226648	49.91 ug/l		97
44)	Ethylbenzene	11.34	91	1172370	43.06 ug/l		94
45)	m&p-Xylenes	11.50	91	1823205	83.09 ug/l		92
46)	o-Xylene	12.04	91	919084	42.26 ug/l		92
47)	Styrene	12.05	104	732036	44.86 ug/l		99
48)	Bromoform	12.34	173	122331	54.12 ug/l		99
49)	Isopropyl Benzene	12.53	105	1280043	48.60 ug/l		98
51)	1,1,2,2-Tetrachloroethane	12.94	83	199409	38.85 ug/l		99
52)	1,2,3-Trichloropropane	13.01	75	204873	39.41 ug/l	#	100
53)	Bromobenzene	12.99	156	259881	51.72 ug/l		92
54)	1,2,4-Trimethylbenzene	13.34	105	1038484	48.52 ug/l		92
55)	1,3-Dichlorobenzene	14.31	146	518161	54.21 ug/l		100
56)	1,4-Dichlorobenzene	14.43	146	529249	52.34 ug/l		99
57)	1,2-Dichlorobenzene	14.98	146	461279	54.07 ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1540.D Vial: 1
Acq On : 21 Dec 1998 12:39 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1544.D Vial: 4
Acq On : 21 Dec 1998 2:59 pm Operator:
Sample : vstd075:75ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:30 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.64	128	100876	50.00	ug/l	-0.03
27) 1,4-Difluorobenzene	7.68	114	604417	50.00	ug/l	-0.03
41) Chlorobenzene-d5	11.20	117	511300	50.00	ug/l	-0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.24	65	218404	45.34	ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 90.68%			
34) Toluene-d8	9.37	98	653371	49.35	ug/l	-0.05
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.70%			
50) Bromofluorobenzene	12.76	95	276319	50.57	ug/l	-0.05
Spiked Amount 50.000	Range 86 - 115		Recovery = 101.14%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.74	85	398905	161.24	ug/l	99
3) Chloromethane	3.01	50	634428	63.80	ug/l	99
4) Vinyl Chloride	3.16	62	599301	61.64	ug/l	99
5) Bromomethane	3.58	94	129190	45.90	ug/l	97
6) Chloroethane	3.70	64	280590	48.74	ug/l	99
7) Trichlorofluoromethane	4.00	101	721063	71.52	ug/l	100
9) 1,1-Dichloroethene	4.58	96	390102	62.75	ug/l	93
10) Acetone	4.64	58	31233	62.82	ug/l #	90
11) Carbon Disulfide	4.84	76	1282354	54.53	ug/l	100
12) Methylene Chloride	5.07	84	393070	58.78	ug/l	99
13) Acrylonitrile	5.32	53	110376	64.22	ug/l	99
14) Methyl-tert-butyl ether	5.35	73	931448	61.32	ug/l	96
15) trans-1,2-Dichloroethene	5.36	96	423963	63.01	ug/l	88
16) Vinyl Acetate	5.81	43	672740	61.79	ug/l	98
17) 1,1-Dichloroethane	5.78	63	792910	56.62	ug/l	99
18) 2-Butanone	6.38	72	35171	59.95	ug/l #	86
19) cis-1,2-Dichloroethene	6.38	96	427210	65.61	ug/l	95
20) Chloroform	6.70	83	705659	60.52	ug/l	100
21) 1,1,1-Trichloroethane	6.91	97	631983	62.88	ug/l	99
22) 1,2-Dichloroethane	7.32	62	462136	56.21	ug/l	95
23) Carbon Tetrachloride	7.09	117	490707	64.77	ug/l	98
24) 2-Chloroethyl vinyl ether	7.32	63	152692	61.11	ug/l #	62
26) Benzene	7.31	78	1500877	54.57	ug/l	100
28) Trichloroethene	7.99	130	418343	70.12	ug/l	96
29) 1,2-Dichloropropane	8.24	63	421693	58.26	ug/l	100
30) Dibromomethane	8.39	93	203680	68.07	ug/l	91
31) Bromodichloromethane	8.54	83	479794	62.87	ug/l	100
32) cis-1,3-Dichloropropene	9.04	75	580845	60.01	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1544.D Vial: 4
Acq On : 21 Dec 1998 2:59 pm Operator:
Sample : vstd075:75ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:30 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.20	43	311549	60.89 ug/l		98
35)	Toluene	9.46	92	881244	62.85 ug/l		98
36)	trans-1,3-Dichloropropene	9.70	75	443420	59.55 ug/l		96
37)	1,1,2-Trichloroethane	9.93	83	224286	62.82 ug/l		100
38)	2-Hexanone	10.21	43	229598	63.64 ug/l		97
39)	Tetrachloroethene	10.14	164	287716	76.16 ug/l	#	72
40)	Dibromochloromethane	10.45	129	318102	73.24 ug/l		99
42)	Chlorobenzene	11.23	112	1014160	66.06 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.32	131	333715	70.01 ug/l		97
44)	Ethylbenzene	11.35	91	1721306	60.22 ug/l		94
45)	m&p-Xylenes	11.50	91	2605721	113.13 ug/l		91
46)	o-Xylene	12.04	91	1327703	58.15 ug/l		91
47)	Styrene	12.05	104	1074826	62.74 ug/l		98
48)	Bromoform	12.33	173	185966	78.37 ug/l		99
49)	Isopropyl Benzene	12.53	105	1844801	66.73 ug/l		97
51)	1,1,2,2-Tetrachloroethane	12.94	83	311818	57.88 ug/l		100
52)	1,2,3-Trichloropropane	13.02	75	308351	56.51 ug/l	#	100
53)	Bromobenzene	12.99	156	387247	73.42 ug/l		92
54)	1,2,4-Trimethylbenzene	13.35	105	1518372	67.58 ug/l		91
55)	1,3-Dichlorobenzene	14.32	146	779801	77.71 ug/l		100
56)	1,4-Dichlorobenzene	14.44	146	791527	74.57 ug/l		99
57)	1,2-Dichlorobenzene	14.98	146	685410	76.53 ug/l		98

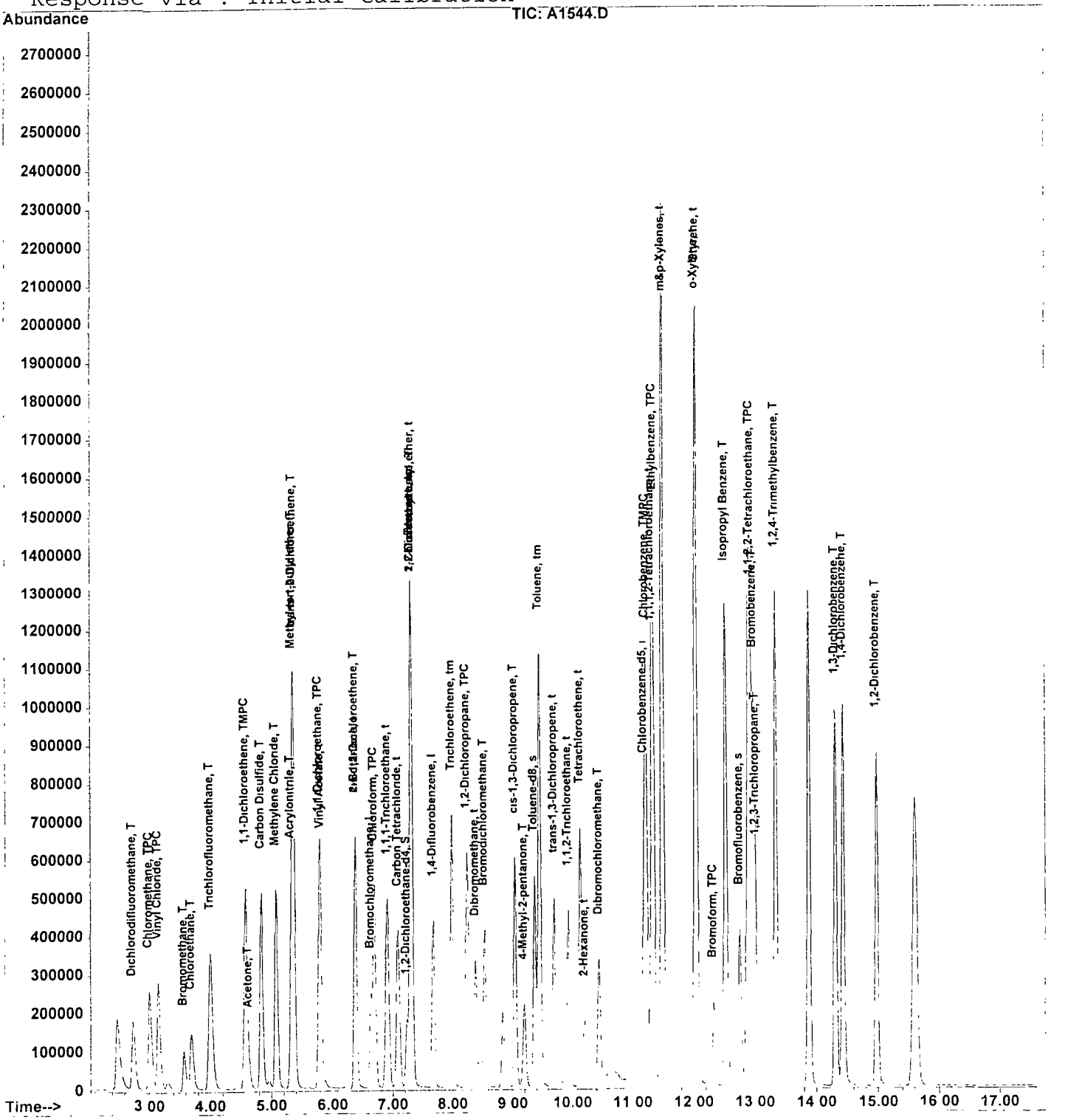
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1544.D
Acq On : 21 Dec 1998 2:59 pm
Sample : vstd075:75ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 22 7:30 1998

Vial: 4
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1543.D Vial: 3
Acq On : 21 Dec 1998 2:25 pm Operator:
Sample : vstd100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:29 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.64	128	94721	50.00 ug/l	-0.04
27) 1,4-Difluorobenzene	7.68	114	563695	50.00 ug/l	-0.04
41) Chlorobenzene-d5	11.19	117	477998	50.00 ug/l	-0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.24	65	185226	40.95 ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 81.90%		
34) Toluene-d8	9.38	98	612504	49.61 ug/l	-0.04
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.22%		
50) Bromofluorobenzene	12.76	95	258205	50.55 ug/l	-0.05
Spiked Amount 50.000	Range 86 - 115		Recovery = 101.10%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.75	85	520610	224.11 ug/l	100
3) Chloromethane	3.02	50	842799	90.26 ug/l	100
4) Vinyl Chloride	3.16	62	790397	86.58 ug/l	100
5) Bromomethane	3.57	94	169604	80.47 ug/l	97
6) Chloroethane	3.70	64	329151	69.91 ug/l	99
7) Trichlorofluoromethane	4.00	101	942831	99.60 ug/l	100
9) 1,1-Dichloroethene	4.58	96	512808	87.85 ug/l	94
10) Acetone	4.63	58	35963	77.03 ug/l	91
11) Carbon Disulfide	4.84	76	1725925	78.17 ug/l	99
12) Methylene Chloride	5.07	84	507606	80.84 ug/l	99
13) Acrylonitrile	5.32	53	135525	83.97 ug/l	99
14) Methyl-tert-butyl ether	5.34	73	1167066	81.82 ug/l	97
15) trans-1,2-Dichloroethene	5.35	96	561592	88.89 ug/l	89
16) Vinyl Acetate	5.80	43	819475	80.16 ug/l	99
17) 1,1-Dichloroethane	5.78	63	1045254	79.49 ug/l	99
18) 2-Butanone	6.38	72	41776	75.84 ug/l #	85
19) cis-1,2-Dichloroethene	6.38	96	560525	91.68 ug/l	94
20) Chloroform	6.70	83	926813	84.65 ug/l	100
21) 1,1,1-Trichloroethane	6.91	97	842091	89.23 ug/l	99
22) 1,2-Dichloroethane	7.32	62	580807	75.24 ug/l	95
23) Carbon Tetrachloride	7.09	117	669456	94.11 ug/l	98
24) 2-Chloroethyl vinyl ether	7.32	63	190973	81.40 ug/l #	88
26) Benzene	7.30	78	1948286	75.44 ug/l	100
28) Trichloroethene	7.99	130	551476	99.11 ug/l	95
29) 1,2-Dichloropropane	8.24	63	551266	81.67 ug/l	99
30) Dibromomethane	8.39	93	262595	94.10 ug/l	92
31) Bromodichloromethane	8.54	83	623538	87.61 ug/l	100
32) cis-1,3-Dichloropropene	9.05	75	760997	84.30 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1543.D Vial: 3
Acq On : 21 Dec 1998 2:25 pm Operator:
Sample : vstd100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:29 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

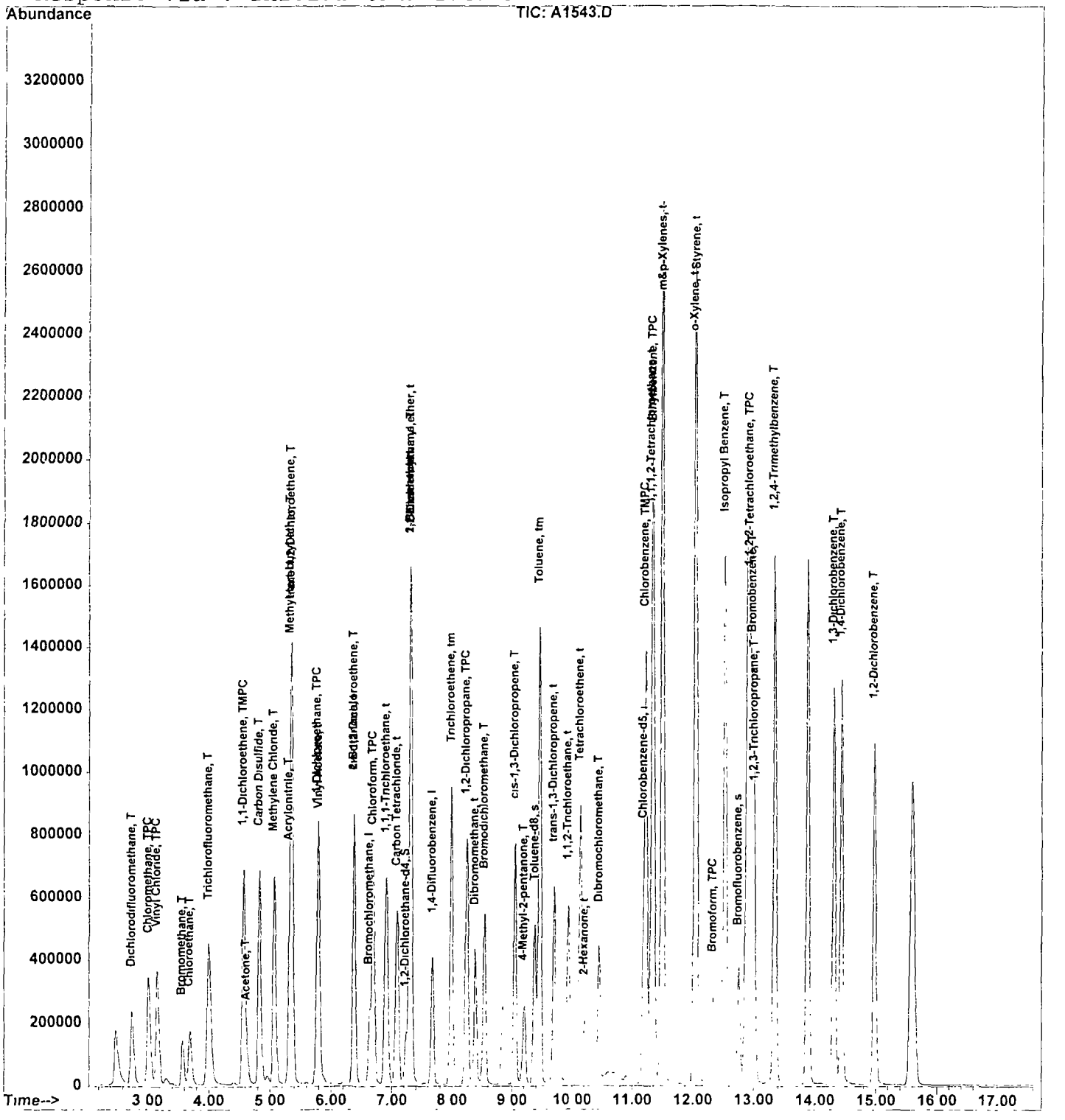
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.20	43	364706	76.43 ug/l		98
35)	Toluene	9.46	92	1131149	86.51 ug/l		98
36)	trans-1,3-Dichloropropene	9.69	75	571567	82.31 ug/l		96
37)	1,1,2-Trichloroethane	9.93	83	283417	85.11 ug/l		99
38)	2-Hexanone	10.21	43	267656	79.55 ug/l		97
39)	Tetrachloroethene	10.13	164	374350	106.25 ug/l	#	71
40)	Dibromochloromethane	10.45	129	414968	102.44 ug/l		100
42)	Chlorobenzene	11.23	112	1300521	90.61 ug/l		94
43)	1,1,1,2-Tetrachloroethane	11.33	131	442881	99.38 ug/l		97
44)	Ethylbenzene	11.35	91	2205773	82.55 ug/l		94
45)	m&p-Xylenes	11.51	91	3304269	153.45 ug/l		90
46)	o-Xylene	12.04	91	1719265	80.55 ug/l		90
47)	Styrene	12.06	104	1398111	87.30 ug/l		99
48)	Bromoform	12.34	173	240710	108.51 ug/l		98
49)	Isopropyl Benzene	12.53	105	2444280	94.57 ug/l		97
51)	1,1,2,2-Tetrachloroethane	12.95	83	366286	72.72 ug/l		100
52)	1,2,3-Trichloropropane	13.02	75	382240	74.93 ug/l	#	100
53)	Bromobenzene	13.00	156	505627	102.55 ug/l		90
54)	1,2,4-Trimethylbenzene	13.35	105	1971997	93.88 ug/l		91
55)	1,3-Dichlorobenzene	14.31	146	996011	106.18 ug/l		100
56)	1,4-Dichlorobenzene	14.44	146	996132	100.38 ug/l		99
57)	1,2-Dichlorobenzene	14.98	146	865339	103.36 ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1543.D Vial: 3
Acq On : 21 Dec 1998 2:25 pm Operator:
Sample : vstd100:100ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:29 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration

Calibration Files
10 =A1541.D 20 =A1542.D 100 =A1543.D
75 =A1544.D 50 =A1540.D 200 =A1545.D

		Compound	10	20	100	75	50	200	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Dichlorodifluoromet	3.061	3.085	2.748	2.636	2.805	2.578	2.819	7.54
3)	TPC	Chloromethane	4.644	4.764	4.449	4.193	4.301	4.123	4.412	5.76
4)	TPC	Vinyl Chloride	4.327	4.441	4.172	3.961	4.091	3.827	4.137	5.50
5)	T	Bromomethane	2.042	1.962	0.895		1.258	0.689	1.370	44.78
6)	T	Chloroethane	2.529	2.567	1.737	1.854	2.204		2.178	17.39
7)	T	Trichlorofluorometh	5.550	5.600	4.977	4.765	5.062	4.202	5.026	10.35
8)	T	Acrolein						0.232	0.232	0.00
9)	TMPC	1,1-Dichloroethene	2.969	2.718	2.707	2.578	2.720	2.399	2.682	7.02
10)	T	Acetone	0.205	0.204	0.190	0.206	0.208	0.159	0.195	9.66
11)	T	Carbon Disulfide	9.614	9.050	9.111	8.475	9.118	8.074	8.907	6.12
12)	T	Methylene Chloride	3.149	2.787	2.679	2.598	2.738	2.384	2.723	9.26
13)	T	Acrylonitrile	0.766	0.714	0.715	0.729	0.750	0.571	0.708	9.90
14)	T	Methyl-tert-butyl e	6.967	6.573	6.161	6.156	6.480	5.303	6.273	8.97
15)	T	trans-1,2-Dichloroe	3.173	2.997	2.964	2.802	3.007	2.558	2.917	7.27
16)	t	Vinyl Acetate	4.604	4.315	4.326	4.446	4.535	3.678	4.317	7.72
17)	TPC	1,1-Dichloroethane	5.949	5.589	5.518	5.240	5.527	4.959	5.464	6.14
18)	t	2-Butanone	0.218	0.214	0.221	0.232	0.243	0.199	0.221	6.95
19)	T	cis-1,2-Dichloroeth	3.189	2.970	2.959	2.823	3.008	2.703	2.942	5.64
20)	TPC	Chloroform	5.324	5.004	4.892	4.664	4.950	4.424	4.877	6.30
21)	t	1,1,1-Trichloroetha	4.796	4.496	4.445	4.177	4.443	3.990	4.391	6.34
22)	T	1,2-Dichloroethane	3.564	3.302	3.066	3.054	3.315	2.605	3.151	10.39
23)	t	Carbon Tetrachlorid	3.320	3.276	3.534	3.243	3.480	3.293	3.358	3.56
24)	t	2-Chloroethyl vinyl	1.072	0.994	1.008	1.009	0.962	0.822	0.978	8.63
25)	S	1,2-Dichloroethane-	1.961	1.991	1.955	2.165	2.090	1.828	1.999	5.85
26)	tm	Benzene	1.152	1.075	1.028	0.992	1.065	0.885	1.033	E1 8.7
27)	I	1,4-Difluorobenzene	----------ISTD----------							
28)	tm	Trichloroethene	0.501	0.466	0.489	0.461	0.482	0.479	0.480	3.06
29)	TPC	1,2-Dichloropropane	0.495	0.465	0.489	0.465	0.469	0.479	0.477	2.70
30)	t	Dibromomethane	0.241	0.222	0.233	0.225	0.228	0.223	0.229	3.21
31)	T	Bromodichloromethan	0.547	0.514	0.553	0.529	0.534	0.536	0.536	2.57
32)	T	cis-1,3-Dichloropro	0.640	0.606	0.675	0.641	0.645	0.660	0.644	3.62
33)	T	4-Methyl-2-pentanon	0.372	0.323	0.323	0.344	0.340	0.290	0.332	8.15
34)	s	Toluene-d8	1.057	1.067	1.087	1.081	1.060	1.105	1.076	1.70
35)	tm	Toluene	1.091	1.001	1.003	0.972	0.999	0.938	1.001	5.06
36)	t	trans-1,3-Dichlorop	0.459	0.438	0.507	0.489	0.483	0.518	0.482	6.21
37)	t	1,1,2-Trichloroetha	0.262	0.240	0.251	0.247	0.248	0.257	0.251	3.06
38)	t	2-Hexanone	0.258	0.232	0.237	0.253	0.244	0.224	0.242	5.26
39)	t	Tetrachloroethene	0.354	0.329	0.332	0.317	0.332	0.340	0.334	3.62
40)	T	Dibromochloromethan	0.358	0.333	0.368	0.351	0.358	0.393	0.360	5.47
41)	i	Chlorobenzene-d5	----------ISTD----------							

(#) = Out of Range

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration

Calibration Files
10 =A1541.D 20 =A1542.D 100 =A1543.D
75 =A1544.D 50 =A1540.D 200 =A1545.D

		Compound	10	20	100	75	50	200	Avg	%RSD
42)	TMPC	Chlorobenzene	1.522	1.396	1.360	1.322	1.392	1.239	1.372	6.82
43)	t	1,1,1,2-Tetrachloro	0.484	0.467	0.463	0.435	0.465	0.429	0.457	4.60
44)	TPC	Ethylbenzene	2.649	2.434	2.307	2.244	2.407	2.000	2.340	9.25
45)	t	m&p-Xylenes	2.122	1.939	1.728	1.699	1.872	1.471	1.805	12.43
46)	t	o-Xylene	2.104	1.911	1.798	1.731	1.887	1.521	1.825	10.71
47)	t	Styrene	1.645	1.481	1.462	1.401	1.503	1.221	1.452	9.58
48)	TPC	Bromoform	0.234	0.225	0.252	0.242	0.251	0.234	0.240	4.47
49)	T	Isopropyl Benzene	2.893	2.690	2.557	2.405	2.628	2.206	2.563	9.26
50)	s	Bromofluorobenzene	0.518	0.520	0.540	0.540	0.521	0.509	0.525	2.42
51)	TPC	1,1,2,2-Tetrachloro	0.491	0.426	0.383	0.407	0.409	0.352	0.411	11.42
52)	T	1,2,3-Trichloroprop	0.484	0.427	0.400	0.402	0.421	0.340	0.412	11.35
53)	T	Bromobenzene	0.591	0.542	0.529	0.505	0.534	0.478	0.530	7.13
54)	T	1,2,4-Trimethylbenz	2.417	2.220	2.063	1.980	2.132	1.784	2.099	10.26
55)	T	1,3-Dichlorobenzene	1.128	1.031	1.042	1.017	1.064	0.935	1.036	6.09
56)	T	1,4-Dichlorobenzene	1.184	1.080	1.042	1.032	1.087	0.935	1.060	7.66
57)	T	1,2-Dichlorobenzene	1.008	0.925	0.905	0.894	0.947	0.828	0.918	6.53

(#) = Out of Range

GCMS VOA

Continuing Calibrations
(In order by Instrument, then date)

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1244.D
Acq On : 12 Dec 1998 7:54 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: events.e
Quant Time: Dec 13 13:07 1998

Vial: 3
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	607339	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3855186	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.25	117	3131813	50.00 ug/l	0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	1490215	49.37 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.74%		
34) Toluene-d8	9.43	98	4201986	51.42 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 102.84%		
50) Bromofluorobenzene	12.83	95	1531742	49.54 ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 99.08%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.79	85	517869	51.15 ug/l	96
3) Chloromethane	3.07	50	2105739	46.92 ug/l	99
4) Vinyl Chloride	3.20	62	2007593	47.61 ug/l	99
5) Bromomethane	3.64	94	845376	50.08 ug/l	95
6) Chloroethane	3.76	64	1239021	48.63 ug/l	100
7) Trichlorofluoromethane	4.06	101	1924825	49.60 ug/l	100
9) 1,1-Dichloroethene	4.63	96	1264858	48.13 ug/l	98
10) Acetone	4.68	58	85111	64.11 ug/l #	84
11) Carbon Disulfide	4.89	76	4841280	46.61 ug/l	99
12) Methylene Chloride	5.13	84	1493061	47.72 ug/l	92
13) Acrylonitrile	5.38	53	410930	55.92 ug/l	98
14) Methyl-tert-butyl ether	5.40	73	3252638	54.11 ug/l	97
15) trans-1,2-Dichloroethene	5.41	96	1373370	48.47 ug/l	97
16) Vinyl Acetate	5.85	43	2704901	52.37 ug/l	97
17) 1,1-Dichloroethane	5.84	63	2793277	46.76 ug/l	100
18) 2-Butanone	6.43	72	112174	70.21 ug/l #	84
19) cis-1,2-Dichloroethene	6.43	96	1408950	48.80 ug/l	97
20) Chloroform	6.75	83	2497296	46.97 ug/l	100
21) 1,1,1-Trichloroethane	6.97	97	1860194	45.84 ug/l	98
22) 1,2-Dichloroethane	7.37	62	1845547	48.69 ug/l	98
23) Carbon Tetrachloride	7.15	117	1053022	46.35 ug/l	98
24) 2-Chloroethyl vinyl ether	7.37	63	537543	48.29 ug/l	100
26) Benzene	7.36	78	6024426	50.45 ug/l	100
28) Trichloroethene	8.05	130	1313813	50.40 ug/l	94
29) 1,2-Dichloropropane	8.30	63	1641575	48.97 ug/l	97
30) Dibromomethane	8.45	93	738181	52.93 ug/l	89
31) Bromodichloromethane	8.60	83	1630963	49.78 ug/l	100
32) cis-1,3-Dichloropropene	9.10	75	2239193	52.04 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1244.D
Acq On : 12 Dec 1998 7:54 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: events.e
Quant Time: Dec 13 13:07 1998

Vial: 3
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.26	43	969695	57.27 ug/l		94
35)	Toluene	9.51	92	3206494	51.44 ug/l		99
36)	trans-1,3-Dichloropropene	9.75	75	1696206	53.50 ug/l		95
37)	1,1,2-Trichloroethane	9.99	83	926110	53.76 ug/l		94
38)	2-Hexanone	10.27	43	609367	61.20 ug/l		98
39)	Tetrachloroethene	10.19	164	834955	49.32 ug/l	#	68
40)	Dibromochloromethane	10.51	129	926074	52.82 ug/l		99
42)	Chlorobenzene	11.29	112	3314587	50.35 ug/l		95
43)	1,1,1,2-Tetrachloroethane	11.39	131	933989	49.99 ug/l		98
44)	Ethylbenzene	11.41	91	5695938	50.87 ug/l		99
45)	m&p-Xylenes	11.56	91	8956248	102.33 ug/l		98
46)	o-Xylene	12.10	91	4470967	51.29 ug/l		97
47)	Styrene	12.12	104	3473949	52.22 ug/l		91
48)	Bromoform	12.40	173	397442	50.30 ug/l		99
49)	Isopropyl Benzene	12.59	105	4685506	50.02 ug/l		98
51)	1,1,2,2-Tetrachloroethane	13.01	83	1092962	54.88 ug/l		99
52)	1,2,3-Trichloropropane	13.08	75	1027857	54.74 ug/l	#	62
53)	Bromobenzene	13.06	156	1080558	51.11 ug/l	#	84
54)	1,3,5-Trimethylbenzene	13.41	105	3705236	49.35 ug/l		100
55)	1,2,4-Trimethylbenzene	13.95	105	4044040	49.70 ug/l		99
56)	1,3-Dichlorobenzene	14.38	146	1962737	48.59 ug/l		99
57)	1,4-Dichlorobenzene	14.50	146	2233700	50.73 ug/l		97
58)	1,2-Dichlorobenzene	15.05	146	1853169	50.03 ug/l		98

(#) = qualifier out of range (m) = manual integration

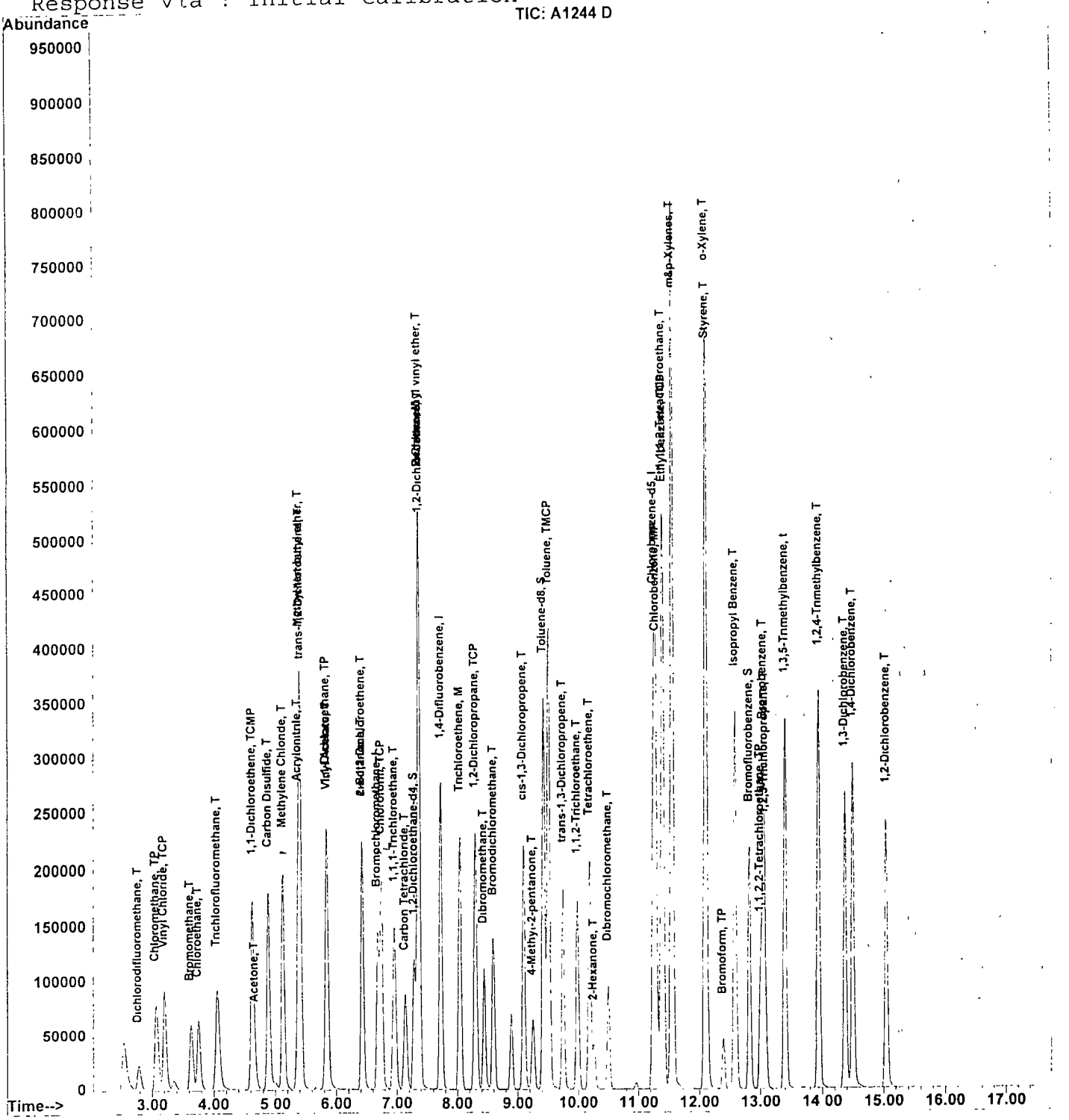
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1244.D
Acq On : 12 Dec 1998 7:54 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: events.e
Quant Time: Dec 13 13:07 1998

Vial: 3
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Wed Dec 09 08:05:42 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1266.D Vial: 25
Acq On : 13 Dec 1998 7:07 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:52 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.71	128	586215	50.00	ug/l	0.12
27) 1,4-Difluorobenzene	7.75	114	3602442	50.00	ug/l	0.09
41) Chlorobenzene-d5	11.26	117	2999478m	50.00	ug/l	0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.31	65	1395939	50.68	ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.36%			
34) Toluene-d8	9.45	98	3959668	50.61	ug/l	0.07
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.22%			
50) Bromofluorobenzene	12.85	95	1487096	50.65	ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 101.30%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.80	85	397151	41.85	ug/l	95
3) Chloromethane	3.08	50	2055231	53.04	ug/l	99
4) Vinyl Chloride	3.22	62	1858781	49.88	ug/l	99
5) Bromomethane	3.65	94	850982	58.45	ug/l	93
6) Chloroethane	3.77	64	1212147	53.36	ug/l	98
7) Trichlorofluoromethane	4.08	101	1662885	47.05	ug/l	100
9) 1,1-Dichloroethene	4.65	96	1162977	48.50	ug/l	99
10) Acetone	4.69	58	75216	46.70	ug/l	93
11) Carbon Disulfide	4.91	76	4570659	50.06	ug/l	99
12) Methylene Chloride	5.14	84	1450227	51.16	ug/l	92
13) Acrylonitrile	5.39	53	422407	56.50	ug/l	96
14) Methyl-tert-butyl ether	5.41	73	3055440	50.51	ug/l	97
15) trans-1,2-Dichloroethene	5.43	96	1304583	50.97	ug/l	96
16) Vinyl Acetate	5.87	43	2599834	52.06	ug/l	97
17) 1,1-Dichloroethane	5.86	63	2707188	51.86	ug/l	100
18) 2-Butanone	6.45	72	107470	55.77	ug/l #	87
19) cis-1,2-Dichloroethene	6.45	96	1333218	50.65	ug/l	94
20) Chloroform	6.77	83	2400110	51.37	ug/l	100
21) 1,1,1-Trichloroethane	6.98	97	1781648	50.75	ug/l	98
22) 1,2-Dichloroethane	7.39	62	1843784	53.88	ug/l	98
23) Carbon Tetrachloride	7.16	117	980039	47.18	ug/l	97
24) 2-Chloroethyl vinyl ether	7.39	63	532085	52.93	ug/l	100
26) Benzene	7.38	78	5684951	50.93	ug/l	100
28) Trichloroethene	8.06	130	1218120	50.73	ug/l	95
29) 1,2-Dichloropropane	8.32	63	1576235	52.38	ug/l	97
30) Dibromomethane	8.46	93	721348	53.67	ug/l #	87
31) Bromodichloromethane	8.62	83	1582388	53.18	ug/l	100
32) cis-1,3-Dichloropropene	9.12	75	2108718	51.51	ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1266.D Vial: 25
Acq On : 13 Dec 1998 7:07 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:52 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

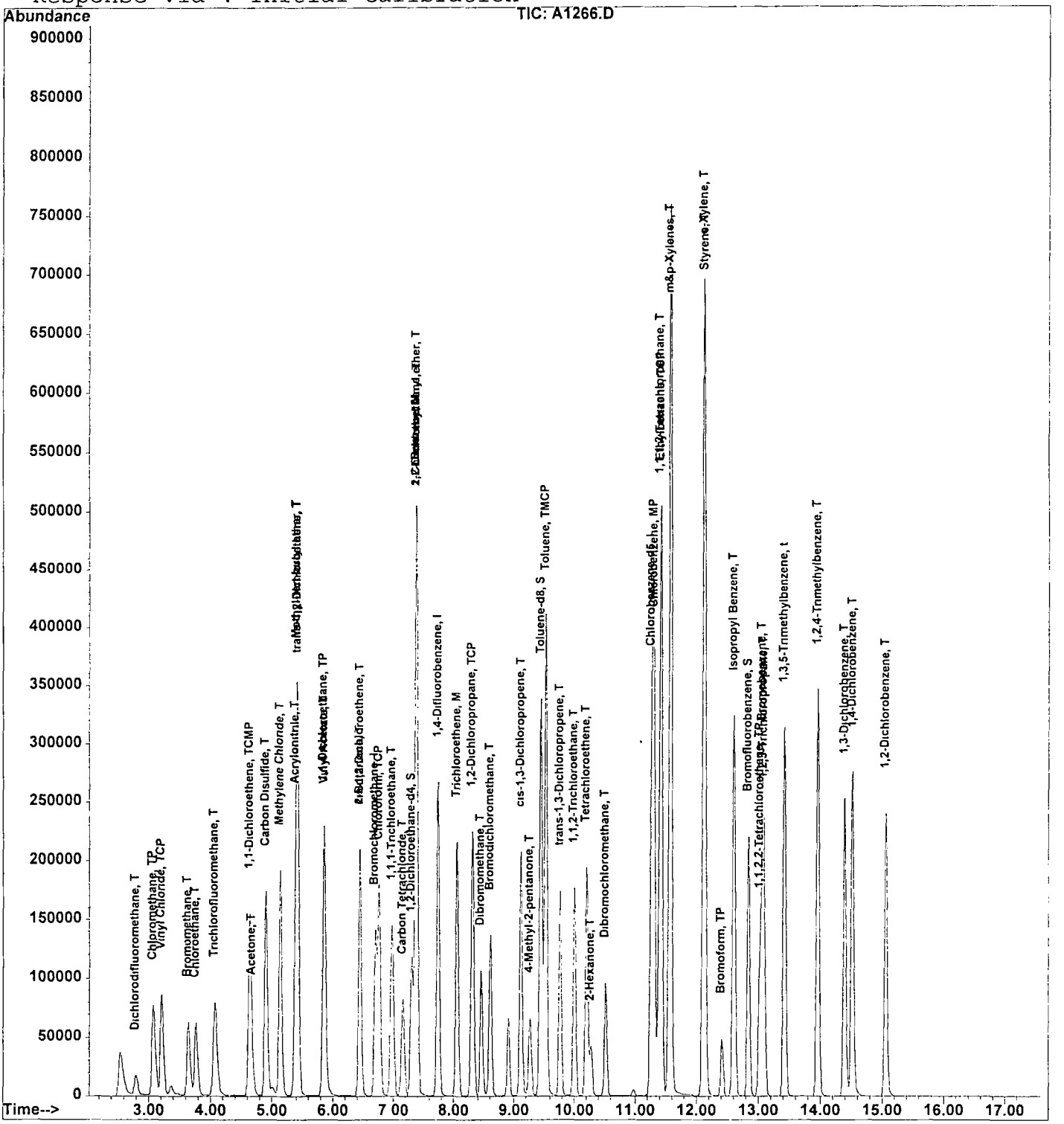
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.27	43	984650	55.84 ug/l		95
35)	Toluene	9.53	92	3026374	52.39 ug/l		99
36)	trans-1,3-Dichloropropene	9.77	75	1595888	51.40 ug/l		96
37)	1,1,2-Trichloroethane	10.01	83	907994	54.45 ug/l		96
38)	2-Hexanone	10.29	43	611615	55.58 ug/l		95
39)	Tetrachloroethene	10.21	164	763347	49.74 ug/l	#	70
40)	Dibromochloromethane	10.53	129	933822	54.16 ug/l		100
42)	Chlorobenzene	11.31	112	3221213	52.44 ug/l		
43)	1,1,1,2-Tetrachloroethane	11.40	131	914661	52.80 ug/l		
44)	Ethylbenzene	11.42	91	5393314m	51.67 ug/l		
45)	m&p-Xylenes	11.58	91	8482119	104.33 ug/l		
46)	o-Xylene	12.12	91	4370932	53.86 ug/l		
47)	Styrene	12.14	104	3402181	53.93 ug/l		
48)	Bromoform	12.42	173	409328	50.51 ug/l		
49)	Isopropyl Benzene	12.61	105	4343616	50.47 ug/l		
51)	1,1,2,2-Tetrachloroethane	13.03	83	1140210	55.76 ug/l		
52)	1,2,3-Trichloropropane	13.09	75	1059432m	55.08 ug/l		
53)	Bromobenzene	13.07	156	1031191	51.53 ug/l	#	
54)	1,3,5-Trimethylbenzene	13.42	105	3464612	50.66 ug/l		
55)	1,2,4-Trimethylbenzene	13.96	105	3840284	52.17 ug/l		
56)	1,3-Dichlorobenzene	14.40	146	1900667m	51.77 ug/l		
57)	1,4-Dichlorobenzene	14.52	146	2140944	52.46 ug/l		
58)	1,2-Dichlorobenzene	15.07	146	1792231	52.56 ug/l		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1266.D Vial: 25
Acq On : 13 Dec 1998 7:07 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:52 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1266.D Vial: 25
Acq On : 13 Dec 1998 7:07 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	97	0.12
2	T	Dichlorodifluoromethane	0.809	0.677	16.3	77	0.18
3	TP	Chloromethane	3.305	3.506	-6.1	98	0.18
4	TCP	Vinyl Chloride	3.179	3.171	0.3	93	0.17
5	T	Bromomethane	1.242	1.452	-16.9	101	0.19
6	T	Chloroethane	1.938	2.068	-6.7	98	0.19
7	T	Trichlorofluoromethane	3.014	2.837	5.9	86	0.18
8	T	Acrolein	0.000	0.143	0.0	0#	1.02#
9	TCMP	1,1-Dichloroethene	2.045	1.984	3.0	92	0.16
10	T	Acetone	0.137	0.128	6.6	88	0.14
11	T	Carbon Disulfide	7.787	7.797	-0.1	94	0.16
12	T	Methylene Chloride	2.418	2.474	-2.3	97	0.15
13	T	Acrylonitrile	0.638	0.721	-13.0	103	0.13
14	T	Methyl-tert-butyl ether	5.160	5.212	-1.0	94	0.13
15	T	trans-1,2-Dichloroethene	2.183	2.225	-1.9	95	0.15
16	T	Vinyl Acetate	4.259	4.435	-4.1	96	0.12
17	TP	1,1-Dichloroethane	4.453	4.618	-3.7	97	0.14
18	T	2-Butanone	0.164	0.183	-11.6	96	0.11
19	T	cis-1,2-Dichloroethene	2.245	2.274	-1.3	95	0.12
20	TCP	Chloroform	3.985	4.094	-2.7	96	0.11
21	T	1,1,1-Trichloroethane	2.994	3.039	-1.5	96	0.11
22	T	1,2-Dichloroethane	2.919	3.145	-7.7	100	0.10
23	T	Carbon Tetrachloride	1.662	1.672	-0.6	93	0.11
24	T	2-Chloroethyl vinyl ether	0.857	0.908	-6.0	99	0.10
25	S	1,2-Dichloroethane-d4	2.349	2.381	-1.4	94	0.10
26	M	Benzene	9.520	9.698	-1.9	94	0.10
27	I	1,4-Difluorobenzene	1.000	1.000	0.0	93	0.09
28	M	Trichloroethene	0.333	0.338	-1.5	93	0.09
29	TCP	1,2-Dichloropropane	0.418	0.438	-4.8	96	0.08
30	T	Dibromomethane	0.187	0.200	-7.0	98	0.08
31	T	Bromodichloromethane	0.413	0.439	-6.3	97	0.08
32	T	cis-1,3-Dichloropropene	0.568	0.585	-3.0	94	0.07
33	T	4-Methyl-2-pentanone	0.245	0.273	-11.4	102	0.06
34	S	Toluene-d8	1.086	1.099	-1.2	94	0.07
35	TMCP	Toluene	0.802	0.840	-4.7	94	0.07
36	T	trans-1,3-Dichloropropene	0.431	0.443	-2.8	94	0.06
37	T	1,1,2-Trichloroethane	0.231	0.252	-9.1	98	0.06
38	T	2-Hexanone	0.153	0.170	-11.1	100	0.05
39	T	Tetrachloroethene	0.213	0.212	0.5	91	0.06
40	T	Dibromochloromethane	0.239	0.259	-8.4	101	0.06

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1266.D Vial: 25
Acq On : 13 Dec 1998 7:07 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.05
42	MP	Chlorobenzene	1.024	1.074	-4.9	97	0.06
43	T	1,1,1,2-Tetrachloroethane	0.289	0.305	-5.5	98	0.06
44	TCP	Ethylbenzene	1.740	1.798	-3.3	95	0.06
45	T	m&p-Xylenes	1.355	1.414	-4.4	95	0.06
46	T	o-Xylene	1.353	1.457	-7.7	98	0.05
47	T	Styrene	1.052	1.134	-7.8	98	0.05
48	TP	Bromoform	0.126	0.136	-7.9	103	0.06
49	T	Isopropyl Benzene	1.435	1.448	-0.9	93	0.06
50	S	Bromofluorobenzene	0.489	0.496	-1.4	97	0.06
51	TP	1,1,2,2-Tetrachloroethane	0.341	0.380	-11.4	104	0.06
52	T	1,2,3-Trichloropropane	0.321	0.353	-10.0	103	0.05
53	T	Bromobenzene	0.334	0.344	-3.0	95	0.06
54	t	1,3,5-Trimethylbenzene	1.140	1.155	-1.3	94	0.06
55	T	1,2,4-Trimethylbenzene	1.227	1.280	-4.3	95	0.06
56	T	1,3-Dichlorobenzene	0.612	0.634	-3.6	97	0.07
57	T	1,4-Dichlorobenzene	0.680	0.714	-5.0	96	0.07
58	T	1,2-Dichlorobenzene	0.568	0.598	-5.3	97	0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 14 11:58 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.70	128	667748	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	4090179	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.26	117	3261252	50.00 ug/l	0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.30	65	1619574	51.62 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.24%		
34) Toluene-d8	9.44	98	4422778	49.79 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.58%		
50) Bromofluorobenzene	12.84	95	1630598	51.08 ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 102.16%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.79	85	557575	51.58 ug/l	94
3) Chloromethane	3.07	50	2341148	53.04 ug/l	100
4) Vinyl Chloride	3.21	62	2148360	50.61 ug/l	99
5) Bromomethane	3.63	94	619783	37.37 ug/l	96
6) Chloroethane	3.75	64	1230379	47.55 ug/l	100
7) Trichlorofluoromethane	4.06	101	2064530	51.28 ug/l	100
9) 1,1-Dichloroethene	4.63	96	1334763	48.87 ug/l	97
10) Acetone	4.68	58	100816	54.96 ug/l #	91
11) Carbon Disulfide	4.89	76	5098004	49.02 ug/l	99
12) Methylene Chloride	5.13	84	1633620	50.59 ug/l	93
13) Acrylonitrile	5.38	53	415909	48.84 ug/l	99
14) Methyl-tert-butyl ether	5.40	73	3249157	47.15 ug/l	97
15) trans-1,2-Dichloroethene	5.41	96	1475799	50.62 ug/l	98
16) Vinyl Acetate	5.86	43	2634616	46.32 ug/l	98
17) 1,1-Dichloroethane	5.85	63	2957166	49.73 ug/l	100
18) 2-Butanone	6.44	72	121156	55.20 ug/l #	87
19) cis-1,2-Dichloroethene	6.44	96	1488917	49.66 ug/l	96
20) Chloroform	6.76	83	2661006	50.00 ug/l	100
21) 1,1,1-Trichloroethane	6.97	97	2001428	50.05 ug/l	98
22) 1,2-Dichloroethane	7.38	62	1941610	49.81 ug/l	99
23) Carbon Tetrachloride	7.15	117	1150729	48.47 ug/l	98
24) 2-Chloroethyl vinyl ether	7.37	63	571989	49.95 ug/l	100
26) Benzene	7.37	78	6380414	50.18 ug/l	100
28) Trichloroethene	8.05	130	1381232	50.66 ug/l	94
29) 1,2-Dichloropropane	8.31	63	1716009	50.23 ug/l	98
30) Dibromomethane	8.45	93	743319	48.71 ug/l	89
31) Bromodichloromethane	8.60	83	1727173	51.12 ug/l	99
32) cis-1,3-Dichloropropene	9.11	75	2351052	50.58 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 14 11:58 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

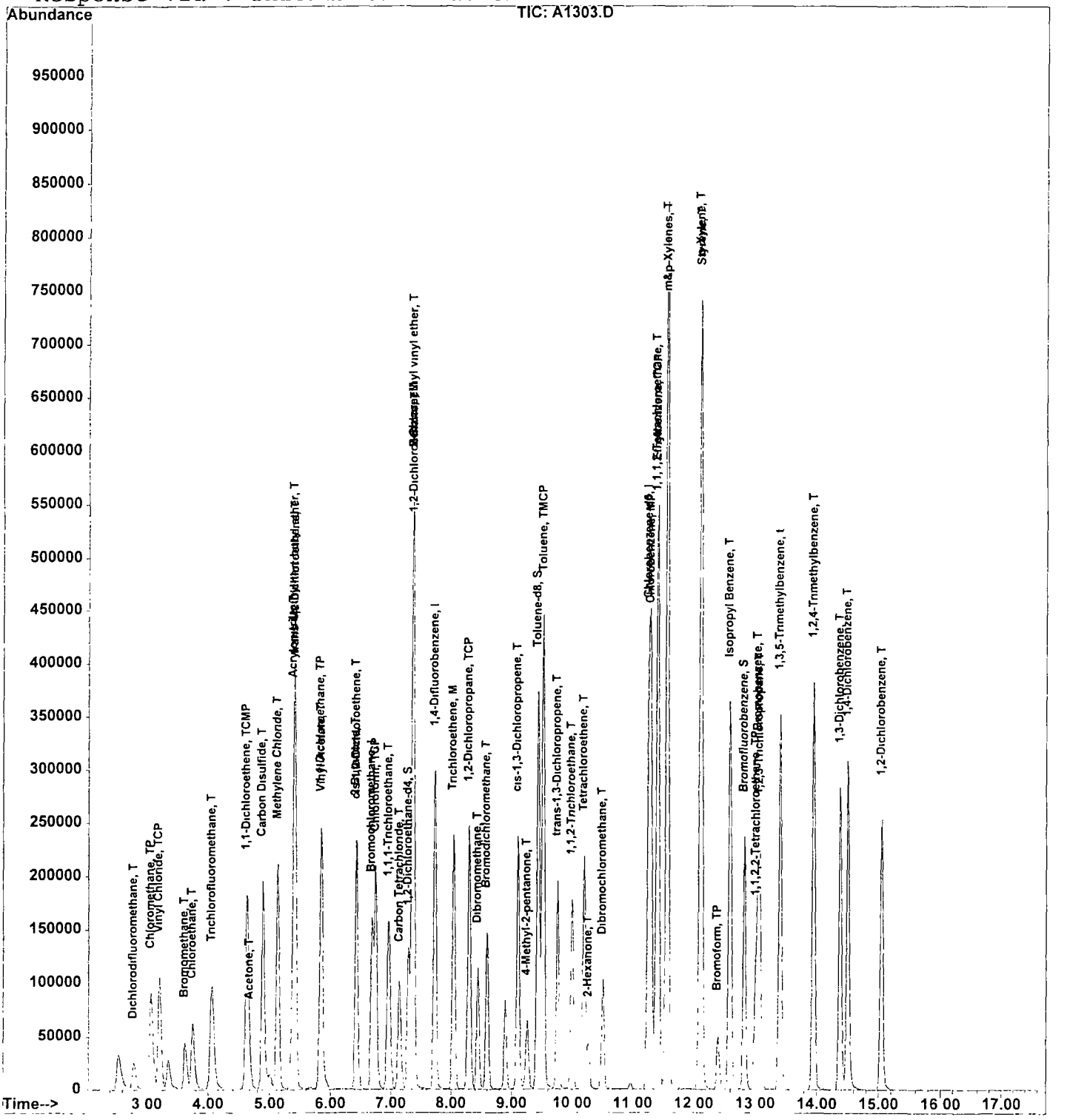
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) 4-Methyl-2-pentanone	9.26	43	969639	48.43 ug/l	95
35) Toluene	9.52	92	3369759	51.38 ug/l	99
36) trans-1,3-Dichloropropene	9.76	75	1793189	50.87 ug/l	95
37) 1,1,2-Trichloroethane	10.00	83	932549	49.26 ug/l	96
38) 2-Hexanone	10.28	43	624441	49.98 ug/l	98
39) Tetrachloroethene	10.20	164	899460	51.62 ug/l #	70
40) Dibromochloromethane	10.52	129	984743	50.31 ug/l	100
42) Chlorobenzene	11.30	112	3432457	51.39 ug/l	96
43) 1,1,1,2-Tetrachloroethane	11.39	131	998342	53.01 ug/l	98
44) Ethylbenzene	11.42	91	5967721	52.58 ug/l	99
45) m&p-Xylenes	11.57	91	9559155	108.13 ug/l	99
46) o-Xylene	12.11	91	4719448	53.48 ug/l	97
47) Styrene	12.13	104	3652380	53.25 ug/l	91
48) Bromoform	12.41	173	437095	49.74 ug/l	99
49) Isopropyl Benzene	12.60	105	4918850	52.57 ug/l	99
51) 1,1,2,2-Tetrachloroethane	13.02	83	1118333	50.30 ug/l	98
52) 1,2,3-Trichloropropane	13.09	75	1036207	49.55 ug/l #	57
53) Bromobenzene	13.06	156	1117996	51.38 ug/l #	84
54) 1,3,5-Trimethylbenzene	13.41	105	3932671	52.89 ug/l	100
55) 1,2,4-Trimethylbenzene	13.95	105	4321880	54.00 ug/l	100
56) 1,3-Dichlorobenzene	14.38	146	2106521	52.77 ug/l	99
57) 1,4-Dichlorobenzene	14.51	146	2360836	53.21 ug/l	96
58) 1,2-Dichlorobenzene	15.05	146	1960509	52.88 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 14 11:58 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	110	0.10
2	T	Dichlorodifluoromethane	0.809	0.835	-3.2	108	0.17
3	TP	Chloromethane	3.305	3.506	-6.1	111	0.17
4	TCP	Vinyl Chloride	3.179	3.217	-1.2	107	0.17
5	T	Bromomethane	1.242	0.928	25.3	73	0.17
6	T	Chloroethane	1.938	1.843	4.9	99	0.17
7	T	Trichlorofluoromethane	3.014	3.092	-2.6	107	0.16
8	T	Acrolein	0.000	0.123	0.0	0#	1.02#
9	TCMP	1,1-Dichloroethene	2.045	1.999	2.2	106	0.15
10	T	Acetone	0.137	0.151	-10.2	118	0.13
11	T	Carbon Disulfide	7.787	7.635	2.0	105	0.15
12	T	Methylene Chloride	2.418	2.446	-1.2	109	0.14
13	T	Acrylonitrile	0.638	0.623	2.4	101	0.13
14	T	Methyl-tert-butyl ether	5.160	4.866	5.7	100	0.12
15	T	trans-1,2-Dichloroethene	2.183	2.210	-1.2	107	0.13
16	T	Vinyl Acetate	4.259	3.946	7.3	97	0.11
17	TP	1,1-Dichloroethane	4.453	4.429	0.5	106	0.13
18	T	2-Butanone	0.164	0.181	-10.4	108	0.10
19	T	cis-1,2-Dichloroethene	2.245	2.230	0.7	106	0.11
20	TCP	Chloroform	3.985	3.985	0.0	107	0.10
21	T	1,1,1-Trichloroethane	2.994	2.997	-0.1	108	0.10
22	T	1,2-Dichloroethane	2.919	2.908	0.4	105	0.09
23	T	Carbon Tetrachloride	1.662	1.723	-3.7	109	0.10
24	T	2-Chloroethyl vinyl ether	0.857	0.857	0.0	106	0.09
25	S	1,2-Dichloroethane-d4	2.349	2.425	-3.2	109	0.09
26	M	Benzene	9.520	9.555	-0.4	106	0.09
27	I	1,4-Difluorobenzene	1.000	1.000	0.0	106	0.08
28	M	Trichloroethene	0.333	0.338	-1.5	105	0.08
29	TCP	1,2-Dichloropropane	0.418	0.420	-0.5	105	0.07
30	T	Dibromomethane	0.187	0.182	2.7	101	0.07
31	T	Bromodichloromethane	0.413	0.422	-2.2	106	0.07
32	T	cis-1,3-Dichloropropene	0.568	0.575	-1.2	105	0.06
33	T	4-Methyl-2-pentanone	0.245	0.237	3.3	100	0.05
34	S	Toluene-d8	1.086	1.081	0.5	105	0.05
35	TMCP	Toluene	0.802	0.824	-2.7	105	0.05
36	T	trans-1,3-Dichloropropene	0.431	0.438	-1.6	106	0.05
37	T	1,1,2-Trichloroethane	0.231	0.228	1.3	101	0.05
38	T	2-Hexanone	0.153	0.153	0.0	102	0.04
39	T	Tetrachloroethene	0.213	0.220	-3.3	108	0.05
40	T	Dibromochloromethane	0.239	0.241	-0.8	106	0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1303.D Vial: 1
Acq On : 14 Dec 1998 11:40 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.05
42	MP	Chlorobenzene	1.024	1.052	-2.7	104	0.05
43	T	1,1,1,2-Tetrachloroethane	0.289	0.306	-5.9	107	0.05
44	TCP	Ethylbenzene	1.740	1.830	-5.2	105	0.05
45	T	m&p-Xylenes	1.355	1.466	-8.2	107	0.05
46	T	o-Xylene	1.353	1.447	-6.9	106	0.05
47	T	Styrene	1.052	1.120	-6.5	105	0.04
48	TP	Bromoform	0.126	0.134	-6.3	110	0.05
49	T	Isopropyl Benzene	1.435	1.508	-5.1	105	0.05
50	S	Bromofluorobenzene	0.489	0.500	-2.2	106	0.05
51	TP	1,1,2,2-Tetrachloroethane	0.341	0.343	-0.6	102	0.05
52	T	1,2,3-Trichloropropane	0.321	0.318	0.9	101	0.05
53	T	Bromobenzene	0.334	0.343	-2.7	103	0.05
54	t	1,3,5-Trimethylbenzene	1.140	1.206	-5.8	106	0.05
55	T	1,2,4-Trimethylbenzene	1.227	1.325	-8.0	107	0.05
56	T	1,3-Dichlorobenzene	0.612	0.646	-5.6	107	0.05
57	T	1,4-Dichlorobenzene	0.680	0.724	-6.5	106	0.05
58	T	1,2-Dichlorobenzene	0.568	0.601	-5.8	106	0.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1446.D Vial: 1
Acq On : 18 Dec 1998 11:26 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:27 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	116755	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.71	114	698716	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	592186	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.27	65	255648	45.86 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 91.72%		
34) Toluene-d8	9.42	98	754897	49.32 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.64%		
50) Bromofluorobenzene	12.83	95	316584	50.03 ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 100.06%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.77	85	392186	136.97 ug/l	99
3) Chloromethane	3.04	50	520133	45.19 ug/l	99
4) Vinyl Chloride	3.18	62	476699	42.36 ug/l	99
5) Bromomethane	3.61	94	91875	23.72 ug/l	100
6) Chloroethane	3.72	64	196021	25.81 ug/l	100
7) Trichlorofluoromethane	4.03	101	547375	46.91 ug/l	100
9) 1,1-Dichloroethene	4.60	96	290601	40.39 ug/l	99
10) Acetone	4.65	58	25680	44.62 ug/l #	79
11) Carbon Disulfide	4.87	76	1027411	37.75 ug/l	100
12) Methylene Chloride	5.11	84	300416	38.81 ug/l	98
13) Acrylonitrile	5.35	53	82730	41.59 ug/l	96
14) Methyl-tert-butyl ether	5.38	73	775087	44.08 ug/l	96
15) trans-1,2-Dichloroethene	5.39	96	309108	39.69 ug/l #	84
16) Vinyl Acetate	5.84	43	580004	46.03 ug/l	98
17) 1,1-Dichloroethane	5.82	63	613508	37.85 ug/l	100
18) 2-Butanone	6.41	72	30283	44.60 ug/l #	79
19) cis-1,2-Dichloroethene	6.41	96	324698	43.09 ug/l	91
20) Chloroform	6.73	83	559982	41.49 ug/l	98
21) 1,1,1-Trichloroethane	6.94	97	496672	42.70 ug/l	98
22) 1,2-Dichloroethane	7.35	62	383190	40.27 ug/l	92
23) Carbon Tetrachloride	7.12	117	377221	43.02 ug/l	99
24) 2-Chloroethyl vinyl ether	7.35	63	110409	38.18 ug/l #	62
26) Benzene	7.35	78	1183028	37.16 ug/l	100
28) Trichloroethene	8.02	130	317740	46.07 ug/l	99
29) 1,2-Dichloropropane	8.28	63	342369	40.92 ug/l	99
30) Dibromomethane	8.43	93	164716	47.62 ug/l #	88
31) Bromodichloromethane	8.58	83	388734	44.06 ug/l	100
32) cis-1,3-Dichloropropene	9.08	75	476888	42.62 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1446.D Vial: 1
Acq On : 18 Dec 1998 11:26 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:27 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

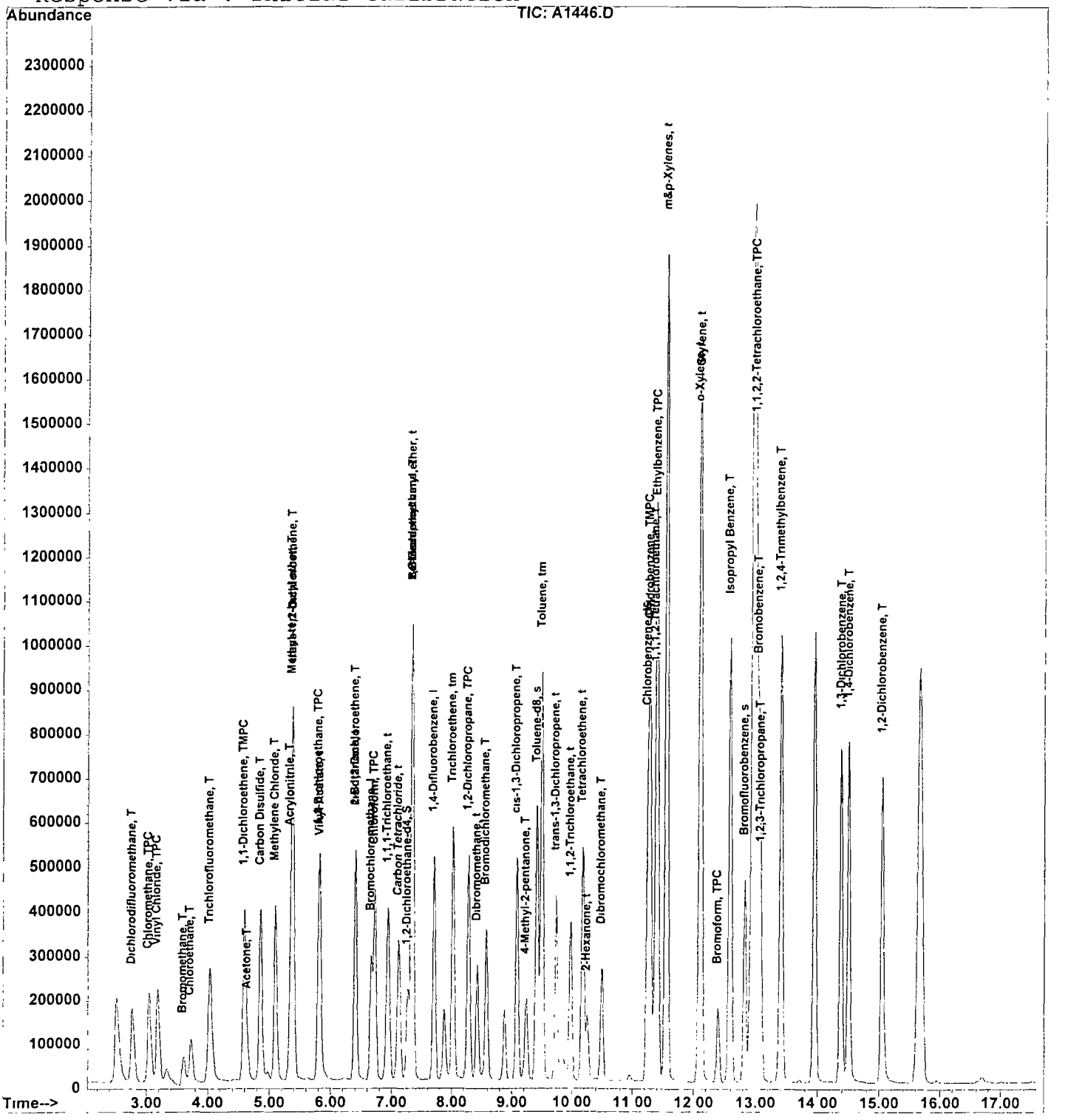
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	4-Methyl-2-pentanone	9.24	43	265749	44.93 ug/l		98
35)	Toluene	9.50	92	692133	42.70 ug/l		97
36)	trans-1,3-Dichloropropene	9.74	75	370841	43.08 ug/l		97
37)	1,1,2-Trichloroethane	9.99	83	187751	45.49 ug/l		98
38)	2-Hexanone	10.26	43	195650	46.91 ug/l		97
39)	Tetrachloroethene	10.18	164	223589	51.20 ug/l	#	70
40)	Dibromochloromethane	10.49	129	250277	49.84 ug/l		100
42)	Chlorobenzene	11.28	112	794321	44.67 ug/l		99
43)	1,1,1,2-Tetrachloroethane	11.37	131	270271	48.95 ug/l		96
44)	Ethylbenzene	11.41	91	1415292	42.75 ug/l		97
45)	m&p-Xylenes	11.55	91	2145080	80.41 ug/l		96
46)	o-Xylene	12.09	91	1091870	41.29 ug/l		95
47)	Styrene	12.12	104	824408	41.55 ug/l		93
48)	Bromoform	12.40	173	142589	51.89 ug/l		98
49)	Isopropyl Benzene	12.59	105	1430192	44.67 ug/l		99
51)	1,1,2,2-Tetrachloroethane	13.01	83	220250	35.30 ug/l		99
52)	1,2,3-Trichloropropane	13.09	75	255520	40.43 ug/l	#	100
53)	Bromobenzene	13.05	156	284928	46.64 ug/l		96
54)	1,2,4-Trimethylbenzene	13.40	105	1172921	45.07 ug/l		94
55)	1,3-Dichlorobenzene	14.38	146	579241	49.84 ug/l		99
56)	1,4-Dichlorobenzene	14.51	146	596641	48.53 ug/l		99
57)	1,2-Dichlorobenzene	15.05	146	527046	50.81 ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1446.D Vial: 1
Acq On : 18 Dec 1998 11:26 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:27 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1446.D Vial: 1
Acq On : 18 Dec 1998 11:26 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 5.00min
Max. RRF Dev : 100% Max. Rel. Area : 100%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	132#	0.00
2	T	Dichlorodifluoromethane	1.226	3.359	-174.0#	374#	0.00
3	TPC	Chloromethane	4.929	4.455	9.6	124#	0.00
4	TPC	Vinyl Chloride	4.819	4.083	15.3	113#	0.00
5	T	Bromomethane	1.456	0.787	45.9	78	0.00
6	T	Chloroethane	2.617	1.679	35.8	80	-0.02
7	T	Trichlorofluoromethane	4.997	4.688	6.2	124#	0.00
8	T	Acrolein	0.345	0.000	100.0	0#	-5.50#
9	TMPC	1,1-Dichloroethene	3.081	2.489	19.2	112#	-0.02
10	T	Acetone	0.246	0.220	10.6	122#	0.00
11	T	Carbon Disulfide	11.655	8.800	24.5	104#	0.00
12	T	Methylene Chloride	3.315	2.573	22.4	109#	0.00
13	T	Acrylonitrile	0.852	0.709	16.8	124#	0.00
14	T	Methyl-tert-butyl ether	7.529	6.639	11.8	136#	0.00
15	T	trans-1,2-Dichloroethene	3.335	2.647	20.6	109#	0.00
16	t	Vinyl Acetate	5.396	4.968	7.9	124#	0.00
17	TPC	1,1-Dichloroethane	6.941	5.255	24.3	104#	0.00
18	t	2-Butanone	0.291	0.259	11.0	117#	0.00
19	T	cis-1,2-Dichloroethene	3.227	2.781	13.8	118#	0.00
20	TPC	Chloroform	5.779	4.796	17.0	114#	0.00
21	t	1,1,1-Trichloroethane	4.982	4.254	14.6	117#	0.00
22	T	1,2-Dichloroethane	4.075	3.282	19.5	109#	0.00
23	t	Carbon Tetrachloride	3.755	3.231	14.0	116#	0.00
24	t	2-Chloroethyl vinyl ether	1.238	0.946	23.6	107#	0.00
25	S	1,2-Dichloroethane-d4	2.387	2.190	8.3	115#	0.00
26	tm	Benzene	13.633	10.133	25.7	103#	0.00
27	I	1,4-Difluorobenzene	1.000	1.000	0.0	129#	0.00
28	tm	Trichloroethene	0.494	0.455	7.9	124#	0.00
29	TPC	1,2-Dichloropropane	0.599	0.490	18.2	110#	0.00
30	t	Dibromomethane	0.248	0.236	4.8	144#	0.00
31	T	Bromodichloromethane	0.631	0.556	11.9	118#	0.00
32	T	cis-1,3-Dichloropropene	0.801	0.683	14.7	113#	0.00
33	T	4-Methyl-2-pentanone	0.423	0.380	10.2	120#	0.00
34	s	Toluene-d8	1.095	1.080	1.4	128#	0.00
35	tm	Toluene	1.160	0.991	14.6	116#	0.00
36	t	trans-1,3-Dichloropropene	0.616	0.531	13.8	114#	0.00
37	t	1,1,2-Trichloroethane	0.295	0.269	8.8	122#	0.00
38	t	2-Hexanone	0.298	0.280	6.0	125#	0.00
39	t	Tetrachloroethene	0.313	0.320	-2.2	137#	0.00
40	T	Dibromochloromethane	0.359	0.358	0.3	133#	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1446.D Vial: 1
Acq On : 18 Dec 1998 11:26 am Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 5.00min
Max. RRF Dev : 100% Max. Rel. Area : 100%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	i	Chlorobenzene-d5	1.000	1.000	0.0	135#	0.00
42	TMPC	Chlorobenzene	1.501	1.341	10.7	129#	0.00
43	t	1,1,1,2-Tetrachloroethane	0.466	0.456	2.1	159#	0.00
44	TPC	Ethylbenzene	2.795	2.390	14.5	123#	0.02
45	t	m&p-Xylenes	2.252	1.811	19.6	113#	0.00
46	t	o-Xylene	2.233	1.844	17.4	114#	0.00
47	t	Styrene	1.675	1.392	16.9	115#	0.02
48	TPC	Bromoform	0.232	0.241	-3.9	141#	0.00
49	T	Isopropyl Benzene	2.704	2.415	10.7	141#	0.00
50	s	Bromofluorobenzene	0.534	0.535	-0.2	133#	0.02
51	TPC	1,1,2,2-Tetrachloroethane	0.527	0.372	29.4	99	0.00
52	T	1,2,3-Trichloropropane	0.534	0.431	19.3	127#	0.02
53	T	Bromobenzene	0.516	0.481	6.8	148#	0.00
54	T	1,2,4-Trimethylbenzene	2.197	1.981	9.8	143#	0.00
55	T	1,3-Dichlorobenzene	0.981	0.978	0.3	140#	0.02
56	T	1,4-Dichlorobenzene	1.038	1.008	2.9	135#	0.02
57	T	1,2-Dichlorobenzene	0.876	0.890	-1.6	141#	0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1540.D
Acq On : 21 Dec 1998 12:39 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.64	128	95235	50.00 ug/l	-0.03
27) 1,4-Difluorobenzene	7.68	114	595380	50.00 ug/l	-0.03
41) Chlorobenzene-d5	11.19	117	487093	50.00 ug/l	-0.06
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.24	65	199054	43.77 ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 87.54%		
34) Toluene-d8	9.37	98	631215	48.40 ug/l	-0.04
Spiked Amount 50.000	Range 88 - 110		Recovery = 96.80%		
50) Bromofluorobenzene	12.76	95	253853	48.77 ug/l	-0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 97.54%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.74	85	267120	114.37 ug/l	100
3) Chloromethane	3.01	50	409576	43.63 ug/l	99
4) Vinyl Chloride	3.16	62	389601	42.45 ug/l	100
5) Bromomethane	3.58	94	119842	44.76 ug/l	96
6) Chloroethane	3.70	64	209907	35.80 ug/l	99
7) Trichlorofluoromethane	4.01	101	482077	50.65 ug/l	100
9) 1,1-Dichloroethene	4.58	96	259054	44.14 ug/l	94
10) Acetone	4.63	58	19834	42.25 ug/l	96
11) Carbon Disulfide	4.84	76	868374	39.12 ug/l	99
12) Methylene Chloride	5.08	84	260788	41.31 ug/l	99
13) Acrylonitrile	5.32	53	71390	43.99 ug/l	99
14) Methyl-tert-butyl ether	5.35	73	617127	43.03 ug/l	97
15) trans-1,2-Dichloroethene	5.36	96	286335	45.08 ug/l	88
16) Vinyl Acetate	5.81	43	431885	42.02 ug/l	98
17) 1,1-Dichloroethane	5.79	63	526389	39.82 ug/l	100
18) 2-Butanone	6.37	72	23171	41.84 ug/l #	85
19) cis-1,2-Dichloroethene	6.38	96	286425	46.60 ug/l	96
20) Chloroform	6.70	83	471449	42.83 ug/l	99
21) 1,1,1-Trichloroethane	6.91	97	423105	44.59 ug/l	99
22) 1,2-Dichloroethane	7.32	62	315670	40.67 ug/l	94
23) Carbon Tetrachloride	7.09	117	331458	46.34 ug/l	99
24) 2-Chloroethyl vinyl ether	7.31	63	91623	38.84 ug/l #	62
26) Benzene	7.31	78	1014007	39.05 ug/l	100
28) Trichloroethene	8.00	130	286984	48.83 ug/l	95
29) 1,2-Dichloropropane	8.24	63	279444	39.19 ug/l	100
30) Dibromomethane	8.39	93	135513	45.98 ug/l	92
31) Bromodichloromethane	8.54	83	317784	42.27 ug/l	100
32) cis-1,3-Dichloropropene	9.04	75	384119	40.28 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1540.D Vial: 1
Acq On : 21 Dec 1998 12:39 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) 4-Methyl-2-pentanone	9.20	43	202366	40.15 ug/l	99
35) Toluene	9.45	92	595077	43.09 ug/l	97
36) trans-1,3-Dichloropropene	9.70	75	287699	39.23 ug/l	96
37) 1,1,2-Trichloroethane	9.93	83	147556	41.95 ug/l	98
38) 2-Hexanone	10.21	43	145511	40.94 ug/l	96
39) Tetrachloroethene	10.14	164	197735	53.13 ug/l #	70
40) Dibromochloromethane	10.44	129	213167	49.82 ug/l	99
42) Chlorobenzene	11.23	112	677828	46.34 ug/l	95
43) 1,1,1,2-Tetrachloroethane	11.32	131	226648	49.91 ug/l	97
44) Ethylbenzene	11.34	91	1172370	43.06 ug/l	94
45) m&p-Xylenes	11.50	91	1823205	83.09 ug/l	92
46) o-Xylene	12.04	91	919084	42.26 ug/l	92
47) Styrene	12.05	104	732036	44.86 ug/l	99
48) Bromoform	12.34	173	122331	54.12 ug/l	99
49) Isopropyl Benzene	12.53	105	1280043	48.60 ug/l	98
51) 1,1,2,2-Tetrachloroethane	12.94	83	199409	38.85 ug/l	99
52) 1,2,3-Trichloropropane	13.01	75	204873	39.41 ug/l #	100
53) Bromobenzene	12.99	156	259881	51.72 ug/l	92
54) 1,2,4-Trimethylbenzene	13.34	105	1038484	48.52 ug/l	92
55) 1,3-Dichlorobenzene	14.31	146	518161	54.21 ug/l	100
56) 1,4-Dichlorobenzene	14.43	146	529249	52.34 ug/l	99
57) 1,2-Dichlorobenzene	14.98	146	461279	54.07 ug/l	100

(#) = qualifier out of range (m) = manual integration

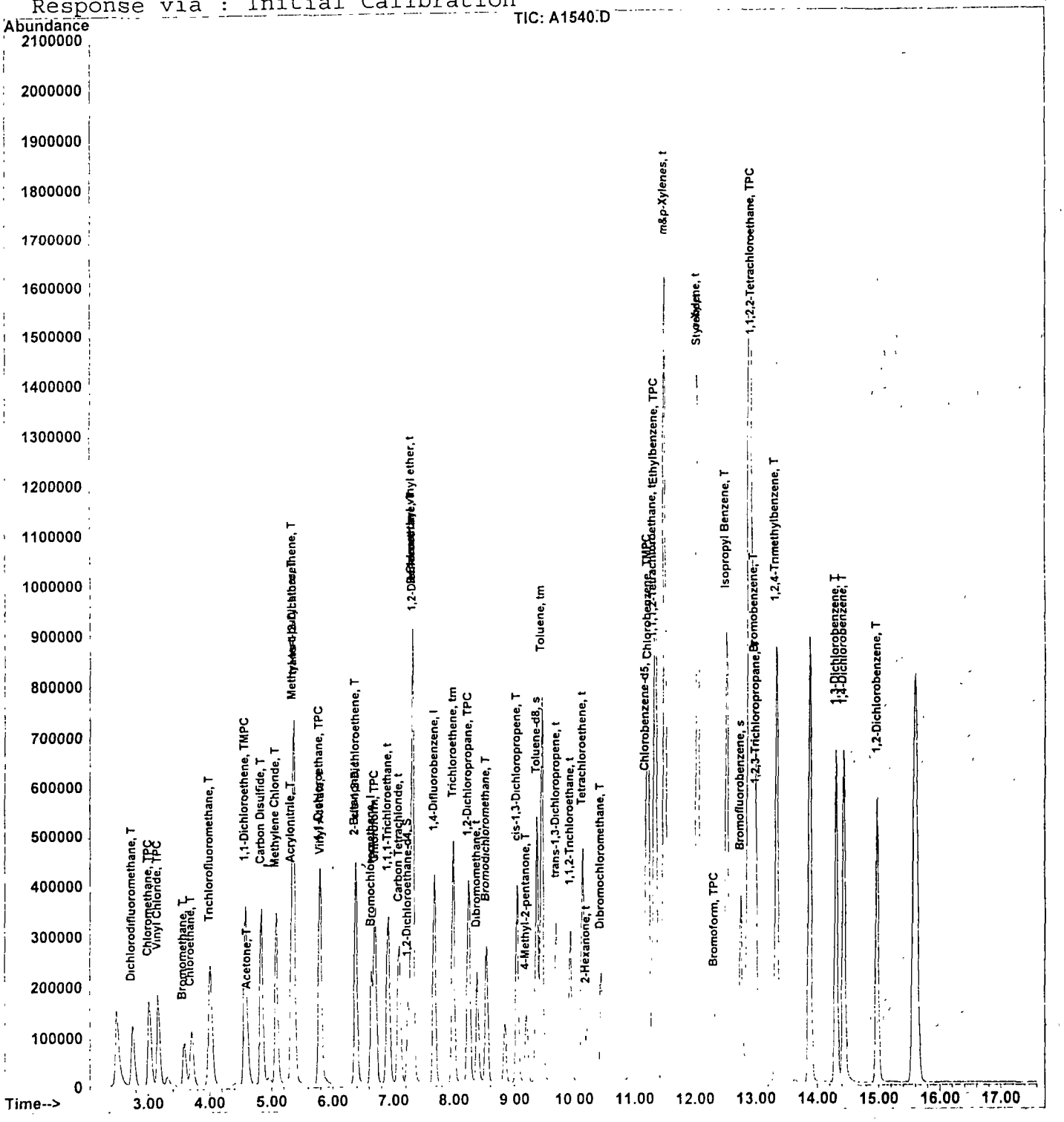
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1540.D
Acq On : 21 Dec 1998 12:39 pm
Sample : vstd050:50ug/l
Misc :
MS Integration Params: rteint.p
Quant Time: Dec 22 7:28 1998

