ENVIRONMENTAL ANALYTICAL SERVICE, INC.
DATA DELIVERABLE PACKAGE

COVER PAGE

Lab Name:	**Environmental Analytical Service**	**Contract:**	
Lab Code:		**SDG No.:**	**210486**
Report Date:	**12/22/2010**	**Level:**	**4**

This Data Deliverable Package was prepared by Environmental Analytical Service and covers the following samples:

Sample Description:	EAS ID:
IA-U3-O1-001	210486-1
IA-U3-O3-001	210486-2
IA-U3-O2-001	210486-3
IA-U3-O2-002	210486-4
IA-U3-UF-001	210486-5
OA-U3-AI-001	210486-6
IA-AB-O1-001	210486-7
OA-AB-AI-001	210486-8
IA-U3-O4-001	210486-9
IA-U3-O5-001	210486-10
IA-U3-O2-003	210486-11
OA-U3-AI-002	210486-12
IA-AB-O1-002	210486-13
IA-FO-O1-001	210486-14
OA-FO-AI-001	210486-15
OA-U1-G2-002	210486-16
IA-BP-CR-001	210486-17
IA-BP-SO-001	210486-18
OA-BP-AI-001	210486-19
IA-LB-O1-001	210486-20
IA-LB-O2-001	210486-21
OA-LB-AI-001	210486-22
IA-SP-CR-001	210486-23
IA-WH-SA-001	210486-24
OA-WH-AI-001	210486-25
OA-UW-00-001	210486-26
OA-U1-G2-001	210486-27

Comments:

I certify that this data package is in compliance with the Terms and Conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:		**Name:**	**Steve Hoyt**
Date:	**10/18/2010**	**Title:**	**Lab Director**

ANALYTICAL REPORT, QUALITY ASSURANCE REPORT, AND DELIVERABLES

Project Name: Tronox
Project Number: 2027.07.T50
Sample Date: 12/6/10, 12/7/10

Sample Delivery Group: 210486

Prepared for:

Northgate Environmental Management
Oakland, CA 94612

Prepared by:
Kristin Beckley
Steve Hoyt

ENVIRONMENTAL ANALYTICAL SERVICE, INC.
173 Cross St.
San Luis Obispo, CA 93401

(805) 781-3585, FAX (805) 541-4550

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SECTION 1
Project Summary

1.1 Analytical Batch and Log-in Batch Summary

The samples received by Environmental Analytical Service (EAS) for this project were logged in and assigned a Sample Delivery Group (SDG) Number. Each sample is also assigned an individual Laboratory ID number. The samples were then distributed to the analysts for the designated analysis. Each sample was analyzed in a daily analytical batch with associated QC. Each QC batch is assigned a QC analytical batch number. The Analytical Batch Reference Table is a summary of the SDG number, the client ID, the date collected, the EAS laboratory ID number, and the analytical batch number for each sample received. The QC Criteria for each analytical test is summarized in Section 1.4. For detailed information on Quality Control consult the EAS Quality Manual. Section 1.5 contains a Case Narrative for each QC analytical batch.

1.2 Sample Receipt Log-in Form and Chain-of-Custody Forms

The following page shows the Sample Receipt Log-In Form that was filled out by Sample Control when the samples were received by EAS. Following the Sample Receipt Log-In Form are the Chain-of-Custody form(s) received with the samples.

SAMPLE LOG-IN SHEET

Lab Name: Environmental Analytical Service
Received By (Print): Kristin Beckley
Received By (Signature): K. Beckley
Contract Number:

Page 1 of 1
Log-In Date: 12/10/2010

Case Number:
Sample Delivery Group # 210486
SAS Number:

CIRCLE THE APPROPRIATE RESPONSE

1. **Custody Seal(s):** Present/**Absent**
   Intact/Broken
   N/A
2. **Custody Seal Nos.:**
3. **Traffic Reports/ Chain-of-Custody Records or Packing Lists:** **Present**/Absent*
4. **Airbill:** **Airbill**/Sticker
   Present/Absent*
   N/A
5. **Airbill No(s):**
6. **Sample Tags:** **Present**/Absent*
   Sample Tag Numbers: **Listed**/Not Listed on Chain-of-Custody
7. **Sample Condition:** **Intact**/Broken*/Leaking
8. **Cooler Temperature Indicator Bottle:** Present/Absent*
9. **Cooler Temperature:**
10. **Does information on custody records, traffic reports and sample tag agree?** **Yes** / No *
11. **Date Received at Lab:** 12/9/2010
12. **Time Received:** 1:40 PM

Sample Transfer

Area #:
By:
On:

Sample #	Corresponding Sample Tag #	Corresponding Canister #	Corresponding Assigned Lab #	REMARKS: Condition of Sample Shipment etc.
IA-U3-O1-001		770	210486-1	Intact
IA-U3-O3-001		160	210486-2	Intact
IA-U3-O2-001		685	210486-3	Intact
IA-U3-O2-002		766	210486-4	Intact
IA-U3-UF-001		409	210486-5	Intact
OA-U3-AI-001		407	210486-6	Intact
IA-AB-O1-001		173	210486-7	Intact
OA-AB-AI-001		634	210486-8	Intact
IA-U3-O4-001		700	210486-9	Intact
IA-U3-O5-001		672	210486-10	Intact
IA-U3-O2-003		170	210486-11	Intact
OA-U3-AI-002		652	210486-12	Intact
IA-AB-O1-002		692	210486-13	Intact
IA-FO-O1-001		756	210486-14	Intact
OA-FO-AI-001		629	210486-15	Intact
OA-U1-G2-002		729	210486-16	Intact
IA-BP-CR-001		516	210486-17	Intact
IA-BP-SO-001		538	210486-18	Intact
OA-BP-AI-001		526	210486-19	Intact
IA-LB-O1-001		2961	210486-20	Intact
IA-LB-O2-001		527	210486-21	Intact
OA-LB-AI-001		535	210486-22	Intact
IA-SP-CR-001		158	210486-23	Intact
IA-WH-SA-001		416	210486-24	Intact
OA-WH-AI-001		192	210486-25	Intact
OA-UW-00-001		65	210486-26	Intact
OA-U1-G2-001		405	210486-27	Intact

*** If Circled, contact SMO and attach record of resolution**

Reviewed By: K. Beckley
Date: 12/10/2010

210486- Northgate Environmental Management

Canister Volumes (calculated from pressure)

			Initial:	Initial:	Final:	Canister
EAS SDG Number:	EAS Lab Number	Sample Description:	torr	mmHg	torr	Volume, L
210486	1	IA-U3-O1-001	437	12.5	940	3.45
210486	2	IA-U3-O3-001	421	13.2	917	3.32
210486	3	IA-U3-O2-001	416	13.4	924	3.28
210486	4	IA-U3-O2-002	453	11.9	917	3.58
210486	5	IA-U3-UF-001	441	12.4	912	3.48
210486	6	OA-U3-AI-001	721	1.5	920	5.69
210486	7	IA-AB-O1-001	438	12.5	918	3.46
210486	8	OA-AB-AI-001	499	10.1	911	3.94
210486	9	IA-U3-O4-001	386	14.5	1018	3.05
210486	10	IA-U3-O5-001	476	11.0	920	3.76
210486	11	IA-U3-O2-003	496	10.2	925	3.92
210486	12	OA-U3-AI-002	458	11.7	911	3.62
210486	13	IA-AB-O1-002	459	11.7	915	3.62
210486	14	IA-FO-O1-001	496	10.2	901	3.92
210486	15	OA-FO-AI-001	535	8.7	921	4.22
210486	16	OA-U1-G2-002	391	14.3	922	3.09
210486	17	IA-BP-CR-001	427	12.9	934	3.37
210486	18	IA-BP-SO-001	486	10.6	912	3.84
210486	19	OA-BP-AI-001	533	8.8	924	4.21
210486	20	IA-LB-O1-001	415	13.4	906	3.28
210486	21	IA-LB-O2-001	482	10.8	931	3.81
210486	22	OA-LB-AI-001	389	14.4	926	3.07
210486	23	IA-SP-CR-001	411	13.5	909	3.24
210486	24	IA-WH-SA-001	457	11.8	936	3.61
210486	25	OA-WH-AI-001	758	0.1	955	5.98
210486	26	OA-UW-00-001	473	11.1	913	3.73
210486	27	OA-U1-G2-001	497	10.2	951	3.92

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number 20270-T50 | Project Name: Tronox | Quote Number:

REPORT TO:

Company Northgate
Address 300 Frank H Ogawa Plaza Suite 510
City/State/Zip Oakland CA 94612
Phone (510) 839-0688 (FAX) (510) 839-4350
ATTENTION axel.rieke@ngem.com

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS: Chloroform, TCE (Carbon tetrachloride) w/ TO-15 (SCAN)	PI	Dry Sheet	REMARKS
IA-U3-01-001	12/6	7:17	770				X			27	10	2104860-01	X		437 940	B
IA-U3-03-001	12/6	7:12	160				X			28	10	-02	X		429 917	
IA-U3-02-001	12/6	7:20	685				X			28	10	-03	X		416 924	
IA-U3-02-002	12/6	7:20	766				X			29	11	-04	X		453 917	
IA-U3-UF-001	12/6	7:20	409				X			27.5	12	-05	X		441 912	
OA-U3-AI-001	12/6	9:13	407			X				28	10	-06	X		721 920	
IA-AB-01-001	12/6	7:13	173				X			29	15	-07	X		439 918	
OA-AB-AI-001	12/6	9:46	634			X				30	11	-08	X		499 911	

COMMENTS STANDARD TAT

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BILLING INFORMATION

Company same as above
Address
City/State/Zip
ATTENTION
Purchase Order/Billing Reference

SAMPLED BY: ADR / RMK	Date 12/6/10 Time	Received by:	Date	Time
Relinquished By:	Date 12/7/10 Time 9:35	Received by: NGEM	Date 12/7/10	Time 9:35
Relinquished By: NGEM	Date 12/7/10 Time 9:35	Received by:	Date	Time
Relinquished By:	Date	Time	Received for lab by:	Date 12/9 Time 13:40

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number: 202707-I50 | Project Name: Tronox | Quote Number:

REPORT TO:

Company: Northgate
Address: 300 Frank H. Ogawa Plaza, Suite 510
City/State/Zip: Oakland CA 94612
Phone: (510) 839-0688 (FAX) (510) 839-4350
ATTENTION: axel.nieke@ngem.com

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

ANALYTICAL TESTS: Chloroform, TCE (carbon tetrachloride) w/ TO-15 (SIM); Plan; Shelf

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	Chloroform, TCE (carbon tetrachloride)	w/ TO-15 (SIM)	Plan	Shelf		REMARKS
IA-U3-04-001	12/7	8:00	700				X			28	11	2104886-09	X	386	1019	C		(IA-U3-04-001)
IA-U3-05-001	12/7	8:05	672				X			28	8	-10	X	477	920	C		
IA-U3-02-003	12/7	8:08	170				X			28	7	-11	X	496	925	C		
OA-U3-AI-002	12/7	8:07	652			X				30	12	-12	X	458	911	D		
IA-AB-01-002	12/7	8:07	692				X			29	10	-13	X	459	915			(IA-AB-01-002)
IA-FO-01-001	12/7	8:28	756				X			28	8	-14	X	496	901			
OA-FO-AI-001	12/7	9:27	~~6234~~ 629			X				25	9	-15	X	535	921			(Canister #: 629)
OA-U1-G2-002	12/7	9:51	729			X				25	10	-16	X	391	922	↓		

COMMENTS: STANDARD TAT

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Company: Same as above
Address:
City/State/Zip:
ATTENTION:
Purchase Order/Billing Reference:

SAMPLED BY: ADP/RHK	Date 12/7/10 Time	Received by:	Date	Time
Relinquished By: [signature]	Date 12/7/10 Time 5:30	Received by: [signature] NGEM	Date 12/7/10	Time 5:30
Relinquished By: [signature] NGEM	Date 12/9/10 Time 5:30	Received by:	Date	Time
Relinquished By:	Date	Received for lab by: [signature]	Date 12/9	Time 13:46

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Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number 20707-TSO | Project Name: Tronox | Quote Number:

REPORT TO:

Company Northgate
Address 300 Frank H. Ogawa Plaza, Suite 510
City/State/Zip Oakland CA 94612
Phone (510) 839-0688 (FAX) 510) 839-4750
ATTENTION axel.rieke@ngem.com

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS: Chloroform w/ TO-15 (Carbontetrachloride)	ANALYTICAL TESTS: TO-15 (CSIM)	Sample Time	P/F	REMARKS	P_1	P_2
IA-BP-CR-001	12/7	~~7:20~~	~~562~~ ADR				X			27.5	10.5	210486-17	X		8:13	D	Canister 516	427	93
IA-BP-SO-001	12/7	7:18	538				X			27.5	9	-18	X		8:17	D		496	91
OA-BP-AI-001	12/7	7:16	526			X				30+	13	-19	X		9:49	D		333	924
IA-LB-01-001	12/7	7:50	2961				X			29	12.5	-20	X		7:56	G		415	906
IA-LB-02-001	12/7	7:50	527				X			29.5	6	-21	X		7:55	G		482	931
OA-LB-AI-001	12/7	7:29	535			X				27.5	12	-22	X		9:40	G		389	926
IA-SP-CR-001	12/7	~~7:25~~	158				X			26	10	-23	X		8:14	I		411	96
		ADR																	

COMMENTS STANDARD TAT

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BILLING INFORMATION

Company Same above
Address
City/State/Zip
ATTENTION
Purchase Order/Billing Reference

SAMPLED BY: ADR/RMK	Date 12/7/10 Time	Received by:	Date	Time
Relinquished By:	Date 12/7/10 Time 5:30	Received by: NGEM	Date 12/7/10	Time 5:30
Relinquished By: NGEM	Date 12/7/10 Time 5:30	Received by:	Date	Time
Relinquished By:	Date	Time	Received for lab by: Kathy Lacken	Date 12/9 Time 13:40

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
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805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number 2027.07-150 | Project Name: Tronox | Quote Number:

REPORT TO:

Company Northgate

Address 300 Frank H. Ogawa Plaza, Suite 510

City/State/Zip Oakland CA 94612

Phone (510) 839-0688 (FAX) (510) 839-4350

ATTENTION axel.nielke@ngem.com

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS: Chloroform, TCE (Carbon tetrachloride) by TO-15 (SIM)	P1	P2	Shelf	REMARKS
IA-WH-SF-001	12/6	7:22	416				X			30	11	210486-24	X	457936E			
OA-WH-AI-001	12/6	21:25	192			X				29.5	<5	-25	X	358955			attempt analysis
OA-WH-00-001	12/6	10:12	65			X				27	10	-26	X	473913			
OA-WH-G2-001	12/6	9:24	405			X				30+	13	-27	X	497951			
can #653 returned																	
cap [redacted] returned																	

COMMENTS STANDARD TAT

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BILLING INFORMATION

Company Same as above

Address

City/State/Zip

ATTENTION

Purchase Order/Billing Reference

SAMPLED BY: AFDR/RMK	Date 12/6/10 Time	Received by:	Date Time	
Relinquished By:	Date 12/7/10 Time 9:35	Received by: NGEM	Date 12/7/10 Time 9:35	
Relinquished By: NGEM	Date 12/7/10 Time 9:35	Received by:	Date Time	
Relinquished By:	Date Time	Received for lab by: Kathryn Locke	Date 12/9 Time 13:40	

1.3 Analytical Batch Reference Table(s)

EPA TO-15M SIM Volatile Organics

SDG Number	Lab ID Number	Date Collected	Client ID	Analysis Batch
210486	1	12/06/10	IA-U3-O1-001	121410-MSC
210486	2	12/06/10	IA-U3-O3-001	121410-MSC
210486	3	12/06/10	IA-U3-O2-001	121410-MSC
210486	4	12/06/10	IA-U3-O2-002	121410-MSC
210486	5	12/06/10	IA-U3-UF-001	121410-MSC
210486	6	12/06/10	OA-U3-AI-001	121410-MSC
210486	7	12/06/10	IA-AB-O1-001	121410-MSC
210486	8	12/06/10	OA-AB-AI-001	121510-MSC
210486	9	12/07/10	IA-U3-O4-001	121510-MSC
210486	10	12/07/10	IA-U3-O5-001	121510-MSC
210486	11	12/07/10	IA-U3-O2-003	121510-MSC
210486	12	12/07/10	OA-U3-AI-002	121510-MSC
210486	13	12/07/10	IA-AB-O1-002	121510-MSC
210486	14	12/07/10	IA-FO-O1-001	121510-MSC
210486	15	12/07/10	OA-FO-AI-001	121510-MSC
210486	16	12/07/10	OA-U1-G2-002	121510-MSC
210486	17	12/07/10	IA-BP-CR-001	121510-MSC
210486	18	12/07/10	IA-BP-SO-001	121610-MSC
210486	19	12/07/10	OA-BP-AI-001	121610-MSC
210486	20	12/07/10	IA-LB-O1-001	121610-MSC
210486	21	12/07/10	IA-LB-O2-001	121610-MSC
210486	22	12/07/10	OA-LB-AI-001	121610-MSC
210486	23	12/07/10	IA-SP-CR-001	121610-MSC
210486	24	12/06/10	IA-WH-SA-001	121610-MSC
210486	25	12/06/10	OA-WH-AI-001	121610-MSC
210486	26	12/06/10	OA-UW-00-001	121610-MSC
210486	27	12/06/10	OA-U1-G2-001	121610-MSC

1.4 QC Criteria

The QC criteria are listed in the following tables by analytical test. The EAS QC Criteria described in the EAS Quality Manual was used as The QC criteria unless Project Specific QC Criteria was specified and supplied.

The daily analytical batch data was checked against the QC criteria and any criteria that did not pass are listed in the QC Comments section of the case narrative under the daily analytical batch number.

This package contains all the information needed for data validation for the requested samples. If level C package was requested the data for each daily analytical batch are provided in Section 4. If level D was requested on all or some samples the additional data (the ion spectra) for the samples and QC samples is given in Section 7.

EPA TO-15M SIM Volatile Organics

Parameter	EAS TO-15/TO-14A SIM Modified
BFB Tune	Daily (24 hour)
Tuning Criteria with BFB	TO-15 Tune Criteria
Initial Calibration	Five points minimum <30% RSD 90% compounds meet criteria
Calibration Check Sample (CCS)	After Initial Calibration
Continuing Calibration Verification (CCV)	Daily (24 hours) <30% 90% compounds meet criteria
Internal Standard (IS)	Chlorobenzene d5 Response 50% to 150%
Surrogate	Toluene-d8 70-130% recovery
Method Blank	Dry Nitrogen < RL or LOQ
Laboratory Control Spike	1 per Daily Batch 70-130% for LCS list <90% of compounds meet criteria
Duplicate Lab Control Dup Sample Dup	Duplicate with each 20 samples <30% for LCS spike list <90% of compounds meet criteria

1.5 Project Case Narrative

The samples were received in good condition with canister pressure in an acceptable range for a valid sample event. All analyses were performed in holding time as specified by the QC criteria listed in Section 1.4. The QC criteria for each of the analytical methods used in this project has been met except as noted in the QC comments for the daily analytical batch.

Daily Analytical Batch #: 121410-MSC
All analysis met the QC requirements for the method.

Daily Analytical Batch #: 121510-MSC
All analysis met the QC requirements for the method.

Daily Analytical Batch #: 121610-MSC
All analysis met the QC requirements for the method.

SECTION 2
Operational Information

2.1 SAMPLE ANALYSIS

EPA TO-15 Ambient Air by GC/MS - General Information

The GC/MS method (EPA Method TO-14/15) uses a cryotrapping system and a high resolution capillary column to analyze for volatile organic compounds for the TO-14 method a nafion dryer is used for water management, on TO-15 no dryer is used so oxygenated compounds can be analyzed.

Samples are analyzed on an HP 5890 gas chromatograph and HP 5970 MSD quadrapole mass spectrometer detector. A 100 to 1000 mL ambient air sample is introduced from the air sampling container on to the freezeout loop constructed of 1/8" nickel tubing packed with glass beads. A gas phase internal standard mixture, as specified in the EPA SOW for ambient air samples, is injected with each sample. The freezeout loop is immersed in liquid oxygen and concentrates the air sample. After the sample is trapped, it is thermally desorbed using an electric heater at 225° C and is cryofocussed onto the beginning of a 0.25 mm ID deactivated fused silica capillary column. The cryofocussed loop is then warmed and the compounds are injected onto a 60 meter, DB-5, 0.25 mm ID fused silica capillary column in the GC. The GC is temperature programmed from -10° C held for 3 minutes, then ramped to 70° C at 9°C/min, then ramped to 120° C at 5°C/min., then ramped to 220° C at 13° C/min and held for 2 minutes. As the column is heated, the compounds elute off the column and enter the mass spectrometer. The MS is scanned from 37 to 275 amu with a scan rate of 0.8 seconds for the Full Scan. The GC/MS is tuned and operated according to the specifications outlined in EPA SW 846 Test Methods. Compounds are calibrated by the internal standard procedure using NIST traceable air standards as described below. The relative percent difference (RPD) of a duplicate pair is about 30% at 10 ppbV and the average MDL is approximately 0.10 ppbV for most compounds at a 500 ml load volume.

TO-15/TO-14A GC/MS Selected Ion Monitoring (SIM)

This method is similar to the TO-15 method described above, except the mass spectrometer is operated in the selected ion-monitoring mode (SIM), which gives a lower detection limit for a select group of compounds. SIM is best used for a short list of compounds that need low MDL's, and is often run in combined mode with TO-15 Full Scan (TO-15 Full Scan-SIM combined). SIM works by selecting a limited group of ions to monitor, rather than scanning all ions.

The EAS modifications to the method include the target list and the QC criteria. A lower concentration internal standard is used for the SIM analysis.

2.2 Calibration Procedures

The standards used for the routine analytical tests are commercial NIST traceable gas standards. Special in-house standards are prepared when commercial standards are not available or when commercial standards need to be diluted. Details of the traceability and calibration program at EAS can be found in the EAS Quality Manual.

Working standards are prepared by using a gas dilution system on the gas chromatograph or by making static dilutions to atmospheric levels. The gas dilution system is constructed from an eight port gas sampling valve with various size sample loops. The loops are filled with the standard and flushed with "zero air". The gas dilution system is used for the daily instrument calibration.

The concentration of the individual target compounds is determined using the initial calibration response factors as shown below. The GC/MS methods us an internal standard in the calibration while the GC methods do not. If no is IS used the terms involving IS are removed from the sample calculations below.

2.3 Sample Calculations

$$RF = \frac{\text{Area Cmpd.}}{\text{Area IS}} * \frac{\text{Conc. IS}}{\text{Std Conc of Cmpd (ppbV)}}$$

Std Conc Cmpd (ppbV) = (Std Conc cmpd (ppmV)*1000*(Std load Vol /1000 mls)

Avg. RF = $(RF_1 + RF_2 + \ldots + Rf_n)/ n$

The Concentration of Analyte in the sample is calculated:

$$\frac{\text{Area Cmpd.}}{\text{Area IS}} * \frac{\text{IS Conc.}}{\text{Avg. RF}} * \frac{\text{1000 ml}}{\text{Smple. Vol.}} * DF$$

WhereIS = Internal Standard
RF = Response Factor
n = Number of calibration levels
DF = Final pressure/ Initial pressure of the SUMMA canister.
IS Conc. = 20 ppbV (except BFB = 10 ppbV)

2.4 GC/MS Specific Data Processing :

Qualifiers : Qualifiers are ions used to aid in the identification of a peak. These ions are usually the secondary ion peaks for the compound in question. A ratio between the area counts of the primary ion (used for quantitation) and the area counts of the secondary ion is established by analyzing a daily standard containing the ions of interest at a known concentration (generally a mid-level standard). The standard ratios are used to update the running method on a daily basis. The method sets an acceptable criteria window for the qualifier ion by using the ion ratios and the user specific qualifier criteria.

Example For Toluene :

Primary ion 91 : 341877 area counts Secondary ion 92 : 205126 area counts
The target ion 91 is automatically set at 100%.
The ratio of 92 ion to 91 ion is used to set a target qualifier amount for the 91 ion

205126 / 341877 * 100 = 60%.

The user then sets a +/- window based upon the experience and the industry standard criteria. EAS uses a window of +/-20 percent relative except for the early eluting compounds which use a window of +/-35 percent relative.

Qualifier Exceptions : An analyst must use his best judgment when positively identifying a compound using qualifiers, as several factors can affect the qualifier ratios. These factors include, but are not limited to, the amounts of carbon dioxide and water present in the sample, the ambient room temperature, coeluting peaks, baseline carry-over from compounds eluting prior to the peak in question and the actual amount of the compound in the sample.

If a compound is in question, the analyst will first compare the total peak spectra of the sample with the total compound spectra of a standard. If the two spectra are a fair match, the analyst will report a positive result. If the identity is still in question, the analyst runs a library search for compound matches with the NBS54K library. For a positive identification using this library, the peak in question must have a Q value match of 50% or above. If a positive peak identification still is not made, the analyst looks at the area counts for the target ion. If the area is less than 5000 counts and/or the compound result is near the instrument detection limit, the analyst will look for the presence of the qualifier. If it is present, a positive result will be reported. In the case that the compound result is less than 5 times the reported MDL, the presence of the target ion is sufficient to report a positive result. If none of this criteria is met, the compound is reported non-detected (ND).

Retention Time: Each day a calibration standard is analyzed. This calibration standard is used to check the compound target retention times in the running

method prior to all other analyses. The normal retention time window is +/- 0.2 minutes of the target retention time, adjusted for any retention time shifts in the internal standard (IS), with all shifts being in the same direction.

Retention Time Exceptions: Air samples rarely fall within the retention time guidelines cited above. The retention times of the compounds are significantly affected by the amount of carbon dioxide and water present in the samples. As a general rule, compounds eluting prior to benzene will be shifted to the left (earlier Rts), while the later eluting compounds may be shifted to the right (later Rts). For retention times near benzene, the normal retention time criteria can be used with judgment. The earlier the peaks elute from benzene, the wider the acceptance window becomes with the earliest peaks having a possible shift of 2 to 3 minutes. The analyst should use the nearest positively identified peak's retention time window as a guide to what the window will be for compounds near that peak. Normally, the peak elution prior to benzene is in the same direction. However, if significant amounts of carbon dioxide or water are present, they can cause the earliest eluting peaks to shift to the right. Peaks eluting after benzene may shift slightly to the right with the window increasing slightly with increasing distance. This shift is normally no more than +/- 0.4 minute of the target RT adjusted for the IS shift and is in the same direction for all compounds. If the analyst has knowledge of certain peak patterns, he will also use this information in identifying peaks. Another important retention time criteria for air samples is that all compounds should elute in the same order as the daily calibration standard compounds.

2.5 QUALITY CONTROL PROGRAM

The quality assurance program at Environmental Analytical Service, Inc. is described in detail in the EAS Quality Manual.

2.6 Data Qualifiers and Definitions

Data Qualifiers

U Indicates compound was analyzed for but not detected.

B This compound was also detected in the blank.

DL The sample was analyzed at a lower volume.

E The amount reported is an estimated value. The result may exceed the calibration range or may be affected by possible carry-over from the previous sample.

N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results.

J The amount reported is an estimated value. This flag is used when a compound is reported below the Lower Quantitation Limit (LQL) often called the Reporting Limit (RL).

NFS The ions do not fit the target spectra.

Definitions

ppbV = $\frac{\text{\# nanomoles cmpd}}{\text{\# moles air}}$

The compound (cmpd) is reported as ppb of compound by Volume. This unit is temperature independent.

ug/m3 = ppbV * $\frac{\text{MW cmpd}}{23.68}$

The compound is reported as ug of a compound in a m3 of air.
23.68 is the molar volume of a gas at 60 F and 1 atm pressure.
MW = molecular weight.
This unit is temperature dependent.

ppbC = ppbV * # carbons in compound.

SECTION 3
Summary of Results

3.1 EPA TO-15M SIM Volatile Organics

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 01**

File:	1048601A.D	**Date Sampled:**	12/06/10	**Time:**	7:17
Description:	IA-U3-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	770	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	17:13
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.15		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.112	0.624	0.110	0.562	3.134	
56-23-5	Carbon tetrachloride	0.022	0.112	0.080	0.143	0.727	0.520	J
79-01-6	Trichloroethene	0.022	0.112	0.174	0.123	0.618	0.963	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.204	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 02**

File:	1048602A.D	**Date Sampled:**	12/06/10	**Time:**	7:12
Description:	IA-U3-O3-001	**Date Received:**	12/09/10		
Can/Tube#:	160	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	17:57
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.18		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.113	0.284	0.112	0.570	1.427	
56-23-5	Carbon tetrachloride	0.022	0.113	0.034	0.145	0.737	0.218	J
79-01-6	Trichloroethene	0.022	0.113	0.102	0.124	0.627	0.565	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.210	105	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 03**

File:	1048603A.D	**Date Sampled:**	12/06/10	**Time:**	7:20
Description:	IA-U3-O2-001	**Date Received:**	12/09/10		
Can/Tube#:	685	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	18:41
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.22		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.023	0.115	0.982	0.114	0.580	4.935	
56-23-5	Carbon tetrachloride	0.023	0.115	0.111	0.147	0.751	0.719	J
79-01-6	Trichloroethene	0.023	0.115	0.137	0.126	0.639	0.757	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.204	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 04**

File:	1048604A.D	**Date Sampled:**	12/06/10	**Time:**	7:20
Description:	IA-U3-O2-002	**Date Received:**	12/09/10		
Can/Tube#:	766	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	19:24
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.02		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.105	0.632	0.104	0.528	3.178	
56-23-5	Carbon tetrachloride	0.021	0.105	0.036	0.134	0.683	0.232	J
79-01-6	Trichloroethene	0.021	0.105	0.029	0.115	0.581	0.162	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.208	104	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 05**

File:	1048605A.D	**Date Sampled:**	12/06/10	**Time:**	7:20
Description:	IA-U3-UF-001	**Date Received:**	12/09/10		
Can/Tube#:	409	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	20:07
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.07		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.108	0.062	0.106	0.541	0.312	J
56-23-5	Carbon tetrachloride	0.021	0.108	0.120	0.137	0.700	0.778	
79-01-6	Trichloroethene	0.021	0.108	0.097	0.118	0.595	0.535	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 06**

File:	1048606A.D	**Date Sampled:**	12/06/10	**Time:**	9:13
Description:	OA-U3-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	407	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	20:53
QC_Batch:	121410-MSC	**Can Dilution Factor:**	1.28		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.013	0.067	ND	0.066	0.334	ND	ND
56-23-5	Carbon tetrachloride	0.013	0.067	ND	0.085	0.433	ND	ND
79-01-6	Trichloroethene	0.013	0.067	0.050	0.073	0.368	0.276	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.201	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 07**

File:	1048607A.D	**Date Sampled:**	12/06/10	**Time:**	7:13
Description:	IA-AB-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	173	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	21:38
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.10		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.109	0.198	0.108	0.549	0.993	
56-23-5	Carbon tetrachloride	0.021	0.109	0.117	0.139	0.710	0.764	
79-01-6	Trichloroethene	0.022	0.109	0.029	0.120	0.604	0.158	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.202	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 08**

File:	1048608A.D	**Date Sampled:**	12/06/10	**Time:**	9:46
Description:	OA-AB-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	634	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	14:17
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.83		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.095	0.045	0.094	0.478	0.226	J
56-23-5	Carbon tetrachloride	0.019	0.095	0.100	0.121	0.619	0.648	
79-01-6	Trichloroethene	0.019	0.095	ND	0.104	0.526	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.201	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 09**

File:	1048609A.D	**Date Sampled:**	12/07/10	**Time:**	8:00
Description:	IA-U3-O4-001	**Date Received:**	12/09/10		
Can/Tube#:	700	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	15:01
QC_Batch:	121510-MSC	**Can Dilution Factor:**	2.64		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.027	0.137	0.499	0.135	0.690	2.507	
56-23-5	Carbon tetrachloride	0.027	0.137	0.085	0.175	0.893	0.554	J
79-01-6	Trichloroethene	0.027	0.137	0.187	0.150	0.759	1.034	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.203	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 10**

File:	1048610A.D	**Date Sampled:**	12/07/10	**Time:**	8:05
Description:	IA-U3-O5-001	**Date Received:**	12/09/10		
Can/Tube#:	672	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	15:45
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.93		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.100	0.224	0.099	0.504	1.124	
56-23-5	Carbon tetrachloride	0.020	0.100	0.111	0.128	0.653	0.722	
79-01-6	Trichloroethene	0.020	0.100	0.062	0.110	0.555	0.342	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.210	105	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 11**

File:	1048611A.D	**Date Sampled:**	12/07/10	**Time:**	8:08
Description:	IA-U3-O2-003	**Date Received:**	12/09/10		
Can/Tube#:	170	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	16:31
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.86		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.097	0.839	0.095	0.486	4.217	
56-23-5	Carbon tetrachloride	0.019	0.097	0.113	0.123	0.629	0.737	
79-01-6	Trichloroethene	0.019	0.097	0.131	0.106	0.535	0.727	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.215	107	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 12**

File:	1048612A.D	**Date Sampled:**	12/07/10	**Time:**	8:07
Description:	OA-U3-AI-002	**Date Received:**	12/09/10		
Can/Tube#:	652	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	17:24
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.99		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.103	0.078	0.102	0.520	0.392	J
56-23-5	Carbon tetrachloride	0.020	0.103	0.094	0.132	0.673	0.613	J
79-01-6	Trichloroethene	0.020	0.103	ND	0.113	0.572	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.209	105	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 13**

File:	1048613A.D	**Date Sampled:**	12/07/10	**Time:**	8:07
Description:	IA-AB-O1-002	**Date Received:**	12/09/10		
Can/Tube#:	692	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	18:07
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.99		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.103	0.200	0.102	0.520	1.003	
56-23-5	Carbon tetrachloride	0.020	0.103	0.170	0.132	0.673	1.102	
79-01-6	Trichloroethene	0.020	0.103	0.022	0.113	0.572	0.122	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.214	107	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 14**

File:	1048614A.D	**Date Sampled:**	12/07/10	**Time:**	8:28
Description:	IA-FO-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	756	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	18:49
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.82		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.095	0.125	0.093	0.476	0.628	
56-23-5	Carbon tetrachloride	0.019	0.095	0.123	0.121	0.615	0.799	
79-01-6	Trichloroethene	0.019	0.095	0.115	0.104	0.524	0.637	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.217	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

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Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 15**

File:	1048615A.D	**Date Sampled:**	12/07/10	**Time:**	9:27
Description:	OA-FO-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	629	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	19:31
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.72		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.018	0.089	0.101	0.088	0.449	0.509	
56-23-5	Carbon tetrachloride	0.018	0.089	0.108	0.114	0.582	0.702	
79-01-6	Trichloroethene	0.018	0.089	ND	0.098	0.495	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.215	107	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 16**

File:	1048616A.D	**Date Sampled:**	12/07/10	**Time:**	9:51
Description:	OA-U1-G2-002	**Date Received:**	12/09/10		
Can/Tube#:	729	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	20:15
QC_Batch:	121510-MSC	**Can Dilution Factor:**	2.36		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.024	0.123	0.086	0.121	0.617	0.434	J
56-23-5	Carbon tetrachloride	0.024	0.123	0.111	0.157	0.798	0.719	J
79-01-6	Trichloroethene	0.024	0.123	ND	0.134	0.679	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 17**

File:	1048617A.D	**Date Sampled:**	12/07/10	**Time:**	8:13
Description:	IA-BP-CR-001	**Date Received:**	12/09/10		
Can/Tube#:	516	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	20:58
QC_Batch:	121510-MSC	**Can Dilution Factor:**	2.19		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.114	0.124	0.112	0.572	0.622	
56-23-5	Carbon tetrachloride	0.022	0.114	0.077	0.145	0.741	0.502	J
79-01-6	Trichloroethene	0.023	0.114	ND	0.125	0.630	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.201	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

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Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 18**

File:	1048618A.D	**Date Sampled:**	12/07/10	**Time:**	8:17
Description:	IA-BP-SO-001	**Date Received:**	12/09/10		
Can/Tube#:	538	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	14:07
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.88		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.098	0.213	0.096	0.491	1.073	
56-23-5	Carbon tetrachloride	0.019	0.098	0.111	0.125	0.636	0.720	
79-01-6	Trichloroethene	0.019	0.098	ND	0.107	0.541	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.228	114	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

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ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 19**

File:	1048619A.D	**Date Sampled:**	12/07/10	**Time:**	9:49
Description:	OA-BP-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	526	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	14:51
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.73		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.018	0.090	0.073	0.089	0.452	0.365	J
56-23-5	Carbon tetrachloride	0.018	0.090	0.123	0.115	0.585	0.801	
79-01-6	Trichloroethene	0.018	0.090	ND	0.099	0.498	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.220	110	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 20**

File:	1048620A.D	**Date Sampled:**	12/07/10	**Time:**	7:56
Description:	IA-LB-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	2961	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	15:34
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.18		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.113	0.855	0.112	0.570	4.294	
56-23-5	Carbon tetrachloride	0.022	0.113	0.392	0.145	0.737	2.551	
79-01-6	Trichloroethene	0.022	0.113	ND	0.124	0.627	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.225	113	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 21**

File:	1048621A.D	**Date Sampled:**	12/07/10	**Time:**	7:55
Description:	IA-LB-O2-001	**Date Received:**	12/09/10		
Can/Tube#:	527	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	16:20
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.93		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.100	0.923	0.099	0.504	4.639	
56-23-5	Carbon tetrachloride	0.020	0.100	0.438	0.128	0.653	2.848	
79-01-6	Trichloroethene	0.020	0.100	0.022	0.110	0.555	0.124	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.218	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

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ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 22**

File:	1048622A.D	**Date Sampled:**	12/07/10	**Time:**	9:40
Description:	OA-LB-A1-001	**Date Received:**	12/09/10		
Can/Tube#:	535	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	17:02
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.38		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.024	0.124	0.148	0.122	0.622	0.742	
56-23-5	Carbon tetrachloride	0.024	0.124	0.085	0.158	0.805	0.555	J
79-01-6	Trichloroethene	0.025	0.124	ND	0.136	0.685	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.231	115	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

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Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 23**

File:	1048623A.D	**Date Sampled:**	12/07/10	**Time:**	8:14
Description:	IA-SP-CR-001	**Date Received:**	12/09/10		
Can/Tube#:	158	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	17:45
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.21		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.023	0.115	0.120	0.113	0.578	0.604	
56-23-5	Carbon tetrachloride	0.023	0.115	0.129	0.147	0.747	0.838	
79-01-6	Trichloroethene	0.023	0.115	ND	0.126	0.636	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.219	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

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EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 24**

File:	1048624A.D	**Date Sampled:**	12/06/10	**Time:**	7:22
Description:	IA-WH-SA-001	**Date Received:**	12/09/10		
Can/Tube#:	416	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	18:26
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.05		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.107	2.593	0.105	0.536	13.028	
56-23-5	Carbon tetrachloride	0.021	0.107	0.036	0.136	0.693	0.233	J
79-01-6	Trichloroethene	0.021	0.107	0.026	0.117	0.590	0.145	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.223	111	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 25**

File:	1048625A.D	**Date Sampled:**	12/06/10	**Time:**	21:25
Description:	OA-WH-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	192	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	19:09
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.26		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.013	0.066	0.078	0.065	0.329	0.390	
56-23-5	Carbon tetrachloride	0.013	0.066	0.107	0.084	0.426	0.698	
79-01-6	Trichloroethene	0.013	0.066	ND	0.072	0.362	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.215	108	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 26**

File:	1048626A.D	**Date Sampled:**	12/06/10	**Time:**	10:12
Description:	OA-UW-00-001	**Date Received:**	12/09/10		
Can/Tube#:	65	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	19:51
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.93		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.100	0.687	0.099	0.504	3.453	
56-23-5	Carbon tetrachloride	0.020	0.100	0.161	0.128	0.653	1.046	
79-01-6	Trichloroethene	0.020	0.100	ND	0.110	0.555	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.230	115	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 27**

File:	1048627A.D	**Date Sampled:**	12/06/10	**Time:**	9:24
Description:	OA-U1-G2-001	**Date Received:**	12/09/10		
Can/Tube#:	405	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	20:39
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.91		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.099	0.085	0.098	0.499	0.426	J
56-23-5	Carbon tetrachloride	0.019	0.099	0.121	0.127	0.646	0.786	
79-01-6	Trichloroethene	0.020	0.099	0.114	0.109	0.549	0.630	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

SECTION 4
Analytical Data, Level C

This section contains the Daily Analytical Batch (DAB) data for each analytical test requested. There will be a separate DAB for each day samples were analyzed and for each analysis requested. The DAB's are organized first by analytical test then in order of date. To find a particular sample refer to the Analytical Batch Reference Table in Section 1.3, which gives the DAB number for each sample.

Each Batch contains the following:

1) Tune Data (GC/MS only)
2) Continuing Calibration Sample
3) Method Blank
4) QC Samples (LCS, LCD, MS, Sample Dup)
5) Samples

Each sample data package contains all of the information used to quantitate the results for that sample. The Initial Calibration data is included, along with the response factors, calculation sheet, sample calculation, and analytical report. Note: The continuing calibration is considered a separate QC check sample, since the continuing calibration data is not used to calculate the analytical results (results are calculated from the initial calibration curve data).

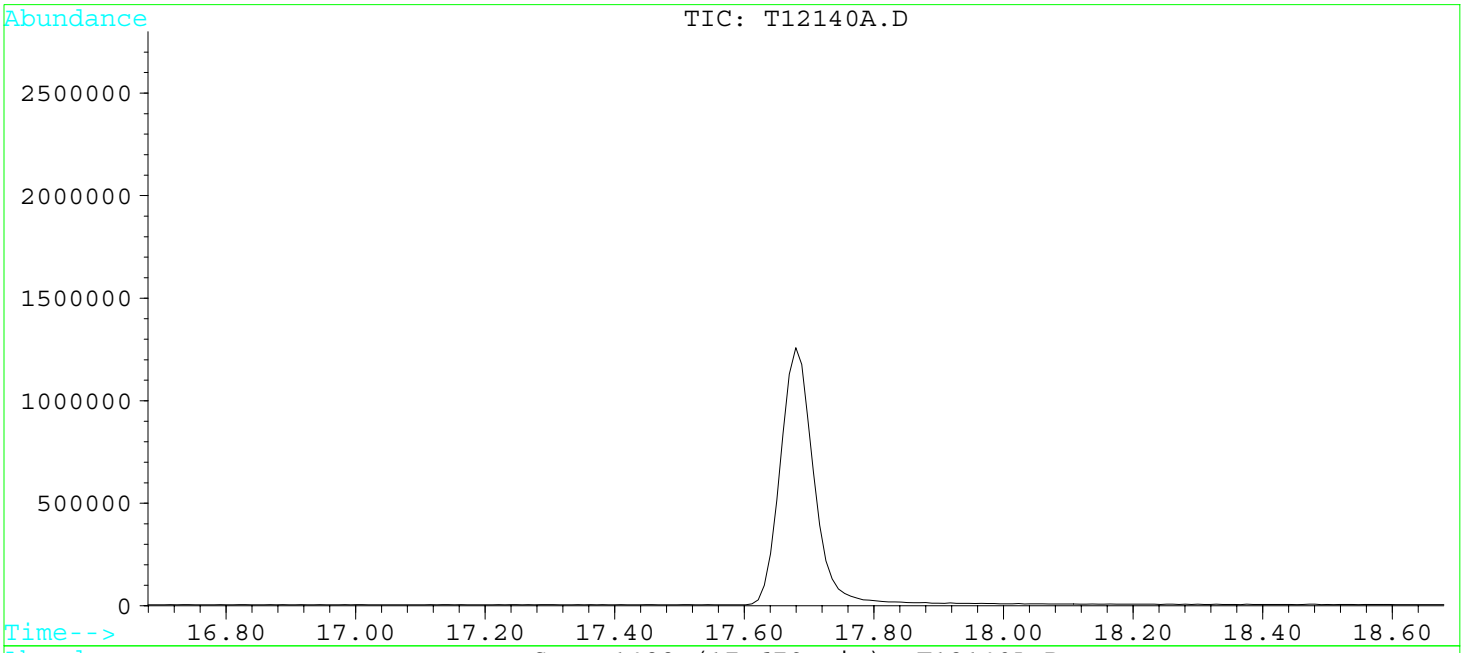
4.1 EPA TO-15 SIM Volatile Organics

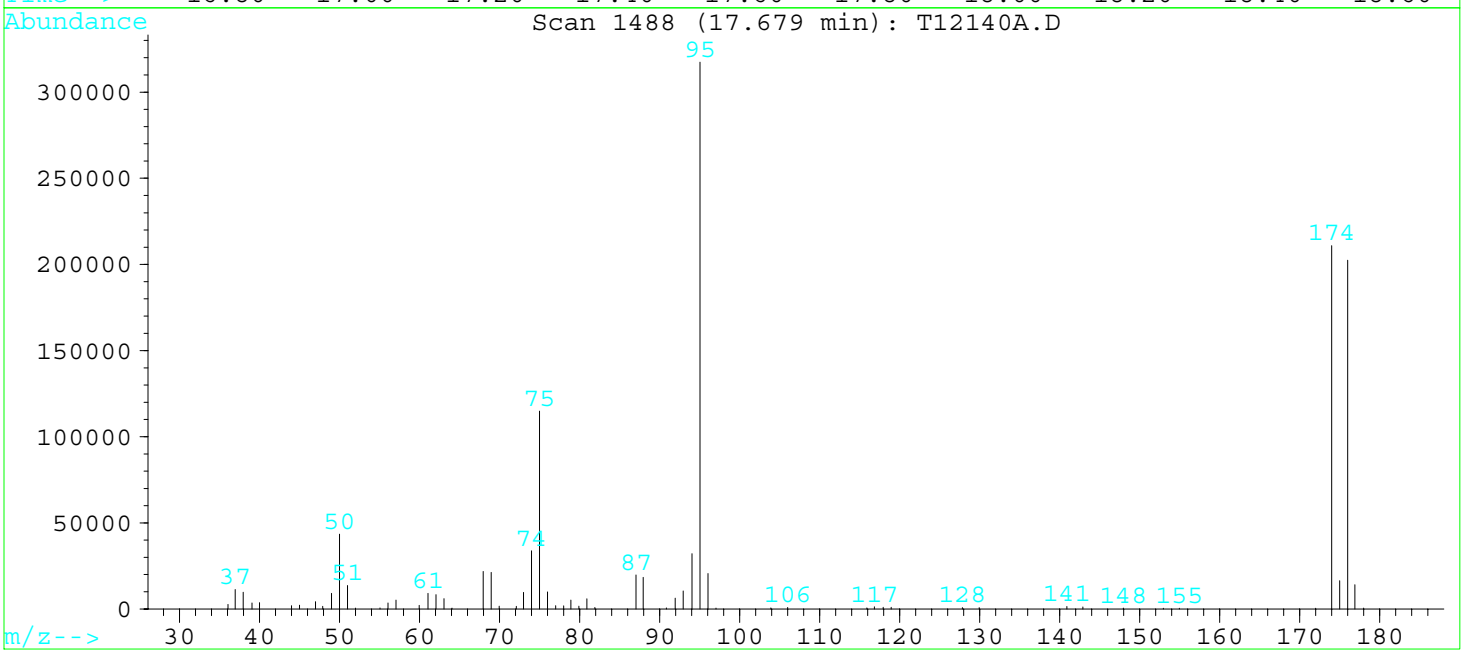
Daily Analytical Batch #: 121410-MSC

BFB

Data File : C:\MSCHEM\2\DATA\12140MSC\T12140A.D
Acq Time : 14 Dec 110 8:47 am Operator: KT
Sample : BFB TUNE Inst : MSC HP597
Misc : Multiplr: 1.00

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15





Peak Apex is scan: 1488

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.7	43480	PASS
75	95	30	66	36.2	114880	PASS
95	95	100	100	100.0	317376	PASS
96	95	5	9	6.5	20616	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	66.4	210816	PASS
175	174	4	9	7.8	16432	PASS
176	174	93	101	96.0	202432	PASS
177	176	5	9	7.0	14181	PASS

T12140A.D CNTHG_A.M Mon Dec 20 09:34:52 2010

CONTINUING CALIBRATION REPORT

SDG:	**LABQC**
QC_Batch:	**121410-MSC**
Sample ID:	ST60421 + ST60550
Sample Analysis Date:	14 Dec 110 9:29 am
Run Method:	CEXSIM_A.M
Quant/Calibration Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms
Calibration Level	Level 6 1.0

Sample Calculation:

$$1)\ RFi = \frac{(Astdi)\ (Cistdi)}{(Cstdi)\ (Aistdi)}\ i$$

Compound	Area Astdi	Cal Level Cstdi ppbv	CCRRF	AvgRFn	%Dev	%Dev Limit	%Dev Flag
Chloroform	107780	0.510	0.176	0.206	14.3	30	IN
Carbon tetrachloride	82056	0.510	0.134	0.143	6.2	30	IN
Trichloroethene	68852	0.515	0.112	0.127	11.9	30	IN
Chlorobenzene-d5	239782	0.200	1.000	1.000	0.0	30	IN
Toluene-d8	76664	0.200	0.320	0.346	7.7	30	IN

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** C12140A

File Name:	C12140A.D		1 **SS**
Sample ID:	ST60421 + ST60550		2 **KB**
Date:	14 Dec 110 9:29 am	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.00		
Volume:	500 ml	Analyst: SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.437	10.72	10.66	83.00	107780	67	51	77			
56-23-5	Carbon tetrachloride	4	0.478	12.76	12.66	116.90	82056	102	83	124			
79-01-6	Trichloroethene	5	0.454	14.34	14.26	130.00	68852	106	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**239782**						
2037-26-5	Toluene-d8	2	0.185	17.13	17.05	98.00	**76664**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121410-MSC**	
File Name:	C12140A.D		**Instrument Name:**	MSC HP597	
Sample ID:	ST60421 + ST60550				
Sample Analysis Date:	14 Dec 110 9:29 am			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121410-MSC**
Sample ID:	ST60421 + ST60550
Sample Analysis Date:	14 Dec 110 9:29 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: C12140

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.437	0.874	4.392	0.005	0.026	0.01	0.051	0.05	0.261		0.255
Carbon tetrachloride	154.0	0.478	0.957	6.221	0.005	0.026	0.01	0.066	0.05	0.338		0.255
Trichloroethene	131.0	0.454	0.907	5.018	0.005	0.026	0.01	0.057	0.05	0.288		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**C12140**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) (Cistdi) / (Avg RFn) (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	107780	0.200	239782	0.437	0.874	4.392
4	Carbon tetrachloride	1	TRG	154.0	0.143	82056	0.200	239782	0.478	0.957	6.224
5	Trichloroethene	1	TRG	131.0	0.127	68852	0.200	239782	0.454	0.907	5.018
1	Chlorobenzene-d5	1	IS	0.0	1.000	239782	0.200	239782	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	76664	0.200	239782	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: TO-15 SIM **Laboratory Number: B12140**

File:	B12140B.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	12/14/10	**Time:**	13:39
QC_Batch:	121410-MSC	**Can Dilution Factor:**	1.00		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.010	0.052	ND	0.051	0.261	ND	ND
56-23-5	Carbon tetrachloride	0.010	0.052	ND	0.066	0.338	ND	ND
79-01-6	Trichloroethene	0.010	0.052	ND	0.057	0.288	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.204	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

		Review	**EAS Sample ID:** B12140B		
File Name:	B12140B.D			1	**SS**
Sample ID:	METHOD BLANK			2	**KB**
Date:	14 Dec 110 1:39 pm		Cal Amounts	3	**AT**
Run Method:	CEXSIM_A.M		IS Areas	4	**BB**
Quant Method:	CNTHG_A.M		Carryover	5	**SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.00				
Volume:	500 ml		Analyst: SS 1		

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.000	10.71	10.66	83.00	84	23	51	77			
56-23-5	Carbon tetrachloride	4	0.000	12.66	12.66	116.90	24	0	83	124			
79-01-6	Trichloroethene	5	0.002	14.33	14.26	130.00	215	104	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**166358**						
2037-26-5	Toluene-d8	2	0.204	17.15	17.05	98.00	**58643**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

				SDG:	**LABQC**
				QC_Batch:	**121410-MSC**
File Name:	B12140B.D		**Instrument Name:**	MSC HP597	
Sample ID:	METHOD BLANK				
Sample Analysis Date:	14 Dec 110 1:39 pm			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**	**Sample Calculation:**				
QC_Batch:	**121410-MSC**	1) Avg RFn =	Sum	(Astdni)	(Cistdi)	
Sample ID:	METHOD BLANK			(Cstdni)	(Aistdi)	i
Sample Analysis Date:	14 Dec 110 1:39 pm					
Run Method:	CEXSIM_A.M					
Quant Method:	CNTHG_A.M					
Cal Update:	Fri Dec 17 09:54:00 2010					
Template:	northgte.ms					

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: B12140

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.000	0.001	0.005	0.005	0.026	0.01	0.051	0.05	0.261	U	0.255
Carbon tetrachloride	154.0	0.000	0.000	0.003	0.005	0.026	0.01	0.066	0.05	0.338	U	0.255
Trichloroethene	131.0	0.002	0.004	0.023	0.005	0.026	0.01	0.057	0.05	0.288	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**B12140**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\ (Cistdi)}{(Avg\ RFn)\ (Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	84	0.200	166358	0.000	0.001	0.005
4	Carbon tetrachloride	1	TRG	154.0	0.143	24	0.200	166358	0.000	0.000	0.000
5	Trichloroethene	1	TRG	131.0	0.127	215	0.200	166358	0.002	0.004	0.022
1	Chlorobenzene-d5	1	IS	0.0	1.000	166358	0.200	166358	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58643	0.200	166358	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: TO-15 SIM

File: QC12140A.D
Description: ST60022
Can/Tube#:
Sam_Type: LCS
QC_Batch: 121410-MSC
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/14/10 **Time:** 10:24
Can Dilution Factor: 1.00 3
QC Duplicate: No

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
67-66-3	Chloroform	0.005	0.583	0.583	0.000	0.583	100	70	130	
56-23-5	Carbon tetrachloride	0.005	0.616	0.614	0.000	0.614	100	70	130	
79-01-6	Trichloroethene	0.005	0.591	0.596	0.000	0.596	101	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.199	99	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** QC12140

File Name:	QC12140A.D				1 **SS**
Sample ID:	ST60022				2 **KB**
Date:	14 Dec 110 10:24 am		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.00				
Volume:	1000	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.583	10.74	10.66	83.00	115648	64	51	77			
56-23-5	Carbon tetrachloride	4	0.614	12.75	12.66	116.90	84715	95	83	124			
79-01-6	Trichloroethene	5	0.596	14.33	14.26	130.00	72675	97	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**192680**						
2037-26-5	Toluene-d8	2	0.199	17.15	17.05	98.00	**66373**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121410-MSC**	
File Name:	QC12140A.D		**Instrument Name:**	MSC HP597	
Sample ID:	ST60022				
Sample Analysis Date:	14 Dec 110 10:24 am			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121410-MSC**
Sample ID:	ST60022
Sample Analysis Date:	14 Dec 110 10:24 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: QC12140

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	1000	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.583	0.583	2.932	0.005	0.026	0.01	0.026	0.03	0.131		0.583
Carbon tetrachloride	154.0	0.614	0.614	3.996	0.005	0.026	0.01	0.033	0.03	0.169		0.616
Trichloroethene	131.0	0.596	0.596	3.296	0.005	0.026	0.01	0.028	0.03	0.144		0.591

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**QC12140**
Standard Volume	STV	1.0
Sample Volume	SV	1000
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) / (Avg RFn) (Cistdi) / (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 / (SV) (CDF) (STV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	115648	0.200	192680	0.583	0.583	2.930
4	Carbon tetrachloride	1	TRG	154.0	0.143	84715	0.200	192680	0.614	0.614	3.993
5	Trichloroethene	1	TRG	131.0	0.127	72675	0.200	192680	0.596	0.596	3.297
1	Chlorobenzene-d5	1	IS	0.0	1.000	192680	0.200	192680	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	66373	0.200	192680	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

QUALITY CONTROL DUPLICATE

ENVIRONMENTAL
Analytical Service, Inc.

Duplicate of QC Sample

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

Dup File: QC12140B.D
Description: ST60022
Can/Tube#:
QC_Batch: 121410-MSC

CAS#	Compound	LCD ppbv	LCS ppbv	RPD %D	Limit %	Flag * = Out
67-66-3	Chloroform	0.578	0.583	1	25	
56-23-5	Carbon tetrachloride	0.602	0.614	2	25	
79-01-6	Trichloroethene	0.578	0.596	3	25	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL DUPLICATE

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: TO-15 SIM

File: QC12140B.D
Description: ST60022
Can/Tube#:
Sam_Type: LCD
QC_Batch: 121410-MSC
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/14/10 **Time:** 11:08
Can Dilution Factor: 1.00 3
QC Duplicate: Yes

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
67-66-3	Chloroform	0.005	0.583	0.578	0.000	0.578	99	70	130	
56-23-5	Carbon tetrachloride	0.005	0.616	0.602	0.000	0.602	98	70	130	
79-01-6	Trichloroethene	0.005	0.591	0.578	0.000	0.578	98	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.197	99	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** QC12140

File Name:	QC12140B.D			1	**SS**
Sample ID:	ST60022			2	**KB**
Date:	14 Dec 110 11:08 am	Cal Amounts		3	**AT**
Run Method:	CEXSIM_A.M	IS Areas		4	**BB**
Quant Method:	CNTHG_A.M	Carryover		5	**SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.00				
Volume:	1000 ml	Analyst:	SS	1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.578	10.75	10.66	83.00	114473	64	51	77			
56-23-5	Carbon tetrachloride	4	0.602	12.78	12.66	116.90	82960	103	83	124			
79-01-6	Trichloroethene	5	0.578	14.36	14.26	130.00	70473	107	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.59	20.51	117.00	**192623**						
2037-26-5	Toluene-d8	2	0.197	17.15	17.05	98.00	**65795**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121410-MSC**	
File Name:	QC12140B.D		**Instrument Name:**	MSC HP597	
Sample ID:	ST60022				
Sample Analysis Date:	14 Dec 110 11:08 am			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**	**Sample Calculation:**				
QC_Batch:	**121410-MSC**	1) Avg RFn =	Sum	(Astdni)	(Cistdi)	
Sample ID:	ST60022			(Cstdni)	(Aistdi)	i
Sample Analysis Date:	14 Dec 110 11:08 am					
Run Method:	CEXSIM_A.M					
Quant Method:	CNTHG_A.M					
Cal Update:	Fri Dec 17 09:54:00 2010					
Template:	northgte.ms					

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: QC12140

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	1000	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.578	0.578	2.903	0.005	0.026	0.01	0.026	0.03	0.131		0.583
Carbon tetrachloride	154.0	0.602	0.602	3.914	0.005	0.026	0.01	0.033	0.03	0.169		0.616
Trichloroethene	131.0	0.578	0.578	3.197	0.005	0.026	0.01	0.028	0.03	0.144		0.591

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**QC12140**
Standard Volume	STV	1.0
Sample Volume	SV	1000
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum (Astdni) (Cistdi) / (Cstdni) (Aistdi) i — Note: 1

2) Raw Amt = (Ansamp) (Cistdi) / (Avg RFn) (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	114473	0.200	192623	0.578	0.578	2.905
4	Carbon tetrachloride	1	TRG	154.0	0.143	82960	0.200	192623	0.602	0.602	3.915
5	Trichloroethene	1	TRG	131.0	0.127	70473	0.200	192623	0.578	0.578	3.198
1	Chlorobenzene-d5	1	IS	0.0	1.000	192623	0.200	192623	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	65795	0.200	192623	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 01**

File:	1048601A.D	**Date Sampled:**	12/06/10	**Time:**	7:17
Description:	IA-U3-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	770	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	17:13
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.15		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.112	0.624	0.110	0.562	3.134	
56-23-5	Carbon tetrachloride	0.022	0.112	0.080	0.143	0.727	0.520	J
79-01-6	Trichloroethene	0.022	0.112	0.174	0.123	0.618	0.963	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.204	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048601

File Name:	1048601A.D				1 **SS**
Sample ID:	IA-U3-O1-001				2 **KB**
Date:	14 Dec 110 5:13 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	2.15				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.145	10.69	10.66	83.00	26534	63	51	77			
56-23-5	Carbon tetrachloride	4	0.019	12.72	12.66	116.90	2368	96	83	124			
79-01-6	Trichloroethene	5	0.040	14.30	14.26	130.00	4557	98	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**177871**						
2037-26-5	Toluene-d8	2	0.204	17.12	17.05	98.00	**62671**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048601A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O1-001
Sample Analysis Date: 14 Dec 110 5:13 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	IA-U3-O1-001
Sample Analysis Date:	14 Dec 110 5:13 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\ i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 01

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.15	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.145	0.624	3.134	0.005	0.026	0.02	0.110	0.11	0.562		0.255
Carbon tetrachloride	154.0	0.019	0.080	0.520	0.005	0.026	0.02	0.143	0.11	0.727	J	0.255
Trichloroethene	131.0	0.040	0.174	0.963	0.005	0.026	0.02	0.123	0.11	0.618		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**01**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.15
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	26534	0.200	177871	0.145	0.624	3.136
4	Carbon tetrachloride	1	TRG	154.0	0.143	2368	0.200	177871	0.019	0.080	0.520
5	Trichloroethene	1	TRG	131.0	0.127	4557	0.200	177871	0.040	0.174	0.963
1	Chlorobenzene-d5	1	IS	0.0	1.000	177871	0.200	177871	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	62671	0.200	177871	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 02**

File:	1048602A.D	**Date Sampled:**	12/06/10	**Time:**	7:12
Description:	IA-U3-O3-001	**Date Received:**	12/09/10		
Can/Tube#:	160	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	17:57
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.18		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.113	0.284	0.112	0.570	1.427	
56-23-5	Carbon tetrachloride	0.022	0.113	0.034	0.145	0.737	0.218	J
79-01-6	Trichloroethene	0.022	0.113	0.102	0.124	0.627	0.565	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.210	105	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048602

File Name:	1048602A.D				1 **SS**
Sample ID:	IA-U3-O3-001				2 **KB**
Date:	14 Dec 110 5:57 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	2.18				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.065	10.70	10.66	83.00	10813	66	51	77			
56-23-5	Carbon tetrachloride	4	0.008	12.72	12.66	116.90	889	93	83	124			
79-01-6	Trichloroethene	5	0.023	14.30	14.26	130.00	2394	94	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**161444**						
2037-26-5	Toluene-d8	2	0.210	17.12	17.05	98.00	**58723**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048602A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O3-001
Sample Analysis Date: 14 Dec 110 5:57 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	IA-U3-O3-001
Sample Analysis Date:	14 Dec 110 5:57 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 02

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.18	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.065	0.284	1.427	0.005	0.026	0.02	0.112	0.11	0.570		0.255
Carbon tetrachloride	154.0	0.008	0.034	0.218	0.005	0.026	0.02	0.145	0.11	0.737	J	0.255
Trichloroethene	131.0	0.023	0.102	0.565	0.005	0.026	0.02	0.124	0.11	0.627	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**02**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.18
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	10813	0.200	161444	0.065	0.284	1.427
4	Carbon tetrachloride	1	TRG	154.0	0.143	889	0.200	161444	0.008	0.034	0.221
5	Trichloroethene	1	TRG	131.0	0.127	2394	0.200	161444	0.023	0.102	0.564
1	Chlorobenzene-d5	1	IS	0.0	1.000	161444	0.200	161444	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58723	0.200	161444	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 03**

File:	1048603A.D	**Date Sampled:**	12/06/10	**Time:**	7:20
Description:	IA-U3-O2-001	**Date Received:**	12/09/10		
Can/Tube#:	685	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	18:41
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.22		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.023	0.115	0.982	0.114	0.580	4.935	
56-23-5	Carbon tetrachloride	0.023	0.115	0.111	0.147	0.751	0.719	J
79-01-6	Trichloroethene	0.023	0.115	0.137	0.126	0.639	0.757	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.204	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048603

File Name:	1048603A.D				1 **SS**
Sample ID:	IA-U3-O2-001				2 **KB**
Date:	14 Dec 110 6:41 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	2.22				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.221	10.70	10.66	83.00	38084	64	51	77			
56-23-5	Carbon tetrachloride	4	0.025	12.71	12.66	116.90	2984	96	83	124			
79-01-6	Trichloroethene	5	0.031	14.29	14.26	130.00	3267	93	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**167387**						
2037-26-5	Toluene-d8	2	0.204	17.11	17.05	98.00	**58974**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048603A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O2-001
Sample Analysis Date: 14 Dec 110 6:41 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	IA-U3-O2-001
Sample Analysis Date:	14 Dec 110 6:41 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 03

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.22	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.221	0.982	4.935	0.005	0.026	0.02	0.114	0.12	0.580		0.255
Carbon tetrachloride	154.0	0.025	0.111	0.719	0.005	0.026	0.02	0.147	0.12	0.751	J	0.255
Trichloroethene	131.0	0.031	0.137	0.757	0.005	0.026	0.02	0.126	0.12	0.639		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**03**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.22
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	38084	0.200	167387	0.221	0.982	4.935
4	Carbon tetrachloride	1	TRG	154.0	0.143	2984	0.200	167387	0.025	0.111	0.722
5	Trichloroethene	1	TRG	131.0	0.127	3267	0.200	167387	0.031	0.137	0.758
1	Chlorobenzene-d5	1	IS	0.0	1.000	167387	0.200	167387	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58974	0.200	167387	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 04**

File:	1048604A.D	**Date Sampled:**	12/06/10	**Time:**	7:20
Description:	IA-U3-O2-002	**Date Received:**	12/09/10		
Can/Tube#:	766	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	19:24
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.02		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.105	0.632	0.104	0.528	3.178	
56-23-5	Carbon tetrachloride	0.021	0.105	0.036	0.134	0.683	0.232	J
79-01-6	Trichloroethene	0.021	0.105	0.029	0.115	0.581	0.162	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.208	104	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048604

File Name:	1048604A.D				1 **SS**
Sample ID:	IA-U3-O2-002				2 **KB**
Date:	14 Dec 110 7:24 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	2.02				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.157	10.64	10.66	83.00	25679	64	51	77			
56-23-5	Carbon tetrachloride	4	0.009	12.69	12.66	116.90	1007	97	83	124			
79-01-6	Trichloroethene	5	0.007	14.26	14.26	130.00	730	97	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.54	20.51	117.00	**159498**						
2037-26-5	Toluene-d8	2	0.208	17.08	17.05	98.00	**57545**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048604A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O2-002
Sample Analysis Date: 14 Dec 110 7:24 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	IA-U3-O2-002
Sample Analysis Date:	14 Dec 110 7:24 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 04

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.02	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.157	0.632	3.178	0.005	0.026	0.02	0.104	0.11	0.528		0.255
Carbon tetrachloride	154.0	0.009	0.036	0.232	0.005	0.026	0.02	0.134	0.11	0.683	J	0.255
Trichloroethene	131.0	0.007	0.029	0.162	0.005	0.026	0.02	0.115	0.11	0.581	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**04**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.02
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	25679	0.200	159498	0.157	0.632	3.176
4	Carbon tetrachloride	1	TRG	154.0	0.143	1007	0.200	159498	0.009	0.036	0.234
5	Trichloroethene	1	TRG	131.0	0.127	730	0.200	159498	0.007	0.029	0.160
1	Chlorobenzene-d5	1	IS	0.0	1.000	159498	0.200	159498	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	57545	0.200	159498	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 05**

File:	1048605A.D	**Date Sampled:**	12/06/10	**Time:**	7:20
Description:	IA-U3-UF-001	**Date Received:**	12/09/10		
Can/Tube#:	409	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	20:07
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.07		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.108	0.062	0.106	0.541	0.312	J
56-23-5	Carbon tetrachloride	0.021	0.108	0.120	0.137	0.700	0.778	
79-01-6	Trichloroethene	0.021	0.108	0.097	0.118	0.595	0.535	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048605

File Name:	1048605A.D			1 **SS**
Sample ID:	IA-U3-UF-001			2 **KB**
Date:	14 Dec 110 8:07 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	2.07			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.015	10.66	10.66	83.00	2421	66	51	77			
56-23-5	Carbon tetrachloride	4	0.029	12.69	12.66	116.90	3249	99	83	124			
79-01-6	Trichloroethene	5	0.023	14.27	14.26	130.00	2324	98	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.54	20.51	117.00	**157112**						
2037-26-5	Toluene-d8	2	0.212	17.09	17.05	98.00	**57587**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048605A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-UF-001
Sample Analysis Date: 14 Dec 110 8:07 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	IA-U3-UF-001
Sample Analysis Date:	14 Dec 110 8:07 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 05

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.07	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.015	0.062	0.312	0.005	0.026	0.02	0.106	0.11	0.541	J	0.255
Carbon tetrachloride	154.0	0.029	0.120	0.778	0.005	0.026	0.02	0.137	0.11	0.700		0.255
Trichloroethene	131.0	0.023	0.097	0.535	0.005	0.026	0.02	0.118	0.11	0.595	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**05**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.07
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) (Cistdi) / (Avg RFn) (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	2421	0.200	157112	0.015	0.062	0.312
4	Carbon tetrachloride	1	TRG	154.0	0.143	3249	0.200	157112	0.029	0.120	0.780
5	Trichloroethene	1	TRG	131.0	0.127	2324	0.200	157112	0.023	0.097	0.537
1	Chlorobenzene-d5	1	IS	0.0	1.000	157112	0.200	157112	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	57587	0.200	157112	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 06**

File:	1048606A.D	**Date Sampled:**	12/06/10	**Time:**	9:13
Description:	OA-U3-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	407	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	20:53
QC_Batch:	121410-MSC	**Can Dilution Factor:**	1.28		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.013	0.067	ND	0.066	0.334	ND	ND
56-23-5	Carbon tetrachloride	0.013	0.067	ND	0.085	0.433	ND	ND
79-01-6	Trichloroethene	0.013	0.067	0.050	0.073	0.368	0.276	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.201	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048606

File Name:	1048606A.D			1 **SS**
Sample ID:	OA-U3-AI-001			2 **KB**
Date:	14 Dec 110 8:53 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.28			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.001	10.77	10.66	83.00	116	93	51	77			
56-23-5	Carbon tetrachloride	4	0.000	12.63	12.66	116.90	6	100	83	124			
79-01-6	Trichloroethene	5	0.020	14.34	14.26	130.00	2013	93	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**162925**						
2037-26-5	Toluene-d8	2	0.201	17.12	17.05	98.00	**56775**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048606A.D
Instrument Name: MSC HP597
Sample ID: OA-U3-AI-001
Sample Analysis Date: 14 Dec 110 8:53 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	OA-U3-AI-001
Sample Analysis Date:	14 Dec 110 8:53 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\ i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 06

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.28	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.001	0.002	0.009	0.005	0.026	0.01	0.066	0.07	0.334	U	0.255
Carbon tetrachloride	154.0	0.000	0.000	0.001	0.005	0.026	0.01	0.085	0.07	0.433	U	0.255
Trichloroethene	131.0	0.020	0.050	0.276	0.005	0.026	0.01	0.073	0.07	0.368	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**06**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.28
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	116	0.200	162925	0.001	0.002	0.010
4	Carbon tetrachloride	1	TRG	154.0	0.143	6	0.200	162925	0.000	0.000	0.000
5	Trichloroethene	1	TRG	131.0	0.127	2013	0.200	162925	0.020	0.050	0.277
1	Chlorobenzene-d5	1	IS	0.0	1.000	162925	0.200	162925	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56775	0.200	162925	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 07**

File:	1048607A.D	**Date Sampled:**	12/06/10	**Time:**	7:13
Description:	IA-AB-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	173	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/14/10	**Time:**	21:38
QC_Batch:	121410-MSC	**Can Dilution Factor:**	2.10		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.109	0.198	0.108	0.549	0.993	
56-23-5	Carbon tetrachloride	0.021	0.109	0.117	0.139	0.710	0.764	
79-01-6	Trichloroethene	0.022	0.109	0.029	0.120	0.604	0.158	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.202	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048607

File Name:	1048607A.D		1 **SS**
Sample ID:	IA-AB-O1-001		2 **KB**
Date:	14 Dec 110 9:38 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	2.10		
Volume:	500 ml	Analyst: SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.047	10.71	10.66	83.00	8149	66	51	77			
56-23-5	Carbon tetrachloride	4	0.028	12.75	12.66	116.90	3368	99	83	124			
79-01-6	Trichloroethene	5	0.007	14.32	14.26	130.00	726	107	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.56	20.51	117.00	**168305**						
2037-26-5	Toluene-d8	2	0.202	17.11	17.05	98.00	**58857**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121410-MSC**

File Name: 1048607A.D
Instrument Name: MSC HP597
Sample ID: IA-AB-O1-001
Sample Analysis Date: 14 Dec 110 9:38 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121410-MSC**
Sample ID:	IA-AB-O1-001
Sample Analysis Date:	14 Dec 110 9:38 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 07

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.10	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.047	0.198	0.993	0.005	0.026	0.02	0.108	0.11	0.549		0.255
Carbon tetrachloride	154.0	0.028	0.117	0.764	0.005	0.026	0.02	0.139	0.11	0.710		0.255
Trichloroethene	131.0	0.007	0.029	0.158	0.005	0.026	0.02	0.120	0.11	0.604	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**07**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.10
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})\ (\text{Cistdi})}{(\text{Avg RFn})\ (\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	8149	0.200	168305	0.047	0.198	0.995
4	Carbon tetrachloride	1	TRG	154.0	0.143	3368	0.200	168305	0.028	0.117	0.761
5	Trichloroethene	1	TRG	131.0	0.127	726	0.200	168305	0.007	0.029	0.160
1	Chlorobenzene-d5	1	IS	0.0	1.000	168305	0.200	168305	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58857	0.200	168305	0.000	0.000	0.000

Calculation Definitions:

