

## LABORATORY REPORT

May 28, 2008

Robert Kennedy  
ENSR  
2 Technology Park Drive  
Westford, MA 01886

**RE: Phase B Soil Gas / 04020-023-4311**

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on May 8, 2008. For your reference, these analyses have been assigned our service request number P0801342.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 279 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

**Columbia Analytical Services, Inc.**

*Kelly M Horiuchi*

Kelly Horiuchi  
Project Manager

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Client: ENSR  
Project: Phase B Soil Gas / 04020-023-4311

CAS Project No: P0801342

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### CASE NARRATIVE

The samples were received intact under chain of custody on May 8, 2008 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

#### Helium Analysis

Two of the samples were analyzed for helium according to modified EPA Method 3C using a gas chromatograph equipped with a thermal conductivity detector (TCD).

#### Volatile Organic Compound Analysis

All of the samples were analyzed for selected volatile organic compounds. In addition, one of the samples was analyzed for tentatively identified compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator.

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*The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.*

Client: ENSR

Folder: P0801342

Project: Phase B Soil Gas 04020-023-4311

Detailed Sample Information

CAS Sample ID	Client Sample ID	Container Type	Pi1 (Hg)	Pi1 (psig)	Pf1	Pi2 (Hg)	Pi2 (psig)	Pf2	Cont ID	Order #	FC ID	Order #
P0801342-001.01	SG83B-05-1	6.0 L-Summa Canister Source	-7.4	-3.6	3.5				SC00979	8616	OA00080	8616
P0801342-002.01	SG83B-05-3	6.0 L-Summa Canister Source	-7.8	-3.8	3.5				SC00564	8616		8616
P0801342-003.01	SG83B-05-7	6.0 L-Summa Canister Source	-8.5	-4.2	3.5				SC00791	8616		8616

Miscellaneous Items - received





**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: ENSR

Work order: P0801342

Project: Phase B Soil Gas / 04020-023-4311

Sample(s) received on: 05/08/08

Date opened: 05/08/08

by: MZAMORA

*Note:* This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- |  | <b>Yes</b>                          | <b>No</b>                           | <b>N/A</b>                          |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were <b>sample containers</b> properly marked with client sample ID?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 2 Container(s) <b>supplied by CAS</b> ?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 3 Did <b>sample containers</b> arrive in good condition?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 4 Were <b>chain-of-custody</b> papers used and filled out?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5 Did <b>sample container labels</b> and/or tags agree with custody papers?                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 6 Was <b>sample volume</b> received adequate for analysis?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 7 Are samples within specified holding times?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 8 Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Cooler Temperature _____ °C    Blank Temperature _____ °C  |                                     |                                     |                                     |
| 9 Was a <b>trip blank</b> received?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Trip blank supplied by CAS: Serial # _____ -TB _____   |                                     |                                     |                                     |
| 10 Were <b>custody seals</b> on outside of cooler/Box?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Location of seal(s)? _____ Sealing Lid?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were signature and date included?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were seals intact?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were custody seals on outside of sample container?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Location of seal(s)? _____ Sealing Lid?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were signature and date included?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were seals intact?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11 Do containers have appropriate <b>preservation</b> , according to method/SOP or Client specified information? | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Is there a client indication that the submitted samples are <b>pH</b> preserved?                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were <b>VOA vials</b> checked for presence/absence of air bubbles?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12 <b>Tubes:</b> Are the tubes capped and intact?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Do they contain moisture?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 13 <b>Badges:</b> Are the badges properly capped and intact?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Are dual bed badges separated and individually capped and intact?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0801342-001.01	6.0 L Source Can					
P0801342-002.01	6.0 L Source Can					
P0801342-003.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: ENSR  
Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342

Helium

Test Code: EPA 3C Modified  
Instrument ID: HP5890 II/GC8/TCD  
Analyst: Zheng Wang/Wade Henton/Chris Cornett  
Sampling Media: 6.0 L Summa Canister(s)  
Test Notes:

Date(s) Collected: 5/7/08  
Date Received: 5/8/08  
Date Analyzed: 5/8/08

Client Sample ID	CAS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	Result ppmV	MRL ppmV	Data Qualifier
SG83B-05-1	P0801342-001	1.00	1.64	2,700	41	
SG83B-05-3	P0801342-002	1.00	1.67	160	42	
Method Blank	P080508-MB	1.00	1.00	ND	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 5/12/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 3

Client: ENSR  
 Client Sample ID: SG83B-05-1  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-001

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00979

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.6 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	82	8.2	ND	17	1.7	
74-87-3	Chloromethane	ND	16	8.2	ND	7.9	4.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	82	8.2	ND	12	1.2	
75-01-4	Vinyl Chloride	ND	16	8.2	ND	6.4	3.2	
74-83-9	Bromomethane	ND	16	8.2	ND	4.2	2.1	
75-00-3	Chloroethane	ND	16	8.2	ND	6.2	3.1	
64-17-5	Ethanol	12	820	8.2	6.6	440	4.4	J
67-64-1	Acetone	150	820	12	64	350	5.0	J, B
75-69-4	Trichlorofluoromethane	1,500	16	8.2	280	2.9	1.5	
107-13-1	Acrylonitrile	ND	82	11	ND	38	5.3	
75-35-4	1,1-Dichloroethene	ND	16	8.2	ND	4.1	2.1	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	82	12	ND	27	4.0	
75-09-2	Methylene Chloride	ND	82	8.2	ND	24	2.4	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	16	8.2	ND	5.2	2.6	
76-13-1	Trichlorotrifluoroethane	ND	16	9.2	ND	2.1	1.2	
75-15-0	Carbon Disulfide	ND	82	20	ND	26	6.3	
156-60-5	trans-1,2-Dichloroethene	ND	16	8.2	ND	4.1	2.1	
75-34-3	1,1-Dichloroethane	ND	16	8.2	ND	4.1	2.0	
1634-04-4	Methyl tert-Butyl Ether	ND	16	8.2	ND	4.6	2.3	
108-05-4	Vinyl Acetate	ND	820	26	ND	230	7.5	
78-93-3	2-Butanone (MEK)	26	82	8.2	8.7	28	2.8	J
156-59-2	cis-1,2-Dichloroethene	ND	16	8.2	ND	4.1	2.1	
108-20-3	Diisopropyl Ether	ND	82	9.7	ND	20	2.3	
67-66-3	Chloroform	52,000	16	9.7	11,000	3.4	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.  
 MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.  
 = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.  
 } = Analyte was found in the method blank.

Verified By: Rv Date: 5/9/08

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COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 2 of 3

Client: **ENSR**  
 Client Sample ID: **SG83B-05-1**  
 Client Project ID: **Phase B Soil Gas / 04020-023-4311**

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-001

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00979

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.6 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	82	8.4	ND	20	2.0	
107-06-2	1,2-Dichloroethane	ND	16	8.2	ND	4.1	2.0	
71-55-6	1,1,1-Trichloroethane	ND	16	8.2	ND	3.0	1.5	
71-43-2	<b>Benzene</b>	<b>100</b>	16	8.2	<b>31</b>	5.1	2.6	
56-23-5	<b>Carbon Tetrachloride</b>	<b>12,000</b>	16	8.2	<b>1,900</b>	2.6	1.3	
994-05-8	tert-Amyl Methyl Ether	ND	82	8.2	ND	20	2.0	
78-87-5	1,2-Dichloropropane	ND	16	8.2	ND	3.5	1.8	
75-27-4	Bromodichloromethane	ND	16	8.2	ND	2.4	1.2	
79-01-6	<b>Trichloroethene</b>	<b>16</b>	16	8.2	<b>3.0</b>	3.1	1.5	<b>J</b>
123-91-1	1,4-Dioxane	ND	82	10	ND	23	2.8	
80-62-6	Methyl Methacrylate	ND	82	12	ND	20	3.0	
142-82-5	n-Heptane	ND	82	10	ND	20	2.6	
10061-01-5	cis-1,3-Dichloropropene	ND	82	8.5	ND	18	1.9	
108-10-1	4-Methyl-2-pentanone	ND	82	9.2	ND	20	2.2	
10061-02-6	trans-1,3-Dichloropropene	ND	82	10	ND	18	2.3	
79-00-5	1,1,2-Trichloroethane	ND	16	8.2	ND	3.0	1.5	
108-88-3	<b>Toluene</b>	<b>13</b>	82	8.2	<b>3.6</b>	22	2.2	<b>J</b>
591-78-6	2-Hexanone	ND	82	12	ND	20	3.0	
124-48-1	Dibromochloromethane	ND	16	11	ND	1.9	1.3	
106-93-4	1,2-Dibromoethane	ND	16	8.9	ND	2.1	1.2	
111-65-9	n-Octane	ND	82	8.2	ND	18	1.8	
127-18-4	<b>Tetrachloroethene</b>	<b>110</b>	16	8.2	<b>16</b>	2.4	1.2	
108-90-7	<b>Chlorobenzene</b>	<b>120</b>	16	8.4	<b>26</b>	3.6	1.8	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: RC Date: 5/9/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

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Client: ENSR  
 Client Sample ID: SG83B-05-1  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-001

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00979

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.6 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	82	10	ND	19	2.3	
179601-23-1	m,p-Xylenes	ND	82	21	ND	19	4.9	
75-25-2	Bromoform	ND	82	12	ND	7.9	1.2	
100-42-5	Styrene	ND	82	12	ND	19	2.9	
95-47-6	o-Xylene	ND	82	10	ND	19	2.4	
79-34-5	1,1,2,2-Tetrachloroethane	ND	16	10	ND	2.4	1.5	
98-82-8	Cumene	9.7	82	9.2	2.0	17	1.9	J, B
103-65-1	n-Propylbenzene	ND	82	8.5	ND	17	1.7	
622-96-8	4-Ethyltoluene	12	82	9.3	2.4	17	1.9	J
108-67-8	1,3,5-Trimethylbenzene	ND	82	9.8	ND	17	2.0	
98-83-9	alpha-Methylstyrene	ND	82	12	ND	17	2.5	
95-63-6	1,2,4-Trimethylbenzene	ND	82	11	ND	17	2.3	
100-44-7	Benzyl Chloride	ND	16	14	ND	3.2	2.7	
541-73-1	1,3-Dichlorobenzene	ND	16	10	ND	2.7	1.7	
106-46-7	1,4-Dichlorobenzene	17	16	9.2	2.9	2.7	1.5	
135-98-8	sec-Butylbenzene	ND	82	9.5	ND	15	1.7	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	82	11	ND	15	1.9	
95-50-1	1,2-Dichlorobenzene	ND	16	11	ND	2.7	1.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	82	12	ND	8.5	1.3	
120-82-1	1,2,4-Trichlorobenzene	ND	16	12	ND	2.2	1.7	
91-20-3	Naphthalene	28	33	12	5.3	6.3	2.3	J, B
87-68-3	Hexachlorobutadiene	ND	16	15	ND	1.5	1.4	
98-06-6	tert-Butylbenzene	ND	33	8.2	ND	6.0	1.5	
104-51-8	n-Butylbenzene	ND	33	8.2	ND	6.0	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

3 = Analyte was found in the method blank.

Verified By: RL

Date: 5/19/08

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COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 3

Client: ENSR  
 Client Sample ID: SG83B-05-3  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-002

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00564

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.8 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	84	8.4	ND	17	1.7	
74-87-3	Chloromethane	ND	17	8.4	ND	8.1	4.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	84	8.4	ND	12	1.2	
75-01-4	Vinyl Chloride	ND	17	8.4	ND	6.5	3.3	
74-83-9	Bromomethane	ND	17	8.4	ND	4.3	2.2	
75-00-3	Chloroethane	ND	17	8.4	ND	6.3	3.2	
64-17-5	Ethanol	ND	840	8.4	ND	440	4.4	
67-64-1	Acetone	130	840	12	55	350	5.1	J, B
75-69-4	Trichlorofluoromethane	1,500	17	8.4	270	3.0	1.5	
107-13-1	Acrylonitrile	ND	84	12	ND	38	5.4	
75-35-4	1,1-Dichloroethene	ND	17	8.4	ND	4.2	2.1	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	84	12	ND	28	4.1	
75-09-2	Methylene Chloride	ND	84	8.4	ND	24	2.4	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	17	8.4	ND	5.3	2.7	
76-13-1	Trichlorotrifluoroethane	ND	17	9.4	ND	2.2	1.2	
75-15-0	Carbon Disulfide	ND	84	20	ND	27	6.4	
156-60-5	trans-1,2-Dichloroethene	ND	17	8.4	ND	4.2	2.1	
75-34-3	1,1-Dichloroethane	ND	17	8.4	ND	4.1	2.1	
1634-04-4	Methyl tert-Butyl Ether	ND	17	8.4	ND	4.6	2.3	
108-05-4	Vinyl Acetate	ND	840	27	ND	240	7.6	
78-93-3	2-Butanone (MEK)	24	84	8.4	8.1	28	2.8	J
156-59-2	cis-1,2-Dichloroethene	ND	17	8.4	ND	4.2	2.1	
108-20-3	Diisopropyl Ether	ND	84	9.9	ND	20	2.4	
67-66-3	Chloroform	49,000	17	9.9	10,000	3.4	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

∅ = Analyte was found in the method blank.

Verified By: Re Date: 5/9/08

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-3  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00564

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.8      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	84	8.5	ND	20	2.0	
107-06-2	1,2-Dichloroethane	ND	17	8.4	ND	4.1	2.1	
71-55-6	1,1,1-Trichloroethane	ND	17	8.4	ND	3.1	1.5	
71-43-2	<b>Benzene</b>	<b>100</b>	17	8.4	<b>32</b>	5.2	2.6	
56-23-5	<b>Carbon Tetrachloride</b>	<b>12,000</b>	17	8.4	<b>1,900</b>	2.7	1.3	
994-05-8	tert-Amyl Methyl Ether	ND	84	8.4	ND	20	2.0	
78-87-5	1,2-Dichloropropane	ND	17	8.4	ND	3.6	1.8	
75-27-4	Bromodichloromethane	ND	17	8.4	ND	2.5	1.2	
79-01-6	<b>Trichloroethene</b>	<b>16</b>	17	8.4	<b>3.0</b>	3.1	1.6	<b>J</b>
123-91-1	1,4-Dioxane	ND	84	10	ND	23	2.8	
80-62-6	Methyl Methacrylate	ND	84	13	ND	20	3.1	
142-82-5	n-Heptane	ND	84	11	ND	20	2.6	
10061-01-5	cis-1,3-Dichloropropene	ND	84	8.7	ND	18	1.9	
108-10-1	4-Methyl-2-pentanone	ND	84	9.4	ND	20	2.3	
10061-02-6	trans-1,3-Dichloropropene	ND	84	11	ND	18	2.3	
79-00-5	1,1,2-Trichloroethane	ND	17	8.4	ND	3.1	1.5	
108-88-3	<b>Toluene</b>	<b>8.5</b>	84	8.4	<b>2.3</b>	22	2.2	<b>J</b>
591-78-6	2-Hexanone	ND	84	13	ND	20	3.1	
124-48-1	Dibromochloromethane	ND	17	11	ND	2.0	1.3	
106-93-4	1,2-Dibromoethane	ND	17	9.0	ND	2.2	1.2	
111-65-9	n-Octane	ND	84	8.4	ND	18	1.8	
127-18-4	<b>Tetrachloroethene</b>	<b>130</b>	17	8.4	<b>19</b>	2.5	1.2	
108-90-7	<b>Chlorobenzene</b>	<b>160</b>	17	8.5	<b>36</b>	3.6	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Re      Date: 5/9/08

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-3  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00564

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.8      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	84	10	ND	19	2.4	
179601-23-1	m,p-Xylenes	ND	84	22	ND	19	5.0	
75-25-2	Bromoform	ND	84	13	ND	8.1	1.2	
100-42-5	Styrene	ND	84	13	ND	20	3.0	
95-47-6	o-Xylene	ND	84	11	ND	19	2.4	
79-34-5	1,1,2,2-Tetrachloroethane	ND	17	11	ND	2.4	1.6	
98-82-8	Cumene	ND	84	9.4	ND	17	1.9	
103-65-1	n-Propylbenzene	ND	84	8.7	ND	17	1.8	
622-96-8	4-Ethyltoluene	ND	84	9.5	ND	17	1.9	
108-67-8	1,3,5-Trimethylbenzene	ND	84	10	ND	17	2.0	
98-83-9	alpha-Methylstyrene	ND	84	12	ND	17	2.5	
95-63-6	1,2,4-Trimethylbenzene	ND	84	12	ND	17	2.3	
100-44-7	Benzyl Chloride	ND	17	14	ND	3.2	2.8	
541-73-1	1,3-Dichlorobenzene	ND	17	10	ND	2.8	1.7	
106-46-7	1,4-Dichlorobenzene	ND	17	9.4	ND	2.8	1.6	
135-98-8	sec-Butylbenzene	ND	84	9.7	ND	15	1.8	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	84	11	ND	15	2.0	
95-50-1	1,2-Dichlorobenzene	ND	17	11	ND	2.8	1.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	84	13	ND	8.6	1.3	
120-82-1	1,2,4-Trichlorobenzene	ND	17	13	ND	2.3	1.7	
91-20-3	Naphthalene	ND	33	12	ND	6.4	2.4	
87-68-3	Hexachlorobutadiene	ND	17	15	ND	1.6	1.4	
98-06-6	tert-Butylbenzene	ND	33	8.4	ND	6.1	1.5	
104-51-8	n-Butylbenzene	ND	33	8.4	ND	6.1	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC      Date: 5/9/08

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COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 4

Client: ENSR  
 Client Sample ID: SG83B-05-7  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-003

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00791

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	87	8.7	ND	18	1.8	
74-87-3	Chloromethane	ND	17	8.7	ND	8.4	4.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	87	8.7	ND	12	1.2	
75-01-4	Vinyl Chloride	ND	17	8.7	ND	6.8	3.4	
74-83-9	Bromomethane	ND	17	8.7	ND	4.5	2.2	
75-00-3	Chloroethane	ND	17	8.7	ND	6.6	3.3	
64-17-5	Ethanol	ND	870	8.7	ND	460	4.6	
67-64-1	Acetone	110	870	13	48	360	5.3	J, B
75-69-4	Trichlorofluoromethane	1,500	17	8.7	270	3.1	1.5	
107-13-1	Acrylonitrile	ND	87	12	ND	40	5.6	
75-35-4	1,1-Dichloroethene	ND	17	8.7	ND	4.4	2.2	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	87	13	ND	29	4.2	
75-09-2	Methylene Chloride	9.3	87	8.7	2.7	25	2.5	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	17	8.7	ND	5.5	2.8	
76-13-1	Trichlorotrifluoroethane	ND	17	9.7	ND	2.3	1.3	
75-15-0	Carbon Disulfide	ND	87	21	ND	28	6.7	
156-60-5	trans-1,2-Dichloroethene	ND	17	8.7	ND	4.4	2.2	
75-34-3	1,1-Dichloroethane	ND	17	8.7	ND	4.3	2.1	
1634-04-4	Methyl tert-Butyl Ether	ND	17	8.7	ND	4.8	2.4	
108-05-4	Vinyl Acetate	ND	870	28	ND	250	7.9	
78-93-3	2-Butanone (MEK)	23	87	8.7	7.8	29	2.9	J
156-59-2	cis-1,2-Dichloroethene	ND	17	8.7	ND	4.4	2.2	
108-20-3	Diisopropyl Ether	ND	87	10	ND	21	2.4	
67-66-3	Chloroform	54,000	17	10	11,000	3.5	2.1	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

3 = Analyte was found in the method blank.

Verified By: RL

Date: 5/9/08

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COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

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Client: ENSR  
 Client Sample ID: SG83B-05-7  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-003

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00791

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	87	8.8	ND	21	2.1	
107-06-2	1,2-Dichloroethane	ND	17	8.7	ND	4.3	2.1	
71-55-6	1,1,1-Trichloroethane	ND	17	8.7	ND	3.2	1.6	
71-43-2	<b>Benzene</b>	<b>100</b>	17	8.7	<b>32</b>	5.4	2.7	
56-23-5	<b>Carbon Tetrachloride</b>	<b>12,000</b>	17	8.7	<b>1,900</b>	2.8	1.4	
994-05-8	tert-Amyl Methyl Ether	ND	87	8.7	ND	21	2.1	
78-87-5	1,2-Dichloropropane	ND	17	8.7	ND	3.7	1.9	
75-27-4	Bromodichloromethane	ND	17	8.7	ND	2.6	1.3	
79-01-6	<b>Trichloroethene</b>	<b>11</b>	17	8.7	<b>2.1</b>	3.2	1.6	<b>J</b>
123-91-1	1,4-Dioxane	ND	87	11	ND	24	2.9	
80-62-6	Methyl Methacrylate	ND	87	13	ND	21	3.2	
142-82-5	n-Heptane	ND	87	11	ND	21	2.7	
10061-01-5	cis-1,3-Dichloropropene	ND	87	9.0	ND	19	2.0	
108-10-1	4-Methyl-2-pentanone	ND	87	9.7	ND	21	2.4	
10061-02-6	trans-1,3-Dichloropropene	ND	87	11	ND	19	2.4	
79-00-5	1,1,2-Trichloroethane	ND	17	8.7	ND	3.2	1.6	
108-88-3	Toluene	ND	87	8.7	ND	23	2.3	
591-78-6	2-Hexanone	ND	87	13	ND	21	3.2	
124-48-1	Dibromochloromethane	ND	17	12	ND	2.0	1.4	
106-93-4	1,2-Dibromoethane	ND	17	9.3	ND	2.3	1.2	
111-65-9	n-Octane	ND	87	8.7	ND	19	1.9	
127-18-4	<b>Tetrachloroethene</b>	<b>130</b>	17	8.7	<b>19</b>	2.6	1.3	
108-90-7	<b>Chlorobenzene</b>	<b>180</b>	17	8.8	<b>39</b>	3.8	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Re Date: 5/9/08

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

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Client: **ENSR**  
 Client Sample ID: **SG83B-05-7**  
 Client Project ID: **Phase B Soil Gas / 04020-023-4311**

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-003

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00791

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	87	11	ND	20	2.5	
179601-23-1	m,p-Xylenes	ND	87	22	ND	20	5.2	
75-25-2	Bromoform	ND	87	13	ND	8.4	1.3	
100-42-5	Styrene	ND	87	13	ND	20	3.1	
95-47-6	o-Xylene	ND	87	11	ND	20	2.5	
79-34-5	1,1,2,2-Tetrachloroethane	ND	17	11	ND	2.5	1.6	
98-82-8	Cumene	ND	87	9.7	ND	18	2.0	
103-65-1	n-Propylbenzene	ND	87	9.0	ND	18	1.8	
622-96-8	4-Ethyltoluene	ND	87	9.9	ND	18	2.0	
108-67-8	1,3,5-Trimethylbenzene	ND	87	10	ND	18	2.1	
98-83-9	alpha-Methylstyrene	ND	87	13	ND	18	2.6	
95-63-6	1,2,4-Trimethylbenzene	ND	87	12	ND	18	2.4	
100-44-7	Benzyl Chloride	ND	17	15	ND	3.3	2.9	
541-73-1	1,3-Dichlorobenzene	ND	17	11	ND	2.9	1.8	
106-46-7	1,4-Dichlorobenzene	ND	17	9.7	ND	2.9	1.6	
135-98-8	sec-Butylbenzene	ND	87	10	ND	16	1.8	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	87	11	ND	16	2.0	
95-50-1	1,2-Dichlorobenzene	ND	17	11	ND	2.9	1.9	
96-12-8	1,2-Dibromo-3-chloropropane	ND	87	13	ND	9.0	1.4	
120-82-1	1,2,4-Trichlorobenzene	ND	17	13	ND	2.3	1.8	
91-20-3	Naphthalene	ND	35	13	ND	6.6	2.4	
87-68-3	Hexachlorobutadiene	ND	17	16	ND	1.6	1.5	
98-06-6	tert-Butylbenzene	ND	35	8.7	ND	6.3	1.6	
104-51-8	n-Butylbenzene	ND	35	8.7	ND	6.3	1.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Ree      Date: 5/14/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: ENSR  
Client Sample ID: SG83B-05-7  
Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
CAS Sample ID: P0801342-003

Tentatively Identified Compounds

Test Code: EPA TO-15  
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
Analyst: Rusty Bravo  
Sampling Media: 6.0 L Summa Canister  
Test Notes:  
Container ID: SC00791

Date Collected: 5/7/08  
Date Received: 5/8/08  
Date Analyzed: 5/8/08  
Volume(s) Analyzed: 0.010 Liter(s)  
0.0010 Liter(s)

Initial Pressure (psig): -4.2      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

GC/MS Retention Time	Compound Identification	Concentration µg/m <sup>3</sup>	Data Qualifier
No Compounds Detected			

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

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Client: ENSR  
 Client Sample ID: Method Blank  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	0.050	ND	0.10	0.010	
74-87-3	Chloromethane	ND	0.10	0.050	ND	0.048	0.024	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	0.050	ND	0.072	0.0072	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ND	0.039	0.020	
74-83-9	Bromomethane	ND	0.10	0.050	ND	0.026	0.013	
75-00-3	Chloroethane	ND	0.10	0.050	ND	0.038	0.019	
64-17-5	Ethanol	ND	5.0	0.050	ND	2.7	0.027	
67-64-1	Acetone	0.42	5.0	0.073	0.18	2.1	0.031	J
75-69-4	Trichlorofluoromethane	ND	0.10	0.050	ND	0.018	0.0089	
107-13-1	Acrylonitrile	ND	0.50	0.070	ND	0.23	0.032	
75-35-4	1,1-Dichloroethene	ND	0.10	0.050	ND	0.025	0.013	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	0.50	0.074	ND	0.17	0.024	
75-09-2	Methylene Chloride	ND	0.50	0.050	ND	0.14	0.014	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	0.050	ND	0.032	0.016	
76-13-1	Trichlorotrifluoroethane	ND	0.10	0.056	ND	0.013	0.0073	
75-15-0	Carbon Disulfide	ND	0.50	0.12	ND	0.16	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	0.050	ND	0.025	0.013	
75-34-3	1,1-Dichloroethane	ND	0.10	0.050	ND	0.025	0.012	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	0.050	ND	0.028	0.014	
108-05-4	Vinyl Acetate	ND	5.0	0.16	ND	1.4	0.045	
78-93-3	2-Butanone (MEK)	ND	0.50	0.050	ND	0.17	0.017	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	0.050	ND	0.025	0.013	
108-20-3	Diisopropyl Ether	ND	0.50	0.059	ND	0.12	0.014	
67-66-3	Chloroform	ND	0.10	0.059	ND	0.020	0.012	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: RC Date: 5/8/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 2 of 4

Client: ENSR  
 Client Sample ID: Method Blank  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	0.50	0.051	ND	0.12	0.012	
107-06-2	1,2-Dichloroethane	ND	0.10	0.050	ND	0.025	0.012	
71-55-6	1,1,1-Trichloroethane	ND	0.10	0.050	ND	0.018	0.0092	
71-43-2	Benzene	ND	0.10	0.050	ND	0.031	0.016	
56-23-5	Carbon Tetrachloride	ND	0.10	0.050	ND	0.016	0.0080	
994-05-8	tert-Amyl Methyl Ether	ND	0.50	0.050	ND	0.12	0.012	
78-87-5	1,2-Dichloropropane	ND	0.10	0.050	ND	0.022	0.011	
75-27-4	Bromodichloromethane	ND	0.10	0.050	ND	0.015	0.0075	
79-01-6	Trichloroethene	ND	0.10	0.050	ND	0.019	0.0093	
123-91-1	1,4-Dioxane	ND	0.50	0.061	ND	0.14	0.017	
80-62-6	Methyl Methacrylate	ND	0.50	0.075	ND	0.12	0.018	
142-82-5	n-Heptane	ND	0.50	0.064	ND	0.12	0.016	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.052	ND	0.11	0.011	
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.056	ND	0.12	0.014	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.063	ND	0.11	0.014	
79-00-5	1,1,2-Trichloroethane	ND	0.10	0.050	ND	0.018	0.0092	
108-88-3	Toluene	ND	0.50	0.050	ND	0.13	0.013	
591-78-6	2-Hexanone	ND	0.50	0.076	ND	0.12	0.019	
124-48-1	Dibromochloromethane	ND	0.10	0.068	ND	0.012	0.0080	
106-93-4	1,2-Dibromoethane	ND	0.10	0.054	ND	0.013	0.0070	
111-65-9	n-Octane	ND	0.50	0.050	ND	0.11	0.011	
127-18-4	Tetrachloroethene	ND	0.10	0.050	ND	0.015	0.0074	
108-90-7	Chlorobenzene	ND	0.10	0.051	ND	0.022	0.011	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Re Date: 5/9/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 3 of 4

Client: ENSR  
 Client Sample ID: Method Blank  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.50	0.062	ND	0.12	0.014	
179601-23-1	m,p-Xylenes	ND	0.50	0.13	ND	0.12	0.030	
75-25-2	Bromoform	ND	0.50	0.076	ND	0.048	0.0074	
100-42-5	Styrene	ND	0.50	0.076	ND	0.12	0.018	
95-47-6	o-Xylene	ND	0.50	0.063	ND	0.12	0.015	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	0.064	ND	0.015	0.0093	
98-82-8	Cumene	0.060	0.50	0.056	0.012	0.10	0.011	J
103-65-1	n-Propylbenzene	ND	0.50	0.052	ND	0.10	0.011	
622-96-8	4-Ethyltoluene	ND	0.50	0.057	ND	0.10	0.012	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.060	ND	0.10	0.012	
98-83-9	alpha-Methylstyrene	ND	0.50	0.073	ND	0.10	0.015	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.069	ND	0.10	0.014	
100-44-7	Benzyl Chloride	ND	0.10	0.086	ND	0.019	0.017	
541-73-1	1,3-Dichlorobenzene	ND	0.10	0.062	ND	0.017	0.010	
106-46-7	1,4-Dichlorobenzene	ND	0.10	0.056	ND	0.017	0.0093	
135-98-8	sec-Butylbenzene	ND	0.50	0.058	ND	0.091	0.011	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.50	0.065	ND	0.091	0.012	
95-50-1	1,2-Dichlorobenzene	ND	0.10	0.066	ND	0.017	0.011	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.076	ND	0.052	0.0079	
120-82-1	1,2,4-Trichlorobenzene	ND	0.10	0.076	ND	0.013	0.010	
91-20-3	Naphthalene	0.10	0.20	0.074	0.020	0.038	0.014	J
87-68-3	Hexachlorobutadiene	ND	0.10	0.090	ND	0.0094	0.0084	
98-06-6	tert-Butylbenzene	ND	0.20	0.050	ND	0.036	0.0091	
104-51-8	n-Butylbenzene	ND	0.20	0.050	ND	0.036	0.0091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Rc Date: 5/9/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: ENSR  
Client Sample ID: Method Blank  
Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
CAS Sample ID: P080508-MB

Tentatively Identified Compounds

Test Code: EPA TO-15  
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
Analyst: Rusty Bravo  
Sampling Media: 6.0 L Summa Canister  
Test Notes:

Date Collected: NA  
Date Received: NA  
Date Analyzed: 5/8/08  
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration µg/m <sup>3</sup>	Data Qualifier
No Compounds Detected			



**COLUMBIA ANALYTICAL SERVICES, INC.**

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

**Client:** ENSR  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister(s)  
**Test Notes:**

**Date(s) Collected:** 5/7/08  
**Date(s) Received:** 5/8/08  
**Date(s) Analyzed:** 5/8/08

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P080508-MB	89	70-130	103	70-130	100	70-130	
Lab Control Sample	P080508-LCS	91	70-130	103	70-130	101	70-130	
SG83B-05-1	P0801342-001	92	70-130	102	70-130	101	70-130	
SG83B-05-3	P0801342-002	91	70-130	106	70-130	102	70-130	
SG83B-05-7	P0801342-003	91	70-130	102	70-130	98	70-130	
SG83B-05-7	P0801342-003DUP	91	70-130	103	70-130	99	70-130	

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

**Client:** ENSR  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-LCS

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/08/08  
**Volume(s) Analyzed:** NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
					Acceptance Limits	
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	21.9	86	69-117	
74-87-3	Chloromethane	24.5	20.8	85	53-131	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	26.0	22.6	87	58-133	
75-01-4	Vinyl Chloride	24.8	20.7	83	61-127	
74-83-9	Bromomethane	25.0	23.9	96	67-124	
75-00-3	Chloroethane	25.0	23.2	93	69-123	
64-17-5	Ethanol	23.8	20.6	87	56-137	
67-64-1	Acetone	26.8	24.9	93	63-116	
75-69-4	Trichlorofluoromethane	26.3	24.4	93	71-120	
107-13-1	Acrylonitrile	25.5	25.5	100	74-129	
75-35-4	1,1-Dichloroethene	27.8	25.8	93	77-116	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	25.8	24.4	95	35-141	
75-09-2	Methylene Chloride	27.8	24.0	86	71-113	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.8	29.6	110	75-127	
76-13-1	Trichlorotrifluoroethane	27.8	25.4	91	63-129	
75-15-0	Carbon Disulfide	25.0	23.1	92	72-122	
156-60-5	trans-1,2-Dichloroethene	26.5	24.5	92	74-118	
75-34-3	1,1-Dichloroethane	26.8	24.6	92	74-118	
1634-04-4	Methyl tert-Butyl Ether	26.8	24.2	90	72-119	
108-05-4	Vinyl Acetate	25.3	28.0	111	32-163	
78-93-3	2-Butanone (MEK)	27.0	27.0	100	71-122	
156-59-2	cis-1,2-Dichloroethene	27.0	24.4	90	74-117	
108-20-3	Diisopropyl Ether	26.3	22.8	87	70-131	
67-66-3	Chloroform	29.8	28.3	95	72-113	

Verified By:     *Rc*     Date:     5/9/08

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-LCS

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/08/08  
**Volume(s) Analyzed:** NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
					Acceptance Limits	
637-92-3	Ethyl tert-Butyl Ether	26.0	24.0	92	74-123	
107-06-2	1,2-Dichloroethane	26.3	23.6	90	72-117	
71-55-6	1,1,1-Trichloroethane	26.8	25.5	95	78-114	
71-43-2	Benzene	27.0	24.9	92	73-111	
56-23-5	Carbon Tetrachloride	26.0	27.2	105	78-126	
994-05-8	tert-Amyl Methyl Ether	26.0	24.9	96	81-118	
78-87-5	1,2-Dichloropropane	26.5	24.1	91	78-117	
75-27-4	Bromodichloromethane	27.8	26.8	96	77-120	
79-01-6	Trichloroethene	27.3	26.4	97	80-116	
123-91-1	1,4-Dioxane	27.5	27.8	101	79-122	
80-62-6	Methyl Methacrylate	25.8	26.3	102	79-128	
142-82-5	n-Heptane	26.8	24.3	91	77-117	
10061-01-5	cis-1,3-Dichloropropene	25.0	25.9	104	78-112	
108-10-1	4-Methyl-2-pentanone	27.5	24.6	89	78-128	
10061-02-6	trans-1,3-Dichloropropene	28.0	29.8	106	81-121	
79-00-5	1,1,2-Trichloroethane	26.3	24.7	94	80-117	
108-88-3	Toluene	26.5	27.0	102	76-116	
591-78-6	2-Hexanone	26.3	25.9	98	69-131	
124-48-1	Dibromochloromethane	27.0	30.2	112	80-128	
106-93-4	1,2-Dibromoethane	26.3	29.6	113	79-122	
111-65-9	n-Octane	26.0	26.2	101	78-122	
127-18-4	Tetrachloroethene	26.0	27.1	104	77-118	
108-90-7	Chlorobenzene	26.5	27.0	102	78-117	

Verified By:     Rv     Date:     5/9/08

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

**Client:** ENSR  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-LCS

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/08/08  
**Volume(s) Analyzed:** NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
					Acceptance Limits	
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	21.9	86	69-117	
74-87-3	Chloromethane	24.5	20.8	85	53-131	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	26.0	22.6	87	58-133	
75-01-4	Vinyl Chloride	24.8	20.7	83	61-127	
74-83-9	Bromomethane	25.0	23.9	96	67-124	
75-00-3	Chloroethane	25.0	23.2	93	69-123	
64-17-5	Ethanol	23.8	20.6	87	56-137	
67-64-1	Acetone	26.8	24.9	93	63-116	
75-69-4	Trichlorofluoromethane	26.3	24.4	93	71-120	
107-13-1	Acrylonitrile	25.5	25.5	100	74-129	
75-35-4	1,1-Dichloroethene	27.8	25.8	93	77-116	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	25.8	24.4	95	35-141	
75-09-2	Methylene Chloride	27.8	24.0	86	71-113	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.8	29.6	110	75-127	
76-13-1	Trichlorotrifluoroethane	27.8	25.4	91	63-129	
75-15-0	Carbon Disulfide	25.0	23.1	92	72-122	
156-60-5	trans-1,2-Dichloroethene	26.5	24.5	92	74-118	
75-34-3	1,1-Dichloroethane	26.8	24.6	92	74-118	
1634-04-4	Methyl tert-Butyl Ether	26.8	24.2	90	72-119	
108-05-4	Vinyl Acetate	25.3	28.0	111	32-163	
78-93-3	2-Butanone (MEK)	27.0	27.0	100	71-122	
156-59-2	cis-1,2-Dichloroethene	27.0	24.4	90	74-117	
108-20-3	Diisopropyl Ether	26.3	26.8	102	70-131	
67-66-3	Chloroform	26.8	28.7	107	72-113	

Verified By: Re Date: 5/9/08 **24**

COLUMBIA ANALYTICAL SERVICES, INC.

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 3

Client: ENSR  
 Client Sample ID: SG83B-05-7  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-003DUP

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:  
 Container ID: SC00791

Date Collected: 5/7/08  
 Date Received: 5/8/08  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2

Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

Compound	Sample Result		Duplicate		Average µg/m <sup>3</sup>	% RPD	RPD Limit	Data Qualifier
	µg/m <sup>3</sup>	ppbV	µg/m <sup>3</sup>	ppbV				
Dichlorodifluoromethane (CFC 12)	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Acetone	114	48.1	107	45.2	110.5	6	25	J, B
Trichlorofluoromethane	1,520	271	1,530	273	1525	0.7	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	ND	ND	ND	-	-	25	
Methylene Chloride	9.34	2.69	ND	ND	-	-	25	J
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	23.0	7.80	18.7	6.34	20.85	21	25	J
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Diisopropyl Ether	ND	ND	ND	ND	-	-	25	
Chloroform	54,300	11,100	45,700	9,370	50000	17	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

3 = Analyte was found in the method blank.

Verified By: *RC*

Date: *5/8/08*

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**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY DUPLICATE SUMMARY RESULTS

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-003DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2

Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

Compound	Sample Result		Duplicate Sample Result		Average µg/m <sup>3</sup>	% RPD	RPD Limit	Data Qualifier
	µg/m <sup>3</sup>	ppbV	µg/m <sup>3</sup>	ppbV				
Ethyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
<b>Benzene</b>	101	31.7	102	32.1	101.5	1	25	
<b>Carbon Tetrachloride</b>	12,000	1,910	12,300	1,950	12150	2	25	
tert-Amyl Methyl Ether	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
<b>Trichloroethene</b>	11.4	2.13	11.9	2.22	11.65	4	25	J
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
<b>Tetrachloroethene</b>	127	18.7	124	18.3	125.5	2	25	
<b>Chlorobenzene</b>	180	39.1	197	42.7	188.5	9	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

= The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Rc Date: 5/9/08

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY DUPLICATE SUMMARY RESULTS

Page 3 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-003DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2

Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

Compound	Sample Result		Duplicate Sample Result		Average µg/m <sup>3</sup>	% RPD	RPD Limit	Data Qualifier
	µg/m <sup>3</sup>	ppbV	µg/m <sup>3</sup>	ppbV				
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
alpha-Methylstyrene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
tert-Butylbenzene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

Verified By:     Re     Date: 5/9/08

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 1

**Client:** ENSR  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342

**Internal Standard Area and RT Summary**

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister(s)  
 Test Notes:

Lab File ID: 05080801.D  
 Date Analyzed: 5/8/08  
 Time Analyzed: 08:41

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
<b>24 Hour Standard</b>	242477	12.59	1048411	15.52	500730	21.35
<b>Upper Limit</b>	339468	12.92	1467775	15.85	701022	21.68
<b>Lower Limit</b>	145486	12.26	629047	15.19	300438	21.02

Client Sample ID		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
01	Method Blank	241346	12.58	1037647	15.51	489334	21.35
02	Lab Control Sample	244114	12.59	1061640	15.52	502772	21.35
03	SG83B-05-1	242853	12.58	1040889	15.51	494646	21.35
04	SG83B-05-3	231941	12.58	1004035	15.51	467452	21.35
05	SG83B-05-7	226199	12.58	971717	15.51	470342	21.35
06	SG83B-05-1 (Dilution)	219916	12.58	959711	15.51	446346	21.35
07	SG83B-05-3 (Dilution)	213718	12.58	929659	15.51	442512	21.35
08	SG83B-05-7 (Dilution)	205516	12.58	899772	15.51	428319	21.35
09	SG83B-05-7 (Lab Duplicate - Dilution)	202052	12.58	880501	15.51	420894	21.35
10	SG83B-05-7 (Lab Duplicate)	199552	12.58	853249	15.51	416006	21.35
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane  
 IS2 (DFB) = 1,4-Difluorobenzene  
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area  
 AREA LOWER LIMIT = 60% of internal standard area  
 RT UPPER LIMIT = 0.33 minutes of internal standard RT  
 RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

Verified By: RC Date: 5/9/08



## RESULTS OF HELIUM ANALYSIS

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 1

**Client:** ENSR  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342

**Helium**

**Test Code:** EPA 3C Modified  
**Instrument ID:** HP5890 II/GC8/TCD  
**Analyst:** Zheng Wang/Wade Henton/Chris Cornett  
**Sampling Media:** 6.0 L Summa Canister(s)  
**Test Notes:**

**Date(s) Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08

Client Sample ID	CAS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	Result ppmV	MRL ppmV	Data Qualifier
SG83B-05-1	P0801342-001	1.00	1.64	2,700	41	
SG83B-05-3	P0801342-002	1.00	1.67	160	42	
Method Blank	P080508-MB	1.00	1.00	ND	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 5/12/08

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## RESULTS OF VOLATILE ORGANIC ANALYSIS

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-1  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00979

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.6      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	82	8.2	ND	17	1.7	
74-87-3	Chloromethane	ND	16	8.2	ND	7.9	4.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	82	8.2	ND	12	1.2	
75-01-4	Vinyl Chloride	ND	16	8.2	ND	6.4	3.2	
74-83-9	Bromomethane	ND	16	8.2	ND	4.2	2.1	
75-00-3	Chloroethane	ND	16	8.2	ND	6.2	3.1	
64-17-5	<b>Ethanol</b>	<b>12</b>	820	8.2	<b>6.6</b>	440	4.4	<b>J</b>
67-64-1	<b>Acetone</b>	<b>150</b>	820	12	<b>64</b>	350	5.0	<b>J, B</b>
75-69-4	<b>Trichlorofluoromethane</b>	<b>1,500</b>	16	8.2	<b>280</b>	2.9	1.5	
107-13-1	Acrylonitrile	ND	82	11	ND	38	5.3	
75-35-4	1,1-Dichloroethene	ND	16	8.2	ND	4.1	2.1	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	82	12	ND	27	4.0	
75-09-2	Methylene Chloride	ND	82	8.2	ND	24	2.4	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	16	8.2	ND	5.2	2.6	
76-13-1	Trichlorotrifluoroethane	ND	16	9.2	ND	2.1	1.2	
75-15-0	Carbon Disulfide	ND	82	20	ND	26	6.3	
156-60-5	trans-1,2-Dichloroethene	ND	16	8.2	ND	4.1	2.1	
75-34-3	1,1-Dichloroethane	ND	16	8.2	ND	4.1	2.0	
1634-04-4	Methyl tert-Butyl Ether	ND	16	8.2	ND	4.6	2.3	
108-05-4	Vinyl Acetate	ND	820	26	ND	230	7.5	
78-93-3	<b>2-Butanone (MEK)</b>	<b>26</b>	82	8.2	<b>8.7</b>	28	2.8	<b>J</b>
156-59-2	cis-1,2-Dichloroethene	ND	16	8.2	ND	4.1	2.1	
108-20-3	Diisopropyl Ether	ND	82	9.7	ND	20	2.3	
67-66-3	<b>Chloroform</b>	<b>52,000</b>	16	9.7	<b>11,000</b>	3.4	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.  
 MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.  
 J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.  
 B = Analyte was found in the method blank.

Verified By:     Rc          Date:     5/9/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-1  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00979

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.6 Final Pressure (psig): 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	82	8.4	ND	20	2.0	
107-06-2	1,2-Dichloroethane	ND	16	8.2	ND	4.1	2.0	
71-55-6	1,1,1-Trichloroethane	ND	16	8.2	ND	3.0	1.5	
71-43-2	<b>Benzene</b>	<b>100</b>	16	8.2	<b>31</b>	5.1	2.6	
56-23-5	<b>Carbon Tetrachloride</b>	<b>12,000</b>	16	8.2	<b>1,900</b>	2.6	1.3	
994-05-8	tert-Amyl Methyl Ether	ND	82	8.2	ND	20	2.0	
78-87-5	1,2-Dichloropropane	ND	16	8.2	ND	3.5	1.8	
75-27-4	Bromodichloromethane	ND	16	8.2	ND	2.4	1.2	
79-01-6	<b>Trichloroethene</b>	<b>16</b>	16	8.2	<b>3.0</b>	3.1	1.5	<b>J</b>
123-91-1	1,4-Dioxane	ND	82	10	ND	23	2.8	
80-62-6	Methyl Methacrylate	ND	82	12	ND	20	3.0	
142-82-5	n-Heptane	ND	82	10	ND	20	2.6	
10061-01-5	cis-1,3-Dichloropropene	ND	82	8.5	ND	18	1.9	
108-10-1	4-Methyl-2-pentanone	ND	82	9.2	ND	20	2.2	
10061-02-6	trans-1,3-Dichloropropene	ND	82	10	ND	18	2.3	
79-00-5	1,1,2-Trichloroethane	ND	16	8.2	ND	3.0	1.5	
108-88-3	<b>Toluene</b>	<b>13</b>	82	8.2	<b>3.6</b>	22	2.2	<b>J</b>
591-78-6	2-Hexanone	ND	82	12	ND	20	3.0	
124-48-1	Dibromochloromethane	ND	16	11	ND	1.9	1.3	
106-93-4	1,2-Dibromoethane	ND	16	8.9	ND	2.1	1.2	
111-65-9	n-Octane	ND	82	8.2	ND	18	1.8	
127-18-4	<b>Tetrachloroethene</b>	<b>110</b>	16	8.2	<b>16</b>	2.4	1.2	
108-90-7	<b>Chlorobenzene</b>	<b>120</b>	16	8.4	<b>26</b>	3.6	1.8	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: RC Date: 5/9/08

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**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-1  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-001

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00979

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.6      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.64

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	82	10	ND	19	2.3	
179601-23-1	m,p-Xylenes	ND	82	21	ND	19	4.9	
75-25-2	Bromoform	ND	82	12	ND	7.9	1.2	
100-42-5	Styrene	ND	82	12	ND	19	2.9	
95-47-6	o-Xylene	ND	82	10	ND	19	2.4	
79-34-5	1,1,2,2-Tetrachloroethane	ND	16	10	ND	2.4	1.5	
98-82-8	<b>Cumene</b>	<b>9.7</b>	82	9.2	<b>2.0</b>	17	1.9	<b>J, B</b>
103-65-1	n-Propylbenzene	ND	82	8.5	ND	17	1.7	
622-96-8	<b>4-Ethyltoluene</b>	<b>12</b>	82	9.3	<b>2.4</b>	17	1.9	<b>J</b>
108-67-8	1,3,5-Trimethylbenzene	ND	82	9.8	ND	17	2.0	
98-83-9	alpha-Methylstyrene	ND	82	12	ND	17	2.5	
95-63-6	1,2,4-Trimethylbenzene	ND	82	11	ND	17	2.3	
100-44-7	Benzyl Chloride	ND	16	14	ND	3.2	2.7	
541-73-1	1,3-Dichlorobenzene	ND	16	10	ND	2.7	1.7	
106-46-7	<b>1,4-Dichlorobenzene</b>	<b>17</b>	16	9.2	<b>2.9</b>	2.7	1.5	
135-98-8	sec-Butylbenzene	ND	82	9.5	ND	15	1.7	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	82	11	ND	15	1.9	
95-50-1	1,2-Dichlorobenzene	ND	16	11	ND	2.7	1.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	82	12	ND	8.5	1.3	
120-82-1	1,2,4-Trichlorobenzene	ND	16	12	ND	2.2	1.7	
91-20-3	<b>Naphthalene</b>	<b>28</b>	33	12	<b>5.3</b>	6.3	2.3	<b>J, B</b>
87-68-3	Hexachlorobutadiene	ND	16	15	ND	1.5	1.4	
98-06-6	tert-Butylbenzene	ND	33	8.2	ND	6.0	1.5	
104-51-8	n-Butylbenzene	ND	33	8.2	ND	6.0	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

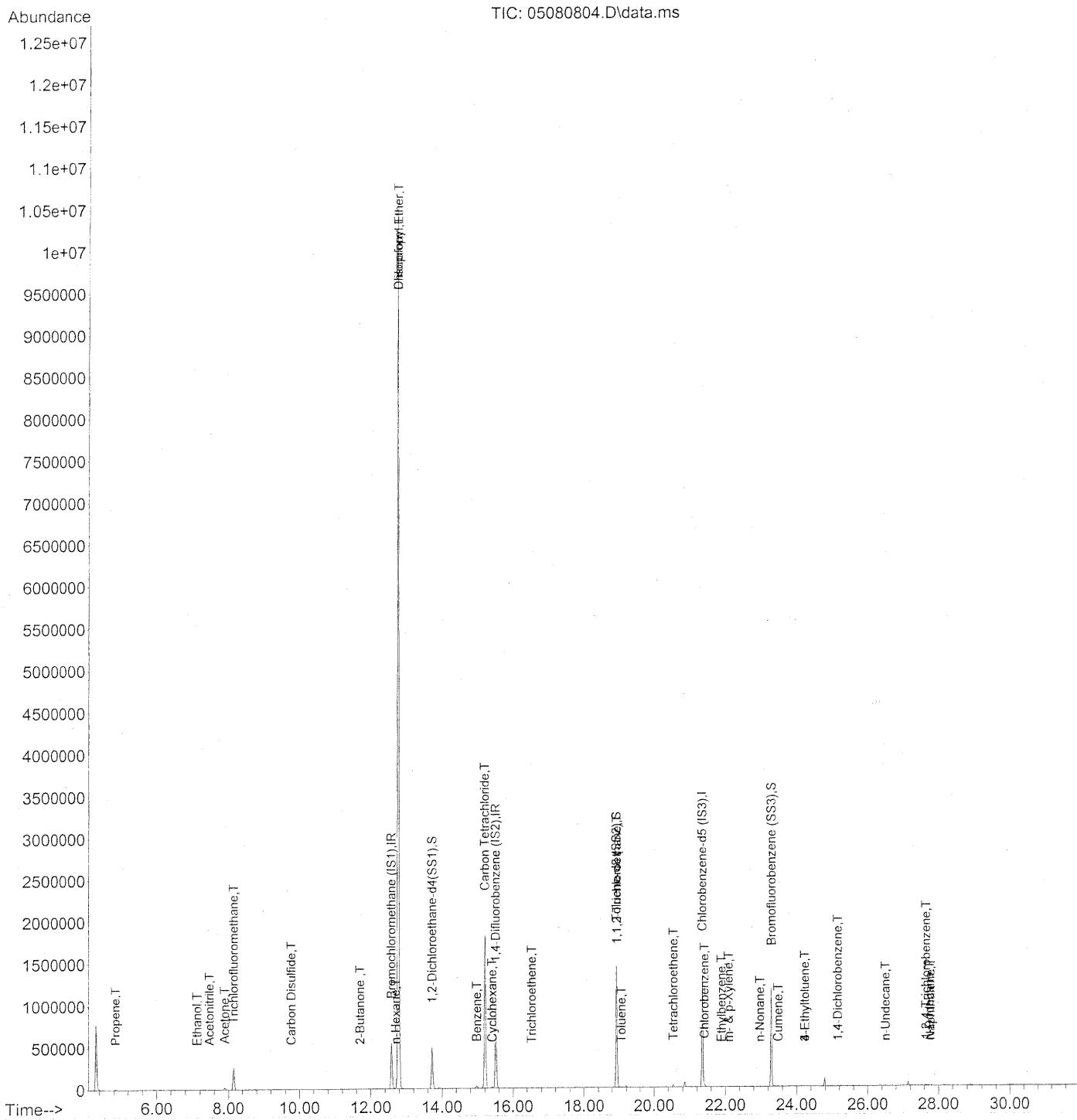
B = Analyte was found in the method blank.

Verified By: Re      Date: 5/9/08

**34**

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	242853	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	1040889	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	494646	25.000	ng	-0.01

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.72	65	448165	23.011	ng	-0.03
Spiked Amount	25.000			Recovery =	92.04%	✓
57) Toluene-d8 (SS2)	18.92	98	1129319	25.472	ng	-0.01
Spiked Amount	25.000			Recovery =	101.88%	✓
73) Bromofluorobenzene (SS3)	23.29	174	384401	25.194	ng	0.00
Spiked Amount	25.000			Recovery =	100.76%	✓

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.84	42	3109	0.155	ng	# 63
3) Dichlorodifluoromethane	4.99	85	488	N.D.	✓	
4) Chloromethane	0.00	50	0	N.D.	✓	
5) Freon 114	0.00	135	0	N.D.	✓	
6) Vinyl Chloride	0.00	62	0	N.D.	✓	
7) 1,3-Butadiene	6.02	54	661	N.D.		
8) Bromomethane	6.51	94	57	N.D.	✓	
9) Chloroethane	0.00	64	0	N.D.	✓	
10) Ethanol	7.13	45	1035	0.076	ng	# 52
11) Acetonitrile	7.47	41	4208	0.117	ng	81
12) Acrolein	7.66	56	70	N.D.		
13) Acetone	7.89	58	12415	0.924	ng	# 66
14) Trichlorofluoromethane	8.14	101	271272	9.422	ng	99
15) Isopropanol	8.36	45	568	N.D.		
16) Acrylonitrile	8.69	53	78	N.D.	✓	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	✓	
18) tert-Butanol	9.32	59	1244	N.D.	✓	
19) Methylene Chloride	9.35	84	524	N.D.	✓	
20) Allyl Chloride	9.54	41	56	N.D.	✓	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	✓	
22) Carbon Disulfide	9.77	76	2481	0.043	ng	82
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	✓	
24) 1,1-Dichloroethane	11.10	63	1027	N.D.	✓	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	✓	
26) Vinyl Acetate	0.00	86	0	N.D.	✓	
27) 2-Butanone	11.70	72	1470	0.156	ng	# 50
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	✓	
29) Diisopropyl Ether	12.78	87	991565	80.106	ng	NR # 1
30) Ethyl Acetate	12.74	61	77	N.D.		
31) n-Hexane	12.70	57	1641	0.054	ng	# 71

*Foster/08*



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.78	83	9317625	<del>410.934</del> ng		99
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D. ✓		
36) 1,2-Dichloroethane	13.72	62	177	N.D. ✓		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D. ✓		
39) Isopropyl Acetate	14.97	61	213	N.D.		
40) 1-Butanol	14.88	56	61	N.D.		
41) Benzene	14.98	78	33694	0.610 ng		98
42) Carbon Tetrachloride	15.21	117	1330082	72.830 ng		98
43) Cyclohexane	15.41	84	6884	0.337 ng	#	84
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. ✓		
46) Bromodichloromethane	16.48	83	69	N.D. ✓		
47) Trichloroethene	16.53	130	1331	0.098 ng	#	80
48) 1,4-Dioxane	0.00	88	0	N.D. ✓		
49) Isooctane	16.60	57	464	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D. ✓		
51) n-Heptane	16.98	71	586	N.D. ✓		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. ✓		
53) 4-Methyl-2-pentanone	17.79	58	65	N.D. ✓		
54) trans-1,3-Dichloropropene	18.45	75	88	N.D. ✓		
55) 1,1,2-Trichloroethane	18.93	97	104129	<del>7.831</del> ng	#	7
58) Toluene	19.06	91	4582	0.082 ng		91
59) 2-Hexanone	19.40	43	792	N.D. ✓		
60) Dibromochloromethane	0.00	129	0	N.D. ✓		
61) 1,2-Dibromoethane	0.00	107	0	N.D. ✓		
62) Butyl Acetate	20.19	43	51	N.D.		
63) n-Octane	20.36	57	393	N.D.		
64) Tetrachloroethene	20.54	166	9163	0.657 ng		94
65) Chlorobenzene	21.41	112	24872	0.721 ng		99
66) Ethylbenzene	21.89	91	2503	<del>0.040</del> ng		66
67) m- & p-Xylene	22.09	91	4747	<del>0.114</del> ng	#	68
68) Bromoform	0.00	173	0	N.D. ✓		
69) Styrene	22.58	104	973	N.D. ✓		
70) o-Xylene	22.72	91	1739	N.D. ✓		
71) n-Nonane	22.98	43	1845	0.051 ng		88
72) 1,1,2,2-Tetrachloroethane	22.70	83	56	N.D. ✓		
74) Cumene	23.48	105	3322	0.059 ng	#	49
75) alpha-Pinene	23.95	93	70	N.D.		
76) n-Propylbenzene	24.11	91	1200	N.D. ✓		
77) 3-Ethyltoluene	24.23	105	4185	0.068 ng	#	50
78) 4-Ethyltoluene	24.23	105	4185	0.073 ng	#	52
79) 1,3,5-Trimethylbenzene	24.38	105	1648	N.D. ✓		

*Postlog*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

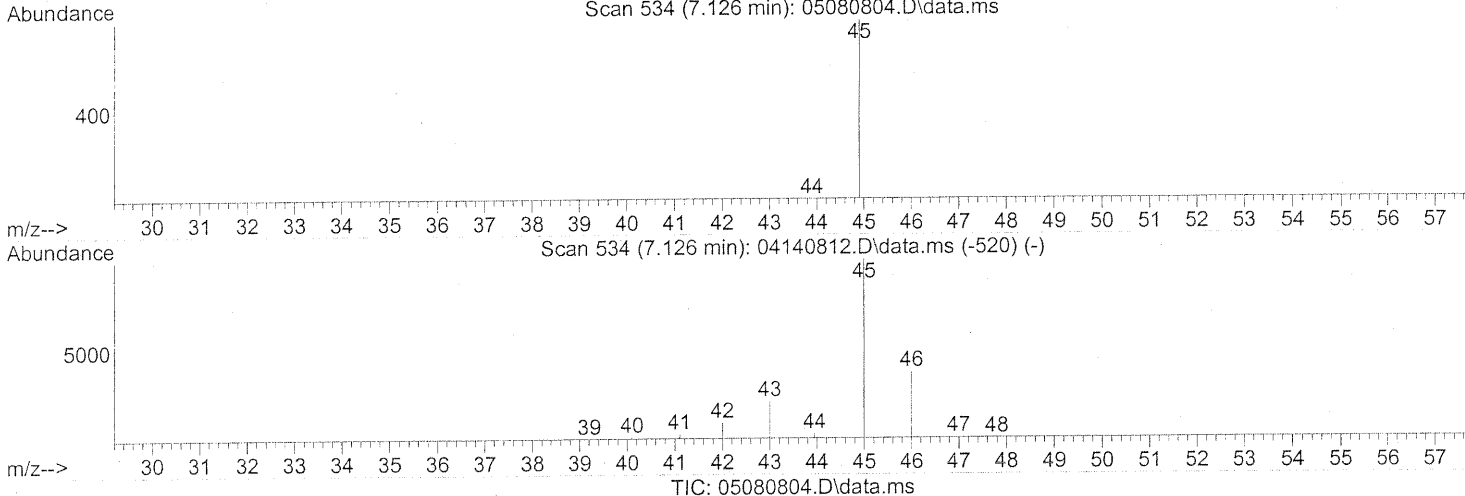
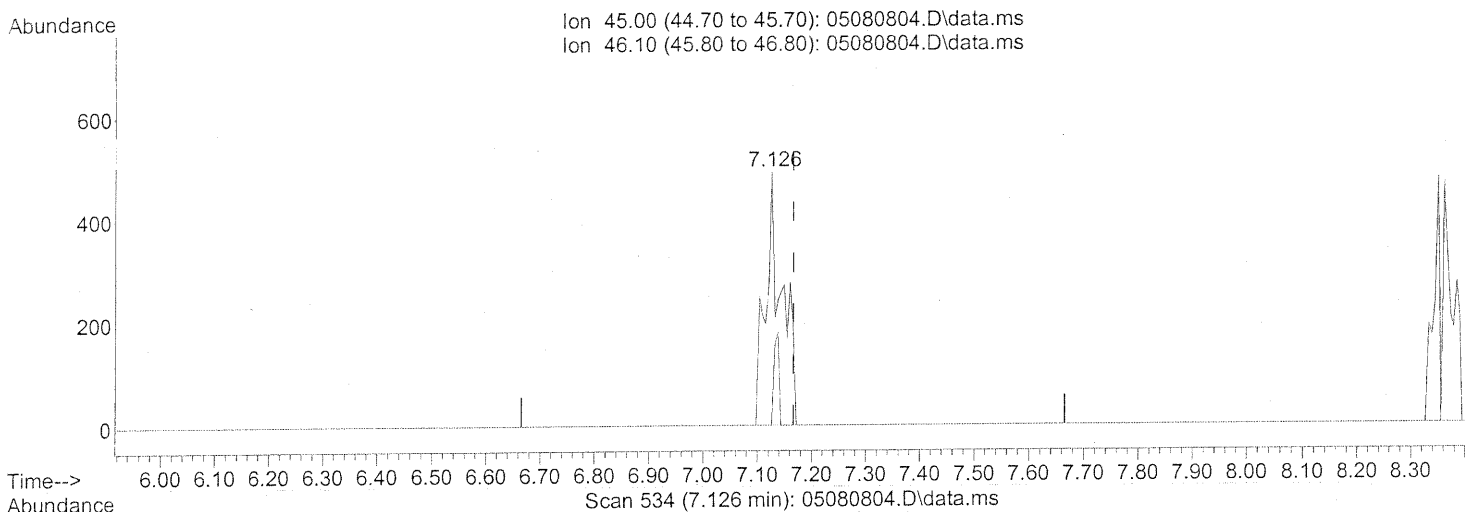
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
80) alpha-Methylstyrene	24.57	118	241	N.D. ✓	
81) 2-Ethyltoluene	24.60	105	766	N.D.	
82) 1,2,4-Trimethylbenzene	24.88	105	1849	N.D. ✓	
83) n-Decane	24.98	57	1071	N.D.	
84) Benzyl Chloride	25.06	91	1051	N.D. ✓	
85) 1,3-Dichlorobenzene	25.08	146	829	N.D. ✓	
86) 1,4-Dichlorobenzene	25.16	146	3129	0.106 ng	96
87) sec-Butylbenzene	25.21	105	359	N.D. ✓	
88) p-Isopropyltoluene	25.41	119	1171	N.D. ✓	
89) 1,2,3-Trimethylbenzene	25.41	105	1178	N.D.	
90) 1,2-Dichlorobenzene	25.57	146	524	N.D. ✓	
91) d-Limonene	25.57	68	59	N.D.	
92) 1,2-Dibromo-3-Chloropr...	26.11	157	54	N.D. ✓	
93) n-Undecane	26.50	57	1790	0.054 ng	92
94) 1,2,4-Trichlorobenzene	27.64	180	1427	<del>0.073 ng</del>	87
95) Naphthalene	27.77	128	10630	0.168 ng	88
96) n-Dodecane	27.74	57	1927	0.057 ng	92
97) Hexachloro-1,3-butadiene	28.18	225	81	N.D. ✓	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Postlog*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(10) Ethanol (T)

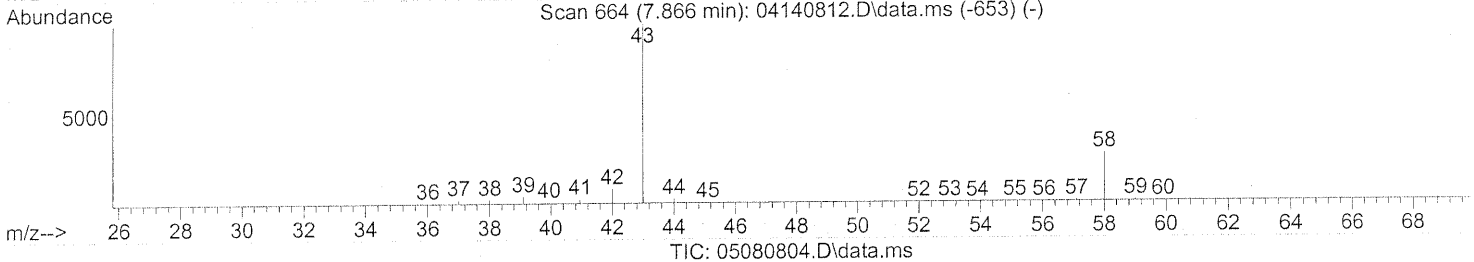
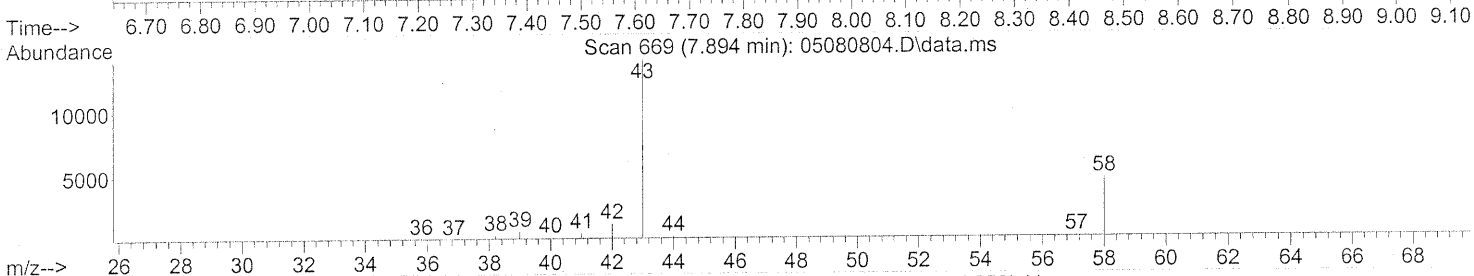
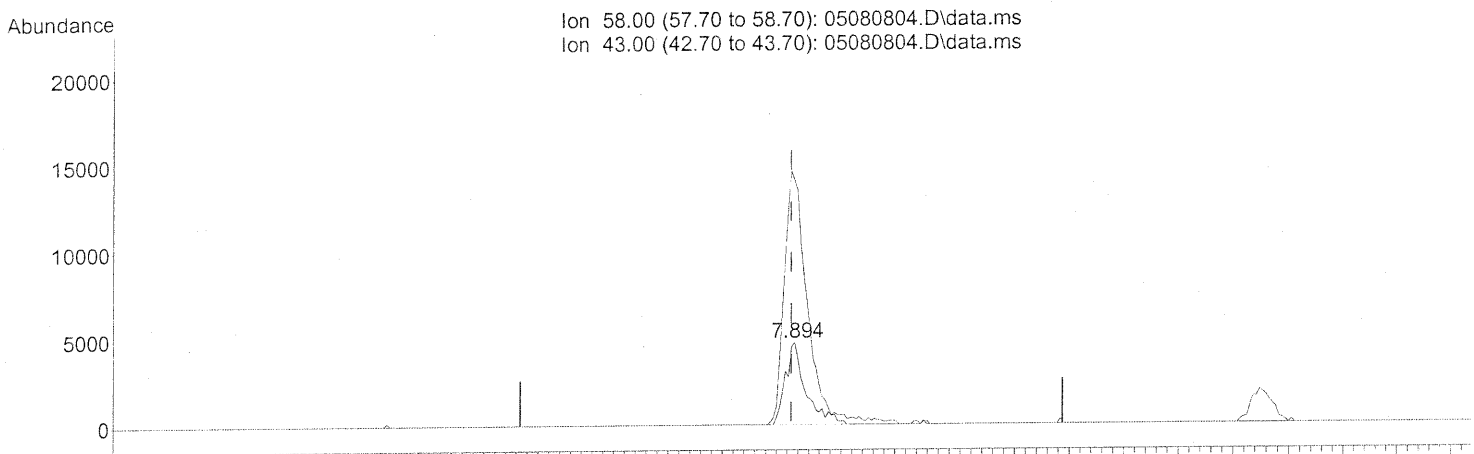
7.126min (-0.040) 0.08ng

response 1035

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	11.11#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(13) Acetone (T)

7.894min (+0.006) 0.92ng

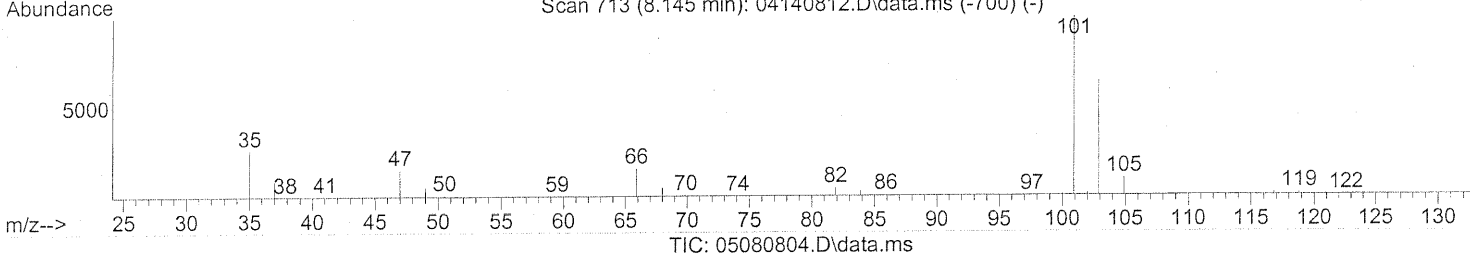
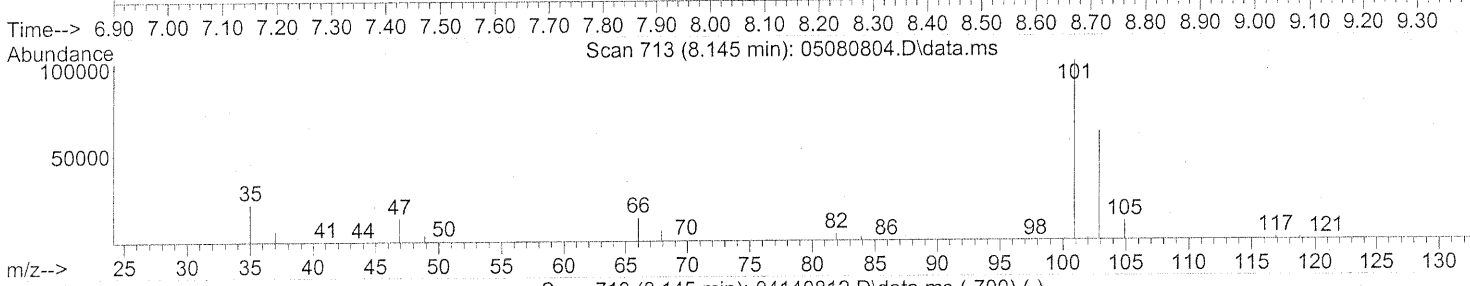
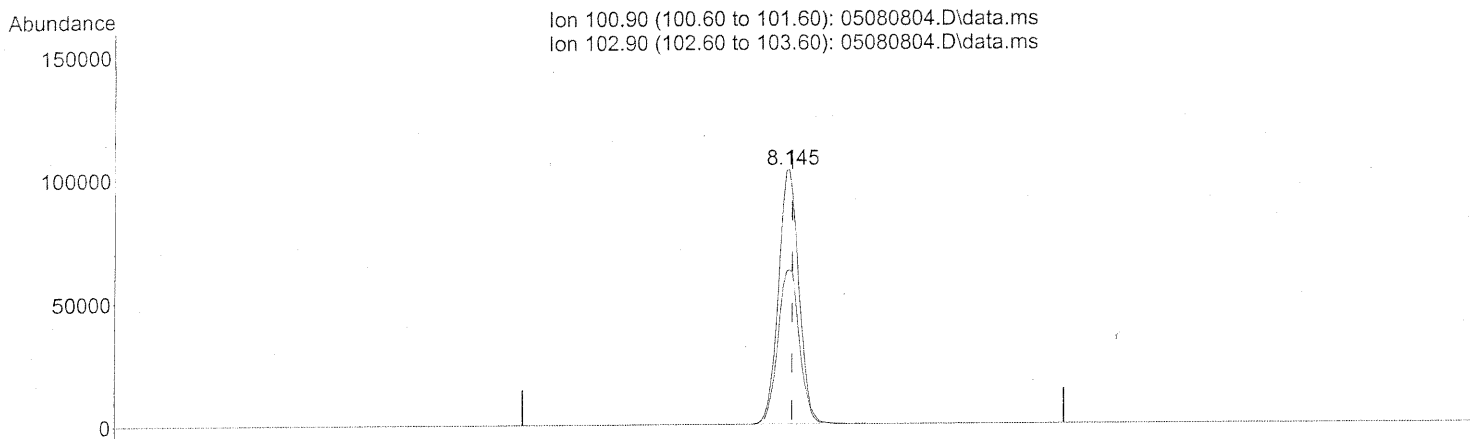
response 12415

Ion	Exp%	Act%
58.00	100	100
43.00	283.10	346.53#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(14) Trichlorofluoromethane (T)

8.145min (-0.005) 9.42ng

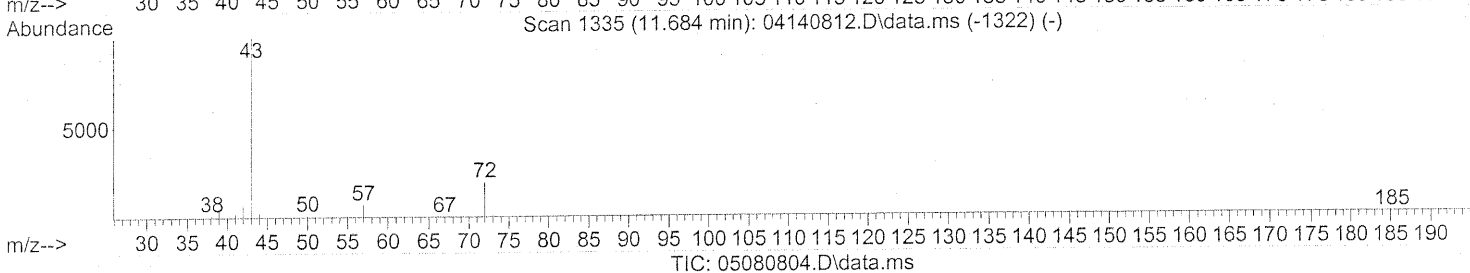
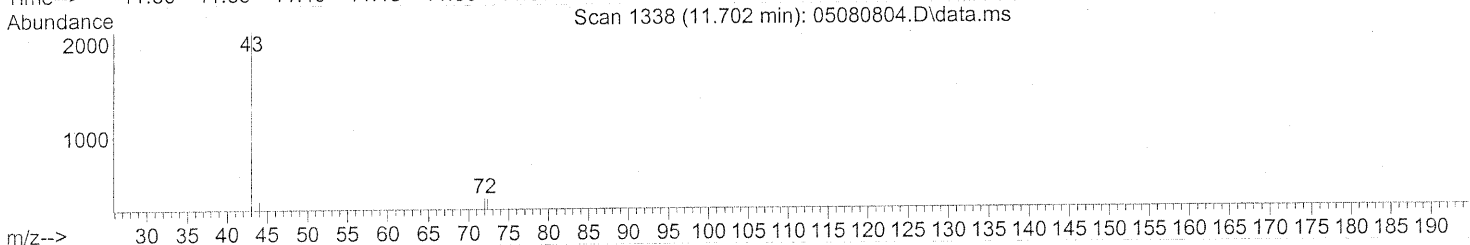
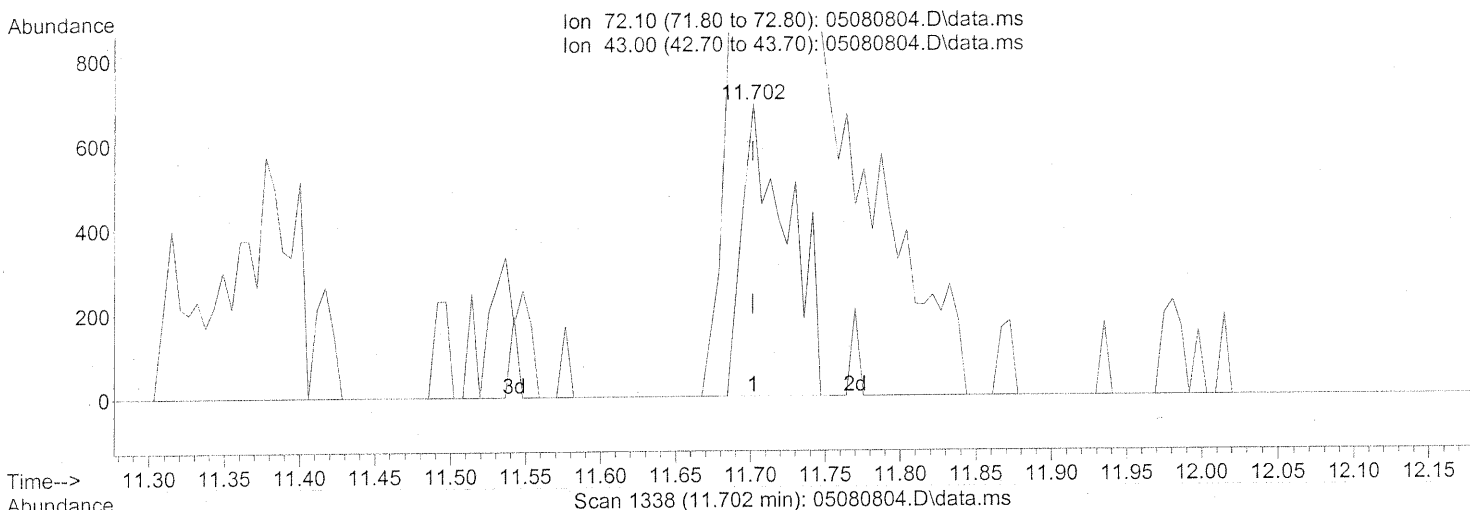
response 271272

Ion	Exp%	Act%
100.90	100	100
102.90	64.80	63.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qual)

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(27) 2-Butanone (T)

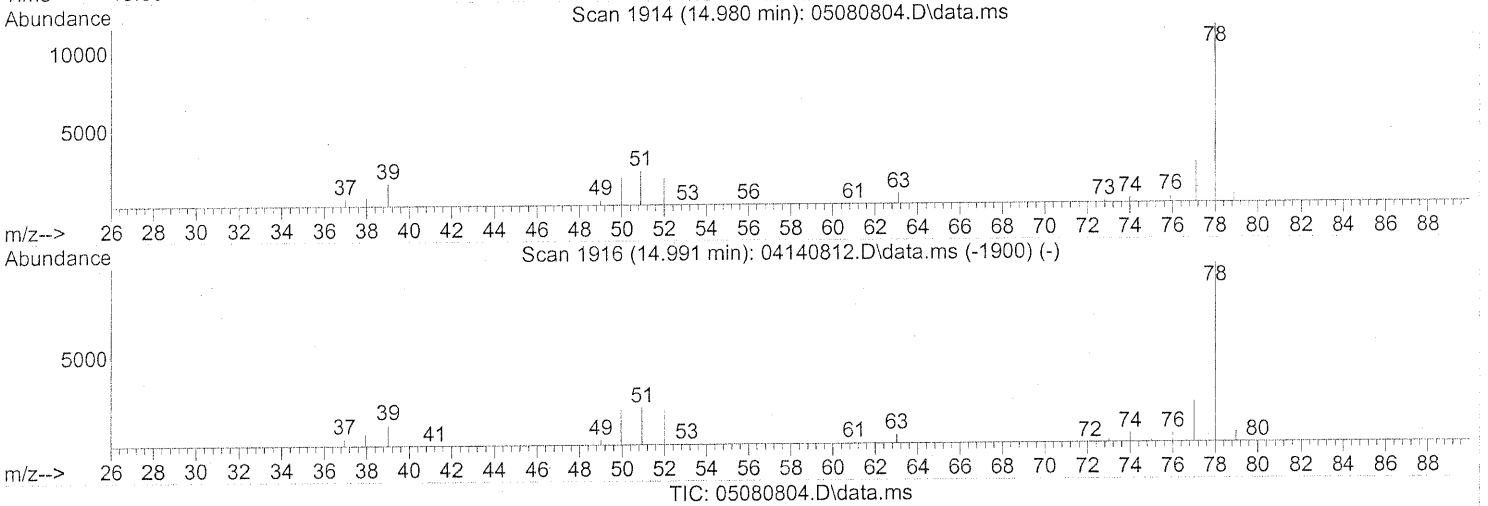
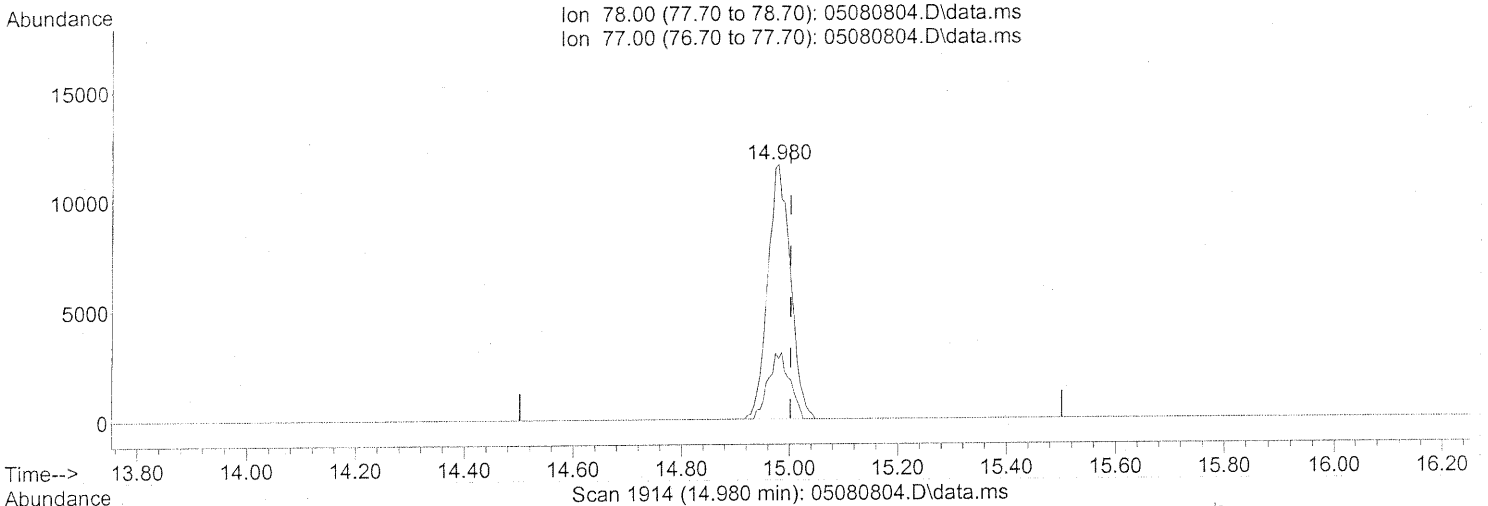
11.702min (+0.000) 0.16ng

response 1470

Ion	Exp%	Act%
72.10	100	100
43.00	506.80	646.87#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080804.D  
Acq On : 8 May 2008 12:19 pm  
Operator : RTB  
Sample : P0801342-001 (10mL)  
Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(41) Benzene (T)

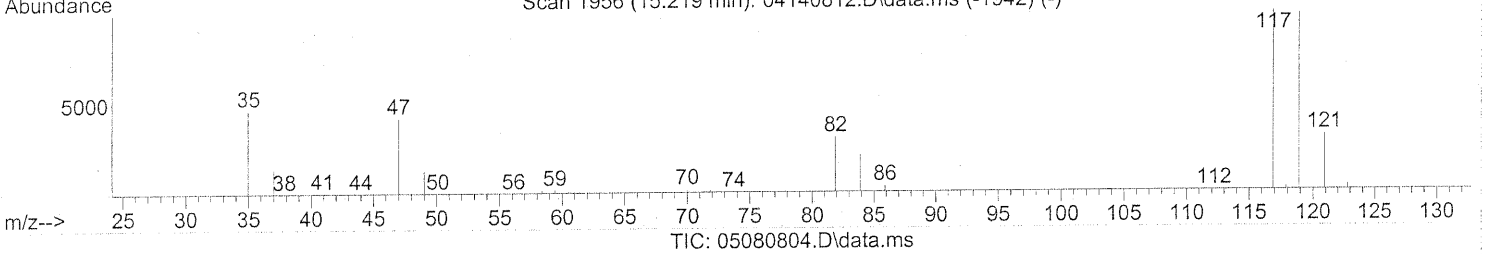
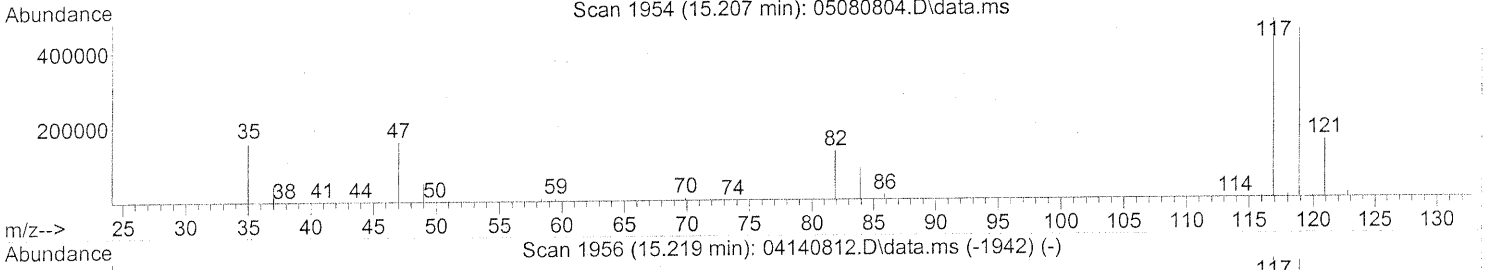
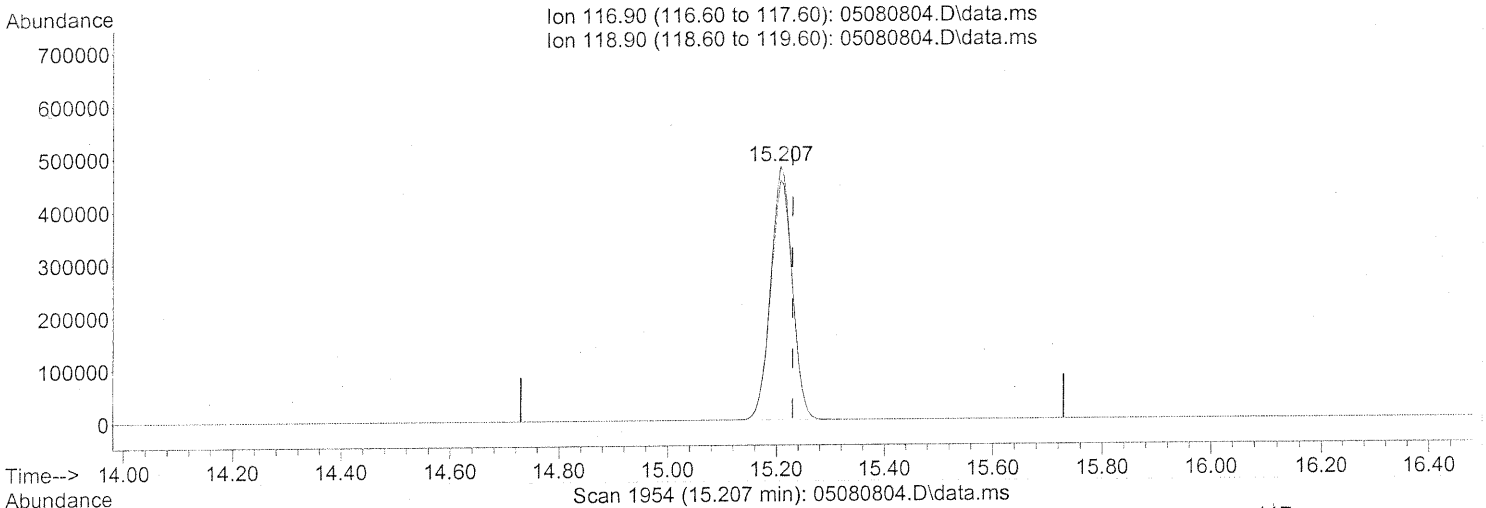
14.980min (-0.023) 0.61ng

response 33694

Ion	Exp%	Act%
78.00	100	100
77.00	23.50	24.70
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(42) Carbon Tetrachloride (T)

15.207min (-0.023) 72.83ng

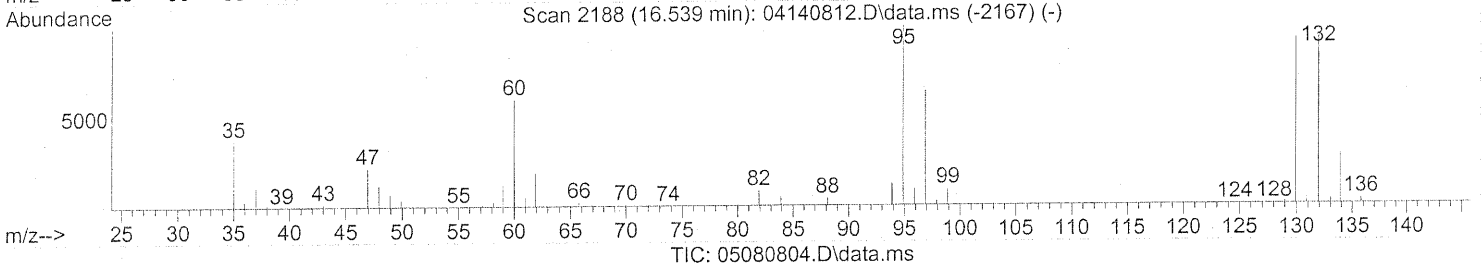
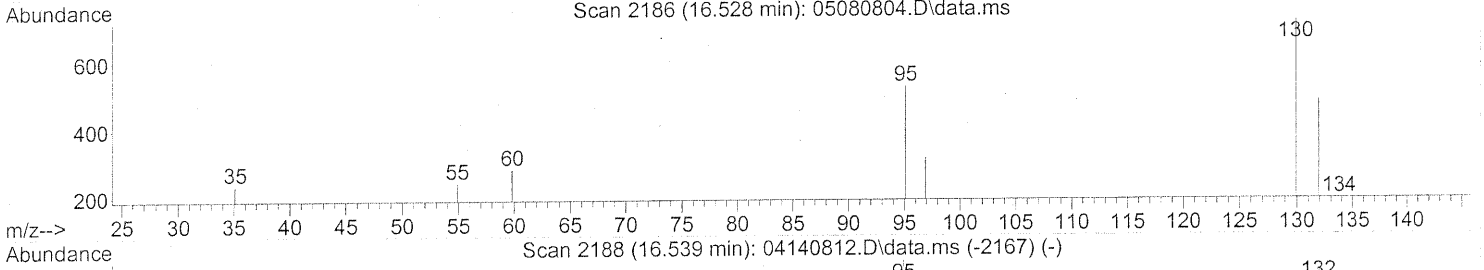
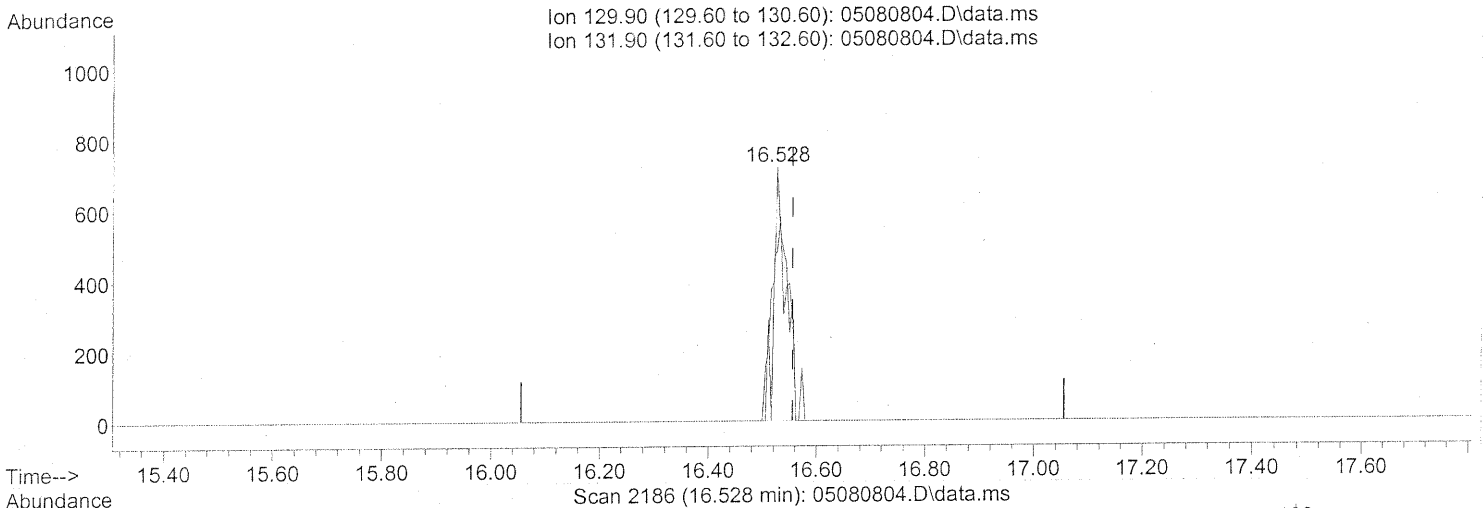
response 1330082

Ion	Exp%	Act%
116.90	100	100
118.90	96.60	94.98
0.00	0.00	0.00
0.00	0.00	0.00



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



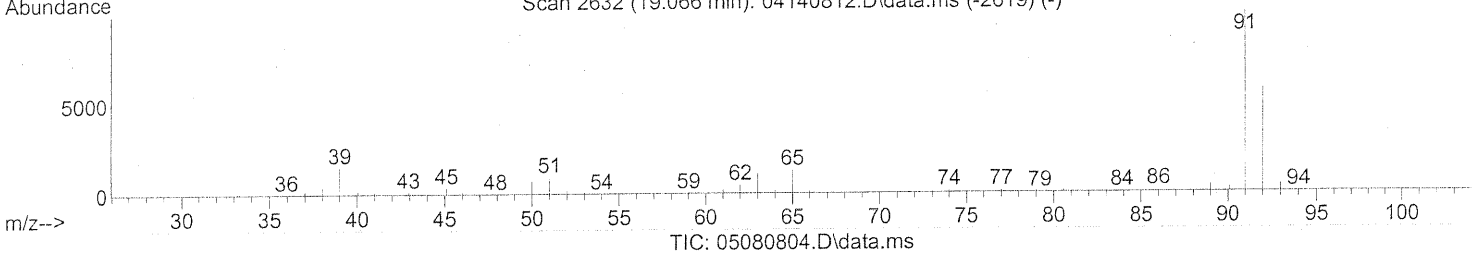
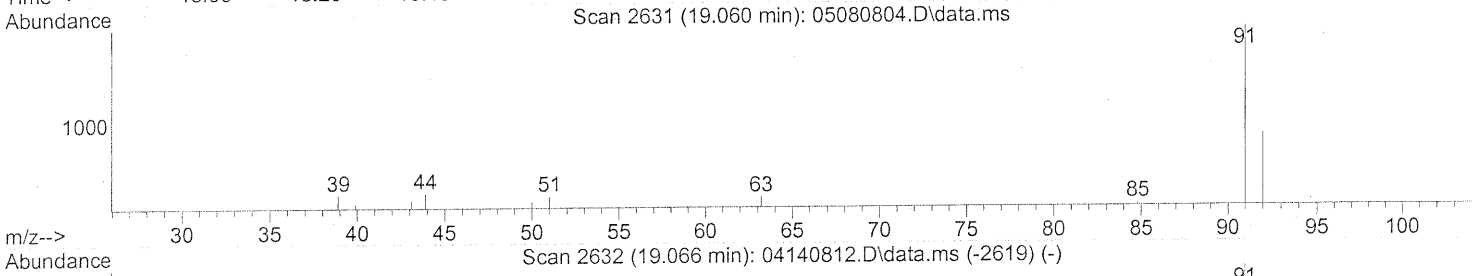
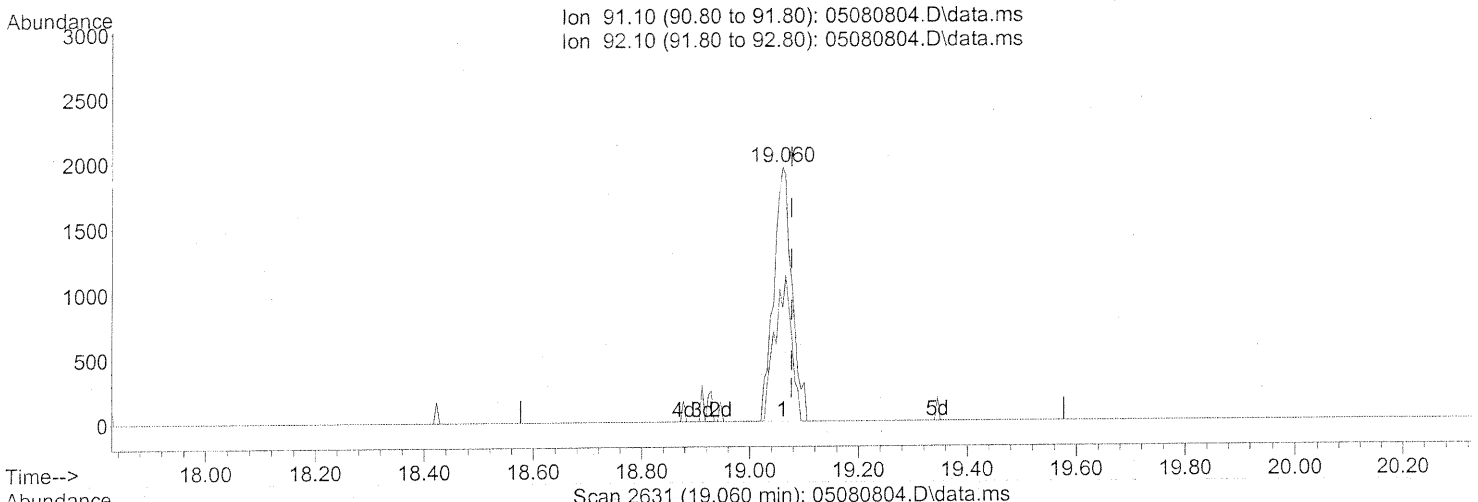
(47) Trichloroethene (T)  
 16.528min (-0.028) 0.10ng  
 response 1331

Ion	Exp%	Act%
129.90	100	100
131.90	101.20	80.92#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qual)

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

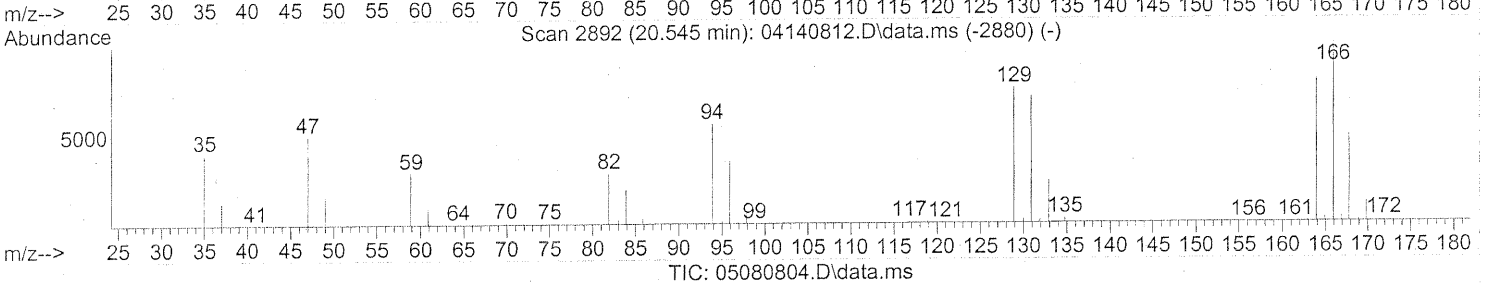
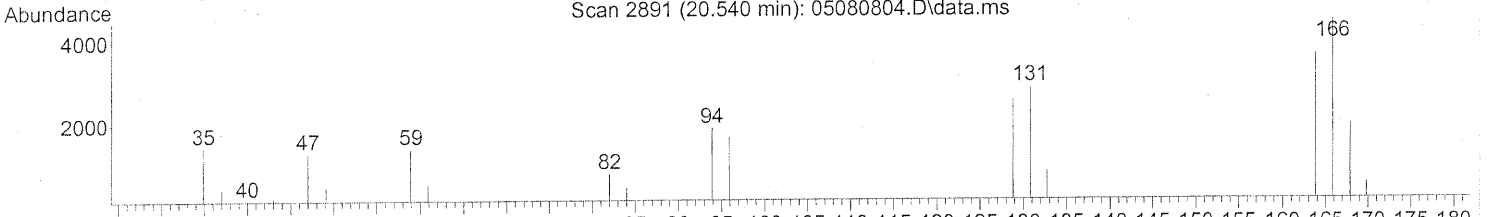
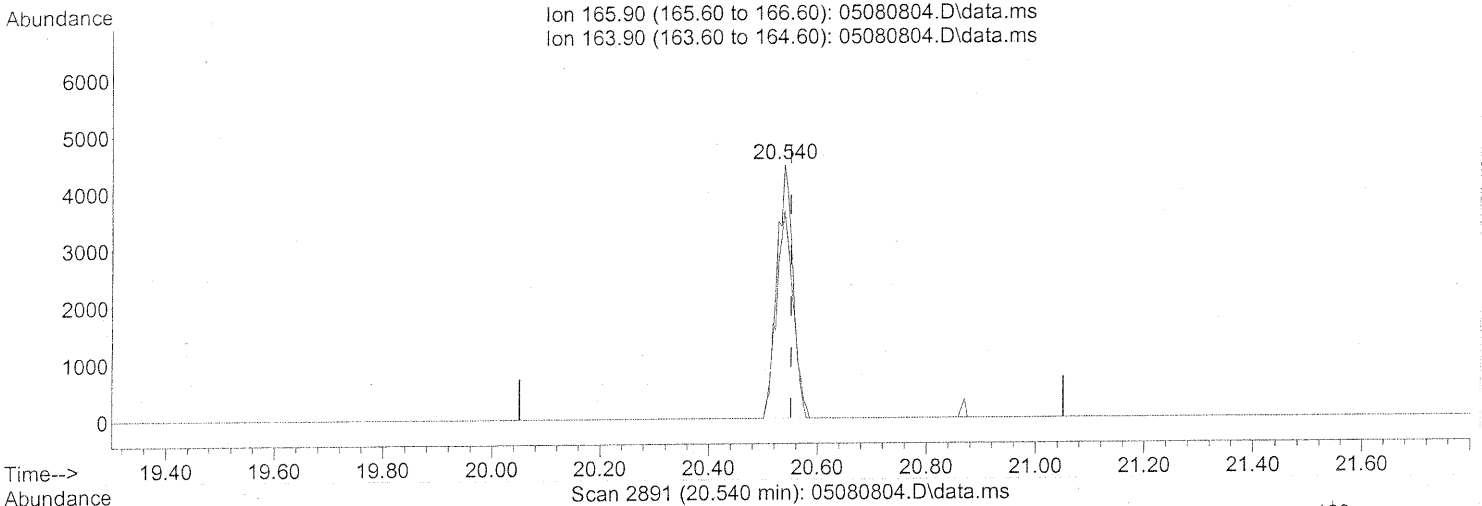


(58) Toluene (T)  
 19.060min (-0.017) 0.08ng  
 response 4582

Ion	Exp%	Act%
91.10	100	100
92.10	59.80	53.03
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(64) Tetrachloroethene (T)

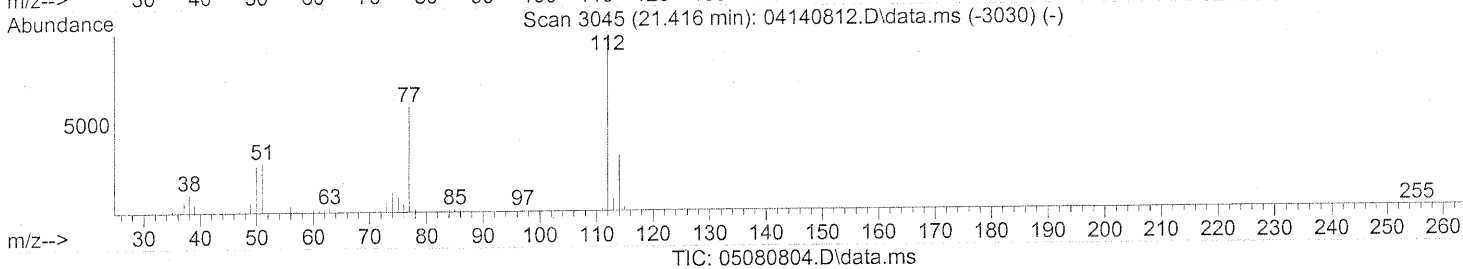
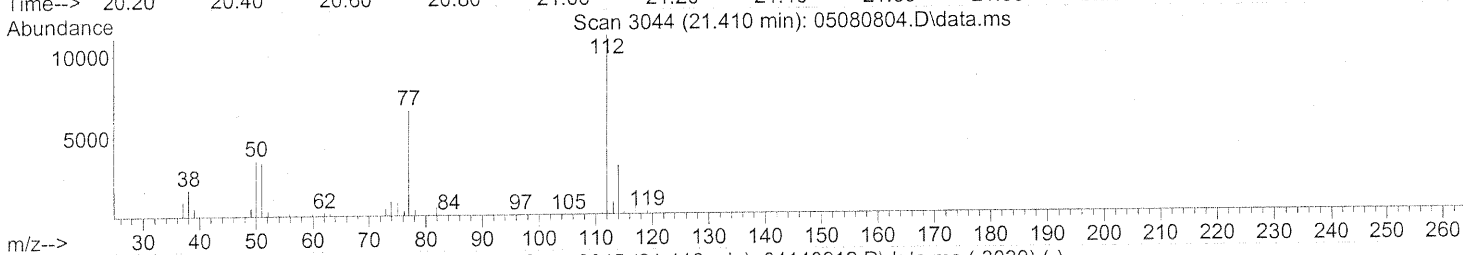
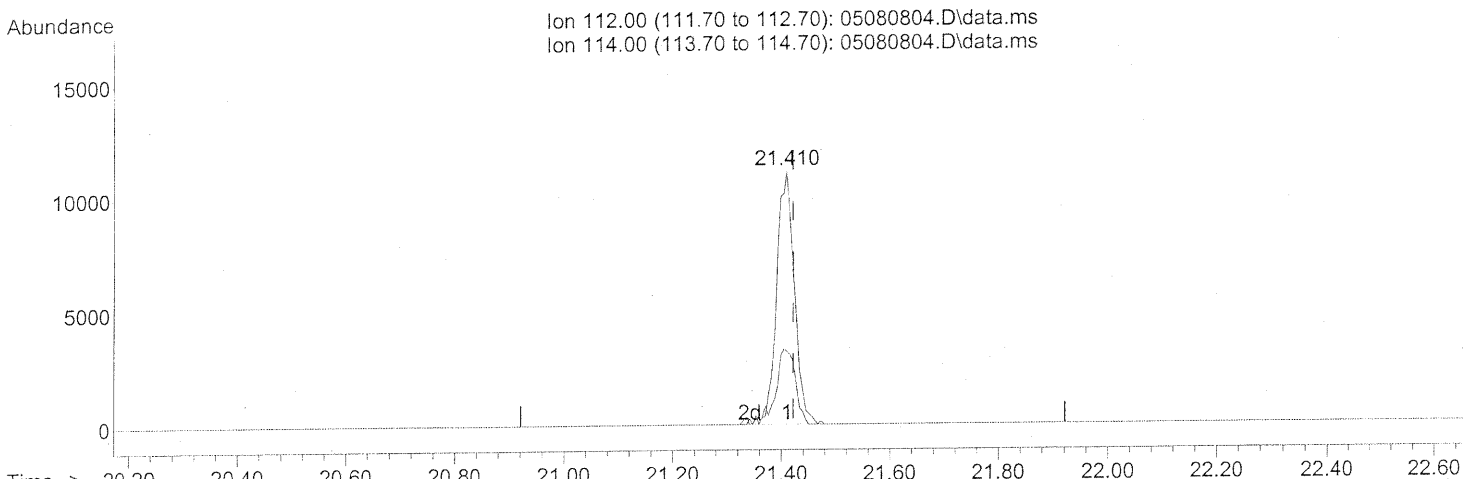
20.540min (-0.011) 0.66ng

response 9163

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	83.77
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