Vial: 1
Operator:
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1665.D Vial: 1
Acq On : 27 Dec 1998 2:10 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 27 14:28 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.66	128	647983	50.00	ug/l	-0.04
27) 1,4-Difluorobenzene	7.69	114	4028046	50.00	ug/l	-0.04
41) Chlorobenzene-d5	11.21	117	3497759	50.00	ug/l	-0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.26	65	1460501	47.97	ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 95.94%			
34) Toluene-d8	9.39	98	4356351	49.80	ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.60%			
50) Bromofluorobenzene	12.79	95	1865855	54.50	ug/l	-0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 109.00%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.77	85	1490590	142.09	ug/l	97
3) Chloromethane	3.05	50	1769324	41.31	ug/l	100
4) Vinyl Chloride	3.18	62	1734838	42.11	ug/l	99
5) Bromomethane	3.61	94	860002	47.31	ug/l	91
6) Chloroethane	3.73	64	1099060	42.66	ug/l	99
7) Trichlorofluoromethane	4.03	101	2279501	58.35	ug/l	100
9) 1,1-Dichloroethene	4.60	96	1157295	43.67	ug/l	95
10) Acetone	4.65	58	105050	59.01	ug/l #	80
11) Carbon Disulfide	4.86	76	3735337	37.01	ug/l	99
12) Methylene Chloride	5.10	84	1399219	44.65	ug/l	93
13) Acrylonitrile	5.34	53	463449	56.08	ug/l	98
14) Methyl-tert-butyl ether	5.36	73	3268198	48.88	ug/l	94
15) trans-1,2-Dichloroethene	5.38	96	1343632	47.49	ug/l	96
16) Vinyl Acetate	5.82	43	2450541	44.40	ug/l	98
17) 1,1-Dichloroethane	5.81	63	2581506	44.74	ug/l	100
18) 2-Butanone	6.40	72	117151	55.00	ug/l	98
19) cis-1,2-Dichloroethene	6.40	96	1382294	47.51	ug/l	92
20) Chloroform	6.72	83	2386141	46.20	ug/l	100
21) 1,1,1-Trichloroethane	6.93	97	1987167	51.21	ug/l	99
22) 1,2-Dichloroethane	7.34	62	1831193	48.41	ug/l	99
23) Carbon Tetrachloride	7.11	117	1318269	61.22	ug/l	100
24) 2-Chloroethyl vinyl ether	7.33	63	516209	46.45	ug/l	100
26) Benzene	7.33	78	5257449	42.61	ug/l	100
28) Trichloroethene	8.01	130	1355760	50.49	ug/l	92
29) 1,2-Dichloropropane	8.26	63	1533108	45.57	ug/l	99
30) Dibromomethane	8.41	93	802907	53.43	ug/l	97
31) Bromodichloromethane	8.56	83	1691851	50.85	ug/l	100
32) cis-1,3-Dichloropropene	9.07	75	2073757	45.30	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1665.D Vial: 1
Acq On : 27 Dec 1998 2:10 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 27 14:28 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

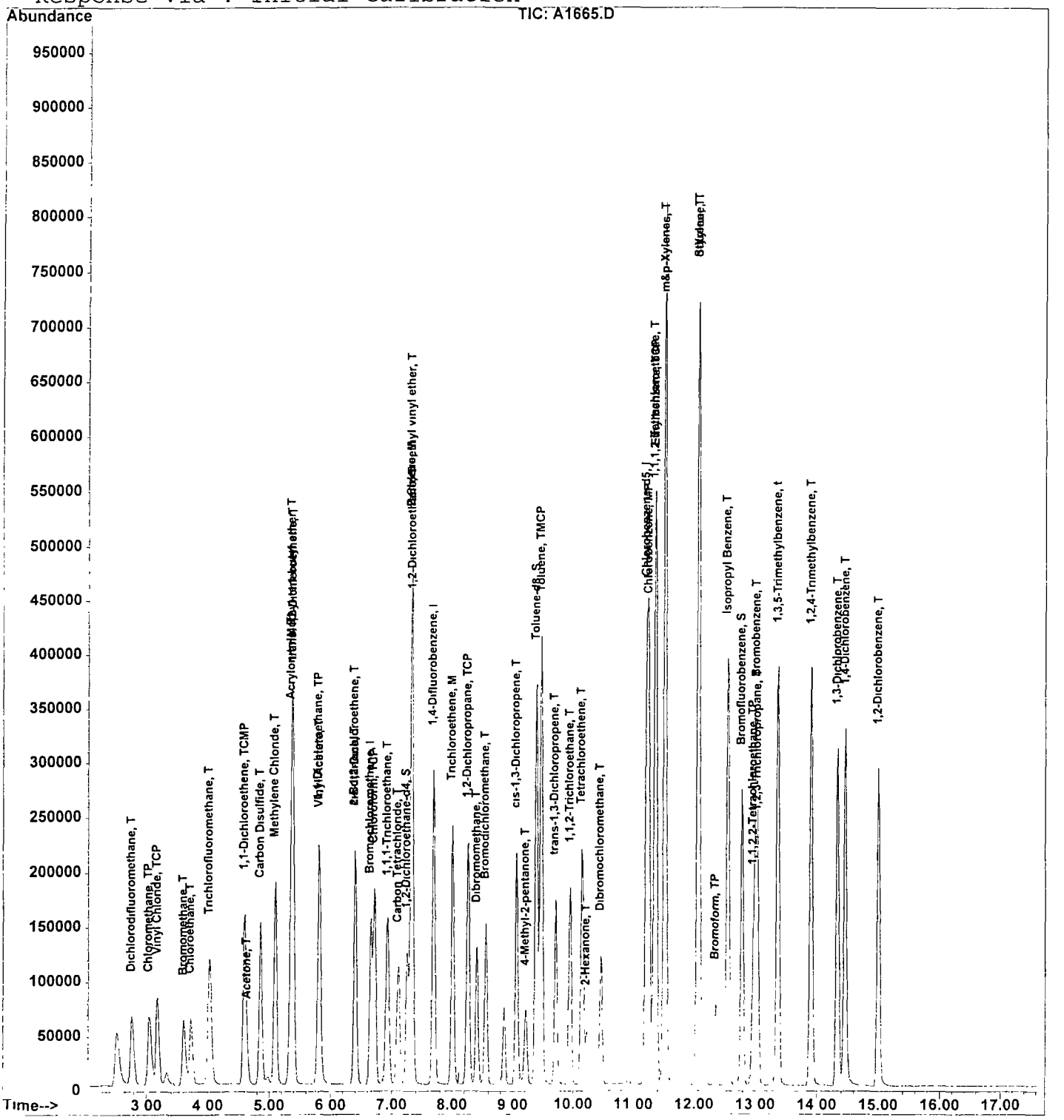
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) 4-Methyl-2-pentanone	9.22	43	1042514	52.87 ug/l	98
35) Toluene	9.47	92	3081385	47.70 ug/l	99
36) trans-1,3-Dichloropropene	9.71	75	1586313	45.69 ug/l	96
37) 1,1,2-Trichloroethane	9.95	83	912461	48.94 ug/l	98
38) 2-Hexanone	10.23	43	707533	57.50 ug/l	99
39) Tetrachloroethene	10.15	164	949655	55.34 ug/l	78
40) Dibromochloromethane	10.47	129	1198739	62.18 ug/l	100
42) Chlorobenzene	11.25	112	3519583	49.13 ug/l	95
43) 1,1,1,2-Tetrachloroethane	11.35	131	1186549	58.74 ug/l	98
44) Ethylbenzene	11.37	91	5634555	46.29 ug/l	96
45) m&p-Xylenes	11.52	91	8943452	94.33 ug/l	94
46) o-Xylene	12.06	91	4643925	49.07 ug/l	99
47) Styrene	12.08	104	3838694	52.18 ug/l	98
48) Bromoform	12.36	173	671569	76.07 ug/l	98
49) Isopropyl Benzene	12.55	105	5612875	55.93 ug/l	98
51) 1,1,2,2-Tetrachloroethane	12.97	83	1279588	53.66 ug/l	99
52) 1,2,3-Trichloropropane	13.04	75	1183397	52.76 ug/l #	75
53) Bromobenzene	13.02	156	1378422	59.06 ug/l	97
54) 1,3,5-Trimethylbenzene	13.37	105	4507553	56.53 ug/l	99
55) 1,2,4-Trimethylbenzene	13.91	105	4662406	54.31 ug/l	98
56) 1,3-Dichlorobenzene	14.34	146	2472888	57.76 ug/l	99
57) 1,4-Dichlorobenzene	14.46	146	2692054	56.57 ug/l	97
58) 1,2-Dichlorobenzene	15.01	146	2348629	59.07 ug/l	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1665.D Vial: 1
Acq On : 27 Dec 1998 2:10 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 27 14:28 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1665.D Vial: 1
Acq On : 27 Dec 1998 2:10 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	107	-0.04
2	T	Dichlorodifluoromethane	0.809	2.300	-184.3#	288#	-0.02
3	TP	Chloromethane	3.305	2.731	17.4	84	-0.02
4	TCP	Vinyl Chloride	3.179	2.677	15.8	86	-0.03
5	T	Bromomethane	1.242	1.327	-6.8	102	-0.03
6	T	Chloroethane	1.938	1.696	12.5	89	-0.03
7	T	Trichlorofluoromethane	3.014	3.518	-16.7	118	-0.03
8	T	Acrolein	0.000	0.000	0.0	0#	-4.40#
9	TCMP	1,1-Dichloroethene	2.045	1.786	12.7	91	-0.03
10	T	Acetone	0.137	0.162	-18.2	123	-0.03
11	T	Carbon Disulfide	7.787	5.765	26.0	77	-0.03
12	T	Methylene Chloride	2.418	2.159	10.7	94	-0.03
13	T	Acrylonitrile	0.638	0.715	-12.1	113	-0.03
14	T	Methyl-tert-butyl ether	5.160	5.044	2.2	100	-0.03
15	T	trans-1,2-Dichloroethene	2.183	2.074	5.0	98	-0.04
16	T	Vinyl Acetate	4.259	3.782	11.2	91	-0.03
17	TP	1,1-Dichloroethane	4.453	3.984	10.5	92	-0.04
18	T	2-Butanone	0.164	0.181	-10.4	104	-0.04
19	T	cis-1,2-Dichloroethene	2.245	2.133	5.0	98	-0.04
20	TCP	Chloroform	3.985	3.682	7.6	96	-0.04
21	T	1,1,1-Trichloroethane	2.994	3.067	-2.4	107	-0.04
22	T	1,2-Dichloroethane	2.919	2.826	3.2	99	-0.04
23	T	Carbon Tetrachloride	1.662	2.034	-22.4	125	-0.04
24	T	2-Chloroethyl vinyl ether	0.857	0.797	7.0	96	-0.04
25	S	1,2-Dichloroethane-d4	2.349	2.254	4.0	98	-0.04
26	M	Benzene	9.520	8.114	14.8	87	-0.04
27	I	1,4-Difluorobenzene	1.000	1.000	0.0	104	-0.04
28	M	Trichloroethene	0.333	0.337	-1.2	103	-0.04
29	TCP	1,2-Dichloropropane	0.418	0.381	8.9	93	-0.04
30	T	Dibromomethane	0.187	0.199	-6.4	109	-0.04
31	T	Bromodichloromethane	0.413	0.420	-1.7	104	-0.04
32	T	cis-1,3-Dichloropropene	0.568	0.515	9.3	93	-0.04
33	T	4-Methyl-2-pentanone	0.245	0.259	-5.7	108	-0.04
34	S	Toluene-d8	1.086	1.082	0.4	104	-0.04
35	TMCP	Toluene	0.802	0.765	4.6	96	-0.05
36	T	trans-1,3-Dichloropropene	0.431	0.394	8.6	94	-0.05
37	T	1,1,2-Trichloroethane	0.231	0.227	1.7	99	-0.05
38	T	2-Hexanone	0.153	0.176	-15.0	116	-0.05
39	T	Tetrachloroethene	0.213	0.236	-10.8	114	-0.05
40	T	Dibromochloromethane	0.239	0.298	-24.7	129	-0.05

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1489.D Vial: 2
Acq On : 19 Dec 1998 4:53 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:42 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	104637	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	645232m	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	526817	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	226353	45.30 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 90.60%		
34) Toluene-d8	9.42	98	696262	49.26 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.52%		
50) Bromofluorobenzene	12.82	95	293920	52.21 ug/l	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 104.42%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.76	85	347993	135.61 ug/l	100
3) Chloromethane	3.03	50	477865	46.33 ug/l	99
4) Vinyl Chloride	3.18	62	439954	43.63 ug/l	99
5) Bromomethane	3.61	94	114666	36.89 ug/l	98
6) Chloroethane	3.72	64	226482	35.00 ug/l	98
7) Trichlorofluoromethane	4.04	101	527781	50.47 ug/l	100
8) Acrolein	5.37	56	26984	37.35 ug/l #	33
9) 1,1-Dichloroethene	4.60	96	277045	42.96 ug/l	97
10) Acetone	4.66	58	17244	33.44 ug/l	99
11) Carbon Disulfide	4.86	76	945219	38.75 ug/l	99
12) Methylene Chloride	5.11	84	277409	39.99 ug/l	98
13) Acrylonitrile	5.35	53	69713	39.10 ug/l	98
14) Methyl-tert-butyl ether	5.37	73	666912	42.32 ug/l	98
15) trans-1,2-Dichloroethene	5.39	96	304215	43.59 ug/l #	86
16) Vinyl Acetate	5.83	43	458056	40.56 ug/l	98
17) 1,1-Dichloroethane	5.82	63	585193	40.29 ug/l	100
18) 2-Butanone	6.41	72	22560	37.07 ug/l #	82
19) cis-1,2-Dichloroethene	6.41	96	307177	45.48 ug/l	92
20) Chloroform	6.73	83	521347	43.10 ug/l	99
21) 1,1,1-Trichloroethane	6.94	97	485301	46.55 ug/l	100
22) 1,2-Dichloroethane	7.36	62	345682	40.53 ug/l	93
23) Carbon Tetrachloride	7.13	117	366900	46.69 ug/l	98
24) 2-Chloroethyl vinyl ether	7.35	63	118894	45.88 ug/l #	62
26) Benzene	7.35	78	1117128	39.16 ug/l	100
28) Trichloroethene	8.04	130	307625	48.30 ug/l	
29) 1,2-Dichloropropane	8.28	63	311459	40.31 ug/l	
30) Dibromomethane	8.43	93	145278	45.48 ug/l	
31) Bromodichloromethane	8.59	83	352870	43.32 ug/l	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1489.D Vial: 2
Acq On : 19 Dec 1998 4:53 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:42 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

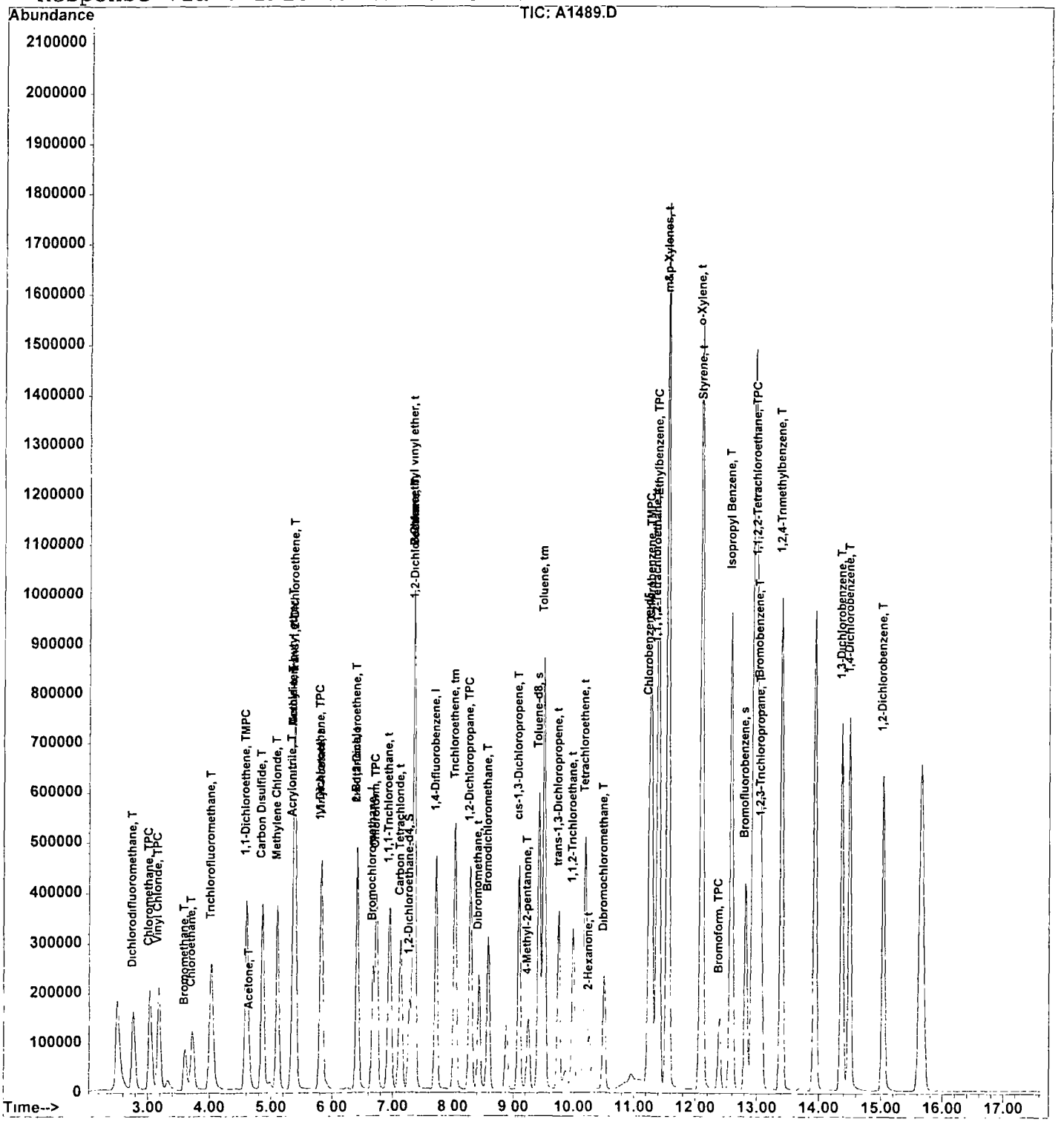
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
32)	cis-1,3-Dichloropropene	9.10	75	430485	41.66 ug/l		
33)	4-Methyl-2-pentanone	9.24	43	211150	38.66 ug/l		
35)	Toluene	9.50	92	646700	43.21 ug/l		
36)	trans-1,3-Dichloropropene	9.75	75	330252	41.55 ug/l		
37)	1,1,2-Trichloroethane	9.99	83	158260	41.52 ug/l		
38)	2-Hexanone	10.26	43	145986	37.90 ug/l		
39)	Tetrachloroethene	10.19	164	213614	52.97 ug/l	#	
40)	Dibromochloromethane	10.51	129	228264	49.23 ug/l		
42)	Chlorobenzene	11.28	112	723662	45.75 ug/l		97
43)	1,1,1,2-Tetrachloroethane	11.37	131	244091	49.70 ug/l		97
44)	Ethylbenzene	11.41	91	1280677	43.49 ug/l		94
45)	m&p-Xylenes	11.55	91	1969903	83.00 ug/l		92
46)	o-Xylene	12.09	91	996606	42.37 ug/l		92
47)	Styrene	12.12	104	785258	44.49 ug/l		97
48)	Bromoform	12.40	173	125322	51.26 ug/l		97
49)	Isopropyl Benzene	12.59	105	1393564	48.92 ug/l		98
51)	1,1,2,2-Tetrachloroethane	13.01	83	211242	38.05 ug/l		99
52)	1,2,3-Trichloropropane	13.08	75	214499	38.15 ug/l	#	100
53)	Bromobenzene	13.05	156	280410	51.60 ug/l		95
54)	1,2,4-Trimethylbenzene	13.40	105	1135652	49.06 ug/l		92
55)	1,3-Dichlorobenzene	14.37	146	563925	54.55 ug/l		99
56)	1,4-Dichlorobenzene	14.50	146	571991	52.30 ug/l		99
57)	1,2-Dichlorobenzene	15.04	146	504514	54.68 ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1489.D Vial: 2
Acq On : 19 Dec 1998 4:53 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:42 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1489.D Vial: 2
Acq On : 19 Dec 1998 4:53 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 5.00min
Max. RRF Dev : 100% Max. Rel. Area : 100%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	118#	0.00
2	T	Dichlorodifluoromethane	1.226	3.326	-171.3#	332#	0.00
3	TPC	Chloromethane	4.929	4.567	7.3	114#	0.00
4	TPC	Vinyl Chloride	4.819	4.205	12.7	105#	0.00
5	T	Bromomethane	1.456	1.096	24.7	97	0.00
6	T	Chloroethane	2.617	2.164	17.3	93	-0.01
7	T	Trichlorofluoromethane	4.997	5.044	-0.9	120#	0.00
8	T	Acrolein	0.345	0.258	25.2	103#	-0.14
9	TMPC	1,1-Dichloroethene	3.081	2.648	14.1	107#	-0.01
10	T	Acetone	0.246	0.165	32.9	82	0.00
11	T	Carbon Disulfide	11.655	9.033	22.5	95	-0.01
12	T	Methylene Chloride	3.315	2.651	20.0	101#	0.00
13	T	Acrylonitrile	0.852	0.666	21.8	104#	0.00
14	T	Methyl-tert-butyl ether	7.529	6.374	15.3	117#	-0.01
15	T	trans-1,2-Dichloroethene	3.335	2.907	12.8	107#	0.00
16	t	Vinyl Acetate	5.396	4.378	18.9	98	-0.01
17	TPC	1,1-Dichloroethane	6.941	5.593	19.4	99	0.00
18	t	2-Butanone	0.291	0.216	25.8	87	0.00
19	T	cis-1,2-Dichloroethene	3.227	2.936	9.0	112#	0.00
20	TPC	Chloroform	5.779	4.982	13.8	106#	0.00
21	t	1,1,1-Trichloroethane	4.982	4.638	6.9	114#	0.00
22	T	1,2-Dichloroethane	4.075	3.304	18.9	99	0.00
23	t	Carbon Tetrachloride	3.755	3.506	6.6	113#	0.00
24	t	2-Chloroethyl vinyl ether	1.238	1.136	8.2	115#	0.00
25	S	1,2-Dichloroethane-d4	2.387	2.163	9.4	102#	0.00
26	tm	Benzene	13.633	10.676	21.7	97	0.00
27	I	1,4-Difluorobenzene	1.000	1.000	0.0	119#	0.00
28	tm	Trichloroethene	0.494	0.477	3.4	120#	0.00
29	TPC	1,2-Dichloropropane	0.599	0.483	19.4	100	0.00
30	t	Dibromomethane	0.248	0.225	9.3	127#	0.00
31	T	Bromodichloromethane	0.631	0.547	13.3	107#	0.00
32	T	cis-1,3-Dichloropropene	0.801	0.667	16.7	102#	0.00
33	T	4-Methyl-2-pentanone	0.423	0.327	22.7	95	0.00
34	s	Toluene-d8	1.095	1.079	1.5	118#	0.00
35	tm	Toluene	1.160	1.002	13.6	109#	0.00
36	t	trans-1,3-Dichloropropene	0.616	0.512	16.9	102#	0.00
37	t	1,1,2-Trichloroethane	0.295	0.245	16.9	102#	0.00
38	t	2-Hexanone	0.298	0.226	24.2	93	0.00
39	t	Tetrachloroethene	0.313	0.331	-5.8	131#	0.00
40	T	Dibromochloromethane	0.359	0.354	1.4	121#	0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1489.D Vial: 2
Acq On : 19 Dec 1998 4:53 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 5.00min
Max. RRF Dev : 100% Max. Rel. Area : 100%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	i	Chlorobenzene-d5	1.000	1.000	0.0	120#	0.00
42	TMPC	Chlorobenzene	1.501	1.374	8.5	117#	0.00
43	t	1,1,1,2-Tetrachloroethane	0.466	0.463	0.6	144#	0.00
44	TPC	Ethylbenzene	2.795	2.431	13.0	111#	0.02
45	t	m&p-Xylenes	2.252	1.870	17.0	104#	0.00
46	t	o-Xylene	2.233	1.892	15.3	104#	0.00
47	t	Styrene	1.675	1.491	11.0	109#	0.02
48	TPC	Bromoform	0.232	0.238	-2.6	124#	0.00
49	T	Isopropyl Benzene	2.704	2.645	2.2	137#	0.00
50	s	Bromofluorobenzene	0.534	0.558	-4.5	123#	0.00
51	TPC	1,1,2,2-Tetrachloroethane	0.527	0.401	23.9	95	0.00
52	T	1,2,3-Trichloropropane	0.534	0.407	23.8	107#	0.00
53	T	Bromobenzene	0.516	0.532	-3.1	146#	0.00
54	T	1,2,4-Trimethylbenzene	2.197	2.156	1.9	138#	0.00
55	T	1,3-Dichlorobenzene	0.981	1.070	-9.1	136#	0.00
56	T	1,4-Dichlorobenzene	1.038	1.086	-4.6	129#	0.00
57	T	1,2-Dichlorobenzene	0.876	0.958	-9.4	135#	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1665.D Vial: 1
Acq On : 27 Dec 1998 2:10 pm Operator:
Sample : vstd050:50ug/l Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	I	Chlorobenzene-d5	1.000	1.000	0.0	112	-0.05
42	MP	Chlorobenzene	1.024	1.006	1.8	106	-0.05
43	T	1,1,1,2-Tetrachloroethane	0.289	0.339	-17.3	127	-0.05
44	TCP	Ethylbenzene	1.740	1.611	7.4	99	-0.05
45	T	m&p-Xylenes	1.355	1.278	5.7	100	-0.05
46	T	o-Xylene	1.353	1.328	1.8	104	-0.05
47	T	Styrene	1.052	1.097	-4.3	110	-0.05
48	TP	Bromoform	0.126	0.192	-52.4	169#	-0.05
49	T	Isopropyl Benzene	1.435	1.605	-11.8	120	-0.05
50	S	Bromofluorobenzene	0.489	0.533	-9.0	122	-0.05
51	TP	1,1,2,2-Tetrachloroethane	0.341	0.366	-7.3	117	-0.05
52	T	1,2,3-Trichloropropane	0.321	0.338	-5.3	115	-0.05
53	T	Bromobenzene	0.334	0.394	-18.0	128	-0.05
54	t	1,3,5-Trimethylbenzene	1.140	1.289	-13.1	122	-0.05
55	T	1,2,4-Trimethylbenzene	1.227	1.333	-8.6	115	-0.05
56	T	1,3-Dichlorobenzene	0.612	0.707	-15.5	126	-0.05
57	T	1,4-Dichlorobenzene	0.680	0.770	-13.2	121	-0.05
58	T	1,2-Dichlorobenzene	0.568	0.671	-18.1	127	-0.05

GCMS VOA

Sample Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1257.D Vial: 16
Acq On : 13 Dec 1998 2:32 am Operator:
Sample : 813554 1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:38 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	590985	50.00	ug/l	0.11
27) 1,4-Difluorobenzene	7.74	114	3741815	50.00	ug/l	0.08
41) Chlorobenzene-d5	11.27	117	3068012	50.00	ug/l	0.06
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1400444	50.43	ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.86%			
34) Toluene-d8	9.44	98	4022376	49.50	ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.00%			
50) Bromofluorobenzene	12.84	95	1402646	46.71	ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 93.42%			

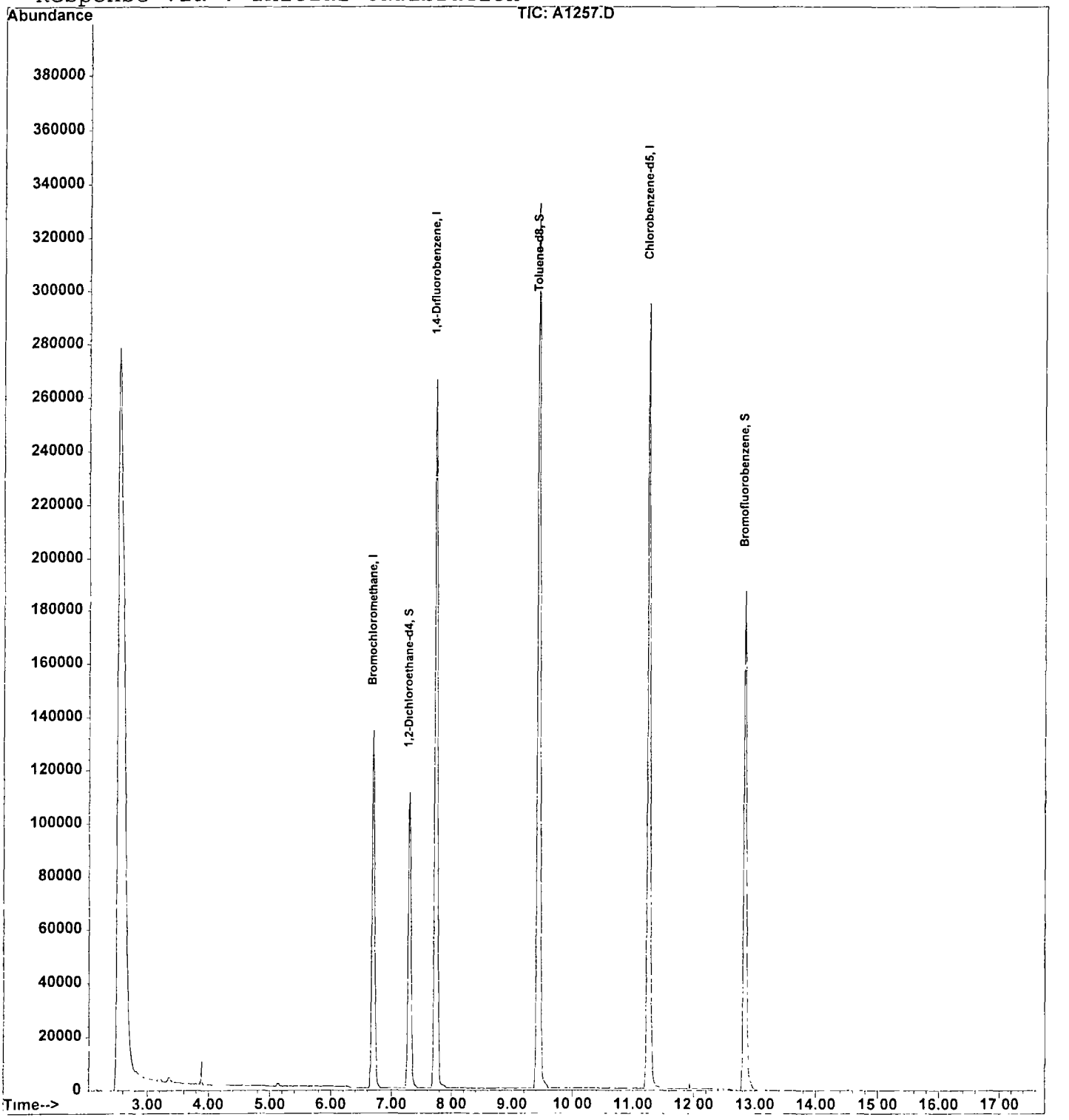
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1257.D Vial: 16
Acq On : 13 Dec 1998 2:32 am Operator:
Sample : 813554 1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:38 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1258.D Vial: 17
Acq On : 13 Dec 1998 3:03 am Operator:
Sample : 813554 2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:39 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

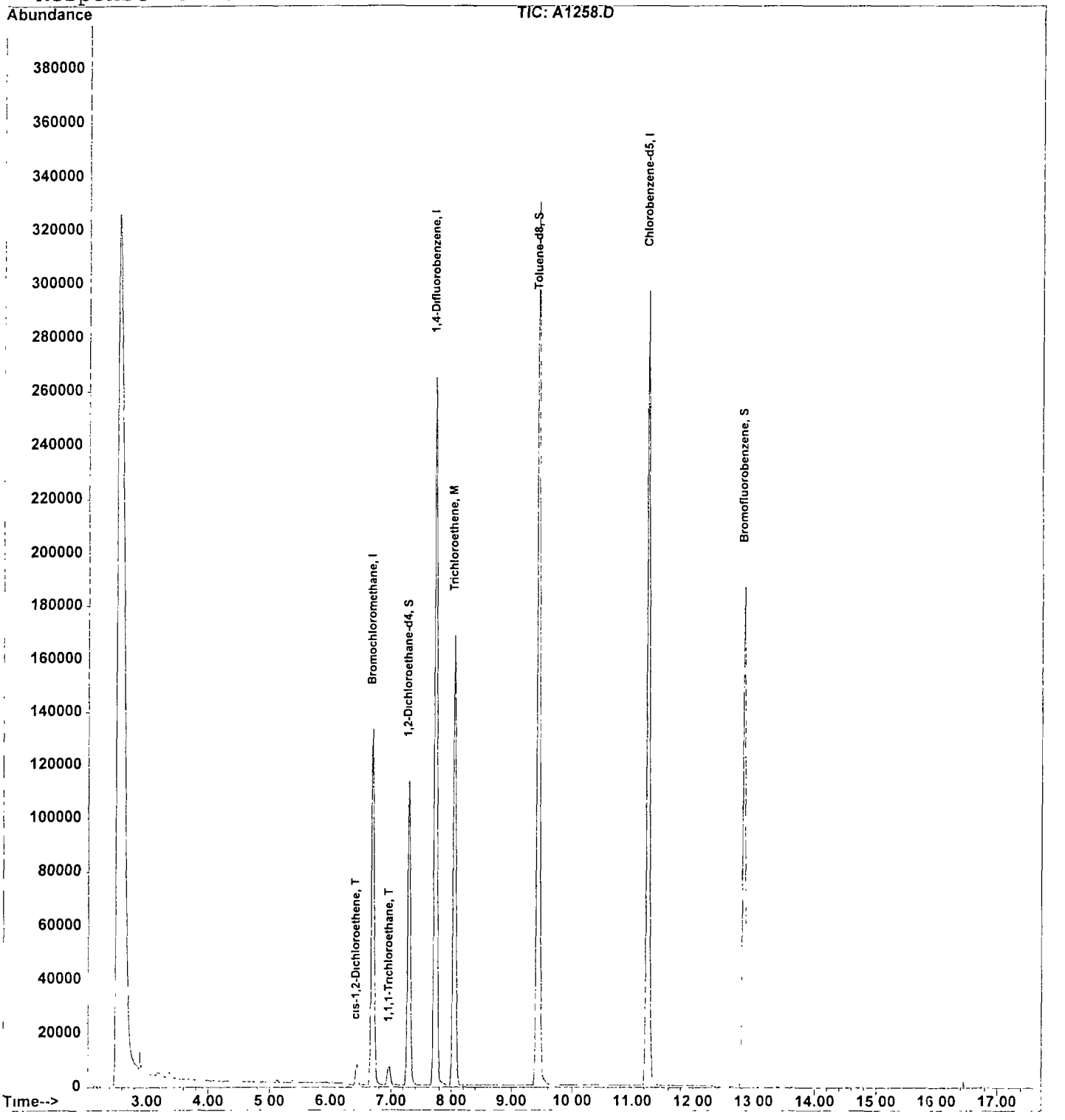
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	584282	50.00	ug/l	0.11
27) 1,4-Difluorobenzene	7.74	114	3698357	50.00	ug/l	0.08
41) Chlorobenzene-d5	11.26	117	3037338	50.00	ug/l	0.06
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1374177	50.05	ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.10%			
34) Toluene-d8	9.44	98	3997136	49.76	ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.52%			
50) Bromofluorobenzene	12.84	95	1382215	46.49	ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 92.98%			
Target Compounds						Qvalue
19) cis-1,2-Dichloroethene	6.44	96	51389	1.96	ug/l	98
21) 1,1,1-Trichloroethane	6.97	97	110915	3.17	ug/l	98
28) Trichloroethene	8.05	130	954999	38.74	ug/l	95

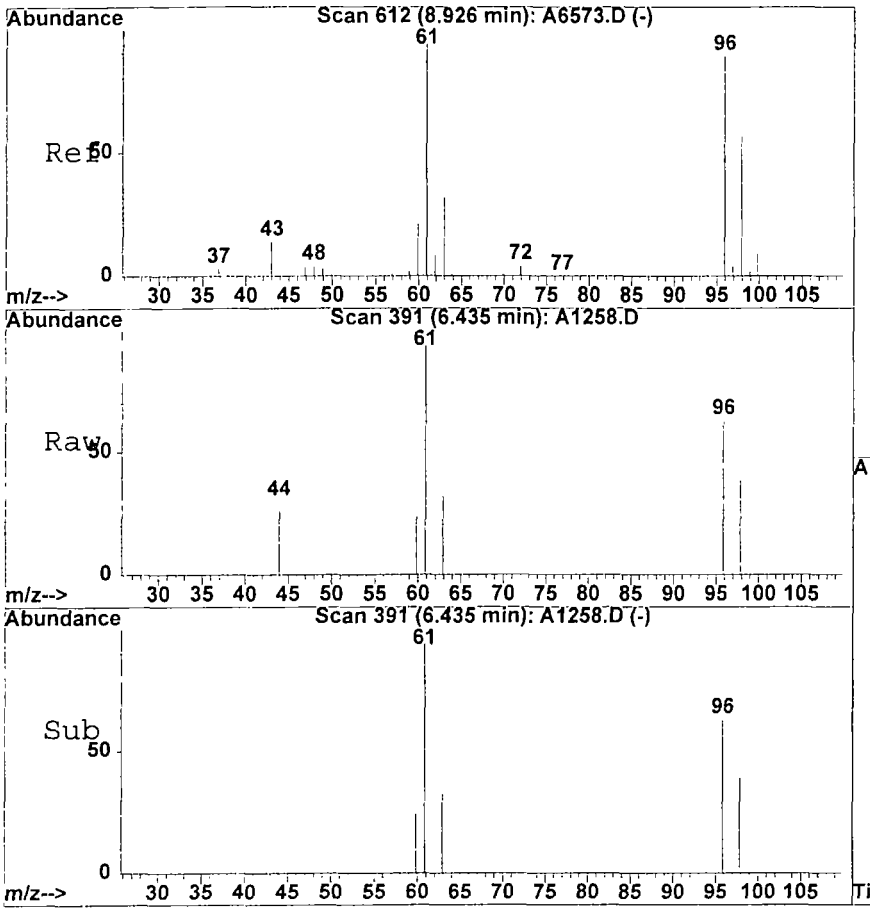
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1258.D Vial: 17
Acq On : 13 Dec 1998 3:03 am Operator:
Sample : 813554 2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:39 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

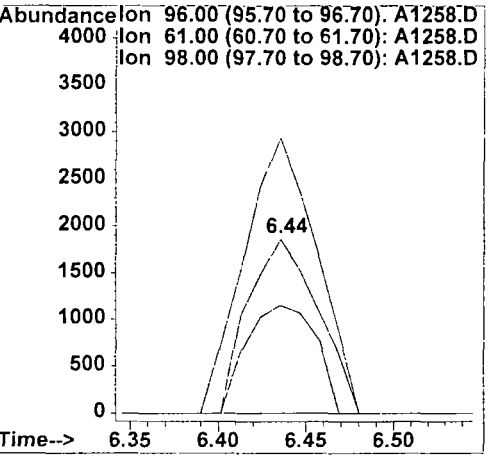


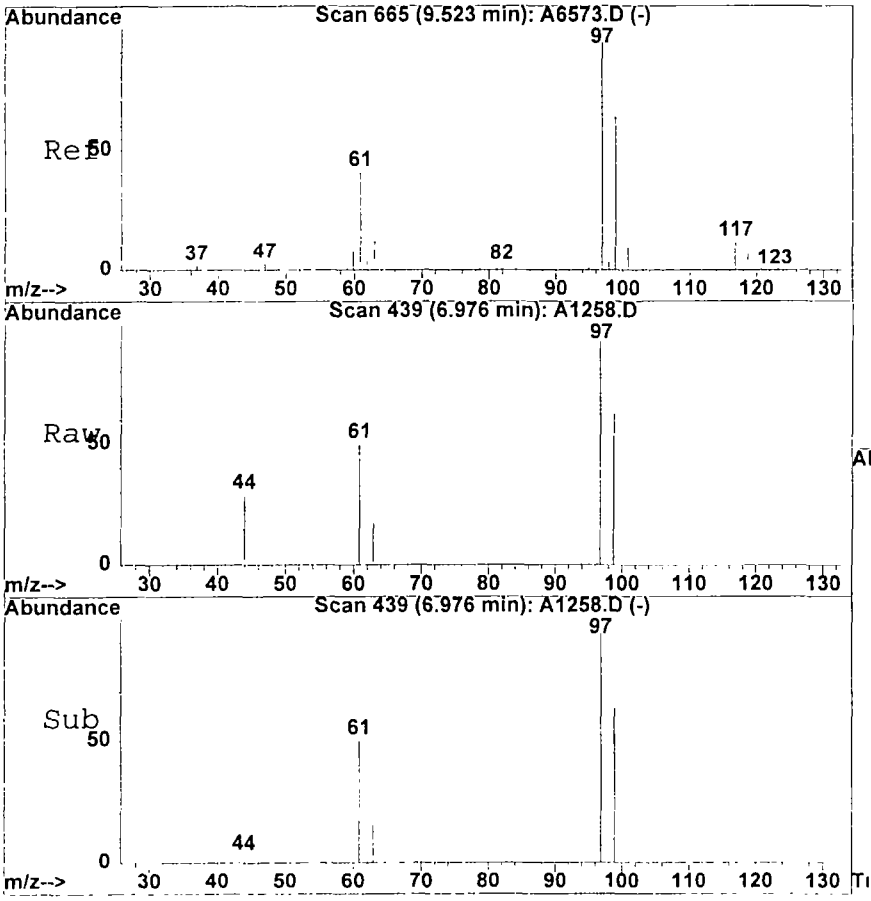


#19
cis-1,2-Dichloroethene
Concen: 1.96 ug/l
RT: 6.44 min Scan# 391
Delta R.T. 0.11 min
Lab File: A1258.D
Acq: 13 Dec 1998 3:03 am

Tgt Ion: 96 Resp: 51389

Ion	Ratio	Lower	Upper
96	100		
61	157.6	136.3	176.3
98	61.8	44.7	84.7

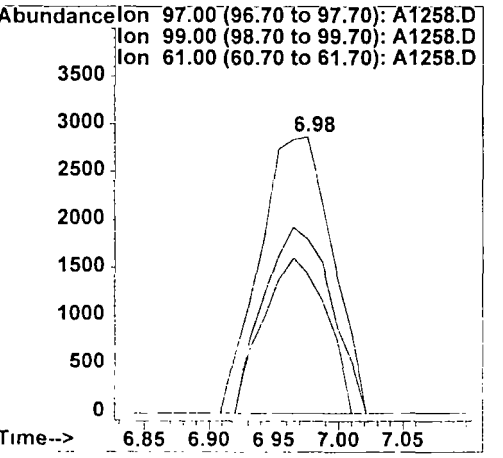


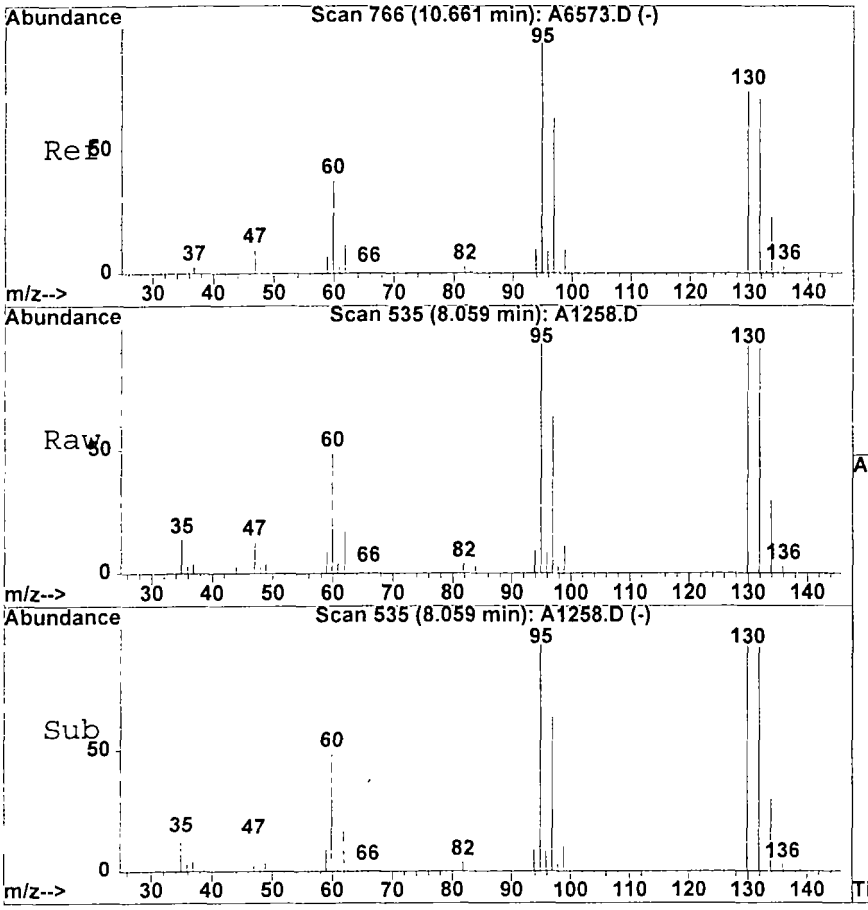


#21
1,1,1-Trichloroethane
Concen: 3.17 ug/l
RT: 6.97 min Scan# 439
Delta R.T. 0.10 min
Lab File: A1258.D
Acq: 13 Dec 1998 3:03 am

Tgt Ion: 97 Resp: 110915

Ion	Ratio	Lower	Upper
97	100		
99	62.7	44.2	84.2
61	47.7	29.2	69.2

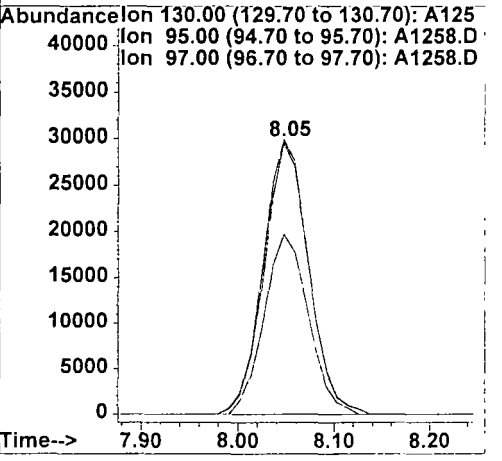




#28
Trichloroethene
Concen: 38.74 ug/l
RT: 8.05 min Scan# 535
Delta R.T. 0.08 min
Lab File: A1258.D
Acq: 13 Dec 1998 3:03 am

Tgt Ion:130 Resp: 954999

Ion	Ratio	Lower	Upper
130	100		
95	102.8	88.6	128.6
97	66.2	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1259.D Vial: 18
Acq On : 13 Dec 1998 3:33 am Operator:
Sample : 813554 3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:40 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.73	128	588753	50.00	ug/l	0.14
27) 1,4-Difluorobenzene	7.79	114	3761683	50.00	ug/l	0.13
41) Chlorobenzene-d5	11.34	117	3084499	50.00	ug/l	0.13
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.34	65	1398488	50.55	ug/l	0.13
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.10%			
34) Toluene-d8	9.50	98	4081611	49.96	ug/l	0.12
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.92%			
50) Bromofluorobenzene	12.92	95	1405821	46.56	ug/l	0.13
Spiked Amount 50.000	Range 74 - 115		Recovery = 93.12%			

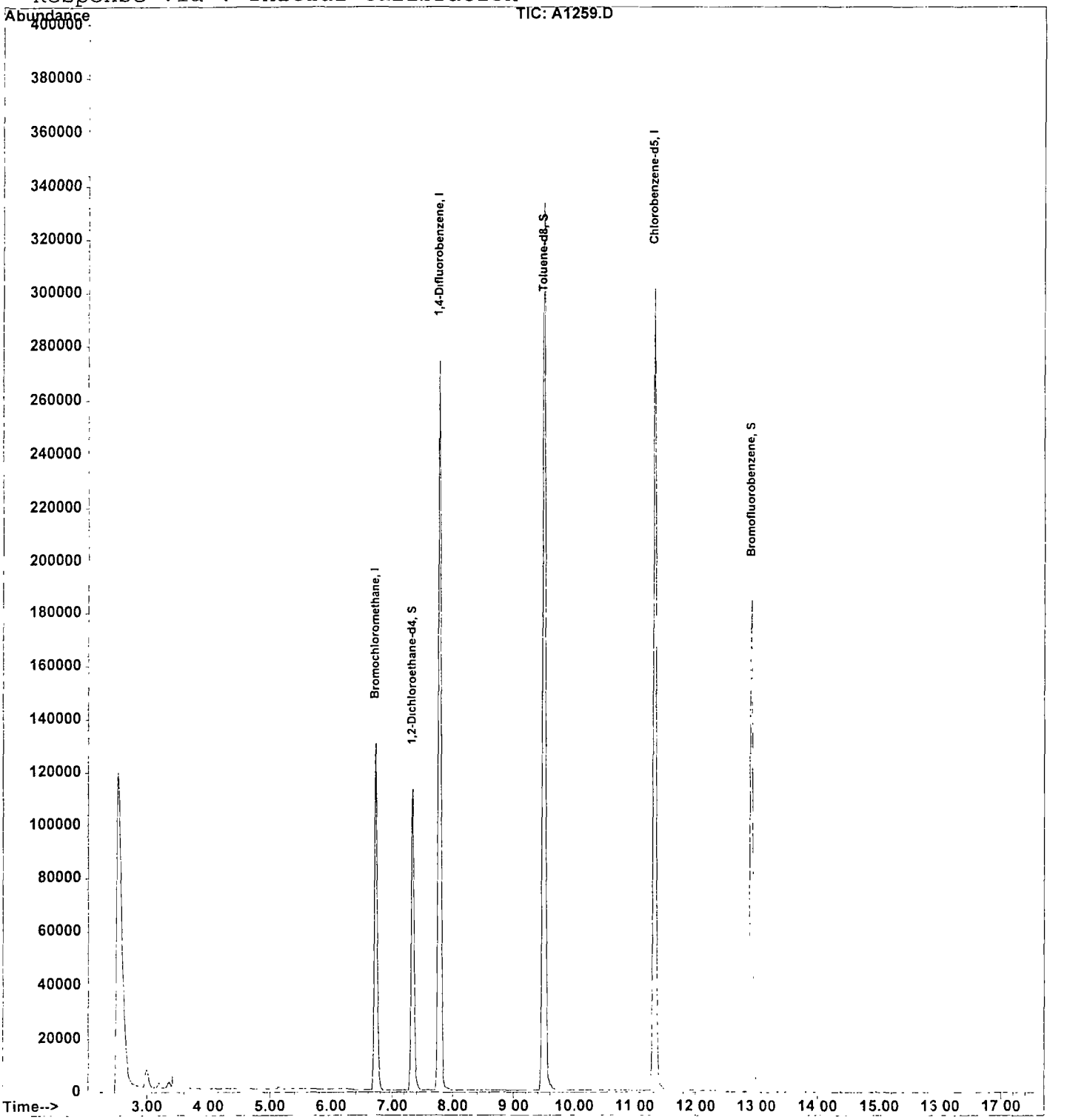
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1259.D Vial: 18
Acq On : 13 Dec 1998 3:33 am Operator:
Sample : 813554 3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:40 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1548.D Vial: 8
Acq On : 21 Dec 1998 5:17 pm Operator:
Sample : 813554 4 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:04 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

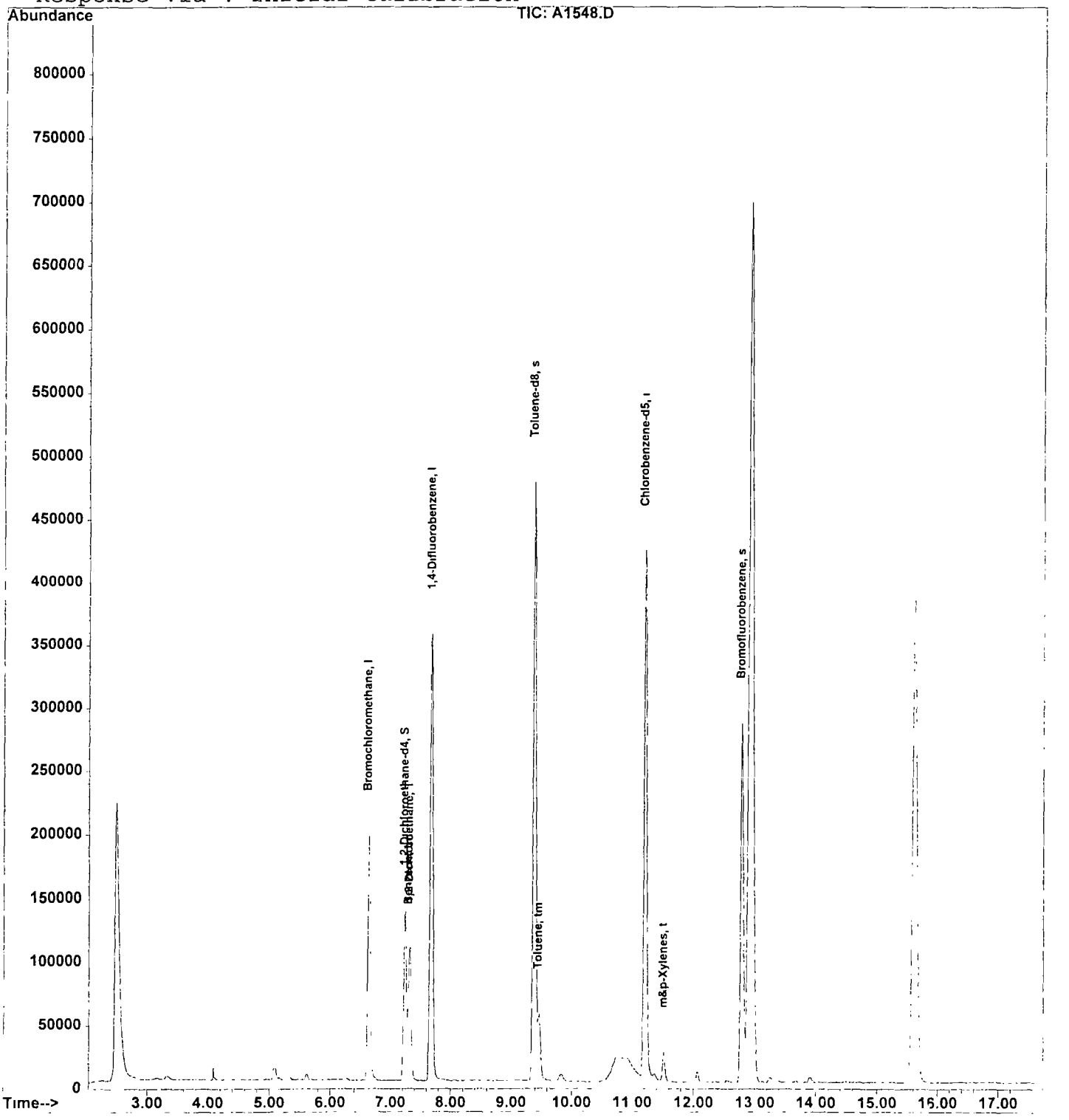
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.63	128	87950	50.00 ug/l	-0.04
27) 1,4-Difluorobenzene	7.68	114	530757	50.00 ug/l	-0.03
41) Chlorobenzene-d5	11.21	117	463661	50.00 ug/l	-0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.24	65	168656	47.98 ug/l	-0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 95.96%		
34) Toluene-d8	9.38	98	584933	51.20 ug/l	-0.03
Spiked Amount 50.000	Range 88 - 110		Recovery = 102.40%		
50) Bromofluorobenzene	12.79	95	218086	44.81 ug/l	-0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 89.62%		
Target Compounds					Qvalue
22) 1,2-Dichloroethane	7.32	62	99567	17.96 ug/l	93
26) Benzene	7.31	78	50987	2.81 ug/l	100
35) Toluene	9.46	92	37455	3.53 ug/l	96
45) m&p-Xylenes	11.52	91	29938	1.79 ug/l	95

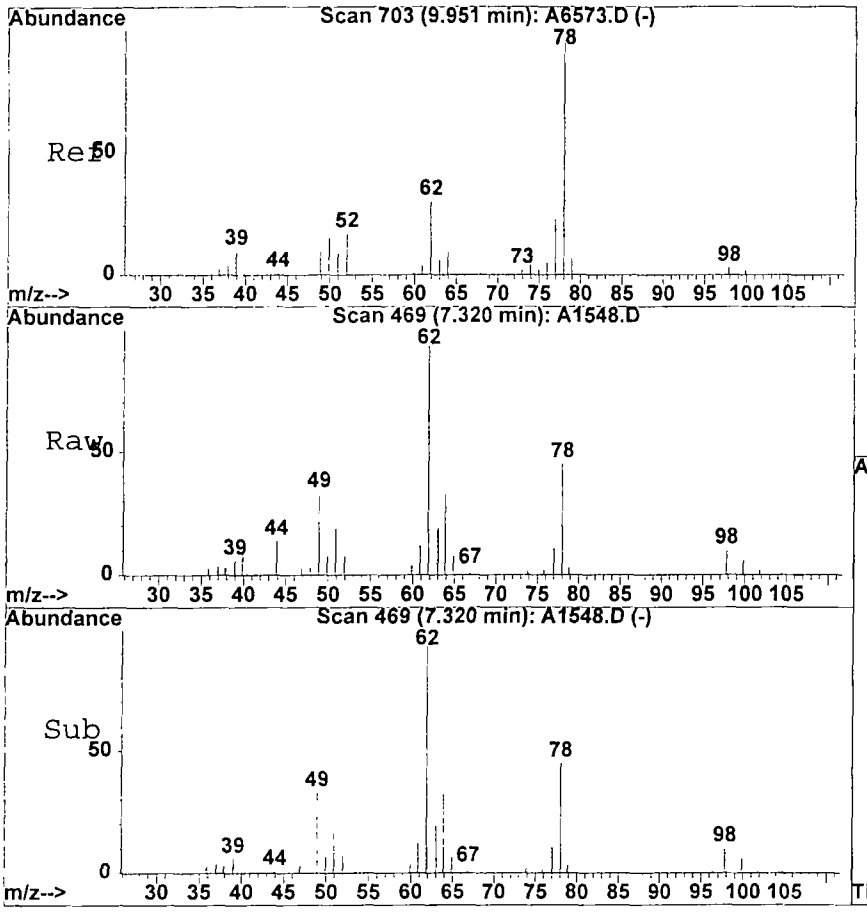
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1548.D Vial: 8
Acq On : 21 Dec 1998 5:17 pm Operator:
Sample : 813554 4 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:04 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration

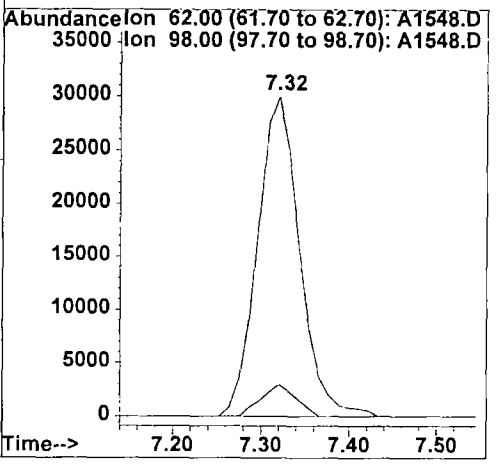


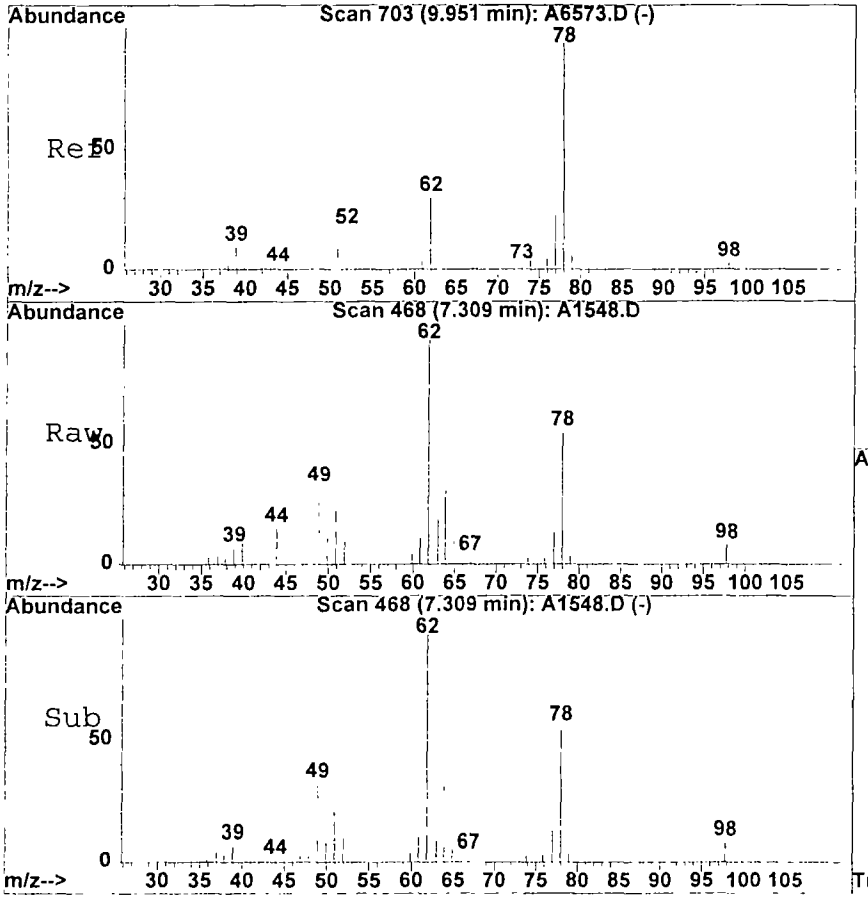


#22
1,2-Dichloroethane
Concen: 17.96 ug/l
RT: 7.32 min Scan# 469
Delta R.T. -0.03 min
Lab File: A1548.D
Acq: 21 Dec 1998 5:17 pm

Tgt Ion: 62 Resp: 99567

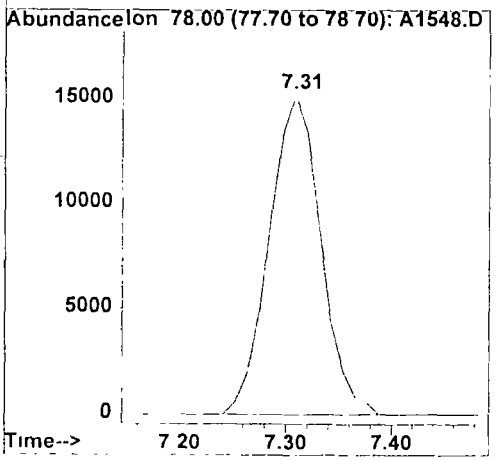
Ion	Ratio	Lower	Upper
62	100		
98	8.1	0.0	30.9

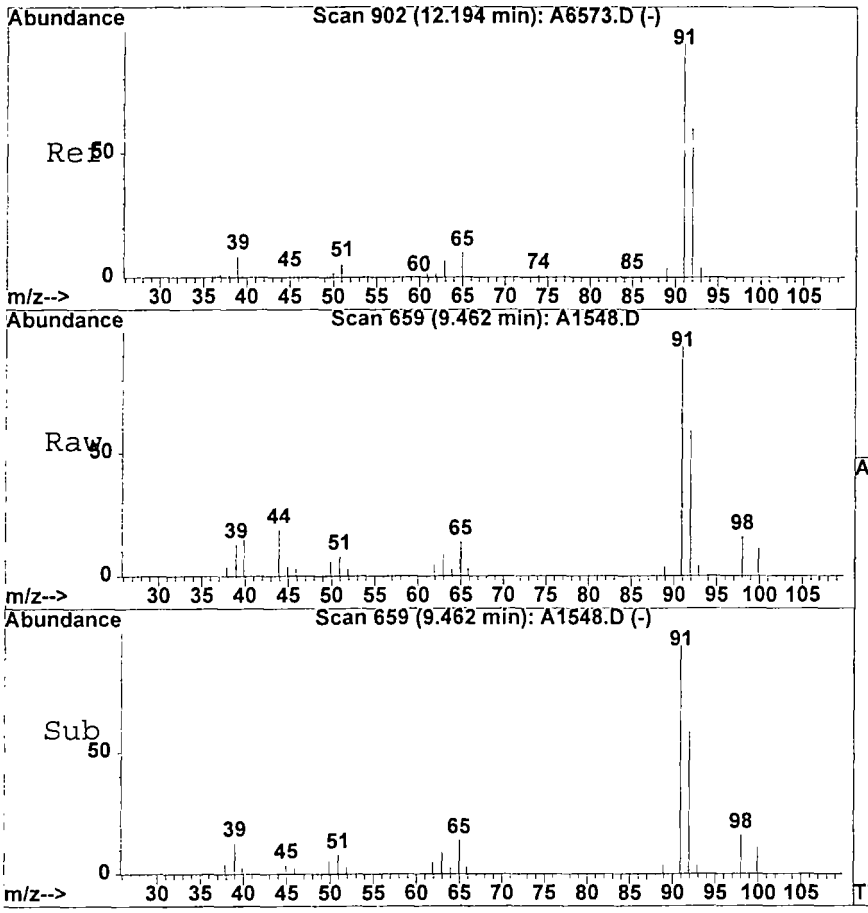




#26
Benzene
Concen: 2.81 ug/l
RT: 7.31 min Scan# 468
Delta R.T. -0.04 min
Lab File: A1548.D
Acq: 21 Dec 1998 5:17 pm

Tgt Ion: 78 Resp: 50987

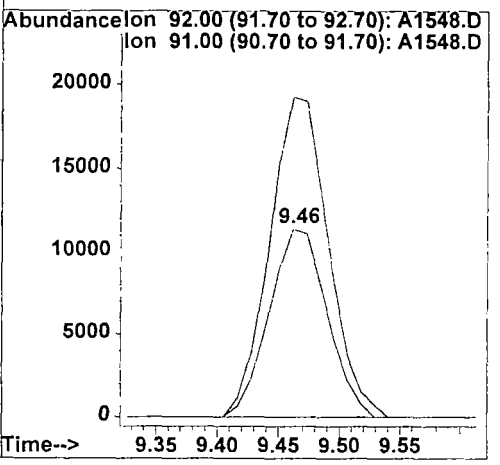


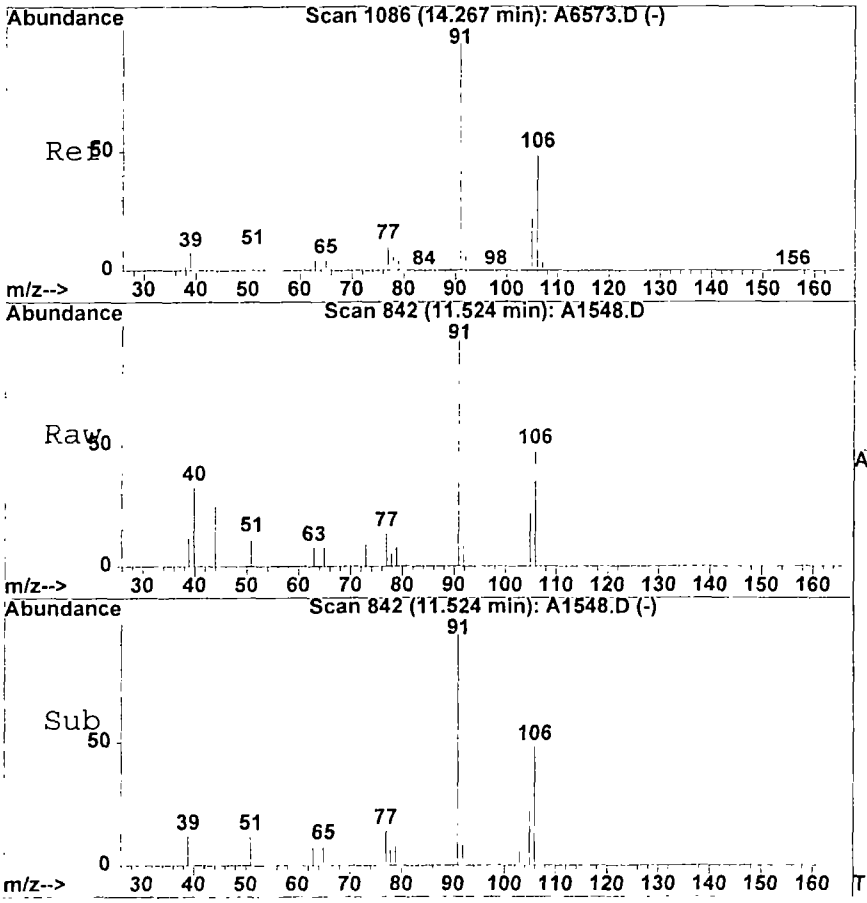


#35
Toluene
Concen: 3.53 ug/l
RT: 9.46 min Scan# 659
Delta R.T. -0.03 min
Lab File: A1548.D
Acq: 21 Dec 1998 5:17 pm

Tgt Ion: 92 Resp: 37455

Ion	Ratio	Lower	Upper
92	100		
91	171.7	145.9	185.9

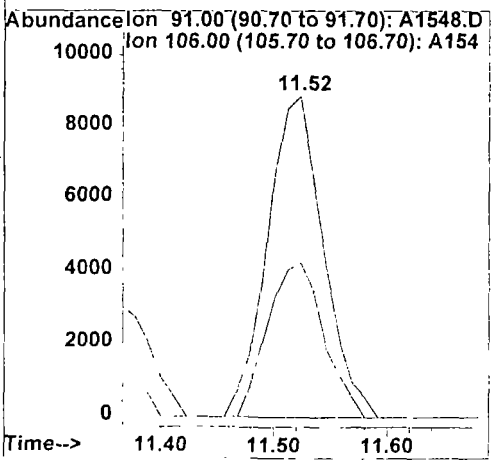




#45
m&p-Xylenes
Concen: 1.79 ug/l
RT: 11.52 min Scan# 842
Delta R.T. -0.02 min
Lab File: A1548.D
Acq: 21 Dec 1998 5:17 pm

Tgt Ion: 91 Resp: 29938

Ion	Ratio	Lower	Upper
91	100		
106	48.1	24.6	64.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1675.D Vial: 10
Acq On : 27 Dec 1998 7:25 pm Operator:
Sample : 813554 5 Inst : GC/MS Ins
Misc : 10 Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 9:15 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

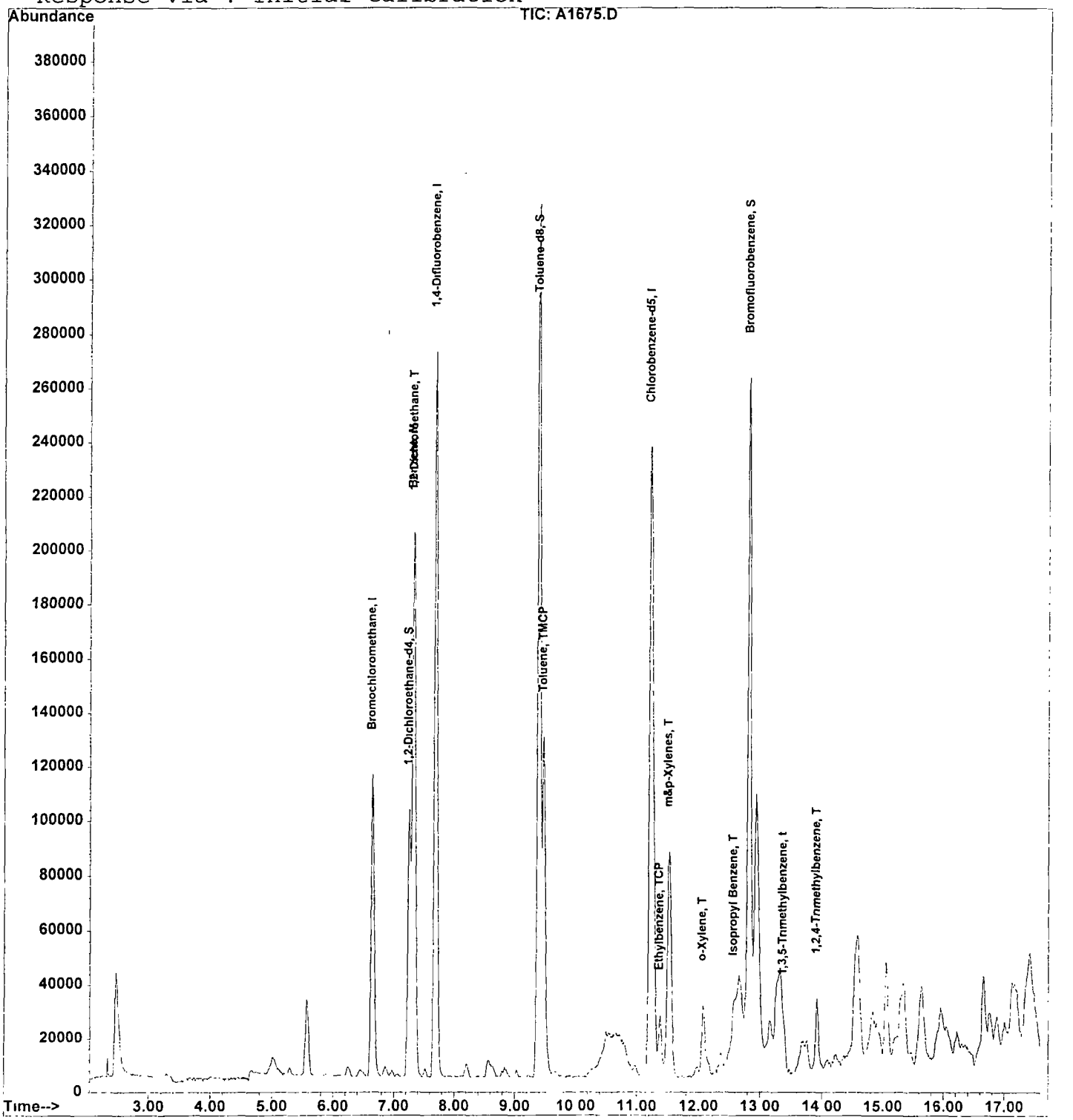
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.65	128	648699	50.00 ug/l	-0.04
27) 1,4-Difluorobenzene	7.69	114	4366487	50.00 ug/l	-0.04
41) Chlorobenzene-d5	11.23	117	3834984	50.00 ug/l	-0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.25	65	1377625	45.20 ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 90.40%		
34) Toluene-d8	9.39	98	4317137	45.52 ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 91.04%		
50) Bromofluorobenzene	12.83	95	1911266	50.91 ug/l	0.00
Spiked Amount 50.000	Range 74 - 115		Recovery = 101.82%		
Target Compounds					Qvalue
22) 1,2-Dichloroethane	7.34	62	2338854	61.76 ug/l	99
26) Benzene	7.32	78	1011674	8.19 ug/l	100
35) Toluene	9.48	92	1040252	14.86 ug/l	99
44) Ethylbenzene	11.38	91	394559	2.96 ug/l	98
45) m&p-Xylenes	11.53	91	1144693	11.01 ug/l	95
46) o-Xylene	12.08	91	432600	4.17 ug/l	96
49) Isopropyl Benzene	12.58	105	193264	1.76 ug/l	99
54) 1,3,5-Trimethylbenzene	13.39	105	156134	1.79 ug/l	98
55) 1,2,4-Trimethylbenzene	13.93	105	421341	4.48 ug/l	93

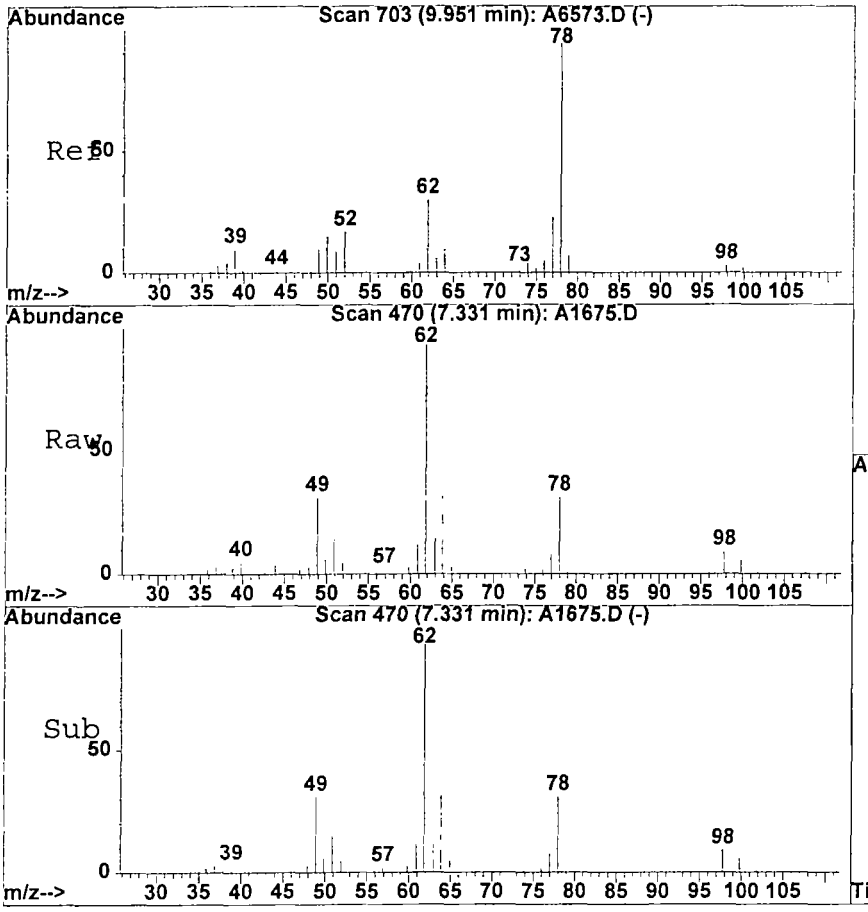
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1675.D Vial: 10
Acq On : 27 Dec 1998 7:25 pm Operator:
Sample : 813554 5 Inst : GC/MS Ins
Misc : 10 Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 9:15 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration