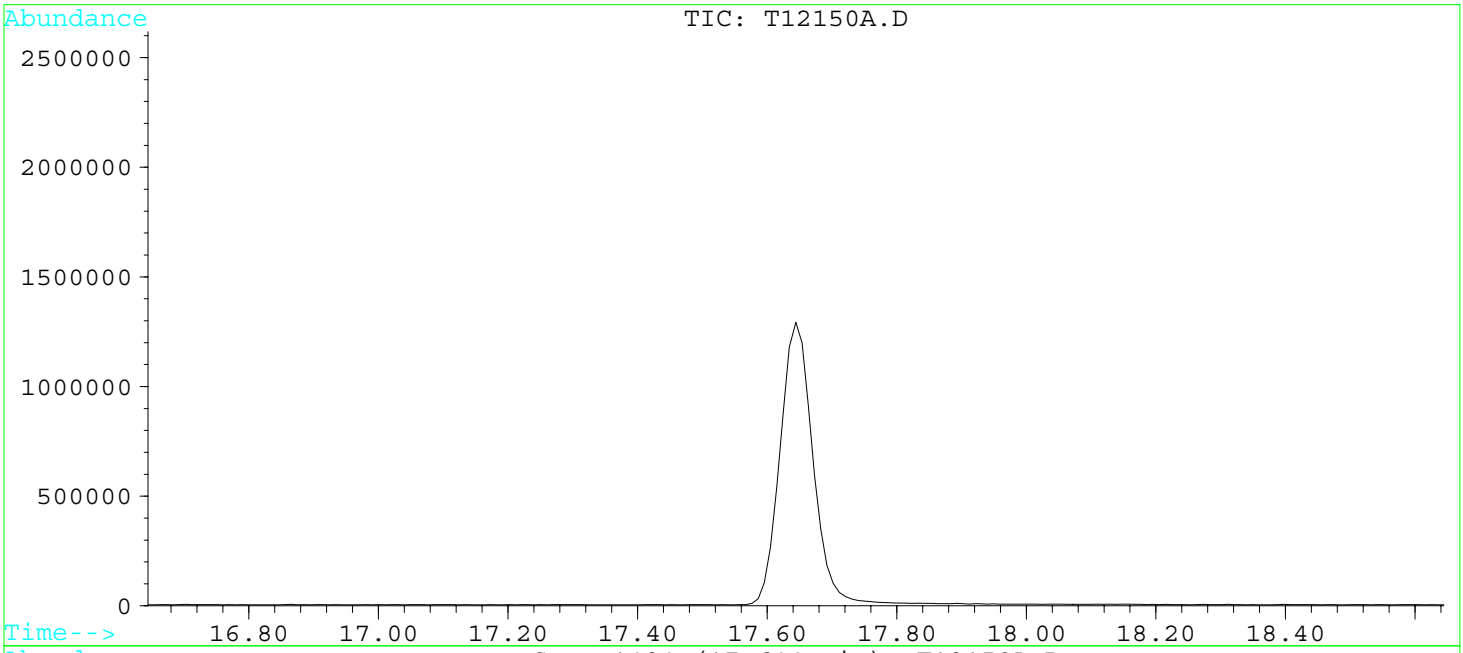
n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

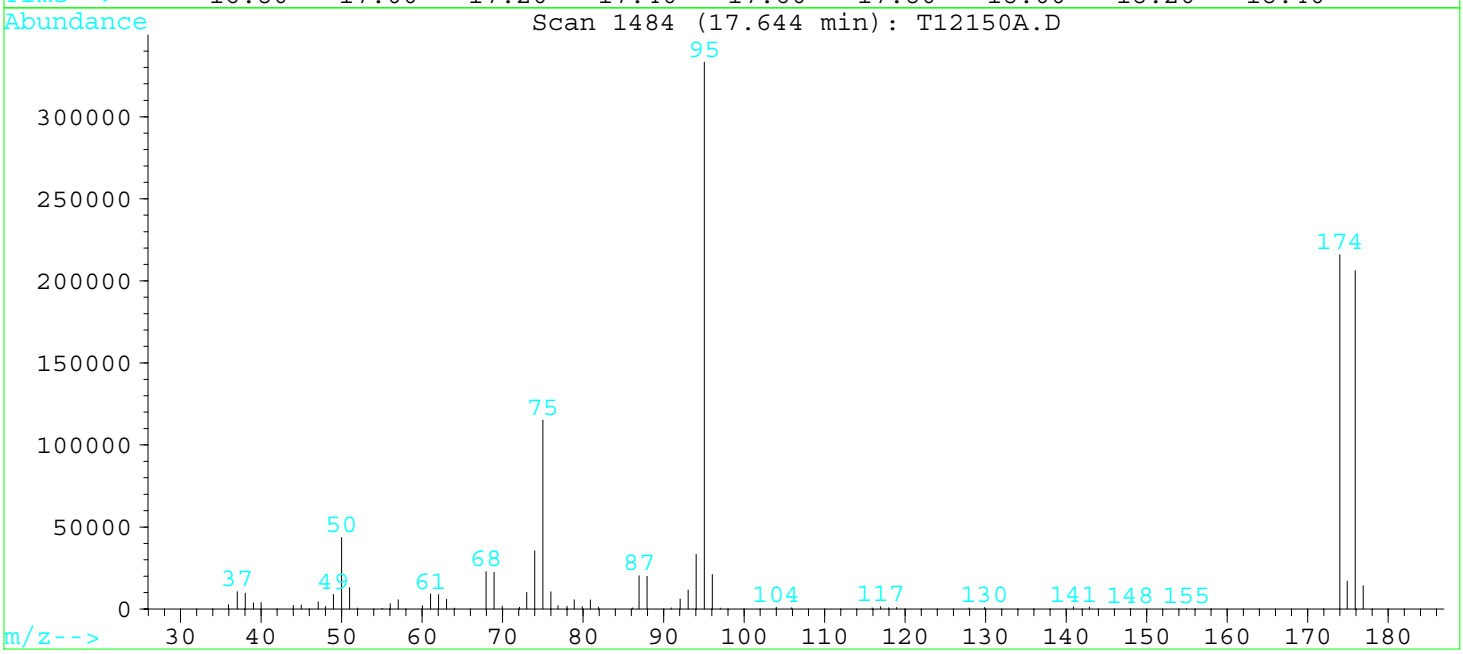
Daily Analytical Batch #: 121510-MSC

BFB

Data File : C:\MSCHEM\2\DATA\12150MSC\T12150A.D
Acq Time : 15 Dec 110 8:44 am Operator: KT
Sample : BFB TUNE Inst : MSC HP597
Misc : Multiplr: 1.00

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15





Peak Apex is scan: 1484

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.1	43592	PASS
75	95	30	66	34.6	115192	PASS
95	95	100	100	100.0	333248	PASS
96	95	5	9	6.3	21072	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	64.8	216000	PASS
175	174	4	9	7.8	16936	PASS
176	174	93	101	95.5	206272	PASS
177	176	5	9	6.9	14258	PASS

T12150A.D CNTHG_A.M Mon Dec 20 12:44:45 2010

CONTINUING CALIBRATION REPORT

SDG:	**LABQC**
QC_Batch:	**121510-MSC**
Sample ID:	ST60421 + ST60550
Sample Analysis Date:	15 Dec 110 9:24 am
Run Method:	CEXSIM_A.M
Quant/Calibration Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms
Calibration Level	Level 6 1.0

Sample Calculation:

$$1)\ RFi = \frac{(Astdi)\ (Cistdi)}{(Cstdi)\ (Aistdi)}\ i$$

Compound	Area Astdi	Cal Level Cstdi ppbv	CCRRF	AvgRFn	%Dev	%Dev Limit	%Dev Flag
Chloroform	114643	0.510	0.203	0.206	1.4	30	IN
Carbon tetrachloride	80958	0.510	0.143	0.143	-0.1	30	IN
Trichloroethene	69506	0.515	0.122	0.127	3.8	30	IN
Chlorobenzene-d5	221582	0.200	1.000	1.000	0.0	30	IN
Toluene-d8	69486	0.200	0.314	0.346	9.4	30	IN

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** C12150A

File Name:	C12150A.D		1 **SS**
Sample ID:	ST60421 + ST60550		2 **KB**
Date:	15 Dec 110 9:24 am	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.00		
Volume:	500 ml	Analyst: SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.503	10.73	10.66	83.00	114643	65	51	77			
56-23-5	Carbon tetrachloride	4	0.511	12.76	12.66	116.90	80958	101	83	124			
79-01-6	Trichloroethene	5	0.495	14.33	14.26	130.00	69506	105	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**221582**						
2037-26-5	Toluene-d8	2	0.181	17.12	17.05	98.00	**69486**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121510-MSC**	
File Name:	C12150A.D		**Instrument Name:**	MSC HP597	
Sample ID:	ST60421 + ST60550				
Sample Analysis Date:	15 Dec 110 9:24 am			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121510-MSC**
Sample ID:	ST60421 + ST60550
Sample Analysis Date:	15 Dec 110 9:24 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: B12150

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.503	1.006	5.055	0.005	0.026	0.01	0.051	0.05	0.261		0.255
Carbon tetrachloride	154.0	0.511	1.021	6.641	0.005	0.026	0.01	0.066	0.05	0.338		0.255
Trichloroethene	131.0	0.495	0.991	5.482	0.005	0.026	0.01	0.057	0.05	0.288		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**B12150**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) / (Avg RFn) (Cistdi) / (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	114643	0.200	221582	0.503	1.006	5.055
4	Carbon tetrachloride	1	TRG	154.0	0.143	80958	0.200	221582	0.511	1.021	6.640
5	Trichloroethene	1	TRG	131.0	0.127	69506	0.200	221582	0.495	0.991	5.482
1	Chlorobenzene-d5	1	IS	0.0	1.000	221582	0.200	221582	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	69486	0.200	221582	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: TO-15 SIM **Laboratory Number: B12150**

File:	B12150B.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	12/15/10	**Time:**	13:32
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.00		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.010	0.052	ND	0.051	0.261	ND	ND
56-23-5	Carbon tetrachloride	0.010	0.052	ND	0.066	0.338	ND	ND
79-01-6	Trichloroethene	0.010	0.052	ND	0.057	0.288	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** B12150B

File Name:	B12150B.D			1 **SS**
Sample ID:	METHOD BLANK			2 **KB**
Date:	15 Dec 110 1:32 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.00			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.001	10.71	10.66	83.00	131	43	51	77			
56-23-5	Carbon tetrachloride	4	0.001	12.72	12.66	116.90	58	43	83	124			
79-01-6	Trichloroethene	5	0.003	14.33	14.26	130.00	264	101	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**155054**						
2037-26-5	Toluene-d8	2	0.212	17.12	17.05	98.00	**56777**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121510-MSC**	
File Name:	B12150B.D		**Instrument Name:**	MSC HP597	
Sample ID:	METHOD BLANK				
Sample Analysis Date:	15 Dec 110 1:32 pm			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121510-MSC**
Sample ID:	METHOD BLANK
Sample Analysis Date:	15 Dec 110 1:32 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: B12150

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.001	0.002	0.008	0.005	0.026	0.01	0.051	0.05	0.261	U	0.255
Carbon tetrachloride	154.0	0.001	0.001	0.007	0.005	0.026	0.01	0.066	0.05	0.338	U	0.255
Trichloroethene	131.0	0.003	0.005	0.030	0.005	0.026	0.01	0.057	0.05	0.288	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**B12150**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) (Cistdi) / (Avg RFn) (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	131	0.200	155054	0.001	0.002	0.010
4	Carbon tetrachloride	1	TRG	154.0	0.143	58	0.200	155054	0.001	0.001	0.007
5	Trichloroethene	1	TRG	131.0	0.127	264	0.200	155054	0.003	0.005	0.028
1	Chlorobenzene-d5	1	IS	0.0	1.000	155054	0.200	155054	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56777	0.200	155054	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**

Analytical Method: **TO-15 SIM**

File: QC12150A.D
Description: ST60022
Can/Tube#:
Sam_Type: LCS
QC_Batch: 121510-MSC
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/15/10 **Time:** 10:25
Can Dilution Factor: 1.00 3
QC Duplicate: No

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
67-66-3	Chloroform	0.005	0.583	0.606	0.000	0.606	104	70	130	
56-23-5	Carbon tetrachloride	0.005	0.616	0.628	0.000	0.628	102	70	130	
79-01-6	Trichloroethene	0.005	0.591	0.615	0.000	0.615	104	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.202	101	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** QC12150

File Name:	QC12150A.D			1 **SS**
Sample ID:	ST60022			2 **KB**
Date:	15 Dec 110 10:25 am	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.00			
Volume:	1000 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.606	10.71	10.66	83.00	116519	66	51	77			
56-23-5	Carbon tetrachloride	4	0.628	12.75	12.66	116.90	83987	102	83	124			
79-01-6	Trichloroethene	5	0.615	14.33	14.26	130.00	72793	107	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**186920**						
2037-26-5	Toluene-d8	2	0.202	17.12	17.05	98.00	**65243**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **LABQC**
QC_Batch: **121510-MSC**

File Name: QC12150A.D
Instrument Name: MSC HP597
Sample ID: ST60022
Sample Analysis Date: 15 Dec 110 10:25 am
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121510-MSC**
Sample ID:	ST60022
Sample Analysis Date:	15 Dec 110 10:25 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: QC12150

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	1000	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.606	0.606	3.045	0.005	0.026	0.01	0.026	0.03	0.131		0.583
Carbon tetrachloride	154.0	0.628	0.628	4.084	0.005	0.026	0.01	0.033	0.03	0.169		0.616
Trichloroethene	131.0	0.615	0.615	3.403	0.005	0.026	0.01	0.028	0.03	0.144		0.591

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**QC12150**
Standard Volume	STV	1.0
Sample Volume	SV	1000
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\,(Cistdi)}{(Cstdni)\,(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\,(Cistdi)}{(Avg\ RFn)\,(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	116519	0.200	186920	0.606	0.606	3.045
4	Carbon tetrachloride	1	TRG	154.0	0.143	83987	0.200	186920	0.628	0.628	4.084
5	Trichloroethene	1	TRG	131.0	0.127	72793	0.200	186920	0.615	0.615	3.402
1	Chlorobenzene-d5	1	IS	0.0	1.000	186920	0.200	186920	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	65243	0.200	186920	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

QUALITY CONTROL DUPLICATE

ENVIRONMENTAL
Analytical Service, Inc.

Duplicate of QC Sample

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

Dup File: QC12150B.D
Description: ST60022
Can/Tube#:
QC_Batch: 121510-MSC

CAS#	Compound	LCD ppbv	LCS ppbv	RPD %D	Limit %	Flag * = Out
67-66-3	Chloroform	0.604	0.606	0	25	
56-23-5	Carbon tetrachloride	0.627	0.628	0	25	
79-01-6	Trichloroethene	0.646	0.615	5	25	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL DUPLICATE

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

File: QC12150B.D
Description: ST60022
Can/Tube#:
Sam_Type: LCD
QC_Batch: 121510-MSC
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/15/10 **Time:** 11:10
Can Dilution Factor: 1.00 3
QC Duplicate: Yes

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
67-66-3	Chloroform	0.005	0.583	0.604	0.000	0.604	104	70	130	
56-23-5	Carbon tetrachloride	0.005	0.616	0.627	0.000	0.627	102	70	130	
79-01-6	Trichloroethene	0.005	0.591	0.646	0.000	0.646	109	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.205	103	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** QC12150

File Name:	QC12150B.D				1 **SS**
Sample ID:	ST60022				2 **KB**
Date:	15 Dec 110 11:10 am		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.00				
Volume:	1000	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.604	10.72	10.66	83.00	110921	65	51	77			
56-23-5	Carbon tetrachloride	4	0.627	12.76	12.66	116.90	80091	102	83	124			
79-01-6	Trichloroethene	5	0.646	14.30	14.26	130.00	73012	95	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**178543**						
2037-26-5	Toluene-d8	2	0.205	17.12	17.05	98.00	**63456**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **LABQC**
QC_Batch: **121510-MSC**

File Name: QC12150B.D
Instrument Name: MSC HP597
Sample ID: ST60022
Sample Analysis Date: 15 Dec 110 11:10 am
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121510-MSC**
Sample ID:	ST60022
Sample Analysis Date:	15 Dec 110 11:10 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: QC12150

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	1000	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.604	0.604	3.035	0.005	0.026	0.01	0.026	0.03	0.131		0.583
Carbon tetrachloride	154.0	0.627	0.627	4.077	0.005	0.026	0.01	0.033	0.03	0.169		0.616
Trichloroethene	131.0	0.646	0.646	3.573	0.005	0.026	0.01	0.028	0.03	0.144		0.591

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**QC12150**
Standard Volume	STV	1.0
Sample Volume	SV	1000
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\ (Cistdi)}{(Avg\ RFn)\ (Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	110921	0.200	178543	0.604	0.604	3.035
4	Carbon tetrachloride	1	TRG	154.0	0.143	80091	0.200	178543	0.627	0.627	4.078
5	Trichloroethene	1	TRG	131.0	0.127	73012	0.200	178543	0.646	0.646	3.574
1	Chlorobenzene-d5	1	IS	0.0	1.000	178543	0.200	178543	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	63456	0.200	178543	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 08**

File:	1048608A.D	**Date Sampled:**	12/06/10	**Time:**	9:46
Description:	OA-AB-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	634	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	14:17
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.83		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.095	0.045	0.094	0.478	0.226	J
56-23-5	Carbon tetrachloride	0.019	0.095	0.100	0.121	0.619	0.648	
79-01-6	Trichloroethene	0.019	0.095	ND	0.104	0.526	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.201	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048608

File Name:	1048608A.D		1 **SS**
Sample ID:	OA-AB-AI-001		2 **KB**
Date:	15 Dec 110 2:17 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.83		
Volume:	500 ml	Analyst: SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.012	10.71	10.66	83.00	2243	64	51	77			
56-23-5	Carbon tetrachloride	4	0.027	12.76	12.66	116.90	3458	100	83	124			
79-01-6	Trichloroethene	5	0.002	14.33	14.26	130.00	248	98	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**177389**						
2037-26-5	Toluene-d8	2	0.201	17.12	17.05	98.00	**61848**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048608A.D
Instrument Name: MSC HP597
Sample ID: OA-AB-AI-001
Sample Analysis Date: 15 Dec 110 2:17 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	OA-AB-AI-001
Sample Analysis Date:	15 Dec 110 2:17 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\left[\frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\right]_i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 08

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.83	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.012	0.045	0.226	0.005	0.026	0.02	0.094	0.10	0.478	J	0.255
Carbon tetrachloride	154.0	0.027	0.100	0.648	0.005	0.026	0.02	0.121	0.10	0.619		0.255
Trichloroethene	131.0	0.002	0.008	0.045	0.005	0.026	0.02	0.104	0.10	0.526	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**08**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.83
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) / (Avg RFn) (Cistdi) / (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 / (SV) (CDF) (STV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	2243	0.200	177389	0.012	0.045	0.226
4	Carbon tetrachloride	1	TRG	154.0	0.143	3458	0.200	177389	0.027	0.100	0.650
5	Trichloroethene	1	TRG	131.0	0.127	248	0.200	177389	0.002	0.008	0.044
1	Chlorobenzene-d5	1	IS	0.0	1.000	177389	0.200	177389	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	61848	0.200	177389	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 09**

File:	1048609A.D	**Date Sampled:**	12/07/10	**Time:**	8:00
Description:	IA-U3-O4-001	**Date Received:**	12/09/10		
Can/Tube#:	700	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	15:01
QC_Batch:	121510-MSC	**Can Dilution Factor:**	2.64		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.027	0.137	0.499	0.135	0.690	2.507	
56-23-5	Carbon tetrachloride	0.027	0.137	0.085	0.175	0.893	0.554	J
79-01-6	Trichloroethene	0.027	0.137	0.187	0.150	0.759	1.034	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.203	102	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048609

File Name:	1048609A.D		1 **SS**
Sample ID:	IA-U3-O4-001		2 **KB**
Date:	15 Dec 110 3:01 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	2.64		
Volume:	500 ml	Analyst:	SS 1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.094	10.74	10.66	83.00	15609	63	51	77			
56-23-5	Carbon tetrachloride	4	0.016	12.76	12.66	116.90	1854	98	83	124			
79-01-6	Trichloroethene	5	0.035	14.34	14.26	130.00	3601	101	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**160611**						
2037-26-5	Toluene-d8	2	0.203	17.16	17.05	98.00	**56492**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048609A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O4-001
Sample Analysis Date: 15 Dec 110 3:01 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	IA-U3-O4-001
Sample Analysis Date:	15 Dec 110 3:01 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\left[\frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\right]_i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 09

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.64	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.094	0.499	2.507	0.005	0.026	0.03	0.135	0.14	0.690		0.255
Carbon tetrachloride	154.0	0.016	0.085	0.554	0.005	0.026	0.03	0.175	0.14	0.893	J	0.255
Trichloroethene	131.0	0.035	0.187	1.034	0.005	0.026	0.03	0.150	0.14	0.759		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**09**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.64
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	15609	0.200	160611	0.094	0.499	2.508
4	Carbon tetrachloride	1	TRG	154.0	0.143	1854	0.200	160611	0.016	0.085	0.553
5	Trichloroethene	1	TRG	131.0	0.127	3601	0.200	160611	0.035	0.187	1.035
1	Chlorobenzene-d5	1	IS	0.0	1.000	160611	0.200	160611	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56492	0.200	160611	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 10**

File:	1048610A.D	**Date Sampled:**	12/07/10	**Time:**	8:05
Description:	IA-U3-O5-001	**Date Received:**	12/09/10		
Can/Tube#:	672	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	15:45
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.93		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.100	0.224	0.099	0.504	1.124	
56-23-5	Carbon tetrachloride	0.020	0.100	0.111	0.128	0.653	0.722	
79-01-6	Trichloroethene	0.020	0.100	0.062	0.110	0.555	0.342	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.210	105	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048610

File Name:	1048610A.D			1 **SS**
Sample ID:	IA-U3-O5-001			2 **KB**
Date:	15 Dec 110 3:45 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.93			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.058	10.74	10.66	83.00	9959	66	51	77			
56-23-5	Carbon tetrachloride	4	0.029	12.76	12.66	116.90	3441	99	83	124			
79-01-6	Trichloroethene	5	0.016	14.34	14.26	130.00	1694	98	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**167116**						
2037-26-5	Toluene-d8	2	0.210	17.12	17.05	98.00	**60751**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048610A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O5-001
Sample Analysis Date: 15 Dec 110 3:45 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	IA-U3-O5-001
Sample Analysis Date:	15 Dec 110 3:45 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\ i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 10

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.93	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.058	0.224	1.124	0.005	0.026	0.02	0.099	0.10	0.504		0.255
Carbon tetrachloride	154.0	0.029	0.111	0.722	0.005	0.026	0.02	0.128	0.10	0.653		0.255
Trichloroethene	131.0	0.016	0.062	0.342	0.005	0.026	0.02	0.110	0.10	0.555	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**10**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.93
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})\ (\text{Cistdi})}{(\text{Avg RFn})\ (\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	9959	0.200	167116	0.058	0.224	1.126
4	Carbon tetrachloride	1	TRG	154.0	0.143	3441	0.200	167116	0.029	0.111	0.722
5	Trichloroethene	1	TRG	131.0	0.127	1694	0.200	167116	0.016	0.062	0.343
1	Chlorobenzene-d5	1	IS	0.0	1.000	167116	0.200	167116	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	60751	0.200	167116	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 11**

File:	1048611A.D	**Date Sampled:**	12/07/10	**Time:**	8:08
Description:	IA-U3-O2-003	**Date Received:**	12/09/10		
Can/Tube#:	170	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	16:31
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.86		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.097	0.839	0.095	0.486	4.217	
56-23-5	Carbon tetrachloride	0.019	0.097	0.113	0.123	0.629	0.737	
79-01-6	Trichloroethene	0.019	0.097	0.131	0.106	0.535	0.727	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.215	107	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048611

File Name:	1048611A.D		1 **SS**
Sample ID:	IA-U3-O2-003		2 **KB**
Date:	15 Dec 110 4:31 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.86		
Volume:	500 ml	Analyst: SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.226	10.72	10.66	83.00	39111	64	51	77			
56-23-5	Carbon tetrachloride	4	0.030	12.75	12.66	116.90	3673	98	83	124			
79-01-6	Trichloroethene	5	0.035	14.33	14.26	130.00	3767	102	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.59	20.51	117.00	**168544**						
2037-26-5	Toluene-d8	2	0.215	17.12	17.05	98.00	**62707**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048611A.D
Instrument Name: MSC HP597
Sample ID: IA-U3-O2-003
Sample Analysis Date: 15 Dec 110 4:31 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	IA-U3-O2-003
Sample Analysis Date:	15 Dec 110 4:31 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 11

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.86	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.226	0.839	4.217	0.005	0.026	0.02	0.095	0.10	0.486		0.255
Carbon tetrachloride	154.0	0.030	0.113	0.737	0.005	0.026	0.02	0.123	0.10	0.629		0.255
Trichloroethene	131.0	0.035	0.131	0.727	0.005	0.026	0.02	0.106	0.10	0.535		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**11**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.86
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})\ (\text{Cistdi})}{(\text{Avg RFn})\ (\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	39111	0.200	168544	0.226	0.839	4.216
4	Carbon tetrachloride	1	TRG	154.0	0.143	3673	0.200	168544	0.030	0.113	0.735
5	Trichloroethene	1	TRG	131.0	0.127	3767	0.200	168544	0.035	0.131	0.725
1	Chlorobenzene-d5	1	IS	0.0	1.000	168544	0.200	168544	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	62707	0.200	168544	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 12**

File:	1048612A.D	**Date Sampled:**	12/07/10	**Time:**	8:07
Description:	OA-U3-AI-002	**Date Received:**	12/09/10		
Can/Tube#:	652	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	17:24
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.99		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.103	0.078	0.102	0.520	0.392	J
56-23-5	Carbon tetrachloride	0.020	0.103	0.094	0.132	0.673	0.613	J
79-01-6	Trichloroethene	0.020	0.103	ND	0.113	0.572	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.209	105	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048612

File Name:	1048612A.D				1 **SS**
Sample ID:	OA-U3-AI-002				2 **KB**
Date:	15 Dec 110 5:24 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.99				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.020	10.73	10.66	83.00	3323	60	51	77			
56-23-5	Carbon tetrachloride	4	0.024	12.76	12.66	116.90	2794	101	83	124			
79-01-6	Trichloroethene	5	0.004	14.34	14.26	130.00	397	97	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**164776**						
2037-26-5	Toluene-d8	2	0.209	17.13	17.05	98.00	**59624**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048612A.D
Instrument Name: MSC HP597
Sample ID: OA-U3-AI-002
Sample Analysis Date: 15 Dec 110 5:24 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	OA-U3-AI-002
Sample Analysis Date:	15 Dec 110 5:24 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 12

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.99	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.020	0.078	0.392	0.005	0.026	0.02	0.102	0.10	0.520	J	0.255
Carbon tetrachloride	154.0	0.024	0.094	0.613	0.005	0.026	0.02	0.132	0.10	0.673	J	0.255
Trichloroethene	131.0	0.004	0.015	0.084	0.005	0.026	0.02	0.113	0.10	0.572	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**12**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.99
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})\ (\text{Cistdi})}{(\text{Avg RFn})\ (\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	3323	0.200	164776	0.020	0.078	0.392
4	Carbon tetrachloride	1	TRG	154.0	0.143	2794	0.200	164776	0.024	0.094	0.611
5	Trichloroethene	1	TRG	131.0	0.127	397	0.200	164776	0.004	0.015	0.083
1	Chlorobenzene-d5	1	IS	0.0	1.000	164776	0.200	164776	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	59624	0.200	164776	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 13**

File:	1048613A.D	**Date Sampled:**	12/07/10	**Time:**	8:07
Description:	IA-AB-O1-002	**Date Received:**	12/09/10		
Can/Tube#:	692	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	18:07
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.99		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.103	0.200	0.102	0.520	1.003	
56-23-5	Carbon tetrachloride	0.020	0.103	0.170	0.132	0.673	1.102	
79-01-6	Trichloroethene	0.020	0.103	0.022	0.113	0.572	0.122	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.214	107	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048613

File Name:	1048613A.D		1 **SS**
Sample ID:	IA-AB-O1-002		2 **KB**
Date:	15 Dec 110 6:07 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.99		
Volume:	500 ml	Analyst: SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.050	10.70	10.66	83.00	8171	65	51	77			
56-23-5	Carbon tetrachloride	4	0.043	12.72	12.66	116.90	4829	93	83	124			
79-01-6	Trichloroethene	5	0.006	14.30	14.26	130.00	558	101	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**158464**						
2037-26-5	Toluene-d8	2	0.214	17.12	17.05	98.00	**58573**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048613A.D
Instrument Name: MSC HP597
Sample ID: IA-AB-O1-002
Sample Analysis Date: 15 Dec 110 6:07 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	IA-AB-O1-002
Sample Analysis Date:	15 Dec 110 6:07 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\ i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 13

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.99	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.050	0.200	1.003	0.005	0.026	0.02	0.102	0.10	0.520		0.255
Carbon tetrachloride	154.0	0.043	0.170	1.102	0.005	0.026	0.02	0.132	0.10	0.673		0.255
Trichloroethene	131.0	0.006	0.022	0.122	0.005	0.026	0.02	0.113	0.10	0.572	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**13**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.99
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	8171	0.200	158464	0.050	0.200	1.005
4	Carbon tetrachloride	1	TRG	154.0	0.143	4829	0.200	158464	0.043	0.170	1.106
5	Trichloroethene	1	TRG	131.0	0.127	558	0.200	158464	0.006	0.022	0.122
1	Chlorobenzene-d5	1	IS	0.0	1.000	158464	0.200	158464	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58573	0.200	158464	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 14**

File:	1048614A.D	**Date Sampled:**	12/07/10	**Time:**	8:28
Description:	IA-FO-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	756	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	18:49
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.82		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.095	0.125	0.093	0.476	0.628	
56-23-5	Carbon tetrachloride	0.019	0.095	0.123	0.121	0.615	0.799	
79-01-6	Trichloroethene	0.019	0.095	0.115	0.104	0.524	0.637	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.217	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048614

File Name:	1048614A.D				1 **SS**
Sample ID:	IA-FO-O1-001				2 **KB**
Date:	15 Dec 110 6:49 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.82				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.034	10.70	10.66	83.00	5539	66	51	77			
56-23-5	Carbon tetrachloride	4	0.034	12.73	12.66	116.90	3789	98	83	124			
79-01-6	Trichloroethene	5	0.032	14.30	14.26	130.00	3143	96	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**156947**						
2037-26-5	Toluene-d8	2	0.217	17.13	17.05	98.00	**58997**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048614A.D
Instrument Name: MSC HP597
Sample ID: IA-FO-O1-001
Sample Analysis Date: 15 Dec 110 6:49 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	IA-FO-O1-001
Sample Analysis Date:	15 Dec 110 6:49 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 14

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.82	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.034	0.125	0.628	0.005	0.026	0.02	0.093	0.09	0.476		0.255
Carbon tetrachloride	154.0	0.034	0.123	0.799	0.005	0.026	0.02	0.121	0.09	0.615		0.255
Trichloroethene	131.0	0.032	0.115	0.637	0.005	0.026	0.02	0.104	0.09	0.524		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**14**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.82
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})\ (\text{Cistdi})}{(\text{Avg RFn})\ (\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	5539	0.200	156947	0.034	0.125	0.628
4	Carbon tetrachloride	1	TRG	154.0	0.143	3789	0.200	156947	0.034	0.123	0.800
5	Trichloroethene	1	TRG	131.0	0.127	3143	0.200	156947	0.032	0.115	0.636
1	Chlorobenzene-d5	1	IS	0.0	1.000	156947	0.200	156947	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58997	0.200	156947	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 15**

File:	1048615A.D	**Date Sampled:**	12/07/10	**Time:**	9:27
Description:	OA-FO-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	629	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	19:31
QC_Batch:	121510-MSC	**Can Dilution Factor:**	1.72		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.018	0.089	0.101	0.088	0.449	0.509	
56-23-5	Carbon tetrachloride	0.018	0.089	0.108	0.114	0.582	0.702	
79-01-6	Trichloroethene	0.018	0.089	ND	0.098	0.495	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.215	107	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048615

File Name:	1048615A.D		1 **SS**
Sample ID:	OA-FO-AI-001		2 **KB**
Date:	15 Dec 110 7:31 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.72		
Volume:	500 ml	Analyst: SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.029	10.69	10.66	83.00	4732	64	51	77			
56-23-5	Carbon tetrachloride	4	0.031	12.72	12.66	116.90	3506	100	83	124			
79-01-6	Trichloroethene	5	0.003	14.30	14.26	130.00	306	114	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**156122**						
2037-26-5	Toluene-d8	2	0.215	17.12	17.05	98.00	**58035**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048615A.D
Instrument Name: MSC HP597
Sample ID: OA-FO-AI-001
Sample Analysis Date: 15 Dec 110 7:31 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	OA-FO-AI-001
Sample Analysis Date:	15 Dec 110 7:31 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 15

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.72	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.029	0.101	0.509	0.005	0.026	0.02	0.088	0.09	0.449		0.255
Carbon tetrachloride	154.0	0.031	0.108	0.702	0.005	0.026	0.02	0.114	0.09	0.582		0.255
Trichloroethene	131.0	0.003	0.011	0.059	0.005	0.026	0.02	0.098	0.09	0.495	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**15**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.72
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	4732	0.200	156122	0.029	0.101	0.508
4	Carbon tetrachloride	1	TRG	154.0	0.143	3506	0.200	156122	0.031	0.108	0.702
5	Trichloroethene	1	TRG	131.0	0.127	306	0.200	156122	0.003	0.011	0.061
1	Chlorobenzene-d5	1	IS	0.0	1.000	156122	0.200	156122	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58035	0.200	156122	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 16**

File:	1048616A.D	**Date Sampled:**	12/07/10	**Time:**	9:51
Description:	OA-U1-G2-002	**Date Received:**	12/09/10		
Can/Tube#:	729	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	20:15
QC_Batch:	121510-MSC	**Can Dilution Factor:**	2.36		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.024	0.123	0.086	0.121	0.617	0.434	J
56-23-5	Carbon tetrachloride	0.024	0.123	0.111	0.157	0.798	0.719	J
79-01-6	Trichloroethene	0.024	0.123	ND	0.134	0.679	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048616

File Name:	1048616A.D		1 **SS**
Sample ID:	OA-U1-G2-002		2 **KB**
Date:	15 Dec 110 8:15 pm	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	2.36		
Volume:	500 ml	Analyst:	SS 1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.018	10.72	10.66	83.00	2971	62	51	77			
56-23-5	Carbon tetrachloride	4	0.023	12.76	12.66	116.90	2643	106	83	124			
79-01-6	Trichloroethene	5	0.002	14.31	14.26	130.00	203	95	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**157686**						
2037-26-5	Toluene-d8	2	0.212	17.13	17.05	98.00	**57955**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048616A.D
Instrument Name: MSC HP597
Sample ID: OA-U1-G2-002
Sample Analysis Date: 15 Dec 110 8:15 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	OA-U1-G2-002
Sample Analysis Date:	15 Dec 110 8:15 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 16

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.36	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.018	0.086	0.434	0.005	0.026	0.02	0.121	0.12	0.617	J	0.255
Carbon tetrachloride	154.0	0.023	0.111	0.719	0.005	0.026	0.02	0.157	0.12	0.798	J	0.255
Trichloroethene	131.0	0.002	0.010	0.053	0.005	0.026	0.02	0.134	0.12	0.679	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**16**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.36
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	2971	0.200	157686	0.018	0.086	0.432
4	Carbon tetrachloride	1	TRG	154.0	0.143	2643	0.200	157686	0.023	0.111	0.722
5	Trichloroethene	1	TRG	131.0	0.127	203	0.200	157686	0.002	0.010	0.055
1	Chlorobenzene-d5	1	IS	0.0	1.000	157686	0.200	157686	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	57955	0.200	157686	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 17**

File:	1048617A.D	**Date Sampled:**	12/07/10	**Time:**	8:13
Description:	IA-BP-CR-001	**Date Received:**	12/09/10		
Can/Tube#:	516	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/15/10	**Time:**	20:58
QC_Batch:	121510-MSC	**Can Dilution Factor:**	2.19		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.114	0.124	0.112	0.572	0.622	
56-23-5	Carbon tetrachloride	0.022	0.114	0.077	0.145	0.741	0.502	J
79-01-6	Trichloroethene	0.023	0.114	ND	0.125	0.630	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.201	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048617

File Name:	1048617A.D			1 **SS**
Sample ID:	IA-BP-CR-001			2 **KB**
Date:	15 Dec 110 8:58 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	2.19			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.028	10.72	10.66	83.00	4702	62	51	77			
56-23-5	Carbon tetrachloride	4	0.018	12.76	12.66	116.90	2037	103	83	124			
79-01-6	Trichloroethene	5	0.004	14.31	14.26	130.00	363	80	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**161687**						
2037-26-5	Toluene-d8	2	0.201	17.13	17.05	98.00	**56329**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121510-MSC**

File Name: 1048617A.D
Instrument Name: MSC HP597
Sample ID: IA-BP-CR-001
Sample Analysis Date: 15 Dec 110 8:58 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121510-MSC**
Sample ID:	IA-BP-CR-001
Sample Analysis Date:	15 Dec 110 8:58 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\ i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 17

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.19	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.028	0.124	0.622	0.005	0.026	0.02	0.112	0.11	0.572		0.255
Carbon tetrachloride	154.0	0.018	0.077	0.502	0.005	0.026	0.02	0.145	0.11	0.741	J	0.255
Trichloroethene	131.0	0.004	0.016	0.086	0.005	0.026	0.02	0.125	0.11	0.630	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**17**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.19
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	4702	0.200	161687	0.028	0.124	0.623
4	Carbon tetrachloride	1	TRG	154.0	0.143	2037	0.200	161687	0.018	0.077	0.501
5	Trichloroethene	1	TRG	131.0	0.127	363	0.200	161687	0.004	0.016	0.089
1	Chlorobenzene-d5	1	IS	0.0	1.000	161687	0.200	161687	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56329	0.200	161687	0.000	0.000	0.000

Calculation Definitions:

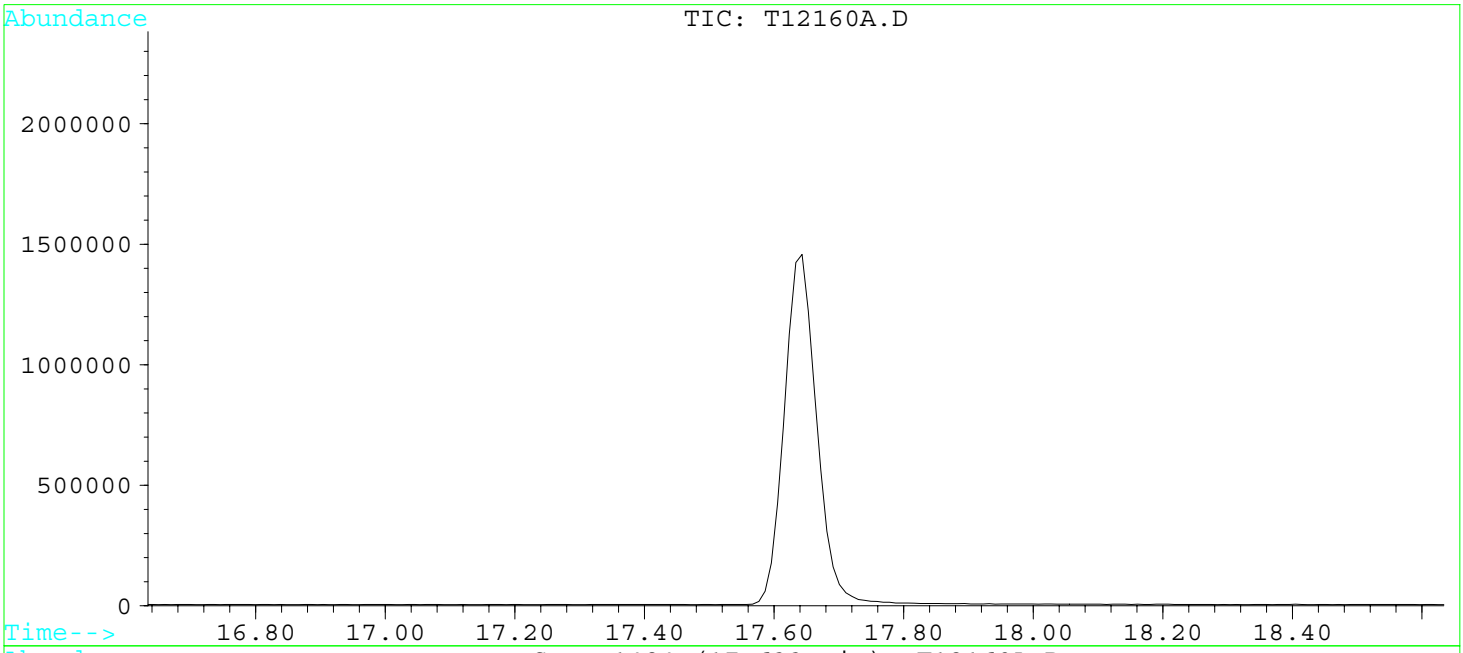
n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

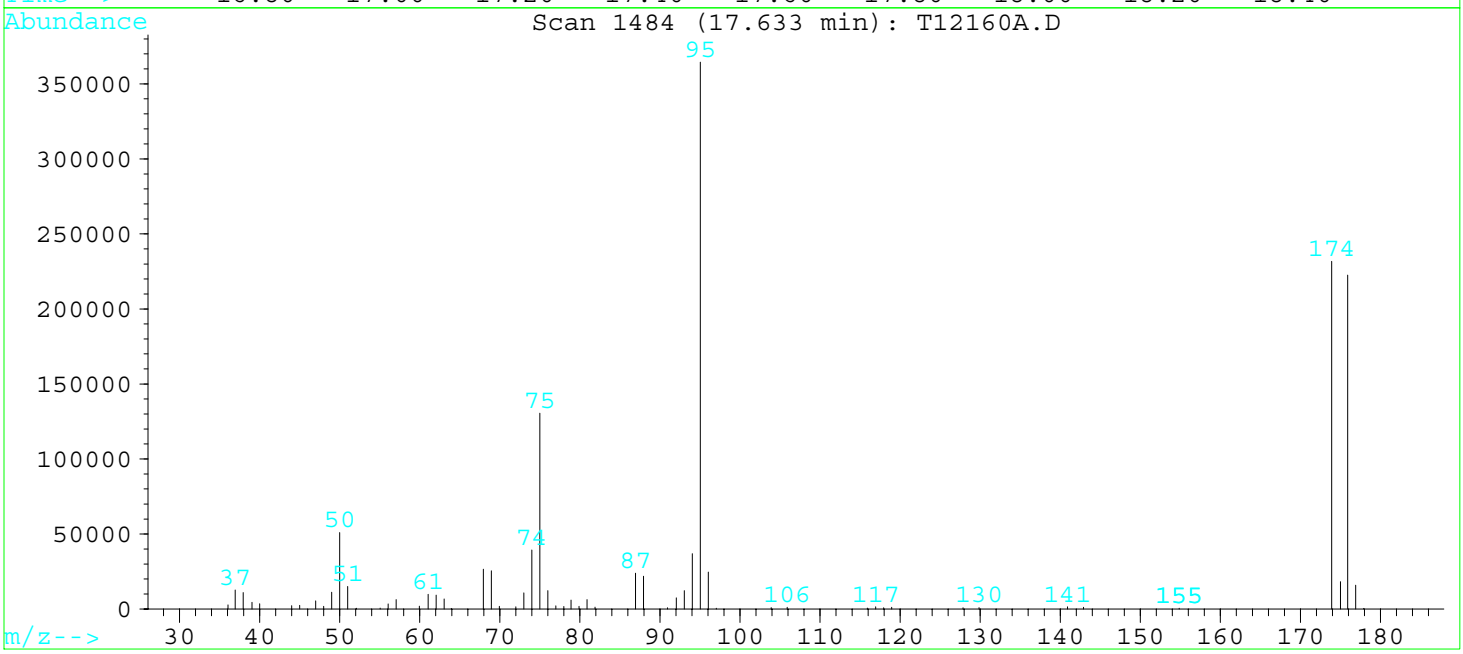
Daily Analytical Batch #: 121610-MSC

BFB

Data File : C:\MSCHEM\2\DATA\12160MSC\T12160A.D
Acq Time : 16 Dec 110 8:35 am Operator: KT
Sample : BFB TUNE Inst : MSC HP597
Misc : Multiplr: 1.00

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15





Peak Apex is scan: 1484

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.0	51032	PASS
75	95	30	66	35.8	130488	PASS
95	95	100	100	100.0	364416	PASS
96	95	5	9	6.8	24616	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	63.6	231744	PASS
175	174	4	9	7.8	18184	PASS
176	174	93	101	96.0	222528	PASS
177	176	5	9	7.2	15995	PASS

T12160A.D CNTHG_A.M Mon Dec 20 16:36:29 2010

CONTINUING CALIBRATION REPORT

SDG:	**LABQC**
QC_Batch:	**121610-MSC**
Sample ID:	ST60421 + ST60550
Sample Analysis Date:	16 Dec 110 9:15 am
Run Method:	CEXSIM_A.M
Quant/Calibration Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms
Calibration Level	Level 6 1.0

Sample Calculation:

$$1)\ RFi = \frac{(Astdi)\ (Cistdi)}{(Cstdi)\ (Aistdi)}\ i$$

Compound	Area Astdi	Cal Level Cstdi ppbv	CCRRF	AvgRFn	%Dev	%Dev Limit	%Dev Flag
Chloroform	111820	0.510	0.192	0.206	6.9	30	IN
Carbon tetrachloride	83612	0.510	0.143	0.143	-0.1	30	IN
Trichloroethene	67118	0.515	0.114	0.127	10.1	30	IN
Chlorobenzene-d5	228924	0.200	1.000	1.000	0.0	30	IN
Toluene-d8	72371	0.200	0.316	0.346	8.7	30	IN

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** C12160A

File Name:	C12160A.D		1 **SS**
Sample ID:	ST60421 + ST60550		2 **KB**
Date:	16 Dec 110 9:15 am	Cal Amounts	3 **AT**
Run Method:	CEXSIM_A.M	IS Areas	4 **BB**
Quant Method:	CNTHG_A.M	Carryover	5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010		
Template:	northgte.ms		
Can Factor:	1.00		
Volume:	500 ml	Analyst: SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.475	10.72	10.66	83.00	111820	65	51	77			
56-23-5	Carbon tetrachloride	4	0.510	12.75	12.66	116.90	83612	100	83	124			
79-01-6	Trichloroethene	5	0.463	14.33	14.26	130.00	67118	104	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.56	20.51	117.00	**228924**						
2037-26-5	Toluene-d8	2	0.183	17.12	17.05	98.00	**72371**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121610-MSC**	
File Name:	C12160A.D		**Instrument Name:**	MSC HP597	
Sample ID:	ST60421 + ST60550				
Sample Analysis Date:	16 Dec 110 9:15 am			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121610-MSC**
Sample ID:	ST60421 + ST60550
Sample Analysis Date:	16 Dec 110 9:15 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: B12160

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.475	0.950	4.773	0.005	0.026	0.01	0.051	0.05	0.261		0.255
Carbon tetrachloride	154.0	0.510	1.021	6.639	0.005	0.026	0.01	0.066	0.05	0.338		0.255
Trichloroethene	131.0	0.463	0.926	5.124	0.005	0.026	0.01	0.057	0.05	0.288		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**B12160**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\ (Cistdi)}{(Avg\ RFn)\ (Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	111820	0.200	228924	0.475	0.950	4.774
4	Carbon tetrachloride	1	TRG	154.0	0.143	83612	0.200	228924	0.510	1.021	6.640
5	Trichloroethene	1	TRG	131.0	0.127	67118	0.200	228924	0.463	0.926	5.123
1	Chlorobenzene-d5	1	IS	0.0	1.000	228924	0.200	228924	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	72371	0.200	228924	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: TO-15 SIM **Laboratory Number: B12160**

File:	B12160B.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	12/16/10	**Time:**	13:14
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.00		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.010	0.052	ND	0.051	0.261	ND	ND
56-23-5	Carbon tetrachloride	0.010	0.052	ND	0.066	0.338	ND	ND
79-01-6	Trichloroethene	0.010	0.052	ND	0.057	0.288	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.219	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** B12160B

File Name:	B12160B.D			1 **SS**
Sample ID:	METHOD BLANK			2 **KB**
Date:	16 Dec 110 1:14 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.00			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.001	10.70	10.66	83.00	158	70	51	77			
56-23-5	Carbon tetrachloride	4	0.001	12.72	12.66	116.90	54	85	83	124			
79-01-6	Trichloroethene	5	0.003	14.30	14.26	130.00	314	97	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**144681**						
2037-26-5	Toluene-d8	2	0.219	17.13	17.05	98.00	**54790**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **LABQC**
QC_Batch: **121610-MSC**

File Name: B12160B.D
Instrument Name: MSC HP597
Sample ID: METHOD BLANK
Sample Analysis Date: 16 Dec 110 1:14 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**	**Sample Calculation:**				
QC_Batch:	**121610-MSC**	1) Avg RFn =	Sum	(Astdni)	(Cistdi)	
Sample ID:	METHOD BLANK			(Cstdni)	(Aistdi)	i
Sample Analysis Date:	16 Dec 110 1:14 pm					
Run Method:	CEXSIM_A.M					
Quant Method:	CNTHG_A.M					
Cal Update:	Fri Dec 17 09:54:00 2010					
Template:	northgte.ms					

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: B12160

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.001	0.002	0.011	0.005	0.026	0.01	0.051	0.05	0.261	U	0.255
Carbon tetrachloride	154.0	0.001	0.001	0.007	0.005	0.026	0.01	0.066	0.05	0.338	U	0.255
Trichloroethene	131.0	0.003	0.007	0.038	0.005	0.026	0.01	0.057	0.05	0.288	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**B12160**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni)(Cistdi) / (Cstdni)(Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp)(Cistdi) / (Avg RFn)(Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	158	0.200	144681	0.001	0.002	0.010
4	Carbon tetrachloride	1	TRG	154.0	0.143	54	0.200	144681	0.001	0.001	0.007
5	Trichloroethene	1	TRG	131.0	0.127	314	0.200	144681	0.003	0.007	0.039
1	Chlorobenzene-d5	1	IS	0.0	1.000	144681	0.200	144681	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	54790	0.200	144681	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**

Analytical Method: **TO-15 SIM**

File: QC12160A.D
Description: ST60022
Can/Tube#:
Sam_Type: LCS
QC_Batch: 121610-MSC
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/16/10 **Time:** 10:11
Can Dilution Factor: 1.00 3
QC Duplicate: No

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
67-66-3	Chloroform	0.005	0.583	0.614	0.000	0.614	105	70	130	
56-23-5	Carbon tetrachloride	0.005	0.616	0.682	0.000	0.682	111	70	130	
79-01-6	Trichloroethene	0.005	0.591	0.655	0.000	0.655	111	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.201	101	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** QC12160

File Name:	QC12160A.D				1 **SS**
Sample ID:	ST60022				2 **KB**
Date:	16 Dec 110 10:11 am		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.00				
Volume:	1000	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.614	10.71	10.66	83.00	114751	65	51	77			
56-23-5	Carbon tetrachloride	4	0.682	12.73	12.66	116.90	88617	97	83	124			
79-01-6	Trichloroethene	5	0.655	14.30	14.26	130.00	75297	99	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**181616**						
2037-26-5	Toluene-d8	2	0.201	17.12	17.05	98.00	**63211**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

		SDG:	**LABQC**
		QC_Batch:	**121610-MSC**
File Name:	QC12160A.D	**Instrument Name:**	MSC HP597
Sample ID:	ST60022		
Sample Analysis Date:	16 Dec 110 10:11 am	Number Compounds:	5
Run Method:	CEXSIM_A.M	IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title: EPA T0-15	IS2:
Cal Update:	Fri Dec 17 09:54:00 2010	IS3:	
Template:	northgte.ms	IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**
QC_Batch:	**121610-MSC**
Sample ID:	ST60022
Sample Analysis Date:	16 Dec 110 10:11 am
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: QC12160

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	1000	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.614	0.614	3.087	0.005	0.026	0.01	0.026	0.03	0.131		0.583
Carbon tetrachloride	154.0	0.682	0.682	4.435	0.005	0.026	0.01	0.033	0.03	0.169		0.616
Trichloroethene	131.0	0.655	0.655	3.623	0.005	0.026	0.01	0.028	0.03	0.144		0.591

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**QC12160**
Standard Volume	STV	1.0
Sample Volume	SV	1000
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\ (Cistdi)}{(Avg\ RFn)\ (Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	114751	0.200	181616	0.614	0.614	3.086
4	Carbon tetrachloride	1	TRG	154.0	0.143	88617	0.200	181616	0.682	0.682	4.435
5	Trichloroethene	1	TRG	131.0	0.127	75297	0.200	181616	0.655	0.655	3.624
1	Chlorobenzene-d5	1	IS	0.0	1.000	181616	0.200	181616	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	63211	0.200	181616	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

QUALITY CONTROL DUPLICATE

ENVIRONMENTAL
Analytical Service, Inc.

Duplicate of QC Sample

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

Dup File: QC12160B.D
Description: ST60022
Can/Tube#:
QC_Batch: 121610-MSC

CAS#	Compound	LCD ppbv	LCS ppbv	RPD %D	Limit %	Flag * = Out
67-66-3	Chloroform	0.630	0.614	3	25	
56-23-5	Carbon tetrachloride	0.693	0.682	2	25	
79-01-6	Trichloroethene	0.663	0.655	1	25	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL DUPLICATE

EPA Method TO-15 Modified SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

File: QC12160B.D
Description: ST60022
Can/Tube#:
Sam_Type: LCD
QC_Batch: 121610-MSC
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/16/10 **Time:** 10:57
Can Dilution Factor: 1.00 3
QC Duplicate: Yes

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
67-66-3	Chloroform	0.005	0.583	0.630	0.000	0.630	108	70	130	
56-23-5	Carbon tetrachloride	0.005	0.616	0.693	0.000	0.693	113	70	130	
79-01-6	Trichloroethene	0.005	0.591	0.663	0.000	0.663	112	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.207	104	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** QC12160

File Name:	QC12160B.D				1 **SS**
Sample ID:	ST60022				2 **KB**
Date:	16 Dec 110 10:57 am		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.00				
Volume:	1000	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.630	10.72	10.66	83.00	109578	66	51	77			
56-23-5	Carbon tetrachloride	4	0.693	12.73	12.66	116.90	83858	96	83	124			
79-01-6	Trichloroethene	5	0.663	14.31	14.26	130.00	70960	98	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.55	20.51	117.00	**169029**						
2037-26-5	Toluene-d8	2	0.207	17.12	17.05	98.00	**60646**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

			SDG:	**LABQC**	
			QC_Batch:	**121610-MSC**	
File Name:	QC12160B.D		**Instrument Name:**	MSC HP597	
Sample ID:	ST60022				
Sample Analysis Date:	16 Dec 110 10:57 am			Number Compounds:	5
Run Method:	CEXSIM_A.M			IS1:	0.2
Quant and Calibration Method:	CNTHG_A.M	Calibration Title:	EPA T0-15	IS2:	
Cal Update:	Fri Dec 17 09:54:00 2010			IS3:	
Template:	northgte.ms			IS4:	

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**LABQC**	**Sample Calculation:**				
QC_Batch:	**121610-MSC**	1) Avg RFn =	Sum	(Astdni)	(Cistdi)	
Sample ID:	ST60022			(Cstdni)	(Aistdi)	i
Sample Analysis Date:	16 Dec 110 10:57 am					
Run Method:	CEXSIM_A.M					
Quant Method:	CNTHG_A.M					
Cal Update:	Fri Dec 17 09:54:00 2010					
Template:	northgte.ms					

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: LABQC
Laboratory Number: QC12160

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.00	
Air Volume:	1000	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.630	0.630	3.167	0.005	0.026	0.01	0.026	0.03	0.131		0.583
Carbon tetrachloride	154.0	0.693	0.693	4.509	0.005	0.026	0.01	0.033	0.03	0.169		0.616
Trichloroethene	131.0	0.663	0.663	3.669	0.005	0.026	0.01	0.028	0.03	0.144		0.591

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**LABQC**
Laboratory Number:		**QC12160**
Standard Volume	STV	1.0
Sample Volume	SV	1000
Can Dilution Factor	CDF	1.00
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000}{(\text{SV})}\ (\text{CDF})\ (\text{STV})$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	109578	0.200	169029	0.630	0.630	3.166
4	Carbon tetrachloride	1	TRG	154.0	0.143	83858	0.200	169029	0.693	0.693	4.507
5	Trichloroethene	1	TRG	131.0	0.127	70960	0.200	169029	0.663	0.663	3.668
1	Chlorobenzene-d5	1	IS	0.0	1.000	169029	0.200	169029	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	60646	0.200	169029	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 18**

File:	1048618A.D	**Date Sampled:**	12/07/10	**Time:**	8:17
Description:	IA-BP-SO-001	**Date Received:**	12/09/10		
Can/Tube#:	538	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	14:07
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.88		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.098	0.213	0.096	0.491	1.073	
56-23-5	Carbon tetrachloride	0.019	0.098	0.111	0.125	0.636	0.720	
79-01-6	Trichloroethene	0.019	0.098	ND	0.107	0.541	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.228	114	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048618

File Name:	1048618A.D				1 **SS**
Sample ID:	IA-BP-SO-001				2 **KB**
Date:	16 Dec 110 2:07 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.88				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.057	10.73	10.66	83.00	10263	63	51	77			
56-23-5	Carbon tetrachloride	4	0.029	12.76	12.66	116.90	3702	98	83	124			
79-01-6	Trichloroethene	5	0.004	14.34	14.26	130.00	492	94	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.58	20.51	117.00	**175726**						
2037-26-5	Toluene-d8	2	0.228	17.13	17.05	98.00	**69306**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048618A.D
Instrument Name: MSC HP597
Sample ID: IA-BP-SO-001
Sample Analysis Date: 16 Dec 110 2:07 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	IA-BP-SO-001
Sample Analysis Date:	16 Dec 110 2:07 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 18

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.88	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.057	0.213	1.073	0.005	0.026	0.02	0.096	0.10	0.491		0.255
Carbon tetrachloride	154.0	0.029	0.111	0.720	0.005	0.026	0.02	0.125	0.10	0.636		0.255
Trichloroethene	131.0	0.004	0.017	0.092	0.005	0.026	0.02	0.107	0.10	0.541	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**18**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.88
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})\ (\text{Cistdi})}{(\text{Avg RFn})\ (\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	10263	0.200	175726	0.057	0.213	1.070
4	Carbon tetrachloride	1	TRG	154.0	0.143	3702	0.200	175726	0.029	0.111	0.722
5	Trichloroethene	1	TRG	131.0	0.127	492	0.200	175726	0.004	0.017	0.094
1	Chlorobenzene-d5	1	IS	0.0	1.000	175726	0.200	175726	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	69306	0.200	175726	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 19**

File:	1048619A.D	**Date Sampled:**	12/07/10	**Time:**	9:49
Description:	OA-BP-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	526	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	14:51
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.73		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.018	0.090	0.073	0.089	0.452	0.365	J
56-23-5	Carbon tetrachloride	0.018	0.090	0.123	0.115	0.585	0.801	
79-01-6	Trichloroethene	0.018	0.090	ND	0.099	0.498	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.220	110	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048619

File Name:	1048619A.D			1 **SS**
Sample ID:	OA-BP-AI-001			2 **KB**
Date:	16 Dec 110 2:51 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.73			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.021	10.74	10.66	83.00	3226	65	51	77			
56-23-5	Carbon tetrachloride	4	0.036	12.79	12.66	116.90	3804	105	83	124			
79-01-6	Trichloroethene	5	0.003	14.34	14.26	130.00	274	93	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**149308**						
2037-26-5	Toluene-d8	2	0.220	17.16	17.05	98.00	**56972**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048619A.D
Instrument Name: MSC HP597
Sample ID: OA-BP-AI-001
Sample Analysis Date: 16 Dec 110 2:51 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	OA-BP-AI-001
Sample Analysis Date:	16 Dec 110 2:51 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 19

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.73	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.021	0.073	0.365	0.005	0.026	0.02	0.089	0.09	0.452	J	0.255
Carbon tetrachloride	154.0	0.036	0.123	0.801	0.005	0.026	0.02	0.115	0.09	0.585		0.255
Trichloroethene	131.0	0.003	0.010	0.055	0.005	0.026	0.02	0.099	0.09	0.498	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**19**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.73
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\ (Cistdi)}{(Avg\ RFn)\ (Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	3226	0.200	149308	0.021	0.073	0.367
4	Carbon tetrachloride	1	TRG	154.0	0.143	3804	0.200	149308	0.036	0.123	0.800
5	Trichloroethene	1	TRG	131.0	0.127	274	0.200	149308	0.003	0.010	0.055
1	Chlorobenzene-d5	1	IS	0.0	1.000	149308	0.200	149308	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56972	0.200	149308	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 20**

File:	1048620A.D	**Date Sampled:**	12/07/10	**Time:**	7:56
Description:	IA-LB-O1-001	**Date Received:**	12/09/10		
Can/Tube#:	2961	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	15:34
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.18		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.022	0.113	0.855	0.112	0.570	4.294	
56-23-5	Carbon tetrachloride	0.022	0.113	0.392	0.145	0.737	2.551	
79-01-6	Trichloroethene	0.022	0.113	ND	0.124	0.627	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.225	113	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048620

File Name:	1048620A.D				1 **SS**
Sample ID:	IA-LB-O1-001				2 **KB**
Date:	16 Dec 110 3:34 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	2.18				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.196	10.76	10.66	83.00	38228	65	51	77			
56-23-5	Carbon tetrachloride	4	0.090	12.78	12.66	116.90	12208	98	83	124			
79-01-6	Trichloroethene	5	0.004	14.36	14.26	130.00	507	105	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**189617**						
2037-26-5	Toluene-d8	2	0.225	17.15	17.05	98.00	**73985**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048620A.D
Instrument Name: MSC HP597
Sample ID: IA-LB-O1-001
Sample Analysis Date: 16 Dec 110 3:34 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	IA-LB-O1-001
Sample Analysis Date:	16 Dec 110 3:34 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 20

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.18	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.196	0.855	4.294	0.005	0.026	0.02	0.112	0.11	0.570		0.255
Carbon tetrachloride	154.0	0.090	0.392	2.551	0.005	0.026	0.02	0.145	0.11	0.737		0.255
Trichloroethene	131.0	0.004	0.018	0.102	0.005	0.026	0.02	0.124	0.11	0.627	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**20**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.18
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni)(Cistdi) / (Cstdni)(Aistdi)] i Note: 1

2) Raw Amt = (Ansamp)(Cistdi) / (Avg RFn)(Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	38228	0.200	189617	0.196	0.855	4.297
4	Carbon tetrachloride	1	TRG	154.0	0.143	12208	0.200	189617	0.090	0.392	2.549
5	Trichloroethene	1	TRG	131.0	0.127	507	0.200	189617	0.004	0.018	0.100
1	Chlorobenzene-d5	1	IS	0.0	1.000	189617	0.200	189617	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	73985	0.200	189617	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 21**

File:	1048621A.D	**Date Sampled:**	12/07/10	**Time:**	7:55
Description:	IA-LB-O2-001	**Date Received:**	12/09/10		
Can/Tube#:	527	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	16:20
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.93		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.100	0.923	0.099	0.504	4.639	
56-23-5	Carbon tetrachloride	0.020	0.100	0.438	0.128	0.653	2.848	
79-01-6	Trichloroethene	0.020	0.100	0.022	0.110	0.555	0.124	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.218	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048621

File Name:	1048621A.D				1 **SS**
Sample ID:	IA-LB-O2-001				2 **KB**
Date:	16 Dec 110 4:20 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.93				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.239	10.74	10.66	83.00	43731	63	51	77			
56-23-5	Carbon tetrachloride	4	0.113	12.75	12.66	116.90	14429	95	83	124			
79-01-6	Trichloroethene	5	0.006	14.33	14.26	130.00	653	104	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**177758**						
2037-26-5	Toluene-d8	2	0.218	17.15	17.05	98.00	**67218**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048621A.D
Instrument Name: MSC HP597
Sample ID: IA-LB-O2-001
Sample Analysis Date: 16 Dec 110 4:20 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	IA-LB-O2-001
Sample Analysis Date:	16 Dec 110 4:20 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 21

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.93	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.239	0.923	4.639	0.005	0.026	0.02	0.099	0.10	0.504		0.255
Carbon tetrachloride	154.0	0.113	0.438	2.848	0.005	0.026	0.02	0.128	0.10	0.653		0.255
Trichloroethene	131.0	0.006	0.022	0.124	0.005	0.026	0.02	0.110	0.10	0.555	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**21**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.93
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)(Cistdi)}{(Cstdni)(Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)(Cistdi)}{(Avg\ RFn)(Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	43731	0.200	177758	0.239	0.923	4.638
4	Carbon tetrachloride	1	TRG	154.0	0.143	14429	0.200	177758	0.113	0.438	2.848
5	Trichloroethene	1	TRG	131.0	0.127	653	0.200	177758	0.006	0.022	0.122
1	Chlorobenzene-d5	1	IS	0.0	1.000	177758	0.200	177758	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	67218	0.200	177758	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 22**

File:	1048622A.D	**Date Sampled:**	12/07/10	**Time:**	9:40
Description:	OA-LB-A1-001	**Date Received:**	12/09/10		
Can/Tube#:	535	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	17:02
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.38		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.024	0.124	0.148	0.122	0.622	0.742	
56-23-5	Carbon tetrachloride	0.024	0.124	0.085	0.158	0.805	0.555	J
79-01-6	Trichloroethene	0.025	0.124	ND	0.136	0.685	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.231	115	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048622

File Name:	1048622A.D			1 **SS**
Sample ID:	OA-LB-A1-001			2 **KB**
Date:	16 Dec 110 5:02 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	2.38			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.031	10.66	10.66	83.00	4795	63	51	77			
56-23-5	Carbon tetrachloride	4	0.018	12.72	12.66	116.90	1925	101	83	124			
79-01-6	Trichloroethene	5	0.002	14.29	14.26	130.00	181	101	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**150184**						
2037-26-5	Toluene-d8	2	0.231	17.11	17.05	98.00	**59998**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048622A.D
Instrument Name: MSC HP597
Sample ID: OA-LB-A1-001
Sample Analysis Date: 16 Dec 110 5:02 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	OA-LB-A1-001
Sample Analysis Date:	16 Dec 110 5:02 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 22

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.38	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.031	0.148	0.742	0.005	0.026	0.02	0.122	0.12	0.622		0.255
Carbon tetrachloride	154.0	0.018	0.085	0.555	0.005	0.026	0.02	0.158	0.12	0.805	J	0.255
Trichloroethene	131.0	0.002	0.009	0.050	0.005	0.026	0.02	0.136	0.12	0.685	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**22**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.38
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum [(Astdni) (Cistdi) / (Cstdni) (Aistdi)] i — Note: 1

2) Raw Amt = (Ansamp) (Cistdi) / (Avg RFn) (Aistdi) **= Cn**

3) Amount ppbv = (Raw Amt) 1000 (CDF) (STV) / (SV)

4) Amount ug/m3 = (amt(ppbv) MW / 23.68

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	4795	0.200	150184	0.031	0.148	0.744
4	Carbon tetrachloride	1	TRG	154.0	0.143	1925	0.200	150184	0.018	0.085	0.553
5	Trichloroethene	1	TRG	131.0	0.127	181	0.200	150184	0.002	0.009	0.050
1	Chlorobenzene-d5	1	IS	0.0	1.000	150184	0.200	150184	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	59998	0.200	150184	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 23**

File:	1048623A.D	**Date Sampled:**	12/07/10	**Time:**	8:14
Description:	IA-SP-CR-001	**Date Received:**	12/09/10		
Can/Tube#:	158	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	17:45
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.21		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.023	0.115	0.120	0.113	0.578	0.604	
56-23-5	Carbon tetrachloride	0.023	0.115	0.129	0.147	0.747	0.838	
79-01-6	Trichloroethene	0.023	0.115	ND	0.126	0.636	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.219	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048623

File Name:	1048623A.D			1	**SS**
Sample ID:	IA-SP-CR-001			2	**KB**
Date:	16 Dec 110 5:45 pm	Cal Amounts		3	**AT**
Run Method:	CEXSIM_A.M	IS Areas		4	**BB**
Quant Method:	CNTHG_A.M	Carryover		5	**SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	2.21				
Volume:	500 ml	Analyst:	SS 1		

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.027	10.73	10.66	83.00	4405	58	51	77			
56-23-5	Carbon tetrachloride	4	0.029	12.76	12.66	116.90	3286	95	83	124			
79-01-6	Trichloroethene	5	0.004	14.34	14.26	130.00	448	84	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**157494**						
2037-26-5	Toluene-d8	2	0.219	17.15	17.05	98.00	**59630**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048623A.D
Instrument Name: MSC HP597
Sample ID: IA-SP-CR-001
Sample Analysis Date: 16 Dec 110 5:45 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	IA-SP-CR-001
Sample Analysis Date:	16 Dec 110 5:45 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\left[\frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\right]_i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 23

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.21	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.027	0.120	0.604	0.005	0.026	0.02	0.113	0.11	0.578		0.255
Carbon tetrachloride	154.0	0.029	0.129	0.838	0.005	0.026	0.02	0.147	0.11	0.747		0.255
Trichloroethene	131.0	0.004	0.020	0.110	0.005	0.026	0.02	0.126	0.11	0.636	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**23**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.21
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	4405	0.200	157494	0.027	0.120	0.603
4	Carbon tetrachloride	1	TRG	154.0	0.143	3286	0.200	157494	0.029	0.129	0.839
5	Trichloroethene	1	TRG	131.0	0.127	448	0.200	157494	0.004	0.020	0.111
1	Chlorobenzene-d5	1	IS	0.0	1.000	157494	0.200	157494	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	59630	0.200	157494	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 24**

File:	1048624A.D	**Date Sampled:**	12/06/10	**Time:**	7:22
Description:	IA-WH-SA-001	**Date Received:**	12/09/10		
Can/Tube#:	416	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	18:26
QC_Batch:	121610-MSC	**Can Dilution Factor:**	2.05		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.021	0.107	2.593	0.105	0.536	13.028	
56-23-5	Carbon tetrachloride	0.021	0.107	0.036	0.136	0.693	0.233	J
79-01-6	Trichloroethene	0.021	0.107	0.026	0.117	0.590	0.145	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.223	111	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048624

File Name:	1048624A.D			1 **SS**
Sample ID:	IA-WH-SA-001			2 **KB**
Date:	16 Dec 110 6:26 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	2.05			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.632	10.68	10.66	83.00	98463	65	51	77			
56-23-5	Carbon tetrachloride	4	0.009	12.72	12.66	116.90	948	102	83	124			
79-01-6	Trichloroethene	5	0.006	14.30	14.26	130.00	613	98	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.57	20.51	117.00	**151377**						
2037-26-5	Toluene-d8	2	0.223	17.12	17.05	98.00	**58399**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048624A.D
Instrument Name: MSC HP597
Sample ID: IA-WH-SA-001
Sample Analysis Date: 16 Dec 110 6:26 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	IA-WH-SA-001
Sample Analysis Date:	16 Dec 110 6:26 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

$$1)\ \text{Avg RFn} = \text{Sum}\ \frac{(\text{Astdni})\ (\text{Cistdi})}{(\text{Cstdni})\ (\text{Aistdi})}\ i$$

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 24

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	2.05	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.632	2.593	13.028	0.005	0.026	0.02	0.105	0.11	0.536		0.255
Carbon tetrachloride	154.0	0.009	0.036	0.233	0.005	0.026	0.02	0.136	0.11	0.693	J	0.255
Trichloroethene	131.0	0.006	0.026	0.145	0.005	0.026	0.02	0.117	0.11	0.590	J	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**24**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	2.05
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	98463	0.200	151377	0.632	2.593	13.031
4	Carbon tetrachloride	1	TRG	154.0	0.143	948	0.200	151377	0.009	0.036	0.234
5	Trichloroethene	1	TRG	131.0	0.127	613	0.200	151377	0.006	0.026	0.144
1	Chlorobenzene-d5	1	IS	0.0	1.000	151377	0.200	151377	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	58399	0.200	151377	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 25**

File:	1048625A.D	**Date Sampled:**	12/06/10	**Time:**	21:25
Description:	OA-WH-AI-001	**Date Received:**	12/09/10		
Can/Tube#:	192	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	19:09
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.26		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.013	0.066	0.078	0.065	0.329	0.390	
56-23-5	Carbon tetrachloride	0.013	0.066	0.107	0.084	0.426	0.698	
79-01-6	Trichloroethene	0.013	0.066	ND	0.072	0.362	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.215	108	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048625

File Name:	1048625A.D			1 **SS**
Sample ID:	OA-WH-AI-001			2 **KB**
Date:	16 Dec 110 7:09 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.26			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.031	10.71	10.66	83.00	4795	60	51	77			
56-23-5	Carbon tetrachloride	4	0.043	12.75	12.66	116.90	4608	100	83	124			
79-01-6	Trichloroethene	5	0.003	14.33	14.26	130.00	248	100	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.59	20.51	117.00	**151183**						
2037-26-5	Toluene-d8	2	0.215	17.11	17.05	98.00	**56362**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048625A.D
Instrument Name: MSC HP597
Sample ID: OA-WH-AI-001
Sample Analysis Date: 16 Dec 110 7:09 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	OA-WH-AI-001
Sample Analysis Date:	16 Dec 110 7:09 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 25

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.26	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.031	0.078	0.390	0.005	0.026	0.01	0.065	0.07	0.329		0.255
Carbon tetrachloride	154.0	0.043	0.107	0.698	0.005	0.026	0.01	0.084	0.07	0.426		0.255
Trichloroethene	131.0	0.003	0.007	0.036	0.005	0.026	0.01	0.072	0.07	0.362	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**25**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.26
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ Note: 1 i

2) Raw Amt = $\frac{(Ansamp)\ (Cistdi)}{(Avg\ RFn)\ (Aistdi)}$ **= Cn**

3) Amount ppbv = $\frac{(Raw\ Amt)\ 1000\ (CDF)\ (STV)}{(SV)}$

4) Amount ug/m3 = $\frac{(amt(ppbv)\ MW}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	4795	0.200	151183	0.031	0.078	0.392
4	Carbon tetrachloride	1	TRG	154.0	0.143	4608	0.200	151183	0.043	0.107	0.696
5	Trichloroethene	1	TRG	131.0	0.127	248	0.200	151183	0.003	0.007	0.039
1	Chlorobenzene-d5	1	IS	0.0	1.000	151183	0.200	151183	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56362	0.200	151183	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 26**