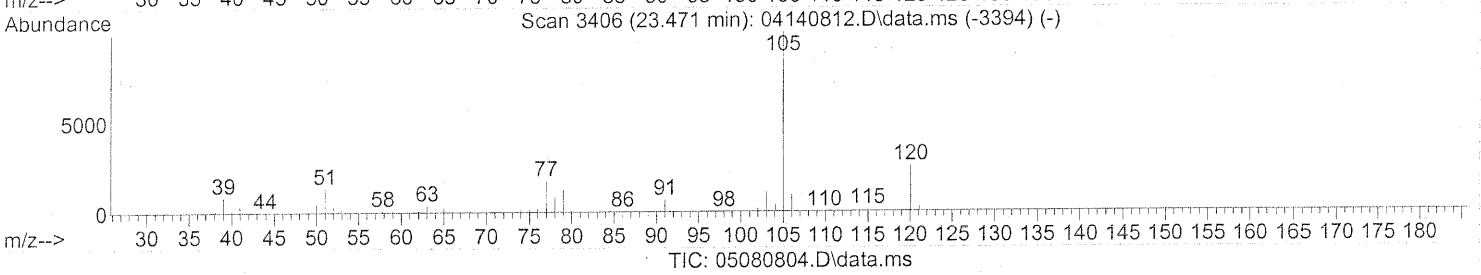
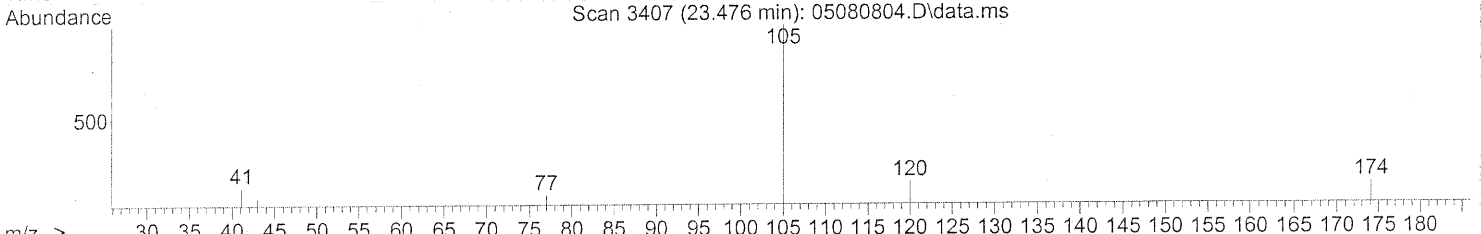
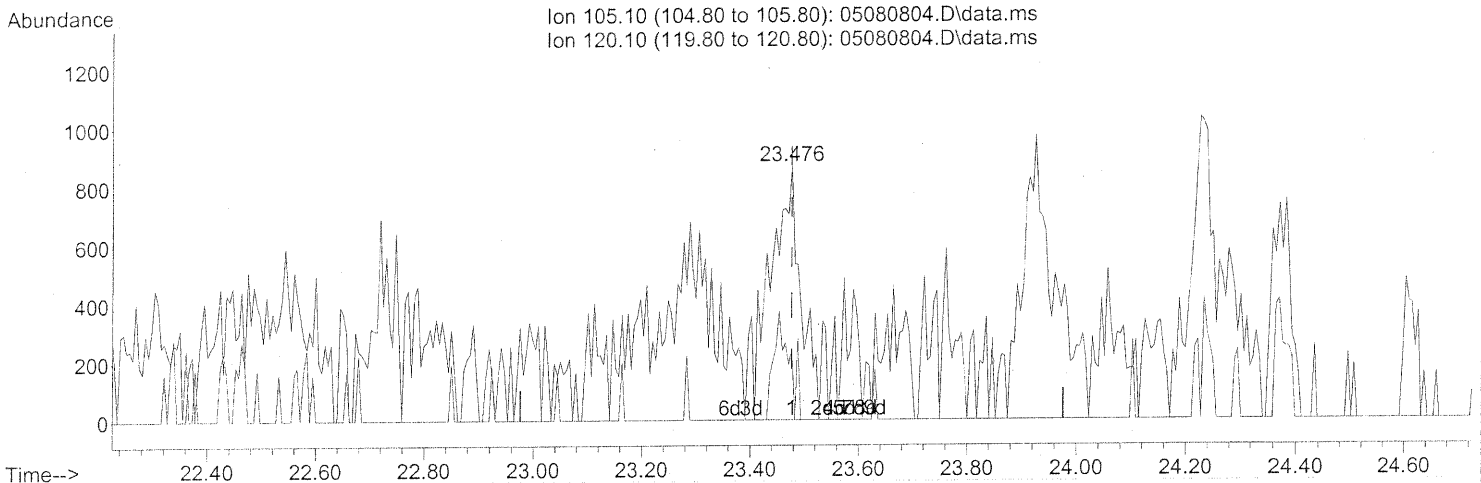


(65) Chlorobenzene (T)  
 21.410min (-0.011) 0.72ng  
 response 24872

Ion	Exp%	Act%
112.00	100	100
114.00	32.40	32.76
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

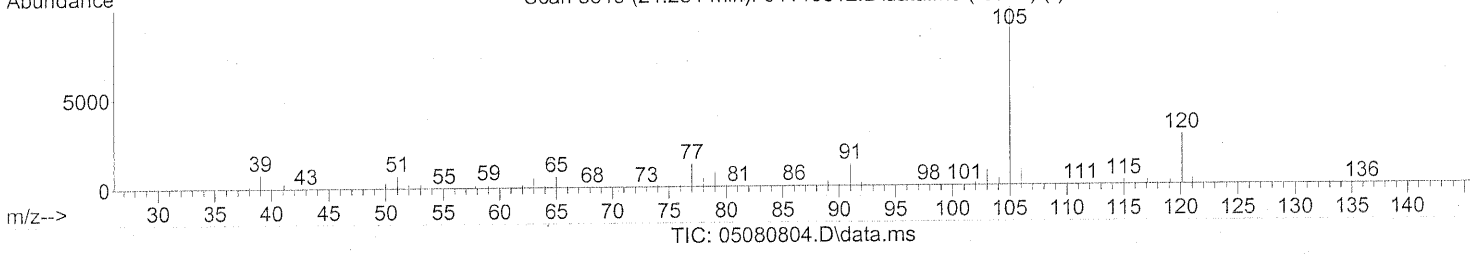
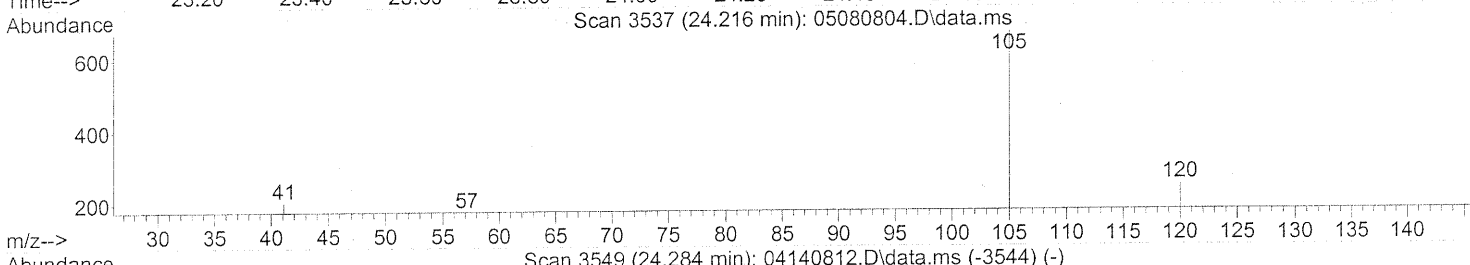
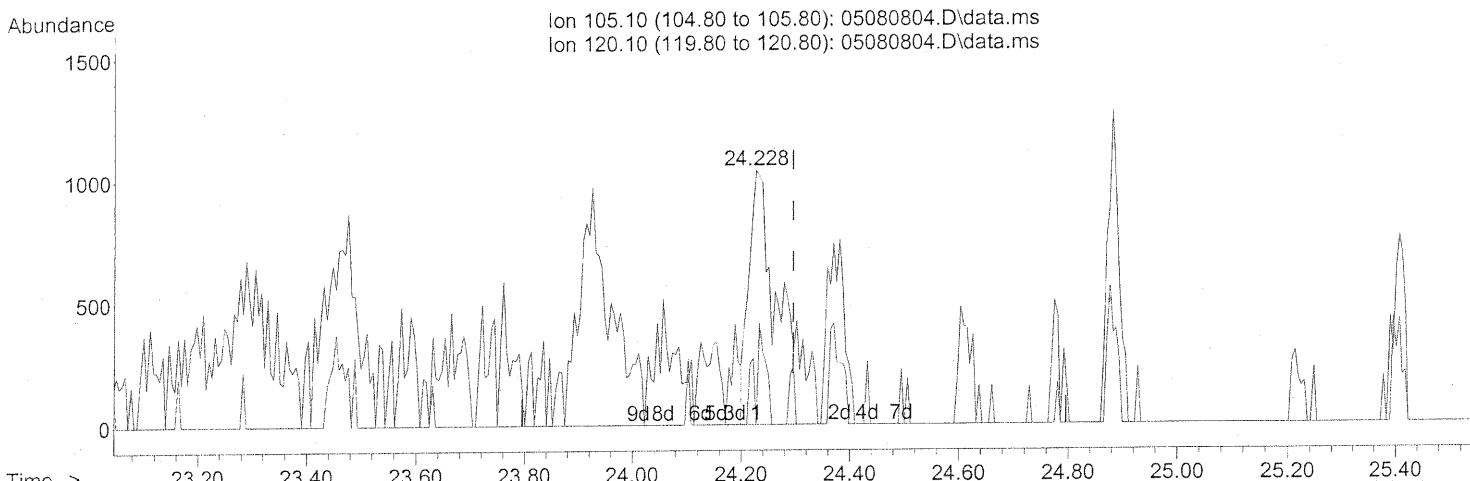


(74) Cumene (T)  
 23.476min (+0.000) 0.06ng  
 response 3322

Ion	Exp%	Act%
105.10	100	100
120.10	26.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080804.D  
Acq On : 8 May 2008 12:19 pm  
Operator : RTB  
Sample : P0801342-001 (10mL)  
Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(78) 4-Ethyltoluene (T)

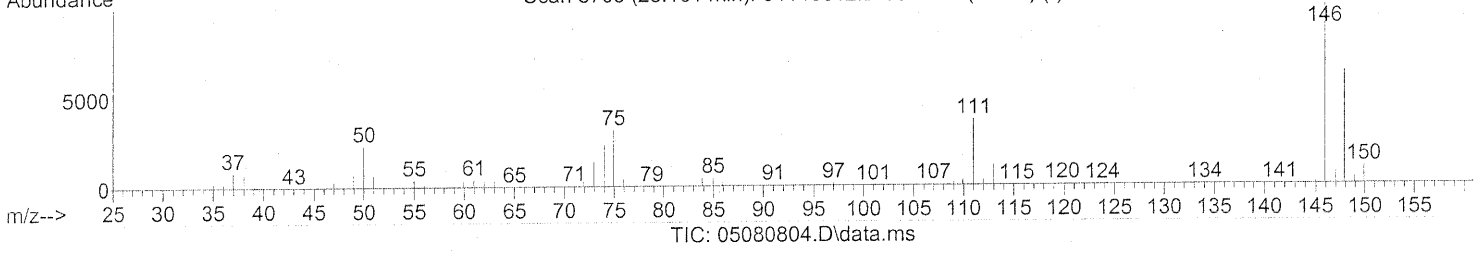
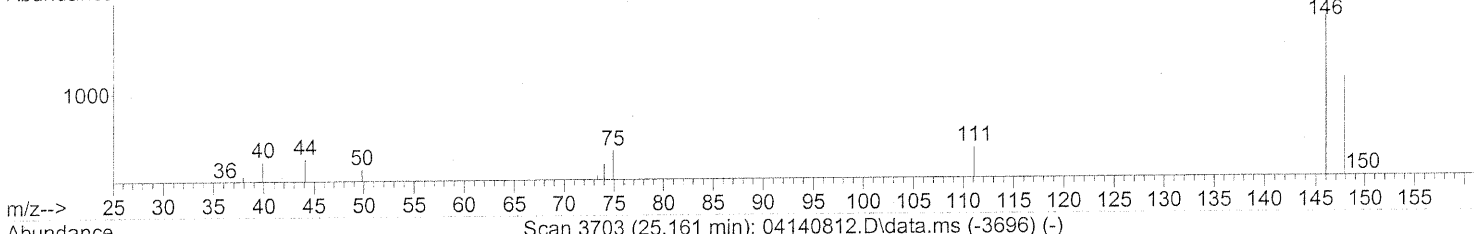
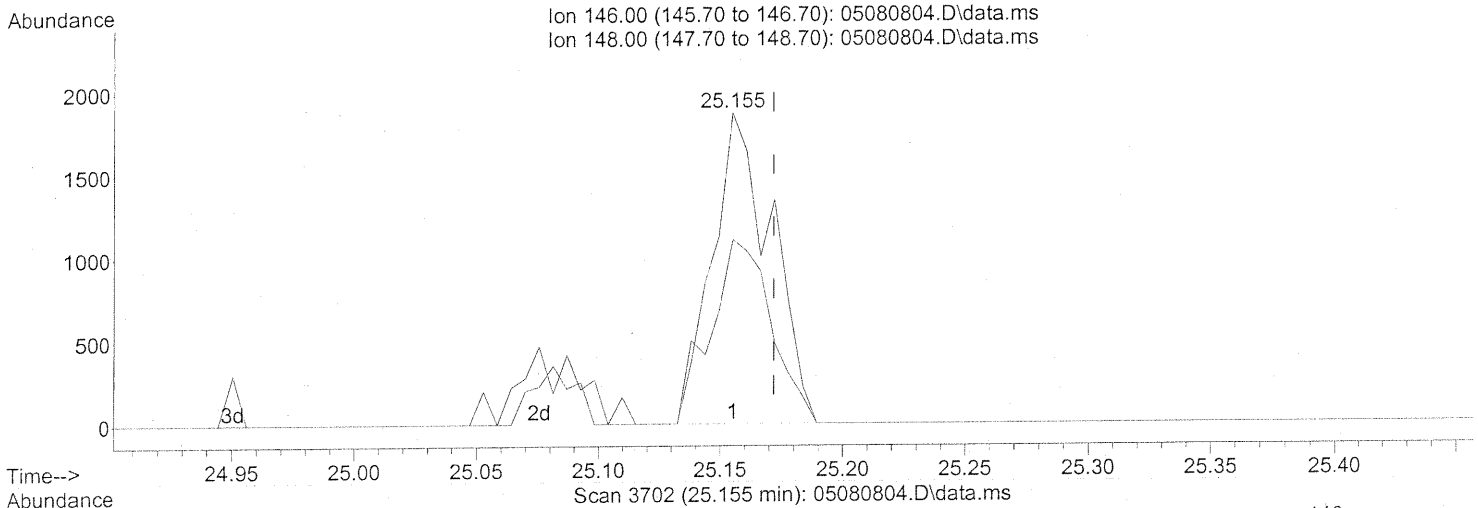
24.228min (-0.068) 0.07ng

response 4185

Ion	Exp%	Act%
105.10	100	100
120.10	30.40	4.23#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080804.D  
Acq On : 8 May 2008 12:19 pm  
Operator : RTB  
Sample : P0801342-001 (10mL)  
Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(86) 1,4-Dichlorobenzene (T)

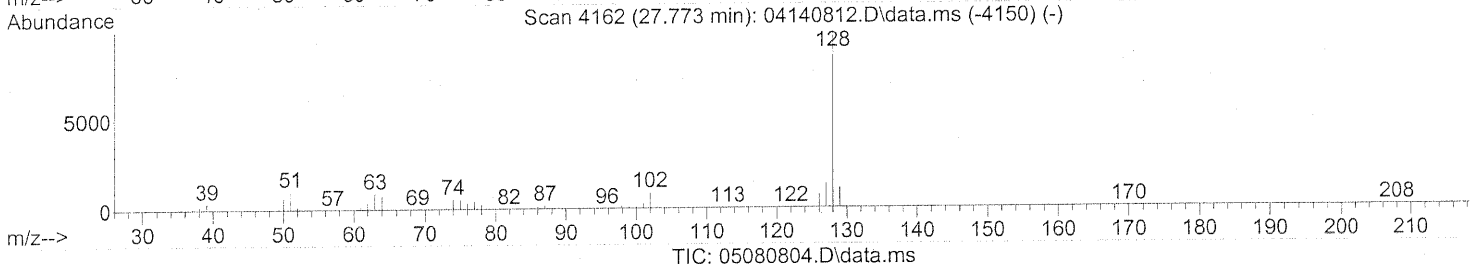
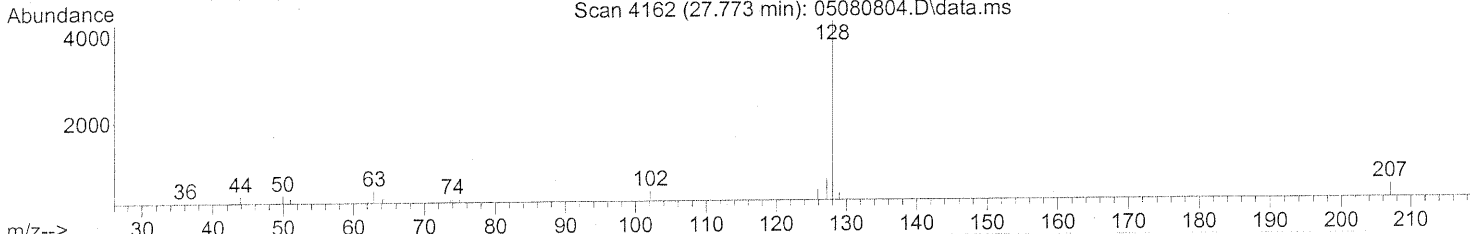
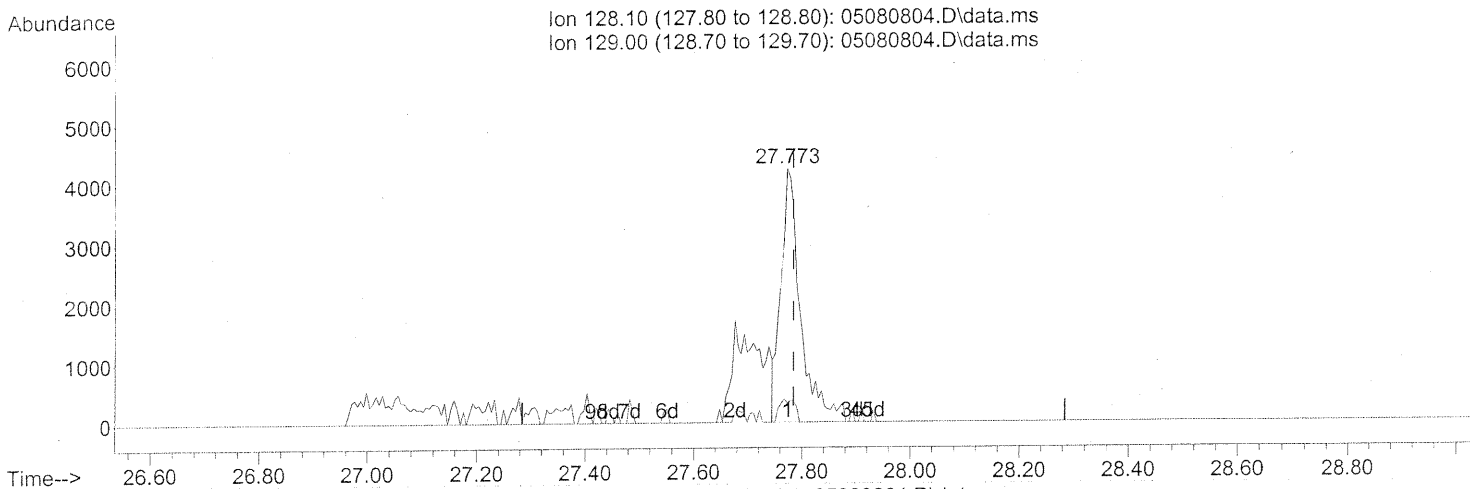
25.155min (-0.017) 0.11ng

response 3129

Ion	Exp%	Act%
146.00	100	100
148.00	64.20	61.14
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 12:47:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(95) Naphthalene (T)

27.773min (-0.011) 0.17ng

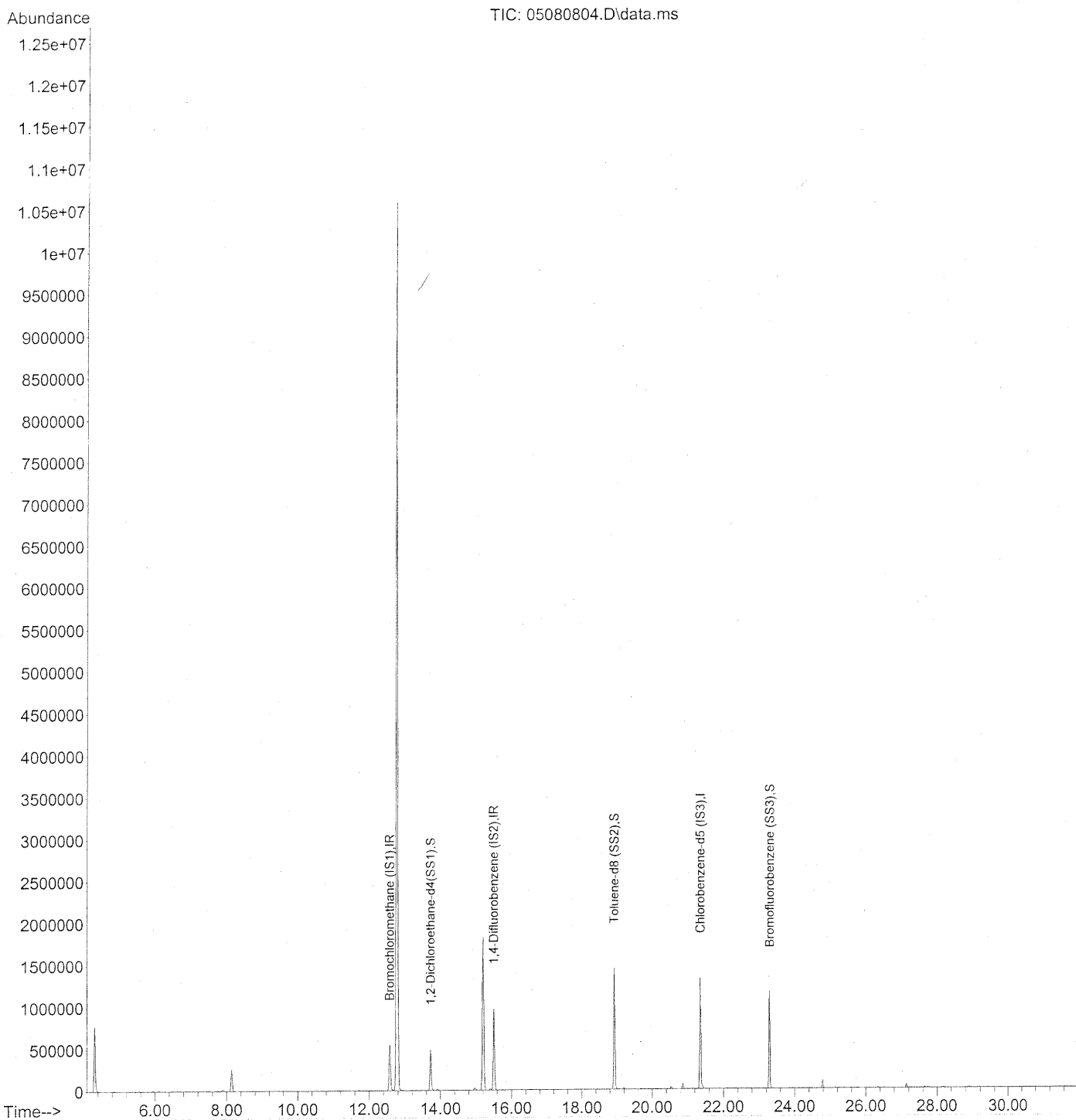
response 10630

Ion	Exp%	Act%
128.10	100	100
129.00	11.60	7.11
0.00	0.00	0.00
0.00	0.00	0.00



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:48:17 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080804.D  
 Acq On : 8 May 2008 12:19 pm  
 Operator : RTB  
 Sample : P0801342-001 (10mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:48:17 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration

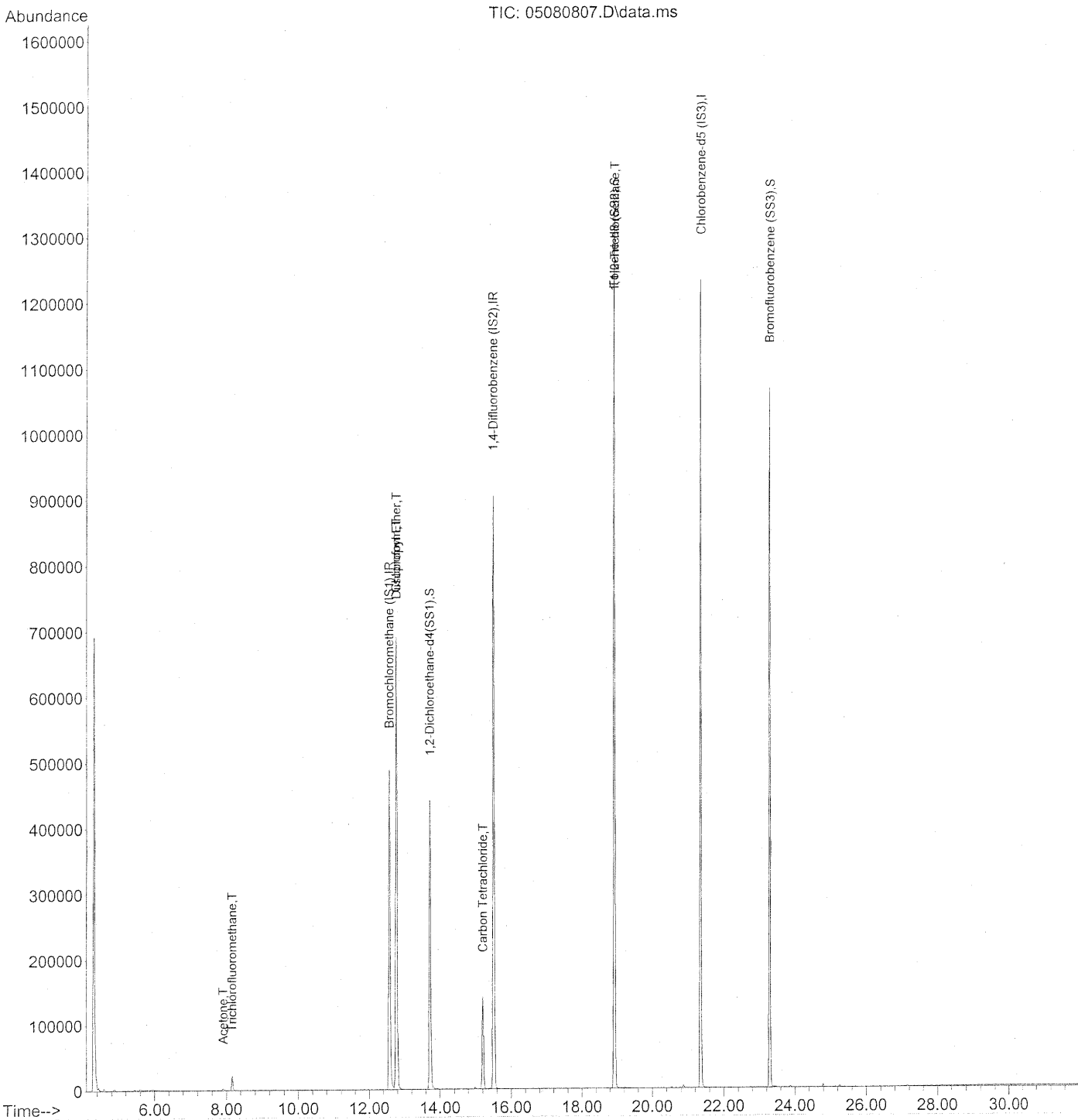
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.58	130	242853	25.000	ng	-0.03	
3) 1,4-Difluorobenzene (IS2)	15.51	114	1040889	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	494646	25.000	ng	-0.01	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.72	65	448165	23.011	ng	-0.03	
Spiked Amount	25.000		Recovery	=	92.04%	✓	
5) Toluene-d8 (SS2)	18.92	98	1129319	25.472	ng	-0.01	
Spiked Amount	25.000		Recovery	=	101.88%	✓	
6) Bromofluorobenzene (SS3)	23.29	174	384401	25.194	ng	0.00	
Spiked Amount	25.000		Recovery	=	100.76%	✓	
Target Compounds							
7) tert-Butylbenzene	24.88	119	310		N.D.	✓	Qvalue
8) n-Butylbenzene	25.91	91	875		N.D.	✓	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*P05/08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080807.D  
Acq On : 8 May 2008 2:30 pm  
Operator : RTB  
Sample : P0801342-001 DIL (1mL)  
Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:59:12 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080807.D  
 Acq On : 8 May 2008 2:30 pm  
 Operator : RTB  
 Sample : P0801342-001 DIL (1mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:59:12 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	219916	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	959711	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	446346	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.72	65	413248	23.432	ng	-0.03
Spiked Amount	25.000		Recovery	=	93.72%	✓
57) Toluene-d8 (SS2)	18.92	98	1054023	26.346	ng	-0.01
Spiked Amount	25.000		Recovery	=	105.40%	✓
73) Bromofluorobenzene (SS3)	23.29	174	345507	25.096	ng	0.00
Spiked Amount	25.000		Recovery	=	100.40%	✓

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.84	42	243		N.D.	
3) Dichlorodifluoromethane	0.00	85	0		N.D.	
4) Chloromethane	0.00	50	0		N.D.	
5) Freon 114	0.00	135	0		N.D.	
6) Vinyl Chloride	0.00	62	0		N.D.	
7) 1,3-Butadiene	0.00	54	0		N.D.	
8) Bromomethane	0.00	94	0		N.D.	
9) Chloroethane	0.00	64	0		N.D.	
10) Ethanol	0.00	45	0		N.D.	
11) Acetonitrile	7.50	41	196		N.D.	
12) Acrolein	0.00	56	0		N.D.	
13) Acetone	7.91	58	2047	0.168	ng	# 74
14) Trichlorofluoromethane	8.16	101	21764	0.835	ng	98
15) Isopropanol	0.00	45	0		N.D.	
16) Acrylonitrile	0.00	53	0		N.D.	
17) 1,1-Dichloroethene	0.00	96	0		N.D.	
18) tert-Butanol	9.39	59	51		N.D.	
19) Methylene Chloride	9.35	84	121		N.D.	
20) Allyl Chloride	9.57	41	75		N.D.	
21) Trichlorotrifluoroethane	0.00	151	0		N.D.	
22) Carbon Disulfide	9.79	76	295		N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0		N.D.	
24) 1,1-Dichloroethane	11.11	63	56		N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0		N.D.	
26) Vinyl Acetate	0.00	86	0		N.D.	
27) 2-Butanone	11.54	72	67		N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0		N.D.	
29) Diisopropyl Ether	12.78	87	66806	5.960	ng	# 1
30) Ethyl Acetate	0.00	61	0		N.D.	
31) n-Hexane	0.00	57	0		N.D.	

*Post 10/8/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080807.D  
 Acq On : 8 May 2008 2:30 pm  
 Operator : RTB  
 Sample : P0801342-001 DIL (1mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:59:12 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.77	83	651732	31.741	ng	99
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	13.75	62	74	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	14.98	78	3472	N.D.		
42) Carbon Tetrachloride	15.21	117	101995	6.057	ng	99
43) Cyclohexane	15.41	84	438	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	18.93	97	96694	7.887	ng	# 9
58) Toluene	19.06	91	484	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) Butyl Acetate	20.34	43	90	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	20.55	166	877	N.D.		
65) Chlorobenzene	21.40	112	2069	N.D.		
66) Ethylbenzene	22.13	91	83	N.D.		
67) m- & p-Xylene	22.13	91	83	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	22.75	91	61	N.D.		
71) n-Nonane	23.16	43	85	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	23.48	105	175	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	24.24	105	195	N.D.		
78) 4-Ethyltoluene	24.24	105	195	N.D.		
79) 1,3,5-Trimethylbenzene	24.38	105	61	N.D.		

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080807.D  
 Acq On : 8 May 2008 2:30 pm  
 Operator : RTB  
 Sample : P0801342-001 DIL (1mL)  
 Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:59:12 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	0.00	118	0			N.D.
81) 2-Ethyltoluene	24.38	105	61			N.D.
82) 1,2,4-Trimethylbenzene	0.00	105	0			N.D.
83) n-Decane	25.25	57	2095			N.D.
84) Benzyl Chloride	0.00	91	0			N.D.
85) 1,3-Dichlorobenzene	25.15	146	55			N.D.
86) 1,4-Dichlorobenzene	25.18	146	53			N.D.
87) sec-Butylbenzene	25.41	105	187			N.D.
88) p-Isopropyltoluene	25.41	119	215			N.D.
89) 1,2,3-Trimethylbenzene	25.41	105	187			N.D.
90) 1,2-Dichlorobenzene	25.18	146	53			N.D.
91) d-Limonene	0.00	68	0			N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0			N.D.
93) n-Undecane	26.50	57	196			N.D.
94) 1,2,4-Trichlorobenzene	0.00	180	0			N.D.
95) Naphthalene	27.80	128	649			N.D.
96) n-Dodecane	27.74	57	115			N.D.
97) Hexachloro-1,3-butadiene	0.00	225	0			N.D.

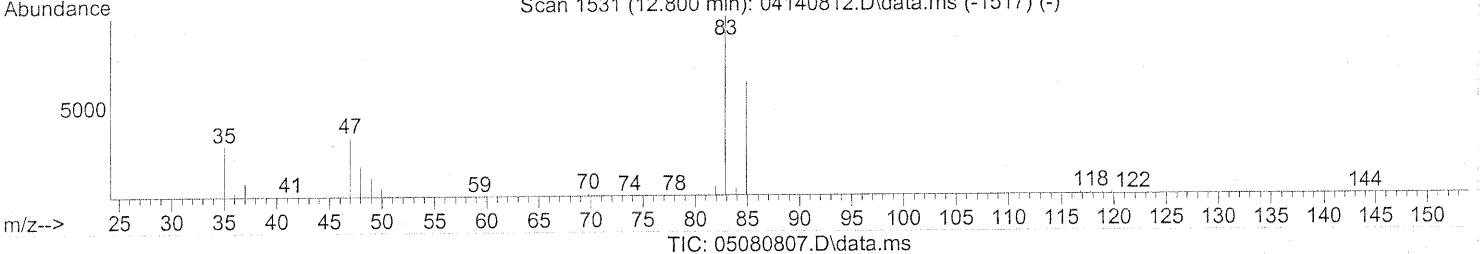
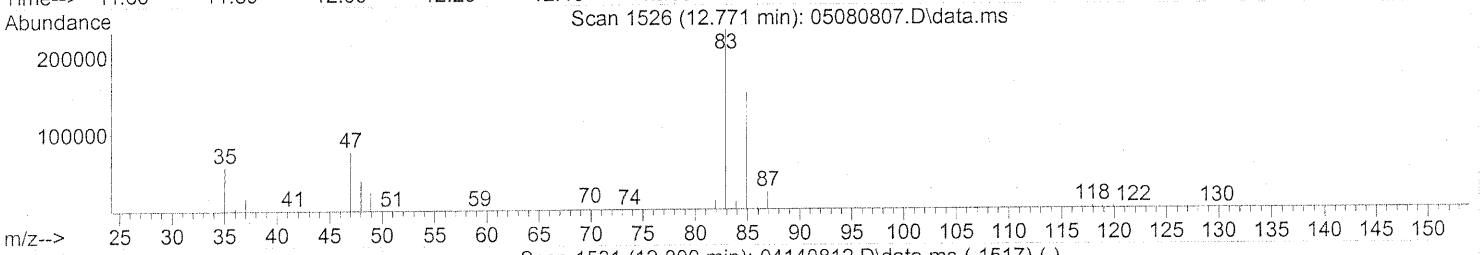
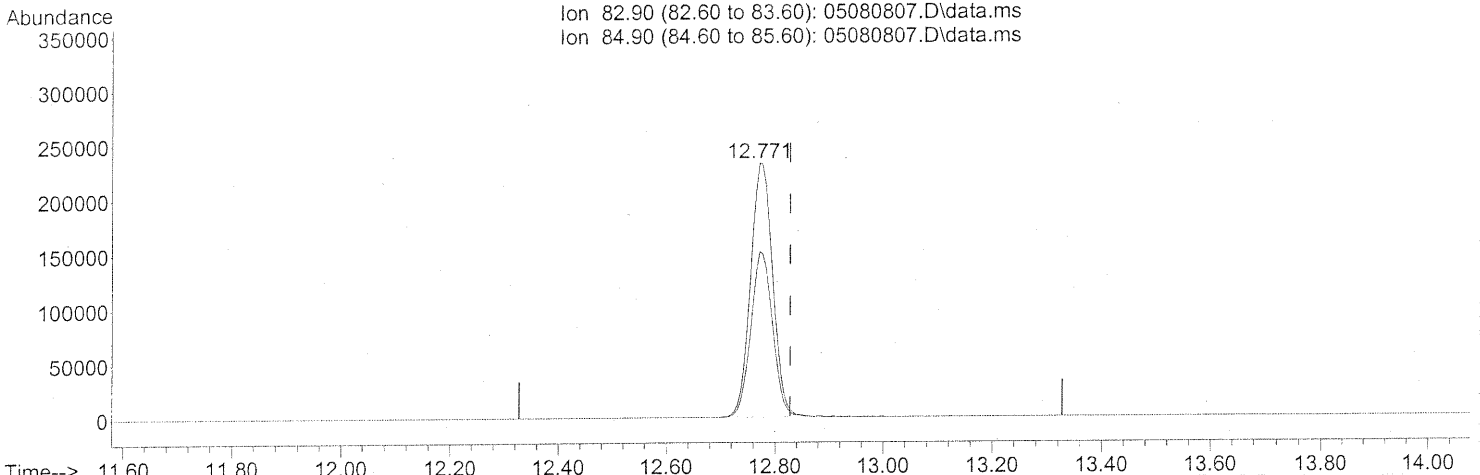
(#) = qualifier out of range (m) = manual integration (+) = signals summed

705/08/08

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080807.D  
Acq On : 8 May 2008 2:30 pm  
Operator : RTB  
Sample : P0801342-001 DIL (1mL)  
Misc : ENSR SG83B-05-1 (-3.6, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:59:12 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(32) Chloroform (T)

12.771min (-0.057) 31.74ng

response 651732

Ion	Exp%	Act%
82.90	100	100
84.90	64.70	64.16
0.00	0.00	0.00
0.00	0.00	0.00

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-3  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00564

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.8      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.67

CAS #	Compound	Result	MRL	MDL	Result	MRL	MDL	Data Qualifier
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ppbV	ppbV	ppbV	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	84	8.4	ND	17	1.7	
74-87-3	Chloromethane	ND	17	8.4	ND	8.1	4.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	84	8.4	ND	12	1.2	
75-01-4	Vinyl Chloride	ND	17	8.4	ND	6.5	3.3	
74-83-9	Bromomethane	ND	17	8.4	ND	4.3	2.2	
75-00-3	Chloroethane	ND	17	8.4	ND	6.3	3.2	
64-17-5	Ethanol	ND	840	8.4	ND	440	4.4	
67-64-1	<b>Acetone</b>	<b>130</b>	840	12	<b>55</b>	350	5.1	<b>J, B</b>
75-69-4	<b>Trichlorofluoromethane</b>	<b>1,500</b>	17	8.4	<b>270</b>	3.0	1.5	
107-13-1	Acrylonitrile	ND	84	12	ND	38	5.4	
75-35-4	1,1-Dichloroethene	ND	17	8.4	ND	4.2	2.1	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	84	12	ND	28	4.1	
75-09-2	Methylene Chloride	ND	84	8.4	ND	24	2.4	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	17	8.4	ND	5.3	2.7	
76-13-1	Trichlorotrifluoroethane	ND	17	9.4	ND	2.2	1.2	
75-15-0	Carbon Disulfide	ND	84	20	ND	27	6.4	
156-60-5	trans-1,2-Dichloroethene	ND	17	8.4	ND	4.2	2.1	
75-34-3	1,1-Dichloroethane	ND	17	8.4	ND	4.1	2.1	
1634-04-4	Methyl tert-Butyl Ether	ND	17	8.4	ND	4.6	2.3	
108-05-4	Vinyl Acetate	ND	840	27	ND	240	7.6	
78-93-3	<b>2-Butanone (MEK)</b>	<b>24</b>	84	8.4	<b>8.1</b>	28	2.8	<b>J</b>
156-59-2	cis-1,2-Dichloroethene	ND	17	8.4	ND	4.2	2.1	
108-20-3	Diisopropyl Ether	ND	84	9.9	ND	20	2.4	
67-66-3	<b>Chloroform</b>	<b>49,000</b>	17	9.9	<b>10,000</b>	3.4	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.  
 MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.  
 J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.  
 B = Analyte was found in the method blank.

Verified By: Re      Date: 5/9/08

**60**



**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-3  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00564

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -3.8      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	84	8.5	ND	20	2.0	
107-06-2	1,2-Dichloroethane	ND	17	8.4	ND	4.1	2.1	
71-55-6	1,1,1-Trichloroethane	ND	17	8.4	ND	3.1	1.5	
71-43-2	<b>Benzene</b>	<b>100</b>	17	8.4	<b>32</b>	5.2	2.6	
56-23-5	<b>Carbon Tetrachloride</b>	<b>12,000</b>	17	8.4	<b>1,900</b>	2.7	1.3	
994-05-8	tert-Amyl Methyl Ether	ND	84	8.4	ND	20	2.0	
78-87-5	1,2-Dichloropropane	ND	17	8.4	ND	3.6	1.8	
75-27-4	Bromodichloromethane	ND	17	8.4	ND	2.5	1.2	
79-01-6	<b>Trichloroethene</b>	<b>16</b>	17	8.4	<b>3.0</b>	3.1	1.6	<b>J</b>
123-91-1	1,4-Dioxane	ND	84	10	ND	23	2.8	
80-62-6	Methyl Methacrylate	ND	84	13	ND	20	3.1	
142-82-5	n-Heptane	ND	84	11	ND	20	2.6	
10061-01-5	cis-1,3-Dichloropropene	ND	84	8.7	ND	18	1.9	
108-10-1	4-Methyl-2-pentanone	ND	84	9.4	ND	20	2.3	
10061-02-6	trans-1,3-Dichloropropene	ND	84	11	ND	18	2.3	
79-00-5	1,1,2-Trichloroethane	ND	17	8.4	ND	3.1	1.5	
108-88-3	<b>Toluene</b>	<b>8.5</b>	84	8.4	<b>2.3</b>	22	2.2	<b>J</b>
591-78-6	2-Hexanone	ND	84	13	ND	20	3.1	
124-48-1	Dibromochloromethane	ND	17	11	ND	2.0	1.3	
106-93-4	1,2-Dibromoethane	ND	17	9.0	ND	2.2	1.2	
111-65-9	n-Octane	ND	84	8.4	ND	18	1.8	
127-18-4	<b>Tetrachloroethene</b>	<b>130</b>	17	8.4	<b>19</b>	2.5	1.2	
108-90-7	<b>Chlorobenzene</b>	<b>160</b>	17	8.5	<b>36</b>	3.6	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Re      Date: 5/9/08

**61**

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-3  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-002

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00564

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

**Initial Pressure (psig):** -3.8      **Final Pressure (psig):** 3.5

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	84	10	ND	19	2.4	
179601-23-1	m,p-Xylenes	ND	84	22	ND	19	5.0	
75-25-2	Bromoform	ND	84	13	ND	8.1	1.2	
100-42-5	Styrene	ND	84	13	ND	20	3.0	
95-47-6	o-Xylene	ND	84	11	ND	19	2.4	
79-34-5	1,1,2,2-Tetrachloroethane	ND	17	11	ND	2.4	1.6	
98-82-8	Cumene	ND	84	9.4	ND	17	1.9	
103-65-1	n-Propylbenzene	ND	84	8.7	ND	17	1.8	
622-96-8	4-Ethyltoluene	ND	84	9.5	ND	17	1.9	
108-67-8	1,3,5-Trimethylbenzene	ND	84	10	ND	17	2.0	
98-83-9	alpha-Methylstyrene	ND	84	12	ND	17	2.5	
95-63-6	1,2,4-Trimethylbenzene	ND	84	12	ND	17	2.3	
100-44-7	Benzyl Chloride	ND	17	14	ND	3.2	2.8	
541-73-1	1,3-Dichlorobenzene	ND	17	10	ND	2.8	1.7	
106-46-7	1,4-Dichlorobenzene	ND	17	9.4	ND	2.8	1.6	
135-98-8	sec-Butylbenzene	ND	84	9.7	ND	15	1.8	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	84	11	ND	15	2.0	
95-50-1	1,2-Dichlorobenzene	ND	17	11	ND	2.8	1.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	84	13	ND	8.6	1.3	
120-82-1	1,2,4-Trichlorobenzene	ND	17	13	ND	2.3	1.7	
91-20-3	Naphthalene	ND	33	12	ND	6.4	2.4	
87-68-3	Hexachlorobutadiene	ND	17	15	ND	1.6	1.4	
98-06-6	tert-Butylbenzene	ND	33	8.4	ND	6.1	1.5	
104-51-8	n-Butylbenzene	ND	33	8.4	ND	6.1	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

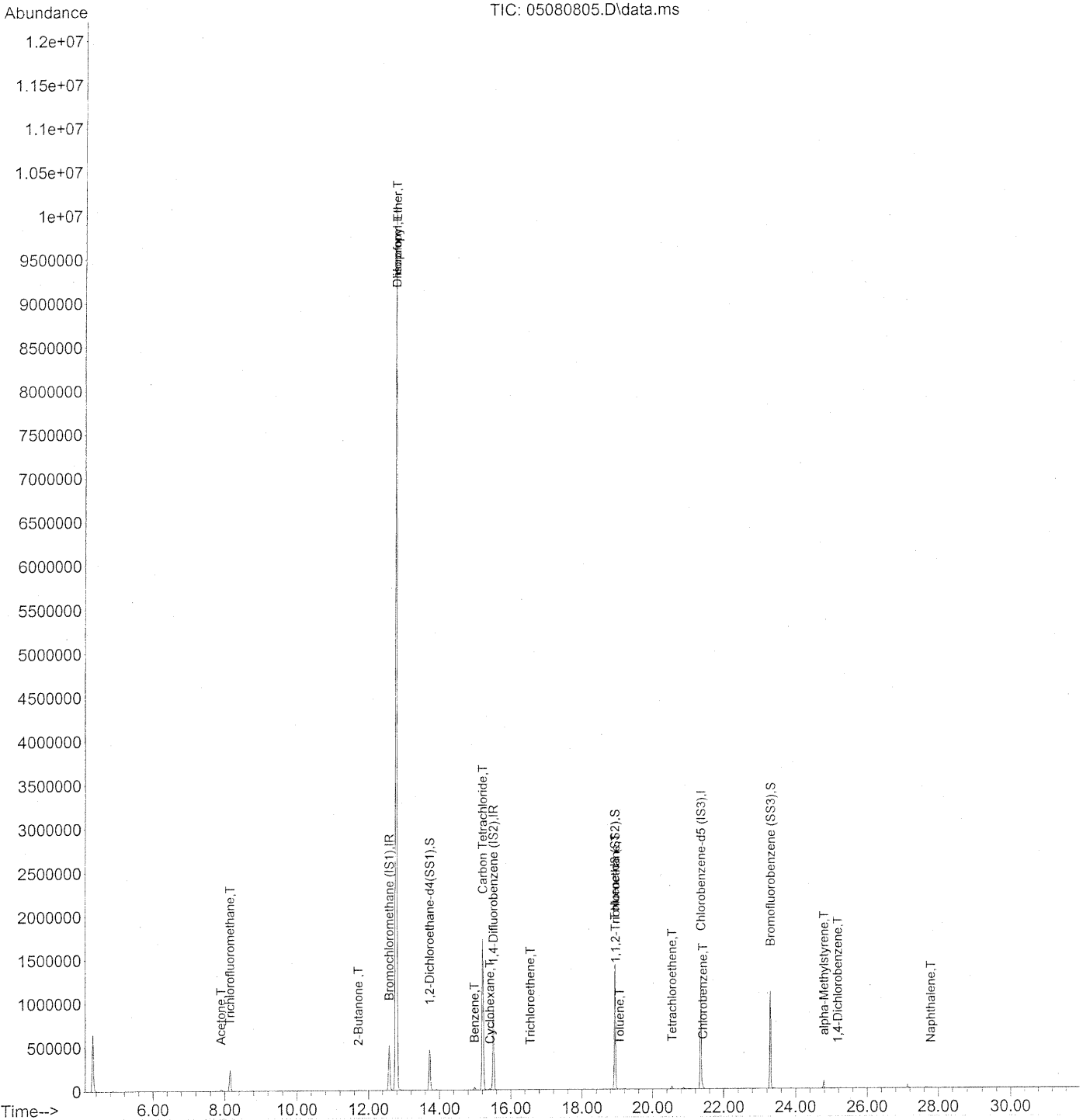
Verified By: RC

Date: 5/9/08

**62**

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080805.D  
 Acq On : 8 May 2008 1:04 pm  
 Operator : RTB  
 Sample : P0801342-002 (10mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 13:34:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
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 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	231941	25.000	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	15.51	114	1004035	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	467452	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.72	65	424227	22.807	ng	-0.03
Spiked Amount	25.000		Recovery	=	91.24%	✓
57) Toluene-d8 (SS2)	18.93	98	1110032	26.493	ng	0.00
Spiked Amount	25.000		Recovery	=	105.96%	✓
73) Bromofluorobenzene (SS3)	23.29	174	366213	25.399	ng	0.00
Spiked Amount	25.000		Recovery	=	101.60%	✓

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.83	42	332	N.D.		
3) Dichlorodifluoromethane	4.98	85	353	N.D. ✓		
4) Chloromethane	0.00	50	0	N.D. ✓		
5) Freon 114	0.00	135	0	N.D. ✓		
6) Vinyl Chloride	0.00	62	0	N.D. ✓		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D. ✓		
9) Chloroethane	0.00	64	0	N.D. ✓		
10) Ethanol	7.15	45	234	N.D. ✓		
11) Acetonitrile	7.46	41	413	N.D.		
12) Acrolein	7.69	56	70	N.D.		
13) Acetone	7.89	58	9997	0.779 ng	#	65
14) Trichlorofluoromethane	8.14	101	252177	9.171 ng		100
15) Isopropanol	8.37	45	462	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. ✓		
17) 1,1-Dichloroethene	0.00	96	0	N.D. ✓		
18) tert-Butanol	9.32	59	53	N.D. ✓		
19) Methylene Chloride	9.36	84	414	N.D. ✓		
20) Allyl Chloride	0.00	41	0	N.D. ✓		
21) Trichlorotrifluoroethane	0.00	151	0	N.D. ✓		
22) Carbon Disulfide	9.77	76	1415	N.D. ✓		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D. ✓		
24) 1,1-Dichloroethane	11.11	63	492	N.D. ✓		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. ✓		
26) Vinyl Acetate	0.00	86	0	N.D. ✓		
27) 2-Butanone	11.71	72	1292	0.143 ng	#	60
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. ✓		
29) Diisopropyl Ether	12.78	87	959634	<del>81.174 ng</del>	<del>MP</del>	1
30) Ethyl Acetate	12.78	61	60	N.D.		
31) n-Hexane	12.70	57	632	N.D.		

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 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.78	83	9063536	<del>418.534</del> ng	<i>Sa ditin</i>	100
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D. ✓		
36) 1,2-Dichloroethane	13.73	62	306	N.D. ✓		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D. ✓		
39) Isopropyl Acetate	14.97	61	74	N.D.		
40) 1-Butanol	14.97	56	84	N.D.		
41) Benzene	14.98	78	32830	0.616 ng		100
42) Carbon Tetrachloride	15.21	117	1267210	71.934 ng		99
43) Cyclohexane	15.42	84	6181	0.314 ng	#	84
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. ✓		
45) 1,2-Dichloropropane	0.00	63	0	N.D. ✓		
46) Bromodichloromethane	16.48	83	623	N.D. ✓		
47) Trichloroethene	16.55	130	1273	0.097 ng	#	77
48) 1,4-Dioxane	0.00	88	0	N.D. ✓		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D. ✓		
51) n-Heptane	16.98	71	214	N.D. ✓		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. ✓		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. ✓		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. ✓		
55) 1,1,2-Trichloroethane	18.94	97	100833	<del>7.861</del> ng	#	8
58) Toluene	19.06	91	2698	0.051 ng		82
59) 2-Hexanone	19.54	43	54	N.D. ✓		
60) Dibromochloromethane	0.00	129	0	N.D. ✓		
61) 1,2-Dibromoethane	0.00	107	0	N.D. ✓		
62) Butyl Acetate	20.35	43	743	N.D.		
63) n-Octane	20.35	57	159	N.D. ✓		
64) Tetrachloroethene	20.55	166	10046	0.762 ng		100
65) Chlorobenzene	21.41	112	32038	0.983 ng		100
66) Ethylbenzene	21.89	91	817	N.D. ✓		
67) m- & p-Xylene	22.17	91	82	N.D. ✓		
68) Bromoform	0.00	173	0	N.D. ✓		
69) Styrene	22.58	104	109	N.D. ✓		
70) o-Xylene	22.72	91	536	N.D. ✓		
71) n-Nonane	22.98	43	685	N.D.		
72) 1,1,2,2-Tetrachloroethane	22.84	83	78	N.D. ✓		
74) Cumene	23.48	105	885	N.D. ✓		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	24.12	91	159	N.D. ✓		
77) 3-Ethyltoluene	24.23	105	1668	N.D.		
78) 4-Ethyltoluene	24.30	105	475	N.D. ✓		
79) 1,3,5-Trimethylbenzene	24.38	105	589	N.D. ✓		

*Poston/08*

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 Operator : RTB  
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 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 13:34:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

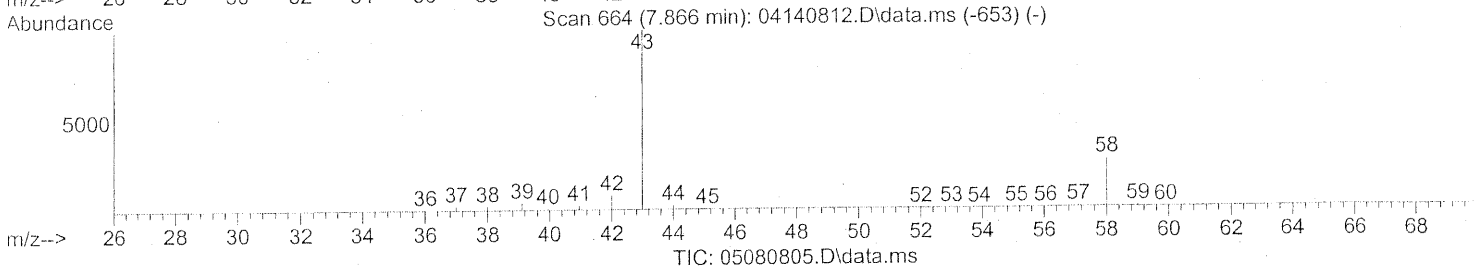
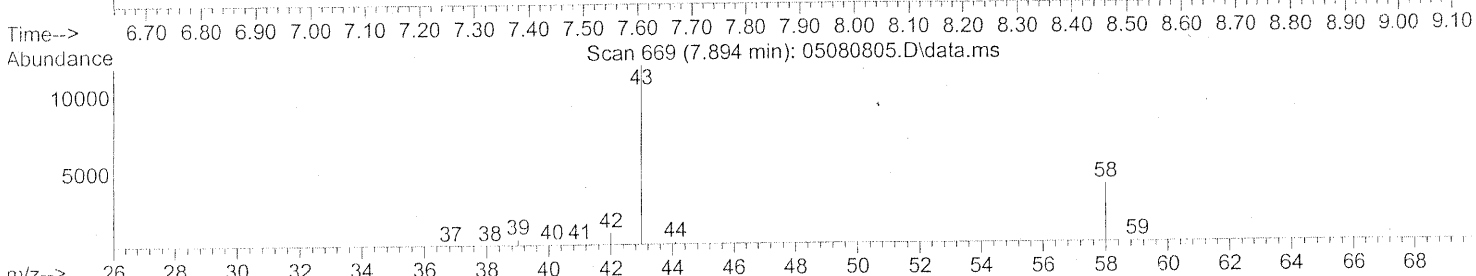
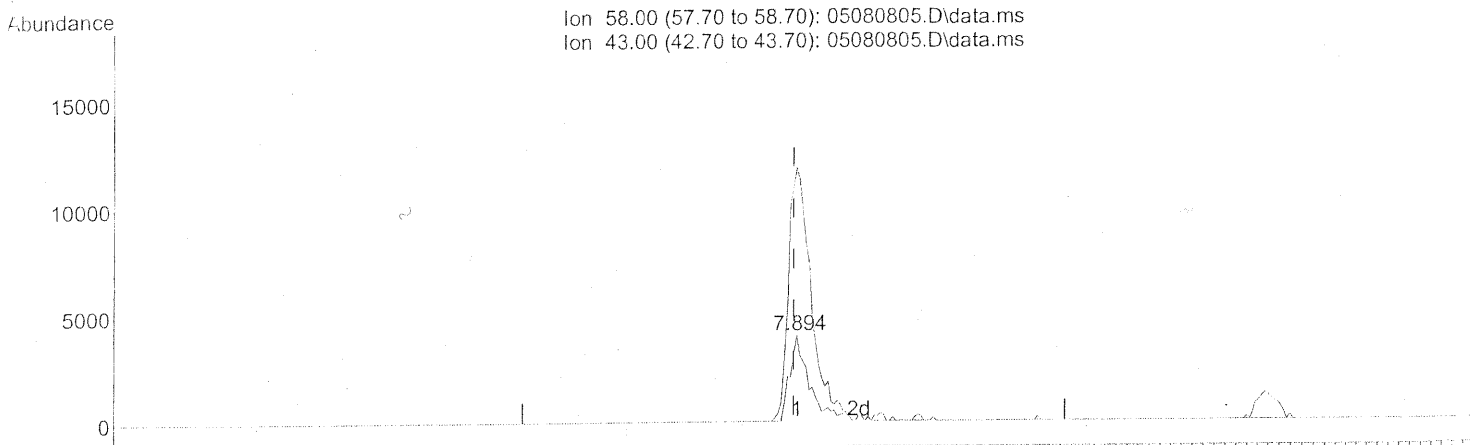
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
80) alpha-Methylstyrene	24.79	118	1393	<del>0.055 ng</del> #	27
81) 2-Ethyltoluene	24.60	105	237	N.D.	
82) 1,2,4-Trimethylbenzene	24.89	105	1088	N.D. ✓	
83) n-Decane	24.98	57	244	N.D.	
84) Benzyl Chloride	25.05	91	221	N.D. ✓	
85) 1,3-Dichlorobenzene	25.08	146	138	N.D. ✓	
86) 1,4-Dichlorobenzene	25.17	146	1203	<del>0.043 ng</del>	82
87) sec-Butylbenzene	25.20	105	62	N.D. ✓	
88) p-Isopropyltoluene	25.41	119	600	N.D. ✓	
89) 1,2,3-Trimethylbenzene	25.42	105	801	N.D.	
90) 1,2-Dichlorobenzene	25.59	146	128	N.D. ✓	
91) d-Limonene	25.58	68	167	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D. ✓	
93) n-Undecane	26.51	57	915	N.D.	
94) 1,2,4-Trichlorobenzene	27.64	180	229	N.D. ✓	
95) Naphthalene	27.78	128	2521	<del>0.042 ng</del>	79
96) n-Dodecane	27.74	57	859	N.D.	
97) Hexachloro-1,3-butadiene	0.00	225	0	N.D. ✓	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Post 09/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080805.D  
 Acq On : 8 May 2008 1:04 pm  
 Operator : RTB  
 Sample : P0801342-002 (10mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 13:34:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

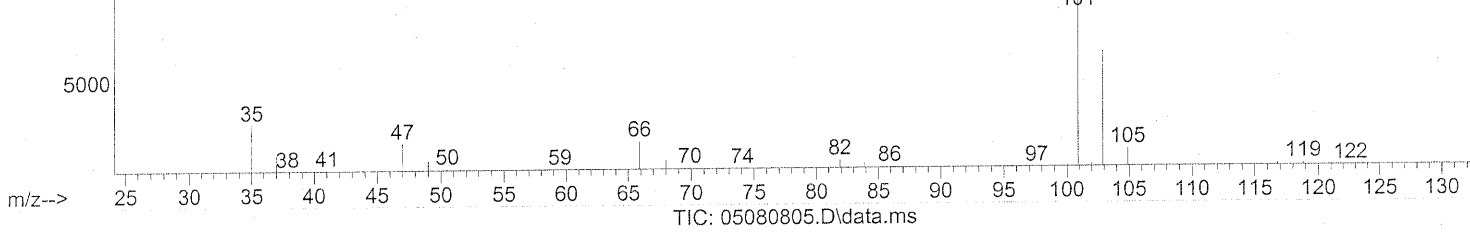
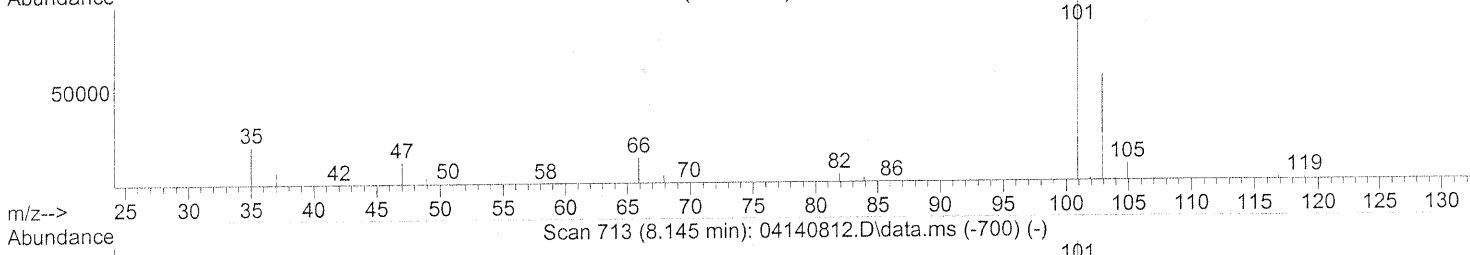
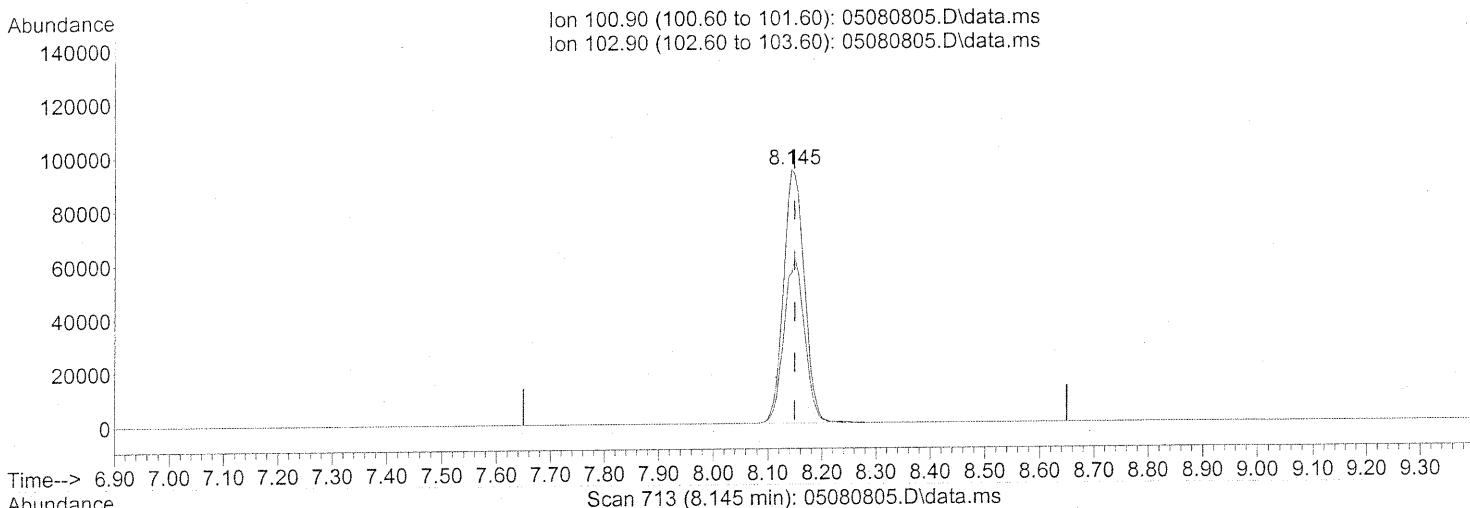


(13) Acetone (T)  
 7.894min (+0.006) 0.78ng  
 response 9997

Ion	Exp%	Act%
58.00	100	100
43.00	283.10	348.37#
0.00	0.00	0.00
0.00	0.00	0.00

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 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(14) Trichlorofluoromethane (T)

8.145min (-0.005) 9.17ng

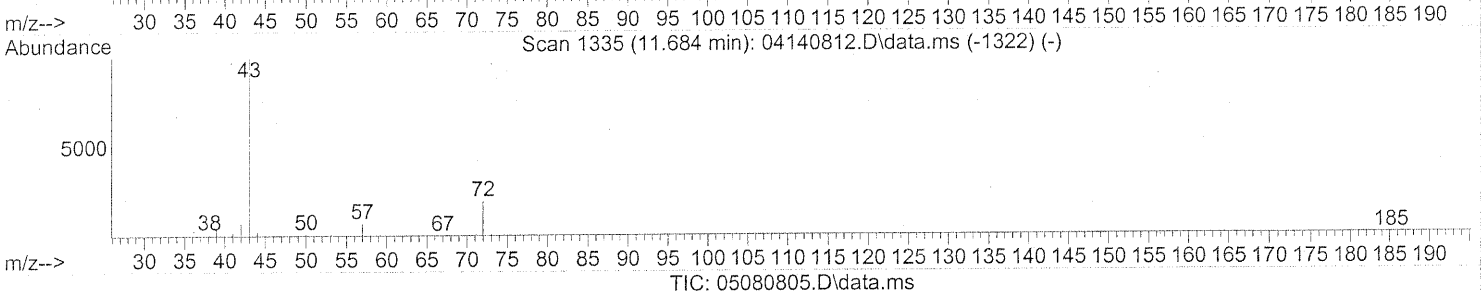
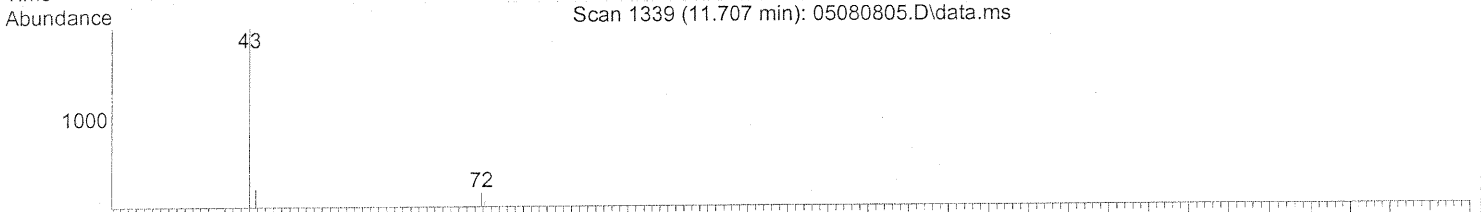
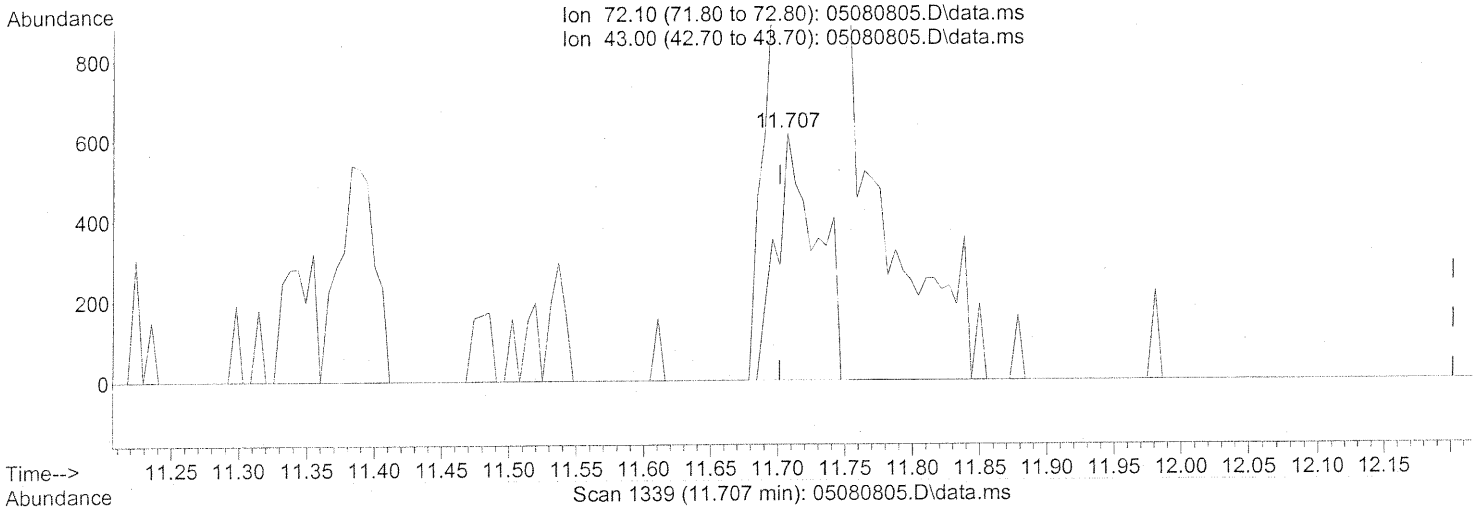
response 252177

Ion	Exp%	Act%
100.90	100	100
102.90	64.80	64.44
0.00	0.00	0.00
0.00	0.00	0.00



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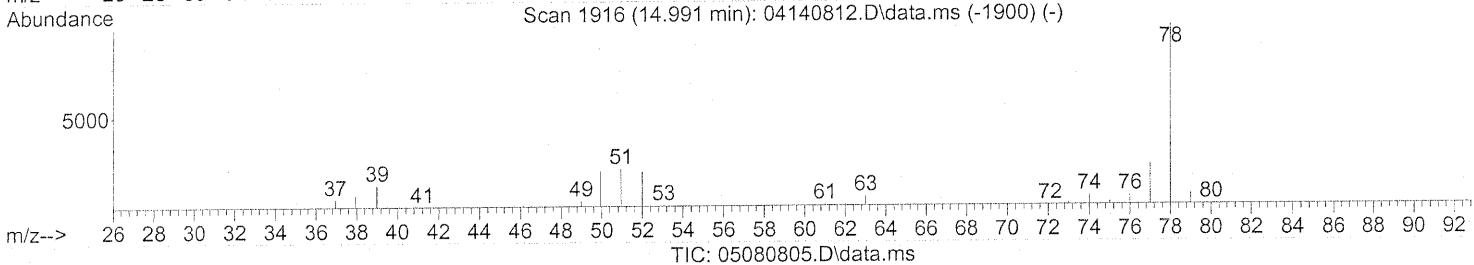
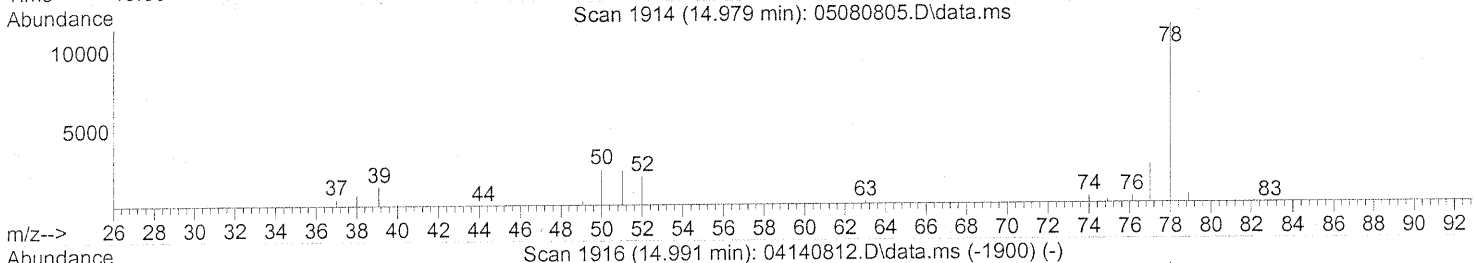
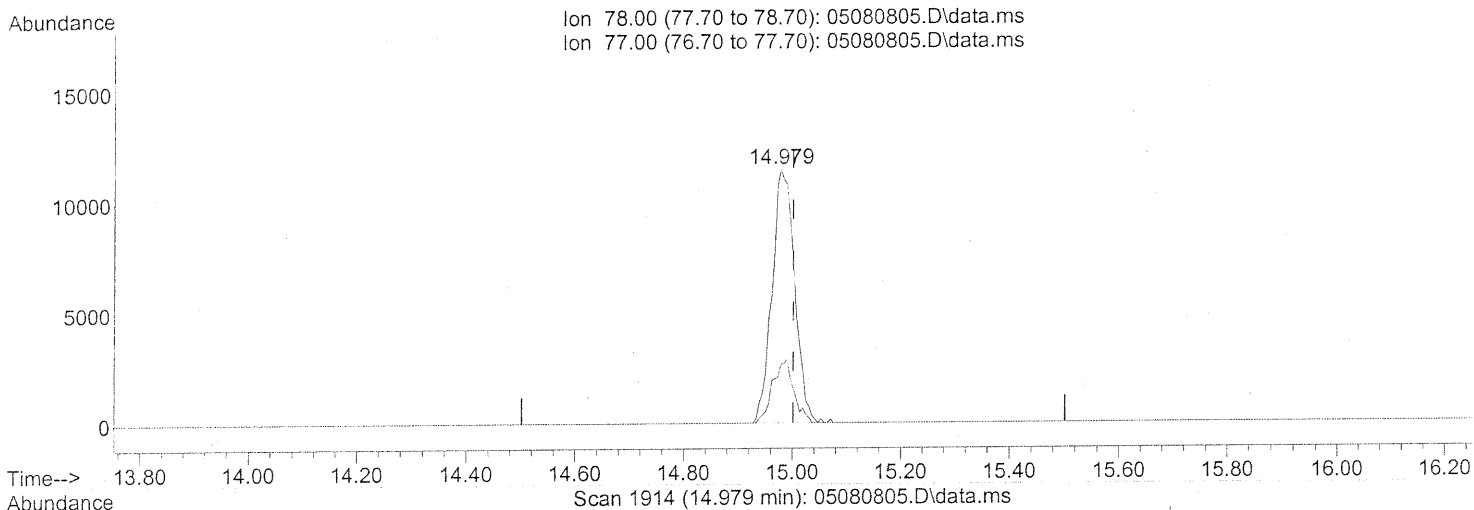


(27) 2-Butanone (T)  
 11.707min (+0.006) 0.14ng  
 response 1292

Ion	Exp%	Act%
72.10	100	100
43.00	506.80	618.42#
0.00	0.00	0.00
0.00	0.00	0.00

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Quant Time: May 08 13:34:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(41) Benzene (T)

14.979min (-0.023) 0.62ng

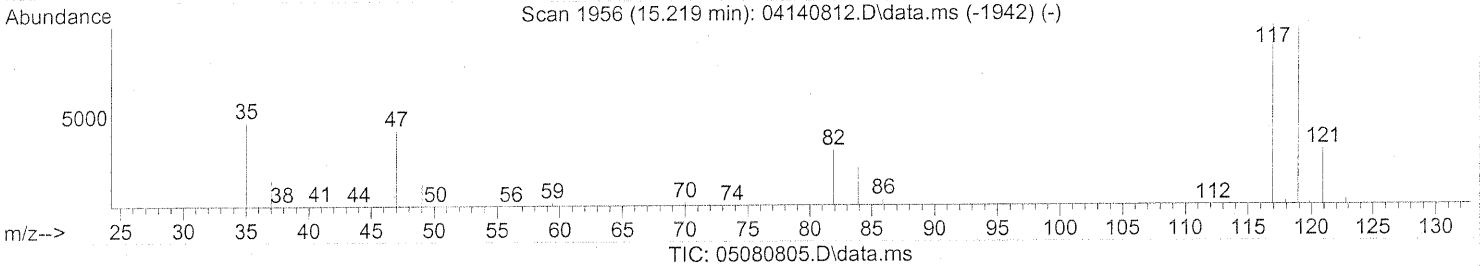
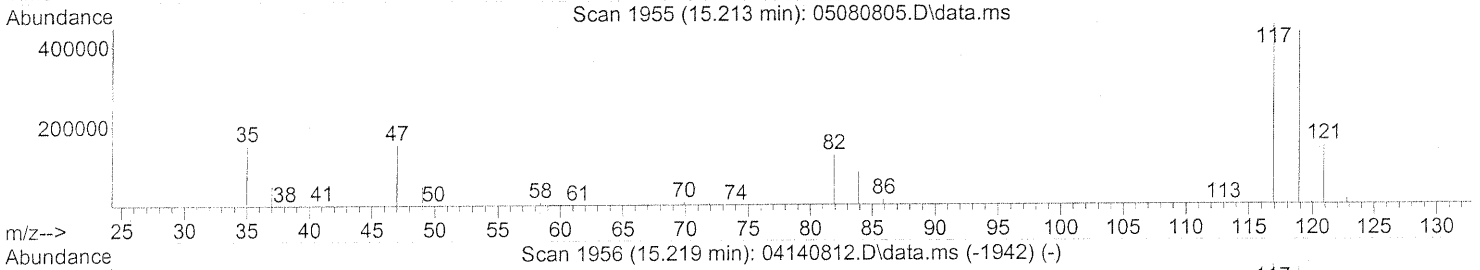
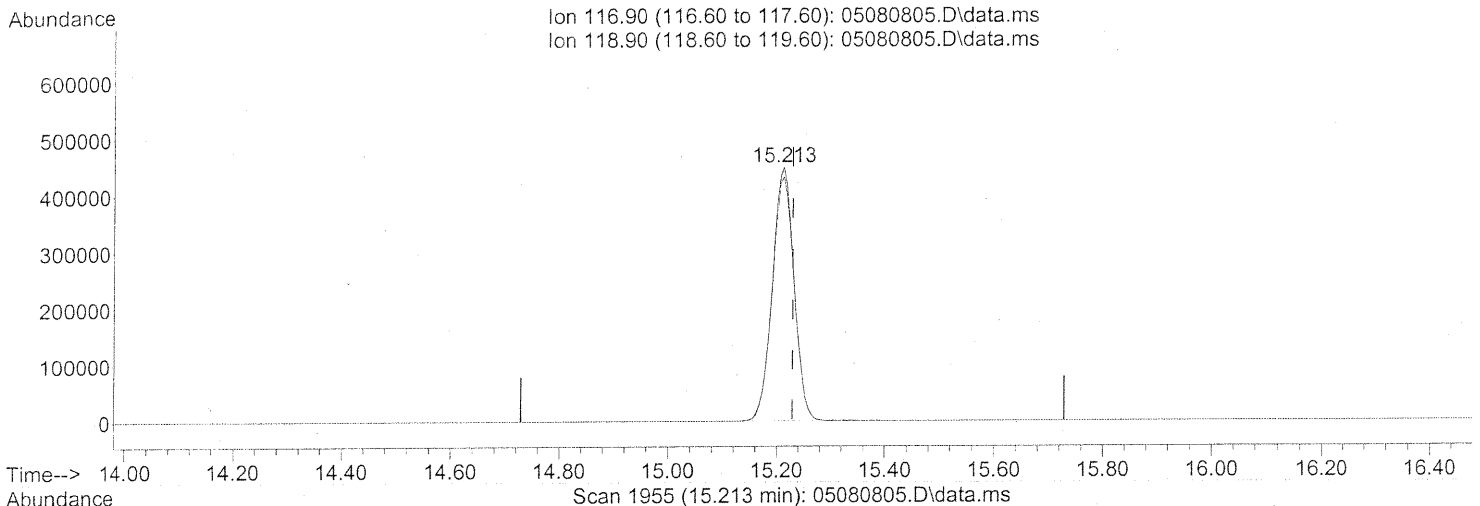
response 32830

Ion	Exp%	Act%
78.00	100	100
77.00	23.50	23.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

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 Response via : Initial Calibration



(42) Carbon Tetrachloride (T)

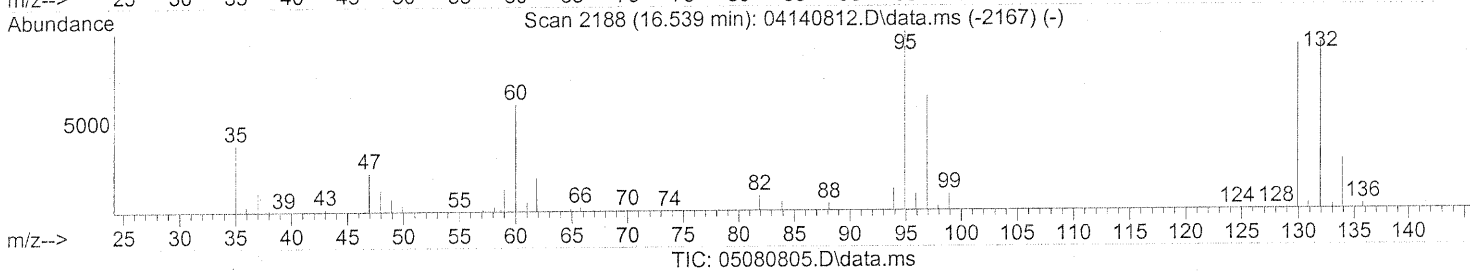
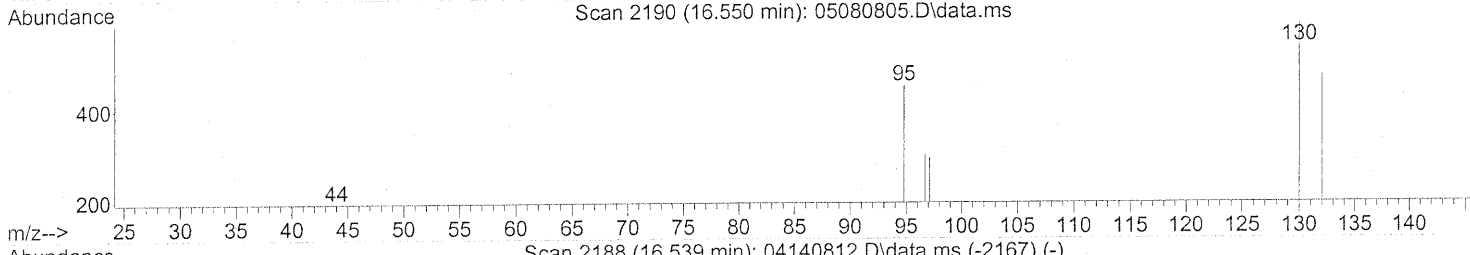
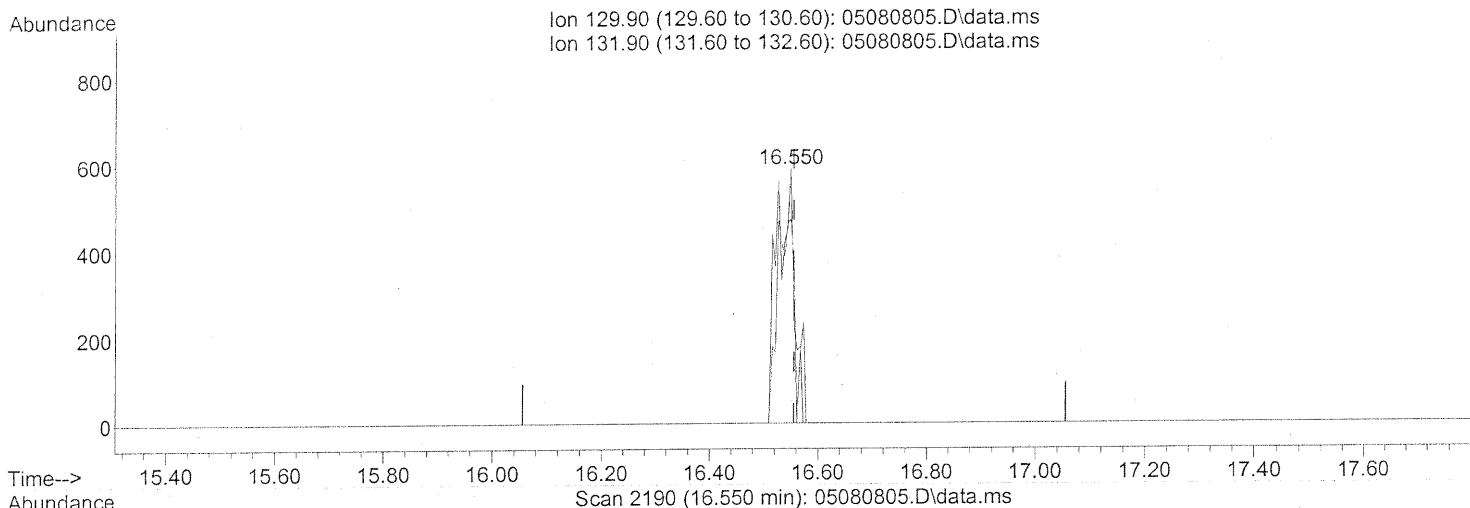
15.213min (-0.017) 71.93ng

response 1267210

Ion	Exp%	Act%
116.90	100	100
118.90	96.60	95.65
0.00	0.00	0.00
0.00	0.00	0.00

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Quant Time: May 08 13:34:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

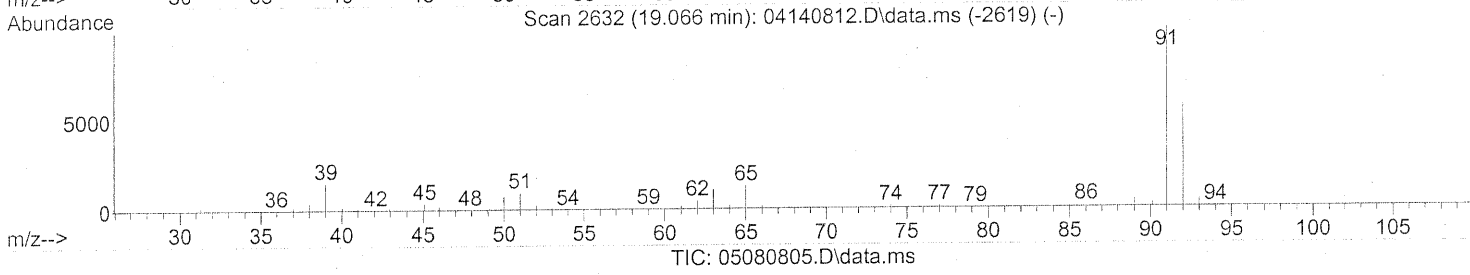
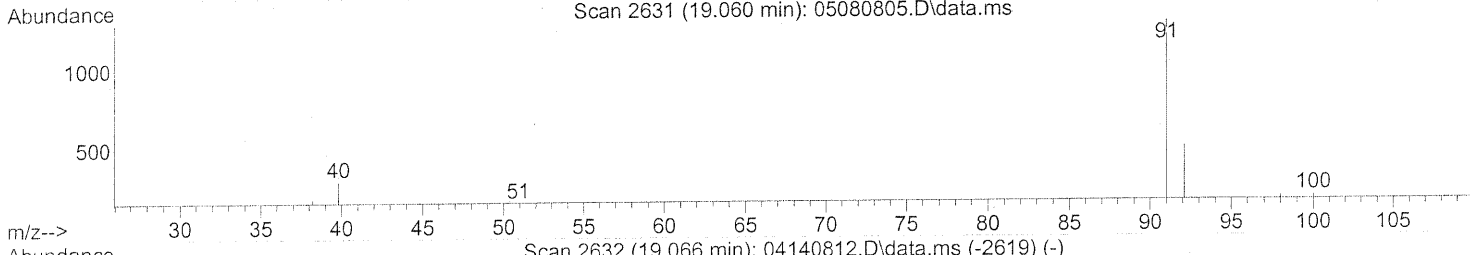
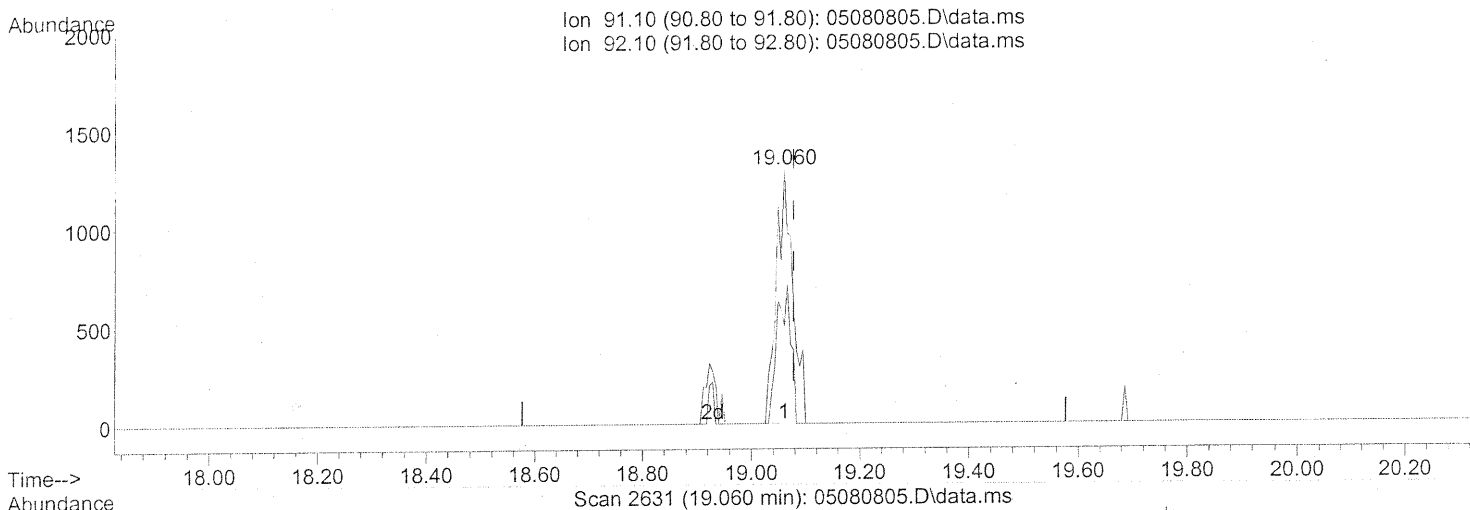


(47) Trichloroethene (T)  
 16.550min (-0.006) 0.10ng  
 response 1273

Ion	Exp%	Act%
129.90	100	100
131.90	101.20	77.85#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080805.D  
Acq On : 8 May 2008 1:04 pm  
Operator : RTB  
Sample : P0801342-002 (10mL)  
Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 13:34:04 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration

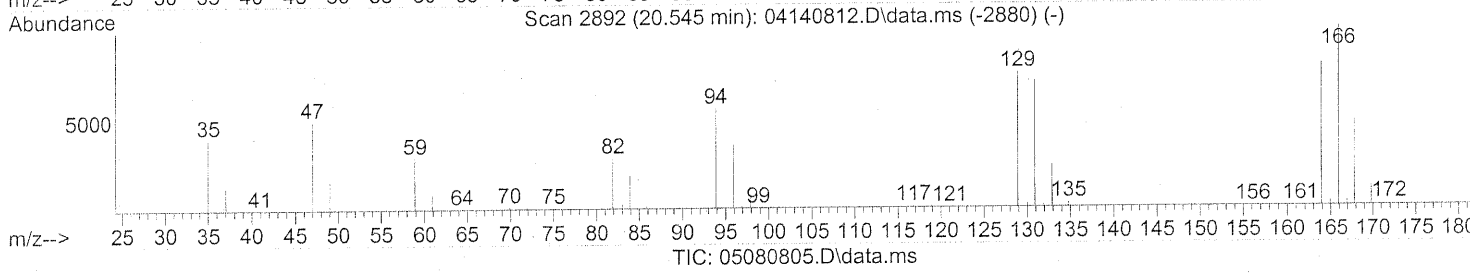
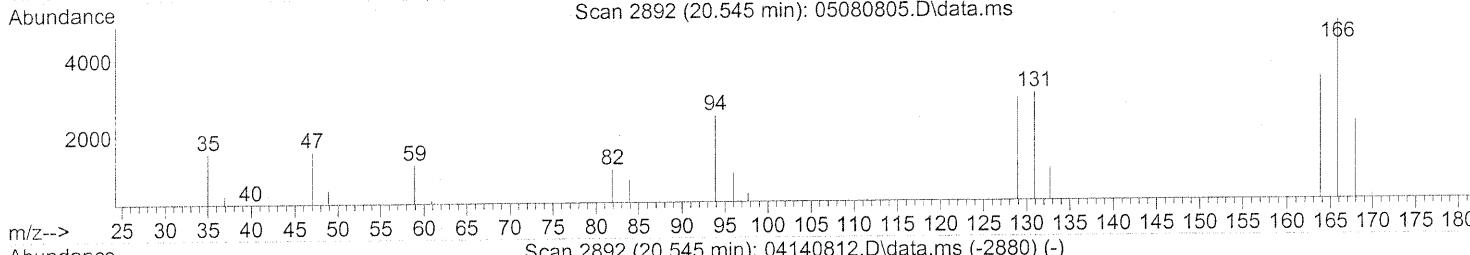
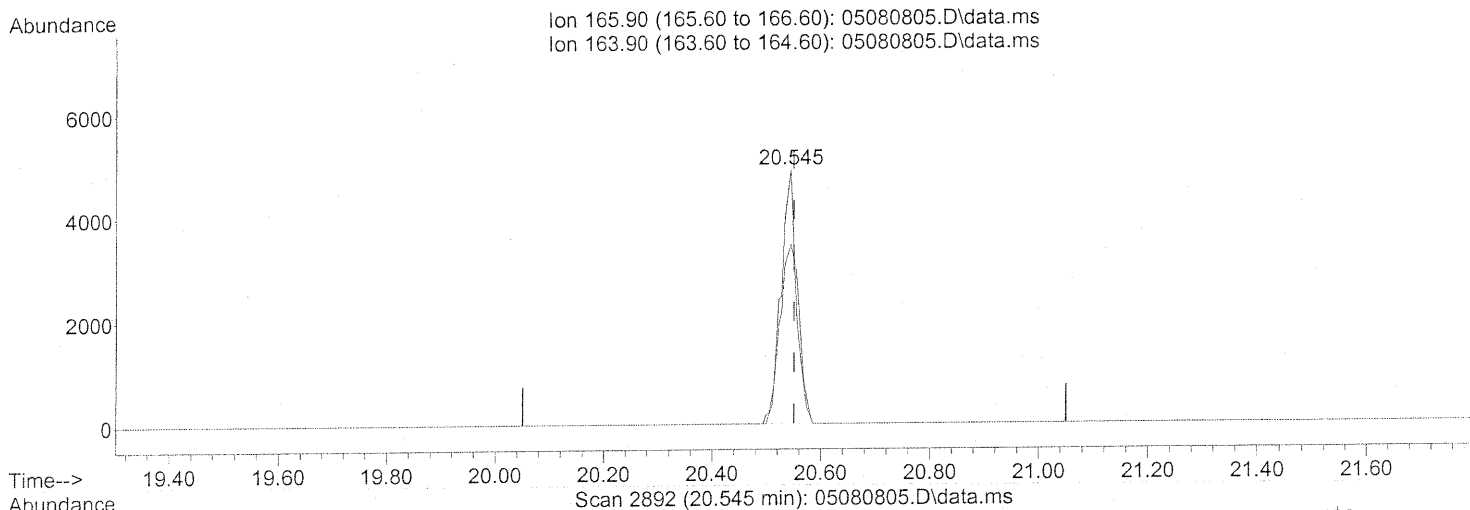


(58) Toluene (T)  
19.060min (-0.017) 0.05ng  
response 2698

Ion	Exp%	Act%
91.10	100	100
92.10	59.80	46.18
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080805.D  
Acq On : 8 May 2008 1:04 pm  
Operator : RTB  
Sample : P0801342-002 (10mL)  
Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 13:34:04 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(64) Tetrachloroethene (T)

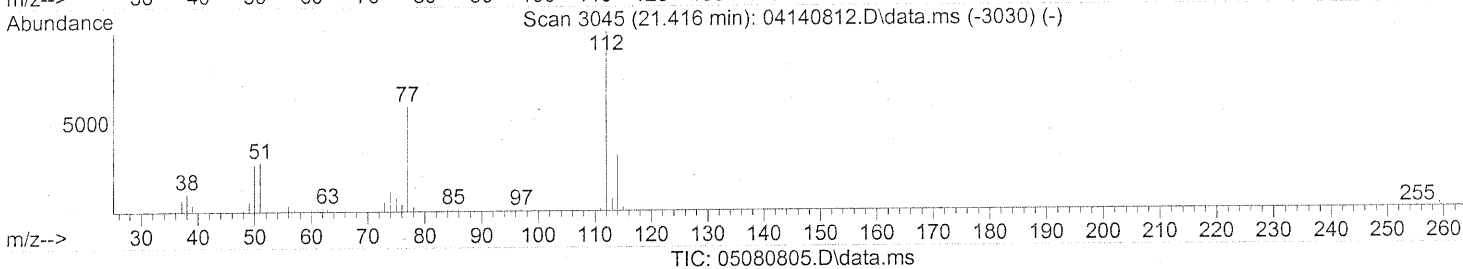
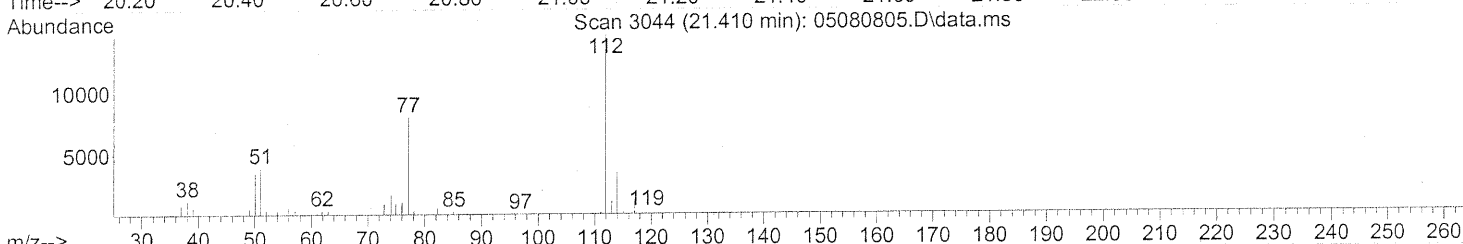
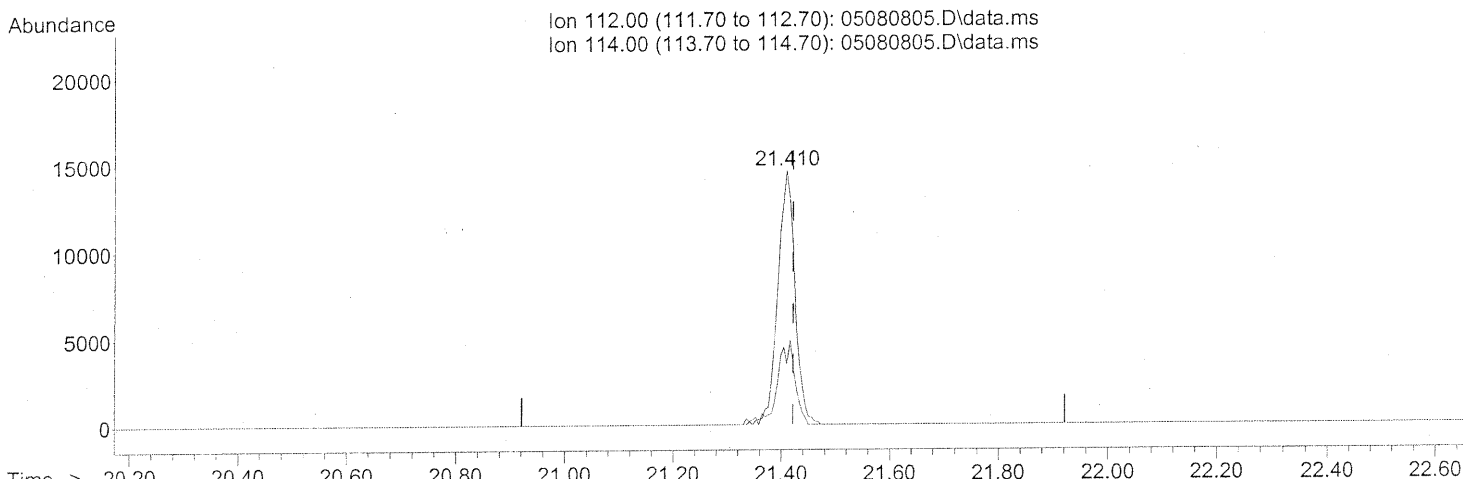
20.545min (-0.006) 0.76ng

response 10046

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	78.69
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080805.D  
 Acq On : 8 May 2008 1:04 pm  
 Operator : RTB  
 Sample : P0801342-002 (10mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 13:34:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

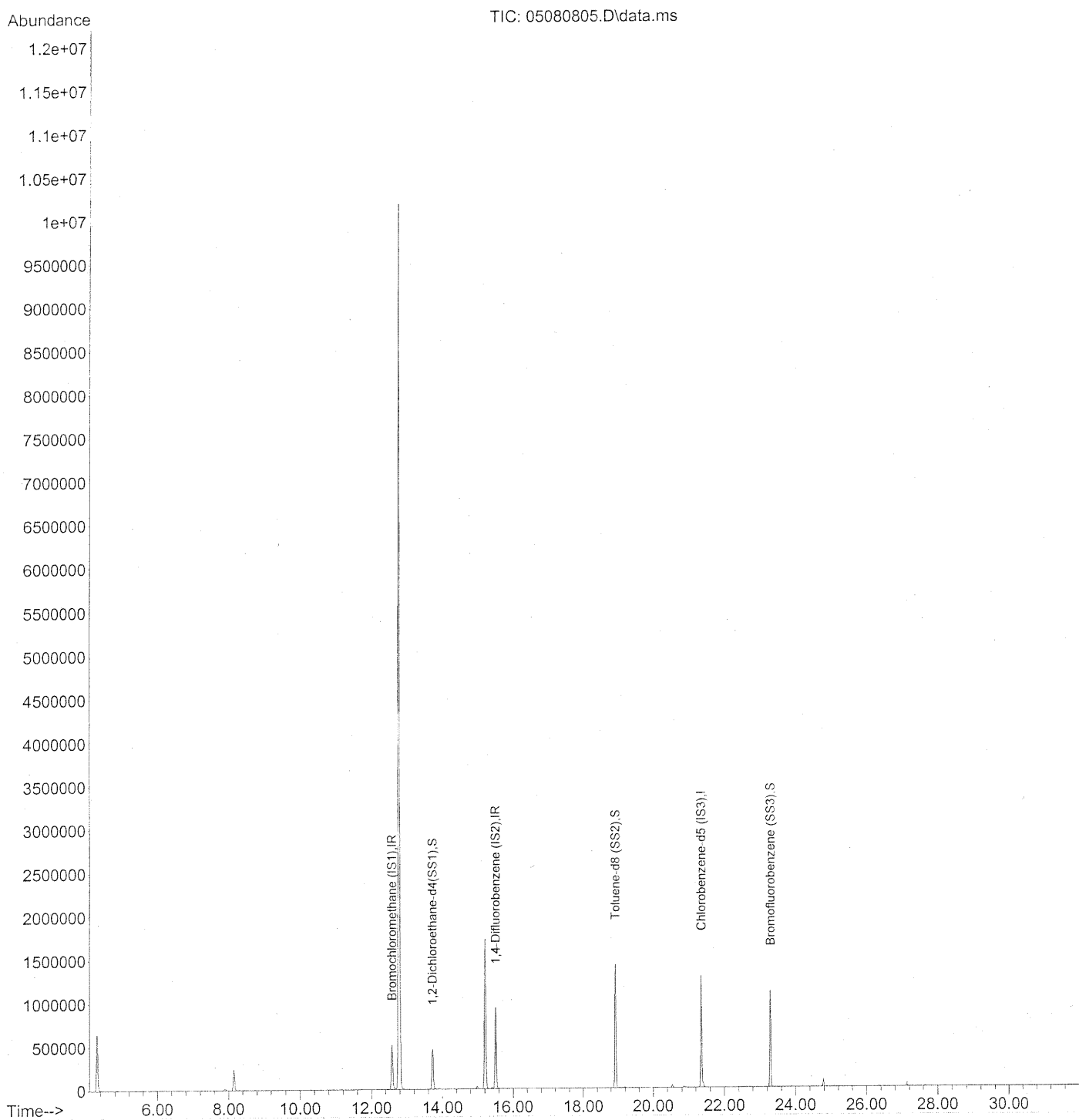


(65) Chlorobenzene (T)  
 21.410min (-0.011) 0.98ng  
 response 32038

Ion	Exp%	Act%
112.00	100	100
114.00	32.40	32.58
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080805.D  
 Acq On : 8 May 2008 1:04 pm  
 Operator : RTB  
 Sample : P0801342-002 (10mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:48:18 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration





Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080805.D  
 Acq On : 8 May 2008 1:04 pm  
 Operator : RTB  
 Sample : P0801342-002 (10mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:48:18 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration

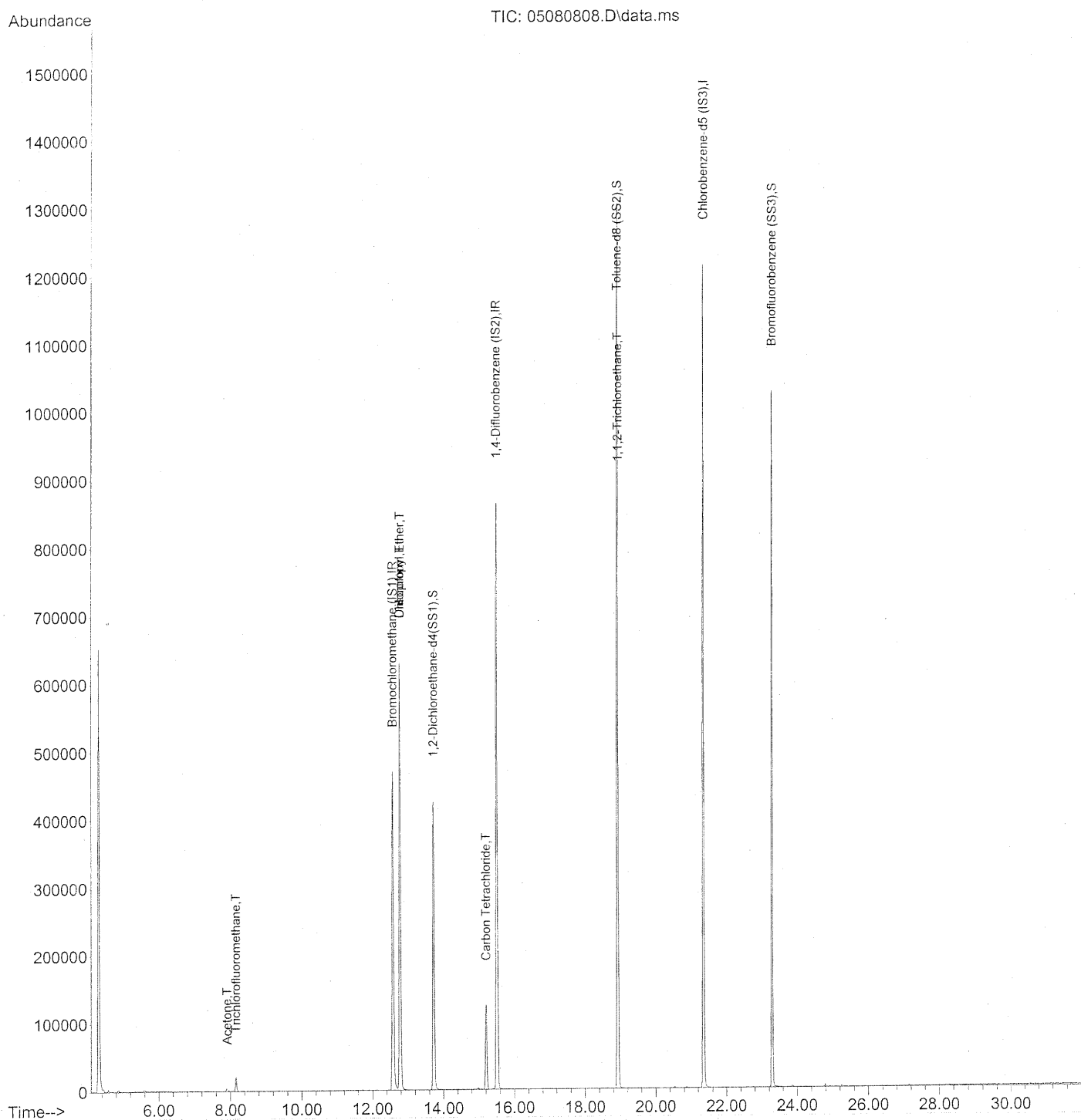
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	231941	25.000	ng	-0.02
3) 1,4-Difluorobenzene (IS2)	15.51	114	1004035	25.000	ng	-0.02
4) Chlorobenzene-d5 (IS3)	21.35	82	467452	25.000	ng	0.00
System Monitoring Compounds						
2) 1,2-Dichloroethane-d4(...)	13.72	65	424227	22.807	ng	-0.03
Spiked Amount	25.000		Recovery	=	91.24%	✓
5) Toluene-d8 (SS2)	18.93	98	1110032	26.493	ng	0.00
Spiked Amount	25.000		Recovery	=	105.96%	✓
6) Bromofluorobenzene (SS3)	23.29	174	366213	25.399	ng	0.00
Spiked Amount	25.000		Recovery	=	101.60%	✓
Target Compounds						
7) tert-Butylbenzene	24.88	119	52		N.D.	✓
8) n-Butylbenzene	25.91	91	52		N.D.	✓

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Handwritten signature*  
 5/08/08

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080808.D  
Acq On : 8 May 2008 3:10 pm  
Operator : RTB  
Sample : P0801342-002 DIL (1mL)  
Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:51:02 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080808.D  
 Acq On : 8 May 2008 3:10 pm  
 Operator : RTB  
 Sample : P0801342-002 DIL (1mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5) ✓  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:51:02 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	213718	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	929659	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	442512	25.000	ng	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...)	13.72	65	397733	23.206	ng	-0.03
Spiked Amount	25.000		Recovery	=	92.84%	✓
57) Toluene-d8 (SS2)	18.92	98	1025473	25.854	ng	-0.01
Spiked Amount	25.000		Recovery	=	103.40%	✓
73) Bromofluorobenzene (SS3)	23.29	174	334113	24.478	ng	0.00
Spiked Amount	25.000		Recovery	=	97.92%	✓

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.84	42	200		N.D.	
3) Dichlorodifluoromethane	0.00	85	0		N.D.	
4) Chloromethane	0.00	50	0		N.D.	
5) Freon 114	0.00	135	0		N.D.	
6) Vinyl Chloride	0.00	62	0		N.D.	
7) 1,3-Butadiene	0.00	54	0		N.D.	
8) Bromomethane	0.00	94	0		N.D.	
9) Chloroethane	0.00	64	0		N.D.	
10) Ethanol	0.00	45	0		N.D.	
11) Acetonitrile	7.47	41	82		N.D.	
12) Acrolein	0.00	56	0		N.D.	
13) Acetone	7.91	58	2566	0.217	ng	97
14) Trichlorofluoromethane	8.16	101	20884	0.824	ng	98
15) Isopropanol	0.00	45	0		N.D.	
16) Acrylonitrile	0.00	53	0		N.D.	
17) 1,1-Dichloroethene	0.00	96	0		N.D.	
18) tert-Butanol	0.00	59	0		N.D.	
19) Methylene Chloride	9.37	84	220		N.D.	
20) Allyl Chloride	0.00	41	0		N.D.	
21) Trichlorotrifluoroethane	0.00	151	0		N.D.	
22) Carbon Disulfide	9.76	76	52		N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0		N.D.	
24) 1,1-Dichloroethane	0.00	63	0		N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0		N.D.	
26) Vinyl Acetate	0.00	86	0		N.D.	
27) 2-Butanone	0.00	72	0		N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0		N.D.	
29) Diisopropyl Ether	12.78	87	60257	5.532	ng	# 1
30) Ethyl Acetate	0.00	61	0		N.D.	
31) n-Hexane	12.69	57	53		N.D.	