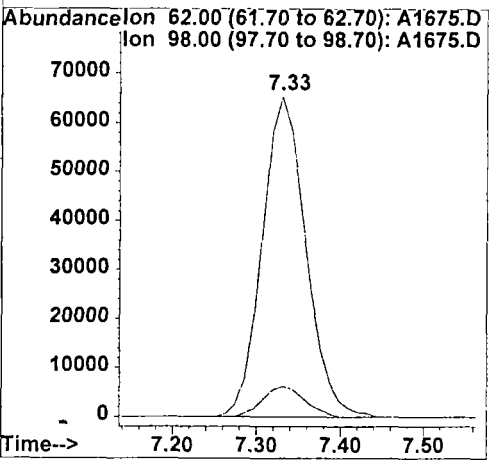


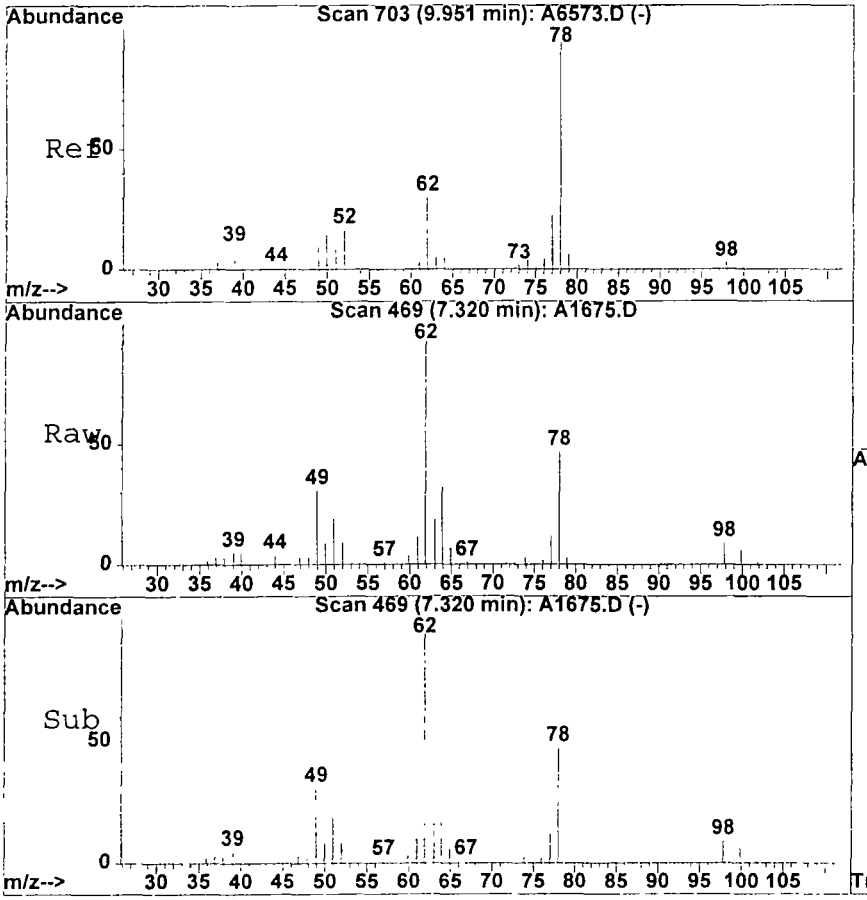


#22
1,2-Dichloroethane
Concen: 61.76 ug/l
RT: 7.34 min Scan# 470
Delta R.T. -0.04 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion: 62 Resp: 2338854

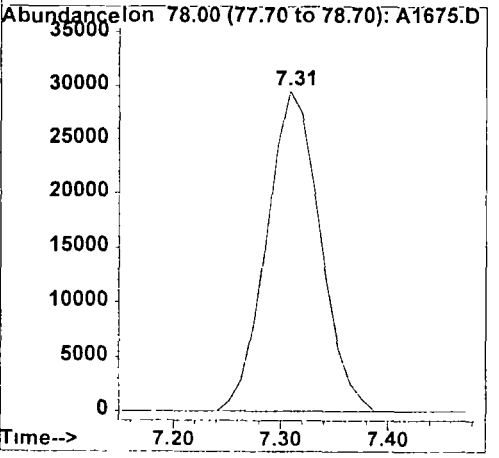
Ion	Ratio	Lower	Upper
62	100		
98	9.1	0.0	28.7

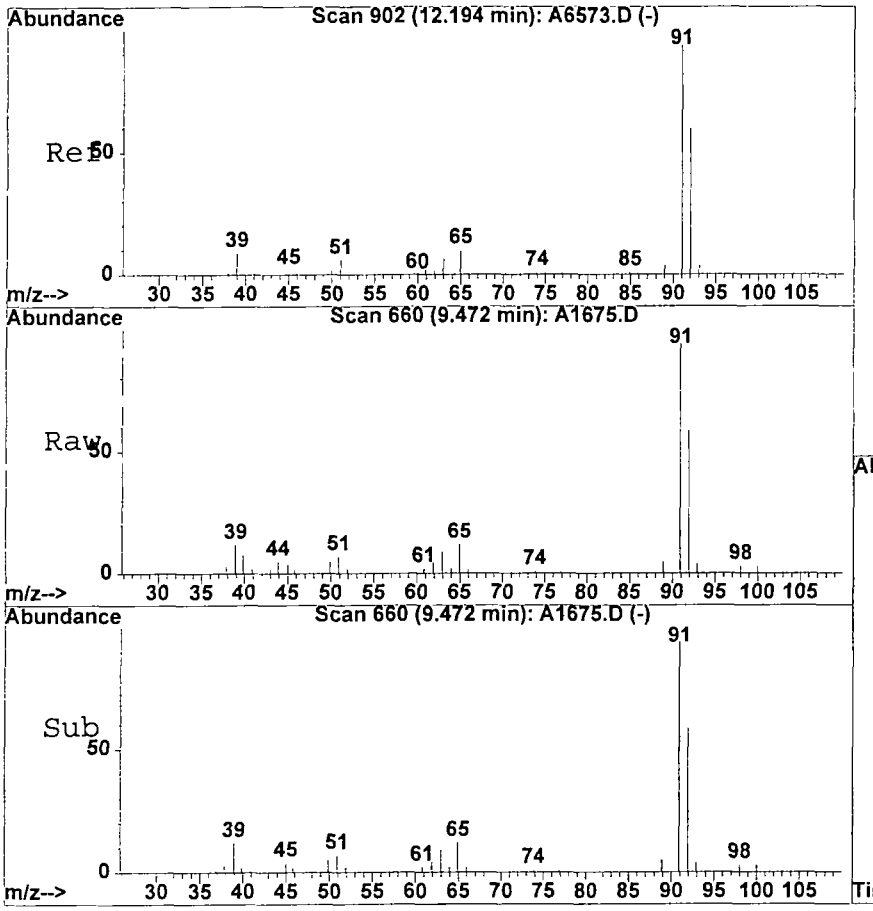




#26
Benzene
Concen: 8.19 ug/l
RT: 7.32 min Scan# 469
Delta R.T. -0.05 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion: 78 Resp: 1011674

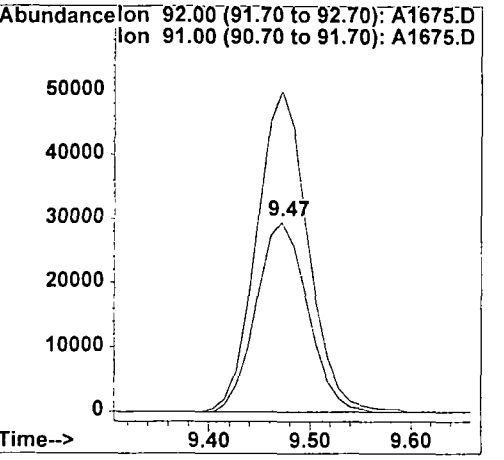


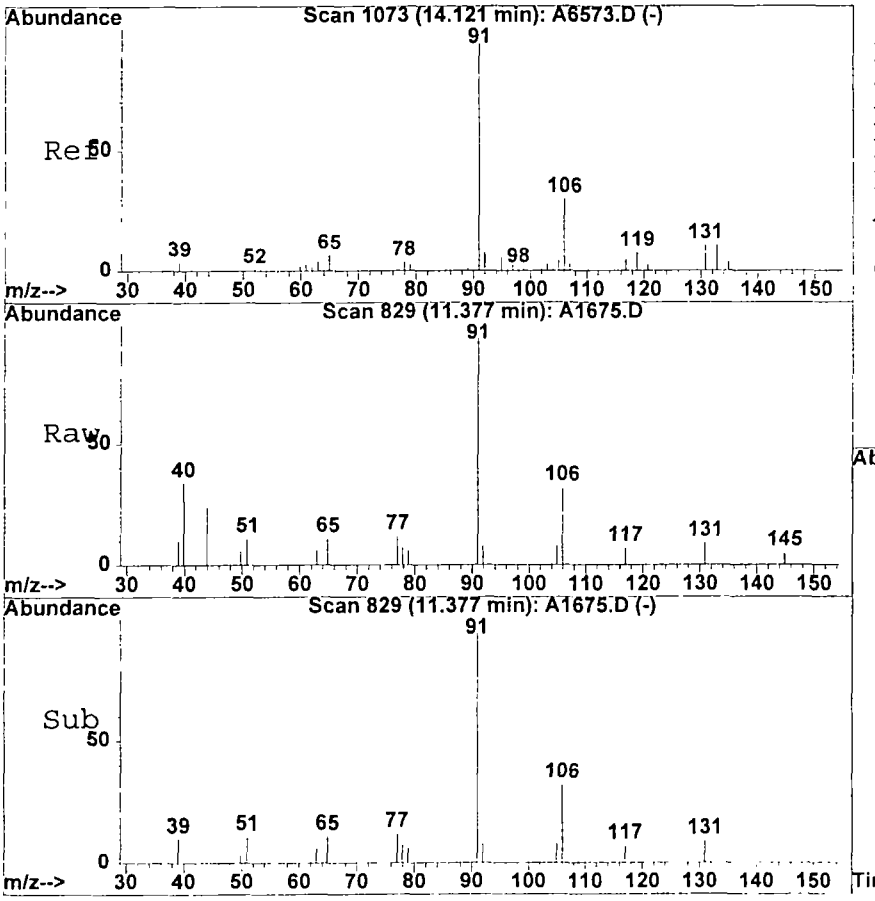


#35
Toluene
Concen: 14.86 ug/l
RT: 9.48 min Scan# 660
Delta R.T. -0.04 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion: 92 Resp: 1040252

Ion	Ratio	Lower	Upper
92	100		
91	168.5	147.4	187.4

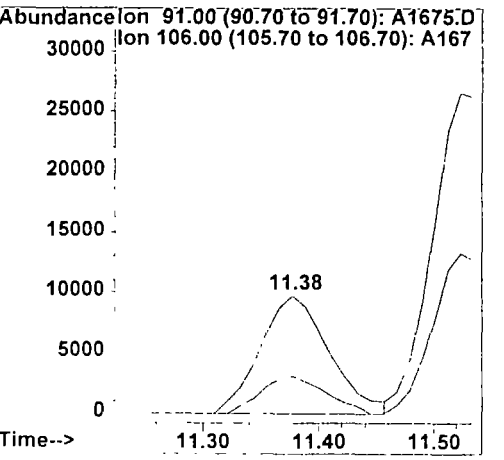


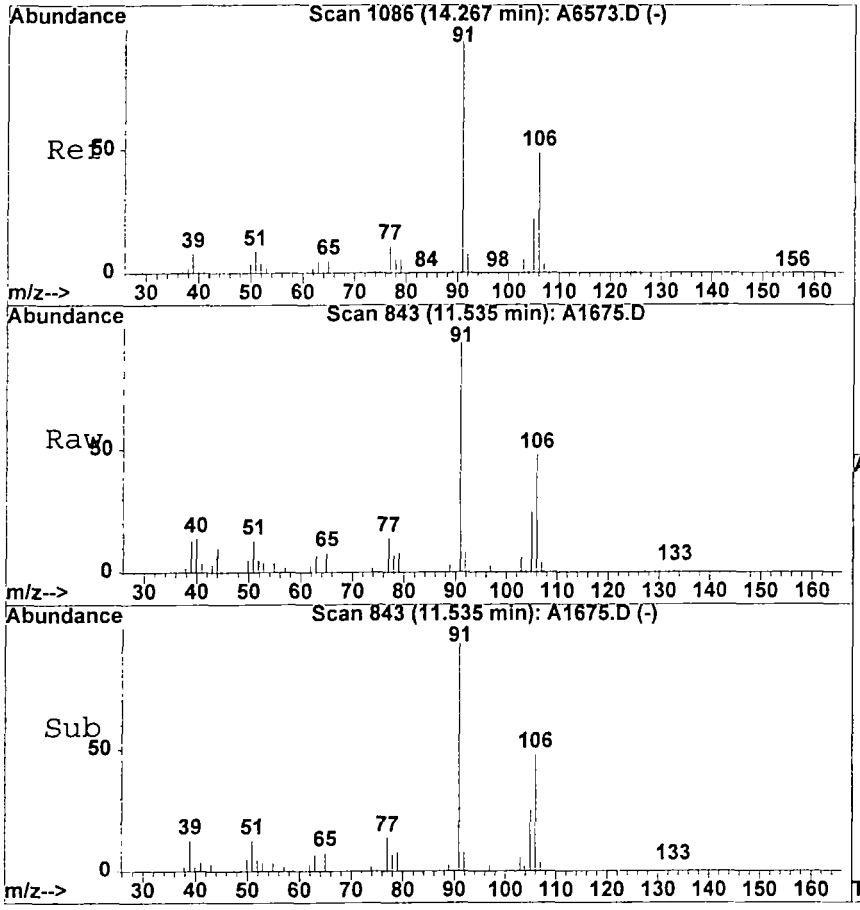


#44
Ethylbenzene
Concen: 2.96 ug/l
RT: 11.38 min Scan# 829
Delta R.T. -0.04 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion: 91 Resp: 394559

Ion	Ratio	Lower	Upper
91	100		
106	30.1	9.0	49.0

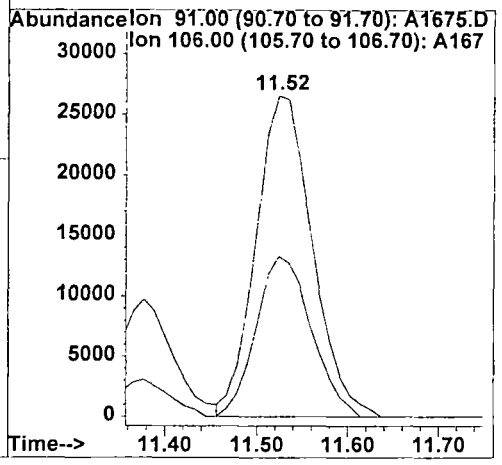


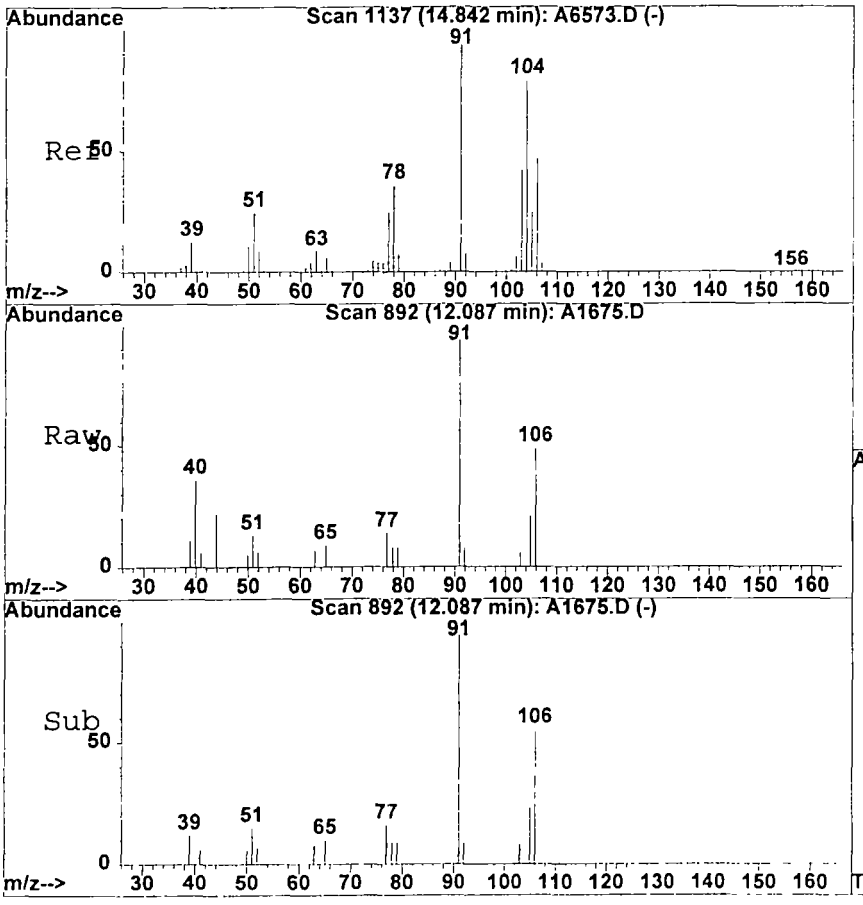


#45
m&p-Xylenes
Concen: 11.01 ug/l
RT: 11.53 min Scan# 843
Delta R.T. -0.04 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion: 91 Resp: 1144693

Ion	Ratio	Lower	Upper
91	100		
106	48.8	25.8	65.8

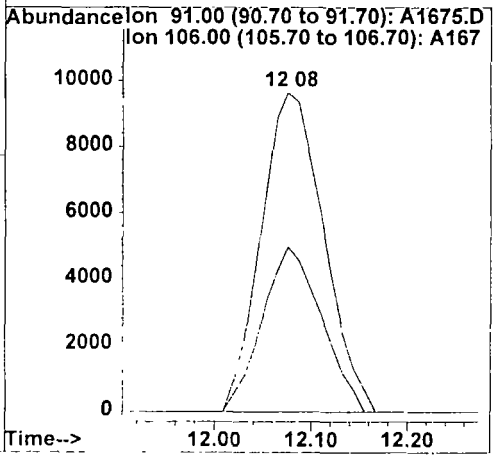


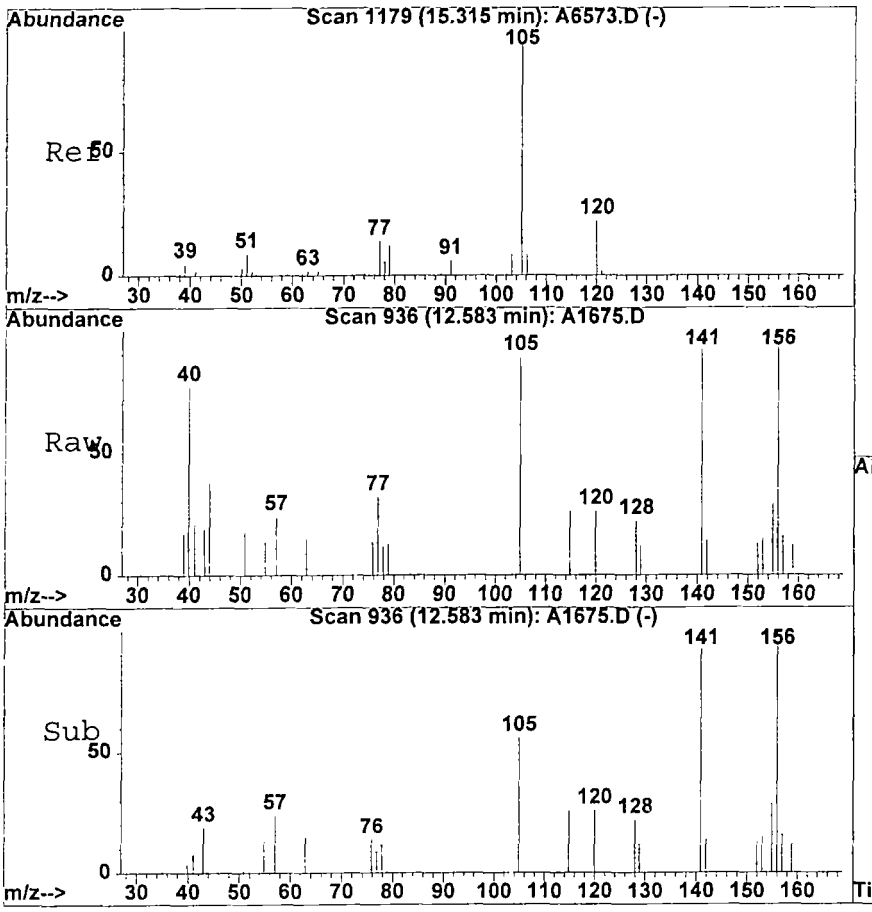


#46
o-Xylene
Concen: 4.17 ug/l
RT: 12.08 min Scan# 892
Delta R.T. -0.03 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion: 91 Resp: 432600

Ion	Ratio	Lower	Upper
91	100		
106	48.8	26.3	66.3

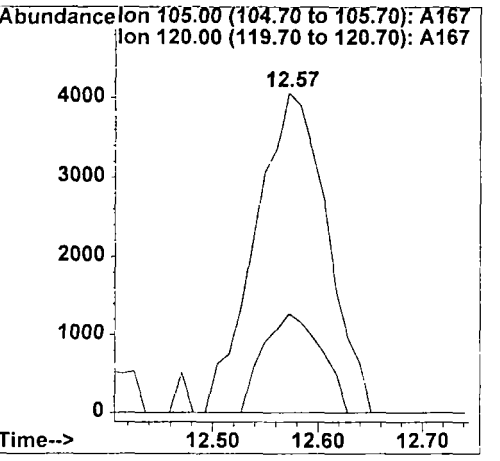


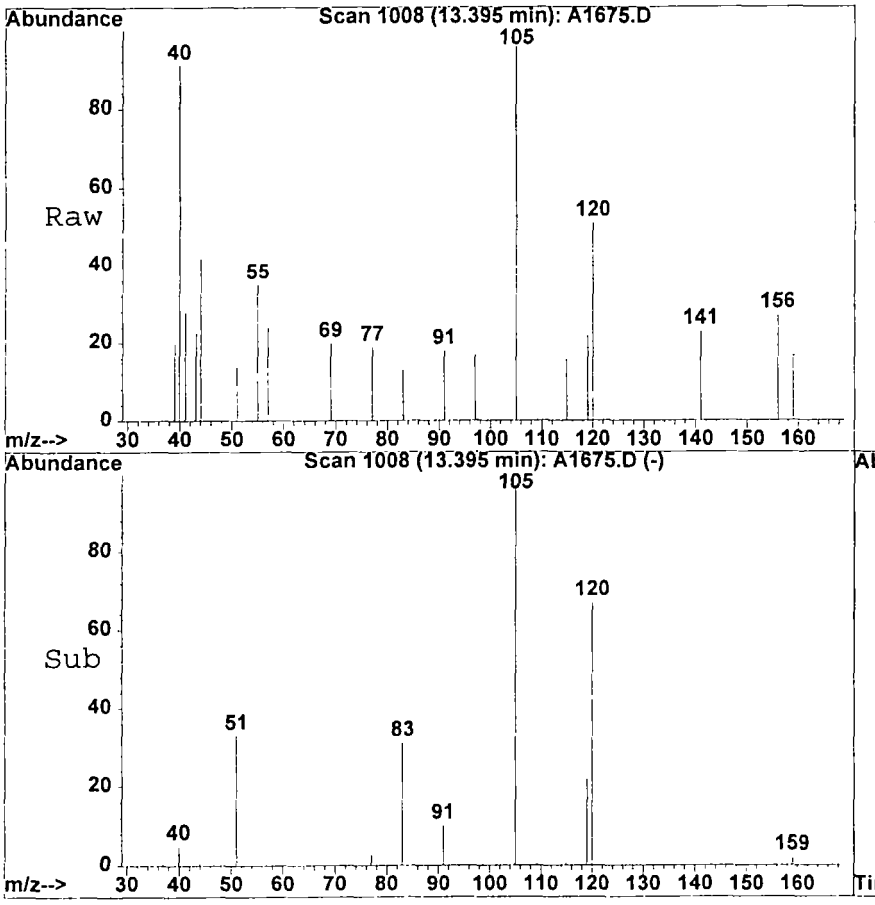


#49
Isopropyl Benzene
Concen: 1.76 ug/l
RT: 12.58 min Scan# 936
Delta R.T. -0.03 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion:105 Resp: 193264

Ion	Ratio	Lower	Upper
105	100		
120	24.8	5.1	45.1

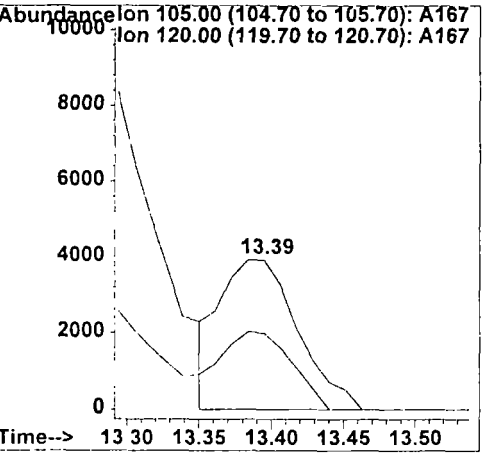


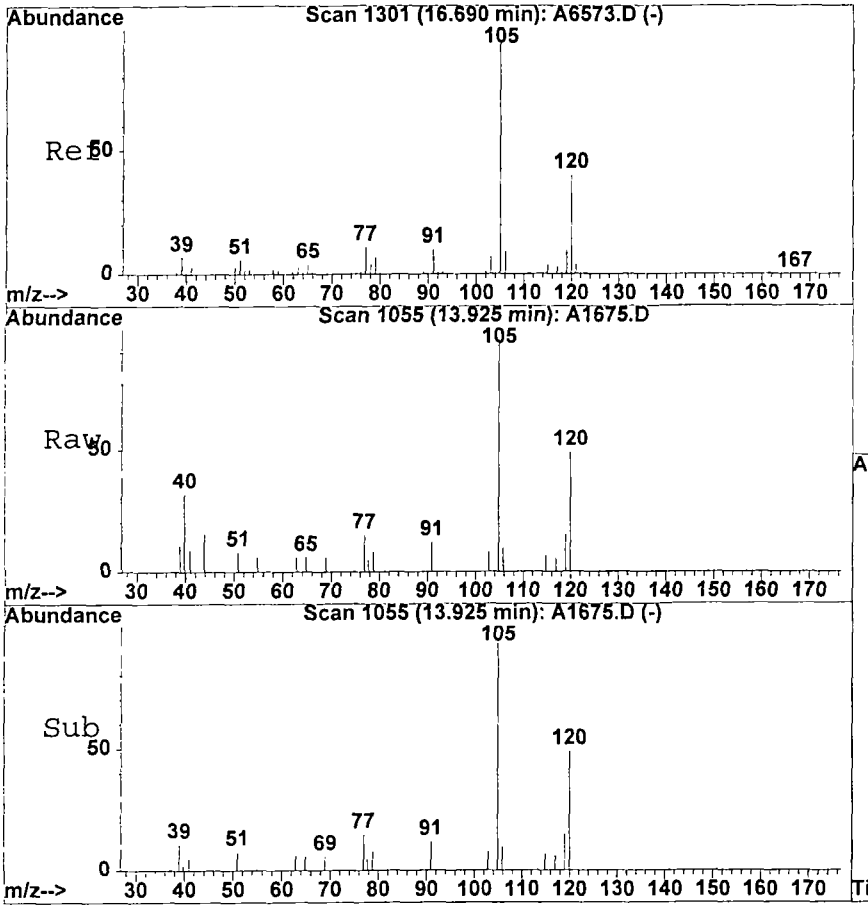


#54
1,3,5-Trimethylbenzene
Concen: 1.79 ug/l
RT: 13.39 min Scan# 1008
Delta R.T. -0.03 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion:105 Resp: 156134

Ion	Ratio	Lower	Upper
105	100		
120	47.5	39.0	58.4

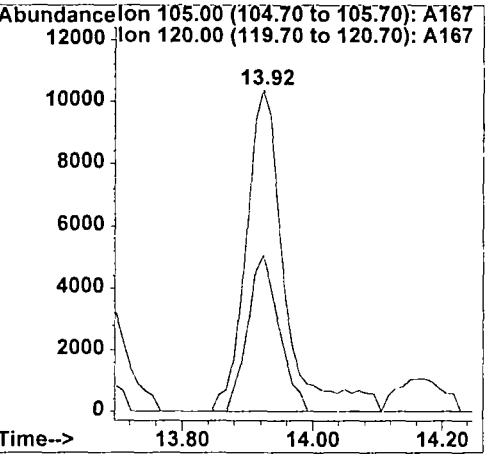




#55
1,2,4-Trimethylbenzene
Concen: 4.48 ug/l
RT: 13.93 min Scan# 1055
Delta R.T. -0.03 min
Lab File: A1675.D
Acq: 27 Dec 1998 7:25 pm

Tgt Ion:105 Resp: 421341

Ion	Ratio	Lower	Upper
105	100		
120	40.1	24.7	64.7



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1450.D Vial: 4
Acq On : 18 Dec 1998 2:26 pm Operator:
Sample : 813554 6 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:32 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	102866	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.71	114	527348	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.24	117	332365	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.27	65	219278	44.64 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 89.28%		
34) Toluene-d8	9.41	98	570989	49.43 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.86%		
50) Bromofluorobenzene	12.82	95	156989	44.20 ug/l	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 88.40%		

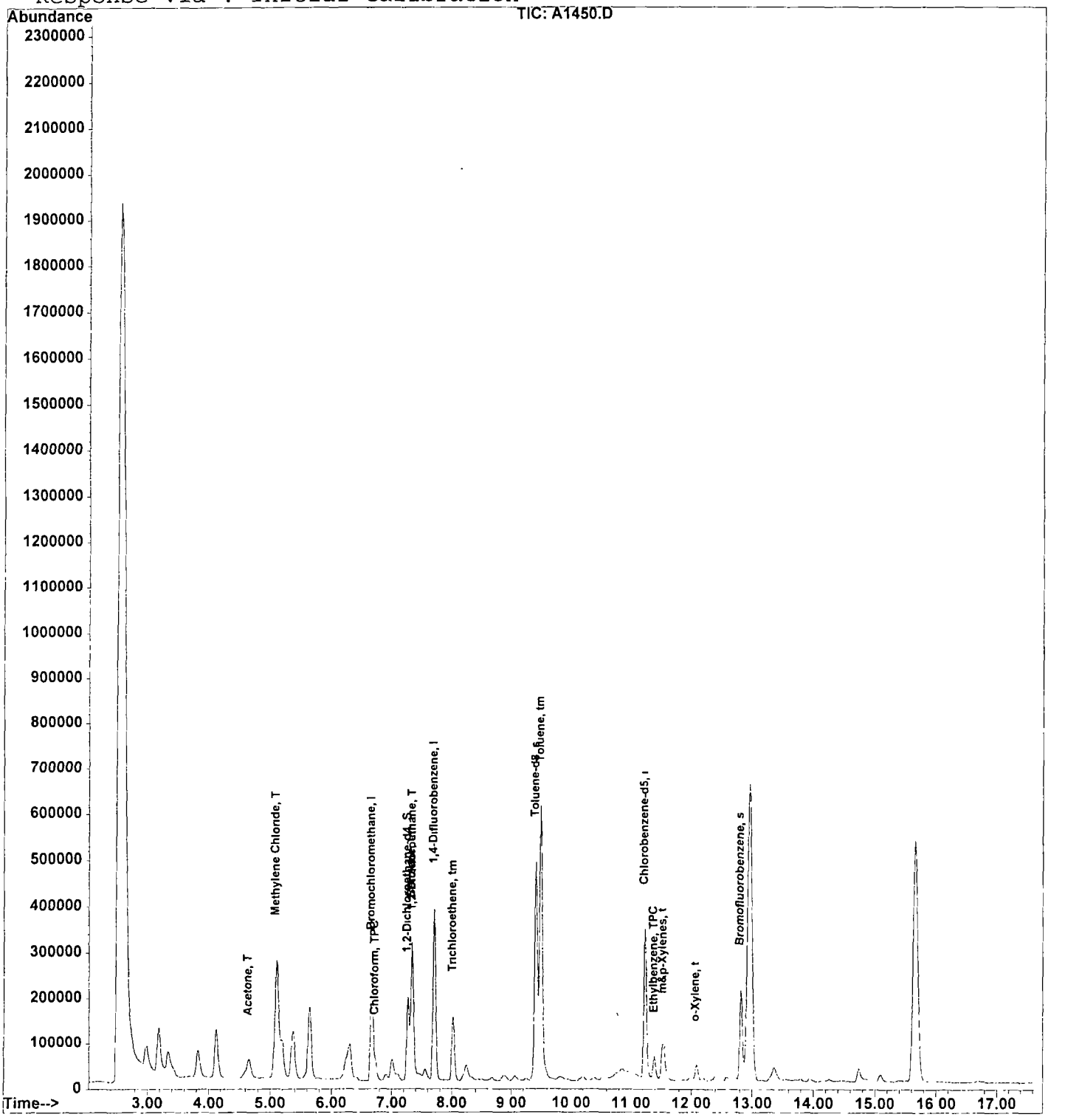
Target Compounds					Qvalue
10) Acetone	4.66	58	30263	59.69 ug/l #	68
12) Methylene Chloride	5.11	84	7457	1.09 ug/l #	37
20) Chloroform	6.73	83	48373	4.07 ug/l	98
22) 1,2-Dichloroethane	7.35	62	26142	3.12 ug/l	90
26) Benzene	7.34	78	408482	14.56 ug/l	100
28) Trichloroethene	8.03	130	80237	15.41 ug/l	99
35) Toluene	9.49	92	461152	37.70 ug/l	98
44) Ethylbenzene	11.40	91	68107	3.67 ug/l	98
45) m&p-Xylenes	11.54	91	91001	6.08 ug/l	97
46) o-Xylene	12.08	91	36674	2.47 ug/l	99

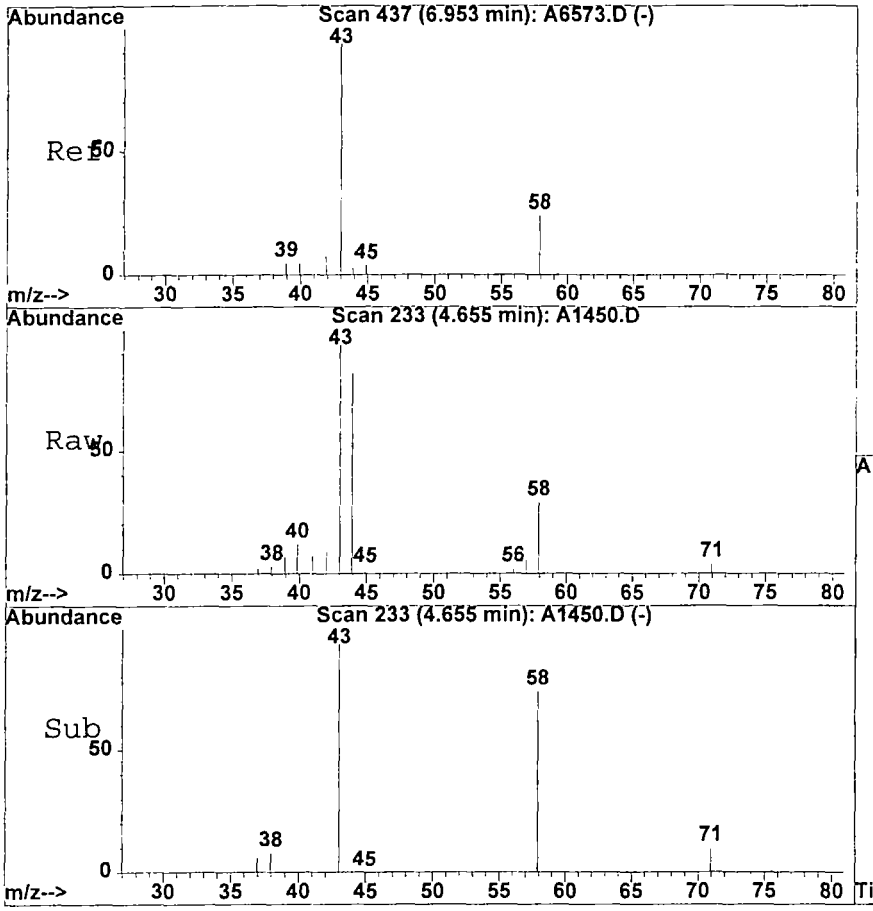
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1450.D Vial: 4
Acq On : 18 Dec 1998 2:26 pm Operator:
Sample : 813554 6 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:32 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

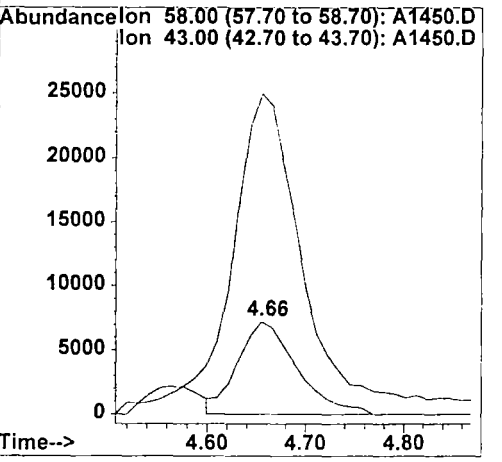


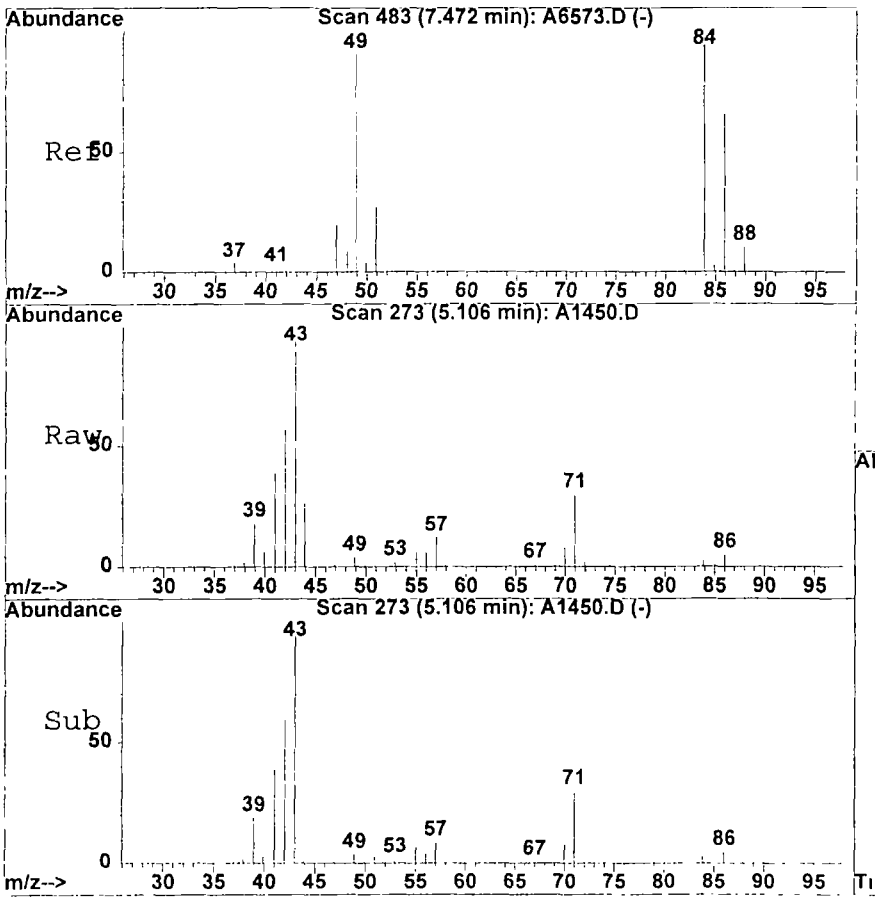


#10
Acetone
Concen: 59.69 ug/l
RT: 4.66 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 58 Resp: 30263

Ion	Ratio	Lower	Upper
58	100		
43	439.0	346.5	386.5#

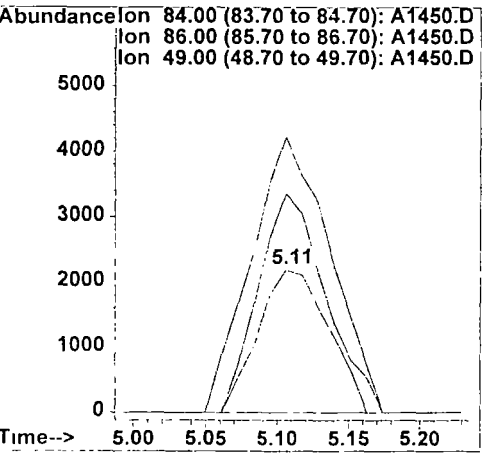


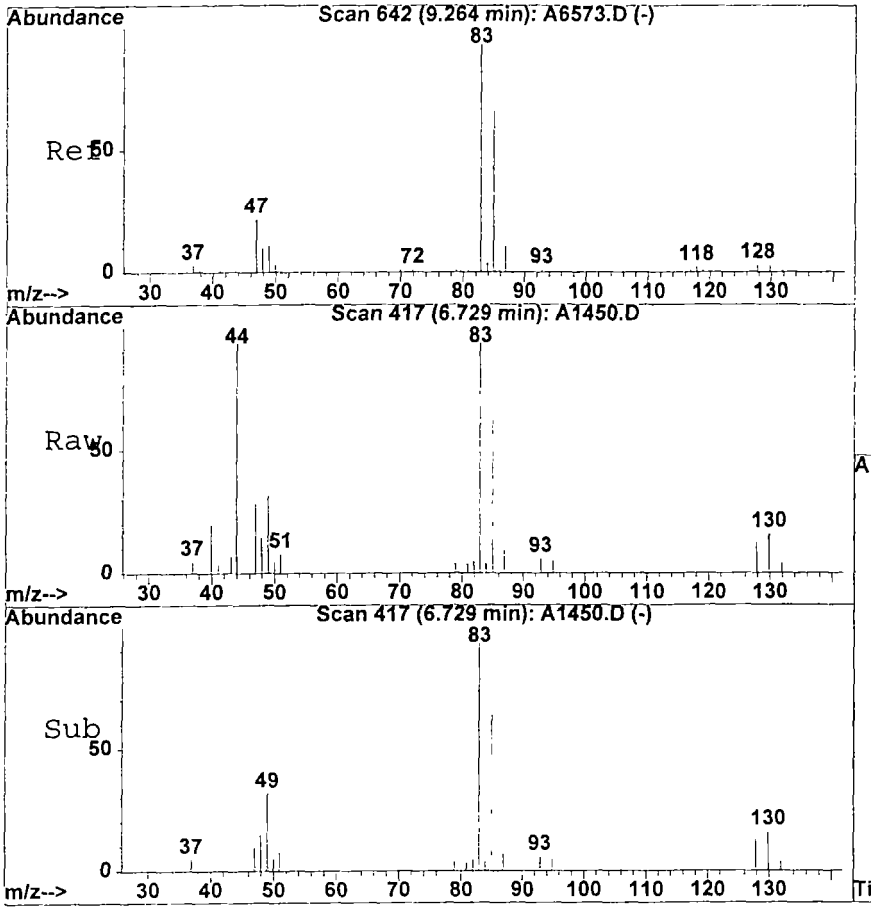


#12
Methylene Chloride
Concen: 1.09 ug/l
RT: 5.11 min Scan# 273
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 84 Resp: 7457

Ion	Ratio	Lower	Upper
84	100		
86	217.4	43.8	83.8#
49	147.8	123.1	163.1

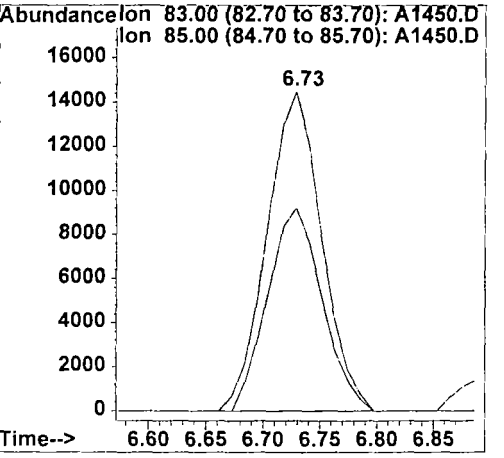


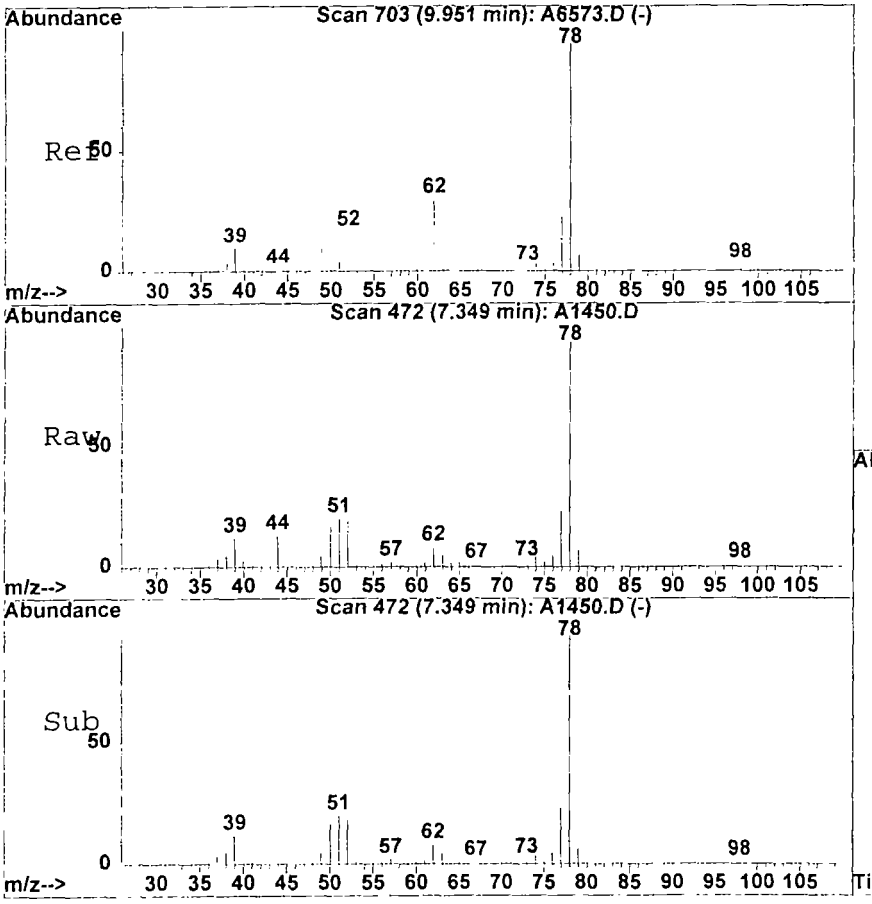


#20
Chloroform
Concen: 4.07 ug/l
RT: 6.73 min Scan# 417
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 83 Resp: 48373

Ion	Ratio	Lower	Upper
83	100		
85	63.7	45.2	85.2

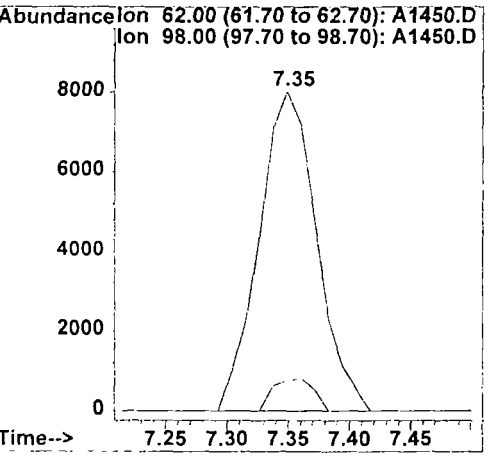


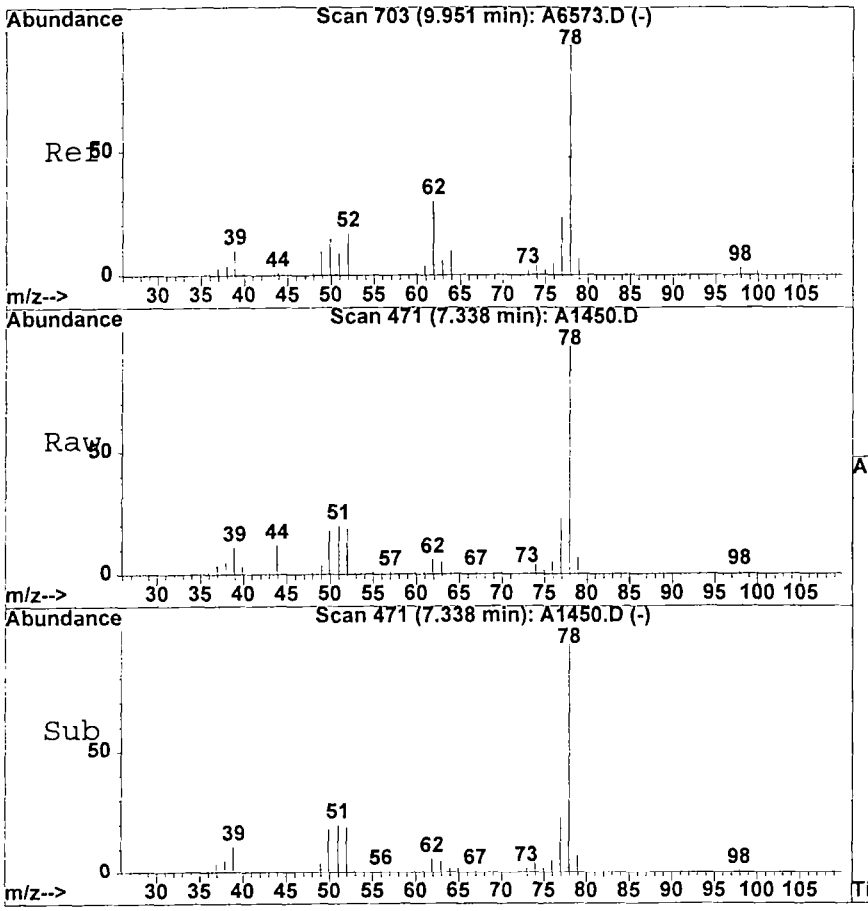


#22
1,2-Dichloroethane
Concen: 3.12 ug/l
RT: 7.35 min Scan# 472
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 62 Resp: 26142

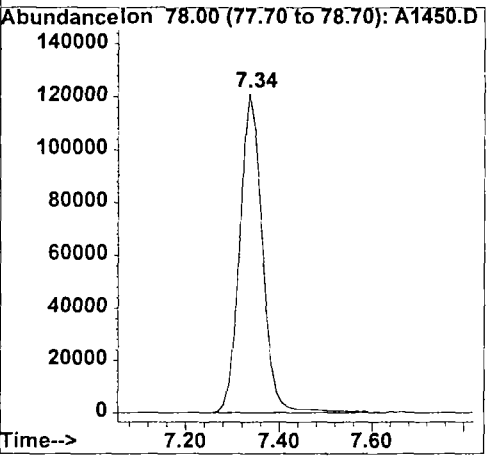
Ion	Ratio	Lower	Upper
62	100		
98	7.0	0.0	30.9

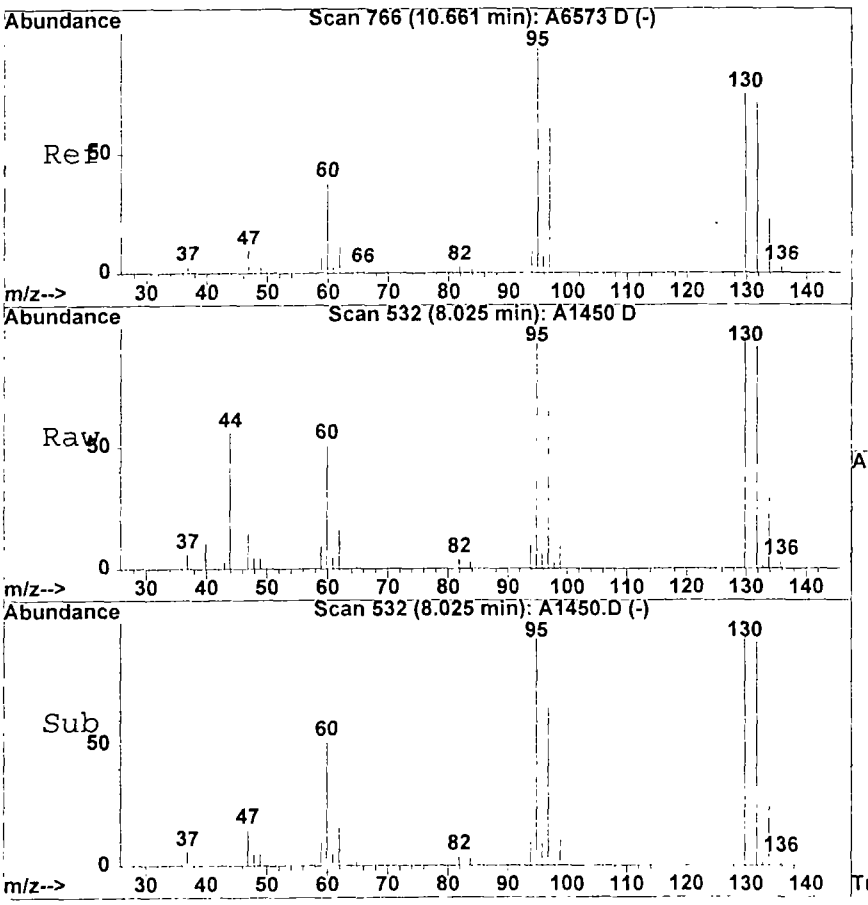




#26
Benzene
Concen: 14.56 ug/l
RT: 7.34 min Scan# 471
Delta R.T. -0.01 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 78 Resp: 408482

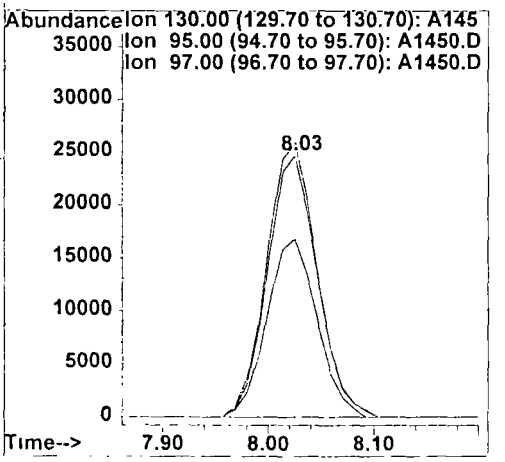


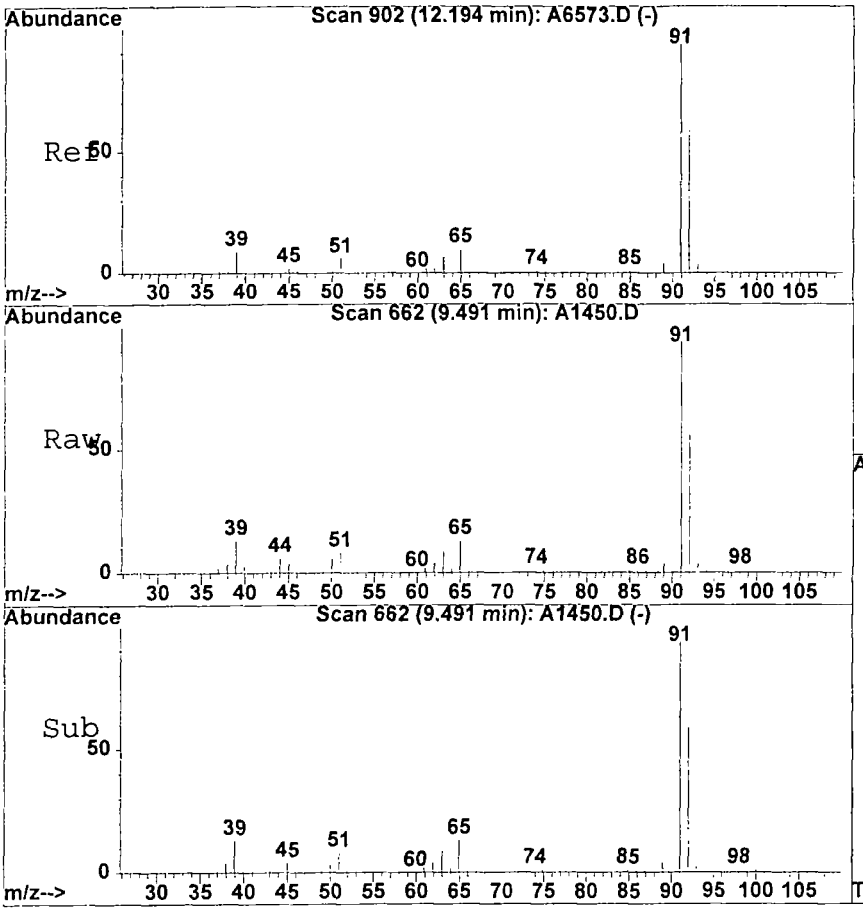


#28
Trichloroethene
Concen: 15.41 ug/l
RT: 8.03 min Scan# 532
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion:130 Resp: 80237

Ion	Ratio	Lower	Upper
130	100		
95	106.1	85.4	125.4
97	68.5	48.2	88.2

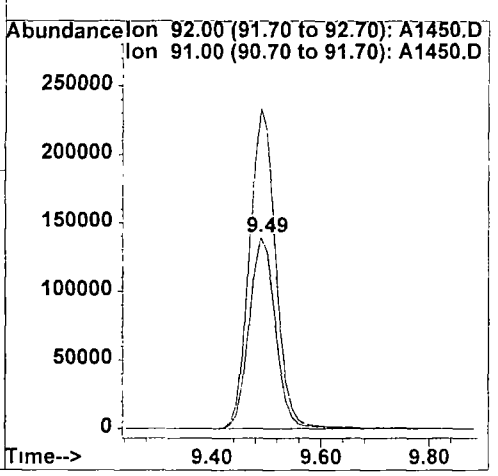


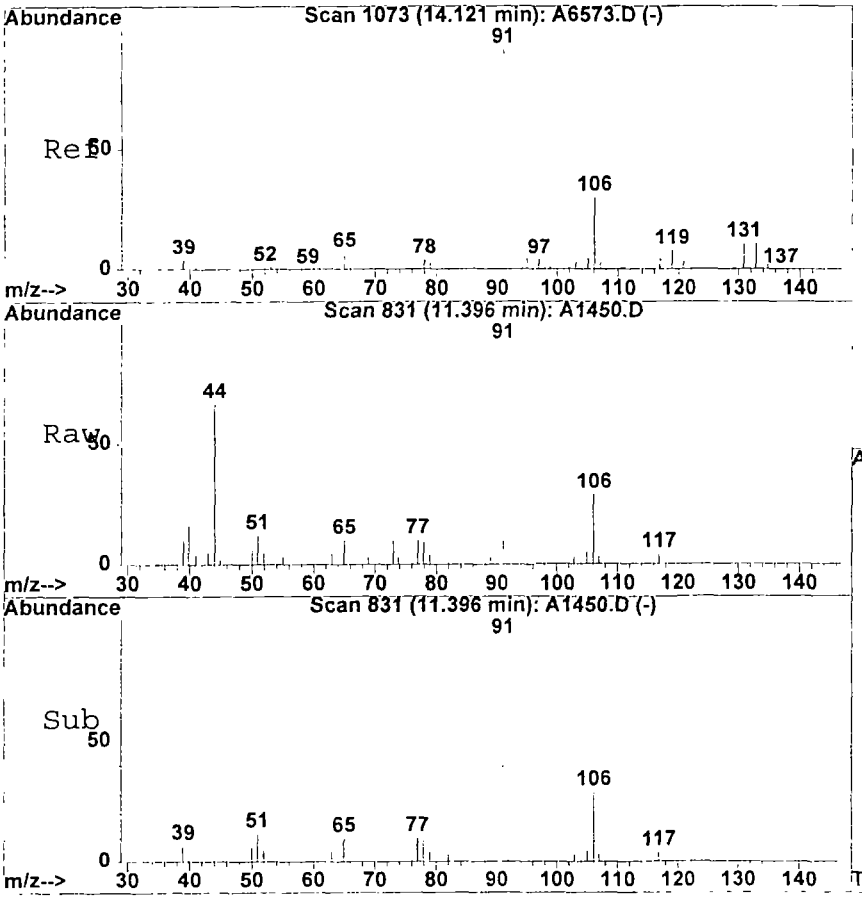


#35
Toluene
Concen: 37.70 ug/l
RT: 9.49 min Scan# 662
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 92 Resp: 461152

Ion	Ratio	Lower	Upper
92	100		
91	169.1	145.9	185.9

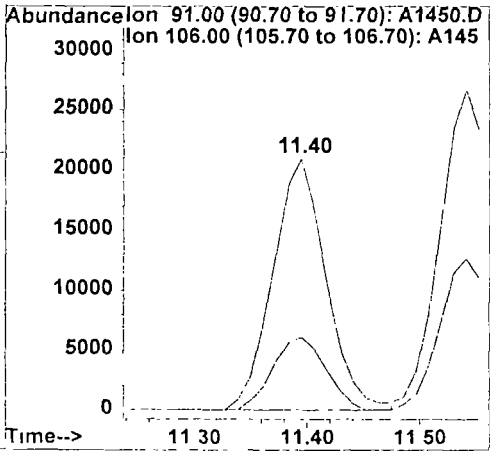


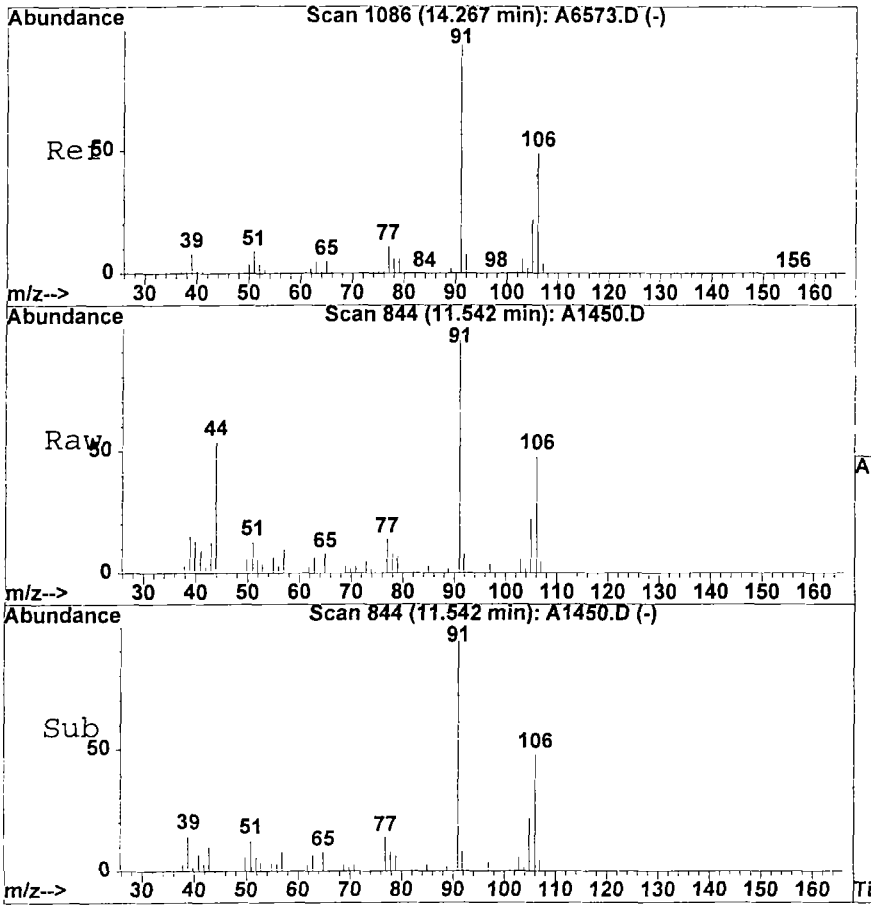


#44
Ethylbenzene
Concen: 3.67 ug/l
RT: 11.40 min Scan# 831
Delta R.T. 0.01 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 91 Resp: 68107

Ion	Ratio	Lower	Upper
91	100		
106	29.0	7.9	47.9

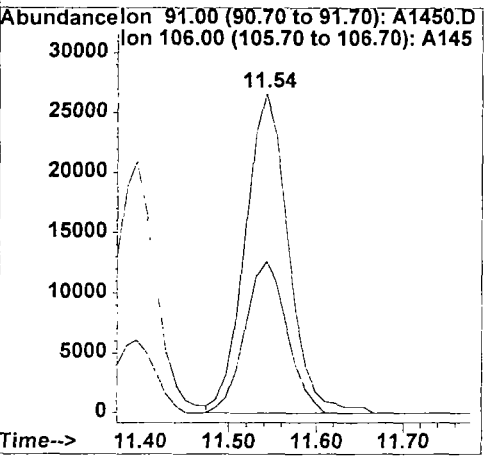


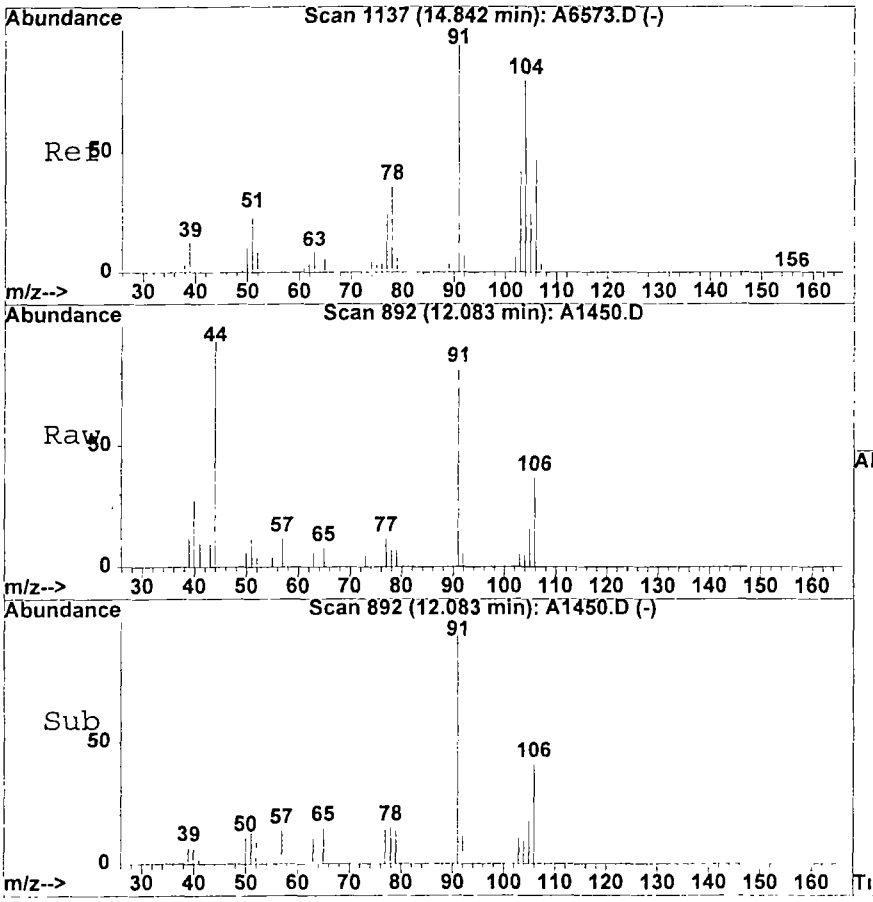


#45
m&p-Xylenes
Concen: 6.08 ug/l
RT: 11.54 min Scan# 844
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 91 Resp: 91001

Ion	Ratio	Lower	Upper
91	100		
106	46.2	24.6	64.6

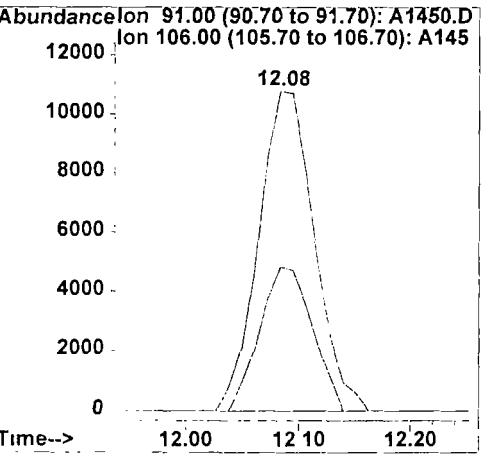




#46
o-Xylene
Concen: 2.47 ug/l
RT: 12.08 min Scan# 892
Delta R.T. -0.00 min
Lab File: A1450.D
Acq: 18 Dec 1998 2:26 pm

Tgt Ion: 91 Resp: 36674

Ion	Ratio	Lower	Upper
91	100		
106	42.4	21.9	61.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1451.D Vial: 5
Acq On : 18 Dec 1998 3:00 pm Operator:
Sample : 813554 7 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:35 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

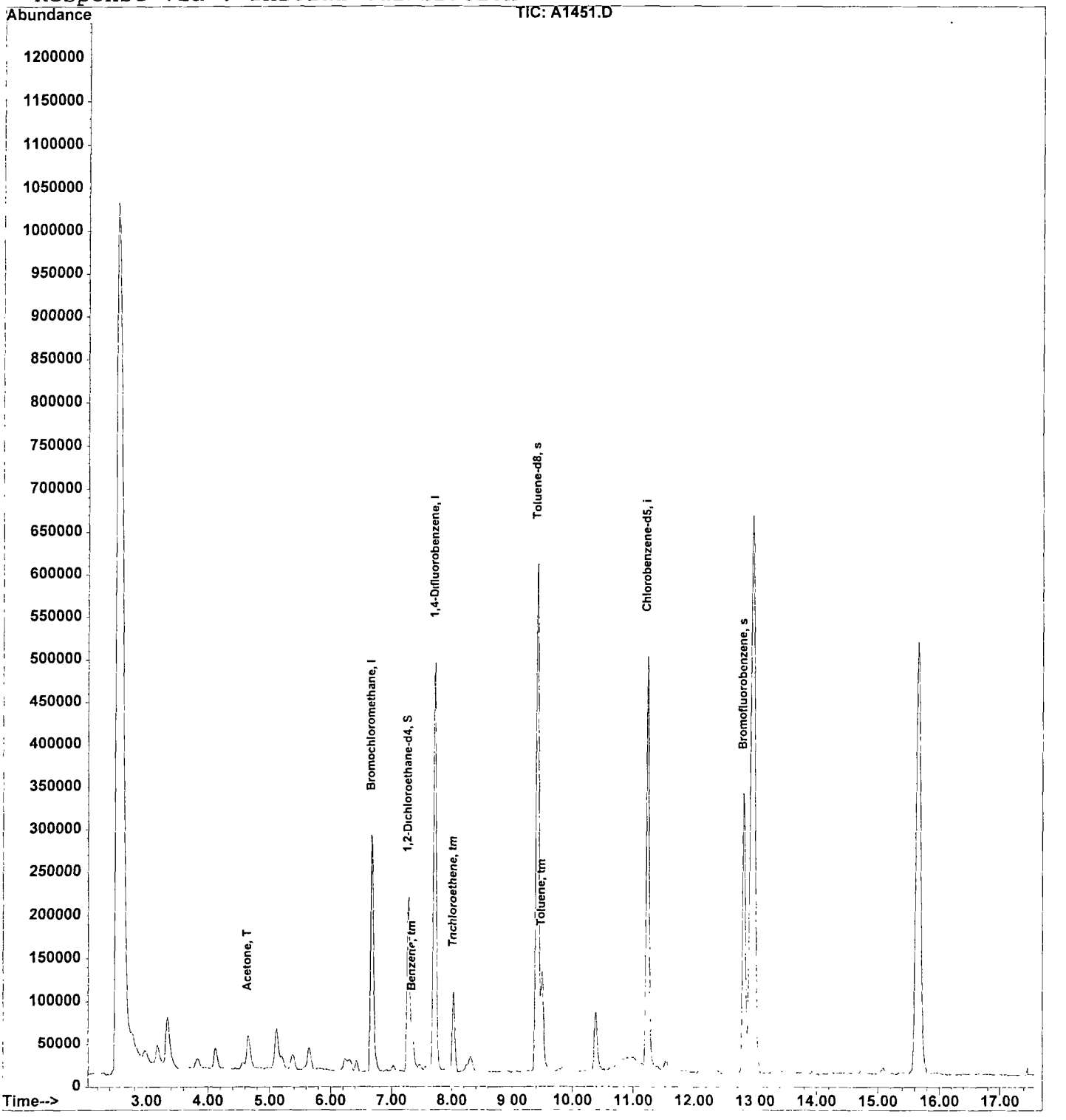
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	121785	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	684928	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.24	117	495214	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	248188	42.68 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 85.36%		
34) Toluene-d8	9.42	98	736103	49.06 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.12%		
50) Bromofluorobenzene	12.82	95	255691	48.32 ug/l	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 96.64%		
Target Compounds					Qvalue
10) Acetone	4.66	58	30736	51.20 ug/l #	87
26) Benzene	7.35	78	46487	1.40 ug/l	100
28) Trichloroethene	8.04	130	54277	8.03 ug/l	99
35) Toluene	9.50	92	84009	5.29 ug/l	96

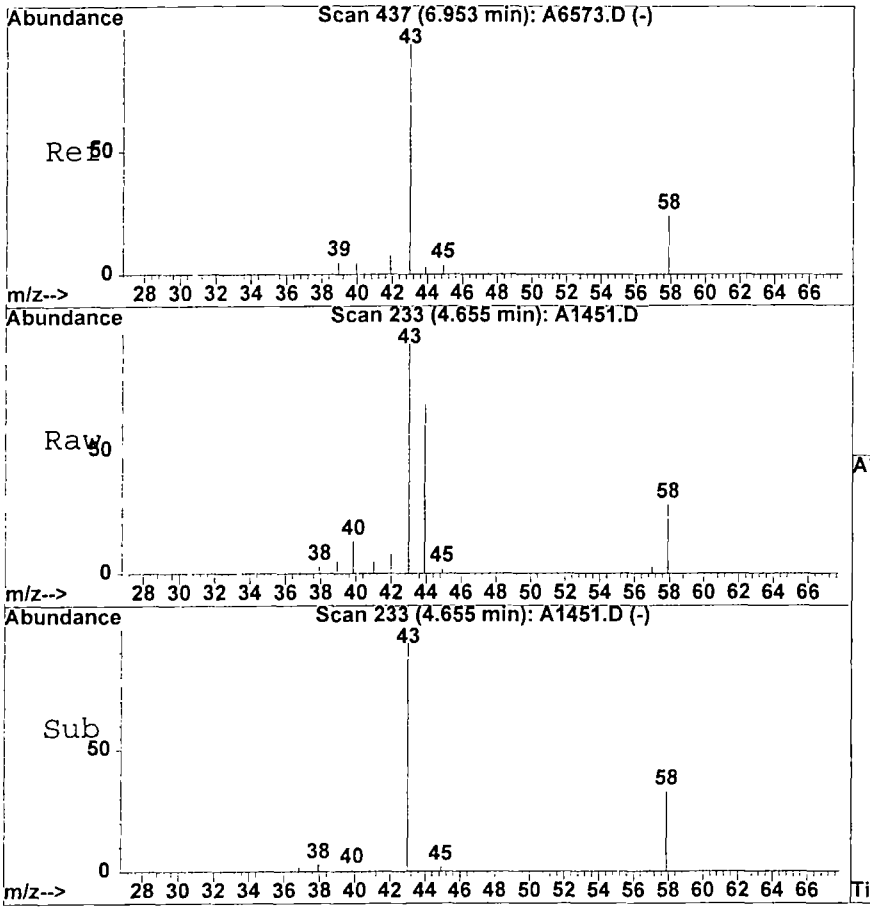
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1451.D Vial: 5
Acq On : 18 Dec 1998 3:00 pm Operator:
Sample : 813554 7 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:35 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

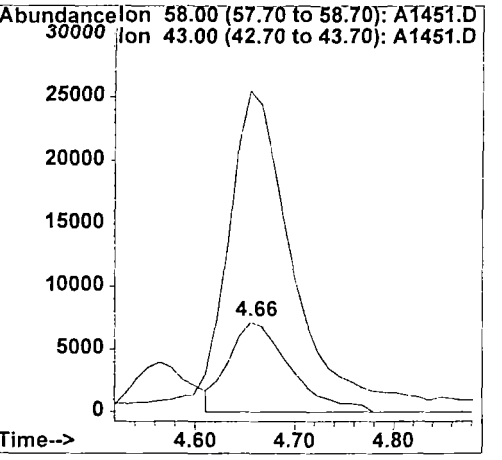


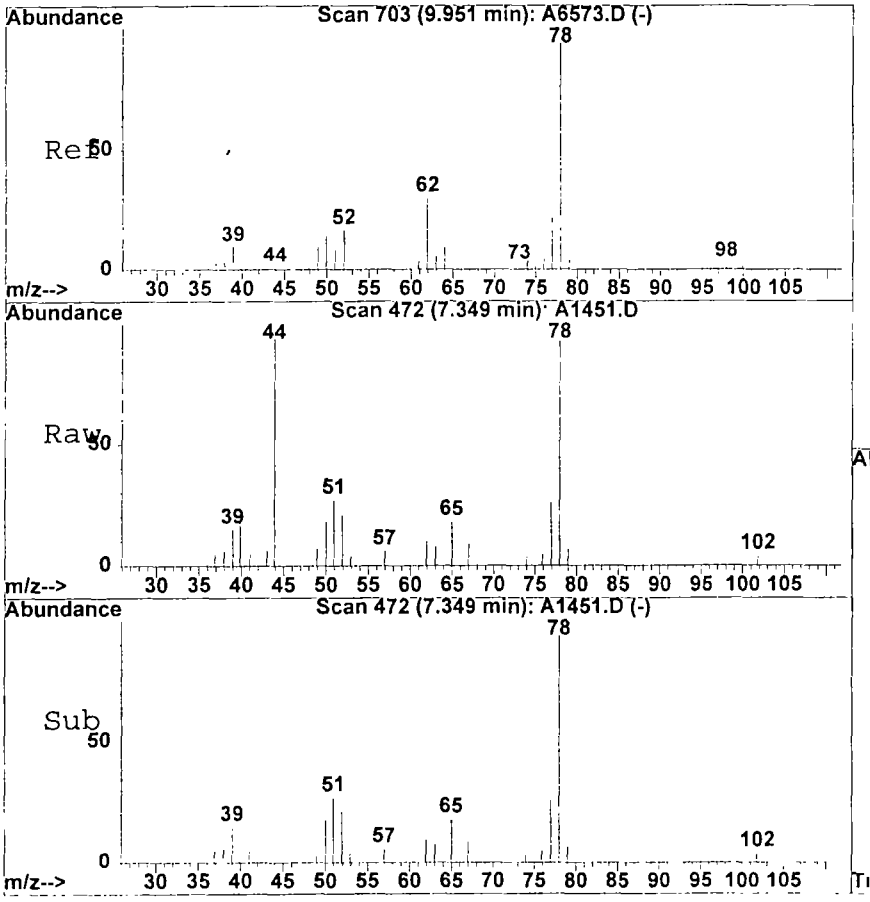


#10
Acetone
Concen: 51.20 ug/l
RT: 4.66 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1451.D
Acq: 18 Dec 1998 3:00 pm

Tgt Ion: 58 Resp: 30736

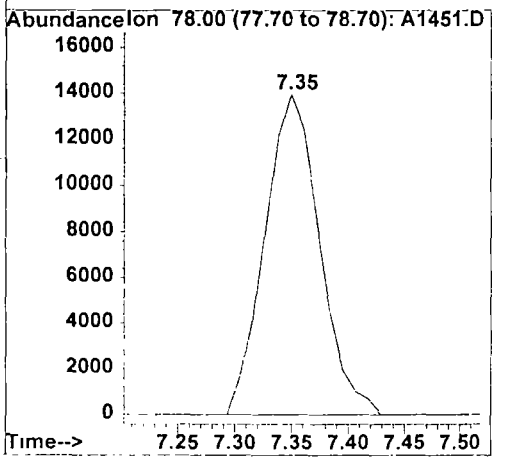
Ion	Ratio	Lower	Upper
58	100		
43	396.3	346.5	386.5#