File:	1048626A.D	**Date Sampled:**	12/06/10	**Time:**	10:12
Description:	OA-UW-00-001	**Date Received:**	12/09/10		
Can/Tube#:	65	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	19:51
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.93		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.020	0.100	0.687	0.099	0.504	3.453	
56-23-5	Carbon tetrachloride	0.020	0.100	0.161	0.128	0.653	1.046	
79-01-6	Trichloroethene	0.020	0.100	ND	0.110	0.555	ND	ND

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.230	115	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048626

File Name:	1048626A.D				1 **SS**
Sample ID:	OA-UW-00-001				2 **KB**
Date:	16 Dec 110 7:51 pm		Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M		IS Areas		4 **BB**
Quant Method:	CNTHG_A.M		Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010				
Template:	northgte.ms				
Can Factor:	1.93				
Volume:	500	ml	Analyst:	SS	1

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.178	10.72	10.66	83.00	20391	64	51	77			
56-23-5	Carbon tetrachloride	4	0.042	12.72	12.66	116.90	3320	96	83	124			
79-01-6	Trichloroethene	5	0.002	14.33	14.26	130.00	114	84	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**111342**						
2037-26-5	Toluene-d8	2	0.230	17.12	17.05	98.00	**44258**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048626A.D
Instrument Name: MSC HP597
Sample ID: OA-UW-00-001
Sample Analysis Date: 16 Dec 110 7:51 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	OA-UW-00-001
Sample Analysis Date:	16 Dec 110 7:51 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 26

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.93	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.178	0.687	3.453	0.005	0.026	0.02	0.099	0.10	0.504		0.255
Carbon tetrachloride	154.0	0.042	0.161	1.046	0.005	0.026	0.02	0.128	0.10	0.653		0.255
Trichloroethene	131.0	0.002	0.006	0.035	0.005	0.026	0.02	0.110	0.10	0.555	U	0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**26**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.93
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	20391	0.200	111342	0.178	0.687	3.452
4	Carbon tetrachloride	1	TRG	154.0	0.143	3320	0.200	111342	0.042	0.161	1.047
5	Trichloroethene	1	TRG	131.0	0.127	114	0.200	111342	0.002	0.006	0.033
1	Chlorobenzene-d5	1	IS	0.0	1.000	111342	0.200	111342	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	44258	0.200	111342	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified SIM GC/MS **SDG: 210486**
Analytical Method: TO-15 SIM **Laboratory Number: 27**

File:	1048627A.D	**Date Sampled:**	12/06/10	**Time:**	9:24
Description:	OA-U1-G2-001	**Date Received:**	12/09/10		
Can/Tube#:	405	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	12/16/10	**Time:**	20:39
QC_Batch:	121610-MSC	**Can Dilution Factor:**	1.91		3
Air Volume:	500 ml	**Not Detected Flag:**	ND		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
67-66-3	Chloroform	0.019	0.099	0.085	0.098	0.499	0.426	J
56-23-5	Carbon tetrachloride	0.019	0.099	0.121	0.127	0.646	0.786	
79-01-6	Trichloroethene	0.020	0.099	0.114	0.109	0.549	0.630	

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
2037-26-5	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

QUANTITATION REPORT

EPA Method TO-15 Modified SIM GC/MS

Review **EAS Sample ID:** 1048627

File Name:	1048627A.D			1 **SS**
Sample ID:	OA-U1-G2-001			2 **KB**
Date:	16 Dec 110 8:39 pm	Cal Amounts		3 **AT**
Run Method:	CEXSIM_A.M	IS Areas		4 **BB**
Quant Method:	CNTHG_A.M	Carryover		5 **SH**
Cal Update:	Fri Dec 17 09:54:00 2010			
Template:	northgte.ms			
Can Factor:	1.91			
Volume:	500 ml	Analyst:	SS 1	

CAS#	Compound	n	Raw Amount	RT	Target RT	Ion	Sample Area	Qualifier	Lower Qual	Upper Qual	**Qual Flag**	**Cal Flag**	**Int Flag**
67-66-3	Chloroform	3	0.022	10.77	10.66	83.00	3527	60	51	77			
56-23-5	Carbon tetrachloride	4	0.032	12.79	12.66	116.90	3498	101	83	124			
79-01-6	Trichloroethene	5	0.030	14.37	14.26	130.00	2919	109	84	126			
3114-55-4	Chlorobenzene-d5	1	0.200	20.60	20.51	117.00	**154561**						
2037-26-5	Toluene-d8	2	0.212	17.15	17.05	98.00	**56751**						

Integration Flags:

If no flag, the Integration was done by the instrument computer

M1 Manual Integration because the computer did not integrated the peak or integrated the wrong peak

M2 Manual Integration because computer integration of baseline was different than Initial Calibration

INITIAL CALIBRATION REPORT

EPA Method TO-15 Modified SIM GC/MS

SDG: **210486**
QC_Batch: **121610-MSC**

File Name: 1048627A.D
Instrument Name: MSC HP597
Sample ID: OA-U1-G2-001
Sample Analysis Date: 16 Dec 110 8:39 pm
Number Compounds: 5
Run Method: CEXSIM_A.M
IS1: 0.2
Quant and Calibration Method: CNTHG_A.M
Calibration Title: EPA T0-15
IS2:
Cal Update: Fri Dec 17 09:54:00 2010
IS3:
Template: northgte.ms
IS4:

		Calibration Amount CA, ppmv						**Calibration Response, Area**					
		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Amt	Amt	Amt	Amt	Amt	Amt	C12020K.D	C12020L.D	C12020E.D	C12030A.D	C12020D.D	C12020M.D
n	Compound	0.25	0.5	2.0	5.0	10.0	1.0	0.25	0.5	2.0	5.0	10.0	1.0
3	Chloroform	0.026	0.051	0.204	0.510	1.020	0.102	5553	12306	56182	120756	255162	25439
4	Carbon tetrachloride	0.026	0.051	0.204	0.510	1.020	0.102	3986	8494	39503	90377	178324	16160
5	Trichloroethene	0.026	0.052	0.206	0.515	1.030	0.103	3657	7403	36989	77380	156107	14745
1	Chlorobenzene-d5	0.200	0.200	0.200	0.200	0.200	0.200	206762	199305	345010	273532	232554	209793
2	Toluene-d8	0.200	0.200	0.200	0.200	0.200	0.200	73124	71409	126682	86339	80146	70922

INITIAL CALIBRATION REPORT: Response Factors

SDG:	**210486**
QC_Batch:	**121610-MSC**
Sample ID:	OA-U1-G2-001
Sample Analysis Date:	16 Dec 110 8:39 pm
Run Method:	CEXSIM_A.M
Quant Method:	CNTHG_A.M
Cal Update:	Fri Dec 17 09:54:00 2010
Template:	northgte.ms

Sample Calculation:

1) Avg RFn = Sum $\frac{(Astdni)\ (Cistdi)}{(Cstdni)\ (Aistdi)}$ i

Response Factors

Compound	RF1	RF2	RF3	RF4	RF5	RF6	AvgRFn	%RSD
Chloroform	0.207	0.242	0.160	0.173	0.215	0.238	0.206	16.31
Carbon tetrachloride	0.148	0.167	0.112	0.130	0.150	0.151	0.143	13.46
Trichloroethene	0.136	0.143	0.104	0.110	0.130	0.136	0.127	12.50
Chlorobenzene-d5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.00
Toluene-d8	0.354	0.358	0.367	0.316	0.345	0.338	0.346	5.24

CALCULATIONS

EPA Method TO-15 Modified SIM GC/MS

SDG: 210486
Laboratory Number: 27

RL:	CNTHG_A.M	
Run Method:	CEXSIM_A.M	
Quant Method:	CNTHG_A.M	
Can Dilution Factor:	1.91	
Air Volume:	500	ml
Gas Constant:	23.68	
Decimal Places:	3	

Compound	M.W.	Raw Amount	Result ppbv	Result ug/m3	(1) MDL ppbv	(2) RL ppbv	Calc MDL ppbv	Calc MDL ug/m3	Calc RL ppbv	Calc RL ug/m3	Flag	Spike ppmv
Chloroform	119.0	0.022	0.085	0.426	0.005	0.026	0.02	0.098	0.10	0.499	J	0.255
Carbon tetrachloride	154.0	0.032	0.121	0.786	0.005	0.026	0.02	0.127	0.10	0.646		0.255
Trichloroethene	131.0	0.030	0.114	0.630	0.005	0.026	0.02	0.109	0.10	0.549		0.2575

SAMPLE CALCULATION

EPA Method TO-15 Modified SIM GC/MS

SDG:		**210486**
Laboratory Number:		**27**
Standard Volume	STV	1.0
Sample Volume	SV	500
Can Dilution Factor	CDF	1.91
Gas Constant		23.68
Decimal Places:		3

Sample Calculation:

1) Avg RFn = $\frac{\text{Sum}\ \frac{(\text{Astdni})}{(\text{Cstdni})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}}{i}$ Note: 1

2) Raw Amt = $\frac{(\text{Ansamp})}{(\text{Avg RFn})}\ \frac{(\text{Cistdi})}{(\text{Aistdi})}$ **= Cn**

3) Amount ppbv = $\frac{(\text{Raw Amt})\ 1000\ (\text{CDF})\ (\text{STV})}{(\text{SV})}$

4) Amount ug/m3 = $\frac{(\text{amt(ppbv)}\ \text{MW}}{23.68}$

n	Compound	IS n	Chem type	MW	AvgRFn	Area Ansamp	Cistdi ppmv	Aistdi Ais	**Cn** ppmV Raw Amt	Amount ppbv	Amount ug/m3
3	Chloroform	1	TRG	119.0	0.206	3527	0.200	154561	0.022	0.085	0.427
4	Carbon tetrachloride	1	TRG	154.0	0.143	3498	0.200	154561	0.032	0.121	0.787
5	Trichloroethene	1	TRG	131.0	0.127	2919	0.200	154561	0.030	0.114	0.631
1	Chlorobenzene-d5	1	IS	0.0	1.000	154561	0.200	154561	0.000	0.000	0.000
2	Toluene-d8	1	SURR	0.0	0.346	56751	0.200	154561	0.000	0.000	0.000

Calculation Definitions:

n	compound n
i	i th calibration level
Astdni	Standard Area for compound n at ith calibration level
Cstdni	Standard Concentration for compound n at ith calibration level in ppmv
Cistdi	Internal Standard Conc used for compound n at ith calibration level in ppmv
Aistdi	Internal Standard Area used for compound n at ith calibration level
Ansamp	Sample Area for compound n
Avg RFn	Average response factor for all ith calibration levels for compound n
Raw Amount	Sample Concentration in ppmv before applying factors
Cistd	Concentration internal standard used for compound n in sample in ppmv
Aistd	Area of internal standard used for compound n in sample
Cn	Concentration of compound n in sample in ppmv
23.68	Gas constant at 60 F as per EPA source test protocol
MW	Molecular weight of compound
Note (1) : Avg RFn	The values for the Average Response Factor AvgRFn can be optained from the response Factor Report for the Initial Calibration, or from the Calibration Report

SECTION 5
Sample Delivery Group Information

5.1: Instrument Daily Analytical Batch Run Logs and Initial Calibration Run Logs

Daily Analytical Batch

Method: BFB_A **DAB:** 121410-MSC

RUN	TYPE	SDG or LABQC	ID	File ID	Can	Description	Client	Vol	DAB	Tech	Qual	Method	Comments
01	TUNE	LABQC		T12140A		BFB TUNE		500	121410-MSC	KT	OK	BFB_A	
02	STD	LABQC		C12140A		ST60421	ST60550	5.0	121410-MSC	KT	OK	CEXSIM_A	
03	SPK	LABQC		QC12140A		ST60022		5.0	121410-MSC	KT	OK	CEXSIM_A	
04	SPK	LABQC		QC12140B		ST60022		5.0	121410-MSC	KT	OK	CEXSIM_A	
05	SPK	LABQC		QC12140C		ST60022		5.0	121410-MSC	KT	OK	CEXSIM_A	
06	BLK	LABQC		B12140A		HUMID AIR BLANK		500	121410-MSC	KB	NG	CEXSIM_A	
07	BLK	LABQC		B12140B		METHOD BLANK		500	121410-MSC	KT	OK	CEXSIM_A	
08	SA	210479	03	1047903A	749	5	CHWM	500	121410-MSC	KT	NG	CEXSIM_A	MS HALT
09	SA	210479	04	1047904A	618	3	CHWM	500	121410-MSC	KT	OK	CEXSIM_A	
10	SA	210479	05	1047905A	626	2B	CHWM	500	121410-MSC	KT	OK	CEXSIM_A	
11	SA	210479	03	1047903B	749	5	CHWM	200	121410-MSC	KT	OK	CEXSIM_A	
12	SA	210486	01	1048601A	770	IA-U3-O1-001	NORTHGATE	500	121410-MSC	KT	OK	CEXSIM_A	
13	SA	210486	02	1048602A	160	IA-U3-O3-001	NORTHGATE	500	121410-MSC	JF	OK	CEXSIM_A	
14	SA	210486	03	1048603A	685	IA-U3-O2-001	NORTHGATE	500	121410-MSC	JF	OK	CEXSIM_A	
15	SA	210486	04	1048604A	766	IA-U3-O2-002	NORTHGATE	500	121410-MSC	JF	OK	CEXSIM_A	
16	SA	210486	05	1048605A	409	IA-U3-UF-001	NORTHGATE	500	121410-MSC	JF	OK	CEXSIM_A	
17	SA	210486	06	1048606A	407	OA-U3-AI-001	NORTHGATE	500	121410-MSC	JF	OK	CEXSIM_A	
18	SA	210486	07	1048607A	173	IA-AB-O1-001	NORTHGATE	500	121410-MSC	JF	OK	CEXSIM_A	

Daily Analytical Batch

Method: BFB_A **DAB:** 121510-MSC

RUN	TYPE	SDG or LABQC	ID	File ID	Can	Description	Client	Vol	DAB	Tech	Qual	Method	Comments
01	TUNE	LABQC		T12150A		BFB TUNE		500	121510-MSC	KT	OK	BFB_A	
02	STD	LABQC		C12150A		ST60421	ST60550	5.0	121510-MSC	KT	OK	CEXSIM_D	
03	SPK	LABQC		QC12150A		ST60022		0.5	121510-MSC	KT	OK	CEXSIM_D	
04	SPK	LABQC		QC12150B		ST60022		0.5	121510-MSC	KT	OK	CEXSIM_D	
05	SPK	LABQC		QC12150C		ST60022		0.5	121510-MSC	KT	OK	CEXSIM_D	
06	BLK	LABQC		B12150A		HUMID AIR BLANK		500	121510-MSC	KT	OK	CEXSIM_D	
07	BLK	LABQC		B12150B		METHOD BLANK		500	121510-MSC	KB	OK	CEXSIM_D	
08	SA	210486	08	1048608A	634	OA-AB-AI-001	NORTHGATE	500	121510-MSC	KT	OK	CEXSIM_D	
12	SA	210486	12	1048612A	652	OA-U3-AI-002	NORTHGATE	500	121510-MSC	JF	OK	CEXSIM_D	
13	SA	210486	13	1048613A	692	IA-AB-O1-002	NORTHGATE	500	121510-MSC	JF	OK	CEXSIM_D	
14	SA	210486	14	1048614A	756	IA-FO-O1-001	NORTHGATE	500	121510-MSC	JF	OK	CEXSIM_D	
15	SA	210486	15	1048615A	629	OA-FO-AI-001	NORTHGATE	500	121510-MSC	JF	OK	CEXSIM_D	
16	SA	210486	16	1048616A	729	OA-U1-G2-002	NORTHGATE	500	121510-MSC	JF	OK	CEXSIM_D	
17	SA	210486	17	1048617A	516	IA-BP-CR-001	NORTHGATE	500	121510-MSC	JF	OK	CEXSIM_D	

Daily Analytical Batch

Method: BFB_A **DAB:** 121610-MSC

RUN	TYPE	SDG or LABQC	ID	File ID	Can	Description	Client	Vol	DAB	Tech	Qual	Method	Comments
01	TUNE	LABQC		T12160A		BFB TUNE		500	121610-MSC	KT	OK	BFB_A	
02	STD	LABQC		C12160A		ST60421	ST60550	5.0	121610-MSC	KT	OK	CEXSIM_A	
03	SPK	LABQC		QC12160A		ST60022		5.0	121610-MSC	KT	OK	CEXSIM_A	
04	SPK	LABQC		QC12160B		ST60022		5.0	121610-MSC	KT	OK	CEXSIM_A	
05	SPK	LABQC		QC12160C		ST60022		5.0	121610-MSC	KT	OK	CEXSIM_A	
06	BLK	LABQC		B12160A		HUMID AIR BLANK		500	121610-MSC	KT	OK	CEXSIM_A	
07	BLK	LABQC		B12160B		METHOD BLANK		500	121610-MSC	KB	OK	CESXIM_A	
08	SA	210486	18	1048618A	538	IA-BP-SO-001	NORTHGATE	500	121610-MSC	KT	OK	CEXSIM_A	
09	SA	210486	19	1048619A	526	OA-BP-AI-001	NORTHGATE	500	121610-MSC	KT	OK	CEXSIM_A	
10	SA	210486	20	1048620A	2961	IA-LB-O1-001	NORTHGATE	500	121610-MSC	KT	OK	CEXSIM_A	
11	SA	210486	21	1048621A	529	IA-LB-O2-001	NORTHGATE	500	121610-MSC	KT	OK	CEXSIM_A	
12	SA	210486	22	1048622A	535	OA-LB-AI-001	NORTHGATE	500	121610-MSC	KT	OK	CEXSIM_A	
13	SA	210486	23	1048623A	158	IA-SP-CR-001	NORTHGATE	500	121610-MSC	BB	OK	CEXSIM_A	
14	SA	210486	24	1048624A	416	IA-WH-SA-001	NORHTGATE	500	121610-MSC	BB	OK	CEXSIM_A	
15	SA	210486	25	1048625A	192	OA-WH-AI-001	NORTHGATE	500	121610-MSC	BB	OK	CEXSIM_A	
16	SA	210486	26	1048626A	65	OA-UW-00-001	NORTHGATE	500	121610-MSC	BB	OK	CEXSIM_A	
17	SA	210486	27	1048627A	405	OA-U1-G2-001	NORTHGATE	500	121610-MSC	BB	OK	CEXSIM_A	

5.2: Sample Preparation Logs

5.3: Shipping Receipts, Correspondence, Phone Logs

Label 7 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010100040225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 **BILL SENDER**

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

7 of 14

MPS# 0263 7965 2964 3898

Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
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93401
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Label 3 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J1030101040225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

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3 of 14

MPS# 0263 7965 2964 3442
Mstr# 7965 2964 3199 0201

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Label 1 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010100010225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER

Attn: Sample Receiving
Environmental Analytical Service
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SAN LUIS OBISPO, CA 93401

5 of 14

MPS# 0263 7965 2964 3648

Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

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50AG1/AA8D/278D

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Label 9 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J1030101040225

Ship Date: 08DEC10
ActWgt: 12.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 **BILL SENDER**

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

9 of 14

MPS# 0263 7965 2964 4092
Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
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Label 14 of 14

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Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway
Henderson, NV 89015

J103010100040226

Ship Date: 08DEC10
ActWgt: 12.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER
Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

13 of 14
MPS# 0263 7965 2964 4530
Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

60AG1/AA9D/278D

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Label 1 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010109I0225

Ship Date: 08DEC10
ActWgt: 12.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

11 of 14

MPS# 0263 7965 2964 4368

Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8D/278B

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Label [illegible] of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

FedEx Express

E

J10301010040225

Ship Date: 08DEC10
ActWgt: 12.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER
Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

10 of 14
MPS# 0263 7965 2964 4200
Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8D/27B0

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Label 12 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway
Henderson, NV 89015

J103010109-10226

Ship Date: 08DEC10
ActWgt: 12.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER
Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

12 of 14
MPS# 0263 7965 2964 4460
Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8D/278D

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Label 8 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010010940225

Ship Date: 08DEC10
ActWgt: 12.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

8 of 14

MPS# 0263 7965 2964 3990

Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

60AG1/AA9B/278D

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Label 4 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010100040225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

4 of 14

MPS# 0263 7965 2964 3556
Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8B/279B

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Label 1 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010100040225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 **BILL SENDER**

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

1 of 14

TRK# 0201 7965 2964 3199

MASTER

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8D/278D

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Label 1 of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103010100-10225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

6 of 14

MPS# 0263 7965 2964 3784
Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8B/278D

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Label of 14

From: Origin ID: LASA (949) 514-9982
Sonny Nguyen(NGEM)co Susan Crowley
Tronox
560 W. Lake Mead Parkway

Henderson, NV 89015

J103810100400225

Ship Date: 08DEC10
ActWgt: 30.0 LB
CAD: 100845654/INET3090

Delivery Address Bar Code

Ref # 10203.01.02
Invoice # 2027.07.50
PO #
Dept #

SHIP TO: (805) 781-3585 BILL SENDER

Attn: Sample Receiving
Environmental Analytical Service
173 CROSS ST

SAN LUIS OBISPO, CA 93401

2 of 14

MPS# 0263 7965 2964 3269

Mstr# 7965 2964 3199 0201

THU - 09 DEC A5
PRIORITY OVERNIGHT
ASR

93401
CA-US
ONT

XH SBPA

50AG1/AA8D/2780

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Environmental
ANALYTICAL SERVICE, INC.

PACKING SLIP

PS NO: 8652

Project Manager:

Maile Smith
Northgate Environmental Management
300 Frank H. Ogawa, Suite 510
Oakland CA 94612
510-839-0688

Ship To:

Jim Carolan c/o Susan Crowley
Tronox LLC
560 West Lake Mead Pkwy
Henderson NV 89015
(510)504-6927

Quote: 16102 Order Date: 11/29/2010 Due Date: 12/2/2010 Ship Date: 11/30/2010

Carrier: UPS Ground Bill Client: No Account:

Airbill Number: Order Status Completed

Item	Quan	Description	ID	Equipment Clean Batch	Return	SDG	Date Returned
1	1	6 L Summa Canister	672	102010C	Yes	210486	12/10/2010
2	1	6 L Summa Canister	653	102010D	Yes	210486	12/9/2010
3	1	6 L Summa Canister	700	102010D	Yes	210486	12/10/2010
4	1	6 L Summa Canister	692	102010C	Yes	210486	12/9/2010
5	1	6 L Summa Canister	535	101810C	Yes	210486	12/9/2010
6	1	6 L Summa Canister	158	102010B	Yes	210486	12/9/2010
7	1	6 L Summa Canister	170	101910C	Yes	210486	12/10/2010
8	1	6 L Summa Canister	516	101910C	Yes	210486	12/9/2010
9	1	6 L Summa Canister	629	101910C	Yes	210486	12/9/2010
10	1	6 L Summa Canister	65	102110A	Yes	210486	12/10/2010
11	1	6 L Summa Canister	538	102010B	Yes	210486	12/9/2010
12	1	6 L Summa Canister	729	102010B	Yes	210486	12/9/2010
13	1	6 L Summa Canister	2961	102110A	Yes	210486	12/9/2010
14	1	6 L Summa Canister	526	102110A	Yes	210486	12/9/2010
15	1	6 L Summa Canister	652	102110A	Yes	210486	12/9/2010
16	1	6 L Summa Canister	192	102110A	Yes	210486	12/9/2010
17	1	6 L Summa Canister	634	110310C	Yes	210486	12/10/2010
18	1	6 L Summa Canister	766	102110A	Yes	210486	12/9/2010
19	1	6 L Summa Canister	770	111110A	Yes	210486	12/9/2010
20	1	6 L Summa Canister	685	110810A	Yes	210486	12/9/2010
21	1	6 L Summa Canister	407	111510A	Yes	210486	12/10/2010
22	1	6 L Summa Canister	756	111510A	Yes	210486	12/9/2010
23	1	6 L Summa Canister	405	111510A	Yes	210486	12/10/2010
24	1	6 L Summa Canister	160	111710A	Yes	210486	12/9/2010
25	1	6 L Summa Canister	409	111710A	Yes	210486	12/9/2010

26	1	6 L Summa Canister	173	111710A	Yes	210486	12/9/2010
27	1	6 L Summa Canister	416	111710A	Yes	210486	12/9/2010
28	1	6 L Summa Canister	527	101810C	Yes	210486	12/10/2010
29	1	8 Hr Flow Orrifice	2543	110810A	Yes	210486	12/9/2010
30	1	8 Hr Flow Orrifice	2542	062510C	Yes	210486	12/9/2010
31	1	8 Hr Flow Orrifice	2614	062410A	Yes	210486	12/9/2010
32	1	8 Hr Flow Orrifice	2616	102910A	Yes	210486	12/9/2010
33	1	8 Hr Flow Orrifice	2622	062410A	Yes	210486	12/9/2010
34	1	8 Hr Flow Orrifice	2593	110810A	Yes	210486	12/9/2010
35	1	8 Hr Flow Orrifice	2608	102910A	Yes	210486	12/9/2010
36	1	8 Hr Flow Orrifice	2579	102910A	Yes	210486	12/9/2010
37	1	8 Hr Flow Orrifice	2617	102910A	Yes	210486	12/9/2010
38	1	8 Hr Flow Orrifice	2590	062410A	Yes	210486	12/9/2010
39	1	8 Hr Flow Orrifice	2567	062510C	Yes	210486	12/9/2010
40	1	8 Hr Flow Orrifice	2580	062510C	Yes	210486	12/9/2010
41	1	8 Hr Flow Orrifice	2615	110810A	Yes	210486	12/9/2010
42	1	8 Hr Flow Orrifice	2611	102910A	Yes	210486	12/9/2010
43	1	8 Hr Flow Orrifice	2620	062410A	Yes	210486	12/9/2010
44	1	8 Hr Flow Orrifice	2599	062510B	Yes	210486	12/9/2010
45	1	8 Hr Flow Orrifice	2619	062410A	Yes	210486	12/9/2010
46	1	8 Hr Flow Orrifice	2618	062510C	Yes	210486	12/9/2010
47	1	10Hr Adjustable Flow Controll	45	112210B	Yes	210486	12/9/2010
48	1	10Hr Adjustable Flow Controll	47	112210B	Yes	210486	12/9/2010
49	1	10Hr Adjustable Flow Controll	15	112210B	Yes	210486	12/9/2010
50	1	10Hr Adjustable Flow Controll	41	112410A	Yes	210486	12/9/2010
51	1	10Hr Adjustable Flow Controll	12	112410A	Yes	210486	12/9/2010
52	1	10Hr Adjustable Flow Controll	35	091410B	Yes	210486	12/9/2010
53	1	10Hr Adjustable Flow Controll	18	112210B	Yes	210486	12/9/2010
54	1	10Hr Adjustable Flow Controll	25	112410A	Yes	210486	12/9/2010
55	1	10Hr Adjustable Flow Controll	32	112410A	Yes	210486	12/9/2010
56	1	10Hr Adjustable Flow Controll	46	091410B	Yes	210486	12/9/2010
57	1	9/16 Wrench			Yes	210486	12/9/2010
58	1	5/8 Wrench			Yes	210486	12/9/2010
59	1	1/18 Allen Wrench			Yes	210486	12/9/2010
60	1	Snorkel	2218	112910A	Yes	210486	12/9/2010
61	1	Snorkel	2219	112910A	Yes	210486	12/9/2010
62	1	Tygon Tubing			Yes	210486	12/9/2010
63	1	Tygon Tubing			Yes	210486	12/9/2010

64	1	Digital Flowmeter			Yes	210486	12/9/2010
65	1	Barometric Pressure Gauge			Yes	210486	12/9/2010

Note: If the Return Column is Marked "Yes" for an Items it Needs to be Returned to EAS

ENVIRONMENTAL
ANALYTICAL SERVICE

LABORATORY WORK ORDER

INFORMATION

SDG Number: 210486

Project Manager: Maile Smith

Client: Northgate Environmental Management

EDD: Equis **Report:** PDF e-mail

Quote Number: 16102

Date Received: 12/9/2010

TAT: 7

Due Date: 12/20/2010

SAMPLE DESCRIPTION AND ANALYSIS REQUESTED — Date Sampled — Initial Pressure (torr) — Final Pressure (torr) — Factor

Client Sample No.	EAS Lab No.	Analysis Requested	Date Sampled	Initial Pressure (torr)	Final Pressure (torr)	Factor
IA-U3-O1-001	210486 1	EPA TO-15 SIM Short Target List	12/6/2010	437	940	2.15
IA-U3-O3-001	210486 2	EPA TO-15 SIM Short Target List	12/6/2010	421	917	2.18
IA-U3-O2-001	210486 3	EPA TO-15 SIM Short Target List	12/6/2010	416	924	2.22
IA-U3-O2-002	210486 4	EPA TO-15 SIM Short Target List	12/6/2010	453	917	2.02
IA-U3-UF-001	210486 5	EPA TO-15 SIM Short Target List	12/6/2010	441	912	2.07
OA-U3-AI-001	210486 6	EPA TO-15 SIM Short Target List	12/6/2010	721	920	1.28
IA-AB-O1-001	210486 7	EPA TO-15 SIM Short Target List	12/6/2010	438	918	2.10
OA-AB-AI-001	210486 8	EPA TO-15 SIM Short Target List	12/6/2010	499	911	1.83
IA-U3-O4-001	210486 9	EPA TO-15 SIM Short Target List	12/7/2010	386	1018	2.64
IA-U3-O5-001	210486 10	EPA TO-15 SIM Short Target List	12/7/2010	476	920	1.93
IA-U3-O2-003	210486 11	EPA TO-15 SIM Short Target List	12/7/2010	496	925	1.86
OA-U3-AI-002	210486 12	EPA TO-15 SIM Short Target List	12/7/2010	458	911	1.99
IA-AB-O1-002	210486 13	EPA TO-15 SIM Short Target List	12/7/2010	459	915	1.99
IA-FO-O1-001	210486 14	EPA TO-15 SIM Short Target List	12/7/2010	496	901	1.82
OA-FO-AI-001	210486 15	EPA TO-15 SIM Short Target List	12/7/2010	535	921	1.72
OA-U1-G2-002	210486 16	EPA TO-15 SIM Short Target List	12/7/2010	391	922	2.36
IA-BP-CR-001	210486 17	EPA TO-15 SIM Short Target List	12/7/2010	427	934	2.19
IA-BP-SO-001	210486 18	EPA TO-15 SIM Short Target List	12/7/2010	486	912	1.88
OA-BP-AI-001	210486 19	EPA TO-15 SIM Short Target List	12/7/2010	533	924	1.73
IA-LB-O1-001	210486 20	EPA TO-15 SIM Short Target List	12/7/2010	415	906	2.18
IA-LB-O2-001	210486 21	EPA TO-15 SIM Short Target List	12/7/2010	482	931	1.93
OA-LB-AI-001	210486 22	EPA TO-15 SIM Short Target List	12/7/2010	389	926	2.38
IA-SP-CR-001	210486 23	EPA TO-15 SIM Short Target List	12/7/2010	411	909	2.21
IA-WH-SA-001	210486 24	EPA TO-15 SIM Short Target List	12/6/2010	457	936	2.05
OA-WH-AI-001	210486 25	EPA TO-15 SIM Short Target List	12/6/2010	758	955	1.26
OA-UW-00-001	210486 26	EPA TO-15 SIM Short Target List	12/6/2010	473	913	1.93

Client Sample No.	EAS Lab No.	Analysis Requested	Date Sampled	Pressure (torr) Rec	Final	Factor
OA-U1-G2-001	210486 27	EPA TO-15 SIM Short Target List	12/6/2010	497	951	1.91

ENVIRONMENTAL
ANALYTICAL SERVICE
173 Cross Street, San Luis Obispo, CA 93401

Sample Receipt Notification

Project Manager:	Maile Smith	**EAS SDG Number:**	210486
Company:	Northgate Environmental Manageme	**Date Received:**	12/9/2010
Proj. Number:	2027.07-T50	**EAS Project/Quote Number:**	16102
		EAS Project Manager:	Kristin Beckley

Thank you for submitting samples to Environmental Analytical Service. Attached to this sample receipt notification are copies or your Chain of Custody forms signed by Sample Control. If there were any problems with the sample shipment they will be recorded in the Sample Control Case Narrative. Each batch of samples received is assigned a Sample Delivery Group (SDG) number and a project manager. When contacting EAS please reference your SDG number.

In a couple of days your Project Manager will e-mail you an EAS Work Order that has the LIMS login information on your samples, including your field ID, the EAS sample ID, canister pressures, and the analytical tests requested for each sample. Please review this information to make sure it is correct.

Normal Turn Around Time for e-mailed reports is 10 working days from date of receipt unless an expedited TAT was requested. Depending on the sample load, your project manager may be able to e-mail preliminary results in about 5 to 7 working days, if requested. If you have any special scheduling needs please contact us and we will try to accomodate them if possible.

EAS uses the method specified holding times. EPA TO-15 specifies a holding time for SUMMA canisters of 30 days for most normal sampling situations. EAS pressurizes the canisters as soon as they are received so they will qualify for the 30 day holding time. If your project has soil gas samples and uses a 14 day holding time or the Project Plan specifies a holding time that is shorter than the method holding time, please notify your project manager as soon as possible. If you have questions on canister pressurization, dilution factors, holding times, or any other technical questions, please contact Dr. Steve Hoyt for assistance.

Sample Control Case Narrative

7965 2964 4200, 7965 2964 4460, 7965 2964 3898
7965 2964 4368, 7965 2964 3990
7965 2964 4530, 7965 2964 3556
7965 2964 4092, 7965 2964 3199
7965 2964 3784, 7965 2964 3269

For Technical Questions
Dr. Steve Hoyt
stevehoyt@easlab.com or (805 781-3585 x 2

For Questions on SDG
Client Services
(805) 781-3585

5.4: Standard Certificates

STANDARD CERTIFICATE
CALIBRATION GAS STANDARD

ENVIRONMENTAL
Analytical Service, Inc.

Standard Identification Number: ST60421

Date Originally Purchased/Prepared:	**06/23/10**	**Cylinder:**	**AL032401**
Date Recertified:	**05/05/10**	**Cylinder Pres:**	**1000 psi**
Prep Standard:	**ST60022**		
Expires:	**05/05/11**	**Analytical Accuracy: +/- 10%**	

CAS	Compound	Concentration (ppmV)
75-71-8	Freon 12	0.105
74-87-3	Chloromethane	0.102
76-14-2	Freon 114	0.104
75-01-4	Vinyl chloride	0.104
74-83-9	Bromomethane	0.104
75-00-3	Chloroethane	0.104
75-69-4	Trichlorofluoromethane	0.104
75-35-4	1,1-Dichloroethene	0.104
75-09-2	Dichloromethane	0.104
76-13-1	Freon 113	0.102
75-34-3	1,1-Dichloroethane	0.101
156-59-2	c-1,2-Dichloroethene	0.103
67-66-3	Chloroform	0.102
107-06-2	1,2-Dichloroethane	0.103
71-55-6	1,1,1-Trichloroethane	0.102
71-43-2	Benzene	0.103
56-23-5	Carbon Tetrachloride	0.102
78-87-5	1,2-Dichloropropane	0.103
79-01-6	Trichloroethene	0.103
10061-01-5	c-1,3-Dichloropropene	0.106
10061-02-6	t-1,3-Dichloropropene	0.104
79-00-5	1,1,2-Trichloroethane	0.102
108-88-3	Toluene	0.103
106-93-4	1,2-Dibromoethane	0.104
127-18-4	Tetrachloroethene	0.102
108-90-7	Chlorobenzene	0.102
100-41-4	Ethylbenzene	0.104
106-42-3	p-Xylenes	0.103
108-38-3	m-Xylenes	0.103
100-42-5	Styrene	0.103
95-47-6	o-Xylene	0.102
79-34-5	1,1,2,2-Tetrachloroethane	0.102
108-67-8	1,3,5-Trimethylbenzene	0.106
95-63-6	1,2,4-Trimethylbenzene	0.102
541-73-1	1,3-Dichlorobenzene	0.102
106-46-7	1,4-Dichlorobenzene	0.102
95-50-1	1,2-Dichlorobenzene	0.100
120-82-1	1,2,4-Trichlorobenzene	0.103
87-68-3	Hexachlorobutadiene	0.103
106-99-0	1,3-Butadiene	0.107
107-13-1	Acrylonitrile	0.108

•This Analysis is NIST Traceable by either measurement or weight•

Analyst: N. Bern Approved: N. Bern

The stability of gas standards cannot be guaranteed and EAS will only be liable for replacement or reanalysis if the standard changes in six months from analysis date.

5.5: Laboratory Control Spike Certificates & Internal Standard Certificates

Laboratory Control Spike Certificate
CALIBRATION GAS STANDARD

ENVIRONMENTAL
Analytical Service, Inc.

Standard Identification Number: ST60022

Date Originally Purchased/Prepared:	**07/25/06**	**Cylinder:**	**CC-230154**
Date Recertified:	**01/05/10**	**Cylinder Pres:**	**1100 psi**
Recertification Standard:	**ST60025**		
Expires:	**01/05/11**	**Analytical Accuracy: +/- 10%**	

CAS	Compound	Concentration (ppmV)
67-66-3	Chloroform	0.58
56-23-5	Carbon Tetrachloride	0.62
79-01-6	Trichloroethene	0.59

•This Analysis is NIST Traceable by either measurement or weight•

Analyst: N. Berry Approved: N. Berry

The stability of gas standards cannot be guaranteed and EAS will only be liable for replacement or reanalysis if the standard changes in six months from analysis date.

STANDARD CERTIFICATE
CALIBRATION GAS STANDARD

ENVIRONMENTAL
Analytical Service, Inc.

Standard Identification Number: ST60551

Date Originally Purchased/Prepared:	**02/24/10**	**Cylinder:**	**AL150**
Date Recertified:		**Cylinder Pres:**	**995 psig**
Recertification Standard:			
Expires:	**02/24/11**	**Analytical Accuracy: +/- 10%**	

CAS	Compound	Concentration (ppmV)
3114-55-4	Chlorobenzene-d5	0.437
386-72-4	Pentafluorobenzene	0.442
540-36-3	1,4-Difluorobenzene	0.455
460-00-4	1,4-Bromofluorobenzene	0.227
2037-26-5	Toluene-d8	0.248
	Vinyl Chloride-d3	0.457

•This Analysis is NIST Traceable by either measurement or weight•

Analyst: M. Berry Approved: M. Berry

The stability of gas standards cannot be guaranteed and EAS will only be liable for replacement or reanalysis if the standard changes in six months from analysis date.

SECTION 6
Canister Certification Data

6.1 Canister Certification Information

Canister Certification for this project was done by batch certification method.

SECTION 7

Ion Spectra for GC/MS, Level D

This Section contains the Ion Spectra for samples analyzed for GC/MS for Level D Data Deliverable Packages. The Ion Spectra is grouped by Daily Analytical Batch and is included for the DAB and the Initial Calibration. Initial Calibration Tune Data is also included.

7.1: Ion Spectra for Daily Analytical Batch

Daily Analytical Batch #: 121410-MSC

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\C12140A.D
Acq Time : 14 Dec 110 9:29 am Operator: KT
Sample : ST60421 + ST60550 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

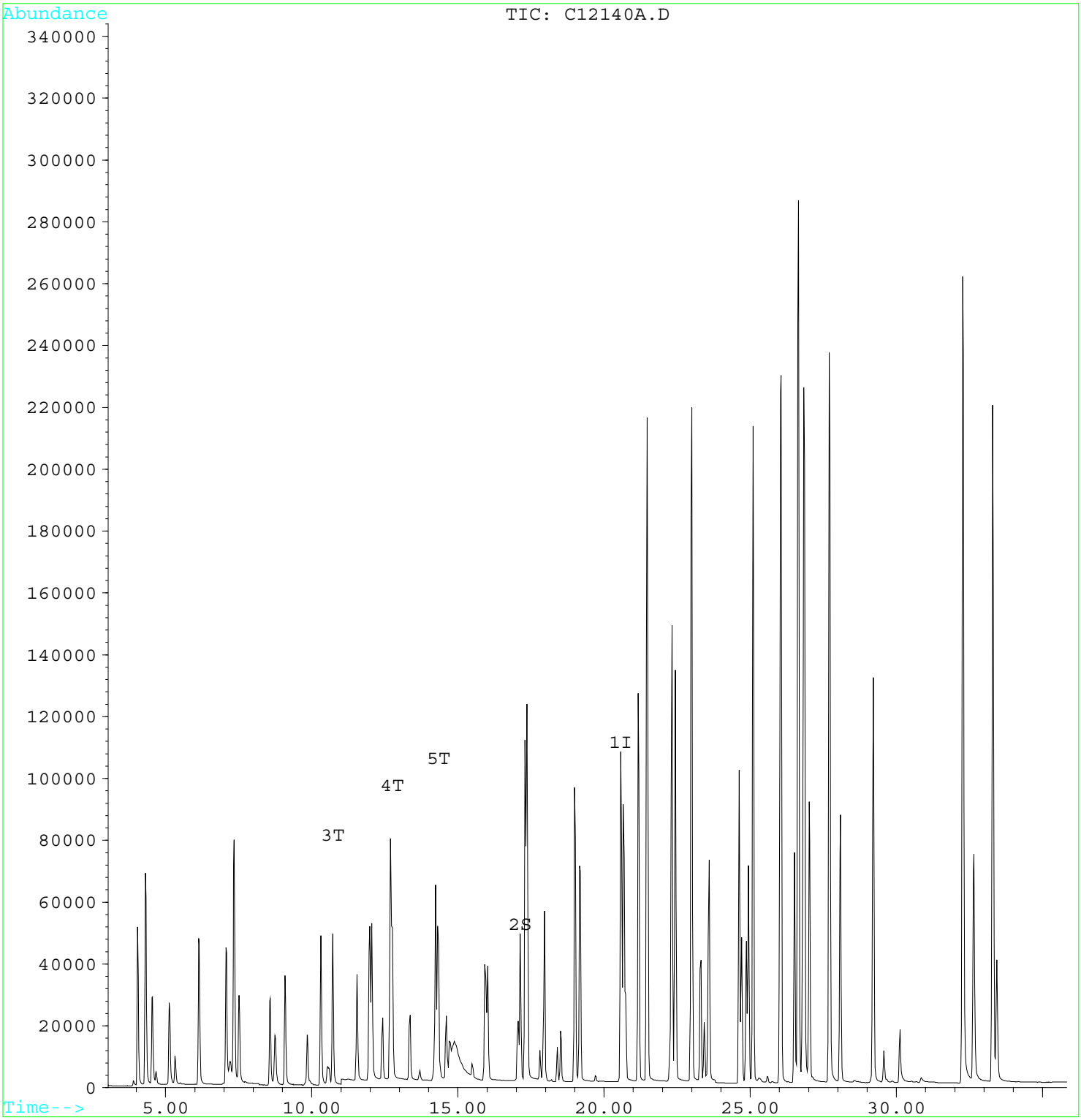
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	239782	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	76664	0.18	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	107780	0.44	ppbV	97
4) Carbon tetrachloride	12.76	117	82056	0.48	ppbV	99
5) Trichloroethene	14.34	130	68852	0.45	ppbV	99

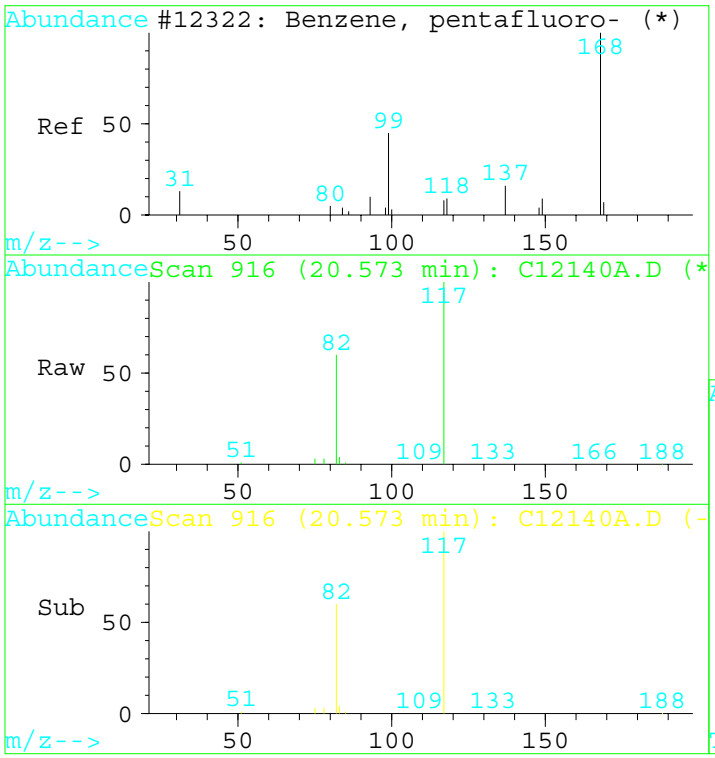
(#) = qualifier out of range (m) = manual integration
C12140A.D CNTHG_A.M Mon Dec 20 09:33:01 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\C12140A.D
Acq Time : 14 Dec 110 9:29 am Operator: KT
Sample : ST60421 + ST60550 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

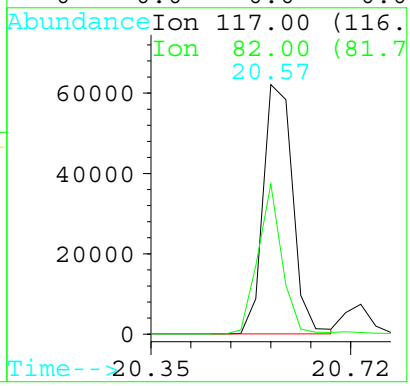


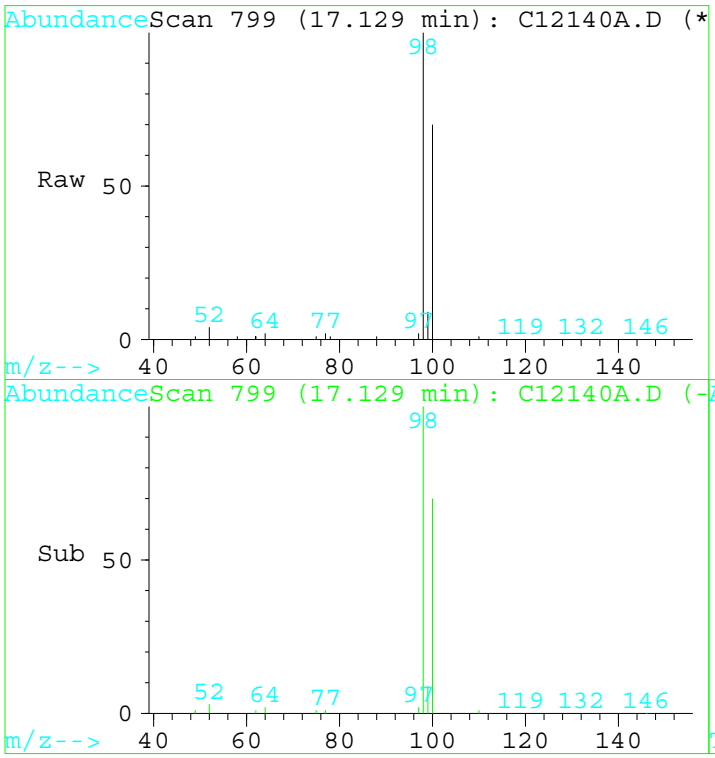


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 916
Delta R.T. 0.06 min
Lab File: C12140A.D
Acq: 14 Dec 110 9:29 am

Tgt Ion:117 Resp: 239782

Ion	Ratio	Lower	Upper
117	100		
82	60.4	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

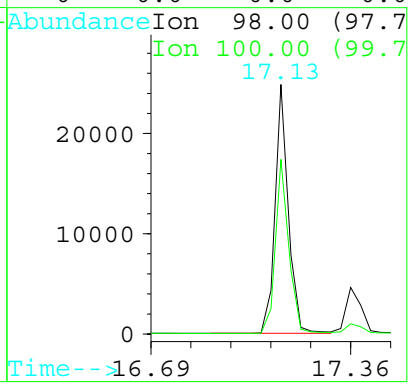


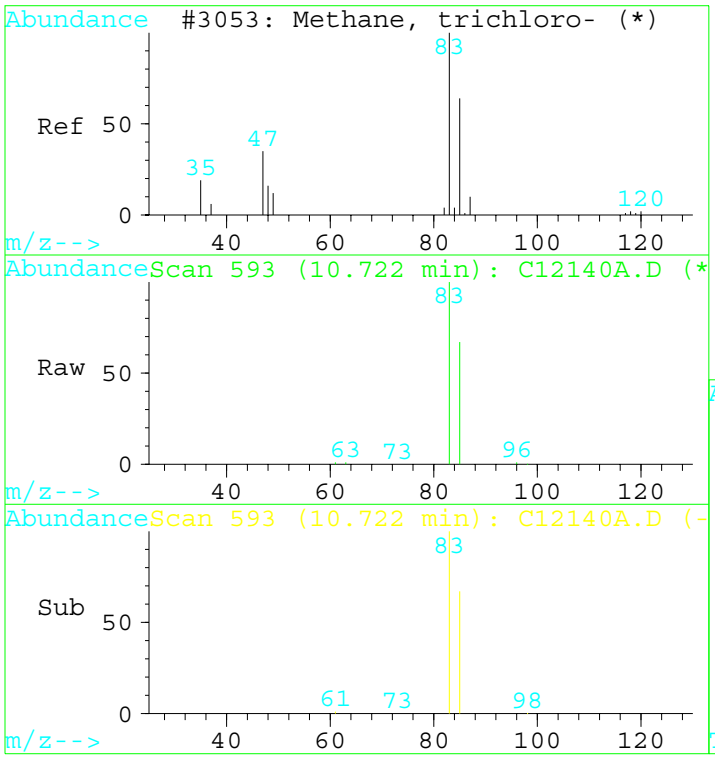


#2
Toluene-d8
Concen: 0.18 ppbV
RT: 17.13 min Scan# 799
Delta R.T. 0.08 min
Lab File: C12140A.D
Acq: 14 Dec 110 9:29 am

Tgt Ion:98 Resp: 76664

Ion	Ratio	Lower	Upper
98	100		
100	70.6	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

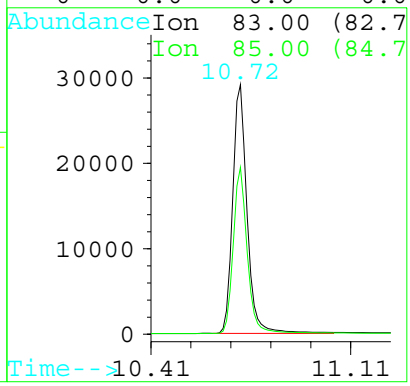


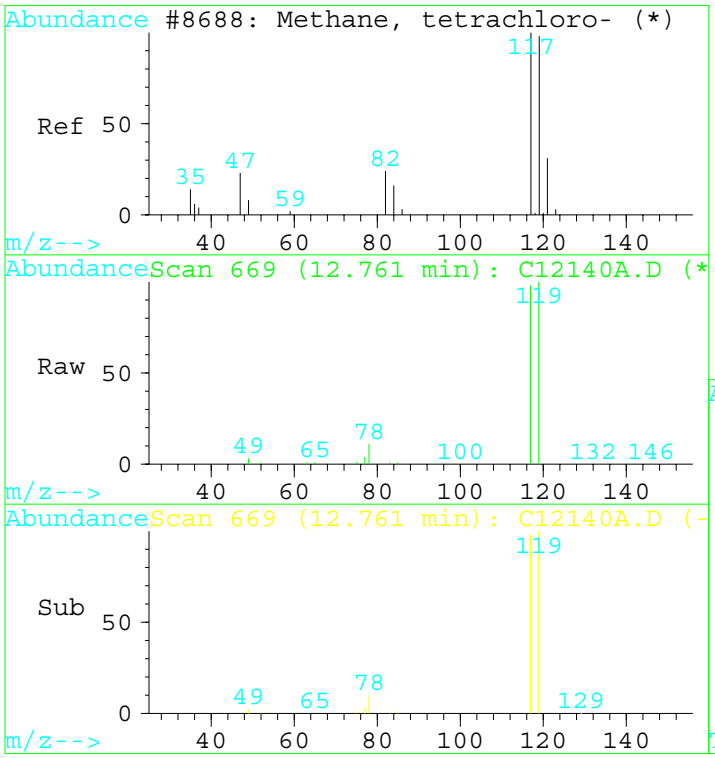


#3
Chloroform
Concen: 0.44 ppbV
RT: 10.72 min Scan# 593
Delta R.T. 0.06 min
Lab File: C12140A.D
Acq: 14 Dec 110 9:29 am

Tgt Ion:83 Resp: 107780

Ion	Ratio	Lower	Upper
83	100		
85	66.8	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

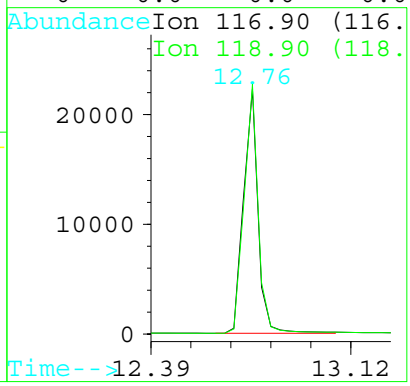


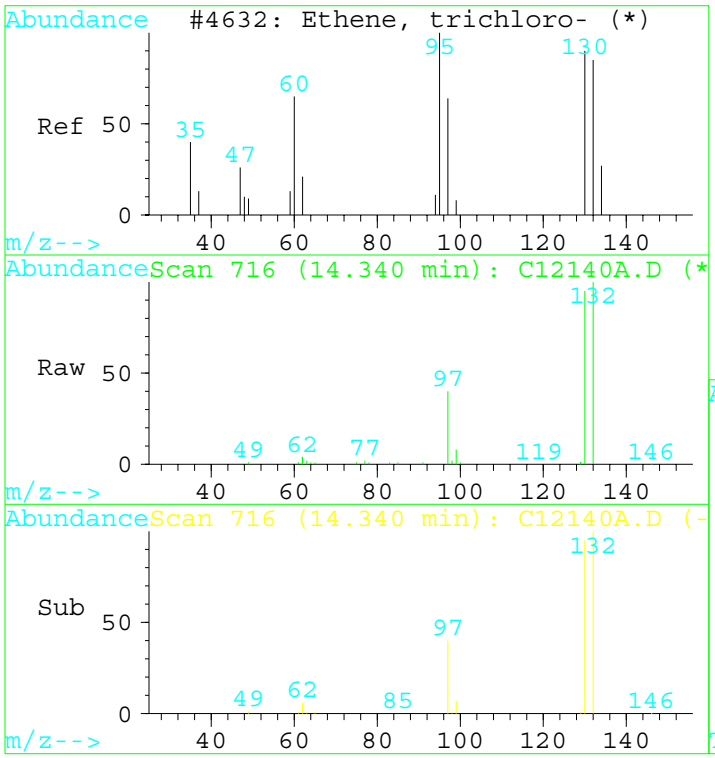


#4
Carbon tetrachloride
Concen: 0.48 ppbV
RT: 12.76 min Scan# 669
Delta R.T. 0.10 min
Lab File: C12140A.D
Acq: 14 Dec 110 9:29 am

Tgt Ion:116.9 Resp: 82056

Ion	Ratio	Lower	Upper
117	100		
119	101.9	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

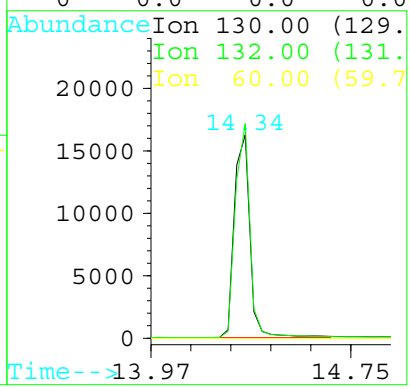




#5
Trichloroethene
Concen: 0.45 ppbV
RT: 14.34 min Scan# 716
Delta R.T. 0.08 min
Lab File: C12140A.D
Acq: 14 Dec 110 9:29 am

Tgt Ion:130 Resp: 68852

Ion	Ratio	Lower	Upper
130	100		
132	105.6	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\B12140B.D
Acq Time : 14 Dec 110 1:39 pm Operator: KB
Sample : METHOD BLANK Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

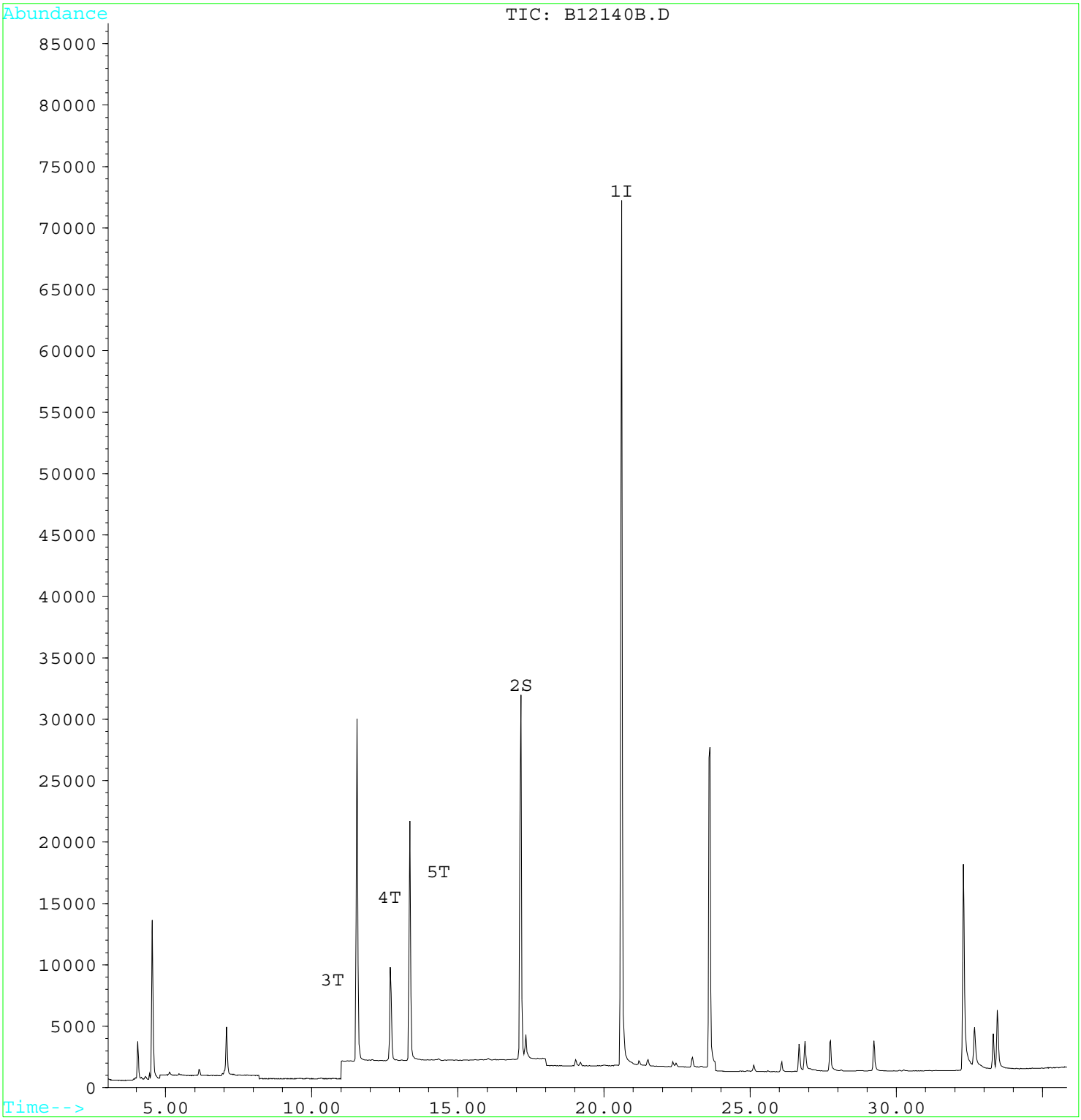
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	166358	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	58643	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.71	83	84	0.00	ppbV #	47
4) Carbon tetrachloride	12.66	117	24	0.00	ppbV #	1
5) Trichloroethene	14.33	130	215	0.00	ppbV	99

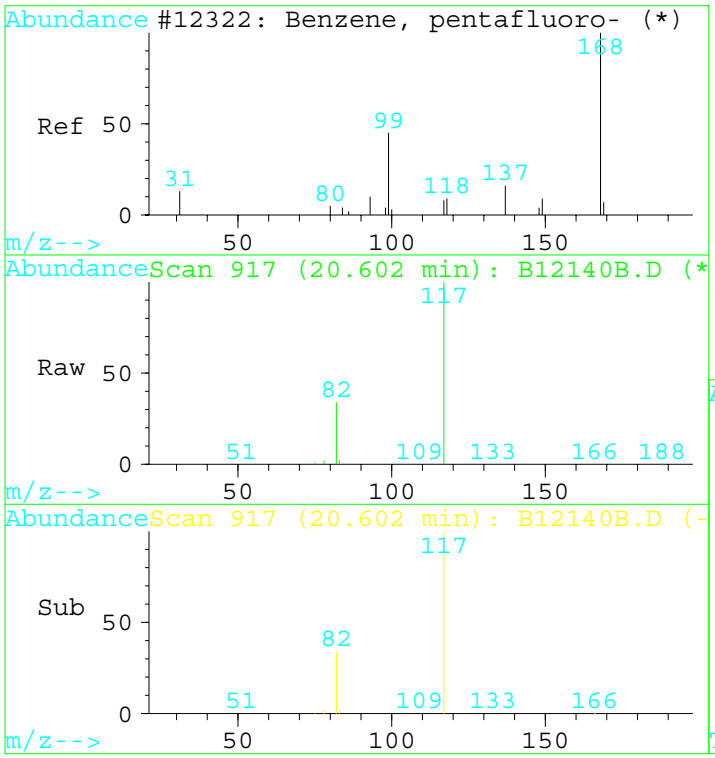
(#) = qualifier out of range (m) = manual integration
B12140B.D CNTHG_A.M Mon Dec 20 09:32:23 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\B12140B.D
Acq Time : 14 Dec 110 1:39 pm Operator: KB
Sample : METHOD BLANK Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

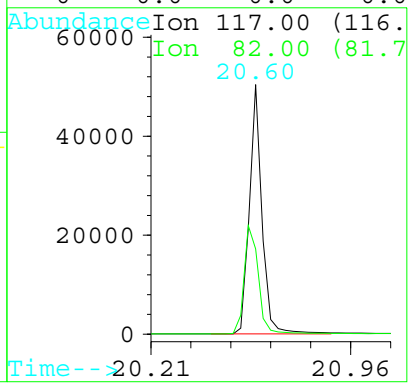


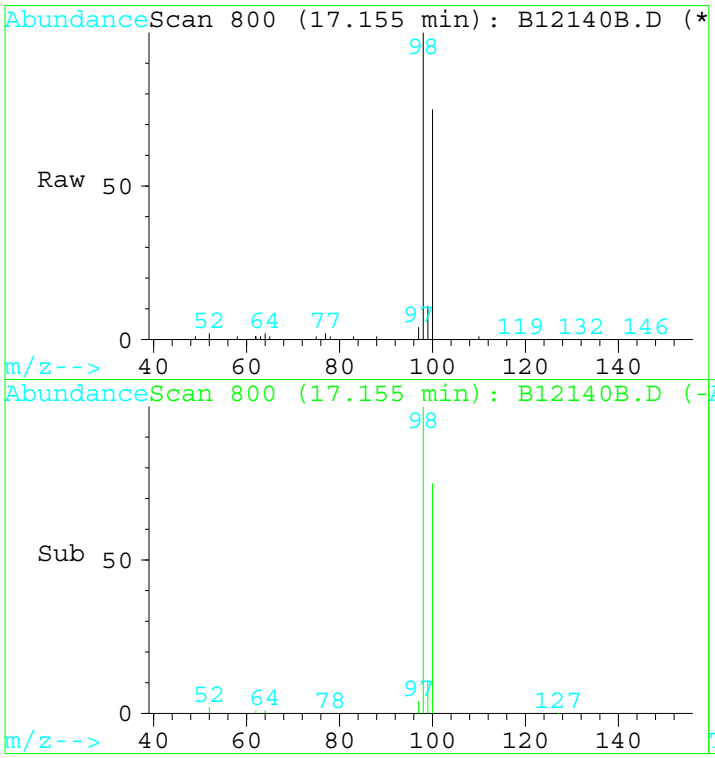


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 917
Delta R.T. 0.09 min
Lab File: B12140B.D
Acq: 14 Dec 110 1:39 pm

Tgt Ion:117 Resp: 166358

Ion	Ratio	Lower	Upper
117	100		
82	34.1	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

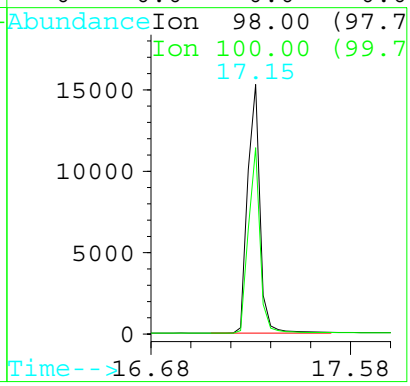


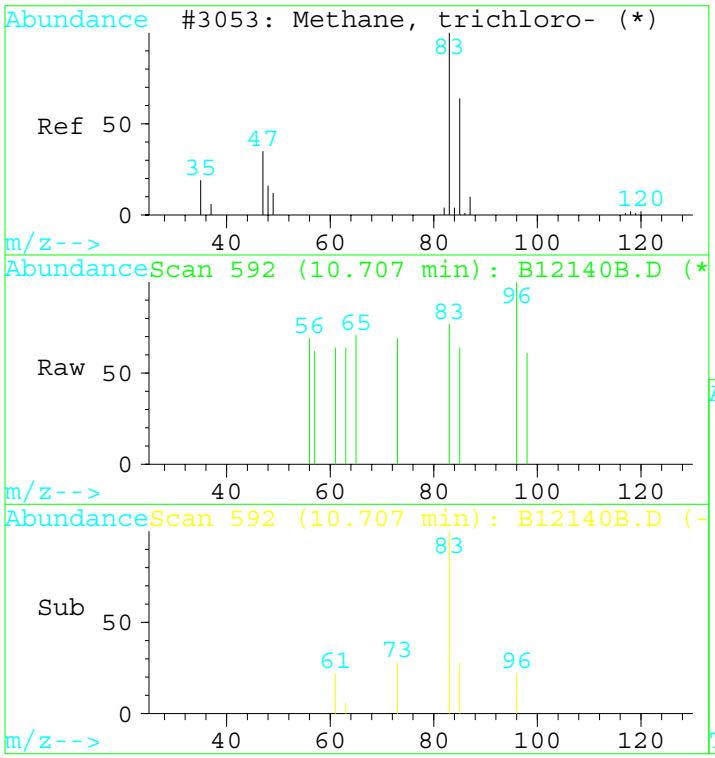


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.15 min Scan# 800
Delta R.T. 0.10 min
Lab File: B12140B.D
Acq: 14 Dec 110 1:39 pm

Tgt Ion:98 Resp: 58643

Ion	Ratio	Lower	Upper
98	100		
100	70.4	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

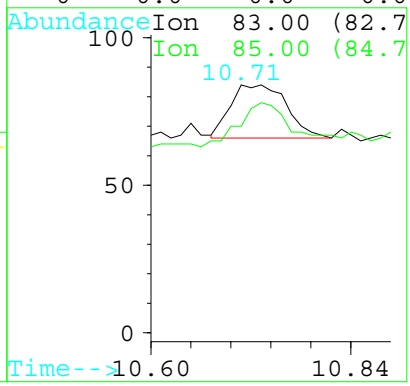


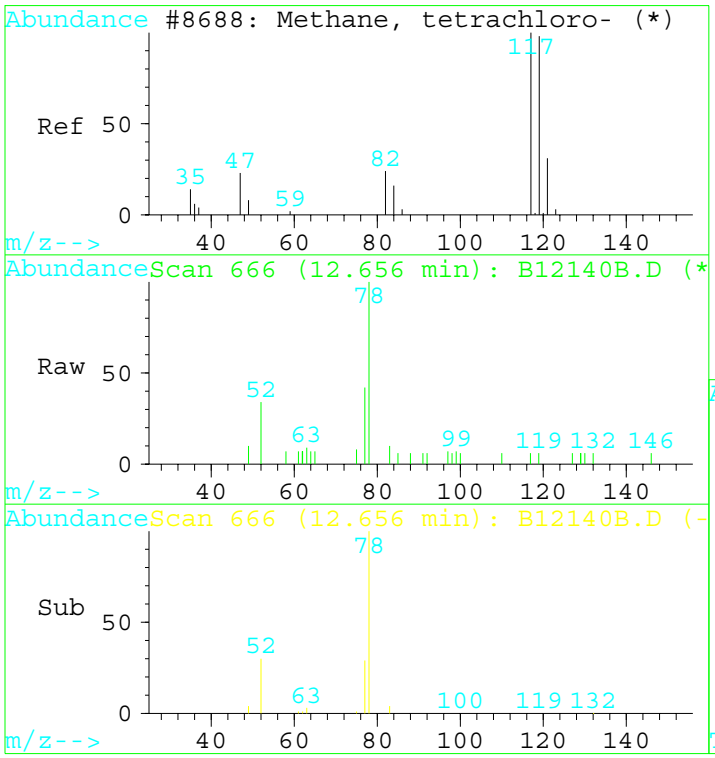


#3
Chloroform
Concen: 0.00 ppbV
RT: 10.71 min Scan# 592
Delta R.T. 0.05 min
Lab File: B12140B.D
Acq: 14 Dec 110 1:39 pm

Tgt Ion:83 Resp: 84

Ion	Ratio	Lower	Upper
83	100		
85	22.9	51.4	77.2#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

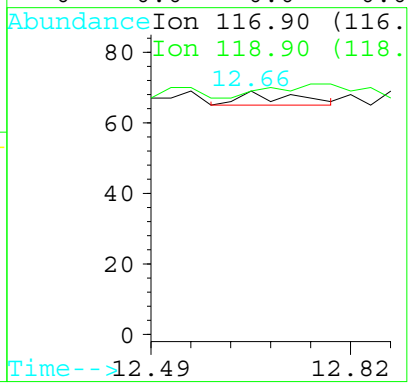


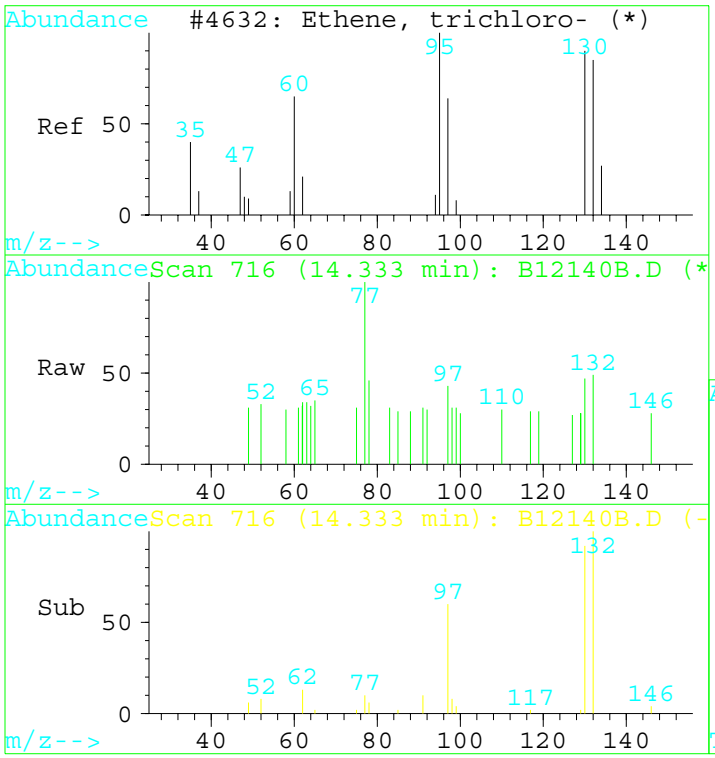


#4
Carbon tetrachloride
Concen: 0.00 ppbV
RT: 12.66 min Scan# 666
Delta R.T. -0.00 min
Lab File: B12140B.D
Acq: 14 Dec 110 1:39 pm

Tgt Ion:116.9 Resp: 24

Ion	Ratio	Lower	Upper
117	100		
119	0.0	82.6	124.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

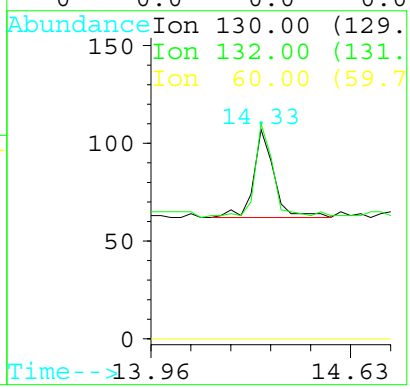




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: B12140B.D
Acq: 14 Dec 110 1:39 pm

Tgt Ion:130 Resp: 215

Ion	Ratio	Lower	Upper
130	100		
132	104.4	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\QC12140A.D
Acq Time : 14 Dec 110 10:24 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