*Post 18/05*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080808.D  
 Acq On : 8 May 2008 3:10 pm  
 Operator : RTB  
 Sample : P0801342-002 DIL (1mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:51:02 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.78	83	587649	29.450 ng		100
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	13.72	62	324	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	15.00	78	3172	N.D.		
42) Carbon Tetrachloride	15.21	117	91943	5.637 ng		99
43) Cyclohexane	15.41	84	146	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	18.94	97	93721	7.891 ng	#	8
58) Toluene	19.07	91	226	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) Butyl Acetate	20.34	43	129	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	20.53	166	722	N.D.		
65) Chlorobenzene	21.42	112	2785	N.D.		
66) Ethylbenzene	21.92	91	117	N.D.		
67) m- & p-Xylene	22.12	91	63	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	22.73	91	125	N.D.		
71) n-Nonane	23.28	43	60	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	23.31	105	788	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	24.23	105	201	N.D.		
78) 4-Ethyltoluene	24.23	105	201	N.D.		
79) 1,3,5-Trimethylbenzene	24.23	105	201	N.D.		

*Post/08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080808.D  
 Acq On : 8 May 2008 3:10 pm  
 Operator : RTB  
 Sample : P0801342-002 DIL (1mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:51:02 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

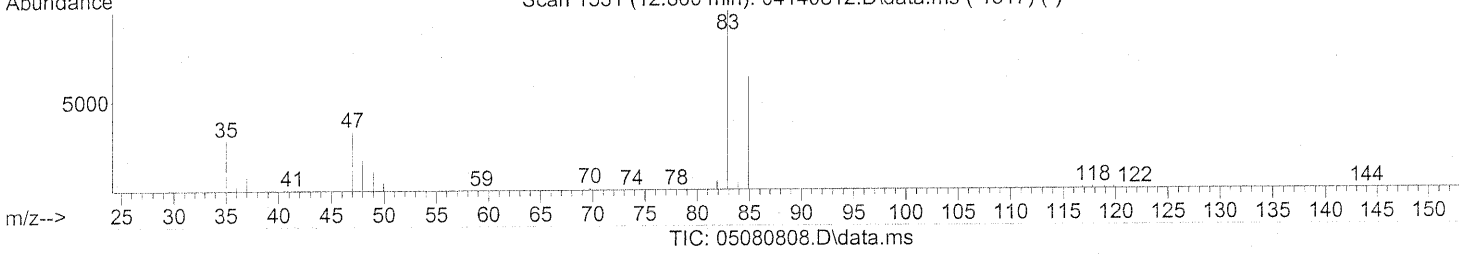
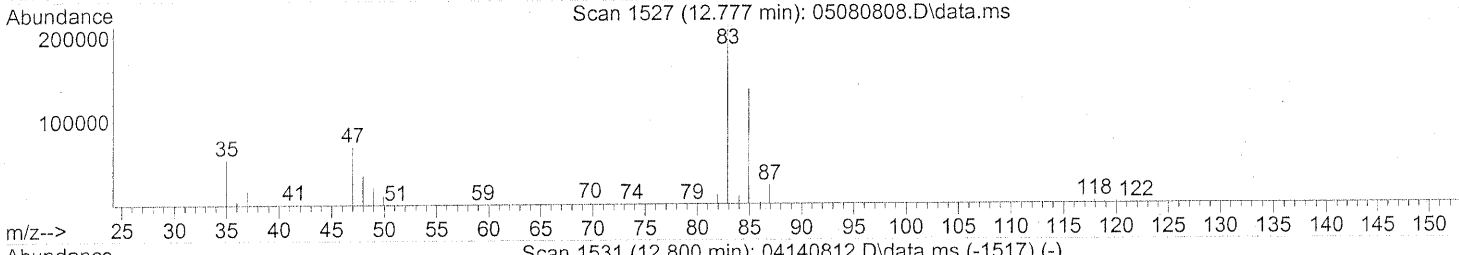
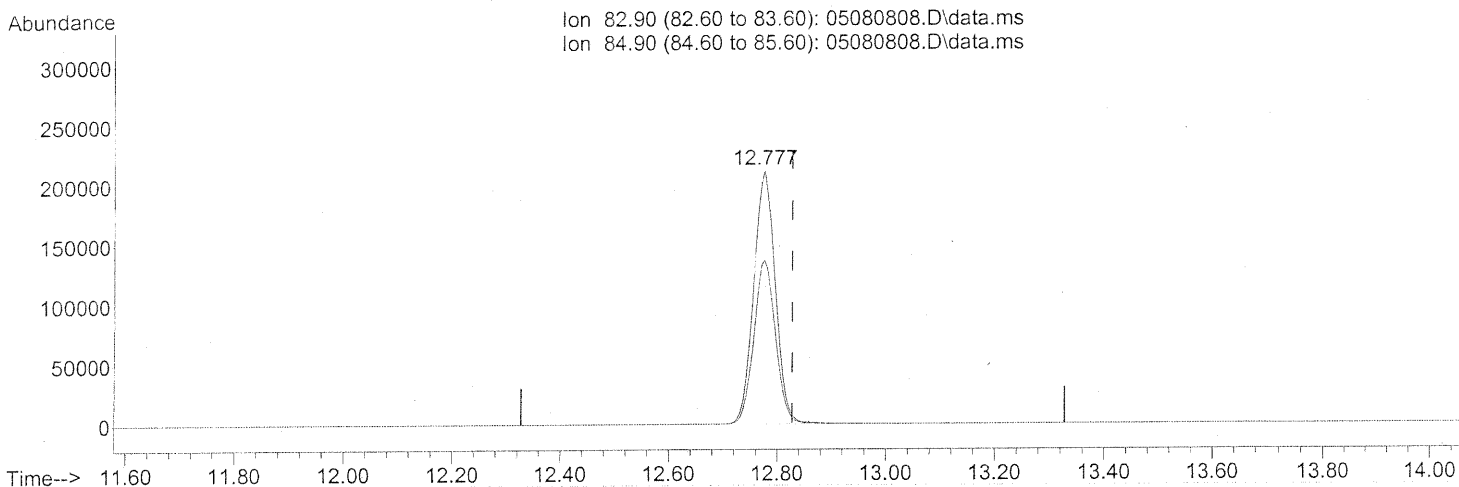
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	24.23	105	201	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	25.26	57	1702	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	25.16	146	55	N.D.		
86) 1,4-Dichlorobenzene	25.16	146	55	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) p-Isopropyltoluene	25.41	119	171	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	25.16	146	55	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	26.37	57	160	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	27.82	128	489	N.D.		
96) n-Dodecane	27.75	57	75	N.D.		
97) Hexachloro-1,3-butadiene	0.00	225	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*P05/08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080808.D  
 Acq On : 8 May 2008 3:10 pm  
 Operator : RTB  
 Sample : P0801342-002 DIL (1mL)  
 Misc : ENSR SG83B-05-3 (-3.8, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:51:02 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(32) Chloroform (T)  
 12.777min (-0.051) 29.45ng  
 response 587649

Ion	Exp%	Act%
82.90	100	100
84.90	64.70	64.51
0.00	0.00	0.00
0.00	0.00	0.00

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 4

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	87	8.7	ND	18	1.8	
74-87-3	Chloromethane	ND	17	8.7	ND	8.4	4.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	87	8.7	ND	12	1.2	
75-01-4	Vinyl Chloride	ND	17	8.7	ND	6.8	3.4	
74-83-9	Bromomethane	ND	17	8.7	ND	4.5	2.2	
75-00-3	Chloroethane	ND	17	8.7	ND	6.6	3.3	
64-17-5	Ethanol	ND	870	8.7	ND	460	4.6	
67-64-1	<b>Acetone</b>	<b>110</b>	870	13	<b>48</b>	360	5.3	<b>J, B</b>
75-69-4	<b>Trichlorofluoromethane</b>	<b>1,500</b>	17	8.7	<b>270</b>	3.1	1.5	
107-13-1	Acrylonitrile	ND	87	12	ND	40	5.6	
75-35-4	1,1-Dichloroethene	ND	17	8.7	ND	4.4	2.2	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	87	13	ND	29	4.2	
75-09-2	<b>Methylene Chloride</b>	<b>9.3</b>	87	8.7	<b>2.7</b>	25	2.5	<b>J</b>
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	17	8.7	ND	5.5	2.8	
76-13-1	Trichlorotrifluoroethane	ND	17	9.7	ND	2.3	1.3	
75-15-0	Carbon Disulfide	ND	87	21	ND	28	6.7	
156-60-5	trans-1,2-Dichloroethene	ND	17	8.7	ND	4.4	2.2	
75-34-3	1,1-Dichloroethane	ND	17	8.7	ND	4.3	2.1	
1634-04-4	Methyl tert-Butyl Ether	ND	17	8.7	ND	4.8	2.4	
108-05-4	Vinyl Acetate	ND	870	28	ND	250	7.9	
78-93-3	<b>2-Butanone (MEK)</b>	<b>23</b>	87	8.7	<b>7.8</b>	29	2.9	<b>J</b>
156-59-2	cis-1,2-Dichloroethene	ND	17	8.7	ND	4.4	2.2	
108-20-3	Diisopropyl Ether	ND	87	10	ND	21	2.4	
67-66-3	<b>Chloroform</b>	<b>54,000</b>	17	10	<b>11,000</b>	3.5	2.1	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

B = Analyte was found in the method blank.

Verified By:     Ru     Date: 5/9/08

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 4

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

CAS #	Compound	Result	MRL	MDL	Result	MRL	MDL	Data Qualifier
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ppbV	ppbV	ppbV	
637-92-3	Ethyl tert-Butyl Ether	ND	87	8.8	ND	21	2.1	
107-06-2	1,2-Dichloroethane	ND	17	8.7	ND	4.3	2.1	
71-55-6	1,1,1-Trichloroethane	ND	17	8.7	ND	3.2	1.6	
71-43-2	<b>Benzene</b>	<b>100</b>	17	8.7	<b>32</b>	5.4	2.7	
56-23-5	<b>Carbon Tetrachloride</b>	<b>12,000</b>	17	8.7	<b>1,900</b>	2.8	1.4	
994-05-8	tert-Amyl Methyl Ether	ND	87	8.7	ND	21	2.1	
78-87-5	1,2-Dichloropropane	ND	17	8.7	ND	3.7	1.9	
75-27-4	Bromodichloromethane	ND	17	8.7	ND	2.6	1.3	
79-01-6	<b>Trichloroethene</b>	<b>11</b>	17	8.7	<b>2.1</b>	3.2	1.6	<b>J</b>
123-91-1	1,4-Dioxane	ND	87	11	ND	24	2.9	
80-62-6	Methyl Methacrylate	ND	87	13	ND	21	3.2	
142-82-5	n-Heptane	ND	87	11	ND	21	2.7	
10061-01-5	cis-1,3-Dichloropropene	ND	87	9.0	ND	19	2.0	
108-10-1	4-Methyl-2-pentanone	ND	87	9.7	ND	21	2.4	
10061-02-6	trans-1,3-Dichloropropene	ND	87	11	ND	19	2.4	
79-00-5	1,1,2-Trichloroethane	ND	17	8.7	ND	3.2	1.6	
108-88-3	Toluene	ND	87	8.7	ND	23	2.3	
591-78-6	2-Hexanone	ND	87	13	ND	21	3.2	
124-48-1	Dibromochloromethane	ND	17	12	ND	2.0	1.4	
106-93-4	1,2-Dibromoethane	ND	17	9.3	ND	2.3	1.2	
111-65-9	n-Octane	ND	87	8.7	ND	19	1.9	
127-18-4	<b>Tetrachloroethene</b>	<b>130</b>	17	8.7	<b>19</b>	2.6	1.3	
108-90-7	<b>Chlorobenzene</b>	<b>180</b>	17	8.8	<b>39</b>	3.8	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Re      Date: 5/9/08



**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 3 of 4

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P0801342-003

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	87	11	ND	20	2.5	
179601-23-1	m,p-Xylenes	ND	87	22	ND	20	5.2	
75-25-2	Bromoform	ND	87	13	ND	8.4	1.3	
100-42-5	Styrene	ND	87	13	ND	20	3.1	
95-47-6	o-Xylene	ND	87	11	ND	20	2.5	
79-34-5	1,1,2,2-Tetrachloroethane	ND	17	11	ND	2.5	1.6	
98-82-8	Cumene	ND	87	9.7	ND	18	2.0	
103-65-1	n-Propylbenzene	ND	87	9.0	ND	18	1.8	
622-96-8	4-Ethyltoluene	ND	87	9.9	ND	18	2.0	
108-67-8	1,3,5-Trimethylbenzene	ND	87	10	ND	18	2.1	
98-83-9	alpha-Methylstyrene	ND	87	13	ND	18	2.6	
95-63-6	1,2,4-Trimethylbenzene	ND	87	12	ND	18	2.4	
100-44-7	Benzyl Chloride	ND	17	15	ND	3.3	2.9	
541-73-1	1,3-Dichlorobenzene	ND	17	11	ND	2.9	1.8	
106-46-7	1,4-Dichlorobenzene	ND	17	9.7	ND	2.9	1.6	
135-98-8	sec-Butylbenzene	ND	87	10	ND	16	1.8	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	87	11	ND	16	2.0	
95-50-1	1,2-Dichlorobenzene	ND	17	11	ND	2.9	1.9	
96-12-8	1,2-Dibromo-3-chloropropane	ND	87	13	ND	9.0	1.4	
120-82-1	1,2,4-Trichlorobenzene	ND	17	13	ND	2.3	1.8	
91-20-3	Naphthalene	ND	35	13	ND	6.6	2.4	
87-68-3	Hexachlorobutadiene	ND	17	16	ND	1.6	1.5	
98-06-6	tert-Butylbenzene	ND	35	8.7	ND	6.3	1.6	
104-51-8	n-Butylbenzene	ND	35	8.7	ND	6.3	1.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: Rec      Date: 5/14/08

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: ENSR  
Client Sample ID: SG83B-05-7  
Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
CAS Sample ID: P0801342-003

Tentatively Identified Compounds

Test Code: EPA TO-15  
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
Analyst: Rusty Bravo  
Sampling Media: 6.0 L Summa Canister  
Test Notes:  
Container ID: SC00791

Date Collected: 5/7/08  
Date Received: 5/8/08  
Date Analyzed: 5/8/08  
Volume(s) Analyzed: 0.010 Liter(s)  
0.0010 Liter(s)

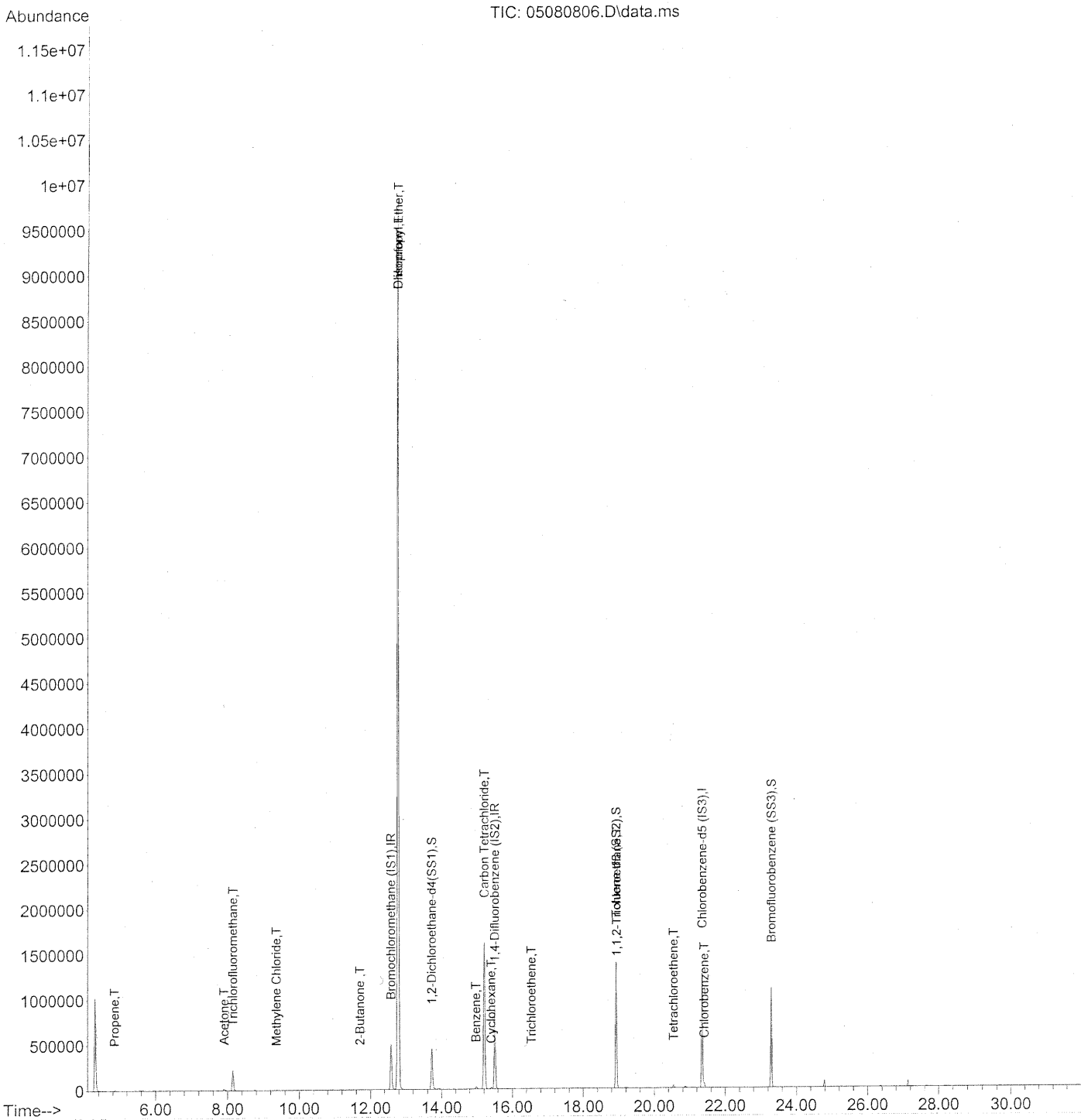
Initial Pressure (psig): -4.2      Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

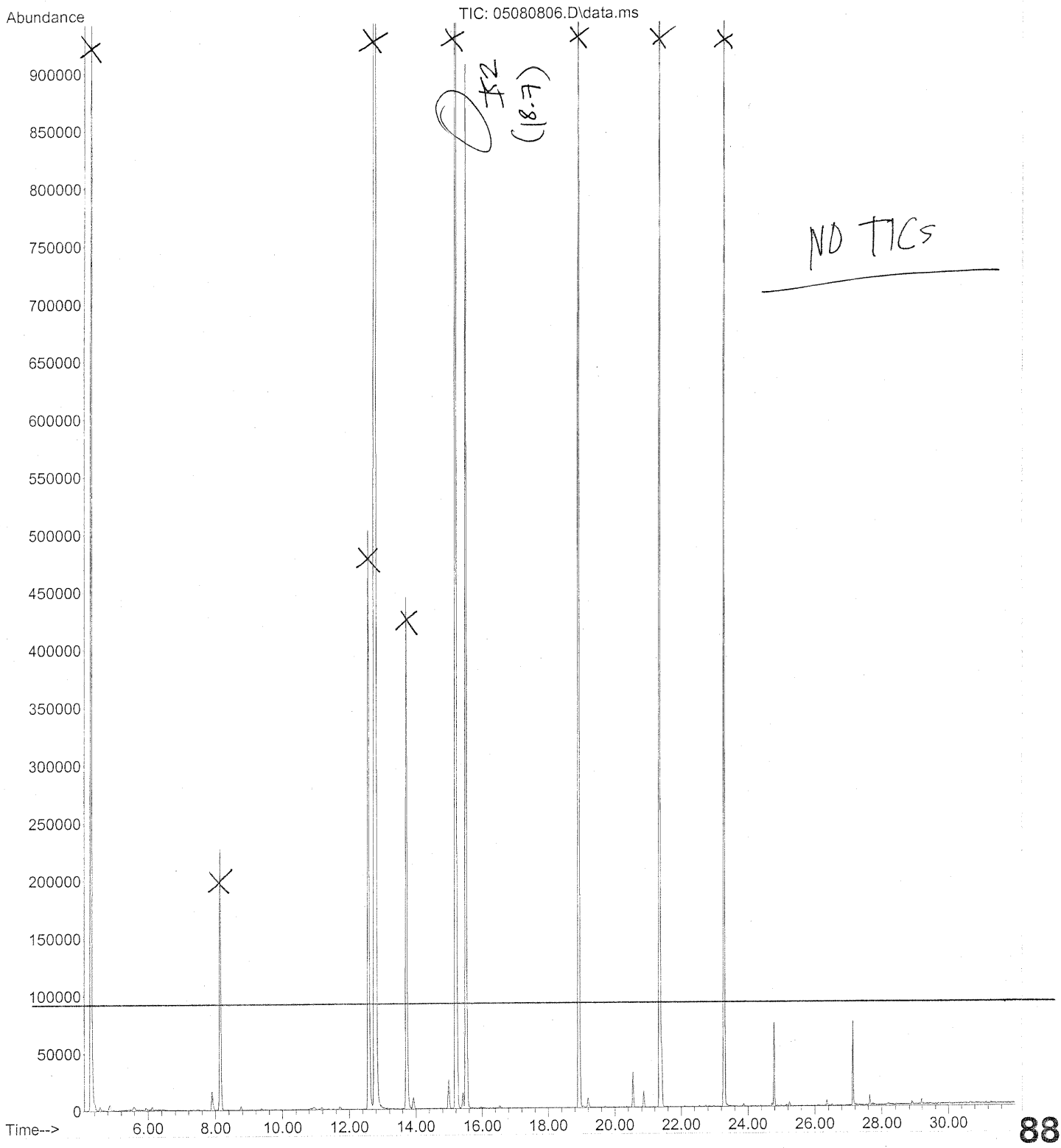
GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
No Compounds Detected			

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 09 16:13:59 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



File : J:\MS13\DATA\2008\_05\08\05080806.D  
Operator : RTB  
Acquired : 8 May 2008 1:45 pm using AcqMethod TO15.M  
Instrument : GCMS13  
Sample Name: P0801342-003 (10mL)  
Misc Info : ENSR SG83B-05-7 (-4.2, 3.5)  
Vial Number: 4



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 09 16:13:59 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	226199	25.000	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	15.51	114	971717	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	470342	25.000	ng	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) 1,2-Dichloroethane-d4(...)	13.73	65	414789	22.866	ng	-0.02
Spiked Amount	25.000		Recovery	=	91.48%	
57) Toluene-d8 (SS2)	18.93	98	1080045	25.619	ng	0.00
Spiked Amount	25.000		Recovery	=	102.48%	
73) Bromofluorobenzene (SS3)	23.29	174	355347	24.493	ng	0.00
Spiked Amount	25.000		Recovery	=	97.96%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.85	42	1167	0.062	ng	# 22
3) Dichlorodifluoromethane	4.99	85	477	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	7.48	41	922	N.D.		
12) Acrolein	7.69	56	232	N.D.		
13) Acetone	7.91	58	8266	0.660	ng	# 55
14) Trichlorofluoromethane	8.15	101	235861	8.795	ng	99
15) Isopropanol	8.37	45	221	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) tert-Butanol	9.46	59	156	N.D.		
19) Methylene Chloride	9.36	84	779	0.054	ng	97
20) Allyl Chloride	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	9.79	76	862	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	11.10	63	997	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone	11.71	72	1164m	0.133	ng	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	12.78	87	904230	<del>78.429</del> ng		1
30) Ethyl Acetate	12.79	61	96	N.D.		
31) n-Hexane	12.69	57	162	N.D.		

*Postols*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 09 16:13:59 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.78	83	8571241	<del>405.848</del>	ng <i>See table</i>	100
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	13.74	62	250	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	14.96	56	57	N.D.		
41) Benzene	14.98	78	30187	0.586	ng	98
42) Carbon Tetrachloride	15.21	117	1183939	69.443	ng	98
43) Cyclohexane	15.41	84	5856	0.307	ng #	87
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	16.46	83	252	N.D.		
47) Trichloroethene	16.54	130	837	0.066	ng	94
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	16.98	71	58	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	18.94	97	98611	7.944	ng NR #	8
58) Toluene	19.05	91	1751	N.D.		
59) 2-Hexanone	19.47	43	88	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) Butyl Acetate	20.35	43	327	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	20.54	166	9723	0.733	ng	95
65) Chlorobenzene	21.41	112	34136	1.040	ng	97
66) Ethylbenzene	21.90	91	402	N.D.		
67) m- & p-Xylene	22.10	91	1008	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	22.71	91	469	N.D.		
71) n-Nonane	22.98	43	453	N.D.		
72) 1,1,2,2-Tetrachloroethane	22.74	83	54	N.D.		
74) Cumene	23.46	105	105	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	24.11	91	58	N.D.		
77) 3-Ethyltoluene	24.23	105	566	N.D.		
78) 4-Ethyltoluene	24.31	105	67	N.D.		
79) 1,3,5-Trimethylbenzene	24.38	105	220	N.D.		

*Post 5/9/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 09 16:13:59 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

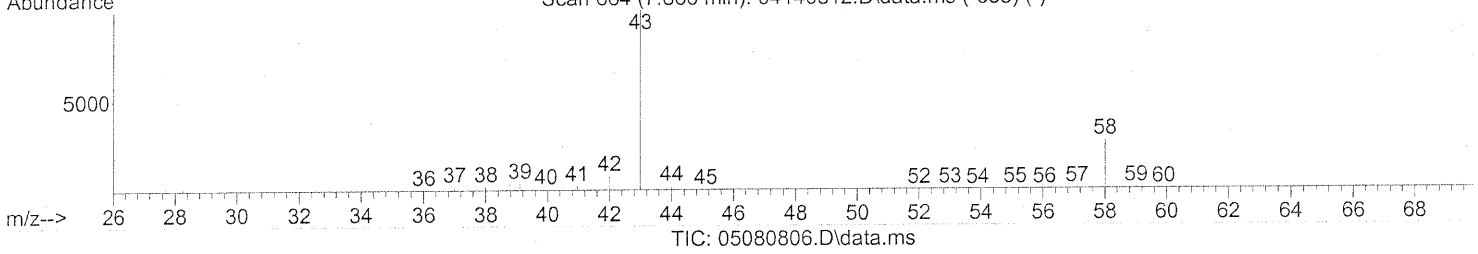
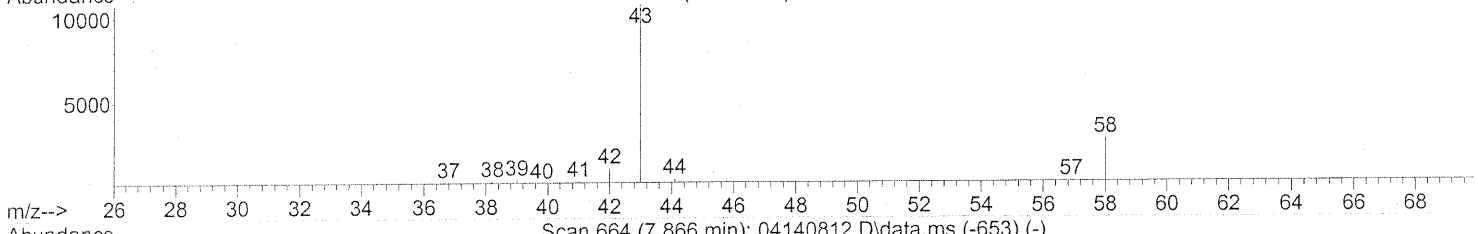
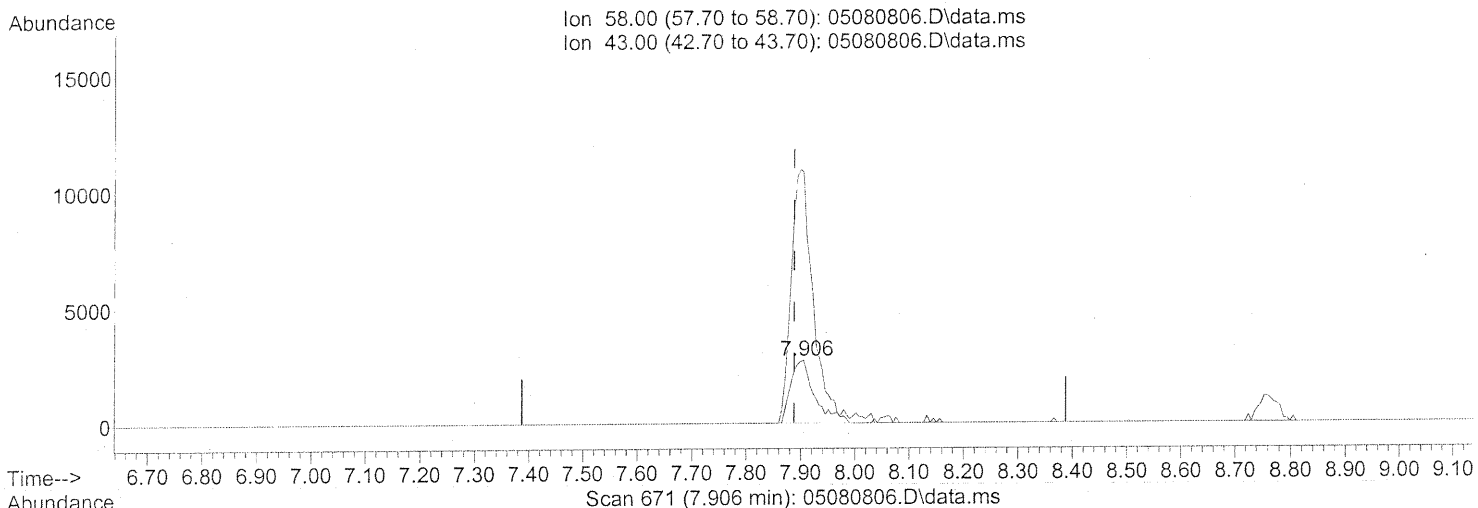
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.77	118	713			N.D.
81) 2-Ethyltoluene	24.62	105	55			N.D.
82) 1,2,4-Trimethylbenzene	24.88	105	655			N.D.
83) n-Decane	25.00	57	289			N.D.
84) Benzyl Chloride	0.00	91	0			N.D.
85) 1,3-Dichlorobenzene	25.17	146	777			N.D.
86) 1,4-Dichlorobenzene	25.17	146	777			N.D.
87) sec-Butylbenzene	25.40	105	129			N.D.
88) p-Isopropyltoluene	25.41	119	148			N.D.
89) 1,2,3-Trimethylbenzene	25.40	105	129			N.D.
90) 1,2-Dichlorobenzene	25.17	146	777			N.D.
91) d-Limonene	25.58	68	56			N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0			N.D.
93) n-Undecane	26.50	57	661			N.D.
94) 1,2,4-Trichlorobenzene	0.00	180	0			N.D.
95) Naphthalene	27.80	128	909			N.D.
96) n-Dodecane	27.74	57	696			N.D.
97) Hexachloro-1,3-butadiene	0.00	225	0			N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Postlog*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



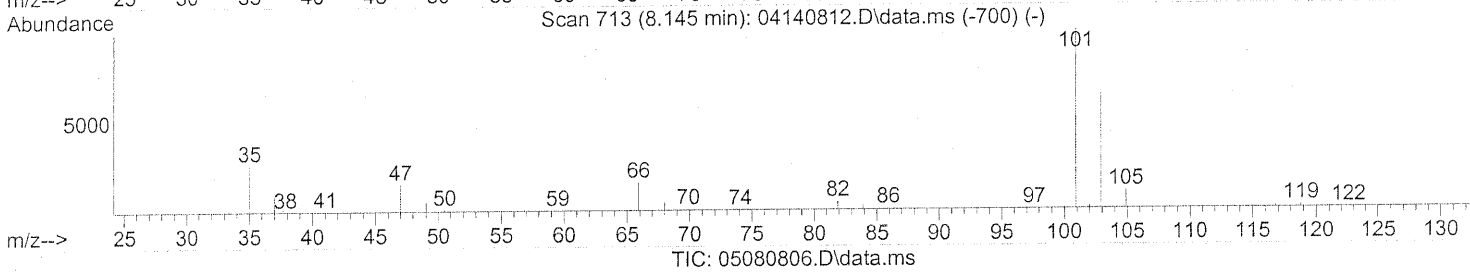
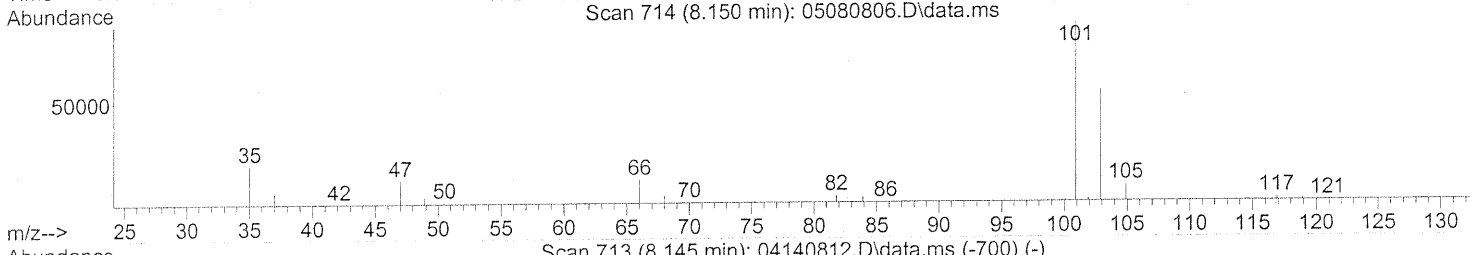
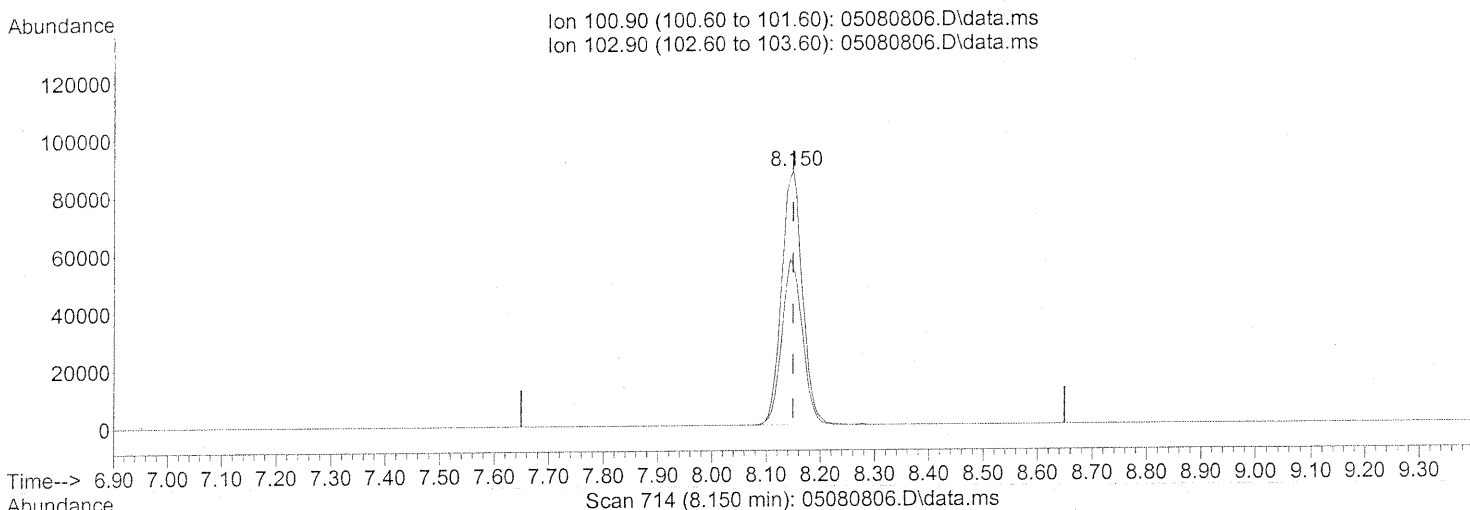
(13) Acetone (T)  
 7.906min (+0.018) 0.66ng  
 response 8266

Ion	Exp%	Act%
58.00	100	100
43.00	283.10	368.13#
0.00	0.00	0.00
0.00	0.00	0.00



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(14) Trichlorofluoromethane (T)

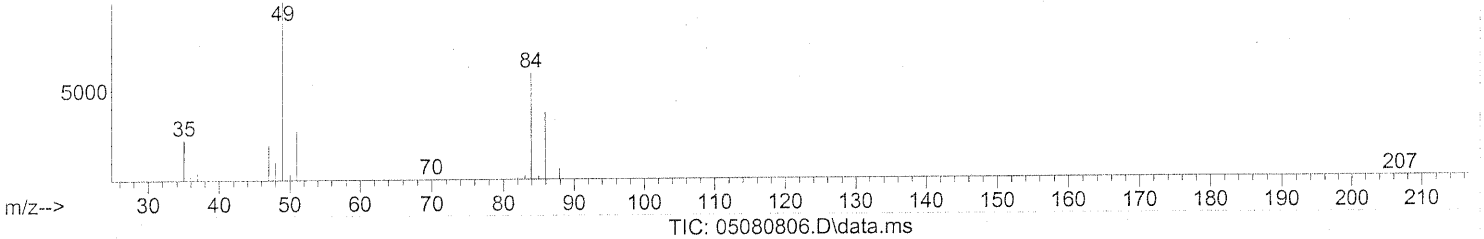
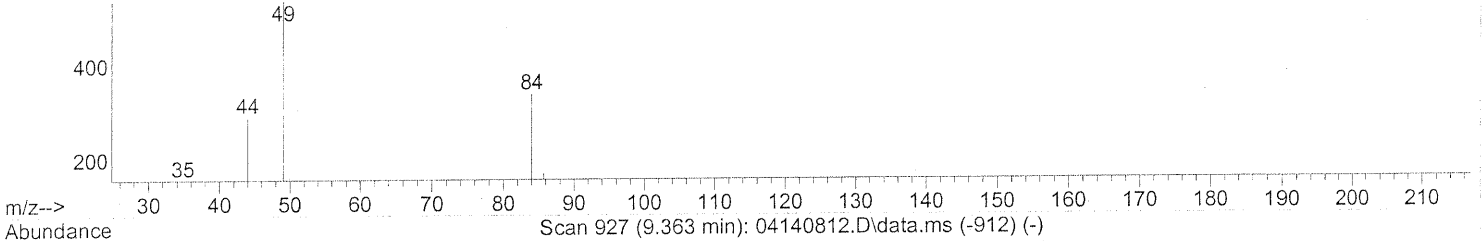
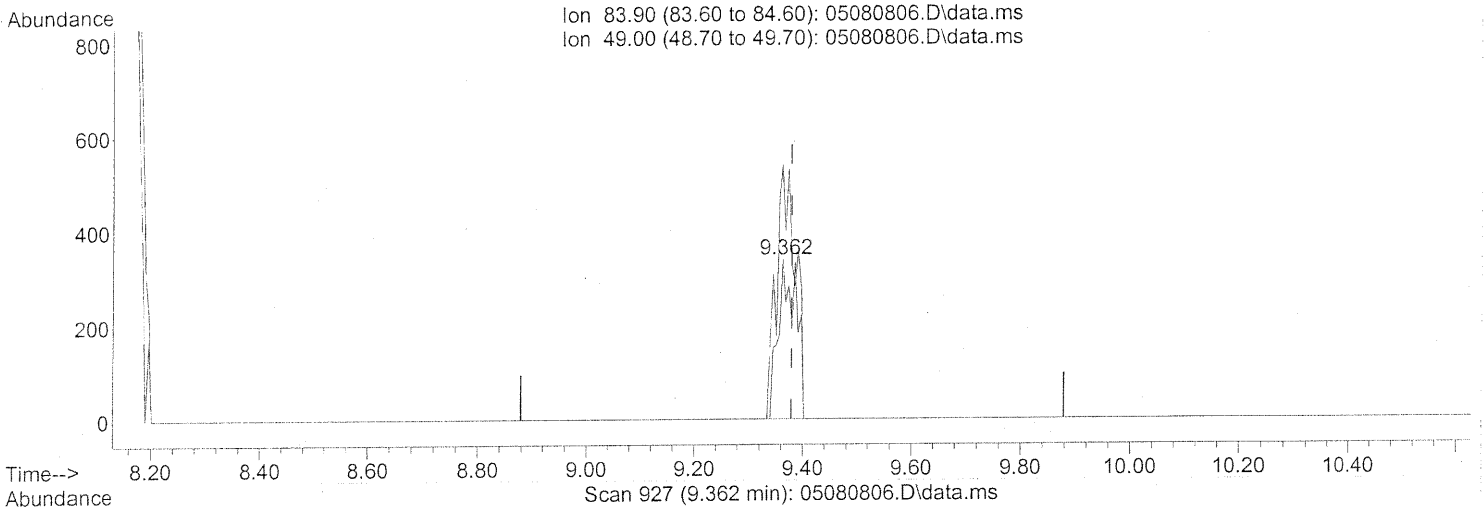
8.150min (+0.000) 8.79ng

response 235861

Ion	Exp%	Act%
100.90	100	100
102.90	64.80	64.40
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(19) Methylene Chloride (T)

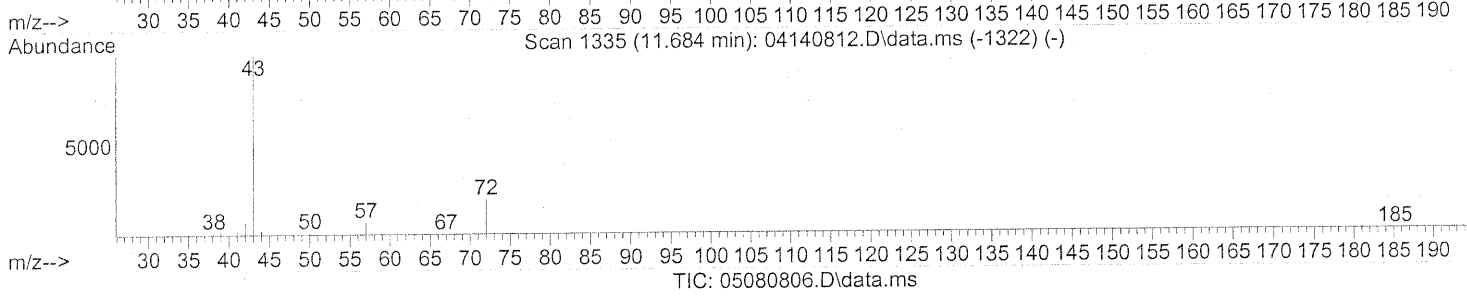
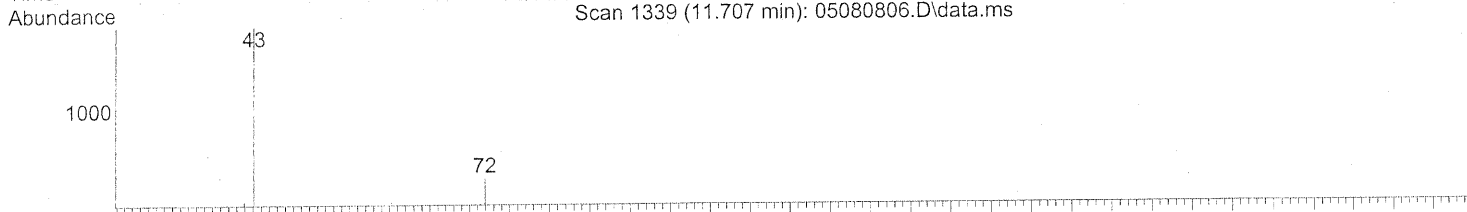
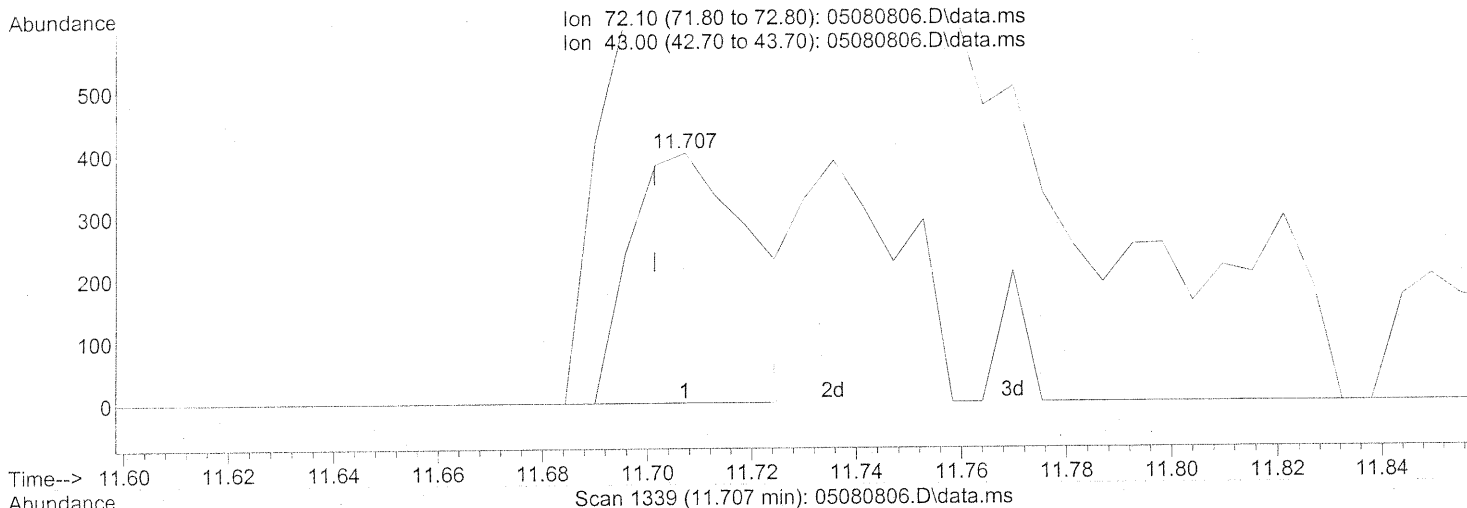
9.362min (-0.017) 0.05ng

response 779

Ion	Exp%	Act%
83.90	100	100
49.00	172.90	168.29
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



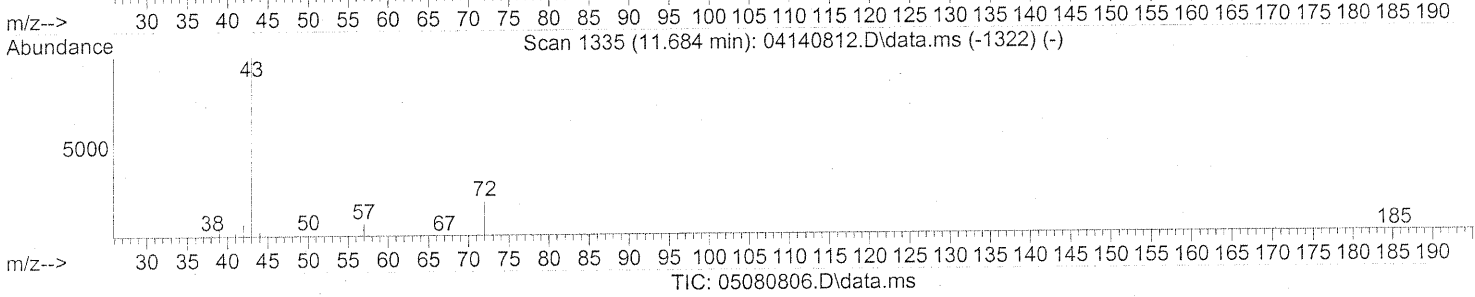
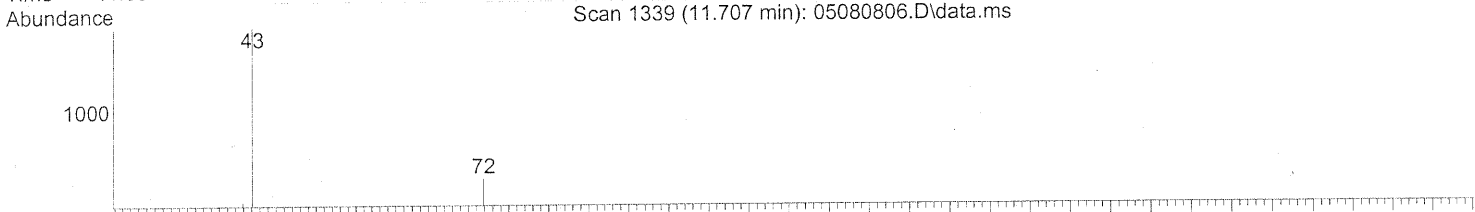
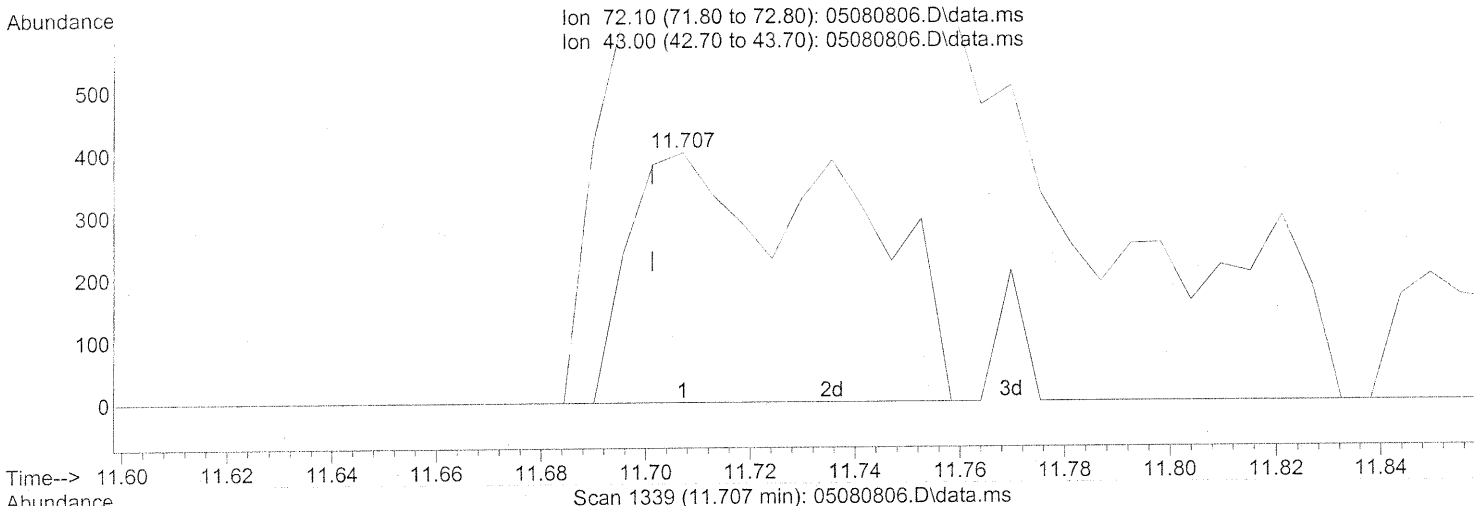
(27) 2-Butanone (T)  
 11.707min (+0.006) 0.07ng  
 response 638

Ion	Exp%	Act%
72.10	100	100
43.00	506.80	987.46#
0.00	0.00	0.00
0.00	0.00	0.00

SPLIT PEAK

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080806.D  
Acq On : 8 May 2008 1:45 pm  
Operator : RTB  
Sample : P0801342-003 (10mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



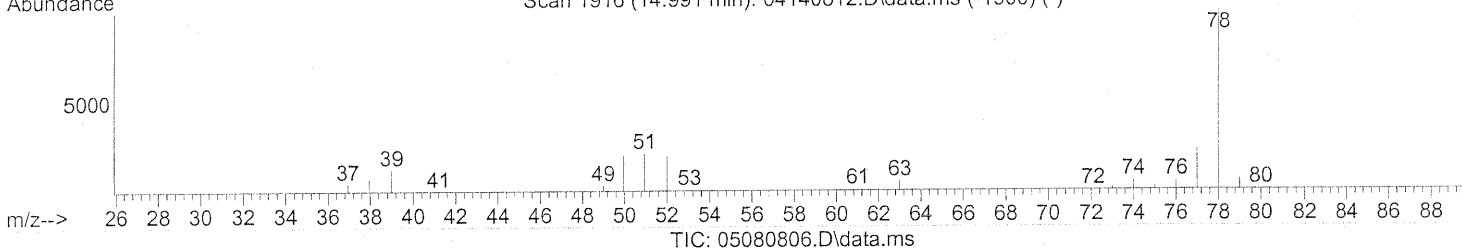
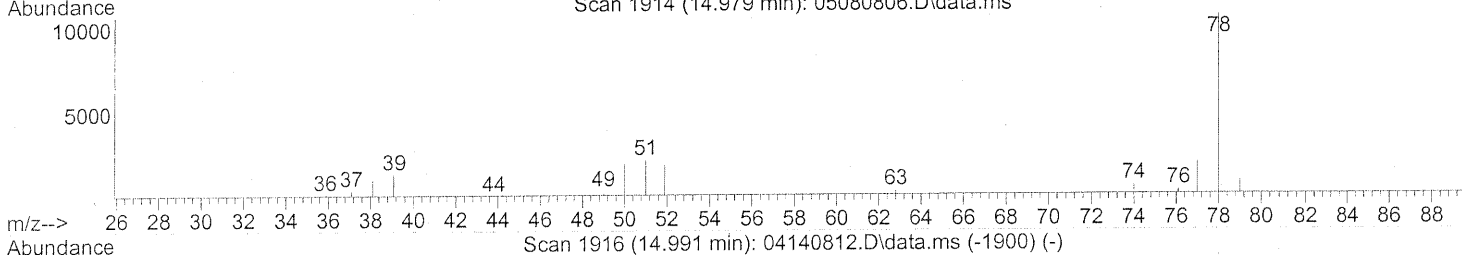
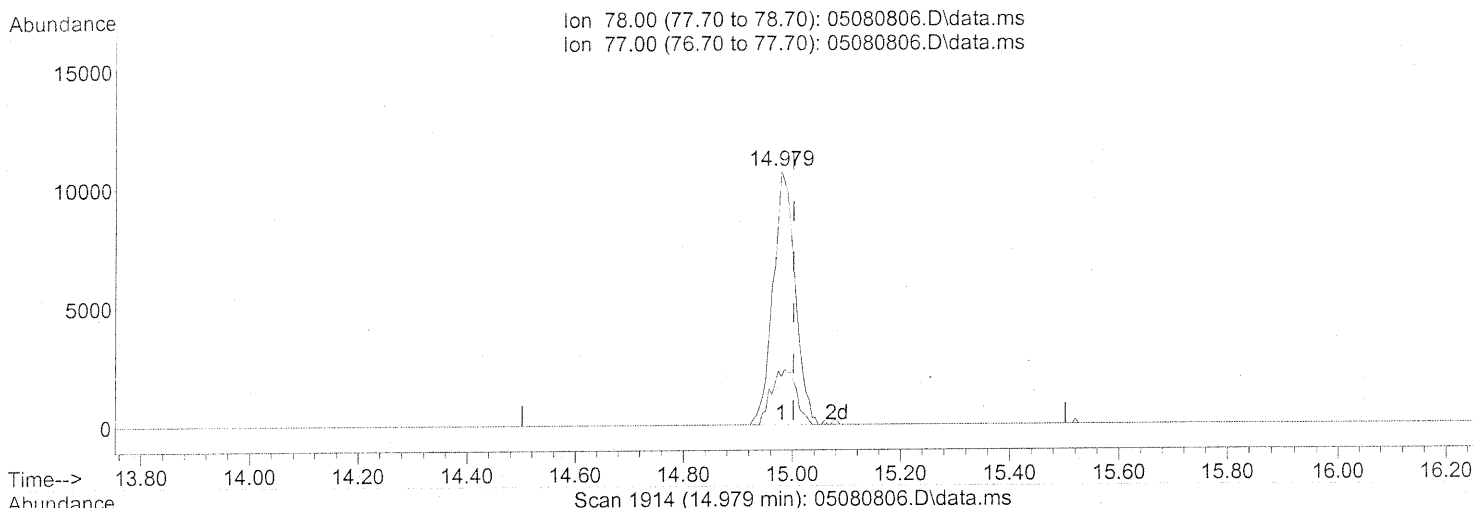
(27) 2-Butanone (T)  
11.707min (+0.006) 0.13ng m  
response 1164

Ion	Exp%	Act%
72.10	100	100
43.00	506.80	541.24#
0.00	0.00	0.00
0.00	0.00	0.00

INT: THE WHOLE PEAK  
Post 5/1/08  
5/9/08

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

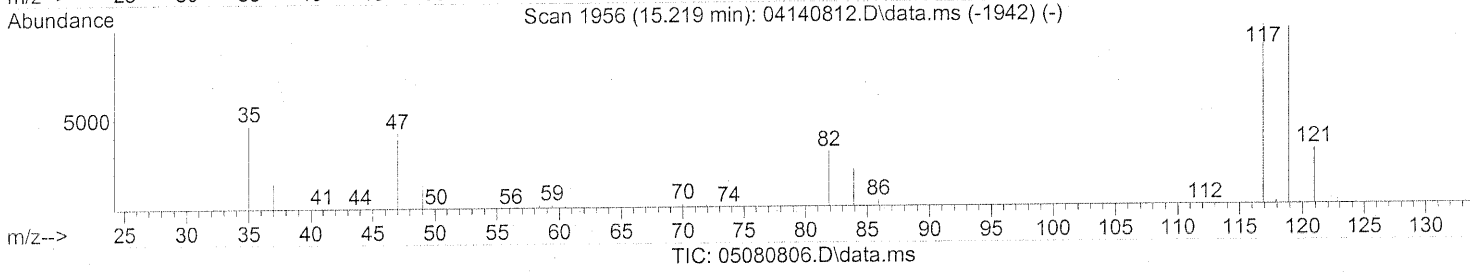
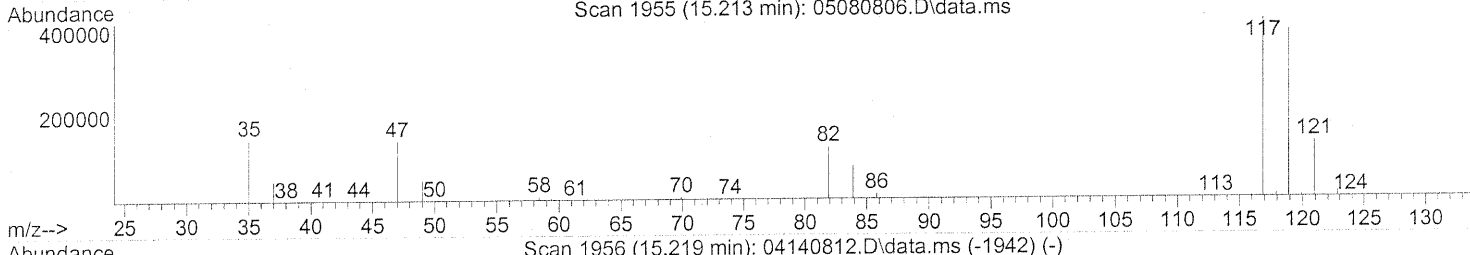
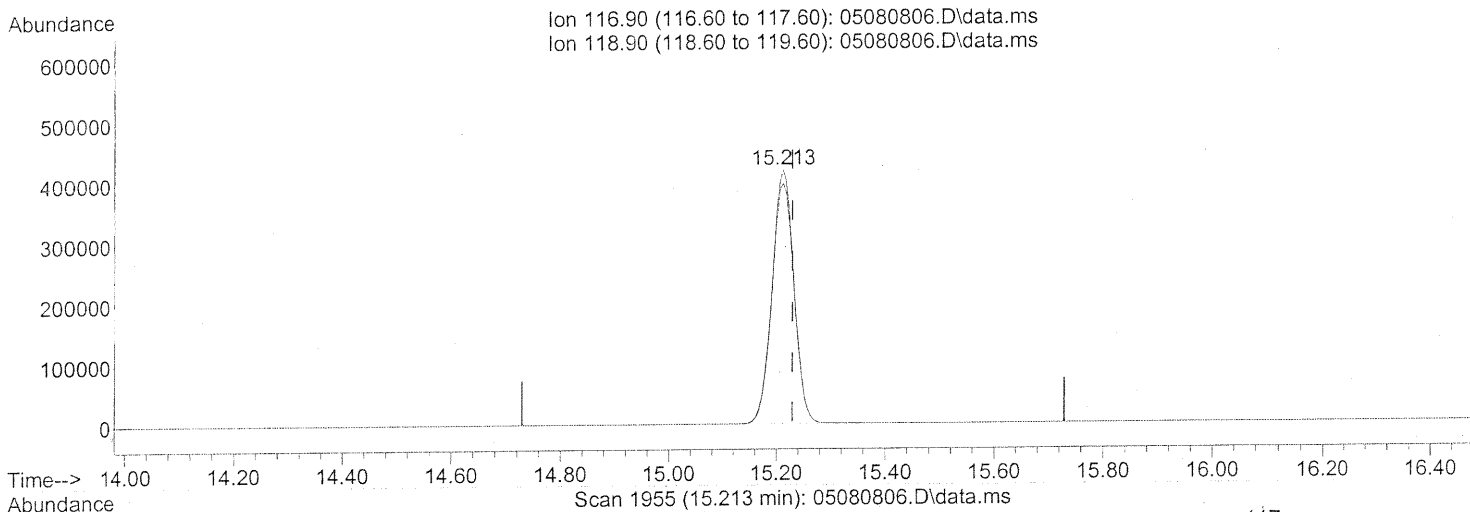


(41) Benzene (T)  
 14.979min (-0.023) 0.59ng  
 response 30187

Ion	Exp%	Act%
78.00	100	100
77.00	23.50	24.37
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080806.D  
Acq On : 8 May 2008 1:45 pm  
Operator : RTB  
Sample : P0801342-003 (10mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(42) Carbon Tetrachloride (T)

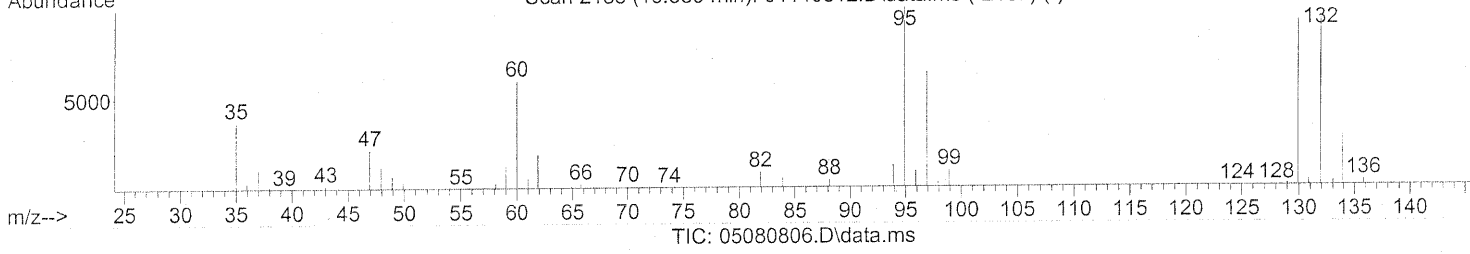
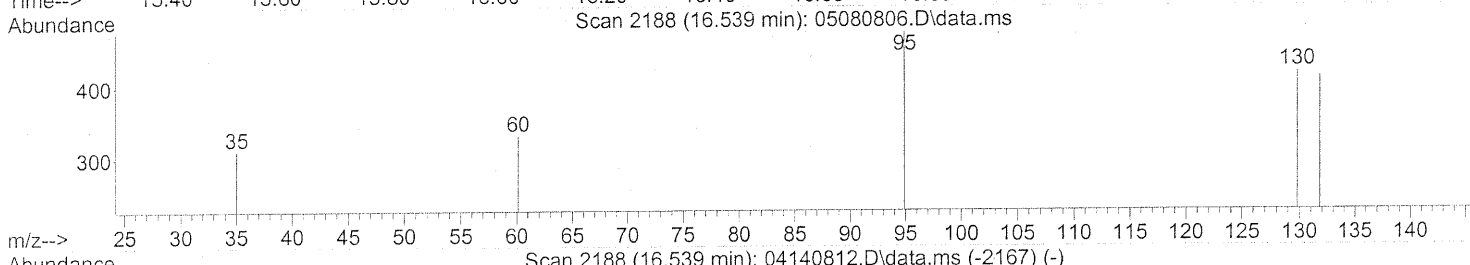
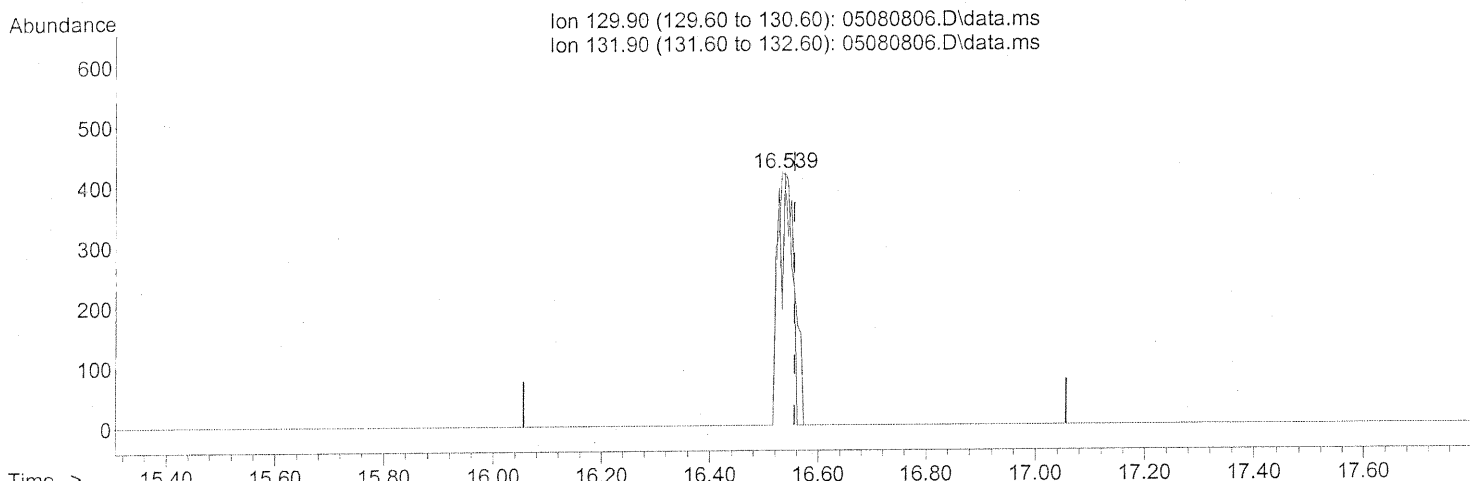
15.213min (-0.017) 69.44ng

response 1183939

Ion	Exp%	Act%
116.90	100	100
118.90	96.60	94.88
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

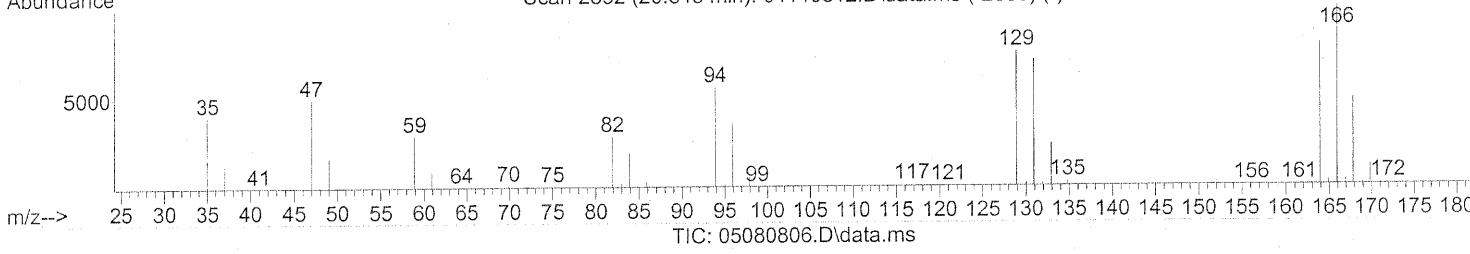
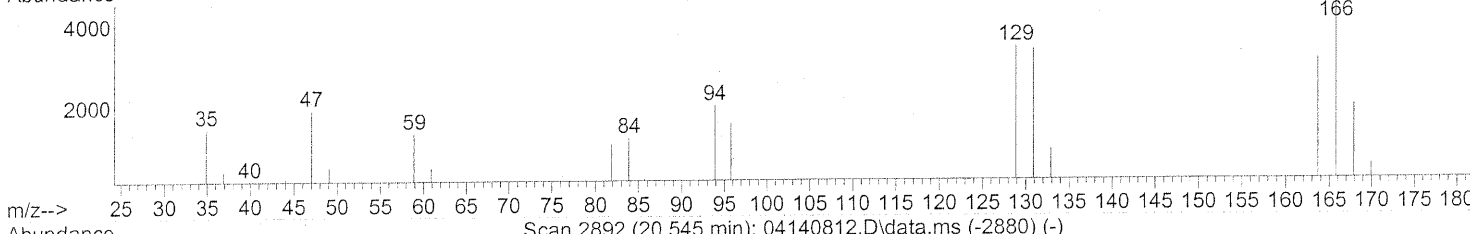
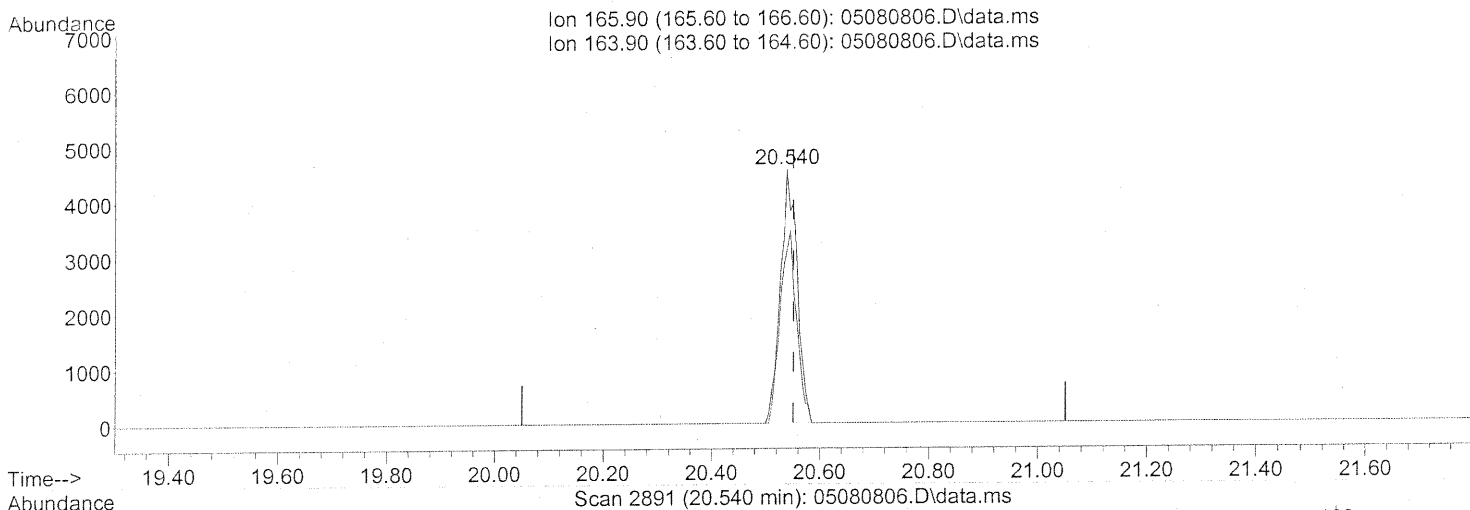


(47) Trichloroethene (T)  
 16.539min (-0.017) 0.07ng  
 response 837

Ion	Exp%	Act%
129.90	100	100
131.90	101.20	95.10
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080806.D  
Acq On : 8 May 2008 1:45 pm  
Operator : RTB  
Sample : P0801342-003 (10mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(64) Tetrachloroethene (T)

20.540min (-0.011) 0.73ng

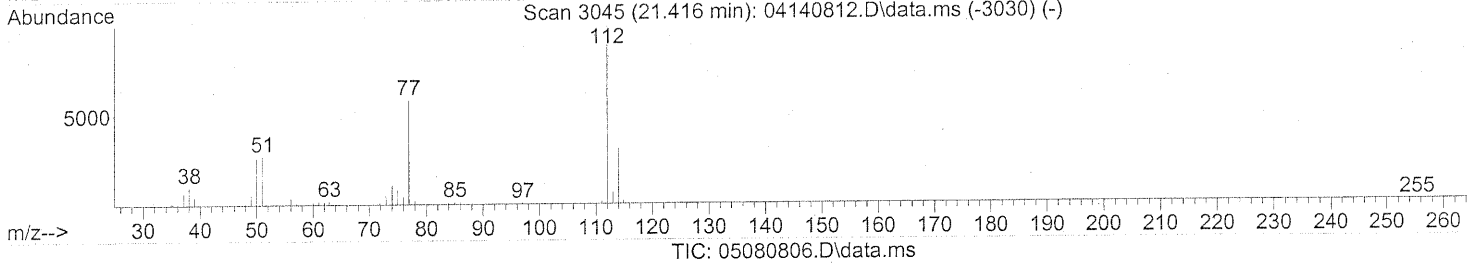
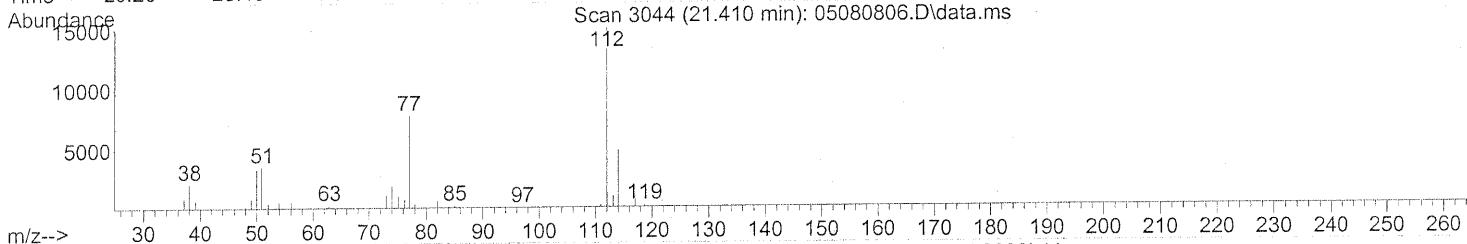
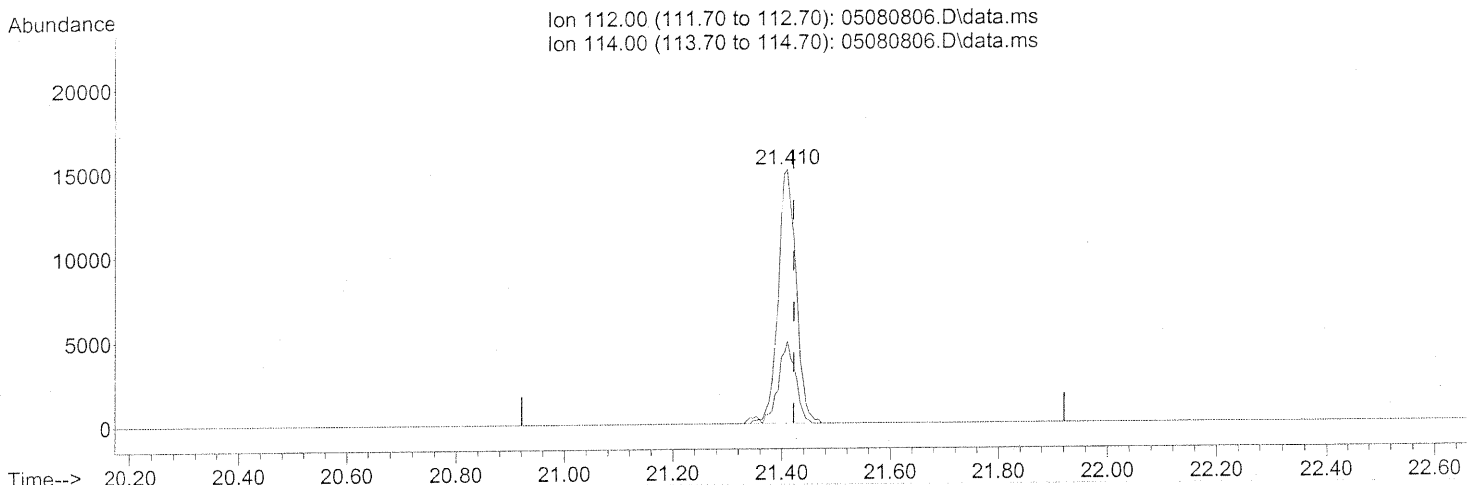
response 9723

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	74.23
0.00	0.00	0.00
0.00	0.00	0.00



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 14:07:35 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(65) Chlorobenzene (T)

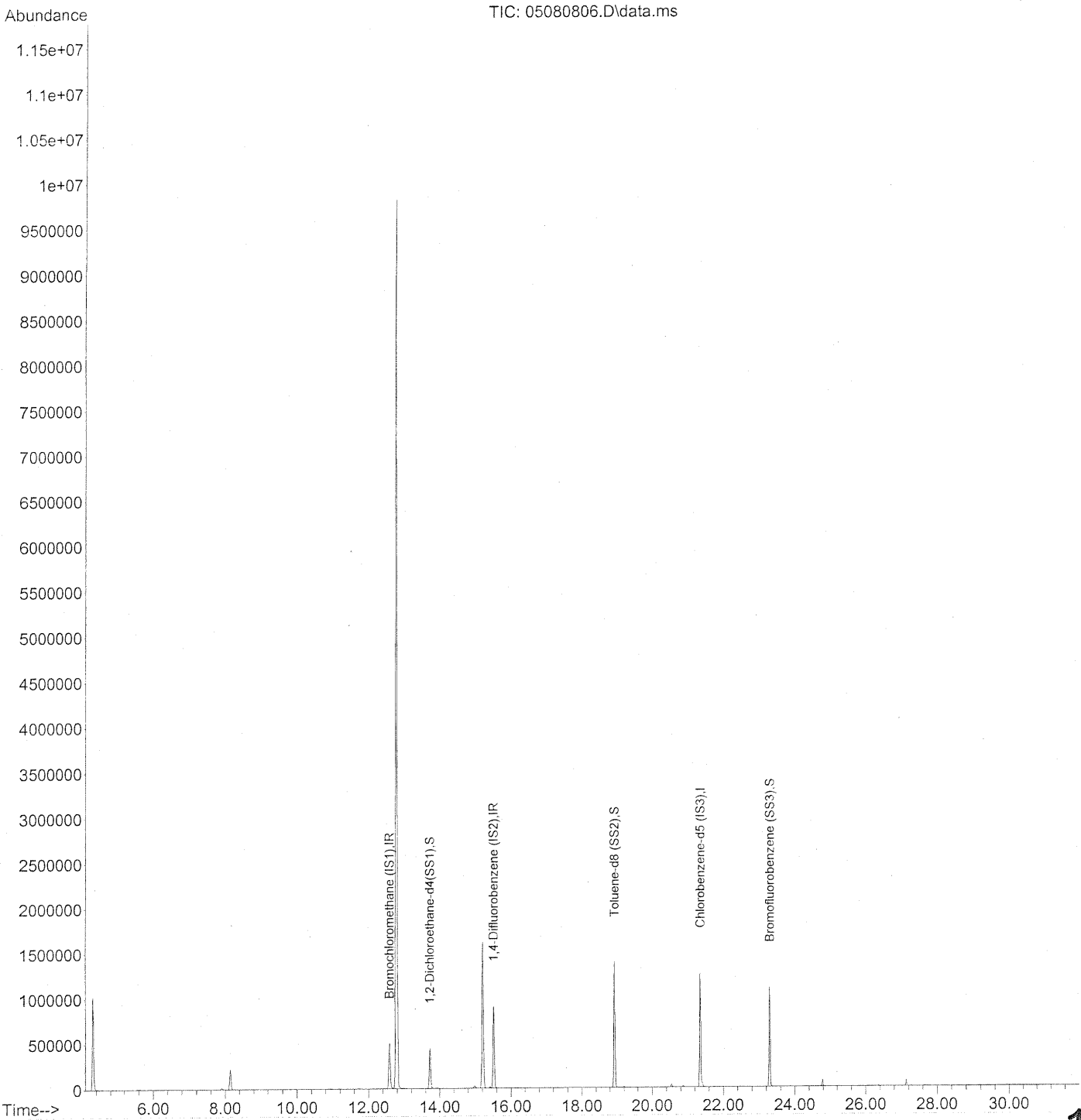
21.410min (-0.011) 1.04ng

response 34136

Ion	Exp%	Act%
112.00	100	100
114.00	32.40	30.73
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080806.D  
 Acq On : 8 May 2008 1:45 pm  
 Operator : RTB  
 Sample : P0801342-003 (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:48:20 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080806.D  
Acq On : 8 May 2008 1:45 pm  
Operator : RTB  
Sample : P0801342-003 (10mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:48:20 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Mon Apr 28 10:06:00 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.58	130	226199	25.000	ng	-0.02	
3) 1,4-Difluorobenzene (IS2)	15.51	114	971717	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	470342	25.000	ng	0.00	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.73	65	414789	22.866	ng	-0.02	
Spiked Amount	25.000			Recovery	=	91.48%	✓
5) Toluene-d8 (SS2)	18.93	98	1080045	25.619	ng	0.00	
Spiked Amount	25.000			Recovery	=	102.48%	✓
6) Bromofluorobenzene (SS3)	23.29	174	355347	24.493	ng	0.00	
Spiked Amount	25.000			Recovery	=	97.96%	✓
Target Compounds							
7) tert-Butylbenzene	24.79	119	1326				N.D. ✓
8) n-Butylbenzene	0.00	91	0				N.D. ✓

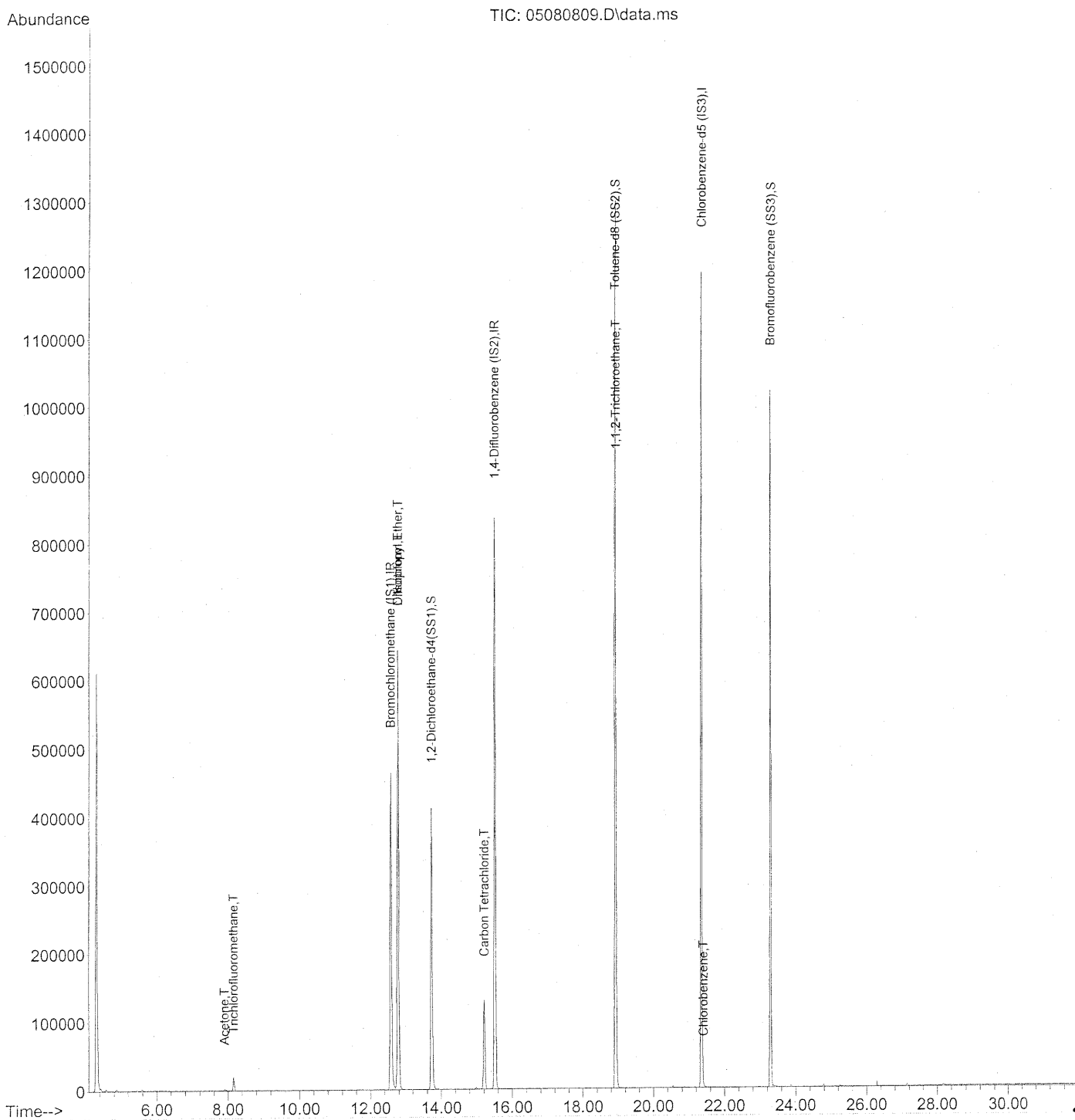
Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Post/08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080809.D  
 Acq On : 8 May 2008 3:52 pm  
 Operator : RTB  
 Sample : P0801342-003 DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 16:42:36 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080809.D  
 Acq On : 8 May 2008 3:52 pm  
 Operator : RTB  
 Sample : P0801342-003 DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 16:42:36 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	205516	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	899772	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	428319	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4 (...)	13.72	65	382056	23.181	ng	-0.03
Spiked Amount	25.000		Recovery	=	92.72%	✓
57) Toluene-d8 (SS2)	18.92	98	1015105	26.441	ng	-0.01
Spiked Amount	25.000		Recovery	=	105.76%	✓
73) Bromofluorobenzene (SS3)	23.29	174	328273	24.847	ng	0.00
Spiked Amount	25.000		Recovery	=	99.40%	✓

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.84	42	54	N.D.		
3) Dichlorodifluoromethane	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	7.47	41	55	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	7.90	58	1561	0.137	ng	# 40
14) Trichlorofluoromethane	8.16	101	20143	0.827	ng	98
15) Isopropanol	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) tert-Butanol	9.37	59	53	N.D.		
19) Methylene Chloride	9.36	84	219	N.D.		
20) Allyl Chloride	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	9.77	76	384	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	12.78	87	61723	5.892	ng	# 1
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		

*Post 08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080809.D  
Acq On : 8 May 2008 3:52 pm  
Operator : RTB  
Sample : P0801342-003 DIL (1mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 16:42:36 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.78	83	602641	31.407	ng	99
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	13.76	62	62	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	14.99	78	2733	N.D.		
42) Carbon Tetrachloride	15.21	117	93957	5.952	ng	99
43) Cyclohexane	15.41	84	312	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	18.94	97	93376	8.123	ng	# 7
58) Toluene	19.08	91	376	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	20.53	166	717	N.D.		
65) Chlorobenzene	21.40	112	3275	0.110	ng	85
66) Ethylbenzene	22.12	91	175	N.D.		
67) m- & p-Xylene	22.12	91	175	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	22.98	43	76	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	23.48	105	65	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	24.24	105	151	N.D.		
78) 4-Ethyltoluene	24.24	105	151	N.D.		
79) 1,3,5-Trimethylbenzene	24.24	105	151	N.D.		

*Post 08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080809.D  
 Acq On : 8 May 2008 3:52 pm  
 Operator : RTB  
 Sample : P0801342-003 DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 16:42:36 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

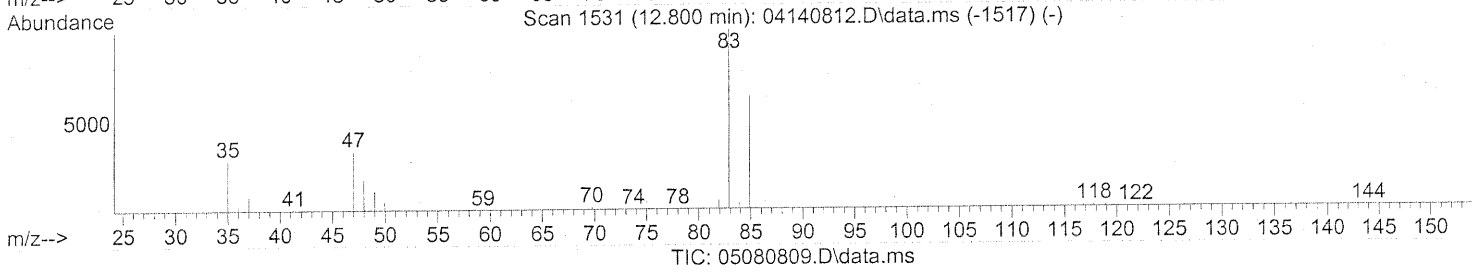
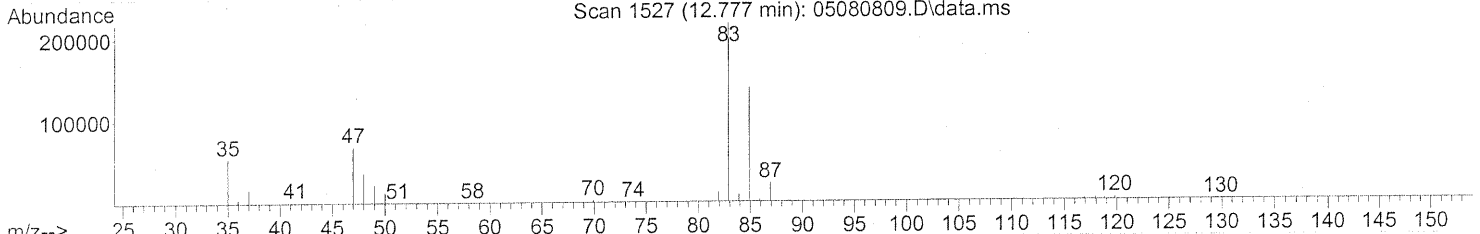
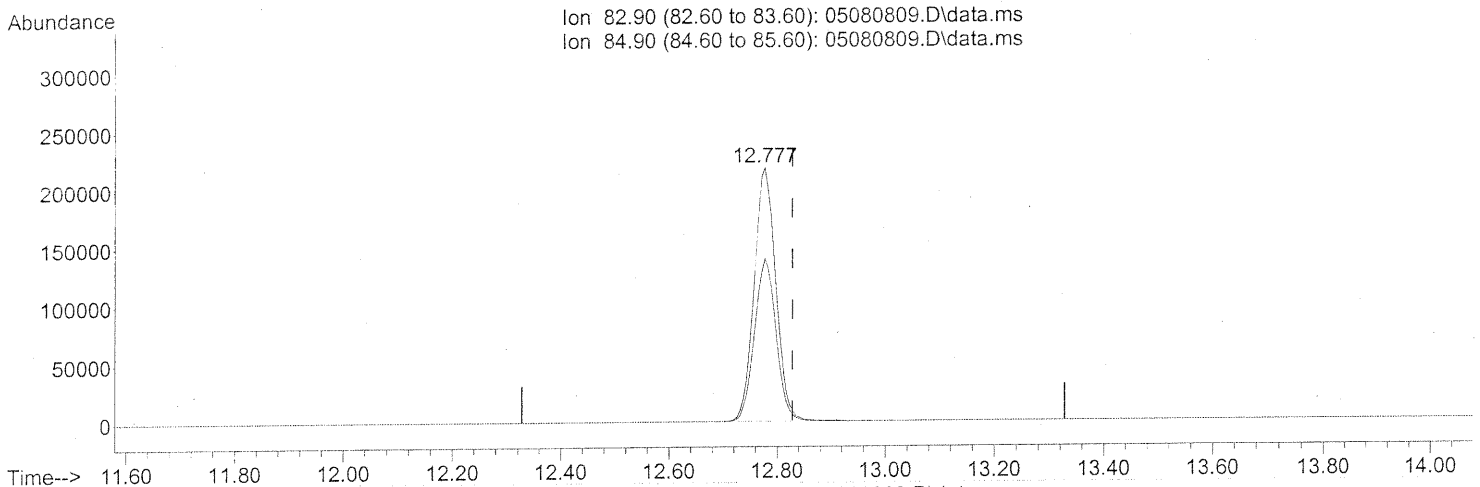
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	0.00	118	0			N.D.
81) 2-Ethyltoluene	24.24	105	151			N.D.
82) 1,2,4-Trimethylbenzene	0.00	105	0			N.D.
83) n-Decane	25.25	57	1717			N.D.
84) Benzyl Chloride	0.00	91	0			N.D.
85) 1,3-Dichlorobenzene	0.00	146	0			N.D.
86) 1,4-Dichlorobenzene	0.00	146	0			N.D.
87) sec-Butylbenzene	25.41	105	61			N.D.
88) p-Isopropyltoluene	25.41	119	71			N.D.
89) 1,2,3-Trimethylbenzene	25.41	105	61			N.D.
90) 1,2-Dichlorobenzene	0.00	146	0			N.D.
91) d-Limonene	0.00	68	0			N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0			N.D.
93) n-Undecane	26.40	57	79			N.D.
94) 1,2,4-Trichlorobenzene	0.00	180	0			N.D.
95) Naphthalene	27.81	128	454			N.D.
96) n-Dodecane	27.74	57	173			N.D.
97) Hexachloro-1,3-butadiene	0.00	225	0			N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Postolic*

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080809.D  
Acq On : 8 May 2008 3:52 pm  
Operator : RTB  
Sample : P0801342-003 DIL (1mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 16:42:36 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(32) Chloroform (T)  
12.777min (-0.051) 31.41ng  
response 602641

Ion	Exp%	Act%
82.90	100	100
84.90	64.70	63.69
0.00	0.00	0.00
0.00	0.00	0.00



**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 4

**Client:** ENSR  
**Client Sample ID:** Method Blank  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result	MRL	MDL	Result	MRL	MDL	Data
		µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	ppbV	ppbV	ppbV	Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	0.050	ND	0.10	0.010	
74-87-3	Chloromethane	ND	0.10	0.050	ND	0.048	0.024	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	0.050	ND	0.072	0.0072	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ND	0.039	0.020	
74-83-9	Bromomethane	ND	0.10	0.050	ND	0.026	0.013	
75-00-3	Chloroethane	ND	0.10	0.050	ND	0.038	0.019	
64-17-5	Ethanol	ND	5.0	0.050	ND	2.7	0.027	
67-64-1	<b>Acetone</b>	<b>0.42</b>	5.0	0.073	<b>0.18</b>	2.1	0.031	<b>J</b>
75-69-4	Trichlorofluoromethane	ND	0.10	0.050	ND	0.018	0.0089	
107-13-1	Acrylonitrile	ND	0.50	0.070	ND	0.23	0.032	
75-35-4	1,1-Dichloroethene	ND	0.10	0.050	ND	0.025	0.013	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	0.50	0.074	ND	0.17	0.024	
75-09-2	Methylene Chloride	ND	0.50	0.050	ND	0.14	0.014	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.10	0.050	ND	0.032	0.016	
76-13-1	Trichlorotrifluoroethane	ND	0.10	0.056	ND	0.013	0.0073	
75-15-0	Carbon Disulfide	ND	0.50	0.12	ND	0.16	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	0.050	ND	0.025	0.013	
75-34-3	1,1-Dichloroethane	ND	0.10	0.050	ND	0.025	0.012	
1634-04-4	Methyl tert-Butyl Ether	ND	0.10	0.050	ND	0.028	0.014	
108-05-4	Vinyl Acetate	ND	5.0	0.16	ND	1.4	0.045	
78-93-3	2-Butanone (MEK)	ND	0.50	0.050	ND	0.17	0.017	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	0.050	ND	0.025	0.013	
108-20-3	Diisopropyl Ether	ND	0.50	0.059	ND	0.12	0.014	
67-66-3	Chloroform	ND	0.10	0.059	ND	0.020	0.012	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: Re Date: 5/9/08 **109**

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 2 of 4

**Client:** ENSR  
**Client Sample ID:** Method Blank  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-MB

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
637-92-3	Ethyl tert-Butyl Ether	ND	0.50	0.051	ND	0.12	0.012	
107-06-2	1,2-Dichloroethane	ND	0.10	0.050	ND	0.025	0.012	
71-55-6	1,1,1-Trichloroethane	ND	0.10	0.050	ND	0.018	0.0092	
71-43-2	Benzene	ND	0.10	0.050	ND	0.031	0.016	
56-23-5	Carbon Tetrachloride	ND	0.10	0.050	ND	0.016	0.0080	
994-05-8	tert-Amyl Methyl Ether	ND	0.50	0.050	ND	0.12	0.012	
78-87-5	1,2-Dichloropropane	ND	0.10	0.050	ND	0.022	0.011	
75-27-4	Bromodichloromethane	ND	0.10	0.050	ND	0.015	0.0075	
79-01-6	Trichloroethene	ND	0.10	0.050	ND	0.019	0.0093	
123-91-1	1,4-Dioxane	ND	0.50	0.061	ND	0.14	0.017	
80-62-6	Methyl Methacrylate	ND	0.50	0.075	ND	0.12	0.018	
142-82-5	n-Heptane	ND	0.50	0.064	ND	0.12	0.016	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.052	ND	0.11	0.011	
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.056	ND	0.12	0.014	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.063	ND	0.11	0.014	
79-00-5	1,1,2-Trichloroethane	ND	0.10	0.050	ND	0.018	0.0092	
108-88-3	Toluene	ND	0.50	0.050	ND	0.13	0.013	
591-78-6	2-Hexanone	ND	0.50	0.076	ND	0.12	0.019	
124-48-1	Dibromochloromethane	ND	0.10	0.068	ND	0.012	0.0080	
106-93-4	1,2-Dibromoethane	ND	0.10	0.054	ND	0.013	0.0070	
111-65-9	n-Octane	ND	0.50	0.050	ND	0.11	0.011	
127-18-4	Tetrachloroethene	ND	0.10	0.050	ND	0.015	0.0074	
108-90-7	Chlorobenzene	ND	0.10	0.051	ND	0.022	0.011	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: RC Date: 5/9/08 **110**

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 3 of 4

Client: ENSR  
 Client Sample ID: Method Blank  
 Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-MB

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister  
 Test Notes:

Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 5/8/08  
 Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m <sup>3</sup>	MRL µg/m <sup>3</sup>	MDL µg/m <sup>3</sup>	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
100-41-4	Ethylbenzene	ND	0.50	0.062	ND	0.12	0.014	
179601-23-1	m,p-Xylenes	ND	0.50	0.13	ND	0.12	0.030	
75-25-2	Bromoform	ND	0.50	0.076	ND	0.048	0.0074	
100-42-5	Styrene	ND	0.50	0.076	ND	0.12	0.018	
95-47-6	o-Xylene	ND	0.50	0.063	ND	0.12	0.015	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.10	0.064	ND	0.015	0.0093	
98-82-8	<b>Cumene</b>	<b>0.060</b>	0.50	0.056	<b>0.012</b>	0.10	0.011	<b>J</b>
103-65-1	n-Propylbenzene	ND	0.50	0.052	ND	0.10	0.011	
622-96-8	4-Ethyltoluene	ND	0.50	0.057	ND	0.10	0.012	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.060	ND	0.10	0.012	
98-83-9	alpha-Methylstyrene	ND	0.50	0.073	ND	0.10	0.015	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.069	ND	0.10	0.014	
100-44-7	Benzyl Chloride	ND	0.10	0.086	ND	0.019	0.017	
541-73-1	1,3-Dichlorobenzene	ND	0.10	0.062	ND	0.017	0.010	
106-46-7	1,4-Dichlorobenzene	ND	0.10	0.056	ND	0.017	0.0093	
135-98-8	sec-Butylbenzene	ND	0.50	0.058	ND	0.091	0.011	
99-87-6	4-Isopropyltoluene (p-Cymene)	ND	0.50	0.065	ND	0.091	0.012	
95-50-1	1,2-Dichlorobenzene	ND	0.10	0.066	ND	0.017	0.011	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.076	ND	0.052	0.0079	
120-82-1	1,2,4-Trichlorobenzene	ND	0.10	0.076	ND	0.013	0.010	
91-20-3	<b>Naphthalene</b>	<b>0.10</b>	0.20	0.074	<b>0.020</b>	0.038	0.014	<b>J</b>
87-68-3	Hexachlorobutadiene	ND	0.10	0.090	ND	0.0094	0.0084	
98-06-6	tert-Butylbenzene	ND	0.20	0.050	ND	0.036	0.0091	
104-51-8	n-Butylbenzene	ND	0.20	0.050	ND	0.036	0.0091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: RC Date: 5/9/08 **111**

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 4 of 4

Client: ENSR  
Client Sample ID: Method Blank  
Client Project ID: Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
CAS Sample ID: P080508-MB

Tentatively Identified Compounds

Test Code: EPA TO-15  
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
Analyst: Rusty Bravo  
Sampling Media: 6.0 L Summa Canister  
Test Notes:

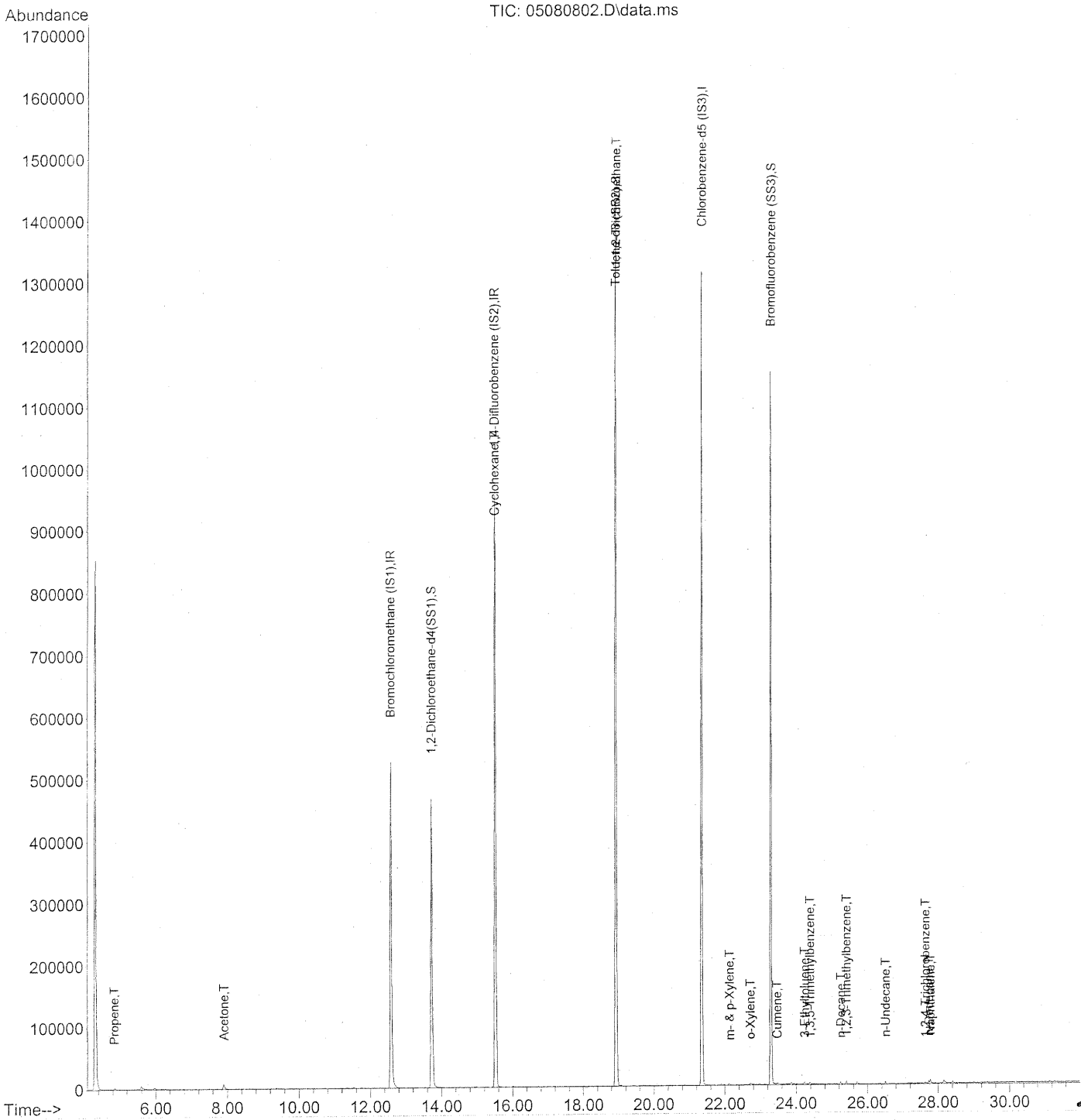
Date Collected: NA  
Date Received: NA  
Date Analyzed: 5/8/08  
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
<hr/> No Compounds Detected <hr/>			

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080802.D  
 Acq On : 8 May 2008 9:24 am  
 Operator : RTB  
 Sample : TO-15 Method Blank (1.0L)  
 Misc : S20-04300802  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080802.D  
 Acq On : 8 May 2008 9:24 am  
 Operator : RTB  
 Sample : TO-15 Method Blank (1.0L)  
 Misc : S20-04300802  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	241346	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	1037647	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	489334	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.72	65	432866	22.365	ng	-0.03
Spiked Amount	25.000		Recovery	=	89.44%	✓
57) Toluene-d8 (SS2)	18.93	98	1126967	25.695	ng	0.00
Spiked Amount	25.000		Recovery	=	102.76%	✓
73) Bromofluorobenzene (SS3)	23.29	174	378759	25.094	ng	0.00
Spiked Amount	25.000		Recovery	=	100.36%	✓

Target Compounds

					Qvalue
2) Propene	4.84	42	1332	<del>0.067</del> ng	# 82
3) Dichlorodifluoromethane	4.90	85	79	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) Freon 114	5.55	135	52	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	7.14	45	283	N.D.	
11) Acetonitrile	7.48	41	713	N.D.	
12) Acrolein	7.68	56	188	N.D.	
13) Acetone	7.91	58	5560	0.416 ng	98
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) Isopropanol	8.40	45	371	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) tert-Butanol	9.34	59	56	N.D.	
19) Methylene Chloride	9.36	84	139	N.D.	
20) Allyl Chloride	9.46	41	71	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	9.77	76	72	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone	11.72	72	53	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	

*Post/qa/c*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080802.D  
 Acq On : 8 May 2008 9:24 am  
 Operator : RTB  
 Sample : TO-15 Method Blank (1.0L)  
 Misc : S20-04300802  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	13.74	62	72	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	14.93	56	284	N.D.		
41) Benzene	14.98	78	716	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	15.50	84	1097	<del>0.054</del> ng	#	1
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	18.93	97	104486	<del>7.882</del> ng	#	8
58) Toluene	19.05	91	891	N.D.		
59) 2-Hexanone	19.42	43	169	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) Butyl Acetate	20.35	43	902	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	21.34	112	167	N.D.		
66) Ethylbenzene	21.89	91	2304	N.D.		
67) m- & p-Xylene	22.13	91	3373	<del>0.082</del> ng	#	48
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	22.71	91	2475	<del>0.056</del> ng	#	60
71) n-Nonane	22.98	43	877	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	23.46	105	3341	0.060 ng		93
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	24.10	91	265	N.D.		
77) 3-Ethyltoluene	24.23	105	2881	<del>0.047</del> ng		85
78) 4-Ethyltoluene	24.32	105	634	N.D.		
79) 1,3,5-Trimethylbenzene	24.38	105	2805	<del>0.056</del> ng		98