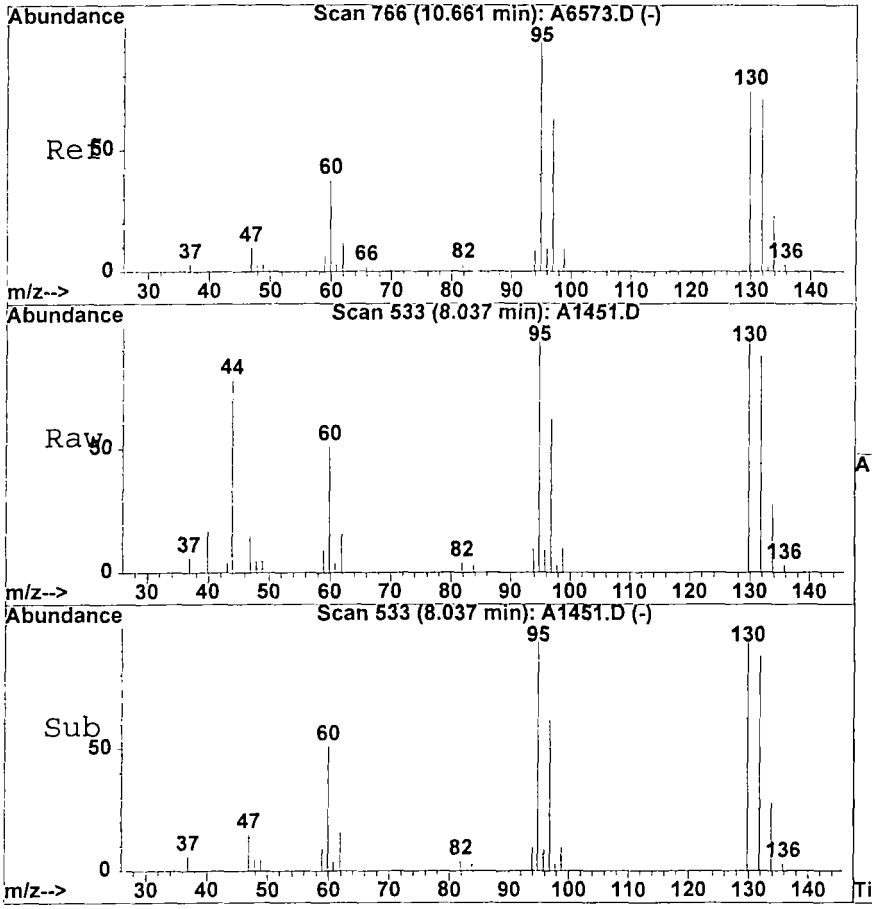




#26
Benzene
Concen: 1.40 ug/l
RT: 7.35 min Scan# 472
Delta R.T. -0.00 min
Lab File: A1451.D
Acq: 18 Dec 1998 3:00 pm

Tgt Ion: 78 Resp: 46487

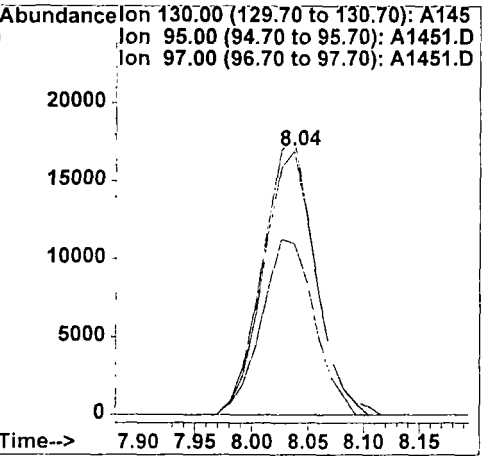


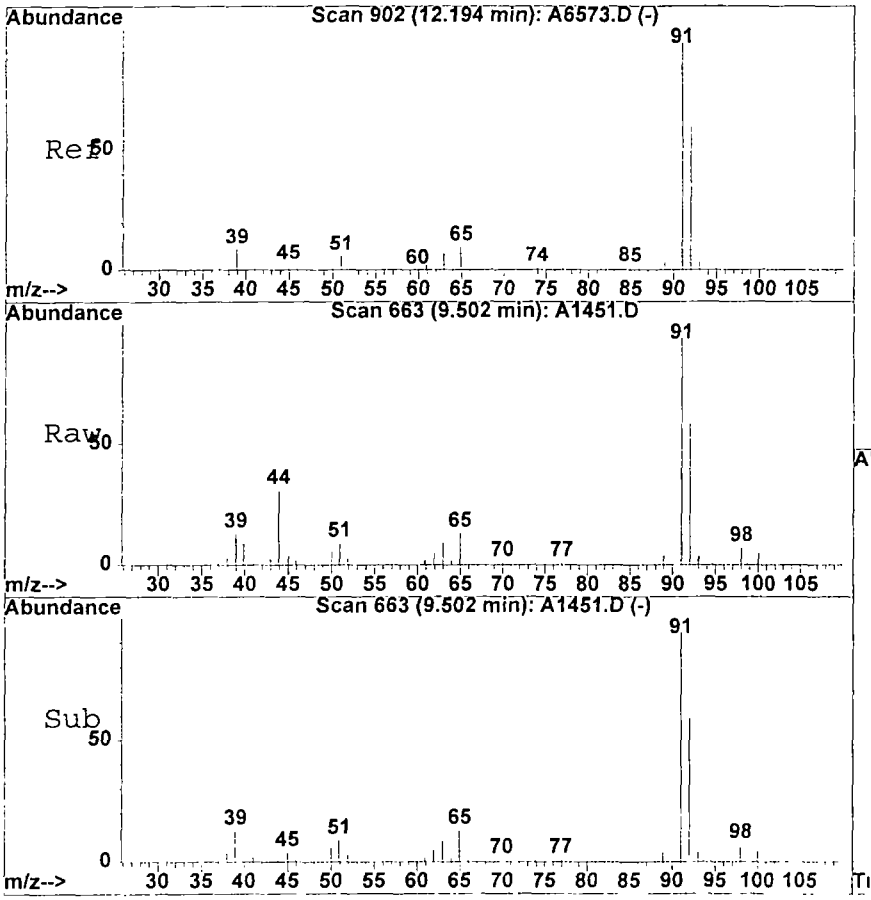


#28
Trichloroethene
Concen: 8.03 ug/l
RT: 8.04 min Scan# 533
Delta R.T. 0.01 min
Lab File: A1451.D
Acq: 18 Dec 1998 3:00 pm

Tgt Ion:130 Resp: 54277

Ion	Ratio	Lower	Upper
130	100		
95	106.5	85.4	125.4
97	68.0	48.2	88.2

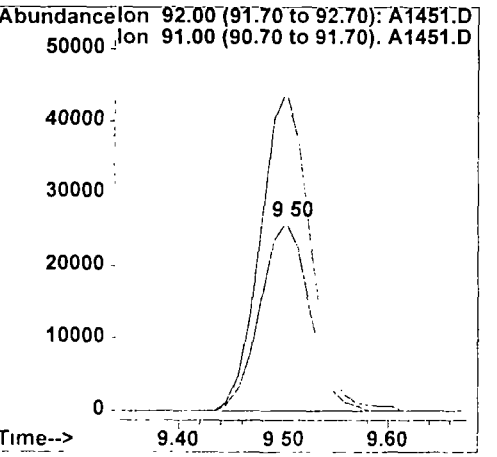




#35
Toluene
Concen: 5.29 ug/l
RT: 9.50 min Scan# 663
Delta R.T. 0.01 min
Lab File: A1451.D
Acq: 18 Dec 1998 3:00 pm

Tgt Ion: 92 Resp: 84009

Ion	Ratio	Lower	Upper
92	100		
91	171.1	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1452.D Vial: 6
Acq On : 18 Dec 1998 3:34 pm Operator:
Sample : 813554 8 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:36 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	111358	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	611412	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	387391	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	225274	42.37 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 84.74%		
34) Toluene-d8	9.42	98	623262	46.54 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 93.08%		
50) Bromofluorobenzene	12.83	95	179241	43.30 ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 86.60%		

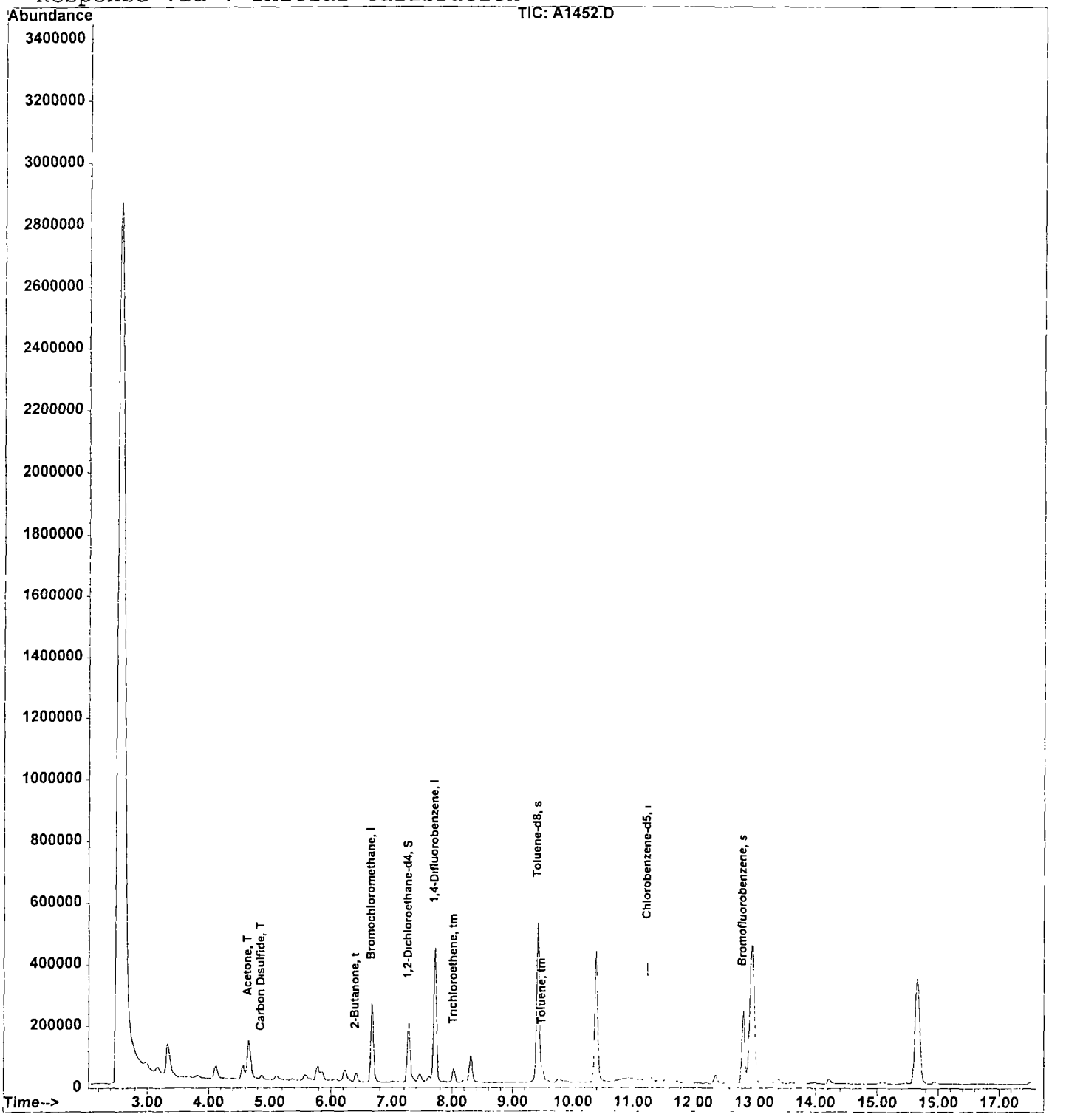
Target Compounds					Qvalue
10) Acetone	4.66	58	104840	191.01 ug/l #	90
11) Carbon Disulfide	4.87	76	31826	1.23 ug/l	95
18) 2-Butanone	6.41	72	9485	14.65 ug/l #	90
28) Trichloroethene	8.04	130	25328	4.20 ug/l	96
35) Toluene	9.50	92	26539	1.87 ug/l	93

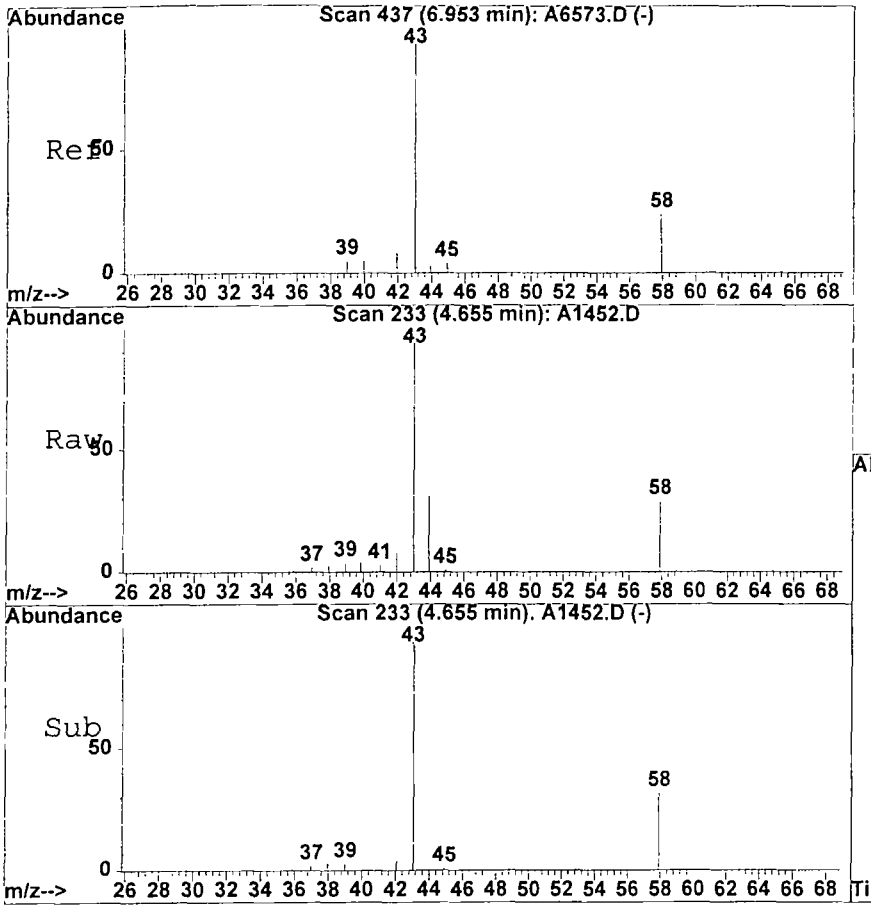
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1452.D Vial: 6
Acq On : 18 Dec 1998 3:34 pm Operator:
Sample : 813554 8 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:36 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

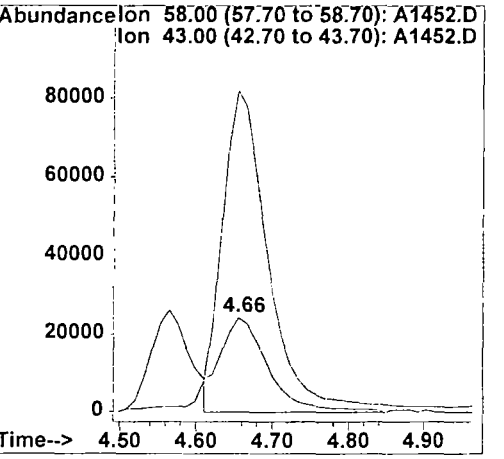


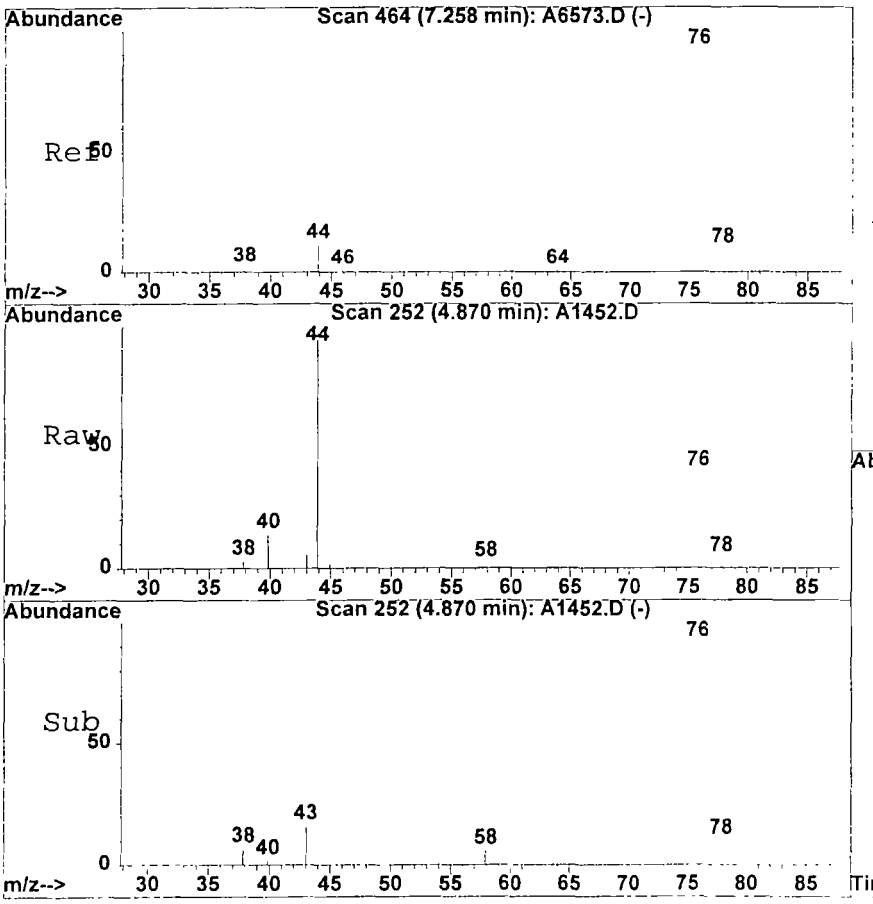


#10
Acetone
Concen: 191.01 ug/l
RT: 4.66 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1452.D
Acq: 18 Dec 1998 3:34 pm

Tgt Ion: 58 Resp: 104840

Ion	Ratio	Lower	Upper
58	100		
43	345.1	346.5	386.5#

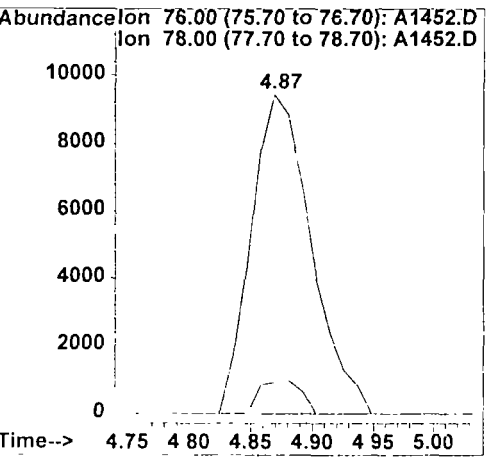


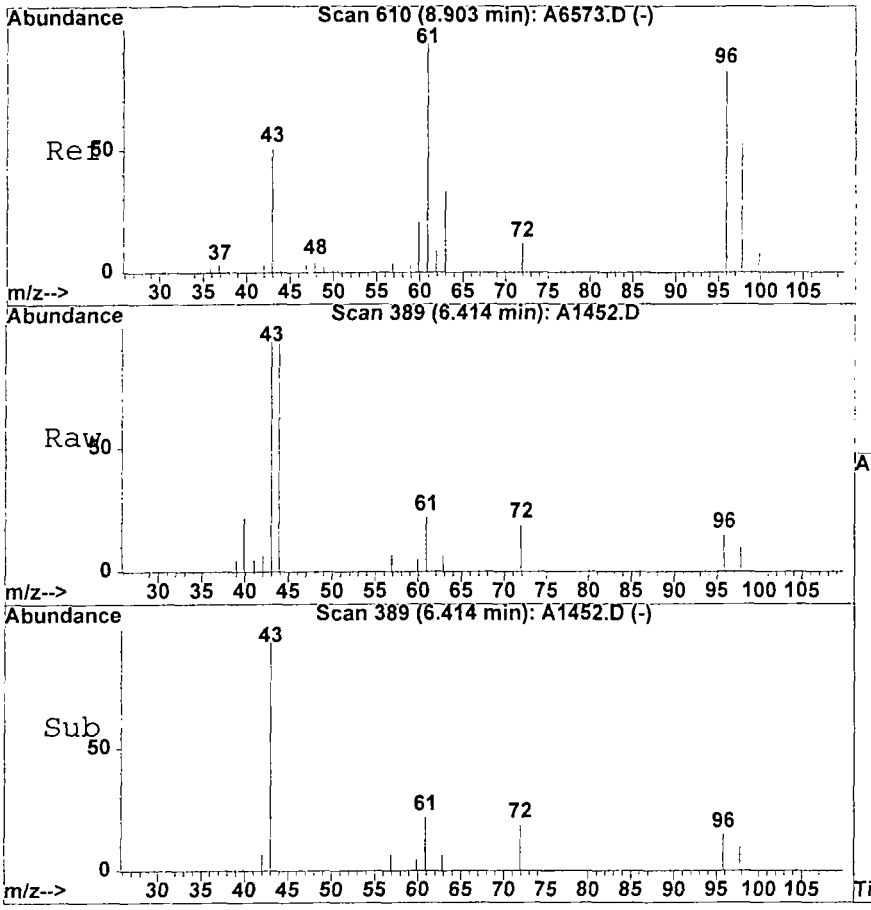


#11
Carbon Disulfide
Concen: 1.23 ug/l
RT: 4.87 min Scan# 252
Delta R.T. -0.00 min
Lab File: A1452.D
Acq: 18 Dec 1998 3:34 pm

Tgt Ion: 76 Resp: 31826

Ion	Ratio	Lower	Upper
76	100		
78	7.2	0.0	29.1

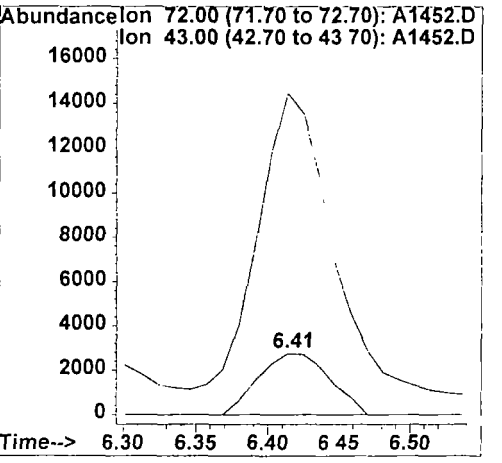


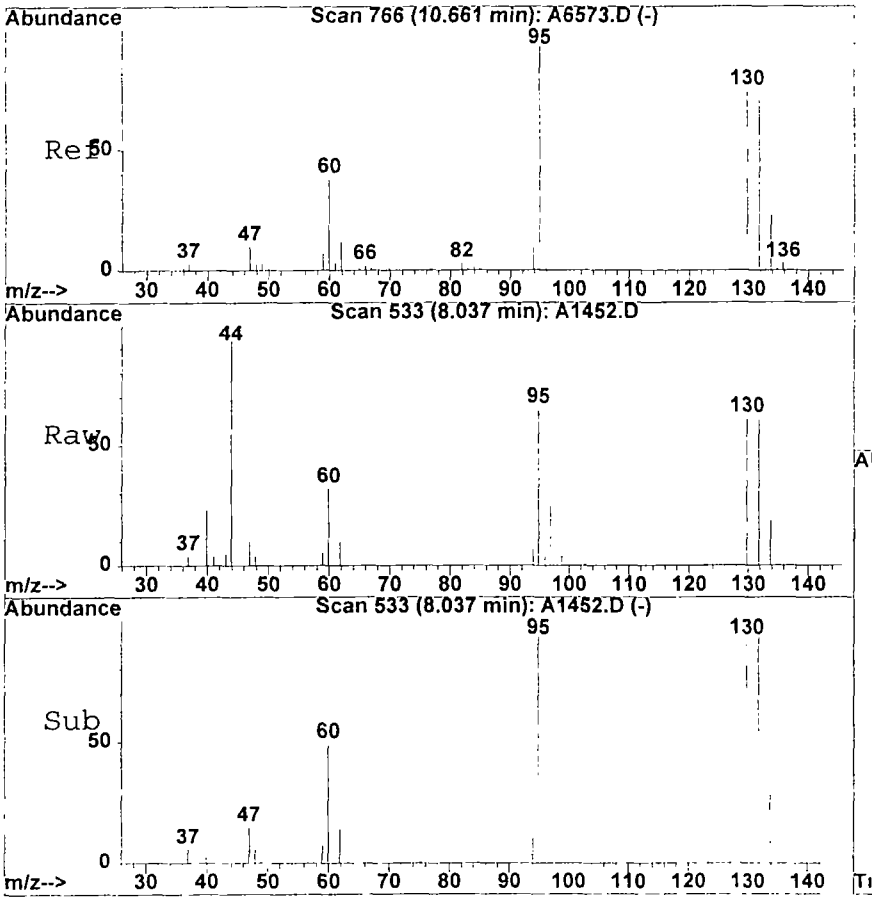


#18
2-Butanone
Concen: 14.65 ug/l
RT: 6.41 min Scan# 389
Delta R.T. -0.00 min
Lab File: A1452.D
Acq: 18 Dec 1998 3:34 pm

Tgt Ion: 72 Resp: 9485

Ion	Ratio	Lower	Upper
72	100		
43	529.9	482.5	522.5#

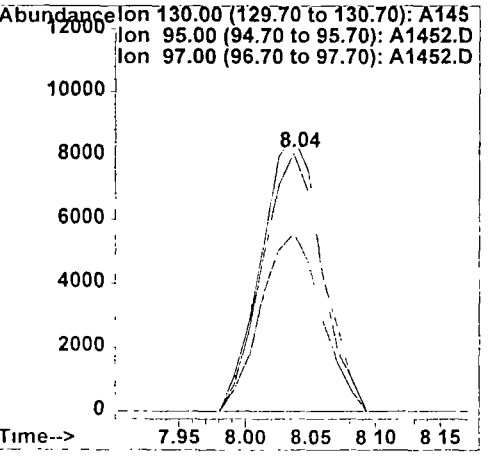


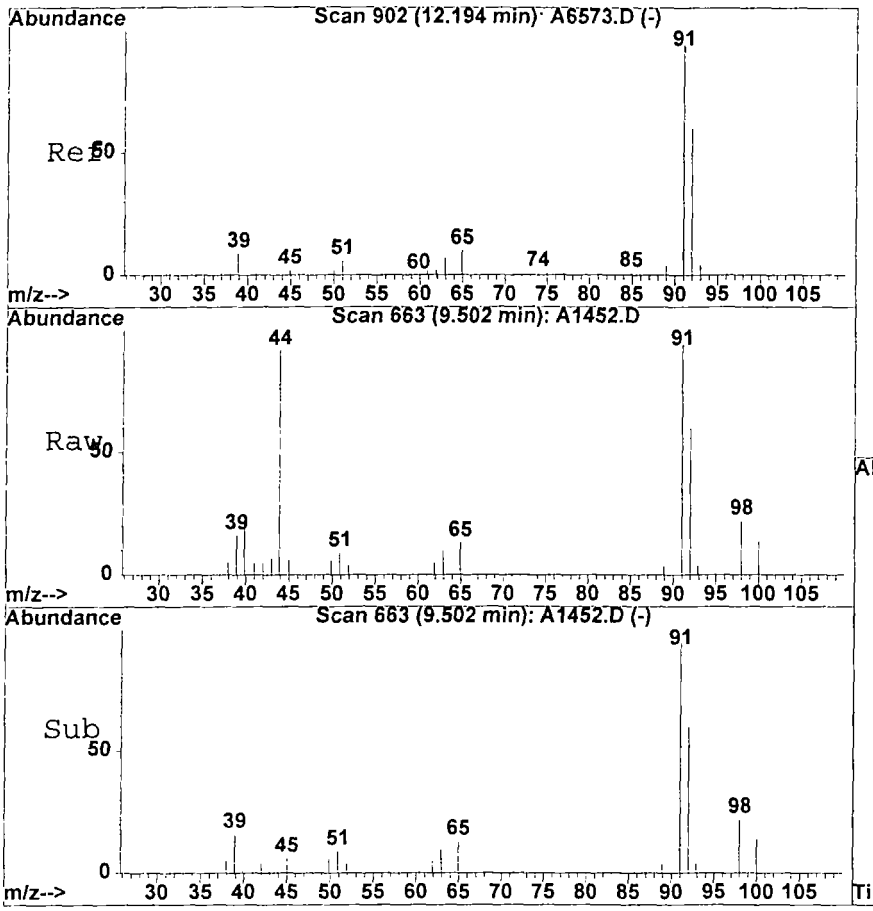


#28
Trichloroethene
Concen: 4.20 ug/l
RT: 8.04 min Scan# 533
Delta R.T. 0.01 min
Lab File: A1452.D
Acq: 18 Dec 1998 3:34 pm

Tgt Ion:130 Resp: 25328

Ion	Ratio	Lower	Upper
130	100		
95	109.6	85.4	125.4
97	70.7	48.2	88.2

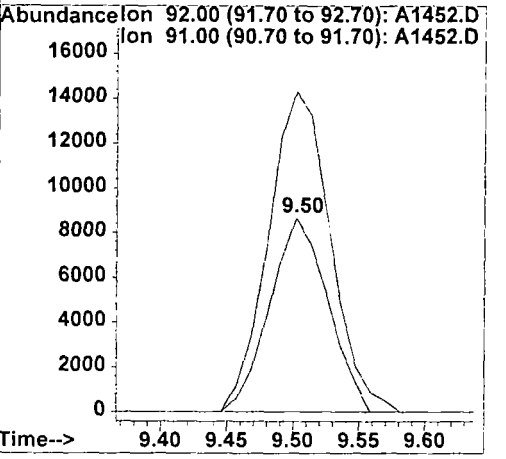




#35
Toluene
Concen: 1.87 ug/l
RT: 9.50 min Scan# 663
Delta R.T. 0.01 min
Lab File: A1452.D
Acq: 18 Dec 1998 3:34 pm

Tgt Ion: 92 Resp: 26539

Ion	Ratio	Lower	Upper
92	100		
91	176.0	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1453.D Vial: 7
Acq On : 18 Dec 1998 4:08 pm Operator:
Sample : 813554 9 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:37 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

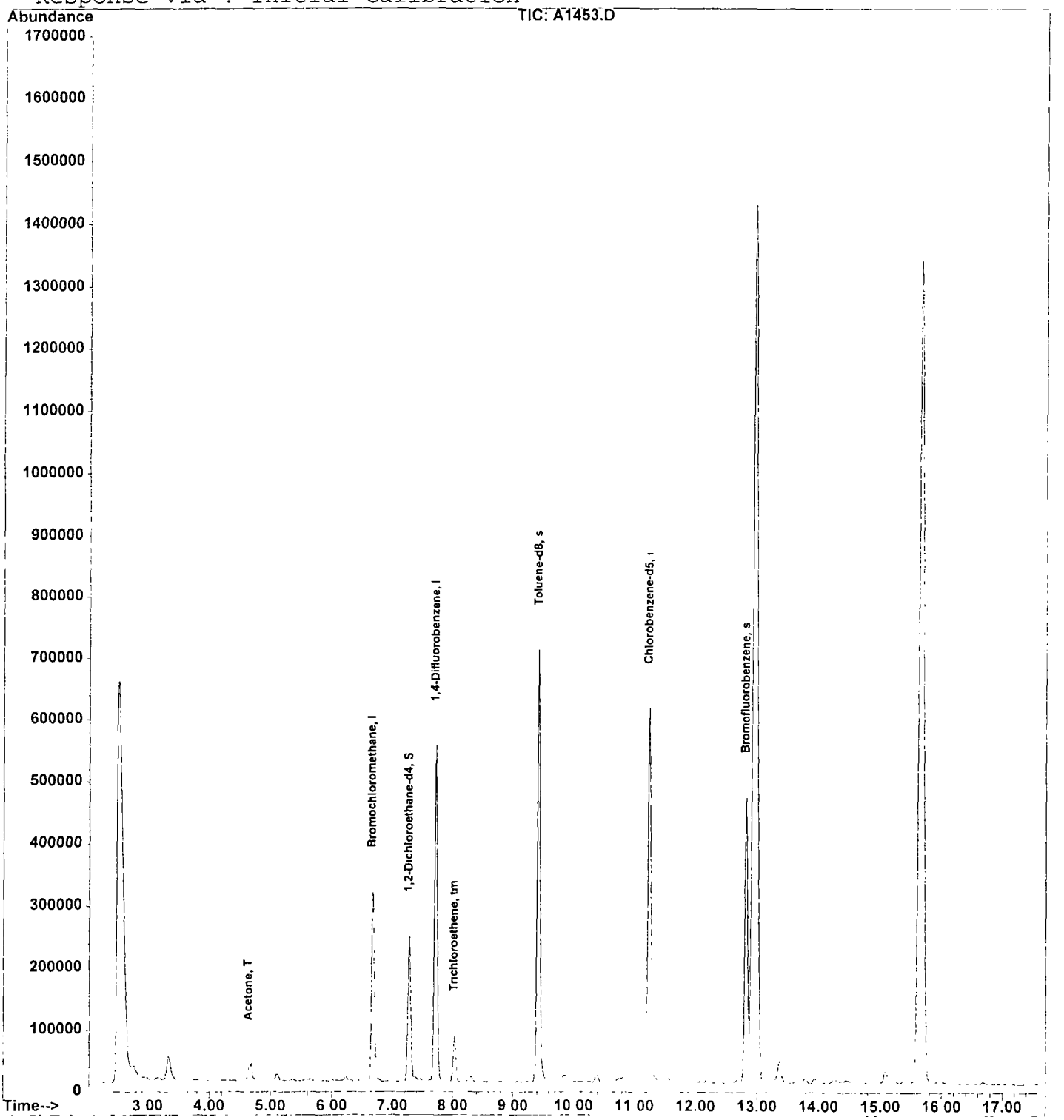
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	136148	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	765054	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	620955	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	279679	43.02 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 86.04%		
34) Toluene-d8	9.42	98	847094	50.55 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 101.10%		
50) Bromofluorobenzene	12.83	95	357849	53.93 ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 107.86%		
Target Compounds					Qvalue
10) Acetone	4.65	58	20599	30.70 ug/l #	79
28) Trichloroethene	8.04	130	43267	5.73 ug/l	98

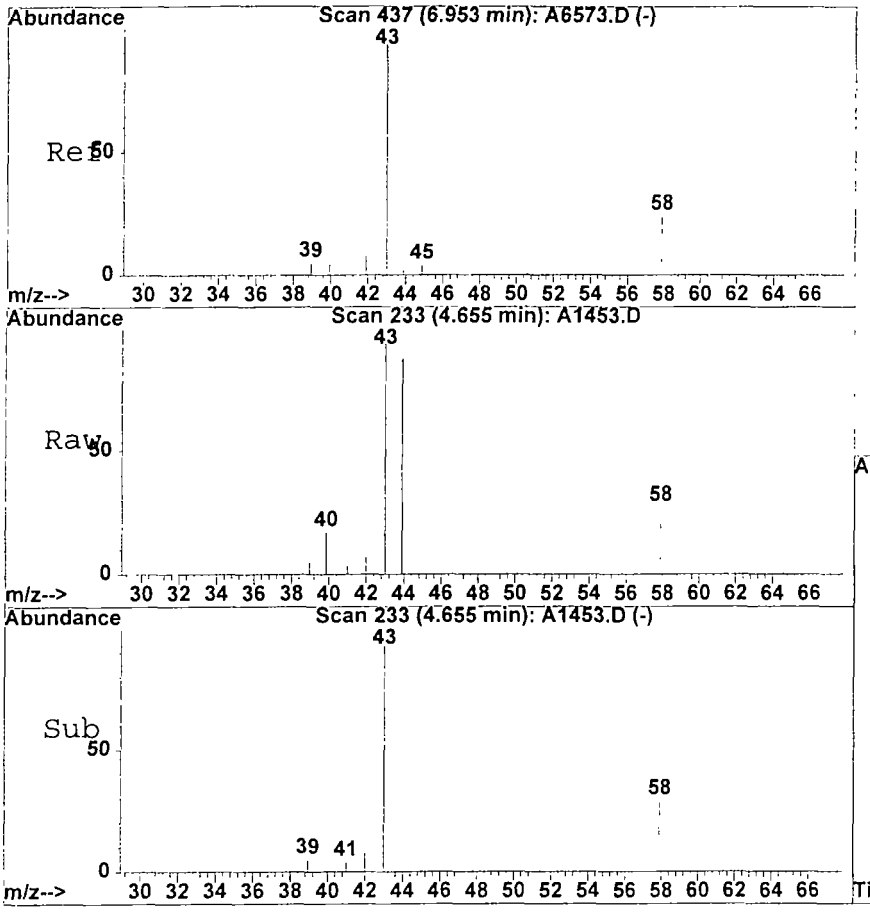
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1453.D Vial: 7
Acq On : 18 Dec 1998 4:08 pm Operator:
Sample : 813554 9 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:37 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

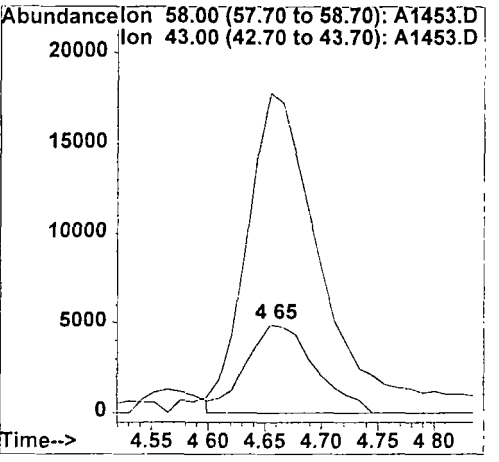


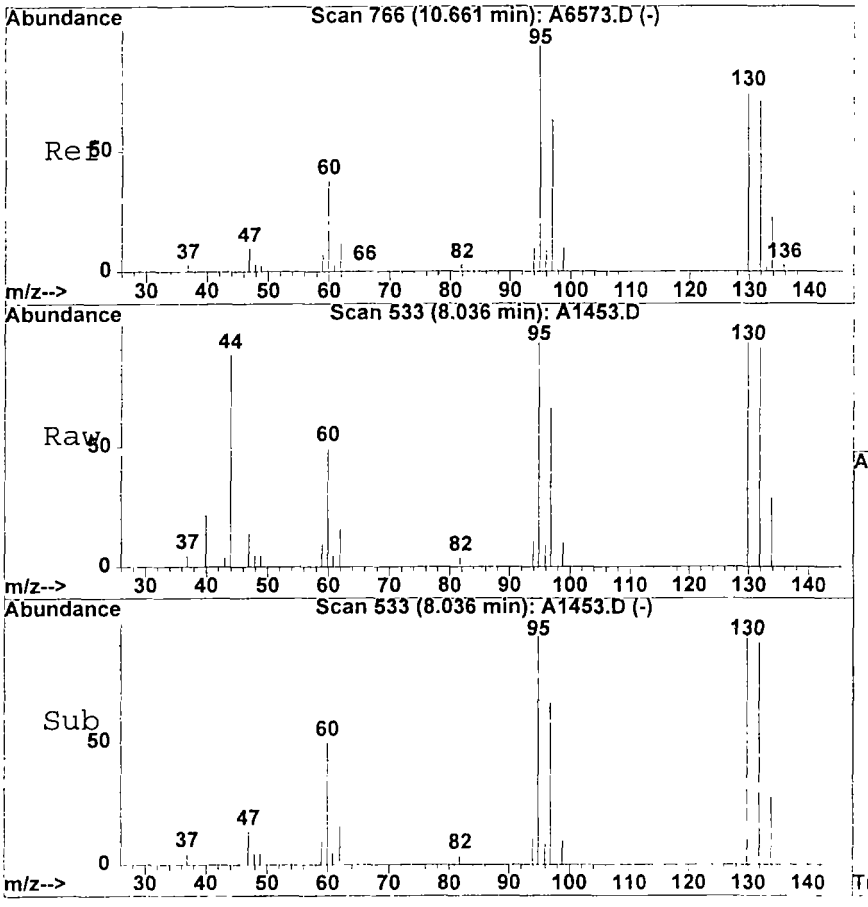


#10
Acetone
Concen: 30.70 ug/l
RT: 4.65 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1453.D
Acq: 18 Dec 1998 4:08 pm

Tgt Ion: 58 Resp: 20599

Ion	Ratio	Lower	Upper
58	100		
43	412.9	346.5	386.5#

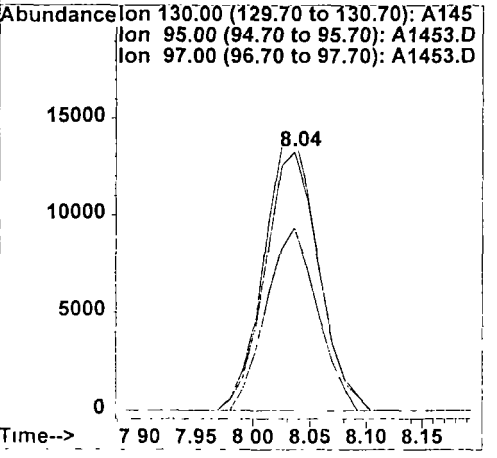




#28
Trichloroethene
Concen: 5.73 ug/l
RT: 8.04 min Scan# 533
Delta R.T. 0.01 min
Lab File: A1453.D
Acq: 18 Dec 1998 4:08 pm

Tgt Ion:130 Resp: 43267

Ion	Ratio	Lower	Upper
130	100		
95	107.3	85.4	125.4
97	67.3	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1454.D Vial: 8
Acq On : 18 Dec 1998 4:42 pm Operator:
Sample : 813554 10 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:38 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

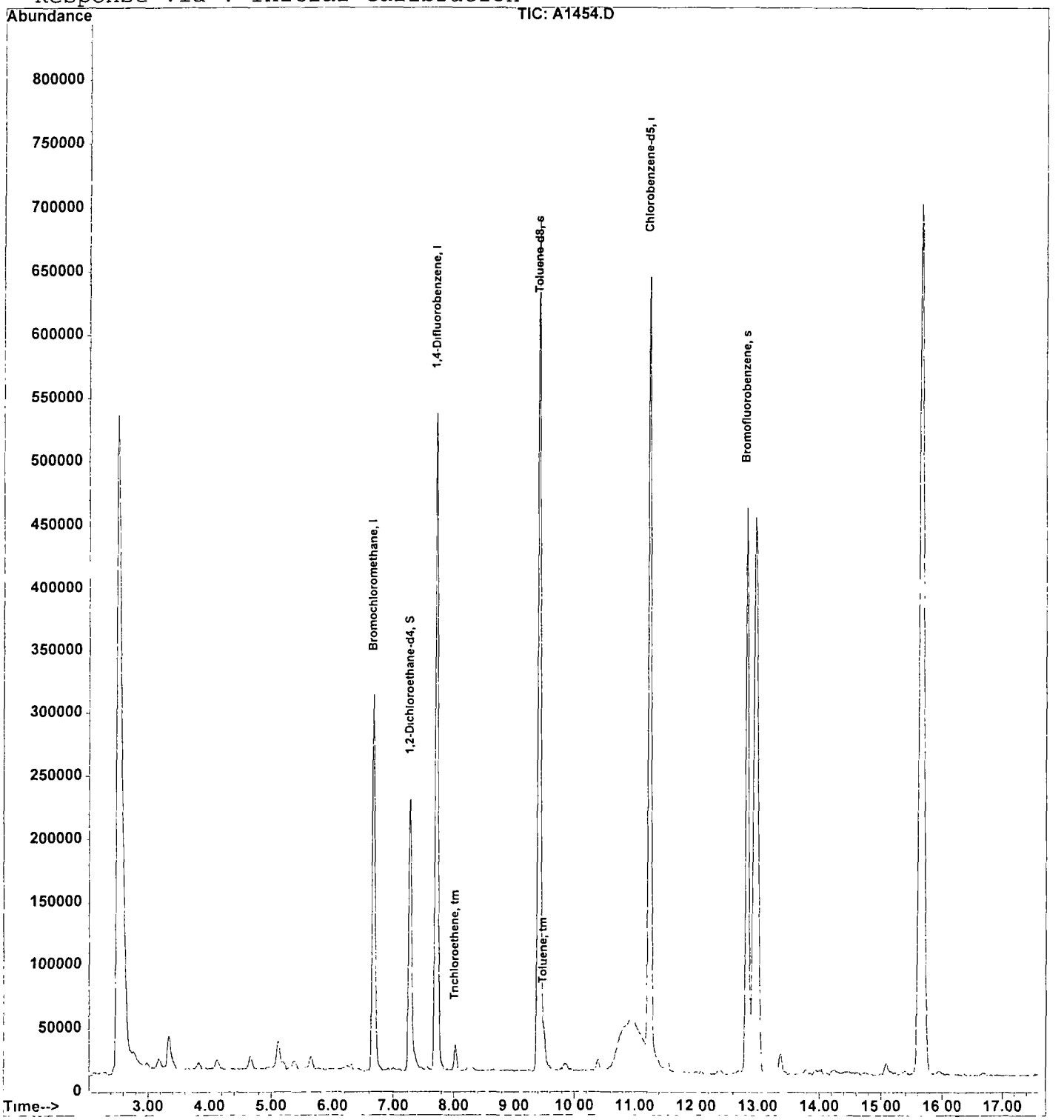
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.67	128	129883	50.00	ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	746508	50.00	ug/l	0.00
41) Chlorobenzene-d5	11.25	117	641168	50.00	ug/l	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.28	65	266846	43.03	ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 86.06%			
34) Toluene-d8	9.42	98	830107	50.77	ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 101.54%			
50) Bromofluorobenzene	12.83	95	346322	50.55	ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 101.10%			
Target Compounds						Qvalue
28) Trichloroethene	8.04	130	12962	1.76	ug/l	98
35) Toluene	9.50	92	19656	1.14	ug/l	92

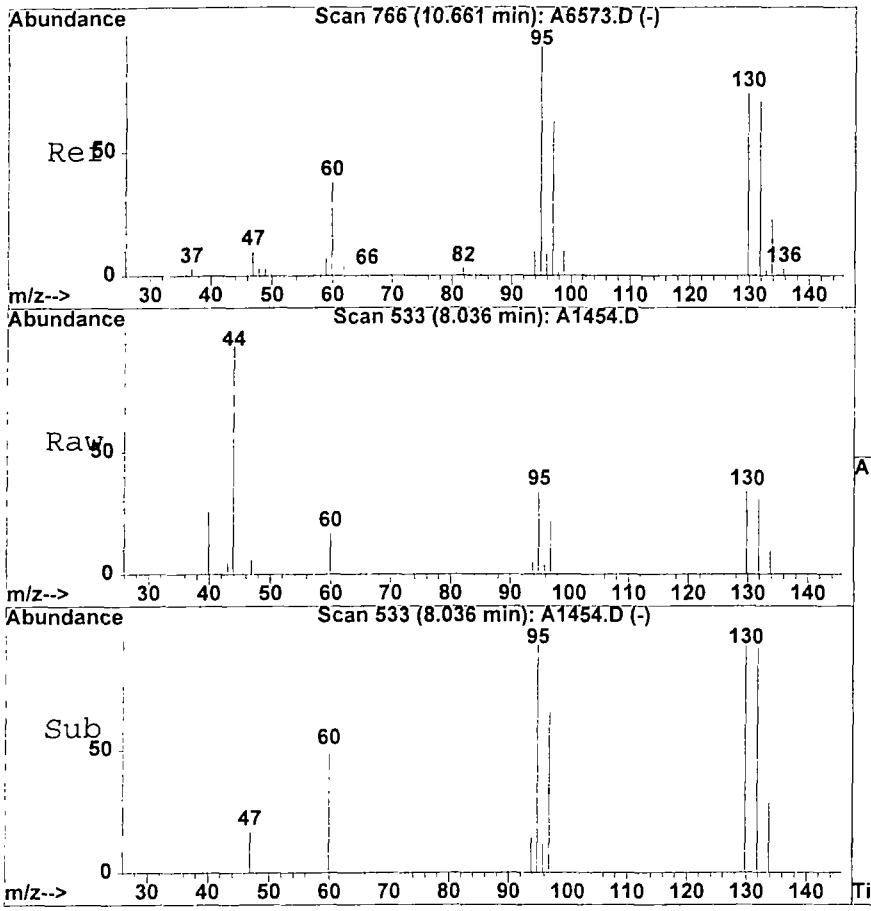
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1454.D Vial: 8
Acq On : 18 Dec 1998 4:42 pm Operator:
Sample : 813554 10 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:38 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

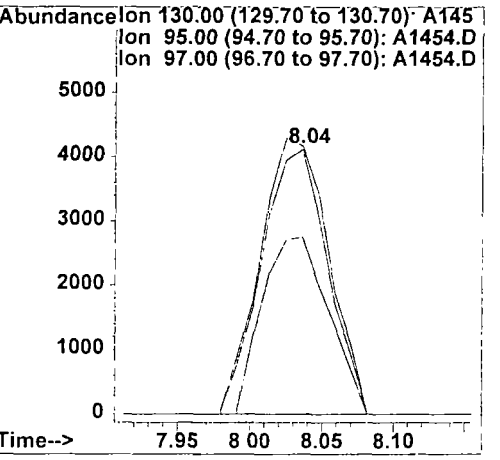


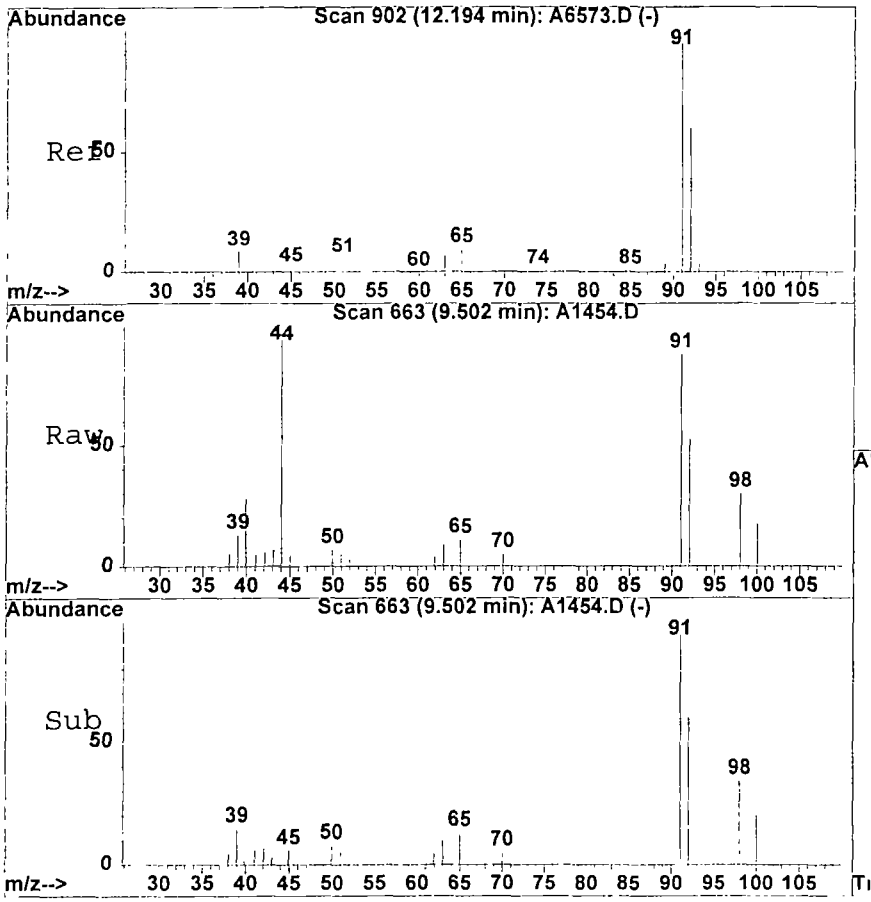


#28
Trichloroethene
Concen: 1.76 ug/l
RT: 8.04 min Scan# 533
Delta R.T. 0.01 min
Lab File: A1454.D
Acq: 18 Dec 1998 4:42 pm

Tgt Ion:130 Resp: 12962

Ion	Ratio	Lower	Upper
130	100		
95	108.1	85.4	125.4
97	66.8	48.2	88.2

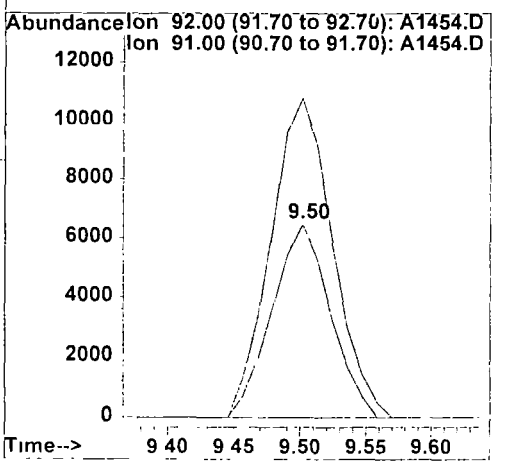




#35
Toluene
Concen: 1.14 ug/l
RT: 9.50 min Scan# 663
Delta R.T. 0.01 min
Lab File: A1454.D
Acq: 18 Dec 1998 4:42 pm

Tgt Ion: 92 Resp: 19656

Ion	Ratio	Lower	Upper
92	100		
91	176.2	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1455.D Vial: 9
Acq On : 18 Dec 1998 5:16 pm Operator:
Sample : 813554 11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:40 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

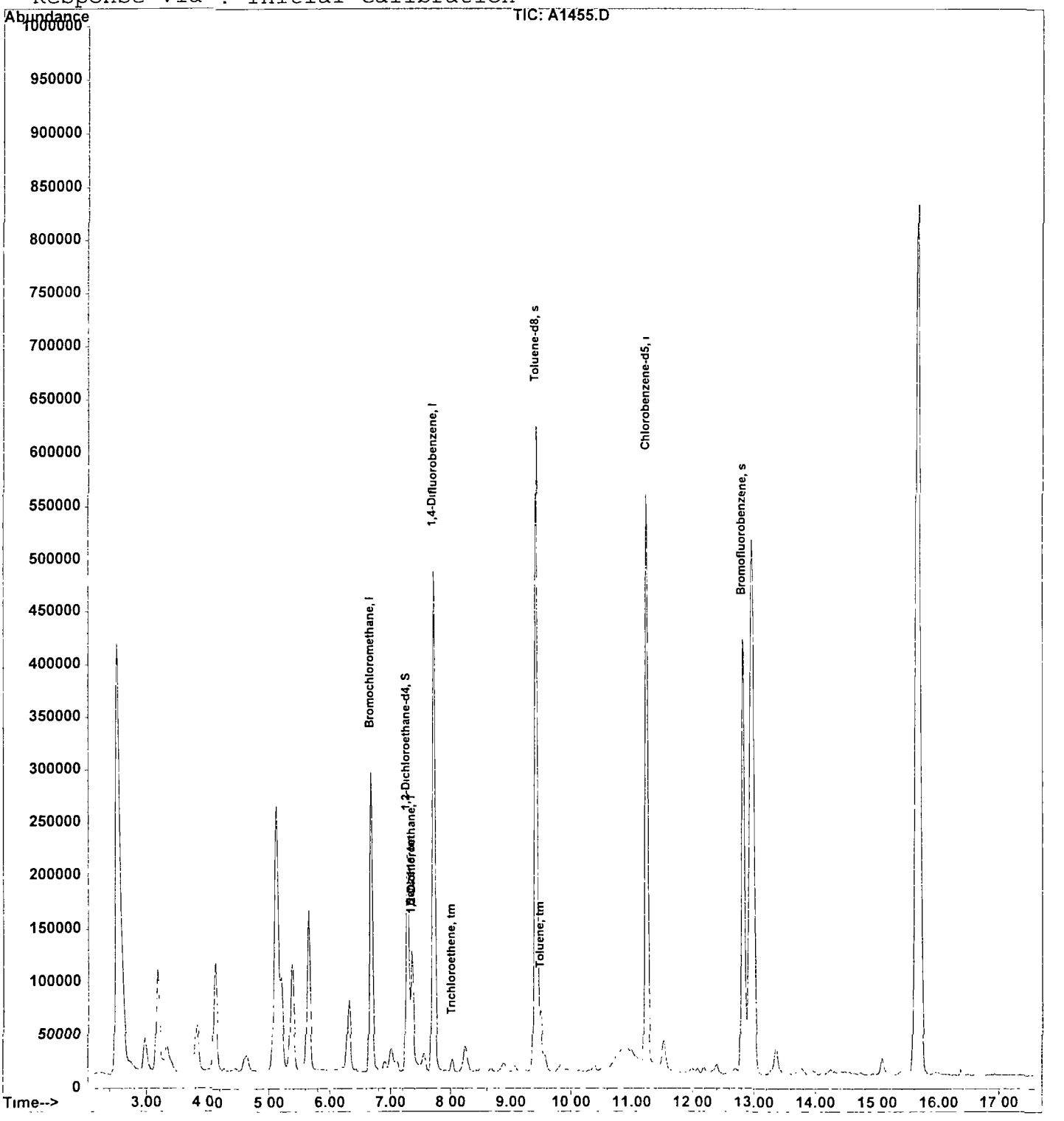
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	122838	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.71	114	670739	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.24	117	552953	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.27	65	254822	43.45 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 86.90%		
34) Toluene-d8	9.41	98	744657	50.68 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 101.36%		
50) Bromofluorobenzene	12.81	95	323862	54.81 ug/l	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 109.62%		
Target Compounds					Qvalue
22) 1,2-Dichloroethane	7.36	62	76705	7.66 ug/l	94
26) Benzene	7.35	78	72090	2.15 ug/l	100
28) Trichloroethene	8.02	130	8230	1.24 ug/l	96
35) Toluene	9.50	92	37368	2.40 ug/l	96

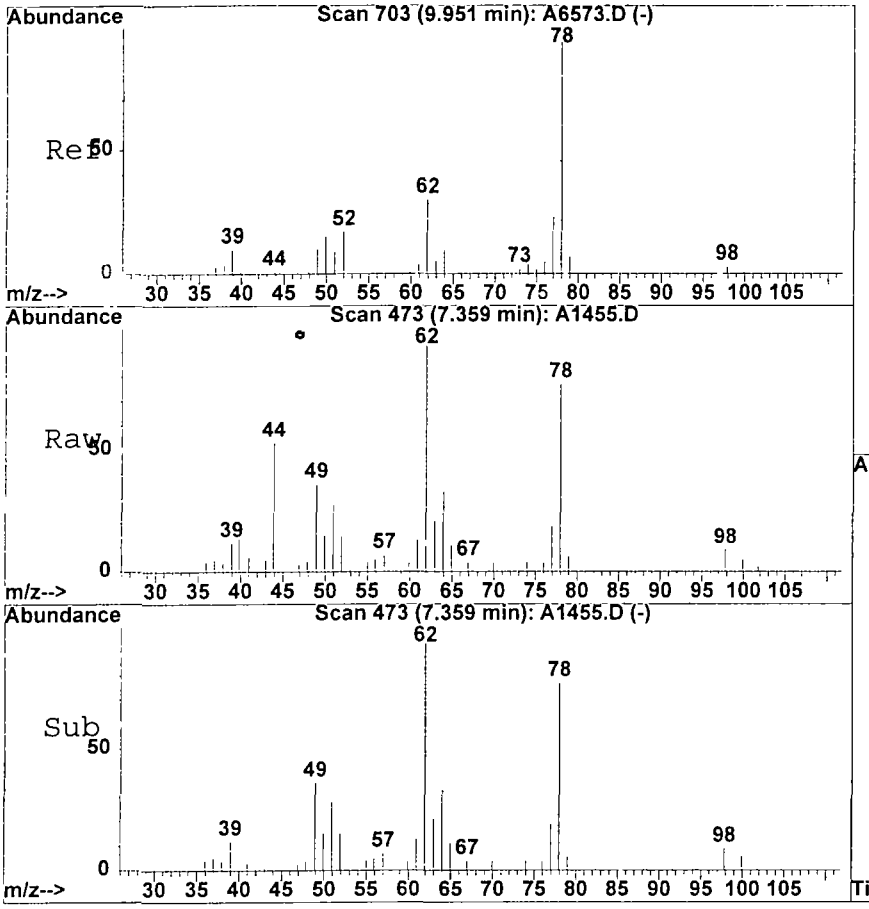
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1455.D Vial: 9
Acq On : 18 Dec 1998 5:16 pm Operator:
Sample : 813554 11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:40 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

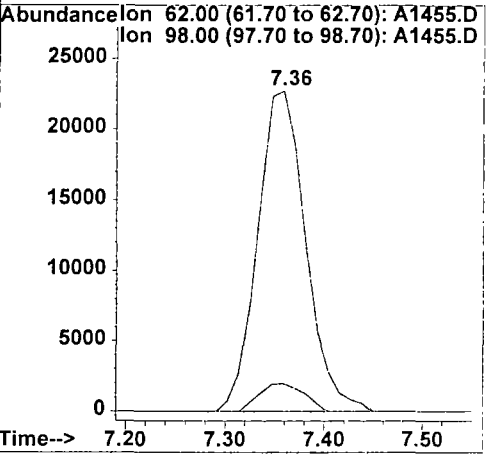


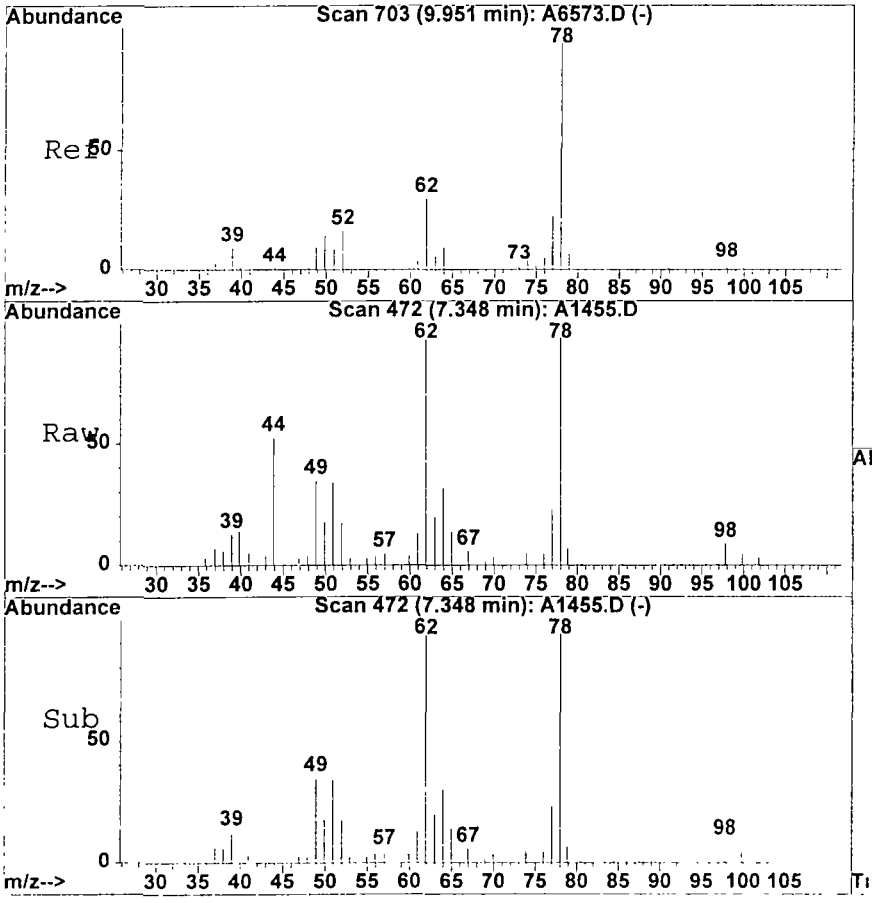


#22
1,2-Dichloroethane
Concen: 7.66 ug/l
RT: 7.36 min Scan# 473
Delta R.T. 0.01 min
Lab File: A1455.D
Acq: 18 Dec 1998 5:16 pm

Tgt Ion: 62 Resp: 76705

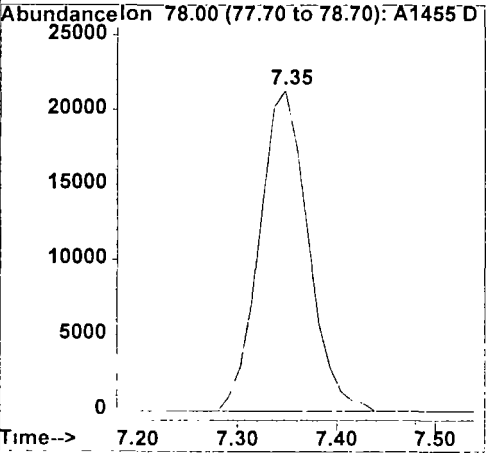
Ion	Ratio	Lower	Upper
62	100		
98	8.6	0.0	30.9

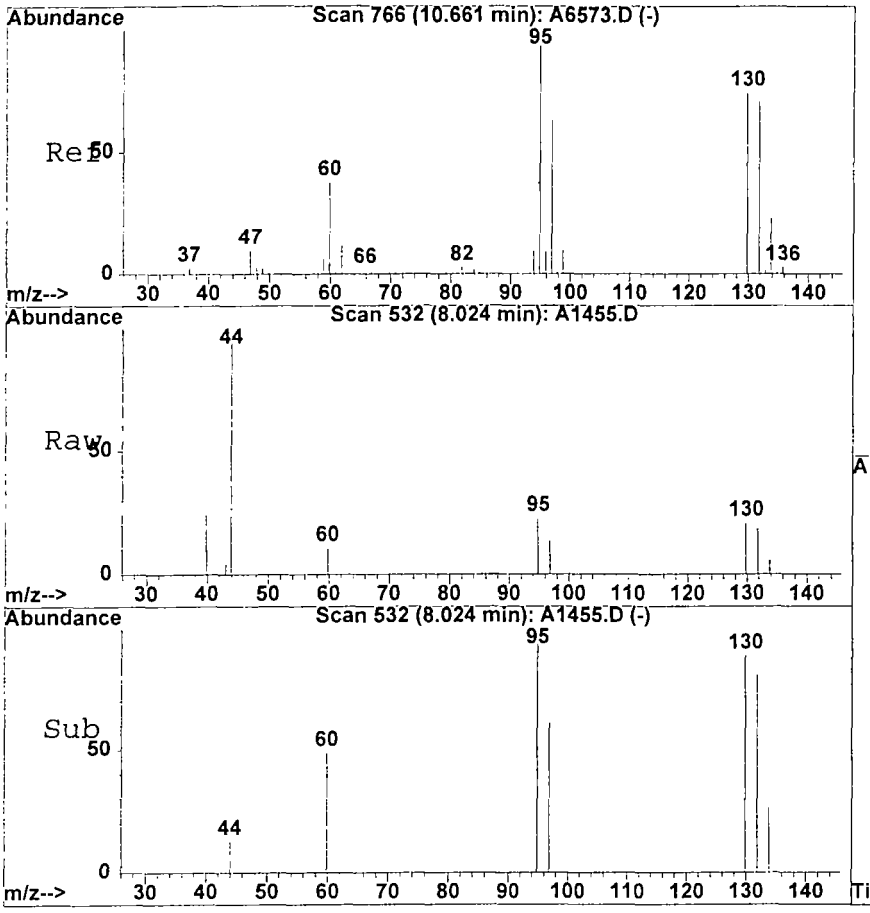




#26
Benzene
Concen: 2.15 ug/l
RT: 7.35 min Scan# 472
Delta R.T. -0.00 min
Lab File: A1455.D
Acq: 18 Dec 1998 5:16 pm

Tgt Ion: 78 Resp: 72090

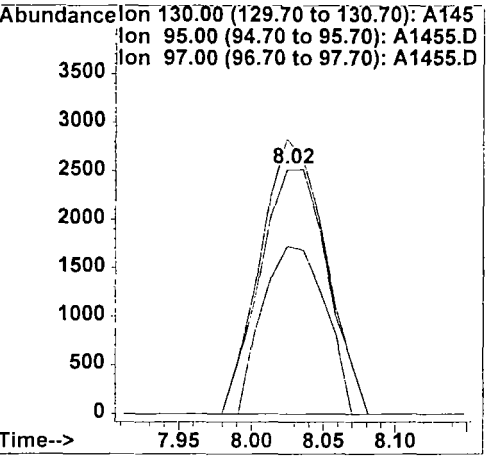


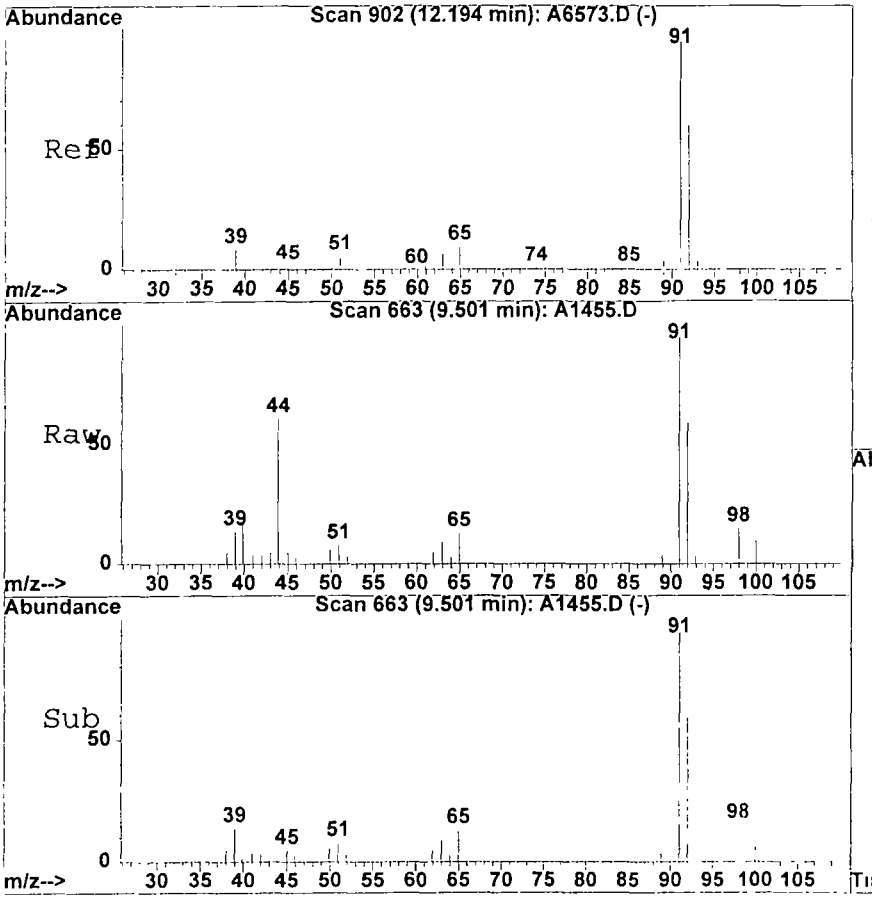


#28
Trichloroethene
Concen: 1.24 ug/l
RT: 8.02 min Scan# 532
Delta R.T. -0.00 min
Lab File: A1455.D
Acq: 18 Dec 1998 5:16 pm

Tgt Ion:130 Resp: 8230

Ion	Ratio	Lower	Upper
130	100		
95	107.9	85.4	125.4
97	63.6	48.2	88.2

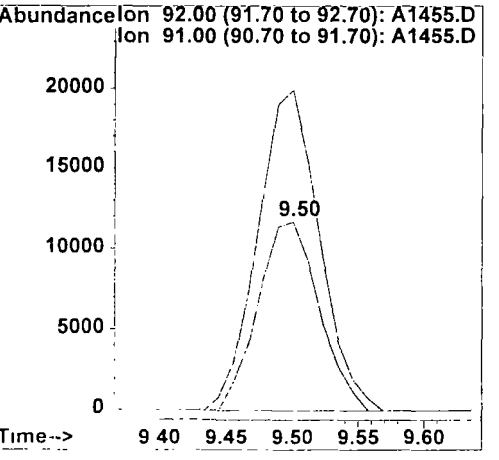




#35
Toluene
Concen: 2.40 ug/l
RT: 9.50 min Scan# 663
Delta R.T. 0.01 min
Lab File: A1455.D
Acq: 18 Dec 1998 5:16 pm

Tgt Ion: 92 Resp: 37368

Ion	Ratio	Lower	Upper
92	100		
91	171.8	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2798\A1674.D Vial: 9
Acq On : 27 Dec 1998 6:54 pm Operator:
Sample : 813554 12 Inst : GC/MS Ins
Misc : 10 Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 9:13 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.66	128	632970	50.00	ug/l	-0.04
27) 1,4-Difluorobenzene	7.70	114	4362210	50.00	ug/l	-0.04
41) Chlorobenzene-d5	11.23	117	3872352	50.00	ug/l	-0.03
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.26	65	1340827	45.08	ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 90.16%			
34) Toluene-d8	9.40	98	4330101	45.71	ug/l	-0.04
Spiked Amount 50.000	Range 81 - 110		Recovery = 91.42%			
50) Bromofluorobenzene	12.82	95	1989744	52.49	ug/l	-0.02
Spiked Amount 50.000	Range 74 - 115		Recovery = 104.98%			

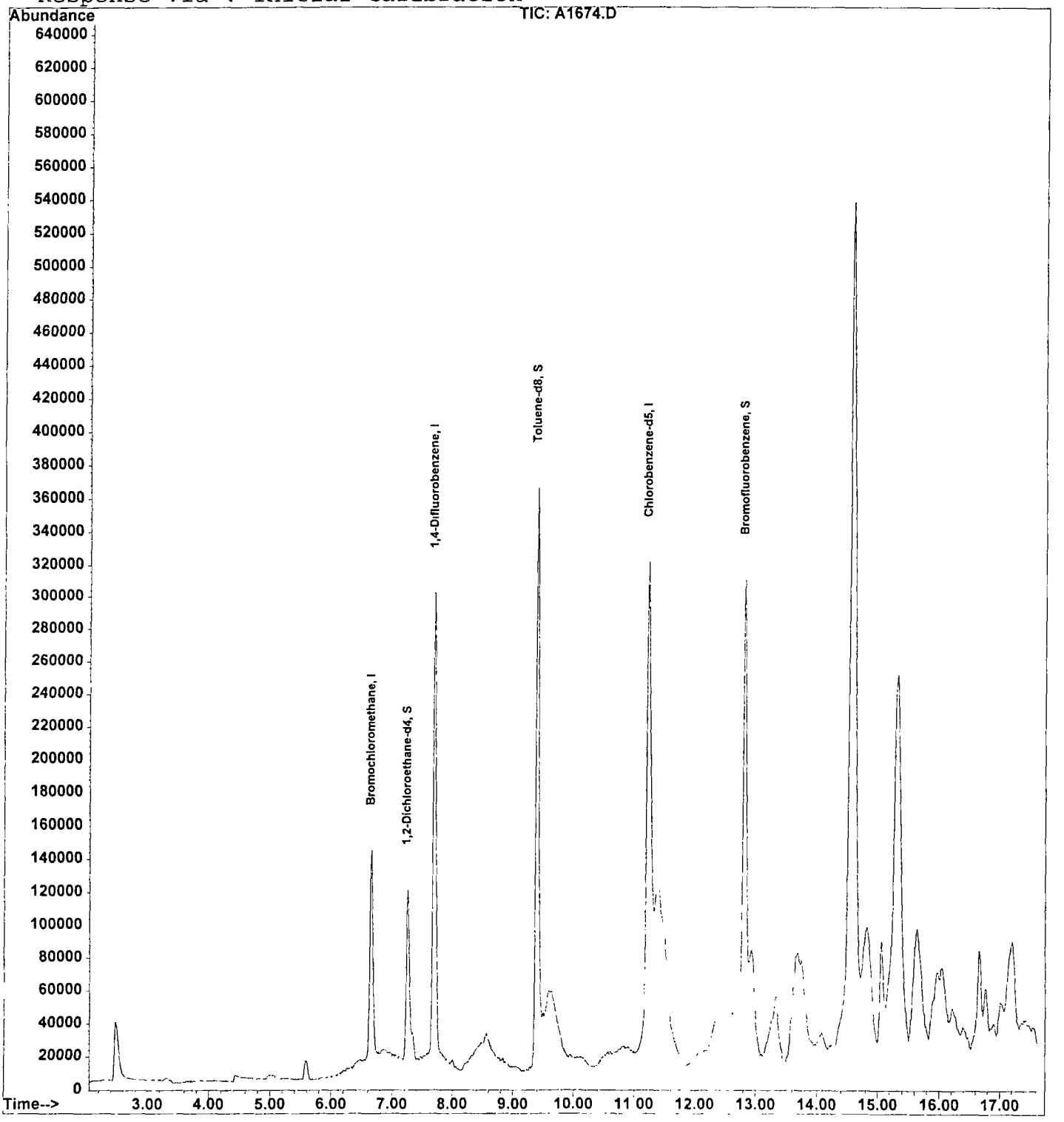
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2798\A1674.D Vial: 9
Acq On : 27 Dec 1998 6:54 pm Operator:
Sample : 813554 12 Inst : GC/MS Ins
Misc : 10 Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 28 9:13 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 27 13:26:14 1998
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1457.D Vial: 11
Acq On : 18 Dec 1998 6:24 pm Operator:
Sample : 813554 13 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:41 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

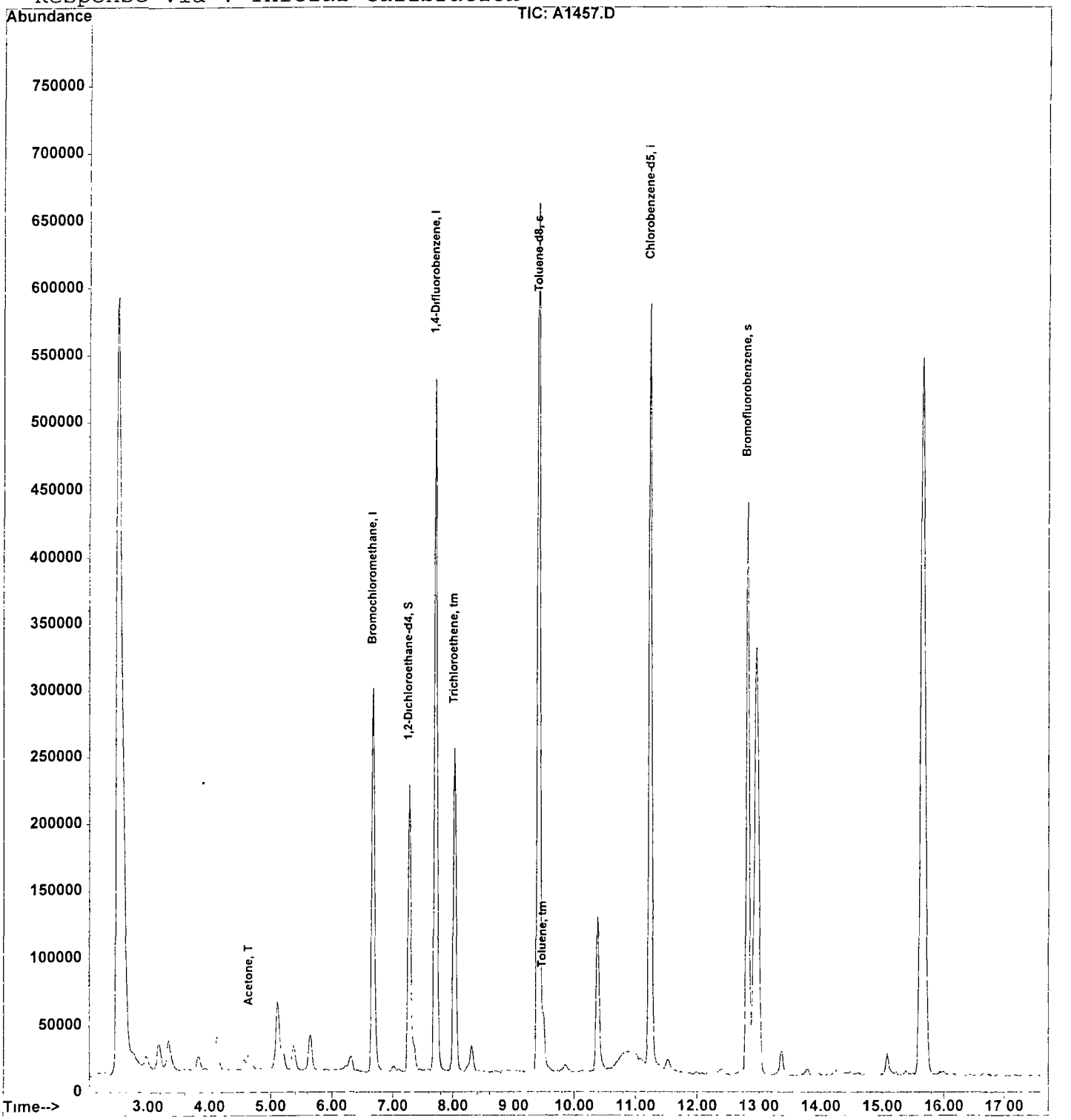
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.68	128	126209	50.00	ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	718165	50.00	ug/l	0.00
41) Chlorobenzene-d5	11.24	117	573482	50.00	ug/l	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.28	65	256549	42.57	ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 85.14%			
34) Toluene-d8	9.42	98	793119	50.42	ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.84%			
50) Bromofluorobenzene	12.82	95	323556	52.80	ug/l	0.01
Spiked Amount 50.000	Range 86 - 115		Recovery = 105.60%			
Target Compounds						Qvalue
10) Acetone	4.66	58	12197	19.61	ug/l #	85
28) Trichloroethene	8.03	130	134464	18.97	ug/l	98
35) Toluene	9.50	92	27374	1.64	ug/l	96