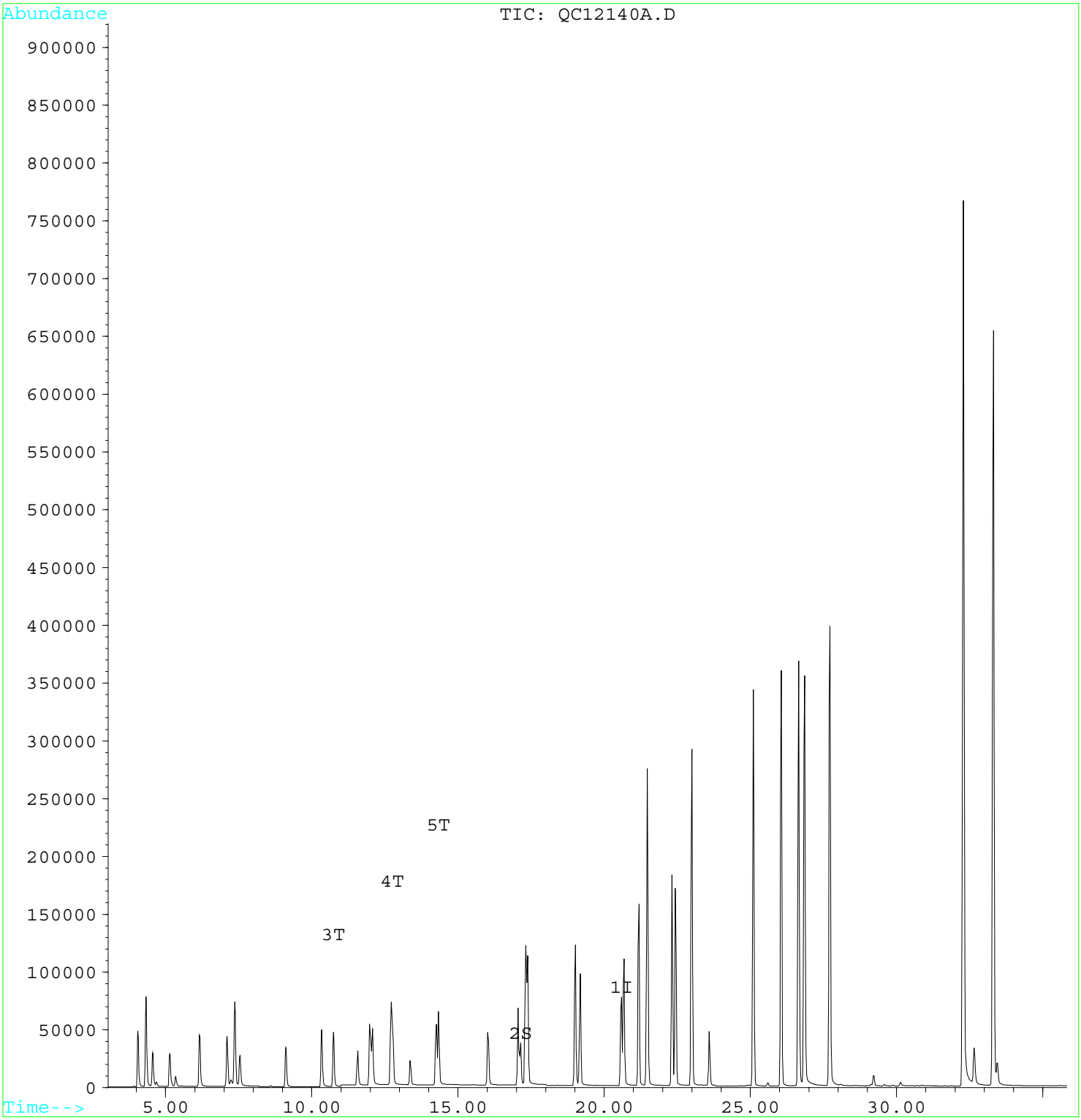
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	192680	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	66373	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.74	83	115648	0.58	ppbV	100
4) Carbon tetrachloride	12.75	117	84715	0.61	ppbV	92
5) Trichloroethene	14.33	130	72675	0.60	ppbV	92

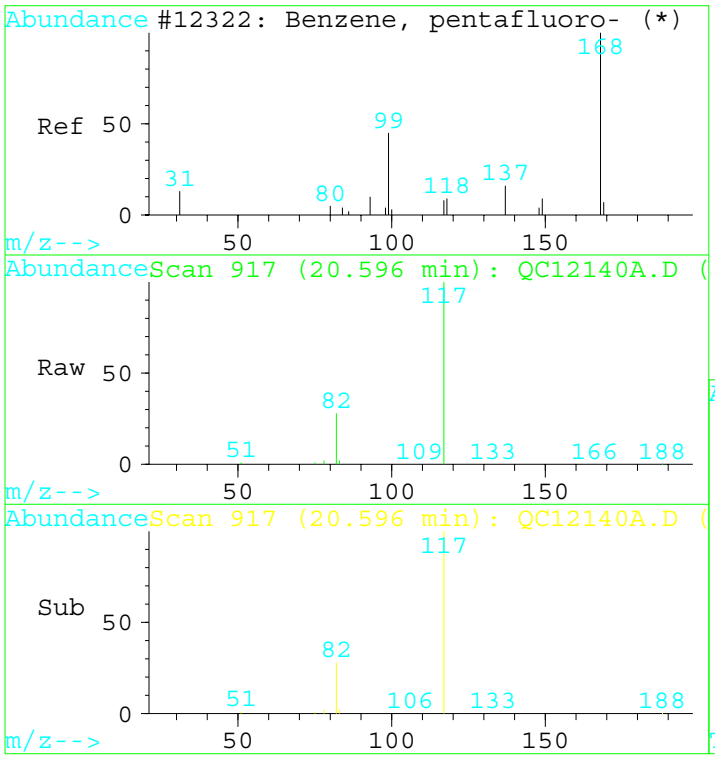
(#) = qualifier out of range (m) = manual integration
QC12140A.D CNTHG_A.M Mon Dec 20 09:33:39 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\QC12140A.D
Acq Time : 14 Dec 110 10:24 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

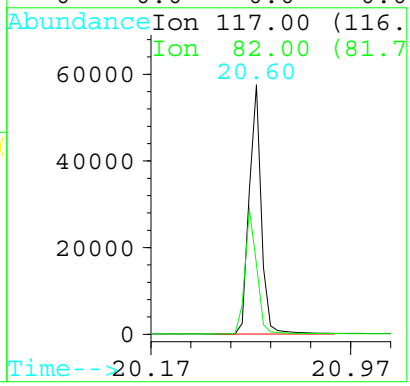


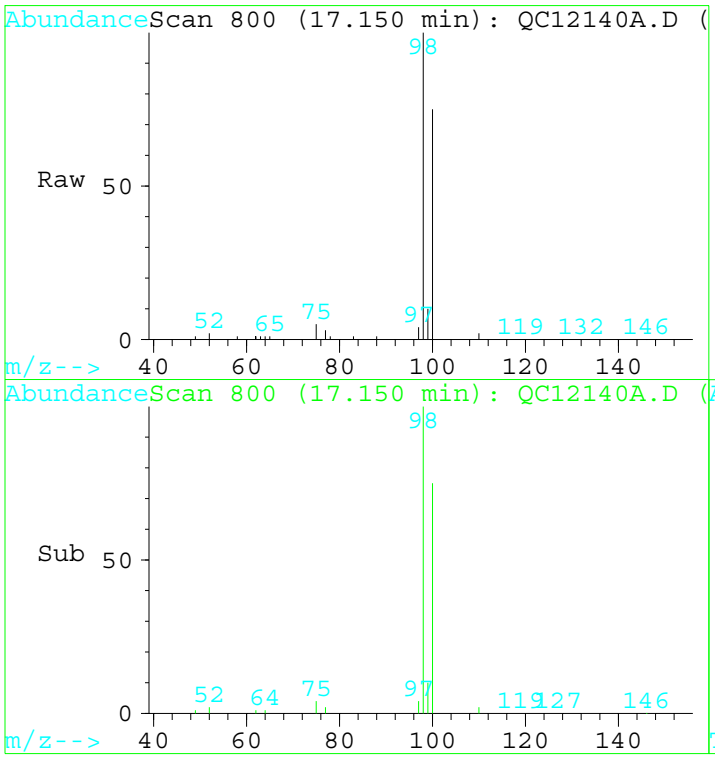


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 917
Delta R.T. 0.09 min
Lab File: QC12140A.D
Acq: 14 Dec 110 10:24 am

Tgt Ion:117 Resp: 192680

Ion	Ratio	Lower	Upper
117	100		
82	28.0	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

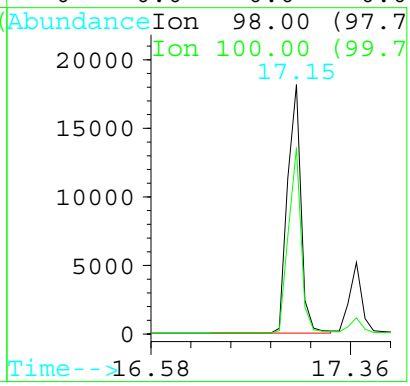


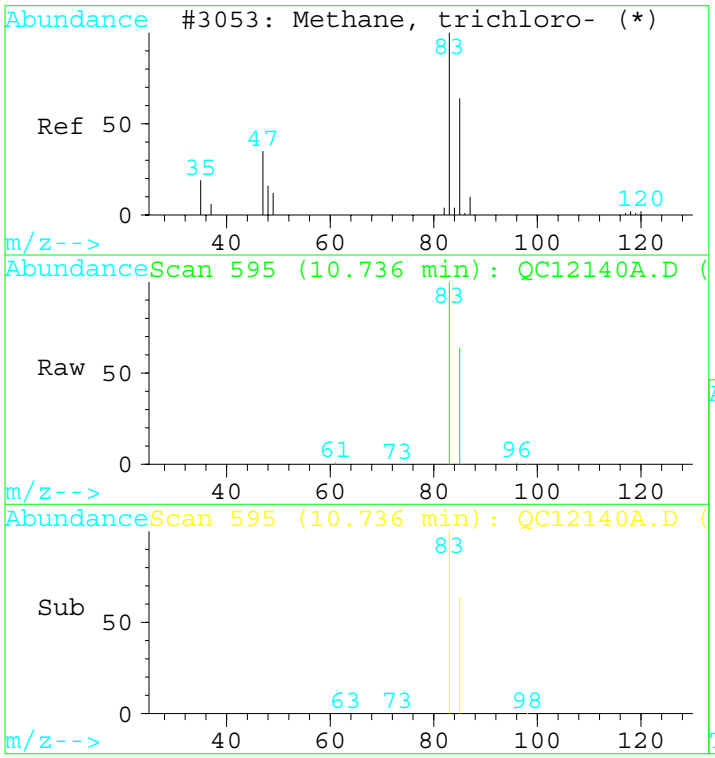


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.15 min Scan# 800
Delta R.T. 0.10 min
Lab File: QC12140A.D
Acq: 14 Dec 110 10:24 am

Tgt Ion:98 Resp: 66373

Ion	Ratio	Lower	Upper
98	100		
100	70.4	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

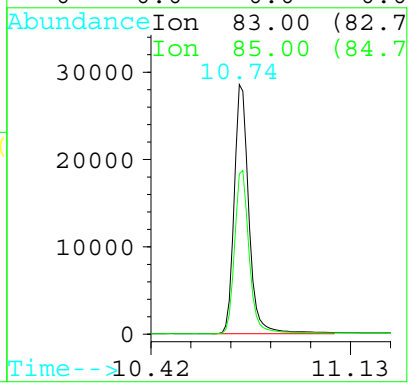


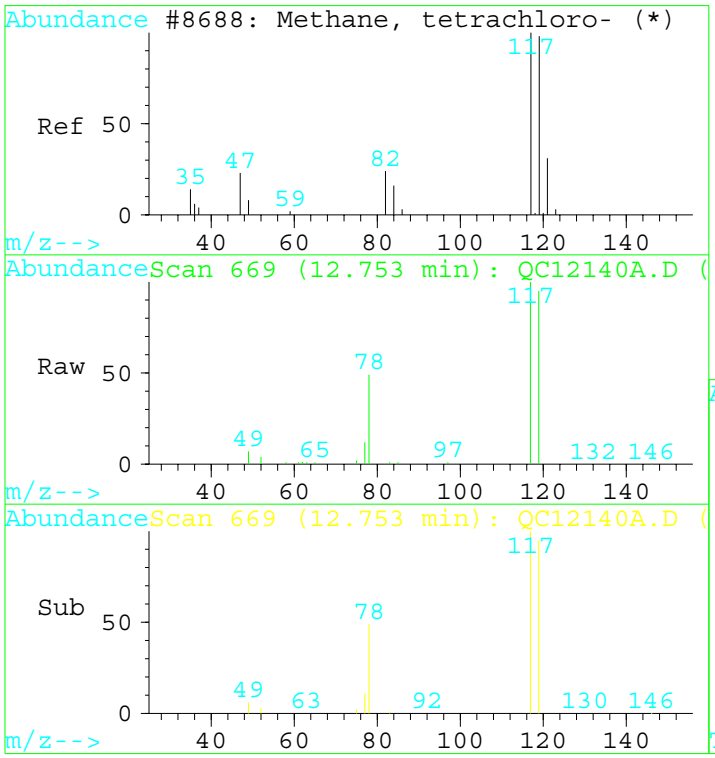


#3
Chloroform
Concen: 0.58 ppbV
RT: 10.74 min Scan# 595
Delta R.T. 0.08 min
Lab File: QC12140A.D
Acq: 14 Dec 110 10:24 am

Tgt Ion:83 Resp: 115648

Ion	Ratio	Lower	Upper
83	100		
85	64.1	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

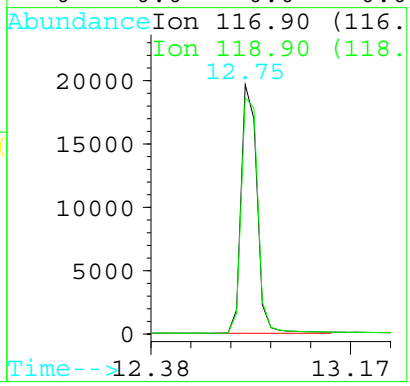


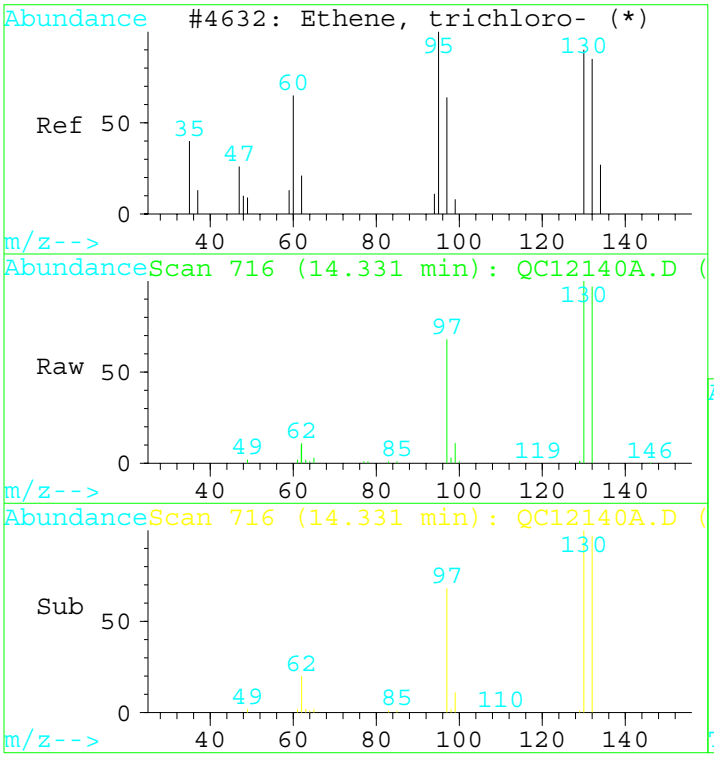


#4
Carbon tetrachloride
Concen: 0.61 ppbV
RT: 12.75 min Scan# 669
Delta R.T. 0.09 min
Lab File: QC12140A.D
Acq: 14 Dec 110 10:24 am

Tgt Ion:116.9 Resp: 84715

Ion	Ratio	Lower	Upper
117	100		
119	94.7	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

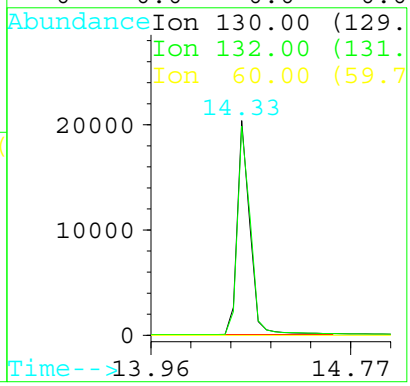




#5
Trichloroethene
Concen: 0.60 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: QC12140A.D
Acq: 14 Dec 110 10:24 am

Tgt Ion:130 Resp: 72675

Ion	Ratio	Lower	Upper
130	100		
132	97.3	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\QC12140B.D
Acq Time : 14 Dec 110 11:08 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

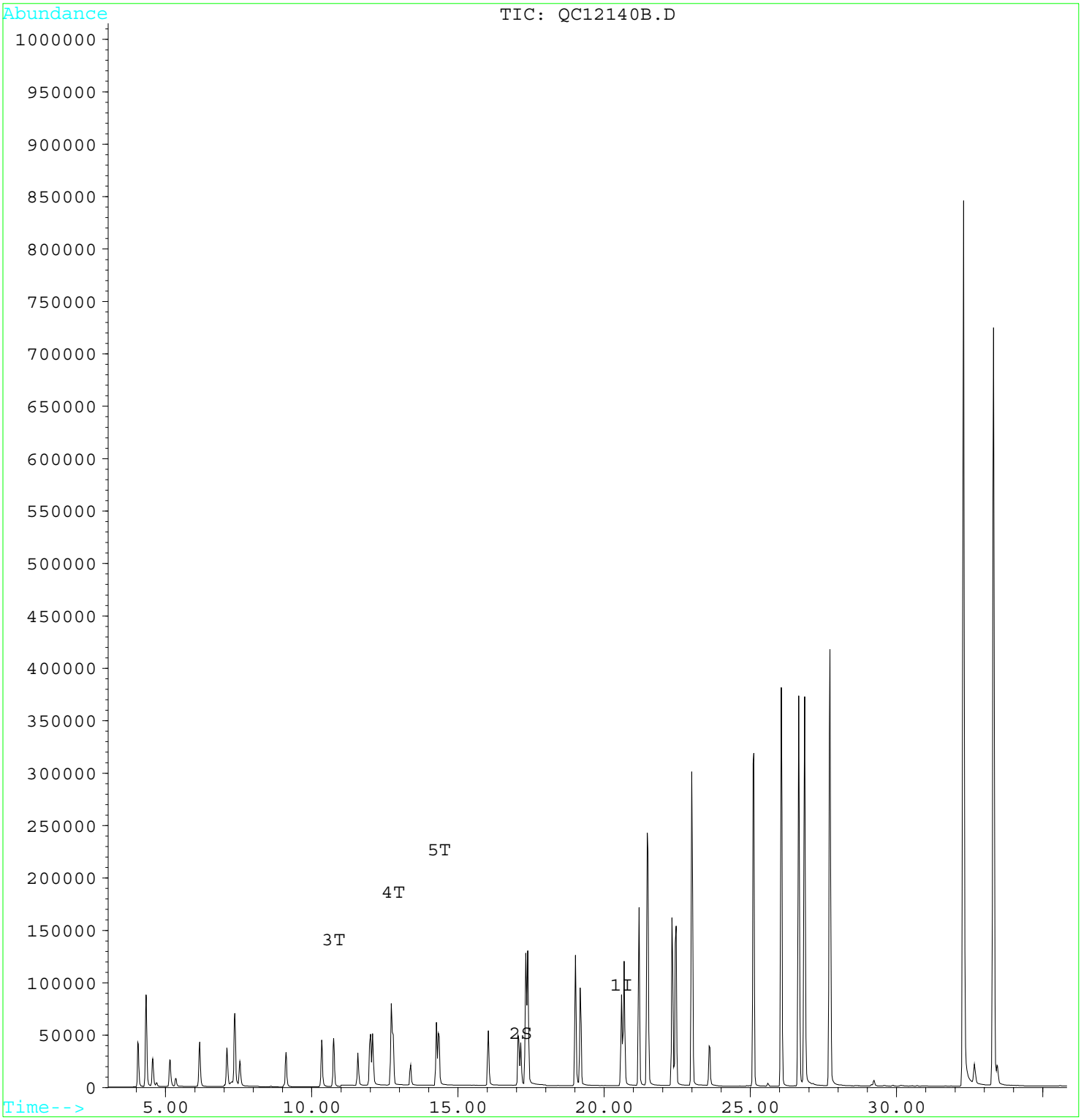
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.59	117	192623	0.20	ppbV	0.08
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	65795	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.75	83	114473	0.58	ppbV	100
4) Carbon tetrachloride	12.78	117	82960	0.60	ppbV	99
5) Trichloroethene	14.36	130	70473	0.58	ppbV	98

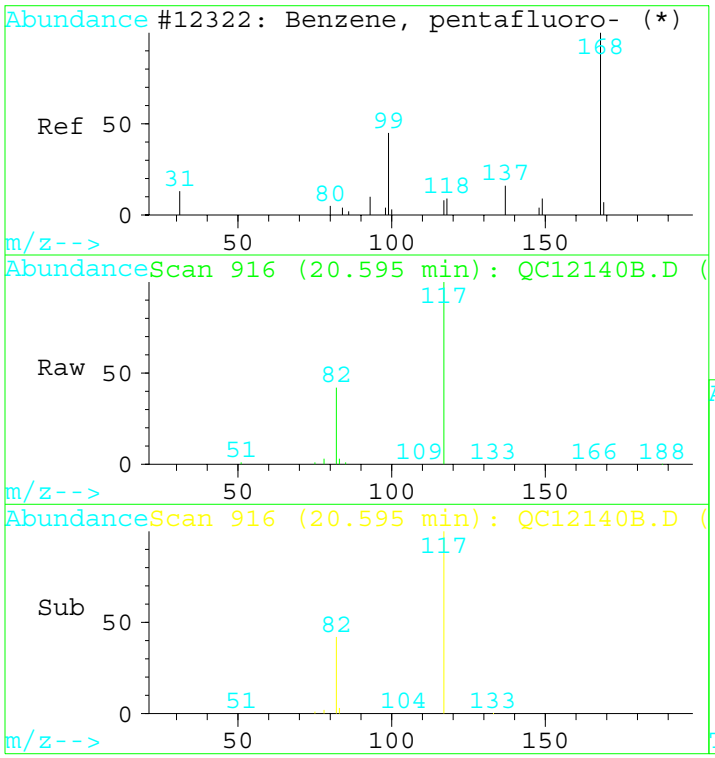
(#) = qualifier out of range (m) = manual integration
QC12140B.D CNTHG_A.M Mon Dec 20 09:34:02 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\QC12140B.D
Acq Time : 14 Dec 110 11:08 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

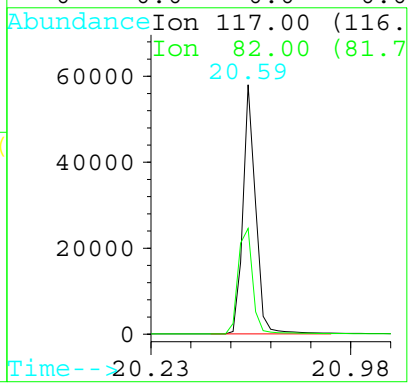


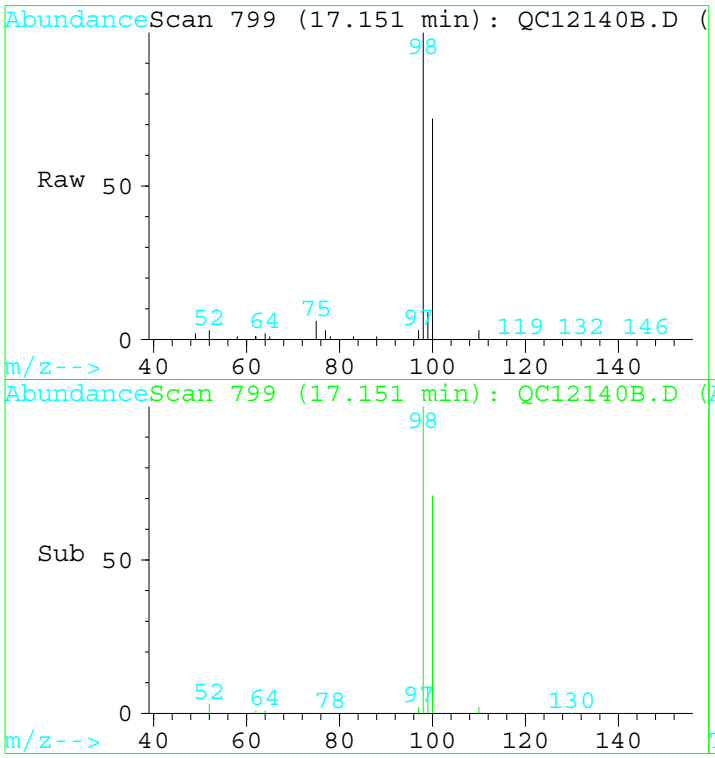


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.59 min Scan# 916
Delta R.T. 0.08 min
Lab File: QC12140B.D
Acq: 14 Dec 110 11:08 am

Tgt Ion:117 Resp: 192623

Ion	Ratio	Lower	Upper
117	100		
82	42.3	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

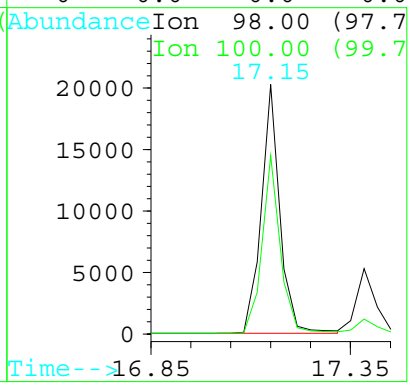


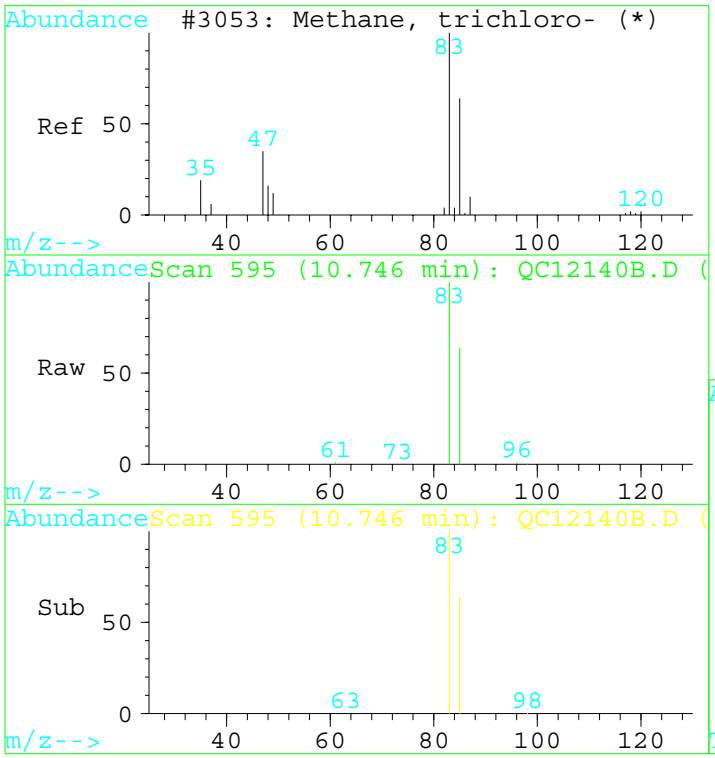


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.15 min Scan# 799
Delta R.T. 0.10 min
Lab File: QC12140B.D
Acq: 14 Dec 110 11:08 am

Tgt Ion:98 Resp: 65795

Ion	Ratio	Lower	Upper
98	100		
100	70.3	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

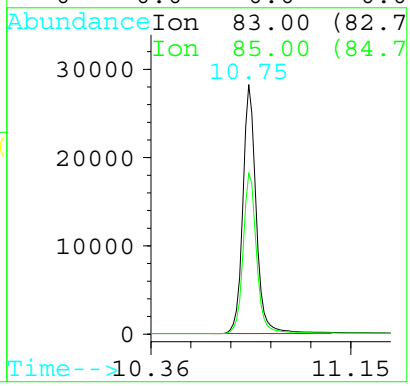


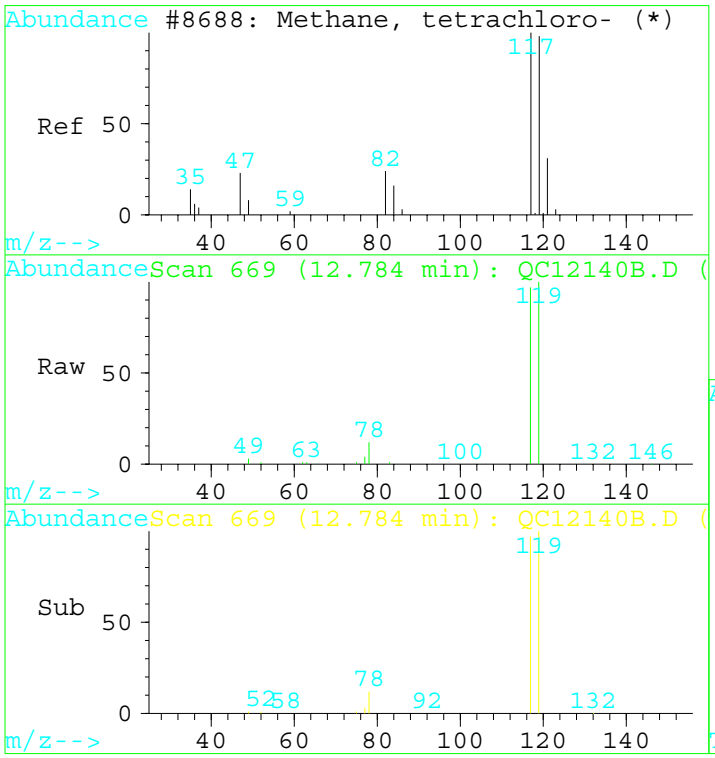


#3
Chloroform
Concen: 0.58 ppbV
RT: 10.75 min Scan# 595
Delta R.T. 0.09 min
Lab File: QC12140B.D
Acq: 14 Dec 110 11:08 am

Tgt Ion:83 Resp: 114473

Ion	Ratio	Lower	Upper
83	100		
85	64.2	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

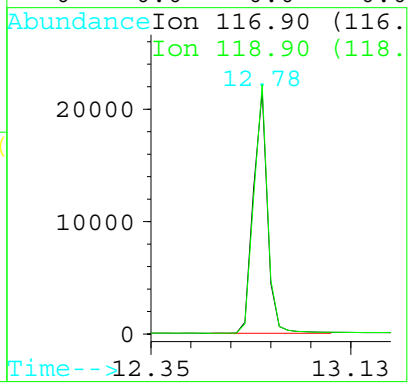


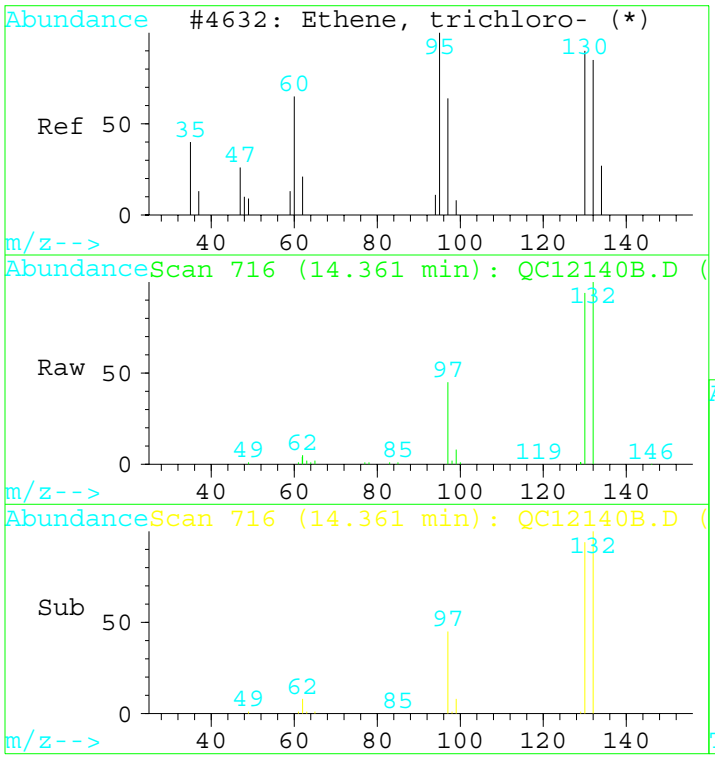


#4
Carbon tetrachloride
Concen: 0.60 ppbV
RT: 12.78 min Scan# 669
Delta R.T. 0.12 min
Lab File: QC12140B.D
Acq: 14 Dec 110 11:08 am

Tgt Ion:116.9 Resp: 82960

Ion	Ratio	Lower	Upper
117	100		
119	102.7	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

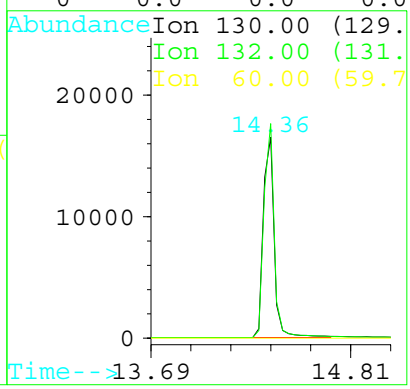




#5
Trichloroethene
Concen: 0.58 ppbV
RT: 14.36 min Scan# 716
Delta R.T. 0.10 min
Lab File: QC12140B.D
Acq: 14 Dec 110 11:08 am

Tgt Ion:130 Resp: 70473

Ion	Ratio	Lower	Upper
130	100		
132	106.7	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048601A.D
Acq Time : 14 Dec 110 5:13 pm Operator: KT
Sample : IA-U3-O1-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

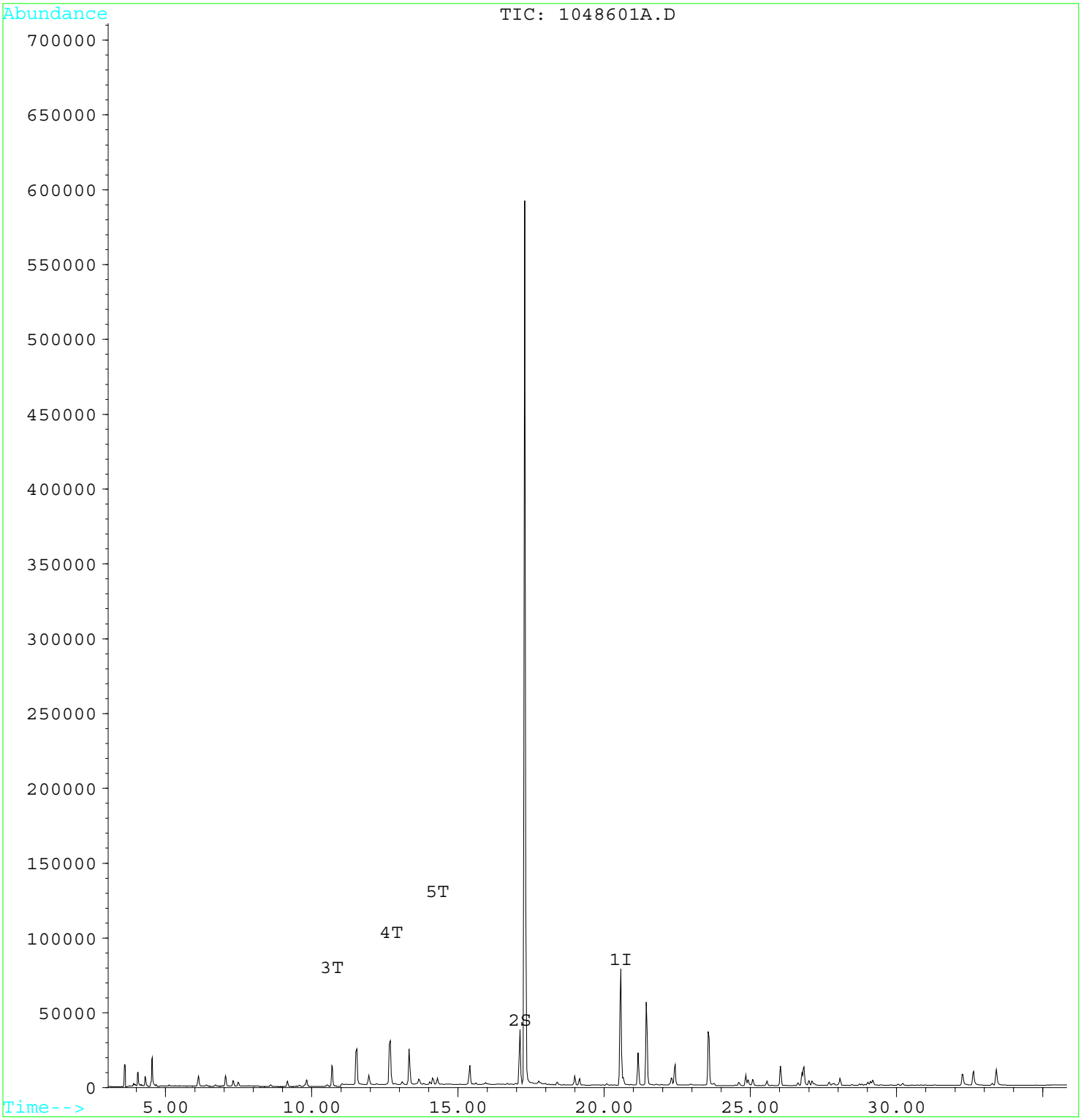
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	177871	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	62671	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.69	83	26534	0.15	ppbV	98
4) Carbon tetrachloride	12.72	117	2368	0.02	ppbV	93
5) Trichloroethene	14.30	130	4557	0.04	ppbV	93

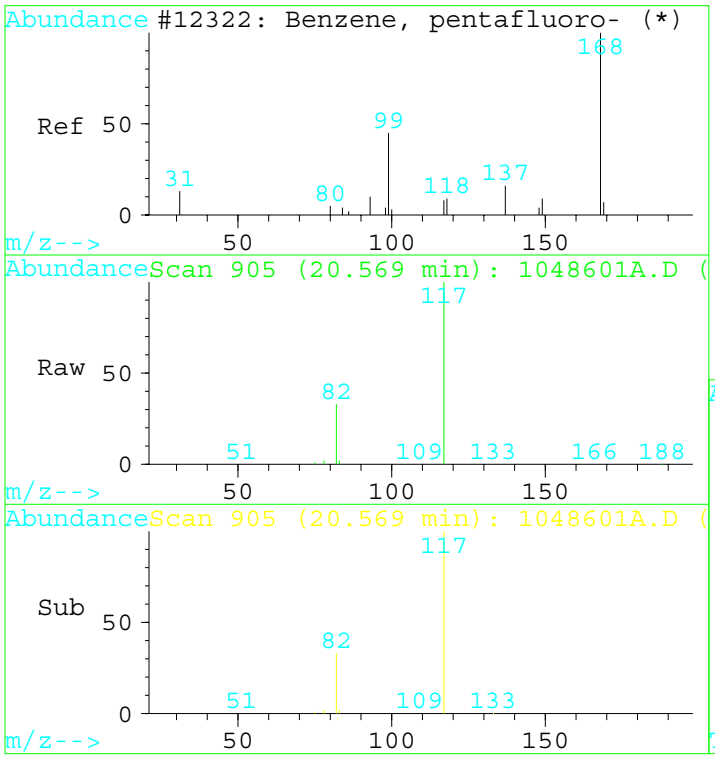
(#) = qualifier out of range (m) = manual integration
1048601A.D CNTHG_A.M Mon Dec 20 09:25:18 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048601A.D
Acq Time : 14 Dec 110 5:13 pm Operator: KT
Sample : IA-U3-O1-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

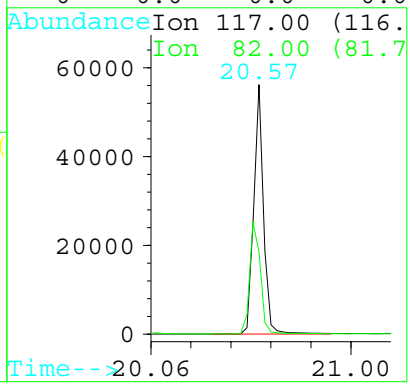


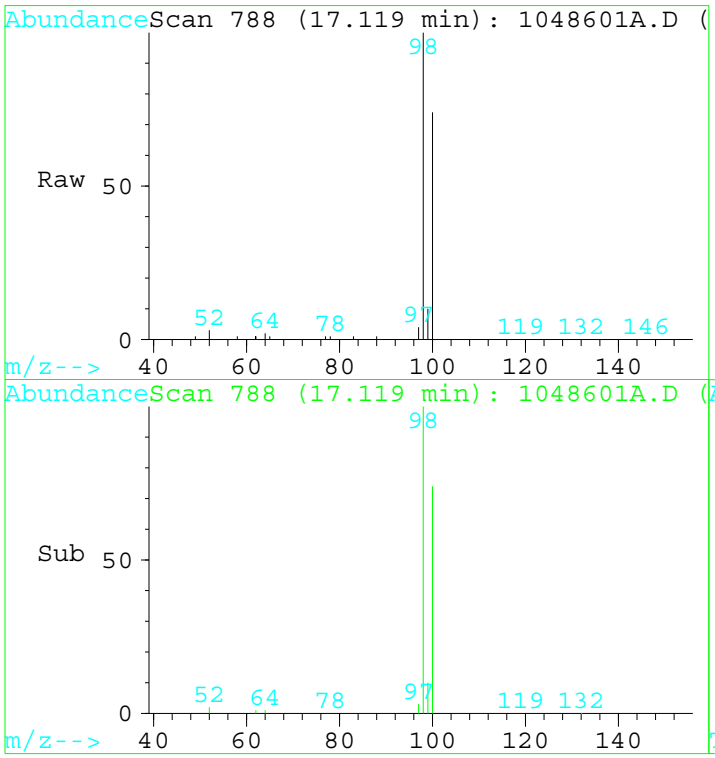


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048601A.D
Acq: 14 Dec 110 5:13 pm

Tgt Ion:117 Resp: 177871

Ion	Ratio	Lower	Upper
117	100		
82	32.9	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

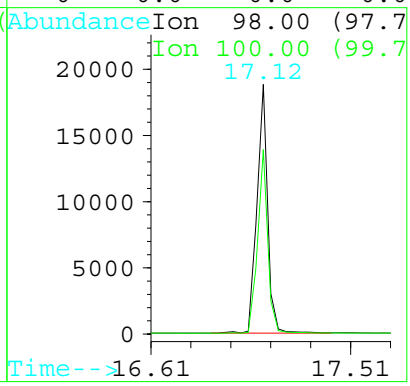


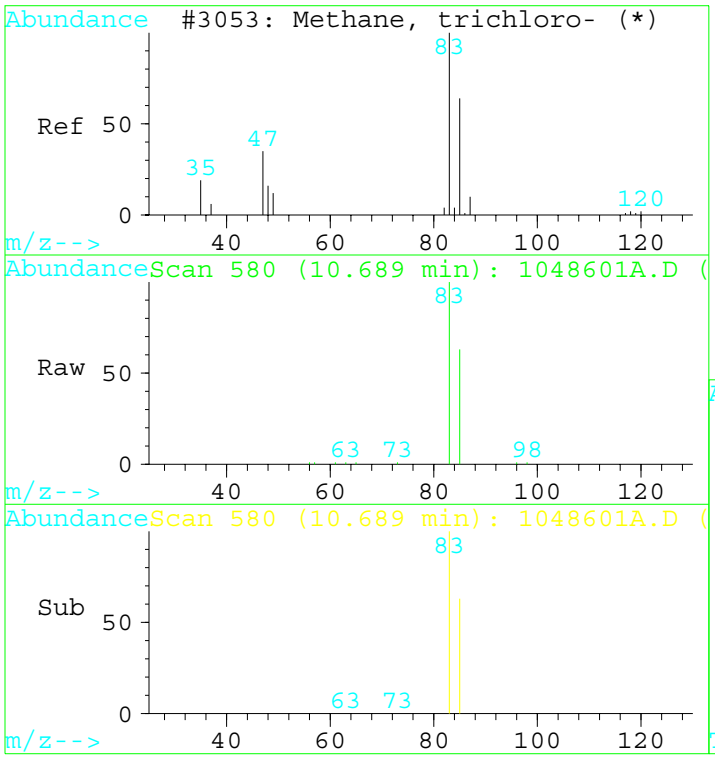


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.12 min Scan# 788
Delta R.T. 0.07 min
Lab File: 1048601A.D
Acq: 14 Dec 110 5:13 pm

Tgt Ion:98 Resp: 62671

Ion	Ratio	Lower	Upper
98	100		
100	70.1	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

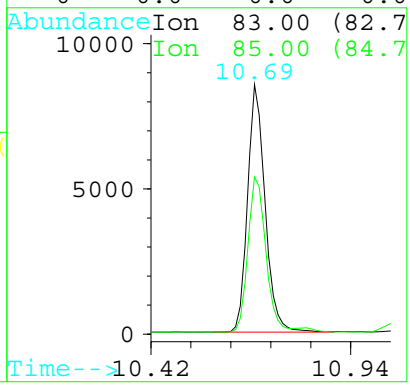


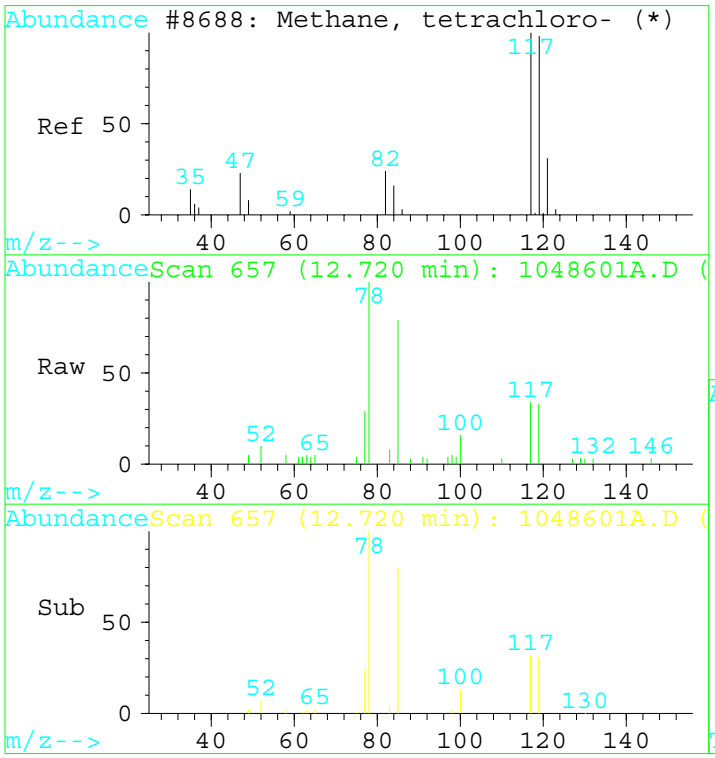


#3
Chloroform
Concen: 0.15 ppbV
RT: 10.69 min Scan# 580
Delta R.T. 0.03 min
Lab File: 1048601A.D
Acq: 14 Dec 110 5:13 pm

Tgt Ion:83 Resp: 26534

Ion	Ratio	Lower	Upper
83	100		
85	62.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

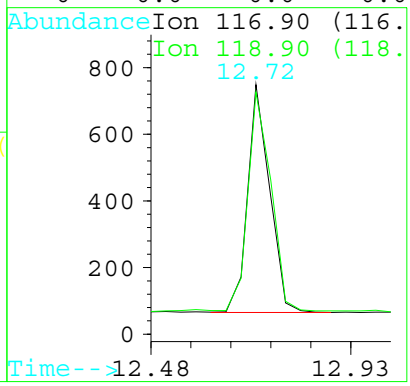


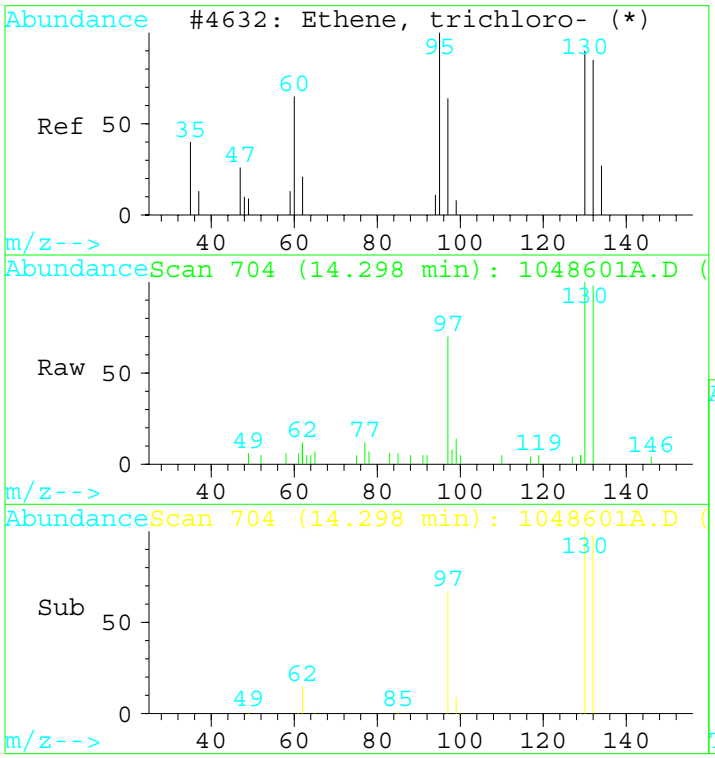


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.72 min Scan# 657
Delta R.T. 0.06 min
Lab File: 1048601A.D
Acq: 14 Dec 110 5:13 pm

Tgt Ion:116.9 Resp: 2368

Ion	Ratio	Lower	Upper
117	100		
119	95.9	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

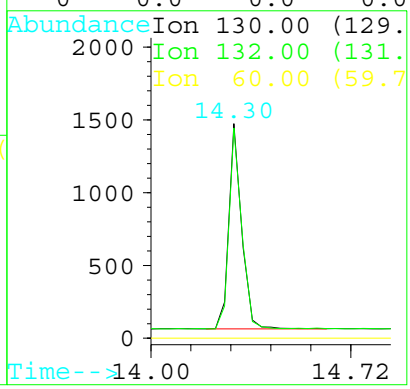




#5
Trichloroethene
Concen: 0.04 ppbV
RT: 14.30 min Scan# 704
Delta R.T. 0.04 min
Lab File: 1048601A.D
Acq: 14 Dec 110 5:13 pm

Tgt Ion:130 Resp: 4557

Ion	Ratio	Lower	Upper
130	100		
132	97.9	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048602A.D
Acq Time : 14 Dec 110 5:57 pm Operator: KTJF
Sample : IA-U3-O3-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

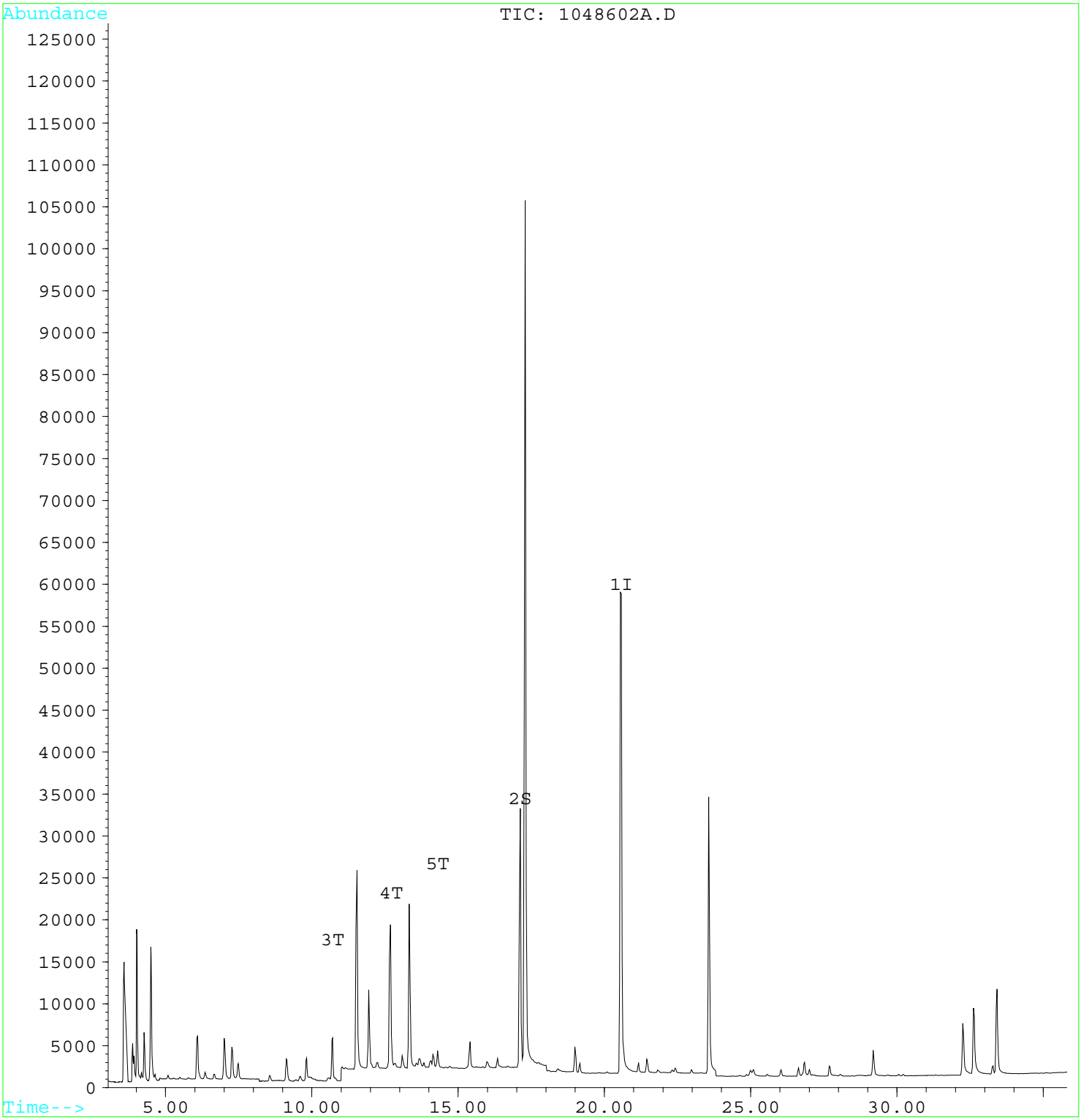
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	161444	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	58723	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.70	83	10813	0.07	ppbV	98
4) Carbon tetrachloride	12.72	117	889	0.01	ppbV	89
5) Trichloroethene	14.30	130	2394	0.02	ppbV	89

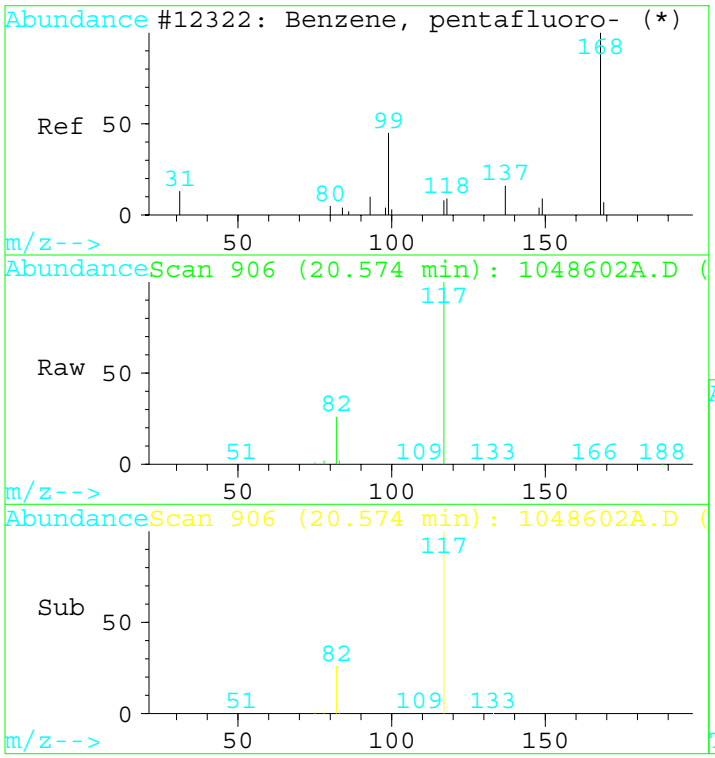
(#) = qualifier out of range (m) = manual integration
1048602A.D CNTHG_A.M Mon Dec 20 09:25:44 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048602A.D
Acq Time : 14 Dec 110 5:57 pm Operator: KTJF
Sample : IA-U3-O3-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

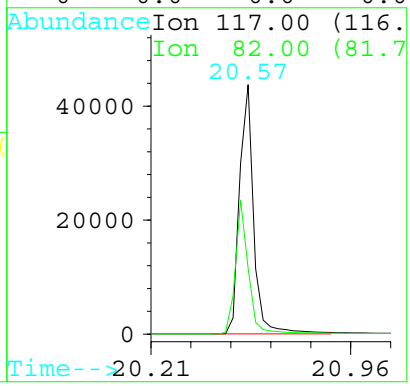


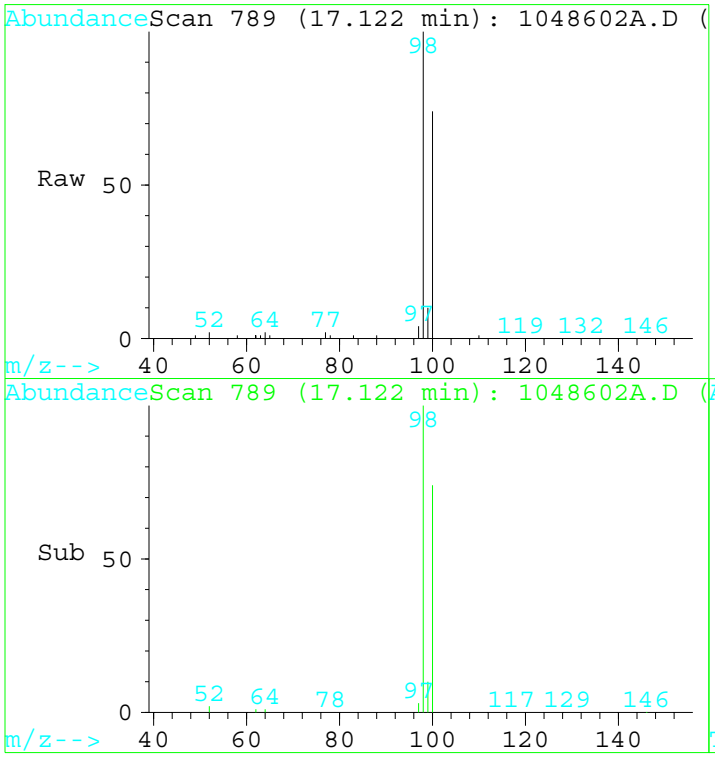


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 906
Delta R.T. 0.06 min
Lab File: 1048602A.D
Acq: 14 Dec 110 5:57 pm

Tgt Ion:117 Resp: 161444

Ion	Ratio	Lower	Upper
117	100		
82	26.3	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

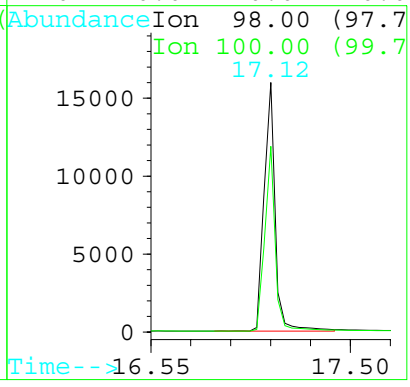


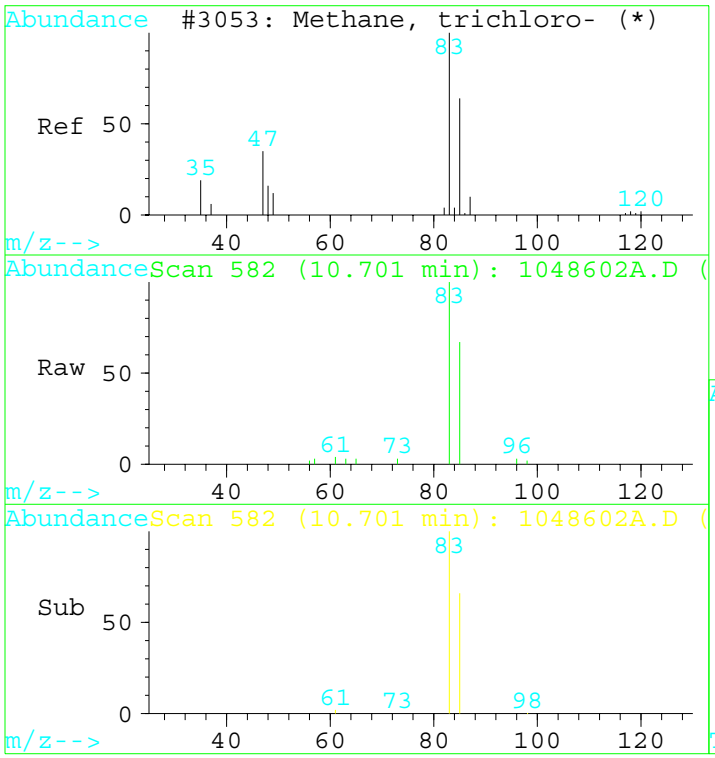


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 789
Delta R.T. 0.07 min
Lab File: 1048602A.D
Acq: 14 Dec 110 5:57 pm

Tgt Ion:98 Resp: 58723

Ion	Ratio	Lower	Upper
98	100		
100	70.5	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

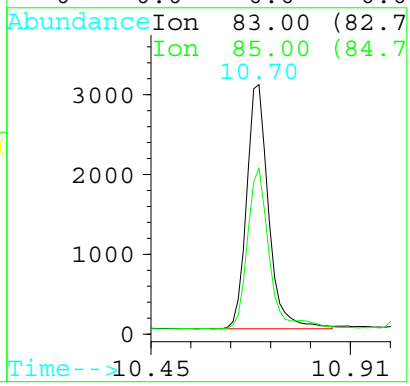


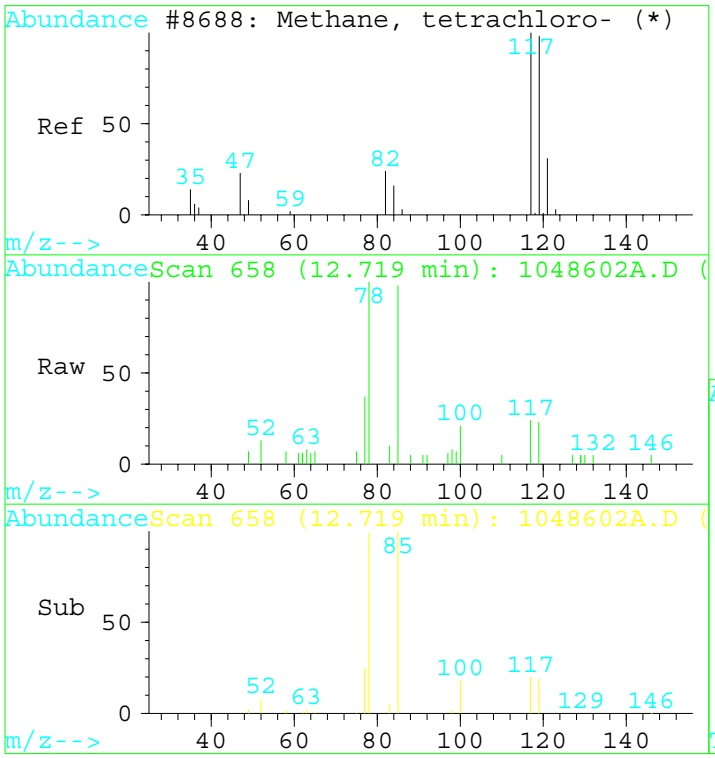


#3
Chloroform
Concen: 0.07 ppbV
RT: 10.70 min Scan# 582
Delta R.T. 0.04 min
Lab File: 1048602A.D
Acq: 14 Dec 110 5:57 pm

Tgt Ion:83 Resp: 10813

Ion	Ratio	Lower	Upper
83	100		
85	65.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

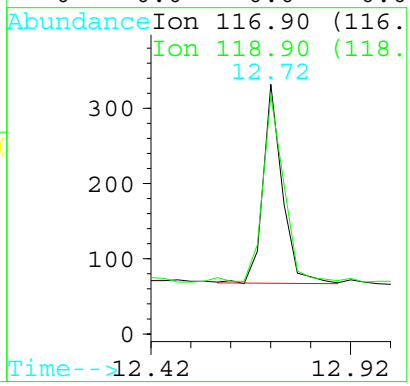


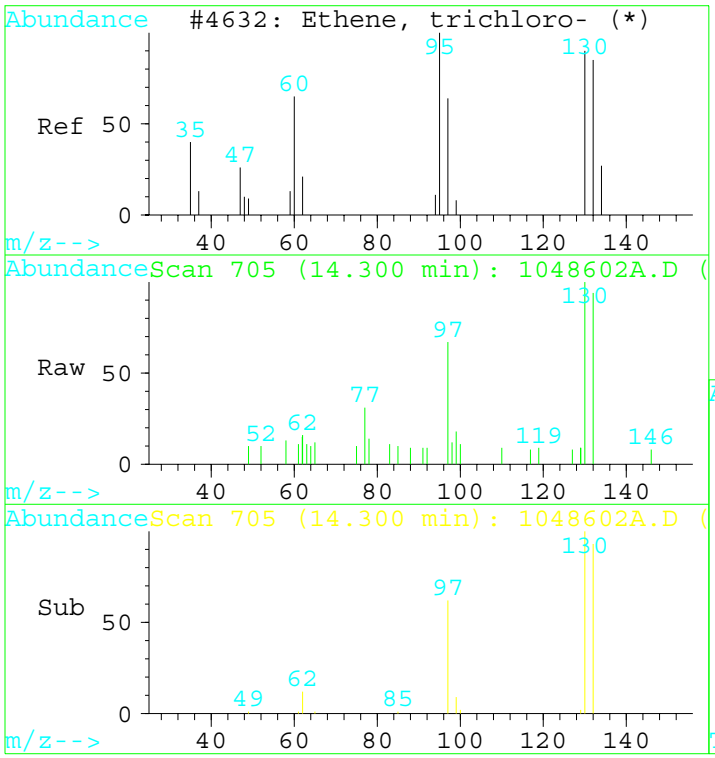


#4
Carbon tetrachloride
Concen: 0.01 ppbV
RT: 12.72 min Scan# 658
Delta R.T. 0.06 min
Lab File: 1048602A.D
Acq: 14 Dec 110 5:57 pm

Tgt Ion:116.9 Resp: 889

Ion	Ratio	Lower	Upper
117	100		
119	92.6	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

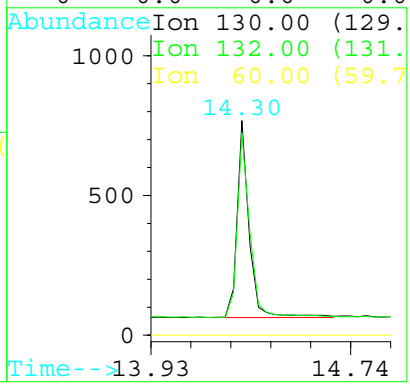




#5
Trichloroethene
Concen: 0.02 ppbV
RT: 14.30 min Scan# 705
Delta R.T. 0.04 min
Lab File: 1048602A.D
Acq: 14 Dec 110 5:57 pm

Tgt Ion:130 Resp: 2394

Ion	Ratio	Lower	Upper
130	100		
132	93.7	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048603A.D
Acq Time : 14 Dec 110 6:41 pm Operator: JF
Sample : IA-U3-O2-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

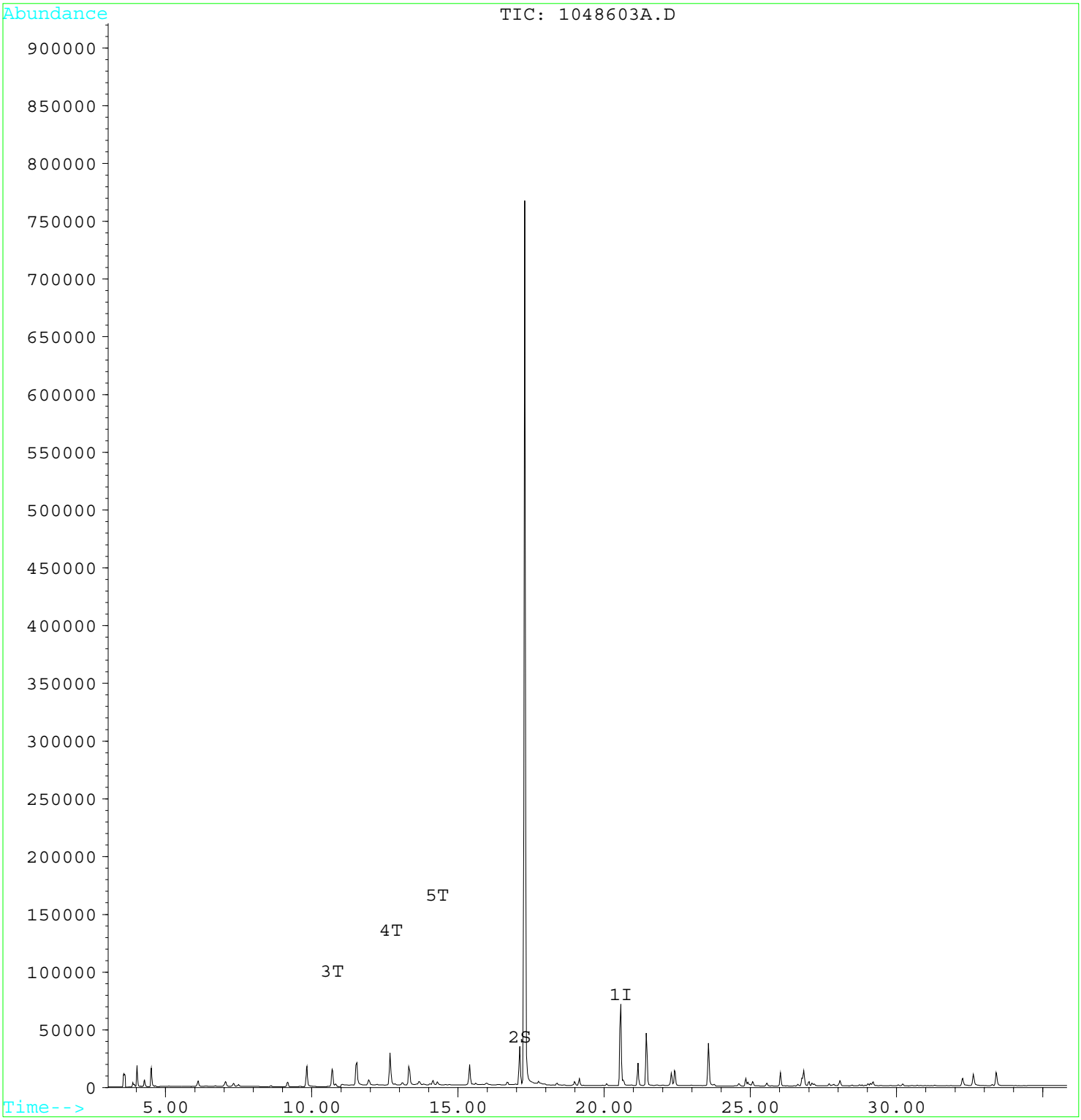
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	167387	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.11	98	58974	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.70	83	38084	0.22	ppbV	99
4) Carbon tetrachloride	12.71	117	2984	0.02	ppbV	93
5) Trichloroethene	14.29	130	3267	0.03	ppbV	88

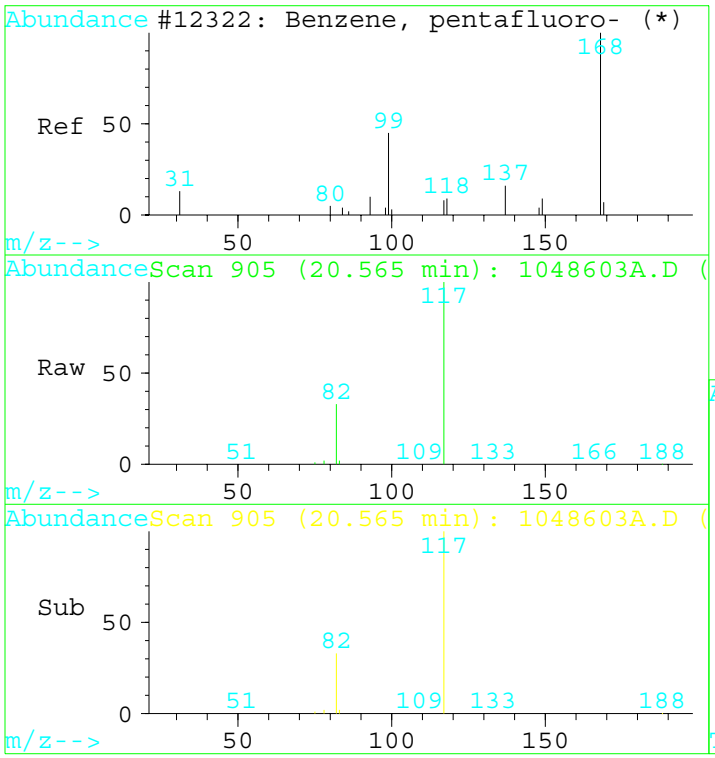
(#) = qualifier out of range (m) = manual integration
1048603A.D CNTHG_A.M Mon Dec 20 09:26:05 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048603A.D
Acq Time : 14 Dec 110 6:41 pm Operator: JF
Sample : IA-U3-O2-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