*Postlogos*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080802.D  
 Acq On : 8 May 2008 9:24 am  
 Operator : RTB  
 Sample : TO-15 Method Blank (1.0L)  
 Misc : S20-04300802  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
80) alpha-Methylstyrene	24.67	118	54	N.D.		
81) 2-Ethyltoluene	24.63	105	255	N.D.		
82) 1,2,4-Trimethylbenzene	24.89	105	933	N.D.		
83) n-Decane	25.25	57	2264	<del>0.072 ng</del>	#	50
84) Benzyl Chloride	25.06	91	1062	N.D.		
85) 1,3-Dichlorobenzene	25.09	146	533	N.D.		
86) 1,4-Dichlorobenzene	25.16	146	647	N.D.		
87) sec-Butylbenzene	25.21	105	438	N.D.		
88) p-Isopropyltoluene	25.41	119	1975	N.D.		
89) 1,2,3-Trimethylbenzene	25.41	105	2473	<del>0.044 ng</del>		90
90) 1,2-Dichlorobenzene	25.60	146	52	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	26.51	57	1681	<del>0.051 ng</del>		95
94) 1,2,4-Trichlorobenzene	27.64	180	874	<del>0.045 ng</del>	#	70
95) Naphthalene	27.78	128	6436	0.103 ng		90
96) n-Dodecane	27.74	57	1511	<del>0.045 ng</del>		78
97) Hexachloro-1,3-butadiene	27.96	225	52	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

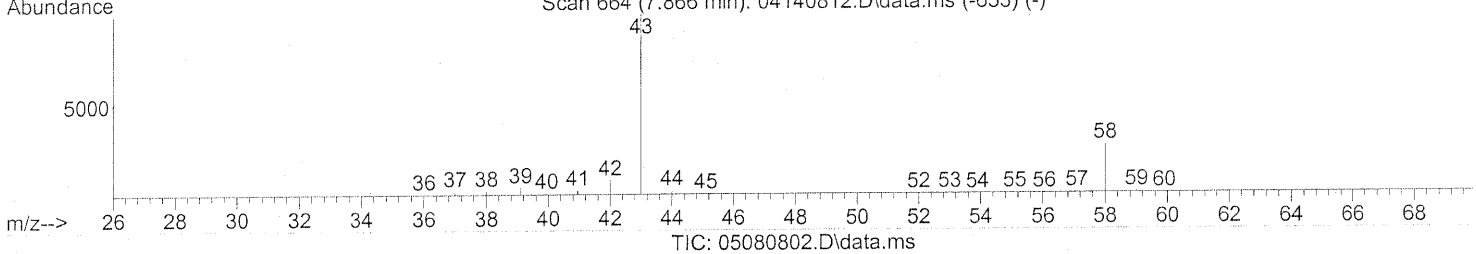
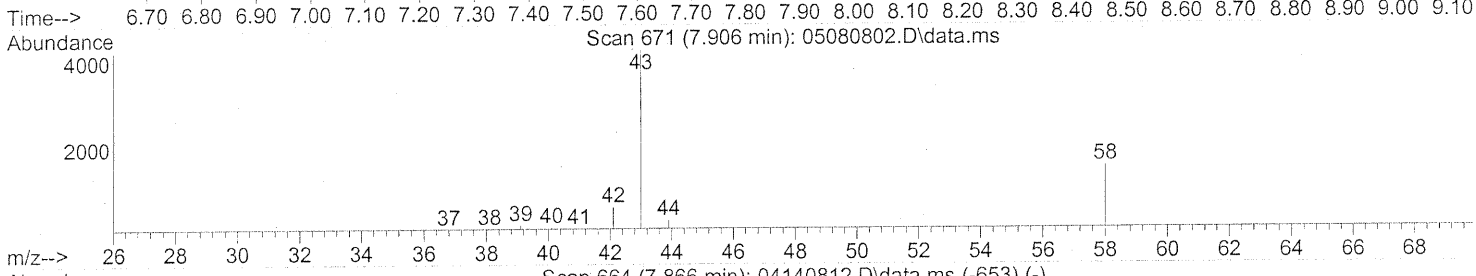
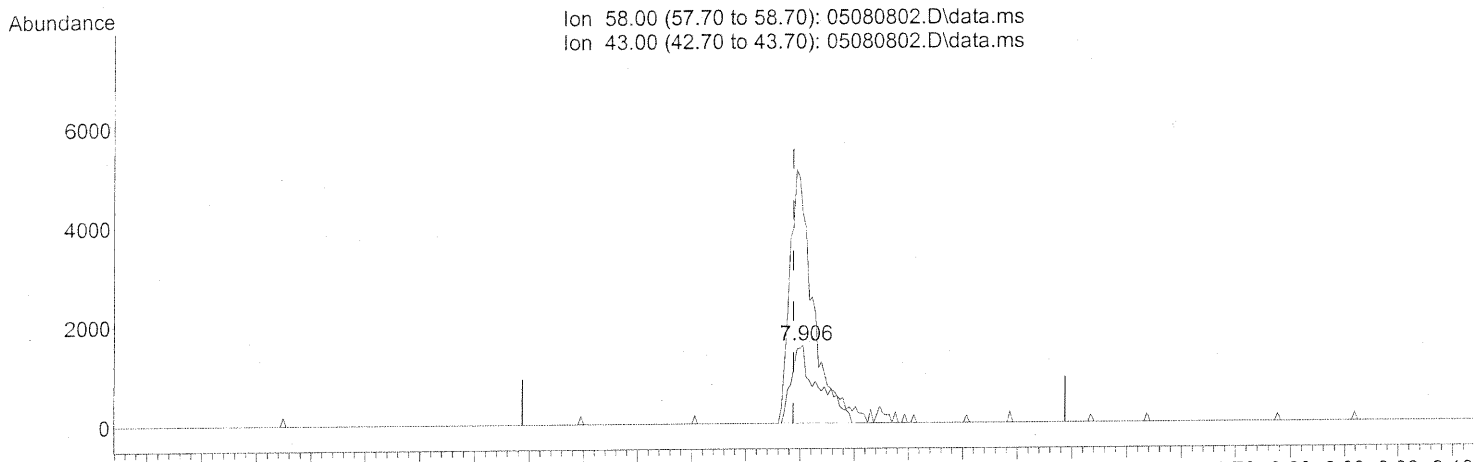
*Postlog/08*



Quantitation Report (Quant)

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080802.D  
Acq On : 8 May 2008 9:24 am  
Operator : RTB  
Sample : TO-15 Method Blank (1.0L)  
Misc : S20-04300802  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



TIC: 05080802.D\data.ms

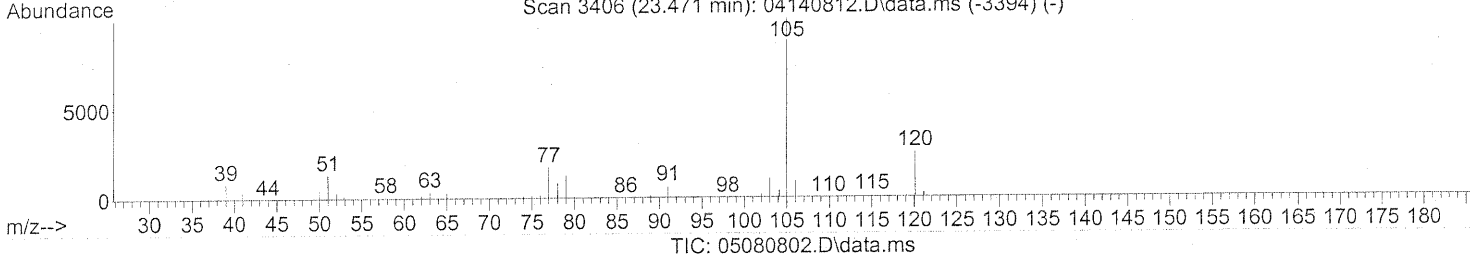
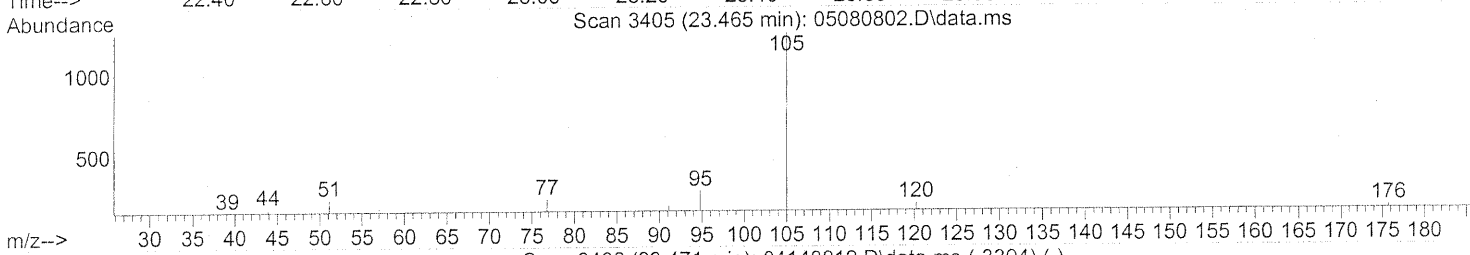
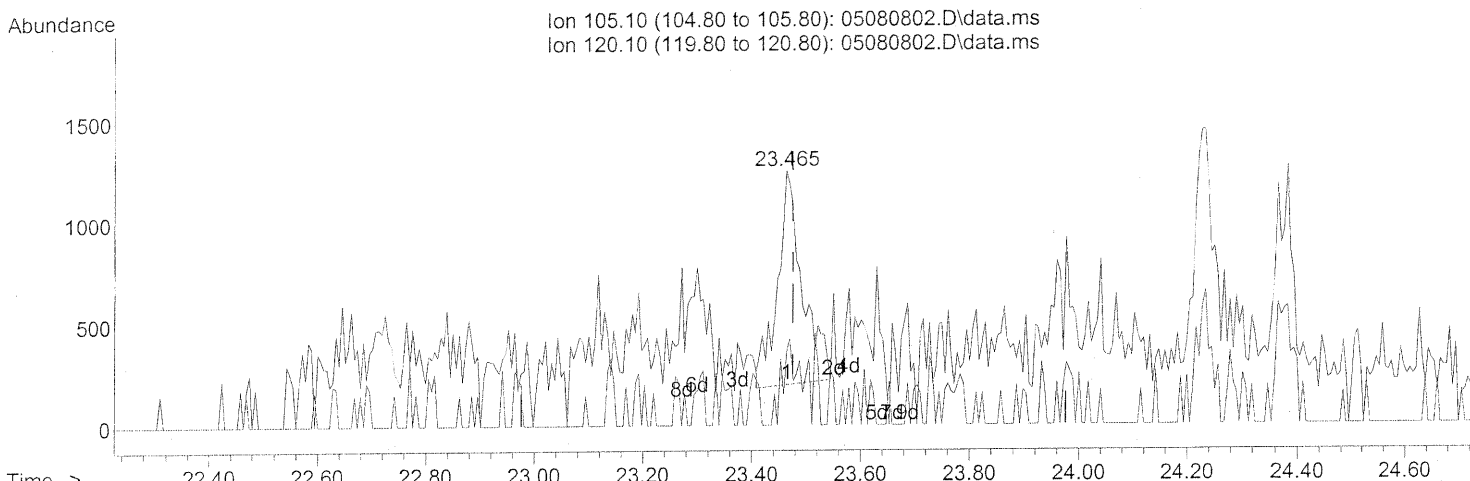
(13) Acetone (T)  
7.906min (+0.018) 0.42ng  
response 5560

Ion	Exp%	Act%
58.00	100	100
43.00	283.10	279.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080802.D  
 Acq On : 8 May 2008 9:24 am  
 Operator : RTB  
 Sample : TO-15 Method Blank (1.0L)  
 Misc : S20-04300802  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



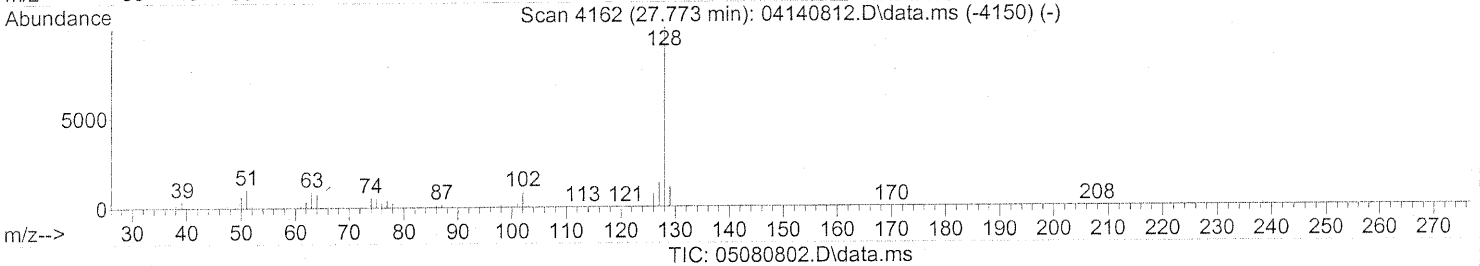
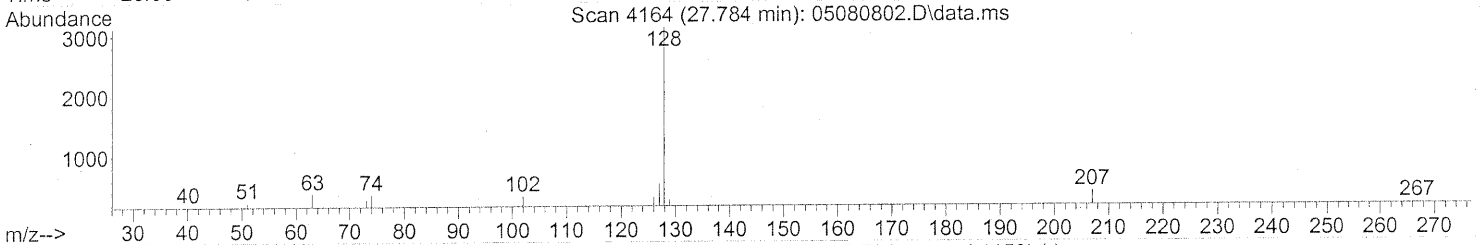
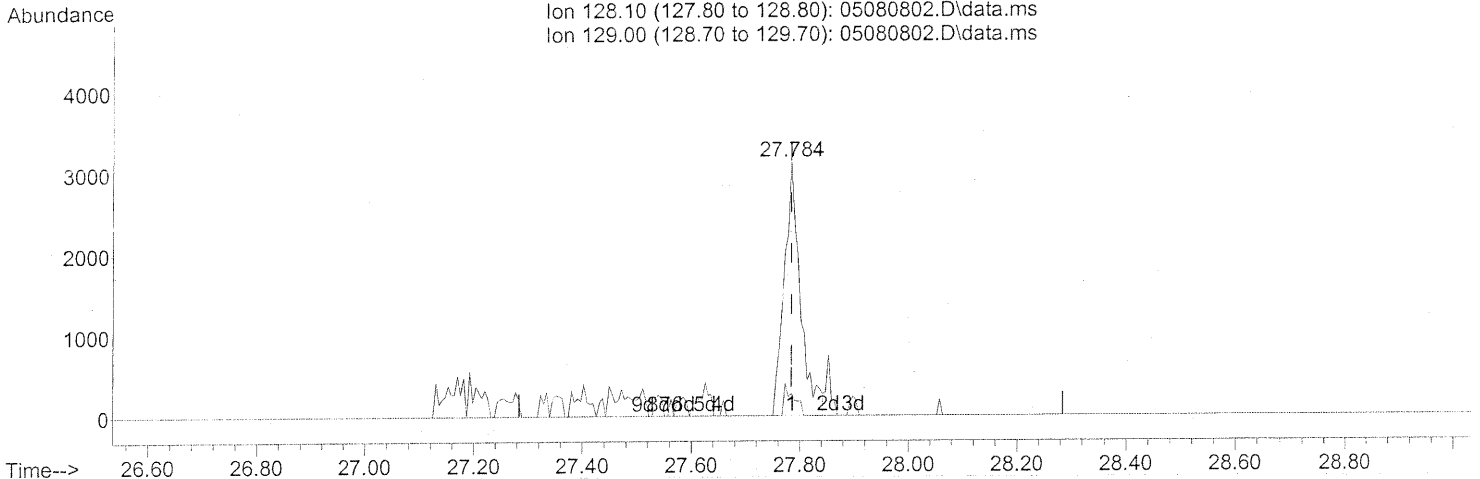
(74) Cumene (T)  
 23.465min (-0.011) 0.06ng  
 response 3341

Ion	Exp%	Act%
105.10	100	100
120.10	26.30	29.96
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080802.D  
Acq On : 8 May 2008 9:24 am  
Operator : RTB  
Sample : TO-15 Method Blank (1.0L)  
Misc : S20-04300802  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:14:46 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration

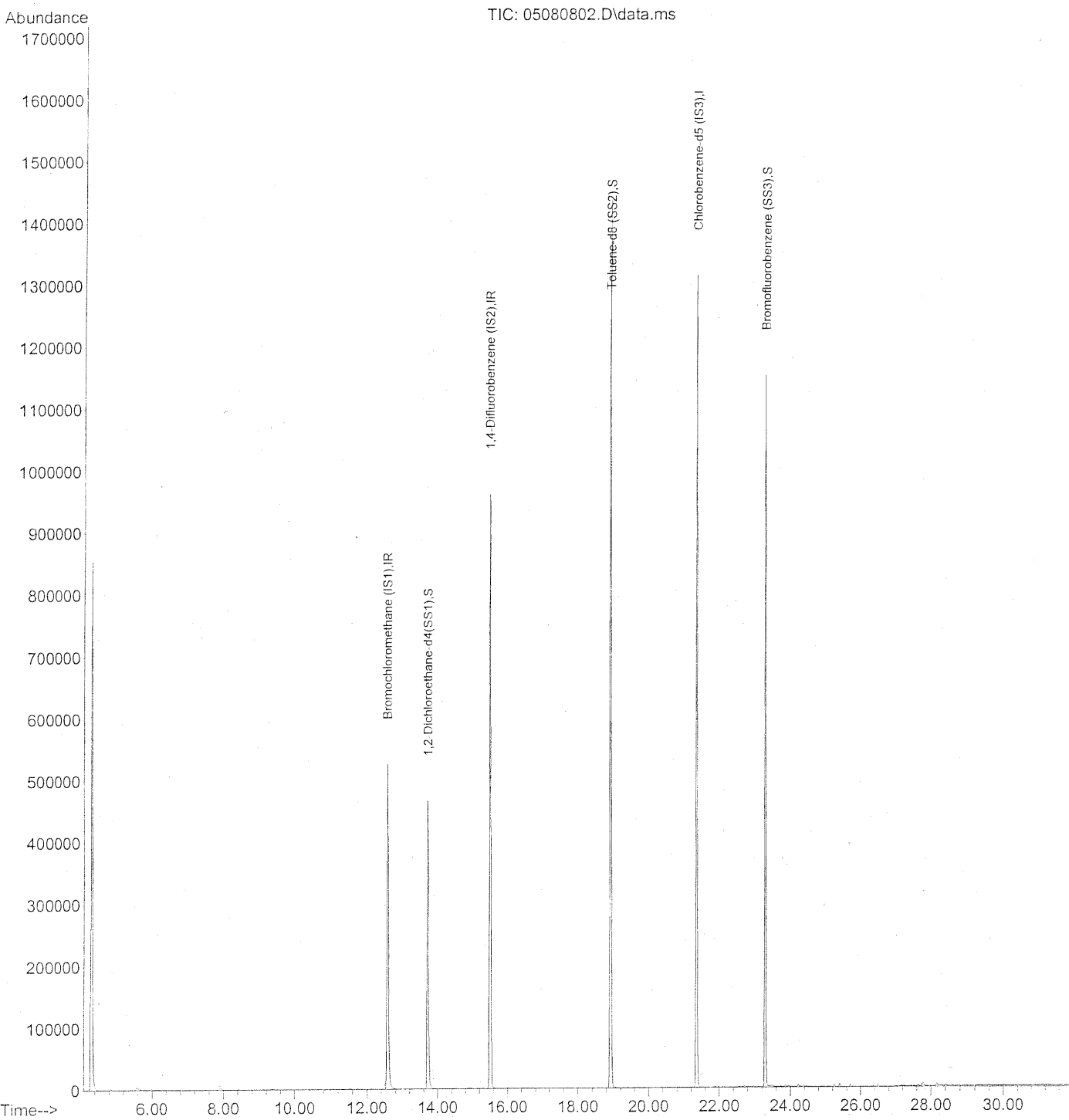


(95) Naphthalene (T)  
27.784min (+0.000) 0.10ng  
response 6436

Ion	Exp%	Act%
128.10	100	100
129.00	11.60	7.68
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080802.D  
Acq On : 8 May 2008 9:24 am  
Operator : RTB  
Sample : TO-15 Method Blank (1.0L)  
Misc : S20-04300802  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:39:51 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Mon Apr 28 10:06:00 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080802.D  
 Acq On : 8 May 2008 9:24 am  
 Operator : RTB  
 Sample : TO-15 Method Blank (1.0L)  
 Misc : S20-04300802  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:39:51 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.58	130	241346	25.000	ng	-0.03	
3) 1,4-Difluorobenzene (IS2)	15.51	114	1037647	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	489334	25.000	ng	0.00	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.72	65	432866	22.365	ng	-0.03	
Spiked Amount	25.000						Recovery = 89.44% ✓
5) Toluene-d8 (SS2)	18.93	98	1126967	25.695	ng	0.00	
Spiked Amount	25.000						Recovery = 102.76% ✓
6) Bromofluorobenzene (SS3)	23.29	174	378759	25.094	ng	0.00	
Spiked Amount	25.000						Recovery = 100.36% ✓
Target Compounds							
7) tert-Butylbenzene	24.87	119	425		N.D.		Qvalue
8) n-Butylbenzene	25.91	91	147		N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*4/05/08/08*

## QC SUMMARY FORMS

**COLUMBIA ANALYTICAL SERVICES, INC.**

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

**Client:** ENSR  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister(s)  
**Test Notes:**

**Date(s) Collected:** 5/7/08  
**Date(s) Received:** 5/8/08  
**Date(s) Analyzed:** 5/8/08

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P080508-MB	89	70-130	103	70-130	100	70-130	
Lab Control Sample	P080508-LCS	91	70-130	103	70-130	101	70-130	
SG83B-05-1	P0801342-001	92	70-130	102	70-130	101	70-130	
SG83B-05-3	P0801342-002	91	70-130	106	70-130	102	70-130	
SG83B-05-7	P0801342-003	91	70-130	102	70-130	98	70-130	
SG83B-05-7	P0801342-003DUP	91	70-130	103	70-130	99	70-130	

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

**Client:** ENSR  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-LCS

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/08/08  
**Volume(s) Analyzed:** NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25.5	21.9	86	69-117	
74-87-3	Chloromethane	24.5	20.8	85	53-131	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	26.0	22.6	87	58-133	
75-01-4	Vinyl Chloride	24.8	20.7	83	61-127	
74-83-9	Bromomethane	25.0	23.9	96	67-124	
75-00-3	Chloroethane	25.0	23.2	93	69-123	
64-17-5	Ethanol	23.8	20.6	87	56-137	
67-64-1	Acetone	26.8	24.9	93	63-116	
75-69-4	Trichlorofluoromethane	26.3	24.4	93	71-120	
107-13-1	Acrylonitrile	25.5	25.5	100	74-129	
75-35-4	1,1-Dichloroethene	27.8	25.8	93	77-116	
75-65-0	2-Methyl-2-Propanol (tert-Butyl Alcohol)	25.8	24.4	95	35-141	
75-09-2	Methylene Chloride	27.8	24.0	86	71-113	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	26.8	29.6	110	75-127	
76-13-1	Trichlorotrifluoroethane	27.8	25.4	91	63-129	
75-15-0	Carbon Disulfide	25.0	23.1	92	72-122	
156-60-5	trans-1,2-Dichloroethene	26.5	24.5	92	74-118	
75-34-3	1,1-Dichloroethane	26.8	24.6	92	74-118	
1634-04-4	Methyl tert-Butyl Ether	26.8	24.2	90	72-119	
108-05-4	Vinyl Acetate	25.3	28.0	111	32-163	
78-93-3	2-Butanone (MEK)	27.0	27.0	100	71-122	
156-59-2	cis-1,2-Dichloroethene	27.0	24.4	90	74-117	
108-20-3	Diisopropyl Ether	26.3	22.8	87	70-131	
67-66-3	Chloroform	29.8	28.3	95	72-113	

Verified By: Re

Date: 5/14/08

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**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-LCS

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/08/08  
**Volume(s) Analyzed:** NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
					Acceptance Limits	
637-92-3	Ethyl tert-Butyl Ether	26.0	24.0	92	74-123	
107-06-2	1,2-Dichloroethane	26.3	23.6	90	72-117	
71-55-6	1,1,1-Trichloroethane	26.8	25.5	95	78-114	
71-43-2	Benzene	27.0	24.9	92	73-111	
56-23-5	Carbon Tetrachloride	26.0	27.2	105	78-126	
994-05-8	tert-Amyl Methyl Ether	26.0	24.9	96	81-118	
78-87-5	1,2-Dichloropropane	26.5	24.1	91	78-117	
75-27-4	Bromodichloromethane	27.8	26.8	96	77-120	
79-01-6	Trichloroethene	27.3	26.4	97	80-116	
123-91-1	1,4-Dioxane	27.5	27.8	101	79-122	
80-62-6	Methyl Methacrylate	25.8	26.3	102	79-128	
142-82-5	n-Heptane	26.8	24.3	91	77-117	
10061-01-5	cis-1,3-Dichloropropene	25.0	25.9	104	78-112	
108-10-1	4-Methyl-2-pentanone	27.5	24.6	89	78-128	
10061-02-6	trans-1,3-Dichloropropene	28.0	29.8	106	81-121	
79-00-5	1,1,2-Trichloroethane	26.3	24.7	94	80-117	
108-88-3	Toluene	26.5	27.0	102	76-116	
591-78-6	2-Hexanone	26.3	25.9	98	69-131	
124-48-1	Dibromochloromethane	27.0	30.2	112	80-128	
106-93-4	1,2-Dibromoethane	26.3	29.6	113	79-122	
111-65-9	n-Octane	26.0	26.2	101	78-122	
127-18-4	Tetrachloroethene	26.0	27.1	104	77-118	
108-90-7	Chlorobenzene	26.5	27.0	102	78-117	

Verified By: RG Date: 5/9/08 **125**

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

**Client:** ENSR  
**Client Sample ID:** Lab Control Sample  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342  
 CAS Sample ID: P080508-LCS

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**

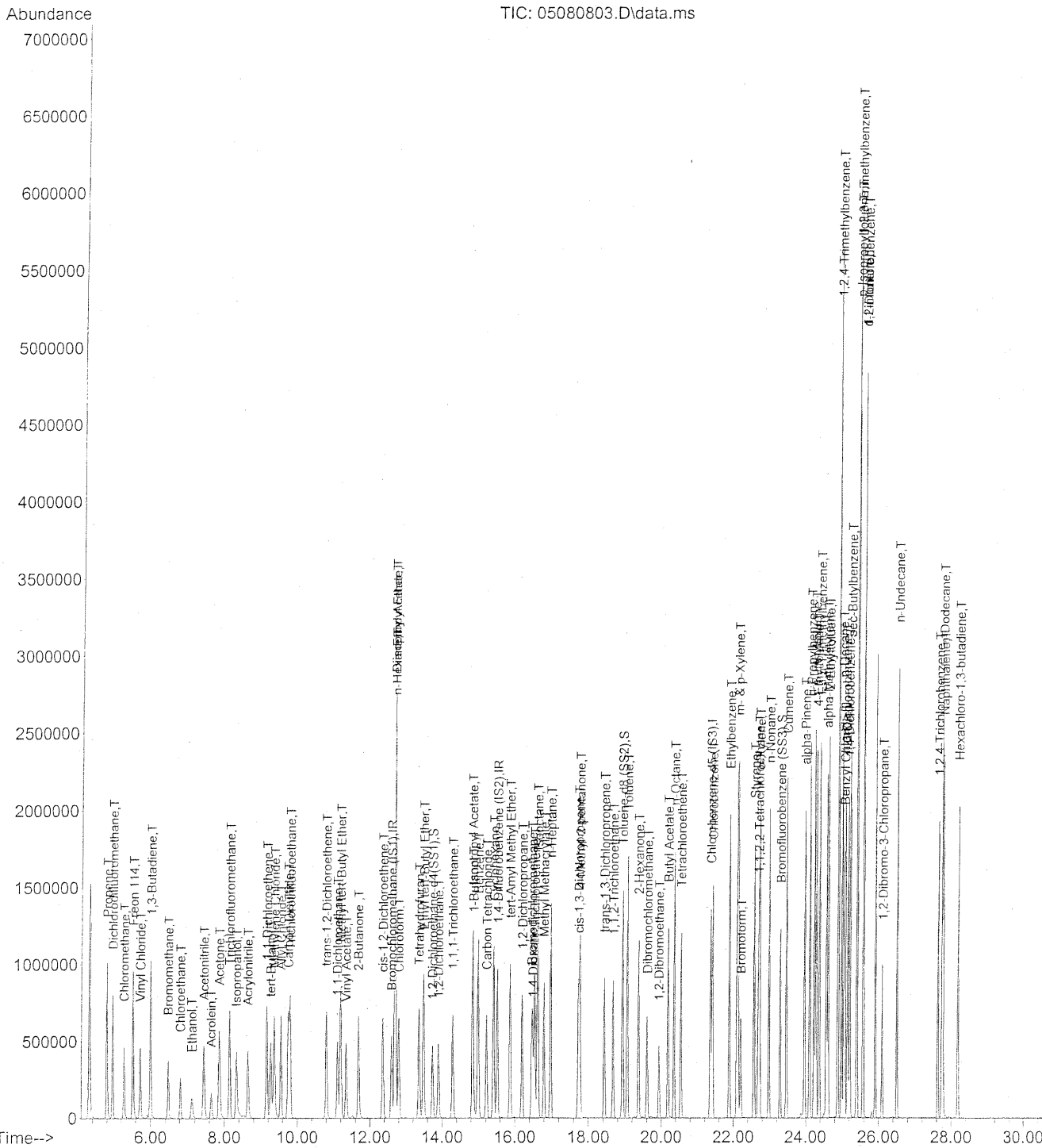
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 5/08/08  
**Volume(s) Analyzed:** NA Liter(s)

CAS #	Compound	Spike Amount ng	Result ng	% Recovery	CAS	Data Qualifier
					Acceptance Limits	
100-41-4	Ethylbenzene	26.3	27.4	104	79-116	
179601-23-1	m,p-Xylenes	62.5	64.8	104	80-117	
75-25-2	Bromoform	31.3	38.5	123	77-128	
100-42-5	Styrene	26.3	27.6	105	80-124	
95-47-6	o-Xylene	29.8	30.4	102	80-116	
79-34-5	1,1,2,2-Tetrachloroethane	29.8	31.0	104	79-120	
98-82-8	Cumene	27.0	28.8	107	81-119	
103-65-1	n-Propylbenzene	26.3	28.3	108	82-120	
622-96-8	4-Ethyltoluene	26.5	28.4	107	80-119	
108-67-8	1,3,5-Trimethylbenzene	26.0	27.4	105	80-120	
98-83-9	alpha-Methylstyrene	25.5	26.0	102	54-146	
95-63-6	1,2,4-Trimethylbenzene	26.0	27.3	105	80-122	
100-44-7	Benzyl Chloride	25.8	30.5	118	85-131	
541-73-1	1,3-Dichlorobenzene	25.5	27.0	106	81-117	
106-46-7	1,4-Dichlorobenzene	26.3	28.1	107	81-119	
135-98-8	sec-Butylbenzene	26.8	28.7	107	80-124	
99-87-6	4-Isopropyltoluene (p-Cymene)	28.8	31.6	110	78-124	
95-50-1	1,2-Dichlorobenzene	25.8	26.1	101	81-122	
96-12-8	1,2-Dibromo-3-chloropropane	25.8	31.7	123	91-136	
120-82-1	1,2,4-Trichlorobenzene	26.0	28.5	110	75-138	
91-20-3	Naphthalene	26.3	28.6	109	76-143	
87-68-3	Hexachlorobutadiene	26.3	28.8	110	72-128	
98-06-6	tert-Butylbenzene	26.3	22.7	86	70-130	
104-51-8	n-Butylbenzene	26.8	23.5	88	70-130	

Verified By: RC Date: 5/9/08 **126**

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080803.D  
Acq On : 8 May 2008 10:05 am  
Operator : RTB  
Sample : 25ng TO-15 LCS  
Misc : S20-04300802/S20-04110810  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 10:55:04 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 10:55:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.59	130	244114	25.000	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	15.52	114	1061640	25.000	ng	-0.01
56) Chlorobenzene-d5 (IS3)	21.35	82	502772	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.73	65	443758	22.667	ng	-0.02
Spiked Amount	25.000		Recovery	=	90.68%	✓
57) Toluene-d8 (SS2)	18.93	98	1158483	25.707	ng	0.00
Spiked Amount	25.000		Recovery	=	102.84%	✓
73) Bromofluorobenzene (SS3)	23.29	174	390550	25.184	ng	0.00
Spiked Amount	25.000		Recovery	=	100.72%	✓

Target Compounds

						Qvalue
2) Propene	4.79	42	475558	23.536	ng	90
3) Dichlorodifluoromethane	4.95	85	807110	21.912	ng	99
4) Chloromethane	5.27	50	638817	20.752	ng	97
5) Freon 114	5.52	135	407641	22.602	ng	99
6) Vinyl Chloride	5.72	62	593092	20.701	ng	96
7) 1,3-Butadiene	6.00	54	588675	26.572	ng	# 77
8) Bromomethane	6.48	94	328456	23.879	ng	100
9) Chloroethane	6.82	64	275127	23.180	ng	96
10) Ethanol	7.13	45	284504	20.648	ng	95
11) Acetonitrile	7.44	41	809787	22.363	ng	96
12) Acrolein	7.64	56	218995	22.491	ng	99
13) Acetone	7.87	58	336805	24.924	ng	# 66
14) Trichlorofluoromethane	8.14	101	705880	24.390	ng	99
15) Isopropanol	8.33	45	977864m	21.384	ng	
16) Acrylonitrile	8.64	53	534167	25.476	ng	98
17) 1,1-Dichloroethene	9.16	96	347213	25.757	ng	# 85
18) tert-Butanol	9.27	59	924796	24.384	ng	94
19) Methylene Chloride	9.36	84	371975	23.964	ng	89
20) Allyl Chloride	9.55	41	614215	29.618	ng	100
21) Trichlorotrifluoroethane	9.81	151	314484	25.430	ng	95
22) Carbon Disulfide	9.76	76	1329828	23.105	ng	97
23) trans-1,2-Dichloroethene	10.80	61	575163	24.479	ng	89
24) 1,1-Dichloroethane	11.10	63	672011	24.575	ng	95
25) Methyl tert-Butyl Ether	11.19	73	1086599	24.195	ng	87
26) Vinyl Acetate	11.34	86	75223	28.018	ng	# 90
27) 2-Butanone	11.68	72	255480	26.960	ng	98
28) cis-1,2-Dichloroethene	12.36	61	540182	24.397	ng	88
29) Diisopropyl Ether	12.69	87	284170	22.839	ng	# 89
30) Ethyl Acetate	12.69	61	153450	25.977	ng	86
31) n-Hexane	12.70	57	695486	22.652	ng	91

*Post 5/8/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 10:55:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.80	83	646002	28.343	ng	99
34) Tetrahydrofuran	13.36	72	244651	25.812	ng	95
35) Ethyl tert-Butyl Ether	13.49	87	392942	24.015	ng #	81
36) 1,2-Dichloroethane	13.89	62	532388	23.585	ng	98
38) 1,1,1-Trichloroethane	14.29	97	563082	25.454	ng	99
39) Isopropyl Acetate	14.84	61	238595	24.715	ng #	35
40) 1-Butanol	14.85	56	324405	22.388	ng #	54
41) Benzene	14.99	78	1400049	24.859	ng	99
42) Carbon Tetrachloride	15.22	117	505854	27.157	ng	98
43) Cyclohexane	15.41	84	532962	25.582	ng #	79
44) tert-Amyl Methyl Ether	15.87	73	996900	24.874	ng	92
45) 1,2-Dichloropropane	16.20	63	388671	24.082	ng	97
46) Bromodichloromethane	16.46	83	513269	26.805	ng	100
47) Trichloroethene	16.54	130	365361	26.368	ng	99
48) 1,4-Dioxane	16.49	88	276829	27.761	ng	82
49) Isooctane	16.62	57	1644950	24.669	ng	75
50) Methyl Methacrylate	16.79	100	134748	26.346	ng #	75
51) n-Heptane	16.98	71	378875	24.282	ng #	82
52) cis-1,3-Dichloropropene	17.73	75	568959	25.931	ng	98
53) 4-Methyl-2-pentanone	17.77	58	378557	24.574	ng	85
54) trans-1,3-Dichloropropene	18.43	75	564481	29.782	ng	100
55) 1,1,2-Trichloroethane	18.67	97	335653	24.749	ng	90
58) Toluene	19.07	91	1528280	26.992	ng	96
59) 2-Hexanone	19.37	43	1090459	25.855	ng	81
60) Dibromochloromethane	19.61	129	412166	30.182	ng	98
61) 1,2-Dibromoethane	19.93	107	394146	29.608	ng	99
62) Butyl Acetate	20.19	43	1194065	28.313	ng	85
63) n-Octane	20.35	57	348079	26.229	ng	94
64) Tetrachloroethene	20.55	166	384134	27.097	ng	100
65) Chlorobenzene	21.41	112	946276	26.983	ng	100
66) Ethylbenzene	21.89	91	1734151	27.430	ng	91
67) m- & p-Xylene	22.13	91	2740412	64.843	ng	90
68) Bromoform	22.21	173	359570	38.513	ng	98
69) Styrene	22.57	104	1007264	27.616	ng	96
70) o-Xylene	22.72	91	1383877	30.428	ng	91
71) n-Nonane	22.98	43	928689	25.498	ng #	80
72) 1,1,2,2-Tetrachloroethane	22.69	83	673579	31.033	ng	97
74) Cumene	23.47	105	1664154	28.846	ng	99
75) alpha-Pinene	23.96	93	838632	27.348	ng	92
76) n-Propylbenzene	24.10	91	2187237	28.328	ng	96
77) 3-Ethyltoluene	24.23	105	1717671	27.305	ng	97
78) 4-Ethyltoluene	24.28	105	1643512	28.374	ng	97
79) 1,3,5-Trimethylbenzene	24.37	105	1410515	27.419	ng	98

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R05/05/08

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 10:55:04 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.56	118	707470	25.970	ng	96
81) 2-Ethyltoluene	24.61	105	1681152	26.584	ng	98
82) 1,2,4-Trimethylbenzene	24.88	105	1586186	27.287	ng	97
83) n-Decane	24.98	57	875859	27.246	ng	87
84) Benzyl Chloride	25.05	91	1207310	30.469	ng	95
85) 1,3-Dichlorobenzene	25.08	146	848868	26.974	ng	99
86) 1,4-Dichlorobenzene	25.15	146	847734	28.149	ng	98
87) sec-Butylbenzene	25.21	105	1955817	28.658	ng	96
88) p-Isopropyltoluene	25.40	119	1878863	31.568	ng	91
89) 1,2,3-Trimethylbenzene	25.41	105	1674108	29.285	ng	97
90) 1,2-Dichlorobenzene	25.58	146	841258	26.084	ng	100
91) d-Limonene	25.58	68	636282	24.141	ng	93
92) 1,2-Dibromo-3-Chloropr...	26.11	157	270605	31.671	ng	# 71
93) n-Undecane	26.50	57	920986	27.289	ng	87
94) 1,2,4-Trichlorobenzene	27.62	180	570506	28.542	ng	96
95) Naphthalene	27.77	128	1835333	28.558	ng	98
96) n-Dodecane	27.74	57	873092	25.497	ng	85
97) Hexachloro-1,3-butadiene	28.19	225	370854	28.811	ng	99

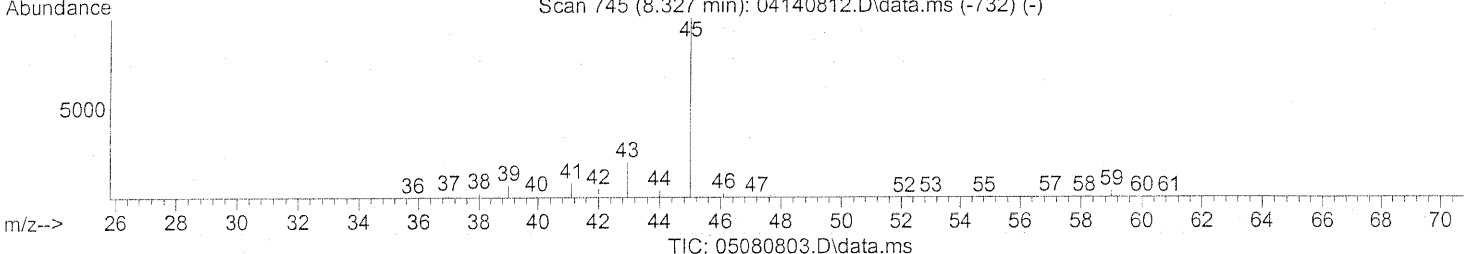
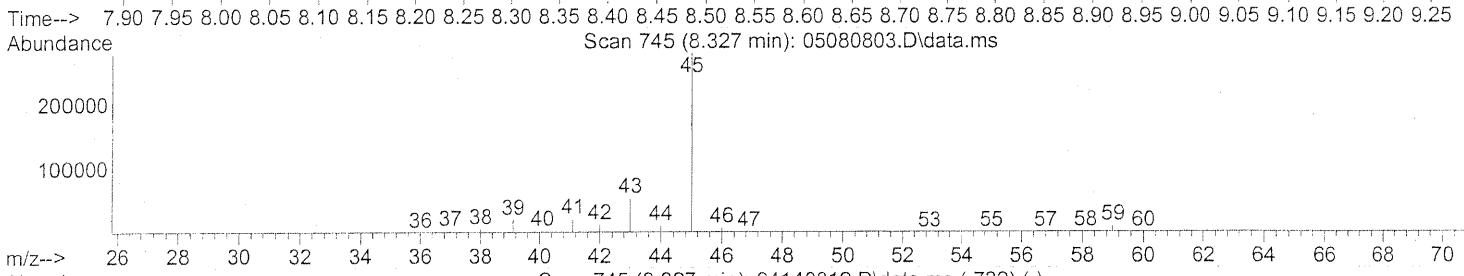
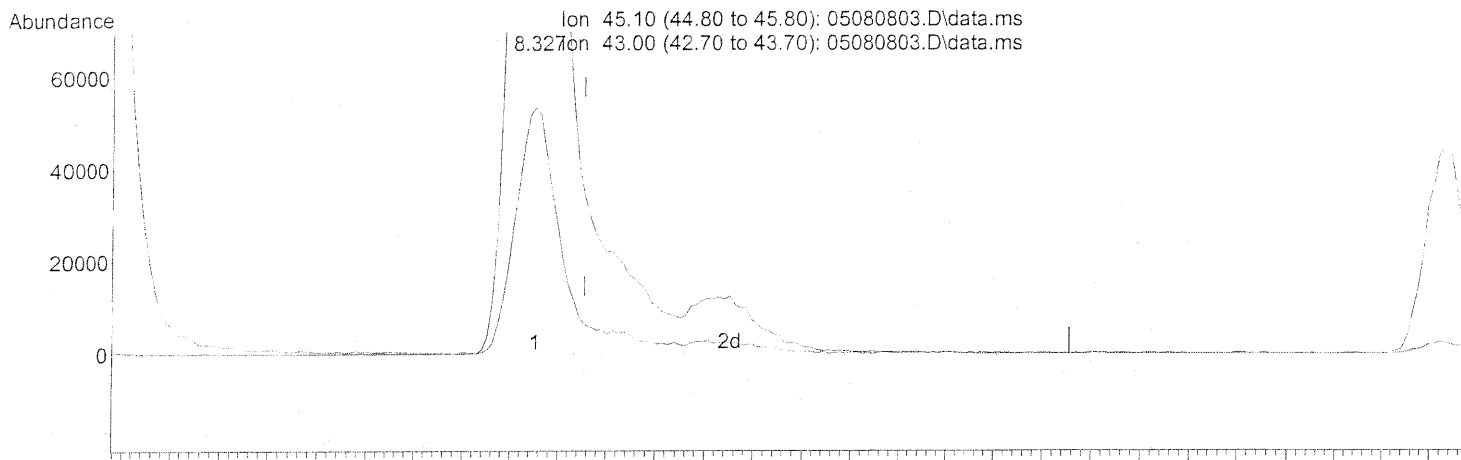
(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Post 5/8/08*

Quantitation Report (Qeait)

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 10:54:40 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.327min (-0.051) 20.09ng

response 918465

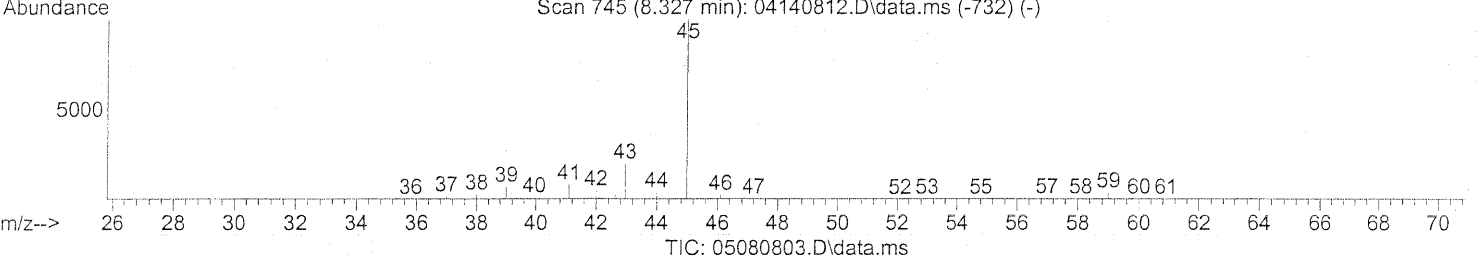
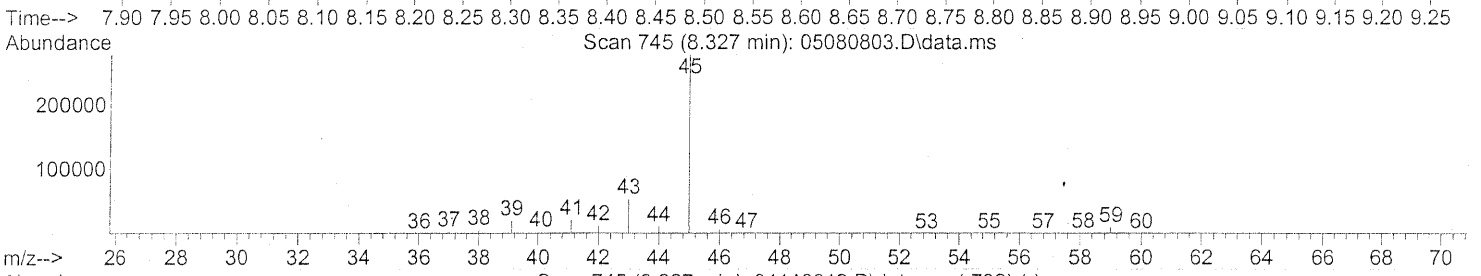
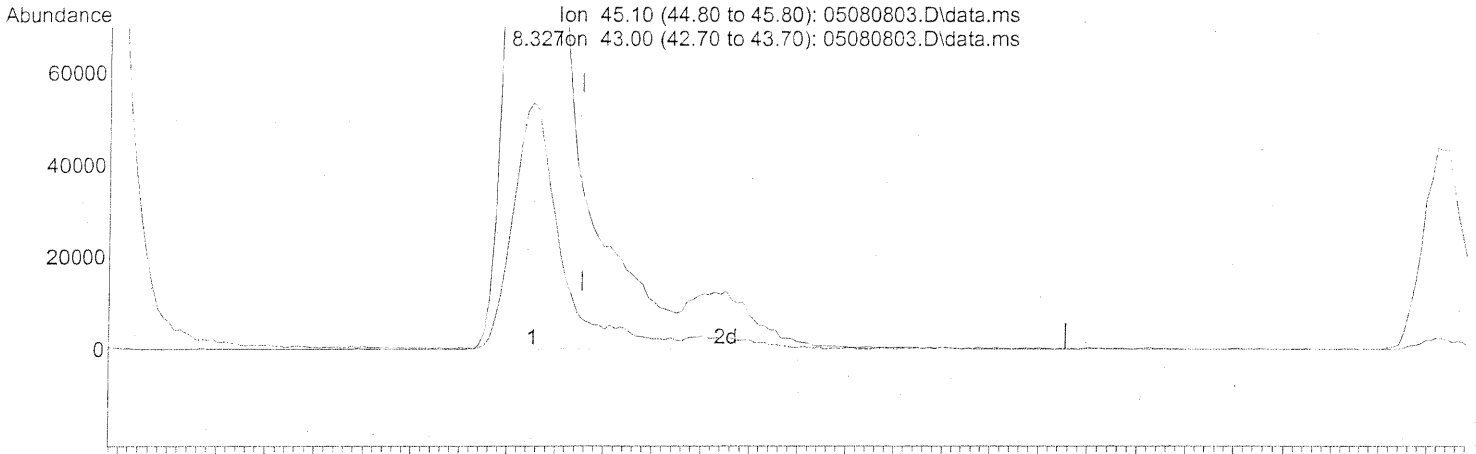
*TAILING*

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	19.85
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 10:54:40 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.327min (-0.051) 21.38ng m

response. 977864

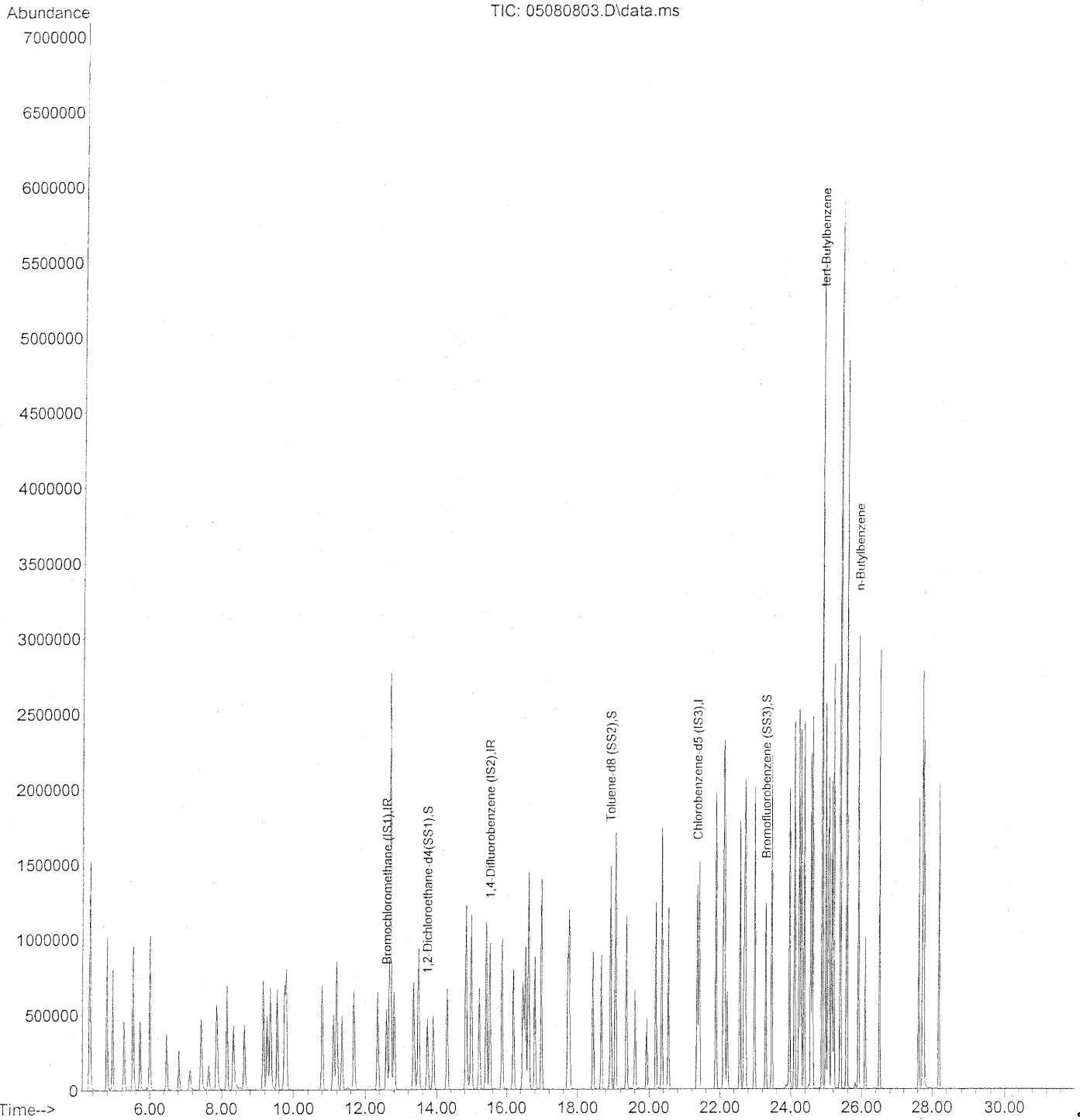
Ion	Exp%	Act%
45.10	100	100
43.00	16.90	18.65
0.00	0.00	0.00
0.00	0.00	0.00

ADDED TAILING  
 5/8/08  
 Sr 5/8/08



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 15:40:19 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080803.D  
 Acq On : 8 May 2008 10:05 am  
 Operator : RTB  
 Sample : 25ng TO-15 LCS  
 Misc : S20-04300802/S20-04110810  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 15:40:19 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.59	130	244114	25.000	ng	-0.01
3) 1,4-Difluorobenzene (IS2)	15.52	114	1061640	25.000	ng	-0.01
4) Chlorobenzene-d5 (IS3)	21.35	82	502772	25.000	ng	0.00
System Monitoring Compounds						
2) 1,2-Dichloroethane-d4(...)	13.73	65	443758	22.667	ng	-0.02
Spiked Amount	25.000			Recovery	=	90.68% ✓
5) Toluene-d8 (SS2)	18.93	98	1158483	25.707	ng	0.00
Spiked Amount	25.000			Recovery	=	102.84% ✓
6) Bromofluorobenzene (SS3)	23.29	174	390550	25.184	ng	0.00
Spiked Amount	25.000			Recovery	=	100.72% ✓
Target Compounds						Qvalue
7) tert-Butylbenzene	24.88	119	1476462	26.818	ng	99
8) n-Butylbenzene	25.91	91	1702949	28.670	ng	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*RTB*

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-003DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2

Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

Compound	Sample Result		Duplicate Sample Result		Average µg/m <sup>3</sup>	% RPD	RPD Limit	Data Qualifier
	µg/m <sup>3</sup>	ppbV	µg/m <sup>3</sup>	ppbV				
Dichlorodifluoromethane (CFC 12)	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Acetone	114	48.1	107	45.2	110.5	6	25	J, B
Trichlorofluoromethane	1,520	271	1,530	273	1525	0.7	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
2-Methyl-2-Propanol (tert-Butyl Alcohol)	ND	ND	ND	ND	-	-	25	
Methylene Chloride	9.34	2.69	ND	ND	-	-	25	J
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	23.0	7.80	18.7	6.34	20.85	21	25	J
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Diisopropyl Ether	ND	ND	ND	ND	-	-	25	
Chloroform	54,300	11,100	45,700	9,370	50000	17	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

B = Analyte was found in the method blank.

Verified By: *Re*

Date: *5/9/08*

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**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY DUPLICATE SUMMARY RESULTS

Page 2 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-003DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

Initial Pressure (psig): -4.2

Final Pressure (psig): 3.5

Canister Dilution Factor: 1.73

Compound	Sample Result		Duplicate Sample Result		Average µg/m <sup>3</sup>	% RPD	RPD Limit	Data Qualifier
	µg/m <sup>3</sup>	ppbV	µg/m <sup>3</sup>	ppbV				
Ethyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
<b>Benzene</b>	101	31.7	102	32.1	101.5	<b>1</b>	25	
<b>Carbon Tetrachloride</b>	12,000	1,910	12,300	1,950	12150	<b>2</b>	25	
tert-Amyl Methyl Ether	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
<b>Trichloroethene</b>	11.4	2.13	11.9	2.22	11.65	<b>4</b>	25	<b>J</b>
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Octane	ND	ND	ND	ND	-	-	25	
<b>Tetrachloroethene</b>	127	18.7	124	18.3	125.5	<b>2</b>	25	
<b>Chlorobenzene</b>	180	39.1	197	42.7	188.5	<b>9</b>	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

J = The analyte was positively identified below the method reporting limit; the associated numerical value is considered estimated.

Verified By: RC Date: 5/9/08 **136**

**COLUMBIA ANALYTICAL SERVICES, INC.**

LABORATORY DUPLICATE SUMMARY RESULTS

Page 3 of 3

**Client:** ENSR  
**Client Sample ID:** SG83B-05-7  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

**CAS Project ID:** P0801342  
**CAS Sample ID:** P0801342-003DUP

**Test Code:** EPA TO-15  
**Instrument ID:** Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
**Analyst:** Rusty Bravo  
**Sampling Media:** 6.0 L Summa Canister  
**Test Notes:**  
**Container ID:** SC00791

**Date Collected:** 5/7/08  
**Date Received:** 5/8/08  
**Date Analyzed:** 5/8/08  
**Volume(s) Analyzed:** 0.010 Liter(s)  
 0.0010 Liter(s)

**Initial Pressure (psig):** -4.2

**Final Pressure (psig):** 3.5

**Canister Dilution Factor:** 1.73

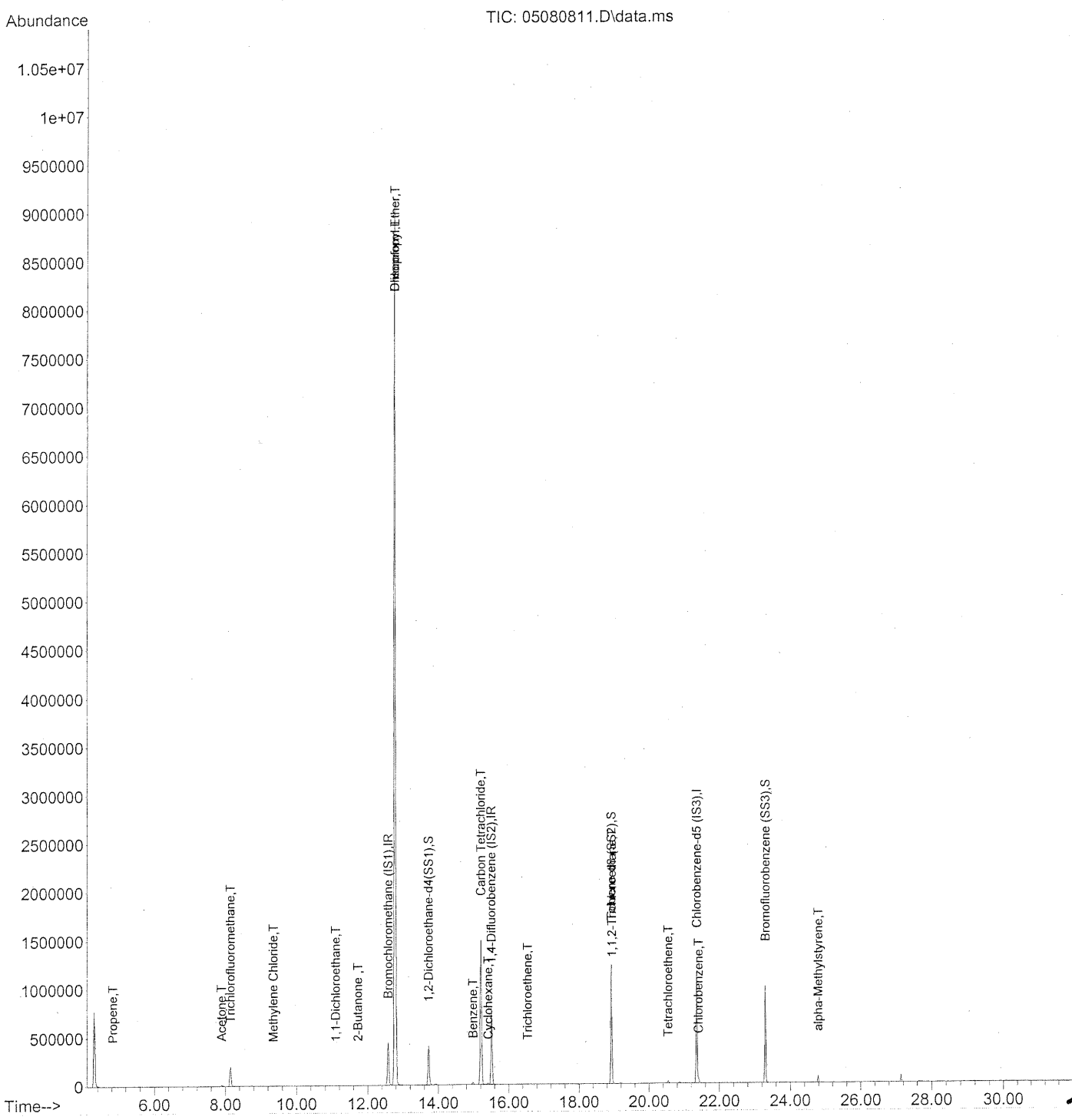
Compound	Sample Result		Duplicate Sample Result		Average µg/m <sup>3</sup>	% RPD	RPD Limit	Data Qualifier
	µg/m <sup>3</sup>	ppbV	µg/m <sup>3</sup>	ppbV				
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
alpha-Methylstyrene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
sec-Butylbenzene	ND	ND	ND	ND	-	-	25	
4-Isopropyltoluene (p-Cymene)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
tert-Butylbenzene	ND	ND	ND	ND	-	-	25	
n-Butylbenzene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

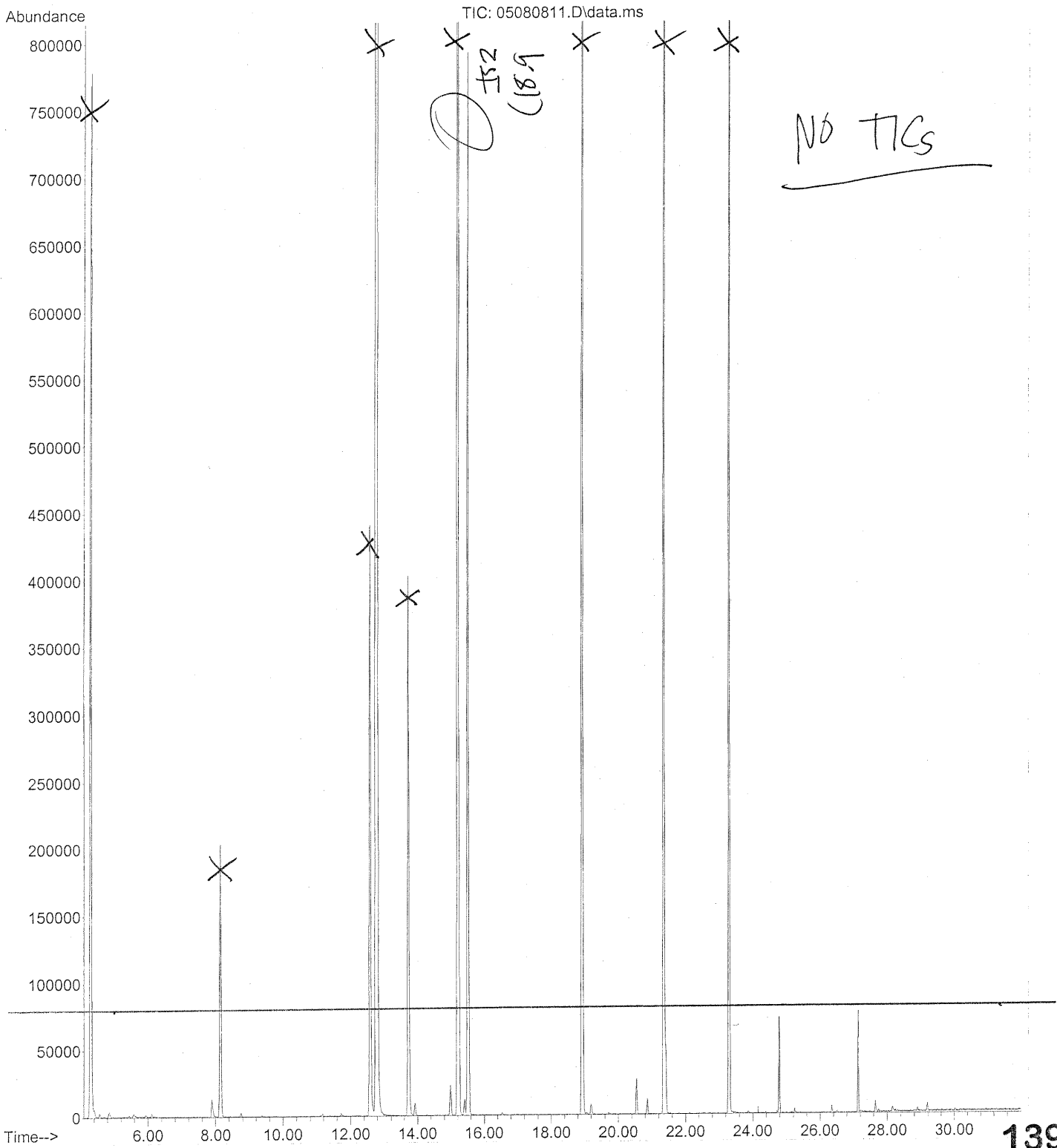
Verified By: Re Date: 5/9/08 **137**

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



File : J:\MS13\DATA\2008\_05\08\05080811.D  
Operator : RTB  
Acquired : 8 May 2008 5:14 pm using AcqMethod TO15.M  
Instrument : GCMS13  
Sample Name: P0801342-003 DUP (10mL)  
Misc Info : ENSR SG83B-05-7 (-4.2, 3.5)  
Vial Number: 4



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	199552	25.000	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	15.51	114	853249	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	416006	25.000	ng	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) 1,2-Dichloroethane-d4 (...)	13.72	65	362203	22.633	ng	-0.03
Spiked Amount	25.000					Recovery = 90.52% ✓
57) Toluene-d8 (SS2)	18.93	98	958033	25.693	ng	0.00
Spiked Amount	25.000					Recovery = 102.76% ✓
73) Bromofluorobenzene (SS3)	23.29	174	317099	24.712	ng	0.00
Spiked Amount	25.000					Recovery = 98.84% ✓

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.83	42	744	0.045	ng	# 72
3) Dichlorodifluoromethane	4.99	85	431	N.D.		✓
4) Chloromethane	0.00	50	0	N.D.		✓
5) Freon 114	0.00	135	0	N.D.		✓
6) Vinyl Chloride	0.00	62	0	N.D.		✓
7) 1,3-Butadiene	0.00	54	0	N.D.		✓
8) Bromomethane	0.00	94	0	N.D.		✓
9) Chloroethane	0.00	64	0	N.D.		✓
10) Ethanol	0.00	45	0	N.D.		✓
11) Acetonitrile	7.47	41	258	N.D.		
12) Acrolein	7.68	56	57	N.D.		
13) Acetone	7.89	58	6861	0.621	ng	# 50
14) Trichlorofluoromethane	8.14	101	209697	8.863	ng	# 100
15) Isopropanol	8.37	45	209	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		✓
17) 1,1-Dichloroethene	0.00	96	0	N.D.		✓
18) tert-Butanol	0.00	59	0	N.D.		✓
19) Methylene Chloride	9.35	84	517	<del>0.041</del>	ng	# 25
20) Allyl Chloride	0.00	41	0	N.D.		✓
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		✓
22) Carbon Disulfide	9.78	76	576	N.D.		✓
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		✓
24) 1,1-Dichloroethane	11.10	63	898	<del>0.040</del>	ng	# 57
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		✓
26) Vinyl Acetate	0.00	86	0	N.D.		✓
27) 2-Butanone	11.72	72	840	0.108	ng	# 87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		✓
29) Diisopropyl Ether	12.78	87	826754	<del>81.284</del>	ng	# 1
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	12.69	57	212	N.D.		

*Postlog*



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.78	83	7912800	<del>424.702</del>	ng	100
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	✓	
36) 1,2-Dichloroethane	13.73	62	575	N.D.	✓	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	✓	
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	15.02	56	59	N.D.		
41) Benzene	14.99	78	26794	0.592	ng	100
42) Carbon Tetrachloride	15.21	117	1063253	71.023	ng	99
43) Cyclohexane	15.41	84	5267	0.315	ng	# 80
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	✓	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	✓	
46) Bromodichloromethane	16.45	83	85	N.D.	✓	
47) Trichloroethene	16.53	130	764	0.069	ng	# 78
48) 1,4-Dioxane	0.00	88	0	N.D.	✓	
49) Isooctane	0.00	57	0	N.D.	✓	
50) Methyl Methacrylate	0.00	100	0	N.D.	✓	
51) n-Heptane	16.99	71	72	N.D.	✓	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	✓	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	✓	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	✓	
55) 1,1,2-Trichloroethane	18.94	97	87069	<del>7.988</del>	ng	# 9
58) Toluene	19.07	91	1731	N.D.	✓	
59) 2-Hexanone	19.18	43	94	N.D.	✓	
60) Dibromochloromethane	0.00	129	0	N.D.	✓	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	✓	
62) Butyl Acetate	20.36	43	231	N.D.		
63) n-Octane	0.00	57	0	N.D.	✓	
64) Tetrachloroethene	20.54	166	8417	0.718	ng	99
65) Chlorobenzene	21.40	112	32954	1.136	ng	98
66) Ethylbenzene	21.89	91	376	N.D.	✓	
67) m- & p-Xylene	22.12	91	797	N.D.	✓	
68) Bromoform	0.00	173	0	N.D.	✓	
69) Styrene	0.00	104	0	N.D.	✓	
70) o-Xylene	22.73	91	164	N.D.	✓	
71) n-Nonane	22.99	43	222	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	✓	
74) Cumene	23.47	105	115	N.D.	✓	
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.	✓	
77) 3-Ethyltoluene	24.24	105	239	N.D.		
78) 4-Ethyltoluene	24.30	105	102	N.D.	✓	
79) 1,3,5-Trimethylbenzene	24.38	105	127	N.D.	✓	

*See data*

*MR#*

*Poston/as*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

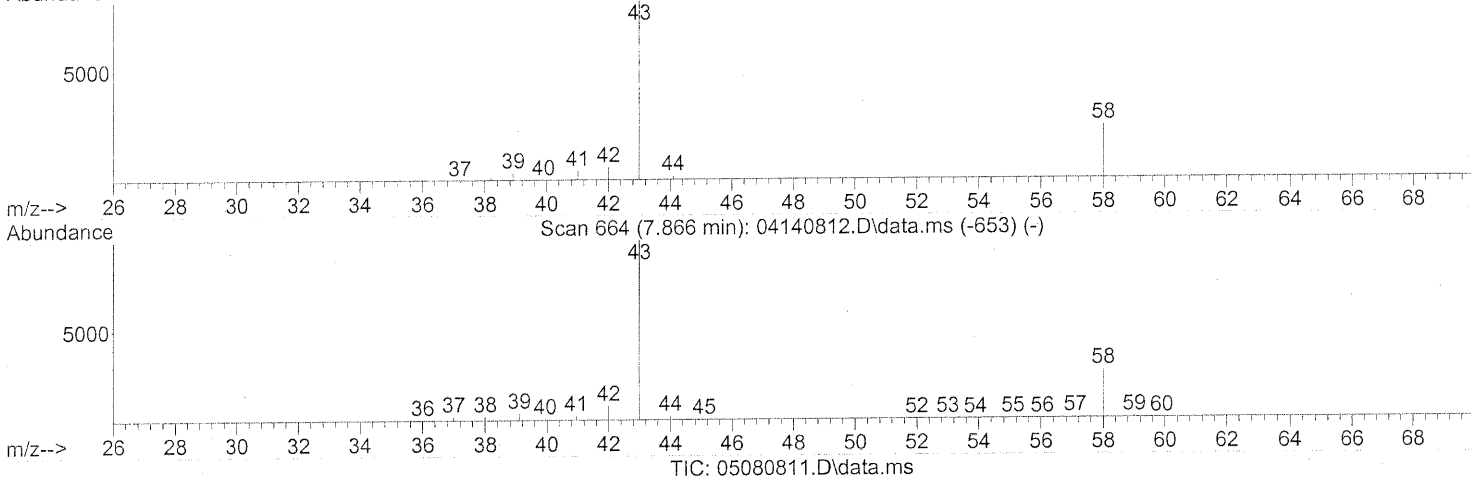
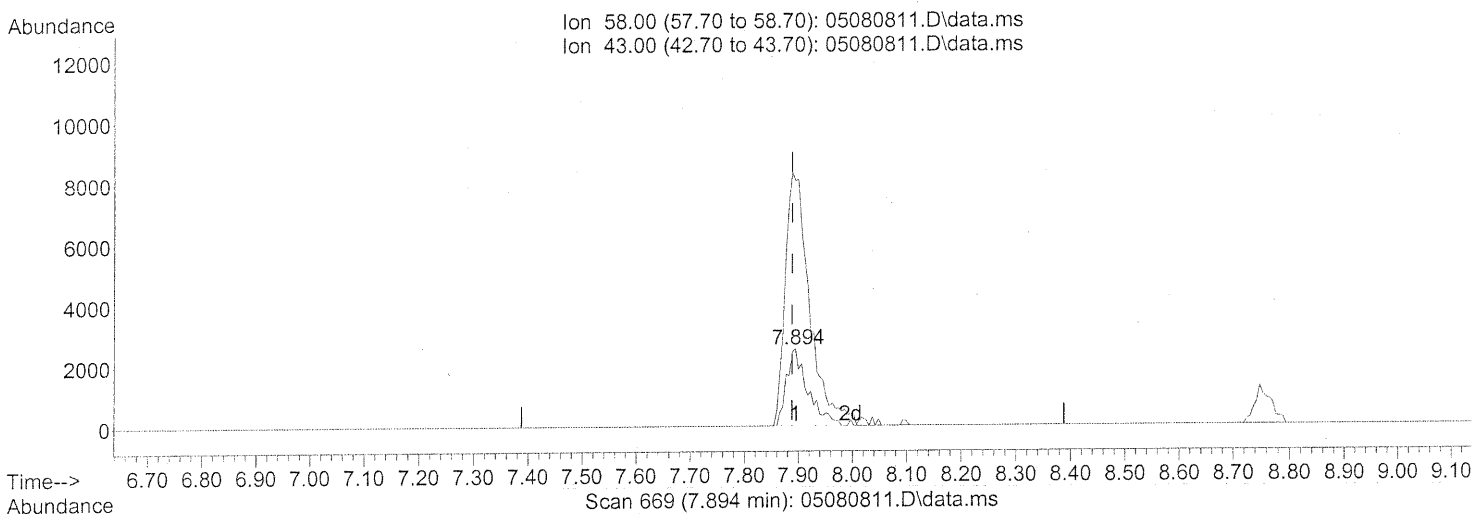
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.79	118	925	<del>0.041 ng</del>	#	4
81) 2-Ethyltoluene	24.79	105	96	N.D.		
82) 1,2,4-Trimethylbenzene	24.88	105	432	N.D.	✓	
83) n-Decane	24.99	57	165	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.	✓	
85) 1,3-Dichlorobenzene	25.16	146	572	N.D.	✓	
86) 1,4-Dichlorobenzene	25.16	146	572	N.D.	✓	
87) sec-Butylbenzene	25.41	105	114	N.D.	✓	
88) p-Isopropyltoluene	25.40	119	223	N.D.	✓	
89) 1,2,3-Trimethylbenzene	25.41	105	114	N.D.		
90) 1,2-Dichlorobenzene	25.16	146	572	N.D.	✓	
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	✓	
93) n-Undecane	26.50	57	602	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	✓	
95) Naphthalene	27.79	128	793	N.D.	✓	
96) n-Dodecane	27.73	57	703	N.D.		
97) Hexachloro-1,3-butadiene	0.00	225	0	N.D.	✓	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Post/09/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080811.D  
Acq On : 8 May 2008 5:14 pm  
Operator : RTB  
Sample : P0801342-003 DUP (10mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration

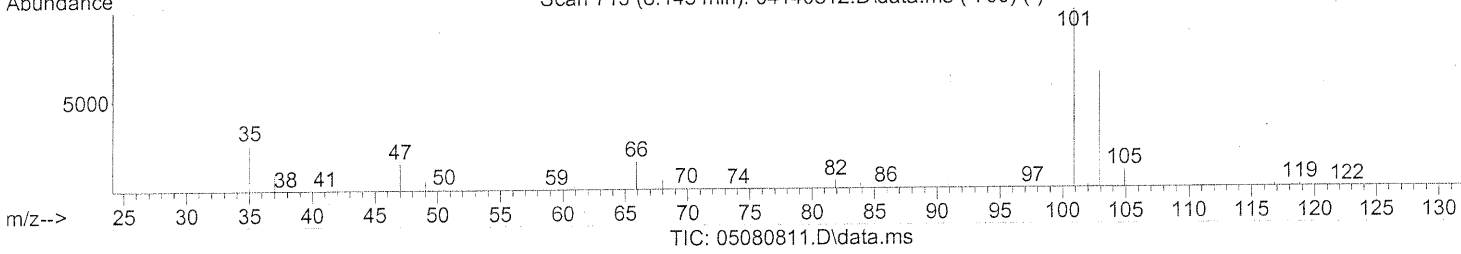
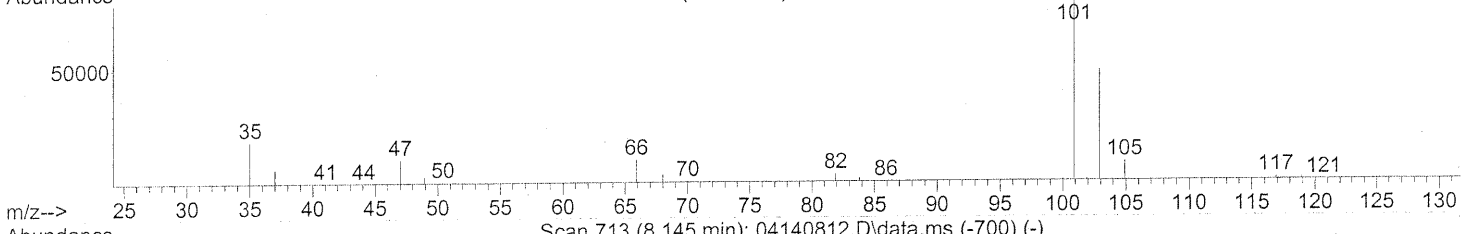
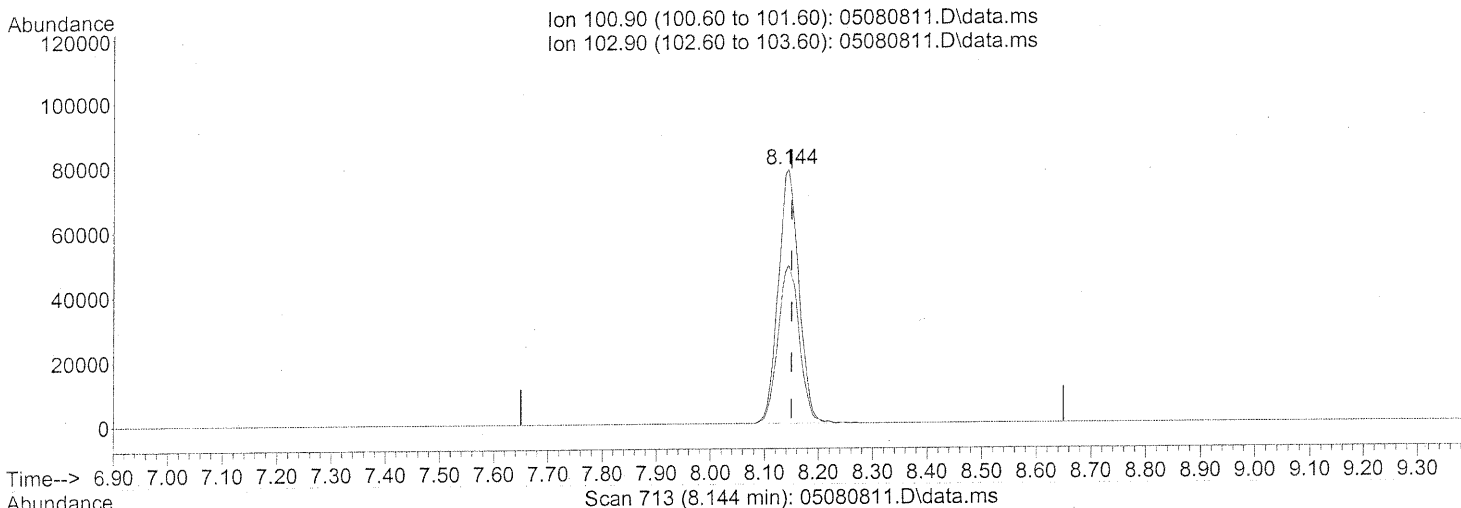


(13) Acetone (T)  
7.894min (+0.006) 0.62ng  
response 6861

Ion	Exp%	Act%
58.00	100	100
43.00	283.10	378.34#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(14) Trichlorofluoromethane (T)

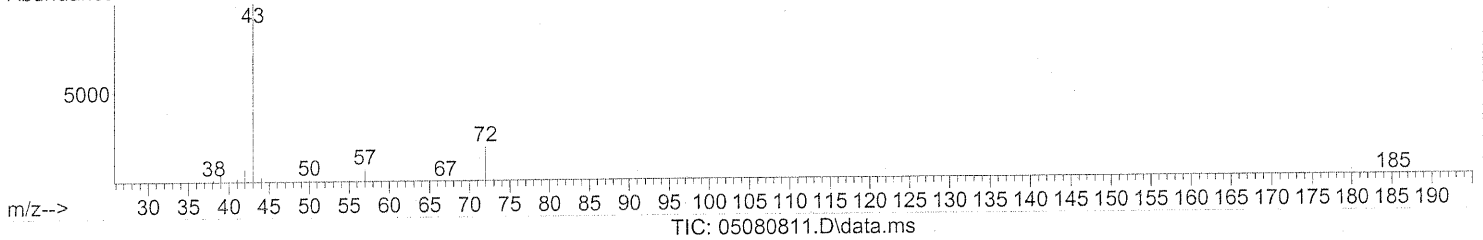
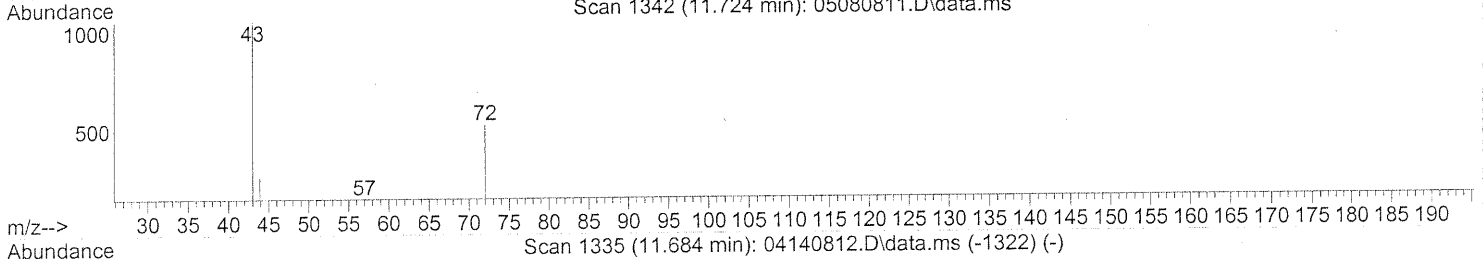
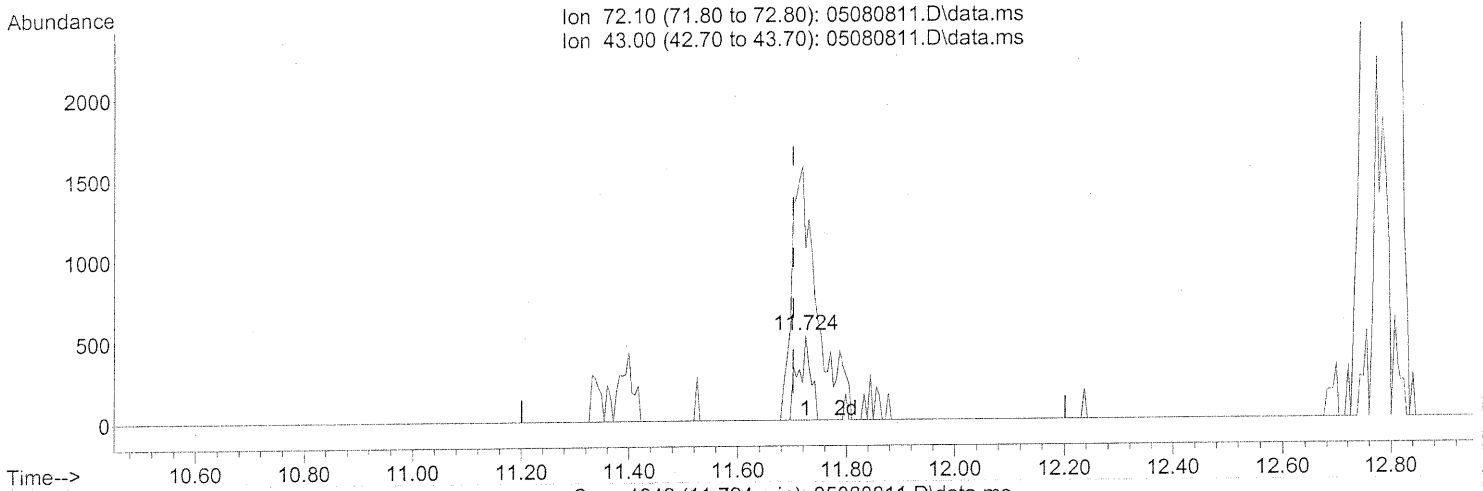
8.144min (-0.006) 8.86ng

response 209697

Ion	Exp%	Act%
100.90	100	100
102.90	64.80	64.49
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

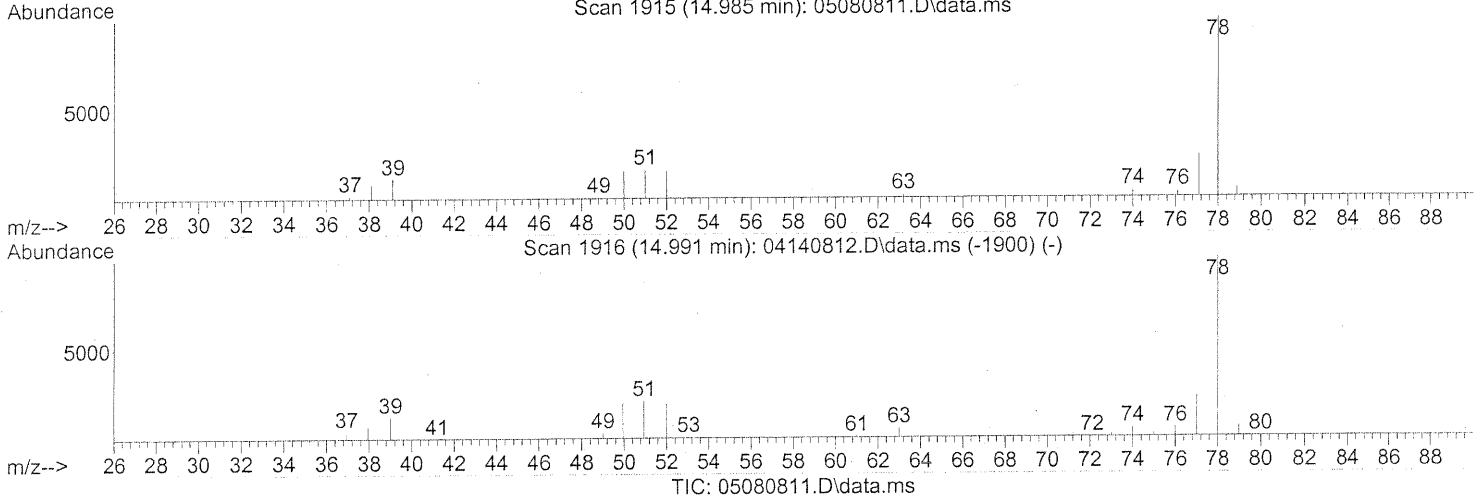
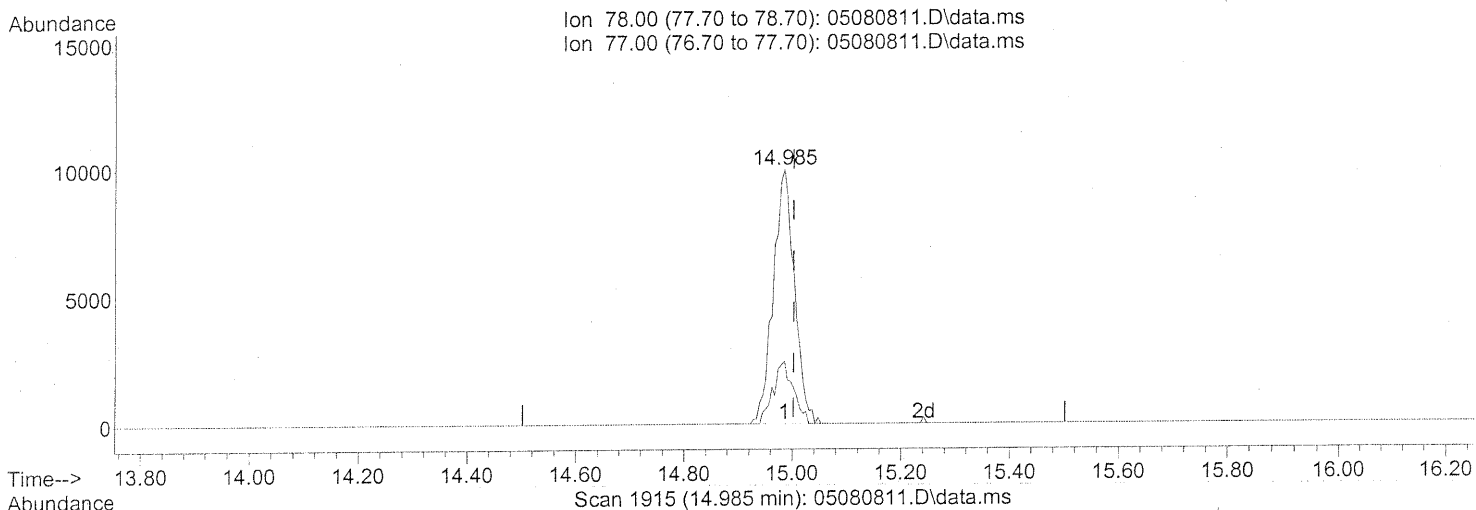


(27) 2-Butanone (T)  
 11.724min (+0.023) 0.11ng  
 response 840

Ion	Exp%	Act%
72.10	100	100
43.00	506.80	542.38#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(41) Benzene (T)

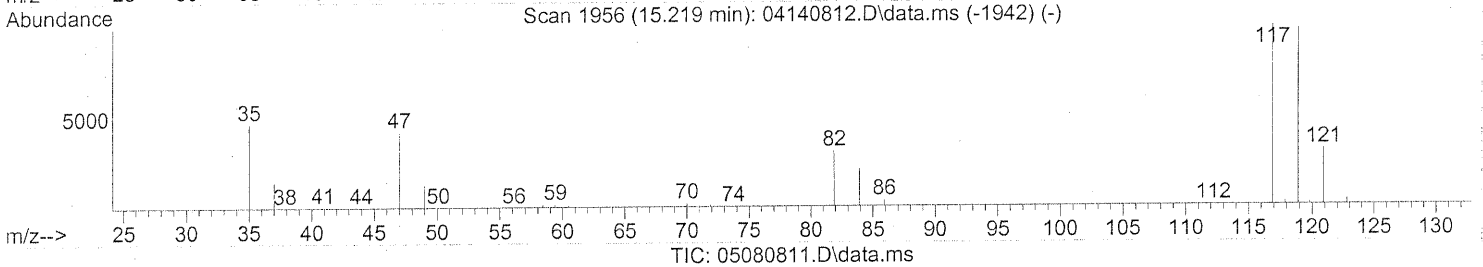
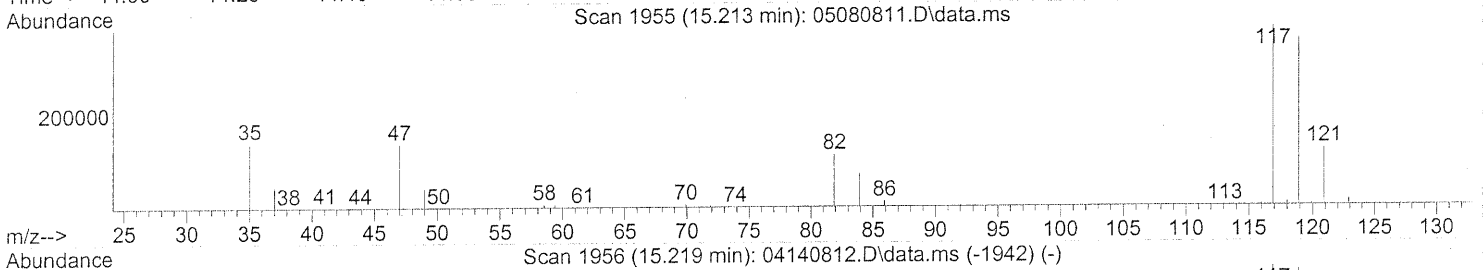
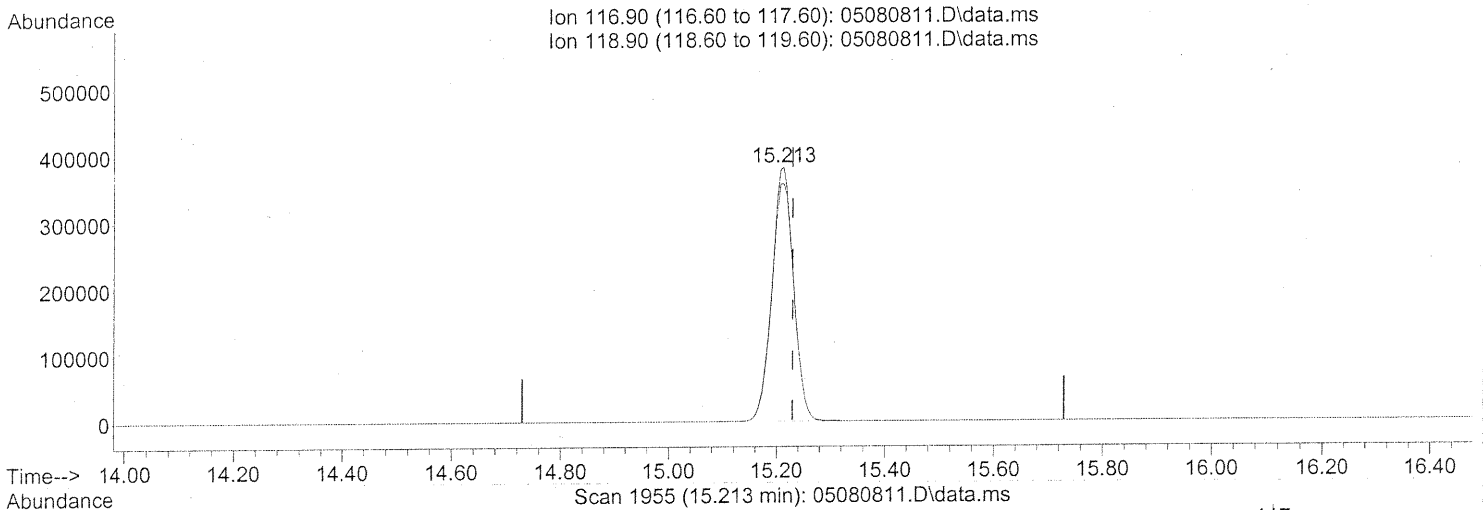
14.985min (-0.017) 0.59ng

response 26794

Ion	Exp%	Act%
78.00	100	100
77.00	23.50	23.49
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(42) Carbon Tetrachloride (T)

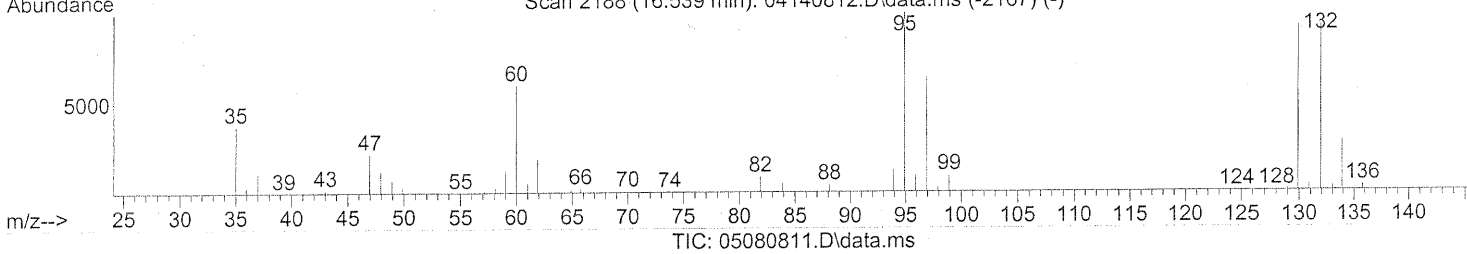
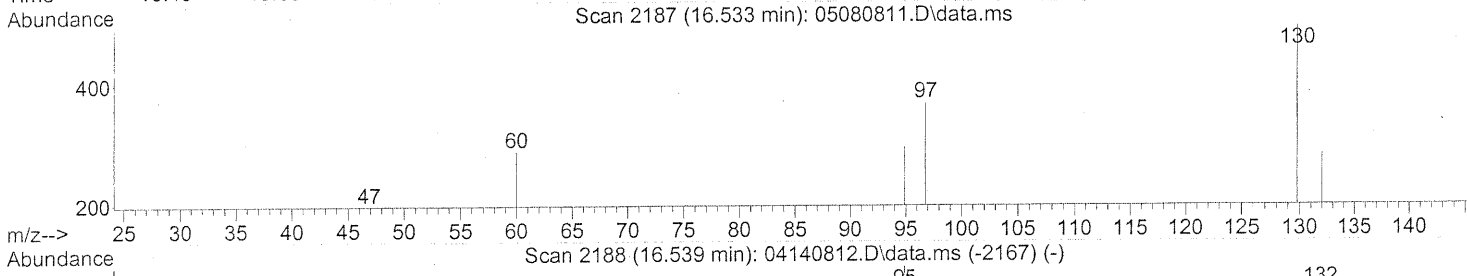
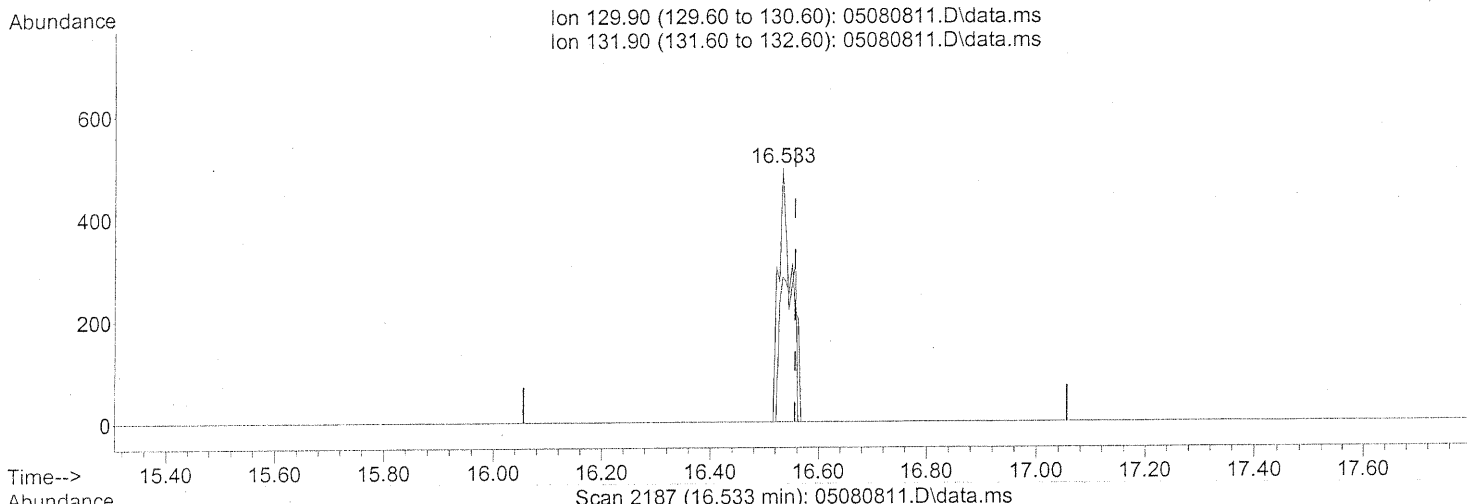
15.213min (-0.017) 71.02ng

response 1063253

Ion	Exp%	Act%
116.90	100	100
118.90	96.60	95.16
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(47) Trichloroethene (T)

16.533min (-0.023) 0.07ng

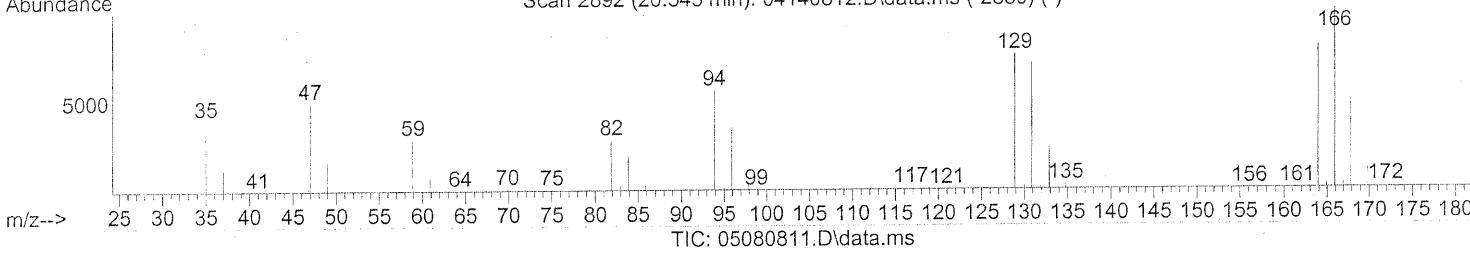
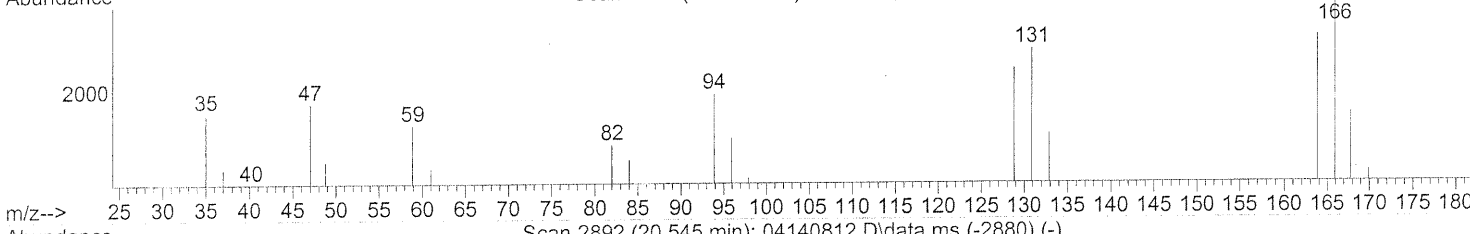
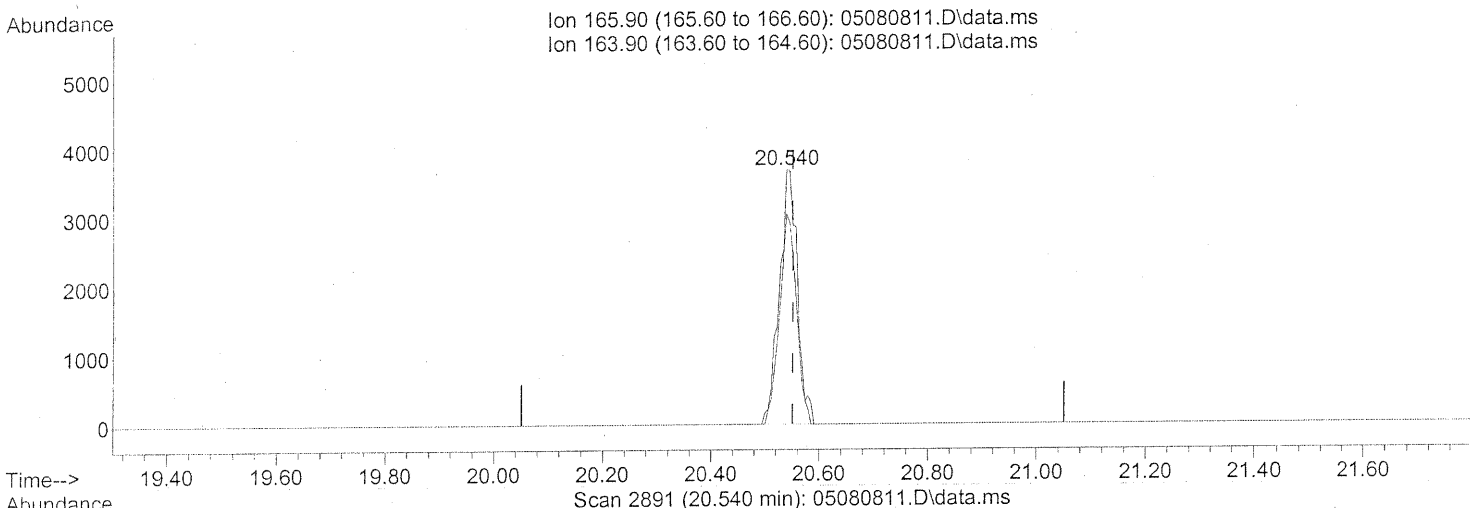
response 764

Ion	Exp%	Act%
129.90	100	100
131.90	101.20	79.19#
0.00	0.00	0.00
0.00	0.00	0.00



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(64) Tetrachloroethene (T)

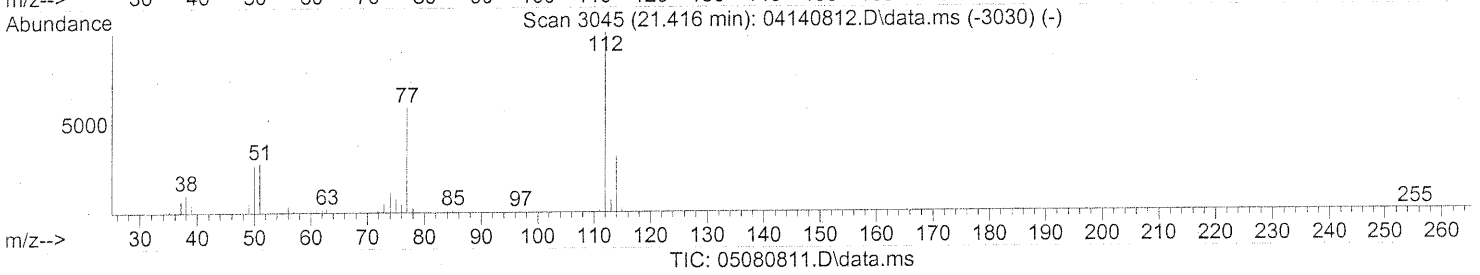
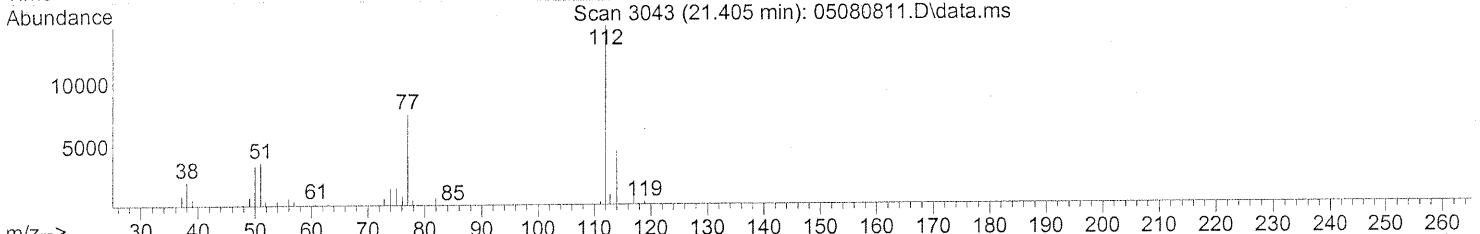
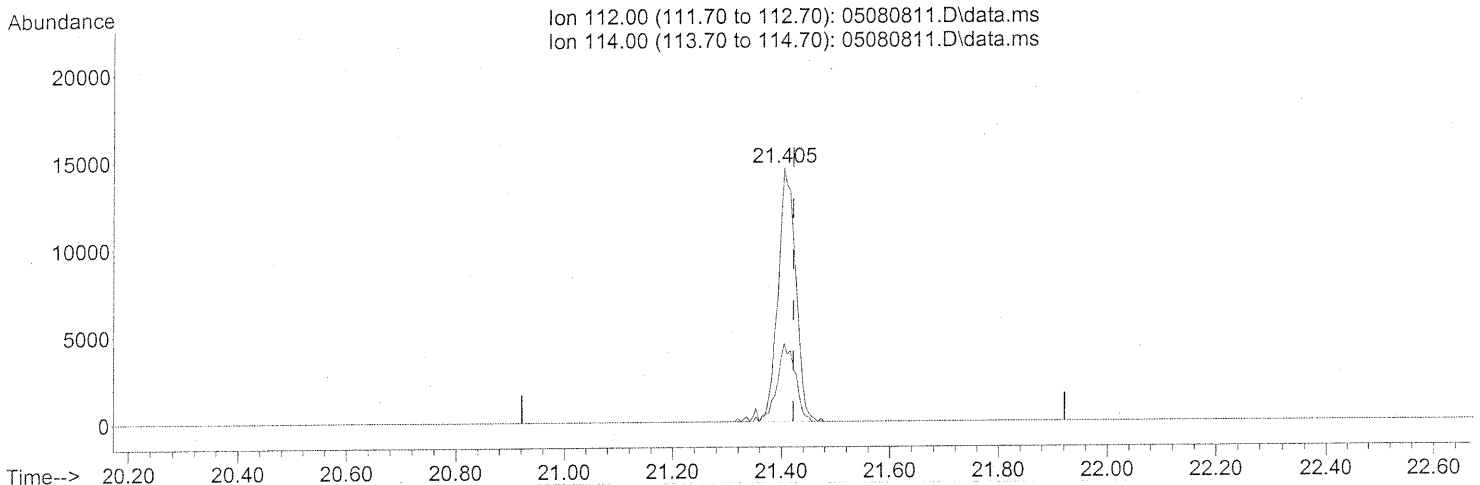
20.540min (-0.011) 0.72ng

response 8417

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	77.74
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:47 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

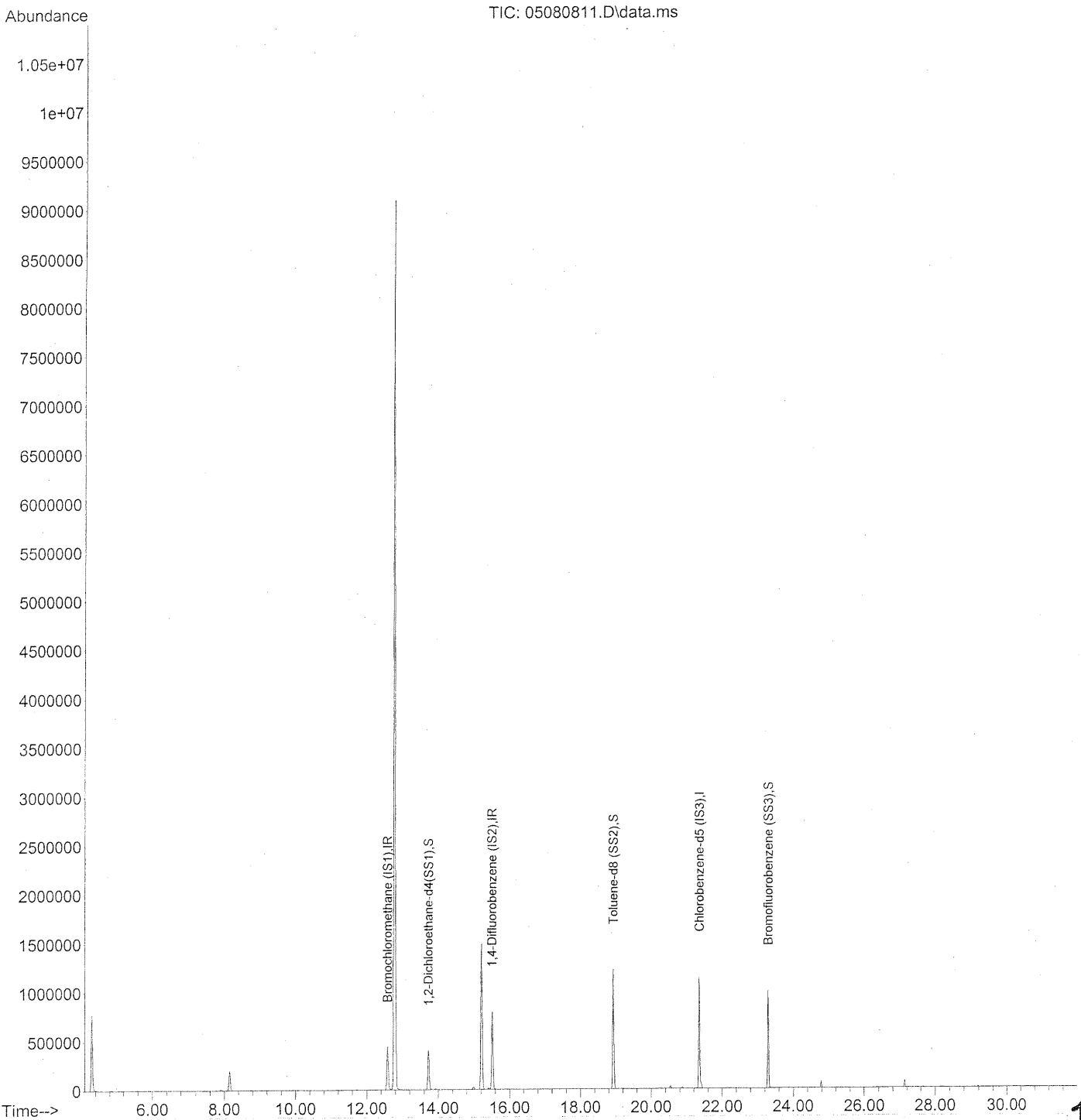


(65) Chlorobenzene (T)  
 21.405min (-0.017) 1.14ng  
 response 32954

Ion	Exp%	Act%
112.00	100	100
114.00	32.40	31.51
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:59 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080811.D  
 Acq On : 8 May 2008 5:14 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP (10mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:59:59 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration

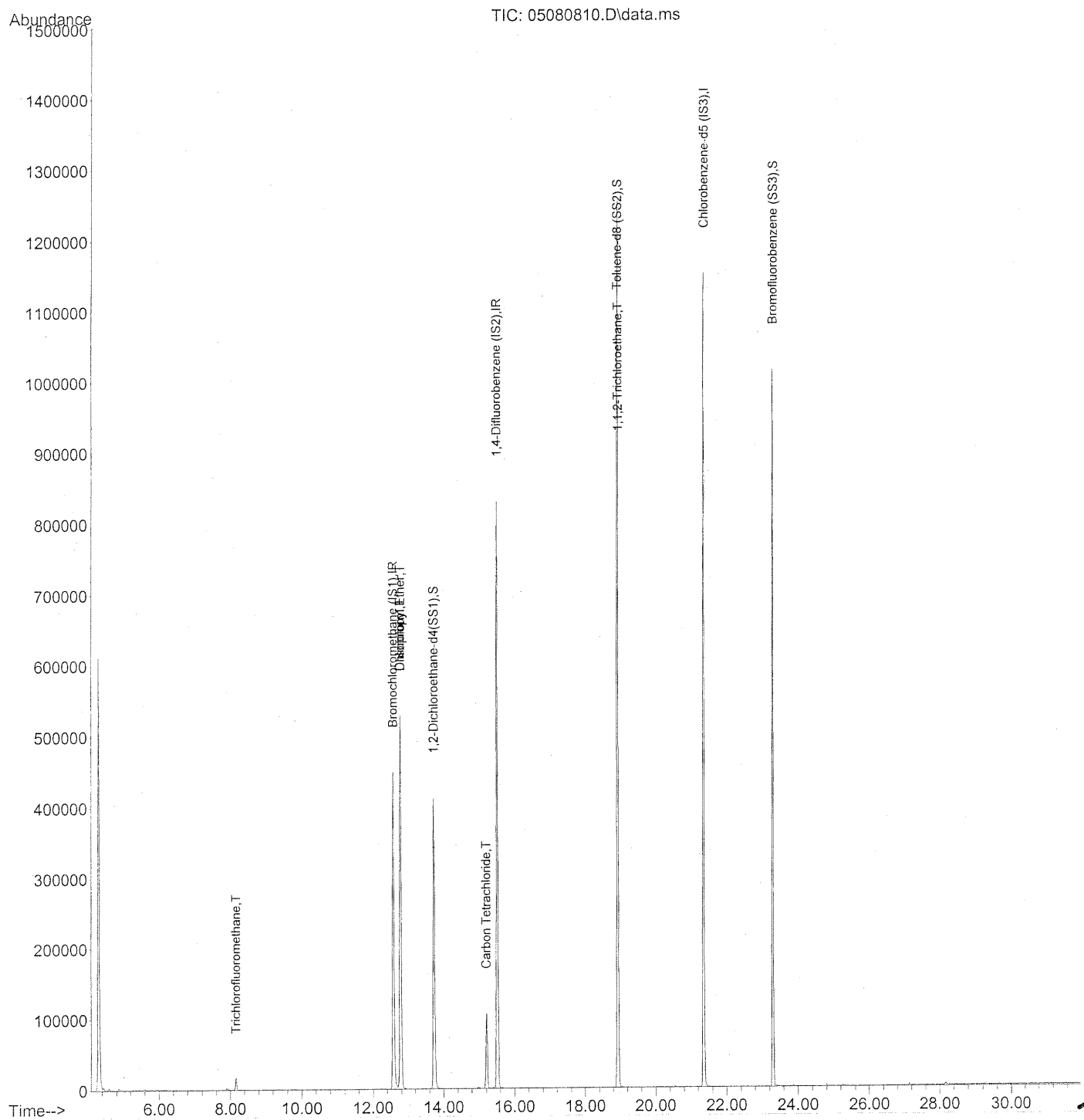
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.58	130	199552	25.000	ng	-0.02	
3) 1,4-Difluorobenzene (IS2)	15.51	114	853249	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	416006	25.000	ng	0.00	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.72	65	362203	22.633	ng	-0.03	
Spiked Amount	25.000						Recovery = 90.52% ✓
5) Toluene-d8 (SS2)	18.93	98	958033	25.693	ng	0.00	
Spiked Amount	25.000						Recovery = 102.76% ✓
6) Bromofluorobenzene (SS3)	23.29	174	317099	24.712	ng	0.00	
Spiked Amount	25.000						Recovery = 98.84% ✓
Target Compounds							
7) tert-Butylbenzene	24.79	119	1519				N.D. ✓
8) n-Butylbenzene	0.00	91	0				N.D. ✓

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*P. 05/08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080810.D  
 Acq On : 8 May 2008 4:33 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:05:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080810.D  
 Acq On : 8 May 2008 4:33 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:05:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.58	130	202052	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	880501	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	420894	25.000	ng	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) 1,2-Dichloroethane-d4(...)	13.72	65	375074	23.147	ng	-0.03
Spiked Amount	25.000		Recovery	=	92.60%	✓
57) Toluene-d8 (SS2)	18.92	98	979450	25.962	ng	-0.01
Spiked Amount	25.000		Recovery	=	103.84%	✓
73) Bromofluorobenzene (SS3)	23.29	174	322308	24.826	ng	0.00
Spiked Amount	25.000		Recovery	=	99.32%	✓

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)	Qvalue
2) Propene	4.83	42	108	N.D.			
3) Dichlorodifluoromethane	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) Freon 114	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.			
11) Acetonitrile	7.47	41	70	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.89	58	738	N.D.			
14) Trichlorofluoromethane	8.16	101	18060	0.754	ng		99
15) Isopropanol	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) tert-Butanol	9.39	59	65	N.D.			
19) Methylene Chloride	9.36	84	98	N.D.			
20) Allyl Chloride	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	9.76	76	52	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	12.78	87	50535	4.907	ng	#	1
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			

*P05/08/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080810.D  
 Acq On : 8 May 2008 4:33 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:05:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.78	83	498718	26.436	ng	98
34) Tetrahydrofuran	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	13.72	62	174	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	14.99	78	2677	N.D.		
42) Carbon Tetrachloride	15.20	117	77127	4.992	ng	98
43) Cyclohexane	15.41	84	56	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) Isooctane	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	18.94	97	89424	7.950	ng	# 7
58) Toluene	19.08	91	210	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	20.55	166	485	N.D.		
65) Chlorobenzene	21.42	112	2552	N.D.		
66) Ethylbenzene	21.89	91	141	N.D.		
67) m- & p-Xylene	22.11	91	225	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	22.73	91	83	N.D.		
71) n-Nonane	23.29	43	215	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	23.48	105	55	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	24.24	105	208	N.D.		
78) 4-Ethyltoluene	24.24	105	208	N.D.		
79) 1,3,5-Trimethylbenzene	24.24	105	208	N.D.		