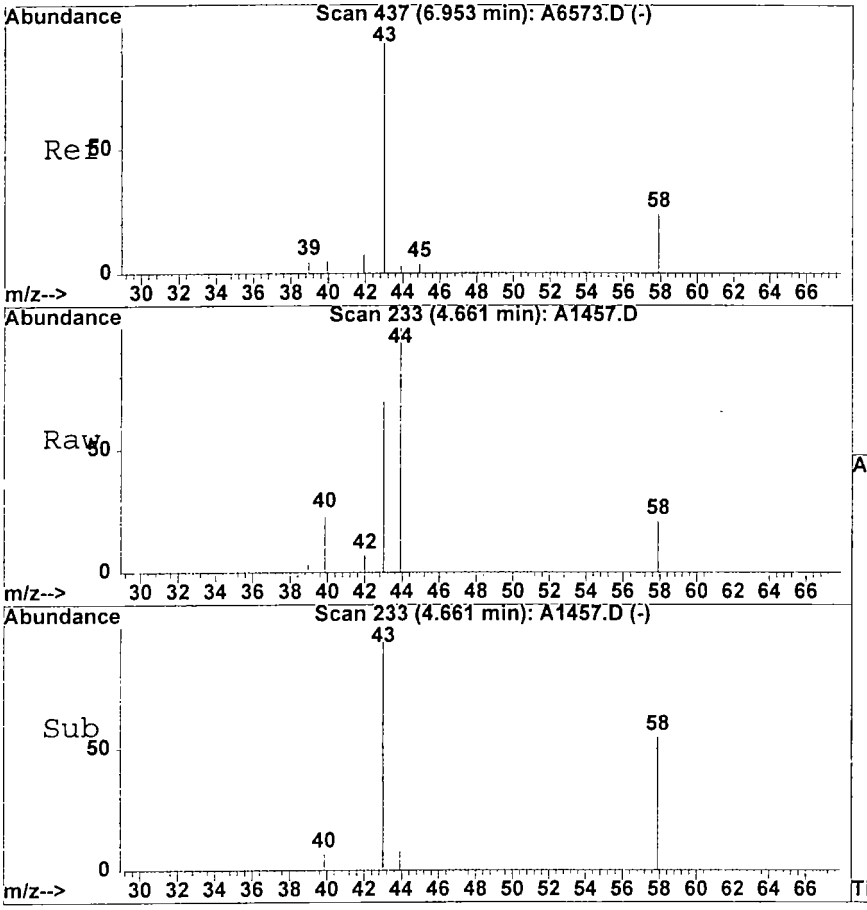
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1457.D Vial: 11
Acq On : 18 Dec 1998 6:24 pm Operator:
Sample : 813554 13 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:41 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

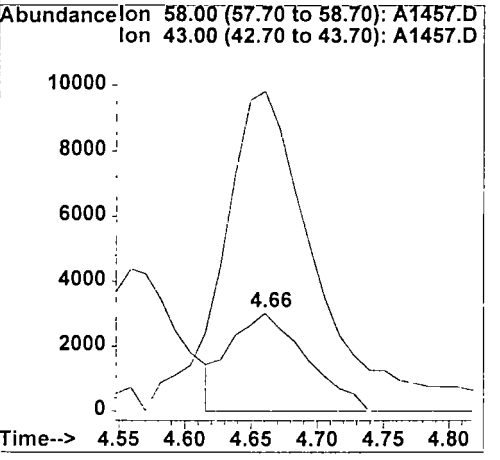


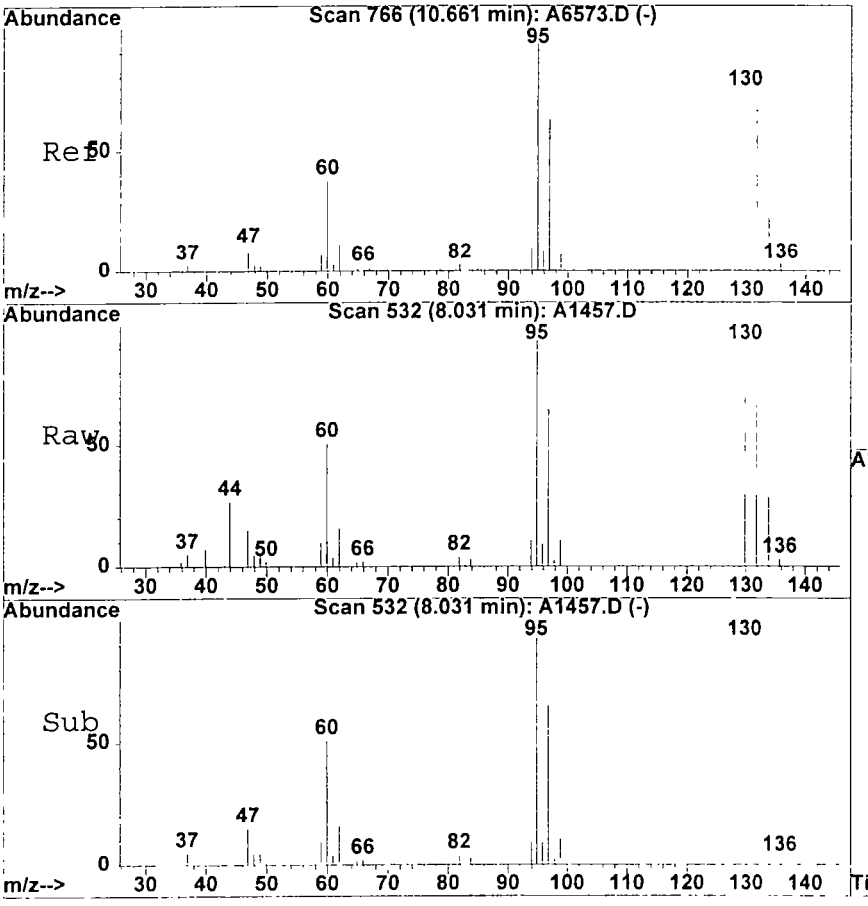


#10
Acetone
Concen: 19.61 ug/l
RT: 4.66 min Scan# 233
Delta R.T. 0.00 min
Lab File: A1457.D
Acq: 18 Dec 1998 6:24 pm

Tgt Ion: 58 Resp: 12197

Ion	Ratio	Lower	Upper
58	100		
43	400.3	346.5	386.5#

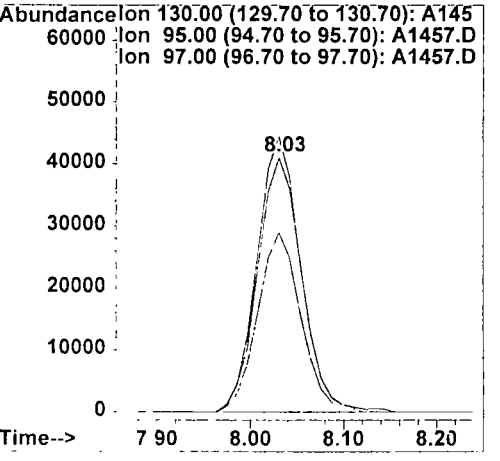


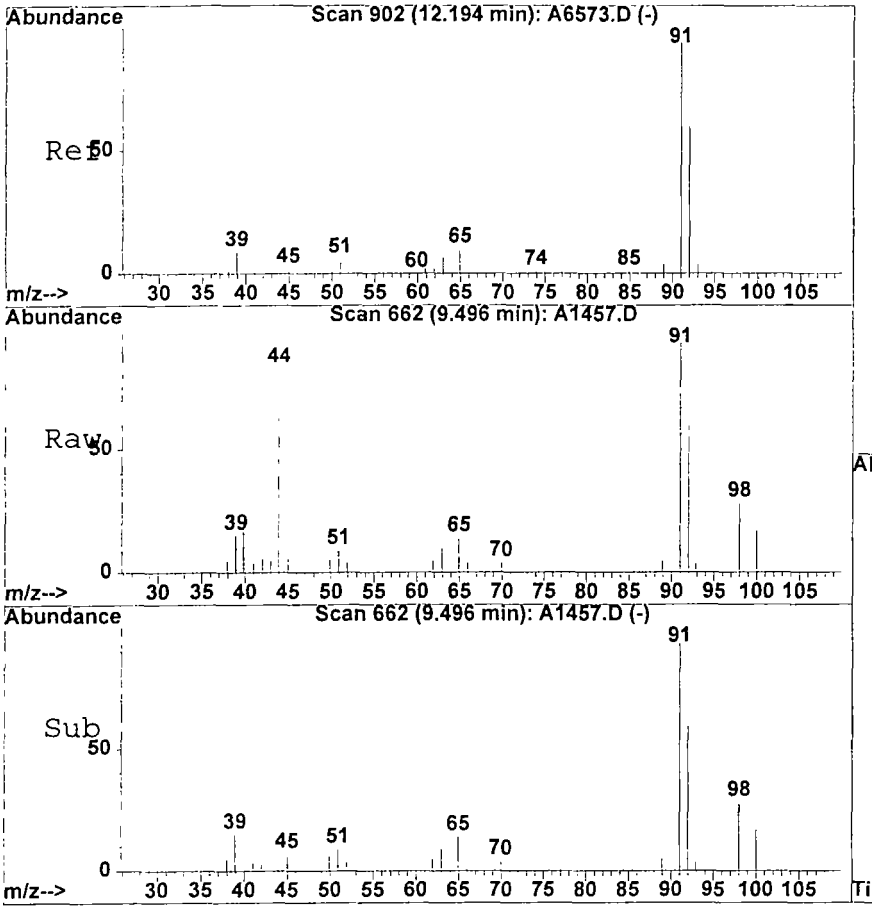


#28
Trichloroethene
Concen: 18.97 ug/l
RT: 8.03 min Scan# 532
Delta R.T. 0.00 min
Lab File: A1457.D
Acq: 18 Dec 1998 6:24 pm

Tgt Ion:130 Resp: 134464

Ion	Ratio	Lower	Upper
130	100		
95	107.9	85.4	125.4
97	69.4	48.2	88.2

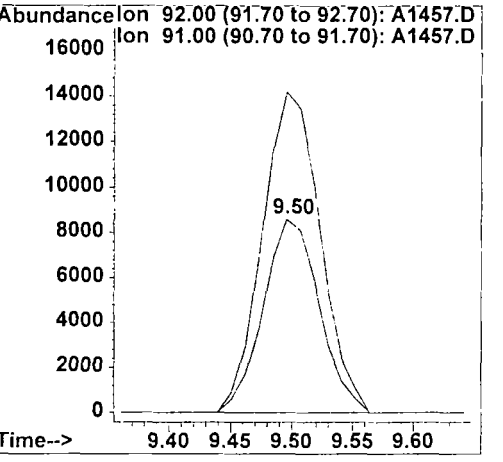




#35
Toluene
Concen: 1.64 ug/l
RT: 9.50 min Scan# 662
Delta R.T. 0.00 min
Lab File: A1457.D
Acq: 18 Dec 1998 6:24 pm

Tgt Ion: 92 Resp: 27374

Ion	Ratio	Lower	Upper
92	100		
91	170.6	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1458.D Vial: 12
Acq On : 18 Dec 1998 6:58 pm Operator:
Sample : 813554 14 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:43 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.68	128	111022	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.73	114	613598	50.00 ug/l	0.02
41) Chlorobenzene-d5	11.27	117	508606	50.00 ug/l	0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	238806	45.05 ug/l	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 90.10%		
34) Toluene-d8	9.43	98	689093	51.27 ug/l	0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 102.54%		
50) Bromofluorobenzene	12.85	95	295815	54.43 ug/l	0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 108.86%		

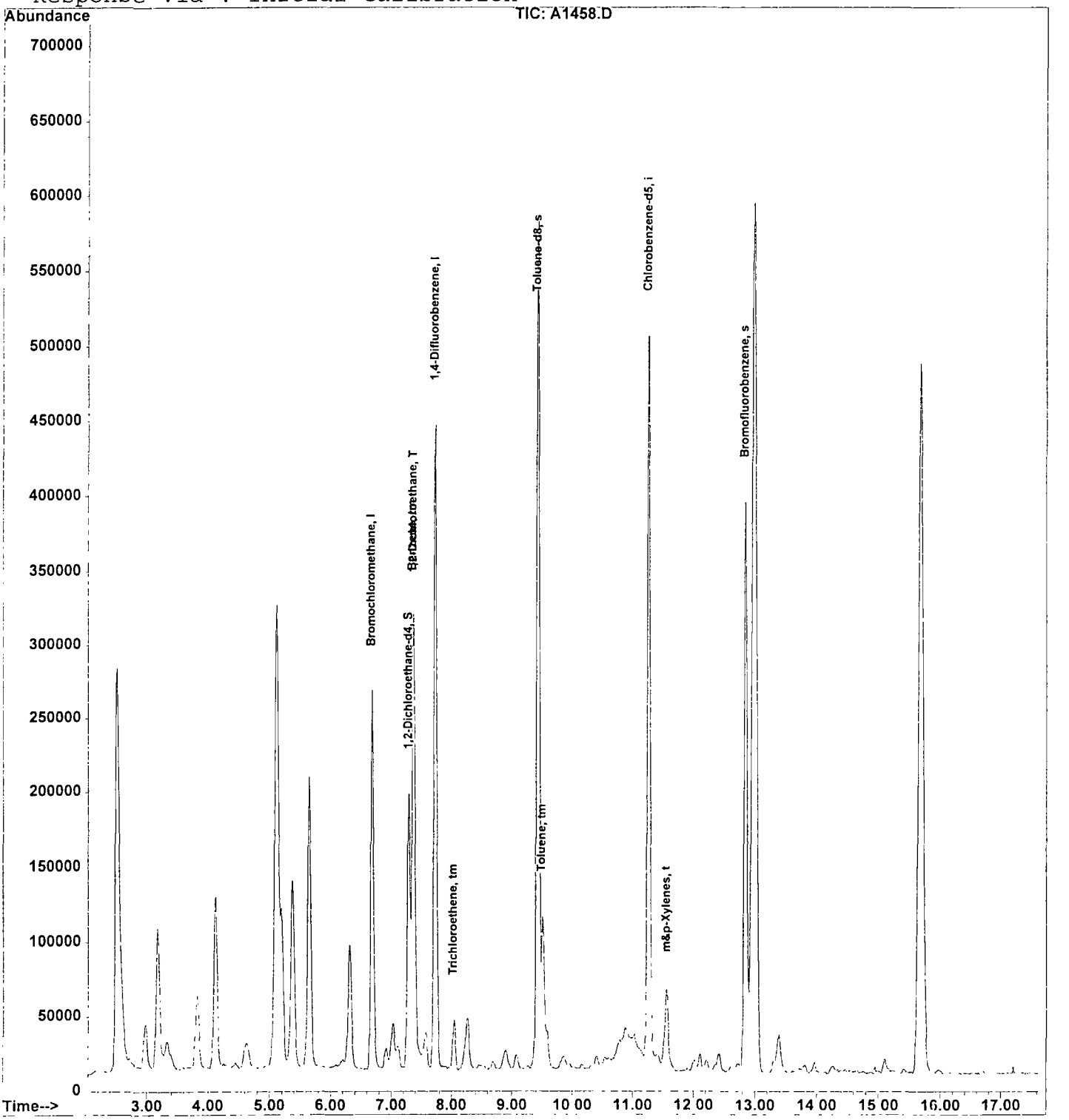
Target Compounds					Qvalue
22) 1,2-Dichloroethane	7.37	62	282197	31.19 ug/l	95
26) Benzene	7.36	78	157790	5.21 ug/l	100
28) Trichloroethene	8.05	130	20381	3.36 ug/l	98
35) Toluene	9.51	92	73091	5.14 ug/l	96
45) m&p-Xylenes	11.58	91	39097	1.71 ug/l	94

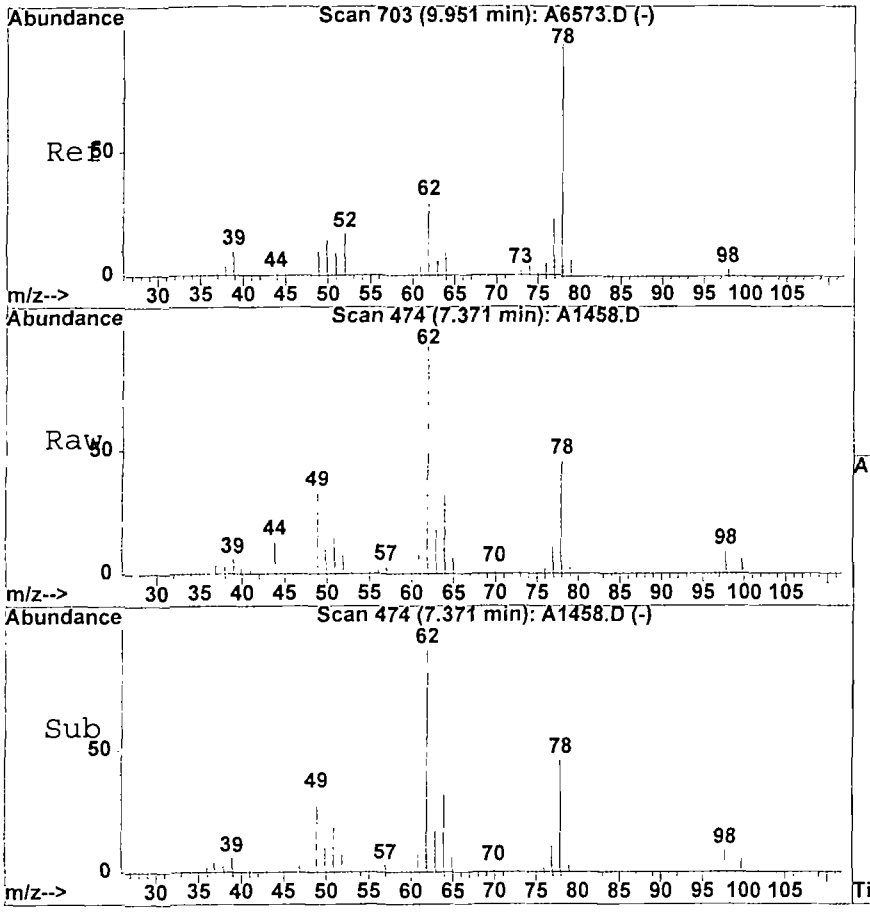
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1458.D Vial: 12
Acq On : 18 Dec 1998 6:58 pm Operator:
Sample : 813554 14 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:43 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

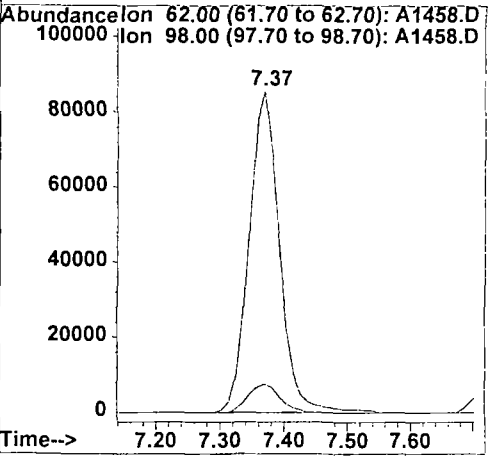


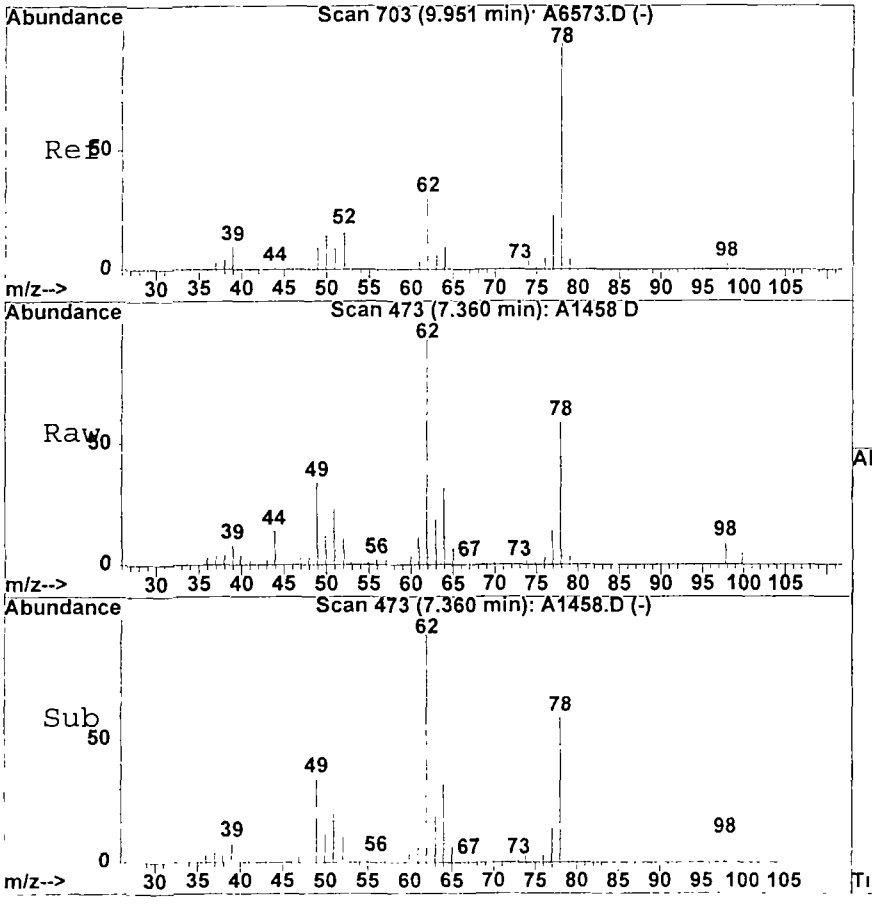


#22
1,2-Dichloroethane
Concen: 31.19 ug/l
RT: 7.37 min Scan# 474
Delta R.T. 0.02 min
Lab File: A1458.D
Acq: 18 Dec 1998 6:58 pm

Tgt Ion: 62 Resp: 282197

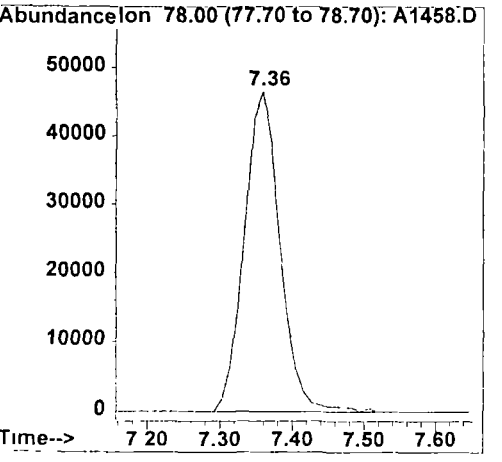
Ion	Ratio	Lower	Upper
62	100		
98	8.9	0.0	30.9

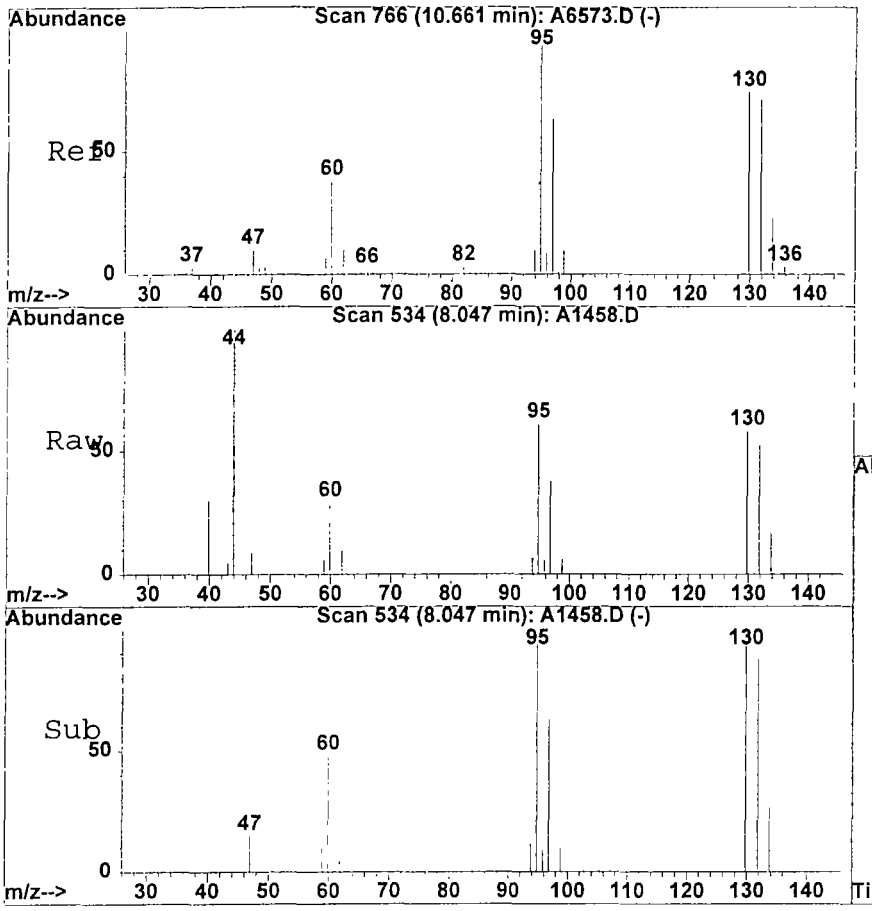




#26
Benzene
Concen: 5.21 ug/l
RT: 7.36 min Scan# 473
Delta R.T. 0.01 min
Lab File: A1458.D
Acq: 18 Dec 1998 6:58 pm

Tgt Ion: 78 Resp: 157790

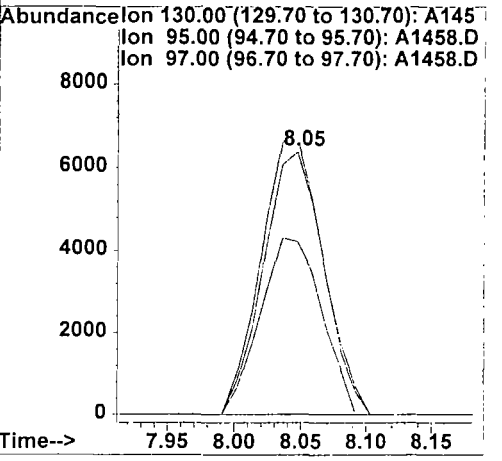


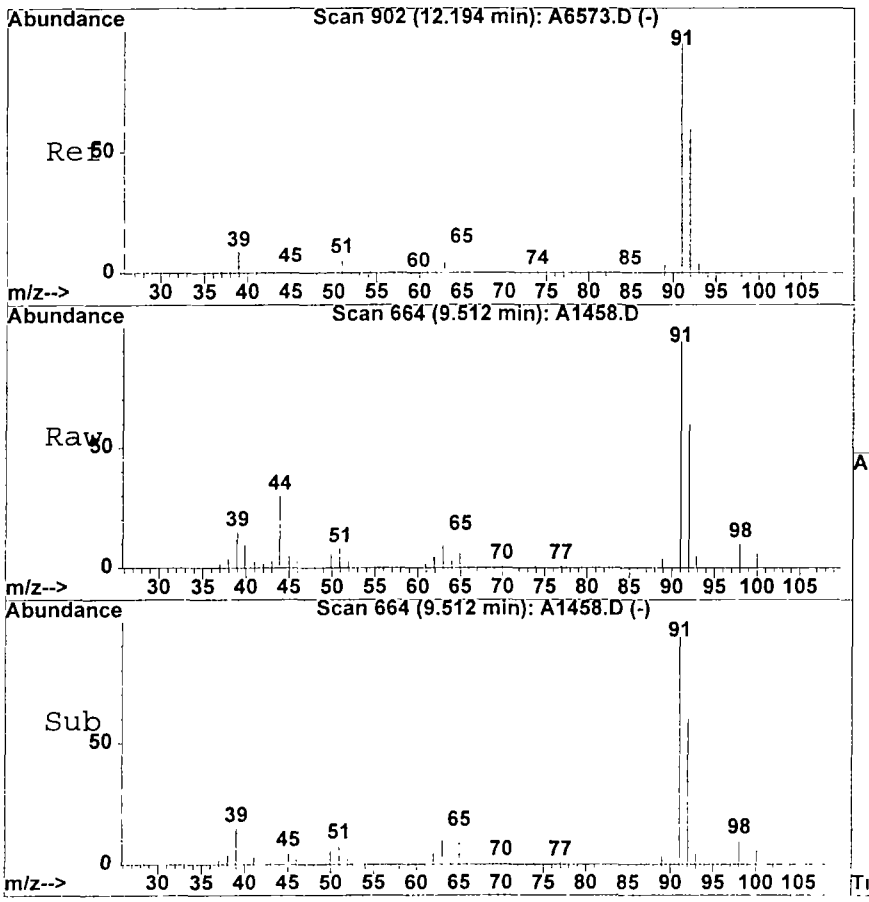


#28
Trichloroethene
Concen: 3.36 ug/l
RT: 8.05 min Scan# 534
Delta R.T. 0.02 min
Lab File: A1458.D
Acq: 18 Dec 1998 6:58 pm

Tgt Ion:130 Resp: 20381

Ion	Ratio	Lower	Upper
130	100		
95	108.3	85.4	125.4
97	68.5	48.2	88.2

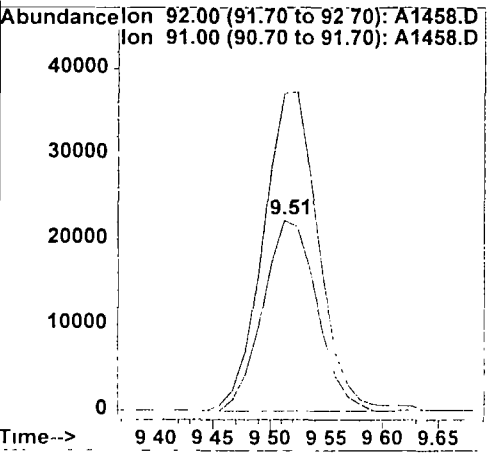


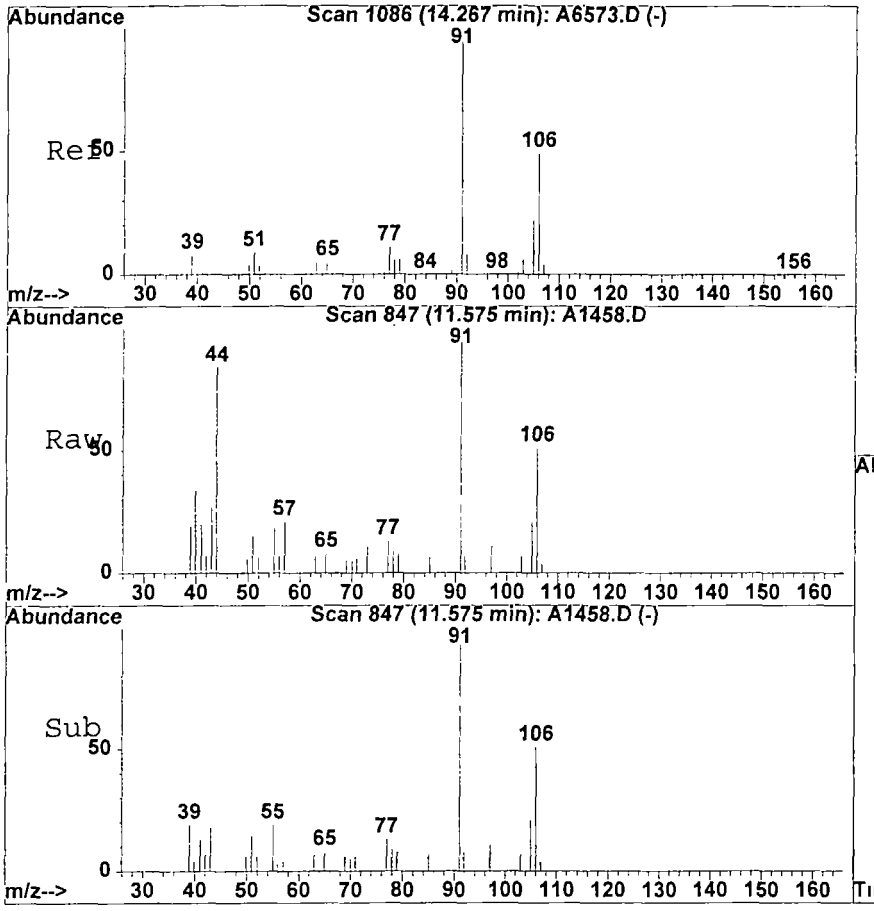


#35
Toluene
Concen: 5.14 ug/l
RT: 9.51 min Scan# 664
Delta R.T. 0.02 min
Lab File: A1458.D
Acq: 18 Dec 1998 6:58 pm

Tgt Ion: 92 Resp: 73091

Ion	Ratio	Lower	Upper
92	100		
91	171.3	145.9	185.9

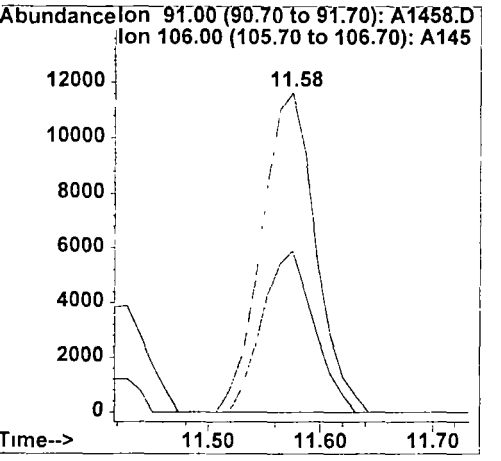




#45
m&p-Xylenes
Concen: 1.71 ug/l
RT: 11.58 min Scan# 847
Delta R.T. 0.03 min
Lab File: A1458.D
Acq: 18 Dec 1998 6:58 pm

Tgt Ion: 91 Resp: 39097

Ion	Ratio	Lower	Upper
91	100		
106	48.3	24.6	64.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1459.D Vial: 13
Acq On : 18 Dec 1998 7:33 pm Operator:
Sample : 813554 17 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:44 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

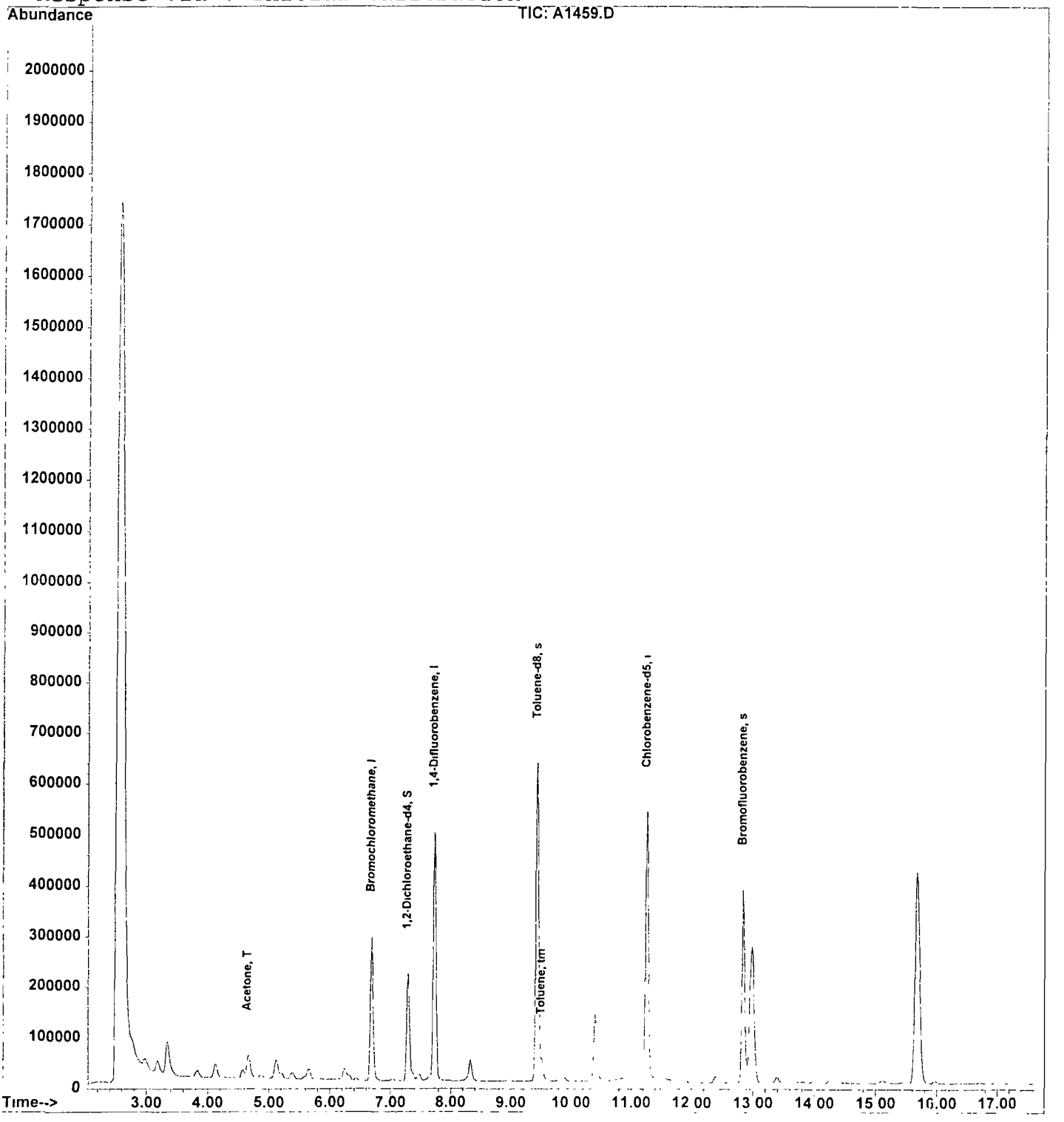
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.68	128	124603	50.00	ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	695894	50.00	ug/l	0.00
41) Chlorobenzene-d5	11.26	117	529509	50.00	ug/l	0.02
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.28	65	255668	42.97	ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 85.94%			
34) Toluene-d8	9.43	98	766547	50.29	ug/l	0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.58%			
50) Bromofluorobenzene	12.84	95	289820	51.22	ug/l	0.03
Spiked Amount 50.000	Range 86 - 115		Recovery = 102.44%			
Target Compounds						Qvalue
10) Acetone	4.65	58	37309	60.75	ug/l	100
35) Toluene	9.51	92	26633	1.65	ug/l	95

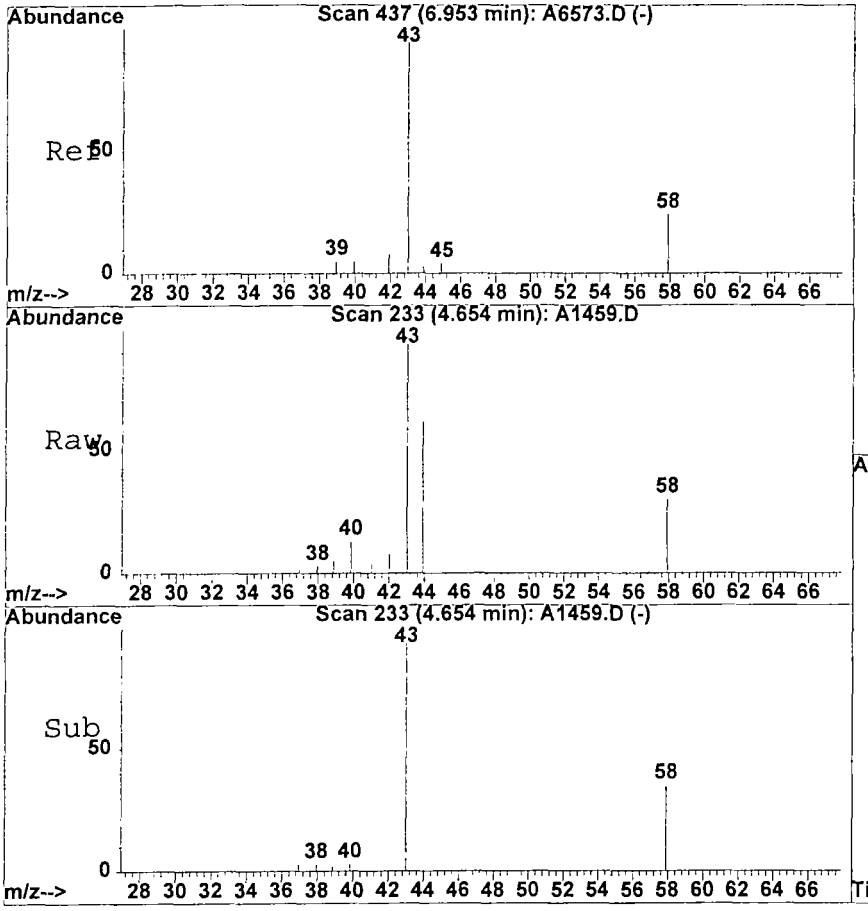
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1459.D Vial: 13
Acq On : 18 Dec 1998 7:33 pm Operator:
Sample : 813554 17 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:44 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

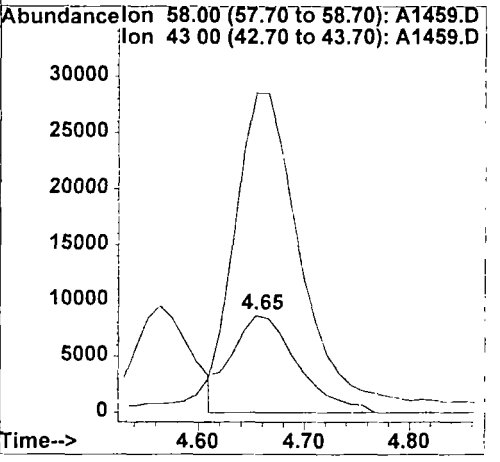


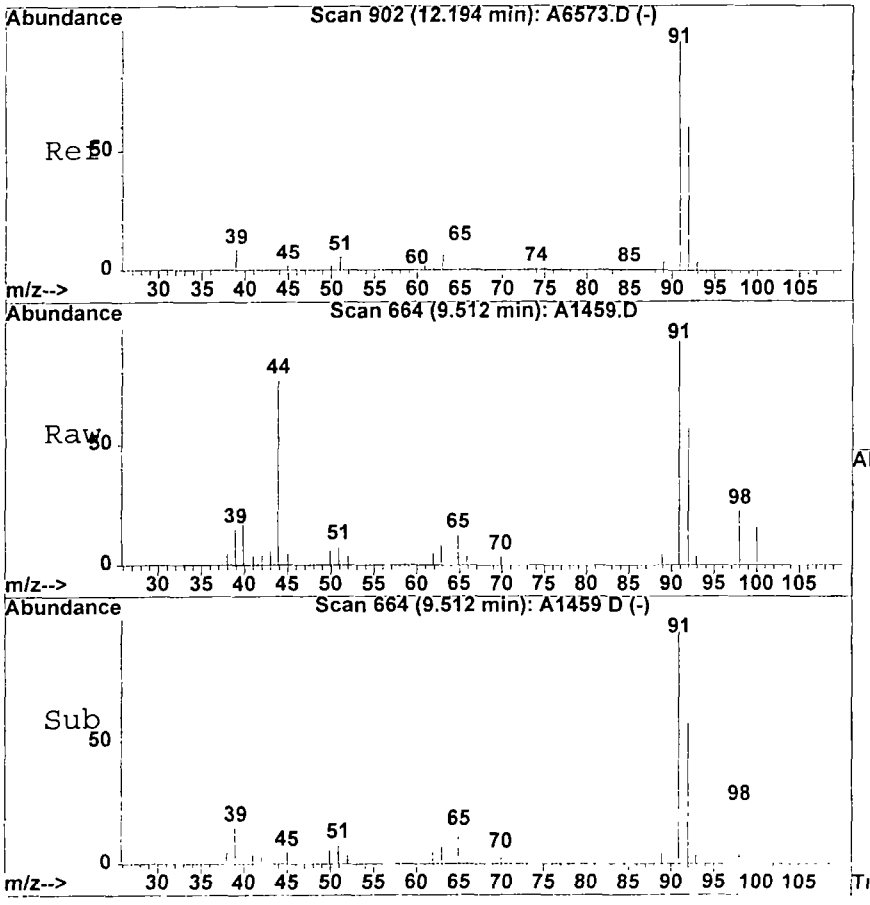


#10
Acetone
Concen: 60.75 ug/l
RT: 4.65 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1459.D
Acq: 18 Dec 1998 7:33 pm

Tgt Ion: 58 Resp: 37309

Ion	Ratio	Lower	Upper
58	100		
43	366.6	346.5	386.5

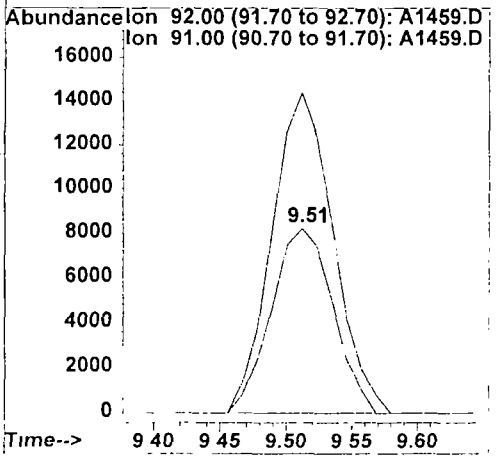




#35
Toluene
Concen: 1.65 ug/l
RT: 9.51 min Scan# 664
Delta R.T. 0.02 min
Lab File: A1459.D
Acq: 18 Dec 1998 7:33 pm

Tgt Ion: 92 Resp: 26633

Ion	Ratio	Lower	Upper
92	100		
91	173.2	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1501.D Vial: 14
Acq On : 19 Dec 1998 11:42 pm Operator:
Sample : 813554 18 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 10:13 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

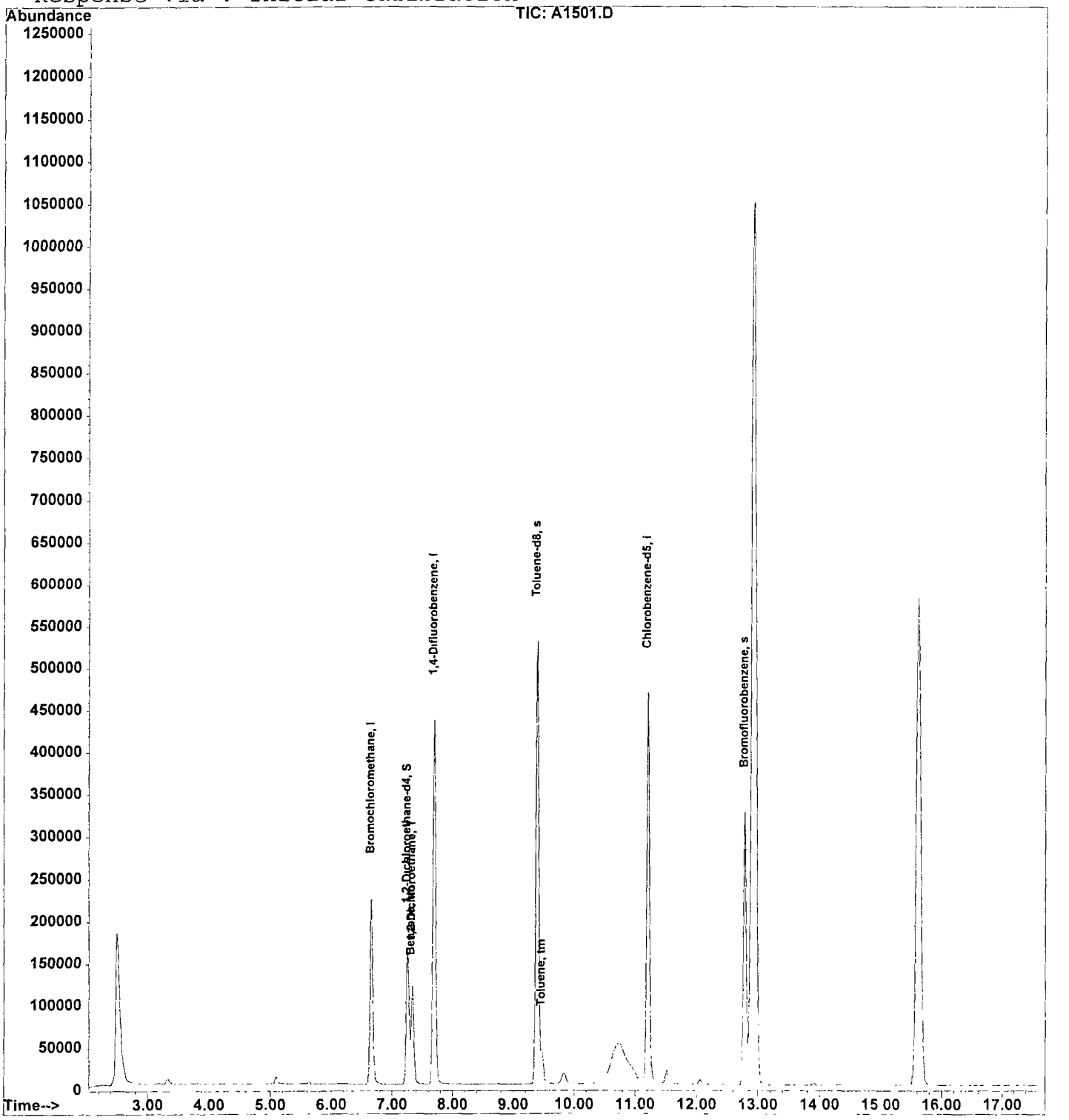
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.66	128	95403	50.00 ug/l	-0.02
27) 1,4-Difluorobenzene	7.70	114	605941	50.00 ug/l	-0.02
41) Chlorobenzene-d5	11.21	117	481875	50.00 ug/l	-0.03
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.26	65	203555	44.69 ug/l	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 89.38%		
34) Toluene-d8	9.40	98	648530	48.86 ug/l	-0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 97.72%		
50) Bromofluorobenzene	12.79	95	254683	49.46 ug/l	-0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 98.92%		
Target Compounds					Qvalue
22) 1,2-Dichloroethane	7.34	62	124442	16.00 ug/l	92
26) Benzene	7.33	78	40480	1.56 ug/l	100
35) Toluene	9.48	92	26098	1.86 ug/l	97

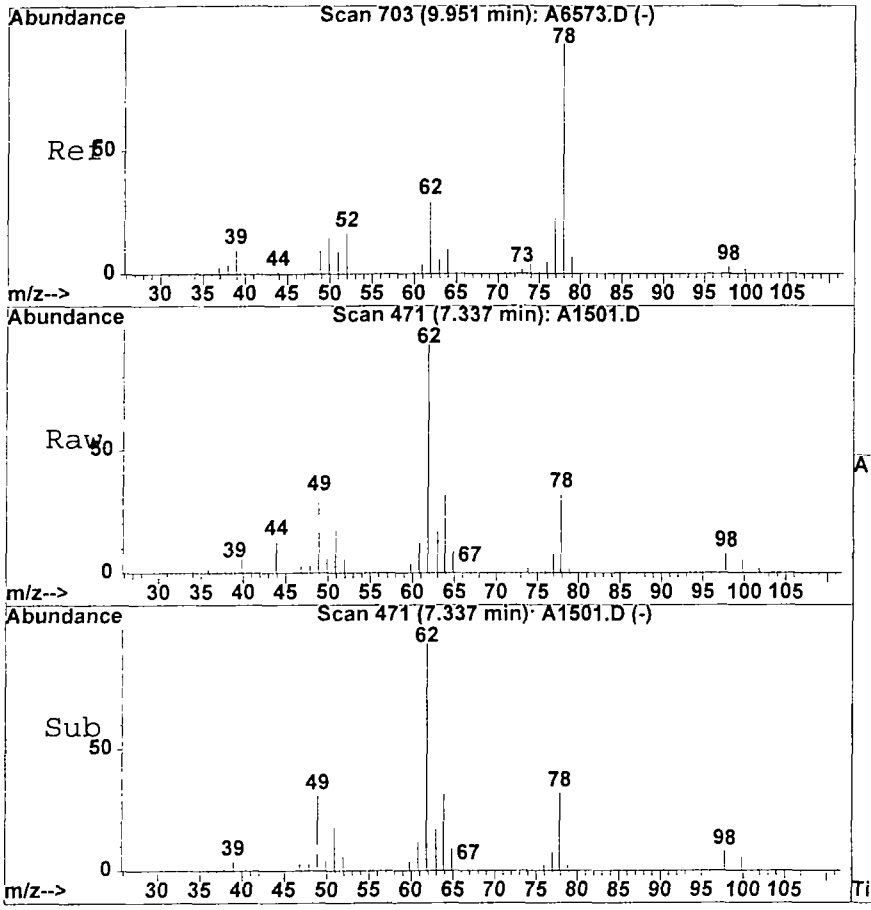
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1501.D Vial: 14
Acq On : 19 Dec 1998 11:42 pm Operator:
Sample : 813554 18 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 10:13 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

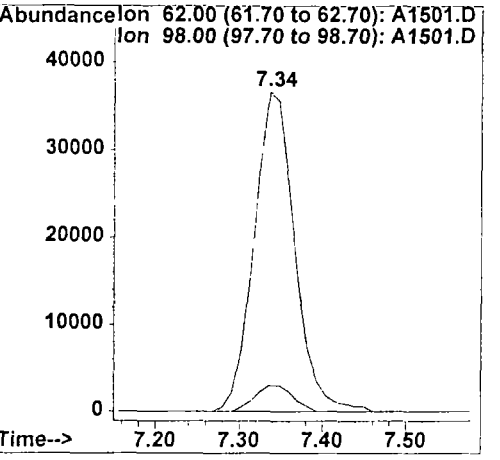


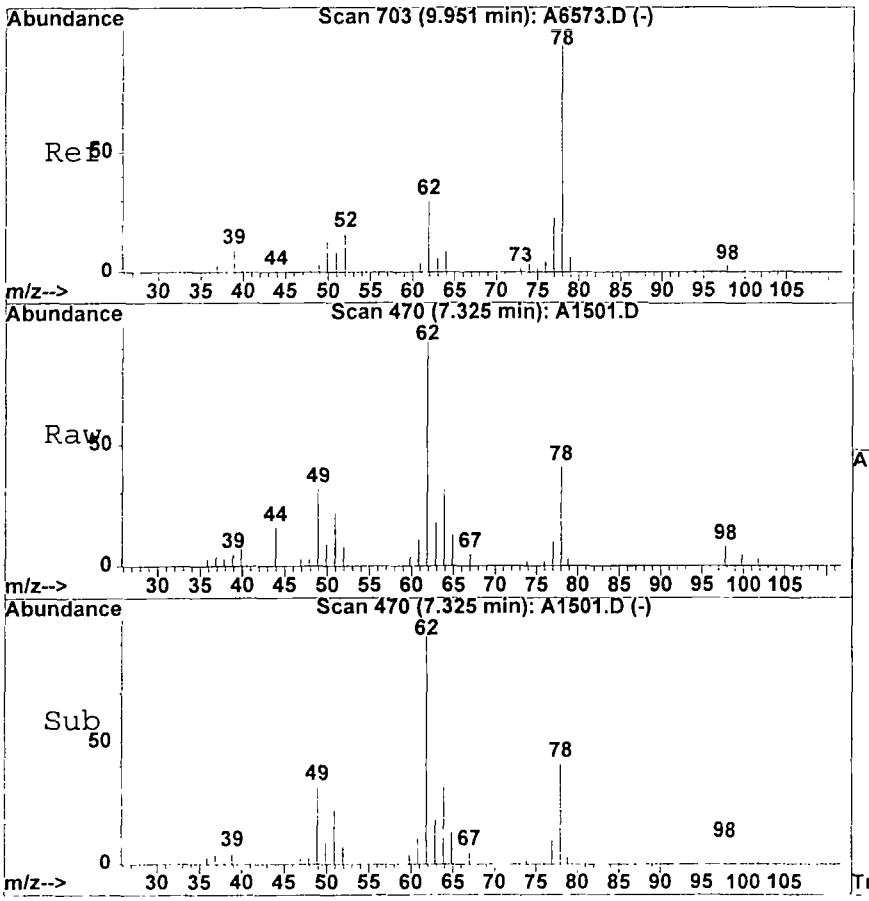


#22
1,2-Dichloroethane
Concen: 16.00 ug/l
RT: 7.34 min Scan# 471
Delta R.T. -0.02 min
Lab File: A1501.D
Acq: 19 Dec 1998 11:42 pm

Tgt Ion: 62 Resp: 124442

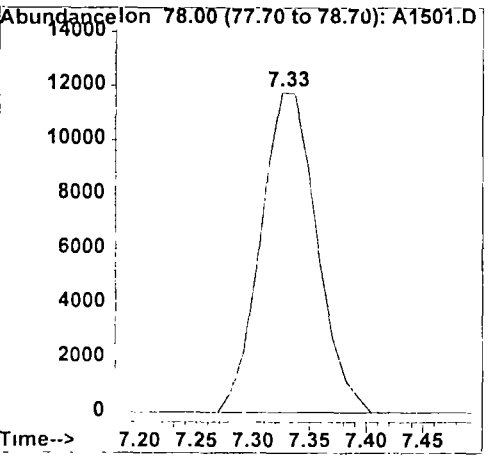
Ion	Ratio	Lower	Upper
62	100		
98	8.0	0.0	30.9

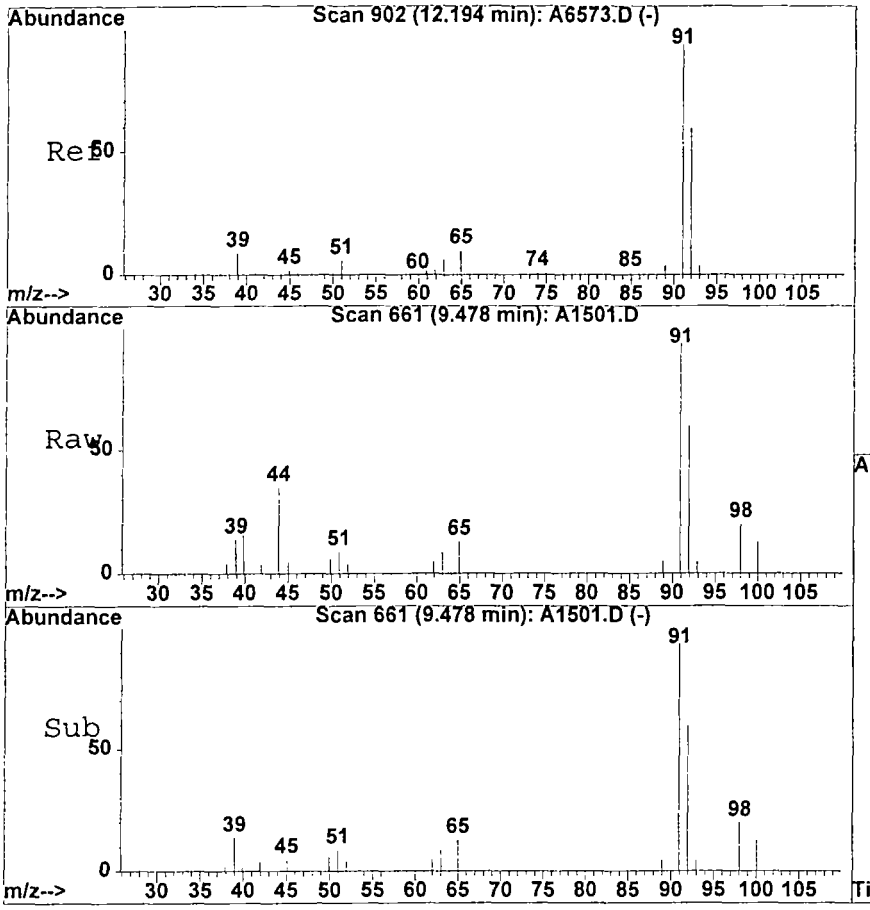




#26
Benzene
Concen: 1.56 ug/l
RT: 7.33 min Scan# 470
Delta R.T. -0.03 min
Lab File: A1501.D
Acq: 19 Dec 1998 11:42 pm

Tgt Ion: 78 Resp: 40480

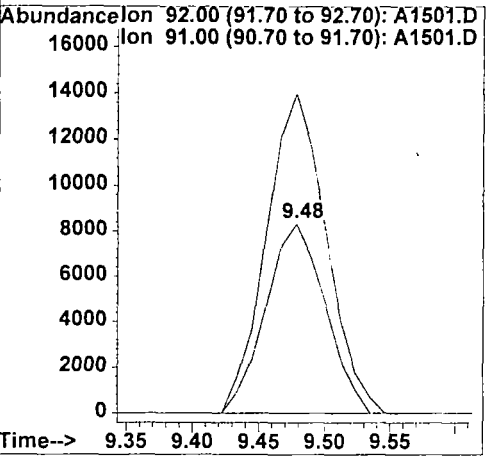




#35
Toluene
Concen: 1.86 ug/l
RT: 9.48 min Scan# 661
Delta R.T. -0.02 min
Lab File: A1501.D
Acq: 19 Dec 1998 11:42 pm

Tgt Ion: 92 Resp: 26098

Ion	Ratio	Lower	Upper
92	100		
91	169.8	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1502.D Vial: 15
Acq On : 20 Dec 1998 12:15 am Operator:
Sample : 813554 19 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 10:21 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

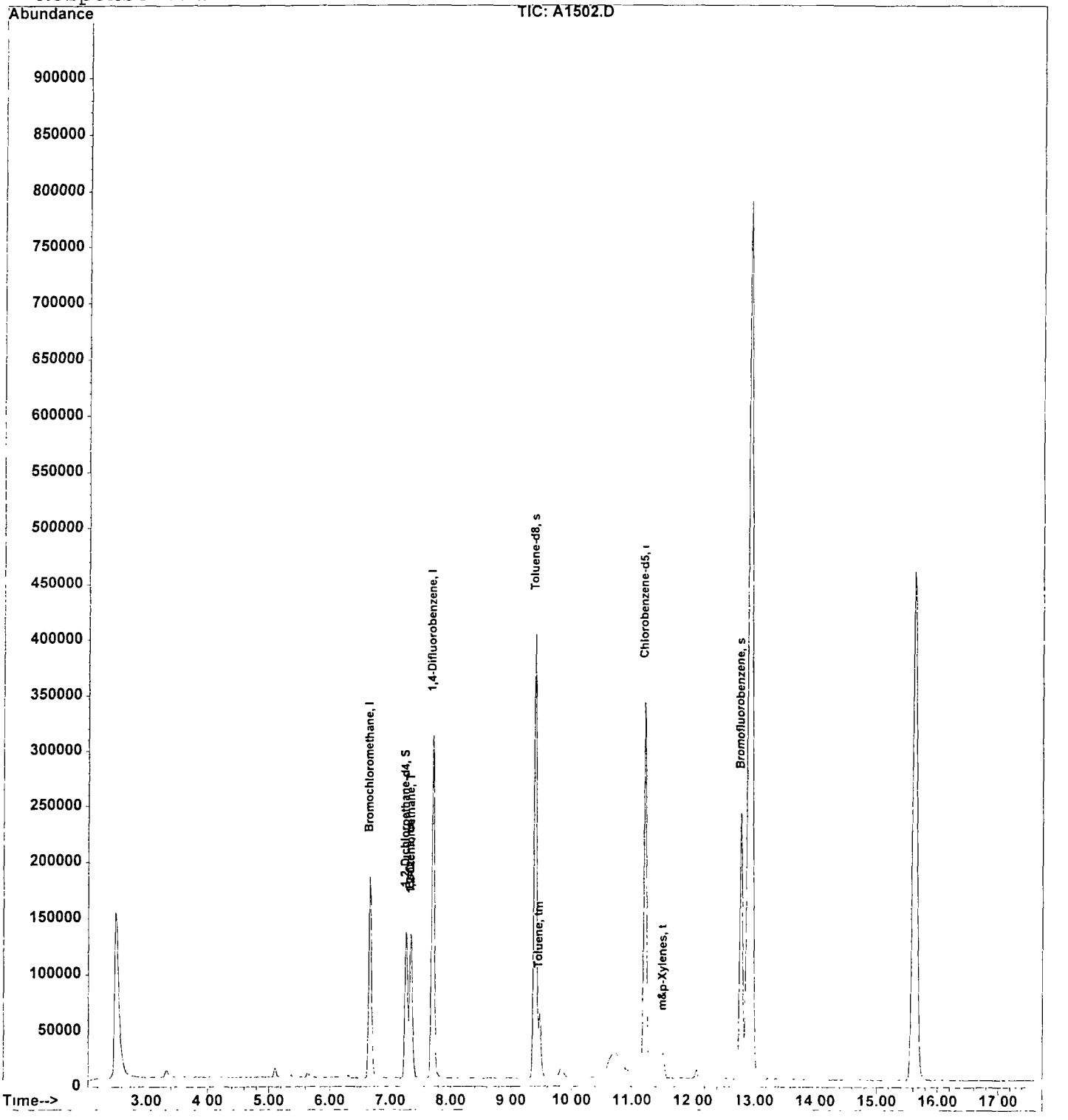
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.66	128	79186	50.00	ug/l	-0.02
27) 1,4-Difluorobenzene	7.69	114	442553	50.00	ug/l	-0.02
41) Chlorobenzene-d5	11.21	117	358111	50.00	ug/l	-0.03
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.25	65	169978	44.96	ug/l	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 89.92%			
34) Toluene-d8	9.39	98	481785	49.70	ug/l	-0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 99.40%			
50) Bromofluorobenzene	12.79	95	191361	50.01	ug/l	-0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 100.02%			
Target Compounds						Qvalue
22) 1,2-Dichloroethane	7.34	62	125113	19.39	ug/l	91
26) Benzene	7.33	78	59003	2.73	ug/l	100
35) Toluene	9.47	92	40683	3.96	ug/l	96
45) m&p-Xylenes	11.52	91	27928	1.73	ug/l	96

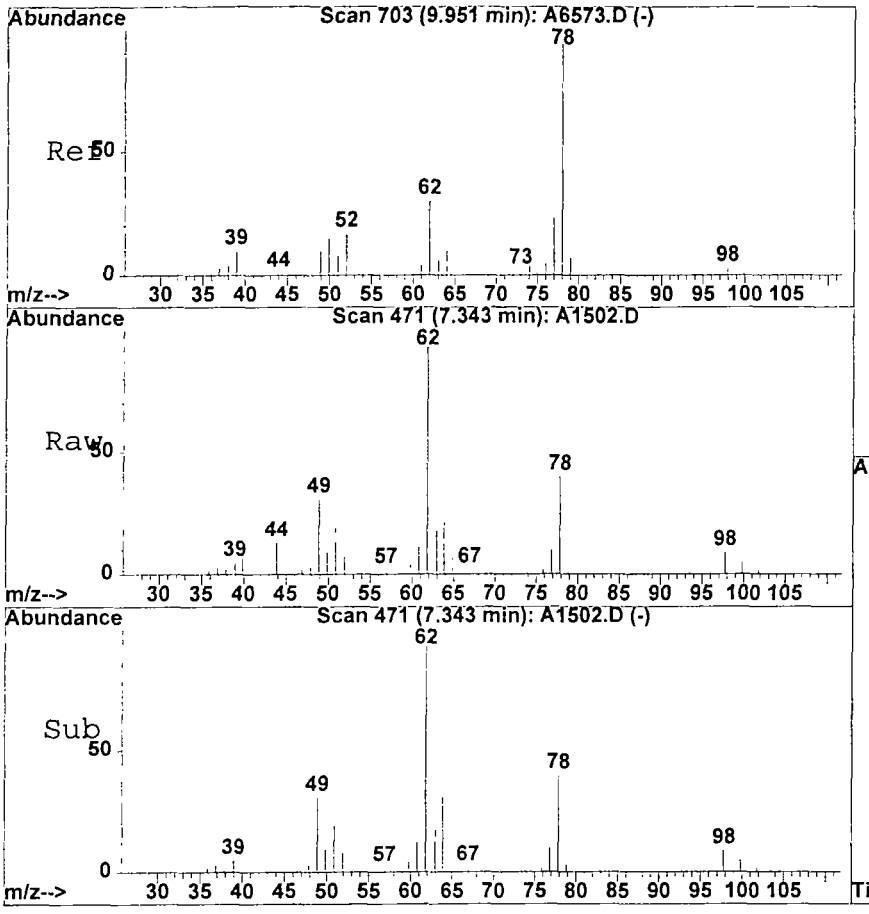
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998B\A1502.D Vial: 15
Acq On : 20 Dec 1998 12:15 am Operator:
Sample : 813554 19 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 10:21 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

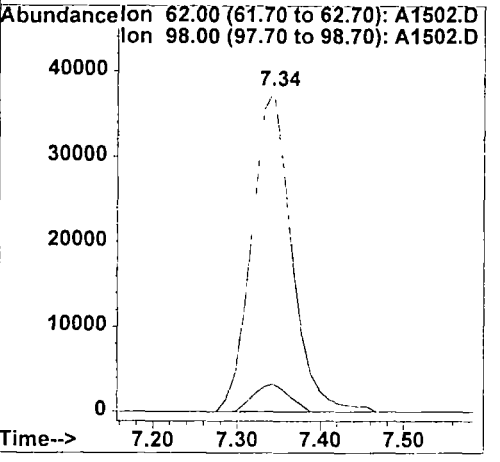


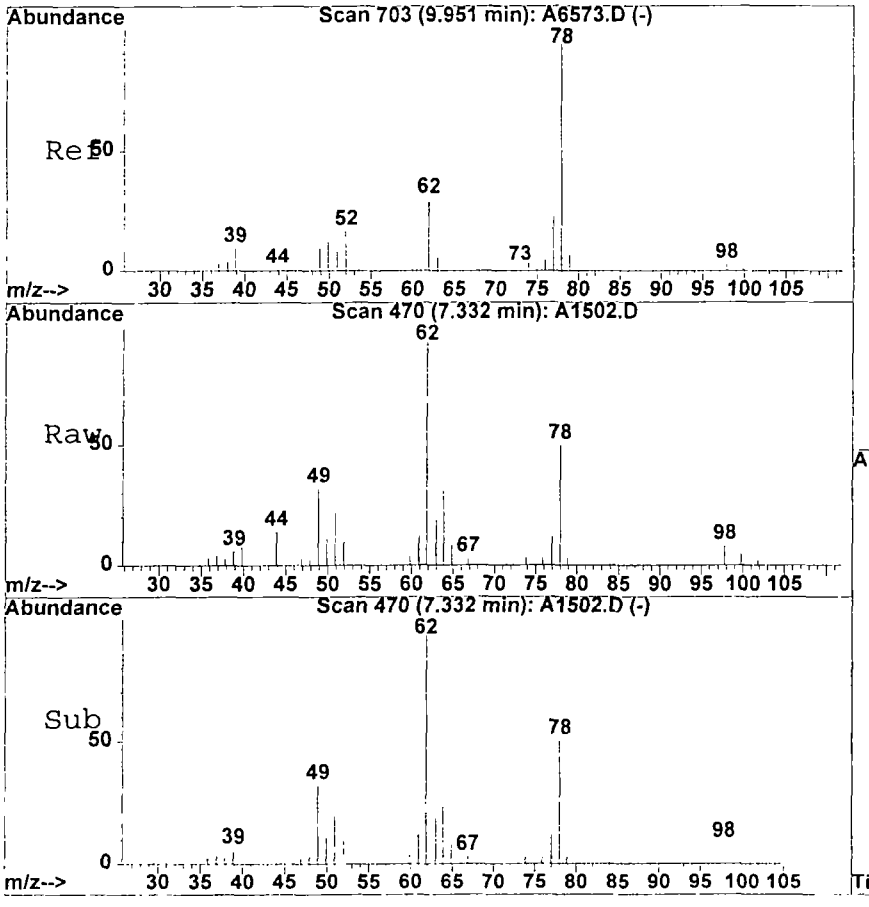


#22
1,2-Dichloroethane
Concen: 19.39 ug/l
RT: 7.34 min Scan# 471
Delta R.T. -0.01 min
Lab File: A1502.D
Acq: 20 Dec 1998 12:15 am

Tgt Ion: 62 Resp: 125113

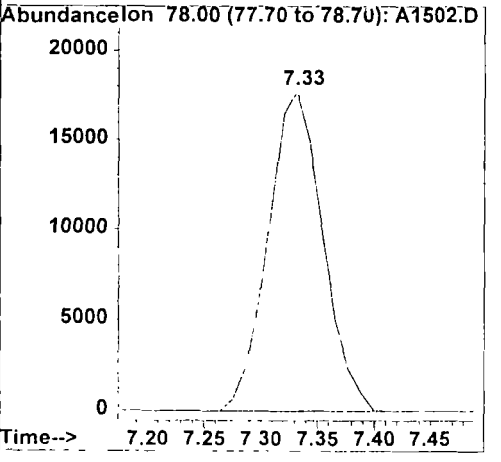
Ion	Ratio	Lower	Upper
62	100		
98	7.7	0.0	30.9

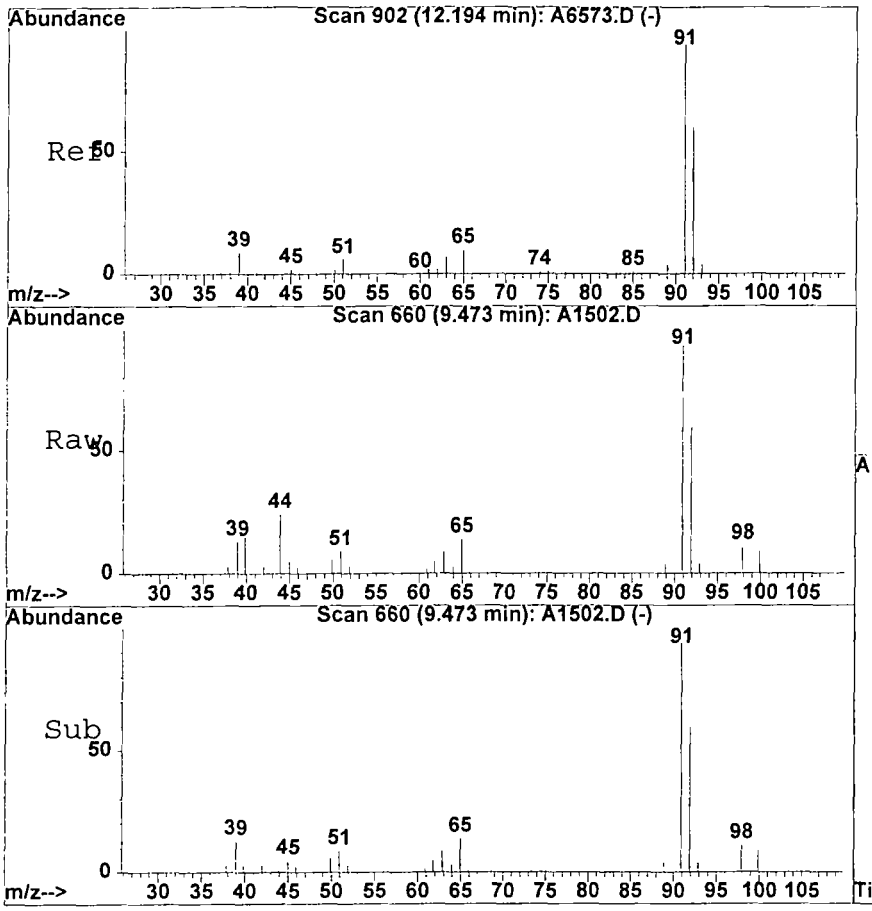




#26
Benzene
Concen: 2.73 ug/l
RT: 7.33 min Scan# 470
Delta R.T. -0.02 min
Lab File: A1502.D
Acq: 20 Dec 1998 12:15 am

Tgt Ion: 78 Resp: 59003

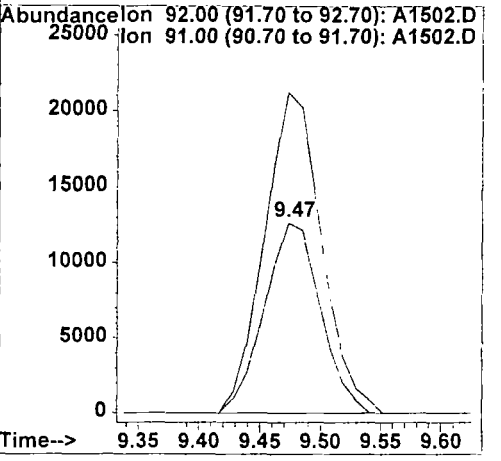


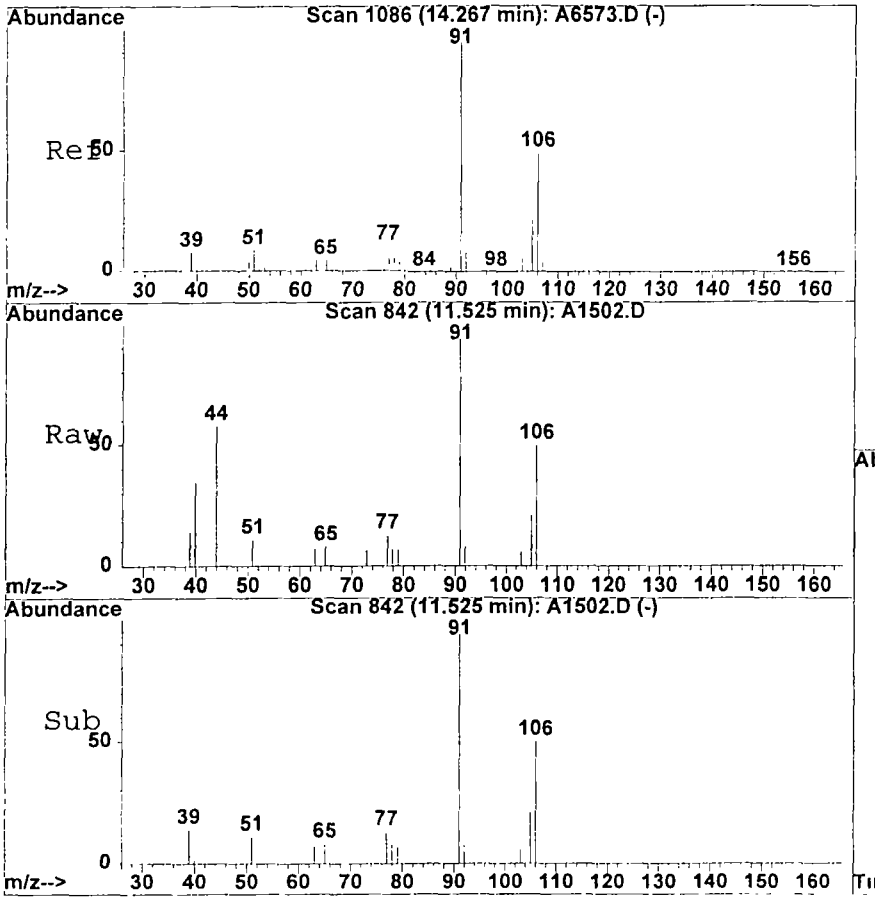


#35
Toluene
Concen: 3.96 ug/l
RT: 9.47 min Scan# 660
Delta R.T. -0.02 min
Lab File: A1502.D
Acq: 20 Dec 1998 12:15 am

Tgt Ion: 92 Resp: 40683

Ion	Ratio	Lower	Upper
92	100		
91	170.8	145.9	185.9

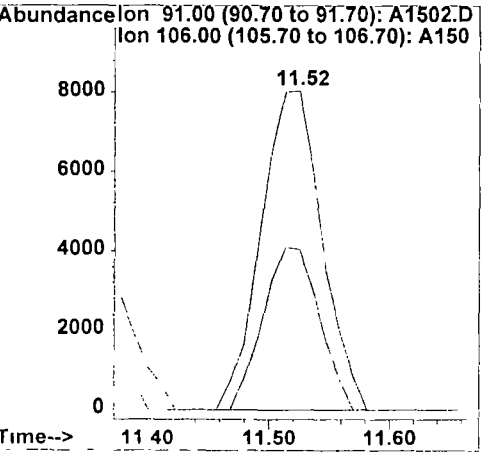




#45
m&p-Xylenes
Concen: 1.73 ug/l
RT: 11.52 min Scan# 842
Delta R.T. -0.02 min
Lab File: A1502.D
Acq: 20 Dec 1998 12:15 am

Tgt Ion: 91 Resp: 27928

Ion	Ratio	Lower	Upper
91	100		
106	47.1	24.6	64.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1462.D Vial: 16
Acq On : 18 Dec 1998 9:15 pm Operator:
Sample : 813554 20 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:51 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