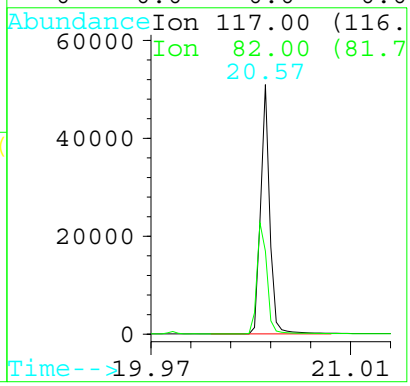


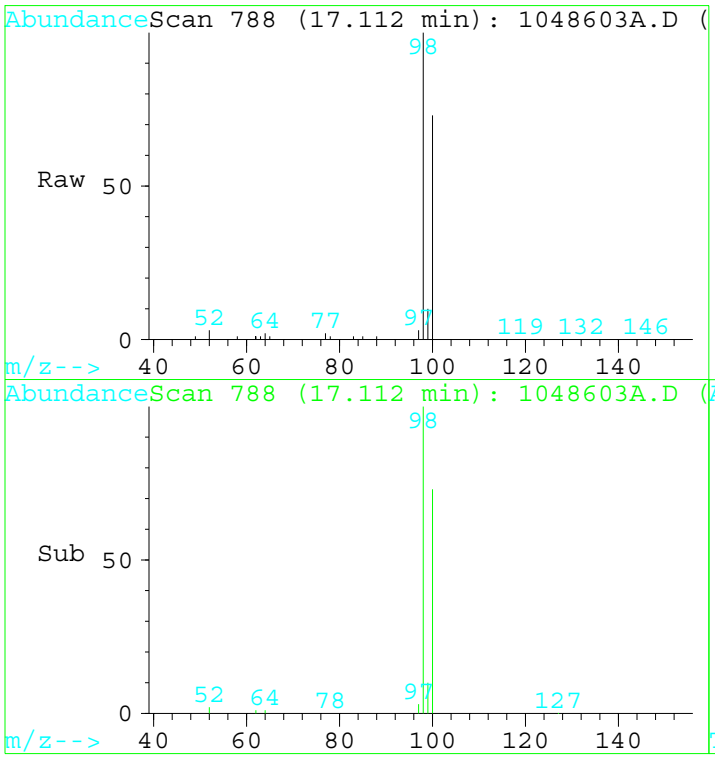


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048603A.D
Acq: 14 Dec 110 6:41 pm

Tgt Ion:117 Resp: 167387

Ion	Ratio	Lower	Upper
117	100		
82	33.1	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

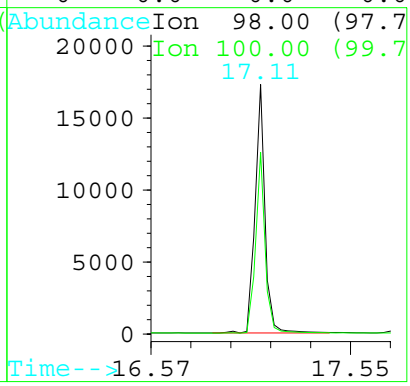


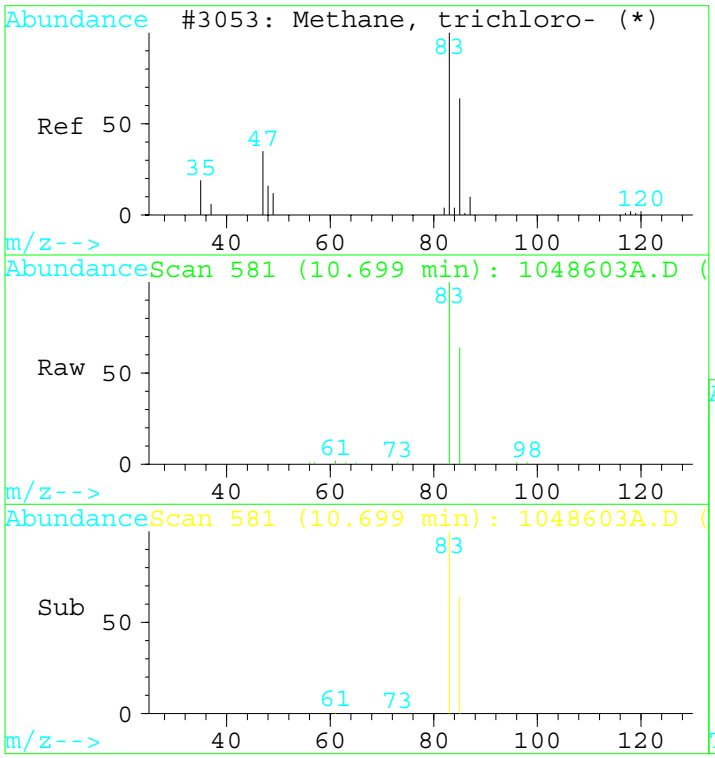


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.11 min Scan# 788
Delta R.T. 0.06 min
Lab File: 1048603A.D
Acq: 14 Dec 110 6:41 pm

Tgt Ion:98 Resp: 58974

Ion	Ratio	Lower	Upper
98	100		
100	69.7	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

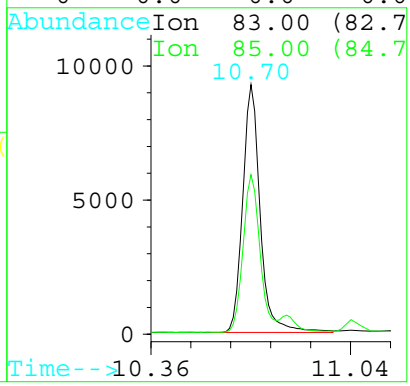


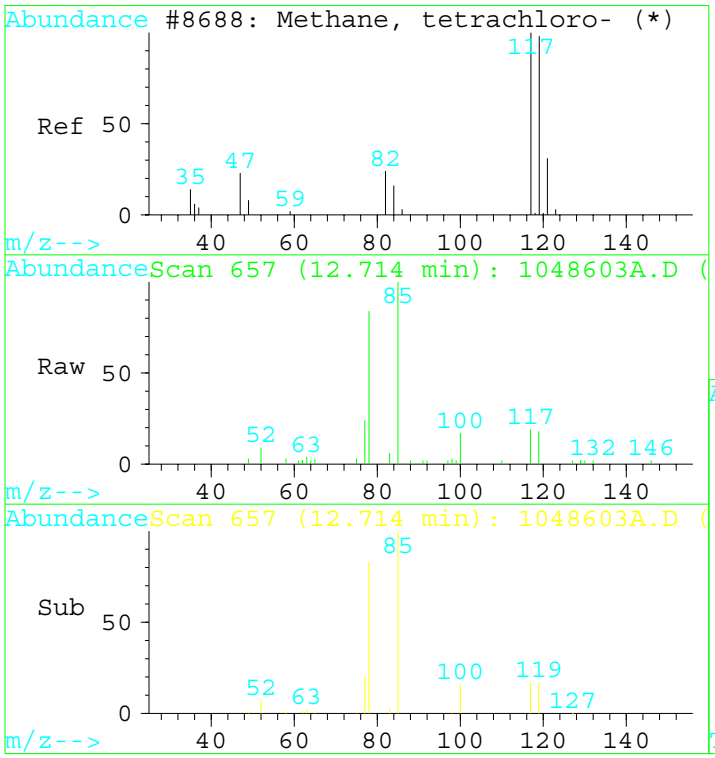


#3
Chloroform
Concen: 0.22 ppbV
RT: 10.70 min Scan# 581
Delta R.T. 0.04 min
Lab File: 1048603A.D
Acq: 14 Dec 110 6:41 pm

Tgt Ion:83 Resp: 38084

Ion	Ratio	Lower	Upper
83	100		
85	63.6	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

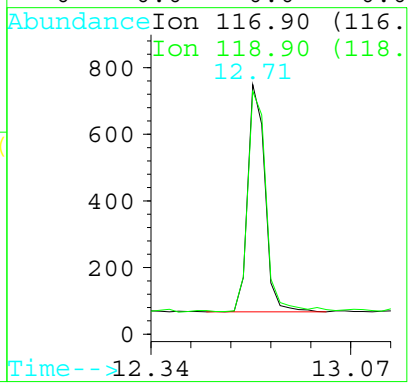


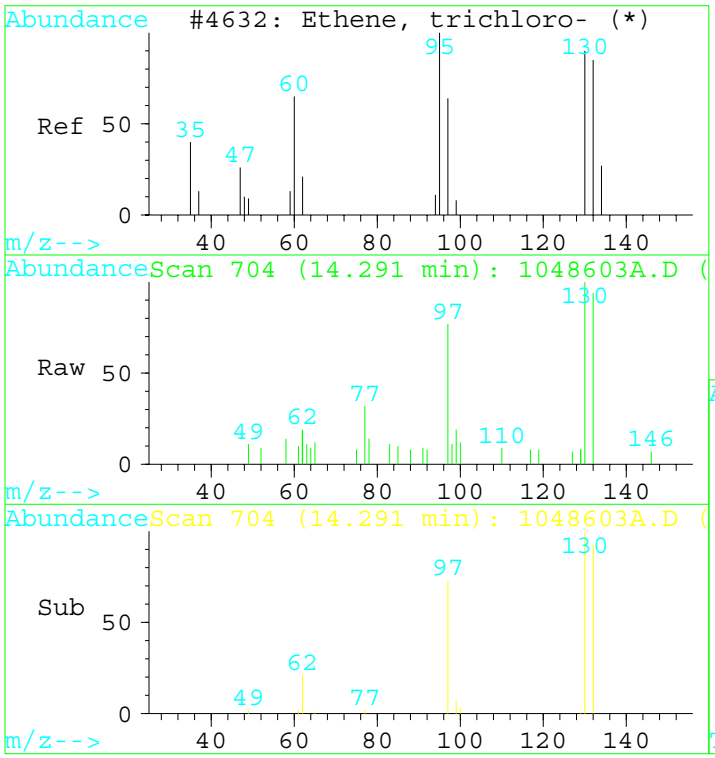


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.71 min Scan# 657
Delta R.T. 0.05 min
Lab File: 1048603A.D
Acq: 14 Dec 110 6:41 pm

Tgt Ion:116.9 Resp: 2984

Ion	Ratio	Lower	Upper
117	100		
119	96.3	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

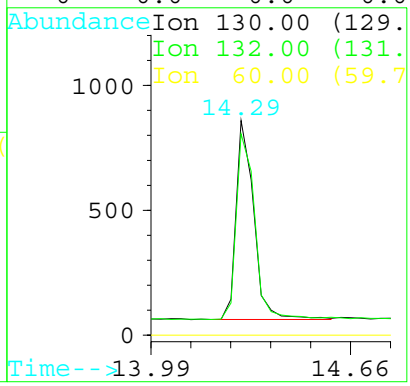




#5
Trichloroethene
Concen: 0.03 ppbV
RT: 14.29 min Scan# 704
Delta R.T. 0.03 min
Lab File: 1048603A.D
Acq: 14 Dec 110 6:41 pm

Tgt Ion:130 Resp: 3267

Ion	Ratio	Lower	Upper
130	100		
132	93.0	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048604A.D
Acq Time : 14 Dec 110 7:24 pm Operator: JF
Sample : IA-U3-O2-002 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

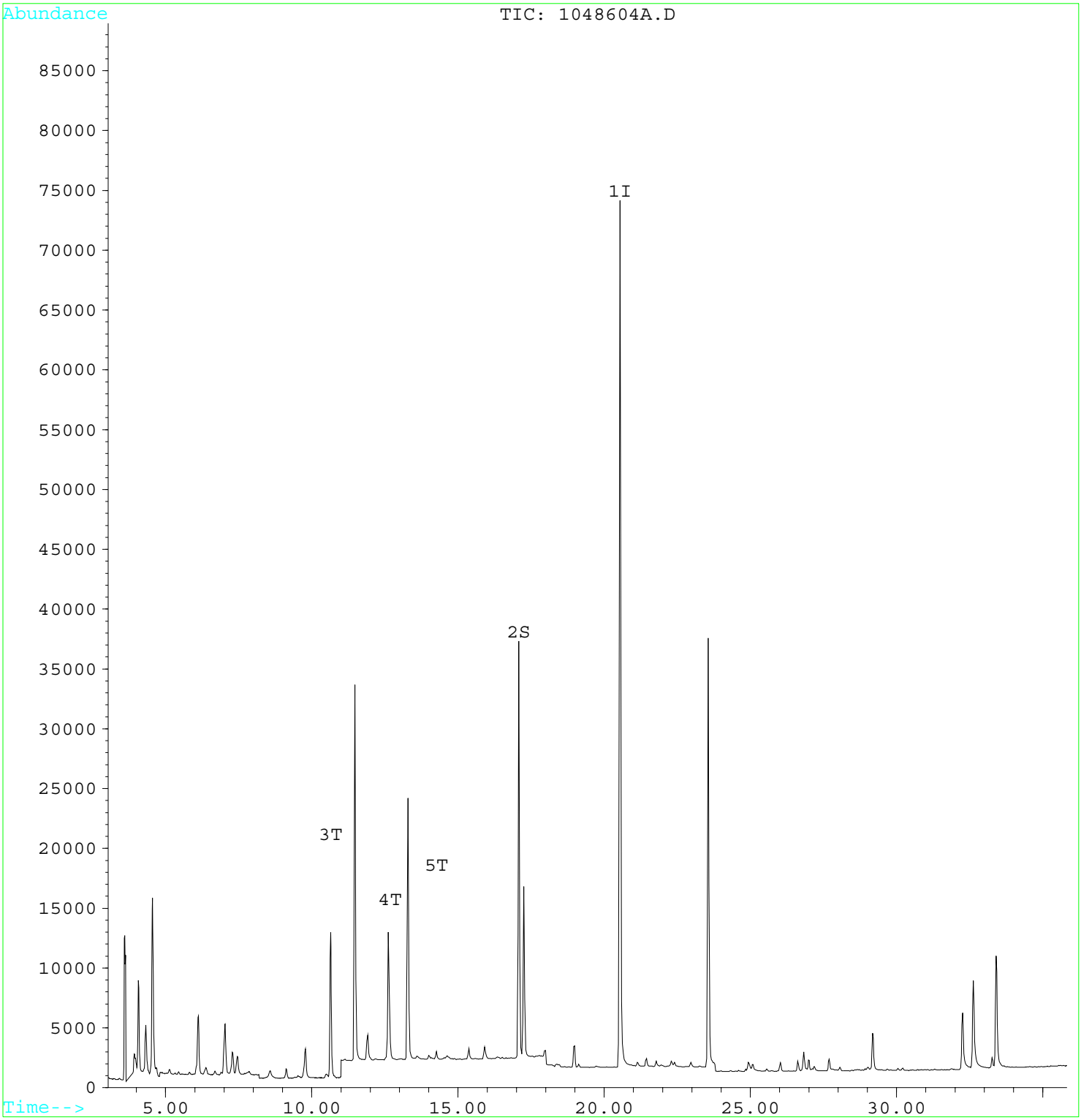
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.54	117	159498	0.20	ppbV	0.03
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.08	98	57545	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.64	83	25679	0.16	ppbV	99
4) Carbon tetrachloride	12.69	117	1007	0.01	ppbV	94
5) Trichloroethene	14.26	130	730	0.01	ppbV	92

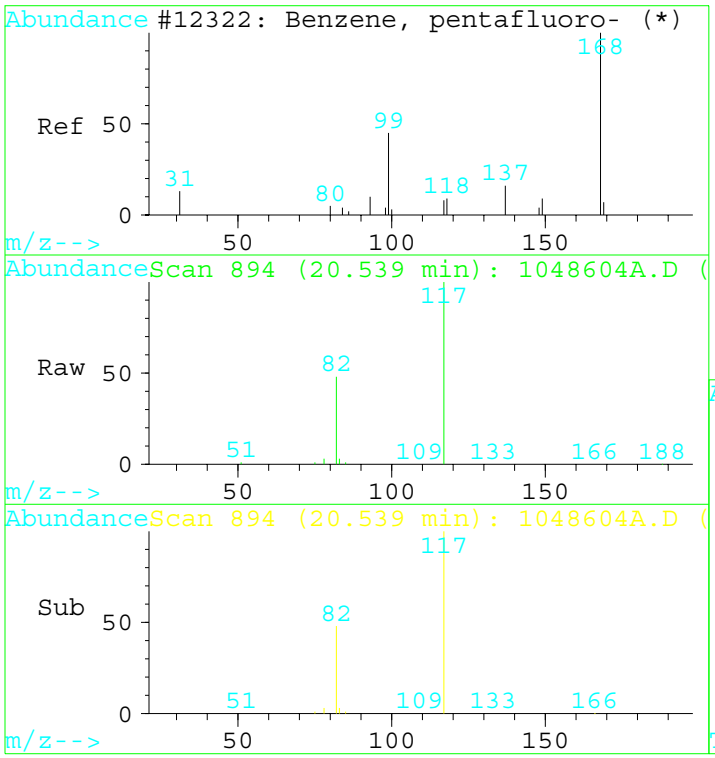
(#) = qualifier out of range (m) = manual integration
1048604A.D CNTHG_A.M Mon Dec 20 09:29:49 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048604A.D
Acq Time : 14 Dec 110 7:24 pm Operator: JF
Sample : IA-U3-O2-002 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

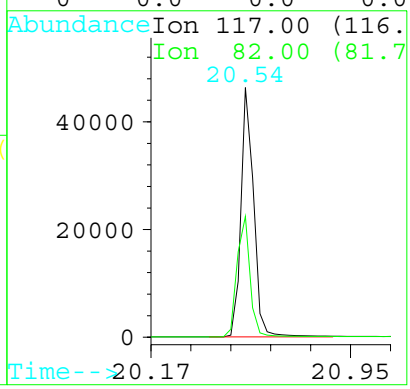


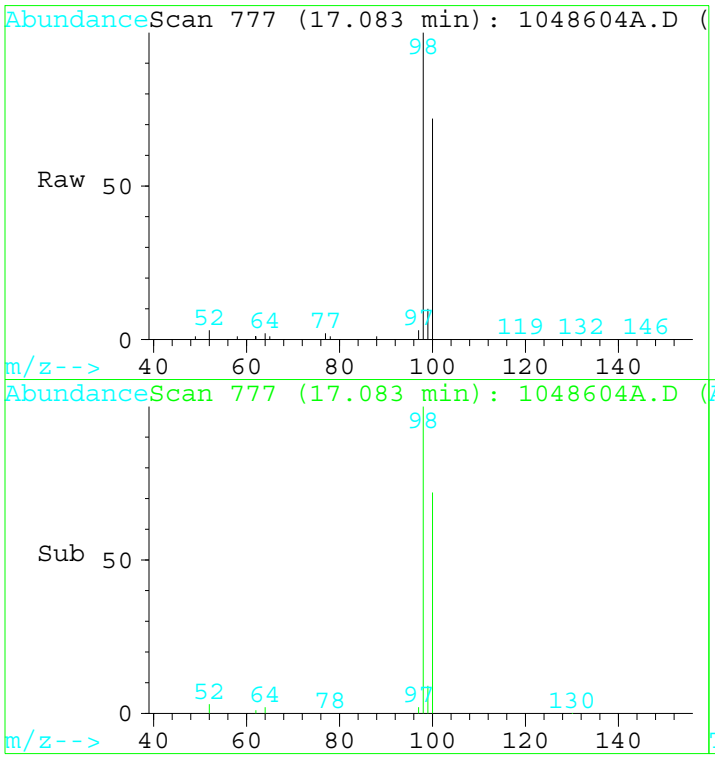


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.54 min Scan# 894
Delta R.T. 0.03 min
Lab File: 1048604A.D
Acq: 14 Dec 110 7:24 pm

Tgt Ion:117 Resp: 159498

Ion	Ratio	Lower	Upper
117	100		
82	48.3	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

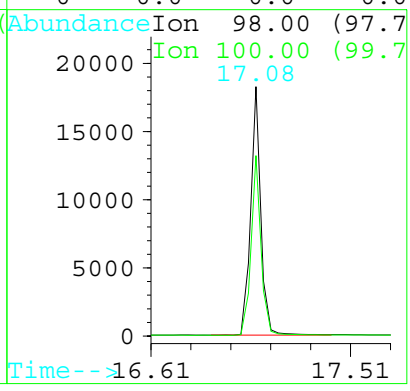


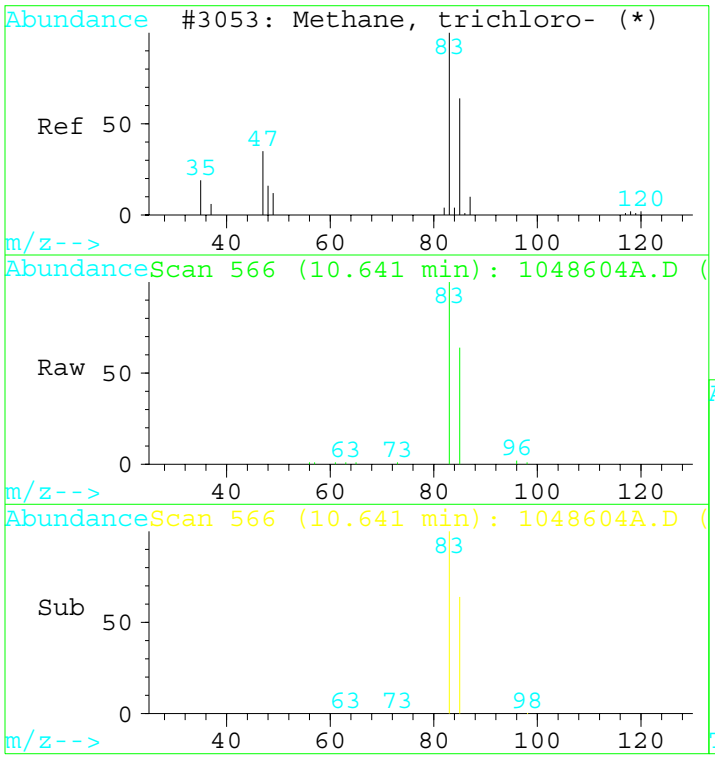


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.08 min Scan# 777
Delta R.T. 0.03 min
Lab File: 1048604A.D
Acq: 14 Dec 110 7:24 pm

Tgt Ion:98 Resp: 57545

Ion	Ratio	Lower	Upper
98	100		
100	70.9	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

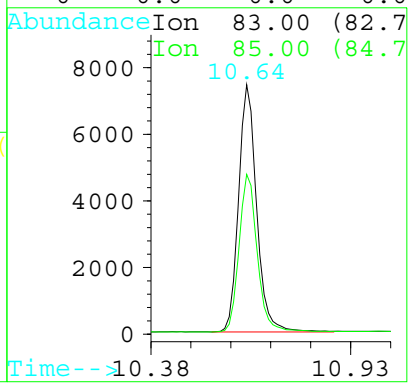


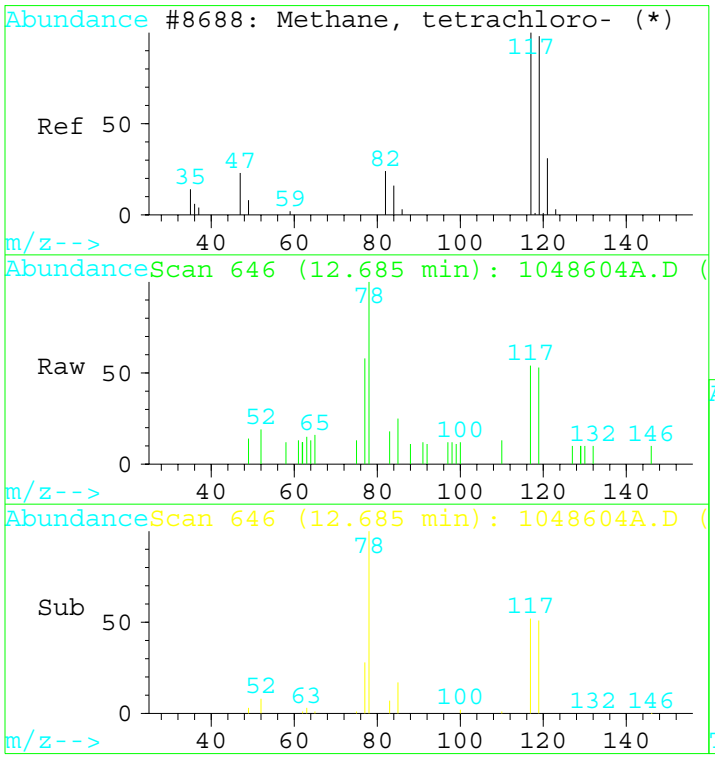


#3
Chloroform
Concen: 0.16 ppbV
RT: 10.64 min Scan# 566
Delta R.T. -0.02 min
Lab File: 1048604A.D
Acq: 14 Dec 110 7:24 pm

Tgt Ion:83 Resp: 25679

Ion	Ratio	Lower	Upper
83	100		
85	63.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

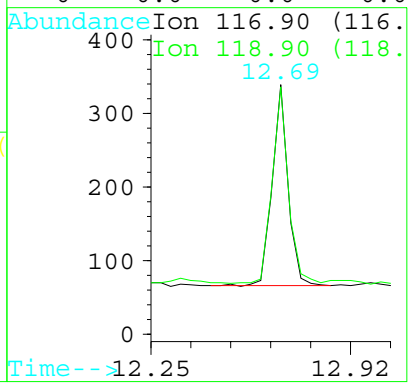


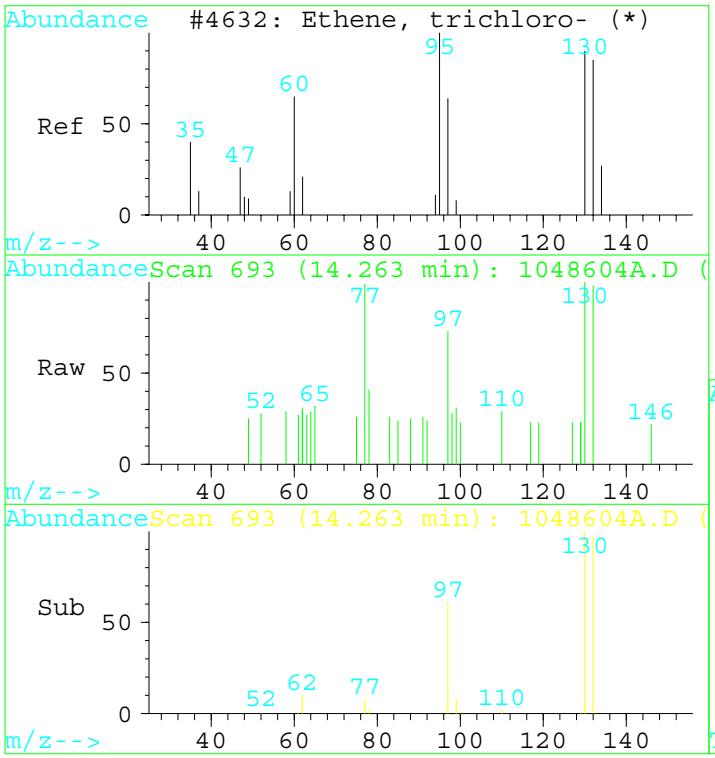


#4
Carbon tetrachloride
Concen: 0.01 ppbV
RT: 12.69 min Scan# 646
Delta R.T. 0.03 min
Lab File: 1048604A.D
Acq: 14 Dec 110 7:24 pm

Tgt Ion:116.9 Resp: 1007

Ion	Ratio	Lower	Upper
117	100		
119	96.9	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

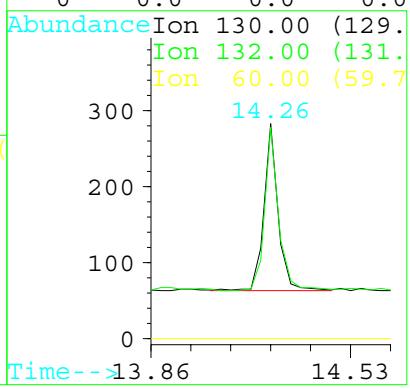




#5
Trichloroethene
Concen: 0.01 ppbV
RT: 14.26 min Scan# 693
Delta R.T. 0.00 min
Lab File: 1048604A.D
Acq: 14 Dec 110 7:24 pm

Tgt Ion:130 Resp: 730

Ion	Ratio	Lower	Upper
130	100		
132	97.3	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048605A.D
Acq Time : 14 Dec 110 8:07 pm Operator: JF
Sample : IA-U3-UF-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

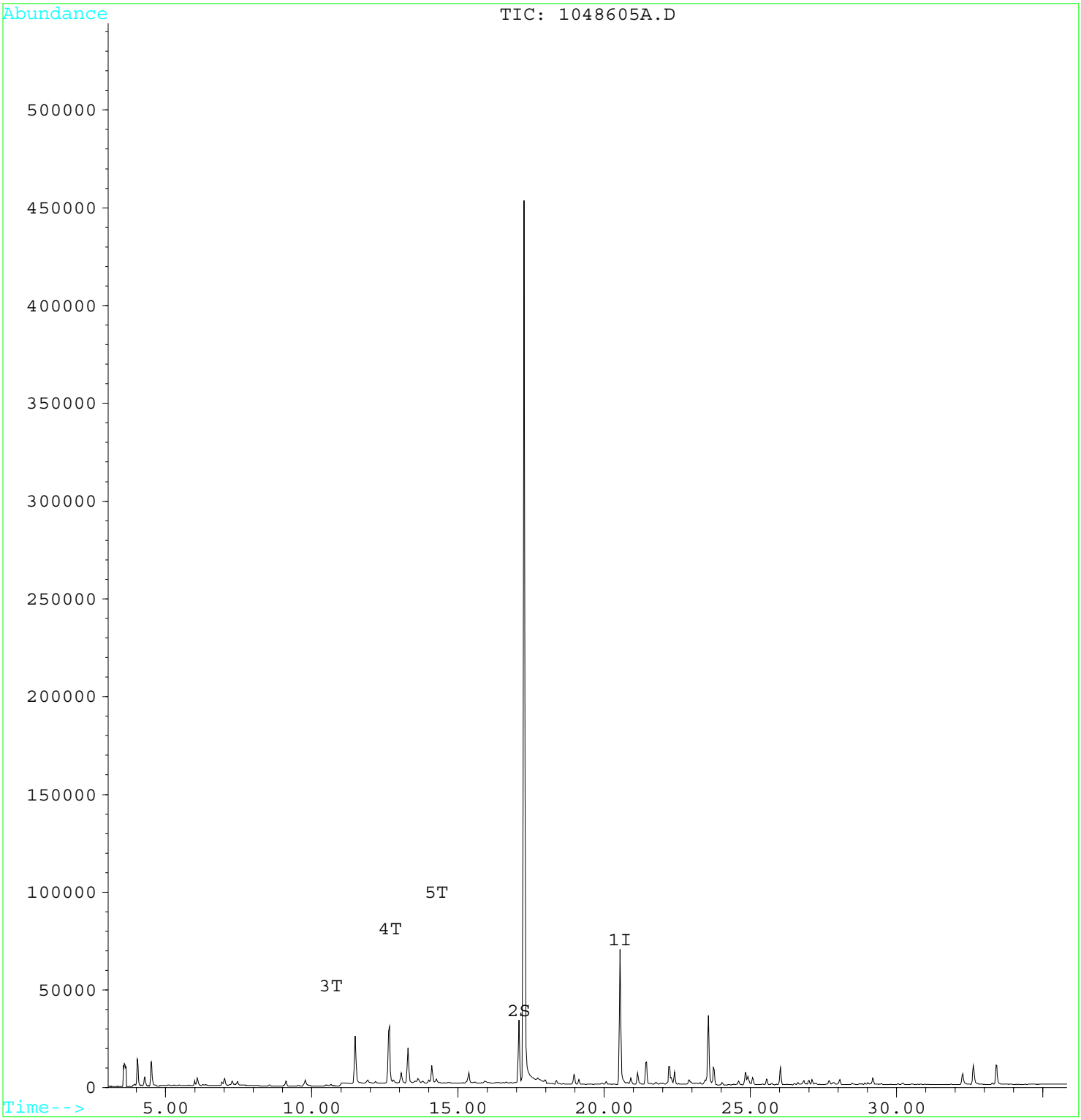
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.54	117	157112	0.20	ppbV	0.03
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.09	98	57587	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.66	83	2421	0.01	ppbV	98
4) Carbon tetrachloride	12.69	117	3249	0.03	ppbV	96
5) Trichloroethene	14.27	130	2324	0.02	ppbV	93

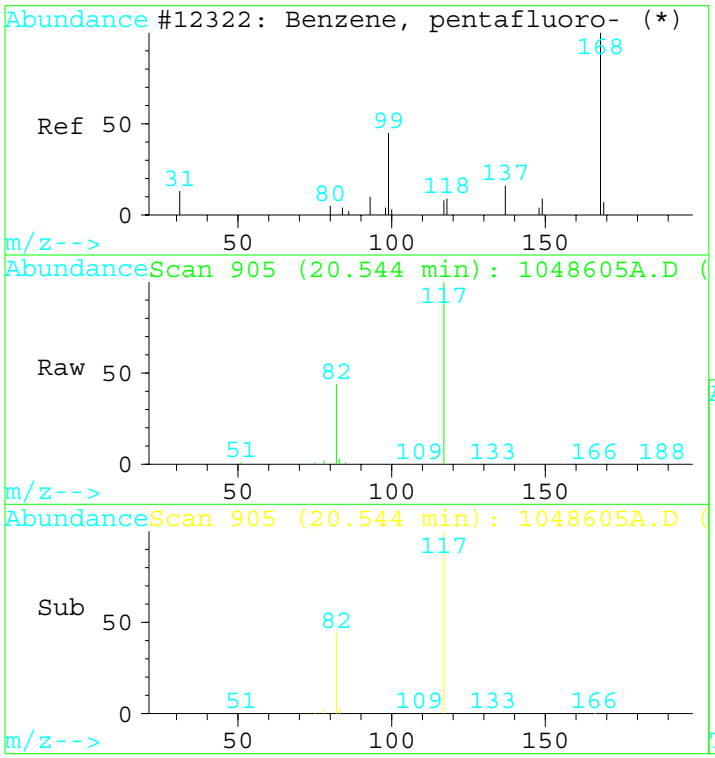
(#) = qualifier out of range (m) = manual integration
1048605A.D CNTHG_A.M Mon Dec 20 09:30:12 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048605A.D
Acq Time : 14 Dec 110 8:07 pm Operator: JF
Sample : IA-U3-UF-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:23 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

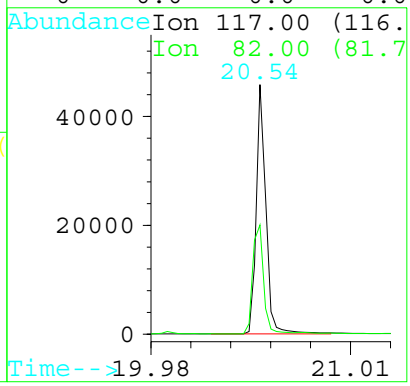


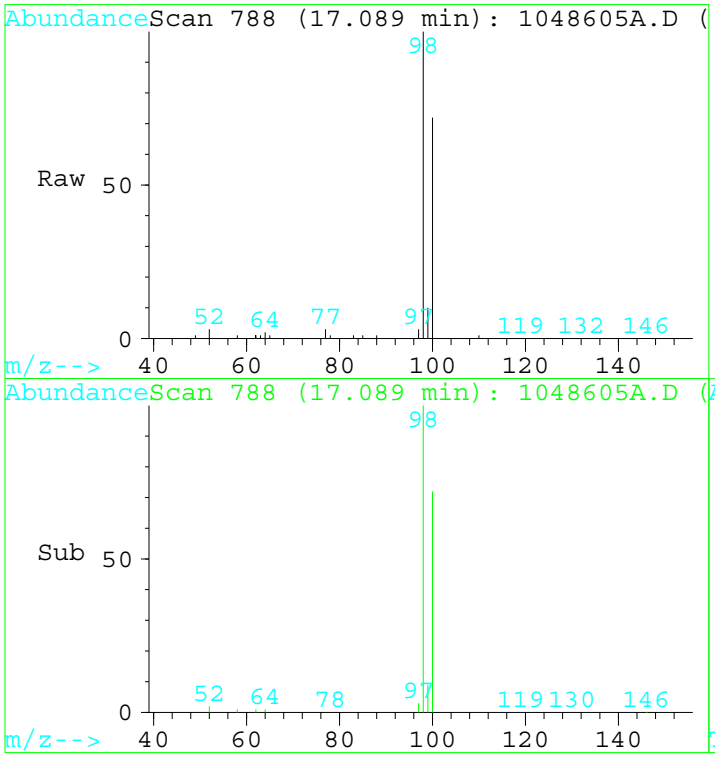


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.54 min Scan# 905
Delta R.T. 0.03 min
Lab File: 1048605A.D
Acq: 14 Dec 110 8:07 pm

Tgt Ion:117 Resp: 157112

Ion	Ratio	Lower	Upper
117	100		
82	43.6	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

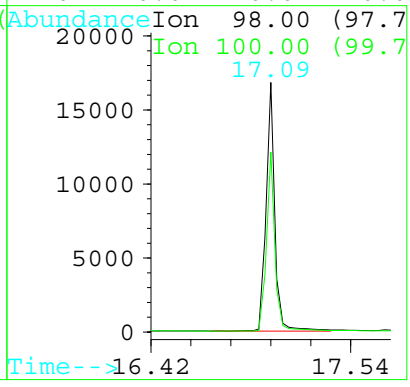


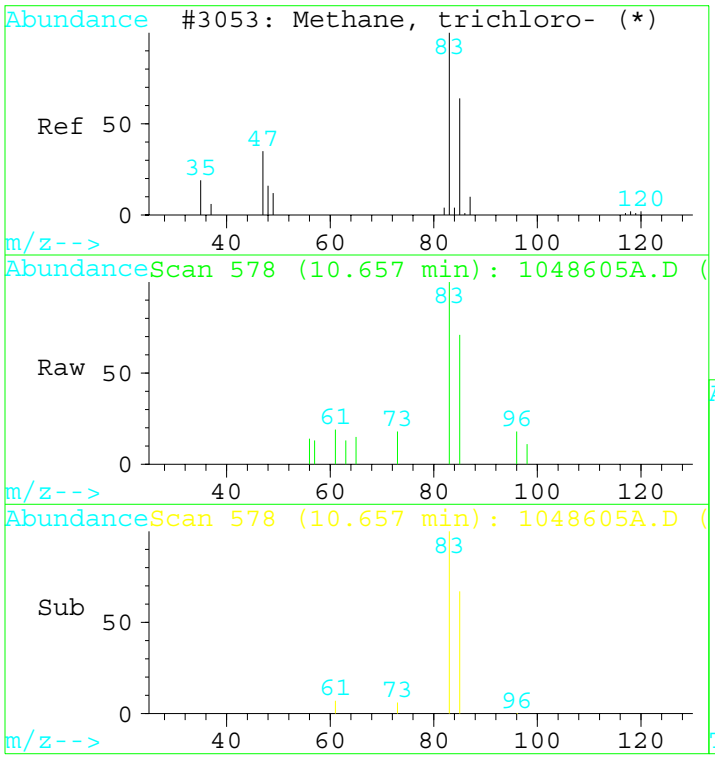


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.09 min Scan# 788
Delta R.T. 0.04 min
Lab File: 1048605A.D
Acq: 14 Dec 110 8:07 pm

Tgt Ion:98 Resp: 57587

Ion	Ratio	Lower	Upper
98	100		
100	70.1	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

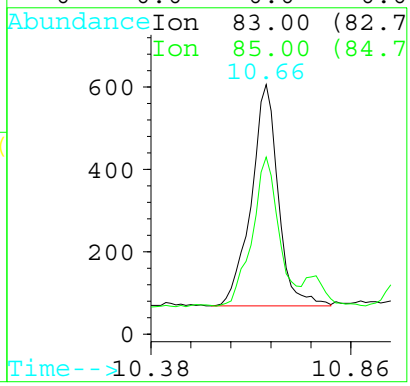


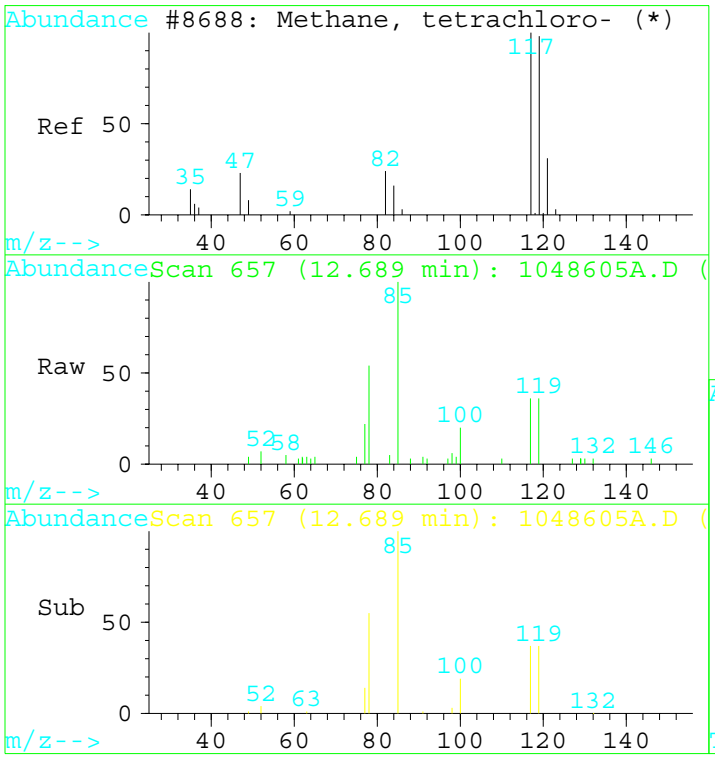


#3
Chloroform
Concen: 0.01 ppbV
RT: 10.66 min Scan# 578
Delta R.T. -0.00 min
Lab File: 1048605A.D
Acq: 14 Dec 110 8:07 pm

Tgt Ion:83 Resp: 2421

Ion	Ratio	Lower	Upper
83	100		
85	65.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

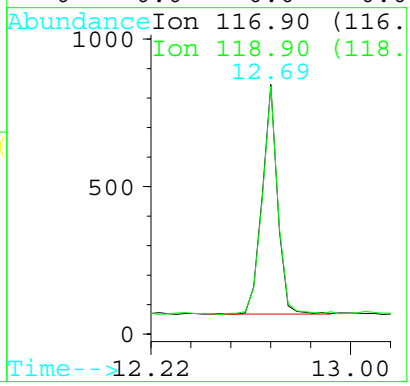


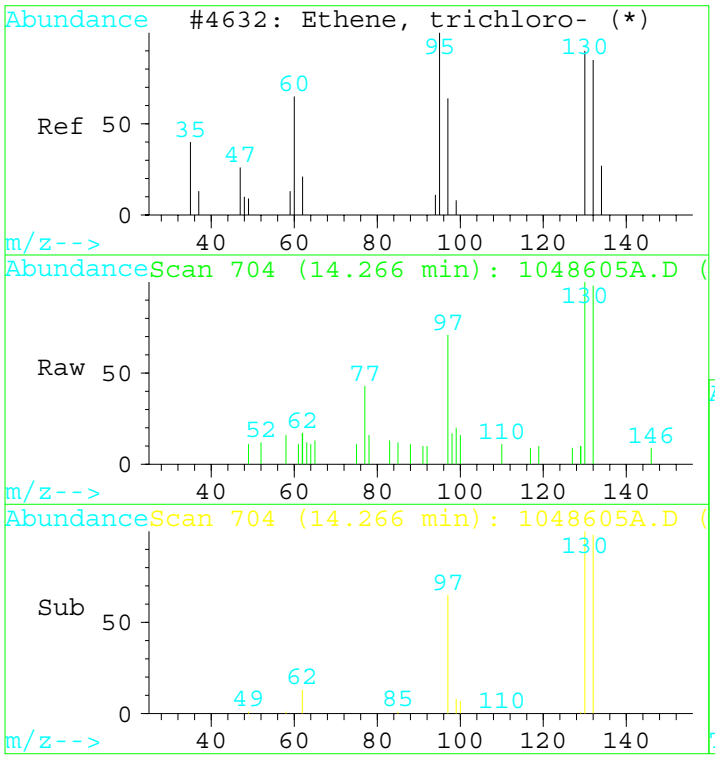


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.69 min Scan# 657
Delta R.T. 0.03 min
Lab File: 1048605A.D
Acq: 14 Dec 110 8:07 pm

Tgt Ion:116.9 Resp: 3249

Ion	Ratio	Lower	Upper
117	100		
119	98.8	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

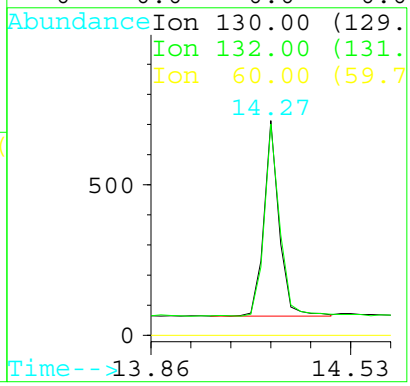




#5
Trichloroethene
Concen: 0.02 ppbV
RT: 14.27 min Scan# 704
Delta R.T. 0.01 min
Lab File: 1048605A.D
Acq: 14 Dec 110 8:07 pm

Tgt Ion:130 Resp: 2324

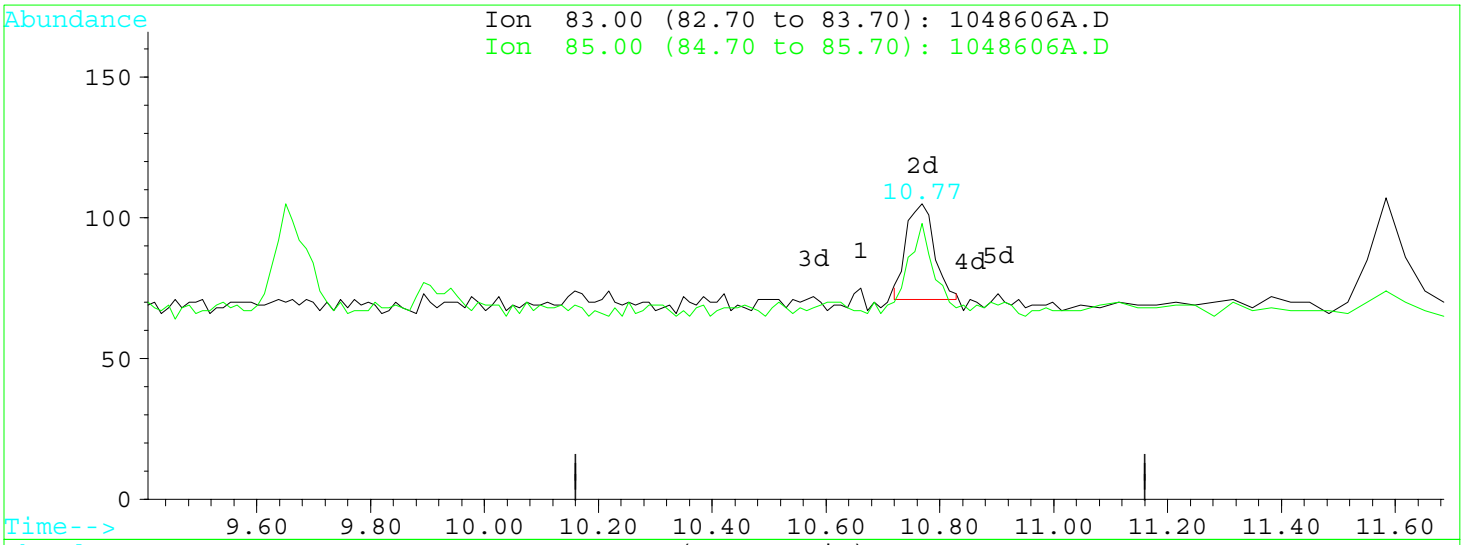
Ion	Ratio	Lower	Upper
130	100		
132	98.1	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0

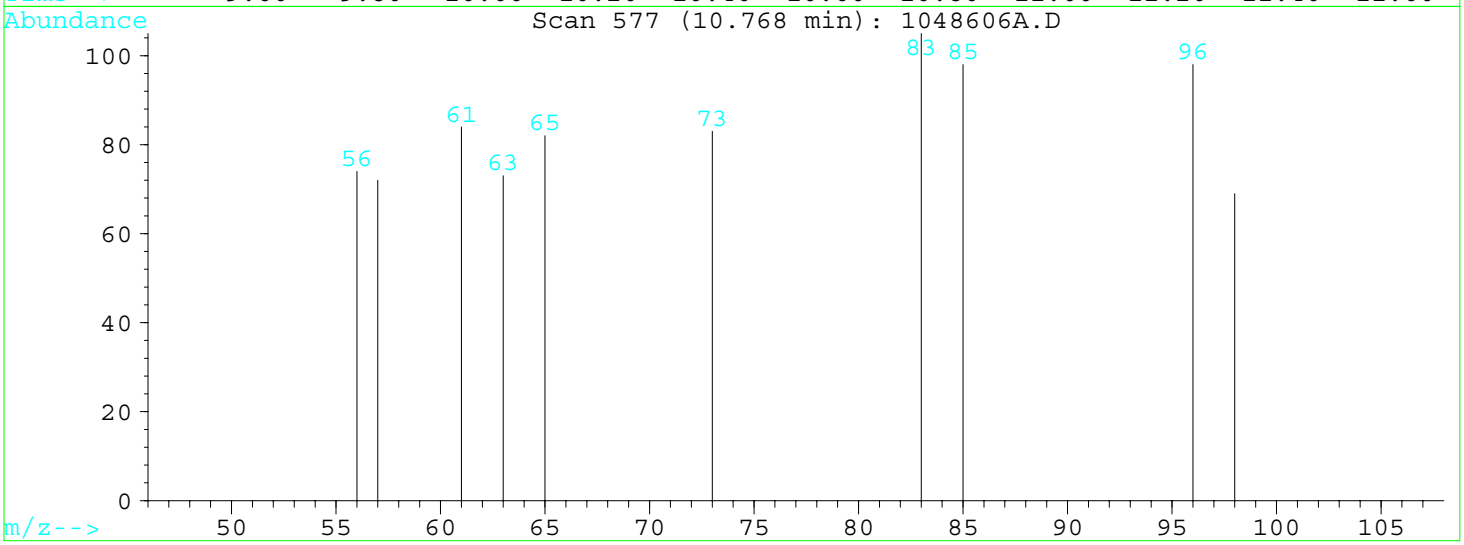


Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048606A.D
Acq Time : 14 Dec 110 8:53 pm Operator: JF
Sample : OA-U3-AI-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration





TIC: 1048606A.D

(3) Chloroform (T)

10.77min 0.00ppbV m Missed Peak - 12/20/10

response 116

Ion	Exp%	Act%
83.00	100	100
85.00	64.30	93.33
0.00	0.00	0.00
0.00	0.00	0.00

1048606A.D CNTHG_A.M Mon Dec 20 09:30:52 2010

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048606A.D
Acq Time : 14 Dec 110 8:53 pm Operator: JF
Sample : OA-U3-AI-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

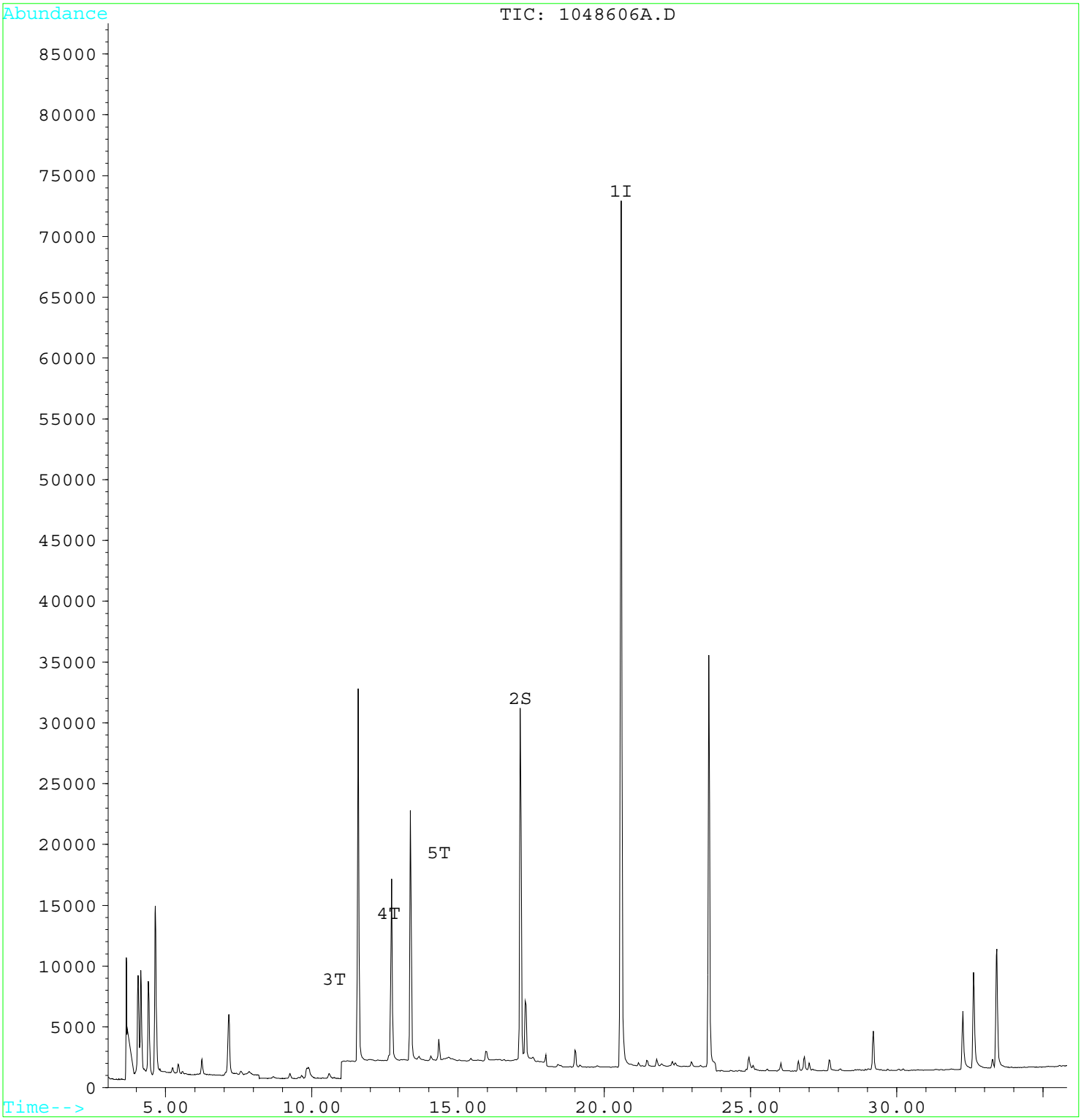
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Chlorobenzene-d5	20.58	117	162925	0.20	ppbV		0.07
System Monitoring Compounds							%Recovery
2) Toluene-d8	17.12	98	56775	0.20	ppbV		
Target Compounds							Qvalue
3) Chloroform	10.77	83	116	0.00	ppbV	m	18
4) Carbon tetrachloride	12.63	117	6	0.00	ppbV		97
5) Trichloroethene	14.34	130	2013	0.02	ppbV		89

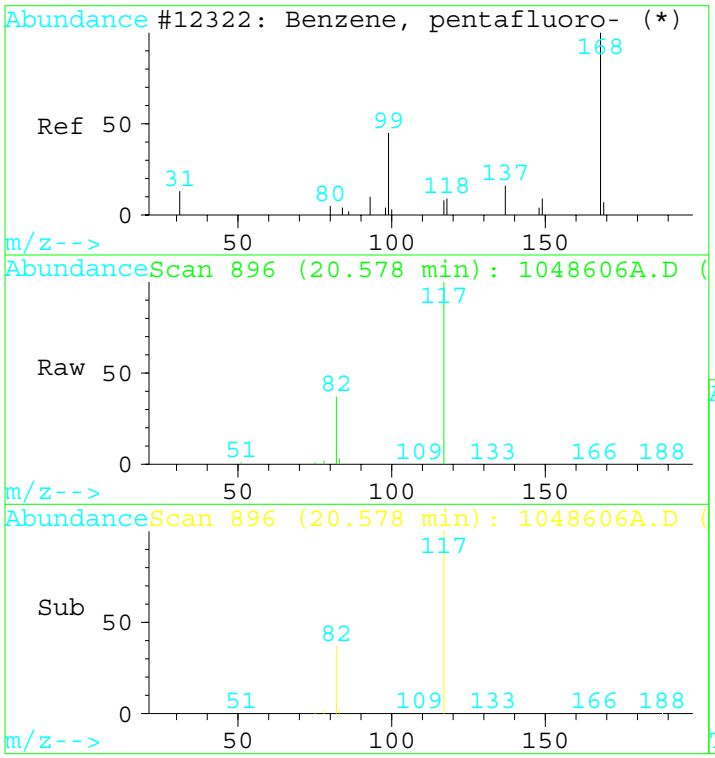
(#) = qualifier out of range (m) = manual integration
1048606A.D CNTHG_A.M Mon Dec 20 09:31:18 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048606A.D
Acq Time : 14 Dec 110 8:53 pm Operator: JF
Sample : OA-U3-AI-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

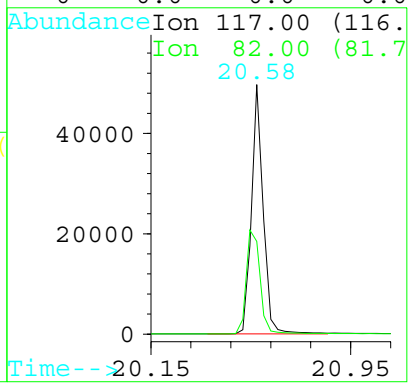


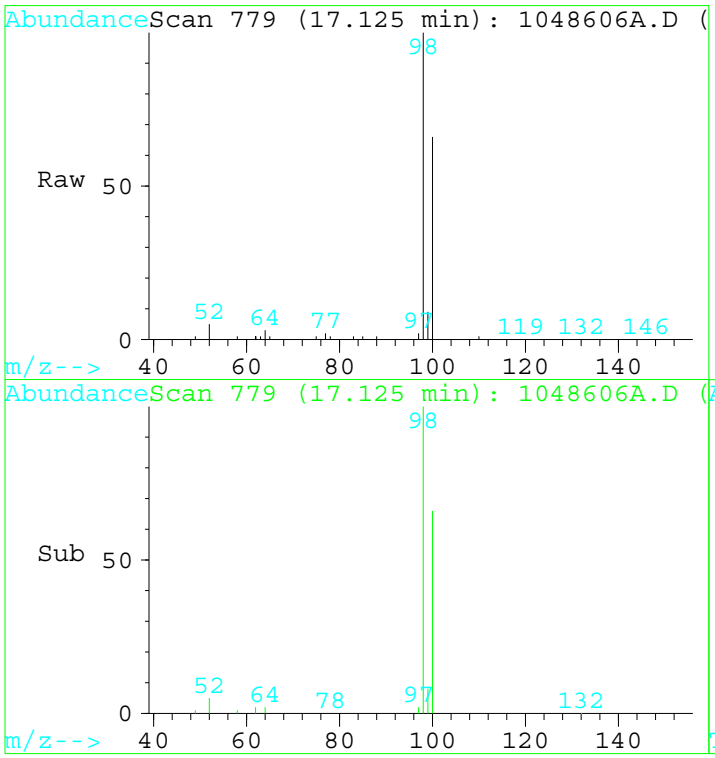


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 896
Delta R.T. 0.07 min
Lab File: 1048606A.D
Acq: 14 Dec 110 8:53 pm

Tgt Ion:117 Resp: 162925

Ion	Ratio	Lower	Upper
117	100		
82	37.1	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

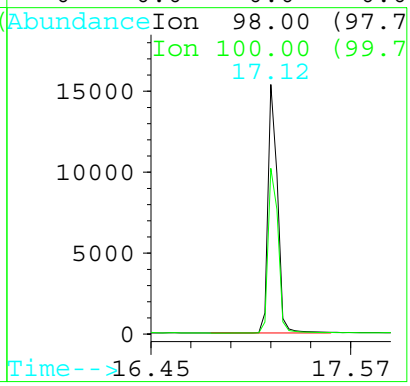


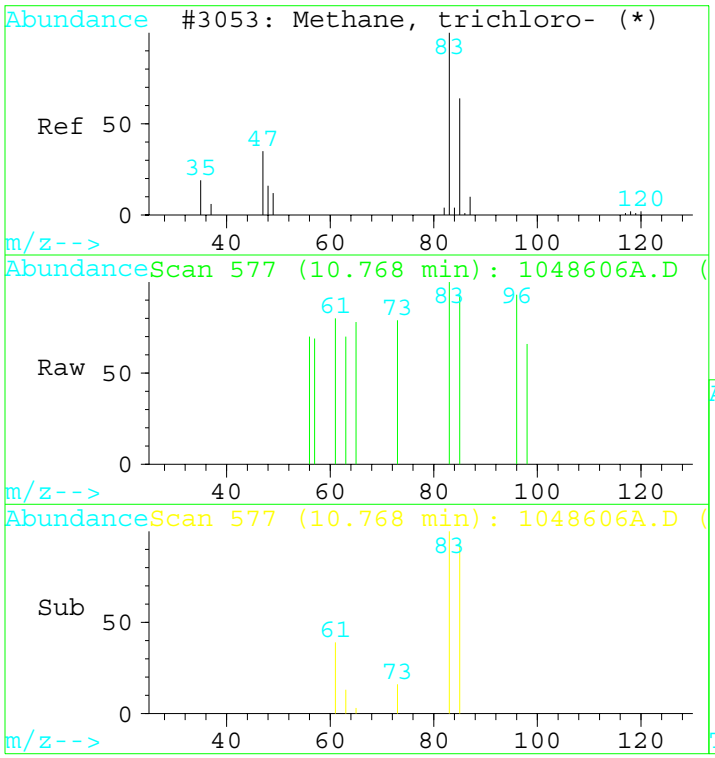


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.12 min Scan# 779
Delta R.T. 0.07 min
Lab File: 1048606A.D
Acq: 14 Dec 110 8:53 pm

Tgt Ion:98 Resp: 56775

Ion	Ratio	Lower	Upper
98	100		
100	69.8	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

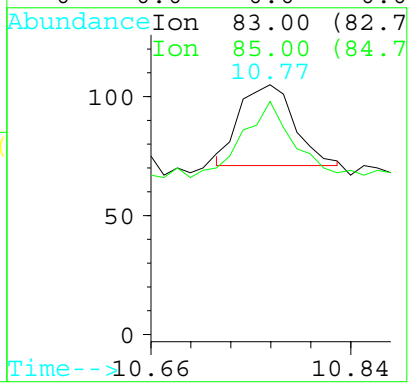


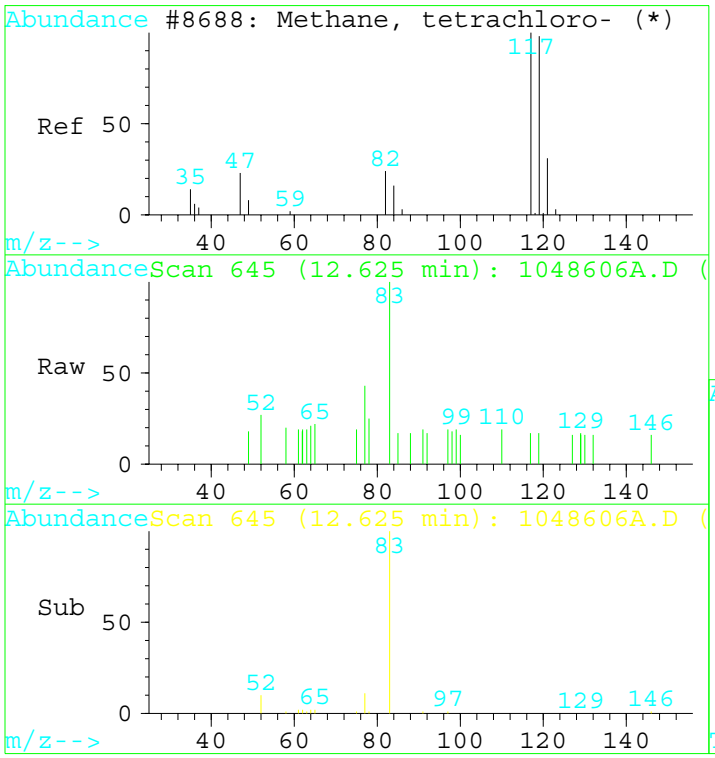


#3
Chloroform
Concen: 0.00 ppbV m
RT: 10.77 min Scan# 577
Delta R.T. 0.11 min
Lab File: 1048606A.D
Acq: 14 Dec 110 8:53 pm

Tgt Ion:83 Resp: 116

Ion	Ratio	Lower	Upper
83	100		
85	93.3	51.4	77.2#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

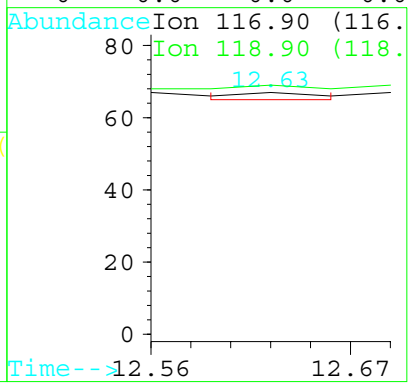


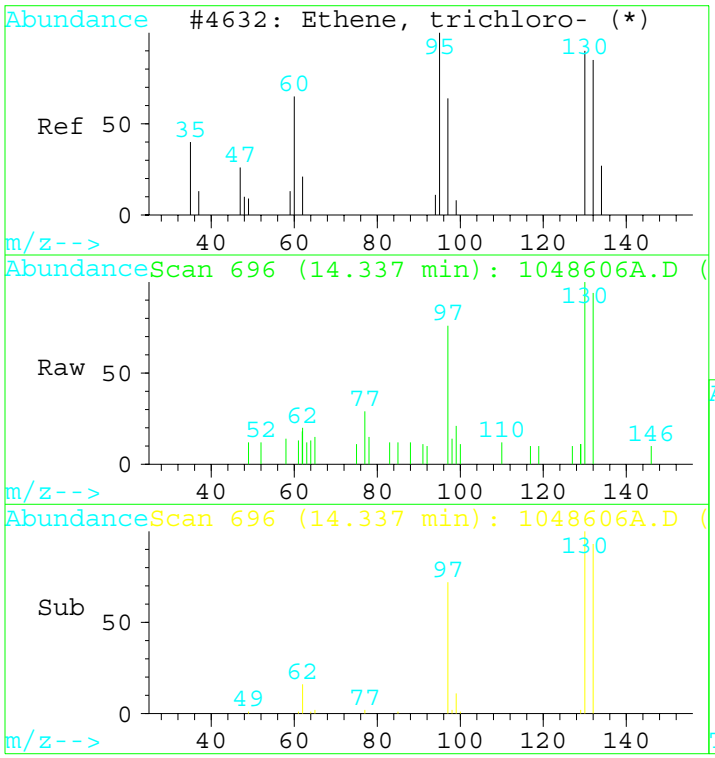


#4
Carbon tetrachloride
Concen: 0.00 ppbV
RT: 12.63 min Scan# 645
Delta R.T. -0.03 min
Lab File: 1048606A.D
Acq: 14 Dec 110 8:53 pm

Tgt Ion:116.9 Resp: 6

Ion	Ratio	Lower	Upper
117	100		
119	100.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

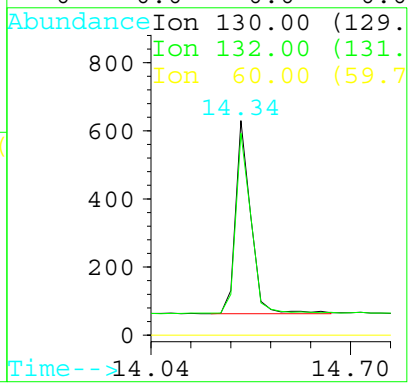




#5
Trichloroethene
Concen: 0.02 ppbV
RT: 14.34 min Scan# 696
Delta R.T. 0.08 min
Lab File: 1048606A.D
Acq: 14 Dec 110 8:53 pm

Tgt Ion:130 Resp: 2013

Ion	Ratio	Lower	Upper
130	100		
132	93.2	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048607A.D
Acq Time : 14 Dec 110 9:38 pm Operator: JF
Sample : IA-AB-O1-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

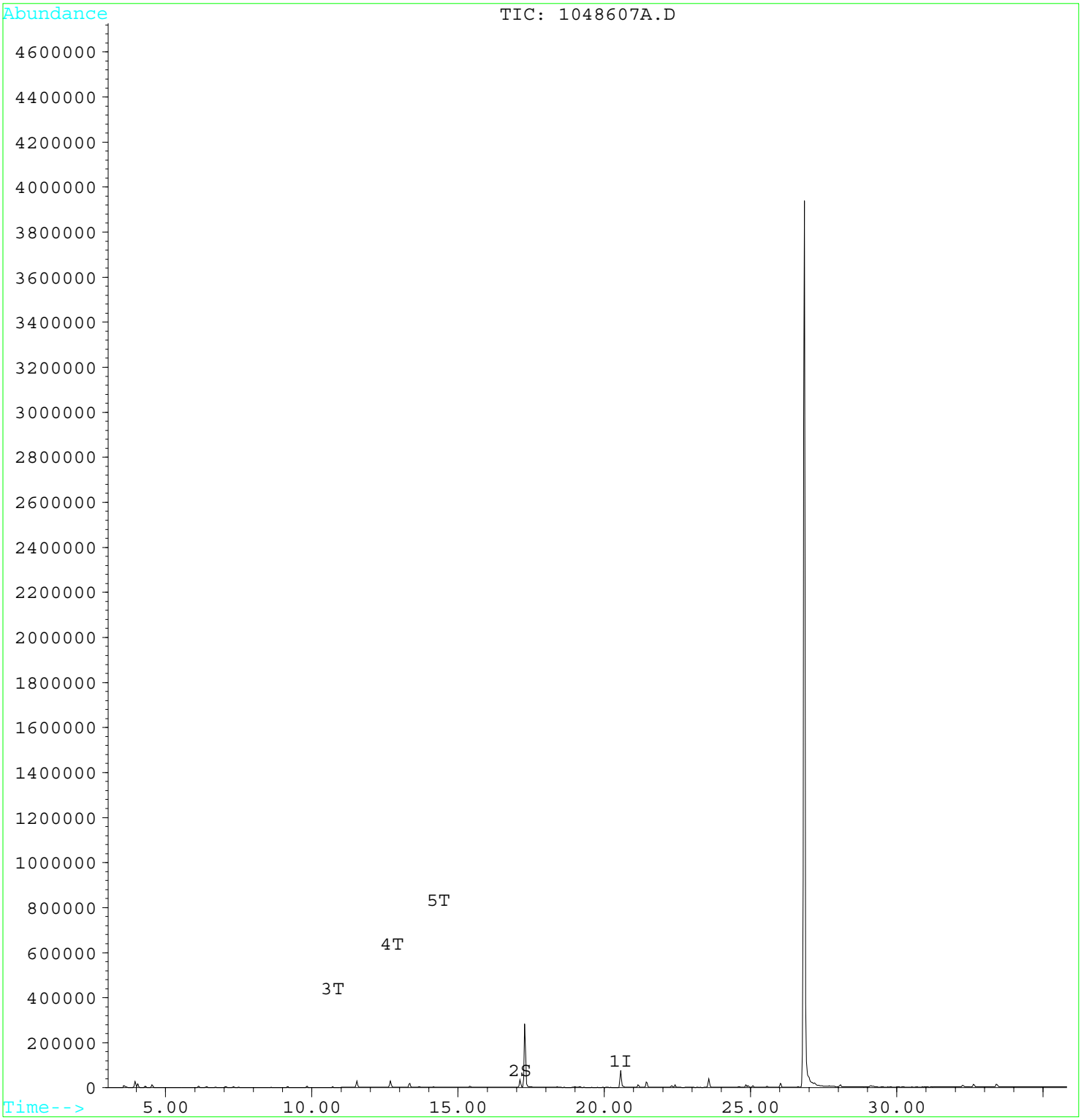
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.56	117	168305	0.20	ppbV	0.05
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.11	98	58857	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.71	83	8149	0.05	ppbV	98
4) Carbon tetrachloride	12.75	117	3368	0.03	ppbV	95
5) Trichloroethene	14.32	130	726	0.01	ppbV	98

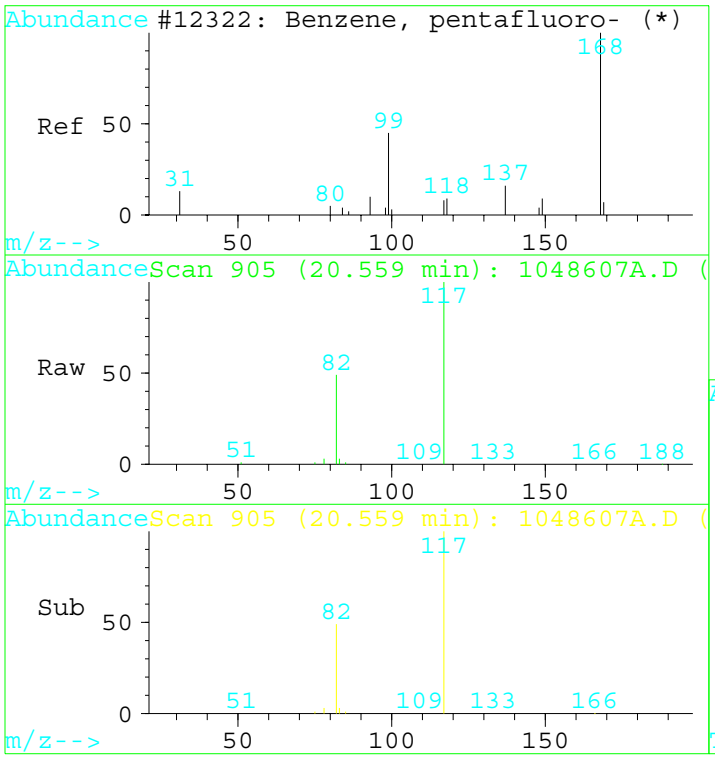
(#) = qualifier out of range (m) = manual integration
1048607A.D CNTHG_A.M Mon Dec 20 09:31:53 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12140MSC\1048607A.D
Acq Time : 14 Dec 110 9:38 pm Operator: JF
Sample : IA-AB-O1-001 Inst : MSC HP597
Misc : NORTHGATE ENVIRONMENTAL MANAGEMENT Multiplr: 1.00
Quant Time: Dec 20 9:24 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