*Post 2/8*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080810.D  
 Acq On : 8 May 2008 4:33 pm  
 Operator : RTB  
 Sample : P0801342-003 DUP DIL (1mL)  
 Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:05:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
80) alpha-Methylstyrene	0.00	118	0			N.D.
81) 2-Ethyltoluene	24.24	105	208			N.D.
82) 1,2,4-Trimethylbenzene	0.00	105	0			N.D.
83) n-Decane	25.25	57	1615			N.D.
84) Benzyl Chloride	0.00	91	0			N.D.
85) 1,3-Dichlorobenzene	0.00	146	0			N.D.
86) 1,4-Dichlorobenzene	0.00	146	0			N.D.
87) sec-Butylbenzene	25.41	105	64			N.D.
88) p-Isopropyltoluene	0.00	119	0			N.D.
89) 1,2,3-Trimethylbenzene	25.41	105	64			N.D.
90) 1,2-Dichlorobenzene	0.00	146	0			N.D.
91) d-Limonene	0.00	68	0			N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0			N.D.
93) n-Undecane	26.52	57	231			N.D.
94) 1,2,4-Trichlorobenzene	0.00	180	0			N.D.
95) Naphthalene	27.79	128	233			N.D.
96) n-Dodecane	0.00	57	0			N.D.
97) Hexachloro-1,3-butadiene	0.00	225	0			N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

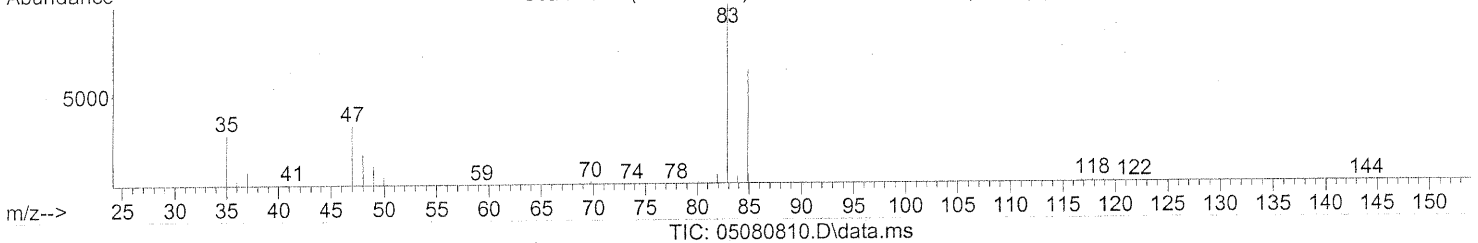
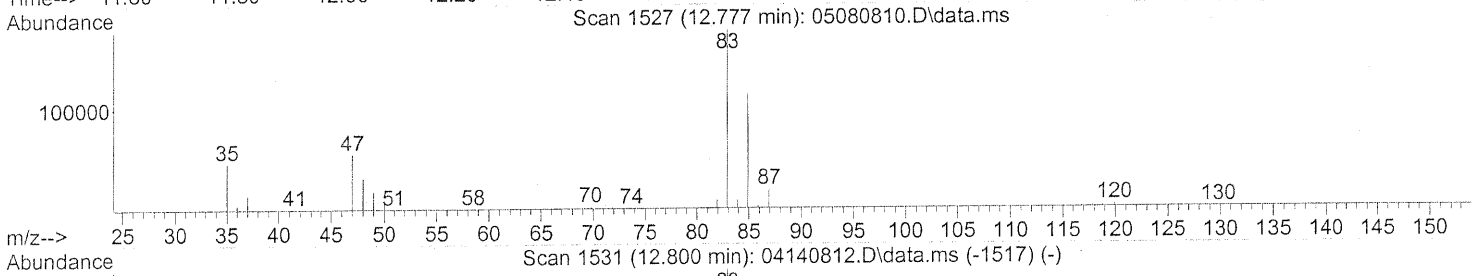
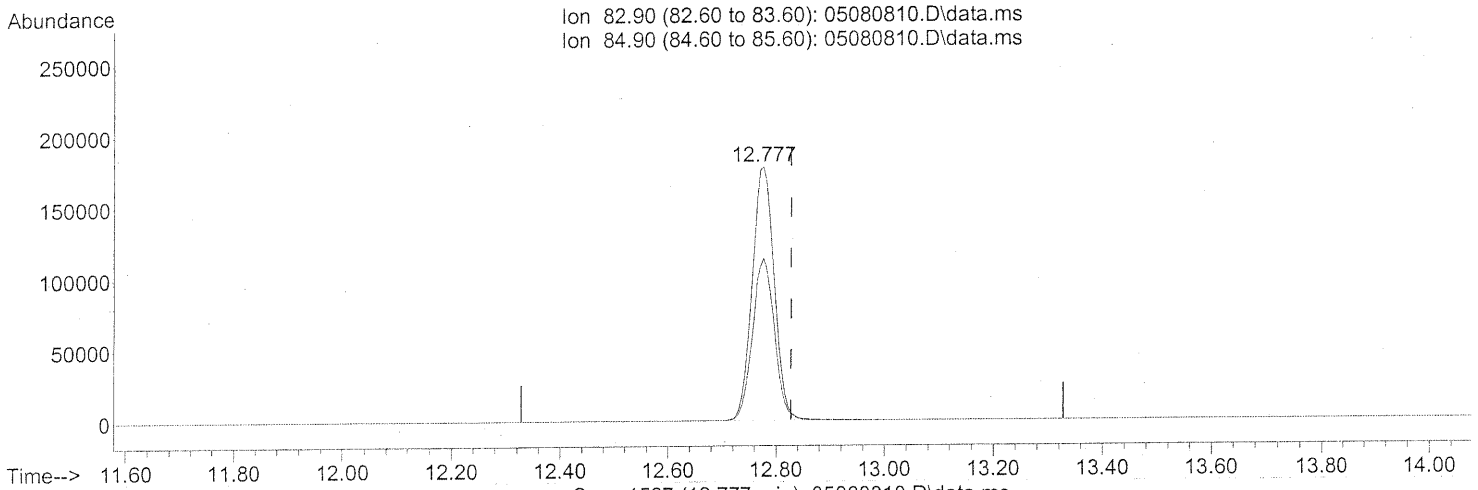
*Post 10/05*



Quantitation Report (Qual)

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080810.D  
Acq On : 8 May 2008 4:33 pm  
Operator : RTB  
Sample : P0801342-003 DUP DIL (1mL)  
Misc : ENSR SG83B-05-7 (-4.2, 3.5)  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 17:05:23 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(32) Chloroform (T)

12.777min (-0.051) 26.44ng

response 498718

Ion	Exp%	Act%
82.90	100	100
84.90	64.70	63.27
0.00	0.00	0.00
0.00	0.00	0.00

**COLUMBIA ANALYTICAL SERVICES, INC.**

RESULTS OF ANALYSIS

Page 1 of 1

**Client:** ENSR  
**Client Project ID:** Phase B Soil Gas / 04020-023-4311

CAS Project ID: P0801342

**Internal Standard Area and RT Summary**

Test Code: EPA TO-15  
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13  
 Analyst: Rusty Bravo  
 Sampling Media: 6.0 L Summa Canister(s)  
 Test Notes:

Lab File ID: 05080801.D  
 Date Analyzed: 5/8/08  
 Time Analyzed: 08:41

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
<b>24 Hour Standard</b>	242477	12.59	1048411	15.52	500730	21.35
<b>Upper Limit</b>	339468	12.92	1467775	15.85	701022	21.68
<b>Lower Limit</b>	145486	12.26	629047	15.19	300438	21.02

Client Sample ID	IS1 (BCM) AREA #	IS1 (BCM) RT #	IS2 (DFB) AREA #	IS2 (DFB) RT #	IS3 (CBZ) AREA #	IS3 (CBZ) RT #
01 Method Blank	241346	12.58	1037647	15.51	489334	21.35
02 Lab Control Sample	244114	12.59	1061640	15.52	502772	21.35
03 SG83B-05-1	242853	12.58	1040889	15.51	494646	21.35
04 SG83B-05-3	231941	12.58	1004035	15.51	467452	21.35
05 SG83B-05-7	226199	12.58	971717	15.51	470342	21.35
06 SG83B-05-1 (Dilution)	219916	12.58	959711	15.51	446346	21.35
07 SG83B-05-3 (Dilution)	213718	12.58	929659	15.51	442512	21.35
08 SG83B-05-7 (Dilution)	205516	12.58	899772	15.51	428319	21.35
09 SG83B-05-7 (Lab Duplicate - Dilution)	202052	12.58	880501	15.51	420894	21.35
10 SG83B-05-7 (Lab Duplicate)	199552	12.58	853249	15.51	416006	21.35
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

IS1 (BCM) = Bromochloromethane  
 IS2 (DFB) = 1,4-Difluorobenzene  
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area  
 AREA LOWER LIMIT = 60% of internal standard area  
 RT UPPER LIMIT = 0.33 minutes of internal standard RT  
 RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

Verified By: Re Date: 5/9/08 **158**

## INITIAL CALIBRATION STANDARDS

Method Path : J:\MS13\METHODS\  
 Method File : R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:34:47 2008  
 Response Via : Initial Calibration

Calibration Files

0.1 =04140808.D 0.5 =04140809.D 1.0 =04140810.D 5.0 =04140811.D  
 25 =04140812.D 50 =04140813.D 100 =04140814.D

Compound	0.1	0.5	1.0	5.0	25	50	100	Avg	%RSD
IR									
Bromochloromethane (I									
1) Propene	2.452	2.204	2.130	1.859	1.876	1.926	2.038	2.069	10.27
2) Dichlorodifluoromet	4.694	4.061	3.888	3.397	3.443	3.397	3.527	3.772	12.79
3) Chloromethane	4.157	3.523	3.360	2.800	2.942	2.875	2.411	3.153	18.24
4) Freon 114	2.156	2.010	1.780	1.666	1.688	1.720	1.909	1.847	9.99
5) Vinyl Chloride	3.576	3.146	2.884	2.719	2.705	2.677	2.832	2.934	11.09
6) 1,3-Butadiene	2.425	2.398	2.108	2.045	2.210	2.271	2.424	2.269	6.85
7) Bromomethane	1.467	1.491	1.351	1.313	1.380	1.381	1.477	1.409	4.93
8) Chloroethane	1.250	1.383	1.166	1.120	1.166	1.134	1.289	1.216	7.90
9) Ethanol	1.814	1.590	1.590	1.369	1.220	1.227	1.246	1.411	17.17
10) Acetonitrile	4.507	4.285	3.799	3.572	3.269	3.231	3.296	3.708	13.87
11) Acrolein	1.168	0.964	0.978	0.956	0.978	0.955	0.981	0.997	7.63
12) Acetone	1.675	1.446	1.446	1.291	1.291	1.241	1.266	1.384	13.08
13) Trichlorofluorometh	3.367	3.182	2.938	2.718	2.843	2.784	2.916	2.964	7.79
14) Isopropanol	5.258	5.498	4.982	4.096	4.619	4.159	4.169	4.683	12.24
15) Acrylonitrile	1.603	2.347	2.301	2.115	2.246	2.188	2.233	2.147	11.71
16) 1,1-Dichloroethene	1.796	1.345	1.353	1.248	1.306	1.280	1.336	1.381	13.54
17) tert-Butanol	2.760	4.370	4.192	3.892	4.054	3.939	3.982	3.884	13.44
18) Methylene Chloride	2.271	1.699	1.537	1.393	1.425	1.375	1.427	1.590	20.19
19) Allyl Chloride	1.394	2.089	2.003	2.093	2.387	2.393	2.508	2.124	17.60
20) Trichlorotrifluoroe	1.525	1.337	1.225	1.176	1.173	1.157	1.272	1.267	10.31
21) Carbon Disulfide	6.261	6.212	5.855	5.495	5.831	5.694	5.911	5.894	4.60
22) trans-1,2-Dichloroe	2.610	2.537	2.430	2.174	2.329	2.316	2.447	2.406	6.09
23) 1,1-Dichloroethane	3.226	2.804	2.817	2.625	2.757	2.621	2.752	2.800	7.27
24) Methyl tert-Butyl E	5.668	4.685	4.511	4.184	4.319	4.296	4.533	4.599	10.89
25) Vinyl Acetate	0.210	0.259	0.295	0.295	0.297	0.314	0.275	0.275	15.06
26) 2-Butanone	0.751	1.106	1.038	0.966	0.989	0.960	0.984	0.970	11.28
27) cis-1,2-Dichloroeth	2.567	2.299	2.259	2.132	2.197	2.173	2.245	2.268	6.33
28) Diisopropyl Ether	1.367	1.321	1.106	1.091	1.188	1.284	1.563	1.274	12.97
29) Ethyl Acetate	0.517	0.519	0.532	0.603	0.651	0.809	0.605	0.605	18.70
30) n-Hexane	3.505	2.965	2.931	2.650	2.914	3.119	3.926	3.144	13.72
31) T									

Method Path : J:\MS13\METHODS\  
 Method File : R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:34:47 2008  
 Response Via : Initial Calibration

Calibration Files

0.1 =04140808.D 0.5 =04140809.D 1.0 =04140810.D 5.0 =04140811.D  
 25 =04140812.D 50 =04140813.D 100 =04140814.D

Compound	0.1	0.5	1.0	5.0	25	50	100	Avg	%RSD
32) T Chloroform	2.709	2.590	2.305	2.147	2.230	2.152	2.207	2.334	9.61
33) S 1,2-Dichloroethane-	2.025	2.037	2.045	1.980	2.032	1.968	1.947	2.005	1.95
34) T Tetrahydrofuran	0.941	1.121	0.914	0.939	0.977	0.958	0.944	0.971	7.10
35) T Ethyl tert-Butyl Et	1.898	1.790	1.642	1.506	1.594	1.582	1.718	1.676	8.07
36) T 1,2-Dichloroethane	2.604	2.445	2.366	2.140	2.256	2.176	2.196	2.312	7.29
37) IR 1,4-Difluorobenzene (	-----ISTD-----								
38) T 1,1,1-Trichloroetha	0.597	0.548	0.484	0.467	0.514	0.501	0.535	0.521	8.34
39) T Isopropyl Acetate	0.216	0.243	0.218	0.208	0.233	0.229	0.246	0.227	6.28
40) T 1-Butanol		0.348	0.341	0.333	0.335	0.337	0.354	0.341	2.42
41) T Benzene	1.598	1.391	1.233	1.207	1.282	1.271	1.302	1.326	10.05
42) T Carbon Tetrachlorid	0.420	0.419	0.409	0.410	0.457	0.460	0.495	0.439	7.40
43) T Cyclohexane	0.524	0.504	0.485	0.458	0.470	0.474	0.519	0.491	5.16
44) T tert-Amyl Methyl Et	0.990	0.926	0.913	0.872	0.949	0.949	1.007	0.944	4.84
45) T 1,2-Dichloropropane	0.471	0.398	0.357	0.345	0.360	0.358	0.371	0.380	11.41
46) T Bromodichloromethan	0.535	0.426	0.415	0.408	0.447	0.447	0.479	0.451	9.80
47) T Trichloroethene	0.334	0.356	0.332	0.290	0.314	0.310	0.349	0.326	7.09
48) T 1,4-Dioxane	0.214	0.228	0.245	0.224	0.235	0.237	0.261	0.235	6.54
49) T Isooctane	1.645	1.647	1.566	1.419	1.541	1.533	1.640	1.570	5.30
50) T Methyl Methacrylate		0.122	0.116	0.110	0.122	0.122	0.130	0.120	5.60
51) T n-Heptane	0.425	0.369	0.350	0.330	0.354	0.354	0.389	0.367	8.46
52) T cis-1,3-Dichloropro	0.476	0.508	0.470	0.492	0.540	0.545	0.586	0.517	8.17
53) T 4-Methyl-2-pentanon	0.352	0.354	0.348	0.338	0.374	0.372	0.402	0.363	5.99
54) T trans-1,3-Dichlorop	0.378	0.426	0.402	0.422	0.481	0.490	0.526	0.446	11.96
55) T 1,1,2-Trichloroetha	0.390	0.327	0.299	0.289	0.301	0.302	0.328	0.319	10.72
56) I Chlorobenzene-d5 (IS3	-----ISTD-----								
57) S Toluene-d8 (SS2)	2.272	2.277	2.272	2.254	2.226	2.195	2.190	2.241	1.65
58) T Toluene	3.203	2.932	2.703	2.597	2.654	2.698	2.923	2.815	7.61
59) T 2-Hexanone	2.033	2.056	1.885	2.050	2.212	2.191	2.254	2.097	6.14
60) T Dibromochloromethan	0.707	0.640	0.614	0.648	0.689	0.696	0.760	0.679	7.26
61) T 1,2-Dibromoethane	0.686	0.662	0.598	0.637	0.672	0.665	0.713	0.662	5.52

Method Path : J:\MS13\METHODS\  
 Method File : R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:34:47 2008  
 Response Via : Initial Calibration

Calibration Files

0.1 =04140808.D 0.5 =04140809.D 1.0 =04140810.D 5.0 =04140811.D  
 25 =04140812.D 50 =04140813.D 100 =04140814.D

Compound	0.1	0.5	1.0	5.0	25	50	100	AVG	%RSD
62) T Butyl Acetate	1.716	2.099	1.973	2.080	2.252	2.250	2.310	2.097	9.80
63) T n-Octane	0.662	0.646	0.621	0.608	0.650	0.672	0.759	0.660	7.44
64) T Tetrachloroethene	0.840	0.679	0.651	0.621	0.657	0.682	0.804	0.705	11.76
65) T Chlorobenzene	1.941	1.814	1.643	1.592	1.641	1.687	1.888	1.744	7.82
66) T Ethylbenzene	3.088	3.255	2.941	2.938	3.144	3.221	3.419	3.144	5.51
67) T m- & p-Xylene	1.949	1.991	1.905	1.932	2.128	2.273	2.533	2.101	10.97
68) T Bromoform	0.357	0.414	0.440	0.452	0.497	0.516	0.573	0.464	15.37
69) T Styrene	1.870	1.688	1.621	1.664	1.832	1.885	2.135	1.814	9.73
70) T o-Xylene	2.302	2.103	2.000	2.121	2.240	2.357	2.707	2.261	10.27
71) T n-Nonane	1.879	1.782	1.605	1.709	1.812	1.842	2.048	1.811	7.66
72) T 1,1,2,2-Tetrachloro	1.121	0.978	0.950	1.011	1.079	1.122	1.295	1.079	10.81
73) S Bromofluorobenzene	0.769	0.759	0.763	0.787	0.780	0.766	0.774	0.771	1.27
74) T Cumene	2.608	2.812	2.677	2.690	2.910	3.046	3.338	2.869	8.92
75) T alpha-Pinene	1.407	1.406	1.370	1.410	1.541	1.625	1.914	1.525	12.76
76) T n-Propylbenzene	3.644	3.831	3.646	3.627	3.964	4.064	4.098	3.839	5.35
77) T 3-Ethyltoluene	2.952	2.988	2.887	2.870	3.144	3.348	3.706	3.128	9.75
78) T 4-Ethyltoluene	2.743	2.629	2.642	2.674	2.953	3.130	3.391	2.880	10.13
79) T 1,3,5-Trimethylbenz	2.353	2.372	2.311	2.328	2.570	2.784	3.188	2.558	12.76
80) T alpha-Methylstyrene	1.205	1.157	1.139	1.241	1.400	1.493	1.847	1.355	18.68
81) T 2-Ethyltoluene	3.080	3.009	2.802	2.898	3.189	3.338	3.698	3.145	9.60
82) T 1,2,4-Trimethylbenz	2.299	2.449	2.305	2.439	2.993	3.671	4.078	2.890	24.96
83) T n-Decane	1.404	1.462	1.464	1.468	1.612	1.724	2.055	1.598	14.37
84) T Benzyl Chloride	1.264	1.545	1.540	1.909	2.234	2.424	2.877	1.970	29.06
85) T 1,3-Dichlorobenzene	1.464	1.486	1.378	1.365	1.522	1.647	2.092	1.565	16.03
86) T 1,4-Dichlorobenzene	1.451	1.381	1.367	1.334	1.462	1.562	1.926	1.497	13.60
87) T sec-Butylbenzene	3.289	3.280	3.106	3.135	3.457	3.652	3.836	3.394	7.98
88) T p-Isopropyltoluene	2.438	2.426	2.394	2.507	3.194	3.884	3.873	2.959	23.19
89) T 1,2,3-Trimethylbenz	2.223	2.378	2.292	2.347	2.984	3.642	4.033	2.842	25.79
90) T 1,2-Dichlorobenzene	1.193	1.348	1.294	1.308	1.587	1.938	2.558	1.604	30.54
91) T d-Limonene	1.036	1.056	0.993	1.068	1.334	1.578	2.110	1.311	31.32
92) T 1,2-Dibromo-3-Chlor	0.231	0.382	0.429	0.417	0.469	0.489	0.557	0.425	24.13
93) T n-Undecane	1.492	1.506	1.434	1.555	1.697	1.830	2.234	1.678	16.71

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Method Path : J:\MS13\METHODS\  
 Method File : R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:34:47 2008  
 Response Via : Initial Calibration

Calibration Files

0.1 =04140808.D 0.5 =04140809.D 1.0 =04140810.D 5.0 =04140811.D  
 25 =04140812.D 50 =04140813.D 100 =04140814.D

Compound	0.1	0.5	1.0	5.0	25	50	100	Avg	%RSD
94) T 1,2,4-Trichlorobenz	0.796	0.875	0.876	0.899	0.992	1.100	1.419	0.994	21.28
95) T Naphthalene	2.304	3.074	2.991	3.156	3.394	3.589	3.861	3.196	15.60
96) T n-Dodecane	1.646	1.521	1.441	1.519	1.671	1.830	2.290	1.703	16.96
97) T Hexachloro-1,3-buta	0.415	0.578	0.567	0.545	0.638	0.724	1.012	0.640	29.53

(#) = Out of Range

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**Primary Source Standards Concentrations  
(Working & Initial Calibration)**

4ng/L Std. ID: **S20-04030801**  
 20ng/L Std. ID: **S20-03210809**  
 200ng/L Std. ID: **S20-04020808**

Compounds	Source Std. mg/m <sup>3</sup>	Dilution Factors:			Working STD Conc.(ng/L):	ICAL Concentrations (Primary Source)						
		5	50	250		Injection (L):						
		200ng/L	20ng/L	4ng/L		0.025	0.025	0.050	0.25	0.125	0.25	0.50
Primary Working Standards	ICAL Points:											
					0.1ng	0.5ng	1ng	5ng	25ng	50ng	100ng	
Propene	1.08	216	21.6	4.32	NA	0.540	1.08	5.40	27.0	54.0	108	
Dichlorodifluoromethane	1.04	208	20.8	4.16	NA	0.520	1.04	5.20	26.0	52.0	104	
Chloromethane	1.02	204	20.4	4.08	NA	0.510	1.02	5.10	25.5	51.0	102	
Freon-114	1.07	214	21.4	4.28	NA	0.535	1.07	5.35	26.8	53.5	107	
Vinyl Chloride	1.03	206	20.6	4.12	NA	0.515	1.03	5.15	25.8	51.5	103	
1,3-Butadiene	1.09	218	21.8	4.36	NA	0.545	1.09	5.45	27.3	54.5	109	
Bromomethane	1.05	210	21.0	4.20	NA	0.525	1.05	5.25	26.3	52.5	105	
Chloroethane	1.05	210	21.0	4.20	NA	0.525	1.05	5.25	26.3	52.5	105	
Ethanol	0.91	182	18.2	3.64	NA	0.455	0.910	4.55	22.8	45.5	91.0	
Acetonitrile	0.980	196	19.6	3.92	NA	0.490	0.980	4.90	24.5	49.0	98.0	
Acrolein	0.960	192	19.2	3.84	NA	0.480	0.960	4.80	24.0	48.0	96.0	
Acetone	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
Trichlorofluoromethane	1.04	208	20.8	4.16	NA	0.520	1.04	5.20	26.0	52.0	104	
Isopropanol	1.03	206	20.6	4.12	NA	0.515	1.03	5.15	25.8	51.5	103	
Acrylonitrile	1.010	202	20.2	4.04	NA	0.505	1.01	5.05	25.3	50.5	101	
1,1-Dichloroethene	1.13	226	22.6	4.52	NA	0.565	1.13	5.65	28.3	56.5	113	
tert-Butanol	1.020	204	20.4	4.08	NA	0.510	1.02	5.10	25.5	51.0	102	
Methylene Chloride	1.12	224	22.4	4.48	NA	0.560	1.12	5.60	28.0	56.0	112	
Allyl Chloride	1.05	210	21.0	4.20	NA	0.525	1.05	5.25	26.3	52.5	105	
Trichlorotrifluoroethane	1.14	228	22.8	4.56	NA	0.570	1.14	5.70	28.5	57.0	114	
Carbon Disulfide	1.00	200	20.0	4.00	NA	0.500	1.00	5.00	25.0	50.0	100	
trans-1,2-Dichloroethene	1.10	220	22.0	4.40	NA	0.550	1.10	5.50	27.5	55.0	110	
1,1-Dichloroethane	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
Methyl tert-Butyl Ether	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
Vinyl Acetate	0.98	196	19.6	3.92	NA	0.490	0.980	4.90	24.5	49.0	98.0	
2-Butanone	1.12	224	22.4	4.48	NA	0.560	1.12	5.60	28.0	56.0	112	
cis-1,2-Dichloroethene	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
Diisopropyl Ether	1.03	206	20.6	4.12	NA	0.515	1.03	5.15	25.8	51.5	103	
Ethyl Acetate	1.27	254	25.4	5.08	NA	0.635	1.27	6.35	31.8	63.5	127	
n-Hexane	1.12	224	22.4	4.48	NA	0.560	1.12	5.60	28.0	56.0	112	
Chloroform	1.29	258	25.8	5.16	NA	0.645	1.29	6.45	32.3	64.5	129	
Tetrahydrofuran	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
Ethyl tert-Butyl Ether	1.05	210	21.0	4.20	NA	0.525	1.05	5.25	26.3	52.5	105	
1,2-Dichloroethane	1.10	220	22.0	4.40	NA	0.550	1.10	5.50	27.5	55.0	110	
1,1,1-Trichloroethane	1.10	220	22.0	4.40	NA	0.550	1.10	5.50	27.5	55.0	110	
Isopropyl Acetate	1.010	202	20.2	4.04	NA	0.505	1.01	5.05	25.3	50.5	101	
1-Butanol	0.910	182	18.2	3.64	NA	0.455	0.910	4.55	22.8	45.5	91.0	
Benzene	1.10	220	22.0	4.40	NA	0.550	1.10	5.50	27.5	55.0	110	
Carbon Tetrachloride	1.07	214	21.4	4.28	NA	0.535	1.07	5.35	26.8	53.5	107	
Cyclohexane	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
tert-Amyl Methyl Ether	1.04	208	20.8	4.16	NA	0.520	1.04	5.20	26.0	52.0	104	
1,2-Dichloropropane	1.09	218	21.8	4.36	NA	0.545	1.09	5.45	27.3	54.5	109	
Bromodichloromethane	1.15	230	23.0	4.60	NA	0.575	1.15	5.75	28.8	57.5	115	
Trichloroethene	1.14	228	22.8	4.56	NA	0.570	1.14	5.70	28.5	57.0	114	
1,4-Dioxane	1.15	230	23.0	4.60	NA	0.575	1.15	5.75	28.8	57.5	115	
Isooctane	1.04	208	20.8	4.16	NA	0.520	1.04	5.20	26.0	52.0	104	
Methyl Methacrylate	1.06	212	21.2	4.24	NA	0.530	1.06	5.30	26.5	53.0	106	
n-Heptane	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	NA	0.520	1.04	5.20	26.0	52.0	104	
4-Methyl-2-pentanone	1.05	210	21.0	4.20	NA	0.525	1.05	5.25	26.3	52.5	105	
trans-1,3-Dichloropropene	1.16	232	23.2	4.64	NA	0.580	1.16	5.80	29.0	58.0	116	
1,1,2-Trichloroethane	1.09	218	21.8	4.36	NA	0.545	1.09	5.45	27.3	54.5	109	
Toluene	1.10	220	22.0	4.40	NA	0.550	1.10	5.50	27.5	55.0	110	
2-Hexanone	1.02	204	20.4	4.08	NA	0.510	1.02	5.10	25.5	51.0	102	
Dibromochloromethane	1.11	222	22.2	4.44	NA	0.555	1.11	5.55	27.8	55.5	111	
1,2-Dibromoethane	1.09	218	21.8	4.36	NA	0.545	1.09	5.45	27.3	54.5	109	
n-Butyl Acetate	1.05	210	21.0	4.20	NA	0.525	1.05	5.25	26.3	52.5	105	
n-Octane	1.04	208	20.8	4.16	NA	0.520	1.04	5.20	26.0	52.0	104	
Tetrachloroethene	1.09	218	21.8	4.36	NA	0.545	1.09	5.45	27.3	54.5	109	
Chlorobenzene	1.10	220	22.0	4.40	NA	0.550	1.10	5.50	27.5	55.0	110	
Ethylbenzene	1.08	216	21.6	4.32	NA	0.540	1.08	5.40	27.0	54.0	108	
m-&p-Xylene	2.58	516	51.6	10.32	NA	1.29	2.58	12.9	64.5	129	258	



**Primary Source Standards Concentrations  
(Working & Initial Calibration)**

4ng/L Std. ID: S20-04030801  
 20ng/L Std. ID: S20-03210809  
 200ng/L Std. ID: S20-04020808

Compounds	Source Std. mg/m <sup>3</sup>	Dilution Factors:			Working STD Conc.(ng/L):	ICAL Concentrations (Primary Source)							
		5	50	250		Injection (L):	0	20	20	20	200	200	200
		200ng/L	20ng/L	4ng/L			0.025	0.025	0.05	0.25	0.125	0.25	0.50
						ICAL Points:	0.1ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Bromoform	1.31	262	26.2	5.24		NA	0.655	1.31	6.55	32.8	65.5	131	
Styrene	1.08	216	21.6	4.32		NA	0.540	1.08	5.40	27.0	54.0	108	
o-Xylene	1.22	244	24.4	4.88		NA	0.610	1.22	6.10	30.5	61.0	122	
n-Nonane	1.03	206	20.6	4.12		NA	0.515	1.03	5.15	25.8	51.5	103	
1,1,2,2-Tetrachloroethane	1.23	246	24.6	4.92		NA	0.615	1.23	6.15	30.8	61.5	123	
Cumene	1.08	216	21.6	4.32		NA	0.540	1.08	5.40	27.0	54.0	108	
alpha-Pinene	1.06	212	21.2	4.24		NA	0.530	1.06	5.30	26.5	53.0	106	
n-Propylbenzene	1.05	210	21.0	4.20		NA	0.525	1.05	5.25	26.3	52.5	105	
3-Ethyltoluene	1.02	204	20.4	4.08		NA	0.510	1.02	5.10	25.5	51.0	102	
4-Ethyltoluene	1.11	222	22.2	4.44		NA	0.555	1.11	5.55	27.8	55.5	111	
1,3,5-Trimethylbenzene	1.08	216	21.6	4.32		NA	0.540	1.08	5.40	27.0	54.0	108	
alpha-Methylstyrene	1.02	204	20.4	4.08		NA	0.510	1.02	5.10	25.5	51.0	102	
2-Ethyltoluene	0.990	198	19.8	3.96		NA	0.495	0.990	4.95	24.8	49.5	99.0	
1,2,4-Trimethylbenzene	1.10	220	22.0	4.40		NA	0.550	1.10	5.50	27.5	55.0	110	
n-Decane	1.04	208	20.8	4.16		NA	0.520	1.04	5.20	26.0	52.0	104	
Benzyl Chloride	1.07	214	21.4	4.28		NA	0.535	1.07	5.35	26.8	53.5	107	
1,3-Dichlorobenzene	1.06	212	21.2	4.24		NA	0.530	1.06	5.30	26.5	53.0	106	
1,4-Dichlorobenzene	1.10	220	22.0	4.40		NA	0.550	1.10	5.50	27.5	55.0	110	
sec-Butylbenzene	1.07	214	21.4	4.28		NA	0.535	1.07	5.35	26.8	53.5	107	
p-Isopropyltoluene	1.180	236	23.6	4.72		NA	0.590	1.18	5.90	29.5	59.0	118	
1,2,3-Trimethylbenzene	1.10	220	22.0	4.40		NA	0.550	1.10	5.50	27.5	55.0	110	
1,2-Dichlorobenzene	1.08	216	21.6	4.32		NA	0.540	1.08	5.40	27.0	54.0	108	
d-Limonene	1.06	212	21.2	4.24		NA	0.530	1.06	5.30	26.5	53.0	106	
1,2-Dibromo-3-chloropropane	1.04	208	20.8	4.16		NA	0.520	1.04	5.20	26.0	52.0	104	
n-Undecane	1.05	210	21.0	4.20		NA	0.525	1.05	5.25	26.3	52.5	105	
1,2,4-Trichlorobenzene	1.12	224	22.4	4.48		NA	0.560	1.12	5.60	28.0	56.0	112	
Naphthalene	1.05	210	21.0	4.20		NA	0.525	1.05	5.25	26.3	52.5	105	
n-Dodecane	1.06	212	21.2	4.24		NA	0.530	1.06	5.30	26.5	53.0	106	
Hexachloro-1,3-butadiene	1.11	222	22.2	4.44		NA	0.555	1.11	5.55	27.8	55.5	111	

\*Enter Information in the Solid Shaded Areas ONLY.

4/15/08

Method Path : J:\MS13\METHODS\  
 Method File : R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:47:20 2008  
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	25	J:\MS13\DATA\2008_04\14\04140808.D
2	0.5	1	25	J:\MS13\DATA\2008_04\14\04140809.D
3	1.0	1	25	J:\MS13\DATA\2008_04\14\04140810.D
4	5.0	5	25	J:\MS13\DATA\2008_04\14\04140811.D
5	25	27	25	J:\MS13\DATA\2008_04\14\04140812.D
6	50	54	25	J:\MS13\DATA\2008_04\14\04140813.D
7	100	108	25	J:\MS13\DATA\2008_04\14\04140814.D

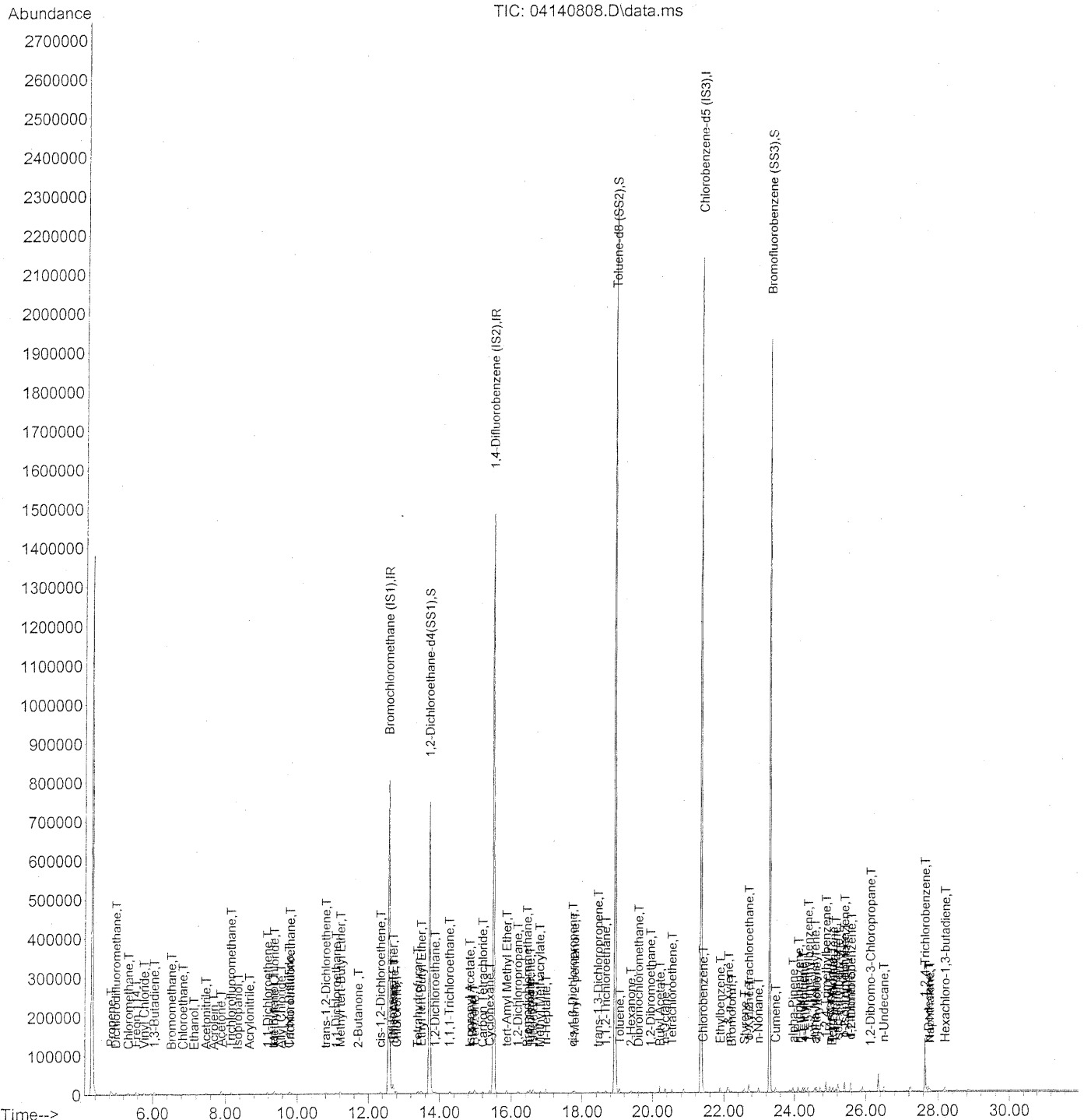
#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Apr 15 06:33 2008	Apr 14 19:57 2008	14 Apr 2008 18:59
2	0.5	Apr 15 06:33 2008	Apr 14 20:24 2008	14 Apr 2008 19:40
3	1.0	Apr 15 06:33 2008	Apr 15 06:20 2008	14 Apr 2008 20:21
4	5.0	Apr 15 06:34 2008	Apr 15 06:22 2008	14 Apr 2008 21:01
5	25	Apr 15 06:34 2008	Apr 15 06:24 2008	14 Apr 2008 21:43
6	50	Apr 15 06:34 2008	Apr 15 06:26 2008	14 Apr 2008 22:24
7	100	Apr 15 06:34 2008	Apr 15 06:28 2008	14 Apr 2008 23:04

R13041408.M Tue Apr 15 15:34:11 2008

*DA 4/15/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 18:59  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:57:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 18:59  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:57:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	330672	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	1516799	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	758152	25.000	ng	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) 1,2-Dichloroethane-d4(...)	13.72	65	669686	21.687	ng	-0.03
Spiked Amount	25.000		Recovery	=	86.76%	
57) Toluene-d8 (SS2)	18.93	98	1722189	28.176	ng	-0.01
Spiked Amount	25.000		Recovery	=	112.72%	
73) Bromofluorobenzene (SS3)	23.29	174	583069	29.861	ng	0.00
Spiked Amount	25.000		Recovery	=	119.44%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.84	42	3502	0.089	ng	# 58
3) Dichlorodifluoromethane	4.98	85	6457	0.098	ng	93
4) Chloromethane	5.33	50	5608	0.101	ng	85
5) Freon 114	5.55	135	3051	0.113	ng	89
6) Vinyl Chloride	5.77	62	4872	0.096	ng	94
7) 1,3-Butadiene	6.04	54	3496	0.086	ng	# 61
8) Bromomethane	6.52	94	2038	0.079	ng	91
9) Chloroethane	6.84	64	1736	0.070	ng	85
10) Ethanol	7.14	45	905	0.037	ng	# 44
11) Acetonitrile	7.47	41	5842	0.094	ng	83
12) Acrolein	7.68	56	1483	0.078	ng	# 73
13) Acetone	7.89	58	4681	0.186	ng	# 56
14) Trichlorofluoromethane	8.16	101	4631	0.087	ng	96
15) Isopropanol	8.35	45	7164m	0.083	ng	
16) Acrylonitrile	8.67	53	2141m	0.053	ng	
17) 1,1-Dichloroethene	9.17	96	2684	0.107	ng	# 72
18) tert-Butanol	9.34	59	3724	0.049	ng	# 84
19) Methylene Chloride	9.36	84	3365	0.121	ng	95
20) Allyl Chloride	9.56	41	1936	0.047	ng	88
21) Trichlorotrifluoroethane	9.81	151	2299	0.112	ng	96
22) Carbon Disulfide	9.78	76	8282	0.071	ng	93
23) trans-1,2-Dichloroethene	10.80	61	3798	0.082	ng	94
24) 1,1-Dichloroethane	11.10	63	4737	0.089	ng	95
25) Methyl tert-Butyl Ether	11.22	73	8322	0.094	ng	78
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone	11.71	72	1112	0.054	ng	# 72
28) cis-1,2-Dichloroethene	12.34	61	3769	0.086	ng	82
29) Diisopropyl Ether	12.70	87	1863	0.079	ng	# 88
30) Ethyl Acetate	12.72	61	223	0.020	ng	# 71
31) n-Hexane	12.70	57	5193	0.091	ng	98

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 18:59  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:57:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.79	83	4622	0.106	ng	83
34) Tetrahydrofuran	13.39	72	1382	0.071	ng #	84
35) Ethyl tert-Butyl Ether	13.49	87	2636	0.082	ng #	1
36) 1,2-Dichloroethane	13.88	62	3788	0.087	ng	85
38) 1,1,1-Trichloroethane	14.27	97	3981	0.102	ng #	66
39) Isopropyl Acetate	14.85	61	1323m	0.075	ng	
40) 1-Butanol	14.92	56	786	0.030	ng	79
41) Benzene	14.98	78	10664	0.100	ng	95
42) Carbon Tetrachloride	15.21	117	2729	0.082	ng	88
43) Cyclohexane	15.40	84	3527	0.090	ng #	84
44) tert-Amyl Methyl Ether	15.88	73	6246	0.081	ng	90
45) 1,2-Dichloropropane	16.19	63	3114	0.105	ng	95
46) Bromodichloromethane	16.45	83	3734	0.107	ng	84
47) Trichloroethene	16.54	130	2307	0.102	ng #	78
48) 1,4-Dioxane	16.53	88	1490	0.080	ng #	48
49) Isooctane	16.62	57	10380	0.084	ng	69
50) Methyl Methacrylate	16.81	100	424m	0.045	ng	
51) n-Heptane	16.98	71	2860	0.100	ng #	75
52) cis-1,3-Dichloropropene	17.73	75	3001	0.068	ng	90
53) 4-Methyl-2-pentanone	17.79	58	2240	0.078	ng	94
54) trans-1,3-Dichloropropene	18.45	75	2661	0.069	ng	91
55) 1,1,2-Trichloroethane	18.67	97	2577	0.111	ng	94
58) Toluene	19.07	91	10684	0.119	ng	95
59) 2-Hexanone	19.39	43	6288	0.089	ng #	68
60) Dibromochloromethane	19.60	129	2380	0.115	ng	97
61) 1,2-Dibromoethane	19.94	107	2269	0.098	ng	98
62) Butyl Acetate	20.21	43	5465	0.077	ng #	72
63) n-Octane	20.35	57	2088	0.092	ng	80
64) Tetrachloroethene	20.54	166	2776	0.135	ng	85
65) Chlorobenzene	21.41	112	6476	0.122	ng	65
66) Ethylbenzene	21.89	91	10115	0.099	ng	97
67) m- & p-Xylene	22.13	91	15249	0.225	ng #	52
68) Bromoform	22.22	173	1417	0.097	ng	100
69) Styrene	22.58	104	6125	0.106	ng	95
70) o-Xylene	22.71	91	8518	0.117	ng	82
71) n-Nonane	22.98	43	5870	0.098	ng #	82
72) 1,1,2,2-Tetrachloroethane	22.70	83	4182	0.120	ng	78
74) Cumene	23.46	105	8543	0.095	ng	97
75) alpha-Pinene	23.96	93	4522	0.091	ng #	2
76) n-Propylbenzene	24.11	91	11604	0.097	ng	98
77) 3-Ethyltoluene	24.22	105	9132	0.094	ng	95
78) 4-Ethyltoluene	24.28	105	9233	0.101	ng	96
79) 1,3,5-Trimethylbenzene	24.38	105	7705	0.094	ng	92

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 18:59  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:57:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

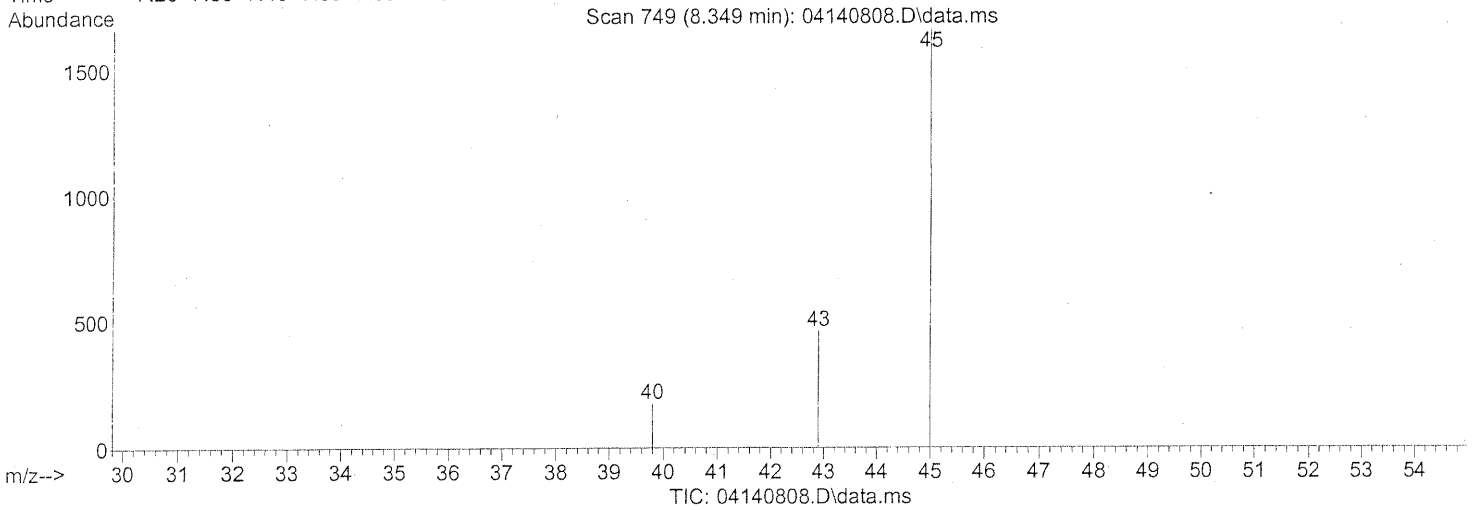
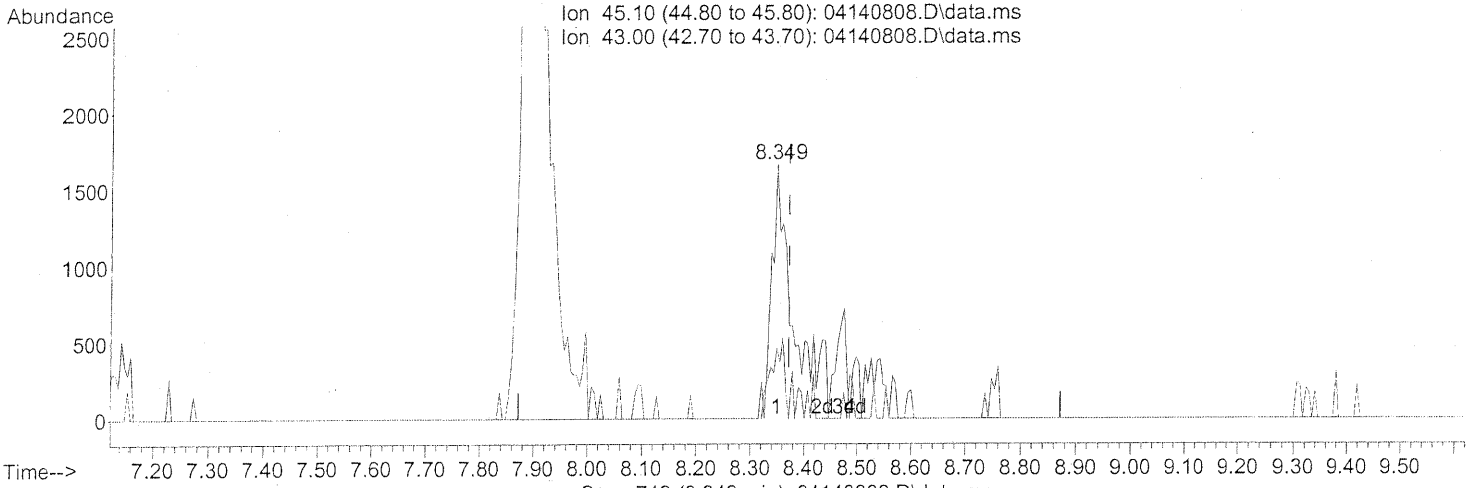
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.57	118	3727	0.090	ng	87
81) 2-Ethyltoluene	24.61	105	9246	0.096	ng	90
82) 1,2,4-Trimethylbenzene	24.88	105	7668	0.088	ng	95
83) n-Decane	24.99	57	4427	0.082	ng	84
84) Benzyl Chloride	25.04	91	4100	0.060	ng	97
85) 1,3-Dichlorobenzene	25.08	146	4705	0.110	ng	98
86) 1,4-Dichlorobenzene	25.16	146	4842	0.115	ng	99
87) sec-Butylbenzene	25.22	105	10671	0.102	ng	88
88) p-Isopropyltoluene	25.40	119	8726	0.104	ng	87
89) 1,2,3-Trimethylbenzene	25.40	105	7415	0.088	ng	94
90) 1,2-Dichlorobenzene	25.58	146	3907	0.089	ng	84
91) d-Limonene	25.57	68	3330	0.081	ng	93
92) 1,2-Dibromo-3-Chloropr...	26.12	157	728	0.060	ng #	18
93) n-Undecane	26.50	57	4750	0.083	ng	86
94) 1,2,4-Trichlorobenzene	27.64	180	2704	0.092	ng	93
95) Naphthalene	27.78	128	7336	0.083	ng	91
96) n-Dodecane	27.74	57	5292	0.094	ng	98
97) Hexachloro-1,3-butadiene	28.19	225	1398	0.080	ng	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:49:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)

8.349min (-0.023) 0.04ng

response 3600

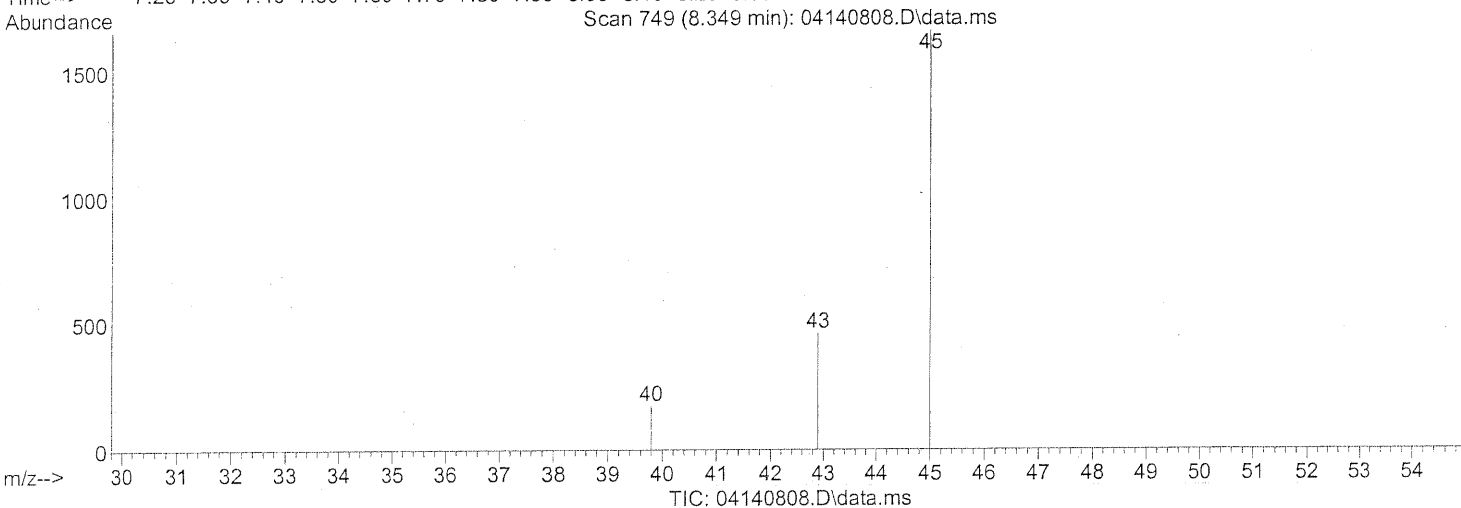
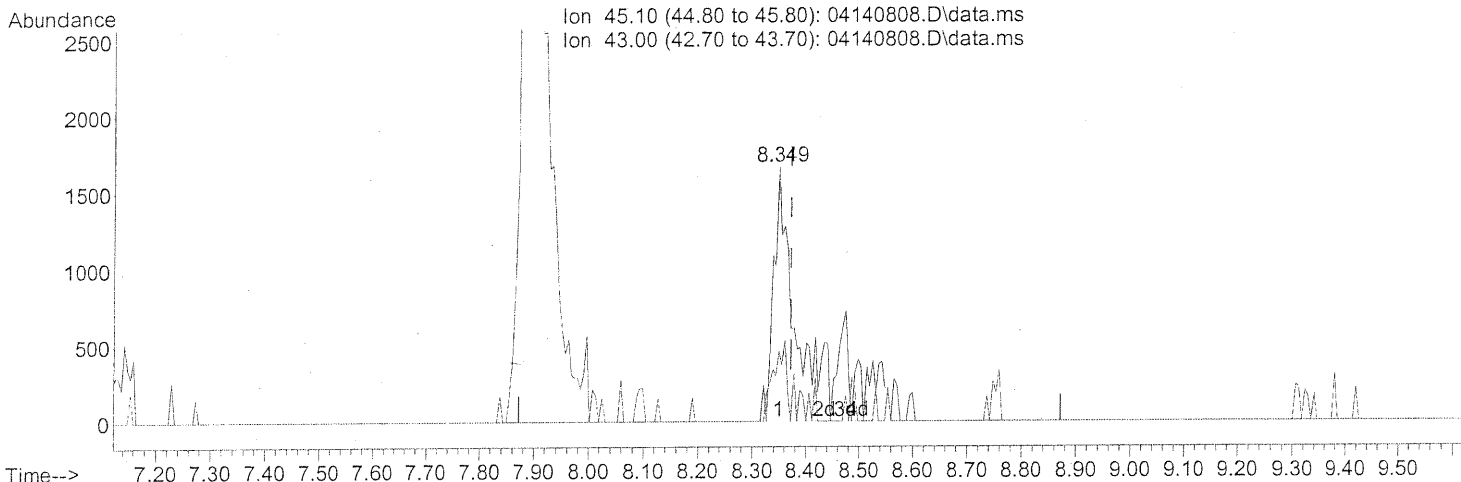
Ion	Exp%	Act%
45.10	100	100
43.00	16.90	24.92
0.00	0.00	0.00
0.00	0.00	0.00

*split peaks*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 6:59 pm  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:57:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)  
 8.349min (-0.023) 0.08ng m  
 response 7164

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	12.52
0.00	0.00	0.00
0.00	0.00	0.00

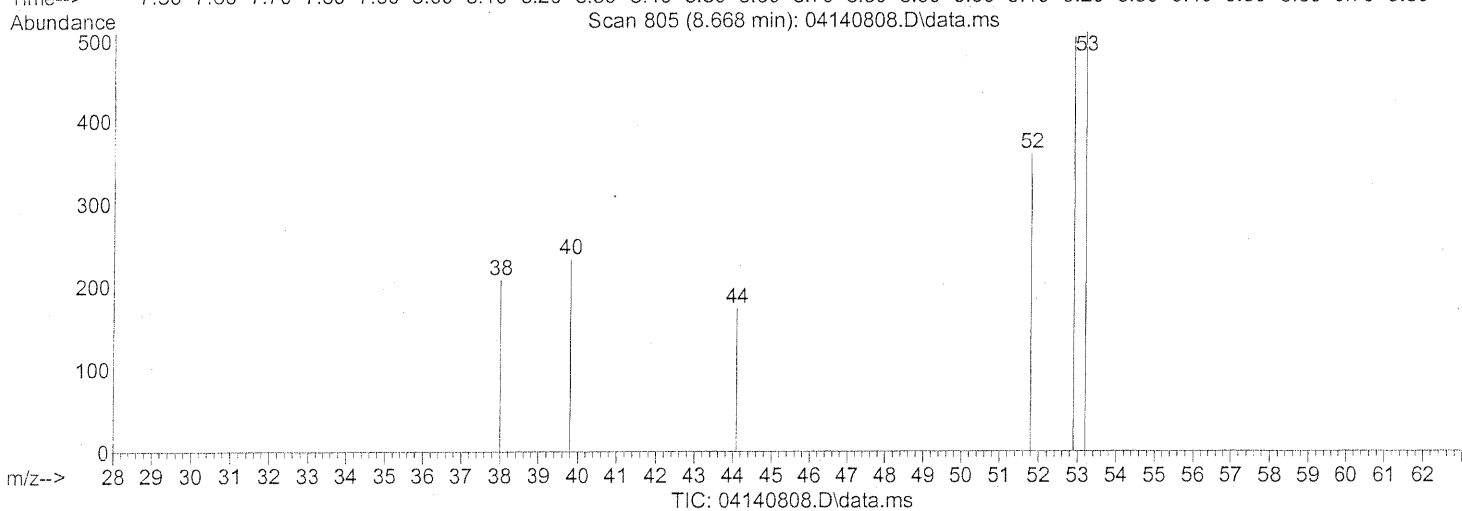
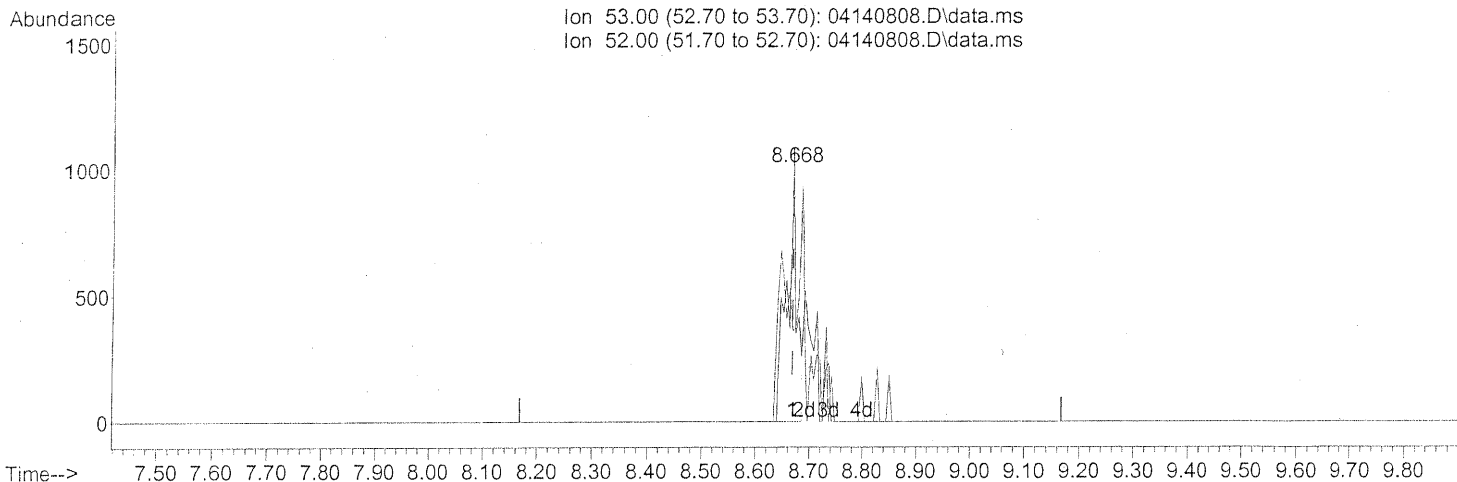
*int. whole peaks*  
*WA 4/15/08*  
*64/17/08*



Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:49:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(16) Acrylonitrile (T)

8.668min (+0.000) 0.03ng

response 1329

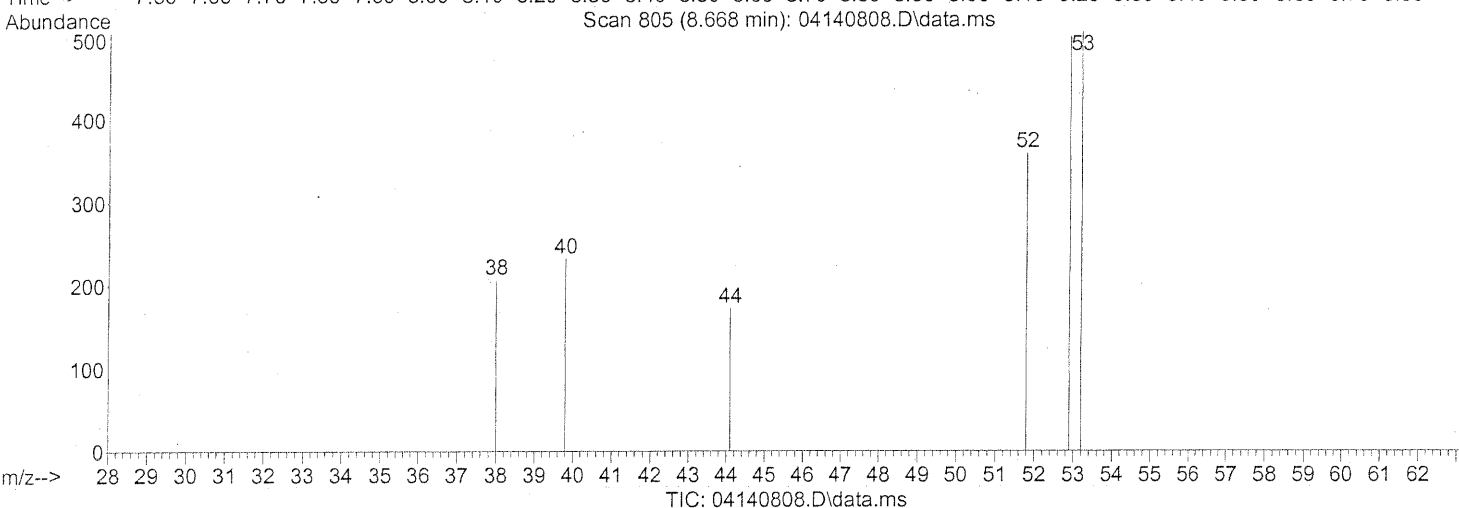
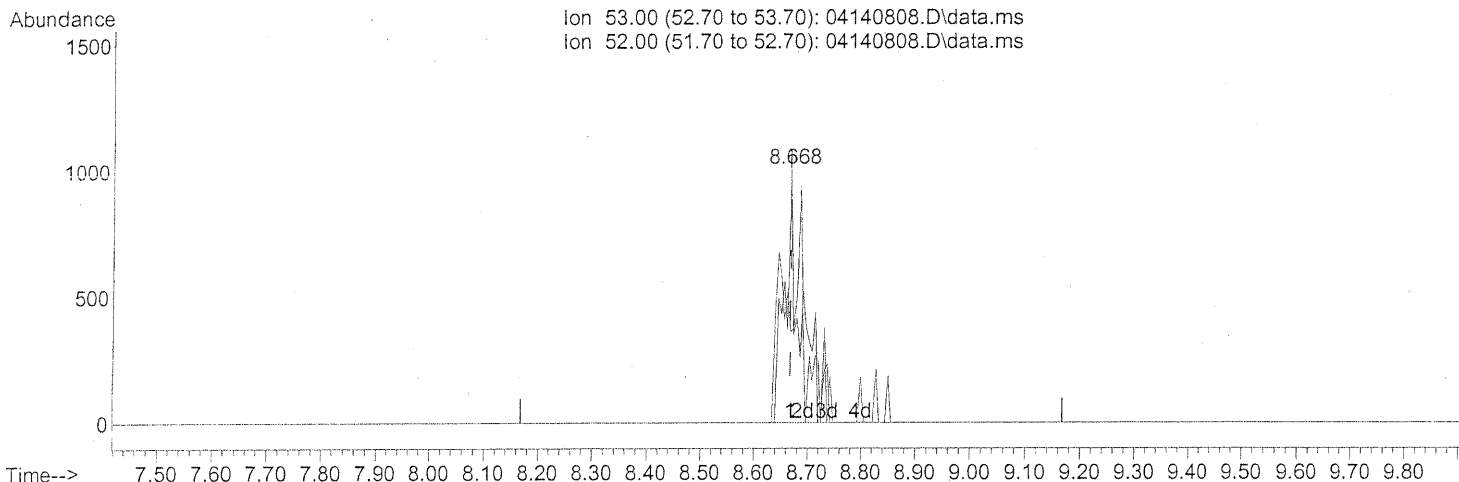
*split peaks*

Ion	Exp%	Act%
53.00	100	100
52.00	82.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:49:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(16) Acrylonitrile (T)

8.668min (+0.000) 0.05ng m

response 2141

Ion	Exp%	Act%
53.00	100	100
52.00	82.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*int. whole peaks*

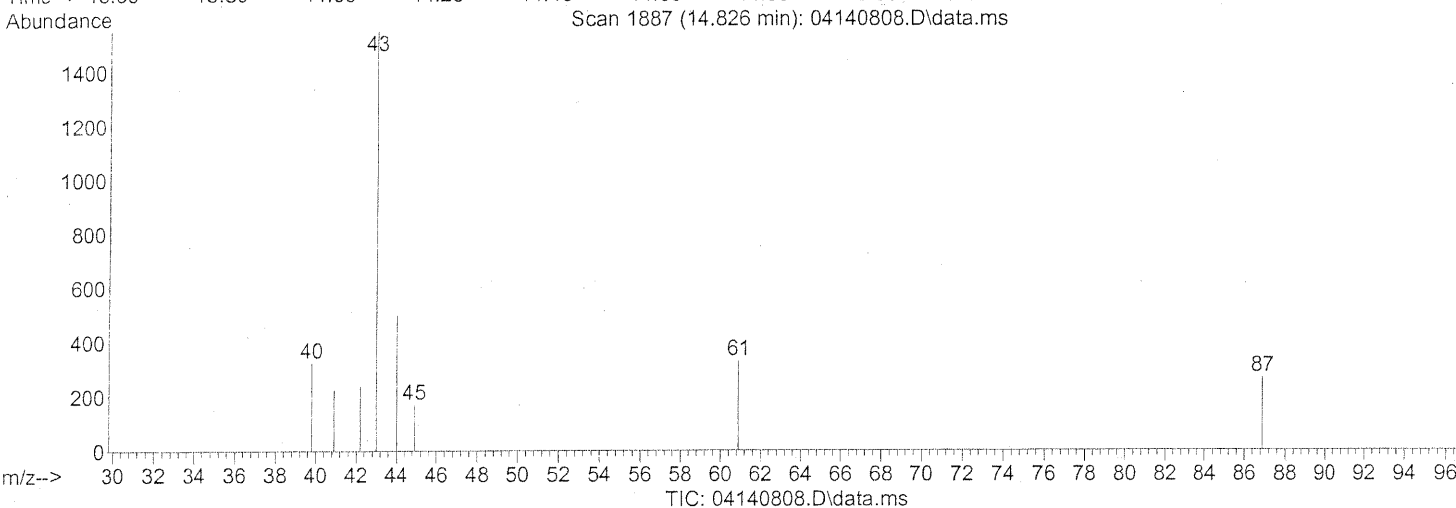
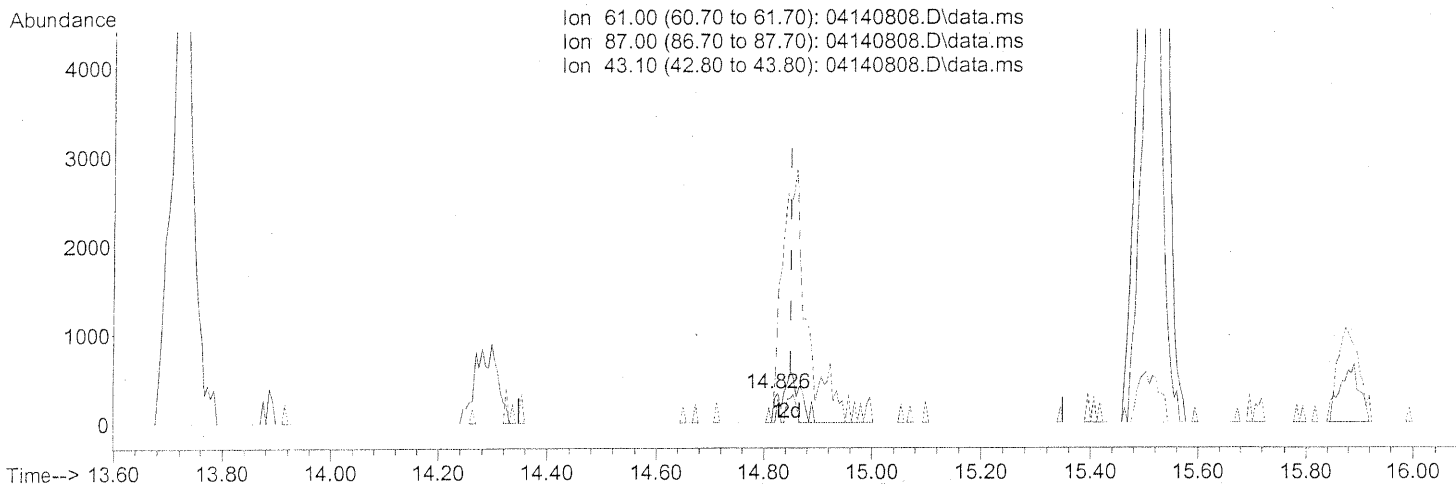
*WA 4/15/08*

*Boa/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:49:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(39) Isopropyl Acetate (T)

14.826min (-0.023) 0.01ng

response 261

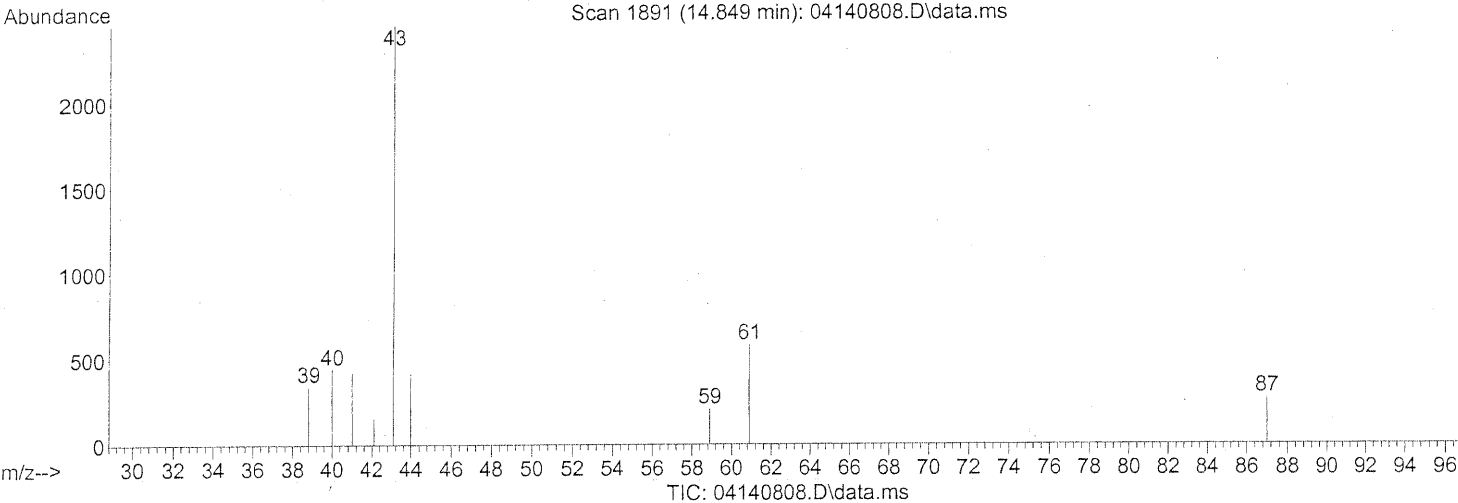
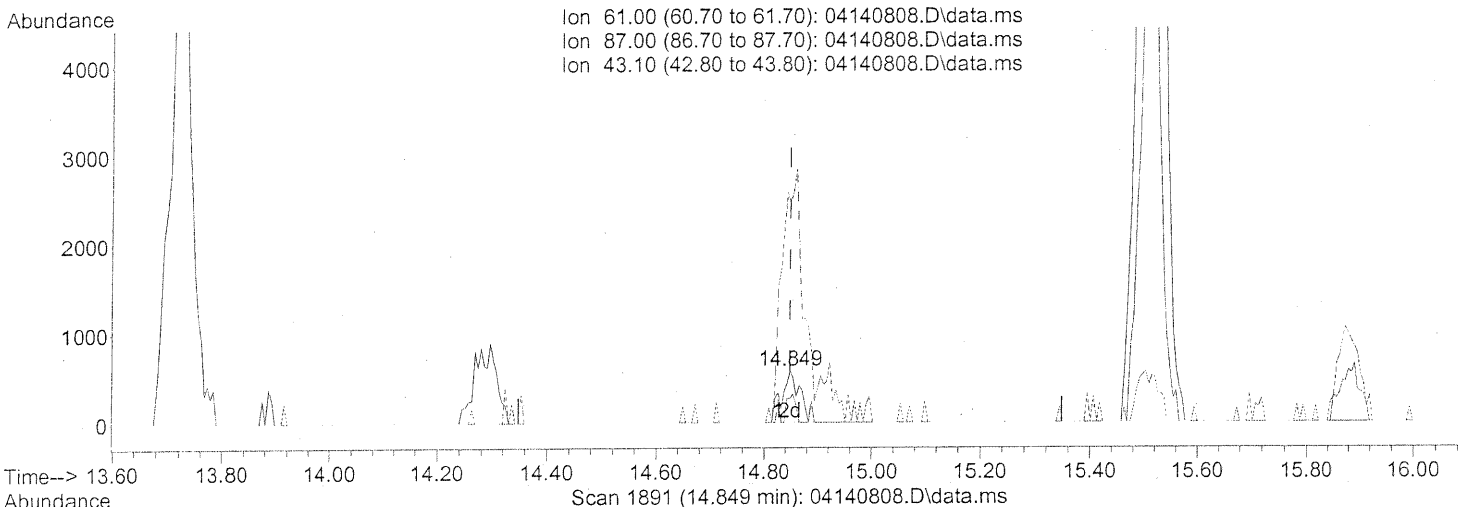
*split peaks*

Ion	Exp%	Act%
61.00	100	100
87.00	41.70	34.87
43.10	486.60	0.00#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:49:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(39) Isopropyl Acetate (T)  
14.849min (+0.000) 0.08ng m  
response 1323

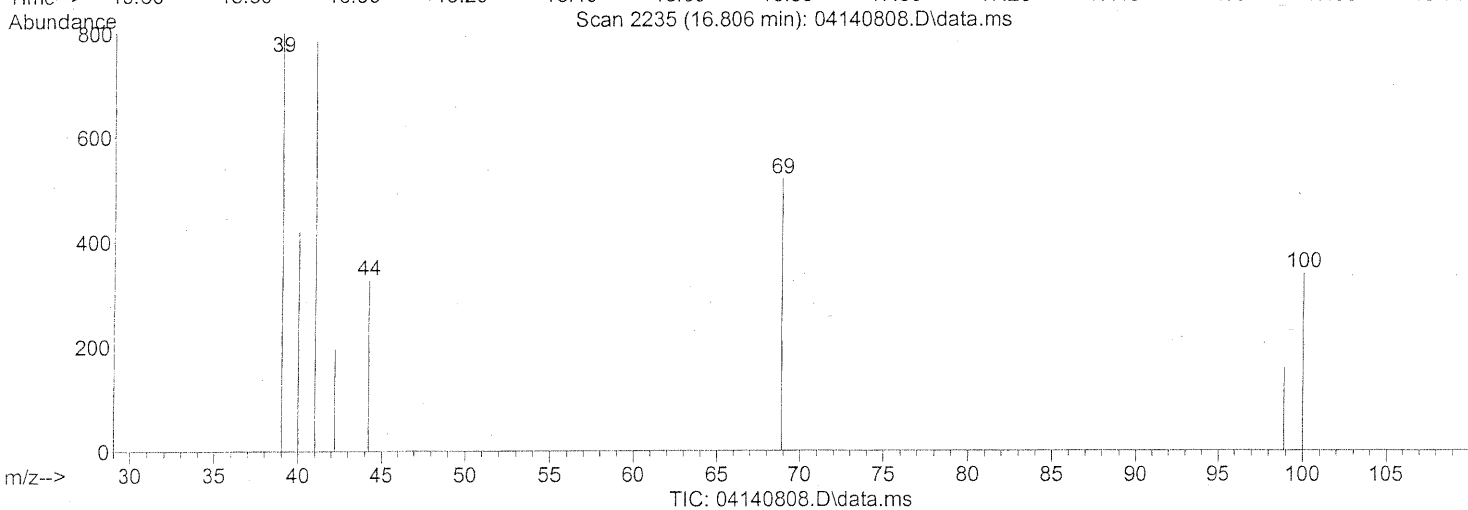
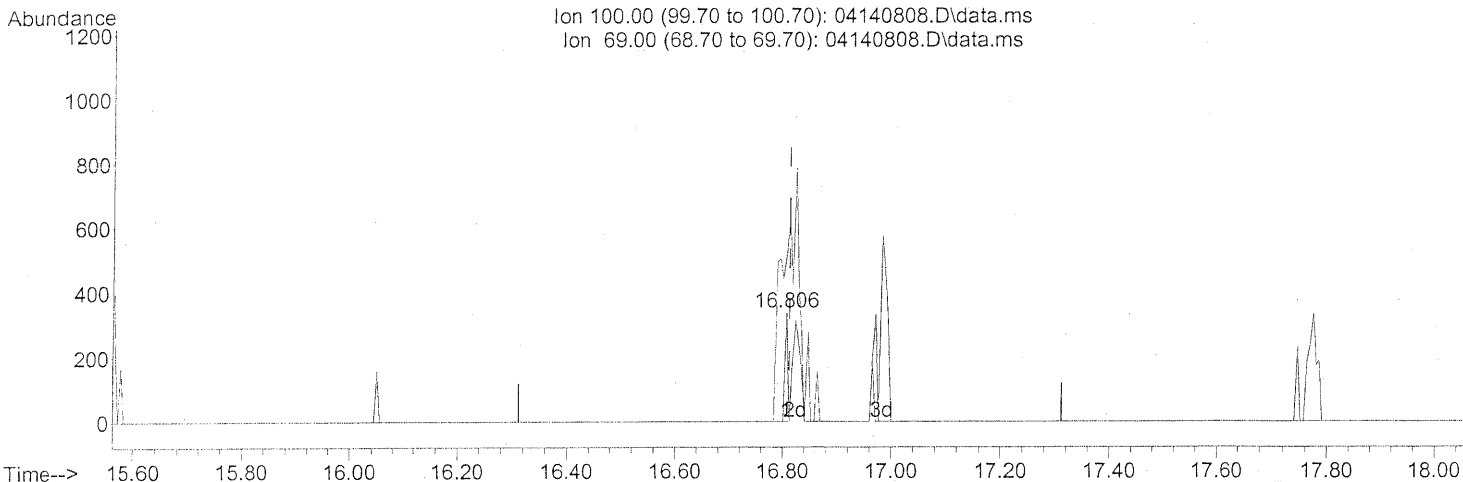
Ion	Exp%	Act%
61.00	100	100
87.00	41.70	6.88#
43.10	486.60	0.00#
0.00	0.00	0.00

*int. whole peaks*  
*WA 4/15/08*  
*F 04/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:49:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(50) Methyl Methacrylate (T)

16.806min (-0.006) 0.01ng

response 115

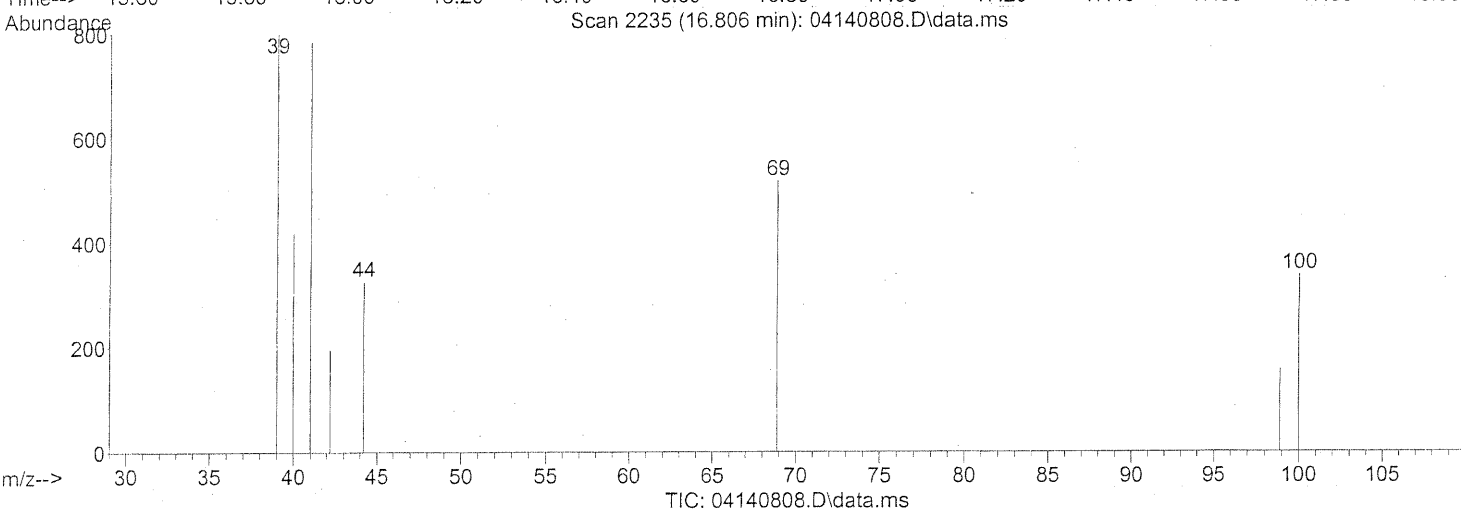
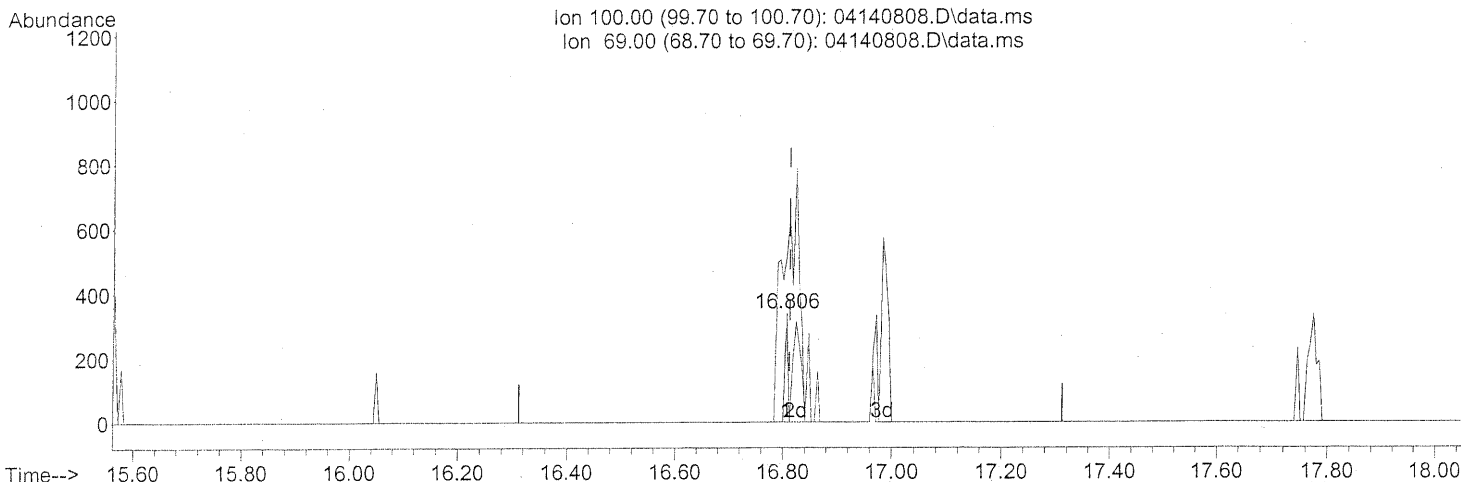
Ion	Exp%	Act%
100.00	100	100
69.00	259.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*improper peak int.*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 6:59 pm  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 14 19:57:23 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(50) Methyl Methacrylate (T)

16.806min (-0.006) 0.04ng m

response 424

Ion	Exp%	Act%
100.00	100	100
69.00	259.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*int. corr. peak*

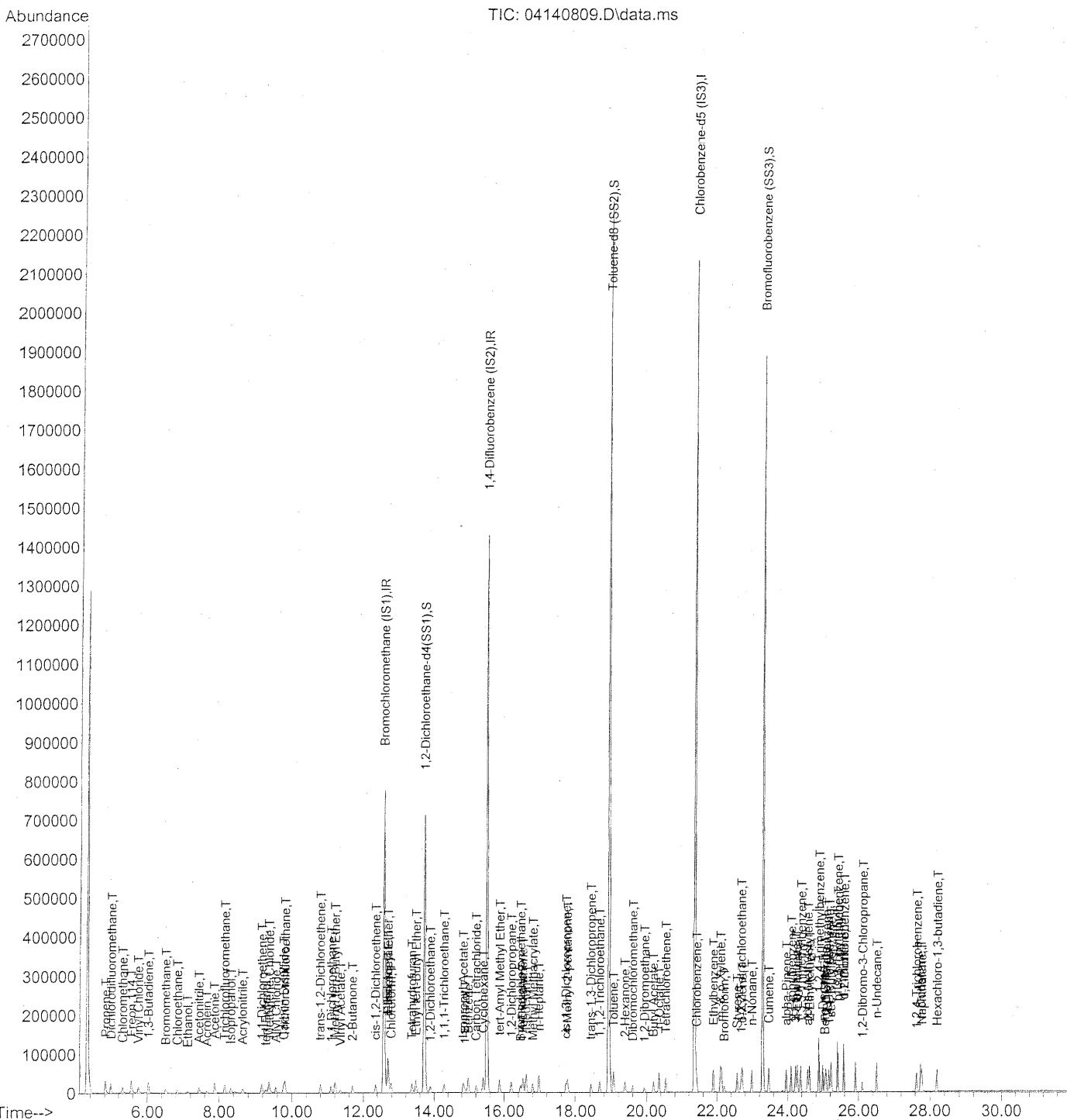
*not 4/15/08*

*NOT used*

*304/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140809.D  
 Acq On : 14 Apr 2008 19:40  
 Operator : WA  
 Sample : 0.5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:24:20 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140809.D  
 Acq On : 14 Apr 2008 19:40  
 Operator : WA  
 Sample : 0.5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:24:20 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	321232	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	1468142	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	744311	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.73	65	654334	21.812	ng	-0.02
Spiked Amount	25.000		Recovery	=	87.24%	
57) Toluene-d8 (SS2)	18.93	98	1694424	28.237	ng	-0.01
Spiked Amount	25.000		Recovery	=	112.96%	
73) Bromofluorobenzene (SS3)	23.29	174	565263	29.487	ng	0.00
Spiked Amount	25.000		Recovery	=	117.96%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.83	42	15290	0.402	ng	89
3) Dichlorodifluoromethane	4.99	85	27136	0.422	ng	99
4) Chloromethane	5.31	50	23085	0.427	ng	97
5) Freon 114	5.56	135	13818	0.528	ng	96
6) Vinyl Chloride	5.75	62	20819	0.420	ng	98
7) 1,3-Butadiene	6.03	54	16796	0.427	ng	# 71
8) Bromomethane	6.52	94	10055	0.402	ng	98
9) Chloroethane	6.85	64	9331	0.385	ng	94
10) Ethanol	7.13	45	10603m	0.445	ng	
11) Acetonitrile	7.44	41	26981	0.447	ng	86
12) Acrolein	7.66	56	5948	0.321	ng	86
13) Acetone	7.88	58	13071	0.533	ng	# 60
14) Trichlorofluoromethane	8.16	101	21260	0.412	ng	98
15) Isopropanol	8.33	45	36380m	0.434	ng	
16) Acrylonitrile	8.65	53	15227	0.389	ng	94
17) 1,1-Dichloroethene	9.17	96	9768	0.401	ng	99
18) tert-Butanol	9.28	59	28638m	0.386	ng	
19) Methylene Chloride	9.37	84	12223	0.454	ng	91
20) Allyl Chloride	9.56	41	14090	0.350	ng	99
21) Trichlorotrifluoroethane	9.82	151	9793	0.493	ng	96
22) Carbon Disulfide	9.78	76	39910	0.353	ng	99
23) trans-1,2-Dichloroethene	10.80	61	17927	0.397	ng	94
24) 1,1-Dichloroethane	11.11	63	19996	0.385	ng	88
25) Methyl tert-Butyl Ether	11.21	73	33409	0.387	ng	91
26) Vinyl Acetate	11.36	86	1026	0.175	ng	# 31
27) 2-Butanone	11.69	72	7958	0.401	ng	# 91
28) cis-1,2-Dichloroethene	12.35	61	16398	0.383	ng	83
29) Diisopropyl Ether	12.69	87	8744	0.382	ng	# 79
30) Ethyl Acetate	12.70	61	4220	0.396	ng	94
31) n-Hexane	12.70	57	21335	0.384	ng	86

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140809.D  
 Acq On : 14 Apr 2008 19:40  
 Operator : WA  
 Sample : 0.5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:24:20 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.78	83	21464	0.507	ng	95
34) Tetrahydrofuran	13.37	72	7992	0.421	ng	94
35) Ethyl tert-Butyl Ether	13.49	87	12073	0.385	ng #	78
36) 1,2-Dichloroethane	13.89	62	17281	0.410	ng	91
38) 1,1,1-Trichloroethane	14.29	97	17708	0.470	ng	95
39) Isopropyl Acetate	14.84	61	7193	0.423	ng #	43
40) 1-Butanol	14.89	56	9296	0.369	ng #	32
41) Benzene	14.99	78	44943	0.436	ng	98
42) Carbon Tetrachloride	15.21	117	13169	0.410	ng	99
43) Cyclohexane	15.41	84	16422	0.434	ng #	84
44) tert-Amyl Methyl Ether	15.87	73	28263	0.381	ng	92
45) 1,2-Dichloropropane	16.20	63	12735	0.442	ng	99
46) Bromodichloromethane	16.46	83	14378	0.427	ng	98
47) Trichloroethene	16.53	130	11916	0.545	ng	97
48) 1,4-Dioxane	16.50	88	7698	0.426	ng	97
49) Isooctane	16.62	57	50293	0.421	ng	67
50) Methyl Methacrylate	16.81	100	3798	0.413	ng #	76
51) n-Heptane	16.98	71	12027	0.436	ng #	79
52) cis-1,3-Dichloropropene	17.73	75	15511	0.366	ng	99
53) 4-Methyl-2-pentanone	17.77	58	10899	0.391	ng	88
54) trans-1,3-Dichloropropene	18.43	75	14502	0.388	ng	94
55) 1,1,2-Trichloroethane	18.67	97	10473	0.464	ng	94
58) Toluene	19.06	91	48005	0.544	ng	93
59) 2-Hexanone	19.38	43	31211	0.448	ng	76
60) Dibromochloromethane	19.60	129	10573	0.521	ng	96
61) 1,2-Dibromoethane	19.94	107	10738	0.471	ng	98
62) Butyl Acetate	20.19	43	32810	0.469	ng	83
63) n-Octane	20.35	57	10003	0.449	ng	94
64) Tetrachloroethene	20.54	166	11015	0.547	ng	95
65) Chlorobenzene	21.41	112	29701	0.568	ng	100
66) Ethylbenzene	21.89	91	52327	0.521	ng	88
67) m- & p-Xylene	22.10	91	76463	1.148	ng #	24
68) Bromoform	22.21	173	8077	0.565	ng	100
69) Styrene	22.57	104	27145	0.478	ng	95
70) o-Xylene	22.71	91	38188	0.536	ng	94
71) n-Nonane	22.98	43	27324	0.464	ng #	83
72) 1,1,2,2-Tetrachloroethane	22.69	83	17907	0.523	ng	95
74) Cumene	23.46	105	45202	0.511	ng	96
75) alpha-Pinene	23.96	93	22191	0.456	ng	79
76) n-Propylbenzene	24.10	91	59886	0.509	ng	95
77) 3-Ethyltoluene	24.23	105	45370	0.475	ng	97
78) 4-Ethyltoluene	24.28	105	43433	0.485	ng	99
79) 1,3,5-Trimethylbenzene	24.38	105	38128	0.476	ng	96

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140809.D  
 Acq On : 14 Apr 2008 19:40  
 Operator : WA  
 Sample : 0.5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:24:20 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