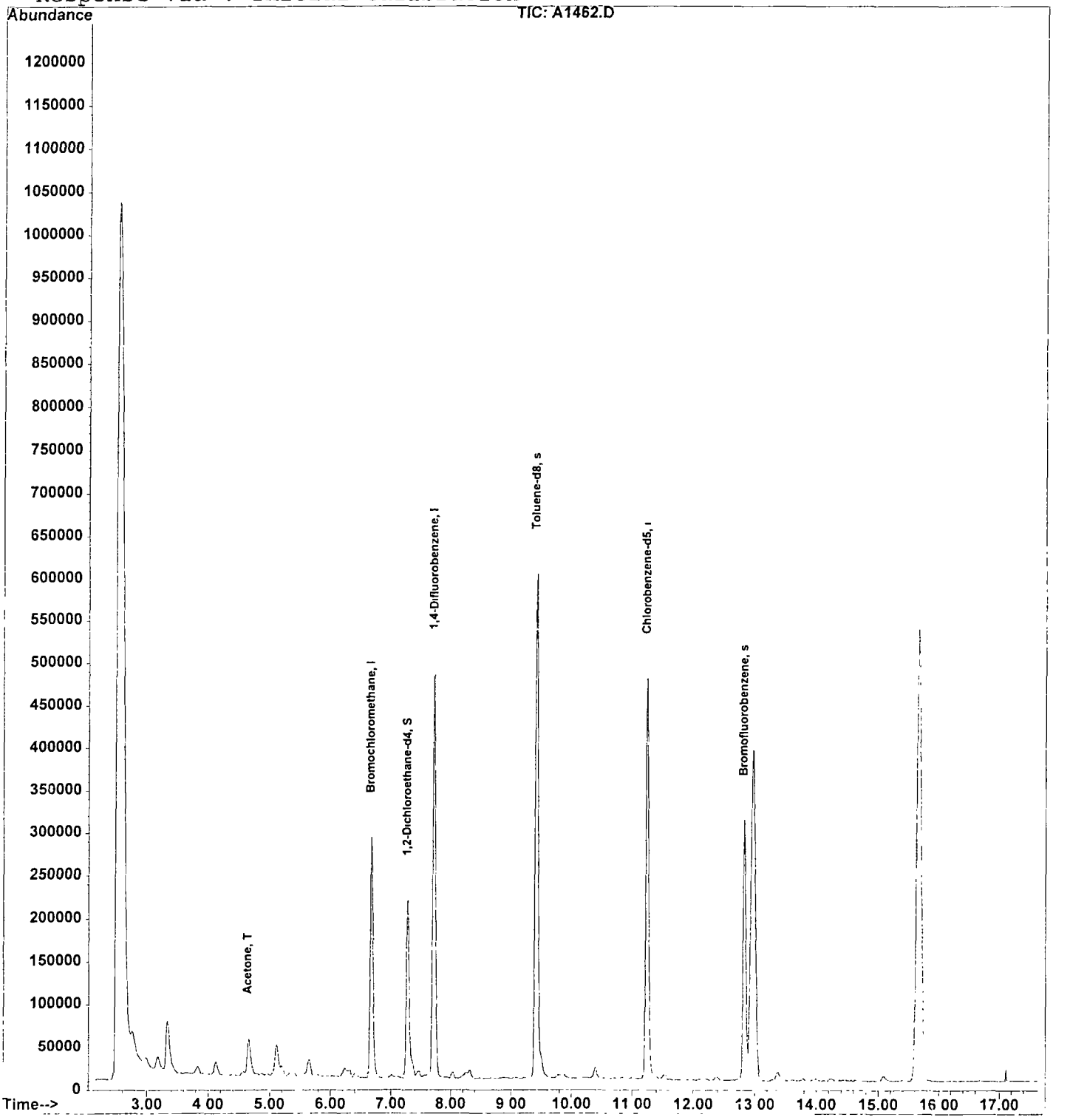
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	118908	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	673792	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	477804	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	255282	44.96 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 89.92%		
34) Toluene-d8	9.42	98	725708	49.17 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 98.34%		
50) Bromofluorobenzene	12.83	95	236241	46.27 ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 92.54%		
Target Compounds					Qvalue
10) Acetone	4.65	58	34219	58.39 ug/l	94

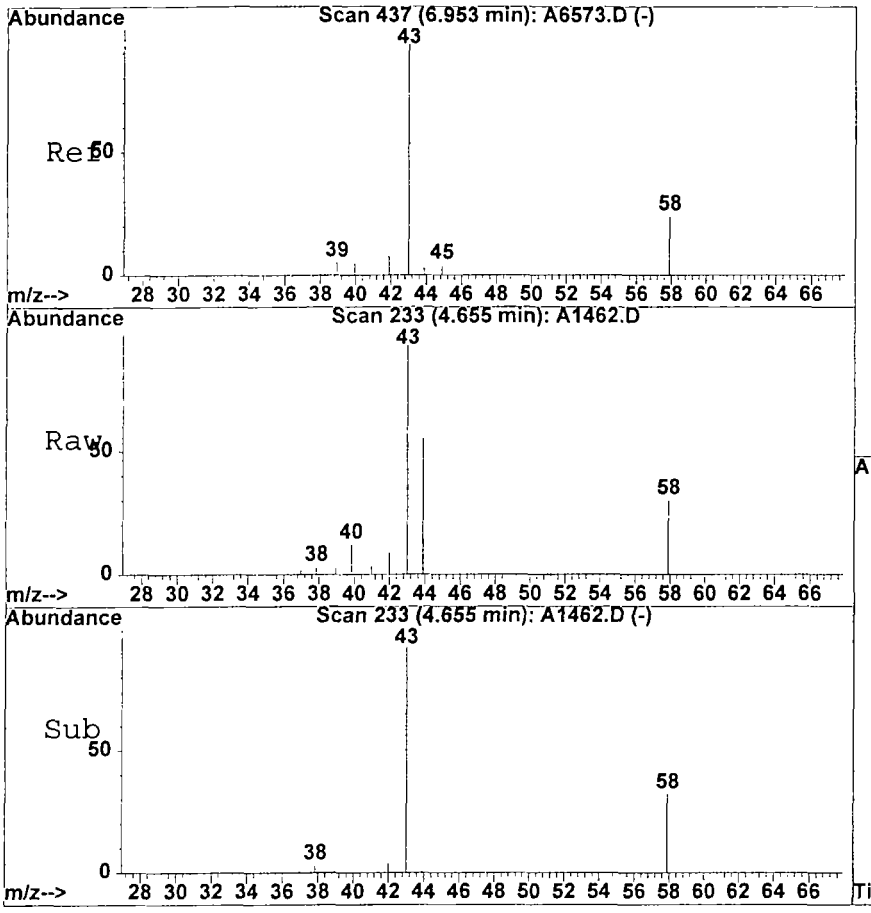
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1462.D Vial: 16
Acq On : 18 Dec 1998 9:15 pm Operator:
Sample : 813554 20 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:51 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

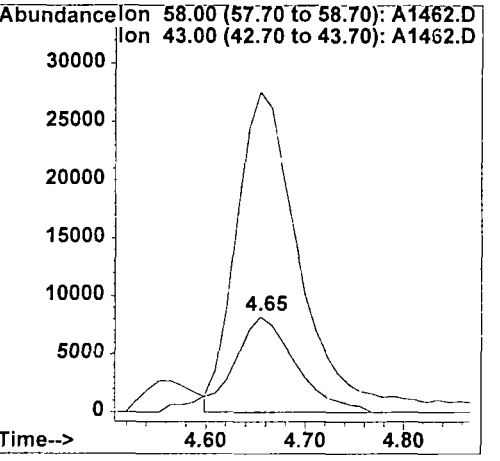




#10
Acetone
Concen: 58.39 ug/l
RT: 4.65 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1462.D
Acq: 18 Dec 1998 9:15 pm

Tgt Ion: 58 Resp: 34219

Ion	Ratio	Lower	Upper
58	100		
43	378.9	346.5	386.5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1463.D Vial: 17
Acq On : 18 Dec 1998 9:50 pm Operator:
Sample : 813554 21 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:52 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

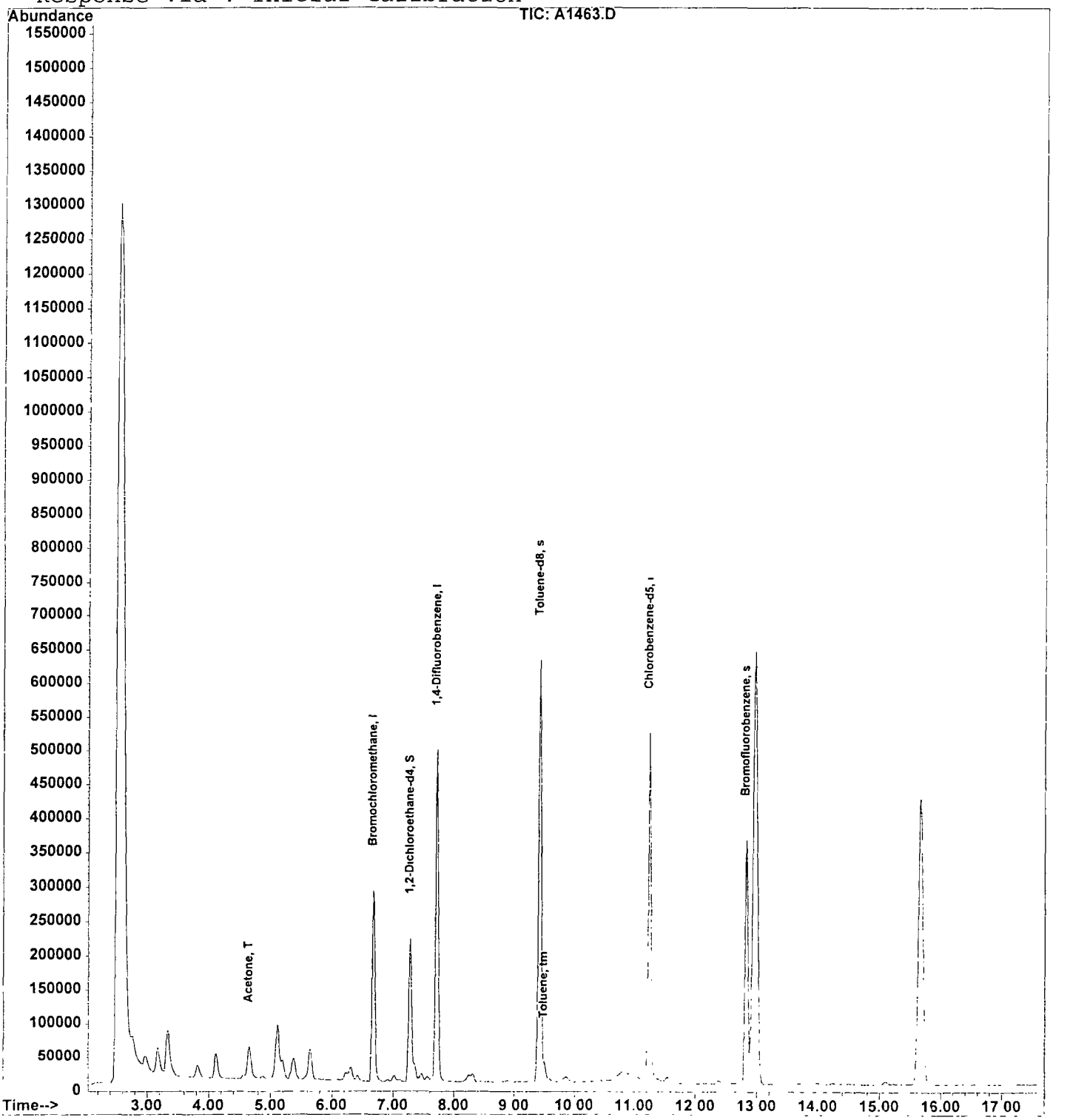
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.67	128	120939	50.00	ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	679622	50.00	ug/l	0.00
41) Chlorobenzene-d5	11.25	117	514561	50.00	ug/l	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.28	65	254380	44.05	ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 88.10%			
34) Toluene-d8	9.42	98	744625	50.02	ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.04%			
50) Bromofluorobenzene	12.83	95	282375	51.35	ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 102.70%			
Target Compounds						Qvalue
10) Acetone	4.65	58	37929	63.63	ug/l	92
35) Toluene	9.50	92	16565	1.05	ug/l	93

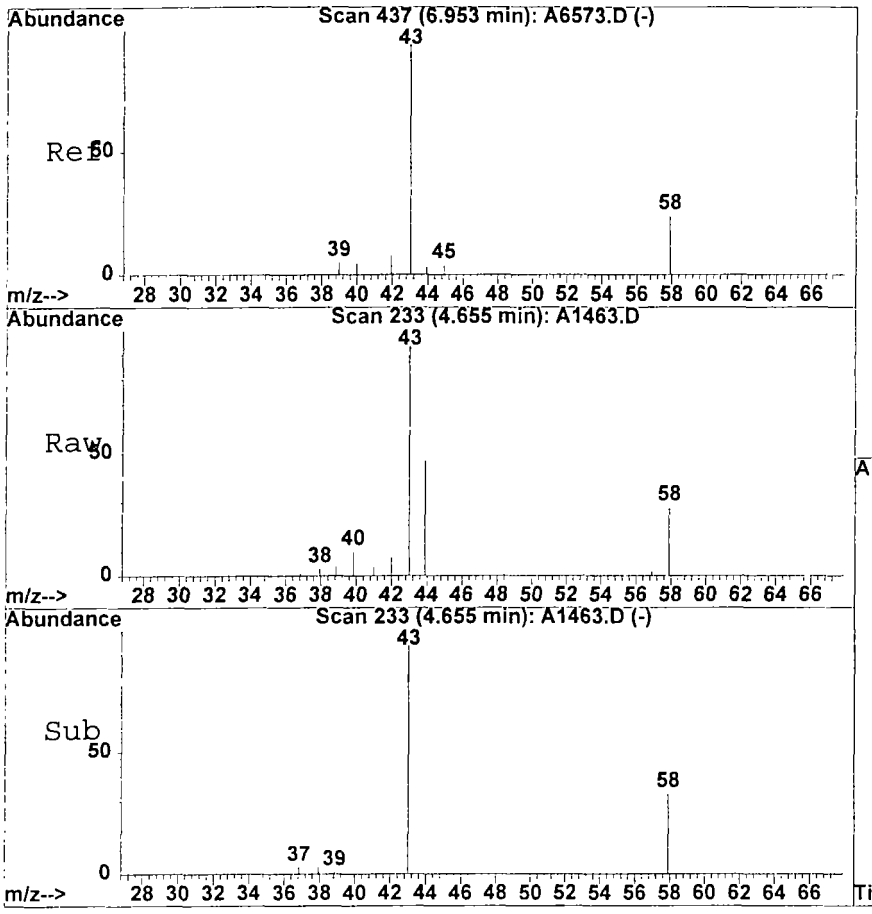
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1463.D Vial: 17
Acq On : 18 Dec 1998 9:50 pm Operator:
Sample : 813554 21 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 7:52 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration

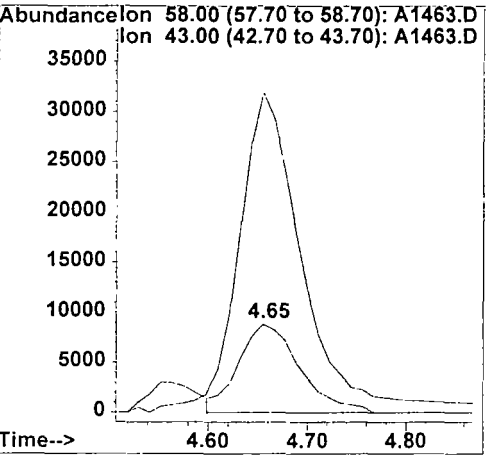


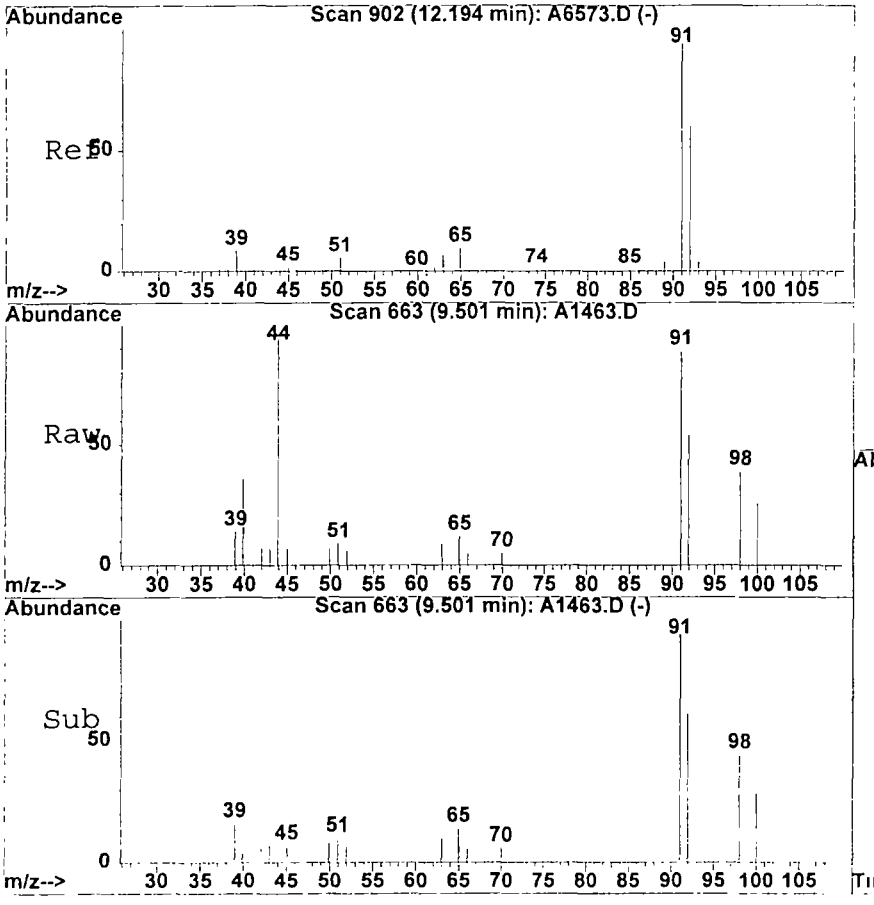


#10
Acetone
Concen: 63.63 ug/l
RT: 4.65 min Scan# 233
Delta R.T. -0.00 min
Lab File: A1463.D
Acq: 18 Dec 1998 9:50 pm

Tgt Ion: 58 Resp: 37929

Ion	Ratio	Lower	Upper
58	100		
43	383.4	346.5	386.5

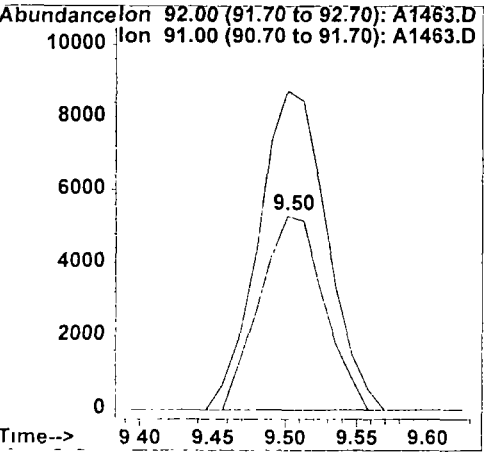




#35
Toluene
Concen: 1.05 ug/l
RT: 9.50 min Scan# 663
Delta R.T. 0.01 min
Lab File: A1463.D
Acq: 18 Dec 1998 9:50 pm

Tgt Ion: 92 Resp: 16565

Ion	Ratio	Lower	Upper
92	100		
91	174.7	145.9	185.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1550.D Vial: 10
Acq On : 21 Dec 1998 6:26 pm Operator:
Sample : 813554 22 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:16 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.64	128	84763	50.00	ug/l	-0.04
27) 1,4-Difluorobenzene	7.68	114	525199	50.00	ug/l	-0.04
41) Chlorobenzene-d5	11.20	117	446993	50.00	ug/l	-0.04
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.24	65	167472	49.43	ug/l	-0.04
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.86%			
34) Toluene-d8	9.38	98	565313	50.01	ug/l	-0.04
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.02%			
50) Bromofluorobenzene	12.78	95	217051	46.26	ug/l	-0.03
Spiked Amount 50.000	Range 86 - 115		Recovery = 92.52%			

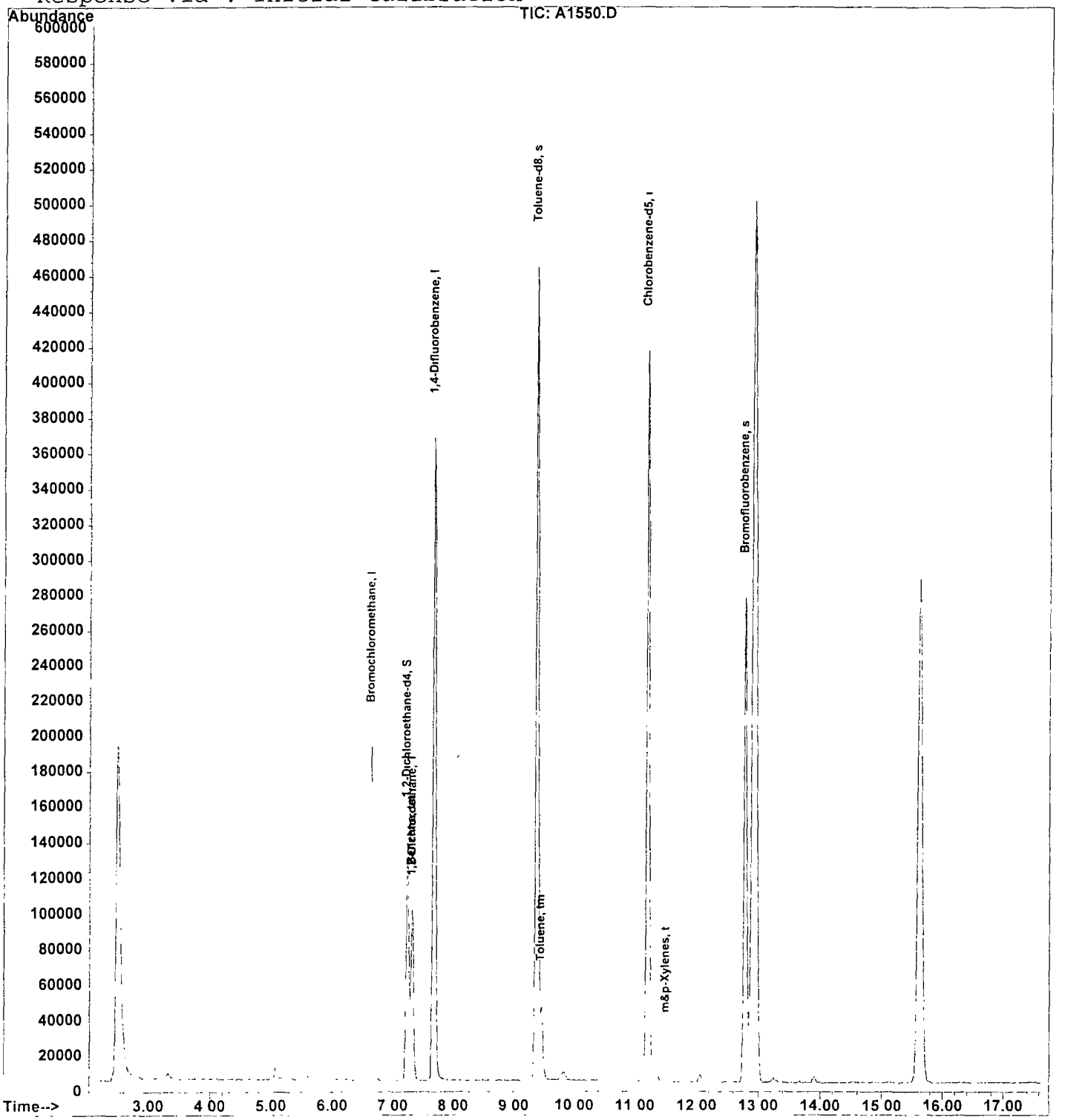
Target Compounds						Qvalue
22) 1,2-Dichloroethane	7.33	62	91826	17.19	ug/l	93
26) Benzene	7.31	78	42255	2.41	ug/l	100
35) Toluene	9.46	92	30169	2.87	ug/l	98
45) m&p-Xylenes	11.51	91	21303	1.32	ug/l	98

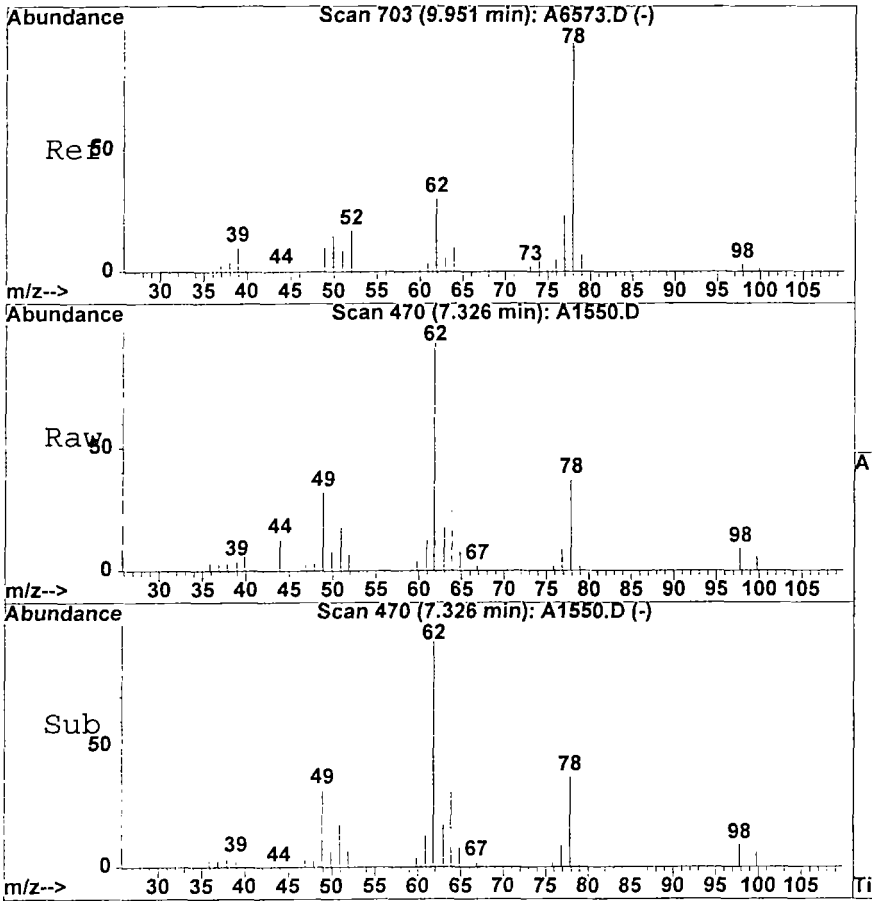
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1550.D Vial: 10
Acq On : 21 Dec 1998 6:26 pm Operator:
Sample : 813554 22 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 8:16 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration

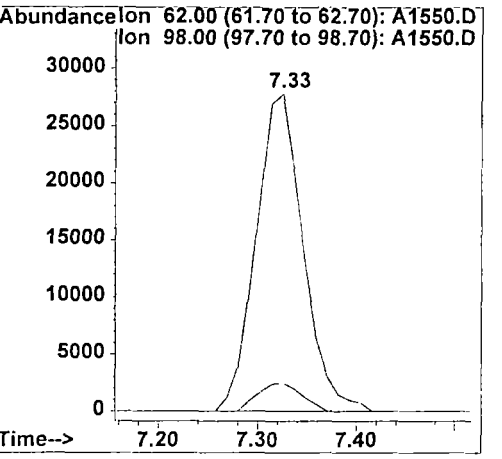


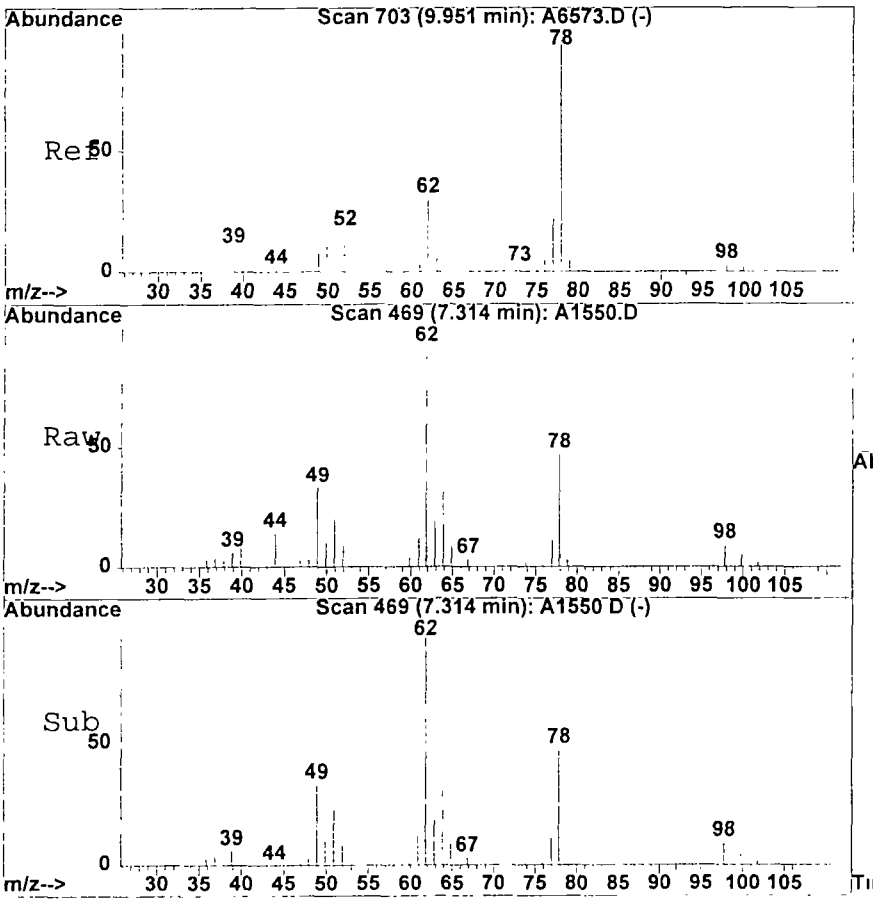


#22
1,2-Dichloroethane
Concen: 17.19 ug/l
RT: 7.33 min Scan# 470
Delta R.T. -0.03 min
Lab File: A1550.D
Acq: 21 Dec 1998 6:26 pm

Tgt Ion: 62 Resp: 91826

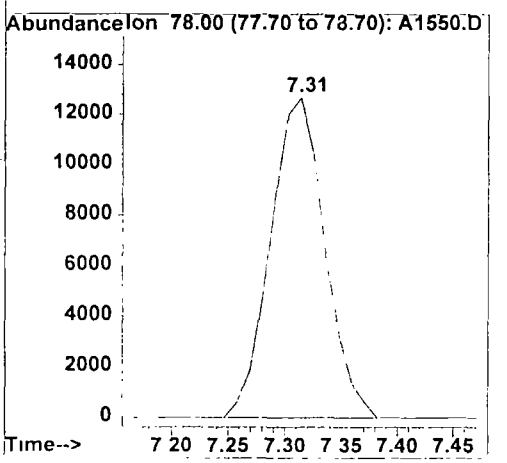
Ion	Ratio	Lower	Upper
62	100		
98	8.2	0.0	30.9

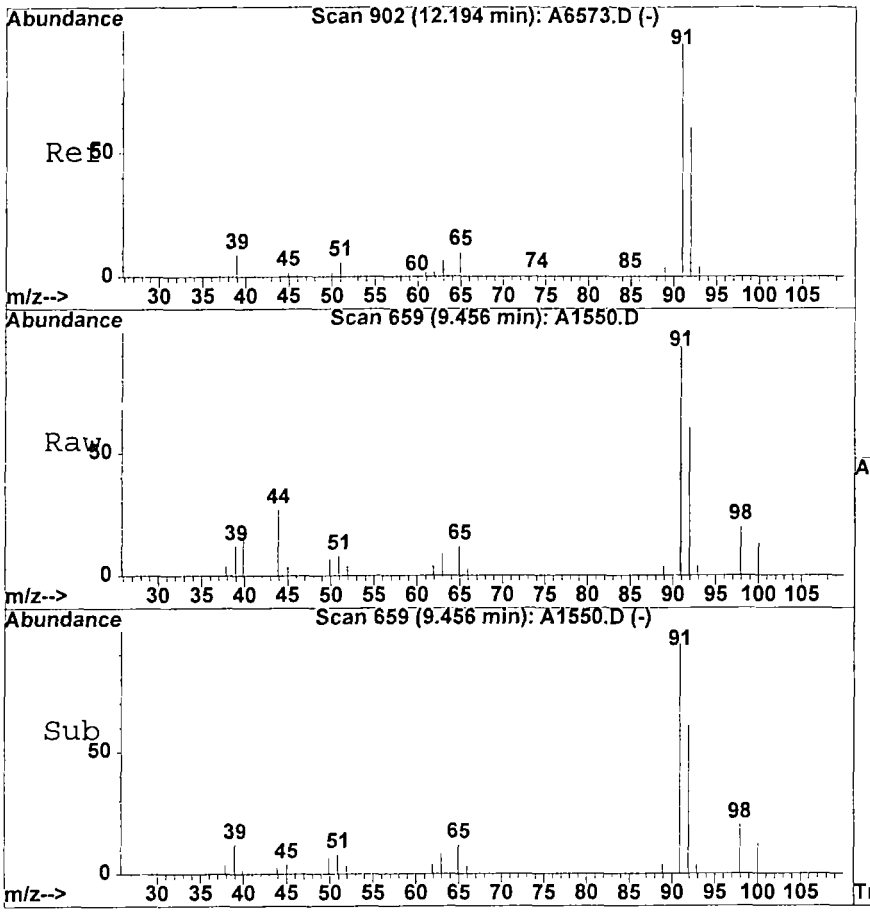




#26
Benzene
Concen: 2.41 ug/l
RT: 7.31 min Scan# 469
Delta R.T. -0.04 min
Lab File: A1550.D
Acq: 21 Dec 1998 6:26 pm

Tgt Ion: 78 Resp: 42255

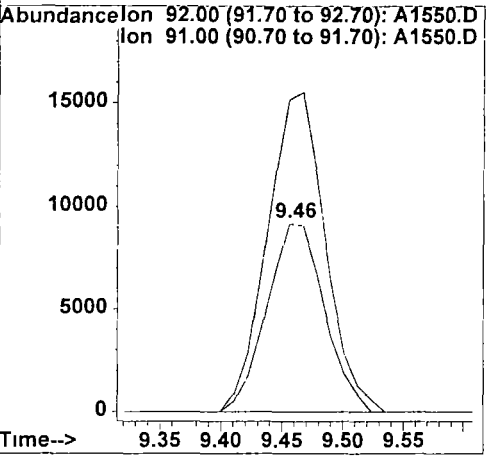


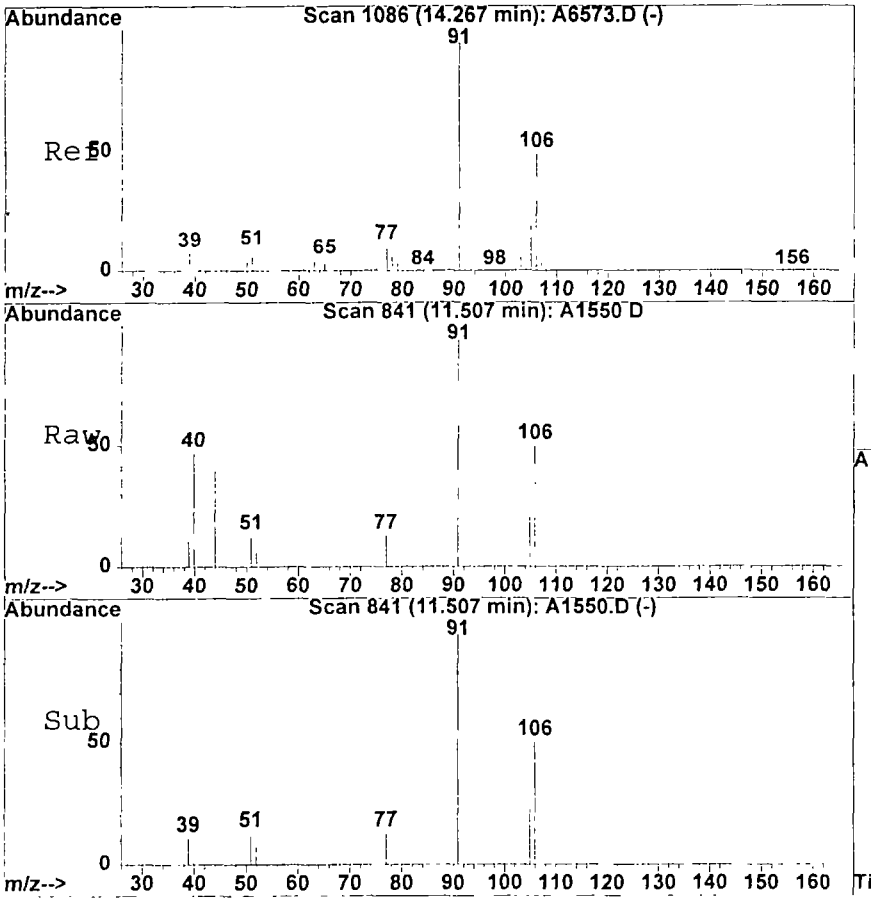


#35
Toluene
Concen: 2.87 ug/l
RT: 9.46 min Scan# 659
Delta R.T. -0.04 min
Lab File: A1550.D
Acq: 21 Dec 1998 6:26 pm

Tgt Ion: 92 Resp: 30169

Ion	Ratio	Lower	Upper
92	100		
91	169.3	145.9	185.9

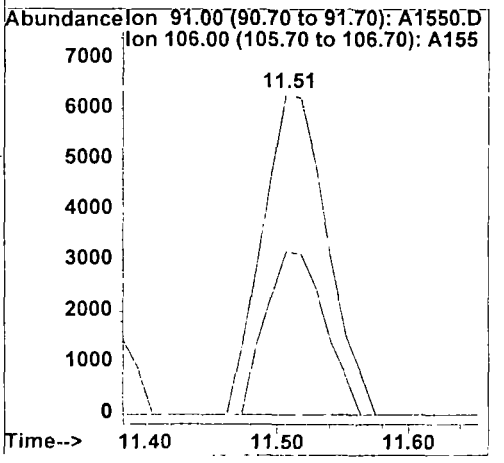




#45
m&p-Xylenes
Concen: 1.32 ug/l
RT: 11.51 min Scan# 841
Delta R.T. -0.04 min
Lab File: A1550.D
Acq: 21 Dec 1998 6:26 pm

Tgt Ion: 91 Resp: 21303

Ion	Ratio	Lower	Upper
91	100		
106	46.1	24.6	64.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1260.D Vial: 19
Acq On : 13 Dec 1998 4:04 am Operator:
Sample : 813554 23 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:41 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.72	128	584994	50.00	ug/l	0.13
27) 1,4-Difluorobenzene	7.78	114	3697667	50.00	ug/l	0.12
41) Chlorobenzene-d5	11.32	117	3054301	50.00	ug/l	0.11
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.33	65	1386735	50.45	ug/l	0.12
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.90%			
34) Toluene-d8	9.49	98	4035026	50.25	ug/l	0.11
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.50%			
50) Bromofluorobenzene	12.91	95	1376236	46.03	ug/l	0.12
Spiked Amount 50.000	Range 74 - 115		Recovery = 92.06%			

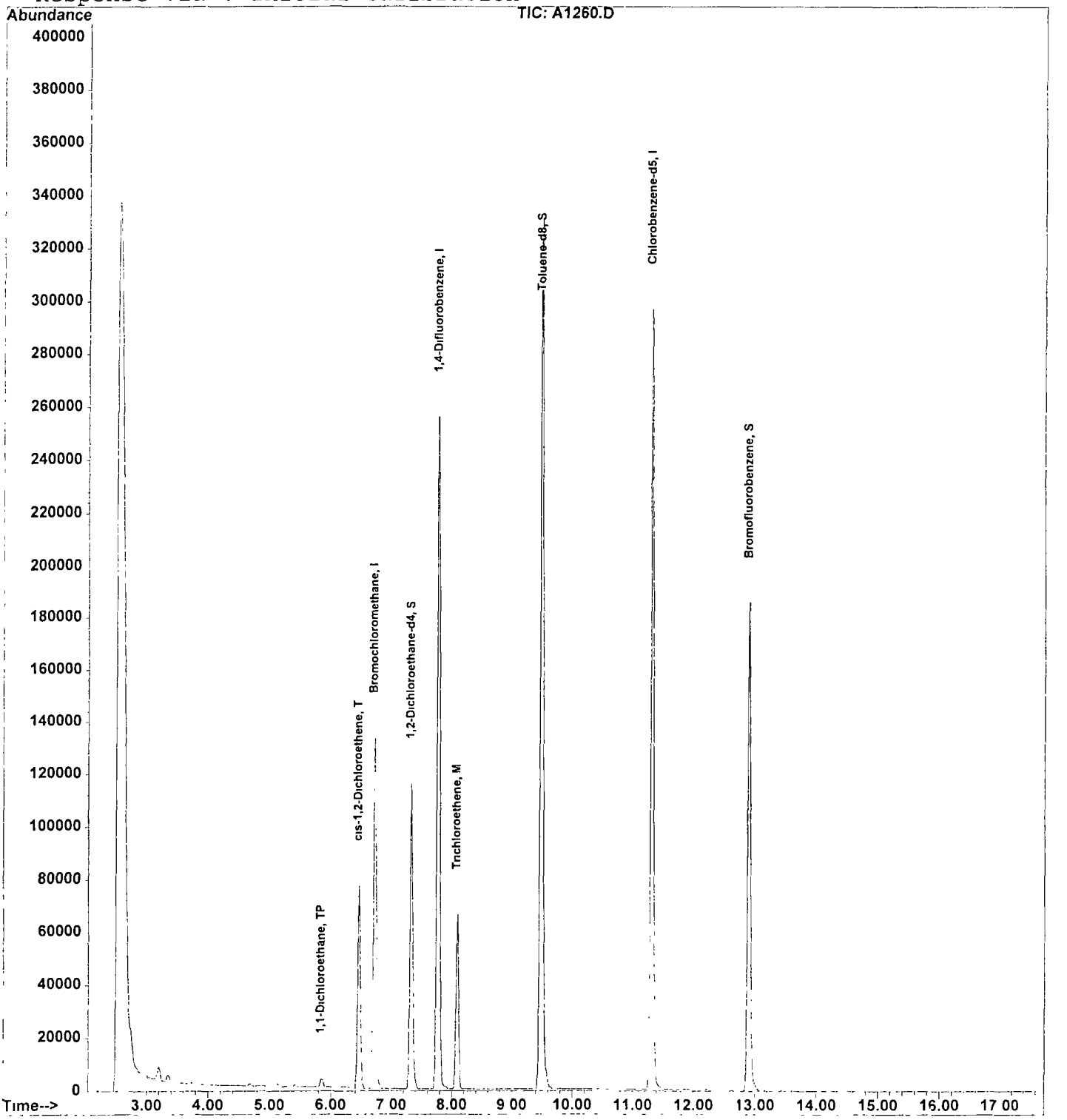
Target Compounds						Qvalue
17) 1,1-Dichloroethane	5.86	63	74666	1.43	ug/l	88
19) cis-1,2-Dichloroethene	6.46	96	553469	21.07	ug/l	97
28) Trichloroethene	8.09	130	386884	15.70	ug/l	97

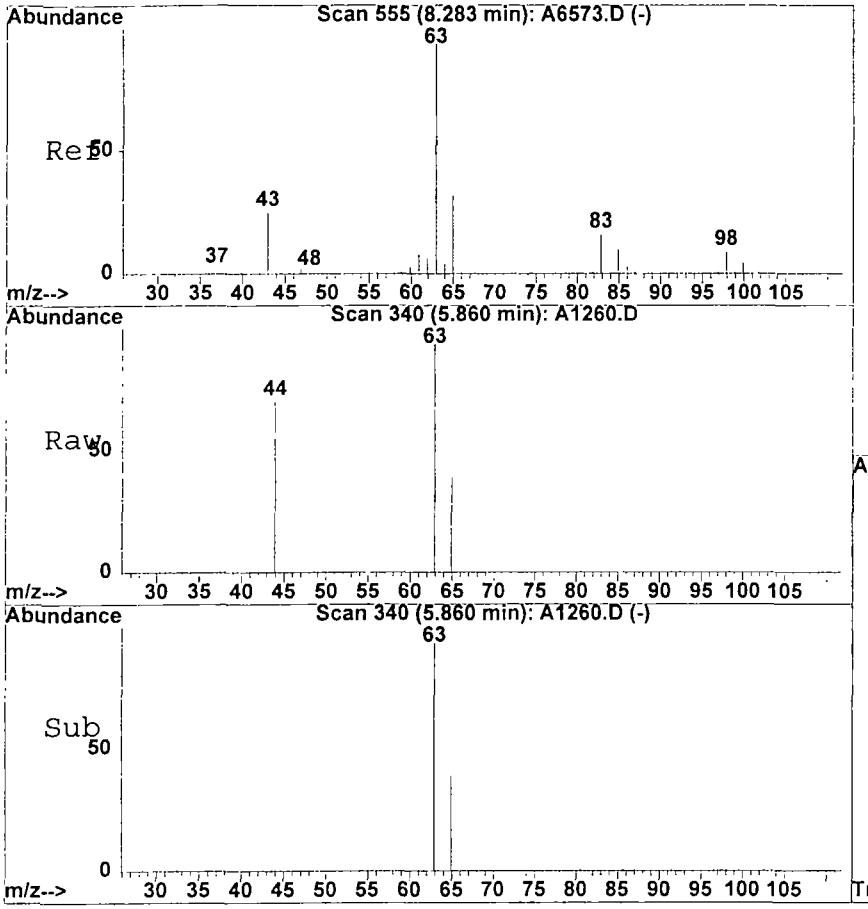
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1260.D Vial: 19
Acq On : 13 Dec 1998 4:04 am Operator:
Sample : 813554 23 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:41 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

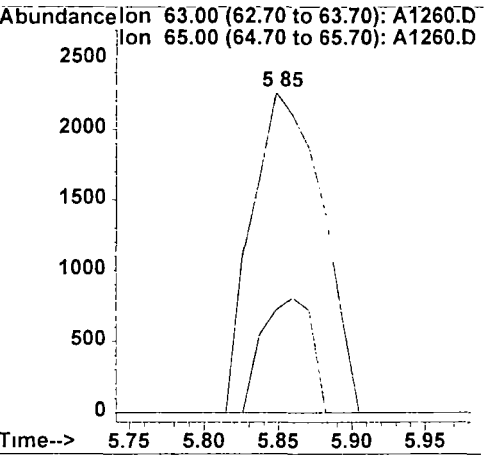


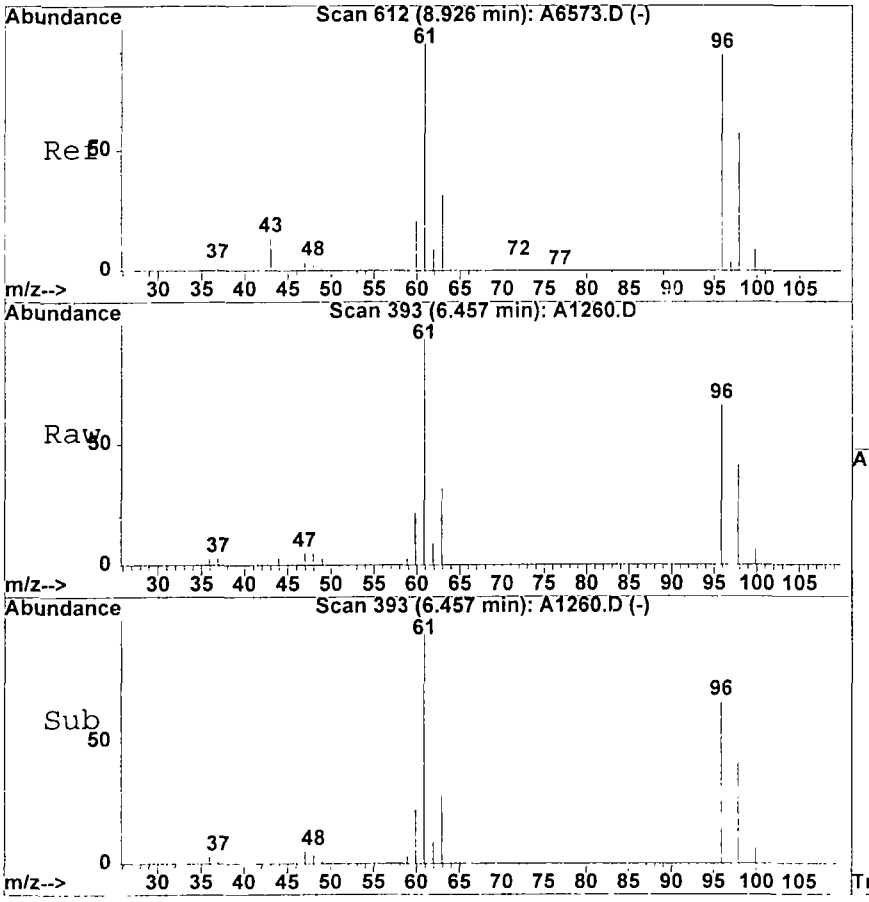


#17
1,1-Dichloroethane
Concen: 1.43 ug/l
RT: 5.86 min Scan# 340
Delta R.T. 0.14 min
Lab File: A1260.D
Acq: 13 Dec 1998 4:04 am

Tgt Ion: 63 Resp: 74666

Ion	Ratio	Lower	Upper
63	100		
65	25.0	11.5	51.5

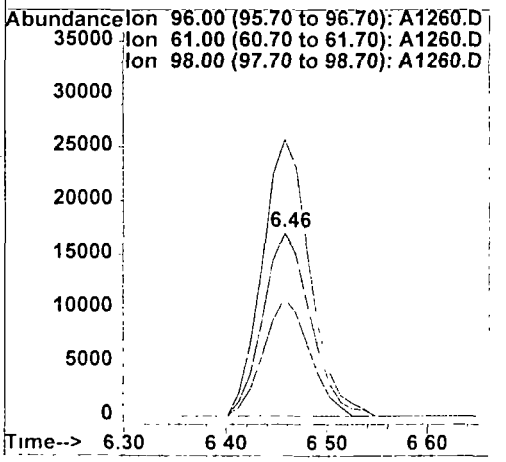


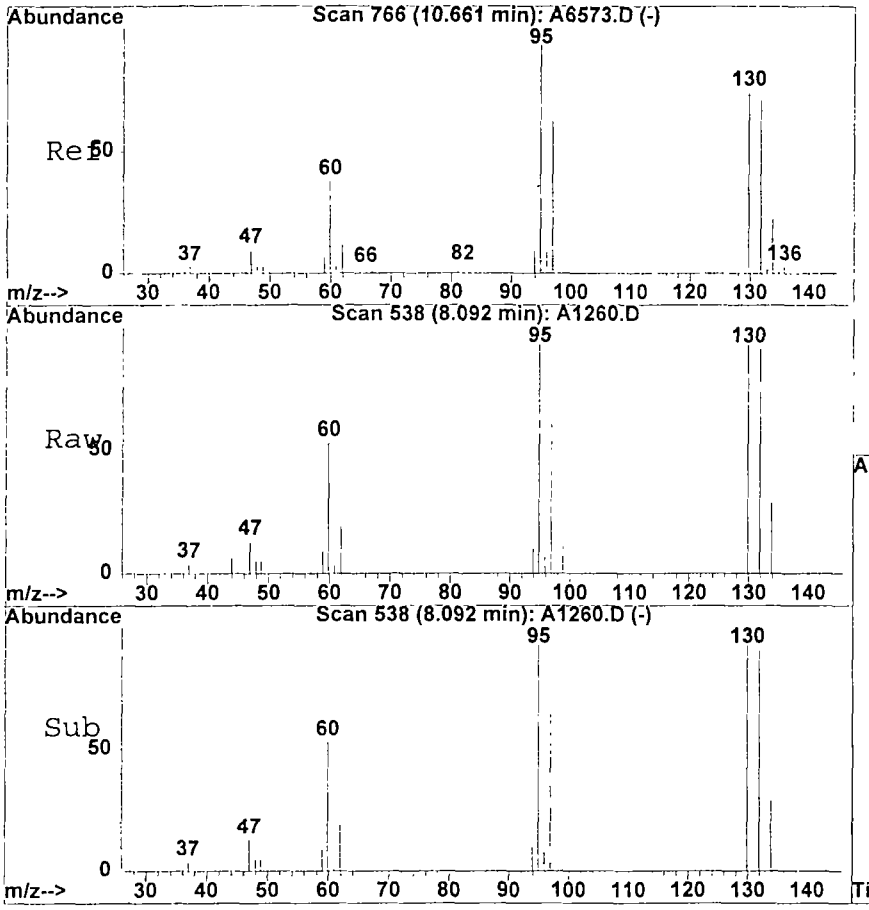


#19
cis-1,2-Dichloroethene
Concen: 21.07 ug/l
RT: 6.46 min Scan# 393
Delta R.T. 0.13 min
Lab File: A1260.D
Acq: 13 Dec 1998 4:04 am

Tgt Ion: 96 Resp: 553469

Ion	Ratio	Lower	Upper
96	100		
61	151.2	136.3	176.3
98	63.9	44.7	84.7

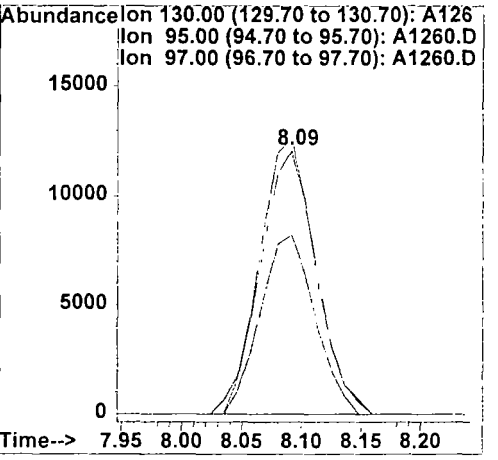




#28
Trichloroethene
Concen: 15.70 ug/l
RT: 8.09 min Scan# 538
Delta R.T. 0.12 min
Lab File: A1260.D
Acq: 13 Dec 1998 4:04 am

Tgt Ion:130 Resp: 386884

Ion	Ratio	Lower	Upper
130	100		
95	106.3	88.6	128.6
97	66.7	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1261.D Vial: 20
Acq On : 13 Dec 1998 4:35 am Operator:
Sample : 813554 24 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:42 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.71	128	582174	50.00	ug/l	0.12
27) 1,4-Difluorobenzene	7.76	114	3645044	50.00	ug/l	0.10
41) Chlorobenzene-d5	11.29	117	2996078	50.00	ug/l	0.08
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.31	65	1393717	50.95	ug/l	0.11
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.90%			
34) Toluene-d8	9.46	98	3952964	49.93	ug/l	0.08
Spiked Amount 50.000	Range 81 - 110		Recovery = 99.86%			
50) Bromofluorobenzene	12.87	95	1374988	46.88	ug/l	0.08
Spiked Amount 50.000	Range 74 - 115		Recovery = 93.76%			

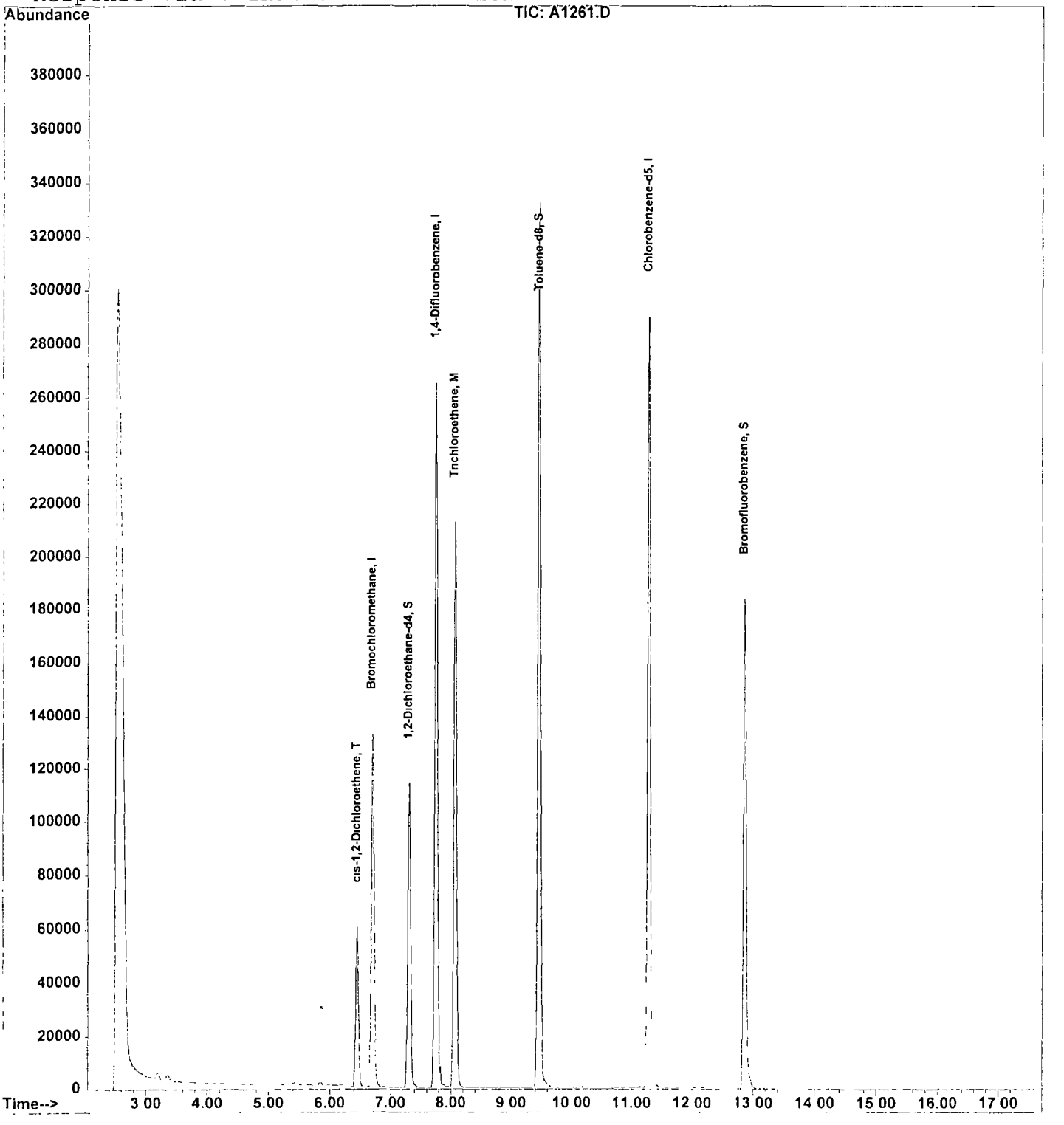
Target Compounds						Qvalue
19) cis-1,2-Dichloroethene	6.45	96	452242	17.30	ug/l	96
28) Trichloroethene	8.07	130	1193662	49.13	ug/l	95

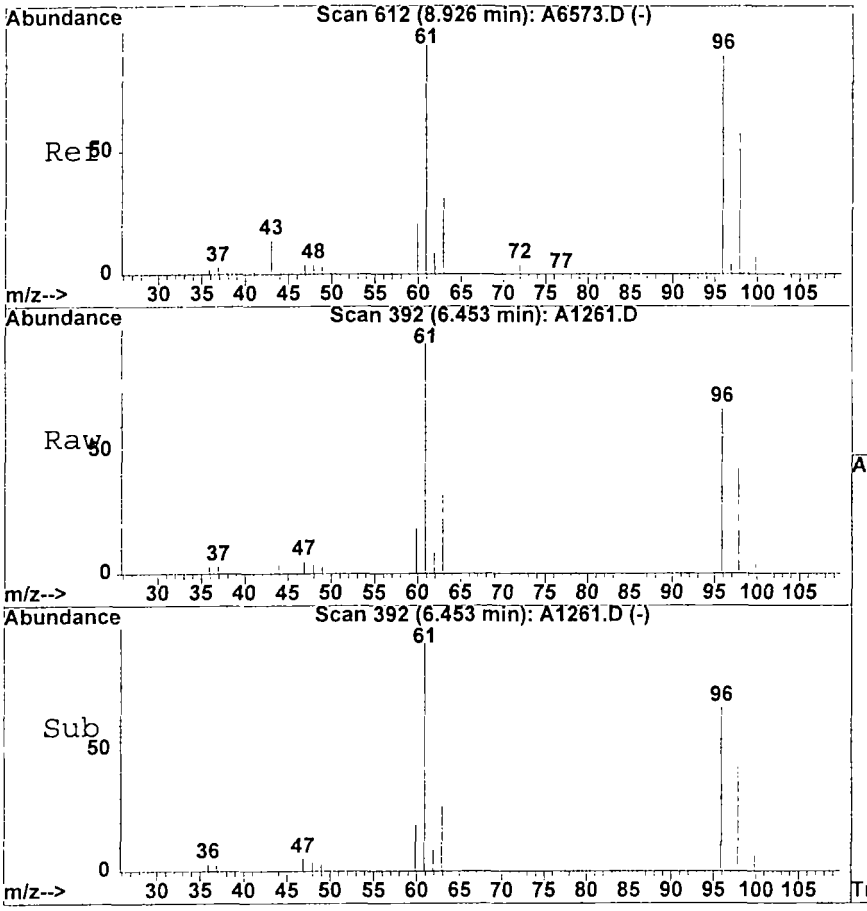
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1261.D Vial: 20
Acq On : 13 Dec 1998 4:35 am Operator:
Sample : 813554 24 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:42 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

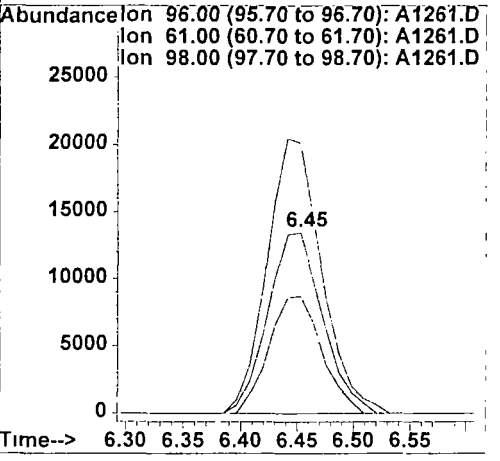


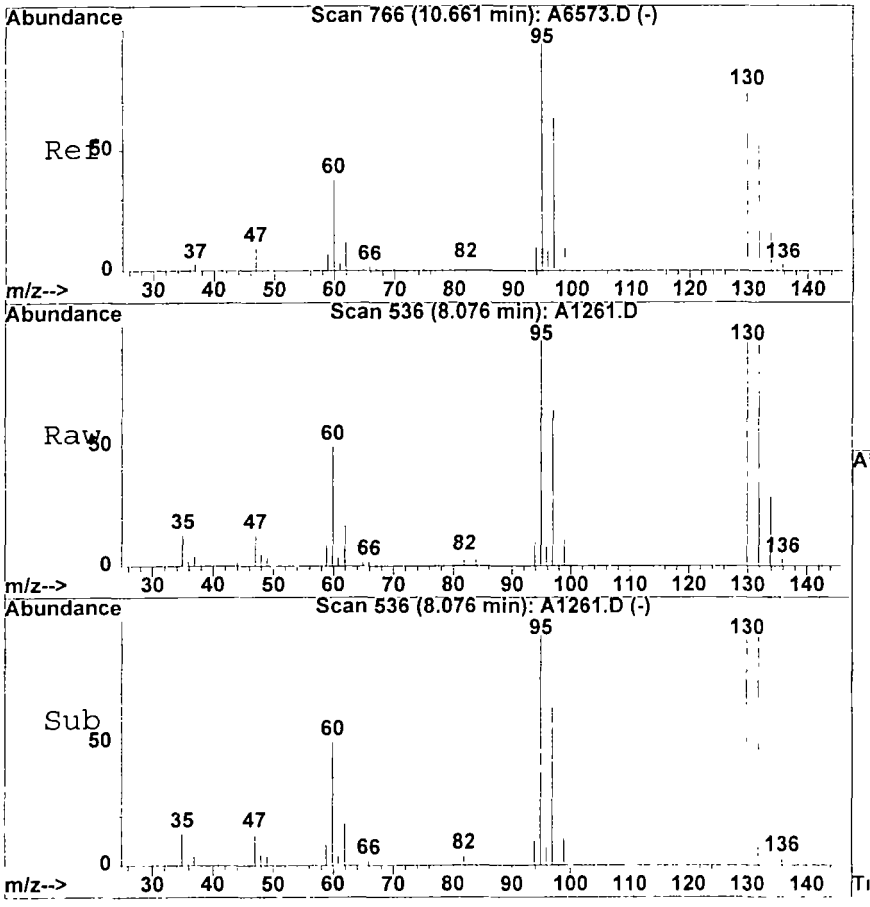


#19
cis-1,2-Dichloroethene
Concen: 17.30 ug/l
RT: 6.45 min Scan# 392
Delta R.T. 0.12 min
Lab File: A1261.D
Acq: 13 Dec 1998 4:35 am

Tgt Ion: 96 Resp: 452242

Ion	Ratio	Lower	Upper
96	100		
61	149.7	136.3	176.3
98	64.8	44.7	84.7

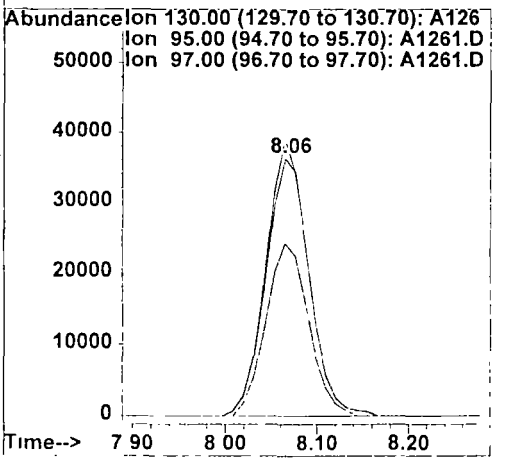




#28
Trichloroethene
Concen: 49.13 ug/l
RT: 8.07 min Scan# 536
Delta R.T. 0.10 min
Lab File: A1261.D
Acq: 13 Dec 1998 4:35 am

Tgt Ion:130 Resp: 1193662

Ion	Ratio	Lower	Upper
130	100		
95	104.0	88.6	128.6
97	65.9	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1262.D Vial: 21
Acq On : 13 Dec 1998 5:05 am Operator:
Sample : 813554 25 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:43 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

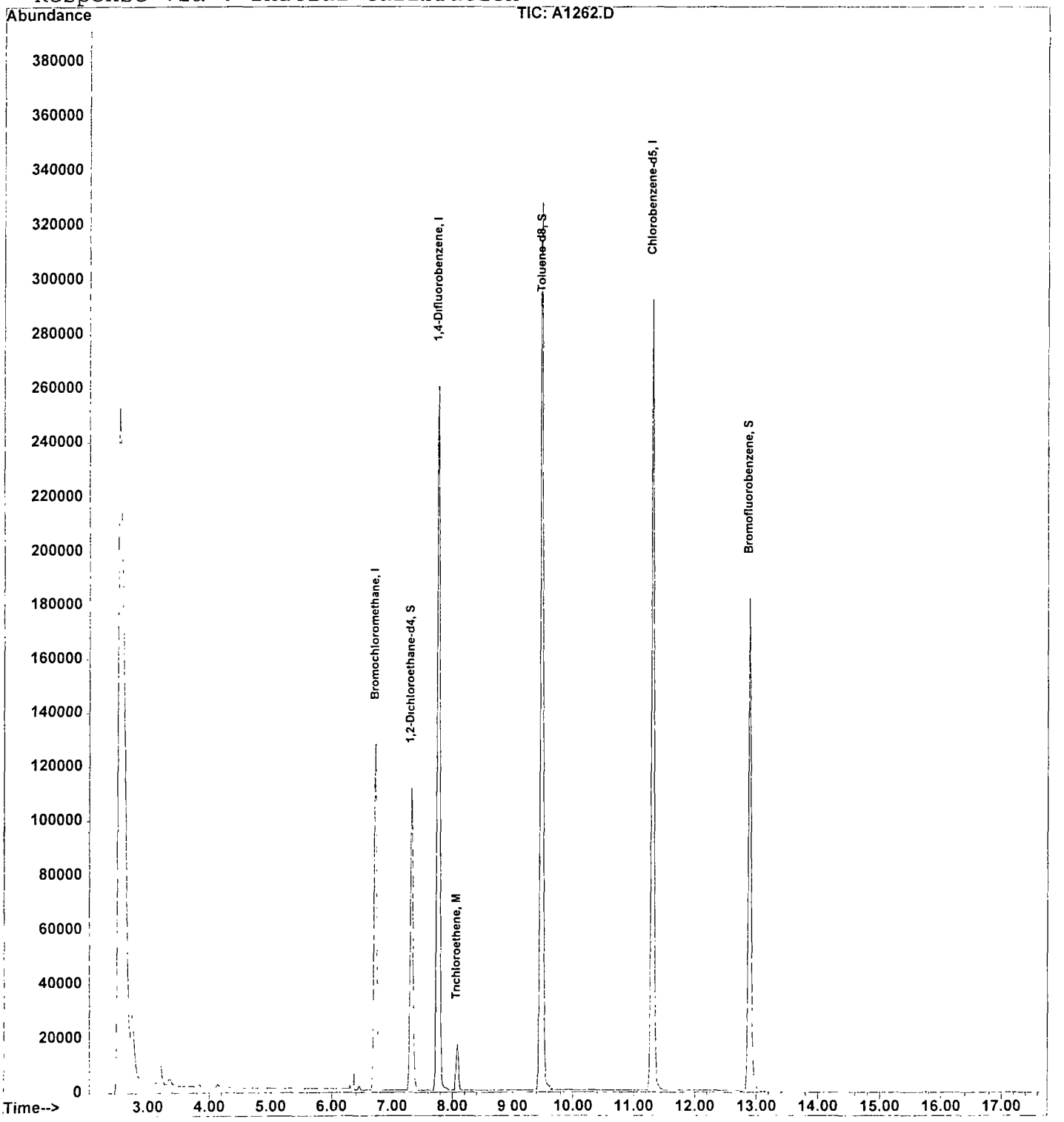
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.72	128	574125	50.00	ug/l	0.13
27) 1,4-Difluorobenzene	7.77	114	3619598	50.00	ug/l	0.11
41) Chlorobenzene-d5	11.31	117	2986027	50.00	ug/l	0.10
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.32	65	1356284	50.28	ug/l	0.12
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.56%			
34) Toluene-d8	9.48	98	3962230	50.40	ug/l	0.10
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.80%			
50) Bromofluorobenzene	12.89	95	1375567	47.06	ug/l	0.10
Spiked Amount 50.000	Range 74 - 115		Recovery = 94.12%			
Target Compounds						Qvalue
28) Trichloroethene	8.09	130	107417	4.45	ug/l	97

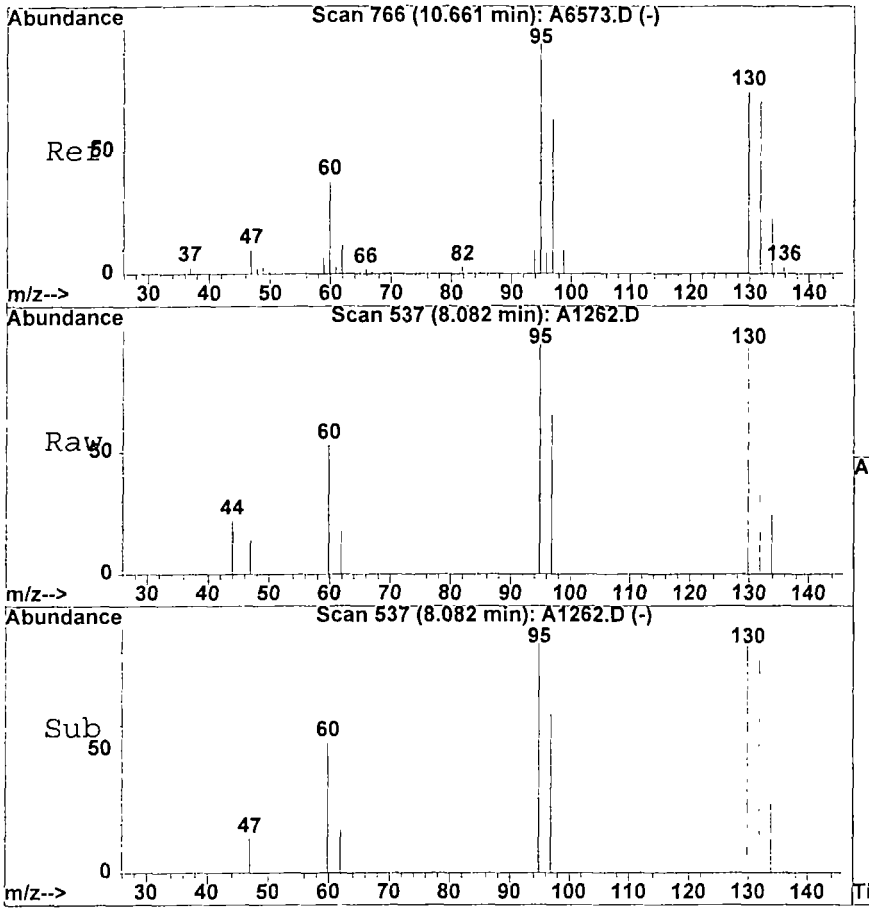
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1262.D Vial: 21
Acq On : 13 Dec 1998 5:05 am Operator:
Sample : 813554 25 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 13:43 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

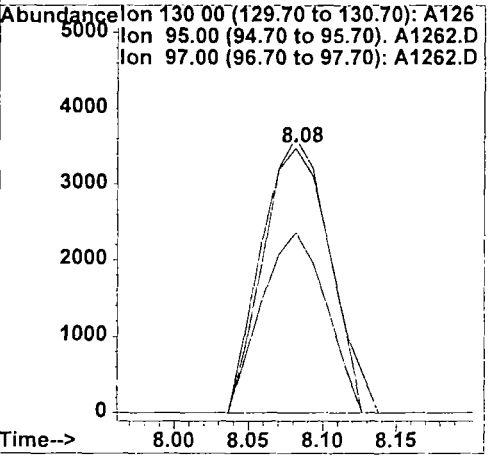




#28
Trichloroethene
Concen: 4.45 ug/l
RT: 8.09 min Scan# 537
Delta R.T. 0.11 min
Lab File: A1262.D
Acq: 13 Dec 1998 5:05 am

Tgt Ion:130 Resp: 107417

Ion	Ratio	Lower	Upper
130	100		
95	107.7	88.6	128.6
97	66.3	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1277.D Vial: 36
Acq On : 13 Dec 1998 12:44 pm Operator:
Sample : 813554 26 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:09 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.69	128	543097	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3386053	50.00	ug/l	0.07
41) Chlorobenzene-d5	11.25	117	2817131	50.00	ug/l	0.04
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.29	65	1278529	50.10	ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.20%			
34) Toluene-d8	9.43	98	3710641	50.46	ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.92%			
50) Bromofluorobenzene	12.83	95	1201098	43.56	ug/l	0.04
Spiked Amount 50.000	Range 74 - 115		Recovery = 87.12%			

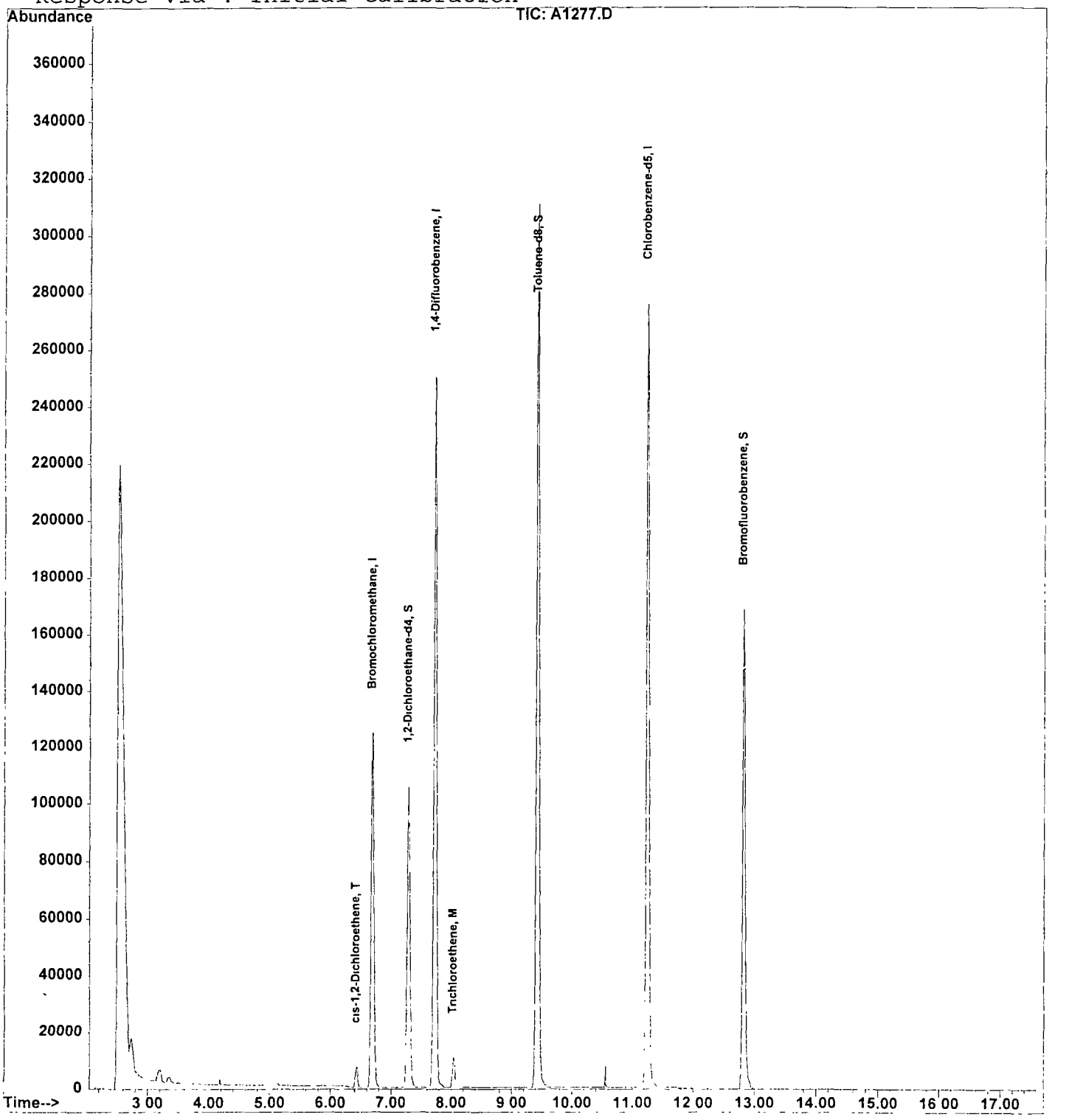
Target Compounds						Qvalue
19) cis-1,2-Dichloroethene	6.43	96	51972	2.13	ug/l	92
28) Trichloroethene	8.04	130	70022	3.10	ug/l	92