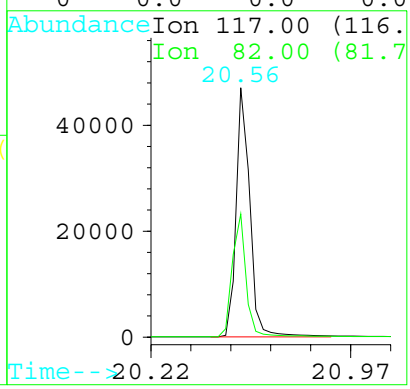


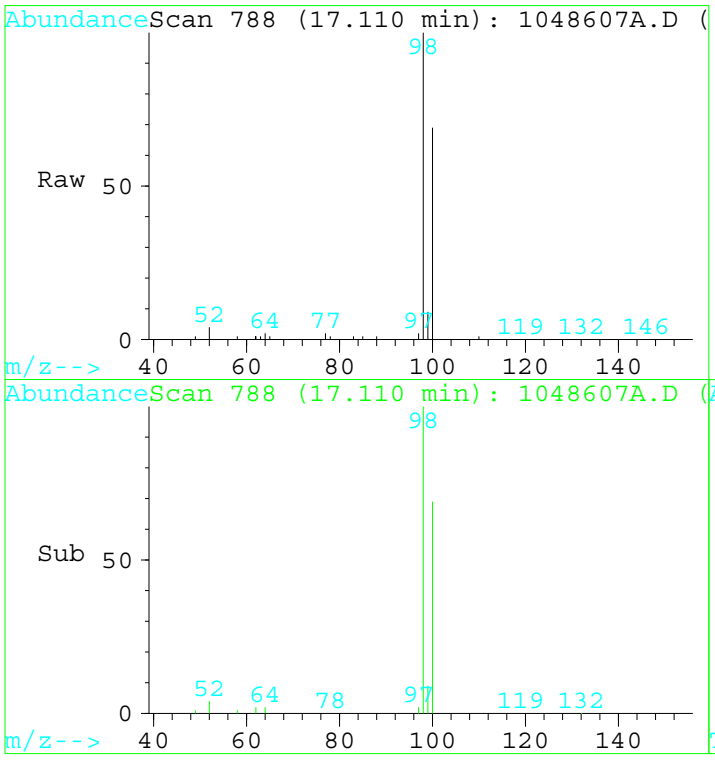


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.56 min Scan# 905
Delta R.T. 0.05 min
Lab File: 1048607A.D
Acq: 14 Dec 110 9:38 pm

Tgt Ion:117 Resp: 168305

Ion	Ratio	Lower	Upper
117	100		
82	49.2	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

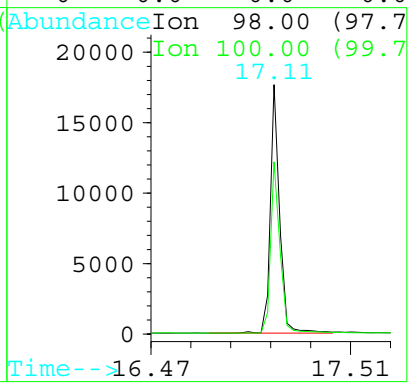


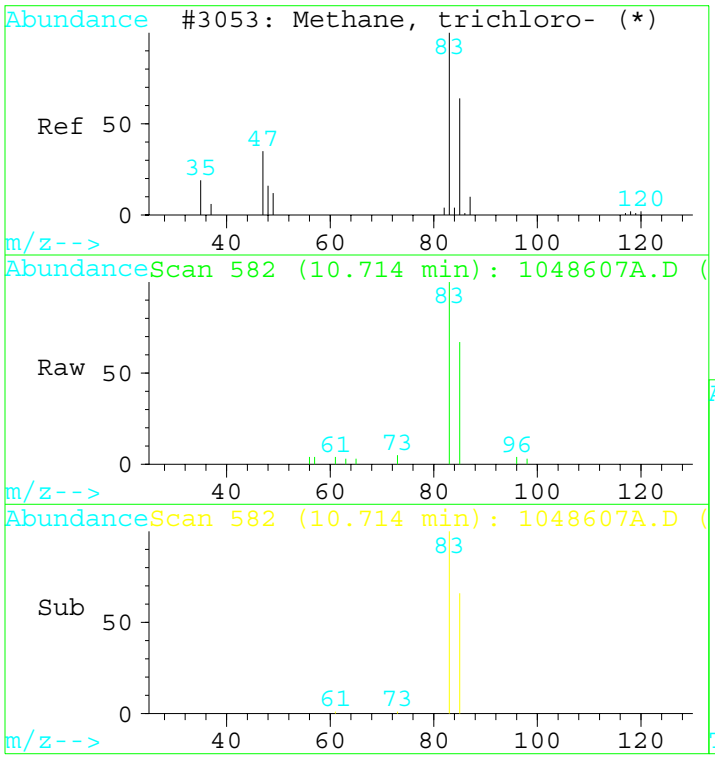


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.11 min Scan# 788
Delta R.T. 0.06 min
Lab File: 1048607A.D
Acq: 14 Dec 110 9:38 pm

Tgt Ion:98 Resp: 58857

Ion	Ratio	Lower	Upper
98	100		
100	70.0	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

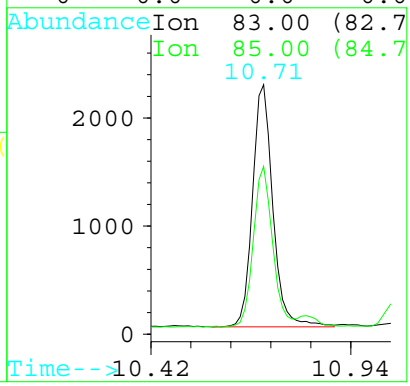


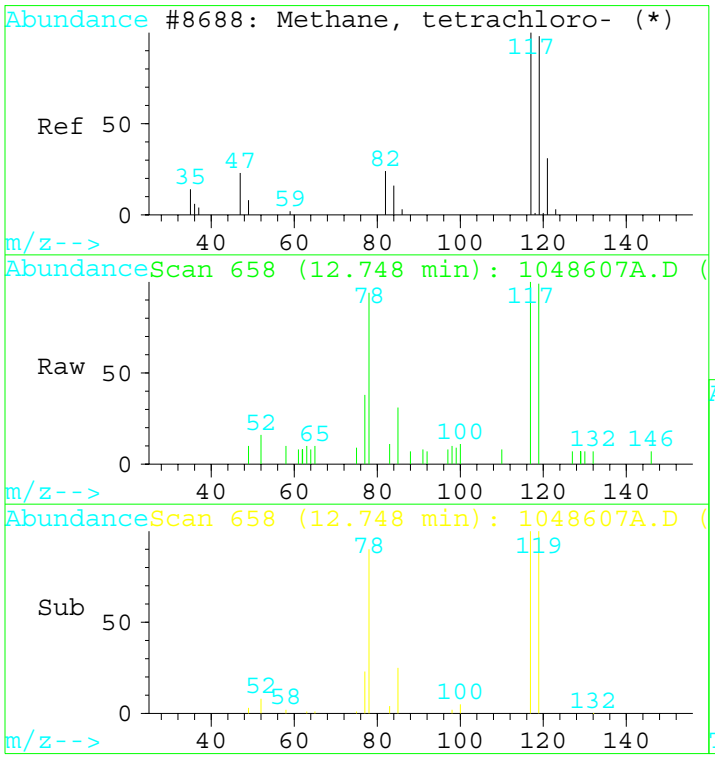


#3
Chloroform
Concen: 0.05 ppbV
RT: 10.71 min Scan# 582
Delta R.T. 0.05 min
Lab File: 1048607A.D
Acq: 14 Dec 110 9:38 pm

Tgt Ion:83 Resp: 8149

Ion	Ratio	Lower	Upper
83	100		
85	66.2	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

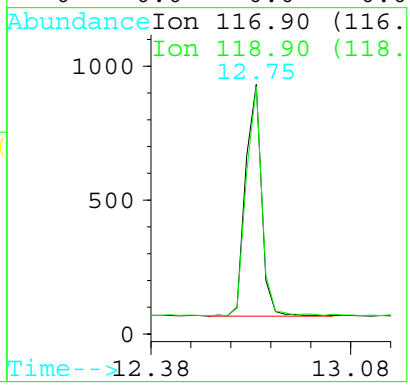


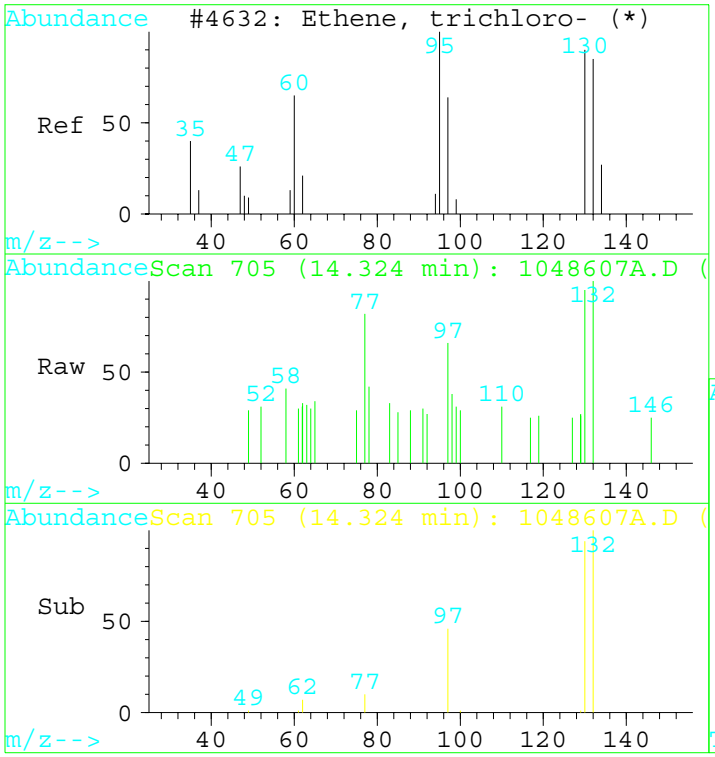


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.75 min Scan# 658
Delta R.T. 0.09 min
Lab File: 1048607A.D
Acq: 14 Dec 110 9:38 pm

Tgt Ion:116.9 Resp: 3368

Ion	Ratio	Lower	Upper
117	100		
119	98.7	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

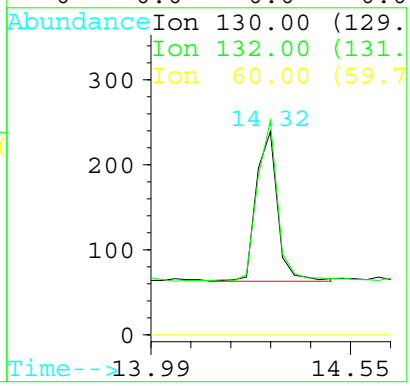




#5
Trichloroethene
Concen: 0.01 ppbV
RT: 14.32 min Scan# 705
Delta R.T. 0.06 min
Lab File: 1048607A.D
Acq: 14 Dec 110 9:38 pm

Tgt Ion:130 Resp: 726

Ion	Ratio	Lower	Upper
130	100		
132	107.2	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Daily Analytical Batch #: 121510-MSC

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\C12150A.D
Acq Time : 15 Dec 110 9:24 am Operator: KT
Sample : ST60421 + ST60550 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:33 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

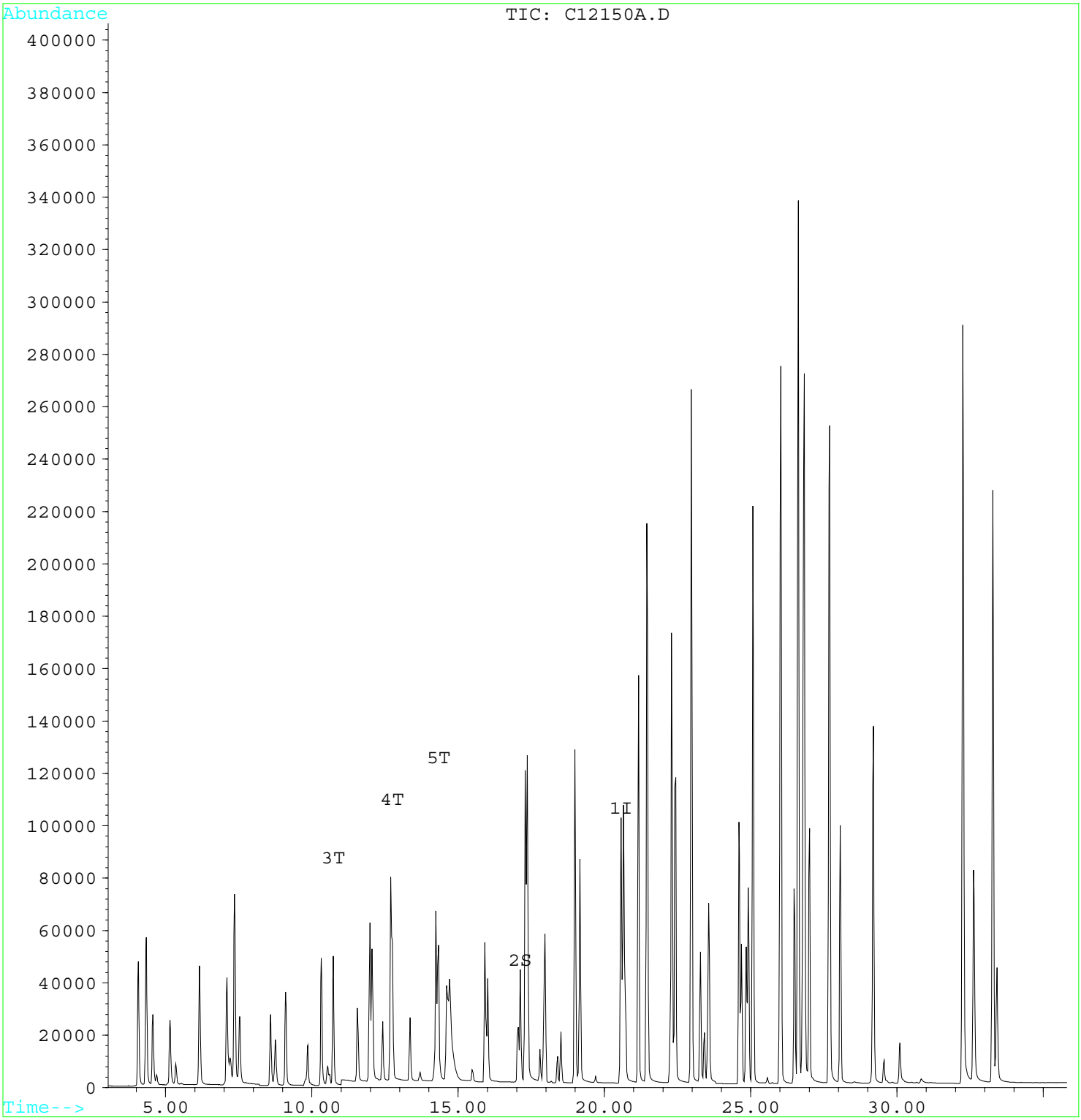
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	221582	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	69486	0.18	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.73	83	114643	0.50	ppbV	100
4) Carbon tetrachloride	12.76	117	80958	0.51	ppbV	97
5) Trichloroethene	14.33	130	69506	0.50	ppbV	100

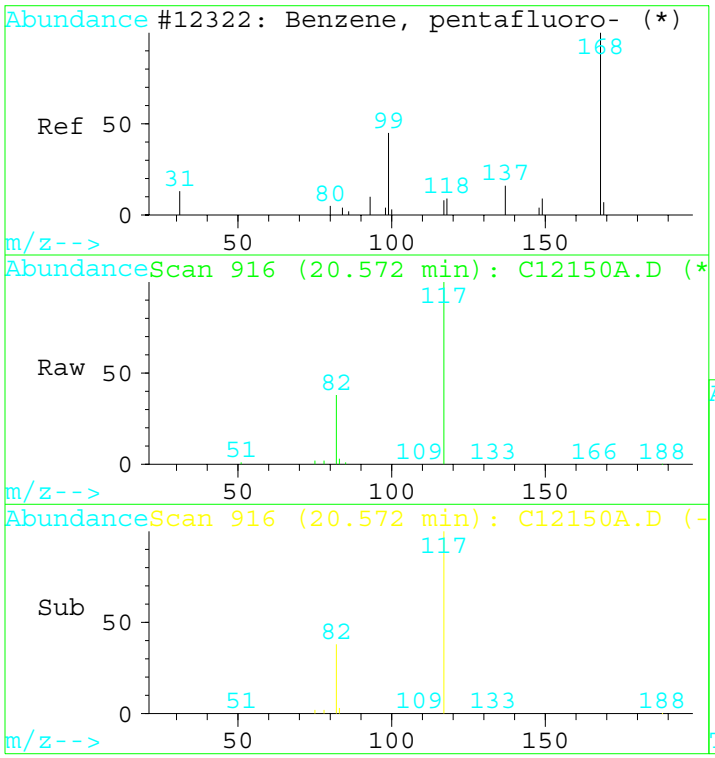
(#) = qualifier out of range (m) = manual integration
C12150A.D CNTHG_A.M Mon Dec 20 12:43:24 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\C12150A.D
Acq Time : 15 Dec 110 9:24 am Operator: KT
Sample : ST60421 + ST60550 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:33 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

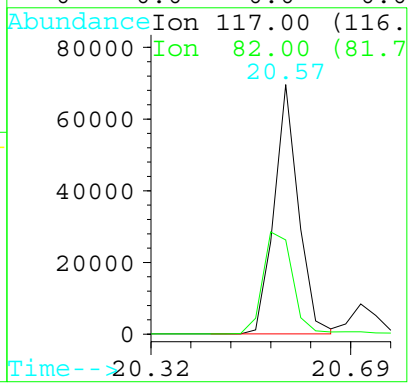


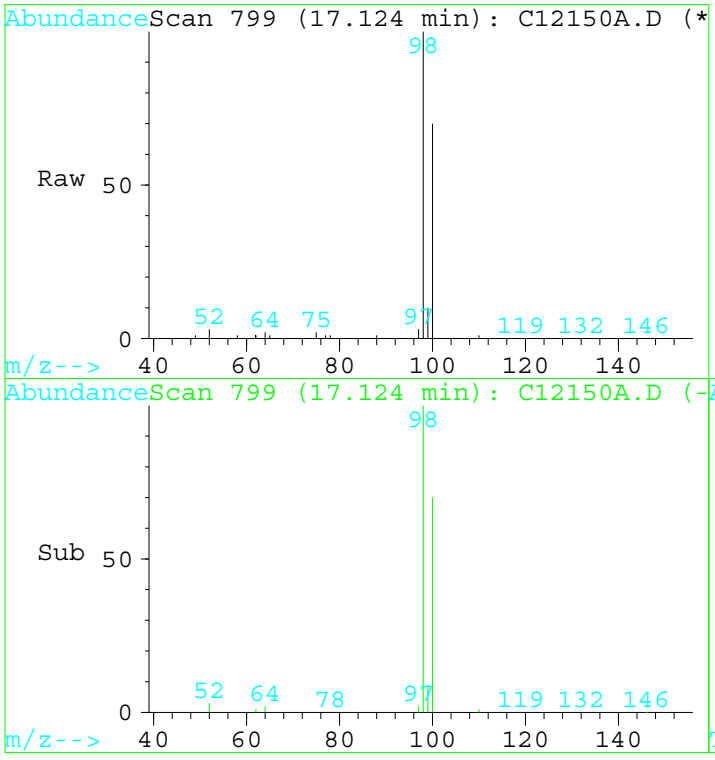


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 916
Delta R.T. 0.06 min
Lab File: C12150A.D
Acq: 15 Dec 110 9:24 am

Tgt Ion:117 Resp: 221582

Ion	Ratio	Lower	Upper
117	100		
82	37.7	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

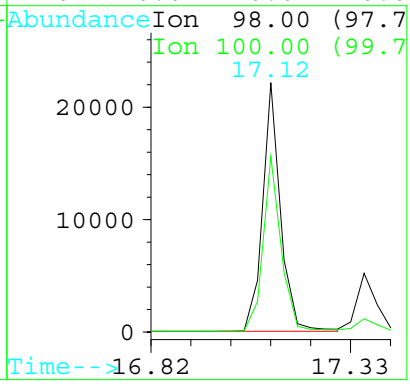


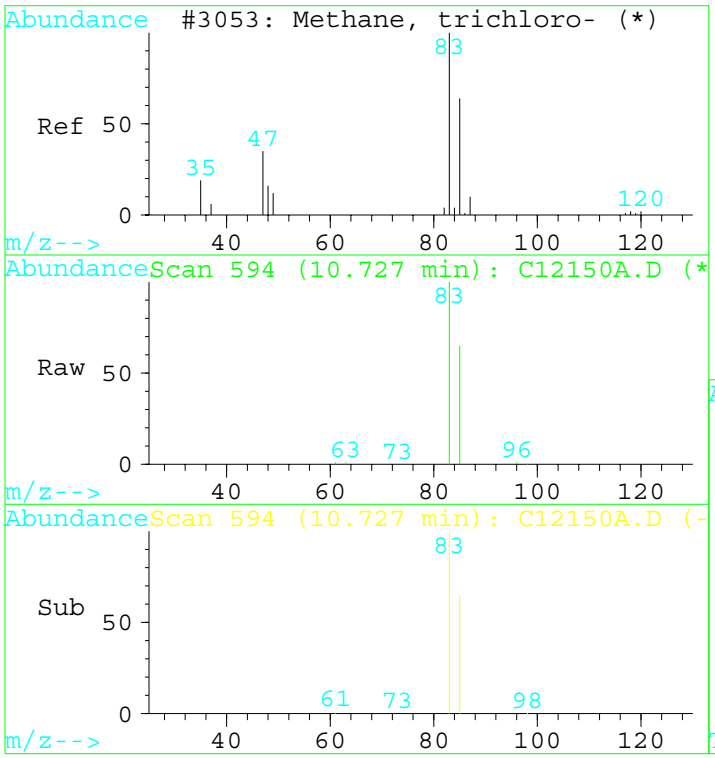


#2
Toluene-d8
Concen: 0.18 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: C12150A.D
Acq: 15 Dec 110 9:24 am

Tgt Ion:98 Resp: 69486

Ion	Ratio	Lower	Upper
98	100		
100	70.7	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

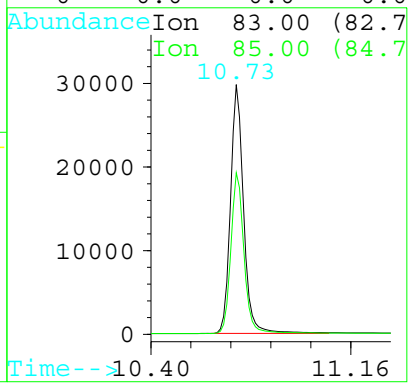


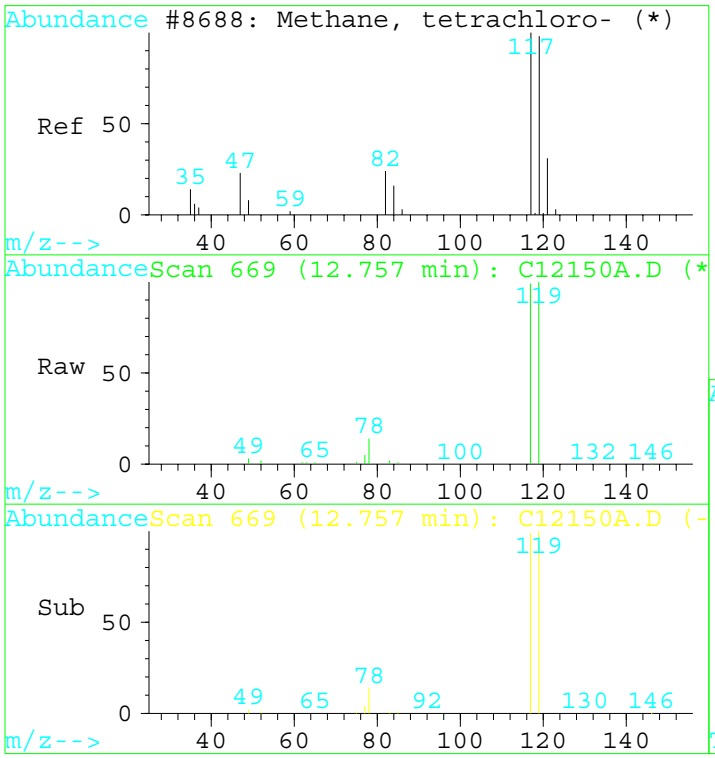


#3
Chloroform
Concen: 0.50 ppbV
RT: 10.73 min Scan# 594
Delta R.T. 0.07 min
Lab File: C12150A.D
Acq: 15 Dec 110 9:24 am

Tgt Ion:83 Resp: 114643

Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

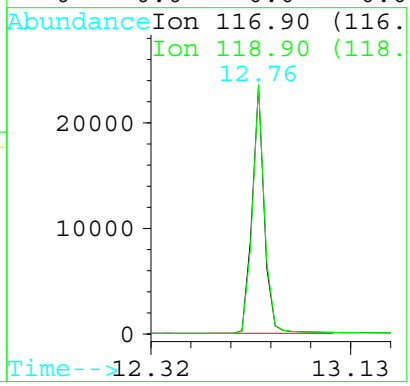


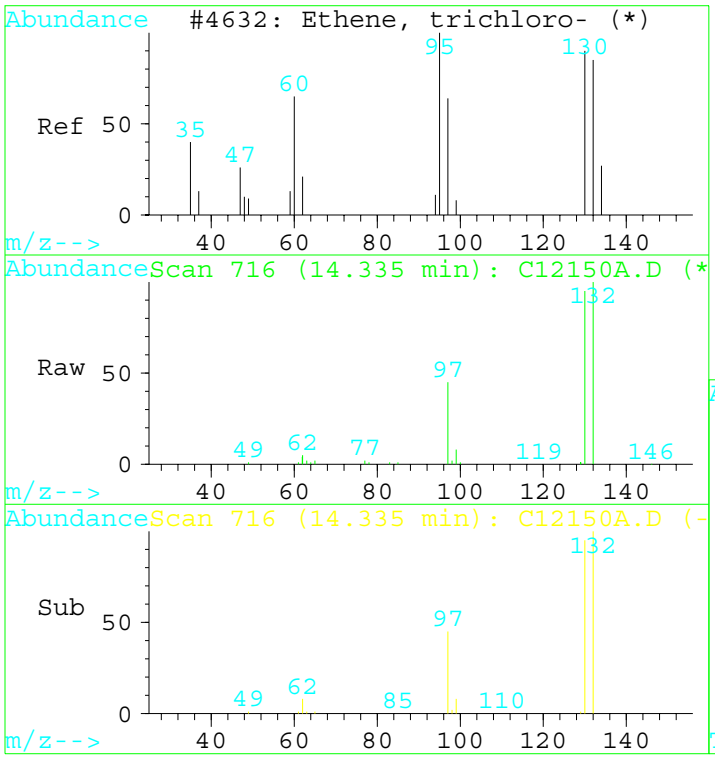


#4
Carbon tetrachloride
Concen: 0.51 ppbV
RT: 12.76 min Scan# 669
Delta R.T. 0.10 min
Lab File: C12150A.D
Acq: 15 Dec 110 9:24 am

Tgt Ion:116.9 Resp: 80958

Ion	Ratio	Lower	Upper
117	100		
119	100.6	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

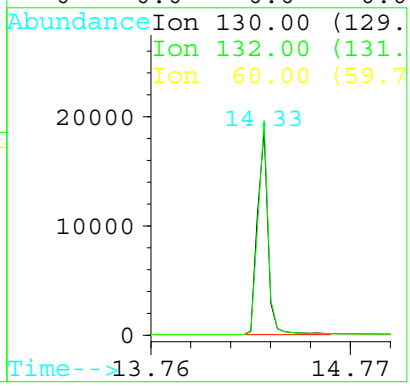




#5
Trichloroethene
Concen: 0.50 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: C12150A.D
Acq: 15 Dec 110 9:24 am

Tgt Ion:130 Resp: 69506

Ion	Ratio	Lower	Upper
130	100		
132	105.1	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\B12150B.D
Acq Time : 15 Dec 110 1:32 pm Operator: KB
Sample : METHOD BLANK Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:32 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

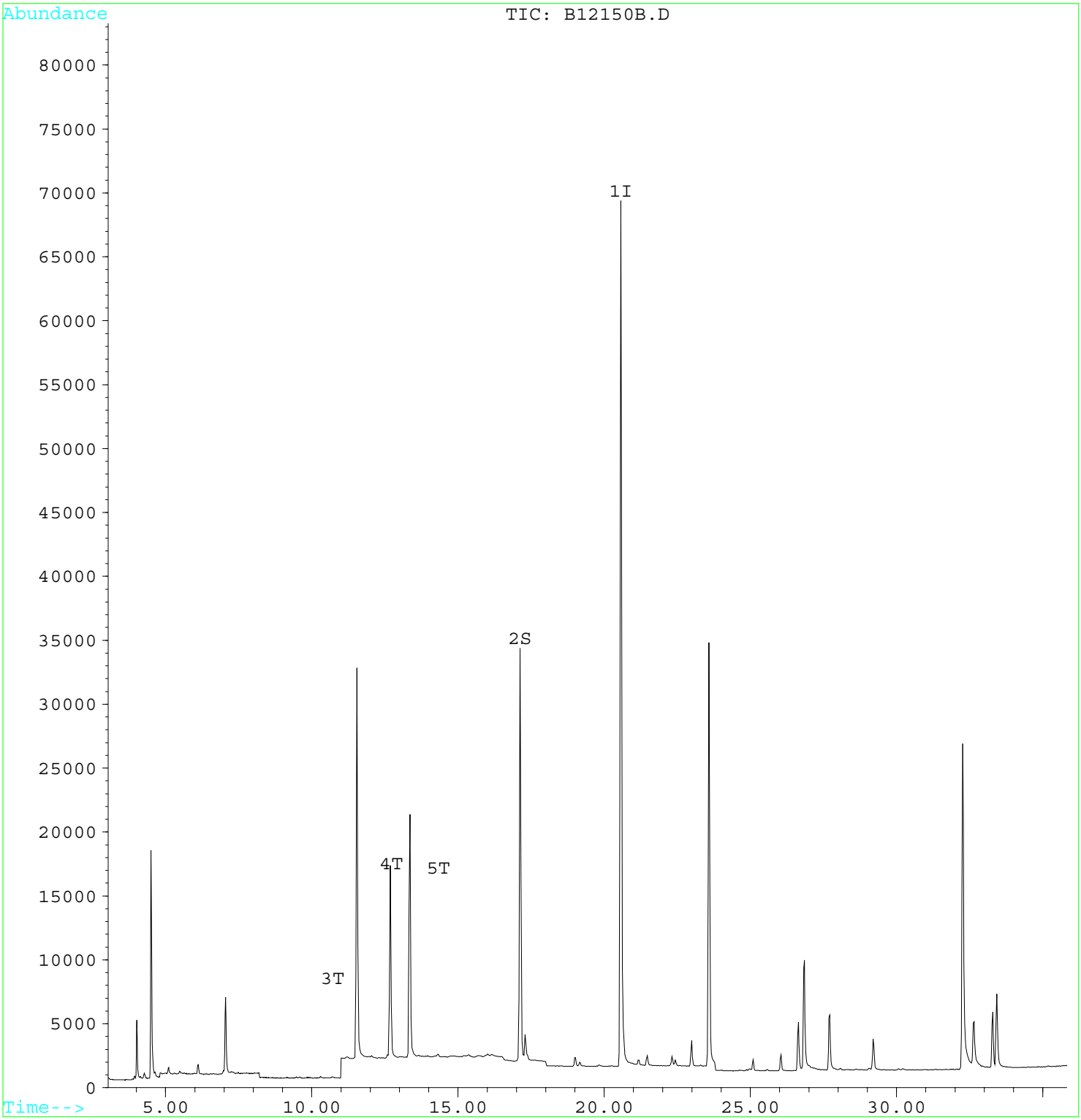
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Chlorobenzene-d5	20.57	117	155054	0.20	ppbV		0.06
System Monitoring Compounds							%Recovery
2) Toluene-d8	17.12	98	56777	0.21	ppbV		
Target Compounds							Qvalue
3) Chloroform	10.71	83	131	0.00	ppbV	#	72
4) Carbon tetrachloride	12.72	117	58	0.00	ppbV	#	41
5) Trichloroethene	14.33	130	264	0.00	ppbV		96

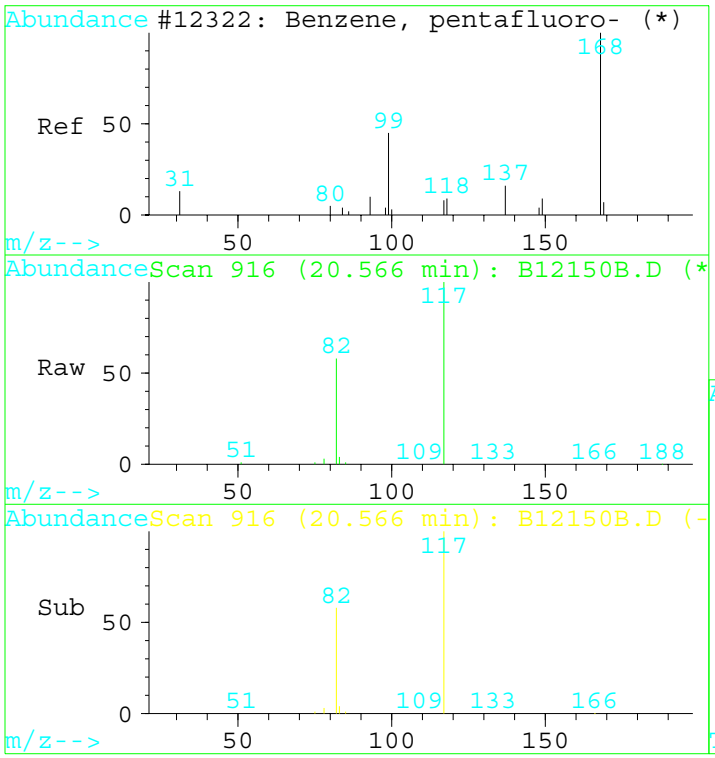
(#) = qualifier out of range (m) = manual integration
B12150B.D CNTHG_A.M Mon Dec 20 12:42:53 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\B12150B.D
Acq Time : 15 Dec 110 1:32 pm Operator: KB
Sample : METHOD BLANK Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:32 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

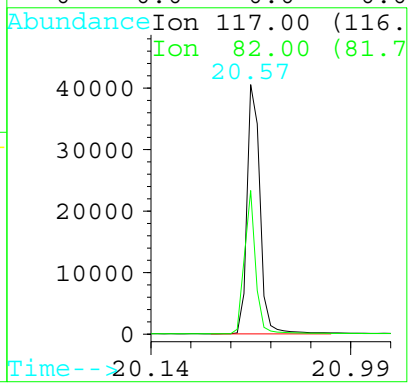


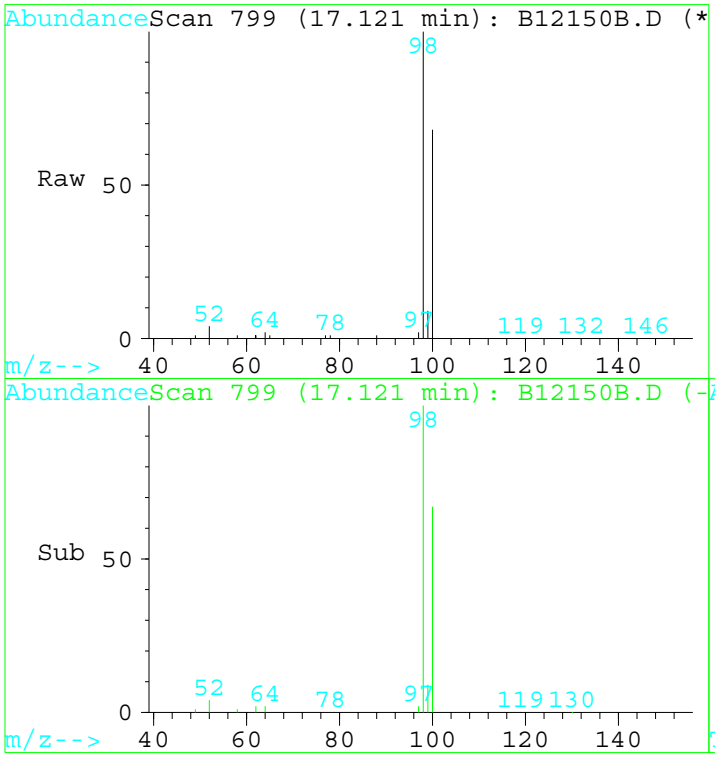


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 916
Delta R.T. 0.06 min
Lab File: B12150B.D
Acq: 15 Dec 110 1:32 pm

Tgt Ion:117 Resp: 155054

Ion	Ratio	Lower	Upper
117	100		
82	57.5	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

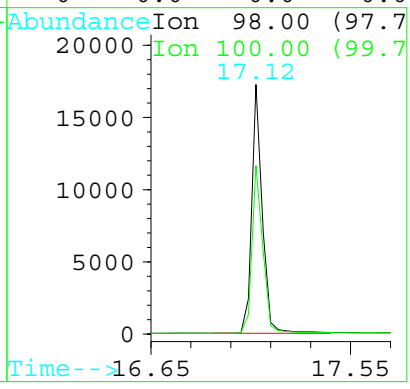


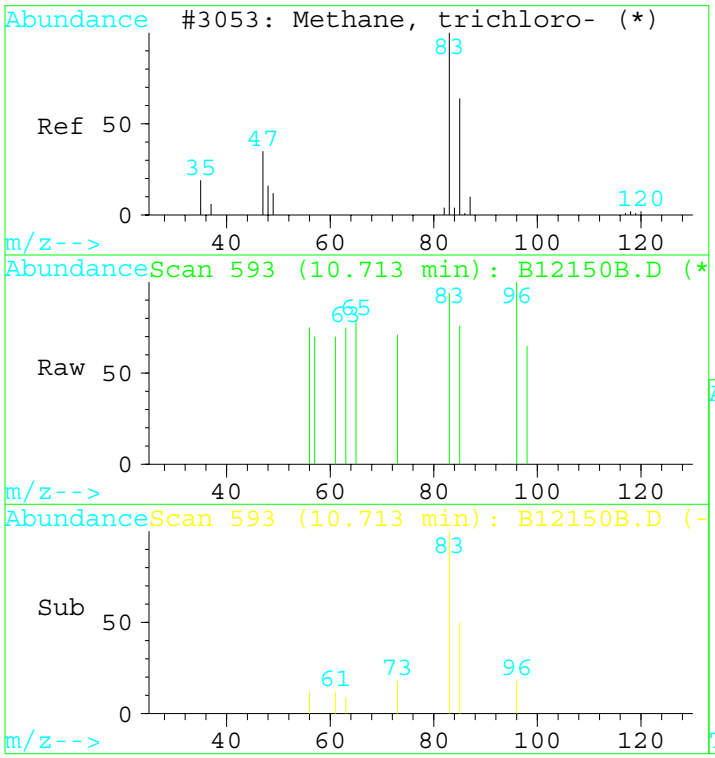


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: B12150B.D
Acq: 15 Dec 110 1:32 pm

Tgt Ion:98 Resp: 56777

Ion	Ratio	Lower	Upper
98	100		
100	69.6	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

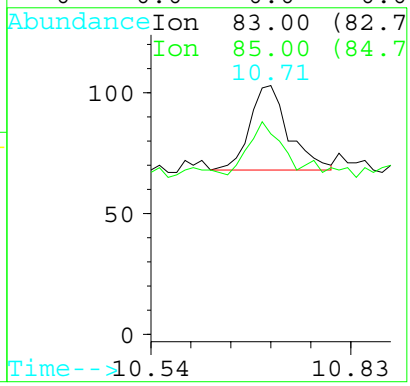


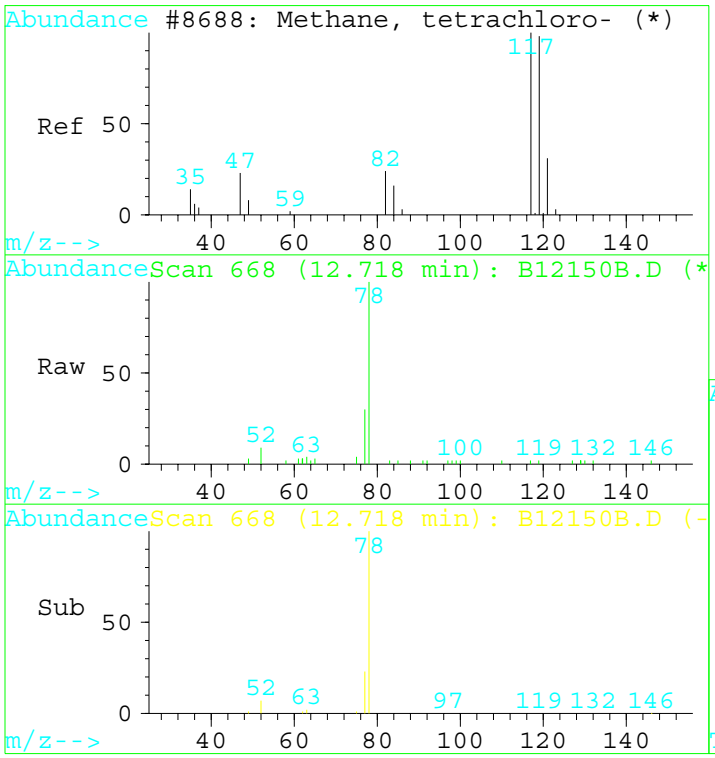


#3
Chloroform
Concen: 0.00 ppbV
RT: 10.71 min Scan# 593
Delta R.T. 0.05 min
Lab File: B12150B.D
Acq: 15 Dec 110 1:32 pm

Tgt Ion:83 Resp: 131

Ion	Ratio	Lower	Upper
83	100		
85	42.6	51.4	77.2#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

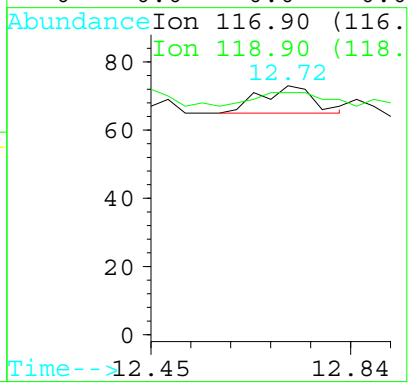


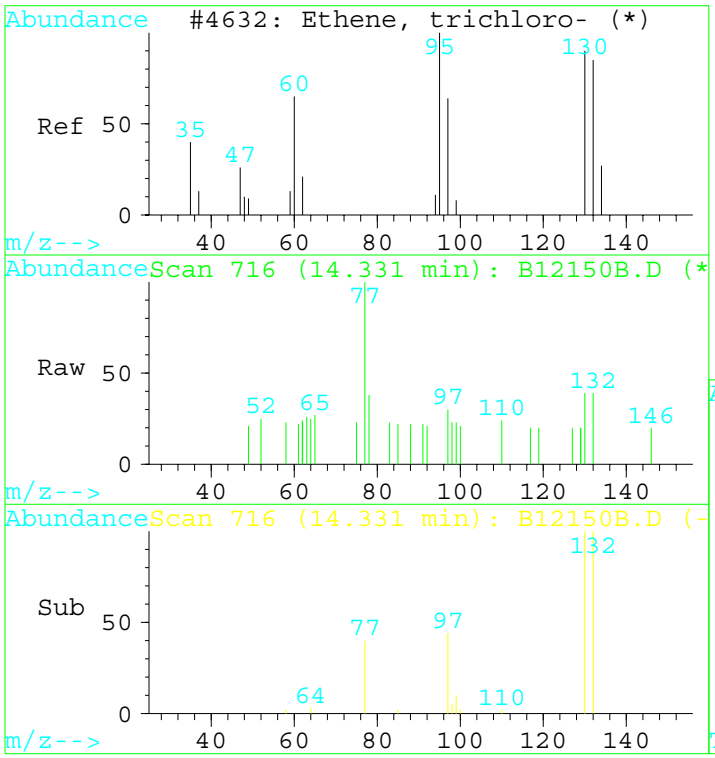


#4
Carbon tetrachloride
Concen: 0.00 ppbV
RT: 12.72 min Scan# 668
Delta R.T. 0.06 min
Lab File: B12150B.D
Acq: 15 Dec 110 1:32 pm

Tgt Ion:116.9 Resp: 58

Ion	Ratio	Lower	Upper
117	100		
119	42.9	82.6	124.0#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

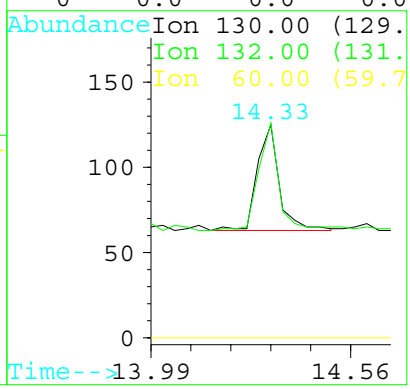




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: B12150B.D
Acq: 15 Dec 110 1:32 pm

Tgt Ion:130 Resp: 264

Ion	Ratio	Lower	Upper
130	100		
132	100.8	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\QC12150A.D
Acq Time : 15 Dec 110 10:25 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:33 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

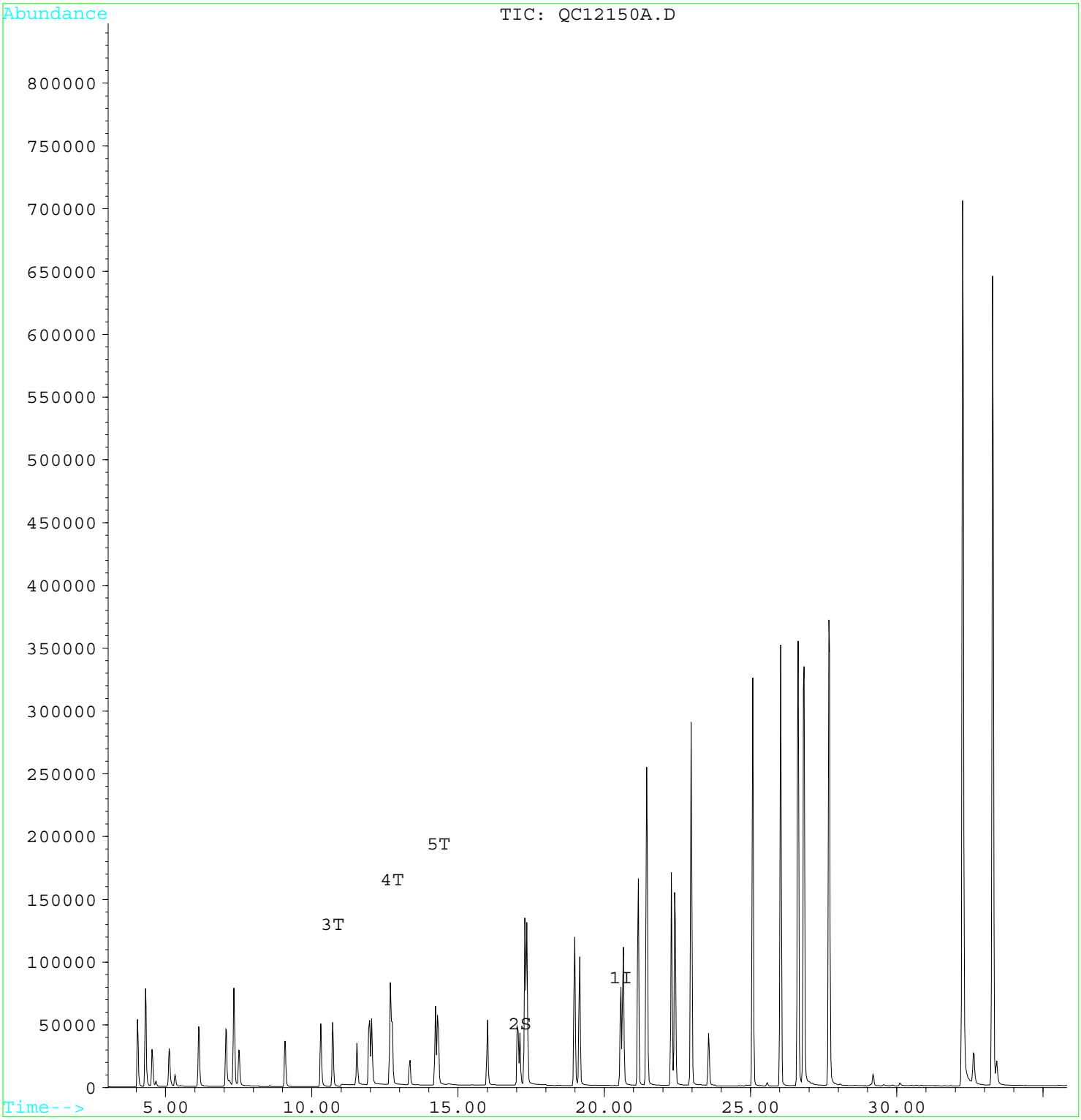
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	186920	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	65243	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.71	83	116519	0.61	ppbV	98
4) Carbon tetrachloride	12.75	117	83987	0.63	ppbV	99
5) Trichloroethene	14.33	130	72793	0.62	ppbV	98

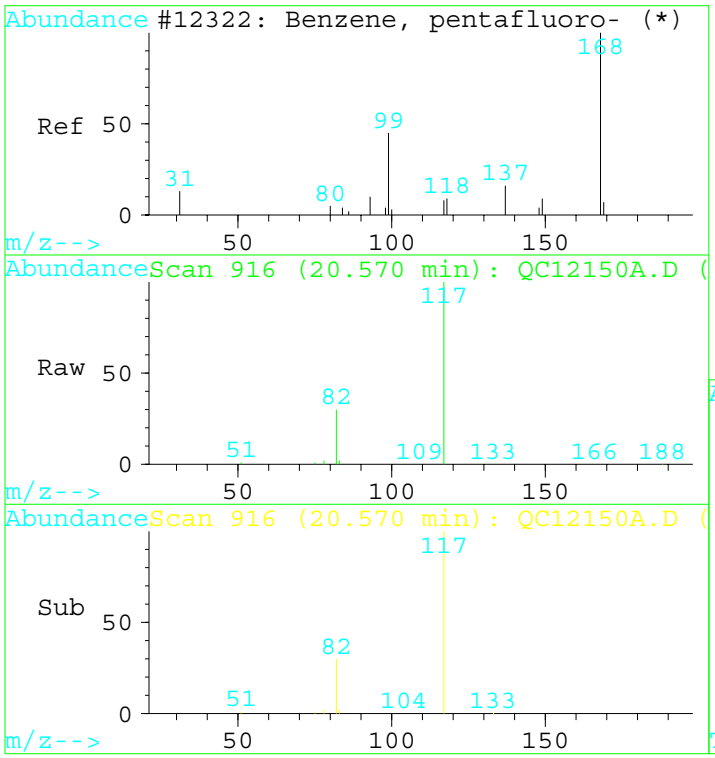
(#) = qualifier out of range (m) = manual integration
QC12150A.D CNTHG_A.M Mon Dec 20 12:43:53 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\QC12150A.D
Acq Time : 15 Dec 110 10:25 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:33 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

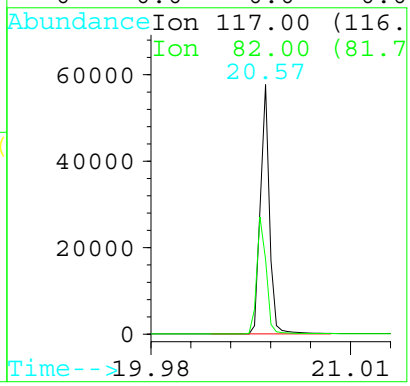


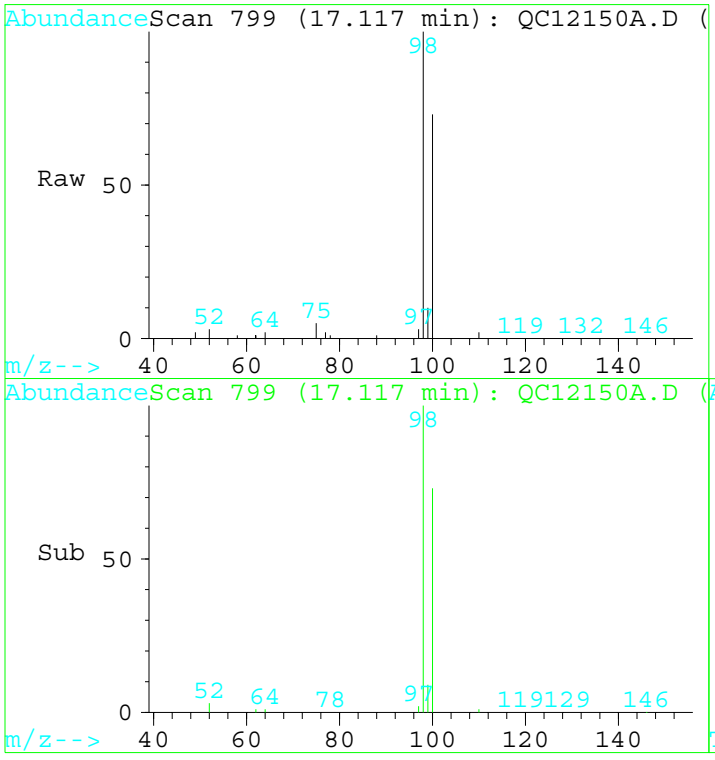


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 916
Delta R.T. 0.06 min
Lab File: QC12150A.D
Acq: 15 Dec 110 10:25 am

Tgt Ion:117 Resp: 186920

Ion	Ratio	Lower	Upper
117	100		
82	29.9	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

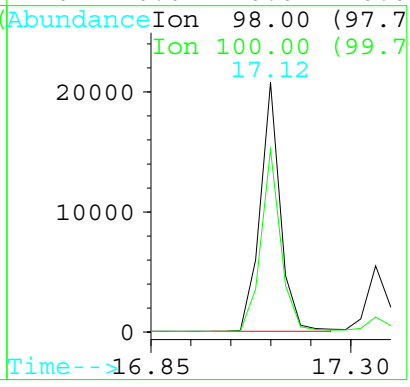


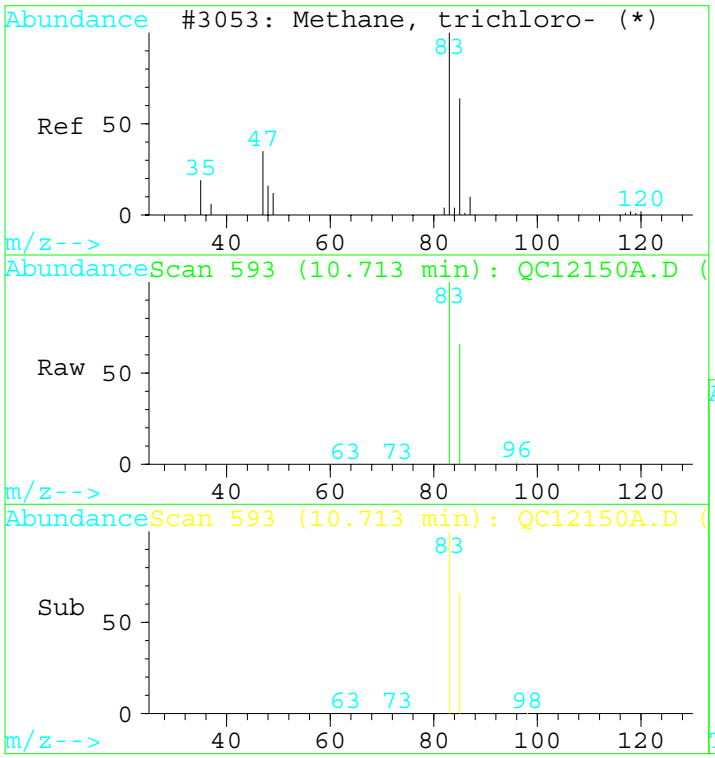


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: QC12150A.D
Acq: 15 Dec 110 10:25 am

Tgt Ion:98 Resp: 65243

Ion	Ratio	Lower	Upper
98	100		
100	71.6	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

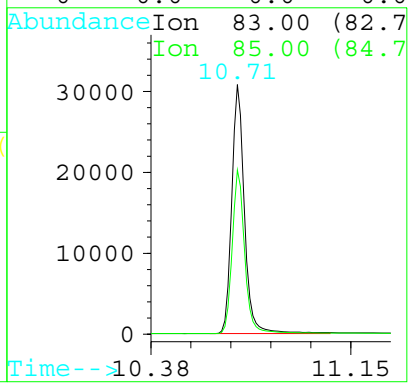


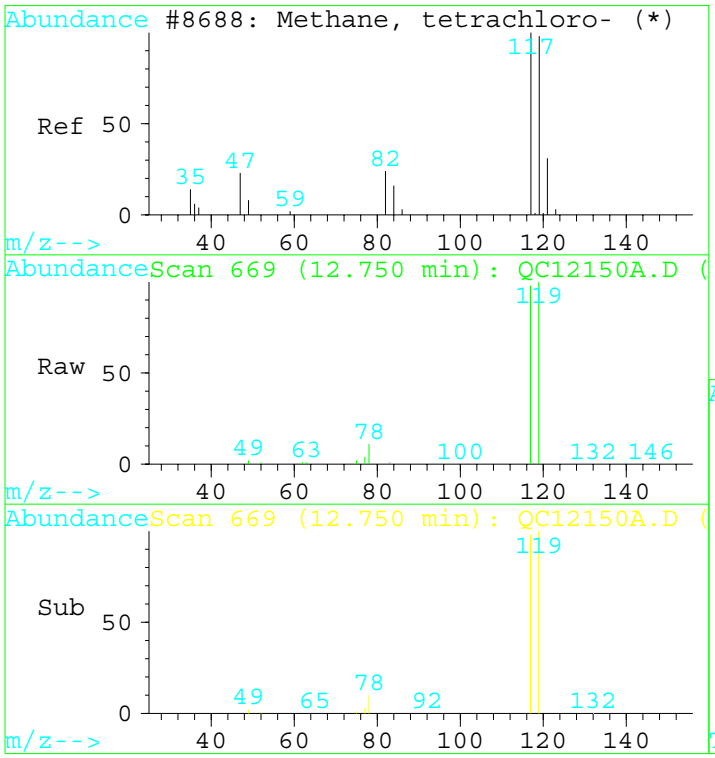


#3
Chloroform
Concen: 0.61 ppbV
RT: 10.71 min Scan# 593
Delta R.T. 0.05 min
Lab File: QC12150A.D
Acq: 15 Dec 110 10:25 am

Tgt Ion:83 Resp: 116519

Ion	Ratio	Lower	Upper
83	100		
85	65.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

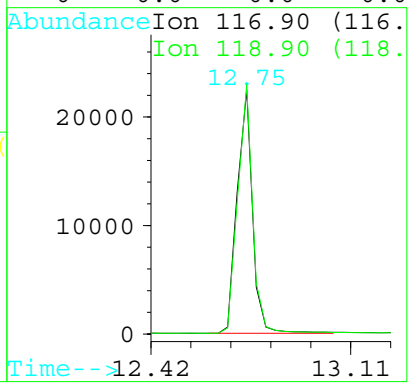


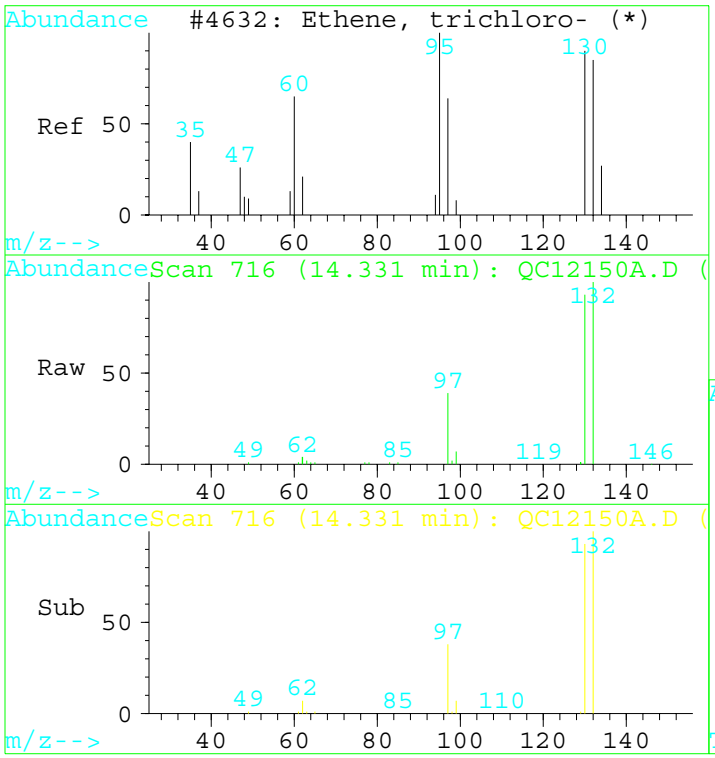


#4
Carbon tetrachloride
Concen: 0.63 ppbV
RT: 12.75 min Scan# 669
Delta R.T. 0.09 min
Lab File: QC12150A.D
Acq: 15 Dec 110 10:25 am

Tgt Ion:116.9 Resp: 83987

Ion	Ratio	Lower	Upper
117	100		
119	102.2	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

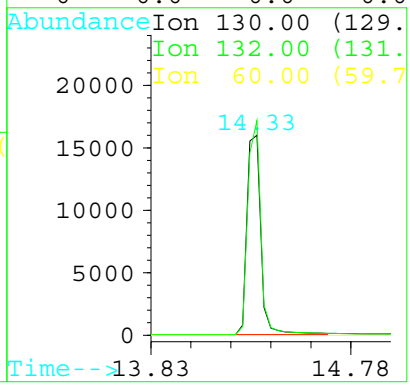




#5
Trichloroethene
Concen: 0.62 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: QC12150A.D
Acq: 15 Dec 110 10:25 am

Tgt Ion:130 Resp: 72793

Ion	Ratio	Lower	Upper
130	100		
132	107.3	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\QC12150B.D
Acq Time : 15 Dec 110 11:10 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:33 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

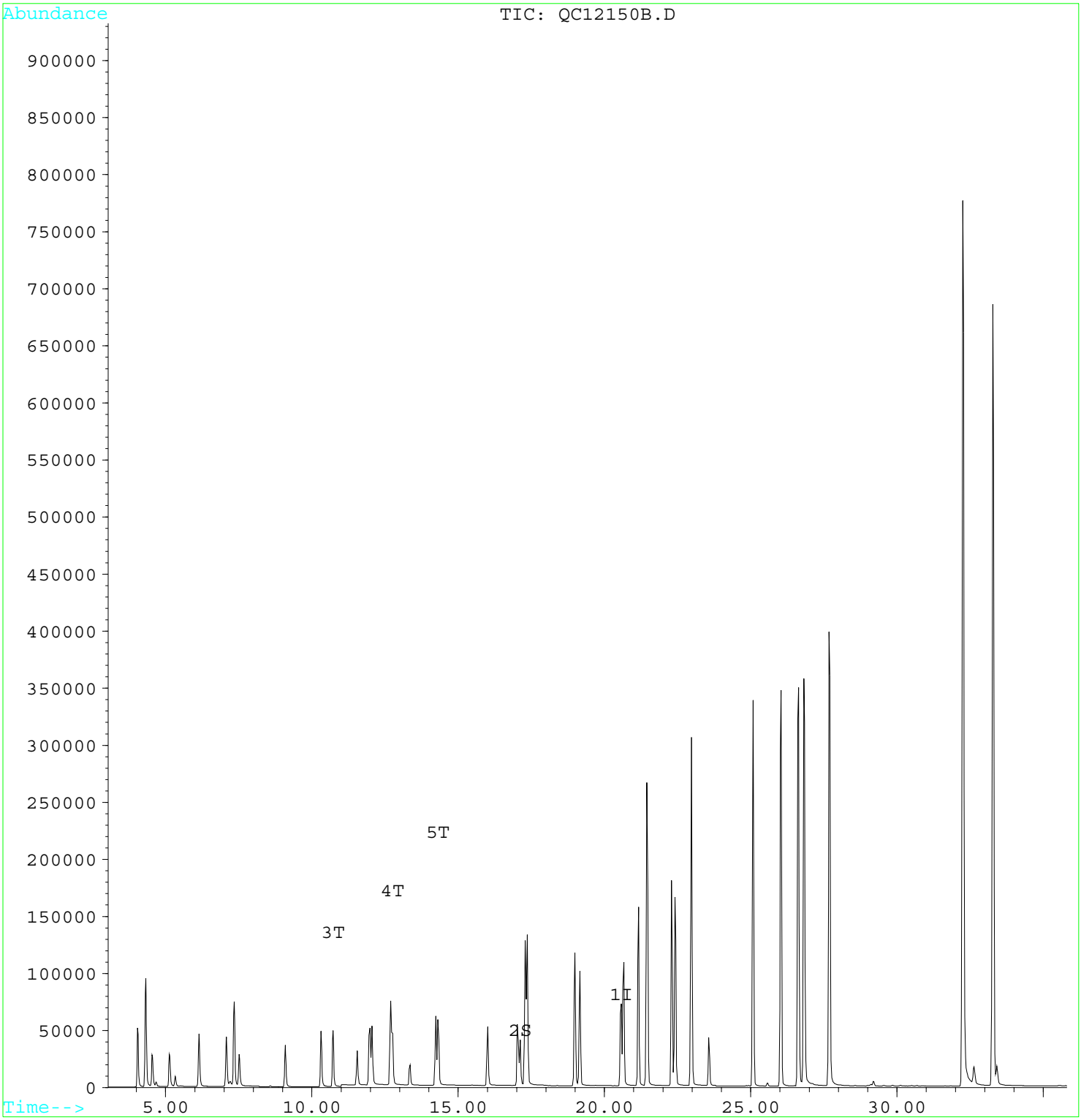
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.58	117	178543	0.20	ppbV	0.07
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	63456	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	110921	0.60	ppbV	99
4) Carbon tetrachloride	12.76	117	80091	0.63	ppbV	99
5) Trichloroethene	14.30	130	73012	0.65	ppbV	90

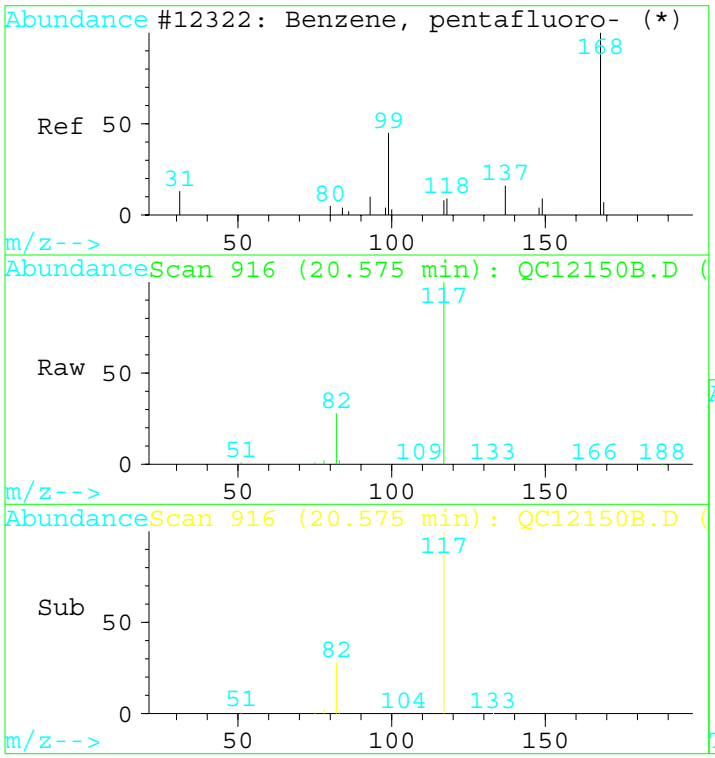
(#) = qualifier out of range (m) = manual integration
QC12150B.D CNTHG_A.M Mon Dec 20 12:44:22 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\QC12150B.D
Acq Time : 15 Dec 110 11:10 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 12:33 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

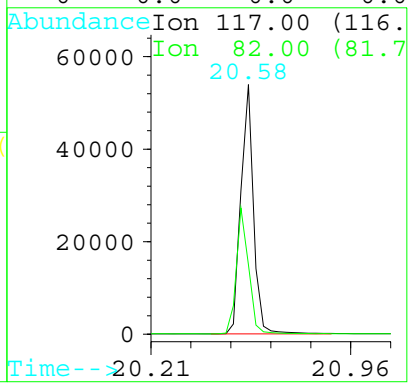


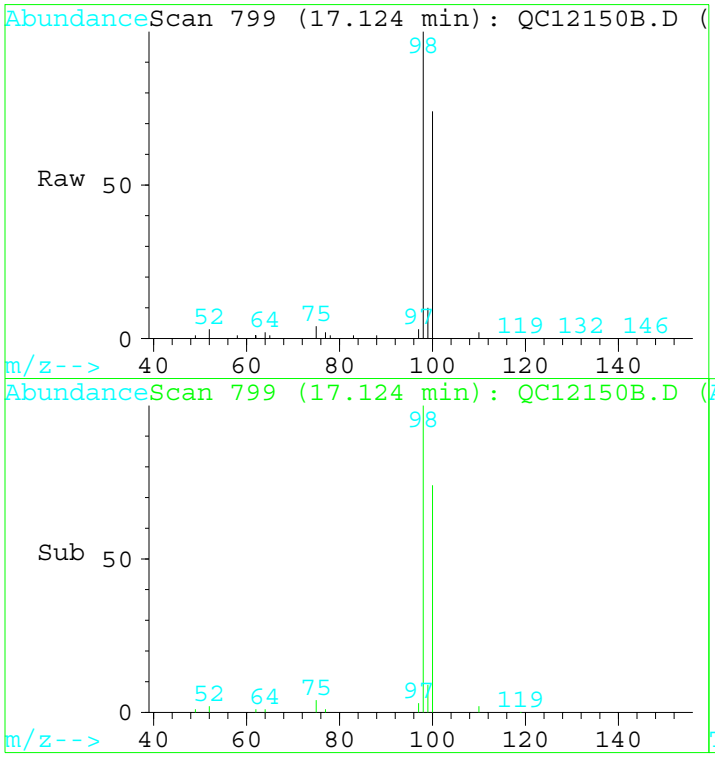


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 916
Delta R.T. 0.07 min
Lab File: QC12150B.D
Acq: 15 Dec 110 11:10 am

Tgt Ion:117 Resp: 178543

Ion	Ratio	Lower	Upper
117	100		
82	27.7	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

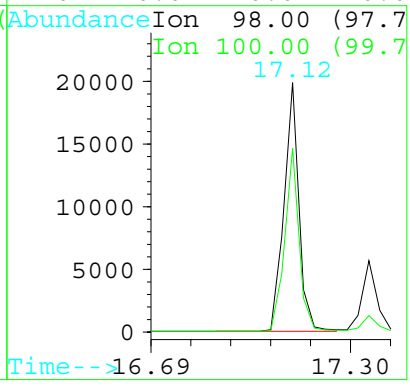


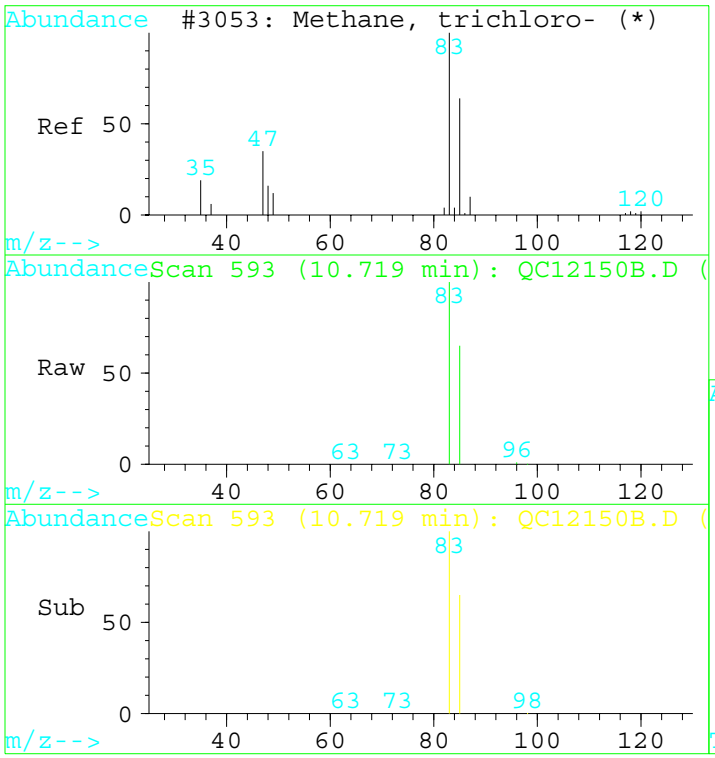


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: QC12150B.D
Acq: 15 Dec 110 11:10 am

Tgt Ion:98 Resp: 63456

Ion	Ratio	Lower	Upper
98	100		
100	71.3	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