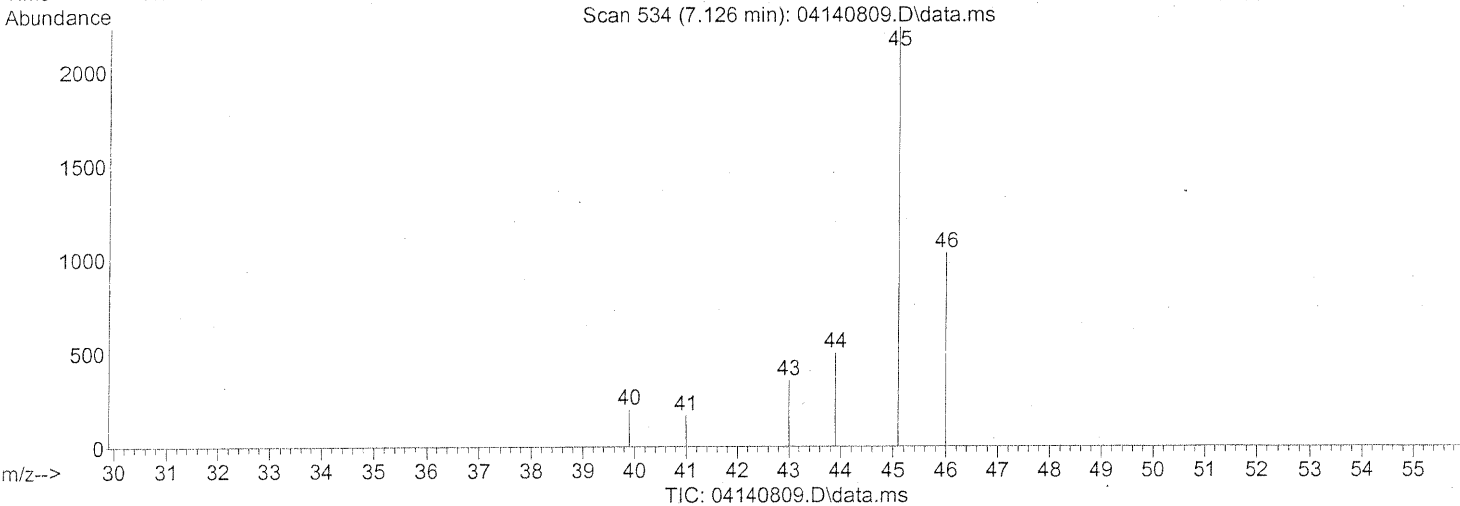
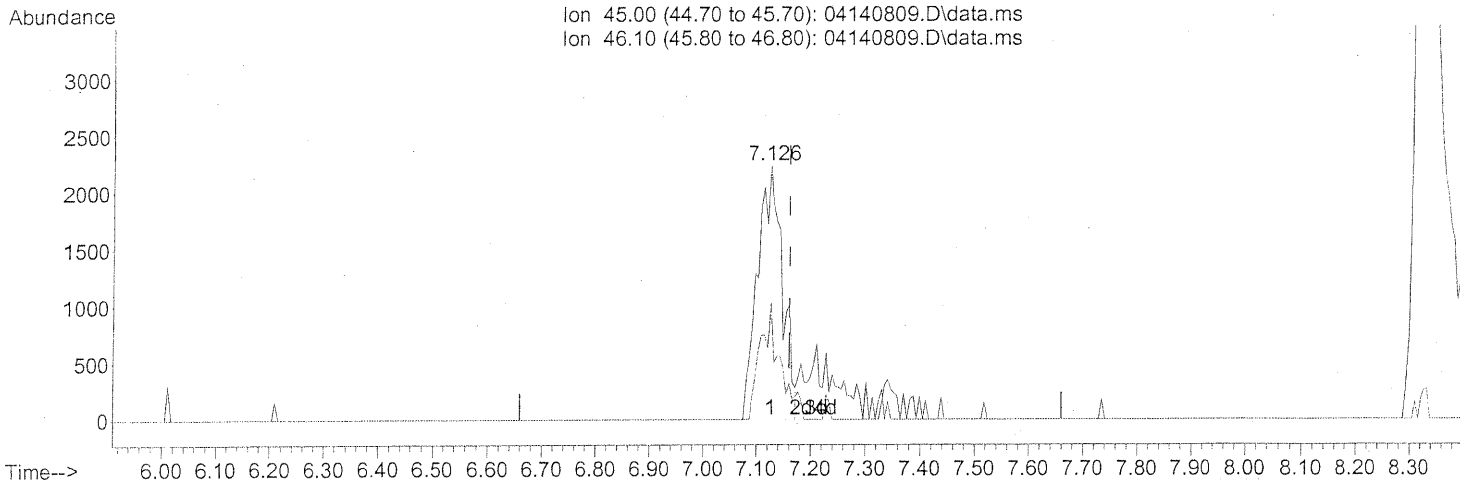
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
80) alpha-Methylstyrene	24.56	118	17575	0.432	ng	87
81) 2-Ethyltoluene	24.61	105	44341	0.468	ng	98
82) 1,2,4-Trimethylbenzene	24.88	105	40098	0.467	ng	93
83) n-Decane	24.98	57	22637	0.425	ng	82
84) Benzyl Chloride	25.04	91	24611	0.367	ng	100
85) 1,3-Dichlorobenzene	25.08	146	23450	0.560	ng	93
86) 1,4-Dichlorobenzene	25.16	146	22608	0.547	ng	99
87) sec-Butylbenzene	25.21	105	52247	0.508	ng	95
88) p-Isopropyltoluene	25.39	119	42606	0.518	ng	89
89) 1,2,3-Trimethylbenzene	25.40	105	38936	0.469	ng	95
90) 1,2-Dichlorobenzene	25.58	146	21674	0.504	ng	99
91) d-Limonene	25.58	68	16667	0.411	ng	91
92) 1,2-Dibromo-3-Chloropr...	26.11	157	5914	0.499	ng #	47
93) n-Undecane	26.50	57	23533	0.417	ng	86
94) 1,2,4-Trichlorobenzene	27.63	180	14591	0.504	ng	99
95) Naphthalene	27.77	128	48051	0.556	ng	99
96) n-Dodecane	27.74	57	23996	0.436	ng	90
97) Hexachloro-1,3-butadiene	28.19	225	9556	0.556	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140809.D  
 Acq On : 14 Apr 2008 19:40  
 Operator : WA  
 Sample : 0.5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:22:34 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)  
 7.126min (-0.034) 0.30ng  
 response 7066

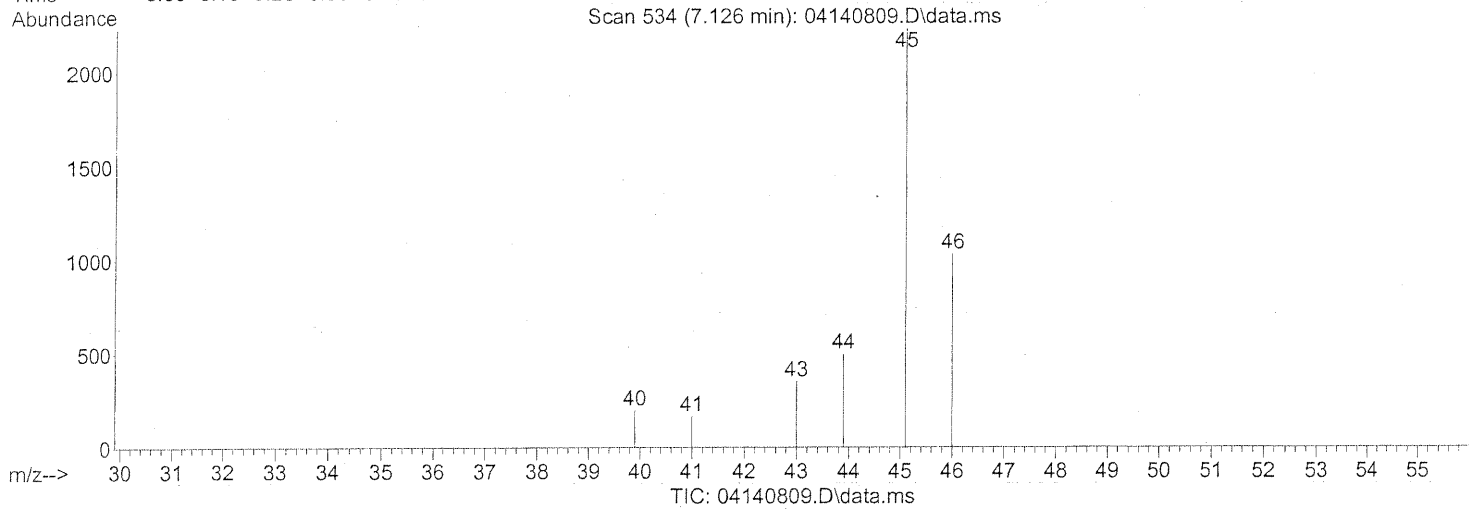
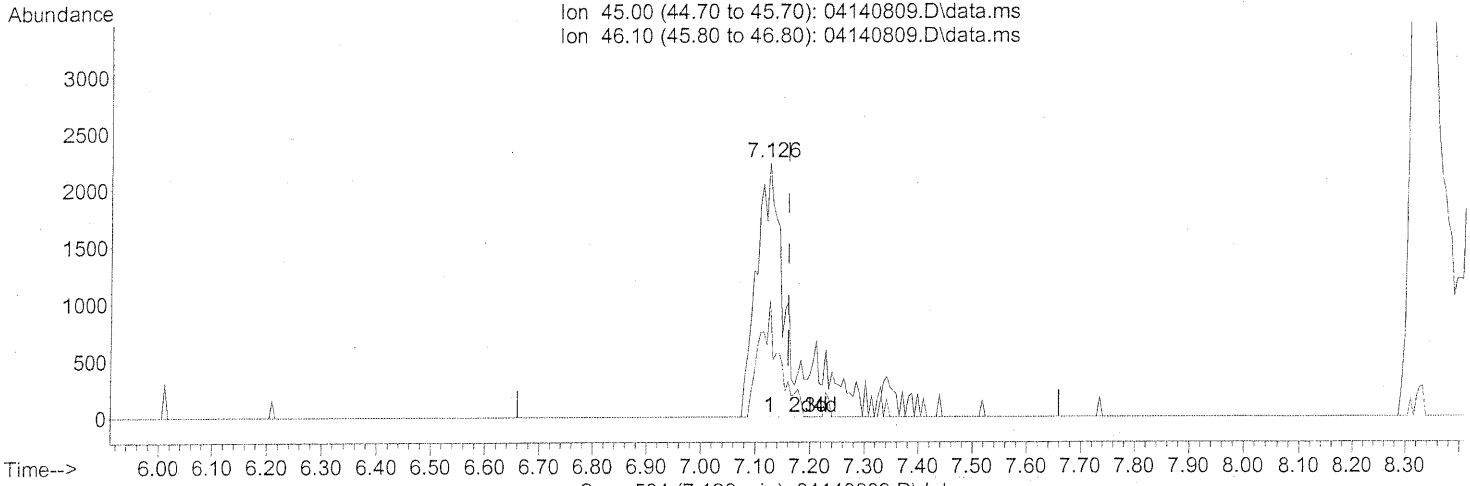
Ion	Exp%	Act%
45.00	100	100
46.10	41.00	37.48
0.00	0.00	0.00
0.00	0.00	0.00

*split peaks*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140809.D  
Acq On : 14 Apr 2008 19:40  
Operator : WA  
Sample : 0.5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:22:34 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(10) Ethanol (T)

7.126min (-0.034) 0.45ng m

response 10603

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	24.97
0.00	0.00	0.00
0.00	0.00	0.00

*int. whole peccles*

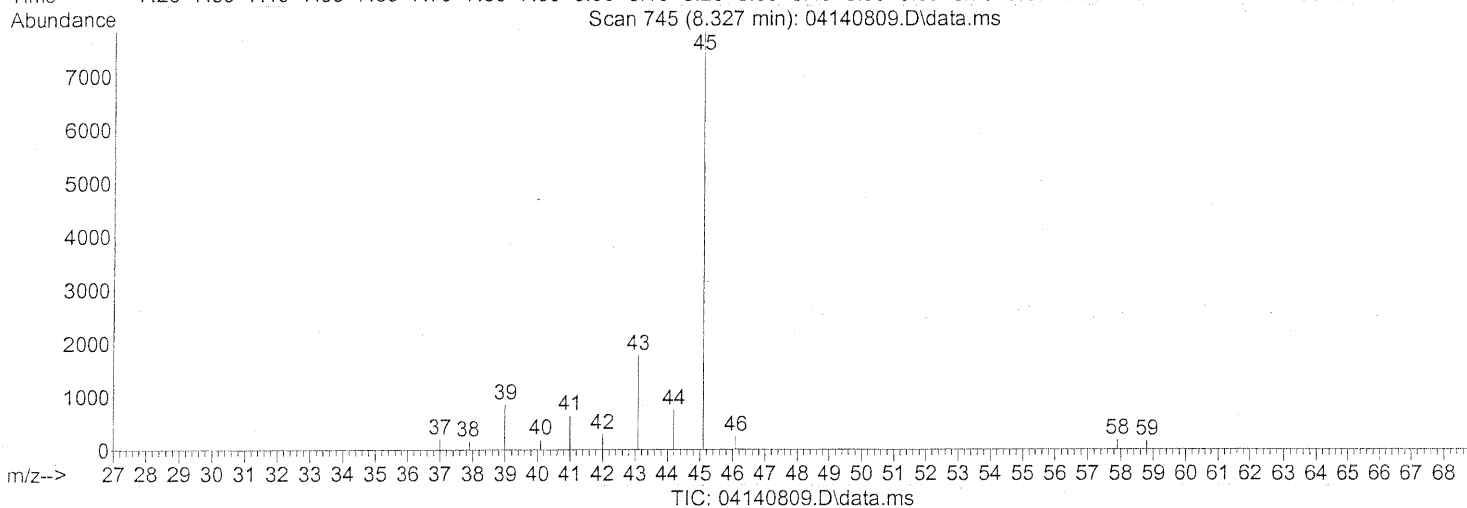
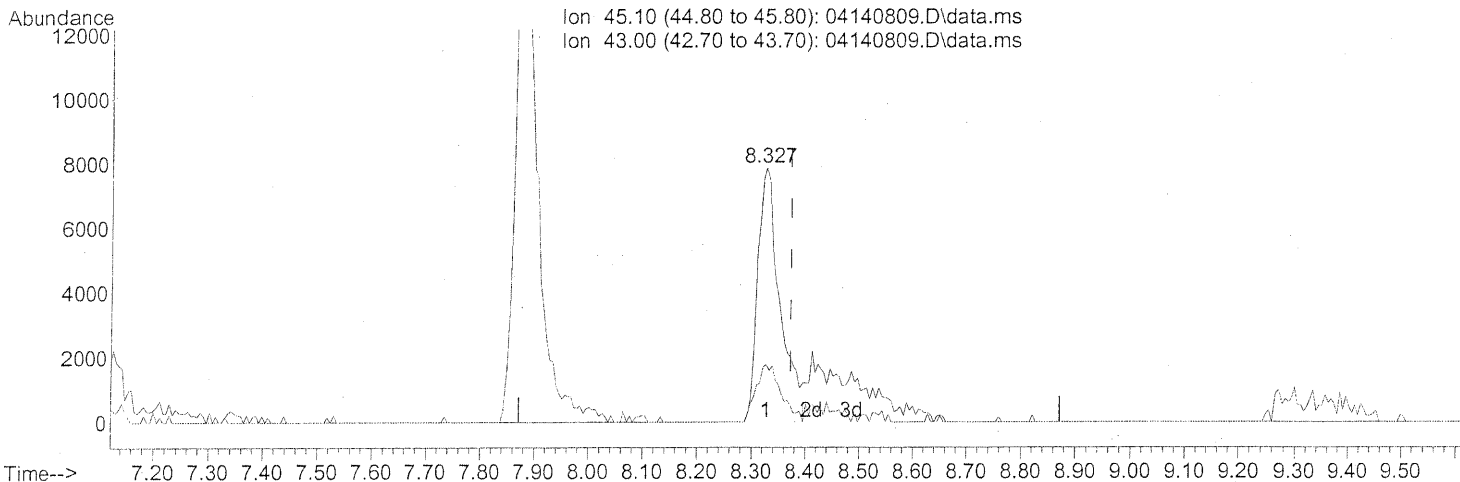
*WA 4/16/08*

*F 04/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140809.D  
 Acq On : 14 Apr 2008 19:40  
 Operator : WA  
 Sample : 0.5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:22:34 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.327min (-0.045) 0.27ng

response 22647

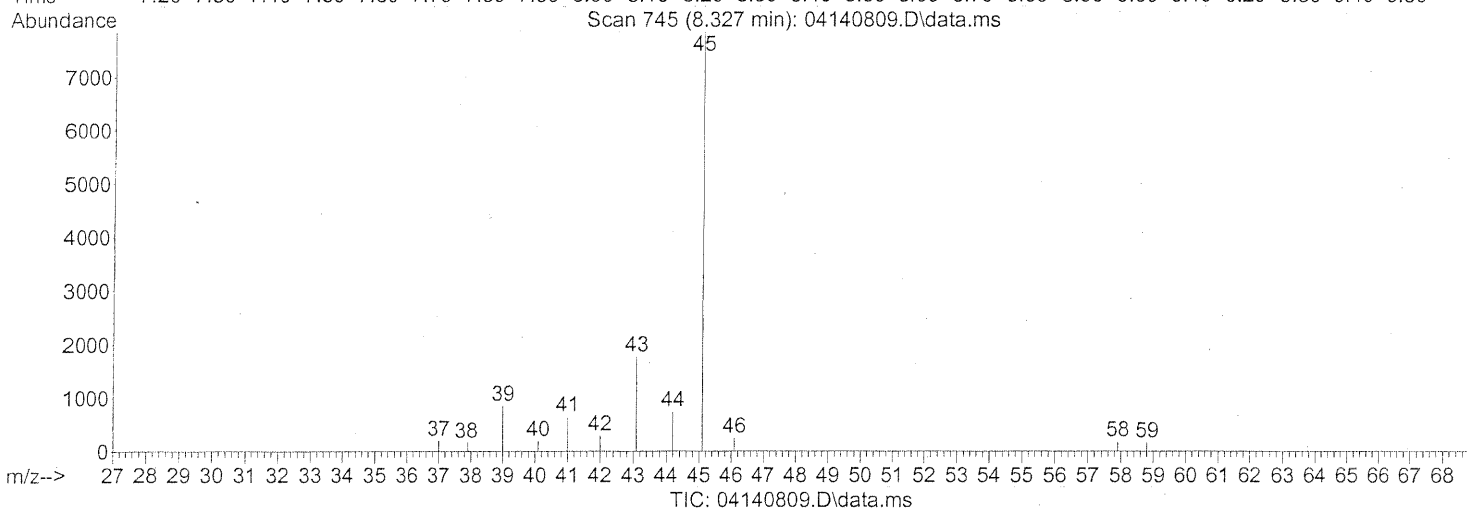
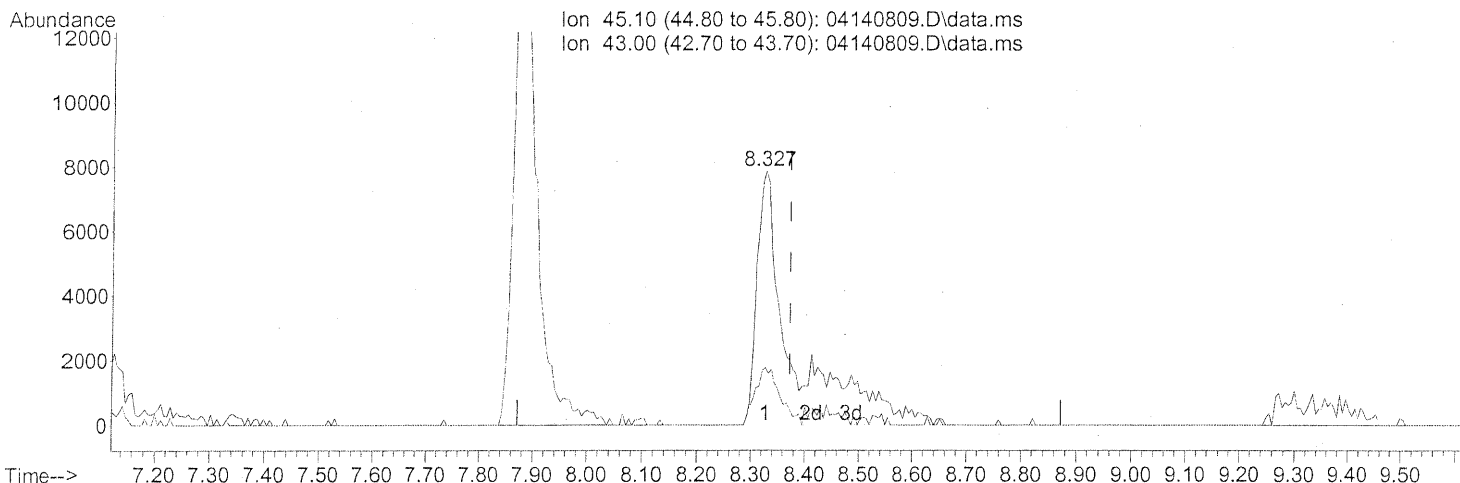
*split peaks*

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	25.13
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140809.D  
Acq On : 14 Apr 2008 19:40  
Operator : WA  
Sample : 0.5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:22:34 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)

8.327min (-0.045) 0.43ng m

response 36380

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	15.64
0.00	0.00	0.00
0.00	0.00	0.00

*int. whole peaks*

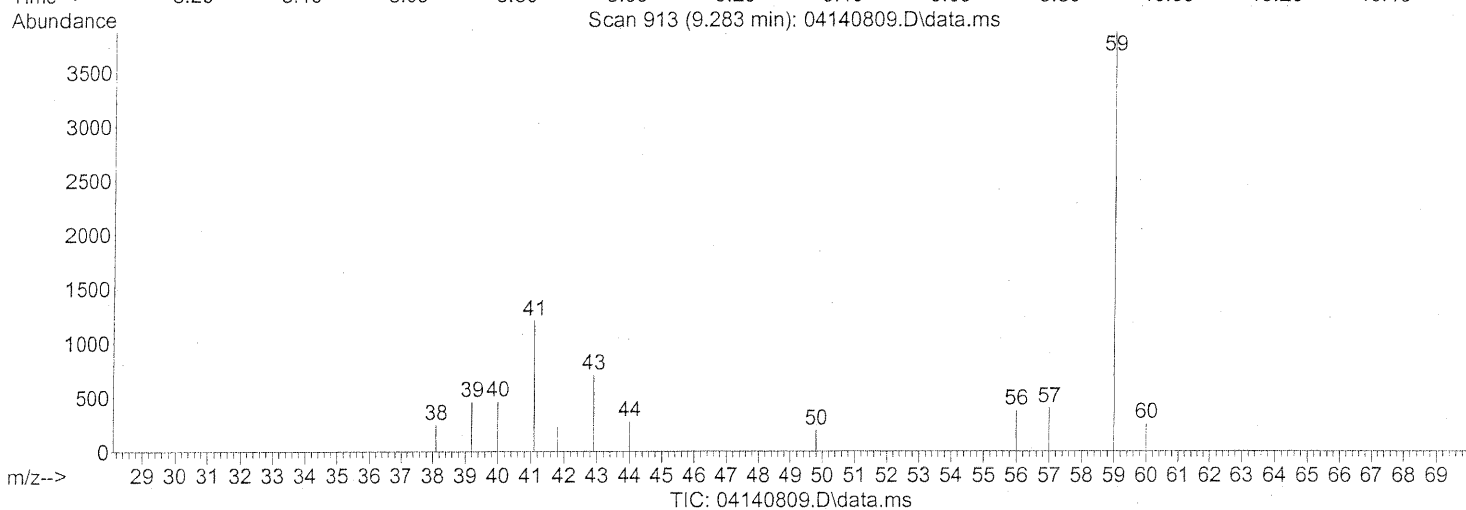
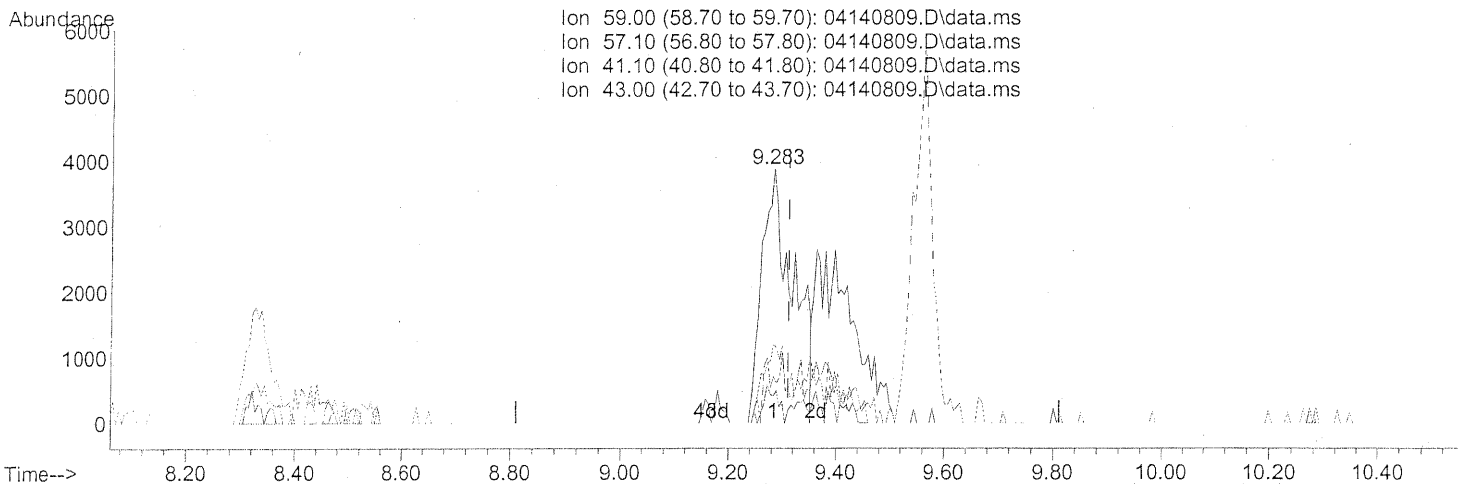
*WA 4/16/08*

*WA 4/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140809.D  
Acq On : 14 Apr 2008 19:40  
Operator : WA  
Sample : 0.5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:22:34 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(18) tert-Butanol (T)

9.283min (-0.028) 0.21ng

response 15479

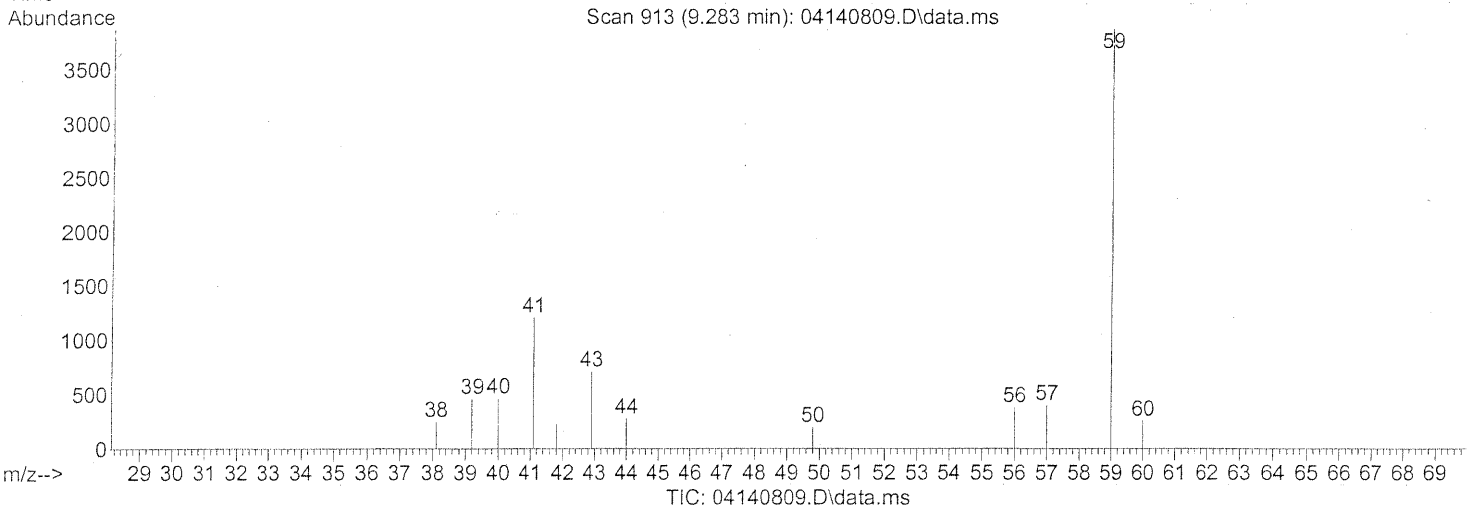
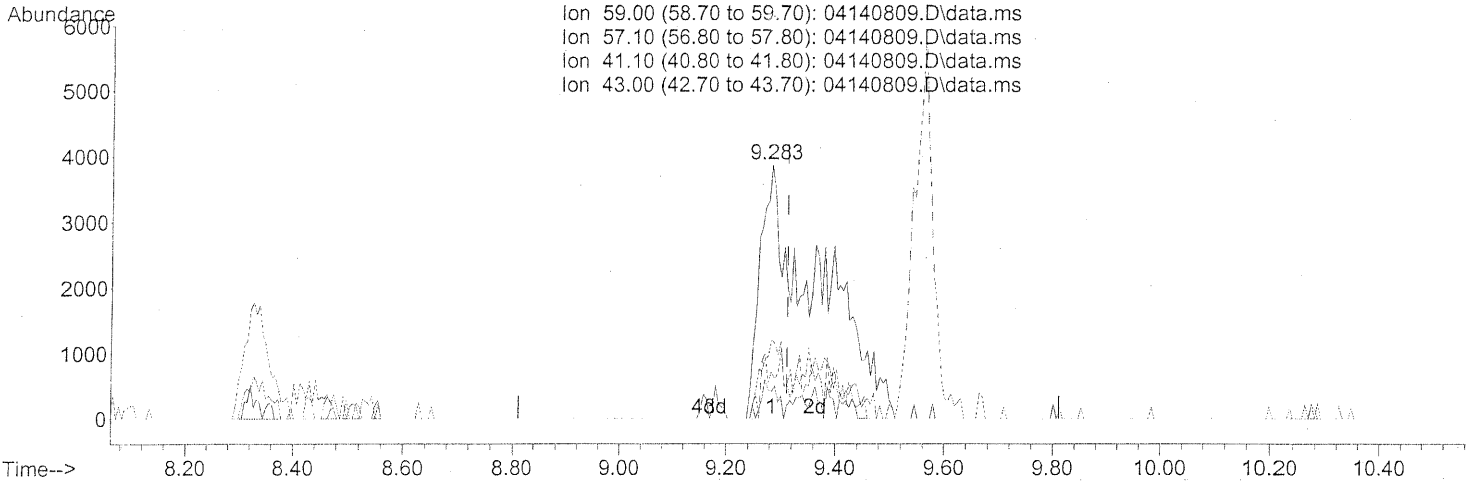
*split peaks*

Ion	Exp%	Act%
59.00	100	100
57.10	10.30	6.96
41.10	20.10	26.03
43.00	12.30	9.52

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140809.D  
Acq On : 14 Apr 2008 19:40  
Operator : WA  
Sample : 0.5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 14 20:22:34 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(18) tert-Butanol (T)

9.283min (-0.028) 0.39ng m

response 28638

Ion	Exp%	Act%
59.00	100	100
57.10	10.30	3.76
41.10	20.10	14.07
43.00	12.30	5.15

*int. whole peaks*

*WA 4/16/08*

*FA 4/17/08*





Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:20:17 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	314461	25.000	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	15.51	114	1454647	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	735083	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.72	65	643137	21.901	ng	-0.03
Spiked Amount	25.000		Recovery	=	87.60%	
57) Toluene-d8 (SS2)	18.93	98	1669857	28.177	ng	-0.01
Spiked Amount	25.000		Recovery	=	112.72%	
73) Bromofluorobenzene (SS3)	23.29	174	560818	29.623	ng	0.00
Spiked Amount	25.000		Recovery	=	118.48%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.81	42	28935	0.777	ng	96
3) Dichlorodifluoromethane	4.97	85	50859	0.808	ng	99
4) Chloromethane	5.29	50	43114	0.814	ng	92
5) Freon 114	5.54	135	23952	0.936	ng	99
6) Vinyl Chloride	5.74	62	37363	0.770	ng	94
7) 1,3-Butadiene	6.02	54	28905	0.751	ng	# 67
8) Bromomethane	6.51	94	17846	0.729	ng	94
9) Chloroethane	6.84	64	15406	0.649	ng	94
10) Ethanol	7.11	45	18205m	0.781	ng	
11) Acetonitrile	7.44	41	46826	0.793	ng	99
12) Acrolein	7.66	56	11810	0.651	ng	95
13) Acetone	7.87	58	23380	0.975	ng	# 58
14) Trichlorofluoromethane	8.15	101	38439	0.761	ng	96
15) Isopropanol	8.31	45	64541m	0.787	ng	
16) Acrylonitrile	8.63	53	29230	0.763	ng	98
17) 1,1-Dichloroethene	9.16	96	19225	0.806	ng	91
18) tert-Butanol	9.25	59	53784m	0.740	ng	
19) Methylene Chloride	9.36	84	21660	0.822	ng	99
20) Allyl Chloride	9.56	41	26454	0.671	ng	98
21) Trichlorotrifluoroethane	9.81	151	17568	0.903	ng	85
22) Carbon Disulfide	9.77	76	73649	0.666	ng	98
23) trans-1,2-Dichloroethene	10.80	61	33628	0.760	ng	88
24) 1,1-Dichloroethane	11.09	63	39329	0.773	ng	96
25) Methyl tert-Butyl Ether	11.20	73	62979	0.745	ng	88
26) Vinyl Acetate	11.35	86	2591	0.451	ng	# 78
27) 2-Butanone	11.68	72	14621	0.752	ng	95
28) cis-1,2-Dichloroethene	12.34	61	31543	0.753	ng	91
29) Diisopropyl Ether	12.69	87	14325	0.639	ng	# 72
30) Ethyl Acetate	12.69	61	8291	0.794	ng	84
31) n-Hexane	12.71	57	41296	0.760	ng	93

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:20:17 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.78	83	37394	0.902	ng	96
34) Tetrahydrofuran	13.36	72	12759	0.687	ng #	86
35) Ethyl tert-Butyl Ether	13.48	87	21688	0.706	ng #	80
36) 1,2-Dichloroethane	13.89	62	32741	0.793	ng	96
38) 1,1,1-Trichloroethane	14.29	97	30975	0.829	ng	93
39) Isopropyl Acetate	14.84	61	12785	0.758	ng #	24
40) 1-Butanol	14.87	56	18065m	0.724	ng	
41) Benzene	14.98	78	78933	0.773	ng	96
42) Carbon Tetrachloride	15.22	117	25485	0.801	ng	97
43) Cyclohexane	15.41	84	31356	0.836	ng #	75
44) tert-Amyl Methyl Ether	15.87	73	55276	0.751	ng	92
45) 1,2-Dichloropropane	16.20	63	22647	0.793	ng	94
46) Bromodichloromethane	16.46	83	27761	0.832	ng	100
47) Trichloroethene	16.53	130	22003	1.016	ng	95
48) 1,4-Dioxane	16.49	88	16367	0.915	ng	80
49) Isooctane	16.62	57	94763	0.801	ng	71
50) Methyl Methacrylate	16.81	100	7124	0.781	ng #	83
51) n-Heptane	16.98	71	22619	0.827	ng #	76
52) cis-1,3-Dichloropropene	17.73	75	28447	0.677	ng	97
53) 4-Methyl-2-pentanone	17.77	58	21241	0.770	ng	78
54) trans-1,3-Dichloropropene	18.43	75	27113	0.733	ng	98
55) 1,1,2-Trichloroethane	18.67	97	18987	0.850	ng	96
58) Toluene	19.07	91	87414	1.002	ng	94
59) 2-Hexanone	19.37	43	56543	0.822	ng	81
60) Dibromochloromethane	19.60	129	20024	0.998	ng	98
61) 1,2-Dibromoethane	19.93	107	19169	0.851	ng	94
62) Butyl Acetate	20.19	43	60902	0.882	ng	83
63) n-Octane	20.35	57	18987	0.863	ng	93
64) Tetrachloroethene	20.54	166	20868	1.049	ng	97
65) Chlorobenzene	21.41	112	53156	1.029	ng	95
66) Ethylbenzene	21.89	91	93406	0.942	ng	94
67) m- & p-Xylene	22.12	91	144511	2.196	ng	89
68) Bromoform	22.21	173	16953	1.201	ng	98
69) Styrene	22.57	104	51489	0.919	ng	95
70) o-Xylene	22.71	91	71744	1.020	ng	93
71) n-Nonane	22.98	43	48600	0.835	ng #	80
72) 1,1,2,2-Tetrachloroethane	22.69	83	34347	1.015	ng	97
74) Cumene	23.46	105	85006	0.973	ng	98
75) alpha-Pinene	23.96	93	42697	0.888	ng	88
76) n-Propylbenzene	24.10	91	112564	0.969	ng	93
77) 3-Ethyltoluene	24.23	105	86580	0.917	ng	92
78) 4-Ethyltoluene	24.28	105	86229	0.975	ng	97
79) 1,3,5-Trimethylbenzene	24.37	105	73399	0.928	ng	97

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:20:17 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

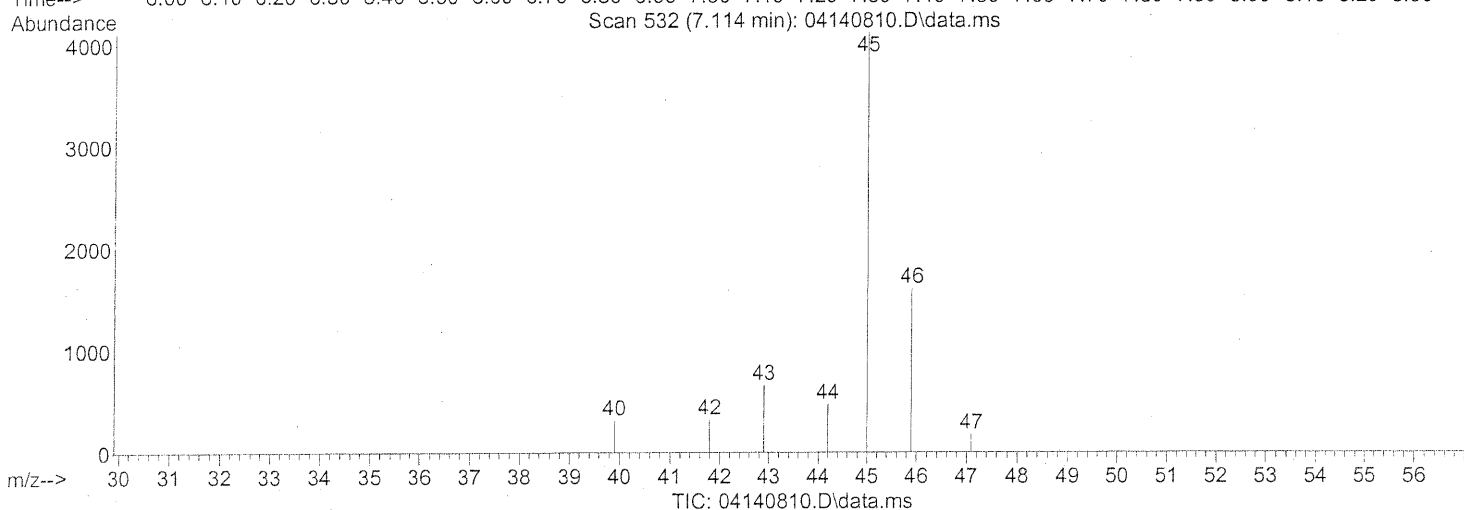
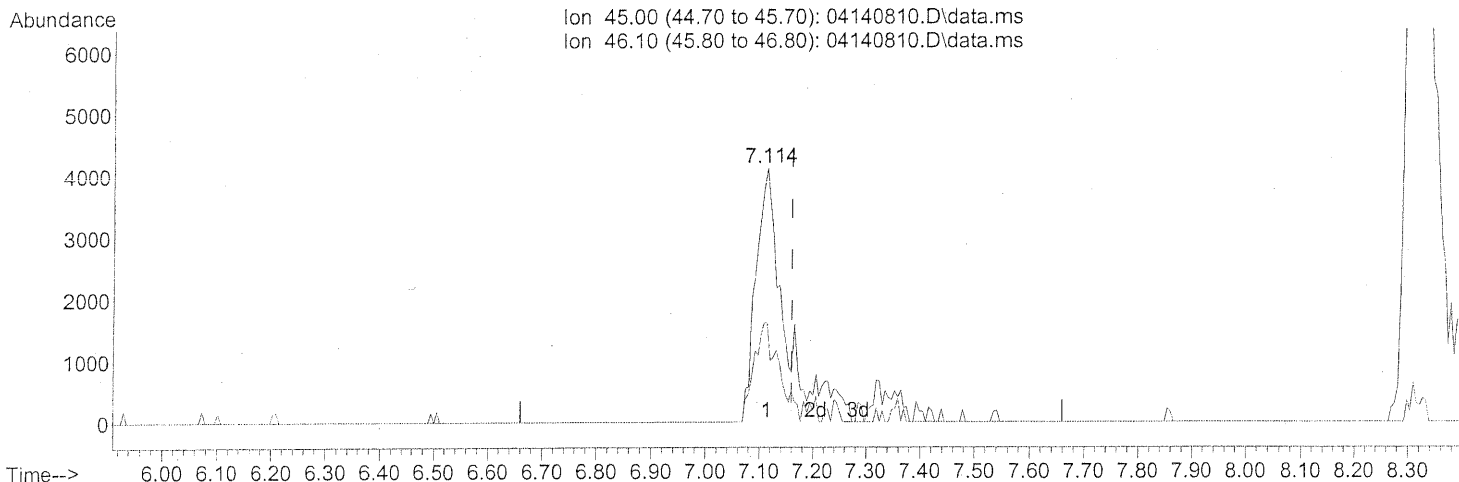
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.56	118	34156	0.850	ng	93
81) 2-Ethyltoluene	24.61	105	81553	0.872	ng	96
82) 1,2,4-Trimethylbenzene	24.88	105	74538	0.879	ng	96
83) n-Decane	24.98	57	44755	0.851	ng	89
84) Benzyl Chloride	25.04	91	48445	0.731	ng	94
85) 1,3-Dichlorobenzene	25.08	146	42950	1.039	ng	99
86) 1,4-Dichlorobenzene	25.16	146	44199	1.083	ng	94
87) sec-Butylbenzene	25.21	105	97717	0.961	ng	95
88) p-Isopropyltoluene	25.39	119	83069	1.023	ng	90
89) 1,2,3-Trimethylbenzene	25.40	105	74125	0.904	ng	96
90) 1,2-Dichlorobenzene	25.58	146	41087	0.967	ng	96
91) d-Limonene	25.58	68	30943	0.772	ng	94
92) 1,2-Dibromo-3-Chloropr...	26.11	157	13130	1.122	ng	# 65
93) n-Undecane	26.50	57	44284	0.794	ng	83
94) 1,2,4-Trichlorobenzene	27.63	180	28841	1.008	ng	99
95) Naphthalene	27.77	128	92340	1.081	ng	95
96) n-Dodecane	27.74	57	44923	0.827	ng	90
97) Hexachloro-1,3-butadiene	28.19	225	18513	1.090	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140810.D  
Acq On : 14 Apr 2008 20:21  
Operator : WA  
Sample : 1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(10) Ethanol (T)

7.114min (-0.046) 0.52ng

response 12050

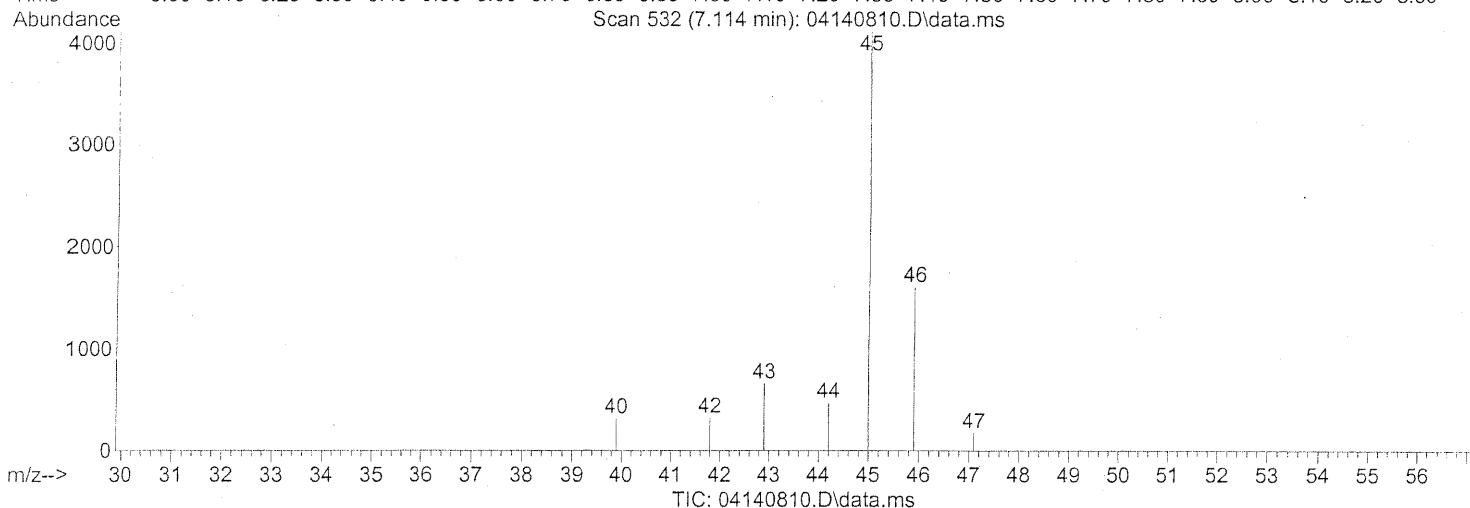
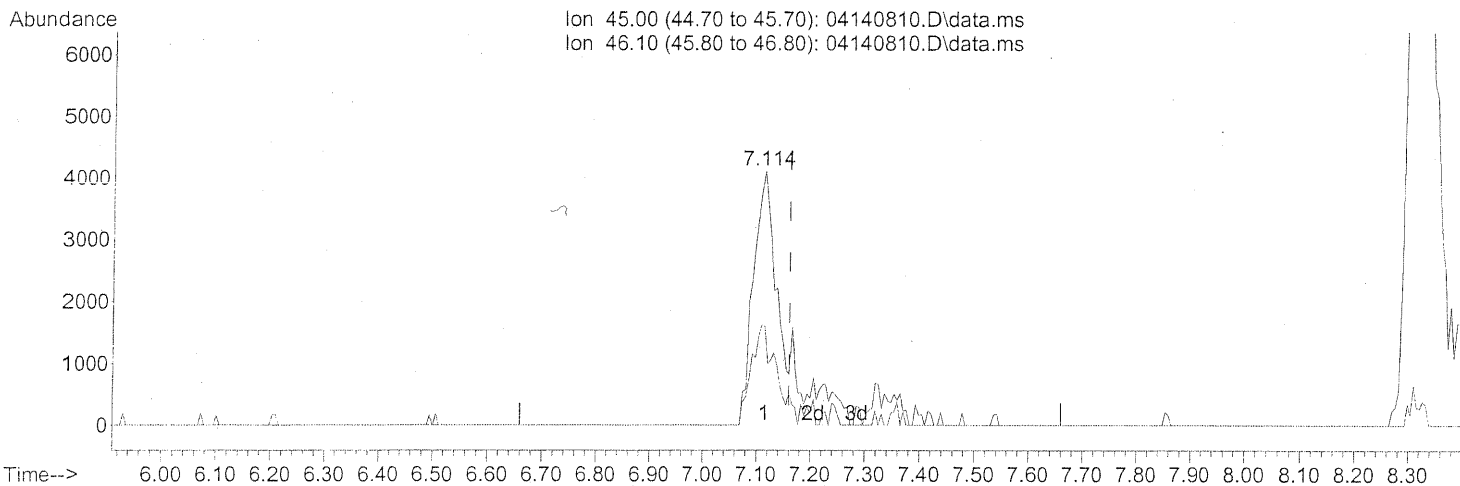
Ion	Exp%	Act%
45.00	100	100
46.10	41.00	43.10
0.00	0.00	0.00
0.00	0.00	0.00

*split peaks*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)

7.114min (-0.046) 0.78ng m

response 18205

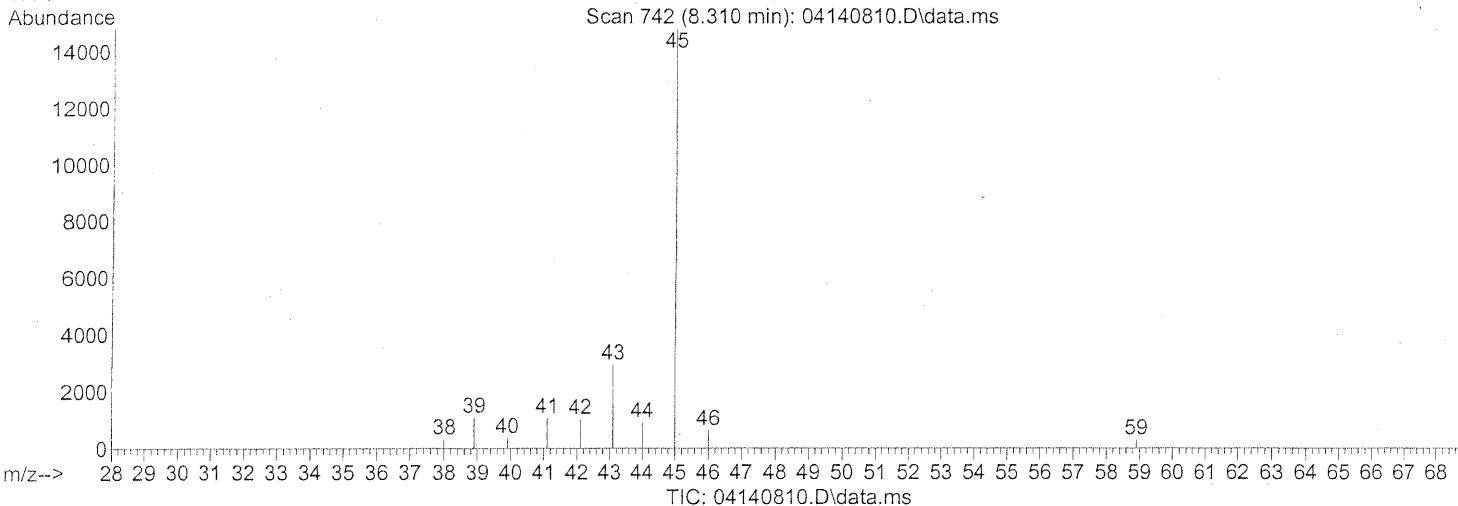
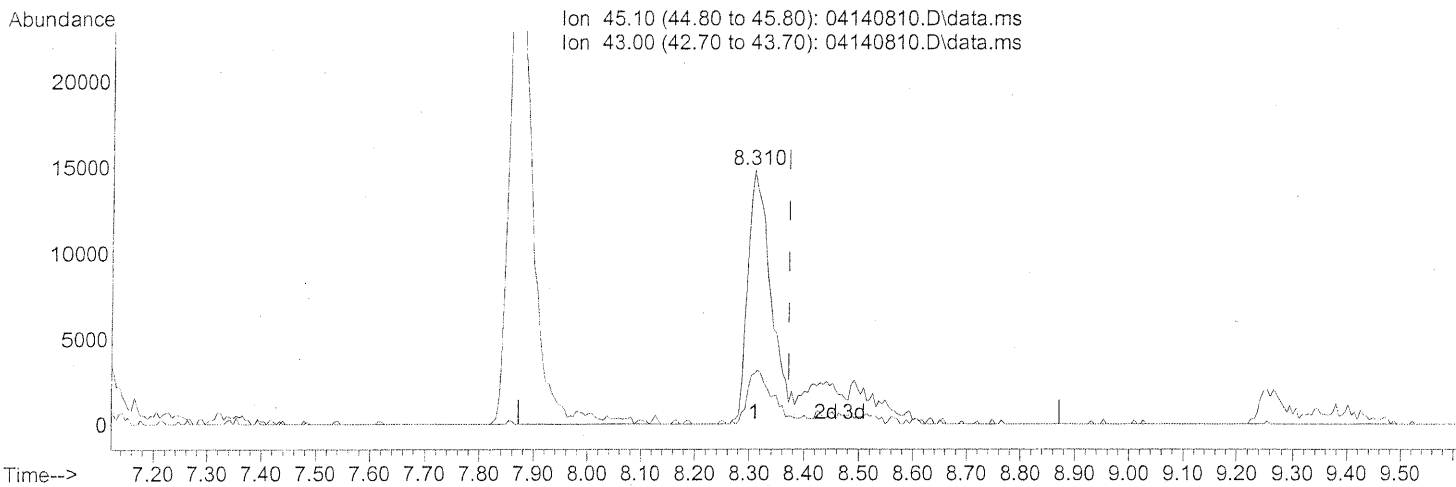
Ion	Exp%	Act%
45.00	100	100
46.10	41.00	28.53
0.00	0.00	0.00
0.00	0.00	0.00

*int. whole picles*  
*WA 4/16/08*  
*3/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140810.D  
Acq On : 14 Apr 2008 20:21  
Operator : WA  
Sample : 1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)

8.310min (-0.062) 0.53ng

response 43552

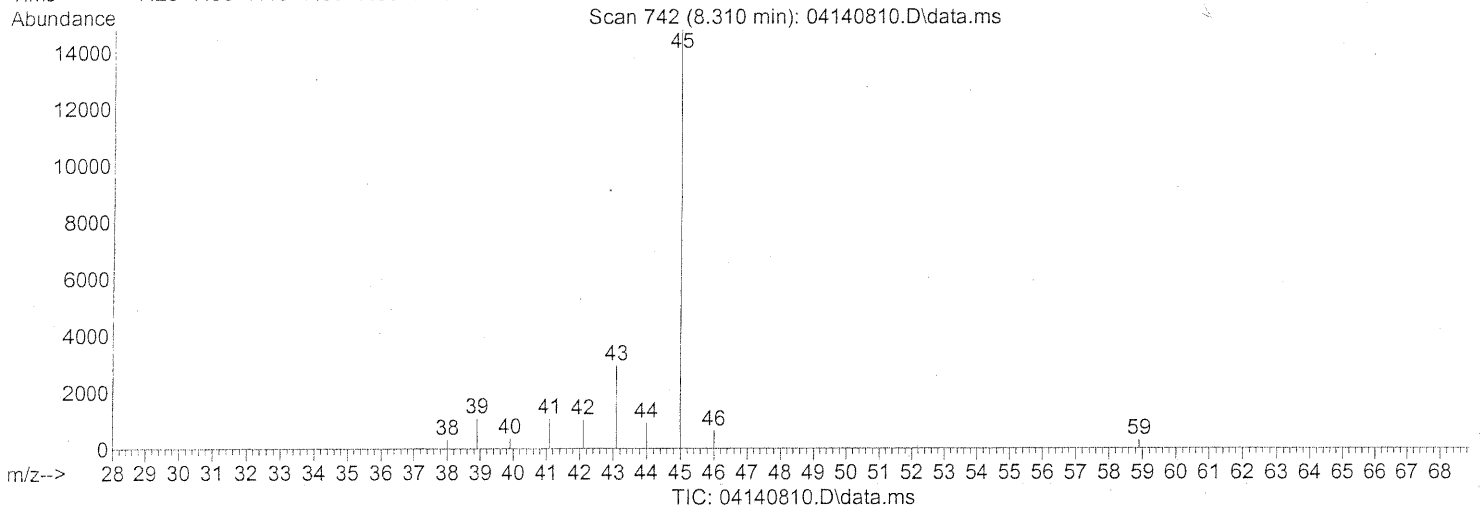
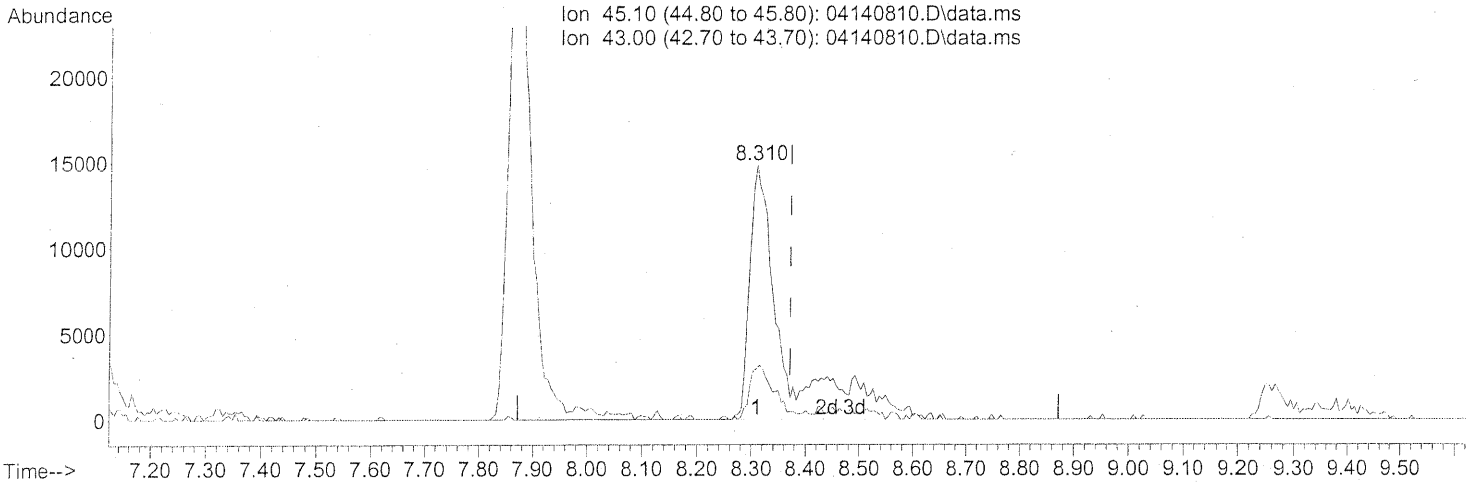
Ion	Exp%	Act%
45.10	100	100
43.00	16.90	22.88
0.00	0.00	0.00
0.00	0.00	0.00

*split peaks*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.310min (-0.062) 0.79ng m  
 response 64541

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	15.44
0.00	0.00	0.00
0.00	0.00	0.00

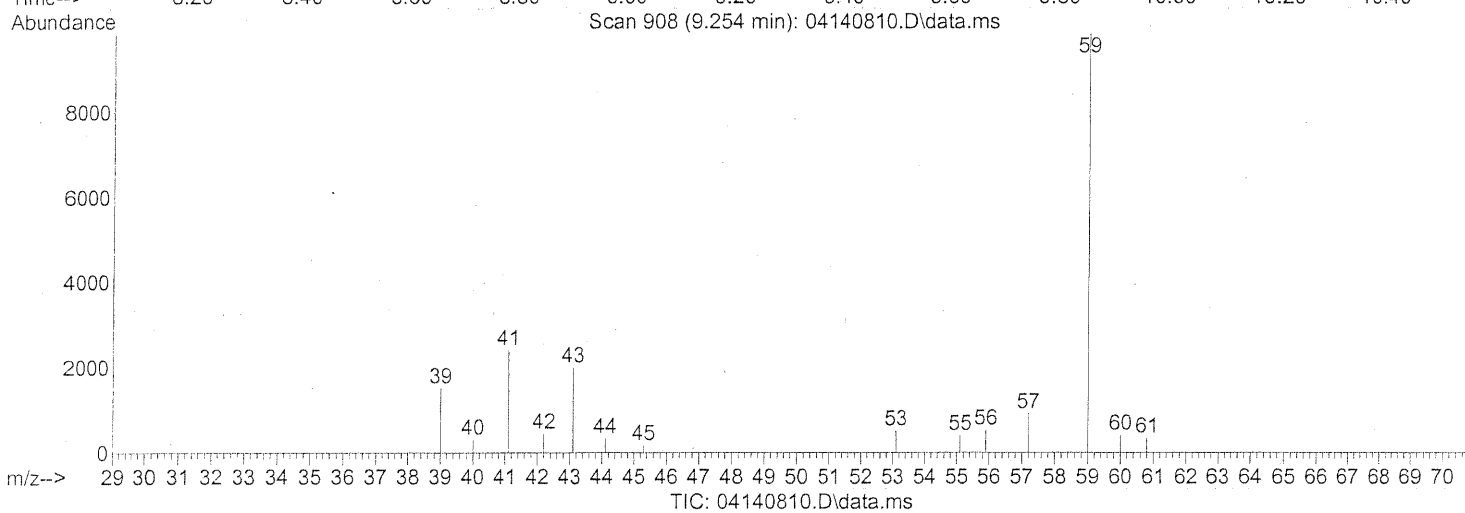
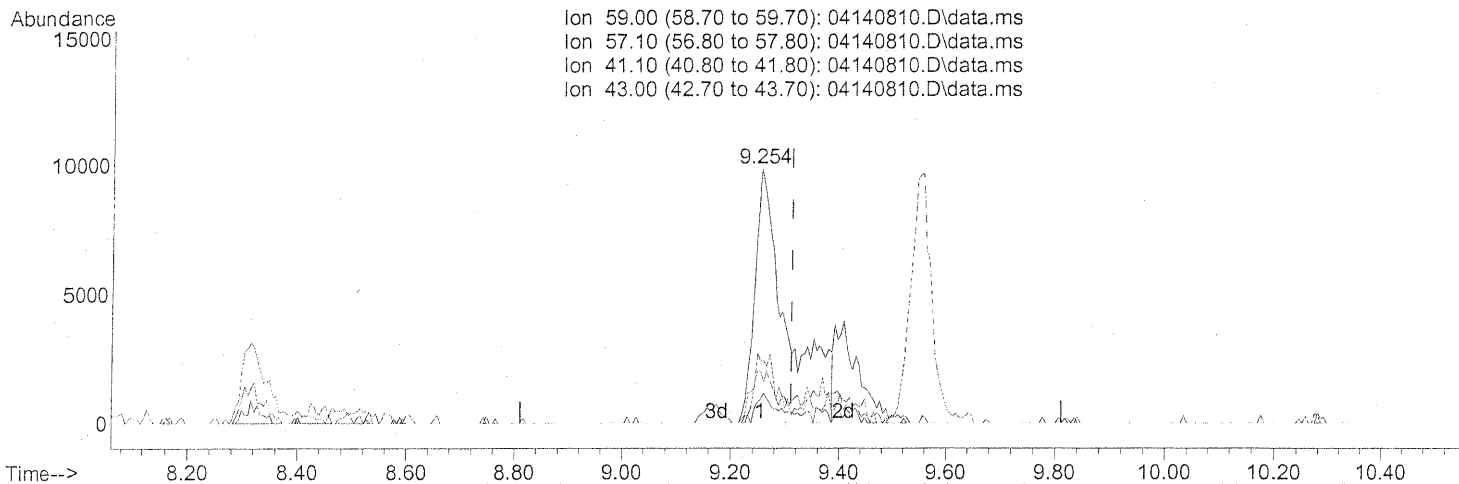
*int. whole peaks*  
*WA 4/16/08*  
*FW 4/17/08*



Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(18) tert-Butanol (T)

9.254min (-0.057) 0.57ng

response 41188

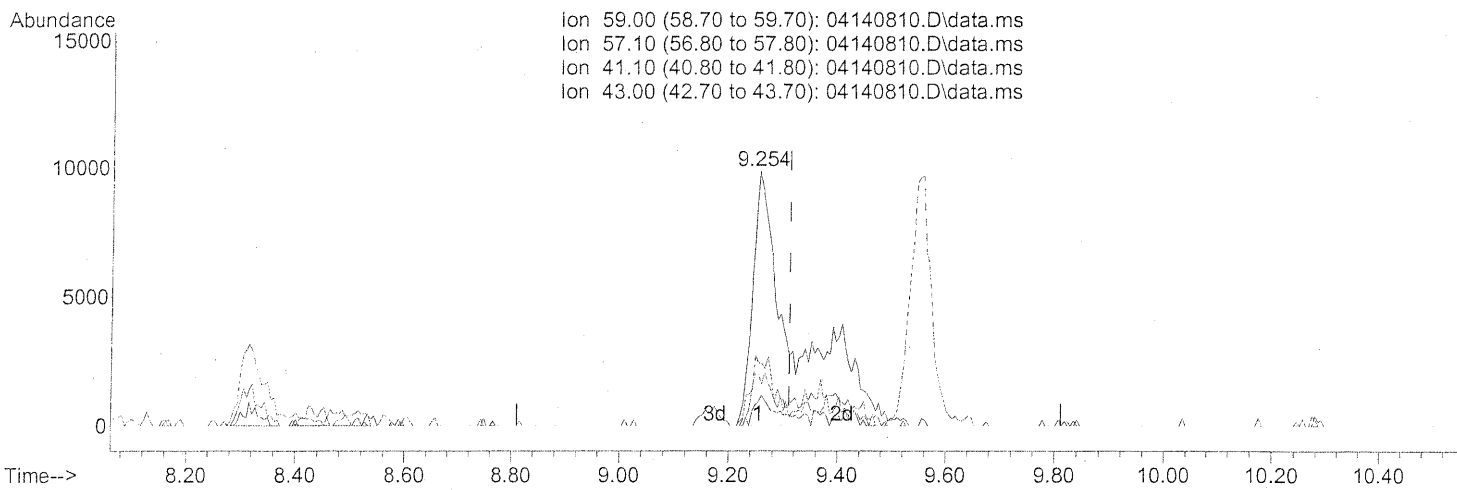
Ion	Exp%	Act%
59.00	100	100
57.10	10.30	8.21
41.10	20.10	19.46
43.00	12.30	16.67

*split peaks*

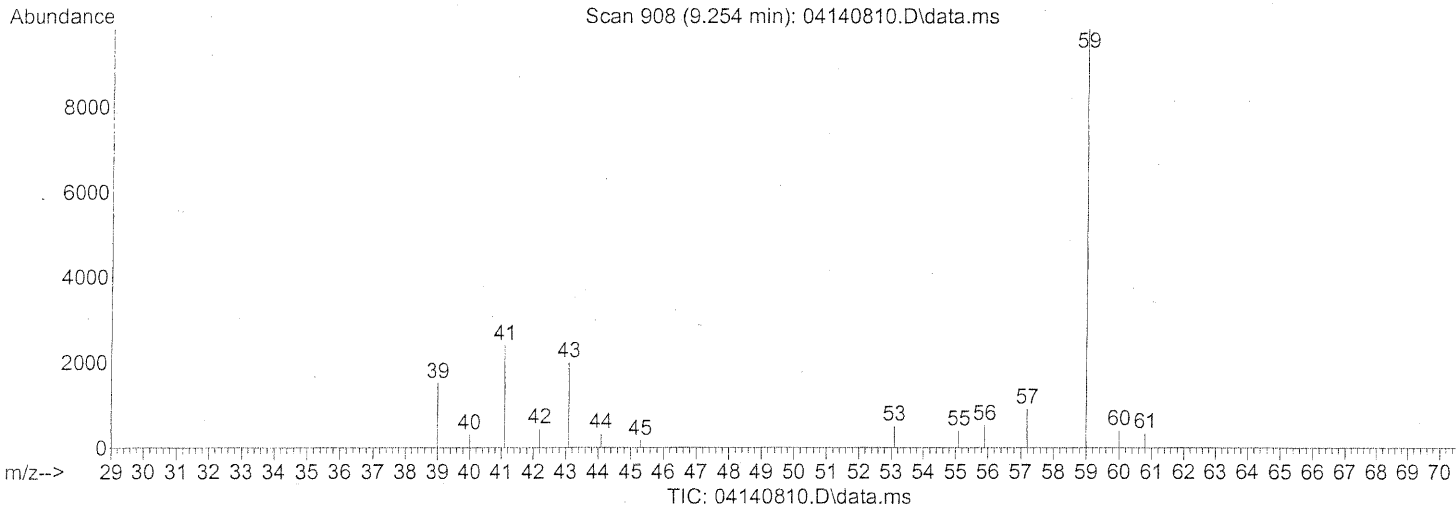
Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140810.D  
Acq On : 14 Apr 2008 20:21  
Operator : WA  
Sample : 1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



Ion 59.00 (58.70 to 59.70): 04140810.D\data.ms  
Ion 57.10 (56.80 to 57.80): 04140810.D\data.ms  
Ion 41.10 (40.80 to 41.80): 04140810.D\data.ms  
Ion 43.00 (42.70 to 43.70): 04140810.D\data.ms



(18) tert-Butanol (T)

9.254min (-0.057) 0.74ng m

response 53784

Ion	Exp%	Act%
59.00	100	100
57.10	10.30	6.29
41.10	20.10	14.90
43.00	12.30	12.77

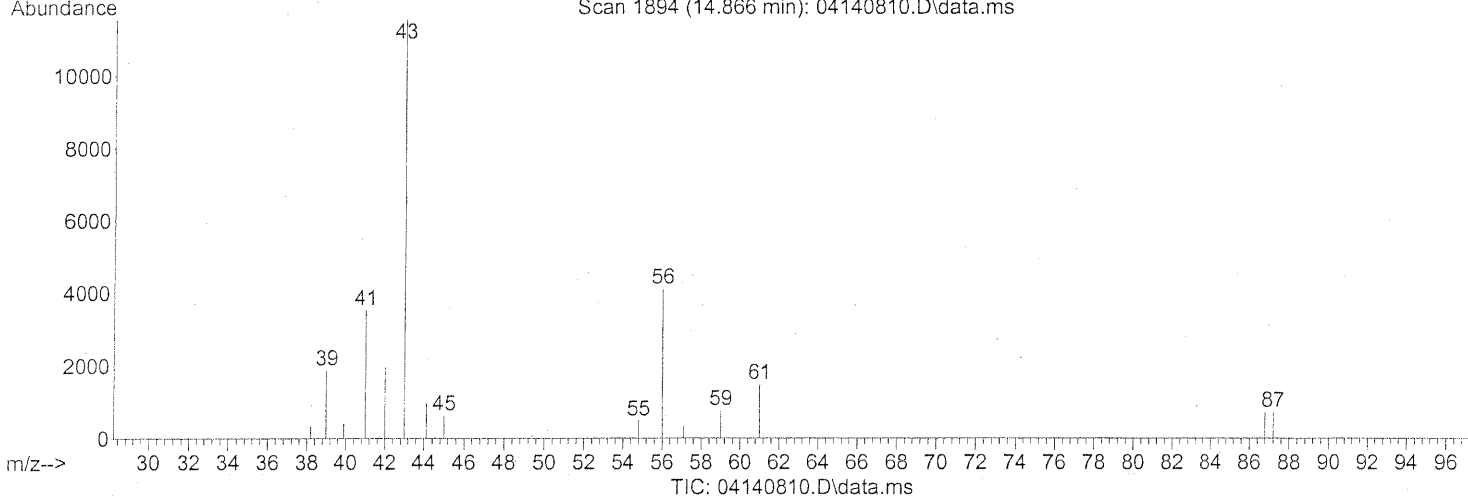
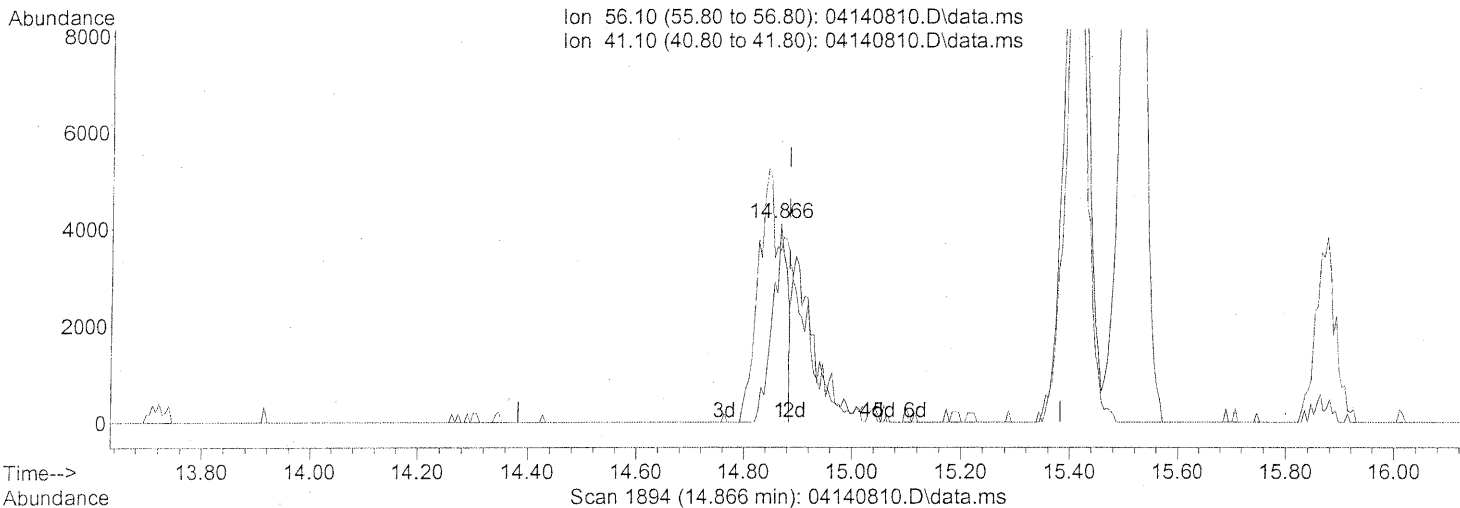
*int. whole peaks*

*PA 4/16/08*

*FOA/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(40) 1-Butanol (T)  
 14.866min (-0.017) 0.32ng  
 response 7948

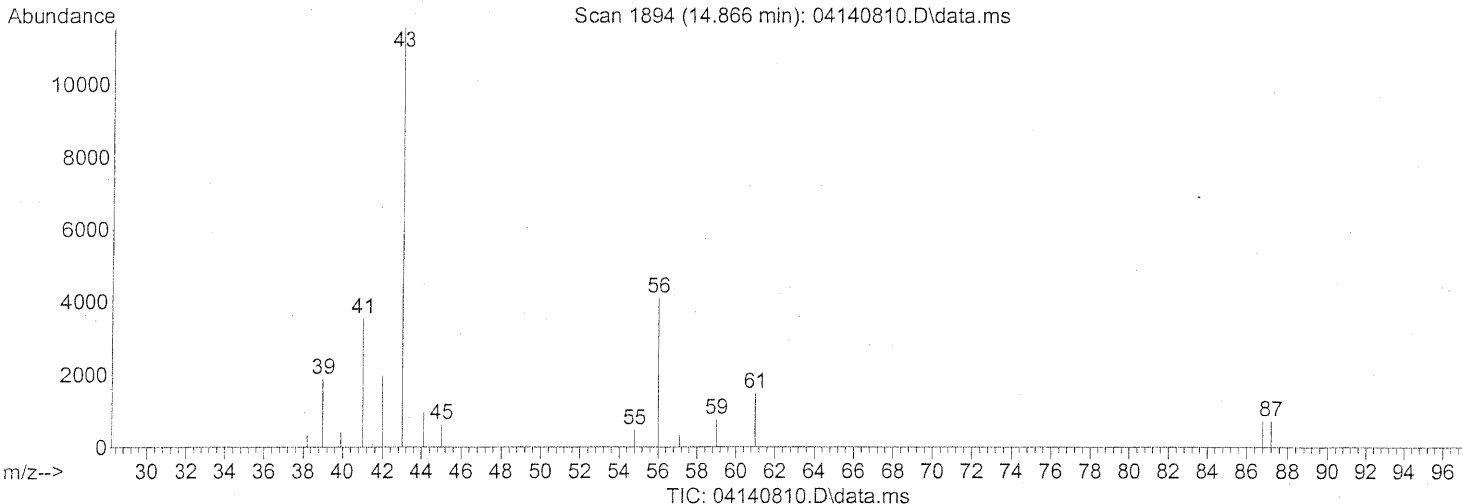
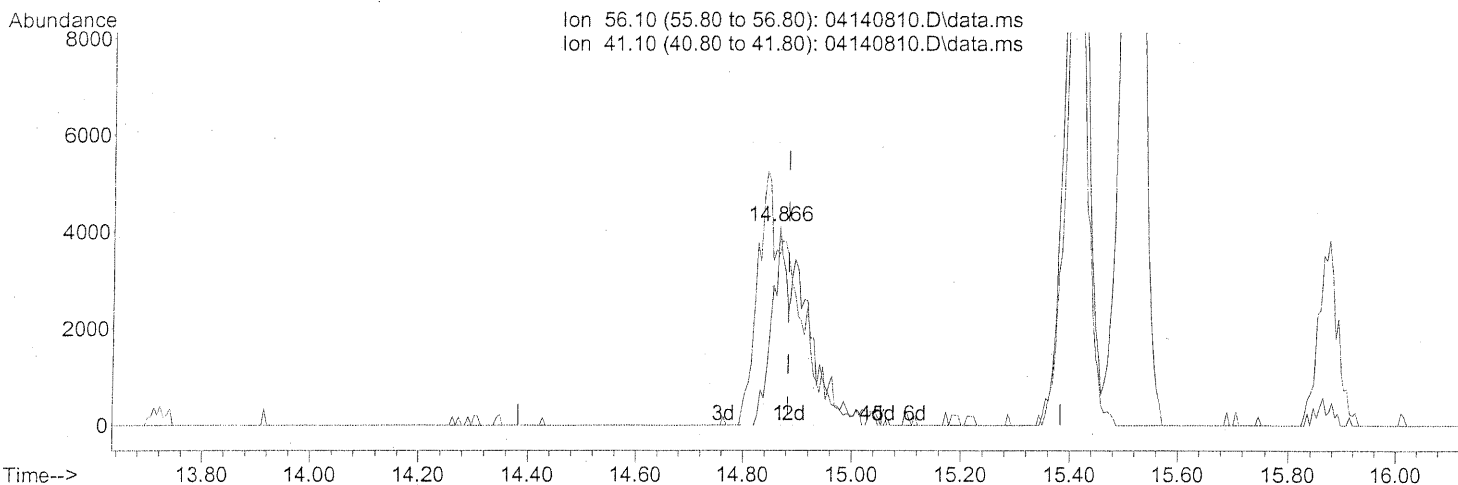
*split peaks*

Ion	Exp%	Act%
56.10	100	100
41.10	92.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140810.D  
 Acq On : 14 Apr 2008 20:21  
 Operator : WA  
 Sample : 1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:18:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(40) 1-Butanol (T)  
 14.866min (-0.017) 0.72ng m  
 response 18065

Ion	Exp%	Act%
56.10	100	100
41.10	92.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

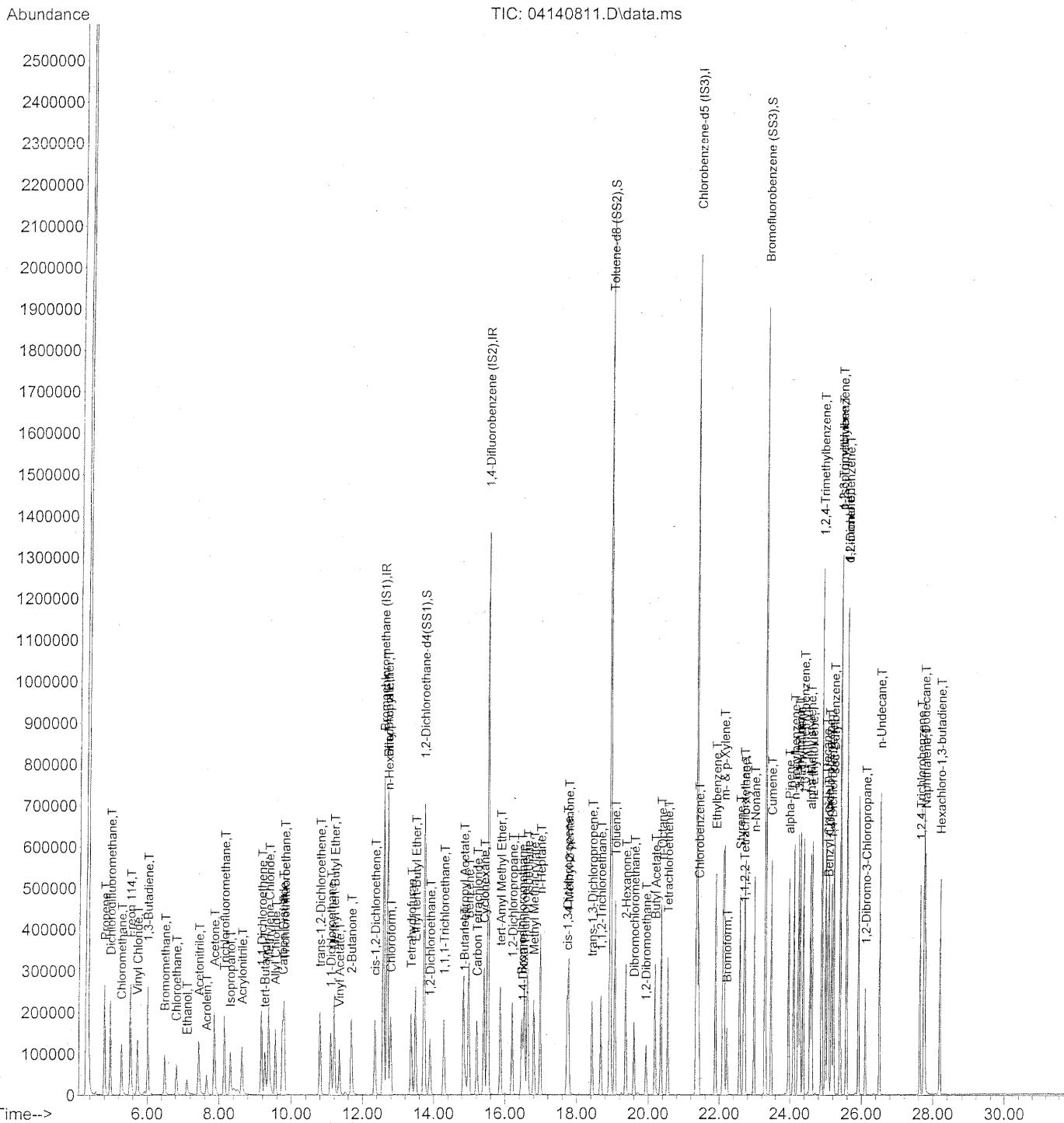
*int. whole peaks*

*DA 4/16/08*

*F. 4/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:22:32 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:22:32 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	313584	25.000	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	15.51	114	1406515	25.000	ng	-0.02
56) Chlorobenzene-d5 (IS3)	21.35	82	715799	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4 (...)	13.73	65	620740	21.197	ng	-0.02
Spiked Amount	25.000		Recovery	=	84.80%	
57) Toluene-d8 (SS2)	18.93	98	1613556	27.961	ng	-0.01
Spiked Amount	25.000		Recovery	=	111.84%	
73) Bromofluorobenzene (SS3)	23.29	174	563169	30.548	ng	0.00
Spiked Amount	25.000		Recovery	=	122.20%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.80	42	125895	3.389	ng	85
3) Dichlorodifluoromethane	4.96	85	221566	3.532	ng	98
4) Chloromethane	5.28	50	179111	3.391	ng	97
5) Freon 114	5.53	135	111807	4.380	ng	99
6) Vinyl Chloride	5.73	62	175637	3.632	ng	96
7) 1,3-Butadiene	6.00	54	139777	3.641	ng	# 74
8) Bromomethane	6.49	94	86439	3.541	ng	99
9) Chloroethane	6.82	64	73739	3.114	ng	92
10) Ethanol	7.11	45	78143m	3.361	ng	
11) Acetonitrile	7.43	41	219546	3.729	ng	96
12) Acrolein	7.65	56	57551	3.184	ng	99
13) Acetone	7.87	58	100677	4.209	ng	# 59
14) Trichlorofluoromethane	8.14	101	177253	3.519	ng	98
15) Isopropanol	8.31	45	264620m	3.234	ng	
16) Acrylonitrile	8.64	53	133967	3.506	ng	98
17) 1,1-Dichloroethene	9.16	96	88422	3.718	ng	94
18) tert-Butanol	9.25	59	248954m	3.436	ng	
19) Methylene Chloride	9.36	84	97826	3.721	ng	97
20) Allyl Chloride	9.55	41	137817	3.506	ng	98
21) Trichlorotrifluoroethane	9.81	151	84097	4.333	ng	96
22) Carbon Disulfide	9.77	76	344640	3.124	ng	96
23) trans-1,2-Dichloroethene	10.80	61	149982	3.400	ng	89
24) 1,1-Dichloroethane	11.10	63	182762	3.601	ng	95
25) Methyl tert-Butyl Ether	11.19	73	291271	3.457	ng	87
26) Vinyl Acetate	11.35	86	15897	2.776	ng	# 83
27) 2-Butanone	11.68	72	67856	3.501	ng	96
28) cis-1,2-Dichloroethene	12.35	61	148407	3.554	ng	92
29) Diisopropyl Ether	12.69	87	70456	3.150	ng	# 76
30) Ethyl Acetate	12.69	61	42353	4.069	ng	86
31) n-Hexane	12.70	57	186162	3.435	ng	93

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:22:32 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
32) Chloroform	12.79	83	173682	4.201	ng	99
34) Tetrahydrofuran	13.36	72	65400	3.533	ng	96
35) Ethyl tert-Butyl Ether	13.48	87	99161	3.236	ng	# 84
36) 1,2-Dichloroethane	13.90	62	147613	3.584	ng	99
38) 1,1,1-Trichloroethane	14.29	97	144607	4.003	ng	97
39) Isopropyl Acetate	14.84	61	58980	3.618	ng	# 22
40) 1-Butanol	14.85	56	85220	3.530	ng	# 49
41) Benzene	14.98	78	373533	3.783	ng	99
42) Carbon Tetrachloride	15.21	117	123430	4.010	ng	98
43) Cyclohexane	15.41	84	142892	3.941	ng	# 78
44) tert-Amyl Methyl Ether	15.87	73	255203	3.588	ng	92
45) 1,2-Dichloropropane	16.20	63	105707	3.829	ng	99
46) Bromodichloromethane	16.46	83	131884	4.086	ng	99
47) Trichloroethene	16.54	130	92877	4.435	ng	98
48) 1,4-Dioxane	16.49	88	72491	4.190	ng	79
49) Isooctane	16.62	57	415119	3.629	ng	68
50) Methyl Methacrylate	16.79	100	32918	3.733	ng	# 69
51) n-Heptane	16.98	71	103038	3.895	ng	# 81
52) cis-1,3-Dichloropropene	17.73	75	144063	3.545	ng	98
53) 4-Methyl-2-pentanone	17.77	58	99834	3.742	ng	84
54) trans-1,3-Dichloropropene	18.43	75	137643	3.848	ng	100
55) 1,1,2-Trichloroethane	18.67	97	88762	4.109	ng	91
58) Toluene	19.06	91	408986	4.816	ng	95
59) 2-Hexanone	19.37	43	299277	4.467	ng	79
60) Dibromochloromethane	19.60	129	102897	5.268	ng	99
61) 1,2-Dibromoethane	19.93	107	99460	4.533	ng	100
62) Butyl Acetate	20.19	43	312695	4.650	ng	83
63) n-Octane	20.35	57	90575	4.226	ng	96
64) Tetrachloroethene	20.54	166	96957	5.007	ng	99
65) Chlorobenzene	21.41	112	250694	4.986	ng	100
66) Ethylbenzene	21.89	91	454228	4.704	ng	92
67) m- & p-Xylene	22.12	91	713405	11.133	ng	89
68) Bromoform	22.21	173	84675	6.162	ng	98
69) Styrene	22.57	104	257202	4.712	ng	94
70) o-Xylene	22.71	91	370364	5.407	ng	90
71) n-Nonane	22.98	43	252060	4.447	ng	# 77
72) 1,1,2,2-Tetrachloroethane	22.69	83	177954	5.400	ng	99
74) Cumene	23.46	105	415849	4.890	ng	98
75) alpha-Pinene	23.96	93	214040	4.572	ng	87
76) n-Propylbenzene	24.10	91	545258	4.819	ng	96
77) 3-Ethyltoluene	24.23	105	419141	4.559	ng	98
78) 4-Ethyltoluene	24.28	105	424905	4.932	ng	96
79) 1,3,5-Trimethylbenzene	24.37	105	359917	4.674	ng	96

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:22:32 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.56	118	181257	4.631	ng	96
81) 2-Ethyltoluene	24.61	105	410666	4.511	ng	97
82) 1,2,4-Trimethylbenzene	24.88	105	384094	4.654	ng	94
83) n-Decane	24.98	57	218596	4.271	ng	87
84) Benzyl Chloride	25.05	91	292347	4.529	ng	92
85) 1,3-Dichlorobenzene	25.08	146	207129	5.144	ng	99
86) 1,4-Dichlorobenzene	25.16	146	210036	5.286	ng	100
87) sec-Butylbenzene	25.21	105	480271	4.852	ng	95
88) p-Isopropyltoluene	25.40	119	423486	5.356	ng	91
89) 1,2,3-Trimethylbenzene	25.40	105	369517	4.630	ng	95
90) 1,2-Dichlorobenzene	25.58	146	202226	4.888	ng	100
91) d-Limonene	25.58	68	162016	4.151	ng	91
92) 1,2-Dibromo-3-Chloropr...	26.11	157	62082	5.448	ng #	51
93) n-Undecane	26.50	57	233672	4.303	ng	88
94) 1,2,4-Trichlorobenzene	27.62	180	144138	5.172	ng	96
95) Naphthalene	27.77	128	474438	5.706	ng	97
96) n-Dodecane	27.74	57	230491	4.359	ng	86
97) Hexachloro-1,3-butadiene	28.19	225	86628	5.239	ng	96

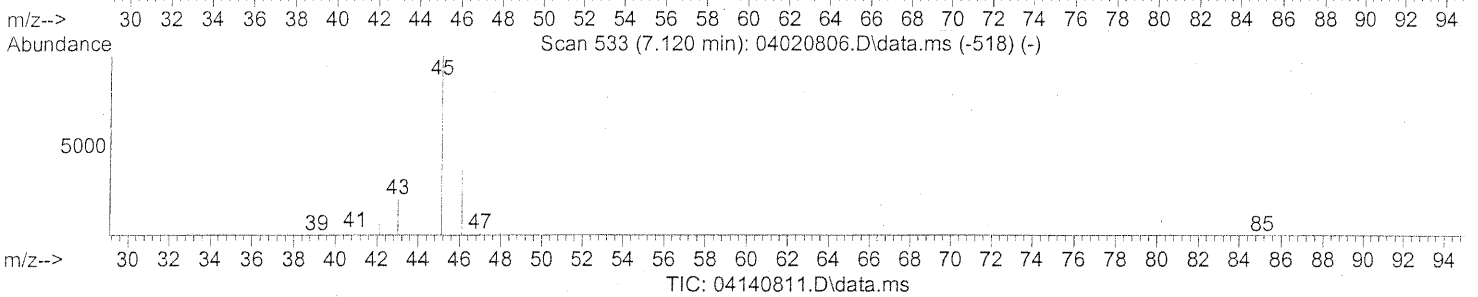
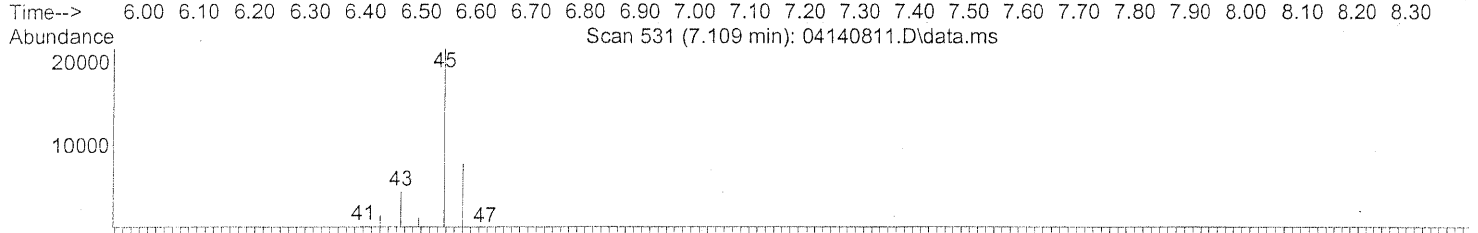
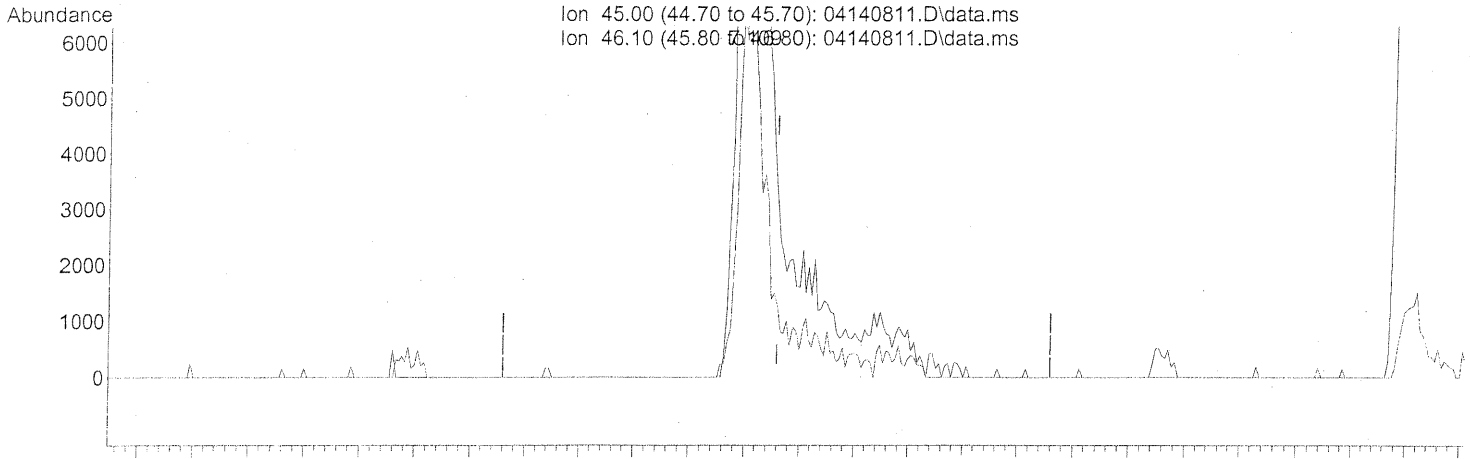
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:21:37 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)  
 7.109min (-0.051) 3.11ng  
 response 72289

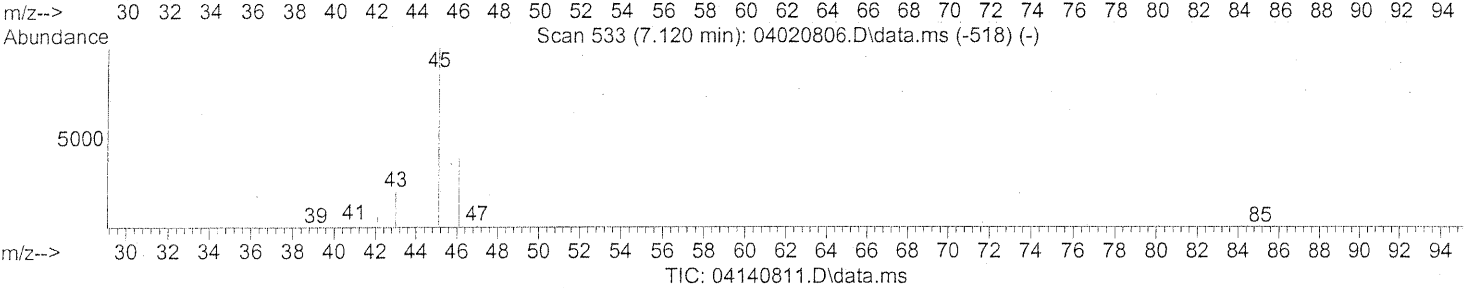
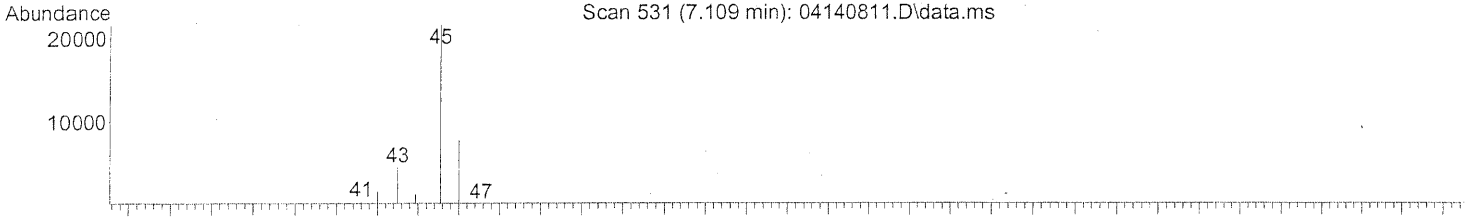
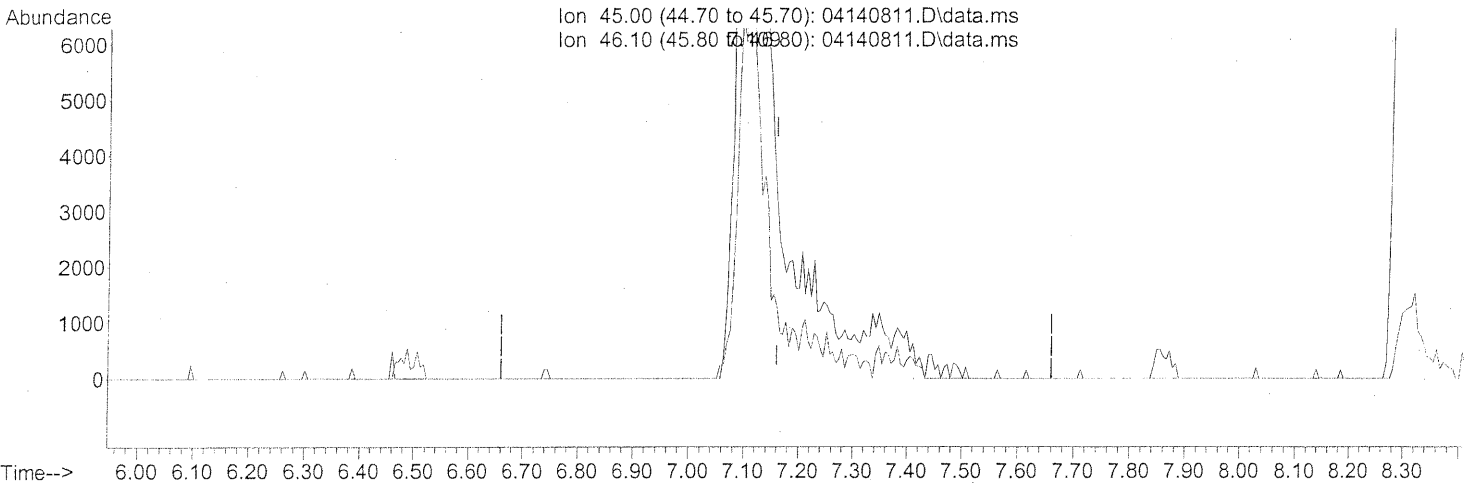
Ion	Exp%	Act%
45.00	100	100
46.10	41.00	32.99
0.00	0.00	0.00
0.00	0.00	0.00

*split / tailing*

Quantitation Report (Qual)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:21:37 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)

7.109min (-0.051) 3.36ng m

response 78143

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	30.52
0.00	0.00	0.00
0.00	0.00	0.00

*incl. tailing*

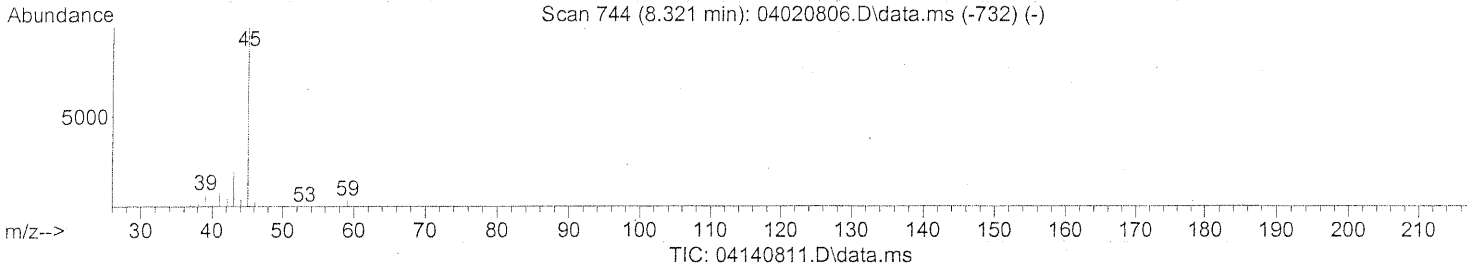
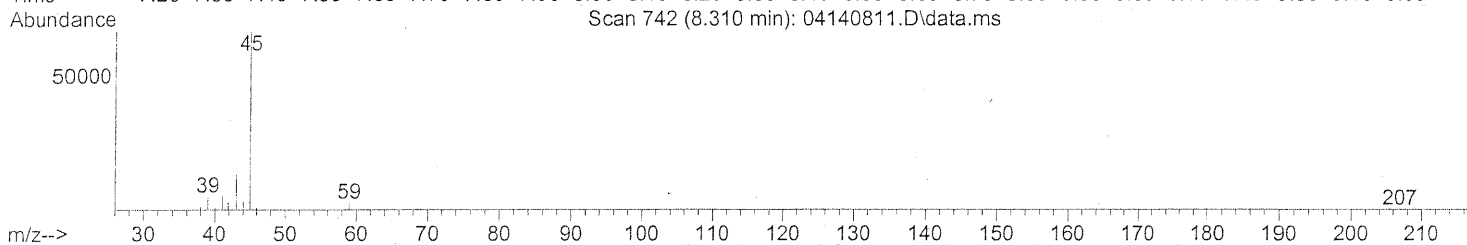
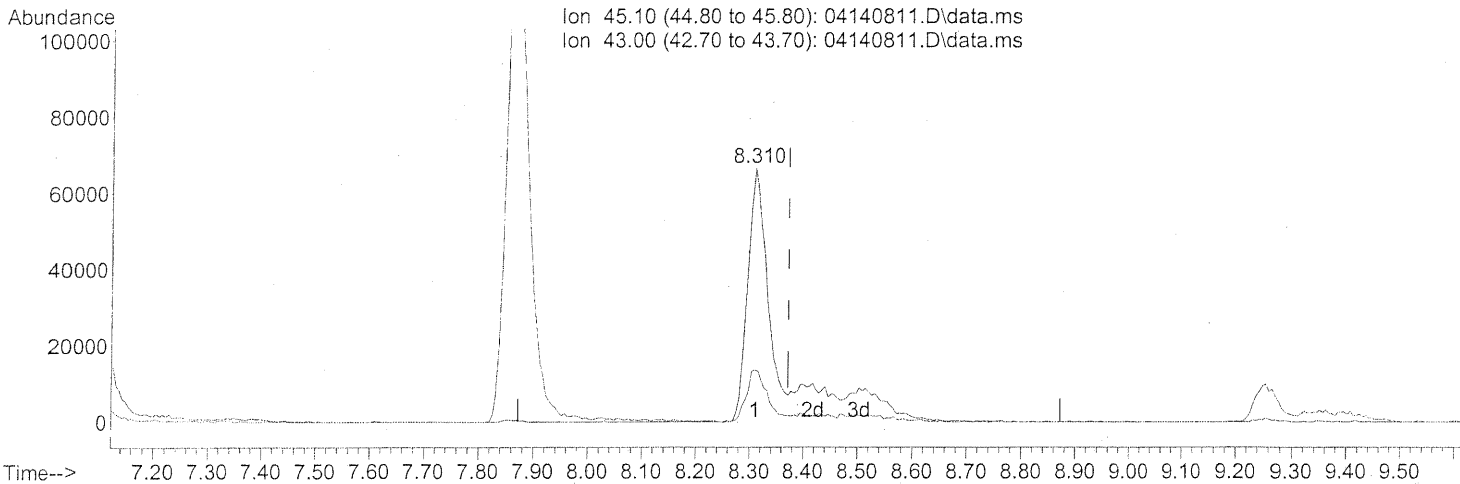
*for 4/16/08*

*R 04/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:21:37 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.310min (-0.062) 2.20ng

response 180066

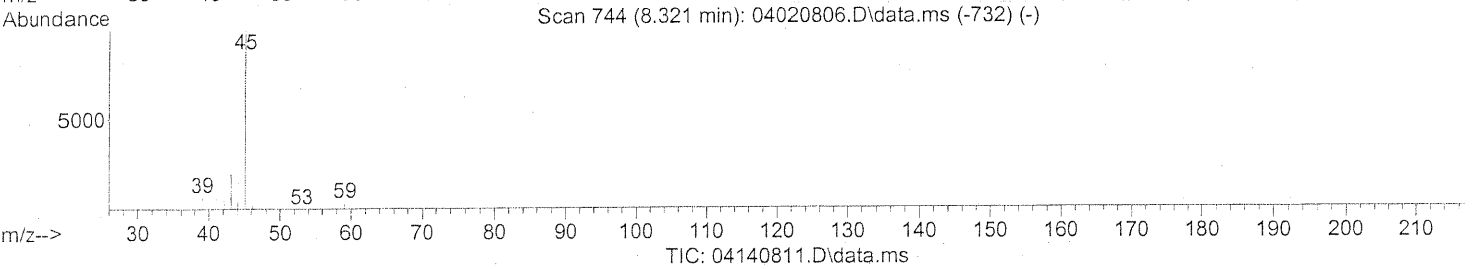
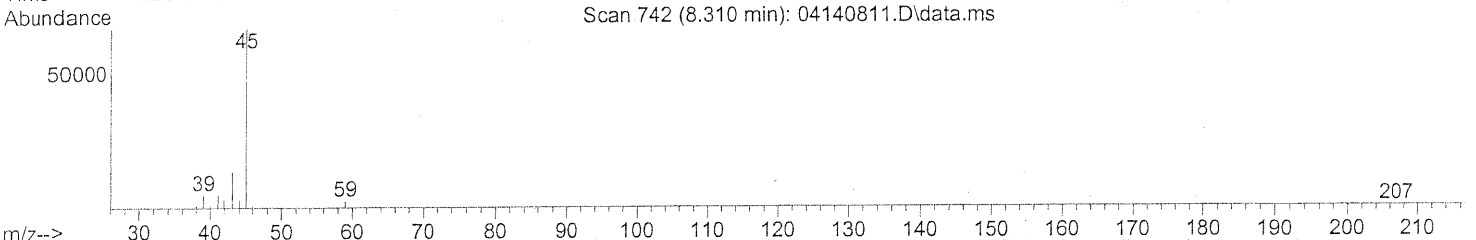
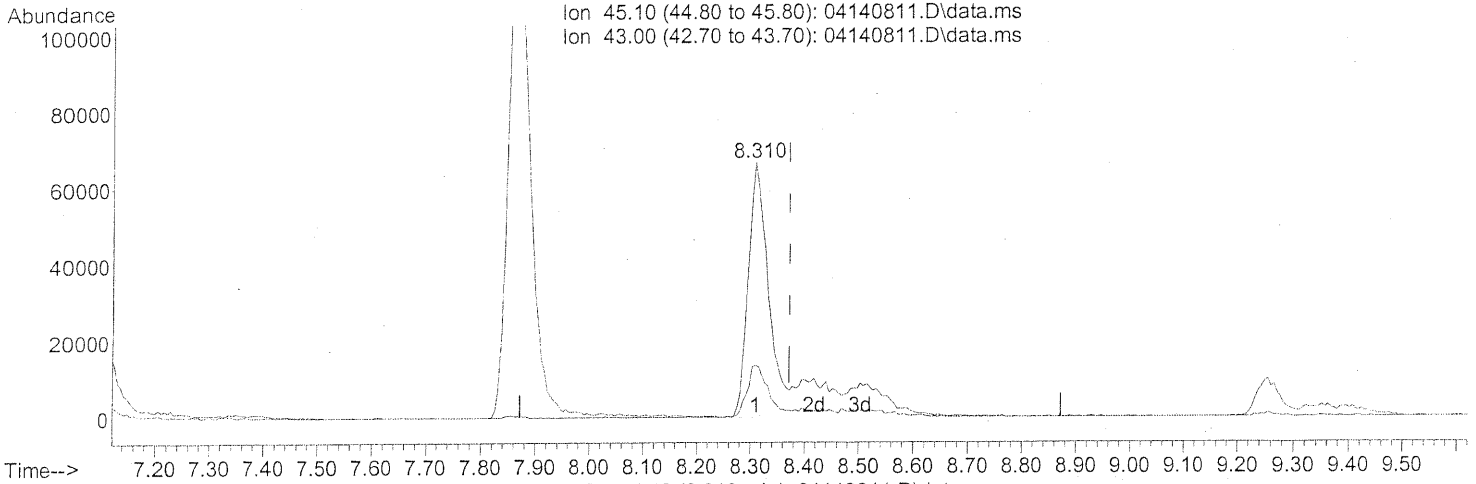
*split peaks*

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	21.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140811.D  
Acq On : 14 Apr 2008 21:01  
Operator : WA  
Sample : 5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:21:37 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)  
8.310min (-0.062) 3.23ng m  
response 264620

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	14.57
0.00	0.00	0.00
0.00	0.00	0.00

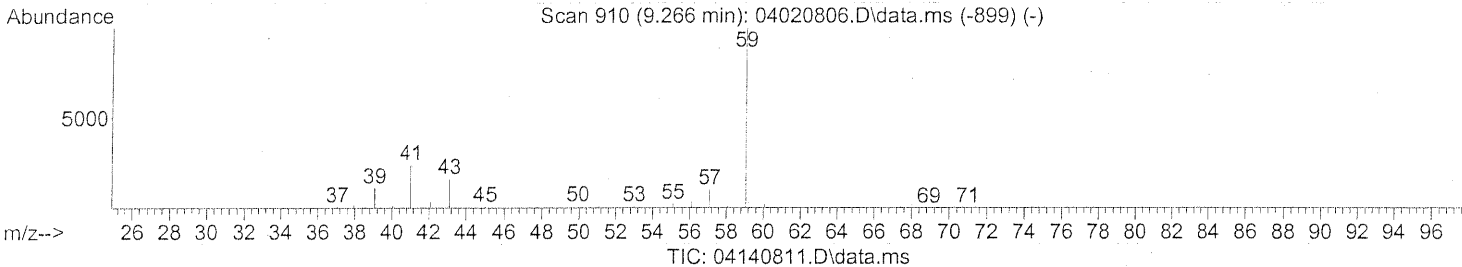
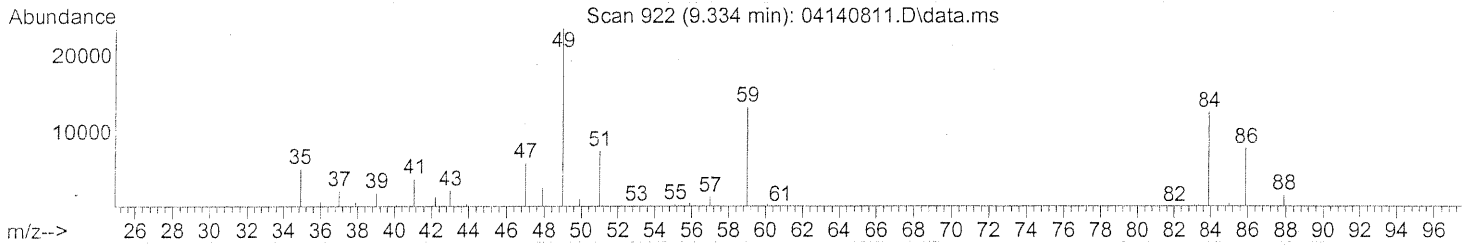
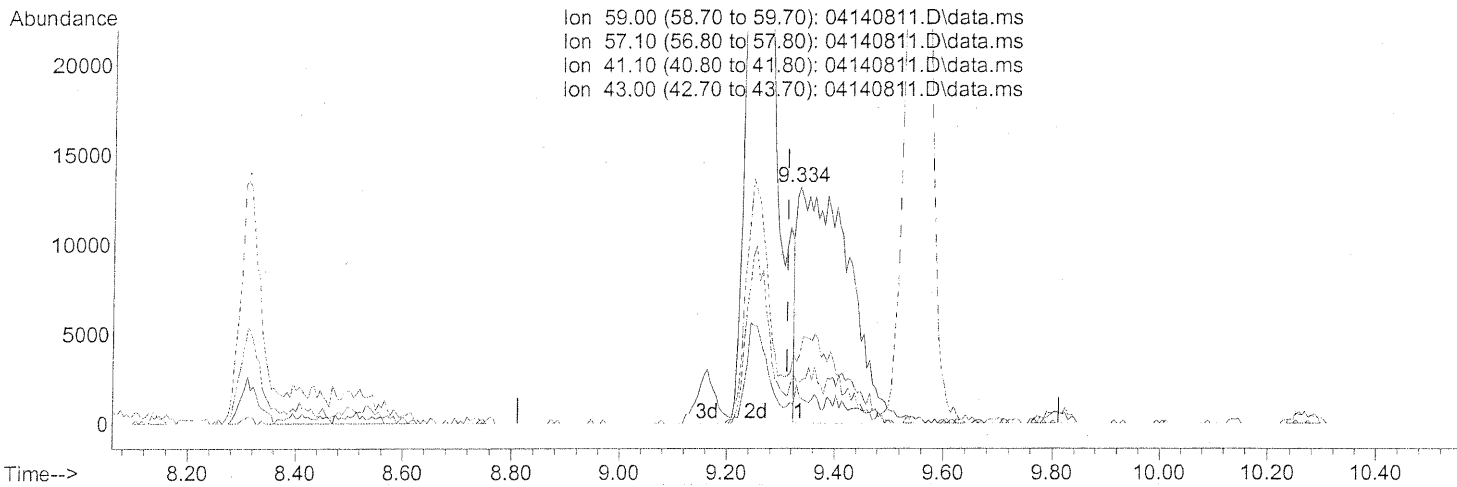
*int. whole peak*