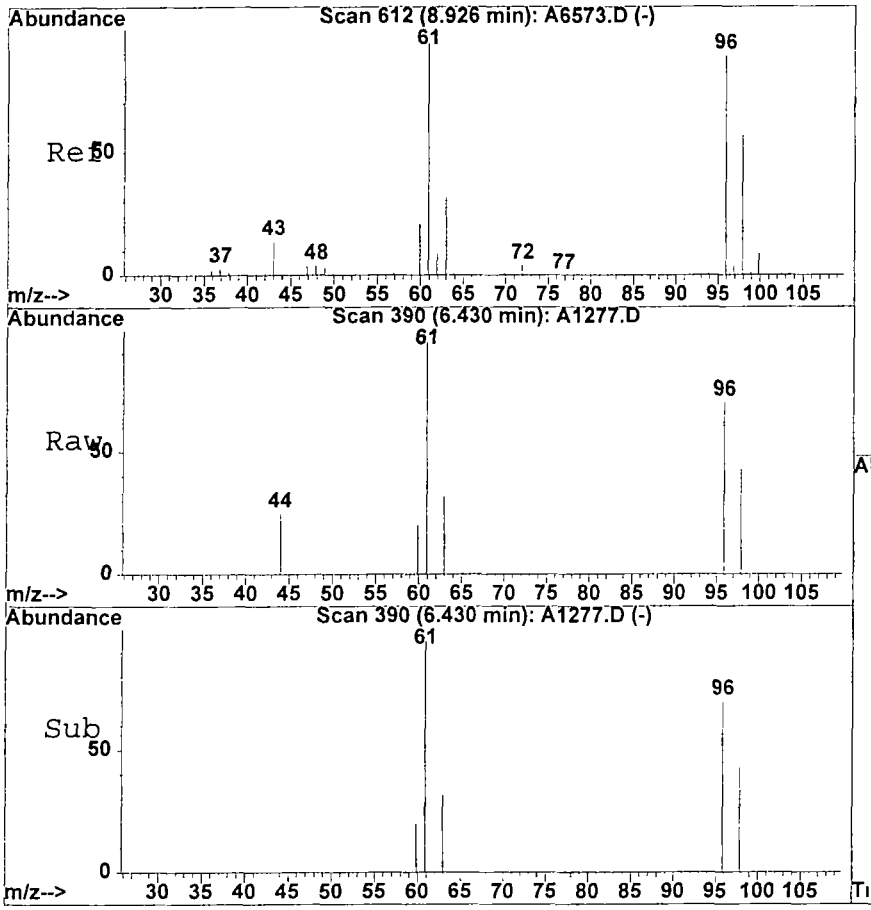
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1277.D Vial: 36
Acq On : 13 Dec 1998 12:44 pm Operator:
Sample : 813554 26 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:09 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

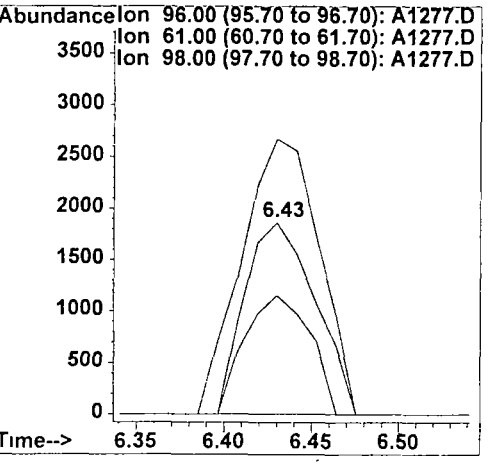


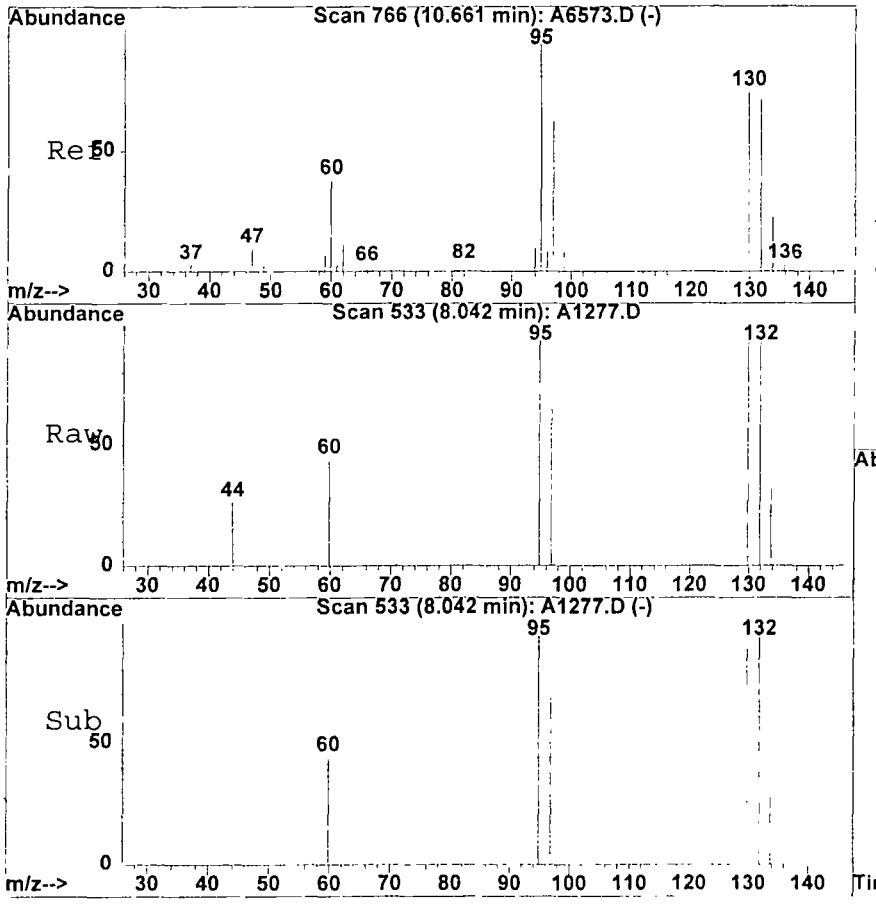


#19
cis-1,2-Dichloroethene
Concen: 2.13 ug/l
RT: 6.43 min Scan# 390
Delta R.T. 0.10 min
Lab File: A1277.D
Acq: 13 Dec 1998 12:44 pm

Tgt Ion: 96 Resp: 51972

Ion	Ratio	Lower	Upper
96	100		
61	143.5	136.3	176.3
98	61.8	44.7	84.7

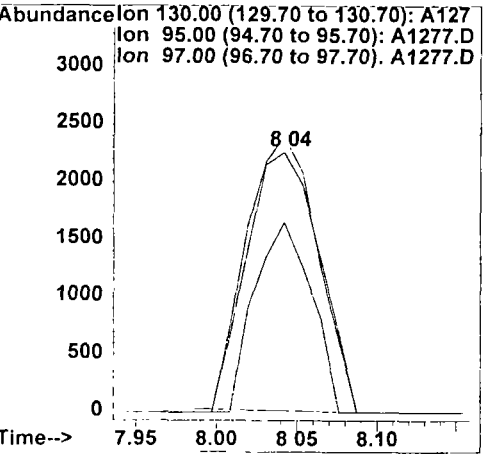




#28
Trichloroethene
Concen: 3.10 ug/l
RT: 8.04 min Scan# 533
Delta R.T. 0.07 min
Lab File: A1277.D
Acq: 13 Dec 1998 12:44 pm

Tgt Ion:130 Resp: 70022

Ion	Ratio	Lower	Upper
130	100		
95	105.3	88.6	128.6
97	57.5	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1278.D Vial: 37
Acq On : 13 Dec 1998 1:15 pm Operator:
Sample : 813554 27 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:10 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

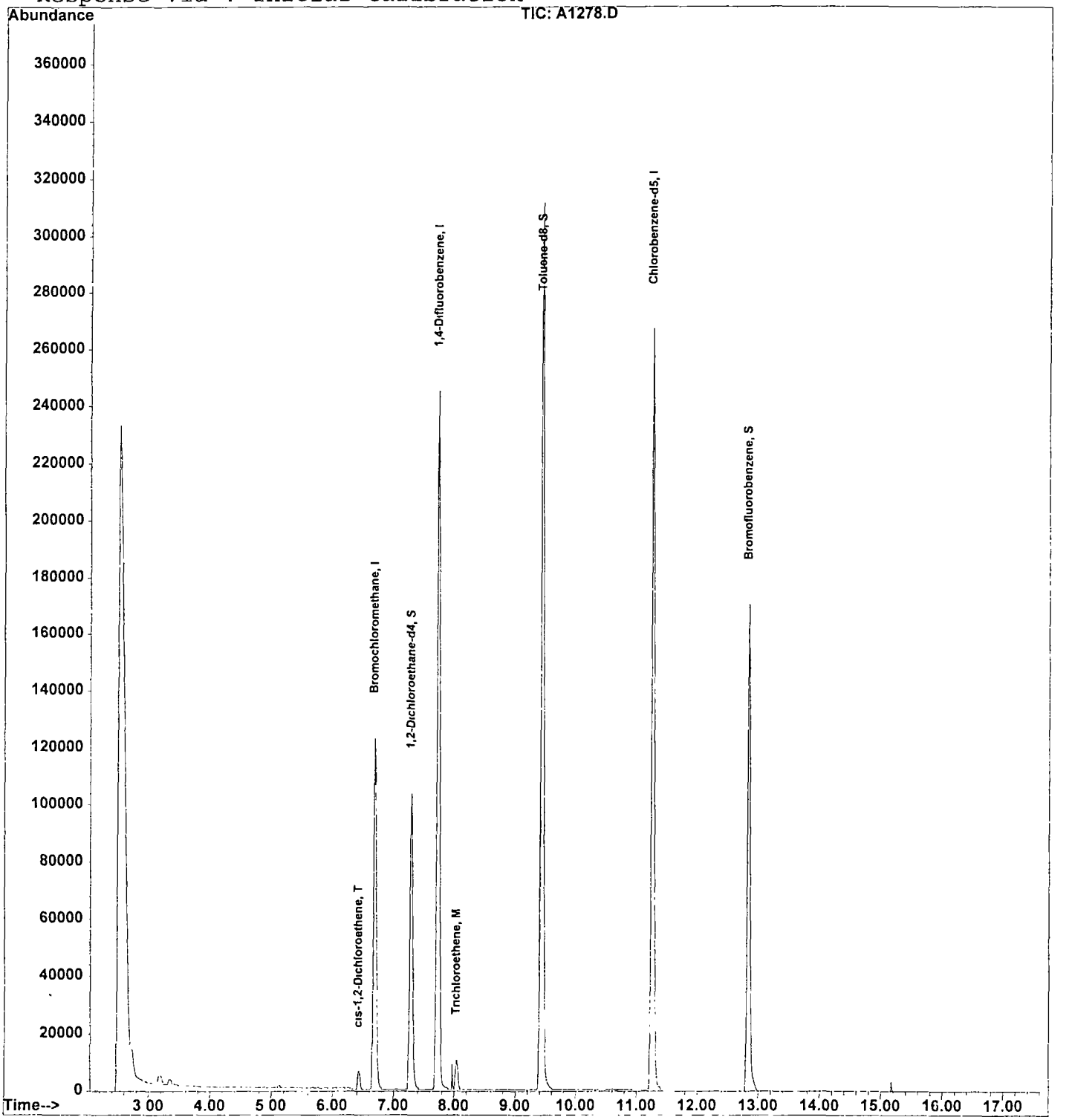
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.70	128	539995	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	3380461	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.27	117	2736936	50.00 ug/l	0.06
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.30	65	1293555	50.98 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.96%		
34) Toluene-d8	9.44	98	3723964	50.72 ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.44%		
50) Bromofluorobenzene	12.85	95	1213438	45.29 ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 90.58%		
Target Compounds					Qvalue
19) cis-1,2-Dichloroethene	6.44	96	46618	1.92 ug/l	99
28) Trichloroethene	8.05	130	66247	2.94 ug/l	94

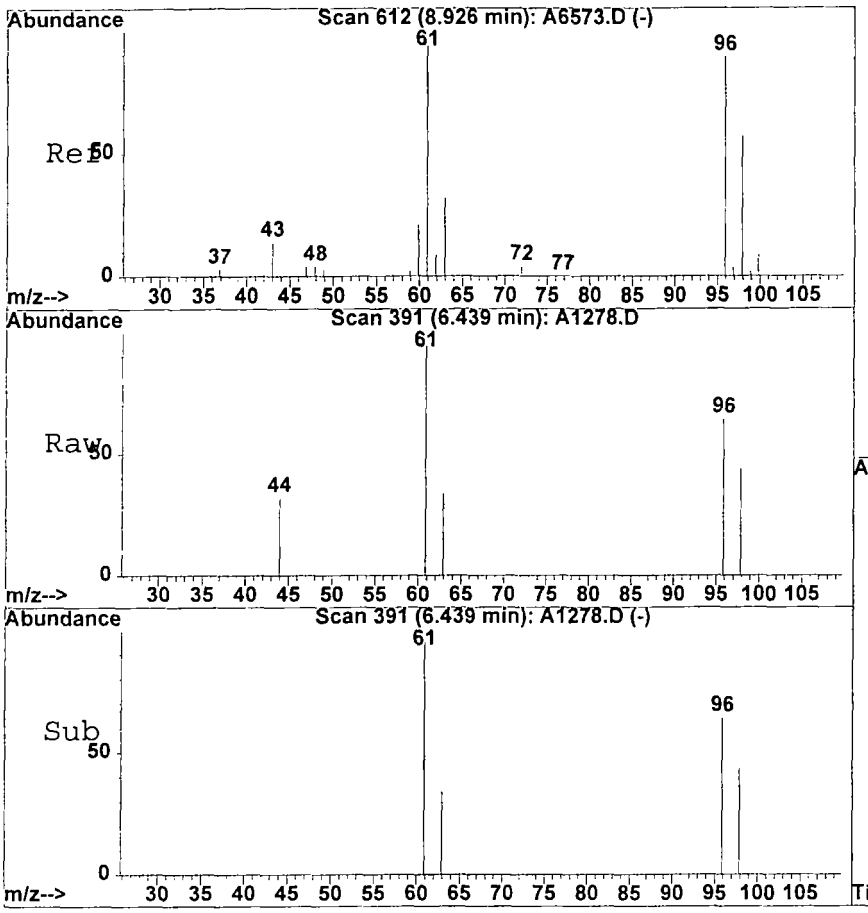
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1278.D Vial: 37
Acq On : 13 Dec 1998 1:15 pm Operator:
Sample : 813554 27 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:10 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

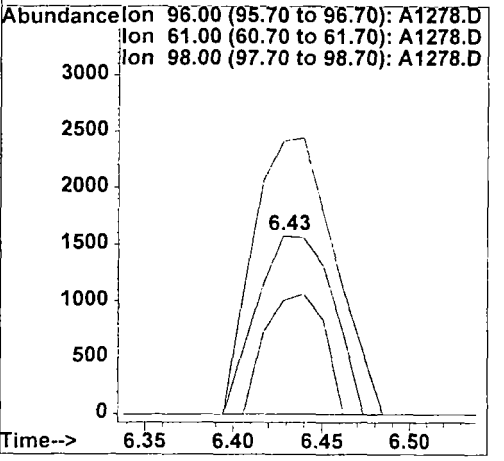


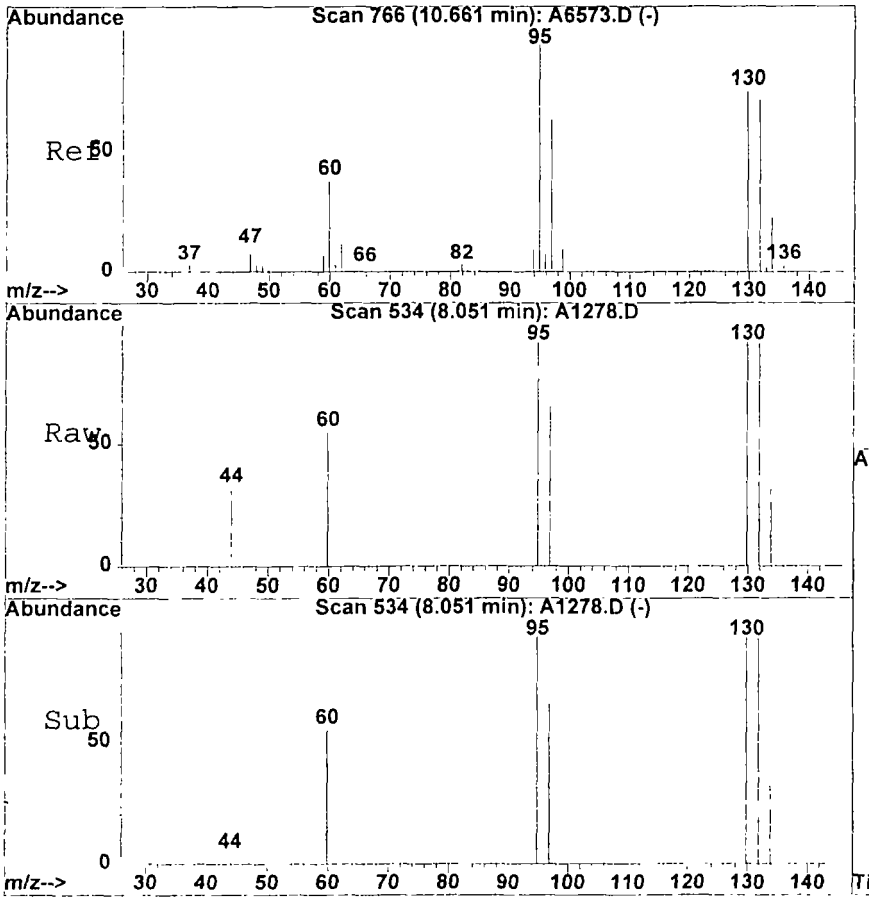


#19
cis-1,2-Dichloroethene
Concen: 1.92 ug/l
RT: 6.44 min Scan# 391
Delta R.T. 0.11 min
Lab File: A1278.D
Acq: 13 Dec 1998 1:15 pm

Tgt Ion: 96 Resp: 46618

Ion	Ratio	Lower	Upper
96	100		
61	156.2	136.3	176.3
98	68.4	44.7	84.7

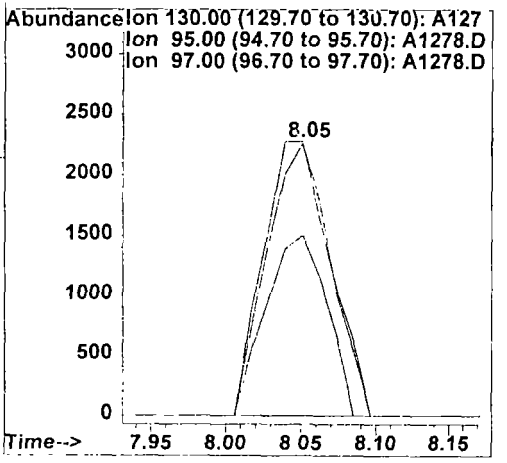




#28
Trichloroethene
Concen: 2.94 ug/l
RT: 8.05 min Scan# 534
Delta R.T. 0.08 min
Lab File: A1278.D
Acq: 13 Dec 1998 1:15 pm

Tgt Ion:130 Resp: 66247

Ion	Ratio	Lower	Upper
130	100		
95	105.3	88.6	128.6
97	62.5	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1276.D Vial: 35
Acq On : 13 Dec 1998 12:13 pm Operator:
Sample : 813554 28 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:08 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.70	128	548865	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	3404885	50.00 ug/l	0.08
41) Chlorobenzene-d5	11.27	117	2727117	50.00 ug/l	0.06
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.30	65	1322351	51.27 ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.54%		
34) Toluene-d8	9.44	98	3763004	50.89 ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.78%		
50) Bromofluorobenzene	12.85	95	1220515	45.72 ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 91.44%		

Target Compounds					Qvalue
J15) trans-1,2-Dichloroethene	5.42	96	33907	1.41 ug/l #	79
J17) 1,1-Dichloroethane	5.85	63	309522	6.33 ug/l	99
J19) cis-1,2-Dichloroethene	6.44	96	4412505	179.04 ug/l	97
21) 1,1,1-Trichloroethane	6.97	97	105674	3.22 ug/l	91
J22) 1,2-Dichloroethane	7.74	62	116653	3.64 ug/l #	76
28) Trichloroethene	8.05	130	1144952	50.45 ug/l	96
42) Chlorobenzene	11.31	112	109384	1.96 ug/l #	77

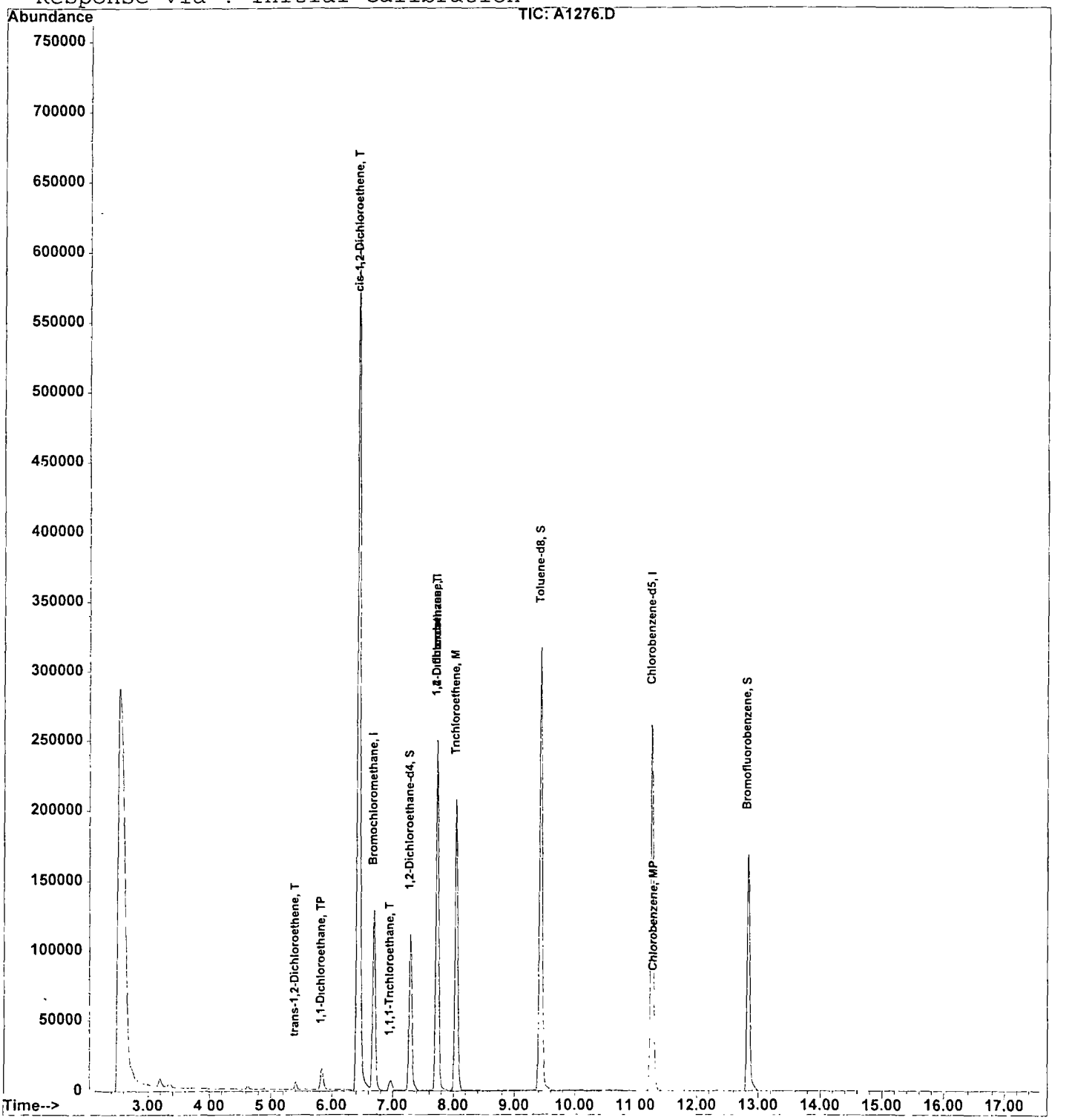
(#) = qualifier out of range (m) = manual integration

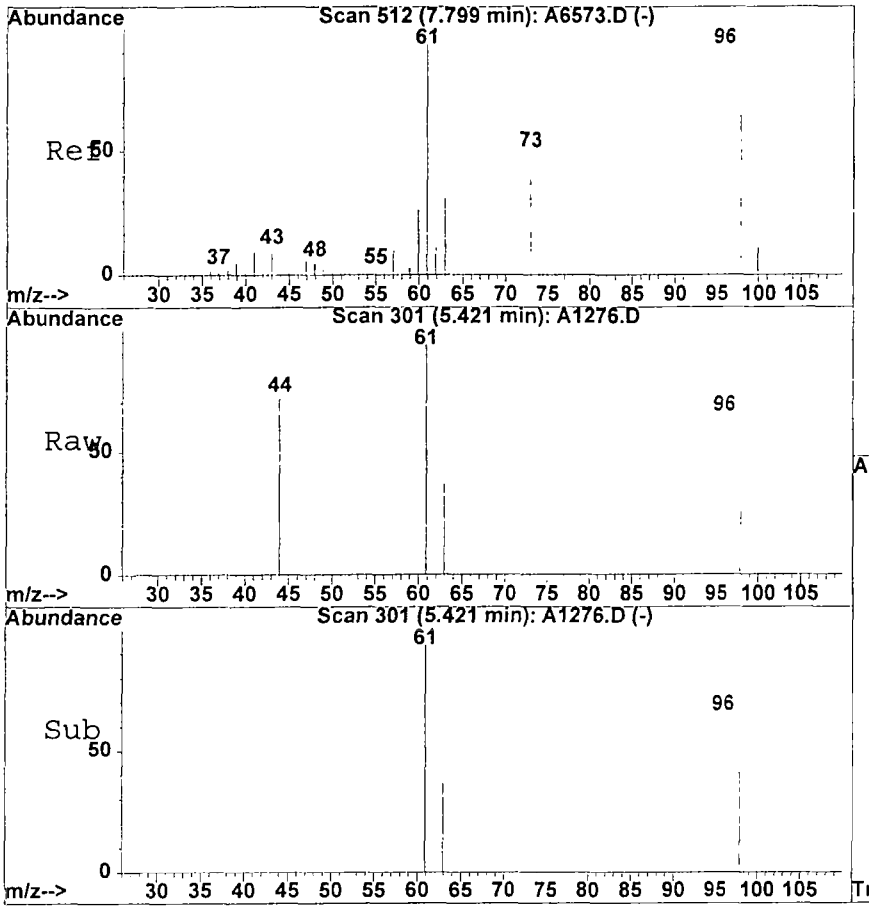
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1276.D
Acq On : 13 Dec 1998 12:13 pm
Sample : 813554 28
Misc :
MS Integration Params: events.e
Quant Time: Dec 13 14:08 1998

Vial: 35
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

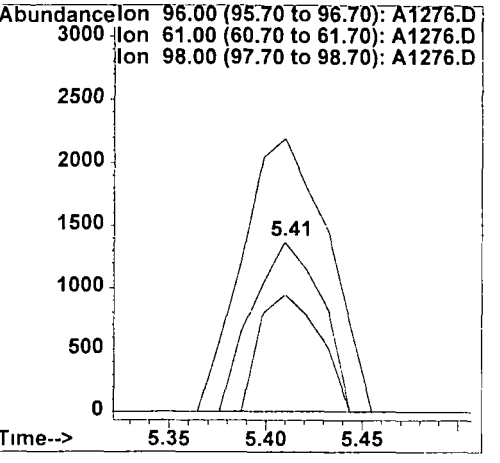


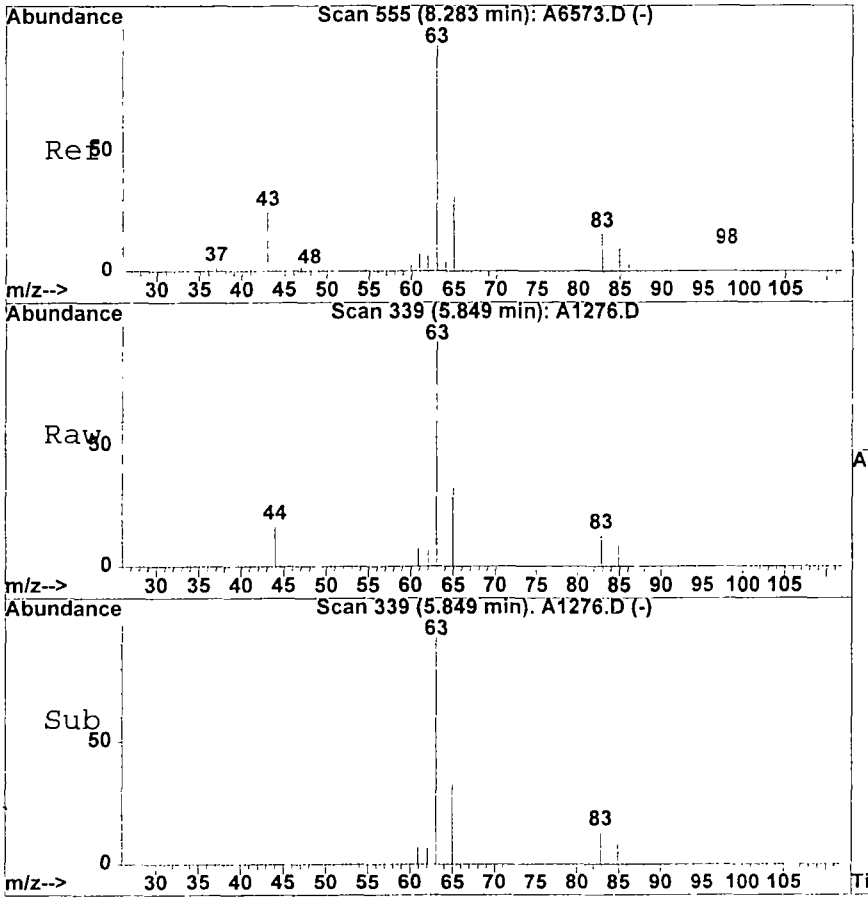


#15
trans-1,2-Dichloroethene
Concen: 1.41 ug/l
RT: 5.42 min Scan# 301
Delta R.T. 0.13 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion: 96 Resp: 33907

Ion	Ratio	Lower	Upper
96	100		
61	197.3	141.0	181.0#
98	60.6	43.4	83.4

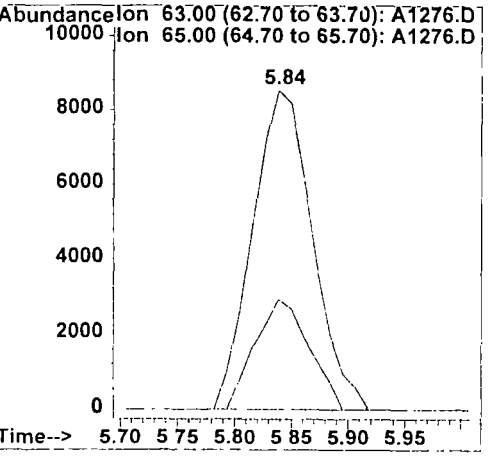


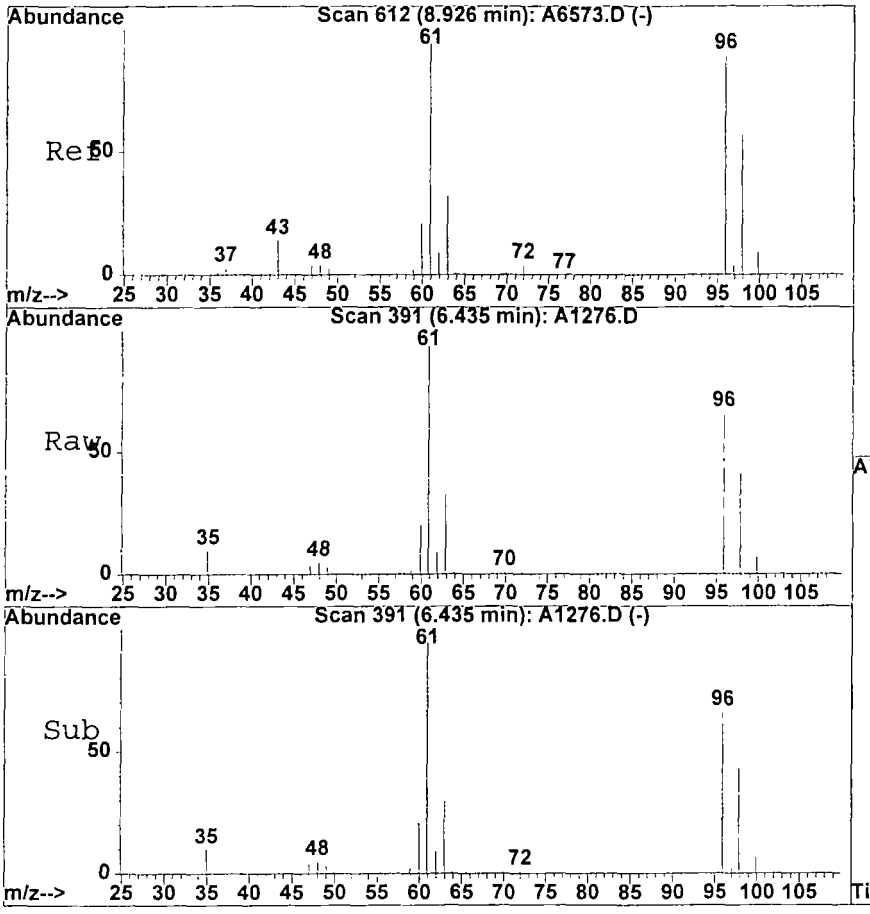


#17
1,1-Dichloroethane
Concen: 6.33 ug/l
RT: 5.85 min Scan# 339
Delta R.T. 0.13 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion: 63 Resp: 309522

Ion	Ratio	Lower	Upper
63	100		
65	31.0	11.5	51.5

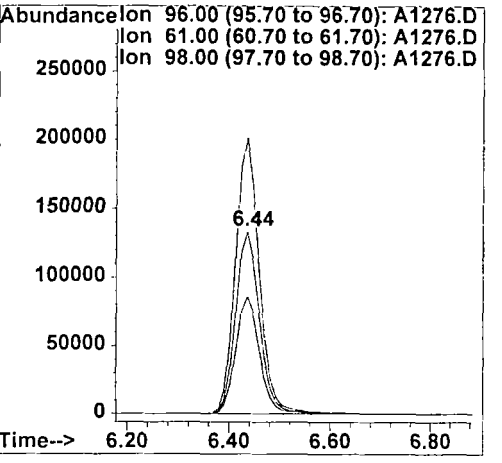


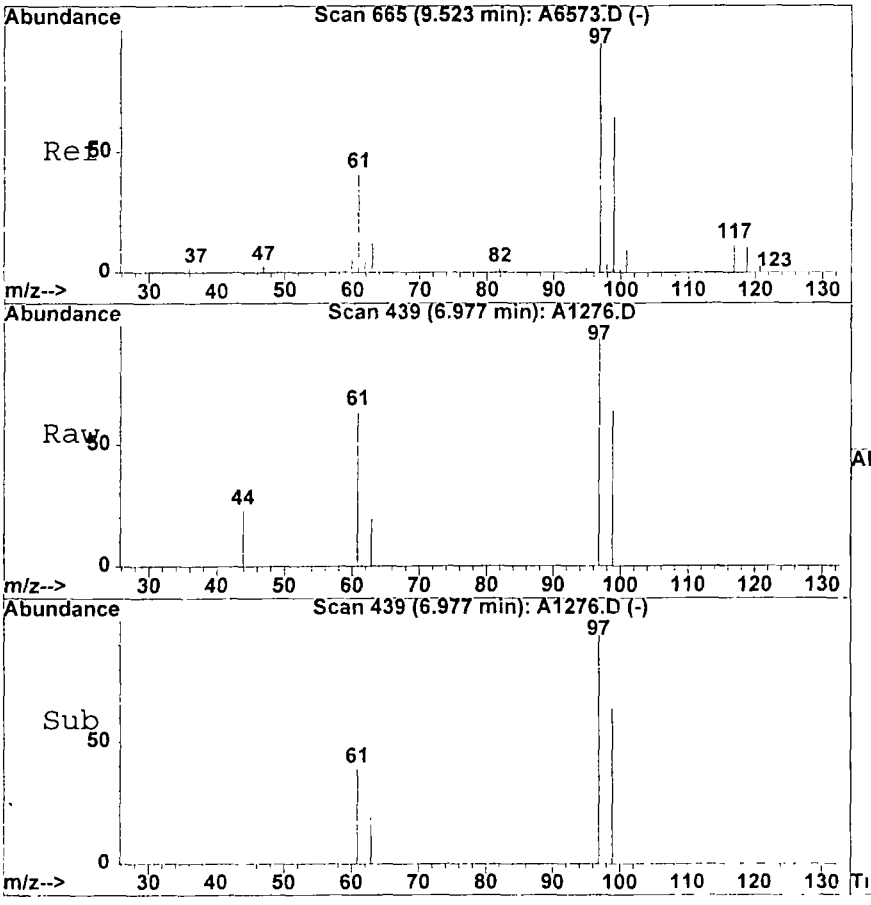


#19
cis-1,2-Dichloroethene
Concen: 179.04 ug/l
RT: 6.44 min Scan# 391
Delta R.T. 0.11 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion: 96 Resp: 4412505

Ion	Ratio	Lower	Upper
96	100		
61	151.6	136.3	176.3
98	64.5	44.7	84.7

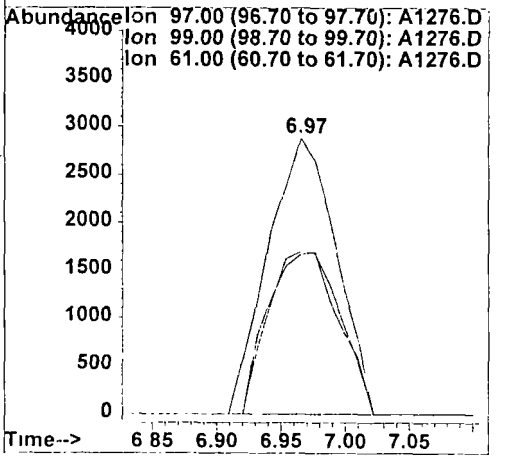


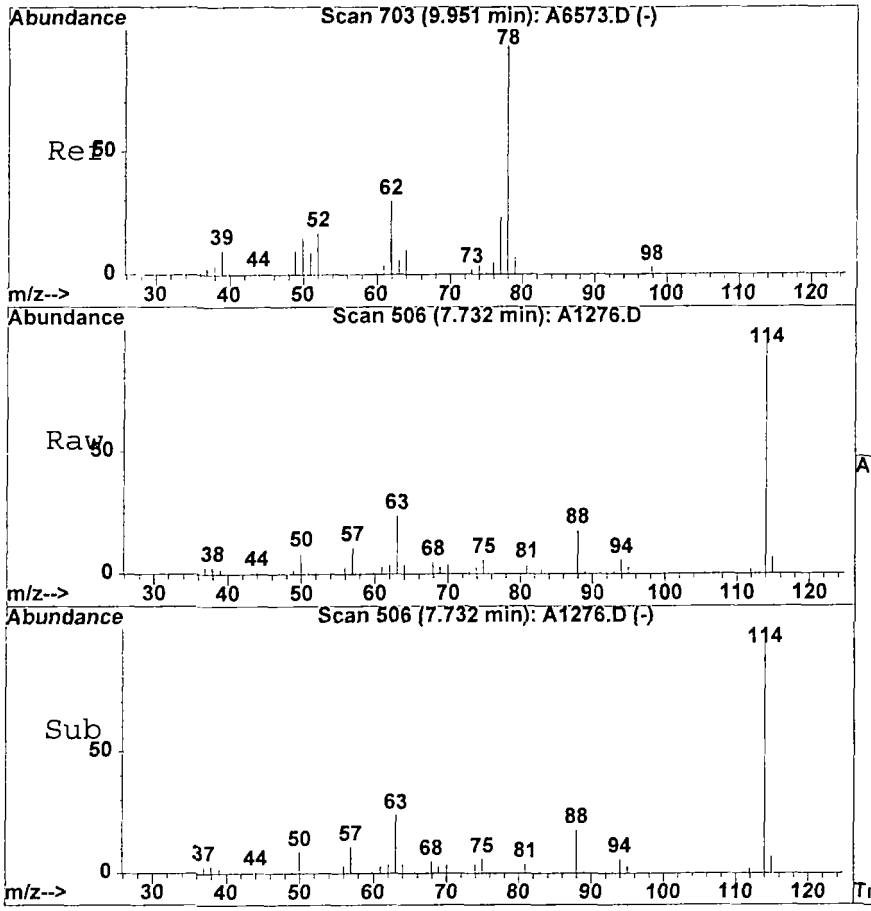


#21
1,1,1-Trichloroethane
Concen: 3.22 ug/l
RT: 6.97 min Scan# 439
Delta R.T. 0.10 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion: 97 Resp: 105674

Ion	Ratio	Lower	Upper
97	100		
99	61.5	44.2	84.2
61	60.7	29.2	69.2

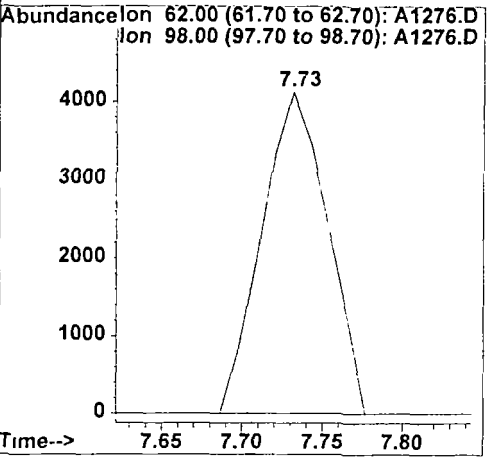


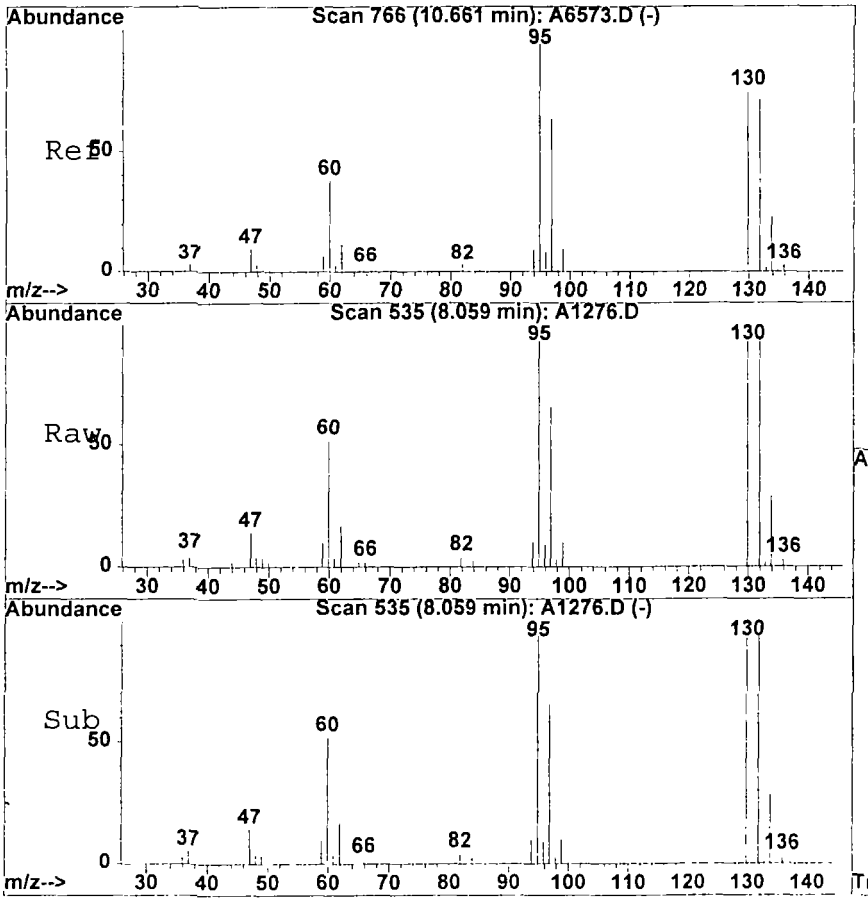


#22
1,2-Dichloroethane
Concen: 3.64 ug/l
RT: 7.74 min Scan# 506
Delta R.T. 0.45 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion: 62 Resp: 116653

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	28.7

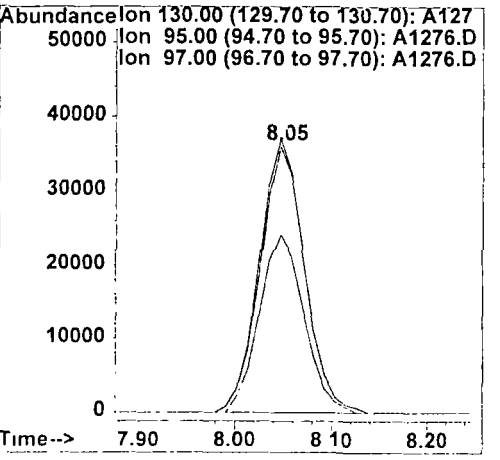


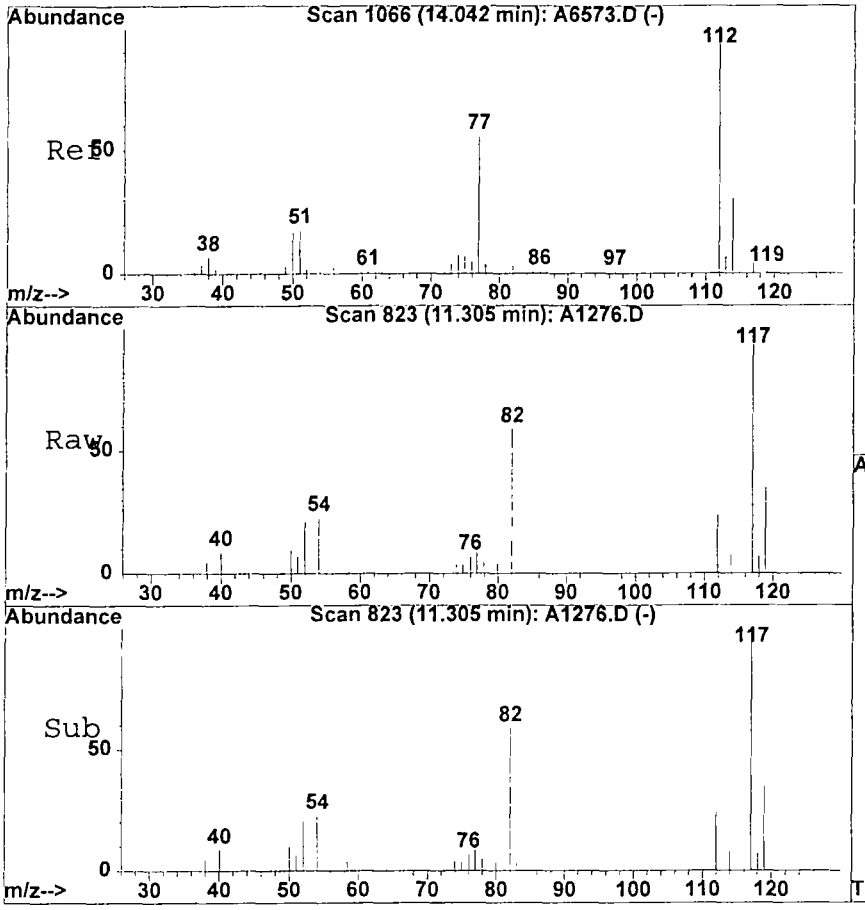


#28
Trichloroethene
Concen: 50.45 ug/l
RT: 8.05 min Scan# 535
Delta R.T. 0.08 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion:130 Resp: 1144952

Ion	Ratio	Lower	Upper
130	100		
95	103.6	88.6	128.6
97	67.3	50.6	90.6

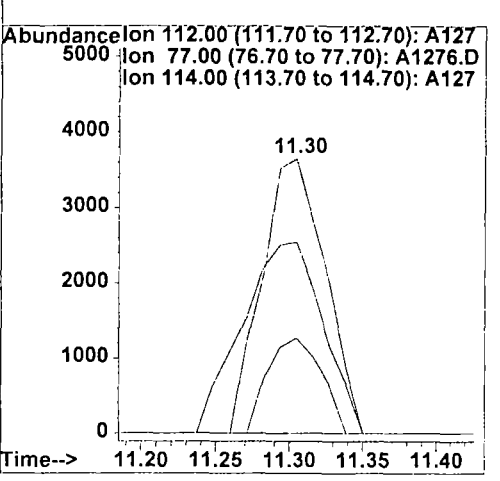




#42
Chlorobenzene
Concen: 1.96 ug/l
RT: 11.31 min Scan# 823
Delta R.T. 0.05 min
Lab File: A1276.D
Acq: 13 Dec 1998 12:13 pm

Tgt Ion:112 Resp: 109384

Ion	Ratio	Lower	Upper
112	100		
77	88.5	42.8	82.8#
114	29.4	11.3	51.3



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1270.D Vial: 29
Acq On : 13 Dec 1998 9:10 am Operator:
Sample : 813554 29 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:01 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	578428	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	3539053	50.00	ug/l	0.08
41) Chlorobenzene-d5	11.27	117	2834392	50.00	ug/l	0.06
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1369069	50.37	ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.74%			
34) Toluene-d8	9.44	98	3866544	50.31	ug/l	0.06
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.62%			
50) Bromofluorobenzene	12.84	95	1276290	46.00	ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 92.00%			

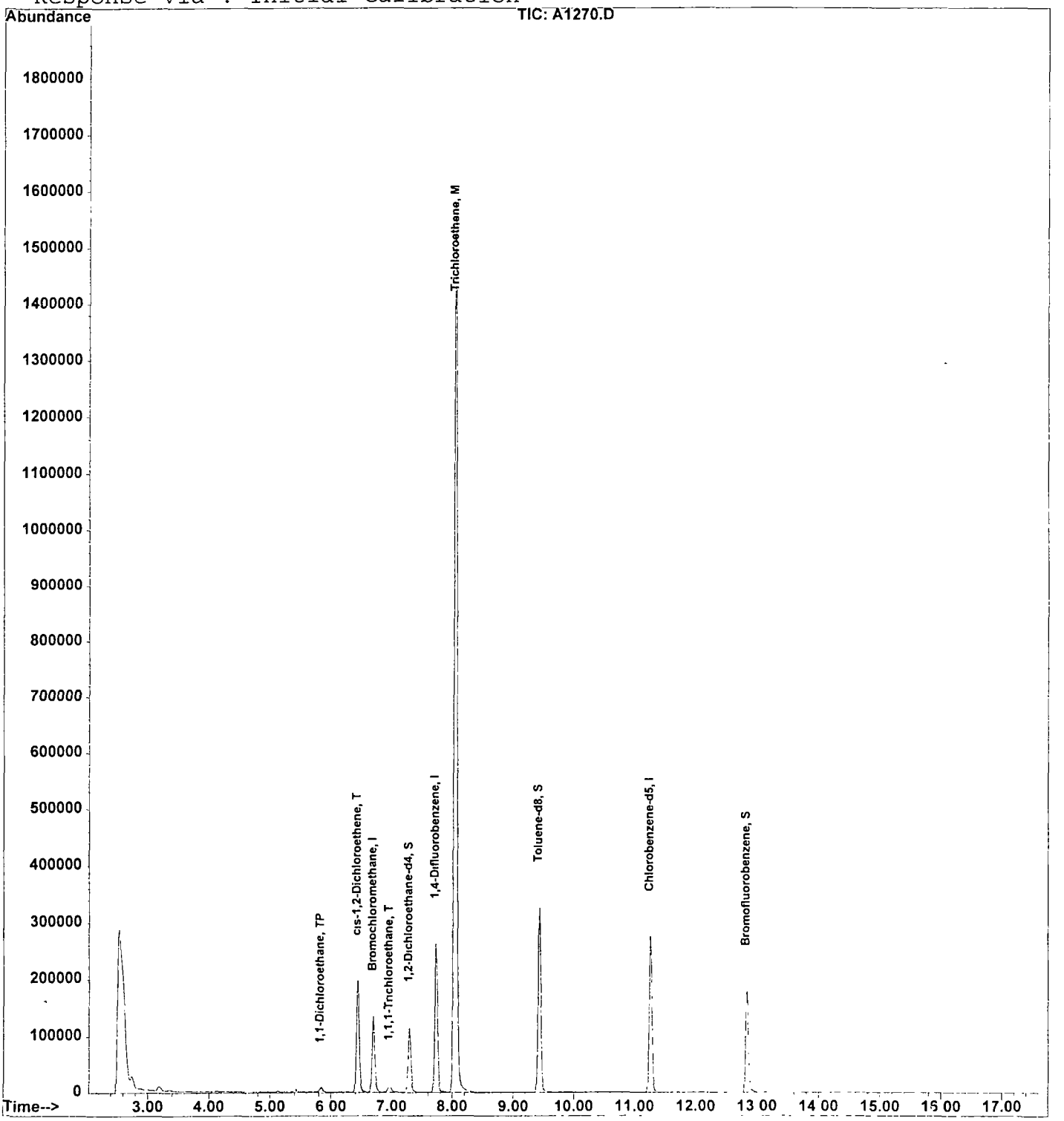
Target Compounds						Qvalue
17) 1,1-Dichloroethane	5.85	63	194087	3.77	ug/l	94
19) cis-1,2-Dichloroethene	6.44	96	1384038	53.29	ug/l	96
21) 1,1,1-Trichloroethane	6.97	97	166295	4.80	ug/l	96
28) Trichloroethene	8.05	130	9065462	384.27	ug/l	94

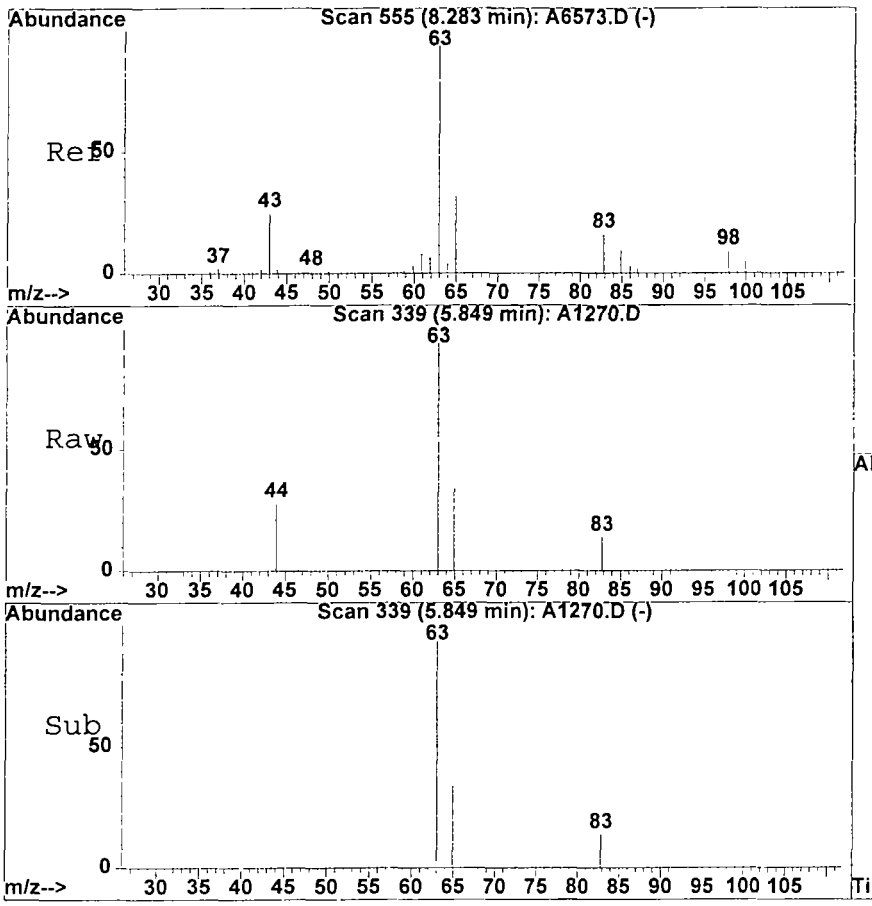
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1270.D Vial: 29
Acq On : 13 Dec 1998 9:10 am Operator:
Sample : 813554 29 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:01 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

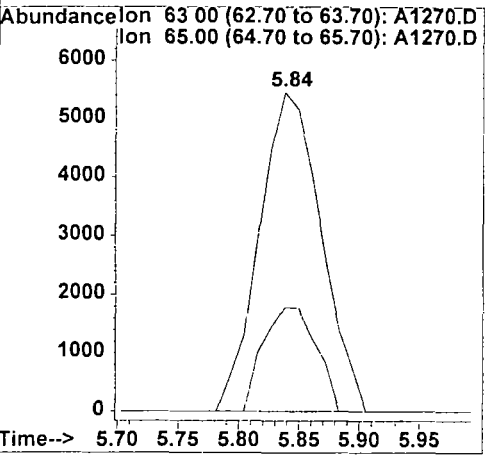


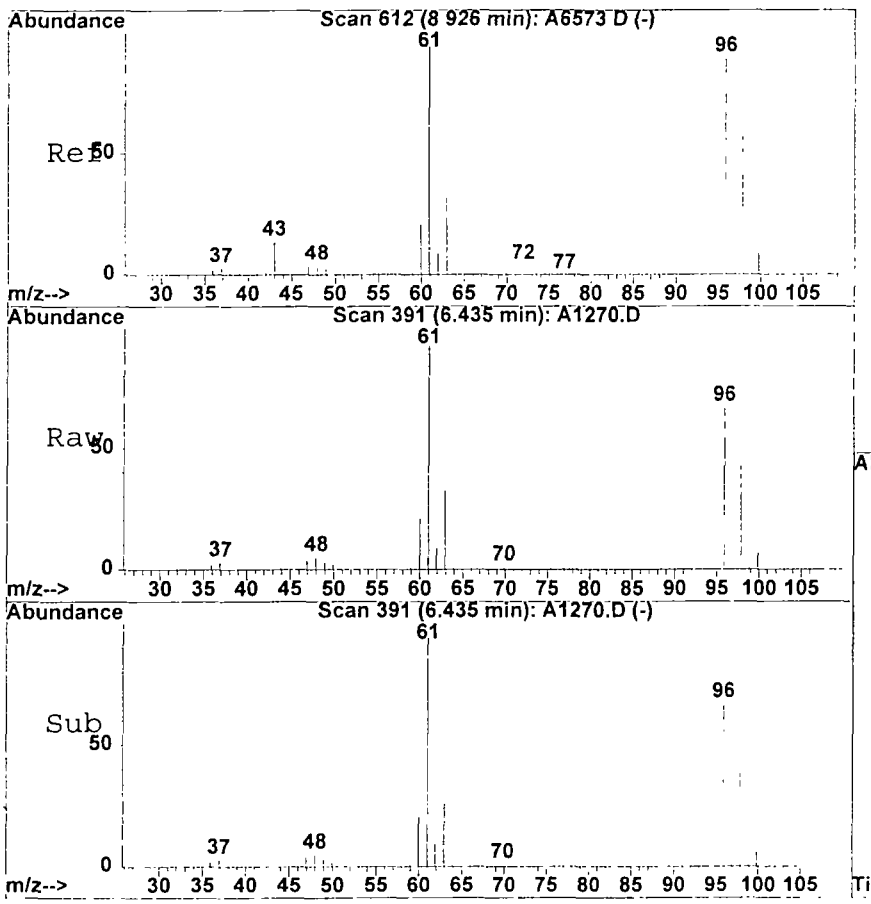


#17
1,1-Dichloroethane
Concen: 3.77 ug/l
RT: 5.85 min Scan# 339
Delta R.T. 0.13 min
Lab File: A1270.D
Acq: 13 Dec 1998 9:10 am

Tgt Ion: 63 Resp: 194087

Ion	Ratio	Lower	Upper
63	100		
65	28.2	11.5	51.5

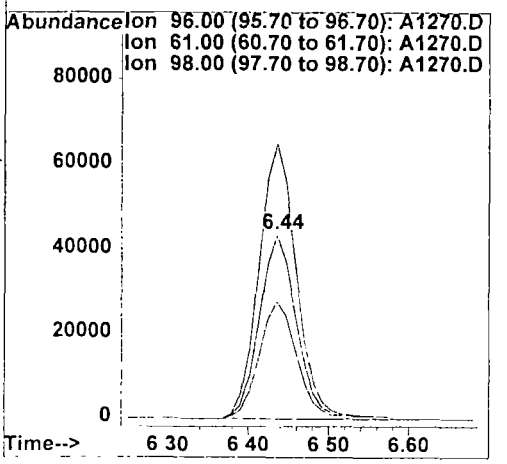


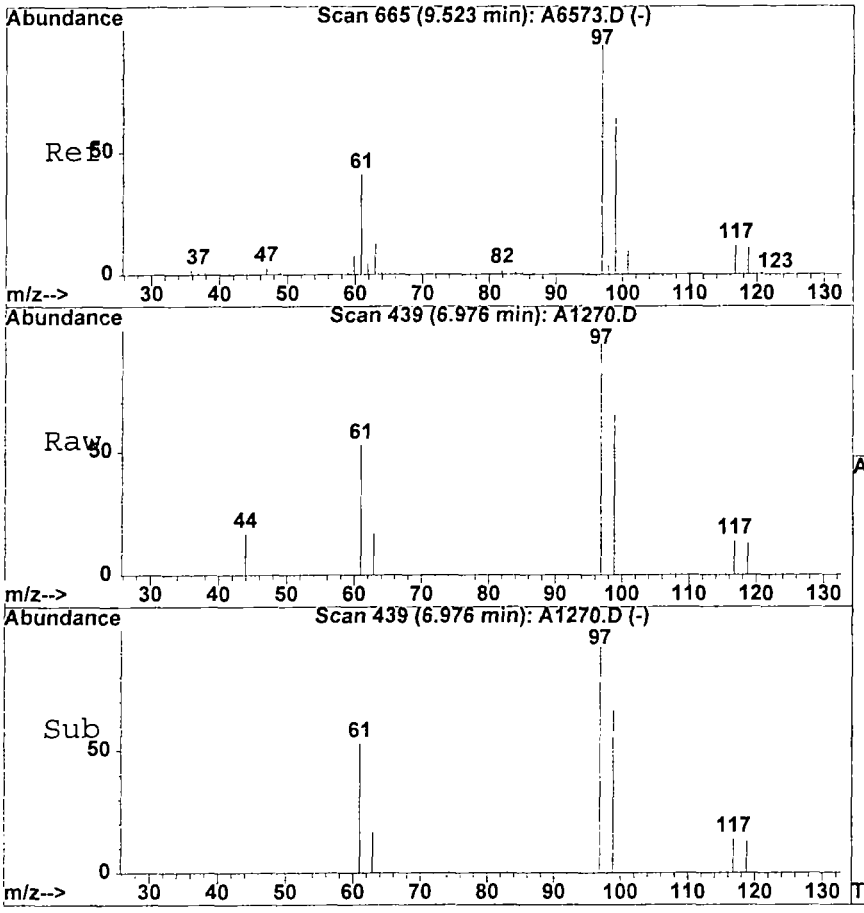


#19
cis-1,2-Dichloroethene
Concen: 53.29 ug/l
RT: 6.44 min Scan# 391
Delta R.T. 0.11 min
Lab File: A1270.D
Acq: 13 Dec 1998 9:10 am

Tgt Ion: 96 Resp: 1384038

Ion	Ratio	Lower	Upper
96	100		
61	149.5	136.3	176.3
98	63.6	44.7	84.7

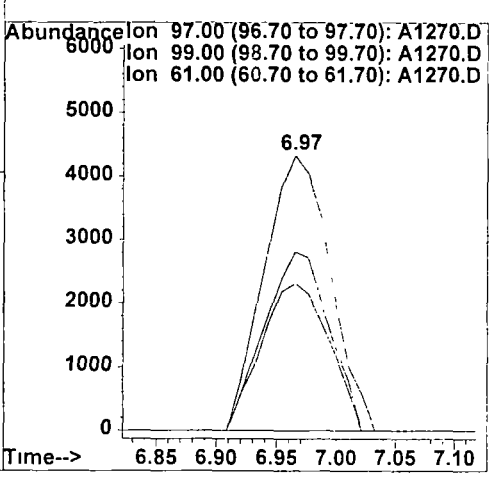


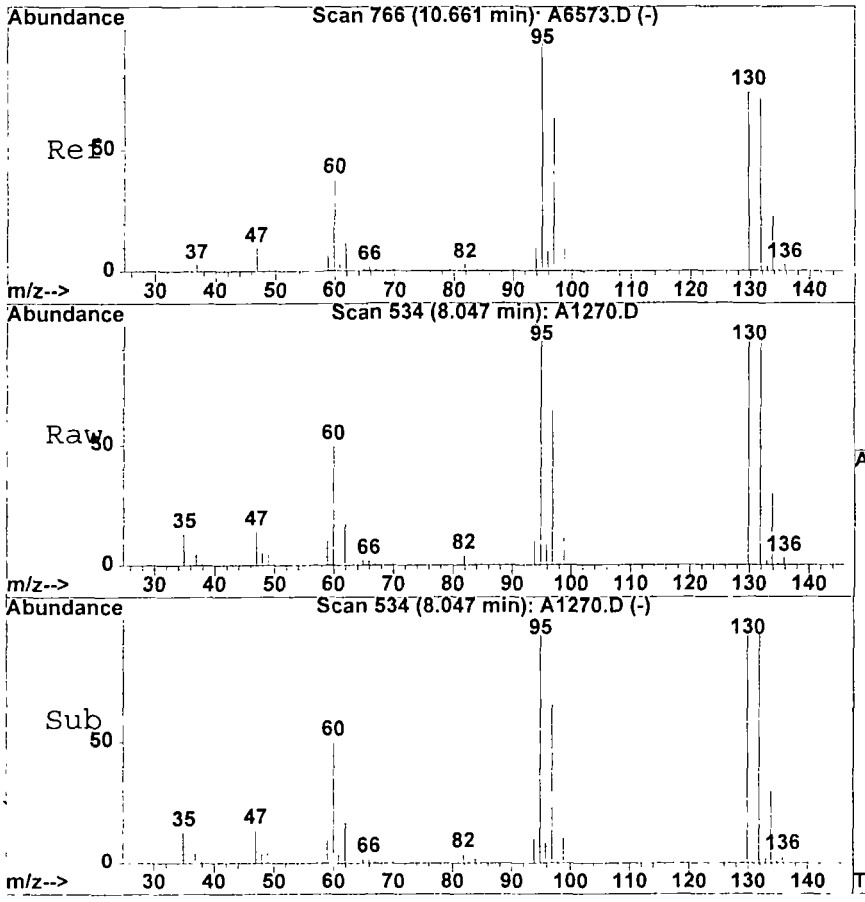


#21
1,1,1-Trichloroethane
Concen: 4.80 ug/l
RT: 6.97 min Scan# 439
Delta R.T. 0.10 min
Lab File: A1270.D
Acq: 13 Dec 1998 9:10 am

Tgt Ion: 97 Resp: 166295

Ion	Ratio	Lower	Upper
97	100		
99	63.3	44.2	84.2
61	54.5	29.2	69.2

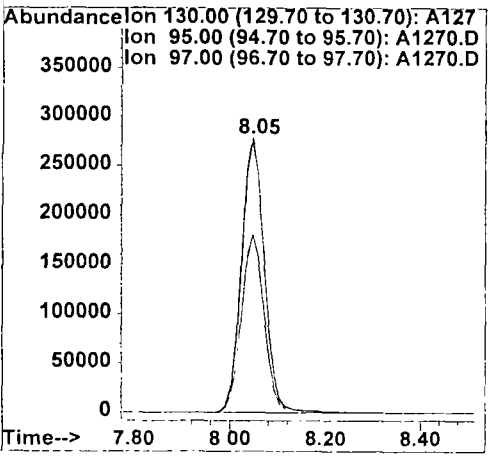




#28
Trichloroethene
Concen: 384.27 ug/l
RT: 8.05 min Scan# 534
Delta R.T. 0.08 min
Lab File: A1270.D
Acq: 13 Dec 1998 9:10 am

Tgt Ion:130 Resp: 9065462

Ion	Ratio	Lower	Upper
130	100		
95	102.0	88.6	128.6
97	65.8	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1317.D Vial: 9
Acq On : 14 Dec 1998 6:59 pm Operator:
Sample : 813554 29 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 15 9:55 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

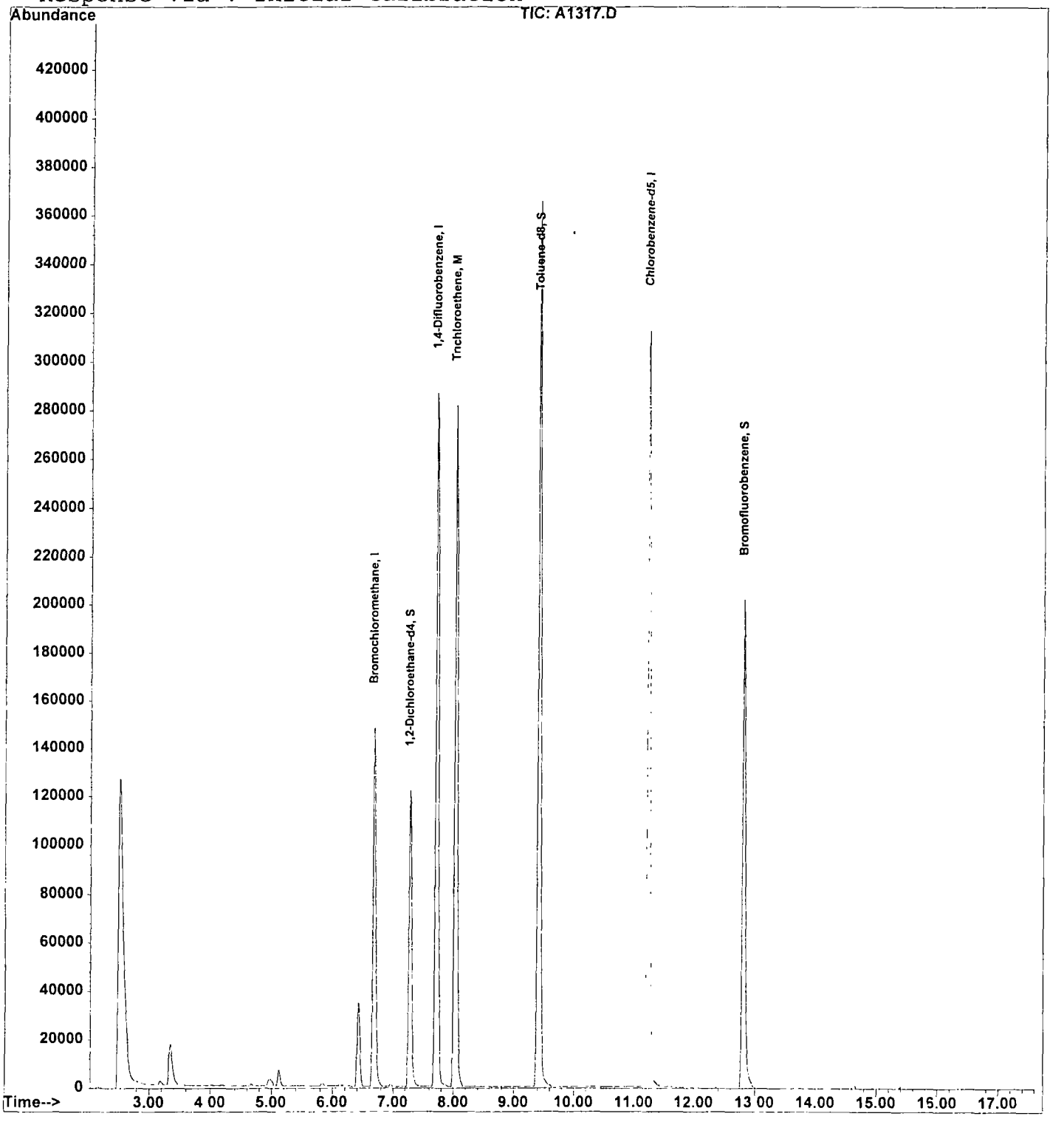
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.69	128	644399	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	4083309	50.00	ug/l	0.07
41) Chlorobenzene-d5	11.25	117	3315924	50.00	ug/l	0.04
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.29	65	1512820	49.96	ug/l	0.08
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.92%			
34) Toluene-d8	9.43	98	4386993	49.47	ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 98.94%			
50) Bromofluorobenzene	12.82	95	1572897	48.46	ug/l	0.03
Spiked Amount 50.000	Range 74 - 115		Recovery = 96.92%			
Target Compounds						Qvalue
28) Trichloroethene	8.04	130	1618302	59.45	ug/l	96

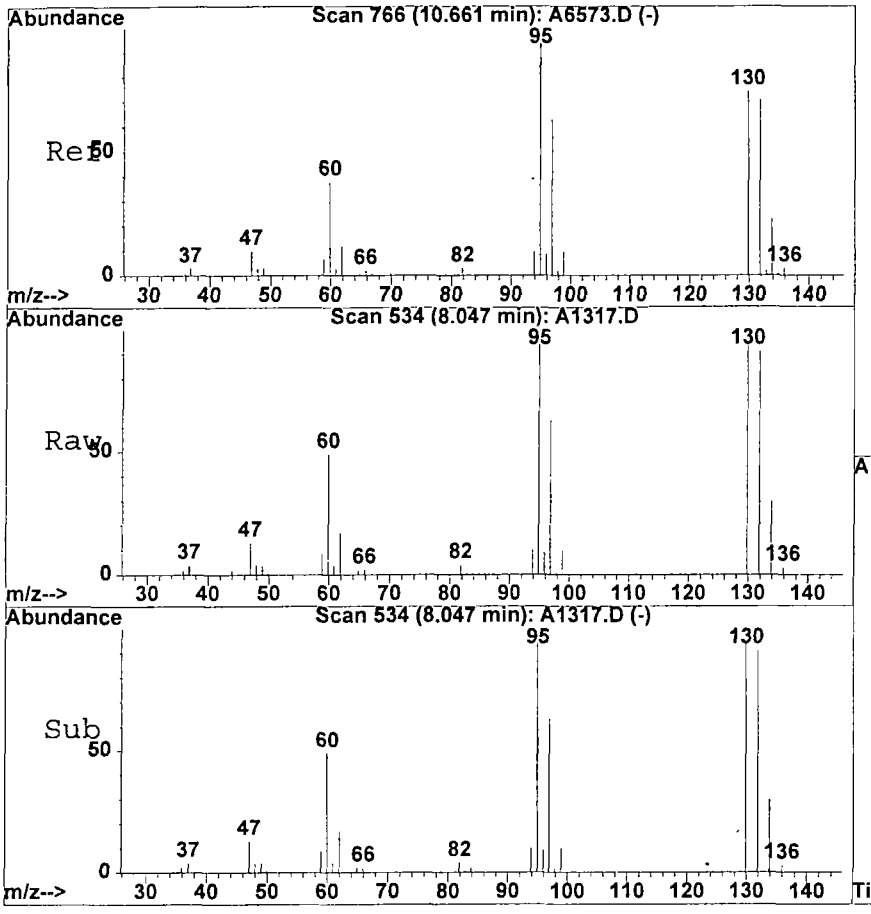
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1498A\A1317.D Vial: 9
Acq On : 14 Dec 1998 6:59 pm Operator:
Sample : 813554 29 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 15 9:55 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

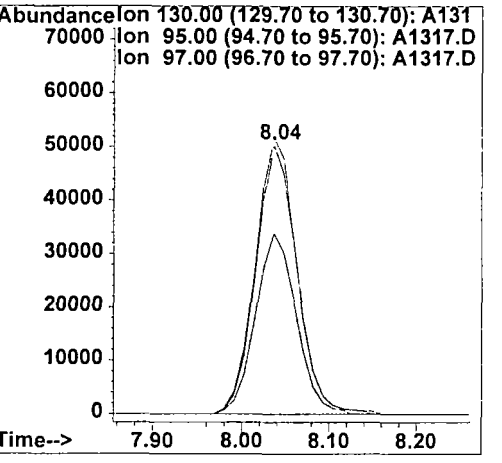




#28
Trichloroethene
Concen: 59.45 ug/l
RT: 8.04 min Scan# 534
Delta R.T. 0.07 min
Lab File: A1317.D
Acq: 14 Dec 1998 6:59 pm

Tgt Ion:130 Resp: 1618302

Ion	Ratio	Lower	Upper
130	100		
95	104.4	88.6	128.6
97	66.9	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1271.D Vial: 30
Acq On : 13 Dec 1998 9:40 am Operator:
Sample : 813554 30 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:02 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	565074	50.00	ug/l	0.11
27) 1,4-Difluorobenzene	7.75	114	3488750	50.00	ug/l	0.09
41) Chlorobenzene-d5	11.27	117	2901298	50.00	ug/l	0.06
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.31	65	1340741	50.50	ug/l	0.10
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.00%			
34) Toluene-d8	9.45	98	3835282	50.62	ug/l	0.07
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.24%			
50) Bromofluorobenzene	12.85	95	1284729	45.24	ug/l	0.06
Spiked Amount 50.000	Range 74 - 115		Recovery = 90.48%			
Target Compounds						Qvalue
19) cis-1,2-Dichloroethene	6.45	96	51375	2.02	ug/l	94
28) Trichloroethene	8.06	130	27845	1.20	ug/l #	88

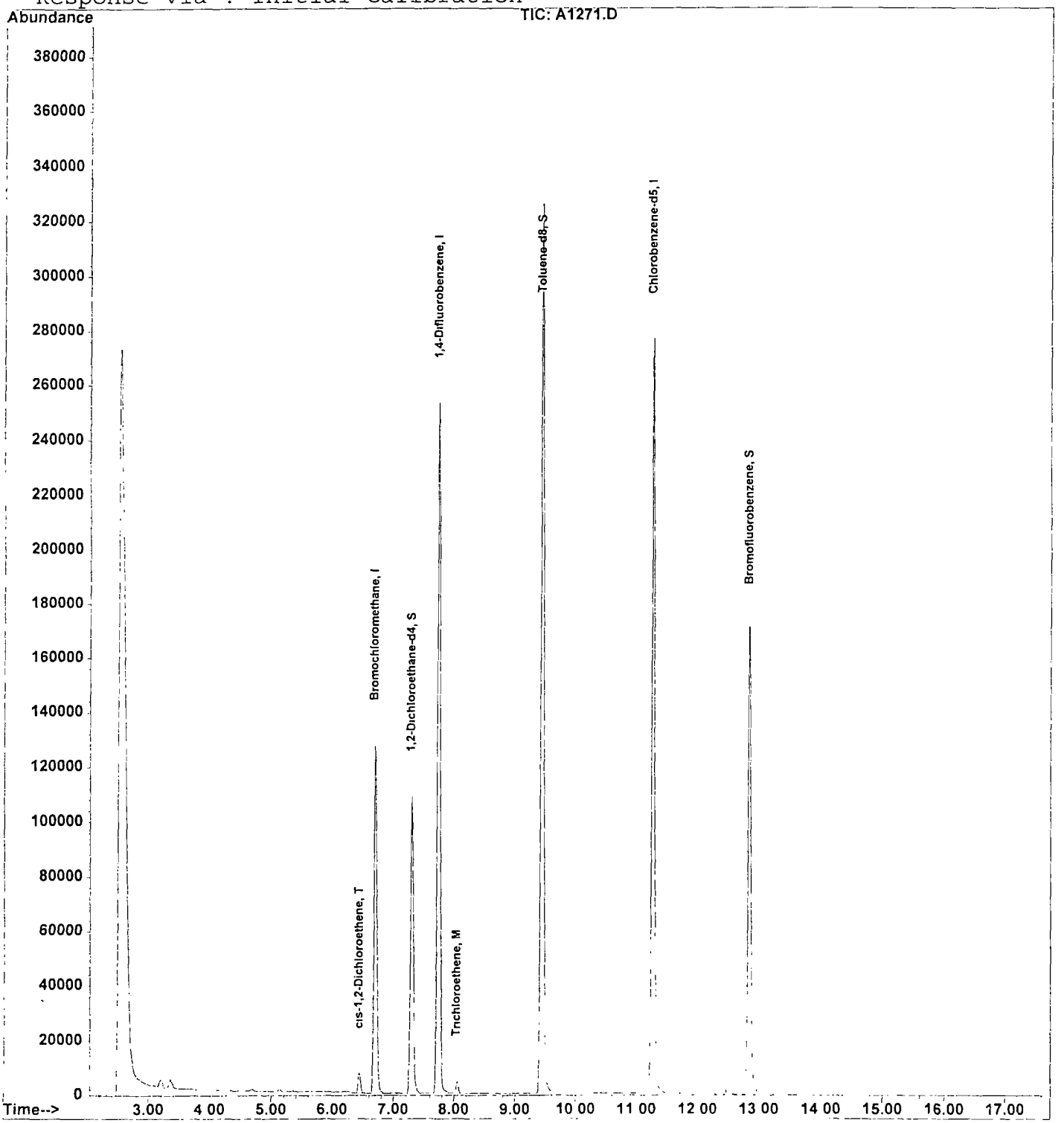
(#) = qualifier out of range (m) = manual integration