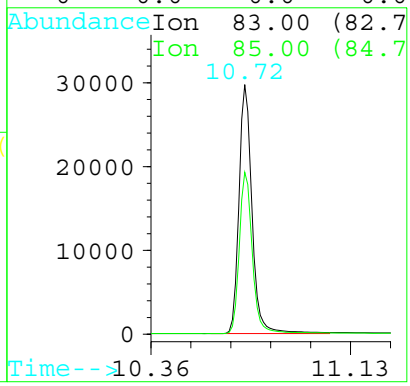


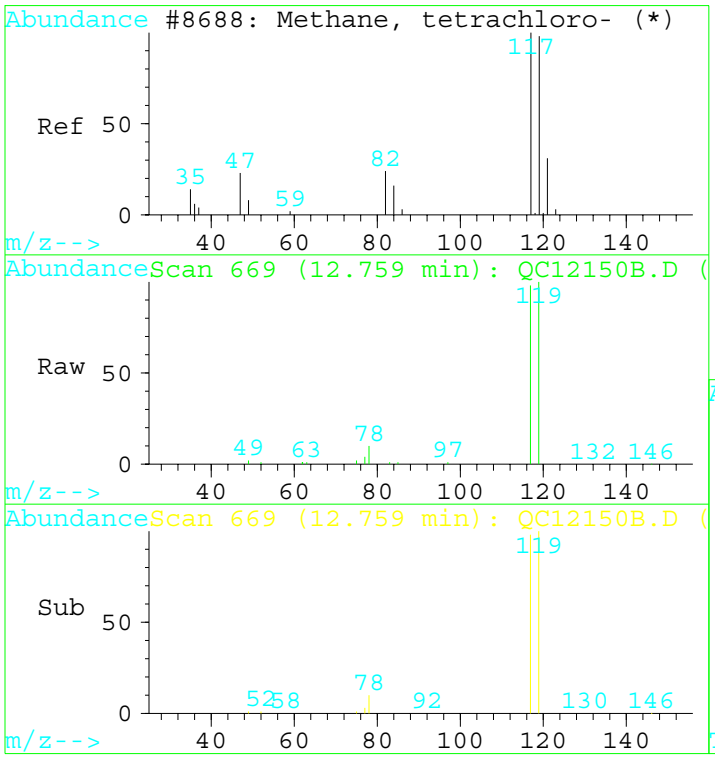


#3
Chloroform
Concen: 0.60 ppbV
RT: 10.72 min Scan# 593
Delta R.T. 0.06 min
Lab File: QC12150B.D
Acq: 15 Dec 110 11:10 am

Tgt Ion:83 Resp: 110921

Ion	Ratio	Lower	Upper
83	100		
85	64.8	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

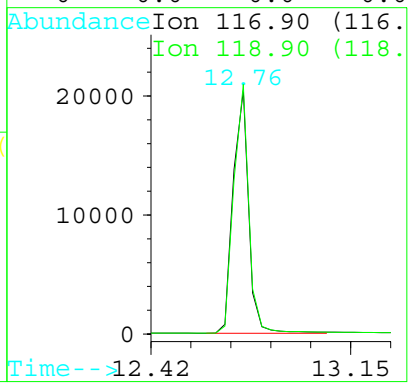


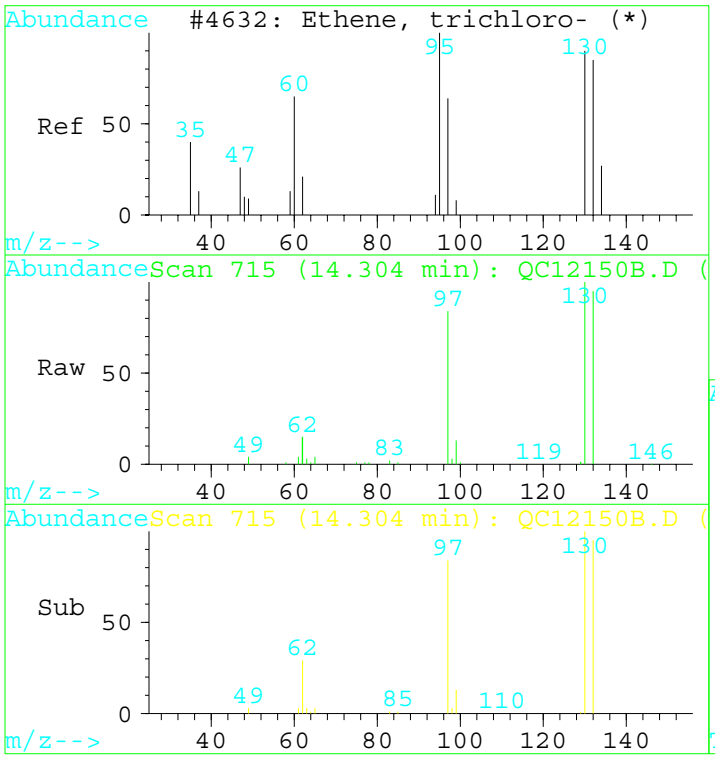


#4
Carbon tetrachloride
Concen: 0.63 ppbV
RT: 12.76 min Scan# 669
Delta R.T. 0.10 min
Lab File: QC12150B.D
Acq: 15 Dec 110 11:10 am

Tgt Ion:116.9 Resp: 80091

Ion	Ratio	Lower	Upper
117	100		
119	102.5	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

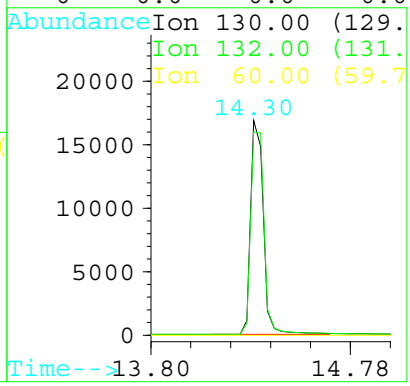




#5
Trichloroethene
Concen: 0.65 ppbV
RT: 14.30 min Scan# 715
Delta R.T. 0.04 min
Lab File: QC12150B.D
Acq: 15 Dec 110 11:10 am

Tgt Ion:130 Resp: 73012

Ion	Ratio	Lower	Upper
130	100		
132	94.7	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048608A.D
Acq Time : 15 Dec 110 2:17 pm Operator: KT
Sample : OA-AB-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

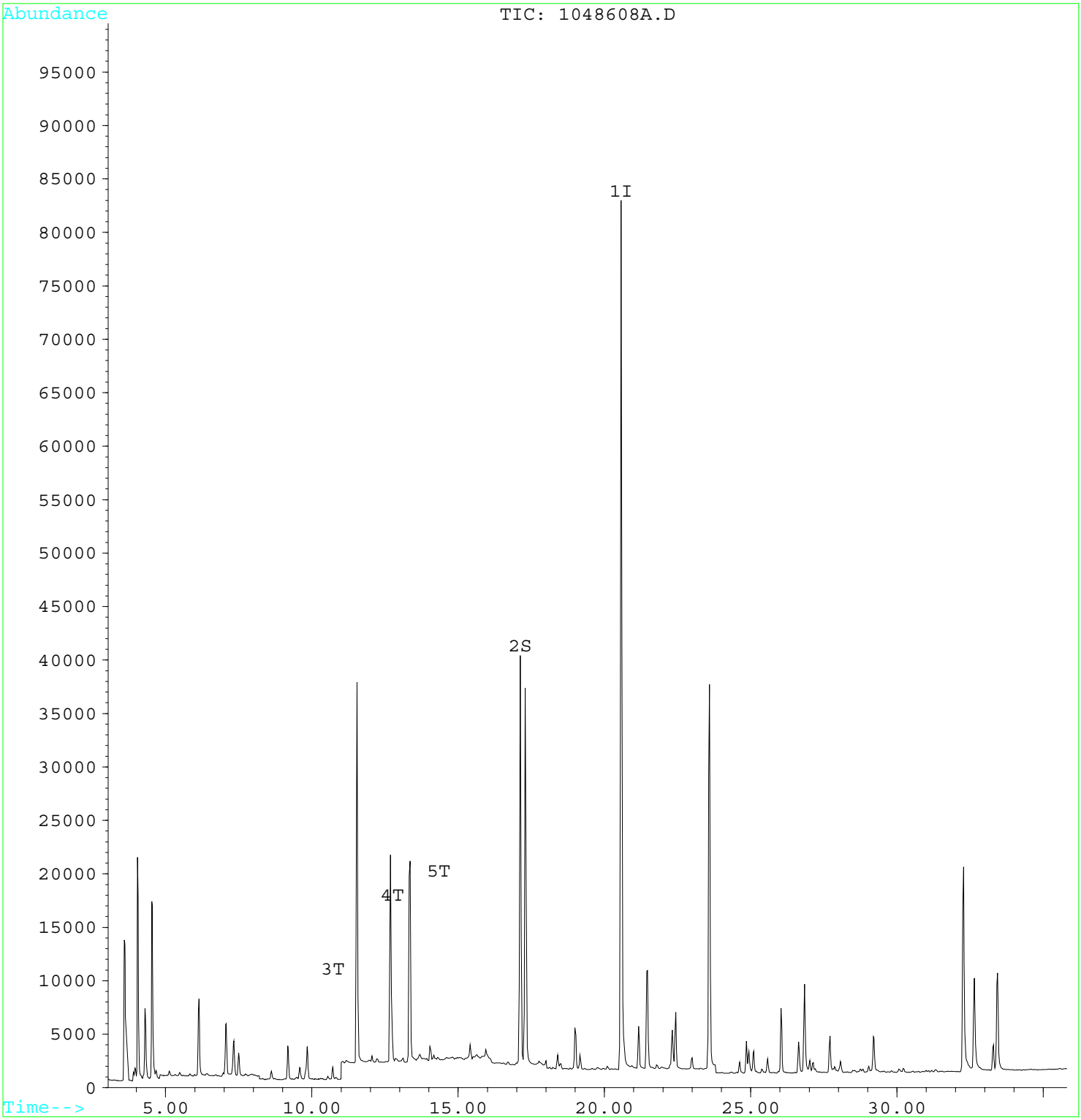
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	177389	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	61848	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.71	83	2243	0.01	ppbV	99
4) Carbon tetrachloride	12.76	117	3458	0.03	ppbV	97
5) Trichloroethene	14.33	130	248	0.00	ppbV	93

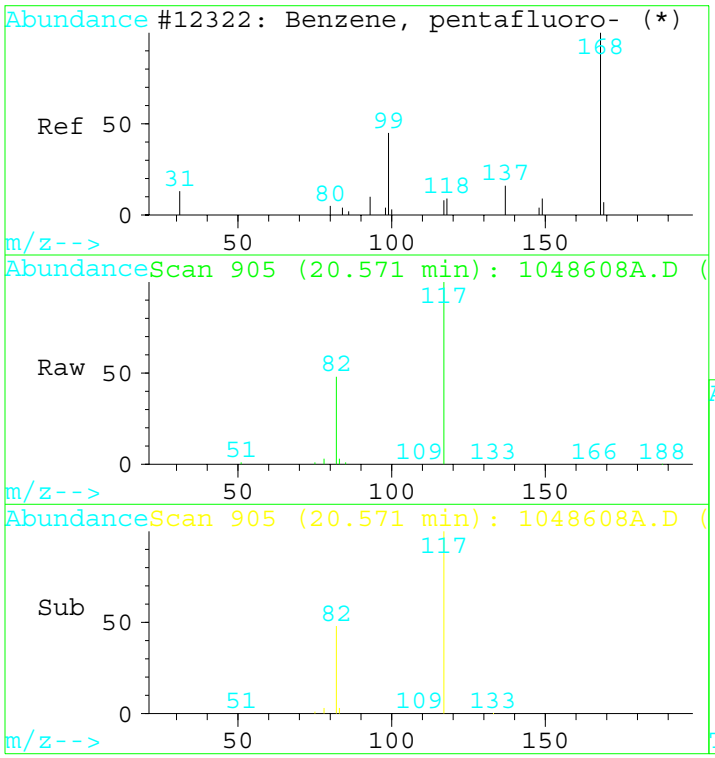
(#) = qualifier out of range (m) = manual integration
1048608A.D CNTHG_A.M Mon Dec 20 12:37:05 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048608A.D
Acq Time : 15 Dec 110 2:17 pm Operator: KT
Sample : OA-AB-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

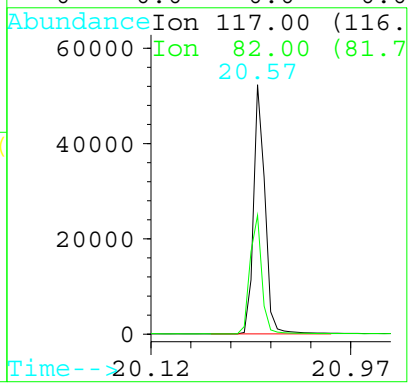


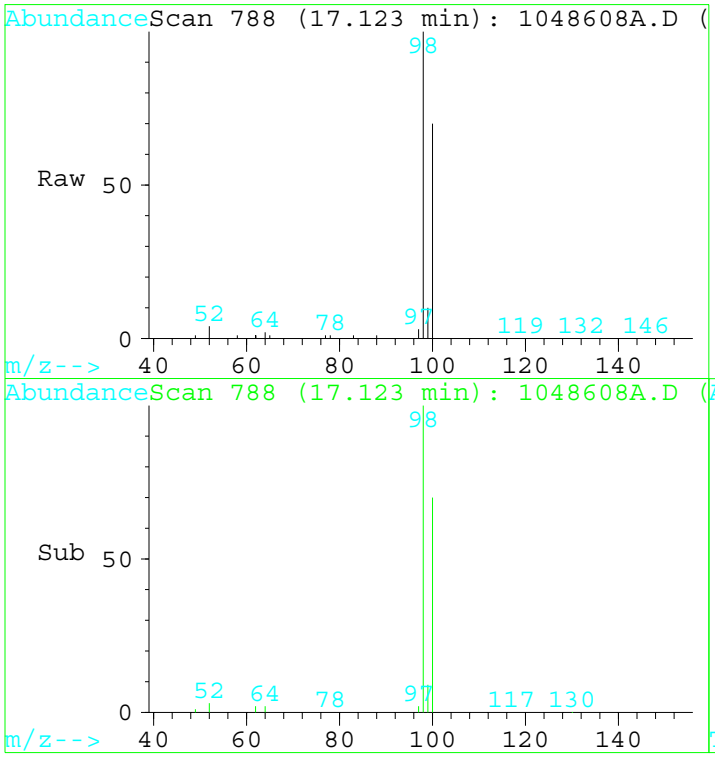


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048608A.D
Acq: 15 Dec 110 2:17 pm

Tgt Ion:117 Resp: 177389

Ion	Ratio	Lower	Upper
117	100		
82	47.6	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

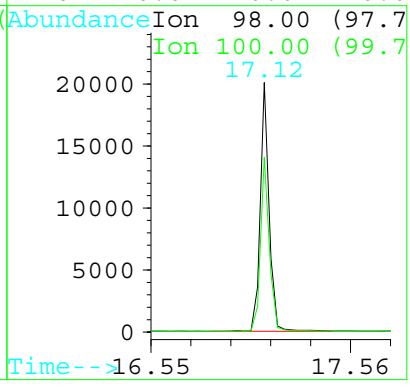


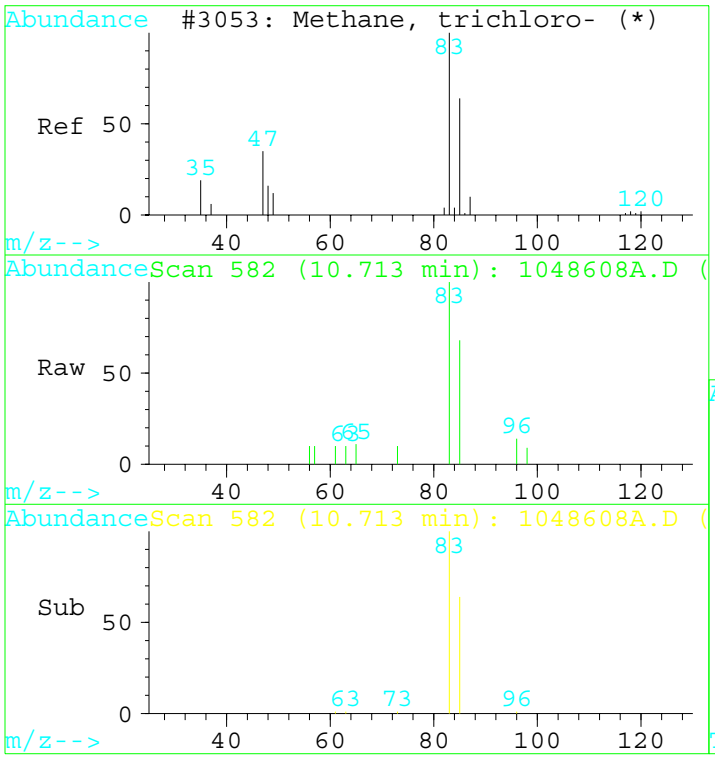


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.12 min Scan# 788
Delta R.T. 0.07 min
Lab File: 1048608A.D
Acq: 15 Dec 110 2:17 pm

Tgt Ion:98 Resp: 61848

Ion	Ratio	Lower	Upper
98	100		
100	69.6	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

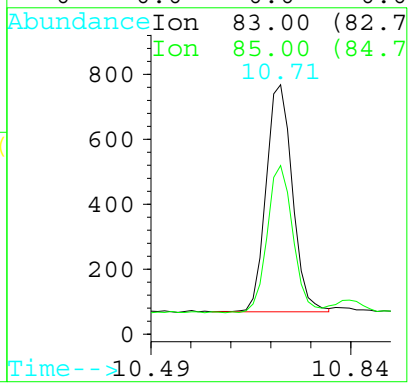


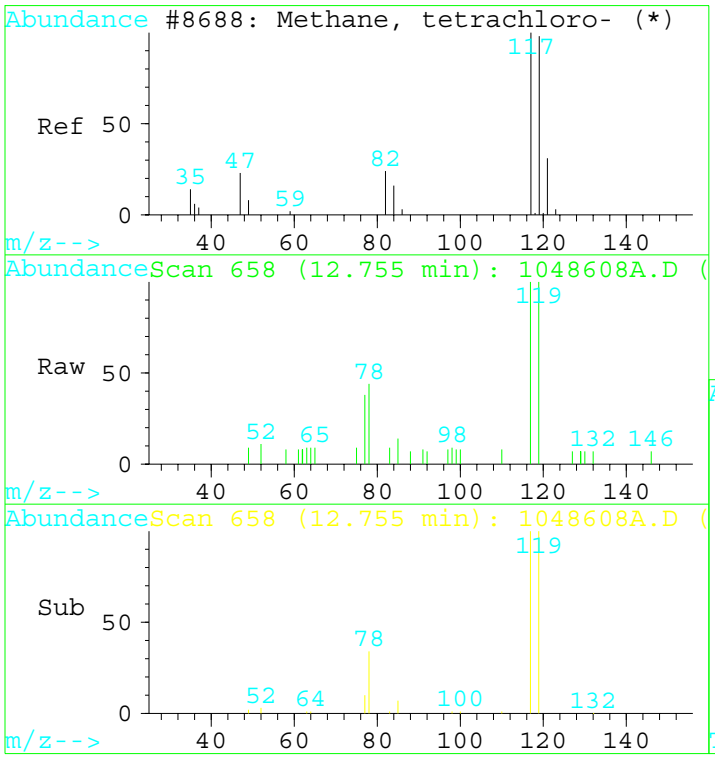


#3
Chloroform
Concen: 0.01 ppbV
RT: 10.71 min Scan# 582
Delta R.T. 0.05 min
Lab File: 1048608A.D
Acq: 15 Dec 110 2:17 pm

Tgt Ion:83 Resp: 2243

Ion	Ratio	Lower	Upper
83	100		
85	63.5	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

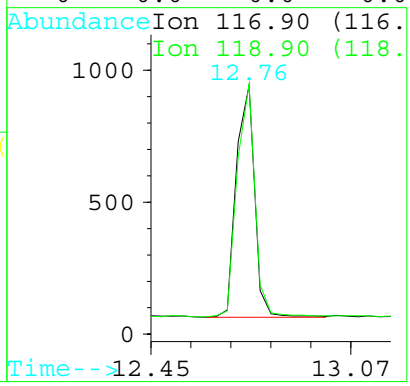


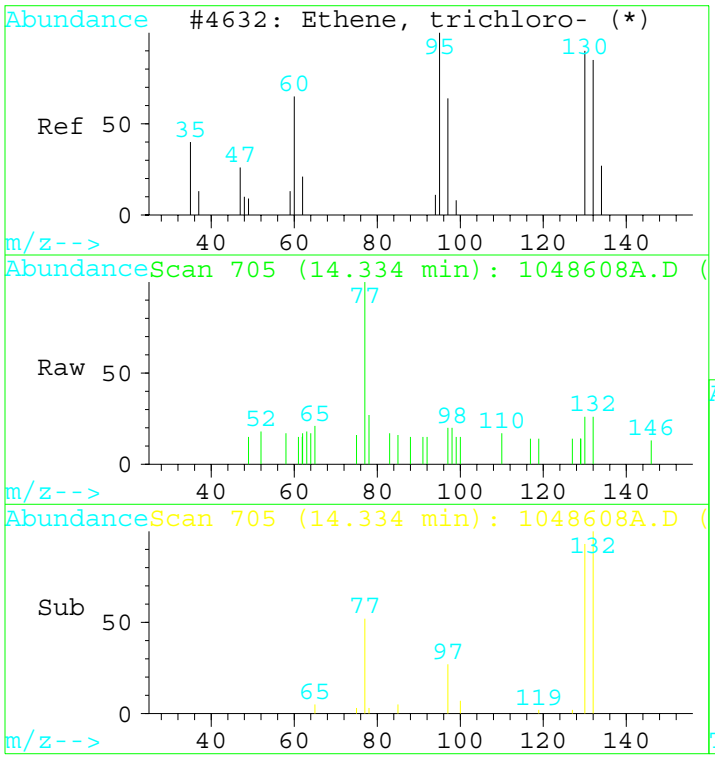


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.76 min Scan# 658
Delta R.T. 0.10 min
Lab File: 1048608A.D
Acq: 15 Dec 110 2:17 pm

Tgt Ion:116.9 Resp: 3458

Ion	Ratio	Lower	Upper
117	100		
119	100.1	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

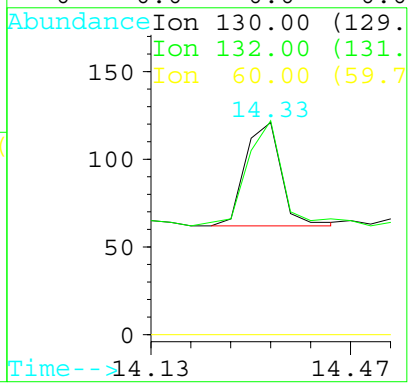




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.33 min Scan# 705
Delta R.T. 0.07 min
Lab File: 1048608A.D
Acq: 15 Dec 110 2:17 pm

Tgt Ion:130 Resp: 248

Ion	Ratio	Lower	Upper
130	100		
132	98.3	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048609A.D
Acq Time : 15 Dec 110 3:01 pm Operator: KT
Sample : IA-U3-O4-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

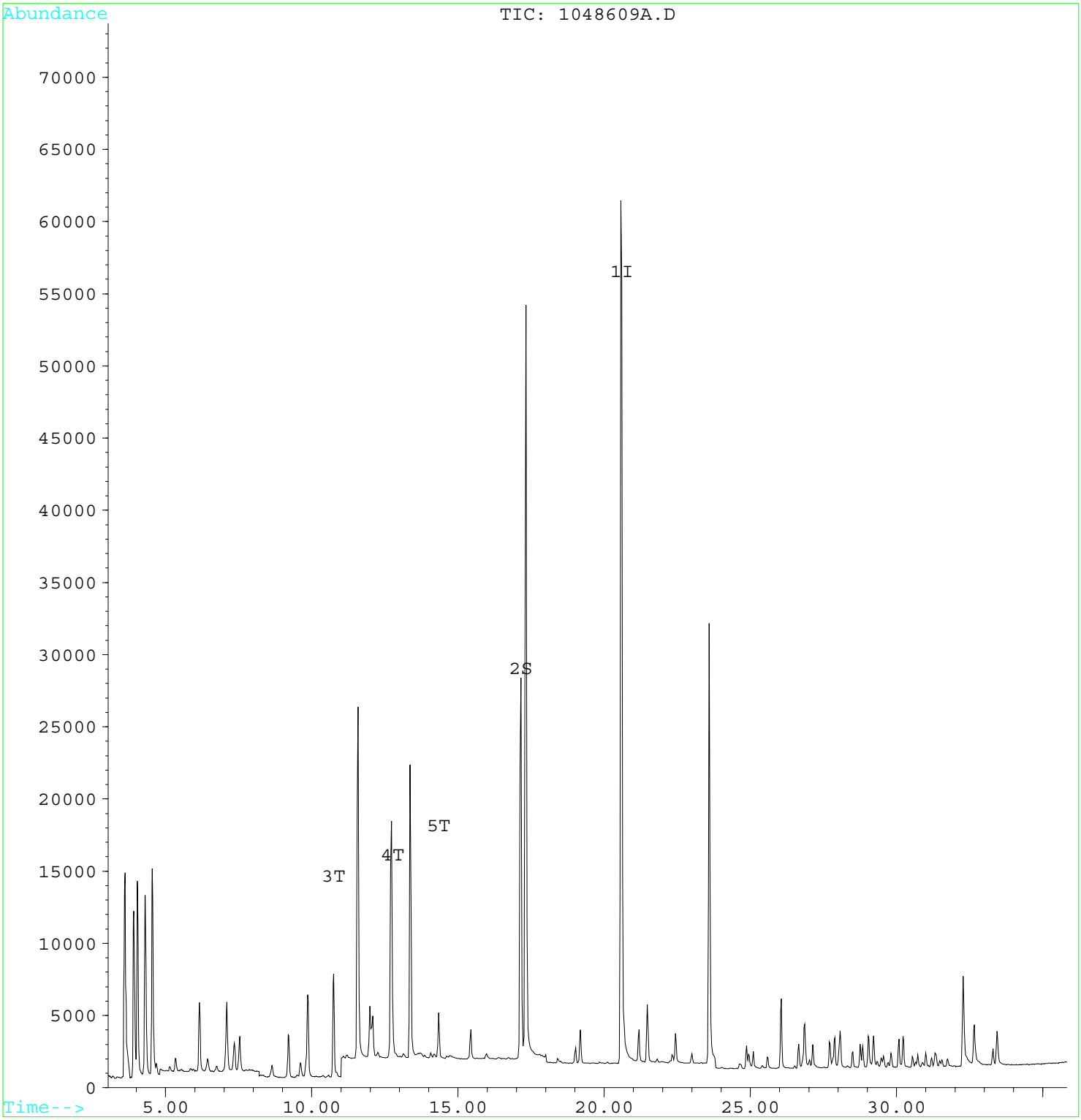
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	160611	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.16	98	56492	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.74	83	15609	0.09	ppbV	99
4) Carbon tetrachloride	12.76	117	1854	0.02	ppbV	94
5) Trichloroethene	14.34	130	3601	0.04	ppbV	97

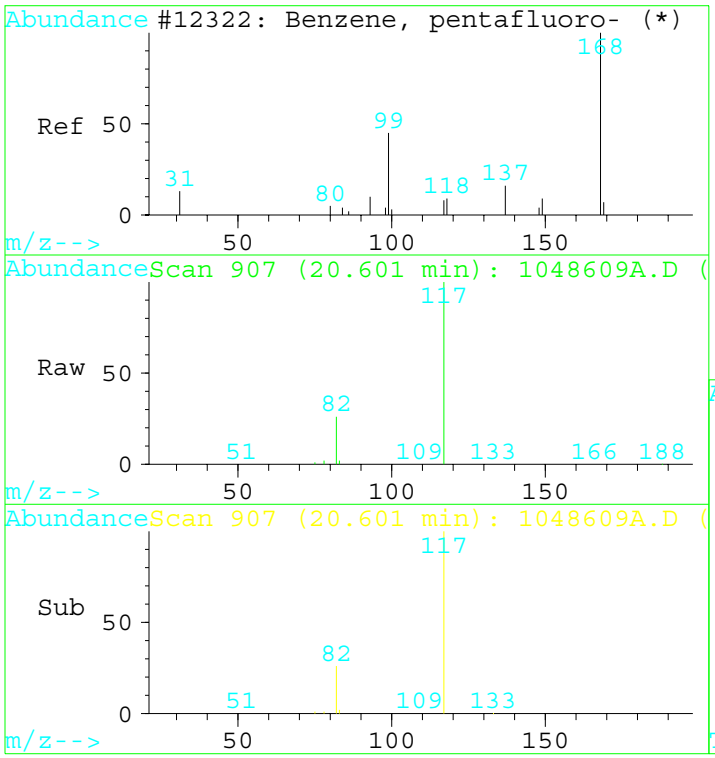
(#) = qualifier out of range (m) = manual integration
1048609A.D CNTHG_A.M Mon Dec 20 12:37:31 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048609A.D
Acq Time : 15 Dec 110 3:01 pm Operator: KT
Sample : IA-U3-O4-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

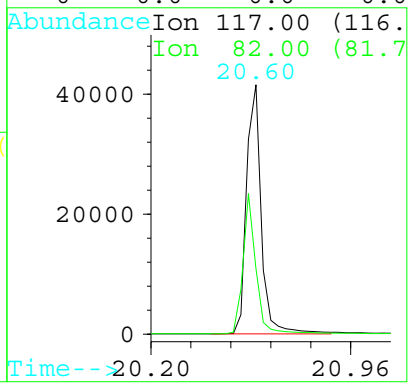


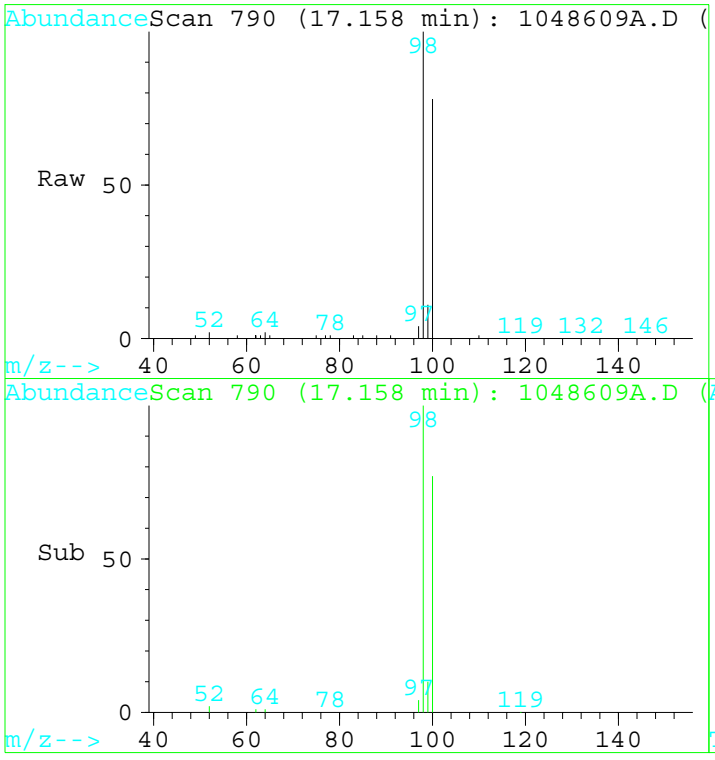


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 907
Delta R.T. 0.09 min
Lab File: 1048609A.D
Acq: 15 Dec 110 3:01 pm

Tgt Ion:117 Resp: 160611

Ion	Ratio	Lower	Upper
117	100		
82	26.0	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

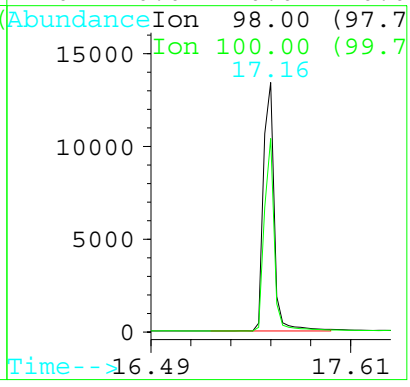


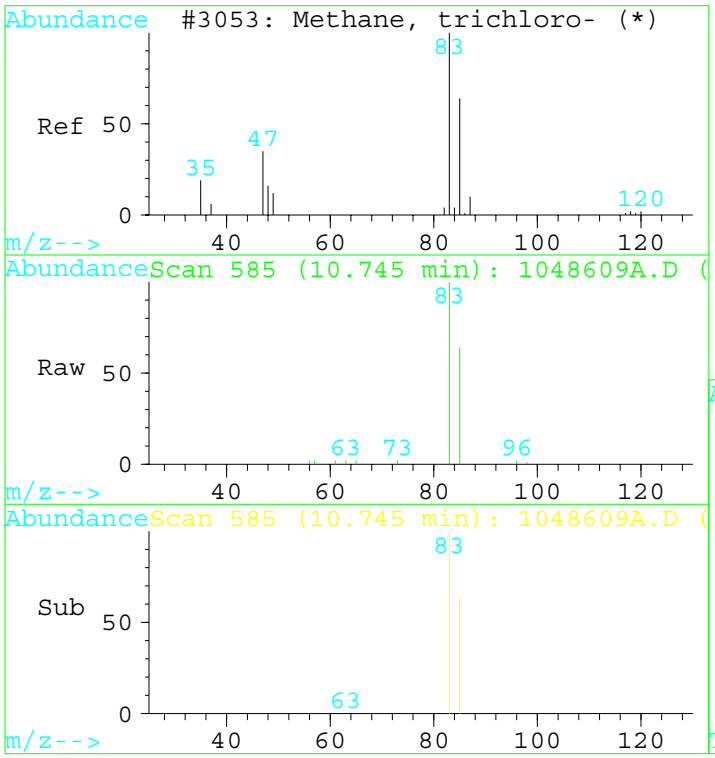


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.16 min Scan# 790
Delta R.T. 0.11 min
Lab File: 1048609A.D
Acq: 15 Dec 110 3:01 pm

Tgt Ion:98 Resp: 56492

Ion	Ratio	Lower	Upper
98	100		
100	71.0	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

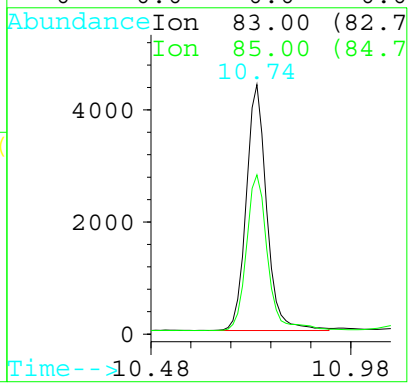


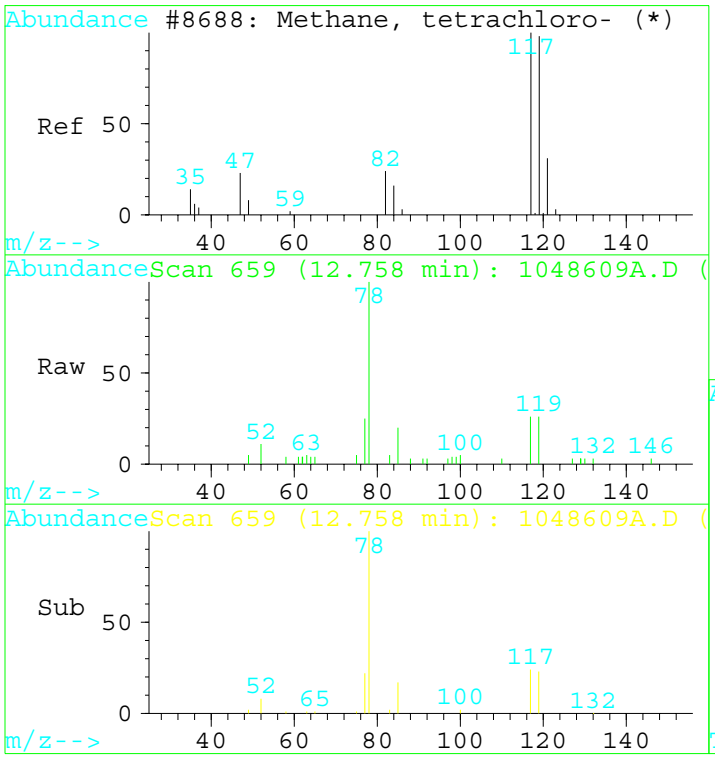


#3
Chloroform
Concen: 0.09 ppbV
RT: 10.74 min Scan# 585
Delta R.T. 0.08 min
Lab File: 1048609A.D
Acq: 15 Dec 110 3:01 pm

Tgt Ion:83 Resp: 15609

Ion	Ratio	Lower	Upper
83	100		
85	63.3	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

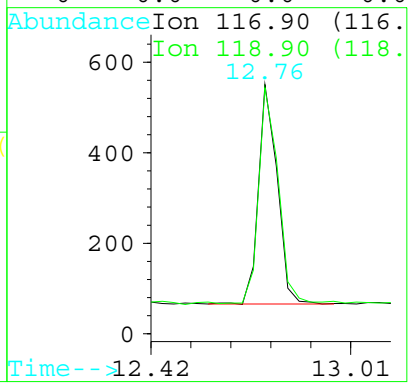


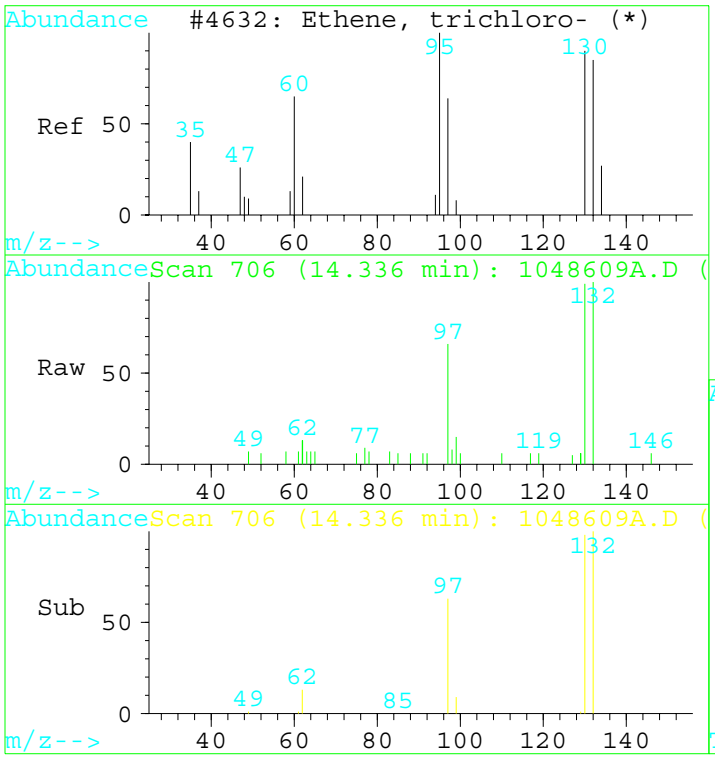


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.76 min Scan# 659
Delta R.T. 0.10 min
Lab File: 1048609A.D
Acq: 15 Dec 110 3:01 pm

Tgt Ion:116.9 Resp: 1854

Ion	Ratio	Lower	Upper
117	100		
119	97.6	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

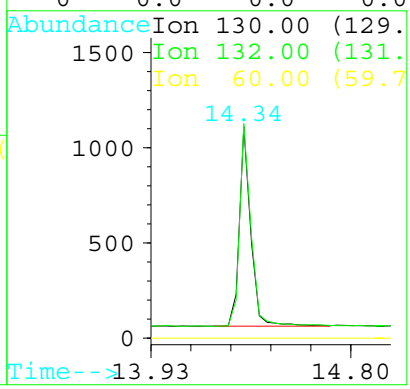




#5
Trichloroethene
Concen: 0.04 ppbV
RT: 14.34 min Scan# 706
Delta R.T. 0.08 min
Lab File: 1048609A.D
Acq: 15 Dec 110 3:01 pm

Tgt Ion:130 Resp: 3601

Ion	Ratio	Lower	Upper
130	100		
132	101.5	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048610A.D
Acq Time : 15 Dec 110 3:45 pm Operator: KT
Sample : IA-U3-O5-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

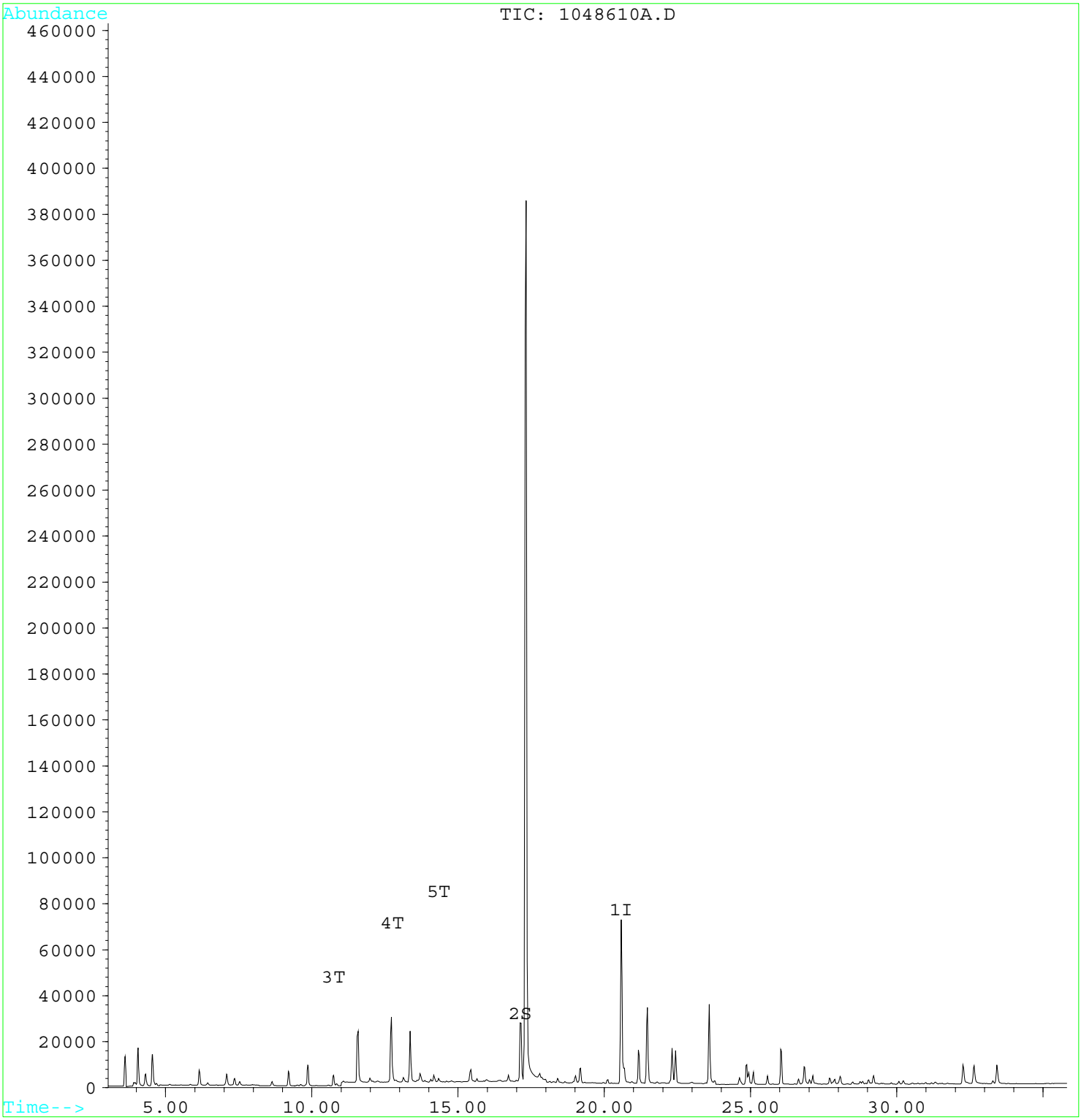
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	167116	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	60751	0.21	ppbV	#
Target Compounds						Qvalue
3) Chloroform	10.74	83	9959	0.06	ppbV	98
4) Carbon tetrachloride	12.76	117	3441	0.03	ppbV	96
5) Trichloroethene	14.34	130	1694	0.02	ppbV	93

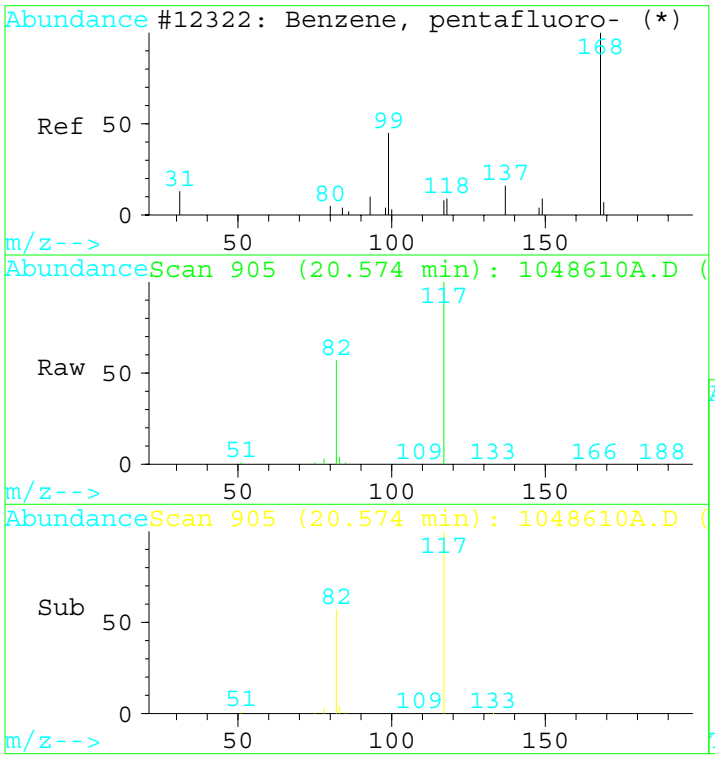
(#) = qualifier out of range (m) = manual integration
1048610A.D CNTHG_A.M Mon Dec 20 12:38:13 2010

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048610A.D
Acq Time : 15 Dec 110 3:45 pm Operator: KT
Sample : IA-U3-O5-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

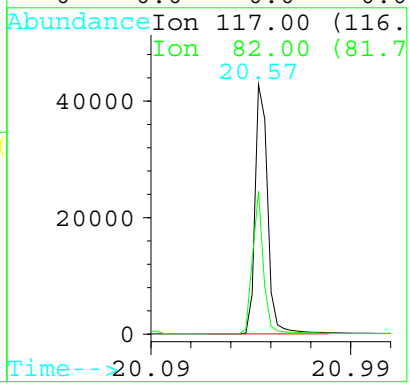


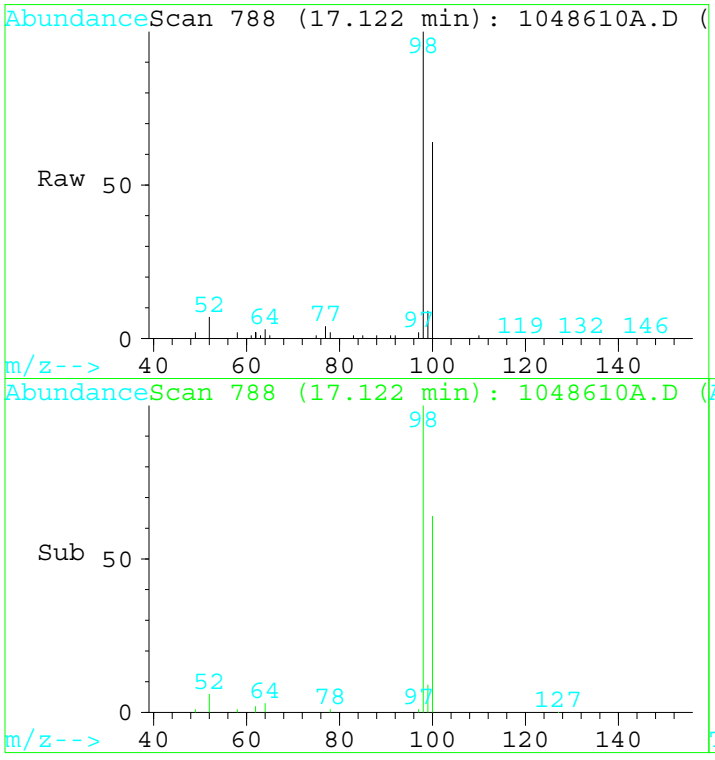


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048610A.D
Acq: 15 Dec 110 3:45 pm

Tgt Ion:117 Resp: 167116

Ion	Ratio	Lower	Upper
117	100		
82	57.2	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

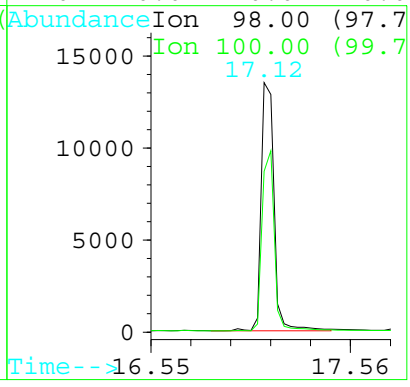


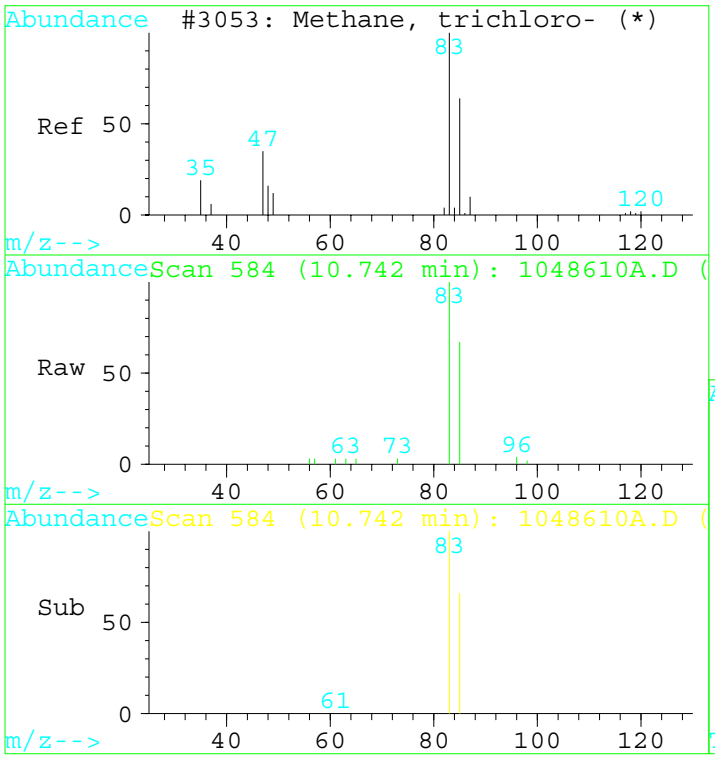


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 788
Delta R.T. 0.07 min
Lab File: 1048610A.D
Acq: 15 Dec 110 3:45 pm

Tgt Ion:98 Resp: 60751

Ion	Ratio	Lower	Upper
98	100		
100	0.0	56.8	85.2#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

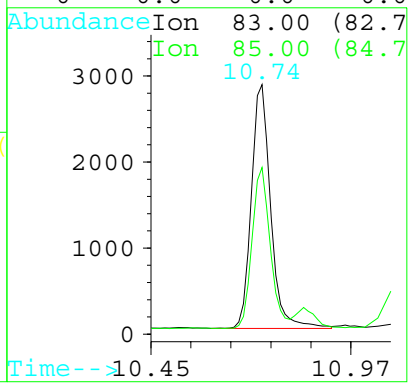


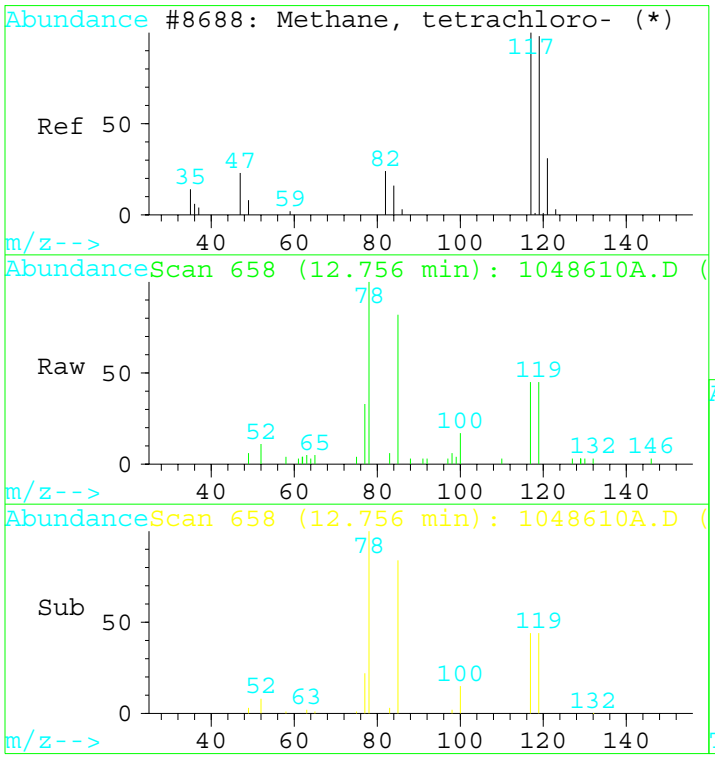


#3
Chloroform
Concen: 0.06 ppbV
RT: 10.74 min Scan# 584
Delta R.T. 0.08 min
Lab File: 1048610A.D
Acq: 15 Dec 110 3:45 pm

Tgt Ion:83 Resp: 9959

Ion	Ratio	Lower	Upper
83	100		
85	65.9	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

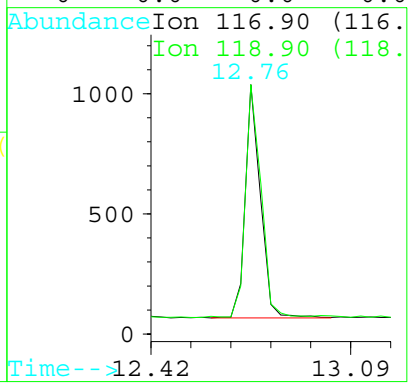


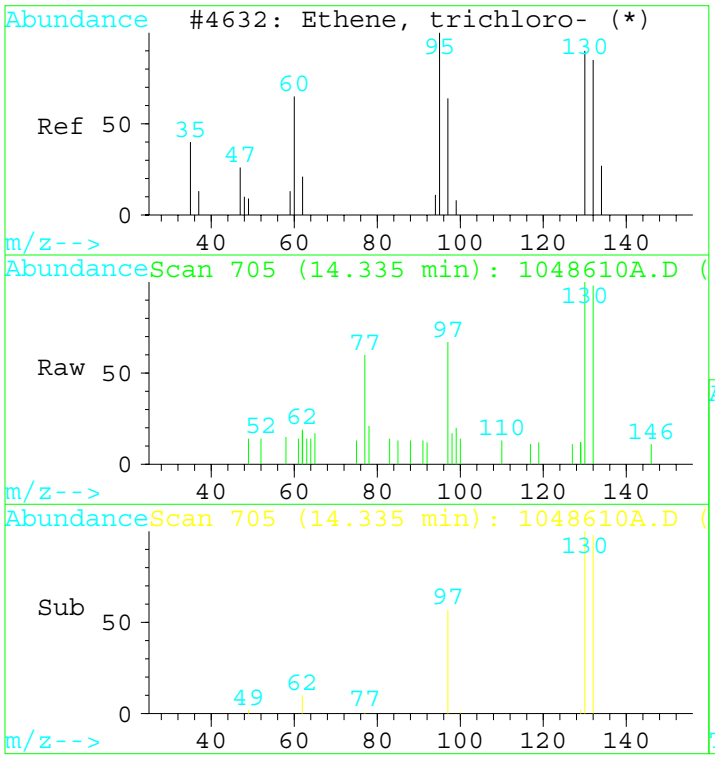


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.76 min Scan# 658
Delta R.T. 0.10 min
Lab File: 1048610A.D
Acq: 15 Dec 110 3:45 pm

Tgt Ion:116.9 Resp: 3441

Ion	Ratio	Lower	Upper
117	100		
119	99.3	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

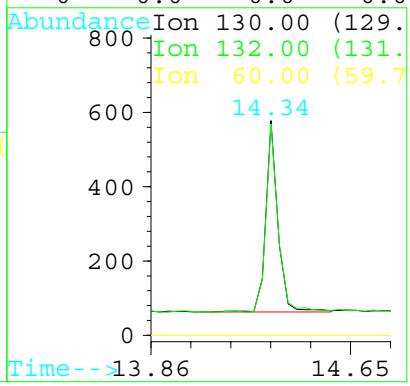




#5
Trichloroethene
Concen: 0.02 ppbV
RT: 14.34 min Scan# 705
Delta R.T. 0.08 min
Lab File: 1048610A.D
Acq: 15 Dec 110 3:45 pm

Tgt Ion:130 Resp: 1694

Ion	Ratio	Lower	Upper
130	100		
132	98.1	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048611A.D
Acq Time : 15 Dec 110 4:31 pm Operator: KT
Sample : IA-U3-O2-003 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

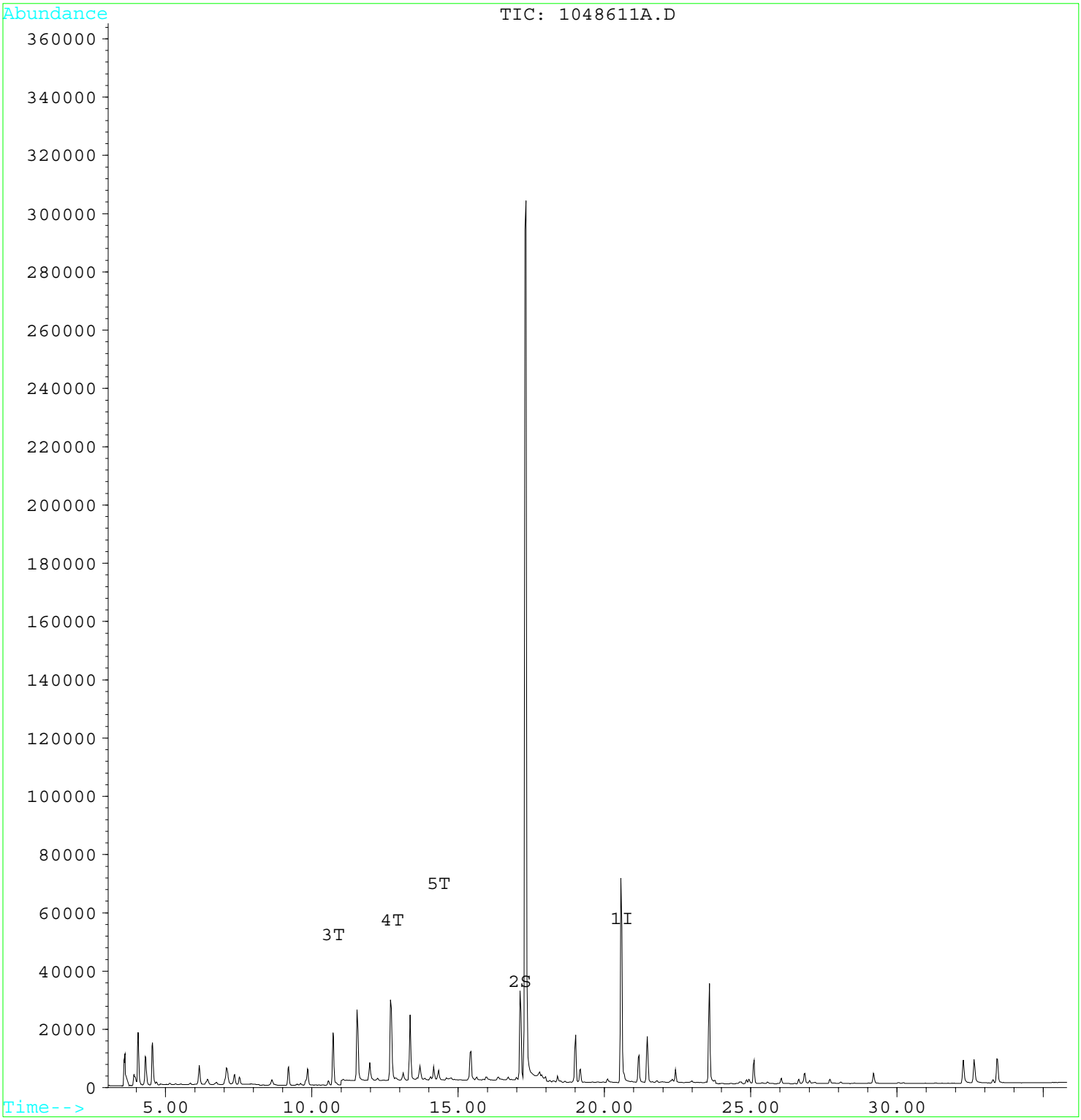
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.59	117	168544	0.20	ppbV	0.08
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	62707	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	39111	0.23	ppbV	100
4) Carbon tetrachloride	12.75	117	3673	0.03	ppbV	95
5) Trichloroethene	14.33	130	3767	0.04	ppbV	97

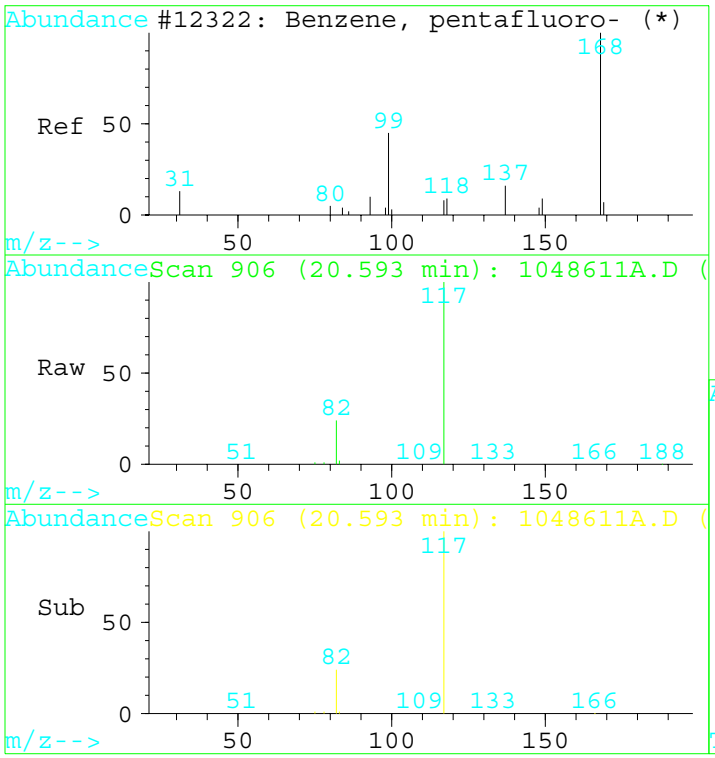
(#) = qualifier out of range (m) = manual integration
1048611A.D CNTHG_A.M Mon Dec 20 12:38:45 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048611A.D
Acq Time : 15 Dec 110 4:31 pm Operator: KT
Sample : IA-U3-O2-003 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

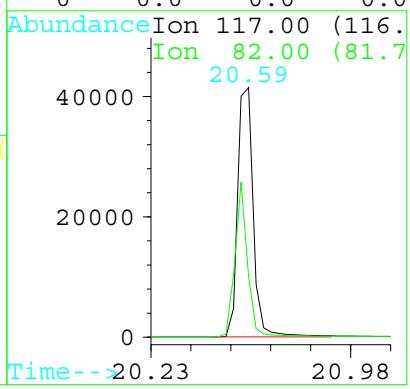


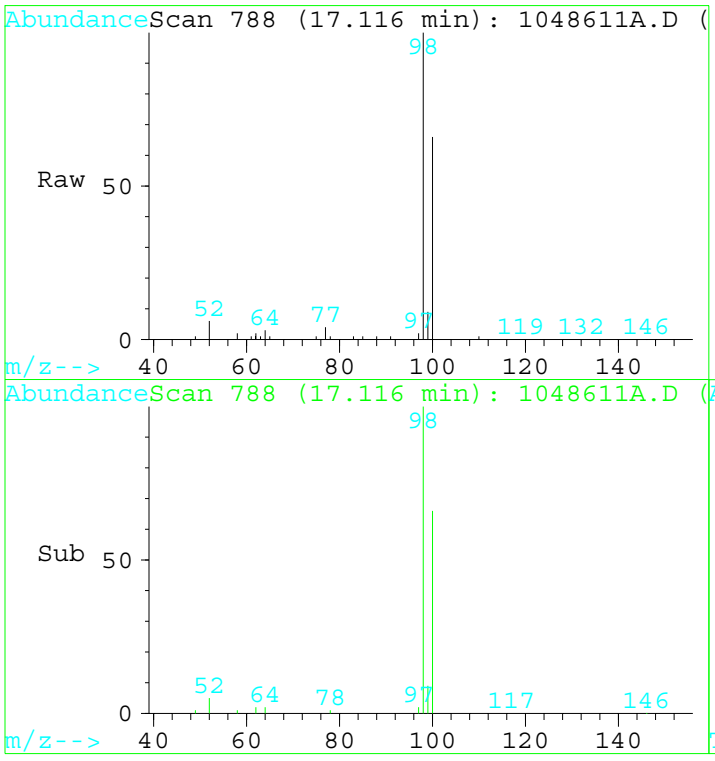


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.59 min Scan# 906
Delta R.T. 0.08 min
Lab File: 1048611A.D
Acq: 15 Dec 110 4:31 pm

Tgt Ion:117 Resp: 168544

Ion	Ratio	Lower	Upper
117	100		
82	24.1	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

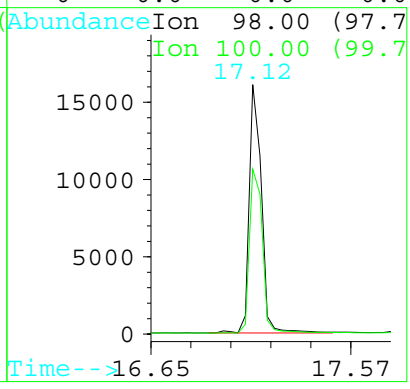


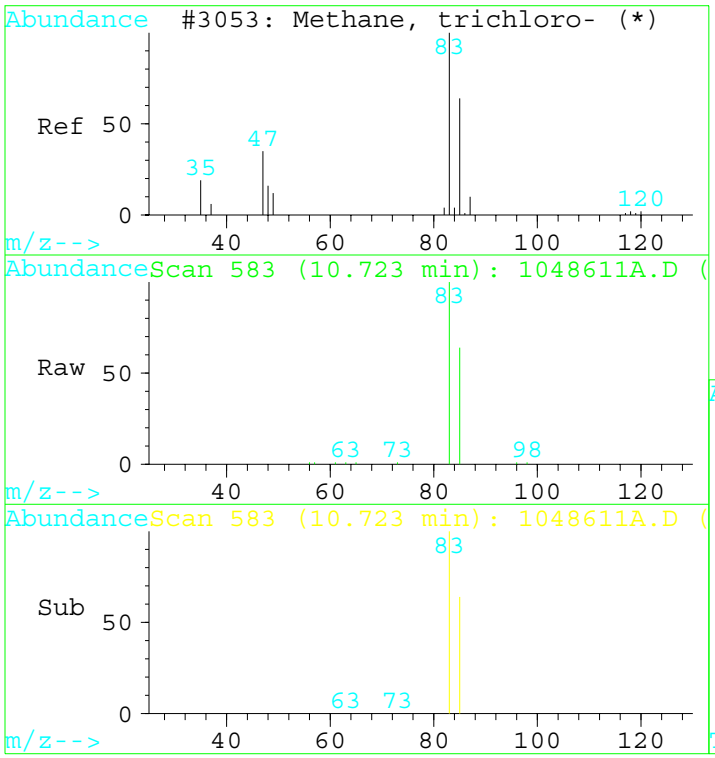


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 788
Delta R.T. 0.07 min
Lab File: 1048611A.D
Acq: 15 Dec 110 4:31 pm

Tgt Ion:98 Resp: 62707

Ion	Ratio	Lower	Upper
98	100		
100	70.2	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

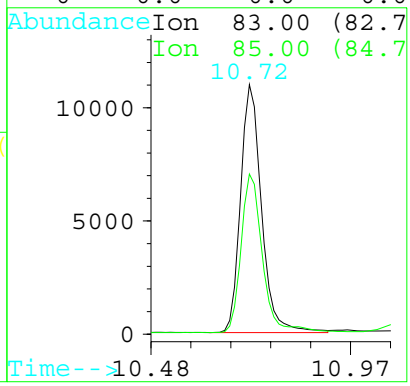


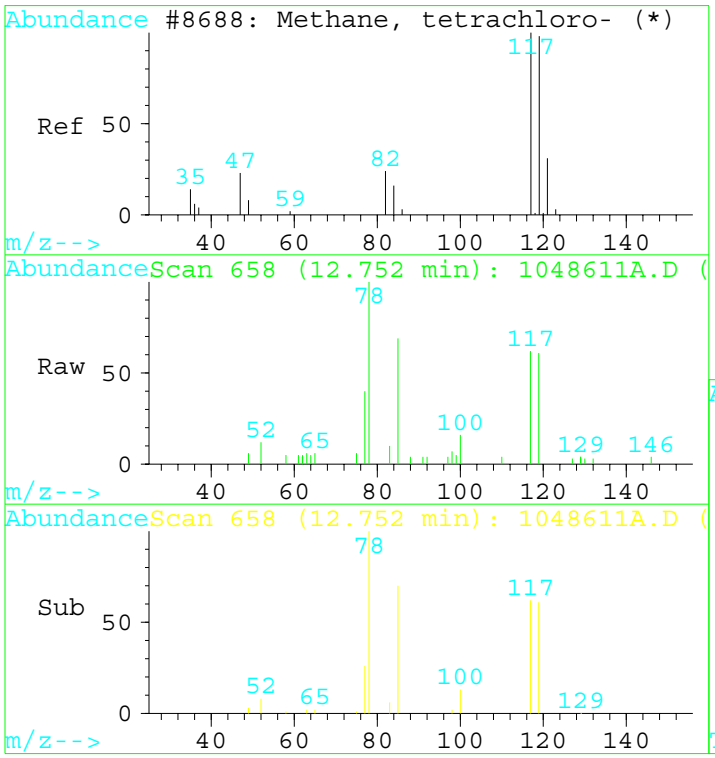


#3
Chloroform
Concen: 0.23 ppbV
RT: 10.72 min Scan# 583
Delta R.T. 0.06 min
Lab File: 1048611A.D
Acq: 15 Dec 110 4:31 pm

Tgt Ion:83 Resp: 39111

Ion	Ratio	Lower	Upper
83	100		
85	63.9	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

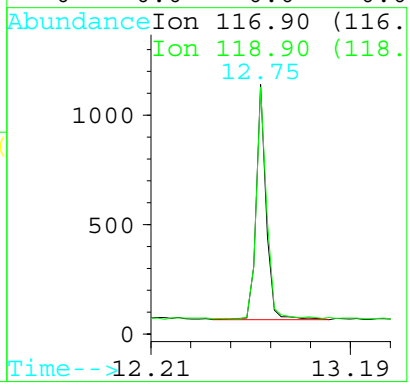


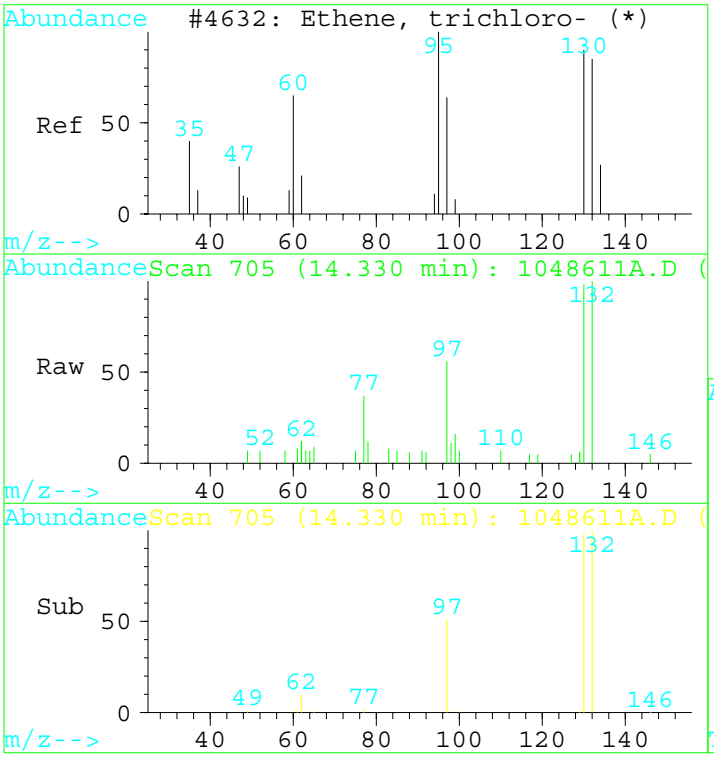


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.75 min Scan# 658
Delta R.T. 0.09 min
Lab File: 1048611A.D
Acq: 15 Dec 110 4:31 pm

Tgt Ion:116.9 Resp: 3673

Ion	Ratio	Lower	Upper
117	100		
119	98.2	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

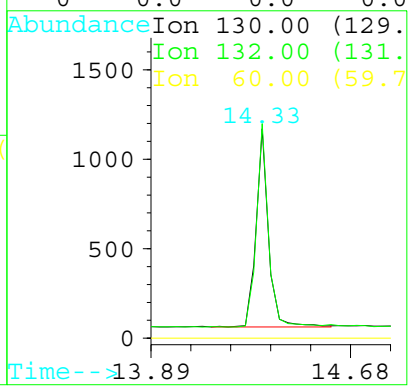




#5
Trichloroethene
Concen: 0.04 ppbV
RT: 14.33 min Scan# 705
Delta R.T. 0.07 min
Lab File: 1048611A.D
Acq: 15 Dec 110 4:31 pm

Tgt Ion:130 Resp: 3767

Ion	Ratio	Lower	Upper
130	100		
132	102.1	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048612A.D
Acq Time : 15 Dec 110 5:24 pm Operator: JF
Sample : OA-U3-AI-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