*WA 4/16/08*

*P 04/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:21:37 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(18) tert-Butanol (T)

9.334min (+0.023) 1.23ng

response 88968

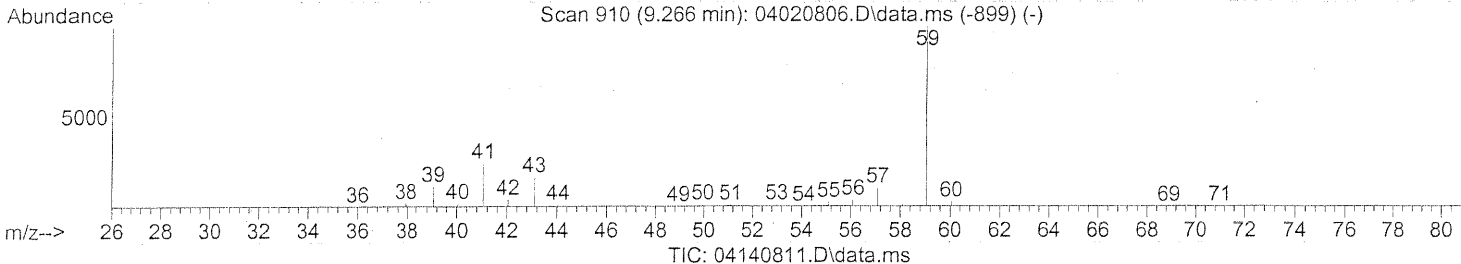
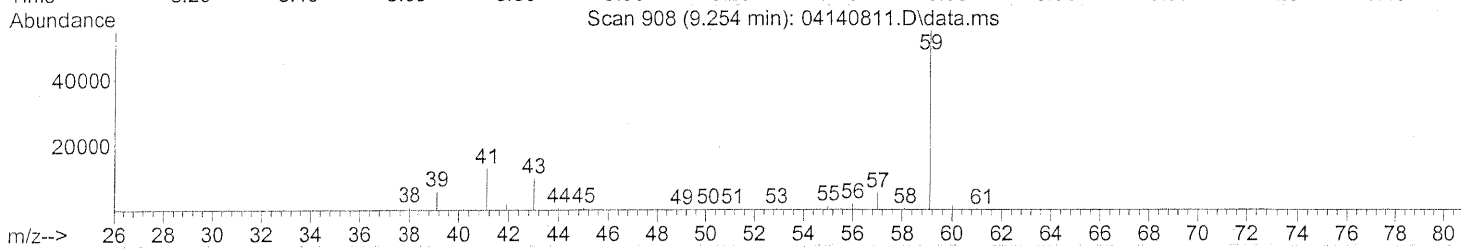
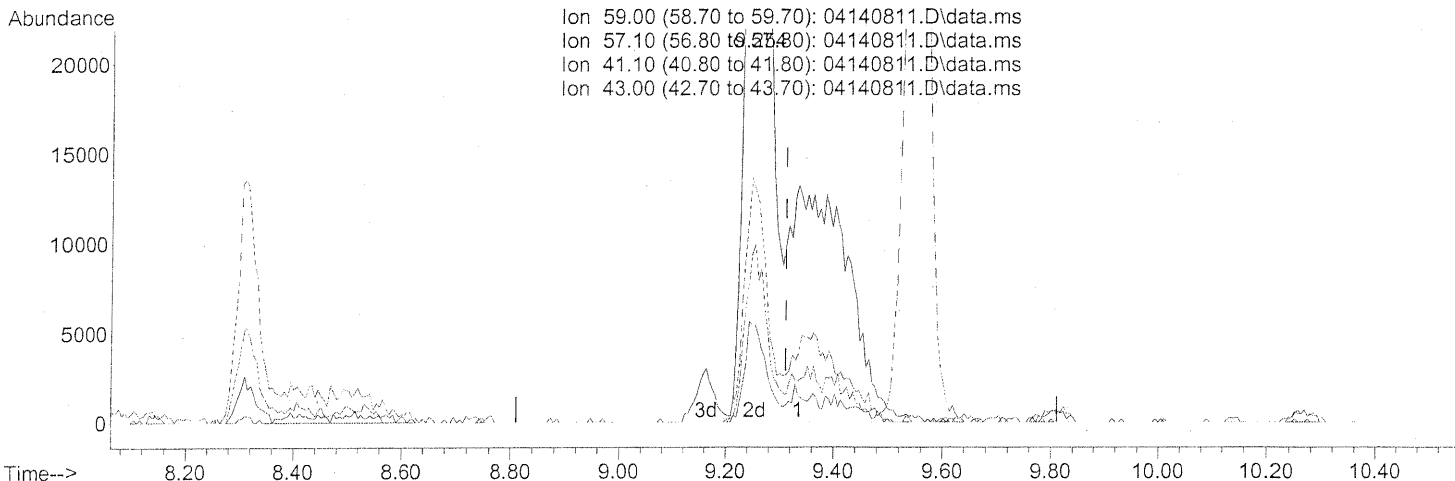
*split peaks*

Ion	Exp%	Act%
59.00	100	100
57.10	10.30	3.64
41.10	20.10	0.00#
43.00	12.30	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140811.D  
 Acq On : 14 Apr 2008 21:01  
 Operator : WA  
 Sample : 5ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-03210809  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 06:21:37 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(18) tert-Butanol (T)

9.254min (-0.057) 3.44ng m

response 248954

Ion	Exp%	Act%
59.00	100	100
57.10	10.30	1.30
41.10	20.10	0.00#
43.00	12.30	0.00

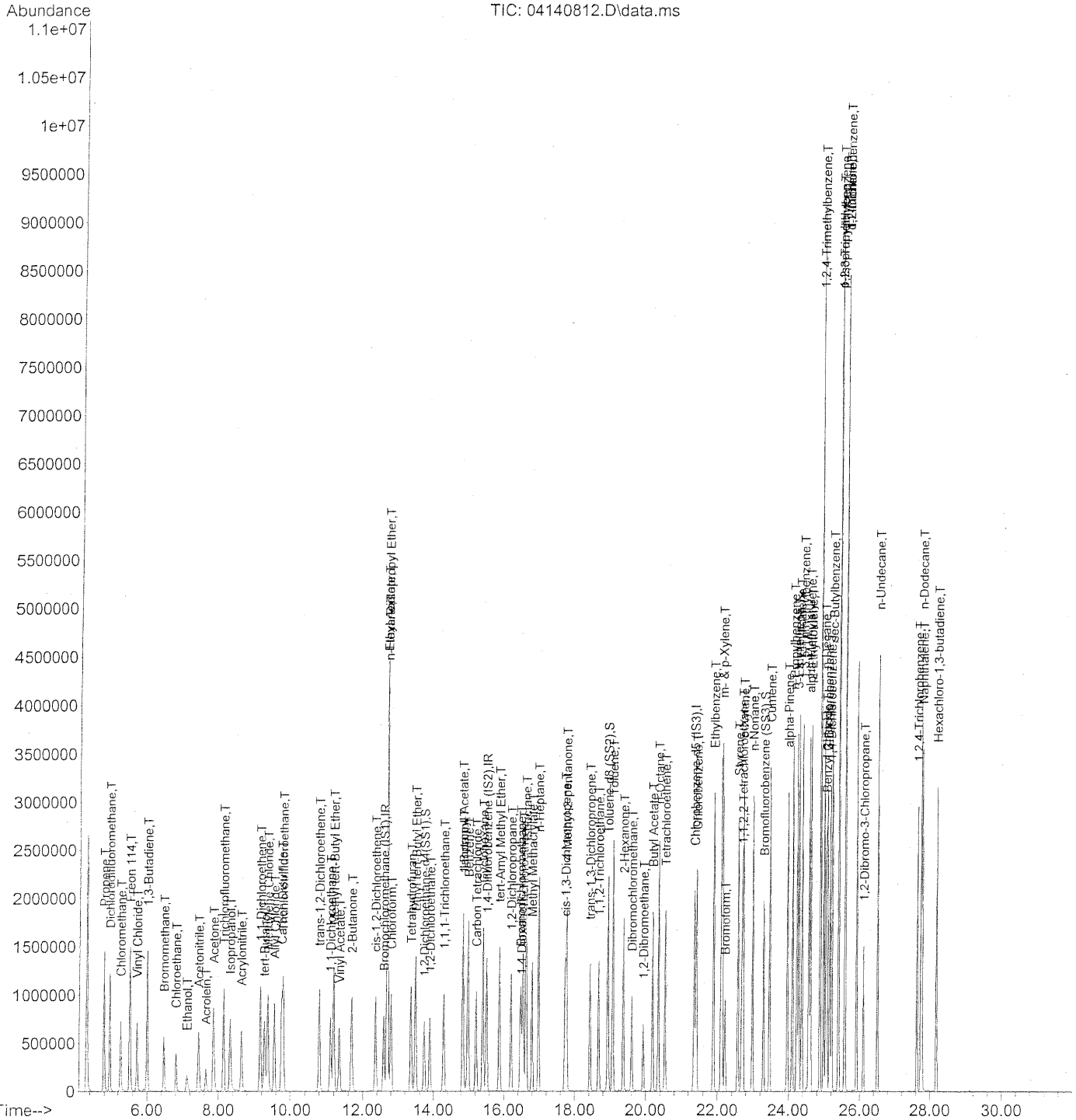
*int. whole peak*

*WA 4/16/08*

*P 04/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140812.D  
Acq On : 14 Apr 2008 21:43  
Operator : WA  
Sample : 25ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:24:41 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140812.D  
 Acq On : 14 Apr 2008 21:43  
 Operator : WA  
 Sample : 25ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:24:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.60	130	332070	25.000	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	15.52	114	1467032	25.000	ng	-0.01
56) Chlorobenzene-d5 (IS3)	21.35	82	762152	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.73	65	674919	21.764	ng	-0.02
Spiked Amount	25.000		Recovery	=	87.04%	
57) Toluene-d8 (SS2)	18.93	98	1696875	27.616	ng	-0.01
Spiked Amount	25.000		Recovery	=	110.48%	
73) Bromofluorobenzene (SS3)	23.29	174	594489	30.286	ng	0.00
Spiked Amount	25.000		Recovery	=	121.16%	

Target Compounds

						Qvalue
2) Propene	4.79	42	672960	17.105	ng	90
3) Dichlorodifluoromethane	4.95	85	1189005	17.899	ng	99
4) Chloromethane	5.27	50	996447	17.815	ng	97
5) Freon 114	5.52	135	601060	22.233	ng	100
6) Vinyl Chloride	5.72	62	926947	18.099	ng	97
7) 1,3-Butadiene	6.00	54	801354	19.711	ng	# 75
8) Bromomethane	6.48	94	482161	18.653	ng	98
9) Chloroethane	6.82	64	407498	16.251	ng	95
10) Ethanol	7.13	45	369567m	15.011	ng	
11) Acetonitrile	7.44	41	1063940	17.066	ng	97
12) Acrolein	7.65	56	311781	16.287	ng	99
13) Acetone	7.87	58	476809	18.825	ng	# 60
14) Trichlorofluoromethane	8.14	101	981944	18.410	ng	99
15) Isopropanol	8.33	45	1582931	18.268	ng	93
16) Acrylonitrile	8.64	53	754718	18.652	ng	98
17) 1,1-Dichloroethene	9.16	96	490975	19.497	ng	92
18) tert-Butanol	9.27	59	1372970	17.895	ng	93
19) Methylene Chloride	9.36	84	529930	19.036	ng	95
20) Allyl Chloride	9.55	41	833997	20.033	ng	98
21) Trichlorotrifluoroethane	9.80	151	443941	21.599	ng	92
22) Carbon Disulfide	9.76	76	1936445	16.576	ng	96
23) trans-1,2-Dichloroethene	10.80	61	850827	18.214	ng	92
24) 1,1-Dichloroethane	11.10	63	1018131	18.943	ng	96
25) Methyl tert-Butyl Ether	11.20	73	1594825	17.877	ng	88
26) Vinyl Acetate	11.35	86	96140	15.853	ng	# 76
27) 2-Butanone	11.68	72	367812	17.921	ng	94
28) cis-1,2-Dichloroethene	12.36	61	811321	18.348	ng	92
29) Diisopropyl Ether	12.69	87	406960	17.183	ng	# 73
30) Ethyl Acetate	12.69	61	254557	23.095	ng	88
31) n-Hexane	12.70	57	1083608	18.882	ng	93

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WA 4/16/08



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140812.D  
 Acq On : 14 Apr 2008 21:43  
 Operator : WA  
 Sample : 25ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:24:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.80	83	956625	21.851	ng	98
34) Tetrahydrofuran	13.36	72	360780	18.405	ng	98
35) Ethyl tert-Butyl Ether	13.49	87	556742	17.155	ng #	86
36) 1,2-Dichloroethane	13.90	62	824015	18.894	ng	99
38) 1,1,1-Trichloroethane	14.30	97	830170	22.032	ng	98
39) Isopropyl Acetate	14.84	61	345329	20.309	ng #	30
40) 1-Butanol	14.84	56	447826	17.785	ng #	47
41) Benzene	14.99	78	2068389	20.085	ng	98
42) Carbon Tetrachloride	15.22	117	718394	22.376	ng	99
43) Cyclohexane	15.41	84	767539	20.298	ng #	81
44) tert-Amyl Methyl Ether	15.87	73	1448190	19.521	ng	91
45) 1,2-Dichloropropane	16.20	63	576719	20.028	ng	98
46) Bromodichloromethane	16.46	83	756240	22.466	ng	100
47) Trichloroethene	16.54	130	525239	24.045	ng	98
48) 1,4-Dioxane	16.49	88	396979	22.001	ng	84
49) Isooctane	16.62	57	2351708	19.710	ng	70
50) Methyl Methacrylate	16.80	100	190312	20.691	ng #	68
51) n-Heptane	16.98	71	578179	20.955	ng #	82
52) cis-1,3-Dichloropropene	17.73	75	823511	19.426	ng	98
53) 4-Methyl-2-pentanone	17.77	58	577342	20.749	ng	87
54) trans-1,3-Dichloropropene	18.43	75	819225	21.955	ng	100
55) 1,1,2-Trichloroethane	18.67	97	481442	21.367	ng	92
58) Toluene	19.07	91	2224726	24.602	ng	96
59) 2-Hexanone	19.37	43	1719849	24.112	ng	79
60) Dibromochloromethane	19.61	129	583893	28.073	ng	98
61) 1,2-Dibromoethane	19.94	107	559507	23.950	ng	99
62) Butyl Acetate	20.19	43	1805701	25.220	ng	83
63) n-Octane	20.36	57	515467	22.585	ng	97
64) Tetrachloroethene	20.55	166	547110	26.534	ng	99
65) Chlorobenzene	21.42	112	1376096	25.704	ng	100
66) Ethylbenzene	21.89	91	2587658	25.169	ng	91
67) m- & p-Xylene	22.13	91	4184617	61.330	ng	89
68) Bromoform	22.21	173	497365	33.995	ng	98
69) Styrene	22.57	104	1508280	25.951	ng	95
70) o-Xylene	22.72	91	2083003	28.561	ng	90
71) n-Nonane	22.98	43	1425405	23.621	ng #	78
72) 1,1,2,2-Tetrachloroethane	22.69	83	1013401	28.884	ng	97
74) Cumene	23.47	105	2395512	26.455	ng	98
75) alpha-Pinene	23.97	93	1244786	24.972	ng	90
76) n-Propylbenzene	24.10	91	3178462	26.384	ng	95
77) 3-Ethyltoluene	24.23	105	2444332	24.967	ng	96
78) 4-Ethyltoluene	24.28	105	2502986	27.285	ng	97
79) 1,3,5-Trimethylbenzene	24.38	105	2115805	25.805	ng	96

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140812.D  
 Acq On : 14 Apr 2008 21:43  
 Operator : WA  
 Sample : 25ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:24:41 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

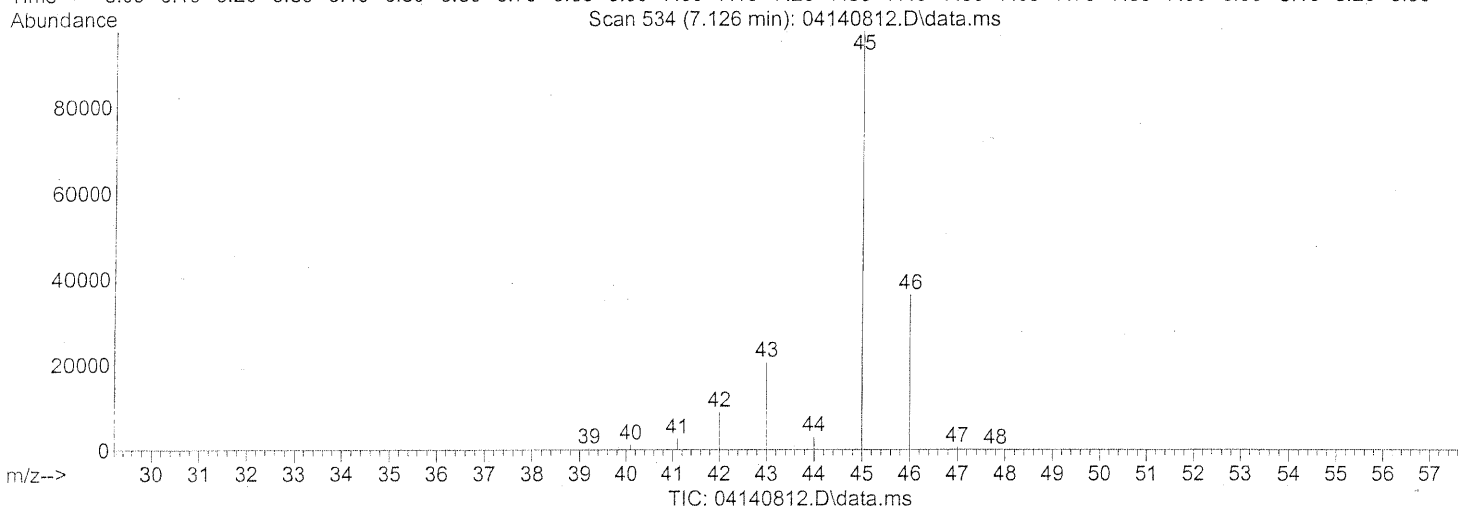
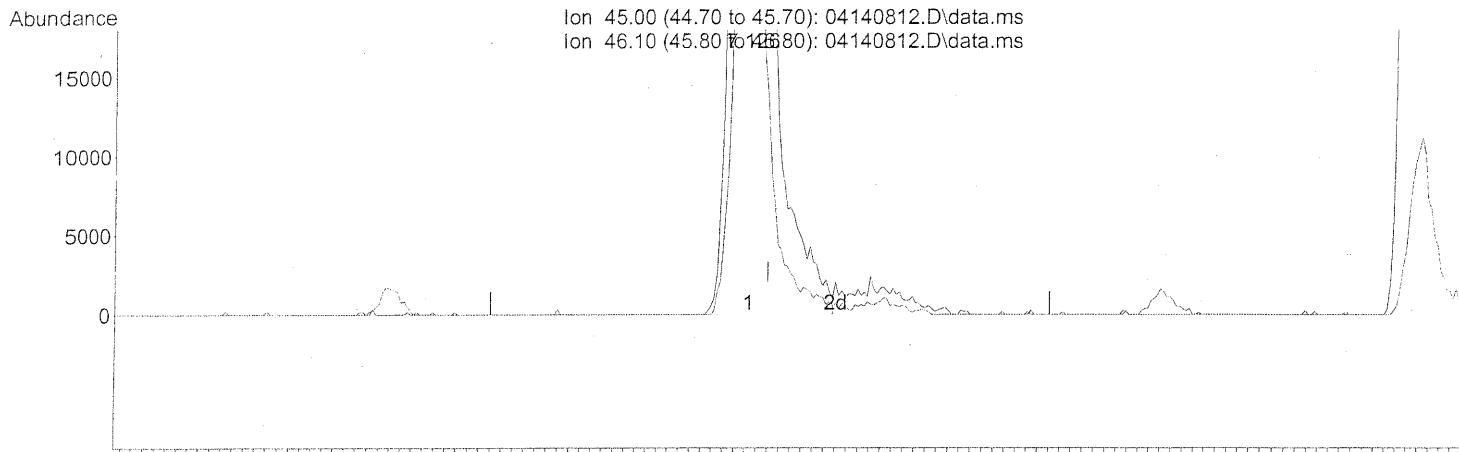
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.56	118	1087973	26.108	ng	96
81) 2-Ethyltoluene	24.61	105	2410901	24.872	ng	97
82) 1,2,4-Trimethylbenzene	24.88	105	2508869	28.548	ng	96
83) n-Decane	24.99	57	1277785	23.445	ng	88
84) Benzyl Chloride	25.05	91	1825642	26.564	ng	94
85) 1,3-Dichlorobenzene	25.08	146	1229700	28.682	ng	100
86) 1,4-Dichlorobenzene	25.16	146	1225313	28.963	ng	99
87) sec-Butylbenzene	25.21	105	2824529	26.797	ng	95
88) p-Isopropyltoluene	25.40	119	2872095	34.115	ng	91
89) 1,2,3-Trimethylbenzene	25.41	105	2501708	29.438	ng	96
90) 1,2-Dichlorobenzene	25.58	146	1306688	29.663	ng	100
91) d-Limonene	25.58	68	1077490	25.929	ng	94
92) 1,2-Dibromo-3-Chloropr...	26.11	157	371616	30.629	ng #	59
93) n-Undecane	26.50	57	1360612	23.532	ng	88
94) 1,2,4-Trichlorobenzene	27.63	180	846601	28.533	ng	95
95) Naphthalene	27.77	128	2721399	30.741	ng	98
96) n-Dodecane	27.74	57	1350348	23.984	ng	87
97) Hexachloro-1,3-butadiene	28.19	225	540955	30.728	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140812.D  
 Acq On : 14 Apr 2008 21:43  
 Operator : WA  
 Sample : 25ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:24:20 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)  
 7.126min (-0.034) 14.45ng  
 response 355842

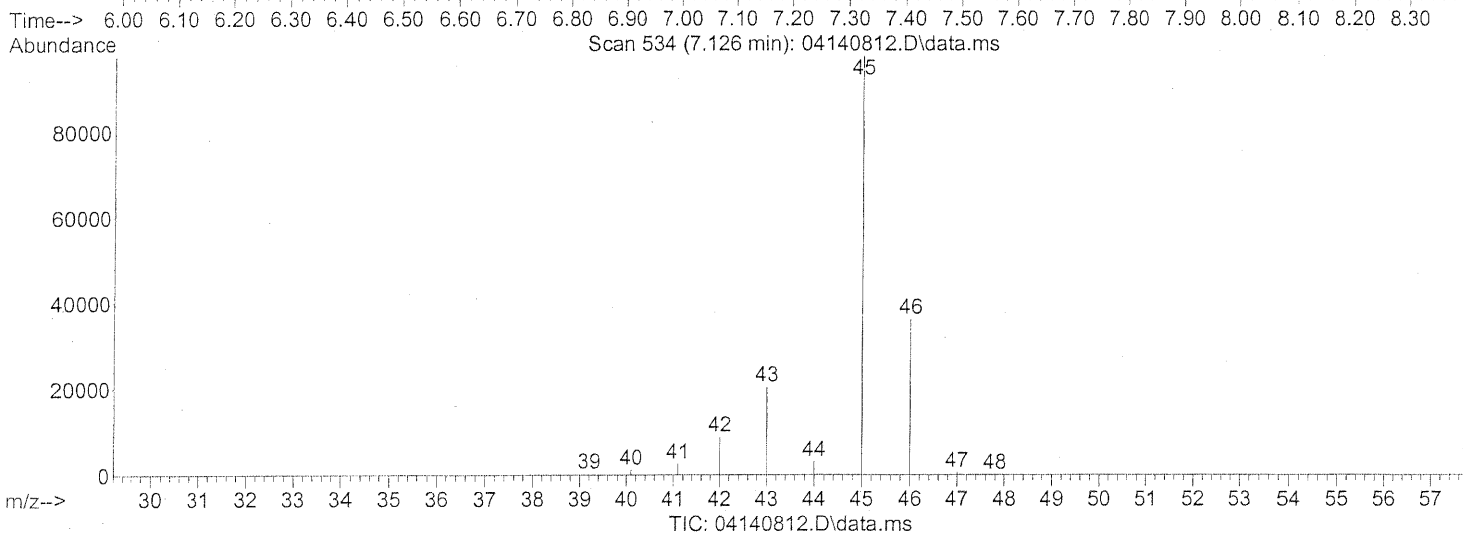
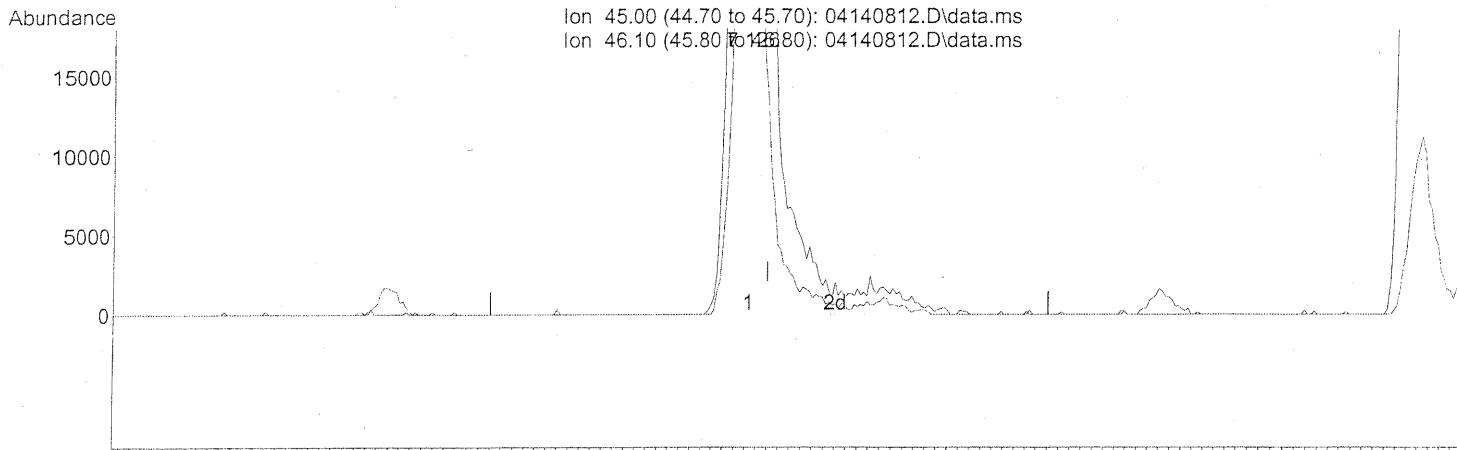
Ion	Exp%	Act%
45.00	100	100
46.10	41.00	38.07
0.00	0.00	0.00
0.00	0.00	0.00

*split / tailing*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140812.D  
 Acq On : 14 Apr 2008 21:43  
 Operator : WA  
 Sample : 25ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:24:20 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)

7.126min (-0.034) 15.01ng m

response 369567

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	36.65
0.00	0.00	0.00
0.00	0.00	0.00

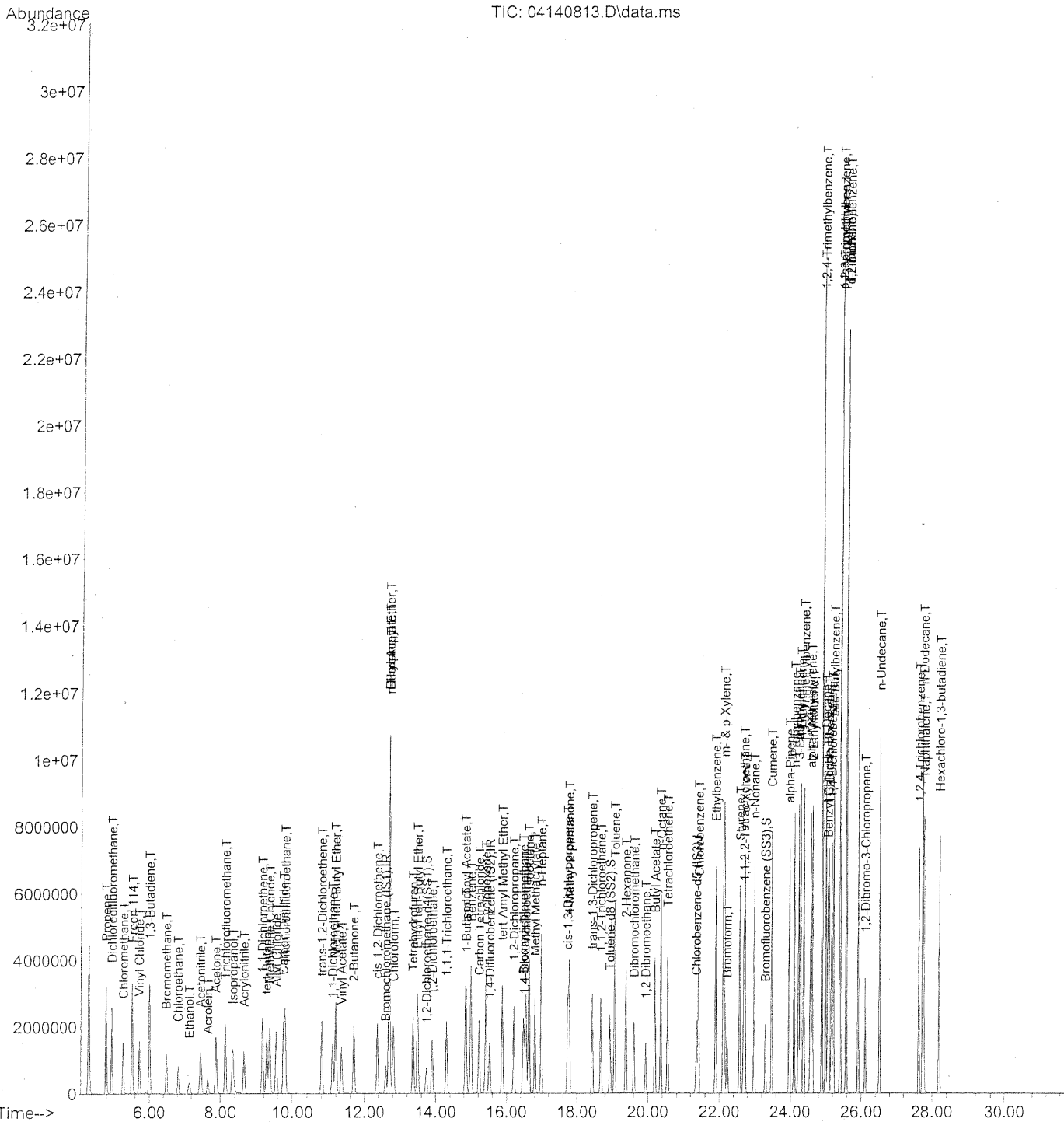
*incl. tailing*

*WA 4/16/08*

*WA 4/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:26:42 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:26:42 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.60	130	359135	25.000	ng	0.00
37) 1,4-Difluorobenzene (IS2)	15.53	114	1580077	25.000	ng	0.00
56) Chlorobenzene-d5 (IS3)	21.36	82	818772	25.000	ng	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...)	13.74	65	706628	21.069	ng	0.00
Spiked Amount	25.000		Recovery	=	84.28%	
57) Toluene-d8 (SS2)	18.93	98	1797014	27.224	ng	0.00
Spiked Amount	25.000		Recovery	=	108.88%	
73) Bromofluorobenzene (SS3)	23.30	174	626773	29.723	ng	0.00
Spiked Amount	25.000		Recovery	=	118.88%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.79	42	1494115	35.115	ng	90
3) Dichlorodifluoromethane	4.95	85	2537266	35.317	ng	99
4) Chloromethane	5.28	50	2106258	34.819	ng	97
5) Freon 114	5.53	135	1321916	45.213	ng	99
6) Vinyl Chloride	5.72	62	1980229	35.751	ng	96
7) 1,3-Butadiene	6.00	54	1778388	40.447	ng	# 76
8) Bromomethane	6.48	94	1041693	37.263	ng	100
9) Chloroethane	6.82	64	855335	31.541	ng	96
10) Ethanol	7.14	45	802216m	30.129	ng	
11) Acetonitrile	7.45	41	2274356	33.733	ng	96
12) Acrolein	7.65	56	658477	31.805	ng	99
13) Acetone	7.87	58	989790	36.133	ng	# 59
14) Trichlorofluoromethane	8.14	101	2079897	36.056	ng	98
15) Isopropanol	8.34	45	3077080m	32.835	ng	
16) Acrylonitrile	8.65	53	1587115	36.268	ng	97
17) 1,1-Dichloroethene	9.16	96	1039085	38.154	ng	94
18) tert-Butanol	9.28	59	2885669	34.776	ng	89
19) Methylene Chloride	9.37	84	1106480	36.752	ng	97
20) Allyl Chloride	9.56	41	1804544	40.079	ng	98
21) Trichlorotrifluoroethane	9.81	151	947778	42.638	ng	91
22) Carbon Disulfide	9.76	76	4089706	32.370	ng	96
23) trans-1,2-Dichloroethene	10.81	61	1829530	36.213	ng	92
24) 1,1-Dichloroethane	11.11	63	2089949	35.955	ng	95
25) Methyl tert-Butyl Ether	11.20	73	3425202	35.500	ng	88
26) Vinyl Acetate	11.36	86	208979	31.862	ng	# 79
27) 2-Butanone	11.68	72	772056	34.783	ng	94
28) cis-1,2-Dichloroethene	12.36	61	1732408	36.226	ng	93
29) Diisopropyl Ether	12.70	87	950117	37.093	ng	# 80
30) Ethyl Acetate	12.70	61	593406	49.781	ng	87
31) n-Hexane	12.70	57	2508991	40.425	ng	92

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WA 4/16/08

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:26:42 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.81	83	1994360	42.122	ng	99
34) Tetrahydrofuran	13.36	72	764002	36.038	ng	98
35) Ethyl tert-Butyl Ether	13.49	87	1193455	34.004	ng #	85
36) 1,2-Dichloroethane	13.90	62	1718931	36.444	ng	99
38) 1,1,1-Trichloroethane	14.30	97	1742008	42.924	ng	97
39) Isopropyl Acetate	14.84	61	731723	39.953	ng #	28
40) 1-Butanol	14.86	56	968057	35.694	ng #	46
41) Benzene	15.00	78	4417532	39.826	ng	99
42) Carbon Tetrachloride	15.22	117	1555430	44.981	ng	98
43) Cyclohexane	15.42	84	1663679	40.848	ng #	82
44) tert-Amyl Methyl Ether	15.87	73	3119689	39.043	ng	90
45) 1,2-Dichloropropane	16.20	63	1234355	39.798	ng	99
46) Bromodichloromethane	16.47	83	1622745	44.758	ng	99
47) Trichloroethene	16.54	130	1118235	47.528	ng	99
48) 1,4-Dioxane	16.50	88	862754	44.395	ng	85
49) Isooctane	16.63	57	5039242	39.214	ng	70
50) Methyl Methacrylate	16.81	100	409572	41.343	ng #	69
51) n-Heptane	16.99	71	1242949	41.826	ng #	82
52) cis-1,3-Dichloropropene	17.73	75	1789811	39.200	ng	98
53) 4-Methyl-2-pentanone	17.77	58	1234835	41.203	ng	87
54) trans-1,3-Dichloropropene	18.43	75	1796165	44.693	ng	99
55) 1,1,2-Trichloroethane	18.68	97	1038954	42.812	ng	92
58) Toluene	19.07	91	4859246	50.019	ng	97
59) 2-Hexanone	19.38	43	3659388	47.756	ng	79
60) Dibromochloromethane	19.61	129	1265618	56.643	ng	98
61) 1,2-Dibromoethane	19.94	107	1186210	47.265	ng	100
62) Butyl Acetate	20.19	43	3868036	50.289	ng	83
63) n-Octane	20.36	57	1145169	46.706	ng	95
64) Tetrachloroethene	20.55	166	1217980	54.984	ng	99
65) Chlorobenzene	21.42	112	3038611	52.833	ng	99
66) Ethylbenzene	21.89	91	5696327	51.574	ng	92
67) m- & p-Xylene	22.13	91	9603967	131.023	ng	90
68) Bromoform	22.21	173	1107855	70.486	ng	98
69) Styrene	22.58	104	3333547	53.390	ng	94
70) o-Xylene	22.73	91	4708895	60.101	ng	91
71) n-Nonane	22.99	43	3106010	47.912	ng #	79
72) 1,1,2,2-Tetrachloroethane	22.70	83	2259437	59.945	ng	97
74) Cumene	23.47	105	5386210	55.370	ng	99
75) alpha-Pinene	23.97	93	2820523	52.669	ng	90
76) n-Propylbenzene	24.11	91	6987398	53.990	ng	96
77) 3-Ethyltoluene	24.23	105	5592875	53.177	ng	98
78) 4-Ethyltoluene	24.28	105	5688789	57.725	ng	98
79) 1,3,5-Trimethylbenzene	24.38	105	4924010	55.901	ng	97

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:26:42 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QI on	Response	Conc	Units	Dev (Min)
80) alpha-Methylstyrene	24.57	118	2494368	55.717	ng	96
81) 2-Ethyltoluene	24.62	105	5410812	51.961	ng	98
82) 1,2,4-Trimethylbenzene	24.89	105	6613440	70.050	ng	98
83) n-Decane	24.99	57	2936499	50.154	ng	88
84) Benzyl Chloride	25.05	91	4246418	57.516	ng	95
85) 1,3-Dichlorobenzene	25.08	146	2859135	62.075	ng	100
86) 1,4-Dichlorobenzene	25.16	146	2814320	61.922	ng	99
87) sec-Butylbenzene	25.22	105	6398402	56.506	ng	96
88) p-Isopropyltoluene	25.41	119	7505085	82.980	ng	91
89) 1,2,3-Trimethylbenzene	25.41	105	6559967	71.853	ng	99
90) 1,2-Dichlorobenzene	25.58	146	3427526	72.428	ng	99
91) d-Limonene	25.58	68	2738620	61.346	ng	95
92) 1,2-Dibromo-3-Chloropr...	26.11	157	833376	63.938	ng	# 62
93) n-Undecane	26.50	57	3146465	50.655	ng	87
94) 1,2,4-Trichlorobenzene	27.63	180	2017846	63.304	ng	96
95) Naphthalene	27.78	128	6171260	64.890	ng	99
96) n-Dodecane	27.74	57	3177225	52.528	ng	86
97) Hexachloro-1,3-butadiene	28.19	225	1315241	69.543	ng	100

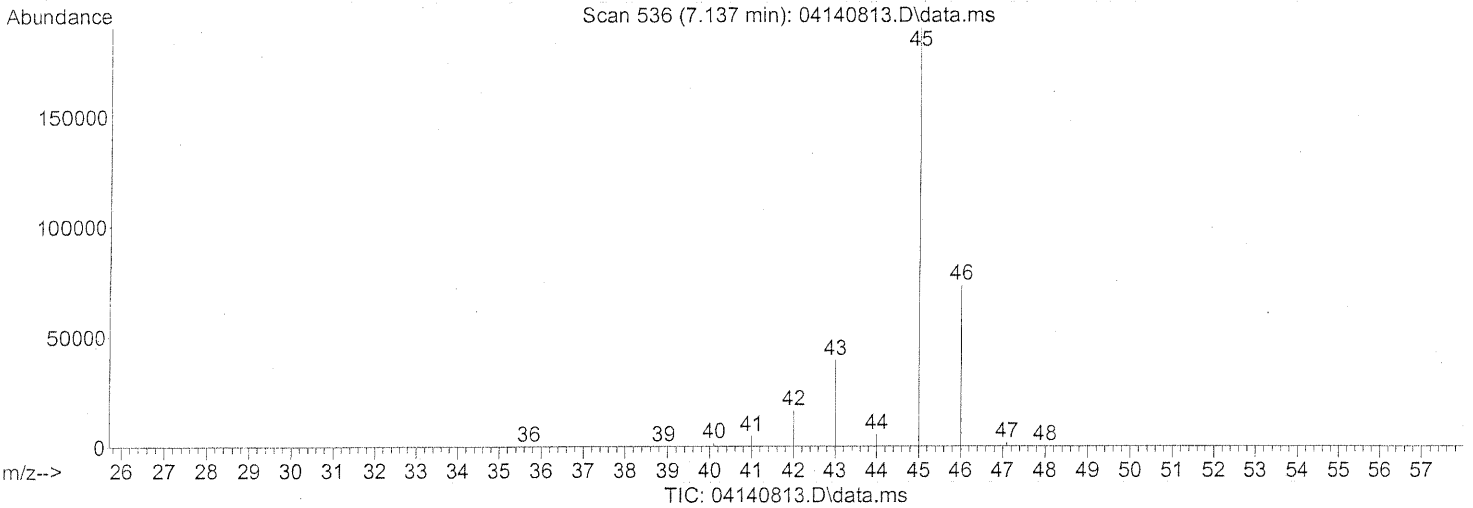
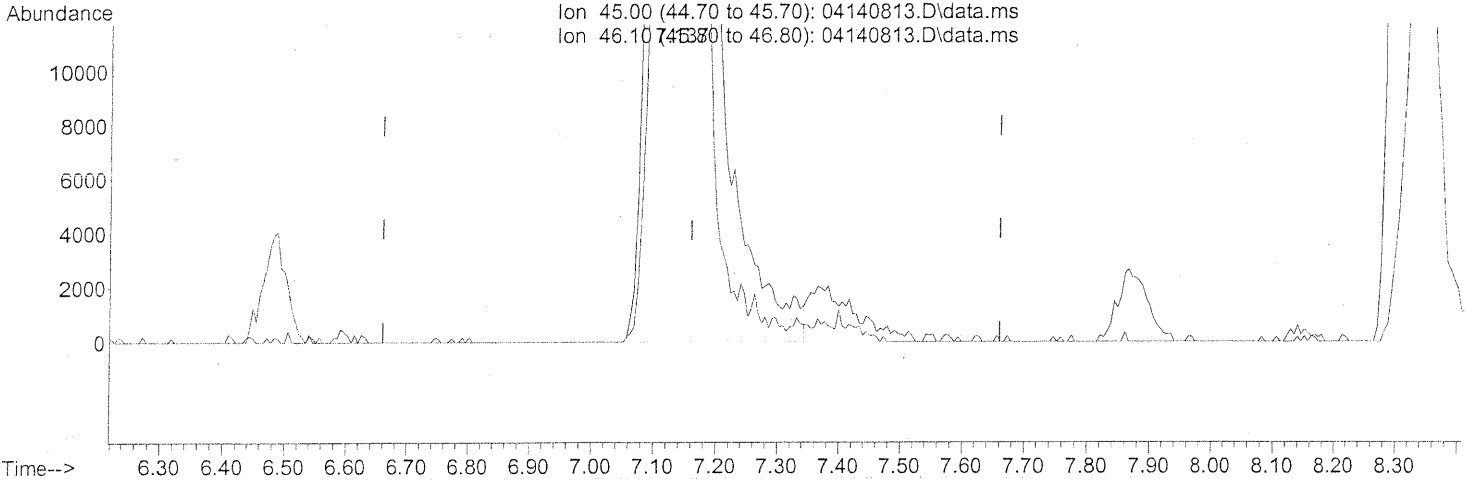
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:25:57 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



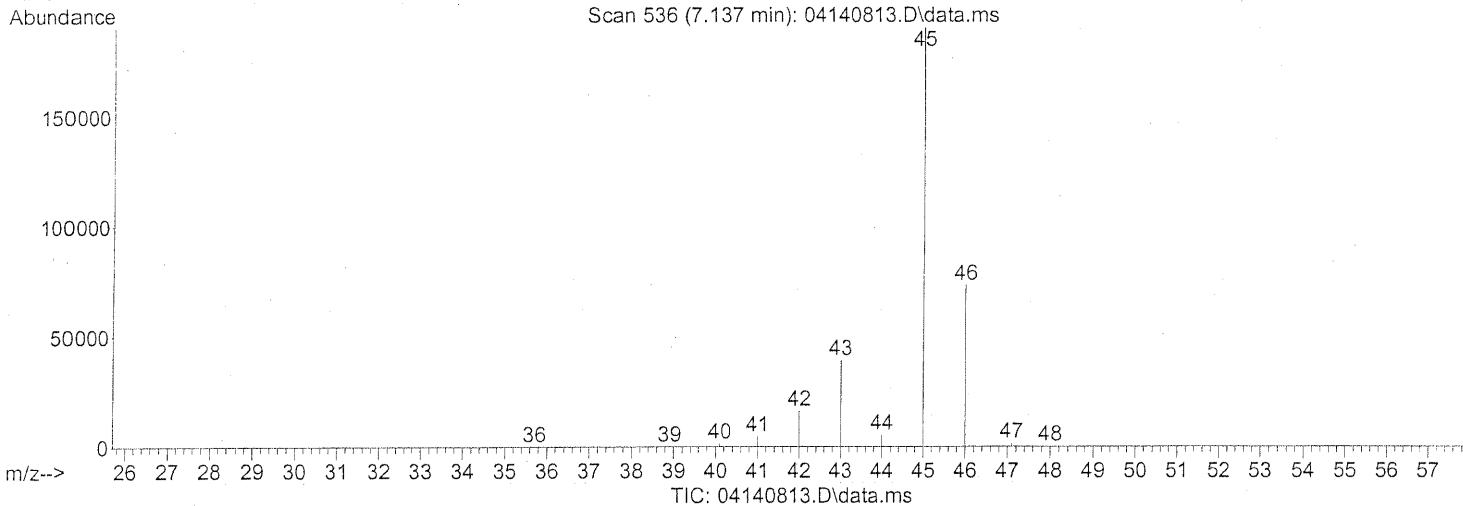
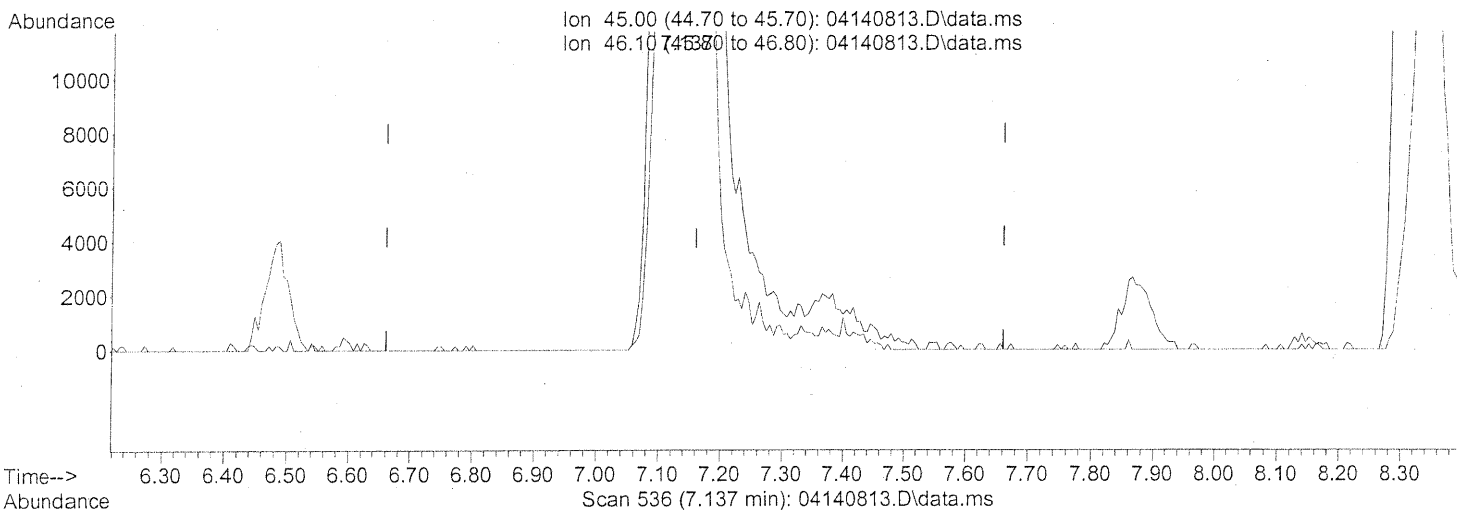
(10) Ethanol (T)  
 7.137min (-0.023) 29.70ng  
 response 790799

*tailing*

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	38.13
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:25:57 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(10) Ethanol (T)

7.137min (-0.023) 30.13ng m

response 802216

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	37.59
0.00	0.00	0.00
0.00	0.00	0.00

*incl. tailing*

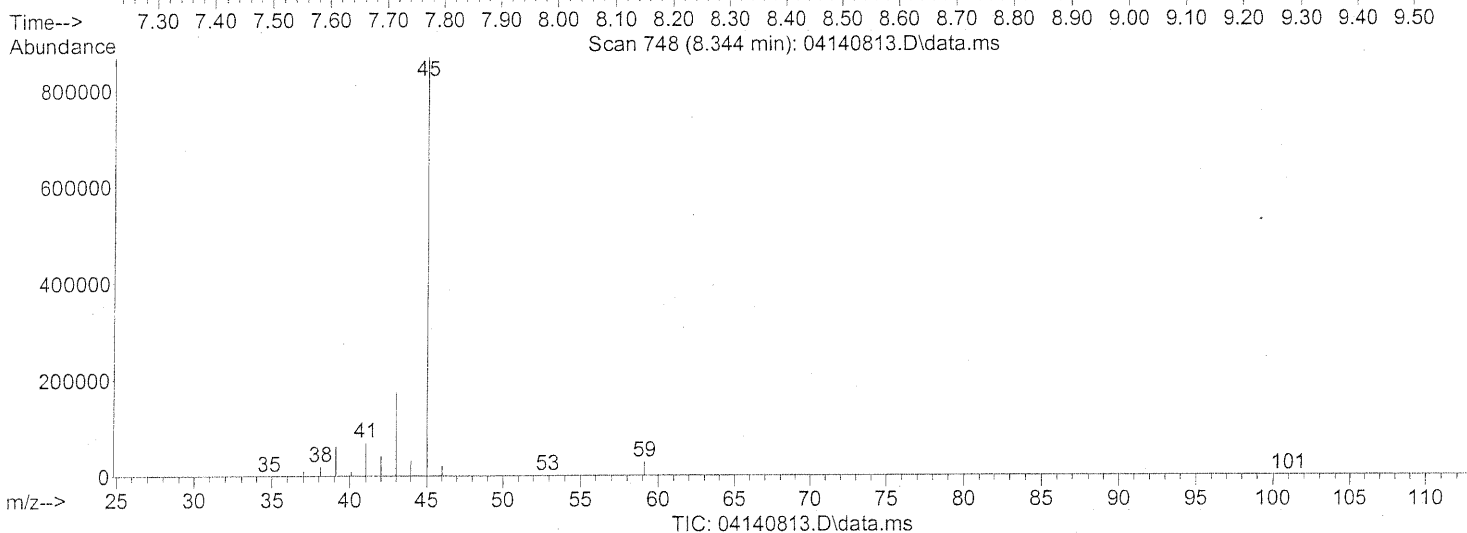
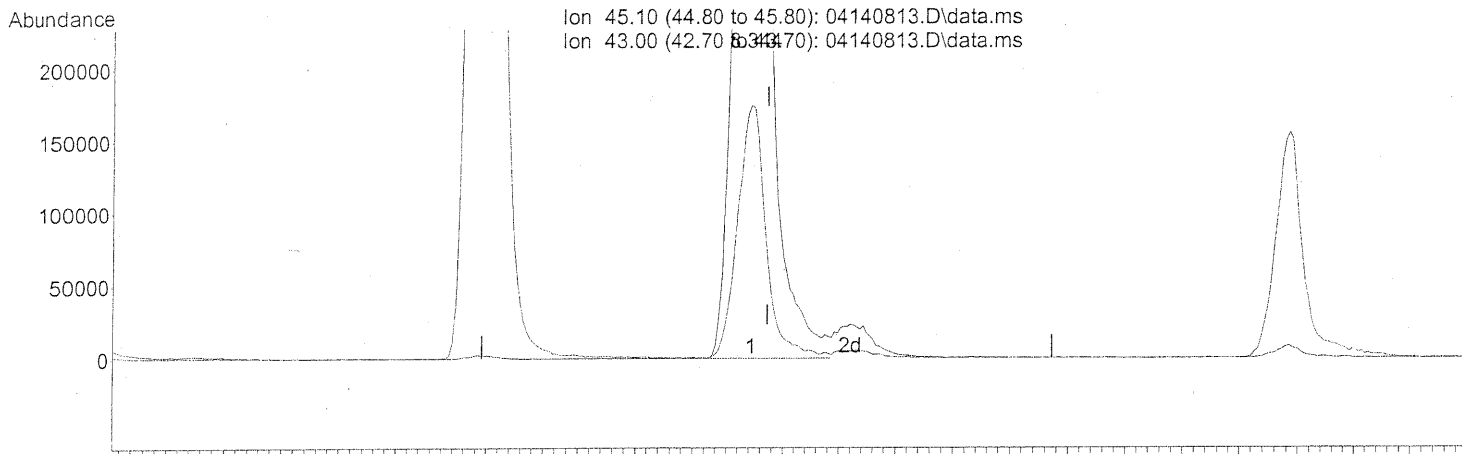
*PA 4/16/08*

*FOA/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140813.D  
Acq On : 14 Apr 2008 22:24  
Operator : WA  
Sample : 50ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:25:57 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)

8.344min (-0.028) 31.68ng

response 2968987

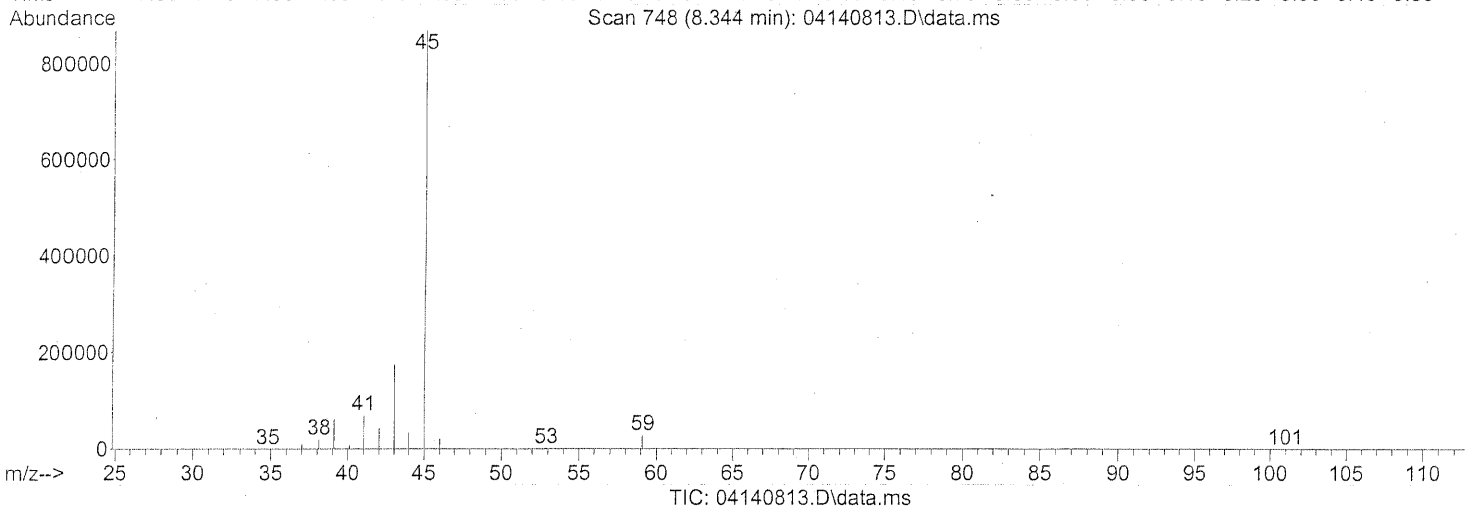
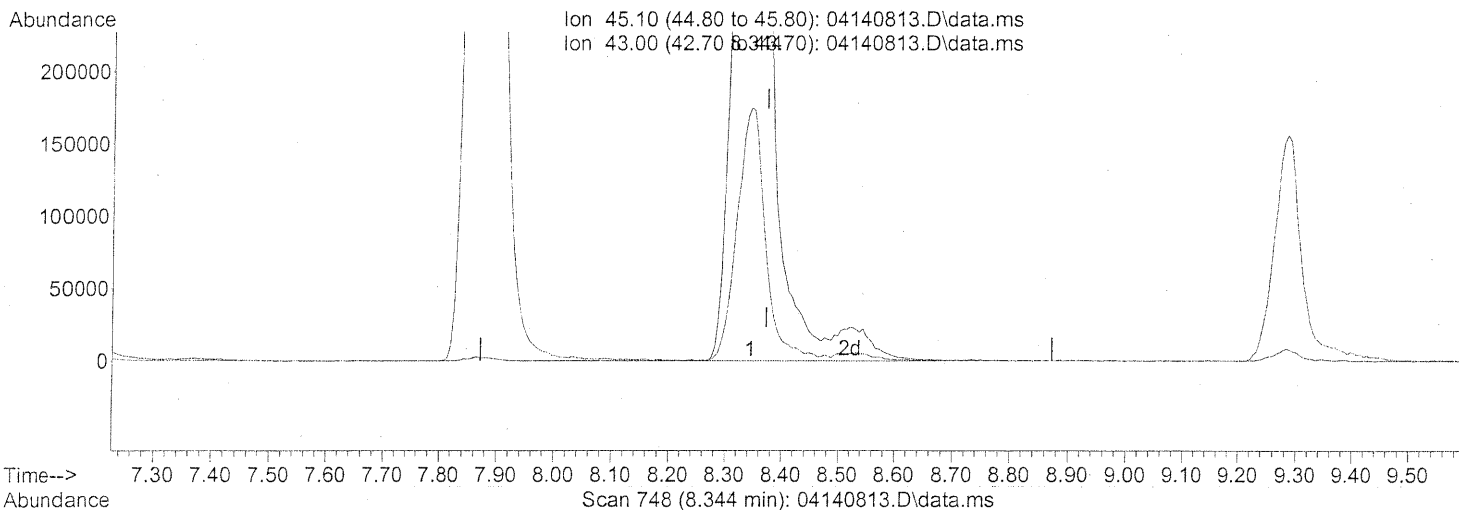
Ion	Exp%	Act%
45.10	100	100
43.00	16.90	20.32
0.00	0.00	0.00
0.00	0.00	0.00

*split peaks*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140813.D  
Acq On : 14 Apr 2008 22:24  
Operator : WA  
Sample : 50ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:25:57 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)

8.344min (-0.028) 32.84ng m

response 3077080

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	19.61
0.00	0.00	0.00
0.00	0.00	0.00

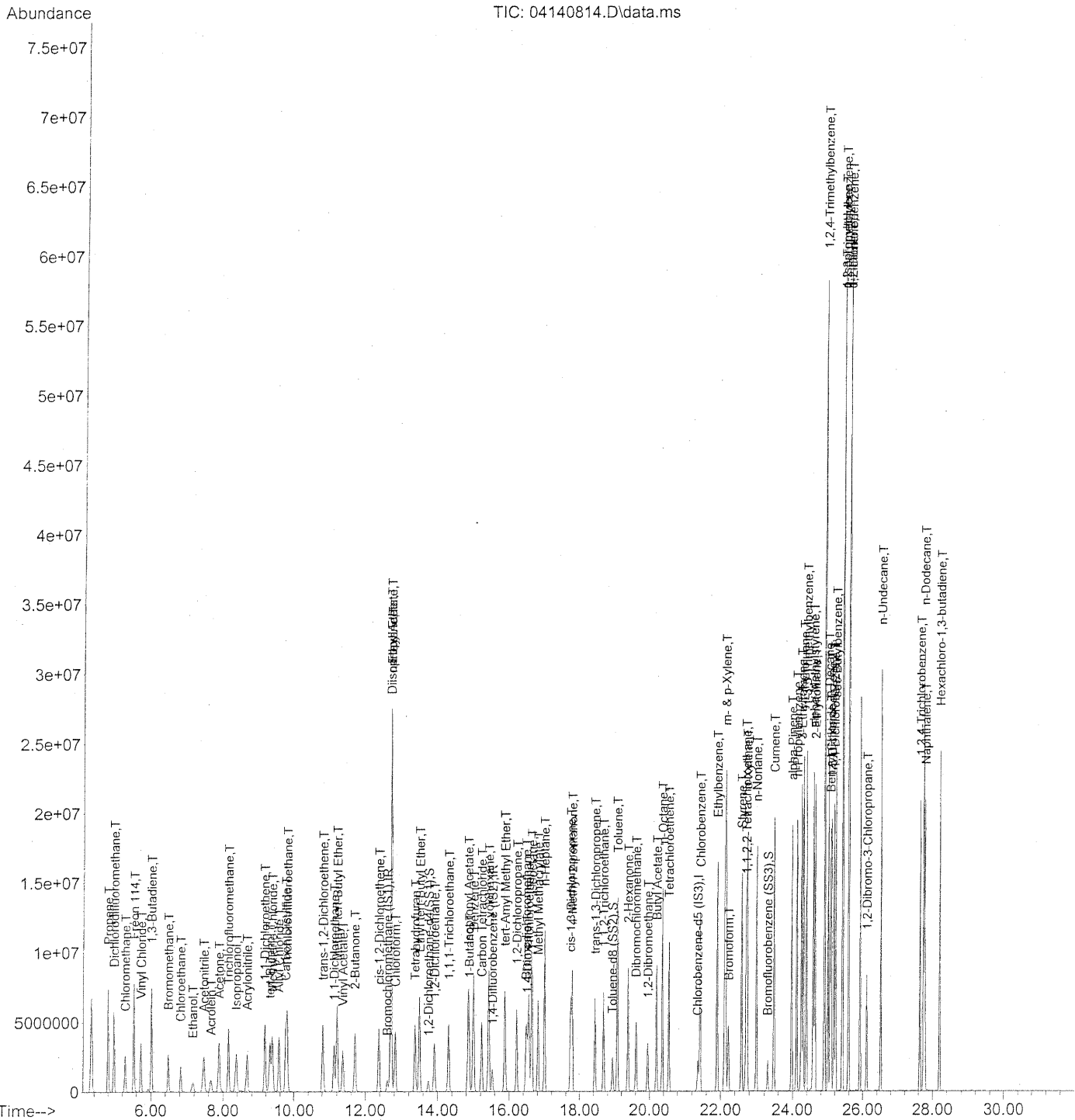
*int. whole peak*

*WA 4/16/08*

*4/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140814.D  
Acq On : 14 Apr 2008 23:04  
Operator : WA  
Sample : 100ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:28:17 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140814.D  
 Acq On : 14 Apr 2008 23:04  
 Operator : WA  
 Sample : 100ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:28:17 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.61	130	379040	25.000	ng	0.00
37) 1,4-Difluorobenzene (IS2)	15.53	114	1673737	25.000	ng	0.00
56) Chlorobenzene-d5 (IS3)	21.36	82	871036	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...)	13.75	65	738132	20.853	ng	0.00
Spiked Amount	25.000		Recovery	=	83.40%	
57) Toluene-d8 (SS2)	18.93	98	1908001	27.171	ng	0.00
Spiked Amount	25.000		Recovery	=	108.68%	
73) Bromofluorobenzene (SS3)	23.30	174	674346	30.060	ng	0.00
Spiked Amount	25.000		Recovery	=	120.24%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.79	42	3337708	74.324	ng	91
3) Dichlorodifluoromethane	4.96	85	5560943	73.339	ng	99
4) Chloromethane	5.28	50	3729310	58.412	ng	97
5) Freon 114	5.53	135	3097182	100.368	ng	99
6) Vinyl Chloride	5.73	62	4423044	75.661	ng	95
7) 1,3-Butadiene	6.00	54	4005951	86.326	ng	# 75
8) Bromomethane	6.49	94	2351722	79.707	ng	99
9) Chloroethane	6.82	64	2051767	71.687	ng	96
10) Ethanol	7.17	45	1718886m	61.166	ng	
11) Acetonitrile	7.47	41	4896836	68.815	ng	96
12) Acrolein	7.67	56	1427932	65.349	ng	99
13) Acetone	7.89	58	2130633	73.695	ng	# 60
14) Trichlorofluoromethane	8.15	101	4597540	75.515	ng	99
15) Isopropanol	8.38	45	6510791m	65.827	ng	
16) Acrylonitrile	8.67	53	3418887	74.024	ng	97
17) 1,1-Dichloroethene	9.16	96	2288970	79.635	ng	92
18) tert-Butanol	9.31	59	6157599	70.310	ng	89
19) Methylene Chloride	9.38	84	2423001	76.255	ng	96
20) Allyl Chloride	9.57	41	3992555	84.017	ng	98
21) Trichlorotrifluoroethane	9.81	151	2198878	93.726	ng	91
22) Carbon Disulfide	9.77	76	8961871	67.208	ng	95
23) trans-1,2-Dichloroethene	10.81	61	4081464	76.545	ng	92
24) 1,1-Dichloroethane	11.12	63	4631185	75.490	ng	95
25) Methyl tert-Butyl Ether	11.21	73	7628277	74.911	ng	88
26) Vinyl Acetate	11.37	86	466007	67.319	ng	# 83
27) 2-Butanone	11.70	72	1671209	71.338	ng	97
28) cis-1,2-Dichloroethene	12.37	61	3778700	74.867	ng	92
29) Diisopropyl Ether	12.70	87	2440418	90.272	ng	# 94
30) Ethyl Acetate	12.71	61	1557022	123.759	ng	84
31) n-Hexane	12.71	57	6665924	101.761	ng	93

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140814.D  
 Acq On : 14 Apr 2008 23:04  
 Operator : WA  
 Sample : 100ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:28:17 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.83	83	4316526	86.380	ng	99
34) Tetrahydrofuran	13.37	72	1589023	71.018	ng	99
35) Ethyl tert-Butyl Ether	13.50	87	2735274	73.840	ng	# 83
36) 1,2-Dichloroethane	13.92	62	3662540	73.573	ng	98
38) 1,1,1-Trichloroethane	14.31	97	3939251	91.634	ng	98
39) Isopropyl Acetate	14.85	61	1662836	85.713	ng	# 39
40) 1-Butanol	14.88	56	2156684	75.071	ng	# 48
41) Benzene	15.00	78	9584981	81.578	ng	97
42) Carbon Tetrachloride	15.23	117	3543916	96.750	ng	98
43) Cyclohexane	15.43	84	3854975	89.355	ng	# 81
44) tert-Amyl Methyl Ether	15.88	73	7009525	82.815	ng	91
45) 1,2-Dichloropropane	16.21	63	2710579	82.504	ng	98
46) Bromodichloromethane	16.48	83	3687281	96.011	ng	100
47) Trichloroethene	16.56	130	2661846	106.806	ng	99
48) 1,4-Dioxane	16.51	88	2011287	97.704	ng	85
49) Isooctane	16.64	57	11420328	83.897	ng	71
50) Methyl Methacrylate	16.81	100	922903	87.946	ng	# 71
51) n-Heptane	16.99	71	2893140	91.908	ng	# 82
52) cis-1,3-Dichloropropene	17.74	75	4082390	84.409	ng	99
53) 4-Methyl-2-pentanone	17.79	58	2827913	89.080	ng	87
54) trans-1,3-Dichloropropene	18.45	75	4082000	95.887	ng	100
55) 1,1,2-Trichloroethane	18.68	97	2391548	93.033	ng	91
58) Toluene	19.08	91	11200759	108.379	ng	100
59) 2-Hexanone	19.39	43	8010039	98.260	ng	81
60) Dibromochloromethane	19.61	129	2939424	123.660	ng	98
61) 1,2-Dibromoethane	19.95	107	2707908	101.424	ng	99
62) Butyl Acetate	20.20	43	8449300	103.259	ng	85
63) n-Octane	20.36	57	2750356	105.442	ng	95
64) Tetrachloroethene	20.55	166	3051653	129.497	ng	99
65) Chlorobenzene	21.42	112	7234910	118.246	ng	99
66) Ethylbenzene	21.90	91	12863620	109.477	ng	97
67) m- & p-Xylene	22.14	91	22765274	291.943	ng	97
68) Bromoform	22.22	173	2617030	156.514	ng	98
69) Styrene	22.58	104	8032744	120.934	ng	93
70) o-Xylene	22.73	91	11508642	138.075	ng	95
71) n-Nonane	22.99	43	7349726	106.571	ng	# 82
72) 1,1,2,2-Tetrachloroethane	22.70	83	5547895	138.358	ng	98
74) Cumene	23.48	105	12560717	121.377	ng	96
75) alpha-Pinene	23.97	93	7070026	124.101	ng	90
76) n-Propylbenzene	24.11	91	14992434	108.892	ng	95
77) 3-Ethyltoluene	24.24	105	13171114	117.717	ng	96
78) 4-Ethyltoluene	24.30	105	13115560	125.099	ng	92
79) 1,3,5-Trimethylbenzene	24.38	105	11996184	128.018	ng	96

227

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140814.D  
 Acq On : 14 Apr 2008 23:04  
 Operator : WA  
 Sample : 100ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:28:17 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration

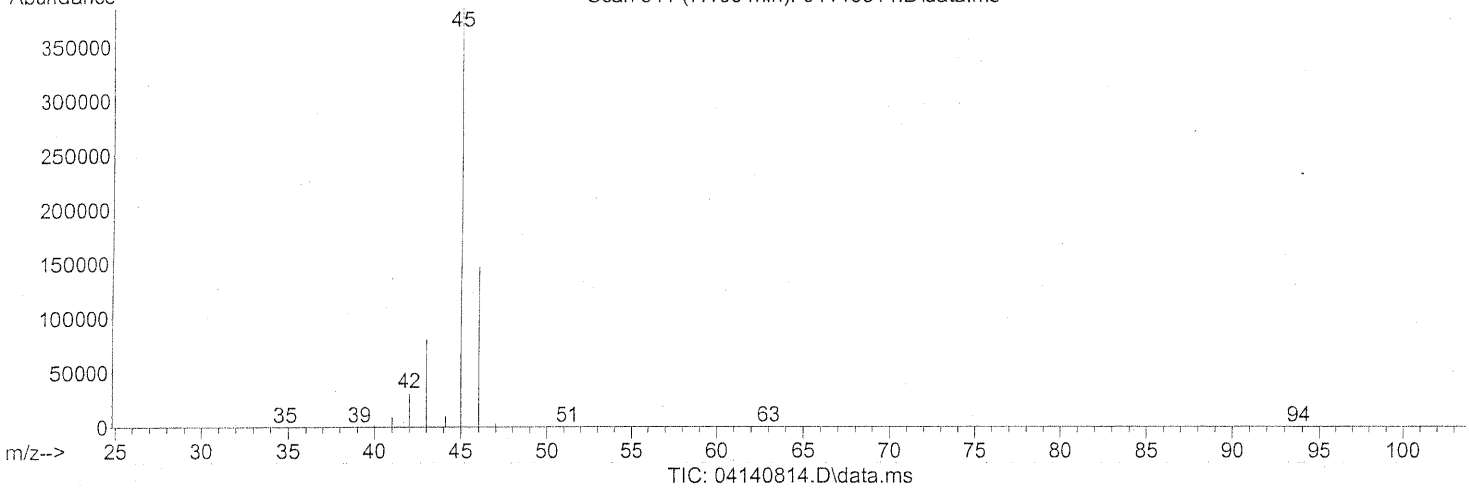
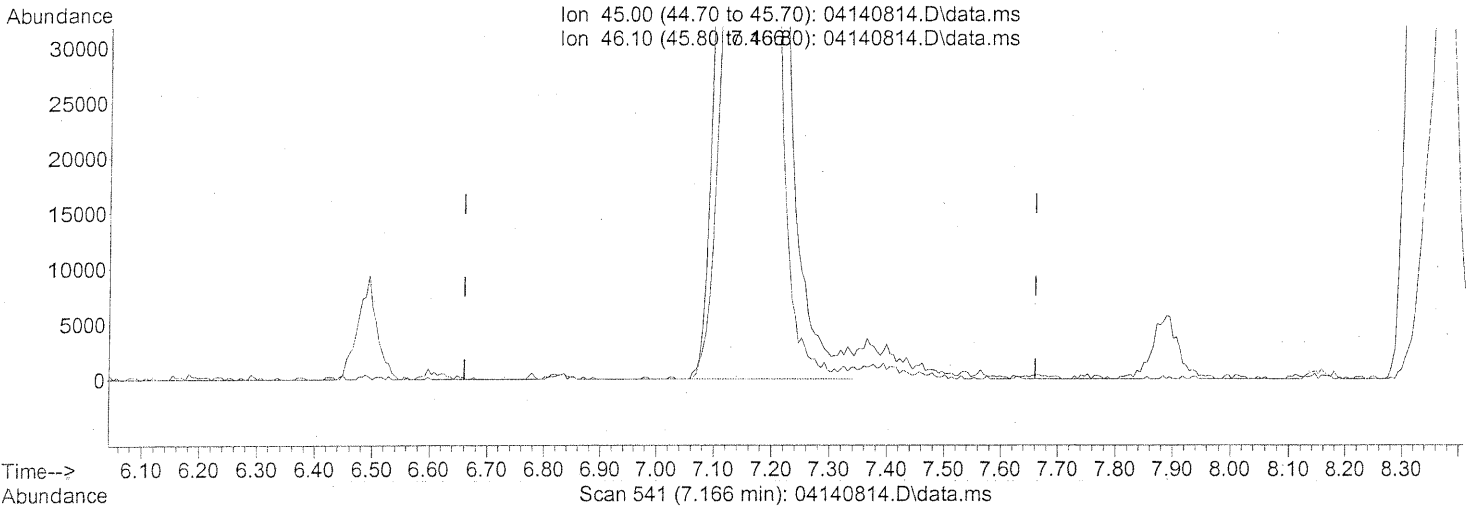
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.57	118	6563154	137.807	ng	95
81) 2-Ethyltoluene	24.63	105	12754976	115.139	ng	96
82) 1,2,4-Trimethylbenzene	24.90	105	15629562	155.615	ng	87
83) n-Decane	25.00	57	7447447	119.568	ng	85
84) Benzyl Chloride	25.06	91	10726388	136.566	ng	99
85) 1,3-Dichlorobenzene	25.09	146	7724653	157.649	ng	99
86) 1,4-Dichlorobenzene	25.17	146	7381200	152.660	ng	99
87) sec-Butylbenzene	25.22	105	14301505	118.722	ng	89
88) p-Isopropyltoluene	25.41	119	15925026	165.511	ng	# 70
89) 1,2,3-Trimethylbenzene	25.42	105	15455833	159.135	ng	86
90) 1,2-Dichlorobenzene	25.59	146	9624011	191.165	ng	94
91) d-Limonene	25.59	68	7792659	164.085	ng	100
92) 1,2-Dibromo-3-Chloropr...	26.11	157	2017145	145.472	ng	# 65
93) n-Undecane	26.51	57	8173344	123.688	ng	82
94) 1,2,4-Trichlorobenzene	27.64	180	5538389	163.325	ng	95
95) Naphthalene	27.78	128	14124345	139.605	ng	95
96) n-Dodecane	27.74	57	8456134	131.415	ng	80
97) Hexachloro-1,3-butadiene	28.19	225	3915632	194.616	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140814.D  
Acq On : 14 Apr 2008 23:04  
Operator : WA  
Sample : 100ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:27:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(10) Ethanol (T)

7.166min (+0.006) 60.49ng

response 1699865

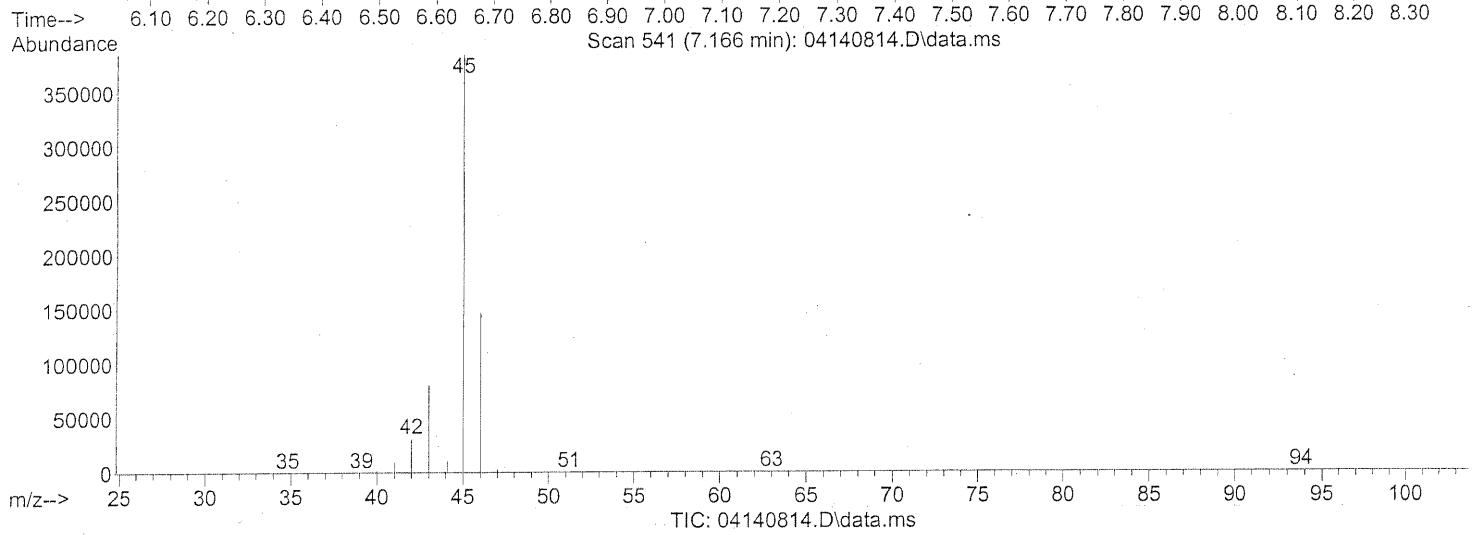
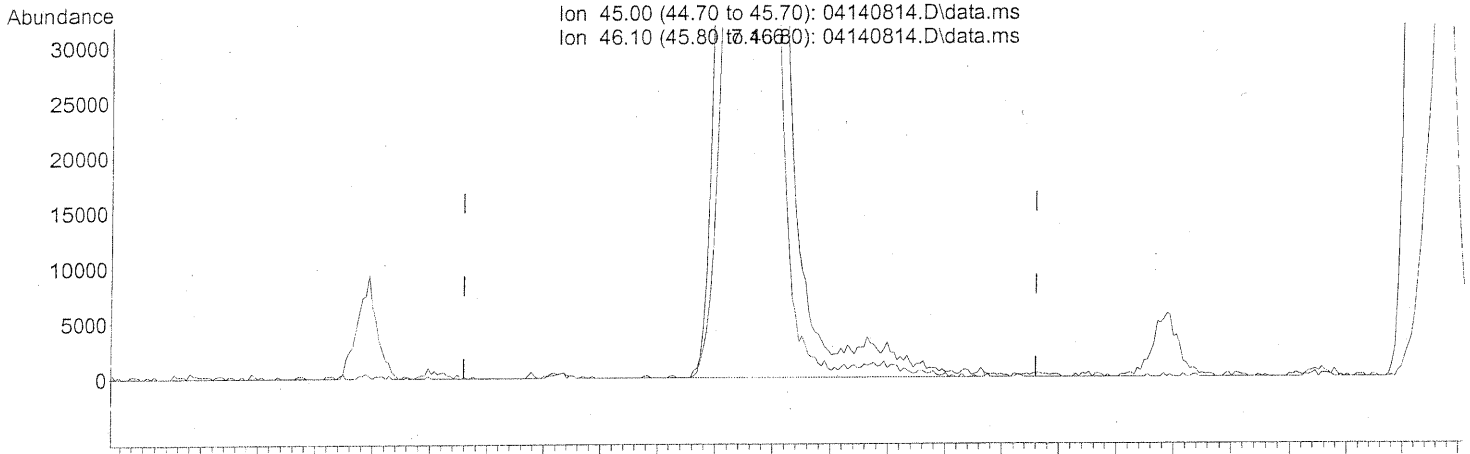
*split / tailing*

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	38.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140814.D  
Acq On : 14 Apr 2008 23:04  
Operator : WA  
Sample : 100ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:27:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(10) Ethanol (T)  
7.166min (+0.006) 61.17ng m  
response 1718886

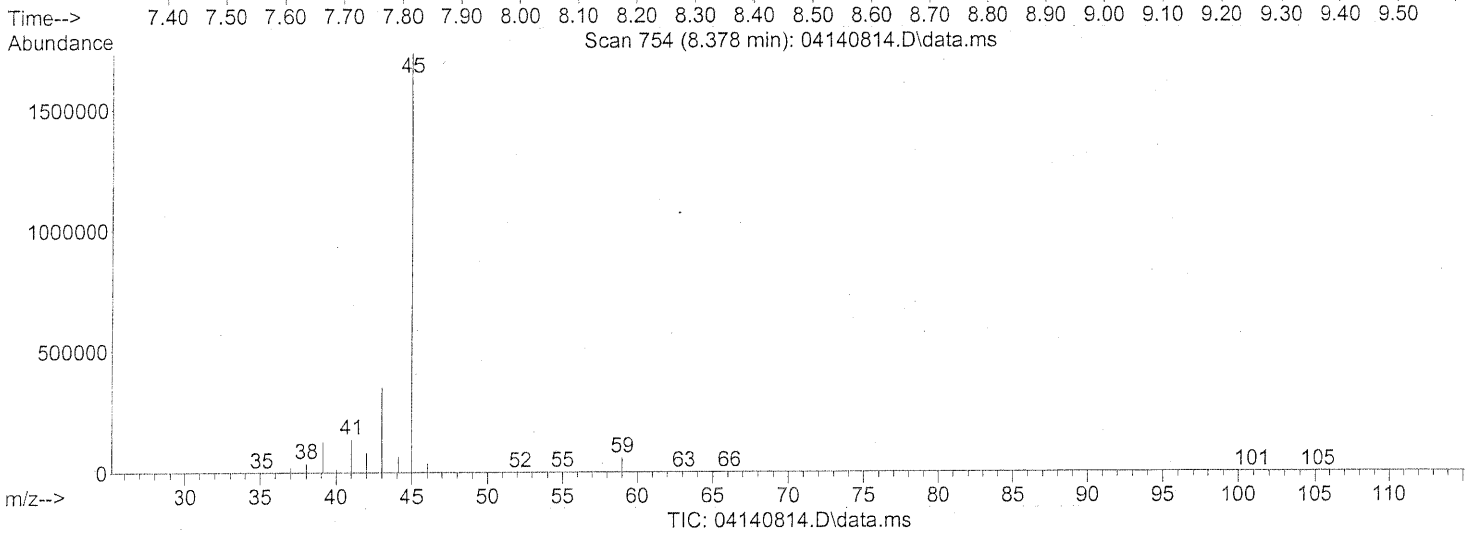
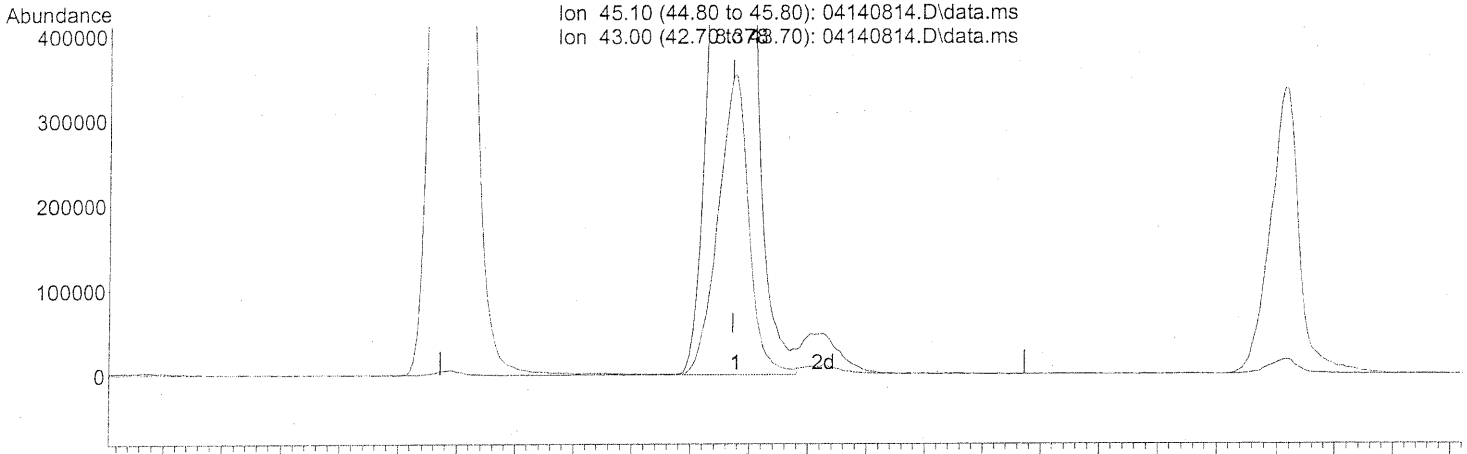
Ion	Exp%	Act%
45.00	100	100
46.10	41.00	37.58
0.00	0.00	0.00
0.00	0.00	0.00

*incl tailing*  
*WA 4/16/08*  
*Pa 4/17/08*

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140814.D  
 Acq On : 14 Apr 2008 23:04  
 Operator : WA  
 Sample : 100ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:27:38 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Thu Apr 03 07:50:30 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.378min (+0.006) 63.56ng

response 6286656

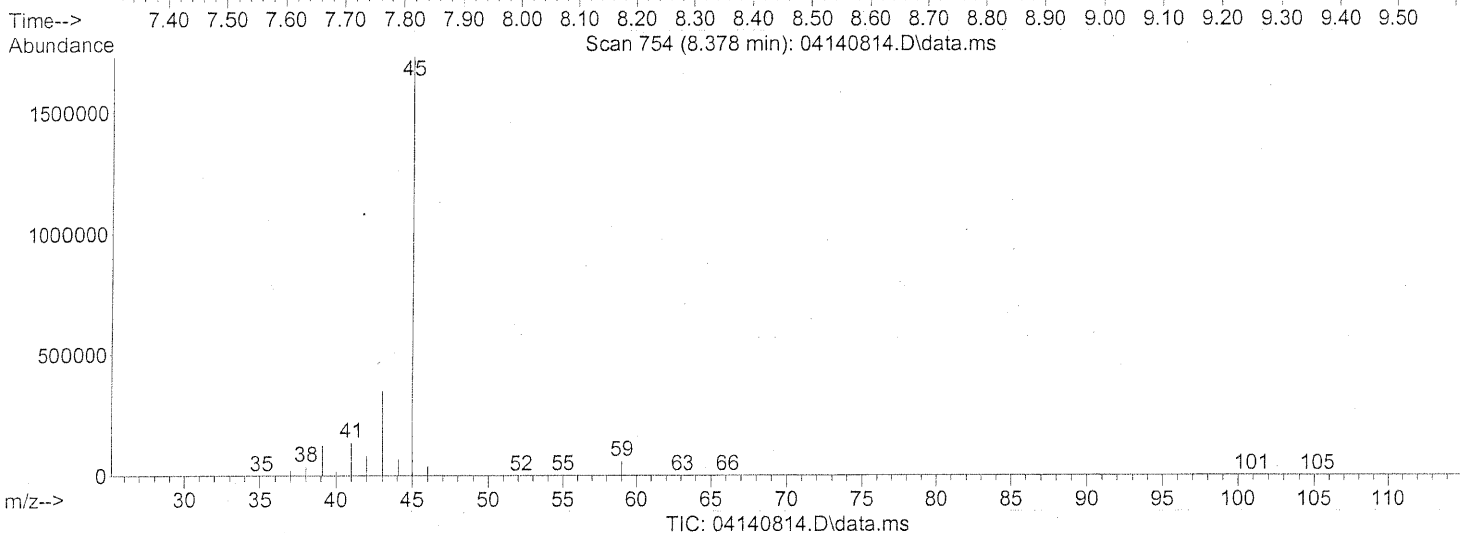
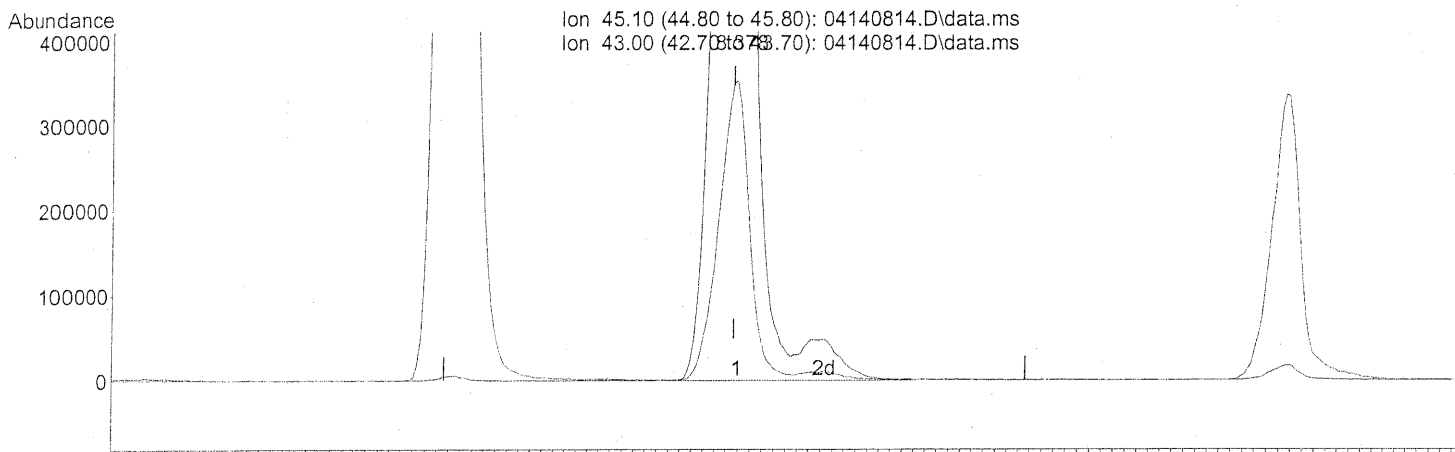
*split peaks*

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	20.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140814.D  
Acq On : 14 Apr 2008 23:04  
Operator : WA  
Sample : 100ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 06:27:38 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Thu Apr 03 07:50:30 2008  
Response via : Initial Calibration



(15) Isopropanol (T)

8.378min (+0.006) 65.83ng m

response 6510791

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	19.42
0.00	0.00	0.00
0.00	0.00	0.00

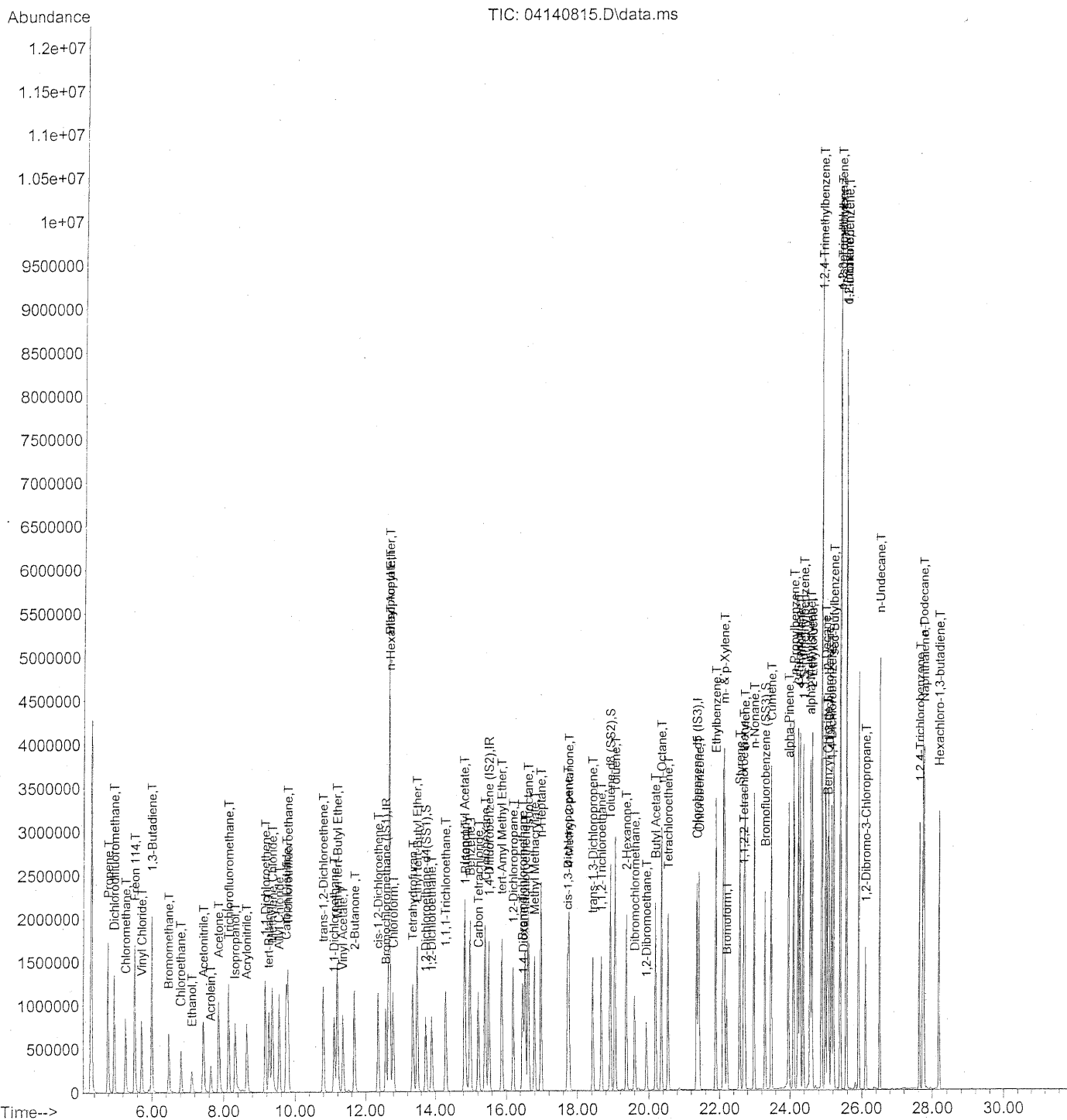
*net. int. whole peaks*

*WA 4/16/08*

*F04/17/08*

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:48:51 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:48:51 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.59	130	402323	25.000	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	15.52	114	1799195	25.000	ng	-0.01
56) Chlorobenzene-d5 (IS3)	21.36	82	899268	25.000	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4 (...)	13.73	65	796514	24.687	ng	-0.02
Spiked Amount	25.000		Recovery	=	98.76%	
57) Toluene-d8 (SS2)	18.93	98	2007332	24.904	ng	0.00
Spiked Amount	25.000		Recovery	=	99.60%	
73) Bromofluorobenzene (SS3)	23.29	174	678298	24.454	ng	0.00
Spiked Amount	25.000		Recovery	=	97.80%	

Target Compounds

						Qvalue
2) Propene	4.79	42	812659	24.404	ng	90
3) Dichlorodifluoromethane	4.95	85	1376403	22.673	ng	99
4) Chloromethane	5.27	50	1150551	22.678	ng	97
5) Freon 114	5.52	135	718887	24.185	ng	100
6) Vinyl Chloride	5.71	62	1089924	23.083	ng	96
7) 1,3-Butadiene	5.99	54	1100149	30.131	ng	# 76
8) Bromomethane	6.48	94	587100	25.899	ng	98
9) Chloroethane	6.81	64	501238	25.623	ng	96
10) Ethanol	7.12	45	514214m	22.644	ng	
11) Acetonitrile	7.44	41	1439658	24.123	ng	97
12) Acrolein	7.64	56	393970	24.550	ng	98
13) Acetone	7.86	58	573236	25.739	ng	# 63
14) Trichlorofluoromethane	8.14	101	1195874	25.071	ng	99
15) Isopropanol	8.32	45	1795159m	23.820	ng	
16) Acrylonitrile	8.64	53	929763	26.906	ng	98
17) 1,1-Dichloroethene	9.16	96	593272	26.703	ng	90
18) tert-Butanol	9.26	59	1706507	27.302	ng	90
19) Methylene Chloride	9.36	84	623916	24.389	ng	94
20) Allyl Chloride	9.54	41	1075294	31.462	ng	98
21) Trichlorotrifluoroethane	9.80	151	517618	25.396	ng	91
22) Carbon Disulfide	9.76	76	2363815	24.920	ng	96
23) trans-1,2-Dichloroethene	10.80	61	1003176	25.906	ng	91
24) 1,1-Dichloroethane	11.10	63	1164180	25.832	ng	96
25) Methyl tert-Butyl Ether	11.19	73	1896288	25.620	ng	88
26) Vinyl Acetate	11.35	86	132547	29.955	ng	# 87
27) 2-Butanone	11.68	72	436147	27.926	ng	100
28) cis-1,2-Dichloroethene	12.36	61	943201	25.847	ng	92
29) Diisopropyl Ether	12.69	87	485978	23.699	ng	# 87
30) Ethyl Acetate	12.69	61	272560	27.996	ng	84
31) n-Hexane	12.70	57	1233662	24.380	ng	93

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:48:51 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.80	83	1101851	29.333	ng	99
34) Tetrahydrofuran	13.35	72	414917	26.561	ng	96
35) Ethyl tert-Butyl Ether	13.48	87	680275	25.226	ng #	83
36) 1,2-Dichloroethane	13.89	62	928504	24.958	ng	99
38) 1,1,1-Trichloroethane	14.29	97	953172	25.425	ng	99
39) Isopropyl Acetate	14.83	61	423334	25.875	ng #	35
40) 1-Butanol	14.85	56	615240	25.054	ng #	57
41) Benzene	14.99	78	2359469	24.720	ng	98
42) Carbon Tetrachloride	15.22	117	820340	25.987	ng	100
43) Cyclohexane	15.41	84	903388	25.586	ng #	80
44) tert-Amyl Methyl Ether	15.87	73	1749071	25.752	ng	92
45) 1,2-Dichloropropane	16.20	63	678431	24.804	ng	99
46) Bromodichloromethane	16.46	83	880836	27.143	ng	100
47) Trichloroethene	16.54	130	591829	25.203	ng	100
48) 1,4-Dioxane	16.49	88	472013	27.931	ng	84
49) Isooctane	16.62	57	2817594	24.933	ng	73
50) Methyl Methacrylate	16.80	100	224964	25.954	ng #	66
51) n-Heptane	16.98	71	641023	24.242	ng #	81
52) cis-1,3-Dichloropropene	17.73	75	972858	26.163	ng	99
53) 4-Methyl-2-pentanone	17.77	58	664693	25.460	ng	86
54) trans-1,3-Dichloropropene	18.43	75	971123	30.232	ng	100
55) 1,1,2-Trichloroethane	18.67	97	564478	24.559	ng	90
58) Toluene	19.07	91	2505167	24.737	ng	97
59) 2-Hexanone	19.37	43	1913999	25.372	ng	80
60) Dibromochloromethane	19.61	129	664433	27.203	ng	99
61) 1,2-Dibromoethane	19.94	107	642961	27.003	ng	99
62) Butyl Acetate	20.19	43	2113209	28.014	ng	84
63) n-Octane	20.35	57	597691	25.180	ng	95
64) Tetrachloroethene	20.55	166	608547	24.000	ng	100
65) Chlorobenzene	21.42	112	1528340	24.365	ng	99
66) Ethylbenzene	21.89	91	2860827	25.299	ng	91
67) m- & p-Xylene	22.13	91	4528775	59.912	ng	89
68) Bromoform	22.21	173	564282	33.791	ng	98
69) Styrene	22.57	104	1634354	25.052	ng	95
70) o-Xylene	22.72	91	2298442	28.255	ng	91
71) n-Nonane	22.98	43	1591778	24.435	ng #	80
72) 1,1,2,2-Tetrachloroethane	22.69	83	1126877	29.026	ng	97
74) Cumene	23.47	105	2716122	26.322	ng	98
75) alpha-Pinene	23.97	93	1373512	25.042	ng	90
76) n-Propylbenzene	24.10	91	3581396	25.933	ng	95
77) 3-Ethyltoluene	24.23	105	2740566	24.357	ng	97
78) 4-Ethyltoluene	24.28	105	2665450	25.727	ng	97
79) 1,3,5-Trimethylbenzene	24.38	105	2286477	24.849	ng	96

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Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:48:51 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.56	118	1147662	23.553	ng	96
81) 2-Ethyltoluene	24.61	105	2676977	23.667	ng	97
82) 1,2,4-Trimethylbenzene	24.88	105	2652414	25.511	ng	97
83) n-Decane	24.99	57	1438401	25.017	ng	88
84) Benzyl Chloride	25.05	91	1996569	28.171	ng	94
85) 1,3-Dichlorobenzene	25.08	146	1318130	23.418	ng	99
86) 1,4-Dichlorobenzene	25.16	146	1299460	24.124	ng	99
87) sec-Butylbenzene	25.21	105	3116911	25.534	ng	95
88) p-Isopropyltoluene	25.40	119	3142163	29.517	ng	91
89) 1,2,3-Trimethylbenzene	25.41	105	2803039	27.414	ng	96
90) 1,2-Dichlorobenzene	25.58	146	1341857	23.261	ng	100
91) d-Limonene	25.58	68	1105741	23.455	ng	93
92) 1,2-Dibromo-3-Chloropr...	26.11	157	401319	26.260	ng	# 58
93) n-Undecane	26.50	57	1510474	25.022	ng	87
94) 1,2,4-Trichlorobenzene	27.63	180	874742	24.467	ng	95
95) Naphthalene	27.77	128	2949991	25.664	ng	98
96) n-Dodecane	27.74	57	1449715	23.670	ng	87
97) Hexachloro-1,3-butadiene	28.19	225	557927	24.233	ng	99

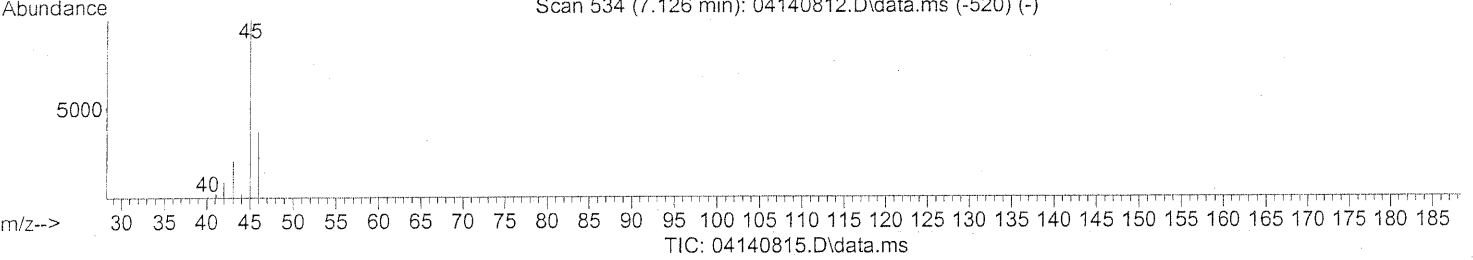
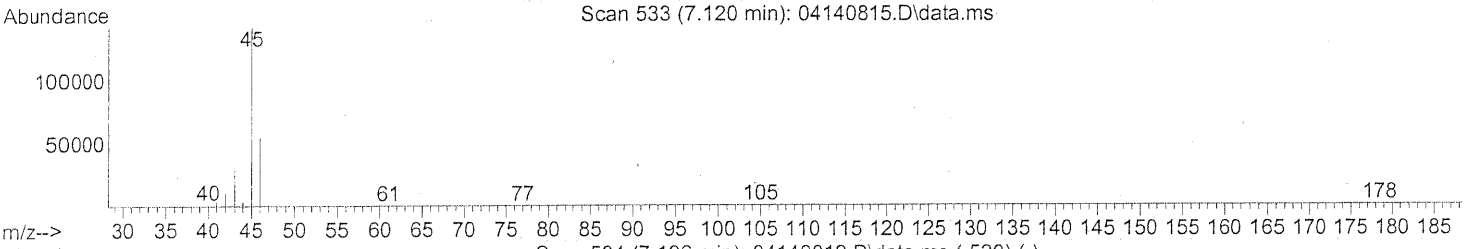
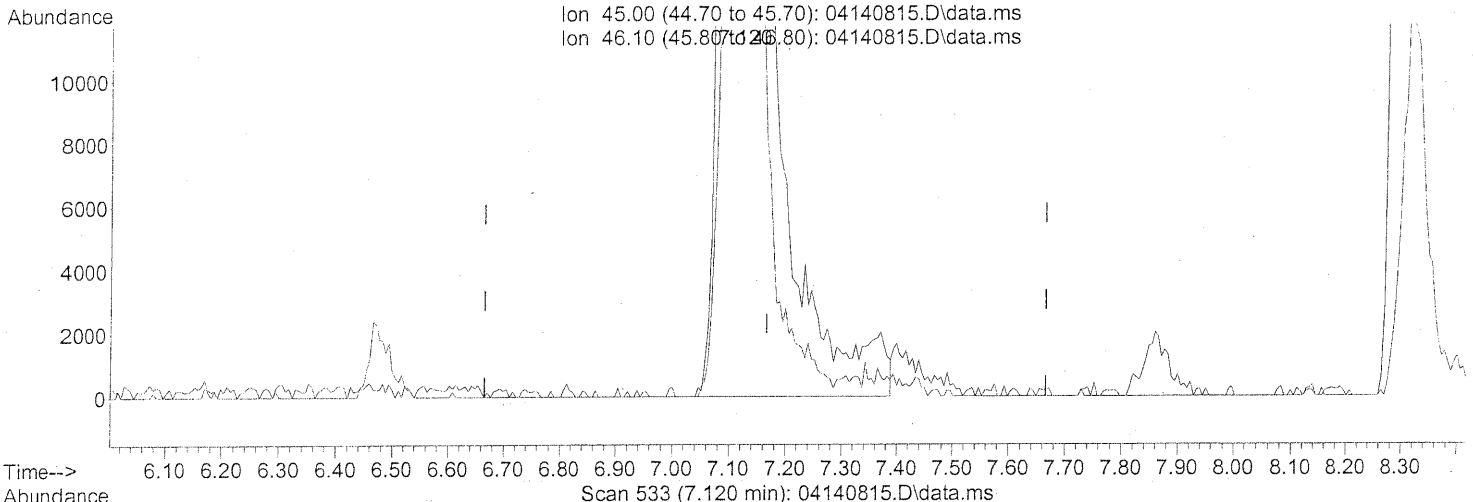
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (Qedit)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:47:48 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(10) Ethanol (T)  
 7.120min (-0.046) 22.34ng  
 response 507294