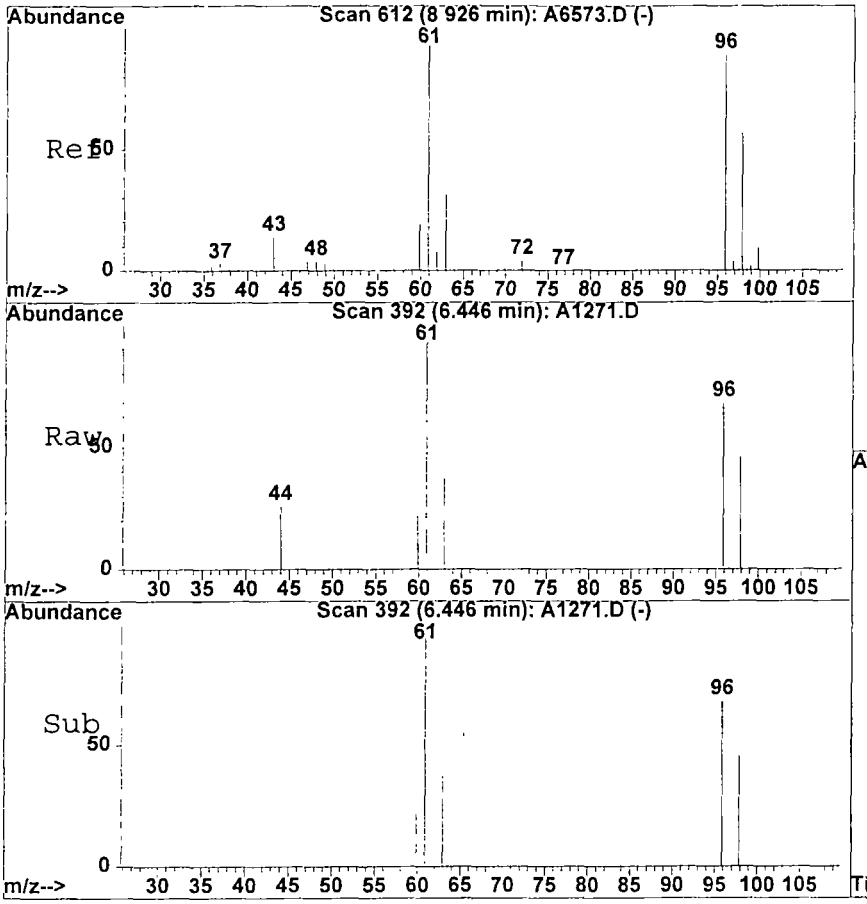
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1271.D
Acq On : 13 Dec 1998 9:40 am
Sample : 813554 30
Misc :
MS Integration Params: events.e
Quant Time: Dec 13 14:02 1998

Vial: 30
Operator:
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

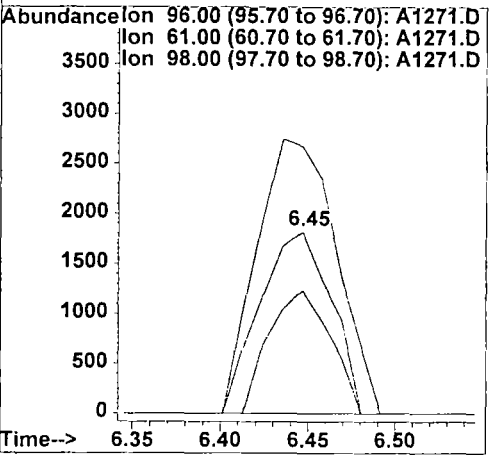


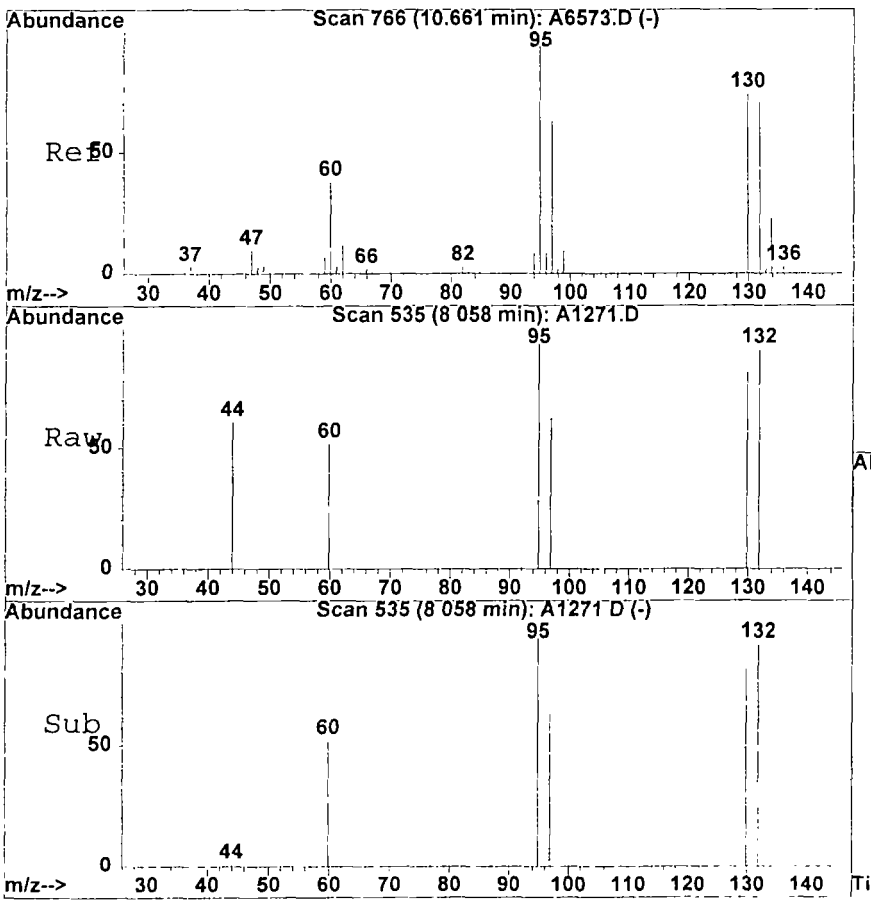


#19
cis-1,2-Dichloroethene
Concen: 2.02 ug/l
RT: 6.45 min Scan# 392
Delta R.T. 0.12 min
Lab File: A1271.D
Acq: 13 Dec 1998 9:40 am

Tgt Ion: 96 Resp: 51375

Ion	Ratio	Lower	Upper
96	100		
61	146.9	136.3	176.3
98	67.9	44.7	84.7

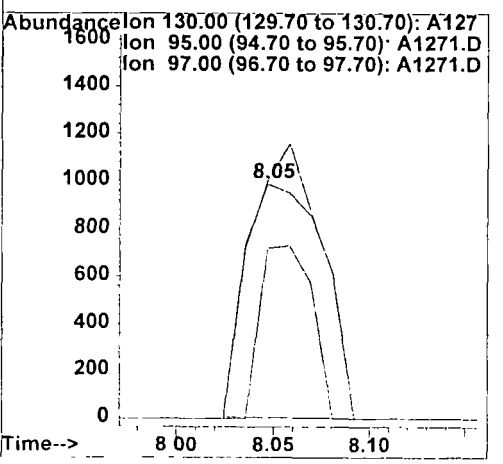




#28
Trichloroethene
Concen: 1.20 ug/l
RT: 8.06 min Scan# 535
Delta R.T. 0.08 min
Lab File: A1271.D
Acq: 13 Dec 1998 9:40 am

Tgt Ion:130 Resp: 27845

Ion	Ratio	Lower	Upper
130	100		
95	105.9	88.6	128.6
97	49.0	50.6	90.6#



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1272.D Vial: 31
Acq On : 13 Dec 1998 10:11 am Operator:
Sample : 813554 31 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:02 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

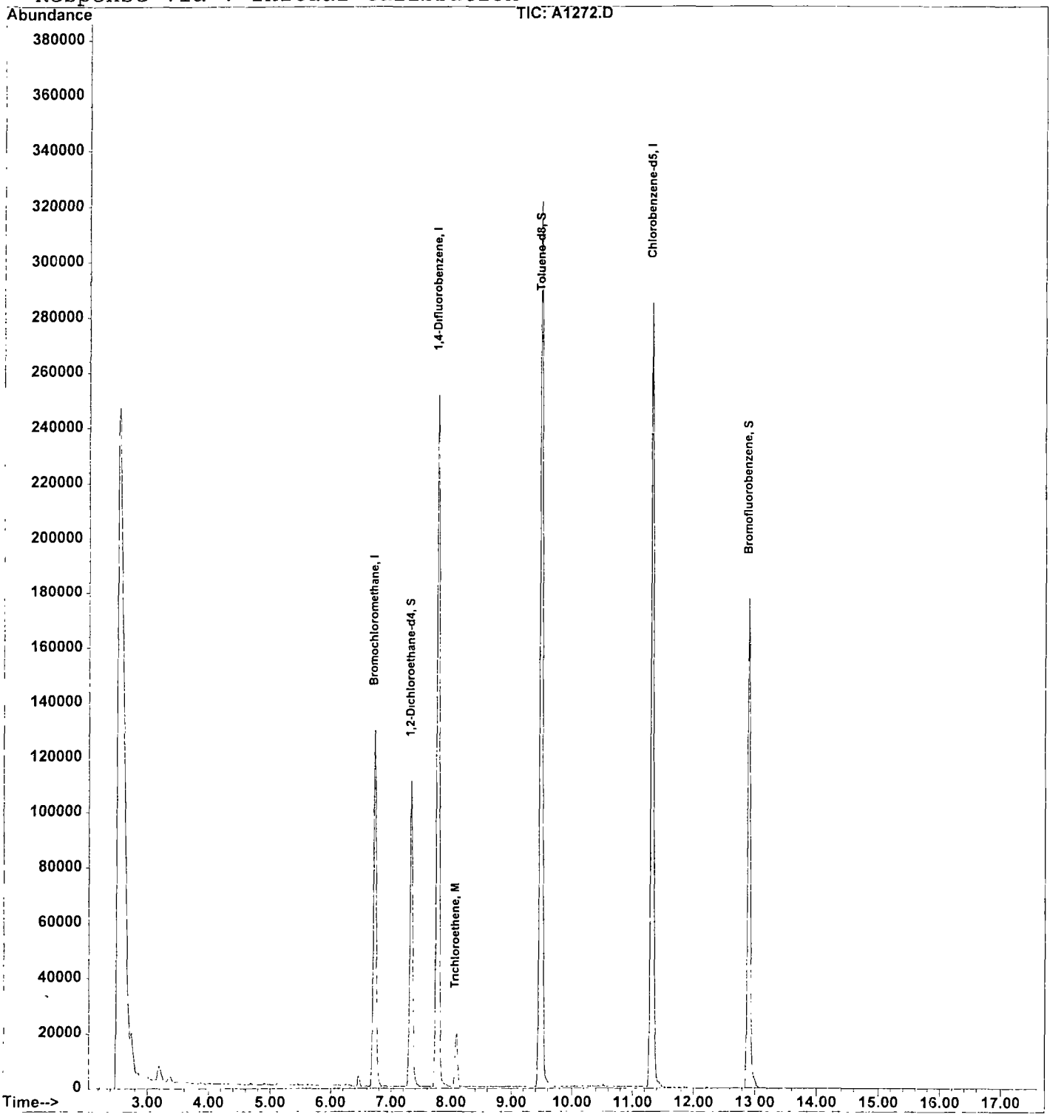
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.73	128	560102	50.00 ug/l	0.14
27) 1,4-Difluorobenzene	7.78	114	3516831	50.00 ug/l	0.12
41) Chlorobenzene-d5	11.33	117	2943492	50.00 ug/l	0.12
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.34	65	1356239	51.53 ug/l	0.13
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.06%		
34) Toluene-d8	9.49	98	3839370	50.27 ug/l	0.11
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.54%		
50) Bromofluorobenzene	12.91	95	1266601	43.96 ug/l	0.12
Spiked Amount 50.000	Range 74 - 115		Recovery = 87.92%		
Target Compounds					Qvalue
28) Trichloroethene	8.10	130	129606	5.53 ug/l	95

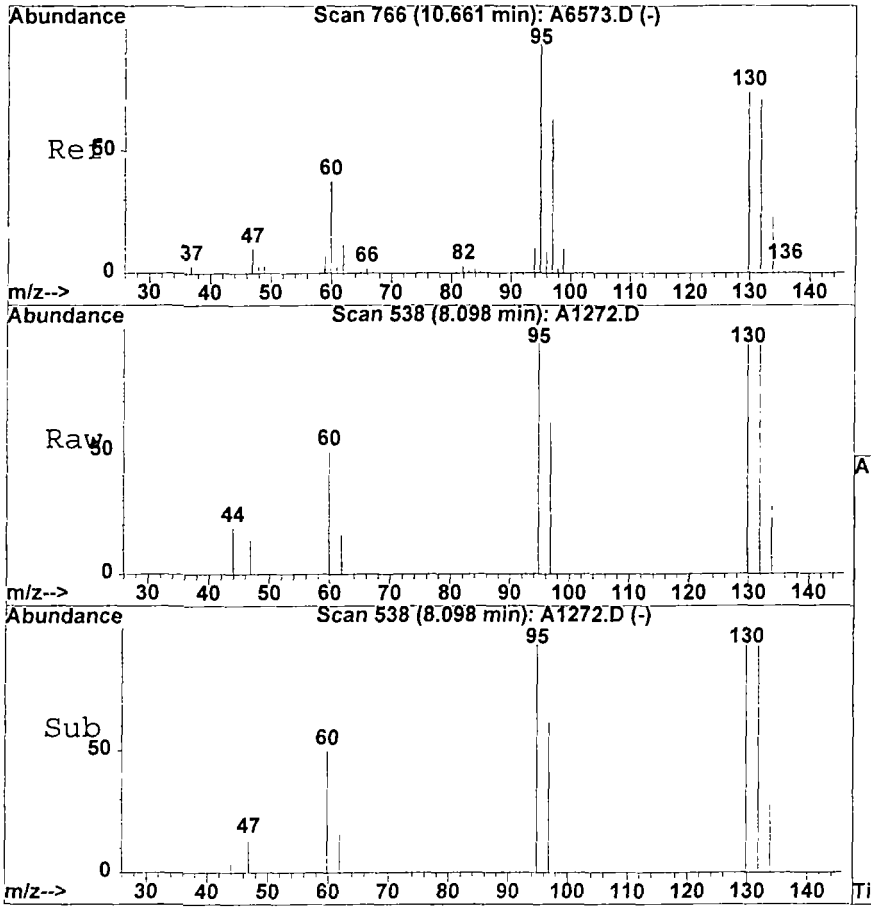
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1272.D Vial: 31
Acq On : 13 Dec 1998 10:11 am Operator:
Sample : 813554 31 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:02 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

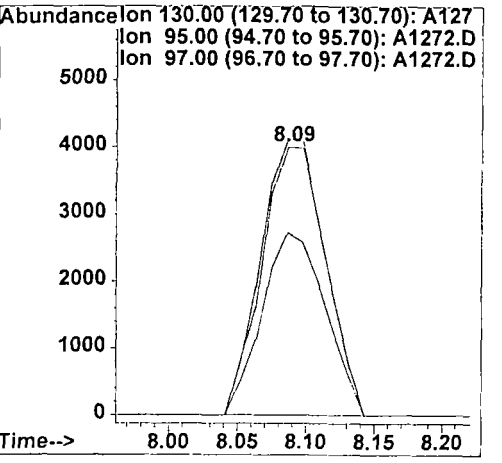




#28
Trichloroethene
Concen: 5.53 ug/l
RT: 8.10 min Scan# 538
Delta R.T. 0.12 min
Lab File: A1272.D
Acq: 13 Dec 1998 10:11 am

Tgt Ion:130 Resp: 129606

Ion	Ratio	Lower	Upper
130	100		
95	103.6	88.6	128.6
97	67.0	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1273.D Vial: 32
Acq On : 13 Dec 1998 10:42 am Operator:
Sample : 813554 32 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:05 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

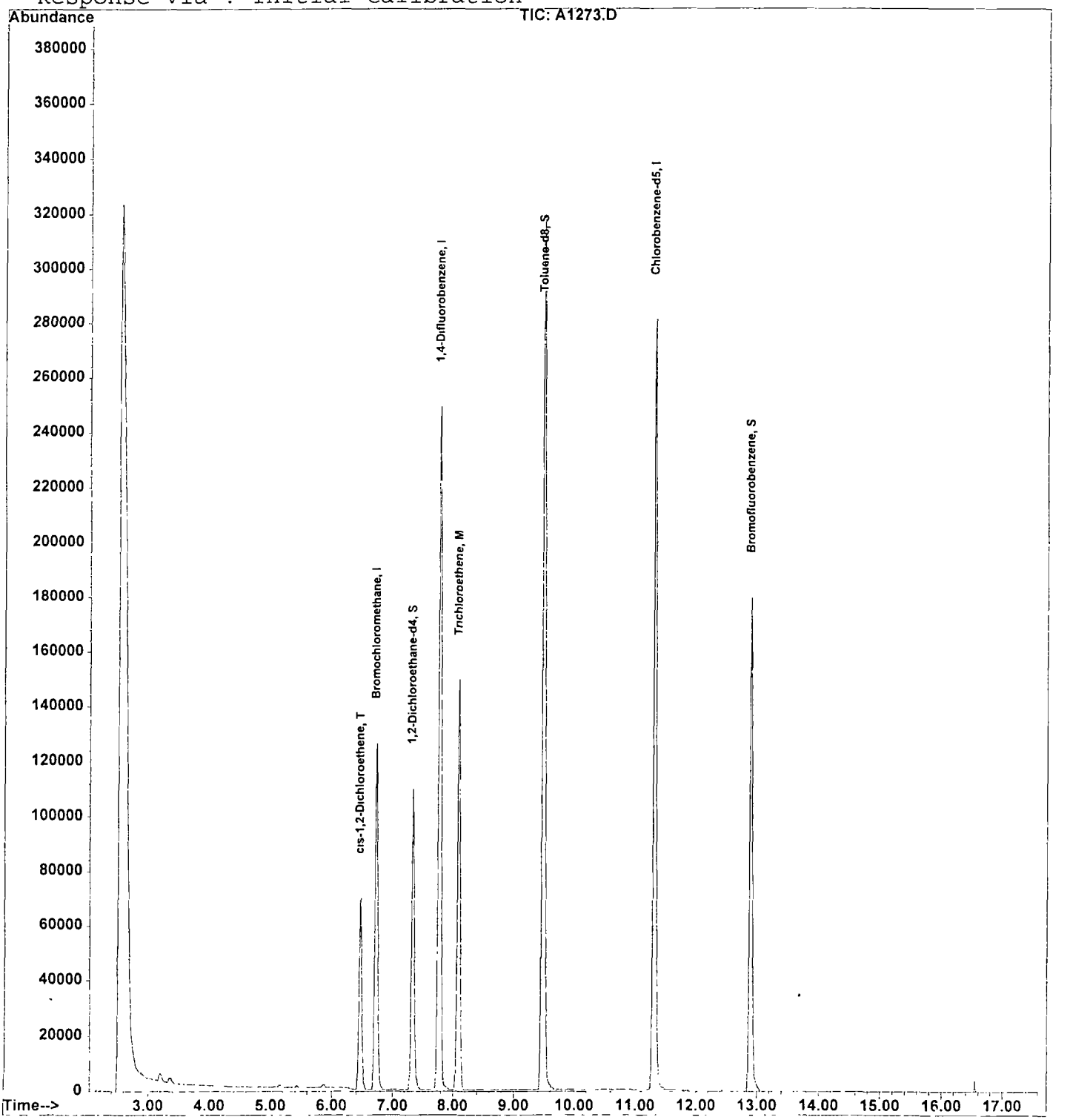
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.73	128	557946	50.00 ug/l	0.14
27) 1,4-Difluorobenzene	7.78	114	3498367	50.00 ug/l	0.12
41) Chlorobenzene-d5	11.32	117	2907033	50.00 ug/l	0.11
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.33	65	1344733	51.29 ug/l	0.13
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.58%		
34) Toluene-d8	9.49	98	3851785	50.70 ug/l	0.10
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.40%		
50) Bromofluorobenzene	12.90	95	1252729	44.02 ug/l	0.11
Spiked Amount 50.000	Range 74 - 115		Recovery = 88.04%		
Target Compounds					Qvalue
19) cis-1,2-Dichloroethene	6.47	96	504811	20.15 ug/l	97
28) Trichloroethene	8.09	130	866333	37.15 ug/l	95

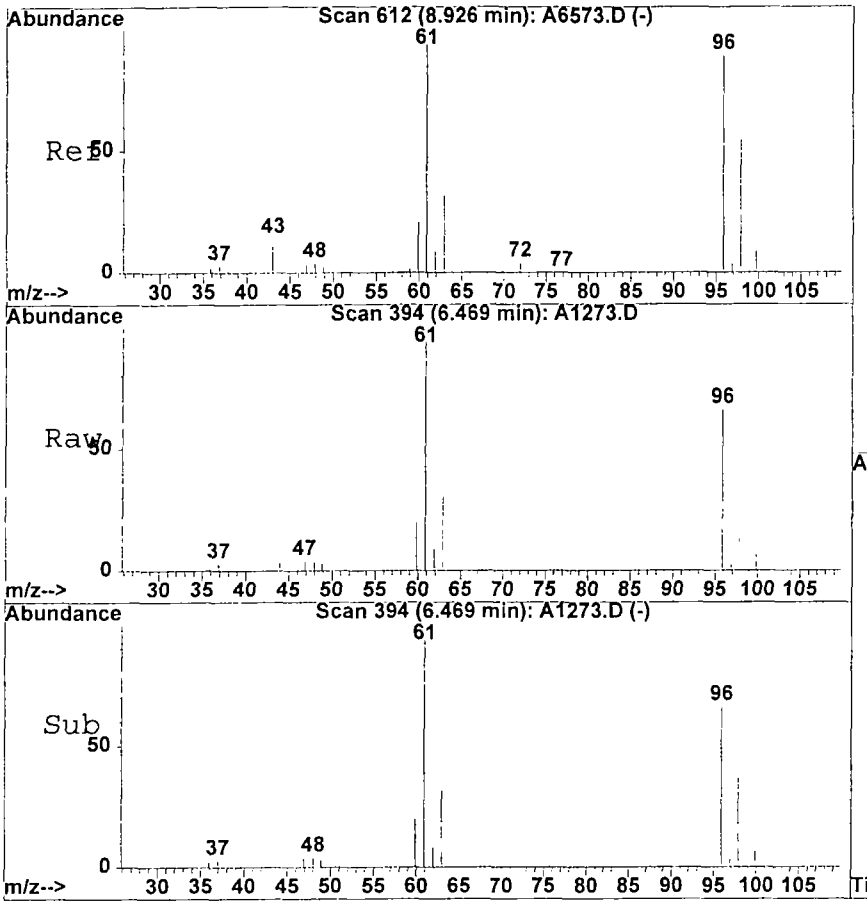
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1273.D Vial: 32
Acq On : 13 Dec 1998 10:42 am Operator:
Sample : 813554 32 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:05 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

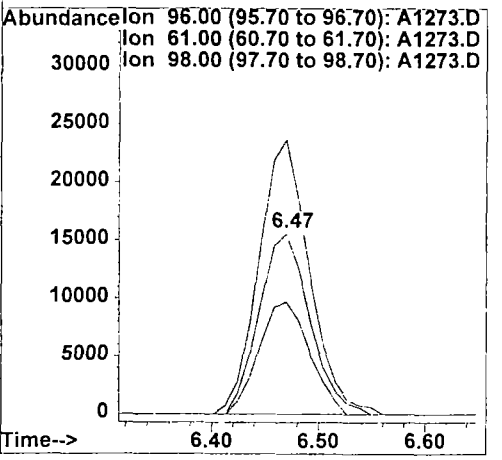


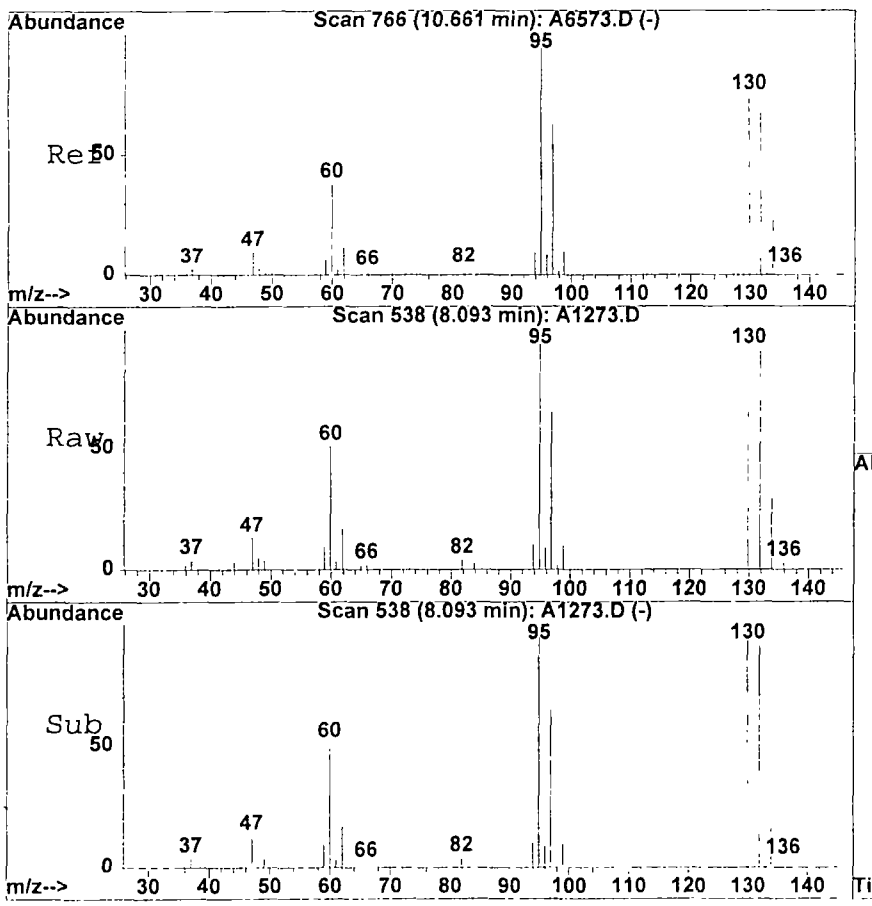


#19
cis-1,2-Dichloroethene
Concen: 20.15 ug/l
RT: 6.47 min Scan# 394
Delta R.T. 0.14 min
Lab File: A1273.D
Acq: 13 Dec 1998 10:42 am

Tgt Ion: 96 Resp: 504811

Ion	Ratio	Lower	Upper
96	100		
61	152.0	136.3	176.3
98	62.3	44.7	84.7

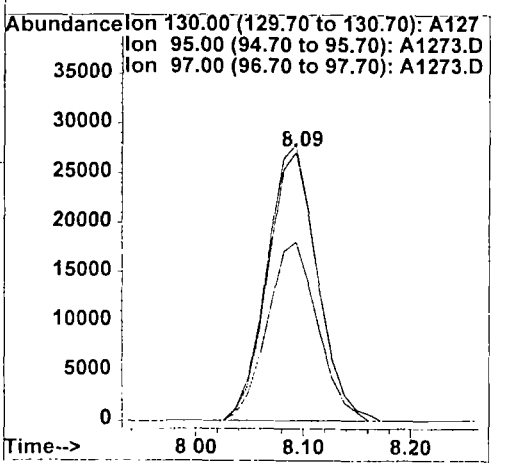




#28
Trichloroethene
Concen: 37.15 ug/l
RT: 8.09 min Scan# 538
Delta R.T. 0.12 min
Lab File: A1273.D
Acq: 13 Dec 1998 10:42 am

Tgt Ion:130 Resp: 866333

Ion	Ratio	Lower	Upper
130	100		
95	103.7	88.6	128.6
97	67.1	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1274.D Vial: 33
Acq On : 13 Dec 1998 11:12 am Operator:
Sample : 813554 33 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:06 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

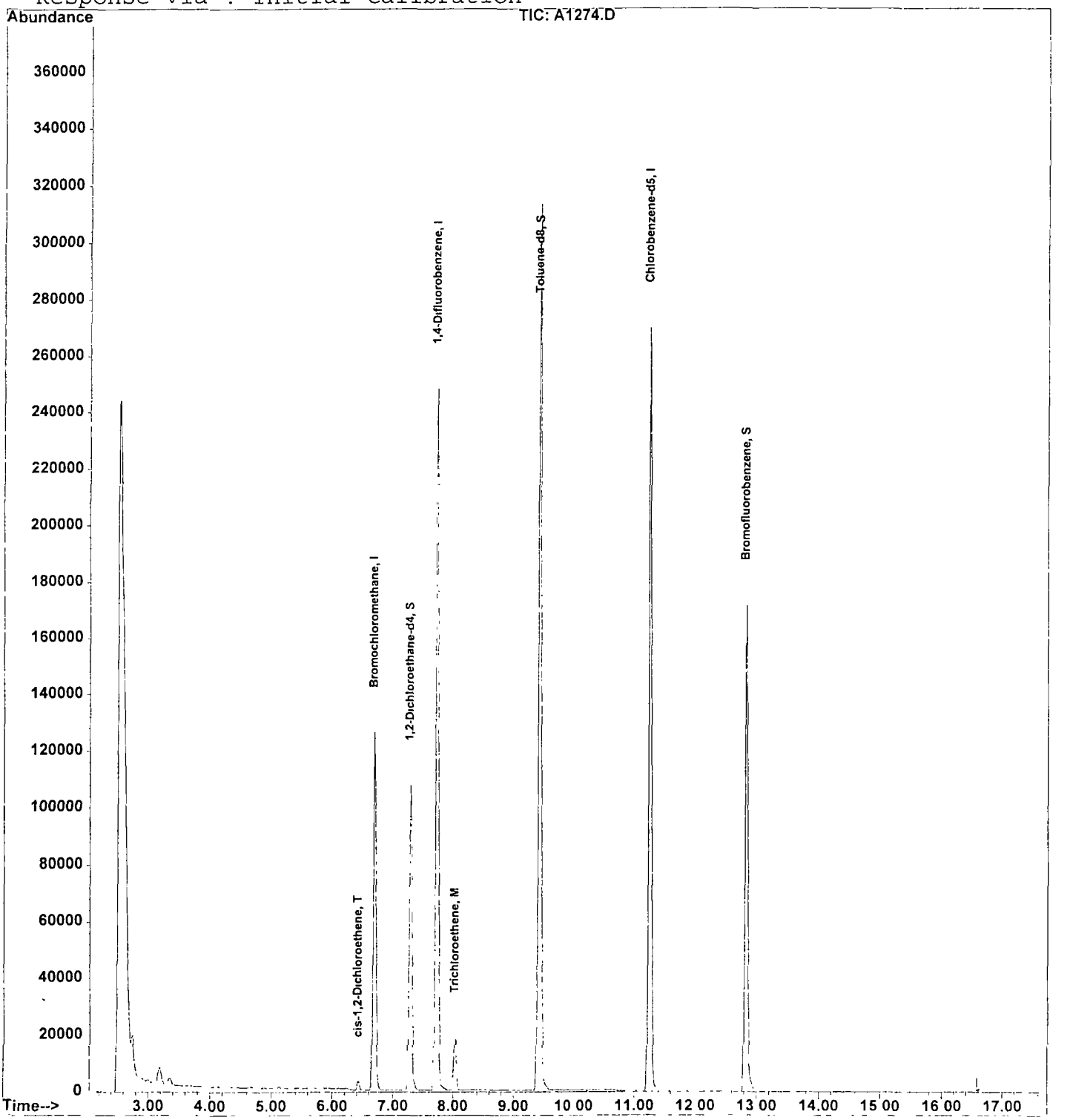
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.69	128	540321	50.00 ug/l	0.10
27) 1,4-Difluorobenzene	7.73	114	3396074	50.00 ug/l	0.07
41) Chlorobenzene-d5	11.26	117	2706580	50.00 ug/l	0.05
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.29	65	1307694	51.51 ug/l	0.08
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.02%		
34) Toluene-d8	9.43	98	3741663	50.73 ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 101.46%		
50) Bromofluorobenzene	12.83	95	1234588	46.60 ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 93.20%		
Target Compounds					Qvalue
19) cis-1,2-Dichloroethene	6.43	96	26172	1.08 ug/l	95
28) Trichloroethene	8.04	130	119334	5.27 ug/l	94

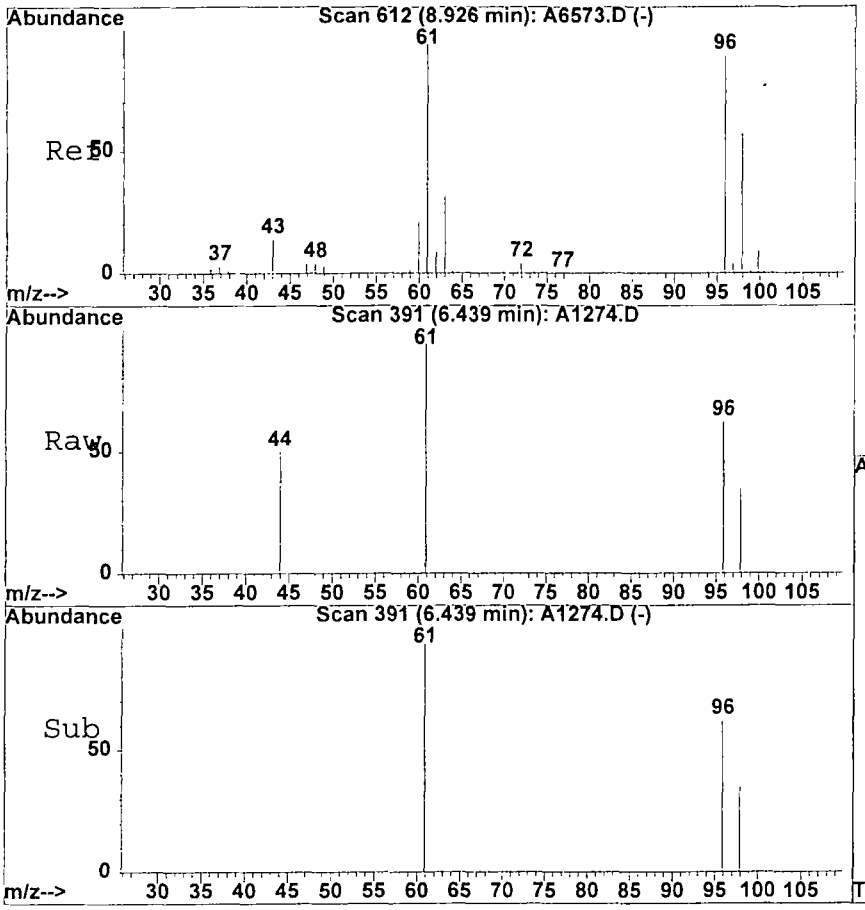
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1274.D Vial: 33
Acq On : 13 Dec 1998 11:12 am Operator:
Sample : 813554 33 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:06 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration

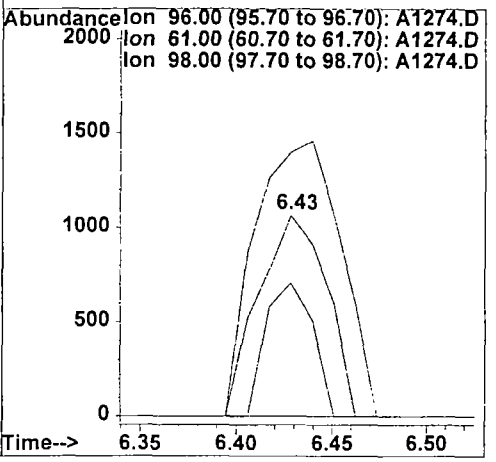


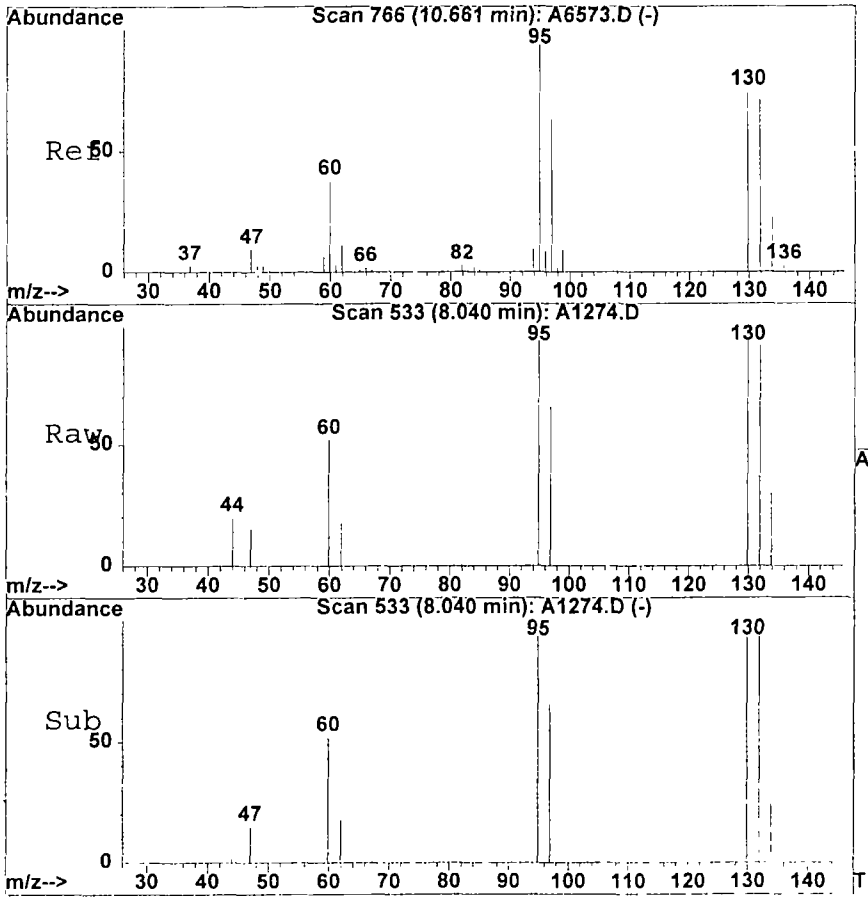


#19
cis-1,2-Dichloroethene
Concen: 1.08 ug/l
RT: 6.43 min Scan# 391
Delta R.T. 0.10 min
Lab File: A1274.D
Acq: 13 Dec 1998 11:12 am

Tgt Ion: 96 Resp: 26172

Ion	Ratio	Lower	Upper
96	100		
61	160.2	136.3	176.3
98	55.8	44.7	84.7

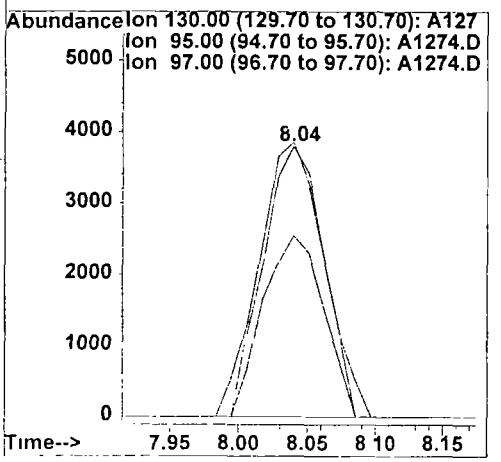




#28
Trichloroethene
Concen: 5.27 ug/l
RT: 8.04 min Scan# 533
Delta R.T. 0.07 min
Lab File: A1274.D
Acq: 13 Dec 1998 11:12 am

Tgt Ion:130 Resp: 119334

Ion	Ratio	Lower	Upper
130	100		
95	103.3	88.6	128.6
97	64.7	50.6	90.6



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1275.D Vial: 34
Acq On : 13 Dec 1998 11:43 am Operator:
Sample : 813554 34 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:07 1998 Quant Results File: 8260A.RES

Quant Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration
DataAcq Meth : 8260A

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.70	128	544047	50.00	ug/l	0.10
27) 1,4-Difluorobenzene	7.74	114	3404551	50.00	ug/l	0.08
41) Chlorobenzene-d5	11.26	117	2835108	50.00	ug/l	0.05
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	7.30	65	1306363	51.10	ug/l	0.09
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.20%			
34) Toluene-d8	9.44	98	3717326	50.28	ug/l	0.05
Spiked Amount 50.000	Range 81 - 110		Recovery = 100.56%			
50) Bromofluorobenzene	12.83	95	1214124	43.75	ug/l	0.05
Spiked Amount 50.000	Range 74 - 115		Recovery = 87.50%			

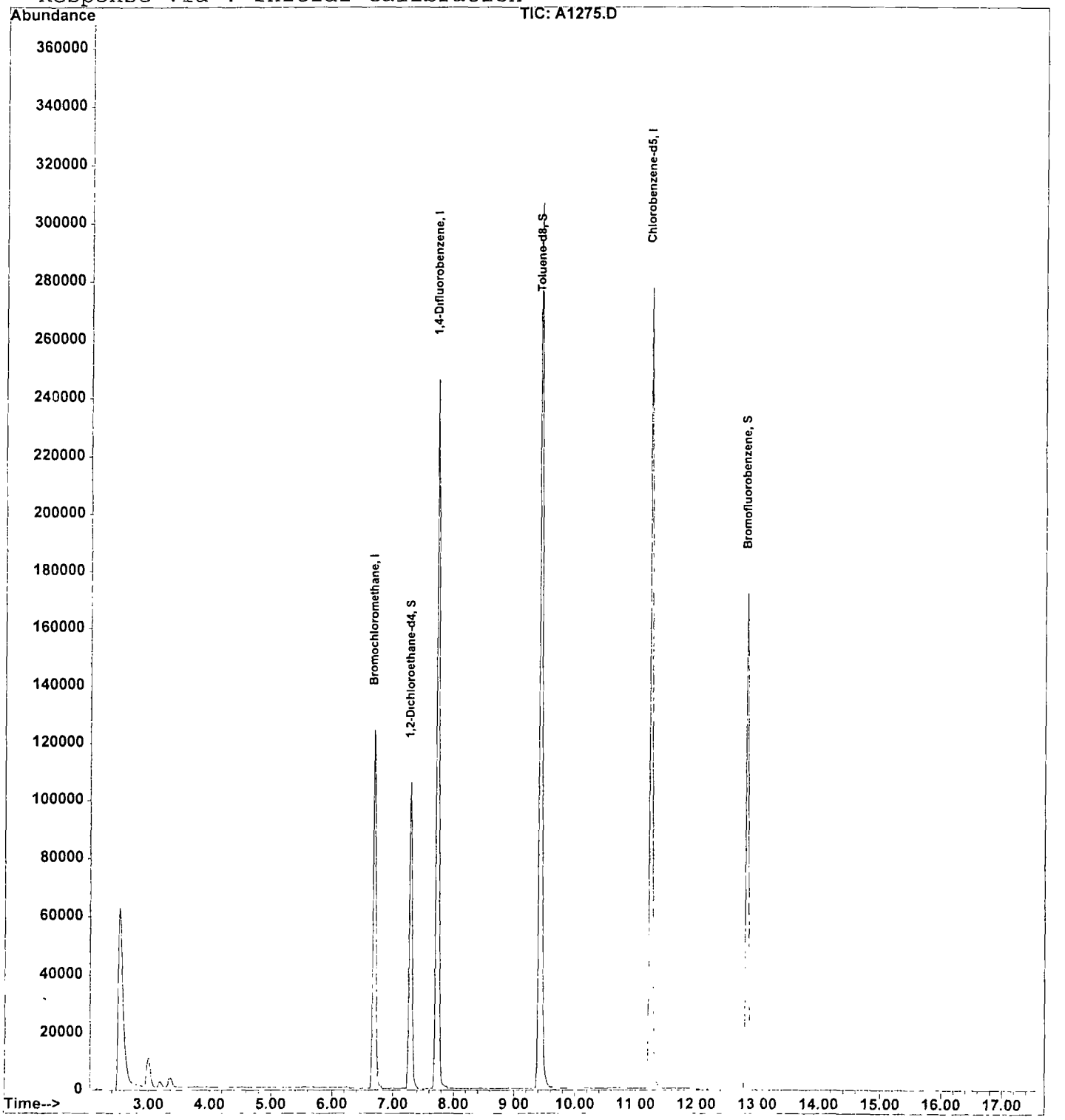
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1298A\A1275.D Vial: 34
Acq On : 13 Dec 1998 11:43 am Operator:
Sample : 813554 34 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Dec 13 14:07 1998 Quant Results File: 8260A.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Sun Dec 13 13:13:52 1998
Response via : Initial Calibration



GCMS VOA

Sample Raw Data

(Latest runs within hold time)

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1449.D Vial: 3
Acq On : 18 Dec 1998 1:52 pm Operator:
Sample : 813554 5 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 18 14:10 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Thu Dec 17 08:11:25 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.67	128	75978	50.00 ug/l	0.00
27) 1,4-Difluorobenzene	7.72	114	358796	50.00 ug/l	0.00
41) Chlorobenzene-d5	11.25	117	268615	50.00 ug/l	0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.28	65	153588	42.34 ug/l	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 84.68%		
34) Toluene-d8	9.42	98	379726	48.32 ug/l	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 96.64%		
50) Bromofluorobenzene	12.83	95	146272	50.96 ug/l	0.02
Spiked Amount 50.000	Range 86 - 115		Recovery = 101.92%		

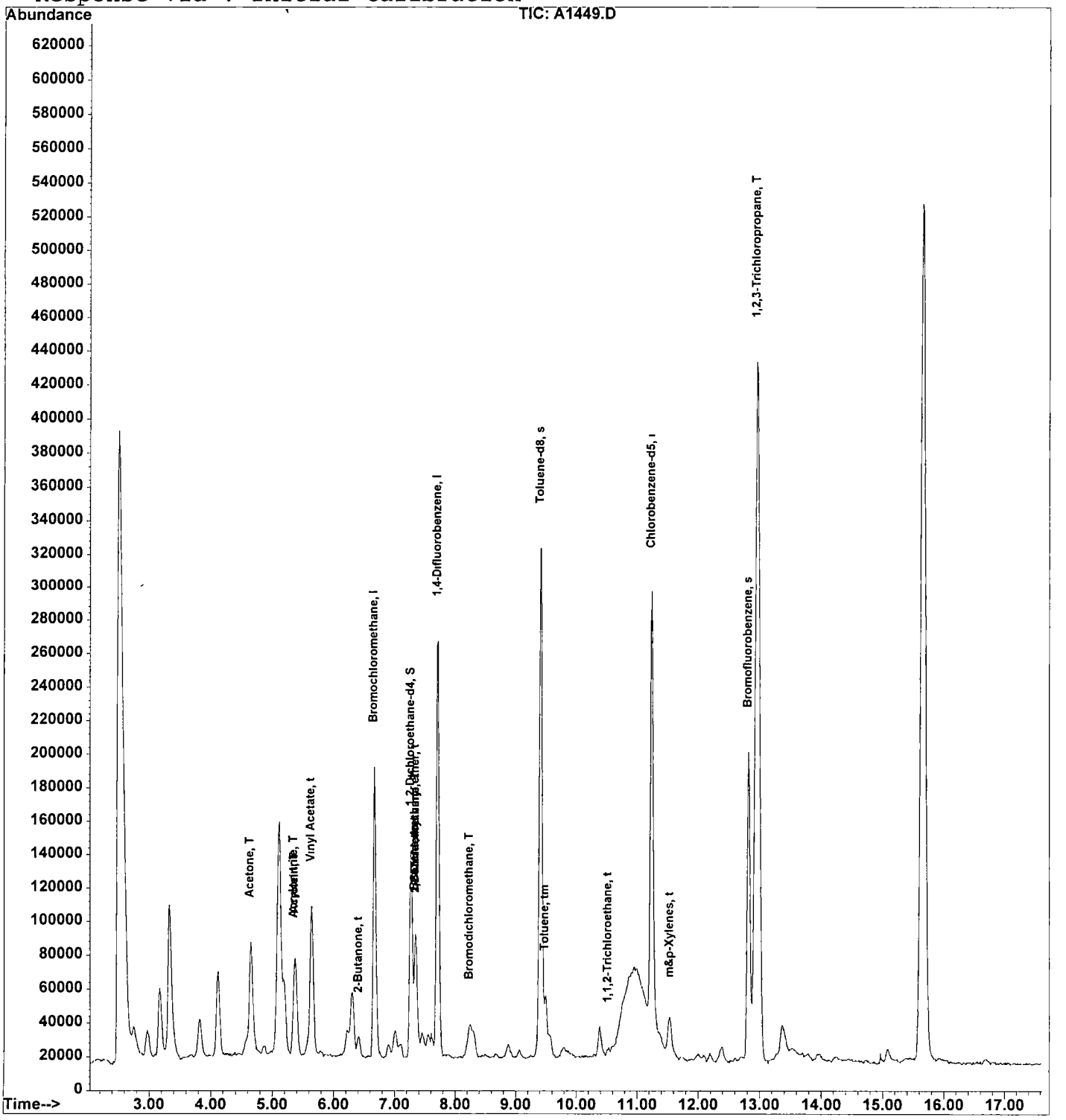
Target Compounds					Qvalue
8) Acrolein	5.38	56	63002	120.10 ug/l #	34
10) Acetone	4.65	58	51189	136.69 ug/l	98
13) Acrylonitrile	5.36	53	1662	1.28 ug/l #	12
16) Vinyl Acetate	5.65	43	62407	7.61 ug/l	71
18) 2-Butanone	6.42	72	5022	11.37 ug/l #	25
22) 1,2-Dichloroethane	7.36	62	48465	7.83 ug/l	93
24) 2-Chloroethyl vinyl ether	7.36	63	9915	5.27 ug/l #	62
26) Benzene	7.35	78	49278	2.38 ug/l	100
31) Bromodichloromethane	8.25	83	14266	3.15 ug/l #	18
35) Toluene	9.50	92	25663	3.08 ug/l	96
37) 1,1,2-Trichloroethane	10.54	83	3525	1.66 ug/l #	2
45) m&p-Xylenes	11.55	91	15661	1.29 ug/l	99
52) 1,2,3-Trichloropropane	12.96	75	16685	5.82 ug/l #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC1998A\A1449.D Vial: 3
Acq On : 18 Dec 1998 1:52 pm Operator:
Sample : 813554 5 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 18 14:10 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Mon Jan 25 10:32:06 1999
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1549.D Vial: 9
Acq On : 21 Dec 1998 5:52 pm Operator:
Sample : 813554 12 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:46 1998 Quant Results File: 8260S.RES

Quant Method : C:\HPCHEM\1\METHODS\8260S.M (RTE Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Tue Dec 22 07:43:24 1998
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	6.66	128	22593	50.00 ug/l	-0.01
27) 1,4-Difluorobenzene	7.70	114	101276	50.00 ug/l	-0.01
41) Chlorobenzene-d5	11.21	117	82617	50.00 ug/l	-0.04
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	7.26	65	46545	51.54 ug/l	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.08%		
34) Toluene-d8	9.39	98	109718	50.33 ug/l	-0.02
Spiked Amount 50.000	Range 88 - 110		Recovery = 100.66%		
50) Bromofluorobenzene	12.77	95	39511	45.56 ug/l	-0.04
Spiked Amount 50.000	Range 86 - 115		Recovery = 91.12%		

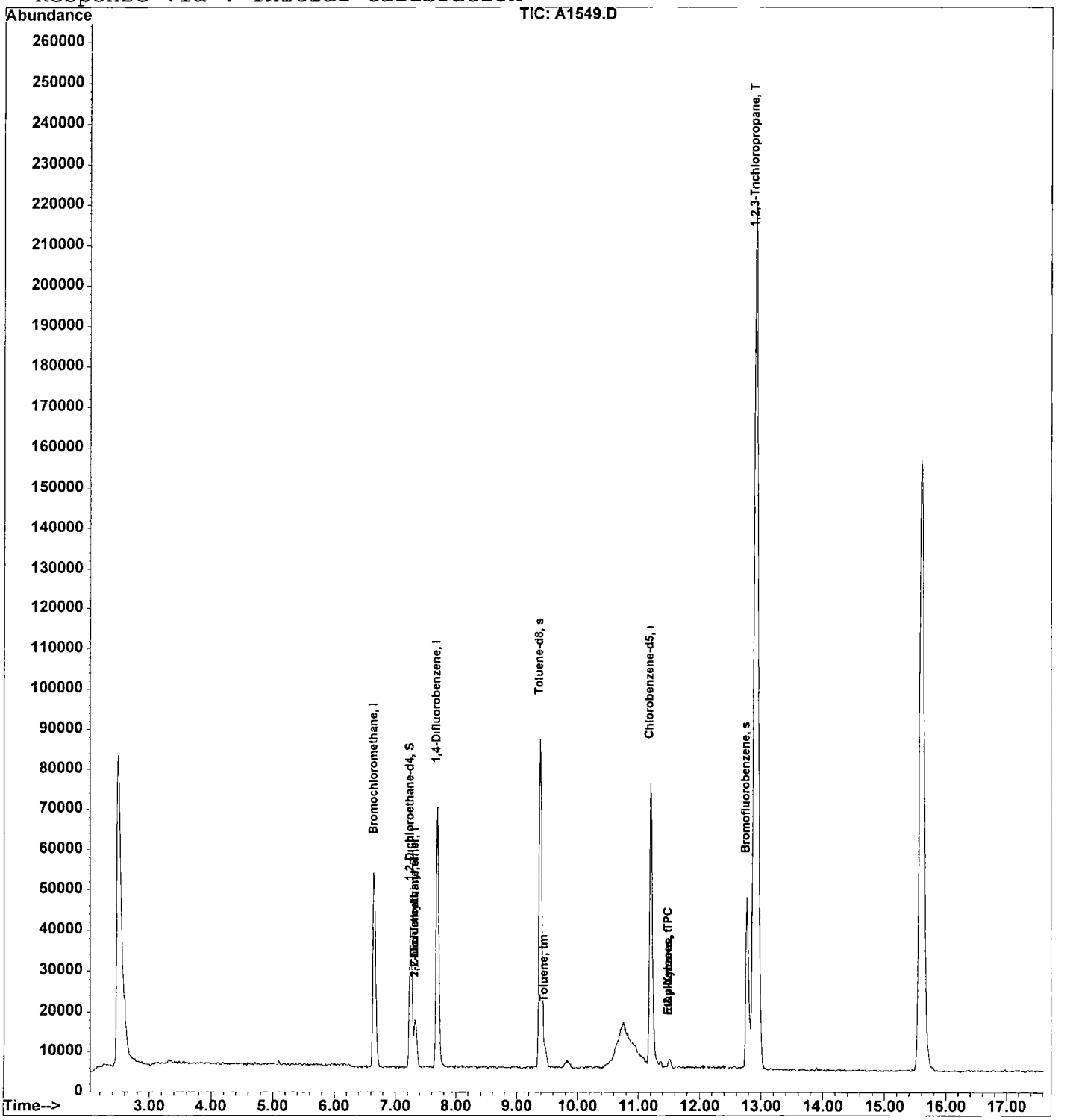
Target Compounds					Qvalue
22) 1,2-Dichloroethane	7.34	62	14321	10.06 ug/l #	71
24) 2-Chloroethyl vinyl ether	7.34	63	2448	5.54 ug/l #	62
35) Toluene	9.47	92	3225	1.59 ug/l #	80
44) Ethylbenzene	11.51	91	4020	1.04 ug/l	92
45) m&p-Xylenes	11.51	91	4020	1.35 ug/l	80
52) 1,2,3-Trichloropropane	12.91	75	8388	12.31 ug/l #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\DEC2198A\A1549.D Vial: 9
Acq On : 21 Dec 1998 5:52 pm Operator:
Sample : 813554 12 Inst : GC/MS Ins
Misc : 5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 22 7:46 1998 Quant Results File: 8260S.RES

Method : C:\HPCHEM\1\METHODS\8260A.M (Chemstation Integrator)
Title : VOA Standards for 5 point calibration
Last Update : Mon Jan 25 10:32:06 1999
Response via : Initial Calibration



GCMS VOA

Run Logs

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-12-98

Reviewed By:

Date/Time:

Internal Standard Areas:

Bromochloromethane: 607339

1,4-Difluorobenzene 3855186

Chlorobenzene-d5: 3131813

SOP No: VP-ATM-Exxxx

608

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	2	4	1	BFB 121298I:50NG	—	—	—	—	92-1-287-4	—	
A	1	2	4	2	VSTD010:10UG/L	AQ			5ml	55155 V1558-38-2 82601 V1558-35-1	1	82602 V1558-85-1 Gases V1558-87-2
A	1	2	4	3	VSTD020 20UG/L						2	
A	1	2	4	4	VSTD050:50UG/L						3	
A	1	2	4	5	VSTD100:100UG/L						4	
A	1	2	4	6	VSTD150:150UG/L						5	
A	1	2	4	7	VSTD200:200UG/L						6	
A	1	2	4	8	MB						7	OK
A	1	2	4	9	LCS 121298I						8	OK
A	1	2	5	0	813435-1						9	OK
A	1	2	5	1	-2						10	OK
A	1	2	5	2	-3						11	OK
A	1	2	5	3	-4						12	OK
A	1	2	5	4	-5						13	OK
A	1	2	5	5	813438-11						14	RA 1:5 for Isopropylbenzene/Benzene
A	1	2	5	6	-12						15	OK
A	1	2	5	7	813554-1						16	OK

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-12-98

Reviewed By: _____

Date/Time: _____

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 607339

1,4-Difluorobenzene 3855186

Chlorobenzene-d5: 3131813

609

Data File					Sample ID	Matrix	Sample Prep Wt. (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	2	5	8	813554-2	AQ	—	—	5ml	+5/55 V1058-38-2	17	OK
A	1	2	5	9	-3						18	OK
A	1	2	6	0	-23						19	OK
A	1	2	6	1	-24						20	OK
A	1	2	6	2	-25						21	OK
A	1	2	6	3	-1ms						22	
A	1	2	6	4	-1msd						23	

WH 12-13-98

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-13-98

Reviewed By:

Date/Time:

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 586215

1,4-Difluorobenzene 3602442

Chlorobenzene-d5: 2999478

610

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	2	6	5	BFB1213981:50NG	AQ	—	—	5ml	921-287-4	24	
A	1	2	6	6	VST0050:50UGIL					55155 V1558-38-2 82603 V1558-38-1	25	82602 V1558-38-1 Gases V1558-37-2
A	1	2	6	7	↓						26	
A	1	2	6	8	MB						27	OK
A	1	2	6	9	LCS1213981						28	OK
A	1	2	7	0	813554-29						29	RR 1:5 for TCE
A	1	2	7	1	-30						30	OK
A	1	2	7	2	-31						31	OK
A	1	2	7	3	-32						32	OK
A	1	2	7	4	-33						33	OK
A	1	2	7	5	-34						34	OK
A	1	2	7	6	-28						35	OK
A	1	2	7	7	-26						36	OK
A	1	2	7	8	-27						37	OK
A	1	2	7	9	-28ms						38	OK
A	1	2	8	0	-28msd						39	OK
A	1	2	8	1	813502-7						40	OK

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-13-98

Reviewed By:

Date/Time:

Internal Standard Areas:

Bromochloromethane: 586215

1,4-Difluorobenzene 3602442

Chlorobenzene-d5: 2999478

SOP No: VP-ATM-Exxxx

611

Data File	Sample ID	Matrix	Sample Prep Wt. (X x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A 1 2 8 2	813502-8	AQ	—	—	5 ml	ESTSS V1554-38-2	41	OK
A 1 2 8 3	-9						42	RR 1:10 for cis 12DCE/TCE
A 1 2 8 4	-10						43	OK
A 1 2 8 5	-11						44	OK
A 1 2 8 6	-12						45	OK
A 1 2 8 7	-13						46	OK
A 1 2 8 8	-14						47	OK
A 1 2 8 9	813600-1						48	OK - Not run for ketones

AWH 12-13-98

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-14-98

Reviewed By:

Date/Time:

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 667748

1,4-Difluorobenzene 4090179

Chlorobenzene-d5: 3261252

612

Data File					Sample ID	Matrix	Sample Prep Wt (X.x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	3	0	2	BFB1214981:50NG	—	—	—	—	921-287-4	1	
A	1	3	0	3	YST0050:50UG/L	AQ			5ml	8260 V1558-38-2 8260 1 V1558-38-1	1	8260 2 V1558-35-1 Gases V1558-37-2
A	1	3	0	4	MB						1	OK
A	1	3	0	5	813171-6						2	OK
A	1	3	0	6	813556-9						3	OK
A	1	3	0	7	813555-7						4	OK
A	1	3	0	8	813616-2						5	OK
A	1	3	0	9	812889-17			1:10			1	OK
A	1	3	1	0	LCS1214981			—			2	No good; forgot to spike
A	1	3	1	1	813227-1			1:10			3	OK
A	1	3	1	2	-2						4	OK
A	1	3	1	3	-3						5	OK
A	1	3	1	4	813379-1			1:200			6	OK
A	1	3	1	5	813459-2			1:10			7	RR 1:100 Matrix int.
A	1	3	1	6	813438-11			1:5			8	OK
A	1	3	1	7	813554-29						9	OK
A	1	3	1	8	813169-2			1:10			10	OK

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-14-98

Reviewed By:

Date/Time:

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 667748

1,4-Difluorobenzene 4090179

Chlorobenzene-d5: 3261252

613

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	3	1	9	813522-1	AQ	—	1:50	5ml	[illegible]	11	RR 1:500
A	1	3	2	0	813464-2			—			12	RR Straight
A	1	3	2	1	813555-1			1:5000			13	RR 1:50
A	1	3	2	2	↓ -2						14	RR 1:50
A	1	3	2	3	813556-1						15	RR 1:50
A	1	3	2	4	↓ -2			↓			16	RR 1:50
A	1	3	2	5	813555-5			1:20,000			17	RR 1:500
A	1	3	2	6	813555-7			↓			18	RR 1:500
A	1	3	2	7	813616-2			—			19	Already run
A	1	3	2	8	813630-3a						20	OK
A	1	3	2	9	-3b						21	OK
A	1	3	3	0	-3c						22	OK
A	1	3	3	1	-4a						23	OK
A	1	3	3	2	-4b						24	OK
A	1	3	3	3	12-01-11-15-46 [illegible] -4c			↓			25	OK
A	1	3	3	4	8132299-1			1:50			26	RR 1:50
A	1	3	3	5	813309-1	↓	↓	1:20	↓	↓	27	OK

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-14-98

Reviewed By:

Date/Time:

Internal Standard Areas:

Bromochloromethane: 667748

1,4-Difluorobenzene 4090179

Chlorobenzene-d5: 3261252

SOP No: VP-ATM-Exxxx

614

Data File					Sample ID	Matrix	Sample Prep Wt. (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	3	3	6	813508-1	AQ	—	1.5	5mL	IS/SS V1558882	28	OK
A	1	3	3	7	813386-1	↓	↓	—	↓	↓	29	OK

WH 12-15-98

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Reviewed By:

Date/Time: 12-16-98

Date/Time:

Internal Standard Areas:

Bromochloromethane:

1,4-Difluorobenzene

Chlorobenzene-d5:

SOP No: VP-ATM-Exxxx

615

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	3	7	8	BFB 121698 1.5 NG	—	—	—	—	72-1-287-4	—	
A	1	3	7	9	VJT0100: 100UG/L	AQ			10ml	SJ/SS V1558-39-2 SB62 V1558-38-1	1	SB602 V1558-35-1 Gasoline V1558-37-2
A	1	3	8	0	VJT0010: 10UG/L						1	
					~~VJT0015: 15UG/L~~	12-16-98					~~1~~	
A	1	3	8	1	VJT0020: 20UG/L						2	
A	1	3	8	2	VJT0050: 50UG/L						3	
A	1	3	8	3	VJT0075: 75UG/L						4	
A	1	3	8	4	MB						6	
A	1	3	8	5	LCS 121698 1						7	
A	1	3	8	6	813550-1	S			5G		8	No run; sequence not set
A	1	3	8	7	-2						9	VI
A	1	3	8	8	-3						10	
A	1	3	8	9	813502-1						11	
A	1	3	9	0	-2						12	
A	1	3	9	1	-3						13	
A	1	3	9	2	-4						14	
A	1	3	9	3	-5						15	

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-16-98

Reviewed By:

Date/Time:

Internal Standard Areas:

Bromochloromethane:

1,4-Difluorobenzene

Chlorobenzene-d5:

SOP No: VP-ATM-Exxxx

616

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	3	9	4	813502-6	S	—	—		IS/SS V1358-39-2	16	No run; sequence not set up.
A	1	3	9	5	813554-4						17	
A	1	3	9	6	-5						18	
A	1	3	9	7	-6						19	
A	1	3	9	8	-7						20	

WH 12-16-98

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-18-98

WH 12-18-98

Reviewed By: _____

Date/Time: _____

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 116755

1,4-Difluorobenzene 698716

Chlorobenzene-d5: 592186

617

Data File	Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A1445	BFB1218982:50NG	—	—	—	—	92-1-287-4	—	
A1446	VSTD050:50UG/L	AQ			10ml	8155 V1558-39-2 8260 I V1558-41-1	1	8260 2 V1558-41-2 6-105 V1558-42-1
A1447	MB						1	OK
A1448	LCS1218981						2	OK
A1449	813554-5	S			5.0433		3	RR 1G for Matr. Int.
A1450	-6				4.8895		4	OK
A1451	-7				5.1446		5	OK
A1452	-8				5G		6	OK
A1453	-9						7	OK
A1454	-10						8	OK
A1455	-11						9	OK
A1456	-12						10	RR 1G for Matrix Int.
A1457	-13						11	OK
A1458	-14				6.617		12	OK
A1459	-17				5.5498		13	OK
A1460	-18				5G		14	RR 1G Matrix Int.
A1461	-19				4.8145		15	RR 1G Matrix Int.

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-18-98

Reviewed By: _____

Date/Time: _____

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 116755

1,4-Difluorobenzene 698716

Chlorobenzene-d5: 592186

618

Data File					Sample ID	Matrix	Sample Prep Wt (X.x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	4	6	2	813554-20	S	—	—	5.5654	IS/SS V1558-39-2	16	OK
A	1	4	6	3	-21				5.3608		17	OK
A	1	4	6	4	-22				5G		18	RR 1G Matrix Int.
A	1	4	6	5	813604-1				5.7146		19	RR 5G
A	1	4	6	6	-2				4.8648		20	OK

AJH. 12-18-98

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: Wilfobart

Reviewed By:

Date/Time: 12-19-98

Date/Time:

Internal Standard Areas:

Bromochloromethane: 104637

1,4-Difluorobenzene

Chlorobenzene-d5:

SOP No: VP-ATM-Exxxx

619

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	4	8	7	BFB121998I.5NG	—	—	—	—	921-287-4	—	
A	1	4	8	8	VSTD050.50UG/L	AQ			10mL ~~Sample~~	J5/15 V1558-39-2 8260J V1558-41-1	1	8260 V1558-41-2 624 V1558-42-1
A	1	4	8	9	↓						2	
A	1	4	9	0	MB						3	OK
A	1	4	9	1	LCS121998I						4	OK
A	1	4	9	2	813938-3	S			~~5G~~ 1G		5	OK
A	1	4	9	3	-5						6	RR 1:20 for Ethylbenzene
A	1	4	9	4	-6						7	RR 1:10 for Matrix Int
A	1	4	9	5	-8						8	" "
A	1	4	9	6	-9						9	OK
A	1	4	9	7	-10						10	OK
A	1	4	9	8	813502-2						11	RR 1:10 for Matrix Int.
A	1	4	9	9	-3						12	OK
A	1	5	0	0	-4						13	OK
A	1	5	0	1	81355-4-18						14	OK
A	1	5	0	2	-19						15	OK
A	1	5	0	3	813604-1				4.8145G		16	RR 1G for Matrix Int.

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-19-98

Reviewed By:

Date/Time:

Internal Standard Areas:

Bromochloromethane:

1,4-Difluorobenzene

Chlorobenzene-d5:

SOP No: VP-ATM-Exxxx

620

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	5	0	4	913604-7	S	—	—	1G	BVSS V1558-392	17	OK
A	1	5	10	5	913438-1	↓	↓	↓	0.5G	↓	18	Ref 1.20 for ethylbenzene

JH 12-20-98

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-21-98

Reviewed By:

Date/Time:

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 95235

1,4-Difluorobenzene 595380

Chlorobenzene-d5: 487093

621

Data File	Sample ID	Matrix	Sample Prep Wt (X.x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A1539	BFB 1221981:50NG	—	—	—	—	T21-287-4	—	
A1540	VSTD050:50UG/L	Aa			5ml	5/51 V1558-39-2 8260 1 V1558-41-1	1	82602 V1558-41-2 Gases V1558-42-1
A1541	XSTD010:10UG/L						1	
A1542	XSTD020:20UG/L						2	
A1543	XSTD100:100UG/L						3	
A1544	XSTD~~150:150UG/L~~ 075:75UG/L						4	
A1545	XSTD200:200UG/L						5	
A1546	MB						6	OK
A1547	LCS1221981						7	OK
A1548	813554-4	S			1G		8	OK
A1549	813554-12						9	Extract + run 1:10 for MI.
A1550	-22						10	OK
A1551	813604-2				5G		11	OK
A1552	813438-5				0.25G		12	Extr. + run 1:50 for ethylbenzene
A1553	-6				0.5G		13	OK
A1554	-8						14	OK
A1555	813502-2						15	OK

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-21-98

Reviewed By: _____

Date/Time: _____

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 95235

1,4-Difluorobenzene 595380

Chlorobenzene-d5: 487093

622

Data File					Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	5	5	6	813604-1 WH 12-22-98	S	—	—	1G	ISSS V1558-39-2	16	OK
A	1	5	5	7	81 ~~48~~ 3438-1	↓	↓	↓	0.25G	↓	17	Extract run 1:50 for ethyl bz.
A	1	5	5	8	↓ -1ms	↓	↓	↓	↓	↓	18	
A	1	5	5	9	↓ -1msd	↓	↓	↓	↓	↓	19	

WH 12-22-98

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Date/Time: 12-22-98

Reviewed By: _____

Date/Time: _____

Internal Standard Areas:

Bromochloromethane: _____

1,4-Difluorobenzene _____

Chlorobenzene-d5: _____

SOP No: VP-ATM-Exxxx

623

Data File					Sample ID	Matrix	Sample Prep Wt. (X.x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	5	9	0	BFB 1222982:50NG	AQ	—	—	5ml	92-1-287-4	17	Not Run, Arcan Arcan
A	1	5	9	1	VSTD050:50ug/L					FS/SS V1558-38-2 8260 1 V1558-41-1	18	8260 2 V1558-41-2 Gases V1558-42-1
A	1	5	9	2	↓						19	
A	1	5	9	3	MB						20	
A	1	5	9	4	LCS 1222982						21	
A	1	5	9	5	813888-5			↓			22	
A	1	5	9	6	813853-1			1:10			23	
A	1	5	9	7	813841-1						24	
A	1	5	9	8	↓ -2			↓			25	
A	1	5	9	9	813438-1			1:50			26	
A	1	6	0	0	813554-12			1:10			27	
A	1	6	0	1	813438-5			1:50			28	
A	1	6	0	2	813920-1			1:20000			29	
A	1	6	0	3	↓ -1 DUP			↓			30	
A	1	6	0	4	813997-1			—			31	
A	1	6	0	5	↓ -2			↓			32	
A	1	6	0	6	↓ -3	↓	↓	↓	↓	↓	33	

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W Hobart

Reviewed By:

Date/Time: 12-27-98

Date/Time:

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 647483

1,4-Difluorobenzene 4028046

Chlorobenzene-d5: 3497759

624

Data File					Sample ID	Matrix	Sample Prep Wt (X.x g)	Sample Prep Vol. (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A	1	6	6	4	BFB1227981.50ng	—	—	—	—	92-1-287-4	—	
A	1	6	6	5	VJT0050.50ug/L	A2			5ml	SS/SS V1558-38-2 8260I V1558-41-1	1	8260A V1558-41-2 6040I V1558-42-1
A	1	6	6	6	MB						1	OK
A	1	6	6	7	LCS1227981						2	OK
A	1	6	6	8	814028-2						3	OK
A	1	6	6	9	-1						4	OK
A	1	6	7	0	-2ms						5	OK
A	1	6	7	1	-2msd						6	OK
A	1	6	7	2	813438-1			1:50			7	OK
A	1	6	7	3	-5						8	OK
A	1	6	7	4	813554-12			1:10			9	OK
A	1	6	7	5	-5						10	OK
A	1	6	7	6	813897-1						11	OK
A	1	6	7	7	-2						12	OK
A	1	6	7	8	-3						13	OK
A	1	6	7	9	-4						14	RR 1:50 for ethylbenzene/Xylenes
A	1	6	8	0	-5						15	OK

VOLATILE ORGANICS GC/MS RUN LOG

Analytical Methods: EPA 8260 / 624 / 524.2

Analyst: W. Hobart

Reviewed By:

Date/Time: 12-27-98

Date/Time:

Internal Standard Areas:

SOP No: VP-ATM-Exxxx

Bromochloromethane: 647983

1,4-Difluorobenzene 4028046

Chlorobenzene-d5: 3497759

625

Data File	Sample ID	Matrix	Sample Prep Wt (X x g)	Sample Prep Vol (X mL)	Amount Purged (uL / mL / g)	Standard Control ID	TEKMAR Position No.	Comments
A1681	813897-6	AQ	—	1:10	5ml	IS/SS VNSP382	16	OK
A1682	-7						17	OK
A1683	-8						18	OK
A1684	-9						19	OK
A1685	-10						20	OK
A1686	-11						21	OK
A1687	-12						22	OK
A1688	-13						23	RR 1:50
A1689	814094-2			—			24	OK
A1690	-3						25	OK
A1691	-4						26	OK
A1692	814122-2						27	OK
A1693	-3						28	OK
A1694	-4						29	OK
A1695	-6						30	RR; IS/SS STD runout
A1696	-7						31	
A1697	-8						32	

PERCENT SOLIDS

Raw Data

Analytical Methods:
- [ ] Total Dissolved Solids (180° C)
- [x] Total Solids (103-105° C) EPA160 3
- [ ] Total Volatile Solids (550° C) EPA160.4

SOP No VP-ATM-E031

Analyst: B. Lampuecht

Reviewed By: J.M.

QC Batch No

Date/Time: 12/30/98 / 16:00

Date/Time 12-31-98 / 1200

QC Batch No. 33284

627

Sample ID	Crucible ID	Crucible Weight (g)	Sample Vol (mL)	Sample Weight (g)	Final Weight 1 (g)	Final Weight 2 (g)	Wt Used 1 / 2	Wt After Ignition (g)	Reported Concentration mg/L	mg/Kg	%TS	% Moist	Reagent Codes / Comments
Blank	0	0.9576	N/A	N/A	0.9573	0.9573	(2)				<1.00		Blank
813502-6	1	0.9578		12.1725	10.6726	10.6749					79.83		Ecology & Env
↓ -6 Dup	2	0.9514		11.4122	9.8865	9.8884					78.31		Dup
813554-4	3	0.9558		17.0329	14.4762	14.4814					79.41		
-5	4	0.9498		7.5688	7.2293	7.2334					83.02		
-6	5	0.9507		16.7096	15.1293	15.1345					84.88		
-7	6	0.9497		15.0510	14.1177	14.1221					87.52		
-8	7	0.9447		13.5125	11.5177	11.5206					78.27		
-9	8	0.9456		18.5699	18.0886	18.0927					92.34		
-10	9	0.9415		16.5072	15.7344	15.7388					89.61		
-11	10	0.9522		23.4026	21.9543	21.9593					89.76		
-12	11	0.9556		11.8657	10.3553	10.3568					79.23		

Calculations:

TS mg/Kg = Final Residue Wt(g) x 1,000,000 / Initial Sample Wt (g)

%TS = Final Residue Wt(g) x 100 / Initial Sample Wt (g)

TVSS mg/L = Weight Loss after Ignition * 1,000,000 / Sample Volume (mL)

TDS(mg/L) = Final Residue(g) x 1,000,000 / sample vol (ml)

% Moisture = 100 - (Final Residue Wt(g) x 100) / Initial Sample Wt (g)

TS mg/L = Final Residue Wt(g) x 1,000,000 / Sample Volume (mL)

Notes:
1. Note TVS in comments column
2. Use sample volumes resulting in ≤ 200 mg residue.

Analytical Methods.

- [ ] Total Dissolved Solids
- [x] Total Solids (103-105° C) EPA160.3
- [ ] Total Volatile Solids (550° C) EPA160.4

SOP No VP-ATM-E031

628

Analyst: B. Lampreacht

Reviewed By [illegible]

QC Batch No

Date/Time 12/30/98 / 16:15

Date/Time 12-31-98/1210

QC Batch No 33285

Sample ID	Crucible ID	Crucible Weight (g)	Sample Vol (mL)	Sample Weight (g)	Final Weight 1 (g)	Final Weight 2 (g)	Wt Used 1 / 2	Wt After Ignition (g)	Reported Concentration mg/L	mg/Kg	%TS	% Moist	Reagent Codes / Comments
Blank	20	0.9564	N/A	N/A	0.9557	0.9559	(2)				41.00		Blank
813554-13	21	0.9582		12.5347	11.2493	11.2527					82.13		Ecology
-13 Dup	22	0.9588		15.1470	13.2486	13.2525					81.16		Dup
-14	23	0.9581		14.2257	14.5965	14.5984					95.88		
-17	24	0.9741		15.6258	13.0601	13.0642					77.37		
-18	25	0.9740		9.3154	9.5729	9.5761					92.34		
-19	26	0.9732		13.2521	13.1242	13.1291					91.73		
-20	27	0.9749		17.3941	16.2169	16.2204					87.65		
-21	28	0.9587		19.4324	18.3948	18.3998					89.75		
-22	29	0.9607		9.9954	9.7562	9.7588					88.02		
813604-1	30	0.9576		18.5213	15.5916	15.5960					79.03		
-3	31	0.9589		11.4697	10.8785	10.8822					86.52		

Calculations:

TS mg/Kg = Final Residue Wt(g) x 1,000,000 / Initial Sample Wt (g)

%TS = Final Residue Wt(g) x 100 / Initial Sample Wt (g)

TVSS mg/L = Weight Loss after Ignition * 1,000,000 / Sample Volume (mL)

TDS(mg/L) = Final Residue(g) x 1,000,000 / sample vol (ml)

% Moisture = 100 - (Final Residue Wt(g) x 100) / Initial Sample Wt (g)

TS mg/L = Final Residue Wt(g) x 1,000,000 / Sample Volume (mL)

Note
813604-2 was spilt set up. 813604-3 dupe of 813604-2 BL 12/30/98

Notes.
1. Note TVS in comments column.
2. Use sample volumes resulting in ≤ 200 mg residue.

Analytical Methods:
- [ ] Total Dissolved Solids (180° C) EPA160.1
- [x] Total Solids (103-105° C) EPA160 3
- [ ] Total Volatile Solids (550° C) EPA160.4

SOP No VP-ATM-E031

629

Analyst: B. Lamprecht
Date/Time 1/5/99 / 11:00

Reviewed By [signature]
Date/Time 1-6-99/1300

QC Batch No
QC Batch No 33444

Sample ID	Crucible ID	Crucible Weight (g)	Sample Vol (mL)	Sample Weight (g)	Final Weight 1 (g)	Final Weight 2 (g)	Wt Used 1 / 2	Wt After Ignition (g)	Reported Concentration mg/L	mg/Kg	%TS	% Moist	Reagent Codes / Comments
Blank	0	0.9895	N/A	N/A	0.9885	0.9886	(2)				<1.00	>99.00	Blank
990001-1	1	0.9875		25.1042	20.4684	20.4701					77.61	22.39	[redacted]
-1 Dup	2	0.9888		30.0742	24.5318	24.5340					78.29	21.71	Dup
-2	3	0.9883		20.1047	18.2057	18.2064					85.64		
-3	4	0.9880		17.557	16.2434	16.2438					86.89		
813554-15	5	0.9950	N/A	31.6664	27.6424	27.6445					84.16	15.84	[redacted]
-16	6	0.9937		23.5873	23.4792	23.4804					95.33	4.67	

BL 1/5/99

Calculations:

TS mg/Kg = Final Residue Wt(g) x 1,000,000 / Initial Sample Wt (g)

%TS = Final Residue Wt(g) x 100 / Initial Sample Wt (g)

TVSS mg/L = Weight Loss after Ignition * 1,000,000 / Sample Volume (mL)

TDS(mg/L) = Final Residue(g) x 1,000,000 / sample vol (ml)

% Moisture = 100 - (Final Residue Wt(g) x 100) / Initial Sample Wt (g)

TS mg/L = Final Residue Wt(g) x 1,000,000 / Sample Volume (mL)

Notes.
1. Note TVS in comments column
2. Use sample volumes resulting in ≤ 200 mg residue.