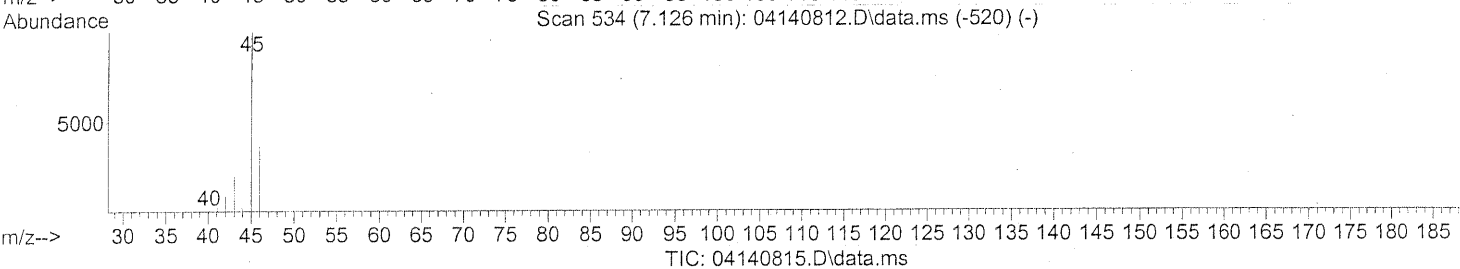
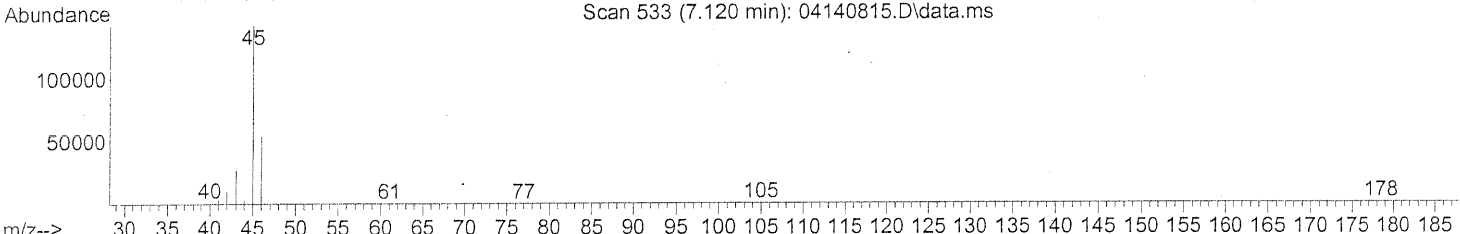
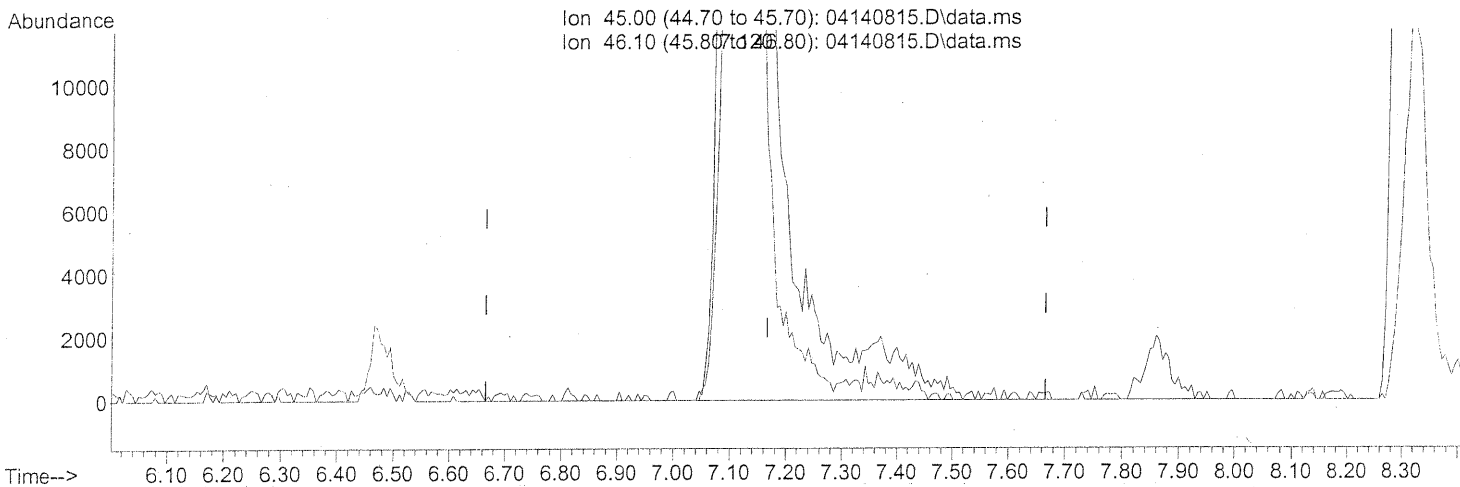
*tailing*

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	37.44
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Quant)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:47:48 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(10) Ethanol (T)

7.120min (-0.046) 22.64ng m

response 514214

Ion	Exp%	Act%
45.00	100	100
46.10	41.00	36.94
0.00	0.00	0.00
0.00	0.00	0.00

*incl. tailing*

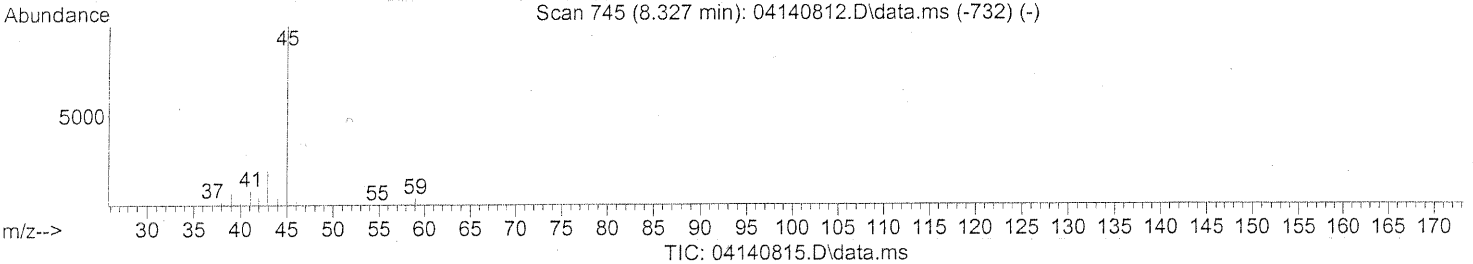
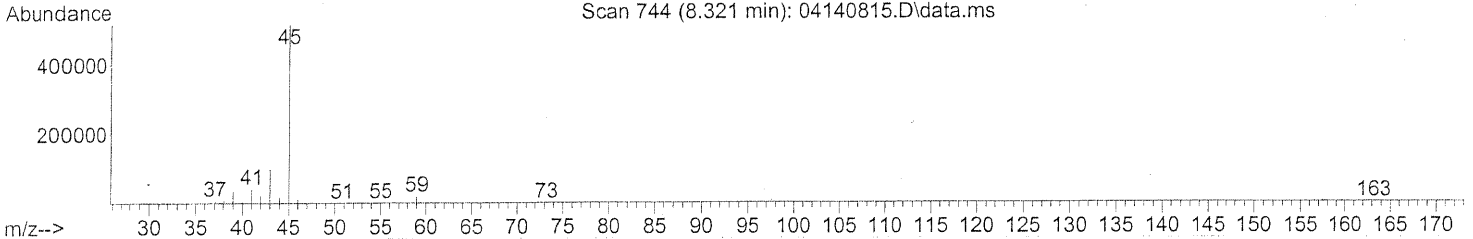
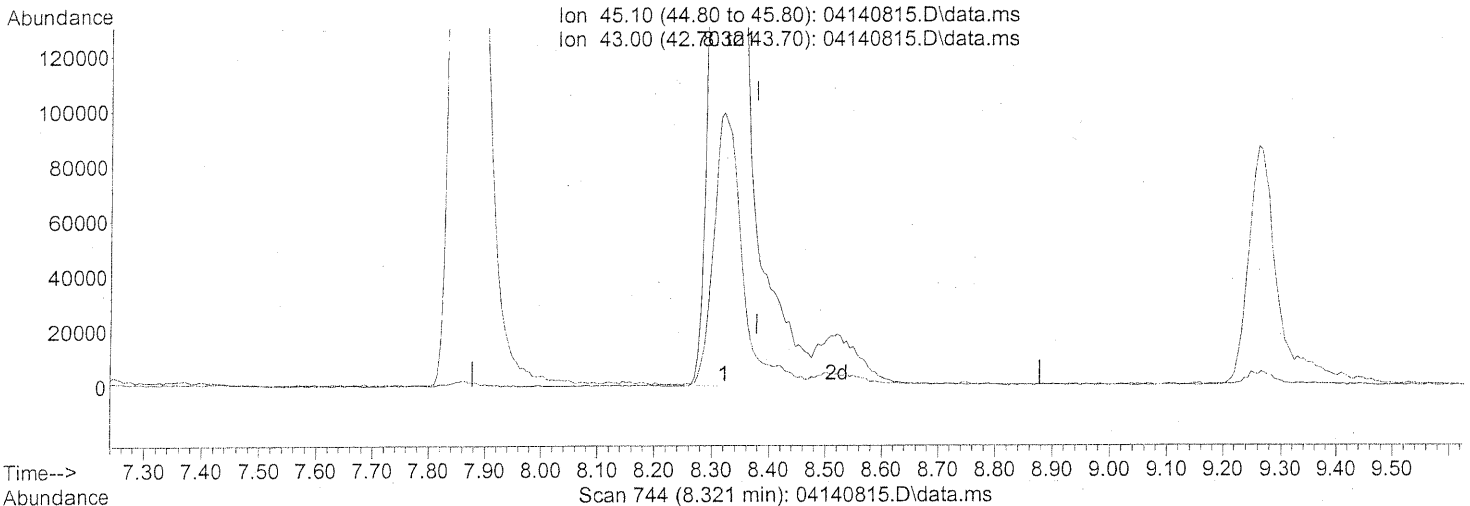
*WA 4/16/08*

*4/17/08*

Quantitation Report (Quant)

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:47:48 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



(15) Isopropanol (T)

8.321min (-0.057) 22.52ng

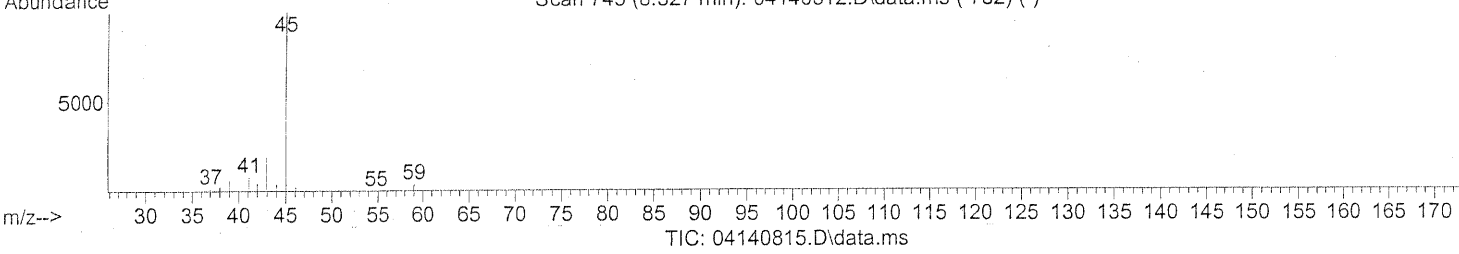
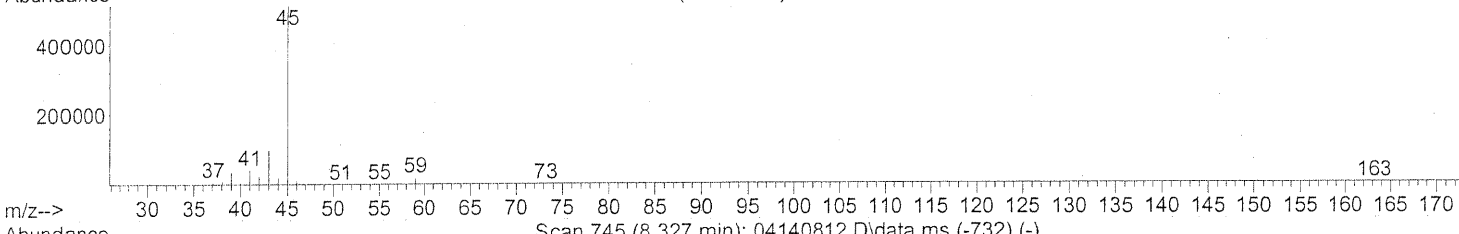
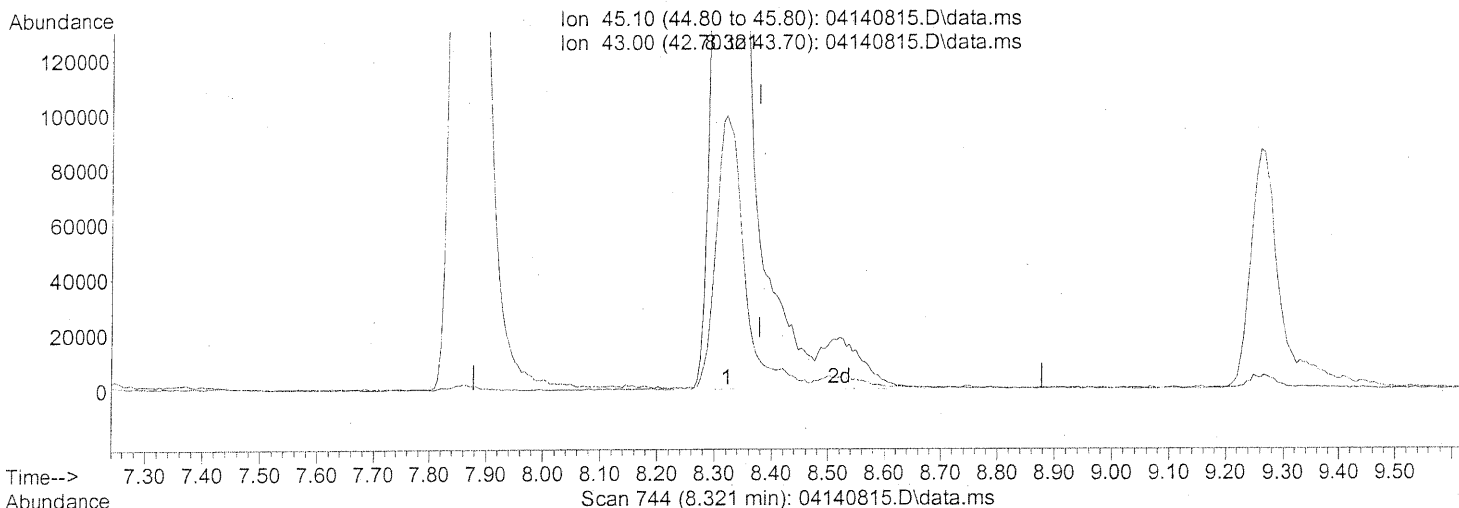
response 1697041

*split peaks*

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	20.01
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140815.D  
Acq On : 14 Apr 2008 23:45  
Operator : WA  
Sample : 25ng TO-15 ICV Standard  
Misc : S20-04140804/S20-04040804  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 06:47:48 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration



(15) Isopropanol (T)  
8.321min (-0.057) 23.82ng m  
response 1795159

Ion	Exp%	Act%
45.10	100	100
43.00	16.90	18.91
0.00	0.00	0.00
0.00	0.00	0.00

*int. whole peaks*

*WA 4/16/08*

*F 04/17/08*

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: 04140815.D  
 Data File Path: J:\MS13\DATA\2008\_04\14\  
 Operator: WA  
 Date Acquired: 4/14/08 23:45  
 Acq. Method File: TO15.M  
 Sample Name: 25ng TO-15 ICV Standard  
 Misc Info: S20-04140804/S20-04040804  
 Instrument Name: GCMS13

#	Name Compound	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
2)	Propene	4.79	24.40	26.3	92.8	70	130	*
3)	Dichlorodifluoromethane	4.95	22.67	25.5	88.9	70	130	*
4)	Chloromethane	5.27	22.68	24.5	92.6	70	130	*
5)	Freon 114	5.52	24.19	26.0	93.0	70	130	*
6)	Vinyl Chloride	5.71	23.08	24.8	93.1	70	130	*
7)	1,3-Butadiene	5.99	30.13	30.0	100.4	70	130	*
8)	Bromomethane	6.48	25.90	25.0	103.6	70	130	*
9)	Chloroethane	6.81	25.62	25.0	102.5	70	130	*
10)	Ethanol	7.12	22.64	23.8	95.1	70	130	*
11)	Acetonitrile	7.44	24.12	25.3	95.3	70	130	*
12)	Acrolein	7.64	24.55	24.8	99.0	70	130	*
13)	Acetone	7.86	25.74	26.8	96.0	70	130	*
14)	Trichlorofluoromethane	8.14	25.07	26.3	95.3	70	130	*
15)	Isopropanol	8.32	23.82	25.8	92.3	70	130	*
16)	Acrylonitrile	8.64	26.91	25.5	105.5	70	130	*
17)	1,1-Dichloroethene	9.16	26.70	27.8	96.1	70	130	*
18)	tert-Butanol	9.26	27.30	25.8	105.8	70	130	*
19)	Methylene Chloride	9.36	24.39	27.8	87.7	70	130	*
20)	Allyl Chloride	9.54	31.46	26.8	117.4	70	130	*
21)	Trichlorotrifluoroethane	9.80	25.40	27.8	91.4	70	130	*
22)	Carbon Disulfide	9.76	24.92	25.0	99.7	70	130	*
23)	trans-1,2-Dichloroethene	10.80	25.91	26.5	97.8	70	130	*
24)	1,1-Dichloroethane	11.10	25.83	26.8	96.4	70	130	*
25)	Methyl tert-Butyl Ether	11.19	25.62	26.8	95.6	70	130	*
26)	Vinyl Acetate	11.35	29.96	25.3	118.4	70	130	*
27)	2-Butanone	11.68	27.93	27.0	103.4	70	130	*
28)	cis-1,2-Dichloroethene	12.36	25.85	27.0	95.7	70	130	*
29)	Diisopropyl Ether	12.69	23.70	26.3	90.1	70	130	*
30)	Ethyl Acetate	12.69	28.00	29.3	95.6	70	130	*
31)	n-Hexane	12.70	24.38	27.0	90.3	70	130	*
32)	Chloroform	12.80	29.33	29.8	98.4	70	130	*
34)	Tetrahydrofuran	13.35	26.56	26.8	99.1	70	130	*
35)	Ethyl tert-Butyl Ether	13.48	25.23	26.0	97.0	70	130	*
36)	1,2-Dichloroethane	13.89	24.96	26.3	94.9	70	130	*
38)	1,1,1-Trichloroethane	14.29	25.42	26.8	94.9	70	130	*
39)	Isopropyl Acetate	14.83	25.87	25.5	101.5	70	130	*

WA 4/16/08

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: 04140815.D  
 Data File Path: J:\MS13\DATA\2008\_04\14\  
 Operator: WA  
 Date Acquired: 4/14/08 23:45  
 Acq. Method File: TO15.M  
 Sample Name: 25ng TO-15 ICV Standard  
 Misc Info: S20-04140804/S20-04040804  
 Instrument Name: GCMS13

#	Name Compound	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
40)	1-Butanol	14.85	25.05	24.8	101.0	70	130	*
41)	Benzene	14.99	24.72	27.0	91.6	70	130	*
42)	Carbon Tetrachloride	15.22	25.99	26.0	99.9	70	130	*
43)	Cyclohexane	15.41	25.59	26.8	95.5	70	130	*
44)	tert-Amyl Methyl Ether	15.87	25.75	26.0	99.0	70	130	*
45)	1,2-Dichloropropane	16.20	24.80	26.5	93.6	70	130	*
46)	Bromodichloromethane	16.46	27.14	27.8	97.6	70	130	*
47)	Trichloroethene	16.54	25.20	27.3	92.3	70	130	*
48)	1,4-Dioxane	16.49	27.93	27.5	101.6	70	130	*
49)	Isooctane	16.62	24.93	26.3	94.8	70	130	*
50)	Methyl Methacrylate	16.80	25.95	25.8	100.6	70	130	*
51)	n-Heptane	16.98	24.24	26.8	90.5	70	130	*
52)	cis-1,3-Dichloropropene	17.73	26.16	25.0	104.7	70	130	*
53)	4-Methyl-2-pentanone	17.77	25.46	27.5	92.6	70	130	*
54)	trans-1,3-Dichloropropene	18.43	30.23	28.0	108.0	70	130	*
55)	1,1,2-Trichloroethane	18.67	24.56	26.3	93.4	70	130	*
58)	Toluene	19.07	24.74	26.5	93.3	70	130	*
59)	2-Hexanone	19.37	25.37	26.3	96.5	70	130	*
60)	Dibromochloromethane	19.61	27.20	27.0	100.8	70	130	*
61)	1,2-Dibromoethane	19.94	27.00	26.3	102.7	70	130	*
62)	Butyl Acetate	20.19	28.01	26.3	106.5	70	130	*
63)	n-Octane	20.35	25.18	26.0	96.8	70	130	*
64)	Tetrachloroethene	20.55	24.00	26.0	92.3	70	130	*
65)	Chlorobenzene	21.42	24.37	26.5	91.9	70	130	*
66)	Ethylbenzene	21.89	25.30	26.3	96.2	70	130	*
67)	m- & p-Xylene	22.13	59.91	62.5	95.9	70	130	*
68)	Bromoform	22.21	33.79	31.3	108.0	70	130	*
69)	Styrene	22.57	25.05	26.3	95.3	70	130	*
70)	o-Xylene	22.72	28.25	29.8	94.8	70	130	*
71)	n-Nonane	22.98	24.43	26.0	94.0	70	130	*
72)	1,1,2,2-Tetrachloroethane	22.69	29.03	29.8	97.4	70	130	*
74)	Cumene	23.47	26.32	27.0	97.5	70	130	*
75)	alpha-Pinene	23.97	25.04	26.3	95.2	70	130	*
76)	n-Propylbenzene	24.10	25.93	26.3	98.6	70	130	*
77)	3-Ethyltoluene	24.23	24.36	25.5	95.5	70	130	*

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: 04140815.D  
 Data File Path: J:\MS13\DATA\2008\_04\14\  
 Operator: WA  
 Date Acquired: 4/14/08 23:45  
 Acq. Method File: TO15.M  
 Sample Name: 25ng TO-15 ICV Standard  
 Misc Info: S20-04140804/S20-04040804  
 Instrument Name: GCMS13

#	Name Compound	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
78)	4-Ethyltoluene	24.28	25.73	26.5	97.1	70	130	*
79)	1,3,5-Trimethylbenzene	24.38	24.85	26.0	95.6	70	130	*
80)	alpha-Methylstyrene	24.56	23.55	25.5	92.4	70	130	*
81)	2-Ethyltoluene	24.61	23.67	24.8	95.4	70	130	*
82)	1,2,4-Trimethylbenzene	24.88	25.51	26.0	98.1	70	130	*
83)	n-Decane	24.99	25.02	26.3	95.1	70	130	*
84)	Benzyl Chloride	25.05	28.17	25.8	109.2	70	130	*
85)	1,3-Dichlorobenzene	25.08	23.42	25.5	91.8	70	130	*
86)	1,4-Dichlorobenzene	25.16	24.12	26.3	91.7	70	130	*
87)	sec-Butylbenzene	25.21	25.53	26.8	95.3	70	130	*
88)	p-Isopropyltoluene	25.40	29.52	28.8	102.5	70	130	*
89)	1,2,3-Trimethylbenzene	25.41	27.41	28.5	96.2	70	130	*
90)	1,2-Dichlorobenzene	25.58	23.26	25.8	90.2	70	130	*
91)	d-Limonene	25.58	23.46	26.0	90.2	70	130	*
92)	1,2-Dibromo-3-Chloropropane	26.11	26.26	25.8	101.8	70	130	*
93)	n-Undecane	26.50	25.02	26.5	94.4	70	130	*
94)	1,2,4-Trichlorobenzene	27.63	24.47	26.0	94.1	70	130	*
95)	Naphthalene	27.77	25.66	26.3	97.6	70	130	*
96)	n-Dodecane	27.74	23.67	26.5	89.3	70	130	*
97)	Hexachloro-1,3-butadiene	28.19	24.23	26.3	92.1	70	130	*

Bold = 67 Compound List

Method Path : J:\MS13\METHODS\  
Method File : S13041408.M  
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
Last Update : Mon Apr 28 10:04:59 2008  
Response Via : Initial Calibration

Calibration Files

0.1 =04140808.D 0.5 =04140809.D 1.0 =04140810.D 5.0 =04140811.D  
25 =04140812.D 50 =04140813.D 100 =04140814.D

Compound	0.1	0.5	1.0	5.0	25	50	100	Avg	%RSD
1) IR Bromochloromethane (I									
2) S 1,2-Dichloroethane-	2.025	2.037	2.045	1.980	2.032	1.968	1.947	2.005	1.95
3) IR 1,4-Difluorobenzene (									
4) I Chlorobenzene-d5 (IS3									
5) S Toluene-d8 (SS2)	2.272	2.277	2.272	2.254	2.226	2.195	2.190	2.241	1.65
6) S Bromofluorobenzene	0.769	0.759	0.763	0.787	0.780	0.766	0.774	0.771	1.27
7) tert-Butylbenzene	2.158	2.296	2.193	2.209	2.823	3.456	4.028	2.738	27.07
8) n-Butylbenzene	2.766	2.728	2.727	2.744	3.060	3.226	3.424	2.954	9.65

(#) = Out of Range

244

RM 4/28/08



Method Path : J:\MS13\METHODS\  
 Method File : S13041408.M  
 Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 Last Update : Mon Apr 28 10:06:00 2008  
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	25	J:\MS13\DATA\2008_04\14\04140808.D
2	0.5	1	25	J:\MS13\DATA\2008_04\14\04140809.D
3	1.0	1	25	J:\MS13\DATA\2008_04\14\04140810.D
4	5.0	5	25	J:\MS13\DATA\2008_04\14\04140811.D
5	25	26	25	J:\MS13\DATA\2008_04\14\04140812.D
6	50	52	25	J:\MS13\DATA\2008_04\14\04140813.D
7	100	104	25	J:\MS13\DATA\2008_04\14\04140814.D

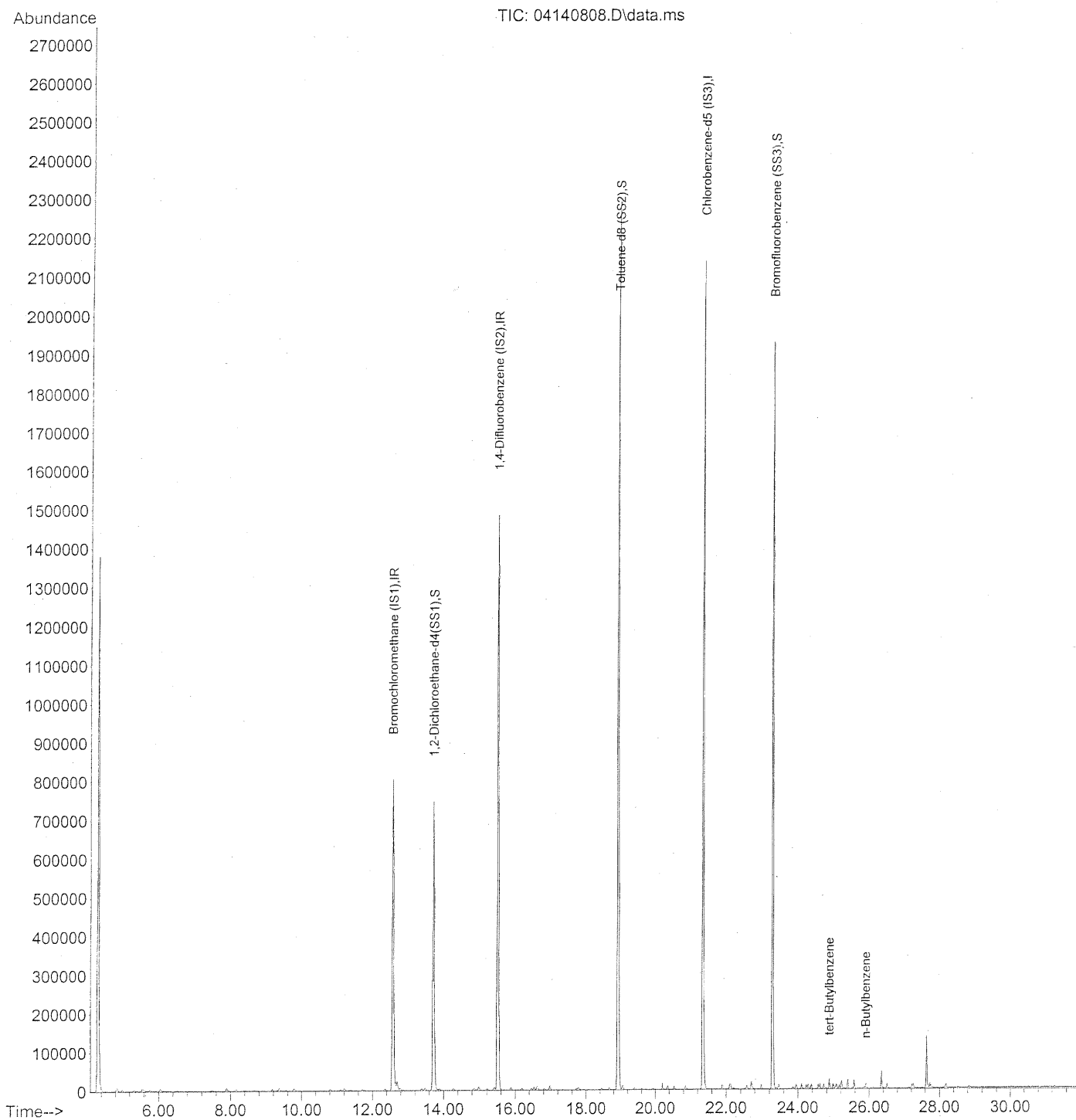
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1	0.1	Apr 28 10:03 2008	Apr 28 09:59 2008	14 Apr 2008 18:59
2	0.5	Apr 28 10:03 2008	Apr 28 09:59 2008	14 Apr 2008 19:40
3	1.0	Apr 28 10:03 2008	Apr 28 10:00 2008	14 Apr 2008 20:21
4	5.0	Apr 28 10:04 2008	Apr 28 10:00 2008	14 Apr 2008 21:01
5	25	Apr 28 10:04 2008	Apr 28 10:00 2008	14 Apr 2008 21:43
6	50	Apr 28 10:04 2008	Apr 28 10:02 2008	14 Apr 2008 22:24
7	100	Apr 28 10:04 2008	Apr 28 10:02 2008	14 Apr 2008 23:04

S13041408.M Thu May 08 16:19:56 2008

~~24~~ 5/8/08

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140808.D  
Acq On : 14 Apr 2008 18:59  
Operator : WA  
Sample : 0.1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04030801  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 09:59:02 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140808.D  
 Acq On : 14 Apr 2008 18:59  
 Operator : WA  
 Sample : 0.1ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04030801  
 ALS Vial : 5 Sample Multiplier: 1

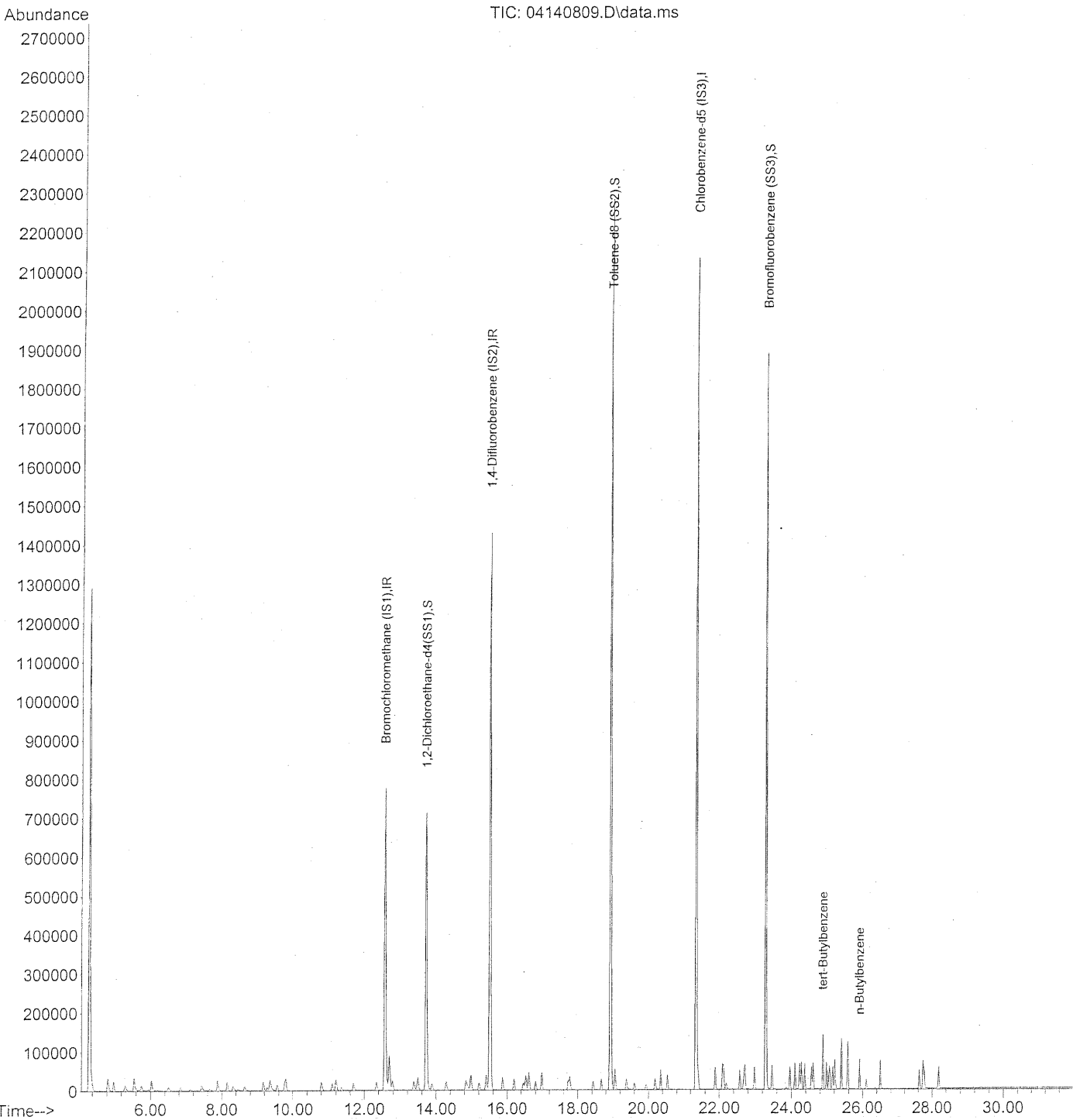
Quant Time: Apr 28 09:59:02 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Thu Apr 24 11:49:59 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	330672	25.000	ng	-0.04
3) 1,4-Difluorobenzene (IS2)	15.51	114	1516799	25.000	ng	-0.03
4) Chlorobenzene-d5 (IS3)	21.35	82	758152	25.000	ng	-0.01
System Monitoring Compounds						
2) 1,2-Dichloroethane-d4(...)	13.72	65	669686	31.921	ng	-0.03
Spiked Amount	25.000		Recovery	=	127.68%	
5) Toluene-d8 (SS2)	18.93	98	1722189	29.398	ng	-0.02
Spiked Amount	25.000		Recovery	=	117.60%	
6) Bromofluorobenzene (SS3)	23.29	174	583069	20.588	ng	-0.01
Spiked Amount	25.000		Recovery	=	82.36%	
Target Compounds						
7) tert-Butylbenzene	24.88	119	6805	0.087	ng	99
8) n-Butylbenzene	25.91	91	8975	0.107	ng	# 89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140809.D  
Acq On : 14 Apr 2008 19:40  
Operator : WA  
Sample : 0.5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 28 09:59:45 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140809.D  
Acq On : 14 Apr 2008 19:40  
Operator : WA  
Sample : 0.5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

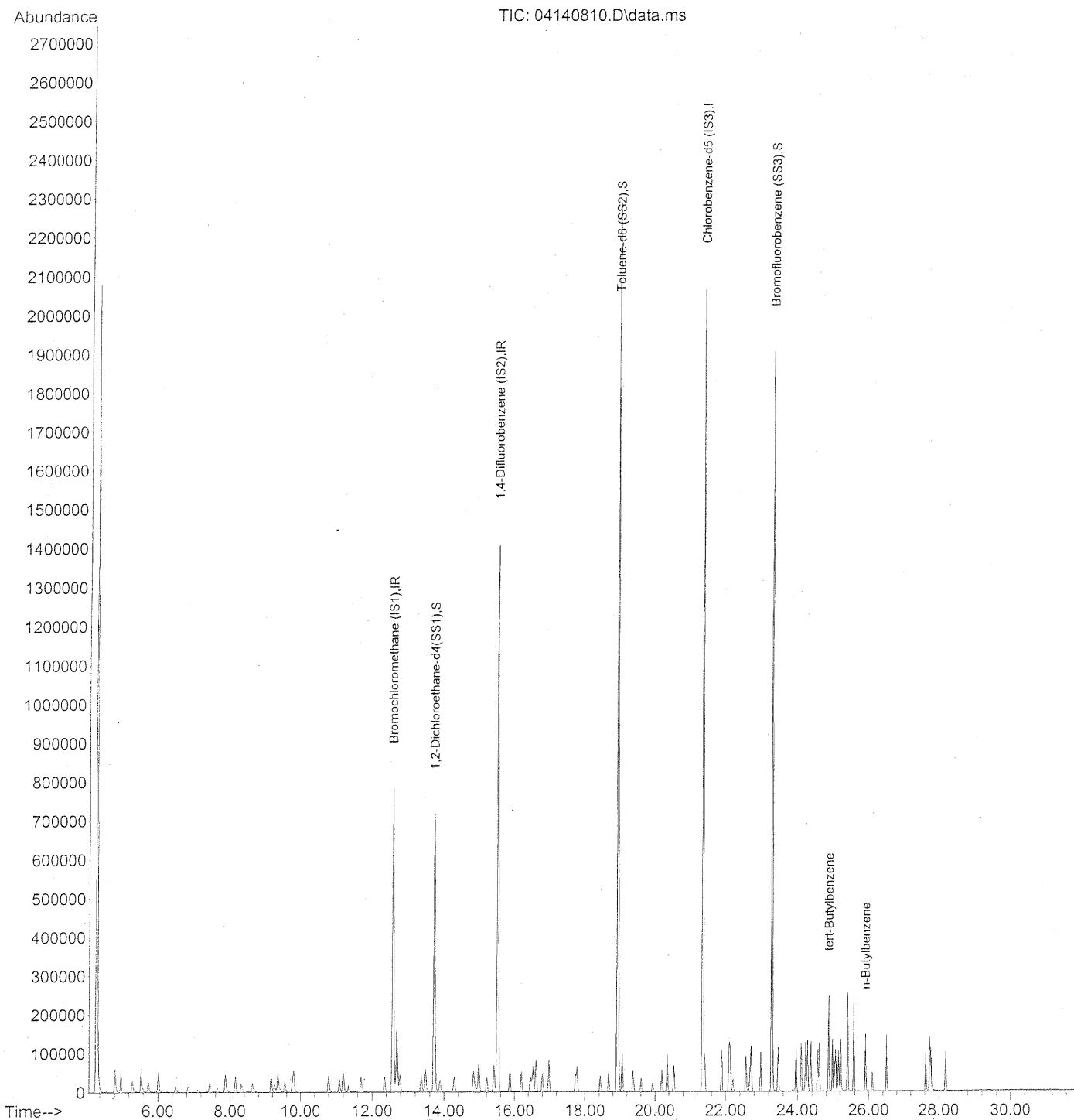
Quant Time: Apr 28 09:59:45 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.58	130	321232	25.000	ng	-0.04
3) 1,4-Difluorobenzene (IS2)	15.51	114	1468142	25.000	ng	-0.02
4) Chlorobenzene-d5 (IS3)	21.35	82	744311	25.000	ng	-0.01
System Monitoring Compounds						
2) 1,2-Dichloroethane-d4(...)	13.73	65	654334	32.106	ng	-0.03
Spiked Amount	25.000		Recovery	=	128.44%	
5) Toluene-d8 (SS2)	18.93	98	1694424	29.462	ng	-0.02
Spiked Amount	25.000		Recovery	=	117.84%	
6) Bromofluorobenzene (SS3)	23.29	174	565263	20.330	ng	-0.01
Spiked Amount	25.000		Recovery	=	81.32%	
Target Compounds						
7) tert-Butylbenzene	24.88	119	35550	0.461	ng	98
8) n-Butylbenzene	25.91	91	43452	0.527	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140810.D  
Acq On : 14 Apr 2008 20:21  
Operator : WA  
Sample : 1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 28 10:00:01 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140810.D  
Acq On : 14 Apr 2008 20:21  
Operator : WA  
Sample : 1ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

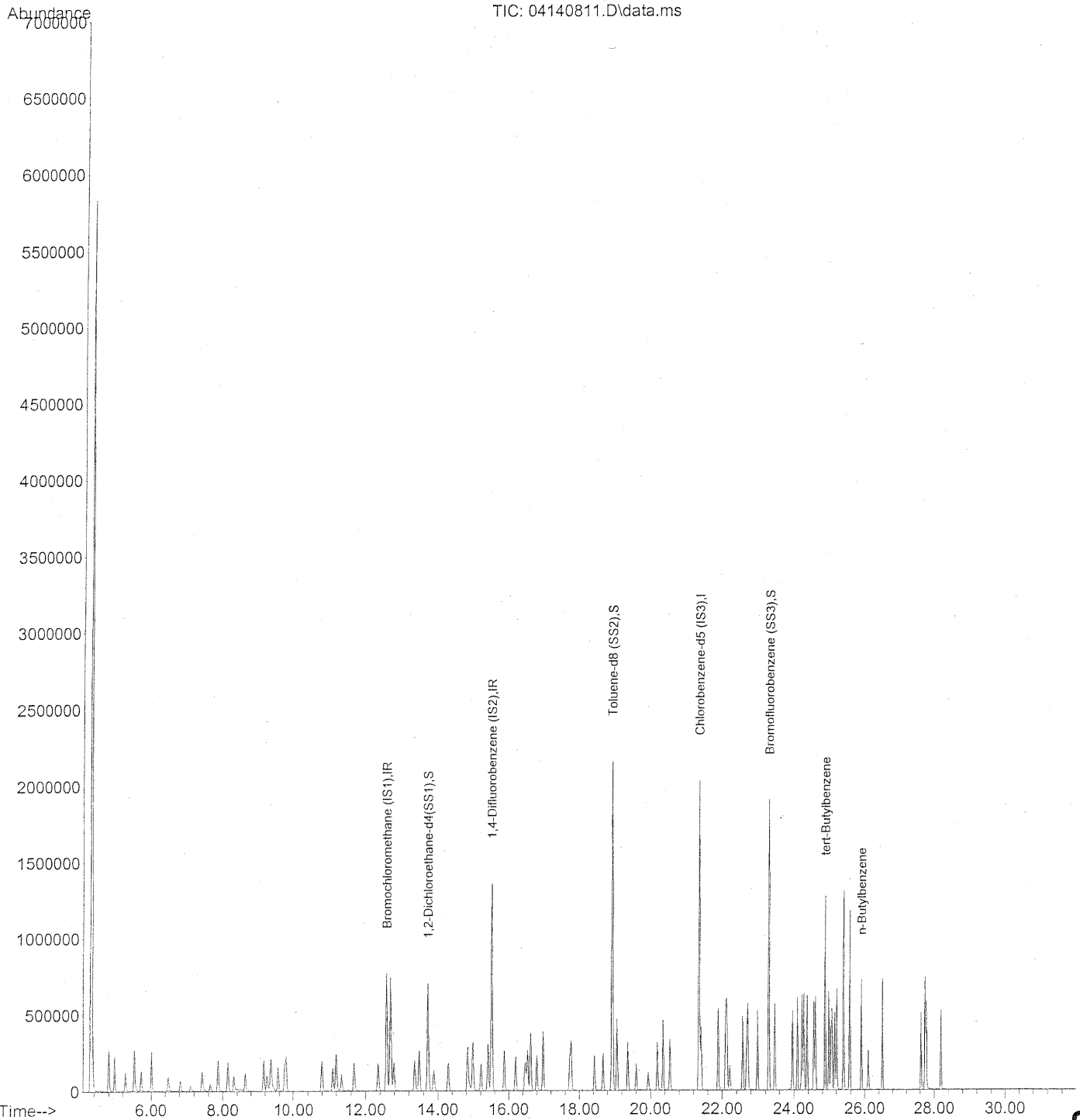
Quant Time: Apr 28 10:00:01 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.58	130	314461	25.000	ng	-0.04	
3) 1,4-Difluorobenzene (IS2)	15.51	114	1454647	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	735083	25.000	ng	-0.01	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.72	65	643137	32.236	ng	-0.03	
Spiked Amount	25.000						Recovery = 128.96%
5) Toluene-d8 (SS2)	18.93	98	1669857	29.400	ng	-0.02	
Spiked Amount	25.000						Recovery = 117.60%
6) Bromofluorobenzene (SS3)	23.29	174	560818	20.424	ng	-0.01	
Spiked Amount	25.000						Recovery = 81.68%
Target Compounds							Qvalue
7) tert-Butylbenzene	24.88	119	67068	0.880	ng		98
8) n-Butylbenzene	25.91	91	85803	1.054	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140811.D  
Acq On : 14 Apr 2008 21:01  
Operator : WA  
Sample : 5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 28 10:00:13 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration





Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140811.D  
Acq On : 14 Apr 2008 21:01  
Operator : WA  
Sample : 5ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-03210809  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 28 10:00:13 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration

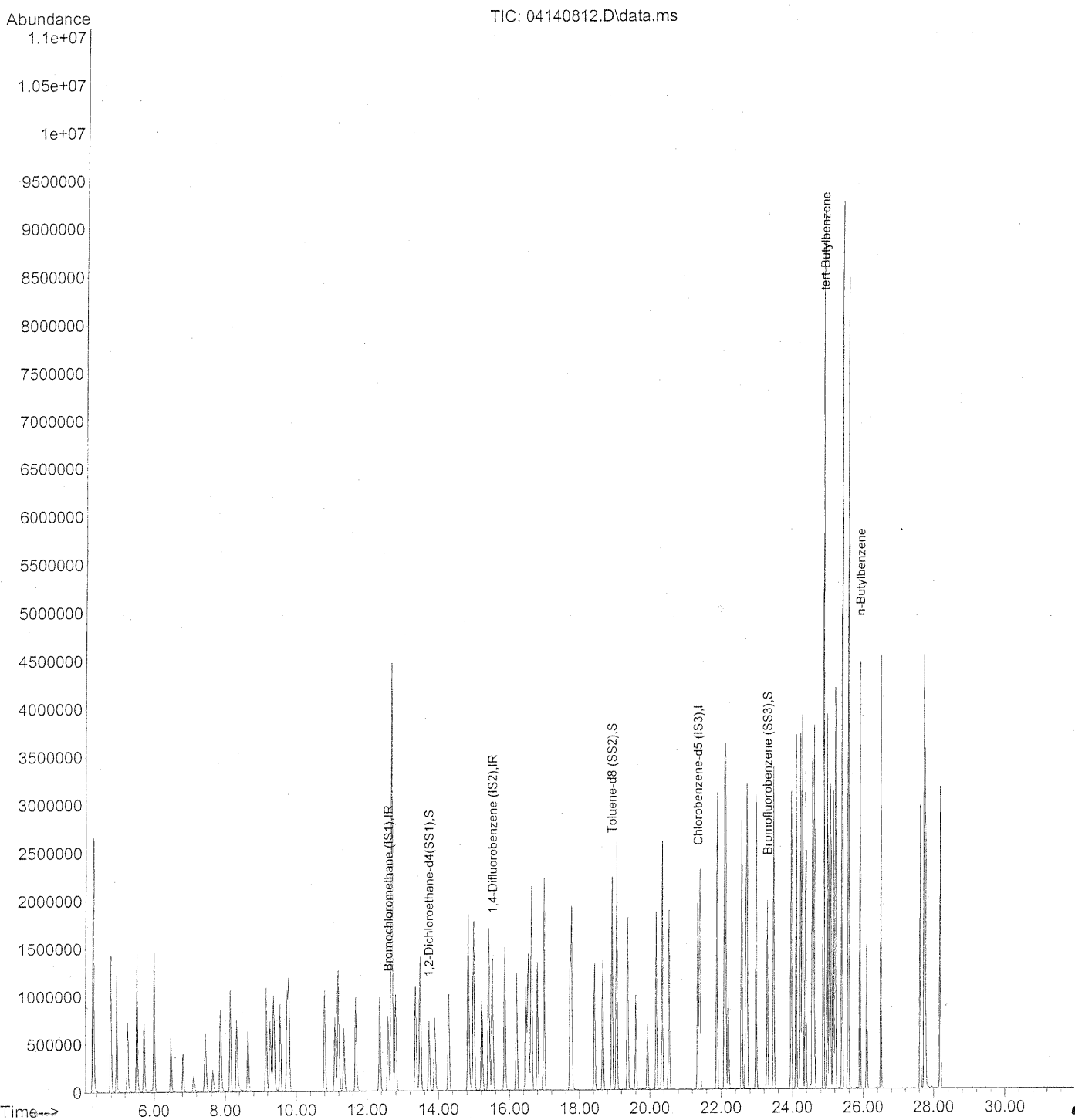
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.58	130	313584	25.000	ng	-0.03	
3) 1,4-Difluorobenzene (IS2)	15.51	114	1406515	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	715799	25.000	ng	-0.01	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.73	65	620740	31.200	ng	-0.03	
Spiked Amount	25.000			Recovery	=	124.80%	
5) Toluene-d8 (SS2)	18.93	98	1613556	29.174	ng	-0.02	
Spiked Amount	25.000			Recovery	=	116.68%	
6) Bromofluorobenzene (SS3)	23.29	174	563169	21.062	ng	-0.01	
Spiked Amount	25.000			Recovery	=	84.24%	
Target Compounds							Qvalue
7) tert-Butylbenzene	24.88	119	328918	4.434	ng		99
8) n-Butylbenzene	25.91	91	420404	5.303	ng	#	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

WA 4/28/08

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140812.D  
Acq On : 14 Apr 2008 21:43  
Operator : WA  
Sample : 25ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 10:00:26 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140812.D  
 Acq On : 14 Apr 2008 21:43  
 Operator : WA  
 Sample : 25ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

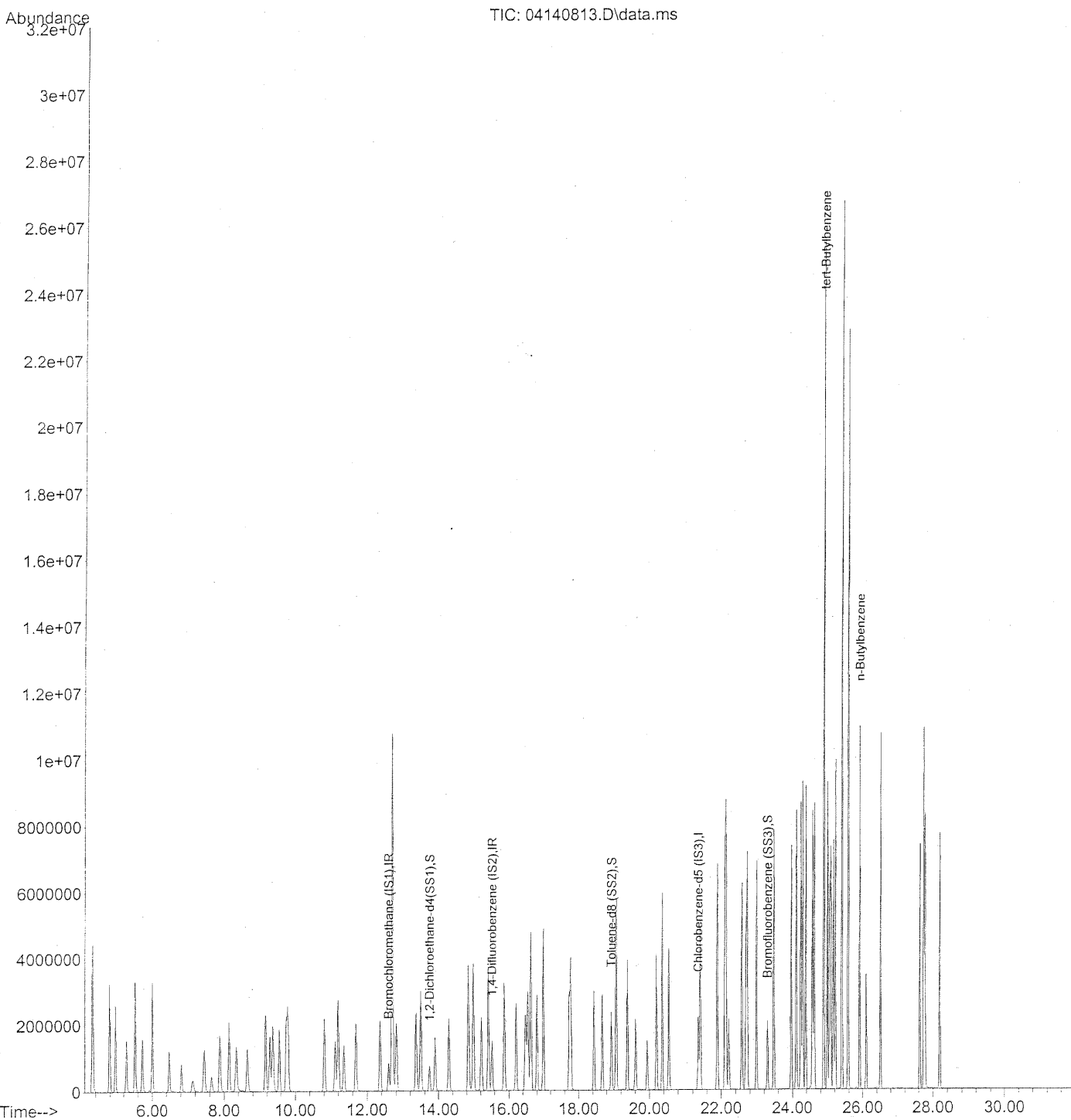
Quant Time: Apr 28 10:00:26 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Thu Apr 24 11:49:59 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.60	130	332070	25.000	ng	-0.02	
3) 1,4-Difluorobenzene (IS2)	15.52	114	1467032	25.000	ng	-0.02	
4) Chlorobenzene-d5 (IS3)	21.35	82	762152	25.000	ng	-0.01	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4 (...)	13.73	65	674919	32.035	ng	-0.02	
Spiked Amount	25.000						Recovery = 128.16%
5) Toluene-d8 (SS2)	18.93	98	1696875	28.814	ng	-0.02	
Spiked Amount	25.000						Recovery = 115.24%
6) Bromofluorobenzene (SS3)	23.29	174	594489	20.881	ng	-0.01	
Spiked Amount	25.000						Recovery = 83.52%
Target Compounds							
7) tert-Butylbenzene	24.88	119	2237377	28.326	ng		Qvalue 99
8) n-Butylbenzene	25.91	91	2499993	29.618	ng		# 93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 10:02:07 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Thu Apr 24 11:49:59 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140813.D  
 Acq On : 14 Apr 2008 22:24  
 Operator : WA  
 Sample : 50ng TO-15 ICAL Standard  
 Misc : S20-04140804/S20-04020808  
 ALS Vial : 4 Sample Multiplier: 1

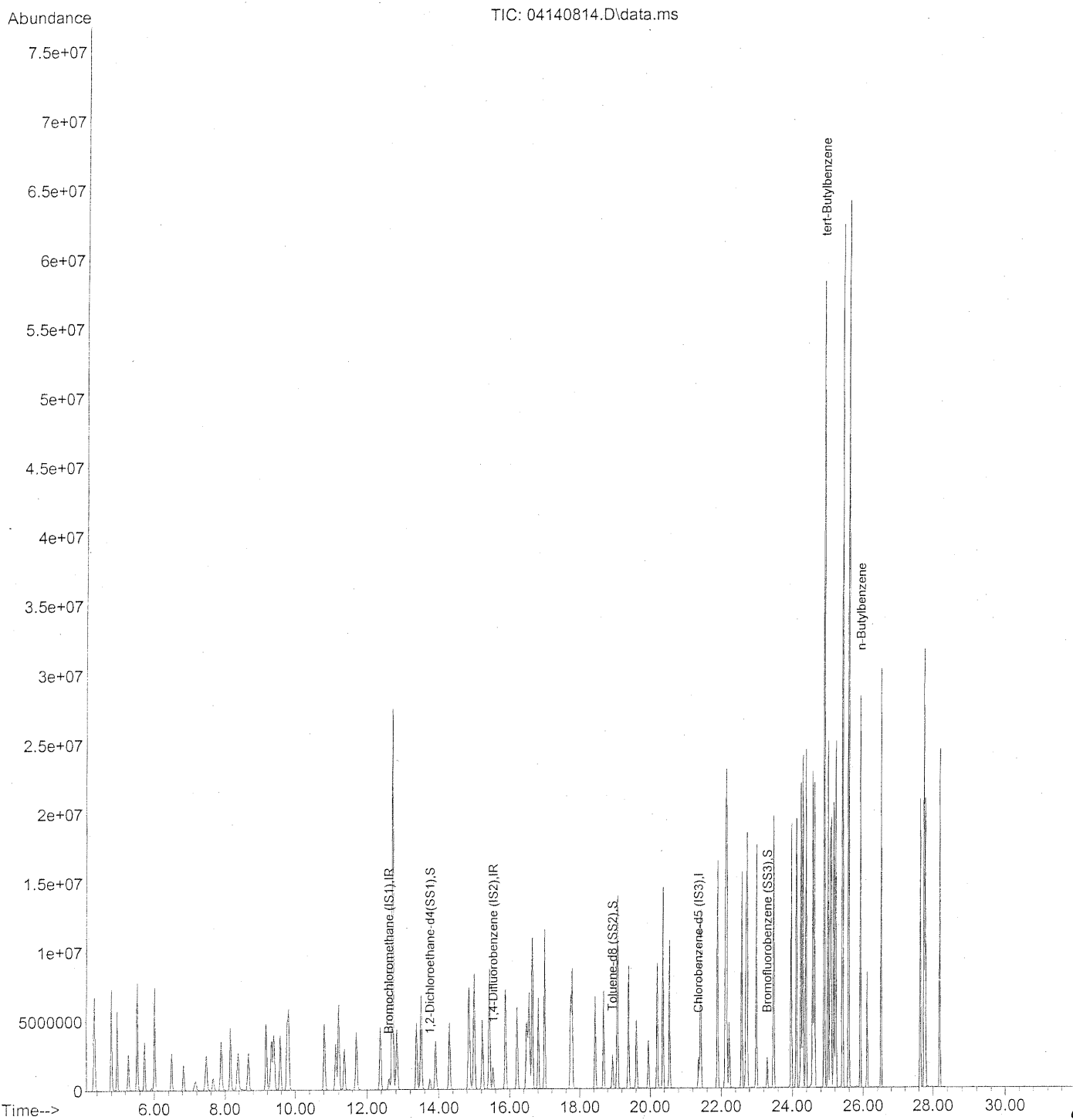
Quant Time: Apr 28 10:02:07 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Thu Apr 24 11:49:59 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.60	130	359135	25.000	ng	-0.02	
3) 1,4-Difluorobenzene (IS2)	15.53	114	1580077	25.000	ng	-0.01	
4) Chlorobenzene-d5 (IS3)	21.36	82	818772	25.000	ng	0.00	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.74	65	706628	31.013	ng	-0.01	
Spiked Amount	25.000						Recovery = 124.04%
5) Toluene-d8 (SS2)	18.93	98	1797014	28.405	ng	-0.01	
Spiked Amount	25.000						Recovery = 113.60%
6) Bromofluorobenzene (SS3)	23.30	174	626773	20.493	ng	0.00	
Spiked Amount	25.000						Recovery = 81.96%
Target Compounds							
7) tert-Butylbenzene	24.89	119	5885640	69.362	ng		Qvalue 99
8) n-Butylbenzene	25.91	91	5651986	62.329	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140814.D  
Acq On : 14 Apr 2008 23:04  
Operator : WA  
Sample : 100ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 10:02:19 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140814.D  
Acq On : 14 Apr 2008 23:04  
Operator : WA  
Sample : 100ng TO-15 ICAL Standard  
Misc : S20-04140804/S20-04020808  
ALS Vial : 4 Sample Multiplier: 1

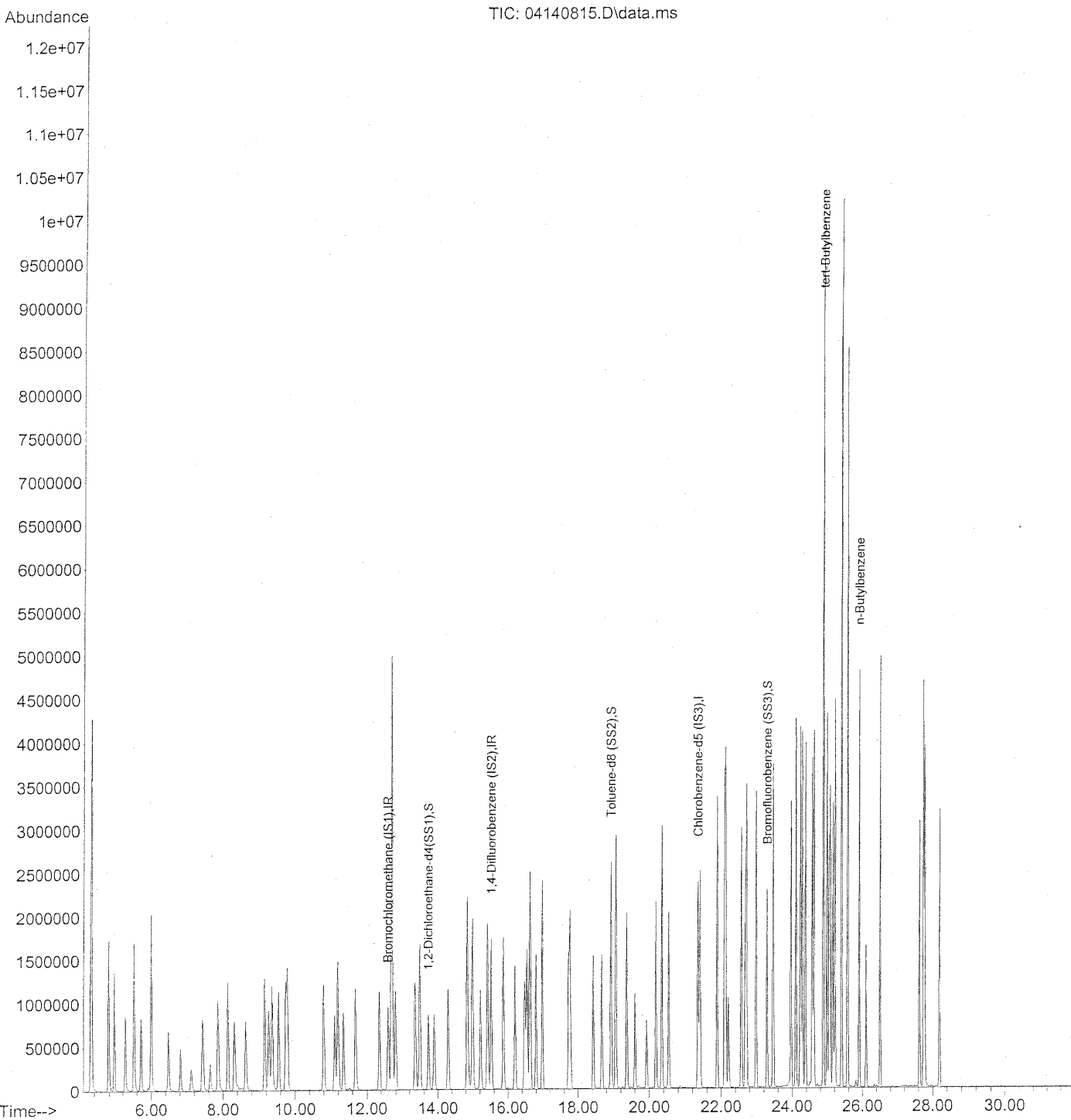
Quant Time: Apr 28 10:02:19 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Thu Apr 24 11:49:59 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	12.61	130	379040	25.000	ng	-0.01
3) 1,4-Difluorobenzene (IS2)	15.53	114	1673737	25.000	ng	0.00
4) Chlorobenzene-d5 (IS3)	21.36	82	871036	25.000	ng	0.00
System Monitoring Compounds						
2) 1,2-Dichloroethane-d4(...)	13.75	65	738132	30.694	ng	0.00
Spiked Amount	25.000			Recovery	=	122.76%
5) Toluene-d8 (SS2)	18.93	98	1908001	28.349	ng	-0.01
Spiked Amount	25.000			Recovery	=	113.40%
6) Bromofluorobenzene (SS3)	23.30	174	674346	20.725	ng	0.00
Spiked Amount	25.000			Recovery	=	82.92%
Target Compounds						
7) tert-Butylbenzene	24.89	119	14594545	161.676	ng	# 90
8) n-Butylbenzene	25.92	91	12764675	132.321	ng	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\MS13\DATA\2008\_04\14\  
Data File : 04140815.D  
Acq On : 14 Apr 2008 23:45  
Operator : WA  
Sample : 25ng TO-15 ICV Standard  
Misc : S20-04140804/S20-04040804  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 28 10:08:37 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Mon Apr 28 10:06:00 2008  
Response via : Initial Calibration





Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140815.D  
 Acq On : 14 Apr 2008 23:45  
 Operator : WA  
 Sample : 25ng TO-15 ICV Standard  
 Misc : S20-04140804/S20-04040804  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 28 10:08:37 2008  
 Quant Method : J:\MS13\METHODS\S13041408.M  
 Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
 QLast Update : Mon Apr 28 10:06:00 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.59	130	402323	25.000	ng	-0.02	
3) 1,4-Difluorobenzene (IS2)	15.52	114	1799195	25.000	ng	-0.01	
4) Chlorobenzene-d5 (IS3)	21.36	82	899268	25.000	ng	0.00	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.73	65	796514	24.687	ng	-0.02	
Spiked Amount	25.000						Recovery = 98.76%
5) Toluene-d8 (SS2)	18.93	98	2007332	24.904	ng	0.00	
Spiked Amount	25.000						Recovery = 99.60%
6) Bromofluorobenzene (SS3)	23.29	174	678298	24.454	ng	0.00	
Spiked Amount	25.000						Recovery = 97.80%
Target Compounds							
7) tert-Butylbenzene	24.88	119	2453272	24.914	ng		Qvalue 99
8) n-Butylbenzene	25.91	91	2723795	25.637	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: 04140815.D  
Data File Path: J:\MS13\DATA\2008\_04\14\  
Operator: WA  
Date Acquired: 4/14/08 23:45  
Acq. Method File: TO15.M  
Sample Name: 25ng TO-15 ICV Standard  
Misc Info: S20-04140804/S20-04040804  
Instrument Name: GCMS13

#	Name <u>Compound</u>	Ret. <u>Time</u>	Amt. <u>(ng)</u>	Spike <u>Amt.(ng)</u>	% <u>Rec.</u>	Lower <u>Limit</u>	Upper <u>Limit</u>	* OR <u>Fail</u>
7)	tert-Butylbenzene	24.88	24.91	26.3	94.7	70	130	*
8)	n-Butylbenzene	25.91	25.64	26.8	95.7	70	130	*

CONTINUING CALIBRATION STANDARDS

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080801.D  
 Acq On : 8 May 2008 8:41 am  
 Operator : RTB  
 Sample : 25ng TO-15 CCV Standard  
 Misc : S20-04300802/S20-04250805  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR Bromochloromethane (IS1)	1.000	1.000	0.0	73	-0.02
2	T Propene	2.069	1.722	16.8	67	0.00
3	T Dichlorodifluoromethane	3.772	3.071	18.6	65	0.00
4	T Chloromethane	3.153	2.549	19.2	63	-0.01
5	T Freon 114	1.847	1.563	15.4	68	0.00
6	T Vinyl Chloride	2.934	2.322	20.9	63	0.00
7	T 1,3-Butadiene	2.269	1.935	14.7	64	-0.01
8	T Bromomethane	1.409	1.246	11.6	66	-0.01
9	T Chloroethane	1.216	1.090	10.4	68	0.00
10	T Ethanol	1.411	1.147	18.7	69	-0.05
11	T Acetonitrile	3.708	3.127	15.7	70	-0.04
12	T Acrolein	0.997	0.923	7.4	69	-0.02
13	T Acetone	1.384	1.214	12.3	69	-0.03
14	T Trichlorofluoromethane	2.964	2.643	10.8	68	0.00
15	T Isopropanol	4.683	4.232	9.6	67	-0.06
16	T Acrylonitrile	2.147	2.080	3.1	68	-0.04
17	T 1,1-Dichloroethene	1.381	1.238	10.4	69	0.00
18	T tert-Butanol	3.884	3.749	3.5	68	-0.05
19	T Methylene Chloride	1.590	1.338	15.8	69	-0.02
20	T Allyl Chloride	2.124	2.274	-7.1	70	-0.02
21	T Trichlorotrifluoroethane	1.267	1.136	10.3	71	0.00
22	T Carbon Disulfide	5.894	5.345	9.3	67	-0.01
23	T trans-1,2-Dichloroethene	2.406	2.120	11.9	66	-0.02
24	T 1,1-Dichloroethane	2.800	2.495	10.9	66	-0.02
25	T Methyl tert-Butyl Ether	4.599	4.015	12.7	68	-0.02
26	T Vinyl Acetate	0.275	0.298	-8.4	74	-0.01
27	T 2-Butanone	0.970	0.923	4.8	68	-0.02
28	T cis-1,2-Dichloroethene	2.268	1.968	13.2	65	-0.02
29	T Diisopropyl Ether	1.274	1.093	14.2	67	-0.02
30	T Ethyl Acetate	0.605	0.526	13.1	64	-0.02
31	T n-Hexane	3.144	2.559	18.6	64	-0.01
32	T Chloroform	2.334	2.041	12.6	67	-0.03
33	S 1,2-Dichloroethane-d4 (SS1)	2.005	1.830	8.7	66	-0.02
34	T Tetrahydrofuran	0.971	0.900	7.3	67	-0.02
35	T Ethyl tert-Butyl Ether	1.676	1.517	9.5	70	-0.02
36	T 1,2-Dichloroethane	2.312	2.003	13.4	65	-0.02
37	IR 1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	71	-0.01
38	T 1,1,1-Trichloroethane	0.521	0.486	6.7	67	-0.02

*Postpost*

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080801.D  
 Acq On : 8 May 2008 8:41 am  
 Operator : RTB  
 Sample : 25ng TO-15 CCV Standard  
 Misc : S20-04300802/S20-04250805  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
39 T	Isopropyl Acetate	0.227	0.217	4.4	67	-0.02
40 T	1-Butanol	0.341	0.324	5.0	69	-0.03
41 T	Benzene	1.326	1.188	10.4	66	-0.02
42 T	Carbon Tetrachloride	0.439	0.445	-1.4	70	-0.01
43 T	Cyclohexane	0.491	0.457	6.9	69	-0.02
44 T	tert-Amyl Methyl Ether	0.944	0.883	6.5	67	-0.02
45 T	1,2-Dichloropropane	0.380	0.339	10.8	67	-0.02
46 T	Bromodichloromethane	0.451	0.420	6.9	67	-0.02
47 T	Trichloroethene	0.326	0.307	5.8	70	-0.02
48 T	1,4-Dioxane	0.235	0.231	1.7	70	-0.02
49 T	Isooctane	1.570	1.441	8.2	67	-0.02
50 T	Methyl Methacrylate	0.120	0.121	-0.8	71	-0.01
51 T	n-Heptane	0.367	0.328	10.6	66	-0.01
52 T	cis-1,3-Dichloropropene	0.517	0.514	0.6	68	-0.01
53 T	4-Methyl-2-pentanone	0.363	0.347	4.4	66	-0.02
54 T	trans-1,3-Dichloropropene	0.446	0.459	-2.9	68	-0.01
55 T	1,1,2-Trichloroethane	0.319	0.293	8.2	70	-0.01
56 I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	66	0.00
57 S	Toluene-d8 (SS2)	2.241	2.288	-2.1	68	0.00
58 T	Toluene	2.815	2.724	3.2	67	-0.01
59 T	2-Hexanone	2.097	2.169	-3.4	64	-0.02
60 T	Dibromochloromethane	0.679	0.722	-6.3	69	-0.01
61 T	1,2-Dibromoethane	0.662	0.714	-7.9	70	-0.01
62 T	Butyl Acetate	2.097	2.254	-7.5	66	-0.01
63 T	n-Octane	0.660	0.649	1.7	66	-0.01
64 T	Tetrachloroethene	0.705	0.708	-0.4	71	0.00
65 T	Chlorobenzene	1.744	1.732	0.7	69	-0.01
66 T	Ethylbenzene	3.144	3.178	-1.1	66	-0.01
67 T	m- & p-Xylene	2.101	2.126	-1.2	66	-0.02
68 T	Bromoform	0.464	0.526	-13.4	69	-0.01
69 T	Styrene	1.814	1.859	-2.5	67	-0.01
70 T	o-Xylene	2.261	2.238	1.0	66	-0.01
71 T	n-Nonane	1.811	1.734	4.3	63	-0.01
72 T	1,1,2,2-Tetrachloroethane	1.079	1.075	0.4	65	-0.02
73 S	Bromofluorobenzene (SS3)	0.771	0.795	-3.1	67	0.00
74 T	Cumene	2.869	2.986	-4.1	67	0.00
75 T	alpha-Pinene	1.525	1.549	-1.6	66	-0.01
76 T	n-Propylbenzene	3.839	4.034	-5.1	67	-0.01

*Handwritten signature*  
 5/15/08

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080801.D  
Acq On : 8 May 2008 8:41 am  
Operator : RTB  
Sample : 25ng TO-15 CCV Standard  
Misc : S20-04300802/S20-04250805  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
77 T	3-Ethyltoluene	3.128	3.222	-3.0	67	-0.01
78 T	4-Ethyltoluene	2.880	2.995	-4.0	67	-0.01
79 T	1,3,5-Trimethylbenzene	2.558	2.618	-2.3	67	0.00
80 T	alpha-Methylstyrene	1.355	1.421	-4.9	67	-0.01
81 T	2-Ethyltoluene	3.145	3.254	-3.5	67	-0.01
82 T	1,2,4-Trimethylbenzene	2.890	2.895	-0.2	64	-0.02
83 T	n-Decane	1.598	1.610	-0.8	66	-0.02
84 T	Benzyl Chloride	1.970	2.266	-15.0	67	-0.02
85 T	1,3-Dichlorobenzene	1.565	1.585	-1.3	68	-0.02
86 T	1,4-Dichlorobenzene	1.497	1.545	-3.2	69	-0.02
87 T	sec-Butylbenzene	3.394	3.547	-4.5	67	-0.01
88 T	p-Isopropyltoluene	2.959	3.109	-5.1	64	-0.01
89 T	1,2,3-Trimethylbenzene	2.842	2.862	-0.7	63	-0.01
90 T	1,2-Dichlorobenzene	1.604	1.577	1.7	65	-0.01
91 T	d-Limonene	1.311	1.233	5.9	61	-0.01
92 T	1,2-Dibromo-3-Chloropropane	0.425	0.511	-20.2	72	0.00
93 T	n-Undecane	1.678	1.689	-0.7	65	0.00
94 T	1,2,4-Trichlorobenzene	0.994	1.036	-4.2	69	0.00
95 T	Naphthalene	3.196	3.498	-9.4	68	-0.01
96 T	n-Dodecane	1.703	1.645	3.4	65	0.00
97 T	Hexachloro-1,3-butadiene	0.640	0.667	-4.2	69	0.00

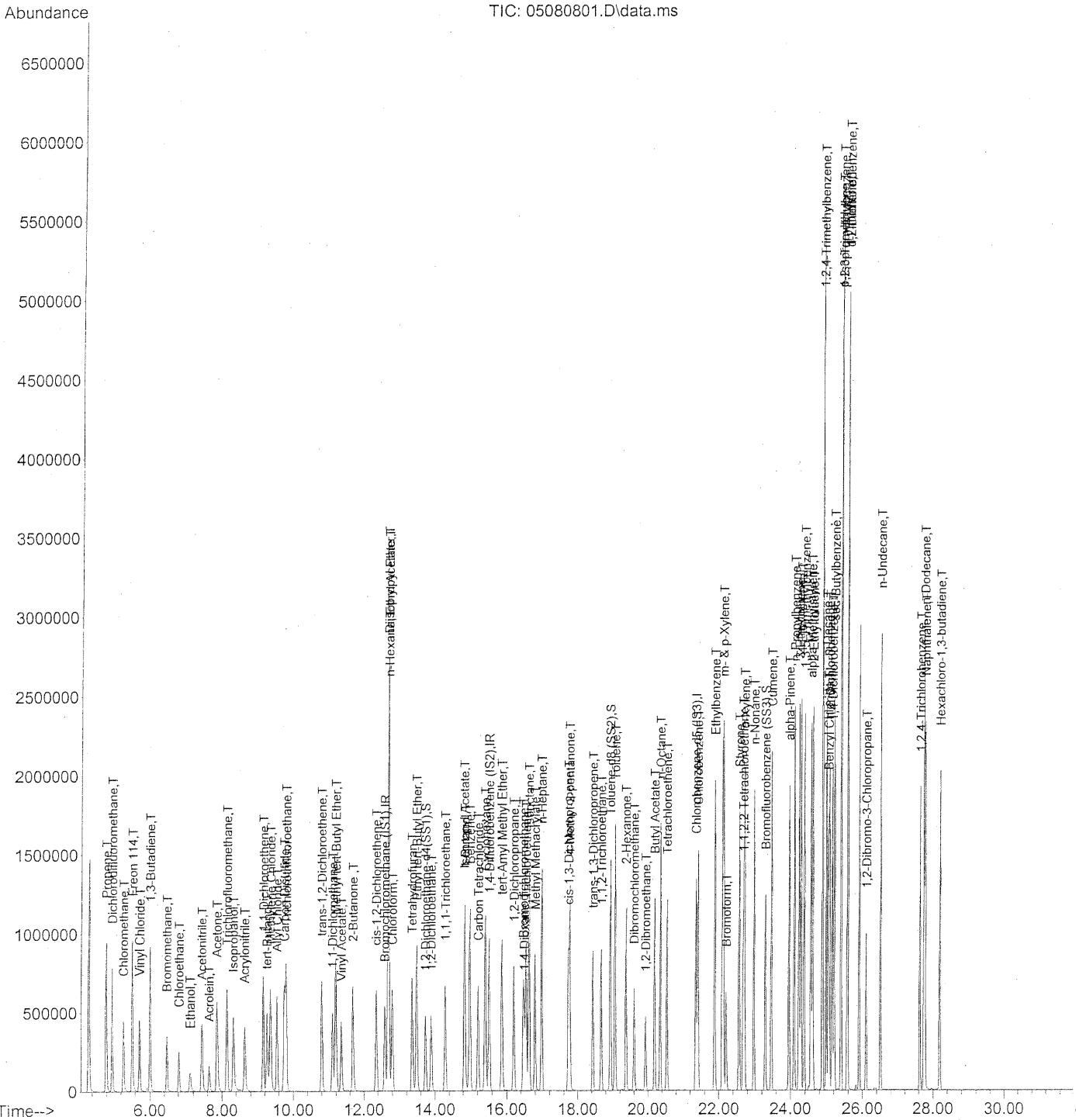
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

*Handwritten signature*  
5/8/08

Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080801.D  
 Acq On : 8 May 2008 8:41 am  
 Operator : RTB  
 Sample : 25ng TO-15 CCV Standard  
 Misc : S20-04300802/S20-04250805  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080801.D  
 Acq On : 8 May 2008 8:41 am  
 Operator : RTB  
 Sample : 25ng TO-15 CCV Standard  
 Misc : S20-04300802/S20-04250805  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane (IS1)	12.59	130	242477	25.000	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	15.52	114	1048411	25.000	ng	-0.01
56) Chlorobenzene-d5 (IS3)	21.35	82	500730	25.000	ng	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...)	13.73	65	443692	22.817	ng	-0.02
Spiked Amount	25.000		Recovery	=	91.28%	✓
57) Toluene-d8 (SS2)	18.93	98	1145691	25.527	ng	0.00
Spiked Amount	25.000		Recovery	=	102.12%	✓
73) Bromofluorobenzene (SS3)	23.29	174	397980	25.767	ng	0.00
Spiked Amount	25.000		Recovery	=	103.08%	✓

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	4.79	42	451017	22.473	ng	91
3) Dichlorodifluoromethane	4.95	85	774448	21.167	ng	100
4) Chloromethane	5.27	50	630543	20.621	ng	97
5) Freon 114	5.52	135	406287	22.679	ng	99
6) Vinyl Chloride	5.72	62	581139	20.421	ng	96
7) 1,3-Butadiene	5.99	54	512311	23.281	ng	# 77
8) Bromomethane	6.48	94	317718	23.255	ng	99
9) Chloroethane	6.82	64	278087	23.587	ng	97
10) Ethanol	7.12	45	253592	18.529	ng	95
11) Acetonitrile	7.43	41	742945	20.655	ng	97
12) Acrolein	7.64	56	214953	22.225	ng	99
13) Acetone	7.86	58	327279	24.383	ng	# 65
14) Trichlorofluoromethane	8.14	101	666523	23.185	ng	100
15) Isopropanol	8.32	45	1058952	23.314	ng	94
16) Acrylonitrile	8.63	53	510483	24.511	ng	98
17) 1,1-Dichloroethene	9.16	96	339751	25.373	ng	# 86
18) tert-Butanol	9.26	59	927221	24.613	ng	94
19) Methylene Chloride	9.36	84	363487	23.575	ng	91
20) Allyl Chloride	9.54	41	580161	28.165	ng	99
21) Trichlorotrifluoroethane	9.81	151	313896	25.553	ng	95
22) Carbon Disulfide	9.76	76	1296009	22.670	ng	96
23) trans-1,2-Dichloroethene	10.80	61	565438	24.228	ng	87
24) 1,1-Dichloroethane	11.10	63	672705	24.767	ng	95
25) Methyl tert-Butyl Ether	11.19	73	1082613	24.269	ng	87
26) Vinyl Acetate	11.35	86	70809	26.552	ng	# 95
27) 2-Butanone	11.68	72	250692	26.633	ng	99
28) cis-1,2-Dichloroethene	12.35	61	530598	24.126	ng	86
29) Diisopropyl Ether	12.69	87	273579	22.136	ng	# 82
30) Ethyl Acetate	12.69	61	162175	27.639	ng	85
31) n-Hexane	12.70	57	695056	22.791	ng	91

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*05/08/08*



Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080801.D  
 Acq On : 8 May 2008 8:41 am  
 Operator : RTB  
 Sample : 25ng TO-15 CCV Standard  
 Misc : S20-04300802/S20-04250805  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
 Quant Method : J:\MS13\METHODS\R13041408.M  
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 QLast Update : Tue Apr 15 06:47:20 2008  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) Chloroform	12.80	83	639410	28.244	ng	99
34) Tetrahydrofuran	13.35	72	242667	25.775	ng	95
35) Ethyl tert-Butyl Ether	13.48	87	387048	23.814	ng #	80
36) 1,2-Dichloroethane	13.89	62	534135	23.822	ng	98
38) 1,1,1-Trichloroethane	14.29	97	560060	25.637	ng	99
39) Isopropyl Acetate	14.83	61	230639	24.192	ng #	35
40) 1-Butanol	14.84	56	309852	21.653	ng #	53
41) Benzene	14.99	78	1370083	24.634	ng	99
42) Carbon Tetrachloride	15.22	117	499989	27.181	ng	99
43) Cyclohexane	15.41	84	533345	25.923	ng #	79
44) tert-Amyl Methyl Ether	15.87	73	963047	24.333	ng	92
45) 1,2-Dichloropropane	16.20	63	387563	24.317	ng	98
46) Bromodichloromethane	16.46	83	507826	26.855	ng	99
47) Trichloroethene	16.54	130	367221	26.836	ng	98
48) 1,4-Dioxane	16.49	88	278652	28.297	ng	82
49) Isooctane	16.62	57	1570804	23.854	ng	75
50) Methyl Methacrylate	16.80	100	134316	26.593	ng #	75
51) n-Heptane	16.98	71	382807	24.844	ng #	81
52) cis-1,3-Dichloropropene	17.73	75	560035	25.847	ng	99
53) 4-Methyl-2-pentanone	17.77	58	382318	25.131	ng	86
54) trans-1,3-Dichloropropene	18.43	75	558192	29.821	ng	99
55) 1,1,2-Trichloroethane	18.67	97	335299	25.035	ng	93
58) Toluene	19.07	91	1500612	26.611	ng	97
59) 2-Hexanone	19.37	43	1107992	26.378	ng	80
60) Dibromochloromethane	19.60	129	401977	29.556	ng	97
61) 1,2-Dibromoethane	19.94	107	390269	29.436	ng	99
62) Butyl Acetate	20.19	43	1187375	28.269	ng	84
63) n-Octane	20.35	57	337961	25.570	ng	95
64) Tetrachloroethene	20.55	166	387339	27.434	ng	100
65) Chlorobenzene	21.41	112	953970	27.313	ng	99
66) Ethylbenzene	21.89	91	1718589	27.294	ng	92
67) m- & p-Xylene	22.12	91	2746246	65.246	ng	90
68) Bromoform	22.21	173	345355	37.141	ng	100
69) Styrene	22.57	104	1005344	27.676	ng	96
70) o-Xylene	22.72	91	1367004	30.180	ng	91
71) n-Nonane	22.98	43	896211	24.707	ng #	80
72) 1,1,2,2-Tetrachloroethane	22.69	83	663287	30.683	ng	98
74) Cumene	23.47	105	1614588	28.101	ng	98
75) alpha-Pinene	23.96	93	822369	26.927	ng	92
76) n-Propylbenzene	24.10	91	2124959	27.633	ng	96
77) 3-Ethyltoluene	24.23	105	1645576	26.265	ng	98
78) 4-Ethyltoluene	24.28	105	1667400	28.903	ng	98
79) 1,3,5-Trimethylbenzene	24.38	105	1415972	27.637	ng	97

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*Handwritten signature*

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080801.D  
Acq On : 8 May 2008 8:41 am  
Operator : RTB  
Sample : 25ng TO-15 CCV Standard  
Misc : S20-04300802/S20-04250805  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:13:43 2008  
Quant Method : J:\MS13\METHODS\R13041408.M  
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
QLast Update : Tue Apr 15 06:47:20 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) alpha-Methylstyrene	24.56	118	725626	26.745	ng	96
81) 2-Ethyltoluene	24.61	105	1616291	25.662	ng	97
82) 1,2,4-Trimethylbenzene	24.88	105	1594582	27.543	ng	97
83) n-Decane	24.98	57	838565	26.192	ng	87
84) Benzyl Chloride	25.05	91	1216575	30.828	ng	94
85) 1,3-Dichlorobenzene	25.08	146	841352	26.844	ng	99
86) 1,4-Dichlorobenzene	25.15	146	850779	28.366	ng	98
87) sec-Butylbenzene	25.21	105	1903738	28.008	ng	96
88) p-Isopropyltoluene	25.40	119	1836968	30.990	ng	92
89) 1,2,3-Trimethylbenzene	25.41	105	1576581	27.692	ng	97
90) 1,2-Dichlorobenzene	25.58	146	853071	26.558	ng	100
91) d-Limonene	25.58	68	654184	24.921	ng	94
92) 1,2-Dibromo-3-Chloropr...	26.11	157	265979	31.256	ng #	70
93) n-Undecane	26.50	57	889951	26.477	ng	87
94) 1,2,4-Trichlorobenzene	27.63	180	580788	29.175	ng	96
95) Naphthalene	27.77	128	1842526	28.787	ng	99
96) n-Dodecane	27.74	57	873340	25.609	ng	85
97) Hexachloro-1,3-butadiene	28.19	225	371500	28.979	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Post 10/8/08*

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080801.D  
Acq On : 8 May 2008 8:41 am  
Operator : RTB  
Sample : 25ng TO-15 CCV Standard  
Misc : S20-04300802/S20-04250805  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:39:04 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Mon Apr 28 10:06:00 2008  
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	73	-0.02
2 S	1,2-Dichloroethane-d4 (SS1)	2.005	1.830	8.7	66	-0.02
3 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	71	-0.01
4 I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	66	0.00
5 S	Toluene-d8 (SS2)	2.241	2.288	-2.1	68	0.00
6 S	Bromofluorobenzene (SS3)	0.771	0.795	-3.1	67	0.00
7	tert-Butylbenzene	2.738	2.753	-0.5	64	-0.01
8	n-Butylbenzene	2.954	3.108	-5.2	67	-0.01

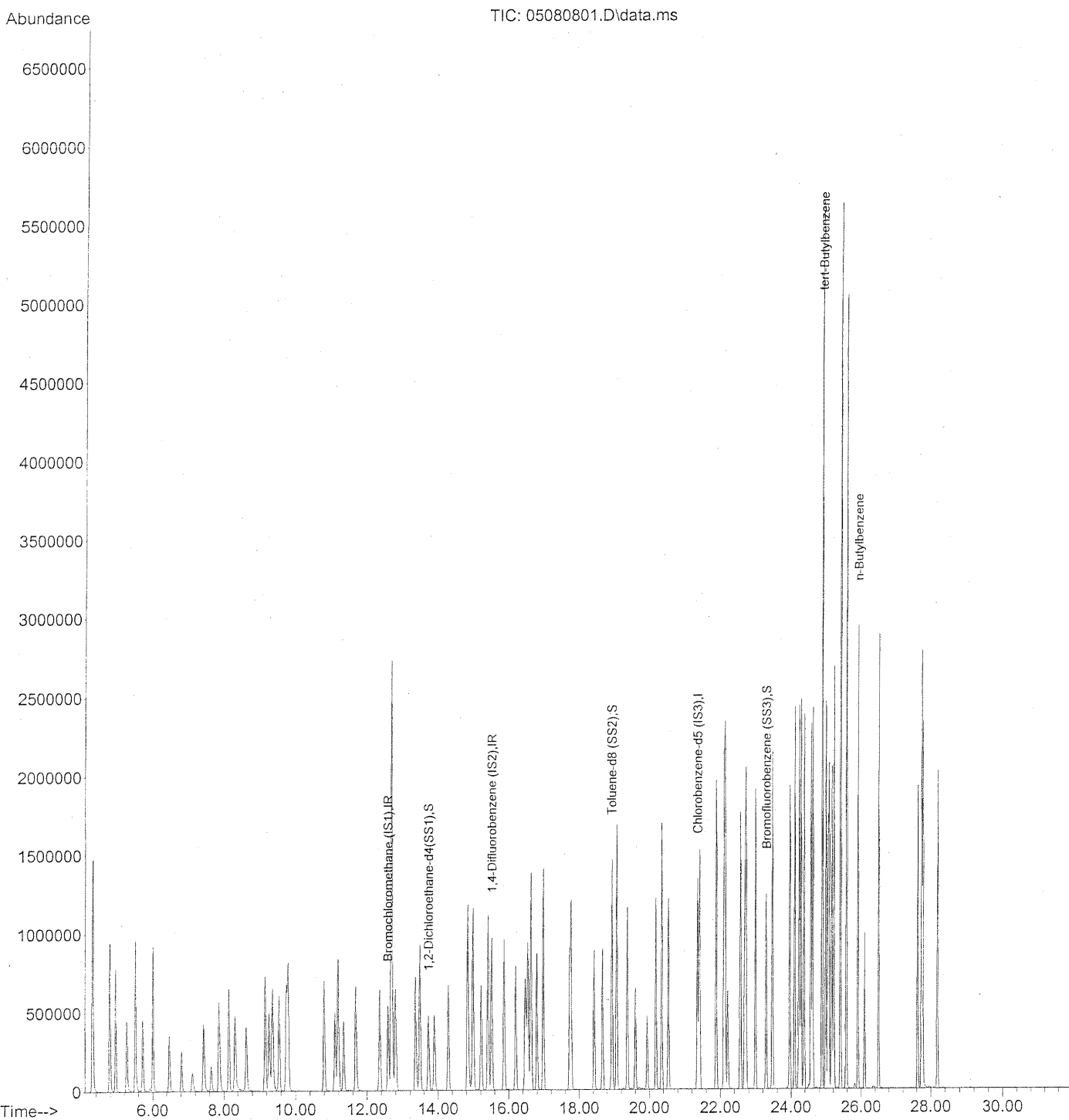
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

*RTB*  
5/8/08

Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080801.D  
Acq On : 8 May 2008 8:41 am  
Operator : RTB  
Sample : 25ng TO-15 CCV Standard  
Misc : S20-04300802/S20-04250805  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:39:04 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Mon Apr 28 10:06:00 2008  
Response via : Initial Calibration



Data Path : J:\MS13\DATA\2008\_05\08\  
Data File : 05080801.D  
Acq On : 8 May 2008 8:41 am  
Operator : RTB  
Sample : 25ng TO-15 CCV Standard  
Misc : S20-04300802/S20-04250805  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 15:39:04 2008  
Quant Method : J:\MS13\METHODS\S13041408.M  
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD  
QLast Update : Mon Apr 28 10:06:00 2008  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)	
1) Bromochloromethane (IS1)	12.59	130	242477	25.000	ng	-0.02	
3) 1,4-Difluorobenzene (IS2)	15.52	114	1048411	25.000	ng	-0.01	
4) Chlorobenzene-d5 (IS3)	21.35	82	500730	25.000	ng	0.00	
System Monitoring Compounds							
2) 1,2-Dichloroethane-d4(...)	13.73	65	443692	22.817	ng	-0.02	
Spiked Amount	25.000						Recovery = 91.28% ✓
5) Toluene-d8 (SS2)	18.93	98	1145691	25.527	ng	0.00	
Spiked Amount	25.000						Recovery = 102.12% ✓
6) Bromofluorobenzene (SS3)	23.29	174	397980	25.767	ng	0.00	
Spiked Amount	25.000						Recovery = 103.08% ✓
Target Compounds							
7) tert-Butylbenzene	24.88	119	1433457	26.143	ng		Qvalue 99
8) n-Butylbenzene	25.91	91	1668516	28.204	ng		Qvalue 94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

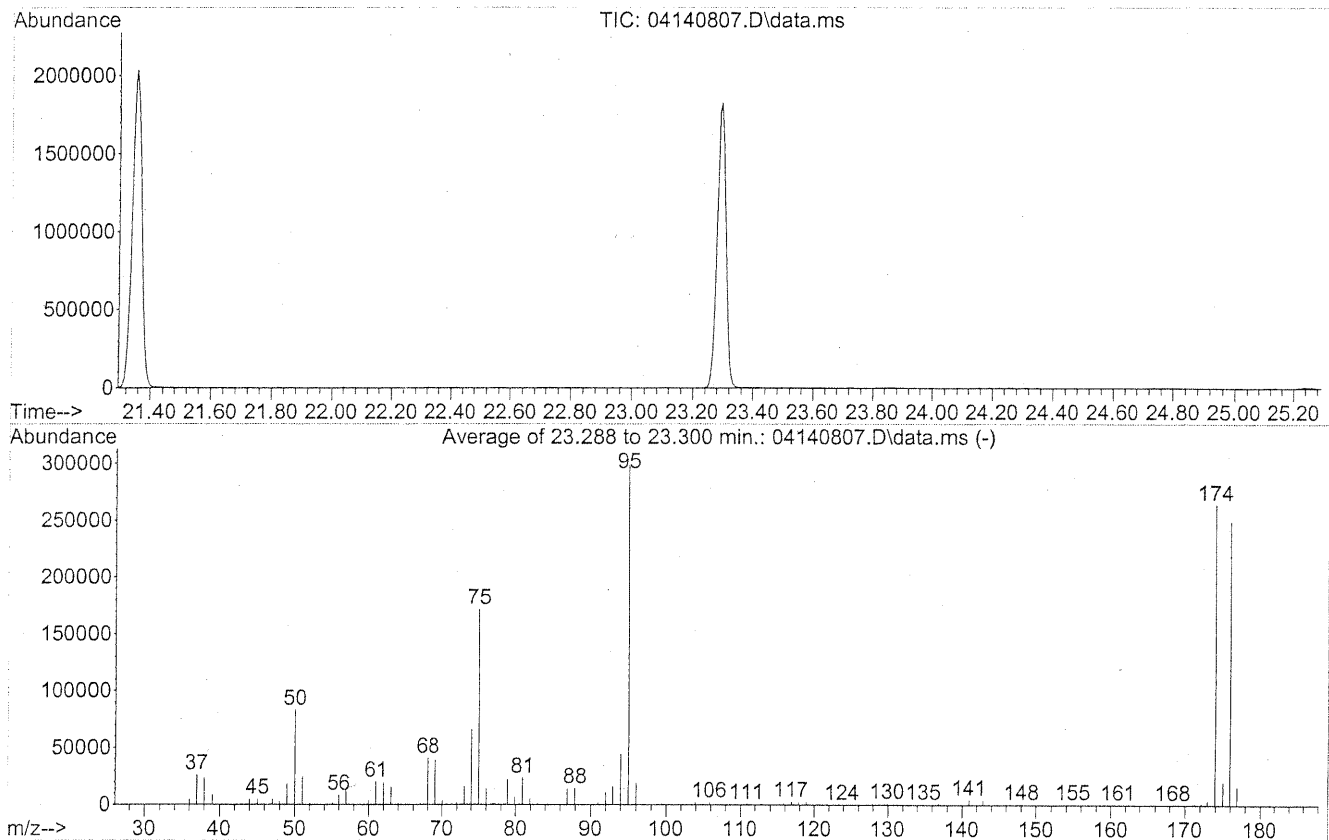
*Handwritten signature*  
05/08/08

## BFB TUNING & MASS CALIBRATIONS

Data Path : J:\MS13\DATA\2008\_04\14\  
 Data File : 04140807.D  
 Acq On : 14 Apr 2008 18:18  
 Operator : WA  
 Sample : BFB Tune Standard (200ml)  
 Misc : S20-04140804  
 ALS Vial : 4 Sample Multiplier: 1

Integration File: RTEINT.P

Method : J:\MS13\METHODS\R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:47:20 2008



AutoFind: Scans 3374, 3375, 3376; Background Corrected with Scan 3363

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	27.9	83021	PASS
75	95	30	66	57.6	171669	PASS
95	95	100	100	100.0	297792	PASS
96	95	5	9	6.3	18818	PASS
173	174	0.00	2	1.5	4055	PASS
174	95	50	120	88.7	264171	PASS
175	174	4	9	7.6	20123	PASS
176	174	93	101	94.5	249664	PASS
177	176	5	9	6.3	15749	PASS

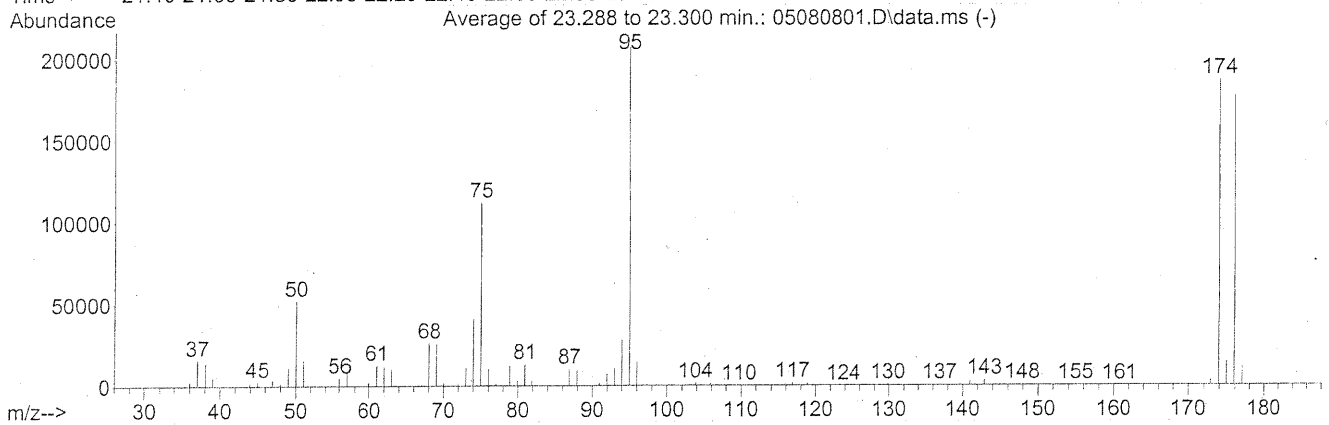
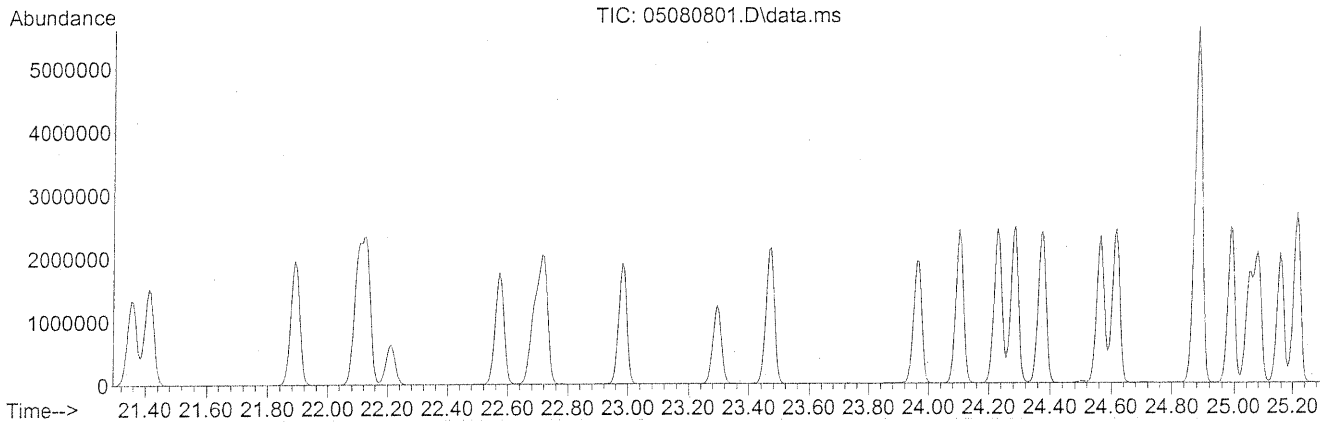
DA 4/17/08

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Data Path : J:\MS13\DATA\2008\_05\08\  
 Data File : 05080801.D  
 Acq On : 8 May 2008 8:41 am  
 Operator : RTB  
 Sample : 25ng TO-15 CCV Standard  
 Misc : S20-04300802/S20-04250805  
 ALS Vial : 4 Sample Multiplier: 1

Integration File: RTEINT.P

Method : J:\MS13\METHODS\R13041408.M  
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)  
 Last Update : Tue Apr 15 06:47:20 2008



AutoFind: Scans 3374, 3375, 3376; Background Corrected with Scan 3363

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	25.3	52469	PASS
75	95	30	66	54.3	112373	PASS
95	95	100	100	100.0	206997	PASS
96	95	5	9	7.2	14903	PASS
173	174	0.00	2	1.7	3110	PASS
174	95	50	120	90.3	186880	PASS
175	174	4	9	7.7	14398	PASS
176	174	93	101	94.9	177387	PASS
177	176	5	9	6.4	11392	PASS

*Handwritten:* 05/08/08



RUN LOGS

Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
04/14/08 18:18	04140807.D	BFB Tune Standard (200ml)	S20-04140804	WA	4	
04/14/08 18:59	04140808.D	0.1ng TO-15 ICAL Standard	S20-04140804/S20-04030801	WA	5	CALL standard as
04/14/08 19:40	04140809.D	0.5ng TO-15 ICAL Standard	S20-04140804/S20-03210809	WA	13	RI 04/14/08 H
04/14/08 20:21	04140810.D	1ng TO-15 ICAL Standard	S20-04140804/S20-03210809	WA	13	Range 0.1 - 200 ng, except Method: 1.0 - 1000
04/14/08 21:01	04140811.D	5ng TO-15 ICAL Standard	S20-04140804/S20-03210809	WA	13	From, EN, H, H-Hatchback 1.0 - 1000 + 0.5 - 100
04/14/08 21:43	04140812.D	25ng TO-15 ICAL Standard	S20-04140804/S20-04020808	WA	4	
04/14/08 22:24	04140813.D	50ng TO-15 ICAL Standard	S20-04140804/S20-04020808	WA	4	
04/14/08 23:04	04140814.D	100ng TO-15 ICAL Standard	S20-04140804/S20-04020808	WA	4	
04/14/08 23:45	04140815.D	25ng TO-15 ICV Standard	S20-04140804/S20-04040804	WA	16	passed all samples
04/15/08 0:26	04140816.D	Blank (200ml)		WA	4	
04/15/08 1:07	04140817.D	S20-04170801 (25ml)		WA	3	
04/15/08 1:48	04140818.D	S20-04170801 (50ml)		WA	3	
04/15/08 2:29	04140819.D	S20-04170801 (250ml)		WA	3	
04/15/08 6:10	04140820.D	S20-04170802 (125ml)		WA	1	
04/15/08 6:57	04140821.D	S20-04170802 (250ml)		WA	1	
04/15/08 7:38	04150801.D	25ng MAPH CCV Standard	S20-04140804/S20-04140802	WA	1	
04/15/08 9:33	04150802.D	TO-15/MA/PH Method Blank (1000ml)	S20-04140804	WA	1	
04/15/08 10:14	04150803.D	25ng MAPH LCS STD	S20-04140804/S20-04140803	WA	2	
04/15/08 10:55	04150804.D	P0800967-003 (100ml)		WA	8	
04/15/08 11:37	04150805.D	P0800967-001 (1000ml)		WA	6	
04/15/08 12:18	04150806.D	P0800967-002 (1000ml)	Test	WA	7	
04/15/08 13:01	04150807.D	P0800967-004 (1000ml)		WA	9	
04/15/08 13:42	04150808.D	P0800967-005 (1000ml)		WA	10	
04/15/08 14:23	04150809.D	P0800967-001 DUP (1000ml)		WA	6	
04/15/08 15:04	04150810.D	P0800967-006 (1000ml)		WA	11	
04/15/08 15:47	04150811.D	P0800967-007 (1000ml)		WA	12	
04/15/08 16:28	04150812.D	P0800967-003 (1000ml)		WA	8	
04/15/08 17:29	04150813.D	25ng TO-15 CCV Standard	S20-04140804/S20-04020808	RTB	4	passed
04/15/08 18:30	04150814.D	TO-15 Method Blank (1.0L)	S20-04140804	RTB	4	passed
04/15/08 19:13	04150815.D	CAS QC Can/FC/Gauge (1.0L)	AC00885/FC00597/AVG00798	RTB	1	passed for NR# 8391
04/15/08 19:56	04150816.D	CAS QC Can/FC/Gauge (1.0L)	AC00584/FC00174/AVG00797	RTB	2	
04/15/08 20:39	04150817.D	CAS QC Can/FC/Gauge (1.0L)	AC00294/FC00828/AVG00796	RTB	3	
04/15/08 21:22	04150818.D	CAS QC Can/FC/Gauge (1.0L)	AC00991/FC00697/AVG00722	RTB	5	
04/15/08 22:05	04150819.D	CAS QC Can/FC/Gauge (1.0L)	AC00582/FC00540/AVG00588	RTB	6	
04/15/08 22:48	04150820.D	CAS QC Can/FC/Gauge (1.0L)	AC01136/FC00269/AVG00808	RTB	7	
04/15/08 23:31	04150821.D	CAS QC Can/FC/Gauge (1.0L)	AC00292/FC00536/AVG00809	RTB	8	
04/15/08 0:14	04150822.D	CAS QC Can/FC/Gauge (1.0L)	AC01273/FC00565/AVG00804	RTB	9	
04/16/08 0:57	04150823.D	CAS QC Can/FC/Gauge (1.0L)	AC00803/FC00676/AVG00800	RTB	10	
04/16/08 1:40	04150824.D	CAS QC Can/FC/Gauge (1.0L)	AC01320/FC00548/AVG00777	RTB	11	
04/16/08 2:23	04150825.D	CAS QC Can/FC/Gauge (1.0L)	AC00753/FC00549/AVG00786	RTB	12	
04/16/08 3:06	04150826.D	CAS QC Can/FC/Gauge (1.0L)	AC01157/FC00583/AVG00776	RTB	13	

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DATE/TIME	FILENAME	SAMPLE ID	MISC. INFO	AS POS	INIT	COMMENT
05/08/08 8:41	05080801.D	25ng TO-15 CCV Standard	S20-04300802/S20-04250805	C	RB	Passed
05/08/08 9:24	05080802.D	TO-15 Method Blank (1.0L)	S20-04300802	4	RB	Passed
05/08/08 10:05	05080803.D	25ng TO-15 LCS	S20-04300802/S20-04110810	16	RB	Passed
05/08/08 12:19	05080804.D	P0801342-001 (10mL)	ENSR SG83B-05-1 (-3.6, 3.5)	4	RB	
05/08/08 1:04	05080805.D	P0801342-002 (10mL)	ENSR SG83B-05-3 (-3.8, 3.5)	4	RB	
05/08/08 1:45	05080806.D	P0801342-003 (10mL)	ENSR SG83B-05-7 (-4.2, 3.5)	4	RB	
05/08/08 2:30	05080807.D	P0801342-001 DIL (1mL)	ENSR SG83B-05-1 (-3.6, 3.5)	4	RB	
05/08/08 3:10	05080808.D	P0801342-002 DIL (1mL)	ENSR SG83B-05-3 (-3.8, 3.5)	4	RB	
05/08/08 3:52	05080809.D	P0801342-003 DIL (1mL)	ENSR SG83B-05-7 (-4.2, 3.5)	4	RB	
05/08/08 4:33	05080810.D	P0801342-003 DUP DIL (1mL)	ENSR SG83B-05-7 (-4.2, 3.5)	4	RB	Passed
05/08/08 5:14	05080811.D	P0801342-003 DUP (10mL)	ENSR SG83B-05-7 (-4.2, 3.5)	4	RB	Passed
05/08/08 6:25	05080812.D	P0801305-001 DIL (0.50mL)	[REDACTED] (-2.5, 3.5)	4	RB	
05/08/08 7:09	05080813.D	P0801305-001 DIL (10mL)	[REDACTED] (-2.5, 3.5)	4	RB	
05/08/08 7:54	05080814.D	Blank (100mL)		4	RB	
05/08/08 7:23	05080815.D	Blank (100mL)		4	RB	
05/08/08 8:04	05080816.D	S20-03100803 (50mL)		15	RB	
05/07/08 8:43	05070822.D	Blank (100mL)		4	RB	
05/07/08 7:23	05070823.D	Blank (100mL)		4	RB	
05/07/08 8:04	05070824.D	S20-03100803 (50mL)		15	RB	