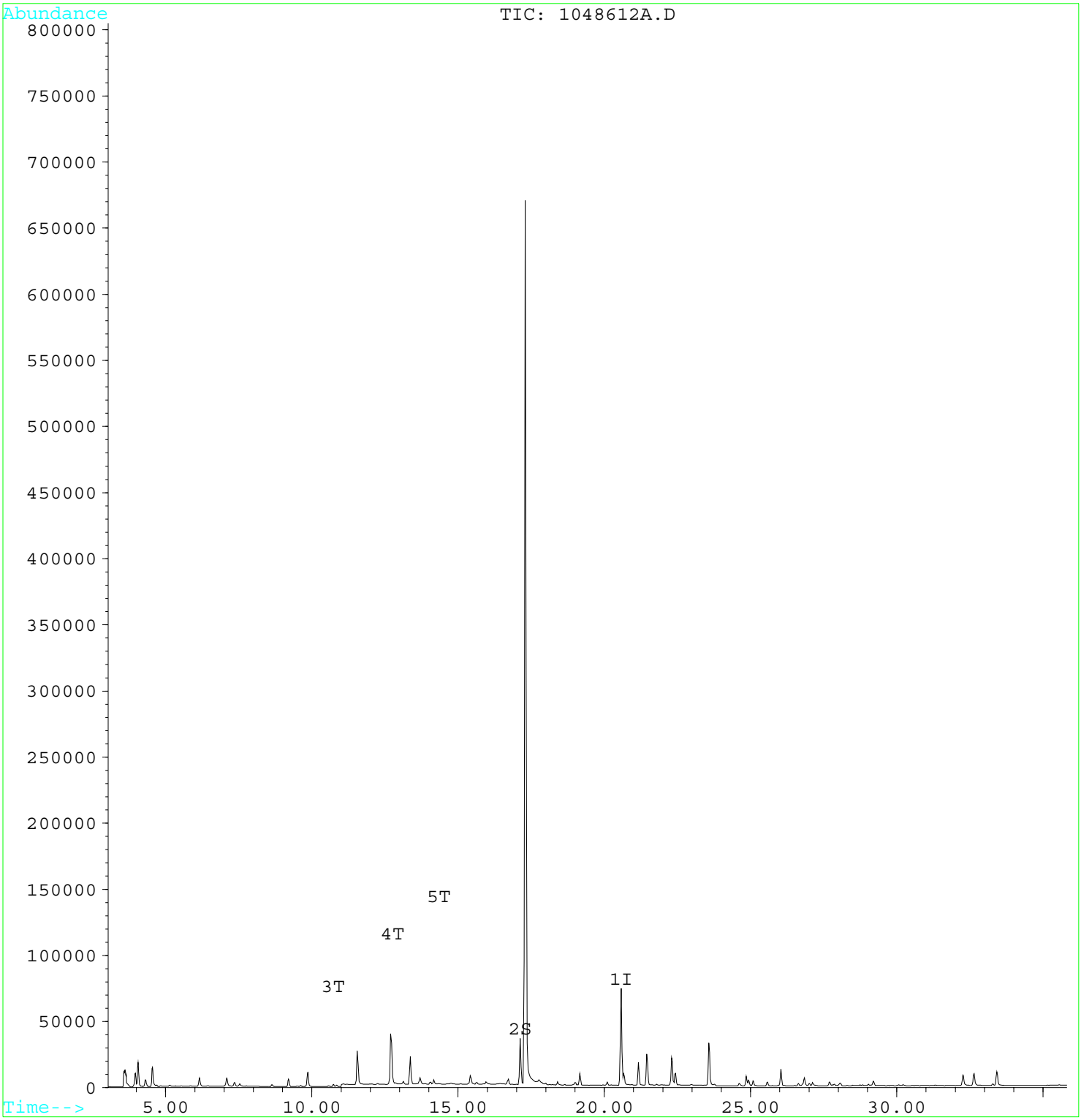
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.58	117	164776	0.20	ppbV	0.07
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	59624	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.73	83	3323	0.02	ppbV	95
4) Carbon tetrachloride	12.76	117	2794	0.02	ppbV	98
5) Trichloroethene	14.34	130	397	0.00	ppbV	93

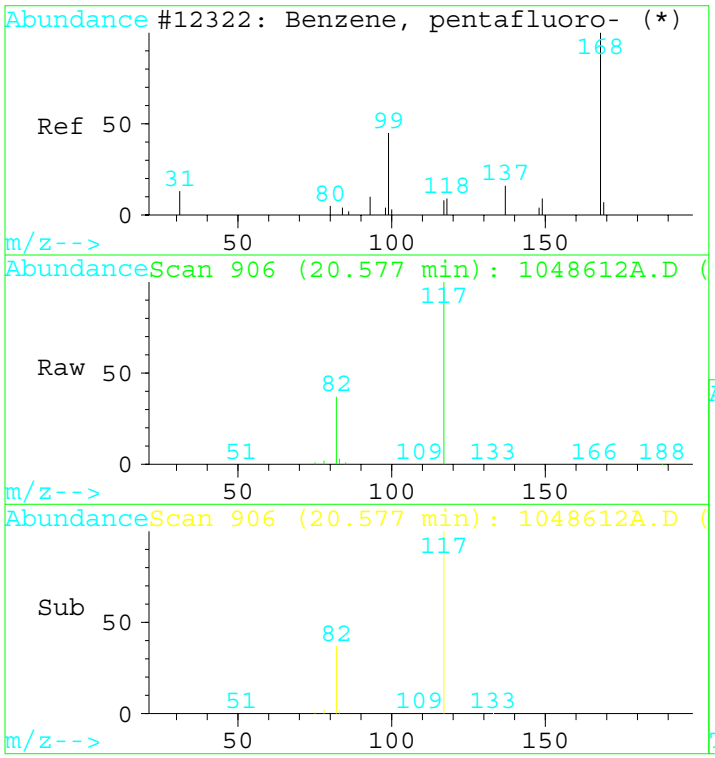
(#) = qualifier out of range (m) = manual integration
1048612A.D CNTHG_A.M Mon Dec 20 12:39:17 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048612A.D
Acq Time : 15 Dec 110 5:24 pm Operator: JF
Sample : OA-U3-AI-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

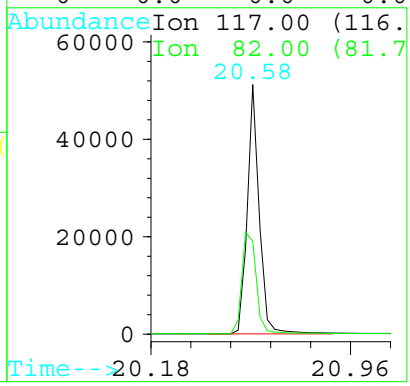


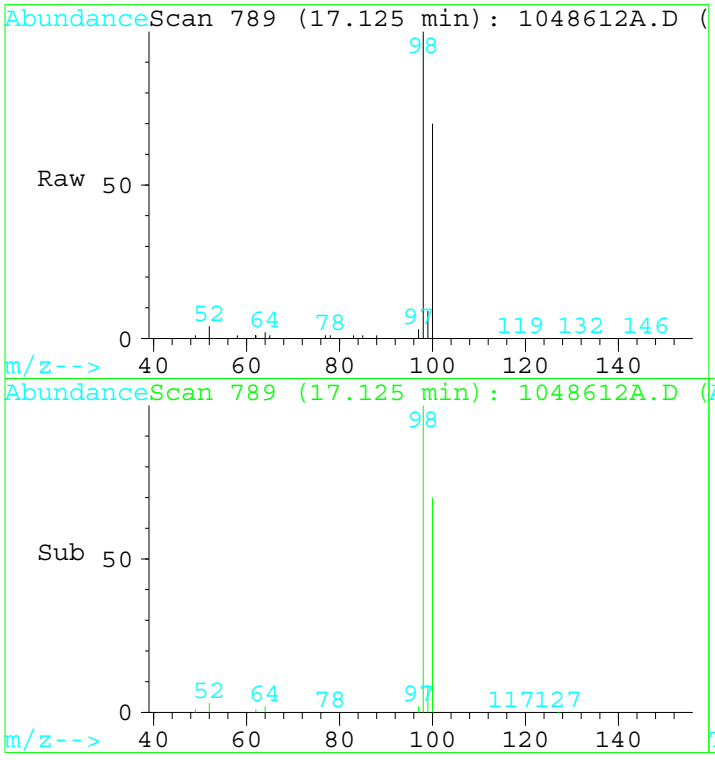


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 906
Delta R.T. 0.07 min
Lab File: 1048612A.D
Acq: 15 Dec 110 5:24 pm

Tgt Ion:117 Resp: 164776

Ion	Ratio	Lower	Upper
117	100		
82	37.1	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

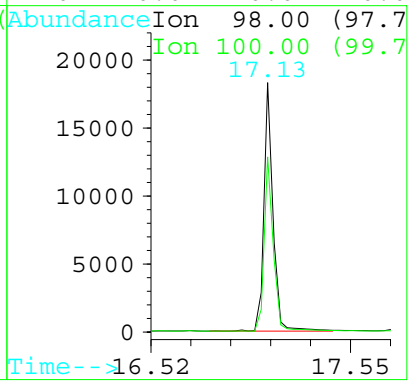


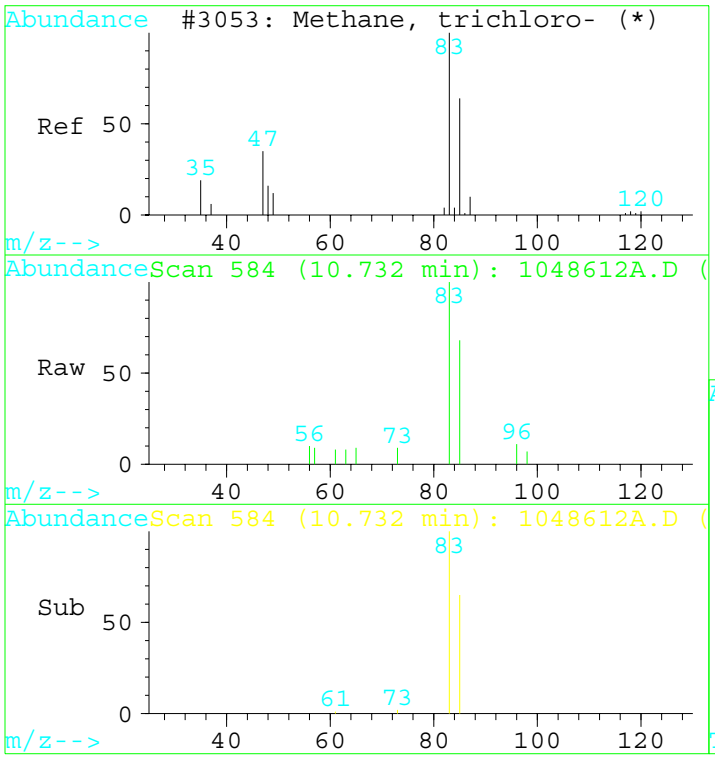


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.13 min Scan# 789
Delta R.T. 0.08 min
Lab File: 1048612A.D
Acq: 15 Dec 110 5:24 pm

Tgt Ion:98 Resp: 59624

Ion	Ratio	Lower	Upper
98	100		
100	70.6	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

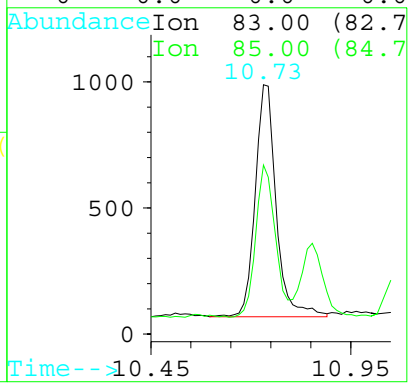


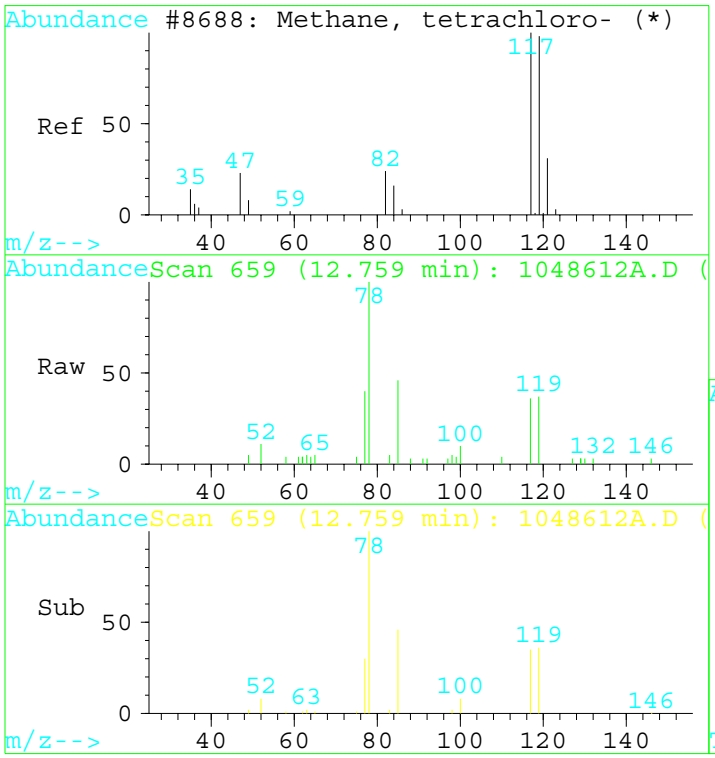


#3
Chloroform
Concen: 0.02 ppbV
RT: 10.73 min Scan# 584
Delta R.T. 0.07 min
Lab File: 1048612A.D
Acq: 15 Dec 110 5:24 pm

Tgt Ion:83 Resp: 3323

Ion	Ratio	Lower	Upper
83	100		
85	60.1	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

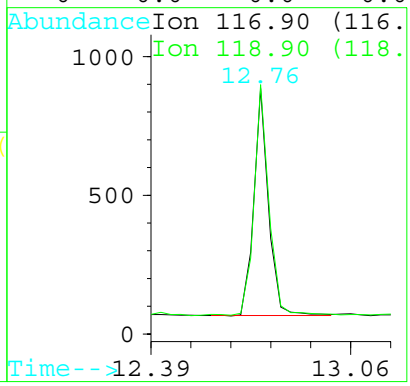


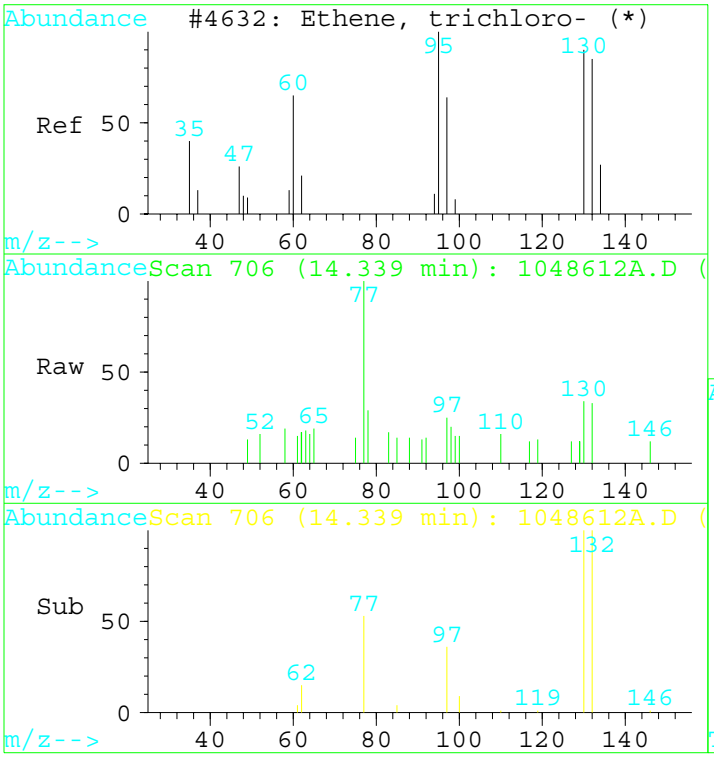


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.76 min Scan# 659
Delta R.T. 0.10 min
Lab File: 1048612A.D
Acq: 15 Dec 110 5:24 pm

Tgt Ion:116.9 Resp: 2794

Ion	Ratio	Lower	Upper
117	100		
119	101.3	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

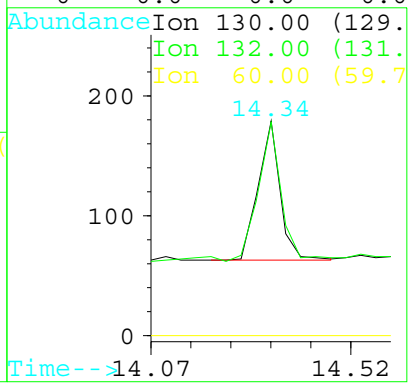




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.34 min Scan# 706
Delta R.T. 0.08 min
Lab File: 1048612A.D
Acq: 15 Dec 110 5:24 pm

Tgt Ion:130 Resp: 397

Ion	Ratio	Lower	Upper
130	100		
132	97.4	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048613A.D
Acq Time : 15 Dec 110 6:07 pm Operator: JF
Sample : IA-AB-O1-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

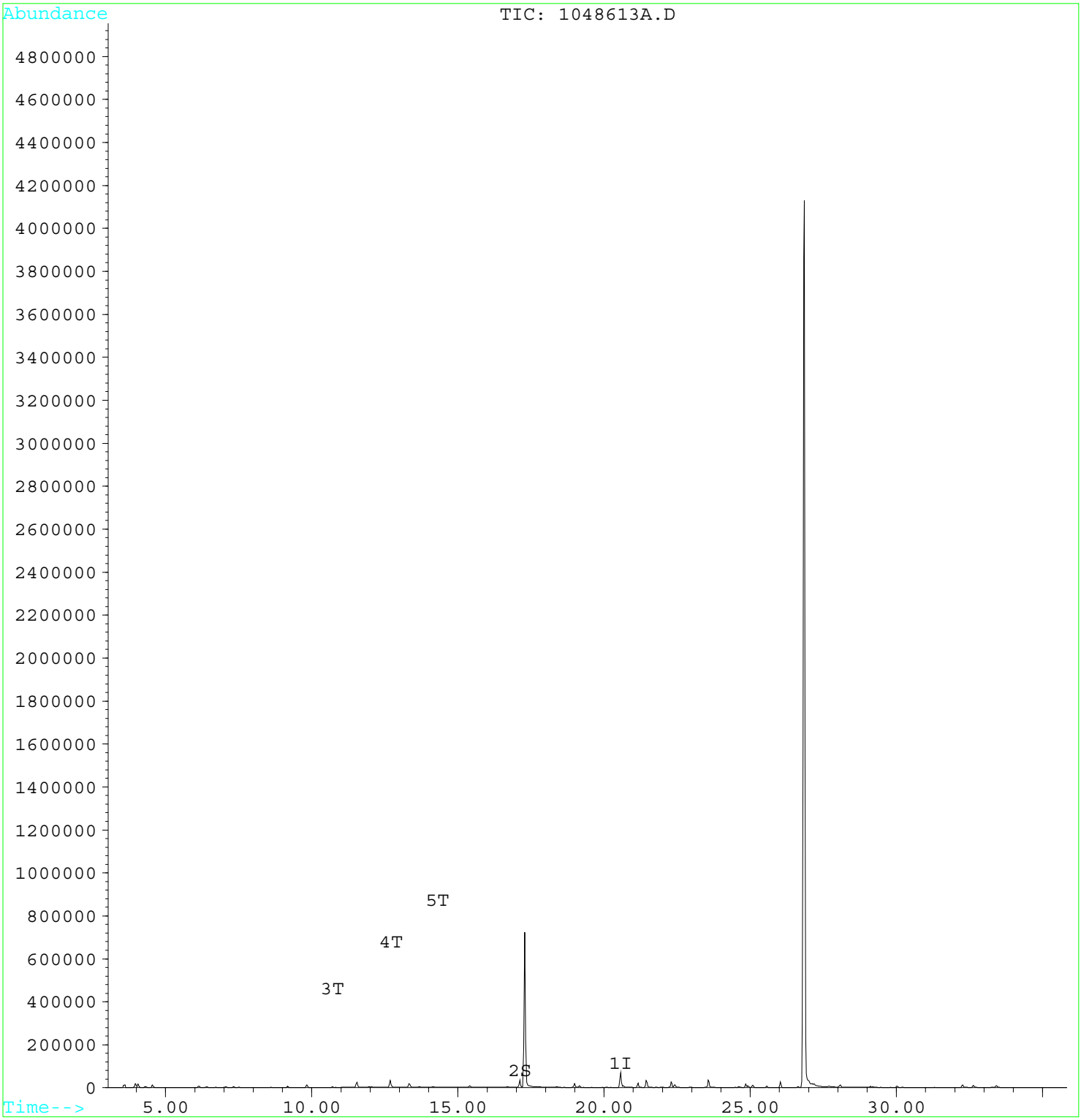
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	158464	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	58573	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.70	83	8171	0.05	ppbV	99
4) Carbon tetrachloride	12.72	117	4829	0.04	ppbV	90
5) Trichloroethene	14.30	130	558	0.01	ppbV	96

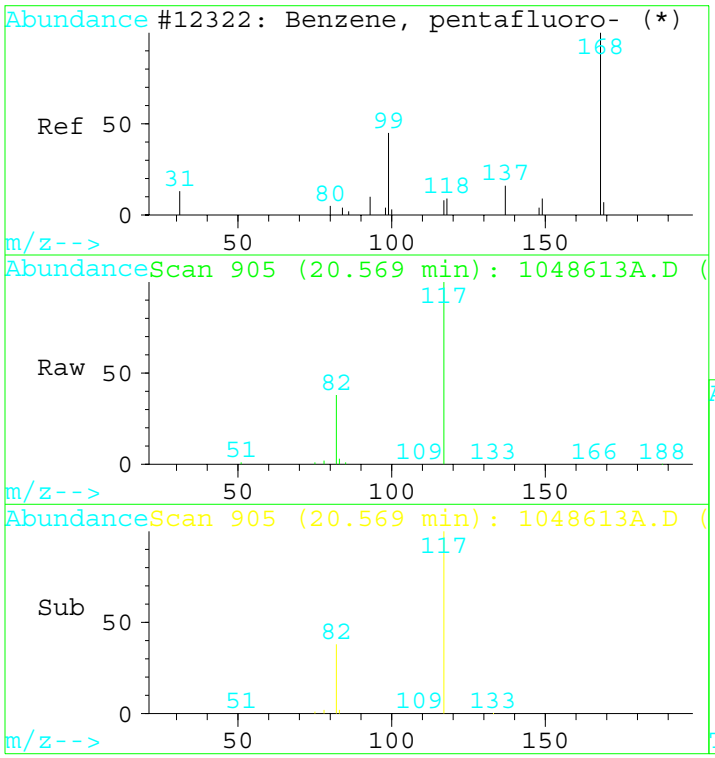
(#) = qualifier out of range (m) = manual integration
1048613A.D CNTHG_A.M Mon Dec 20 12:39:45 2010

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048613A.D
Acq Time : 15 Dec 110 6:07 pm Operator: JF
Sample : IA-AB-O1-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

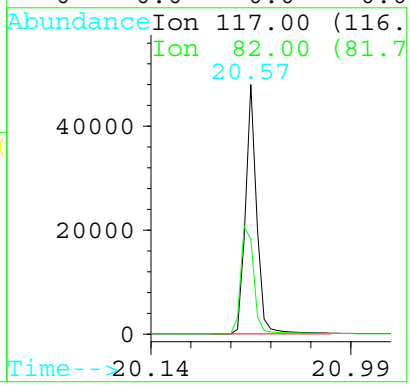


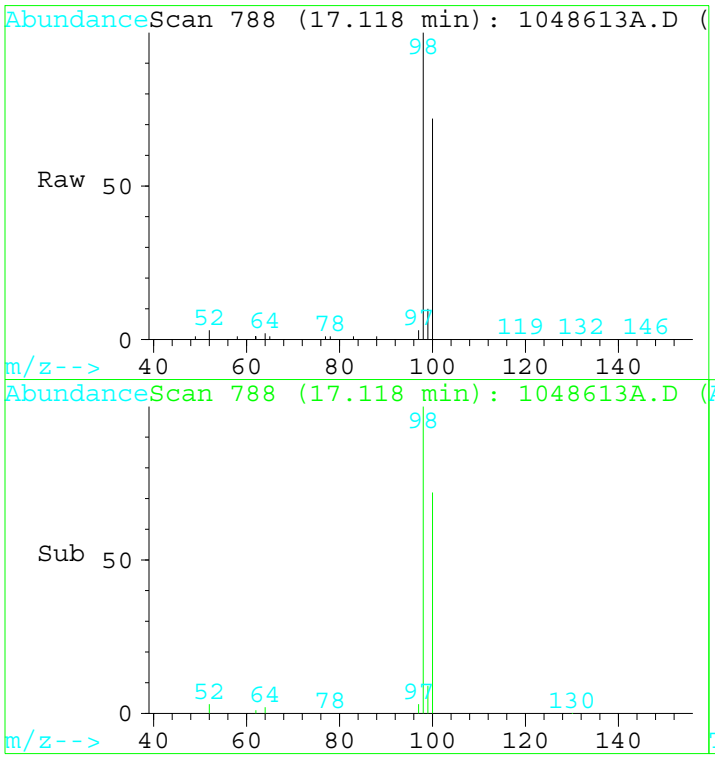


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048613A.D
Acq: 15 Dec 110 6:07 pm

Tgt Ion:117 Resp: 158464

Ion	Ratio	Lower	Upper
117	100		
82	38.0	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

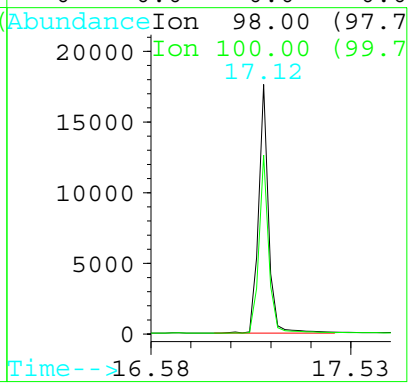


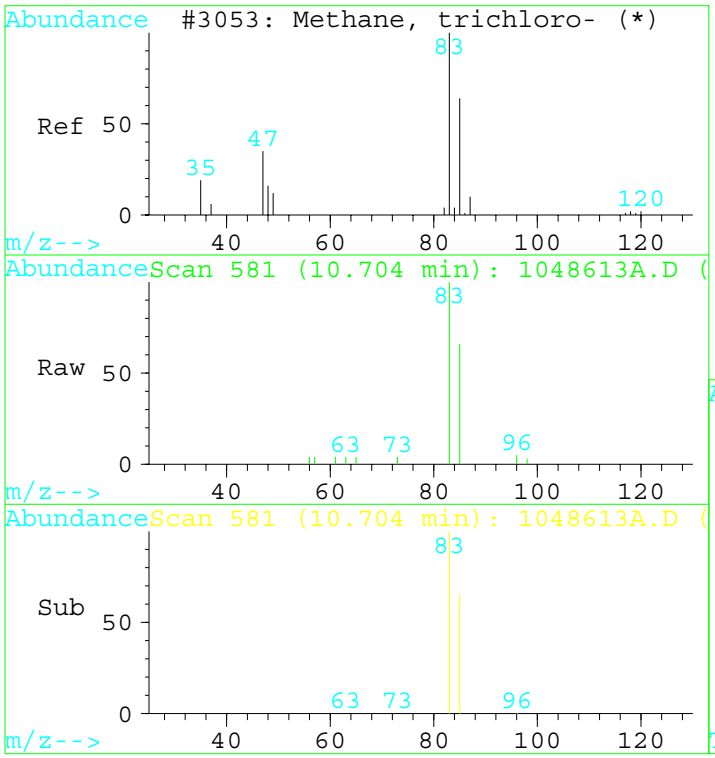


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 788
Delta R.T. 0.07 min
Lab File: 1048613A.D
Acq: 15 Dec 110 6:07 pm

Tgt Ion:98 Resp: 58573

Ion	Ratio	Lower	Upper
98	100		
100	70.0	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

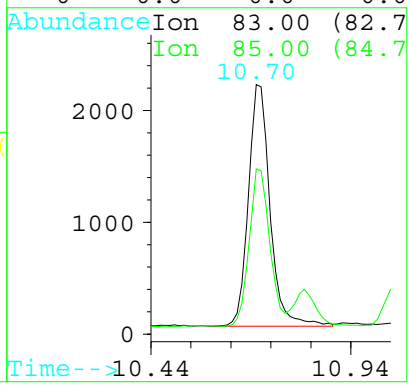


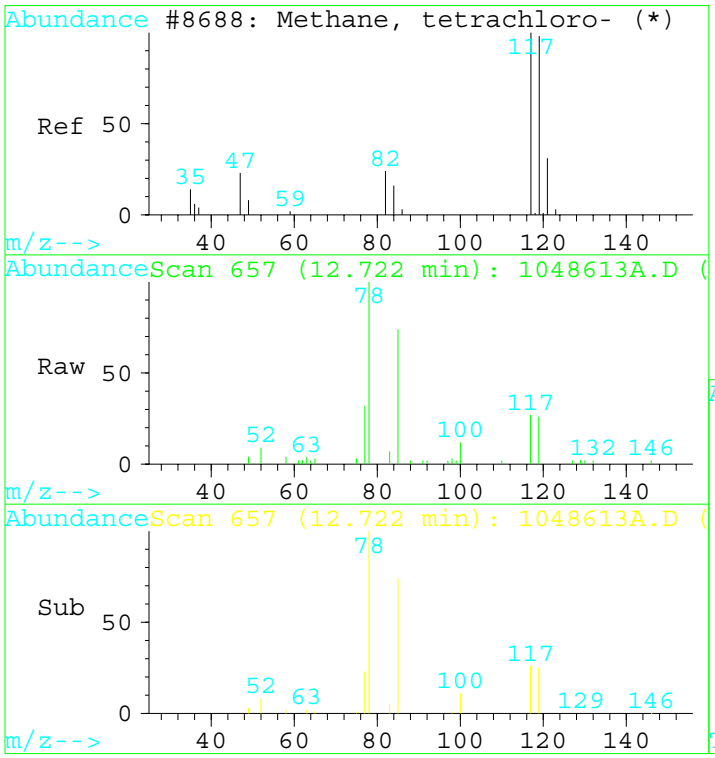


#3
Chloroform
Concen: 0.05 ppbV
RT: 10.70 min Scan# 581
Delta R.T. 0.04 min
Lab File: 1048613A.D
Acq: 15 Dec 110 6:07 pm

Tgt Ion:83 Resp: 8171

Ion	Ratio	Lower	Upper
83	100		
85	64.9	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

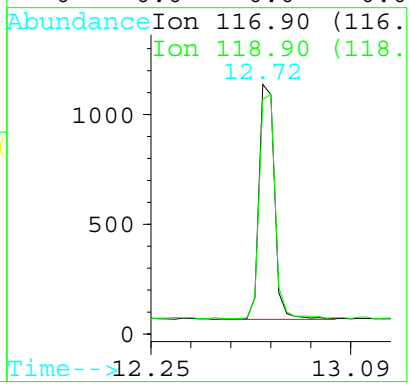


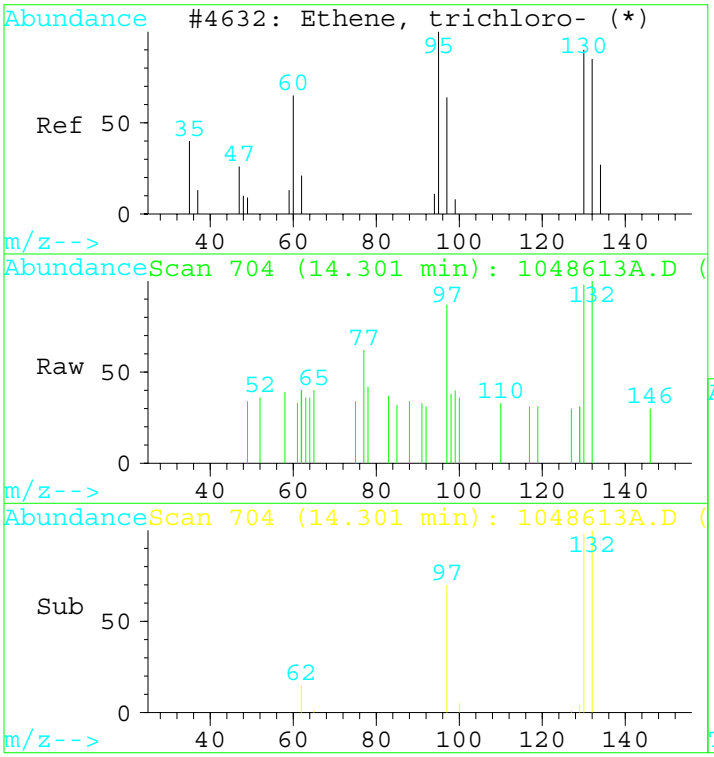


#4
Carbon tetrachloride
Concen: 0.04 ppbV
RT: 12.72 min Scan# 657
Delta R.T. 0.06 min
Lab File: 1048613A.D
Acq: 15 Dec 110 6:07 pm

Tgt Ion:116.9 Resp: 4829

Ion	Ratio	Lower	Upper
117	100		
119	93.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

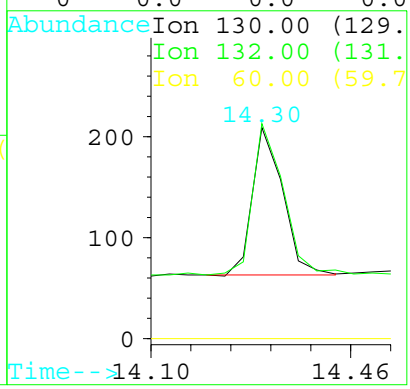




#5
Trichloroethene
Concen: 0.01 ppbV
RT: 14.30 min Scan# 704
Delta R.T. 0.04 min
Lab File: 1048613A.D
Acq: 15 Dec 110 6:07 pm

Tgt Ion:130 Resp: 558

Ion	Ratio	Lower	Upper
130	100		
132	101.4	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048614A.D
Acq Time : 15 Dec 110 6:49 pm Operator: JF
Sample : FO-IA-O1-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

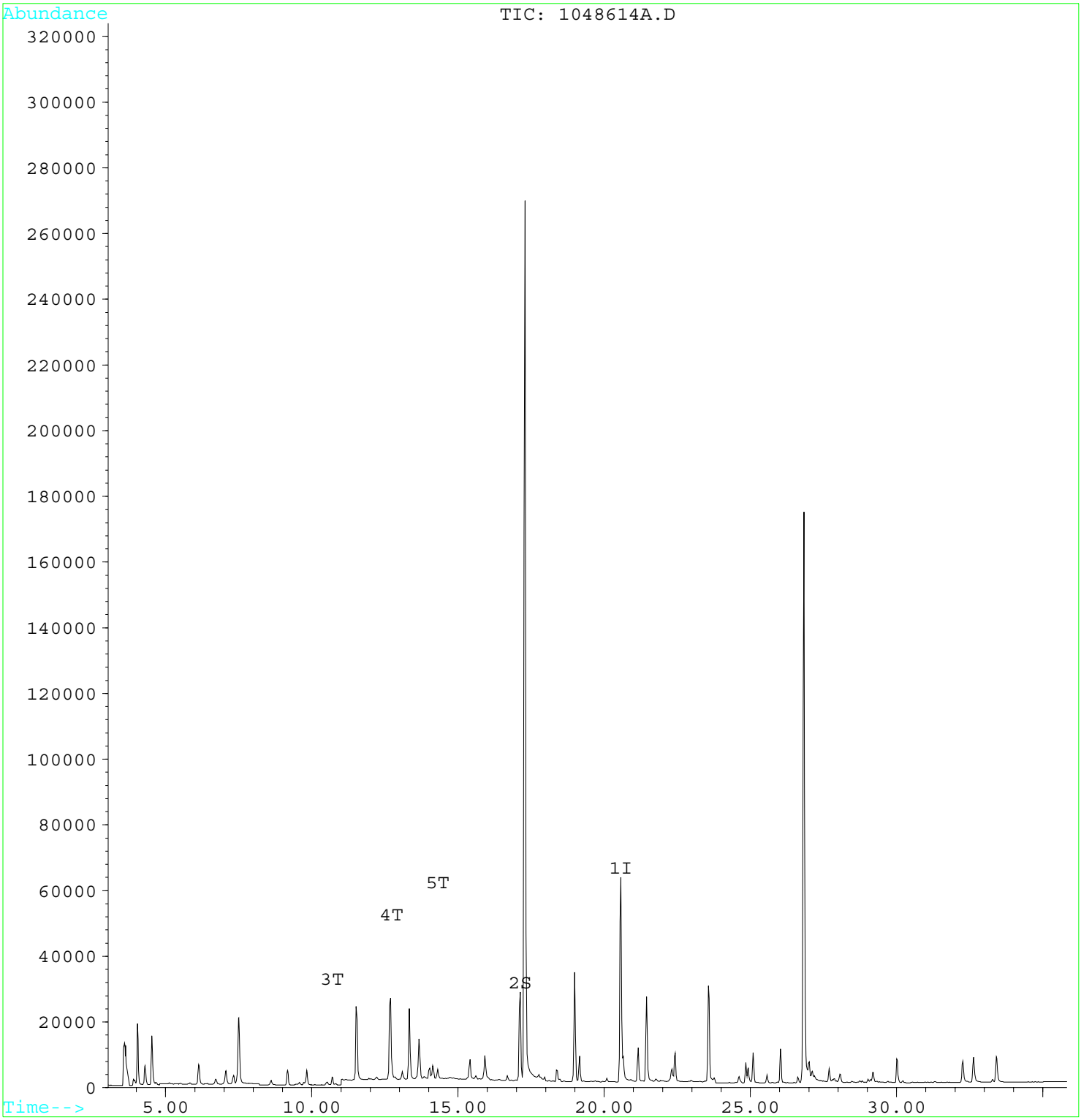
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	156947	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	58997	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.70	83	5539	0.03	ppbV	98
4) Carbon tetrachloride	12.73	117	3789	0.03	ppbV	95
5) Trichloroethene	14.30	130	3143	0.03	ppbV	91

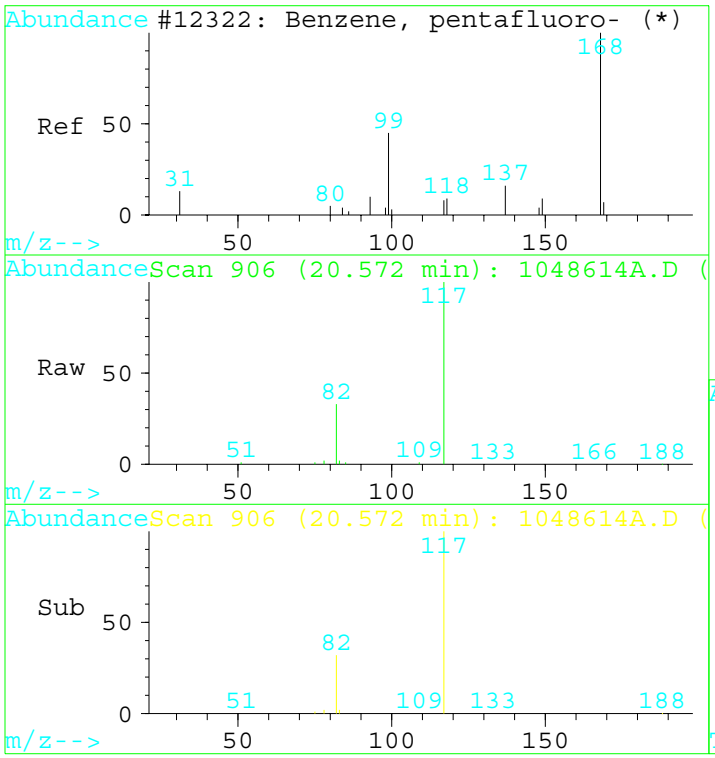
(#) = qualifier out of range (m) = manual integration
1048614A.D CNTHG_A.M Mon Dec 20 12:40:16 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048614A.D
Acq Time : 15 Dec 110 6:49 pm Operator: JF
Sample : FO-IA-O1-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

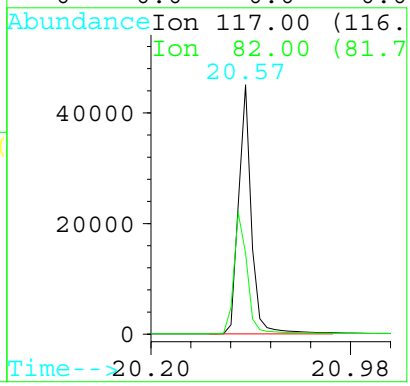


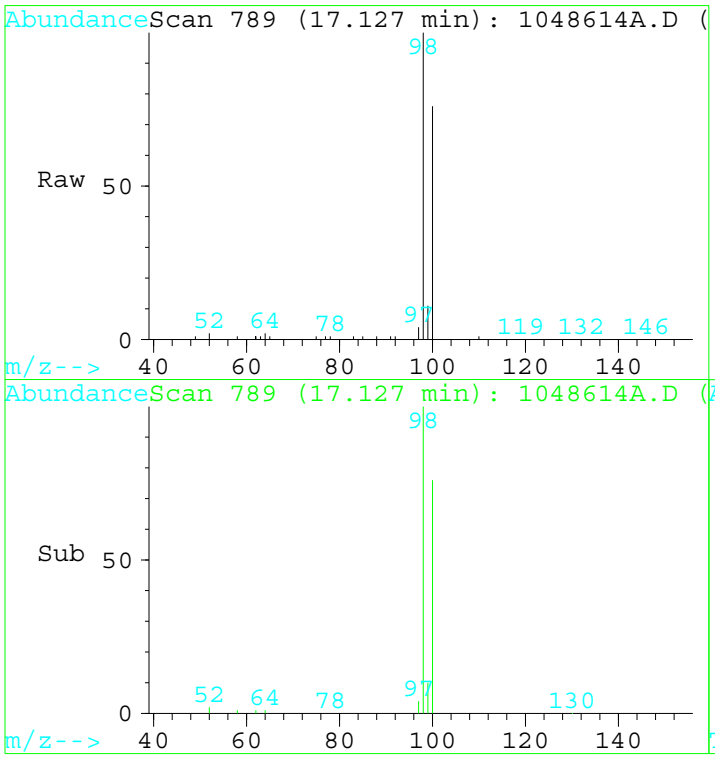


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 906
Delta R.T. 0.06 min
Lab File: 1048614A.D
Acq: 15 Dec 110 6:49 pm

Tgt Ion:117 Resp: 156947

Ion	Ratio	Lower	Upper
117	100		
82	32.4	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

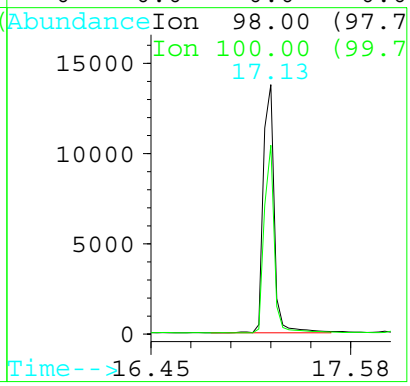


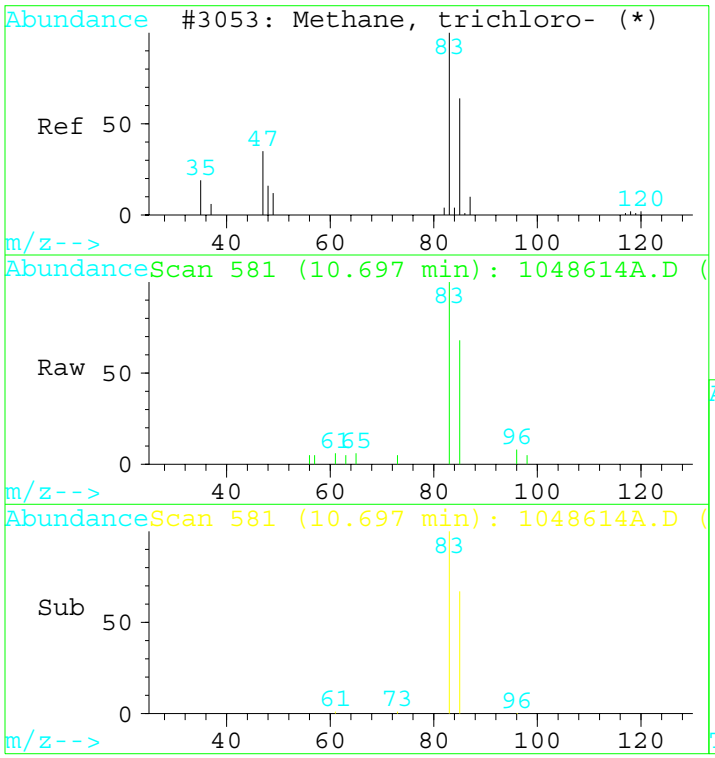


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.13 min Scan# 789
Delta R.T. 0.08 min
Lab File: 1048614A.D
Acq: 15 Dec 110 6:49 pm

Tgt Ion:98 Resp: 58997

Ion	Ratio	Lower	Upper
98	100		
100	69.4	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

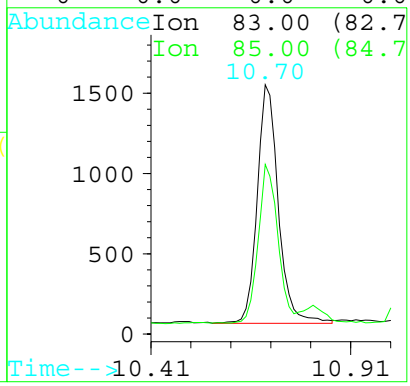


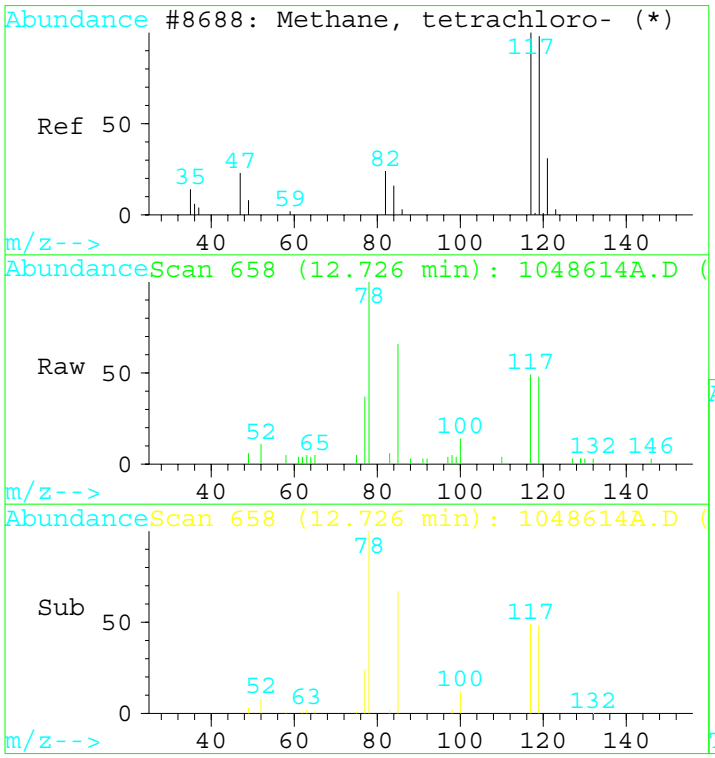


#3
Chloroform
Concen: 0.03 ppbV
RT: 10.70 min Scan# 581
Delta R.T. 0.04 min
Lab File: 1048614A.D
Acq: 15 Dec 110 6:49 pm

Tgt Ion:83 Resp: 5539

Ion	Ratio	Lower	Upper
83	100		
85	66.1	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

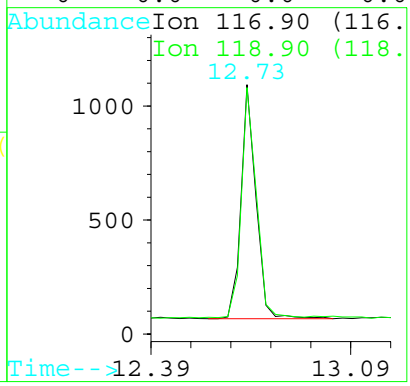


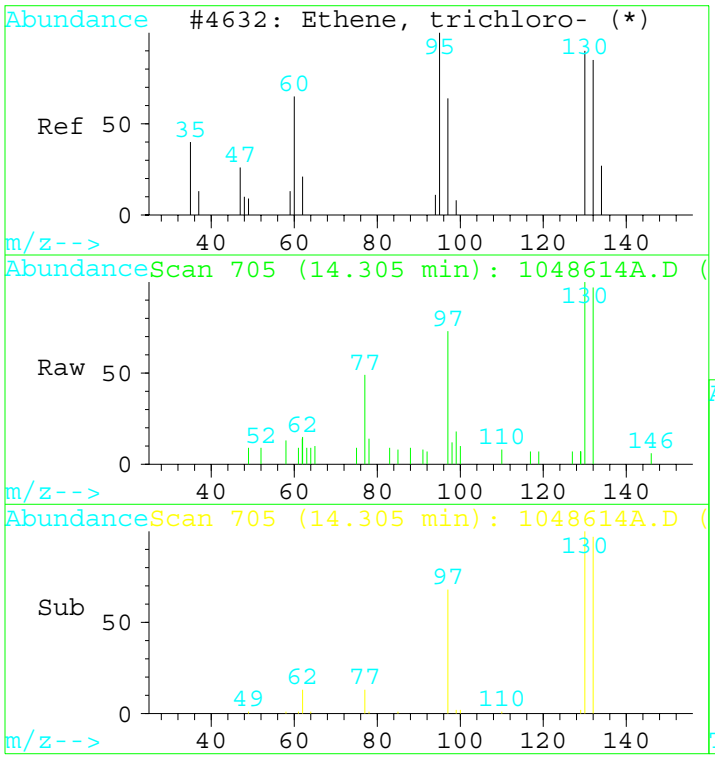


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.73 min Scan# 658
Delta R.T. 0.07 min
Lab File: 1048614A.D
Acq: 15 Dec 110 6:49 pm

Tgt Ion:116.9 Resp: 3789

Ion	Ratio	Lower	Upper
117	100		
119	97.9	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

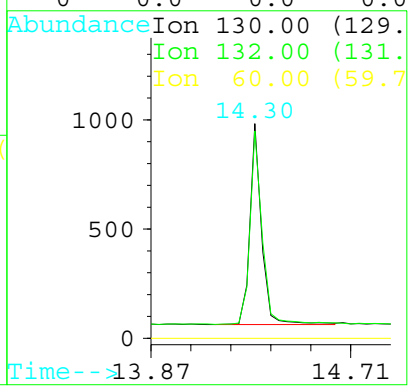




#5
Trichloroethene
Concen: 0.03 ppbV
RT: 14.30 min Scan# 705
Delta R.T. 0.04 min
Lab File: 1048614A.D
Acq: 15 Dec 110 6:49 pm

Tgt Ion:130 Resp: 3143

Ion	Ratio	Lower	Upper
130	100		
132	96.1	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048615A.D
Acq Time : 15 Dec 110 7:31 pm Operator: JF
Sample : OA-FO-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

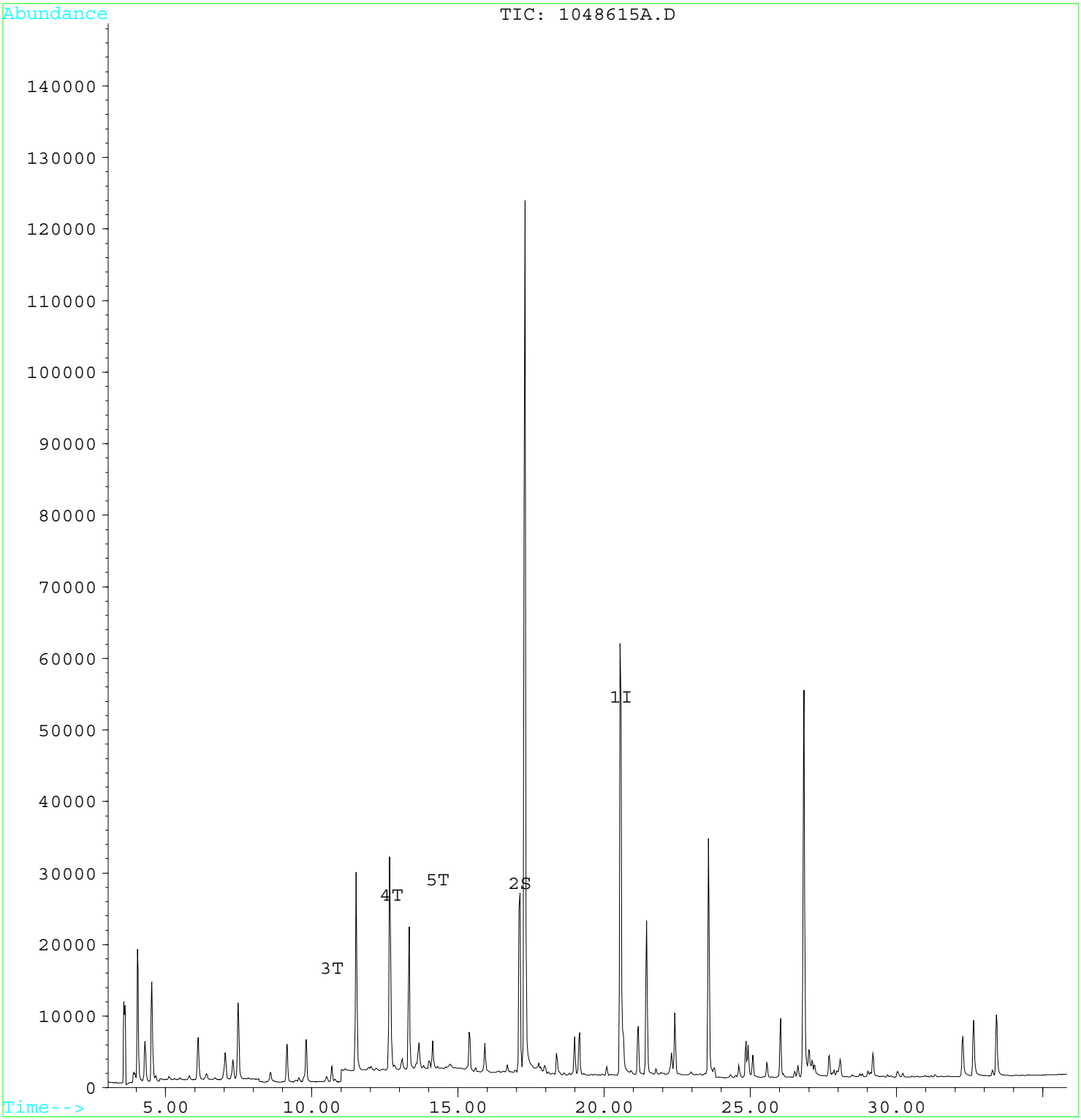
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.58	117	156122	0.20	ppbV	0.07
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	58035	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.69	83	4732	0.03	ppbV	100
4) Carbon tetrachloride	12.72	117	3506	0.03	ppbV	97
5) Trichloroethene	14.30	130	306	0.00	ppbV	91

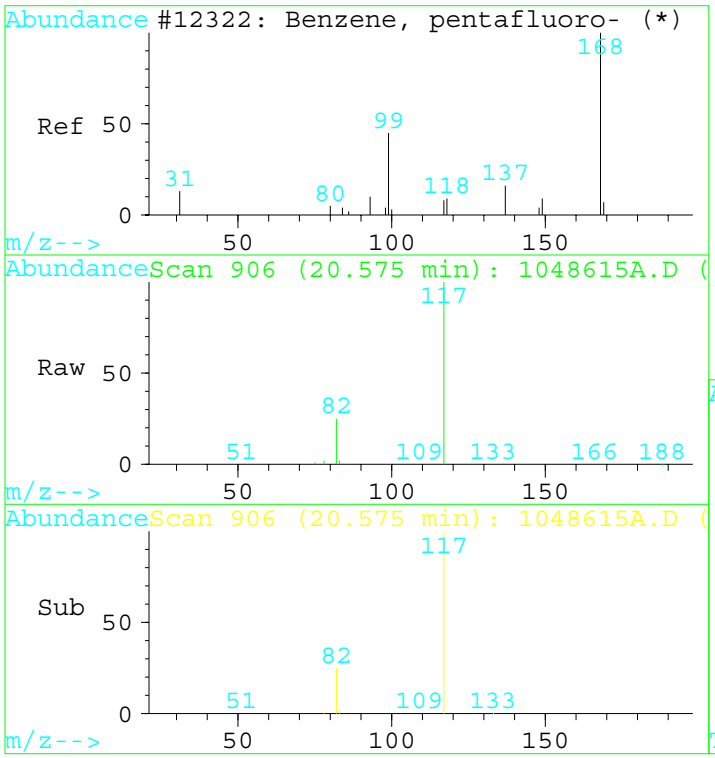
(#) = qualifier out of range (m) = manual integration
1048615A.D CNTHG_A.M Mon Dec 20 12:40:47 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048615A.D
Acq Time : 15 Dec 110 7:31 pm Operator: JF
Sample : OA-FO-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

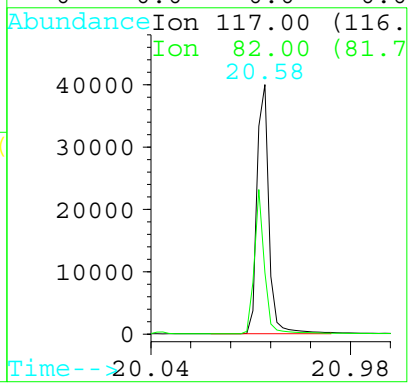


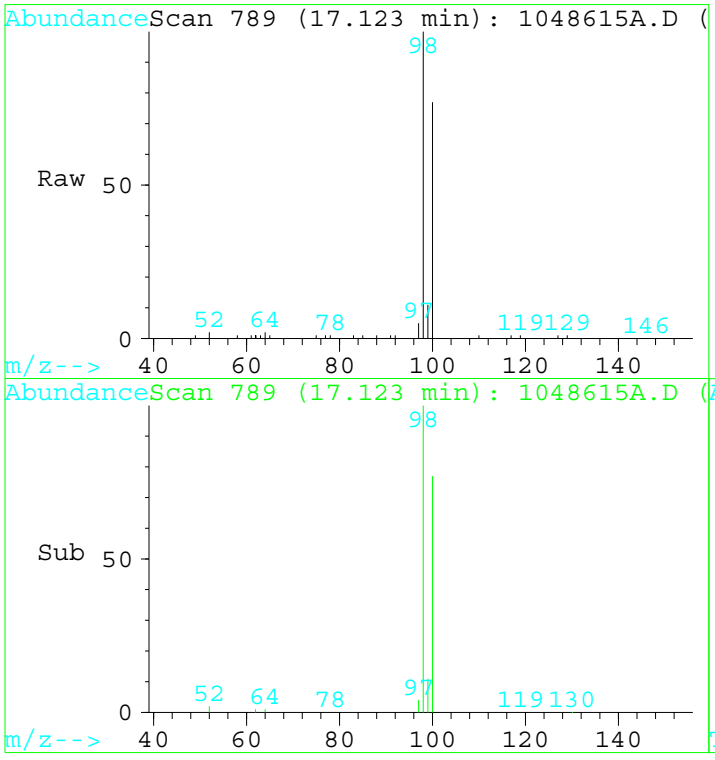


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 906
Delta R.T. 0.07 min
Lab File: 1048615A.D
Acq: 15 Dec 110 7:31 pm

Tgt Ion:117 Resp: 156122

Ion	Ratio	Lower	Upper
117	100		
82	24.5	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

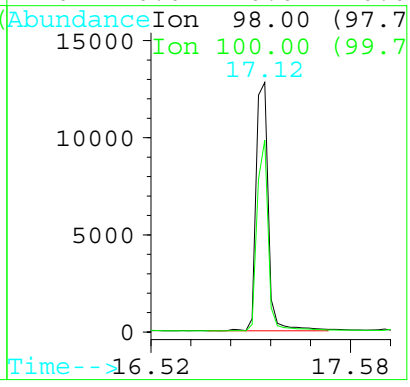


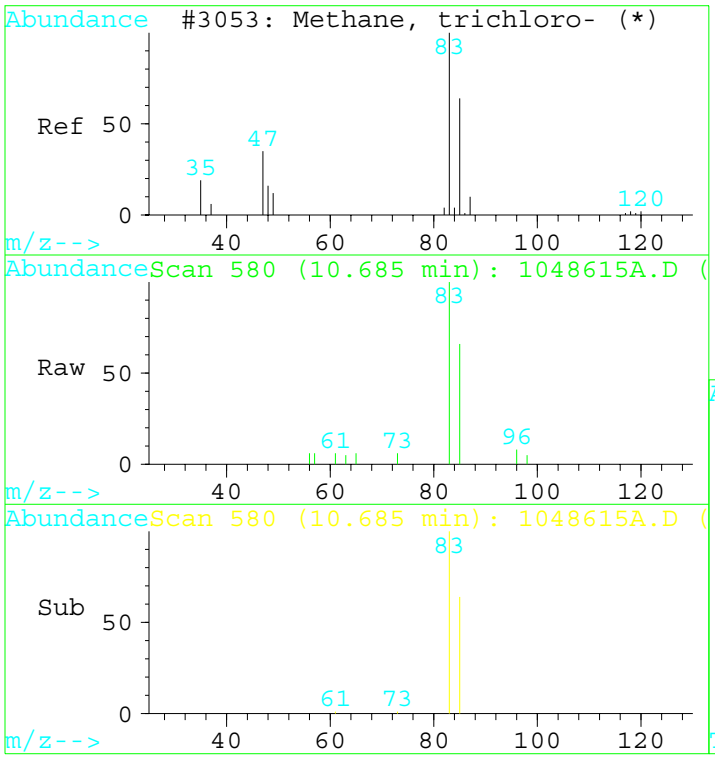


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 789
Delta R.T. 0.07 min
Lab File: 1048615A.D
Acq: 15 Dec 110 7:31 pm

Tgt Ion:98 Resp: 58035

Ion	Ratio	Lower	Upper
98	100		
100	70.1	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

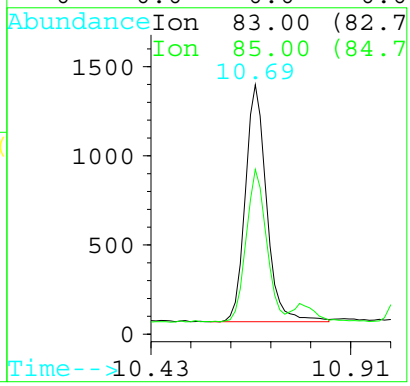


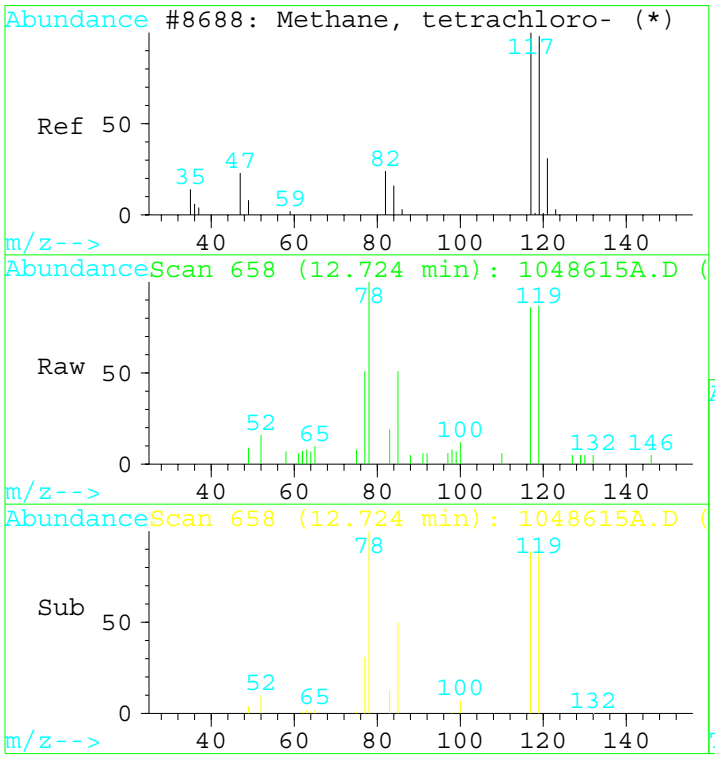


#3
Chloroform
Concen: 0.03 ppbV
RT: 10.69 min Scan# 580
Delta R.T. 0.03 min
Lab File: 1048615A.D
Acq: 15 Dec 110 7:31 pm

Tgt Ion:83 Resp: 4732

Ion	Ratio	Lower	Upper
83	100		
85	64.2	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

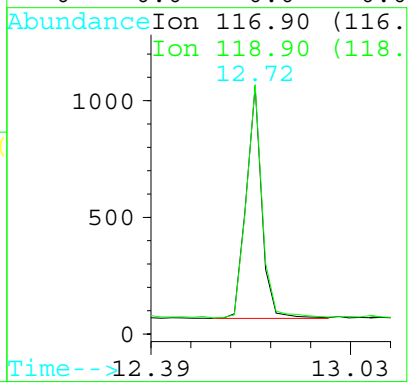


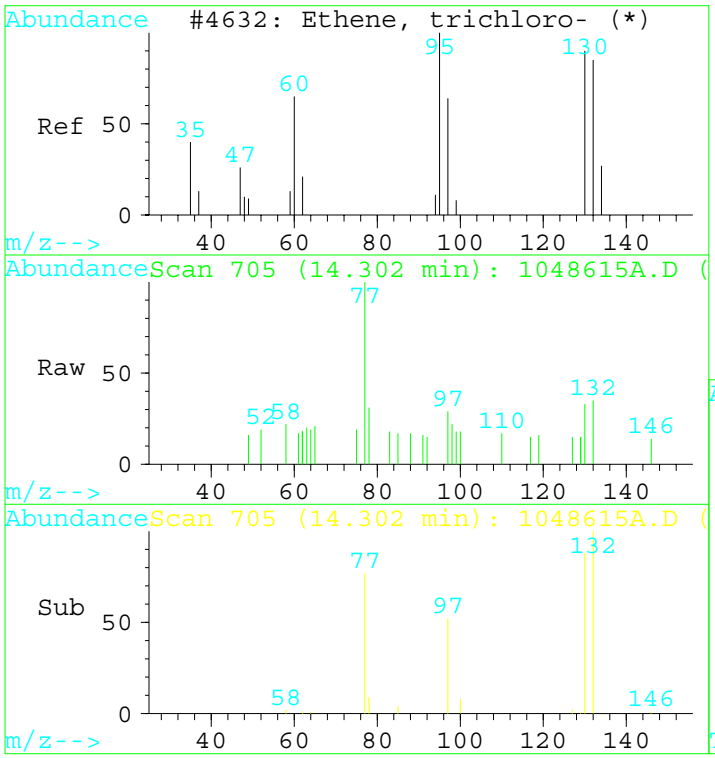


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.72 min Scan# 658
Delta R.T. 0.06 min
Lab File: 1048615A.D
Acq: 15 Dec 110 7:31 pm

Tgt Ion:116.9 Resp: 3506

Ion	Ratio	Lower	Upper
117	100		
119	100.5	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

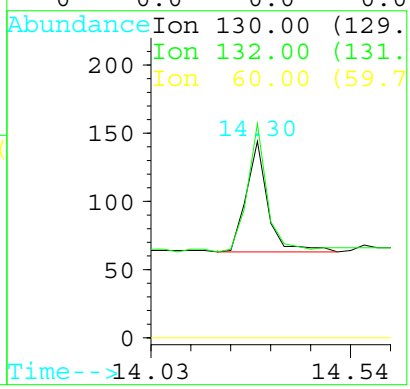




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.30 min Scan# 705
Delta R.T. 0.04 min
Lab File: 1048615A.D
Acq: 15 Dec 110 7:31 pm

Tgt Ion:130 Resp: 306

Ion	Ratio	Lower	Upper
130	100		
132	114.2	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048616A.D
Acq Time : 15 Dec 110 8:15 pm Operator: JF
Sample : OA-U1-G2-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

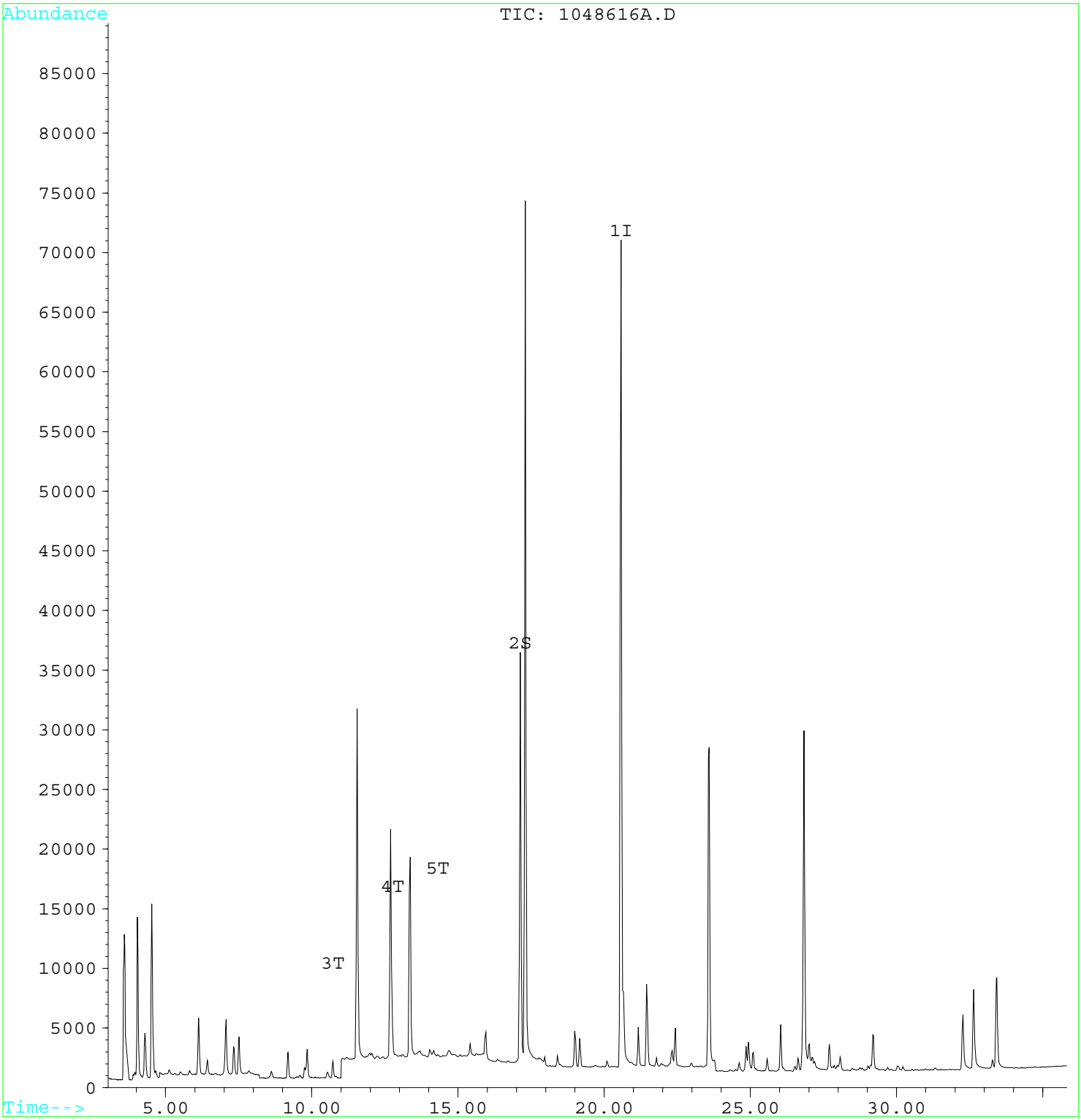
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	157686	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	57955	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	2971	0.02	ppbV	97
4) Carbon tetrachloride	12.76	117	2643	0.02	ppbV	97
5) Trichloroethene	14.31	130	203	0.00	ppbV	90

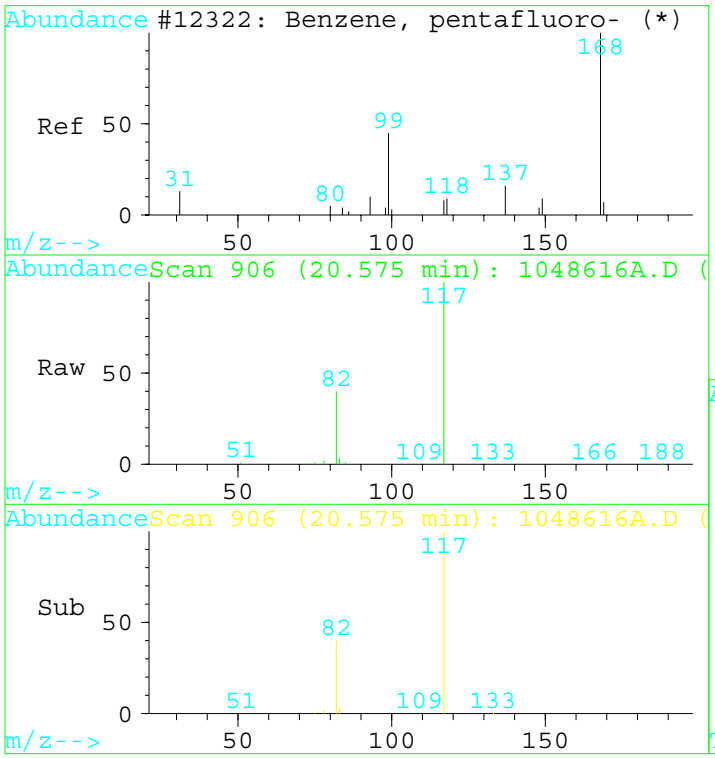
(#) = qualifier out of range (m) = manual integration
1048616A.D CNTHG_A.M Mon Dec 20 12:41:25 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048616A.D
Acq Time : 15 Dec 110 8:15 pm Operator: JF
Sample : OA-U1-G2-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

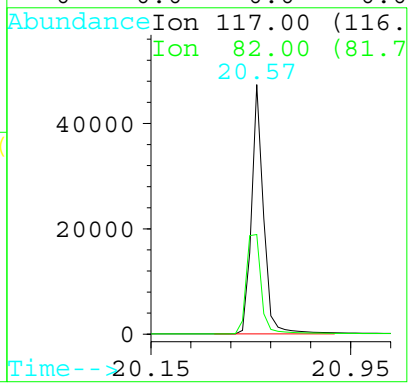


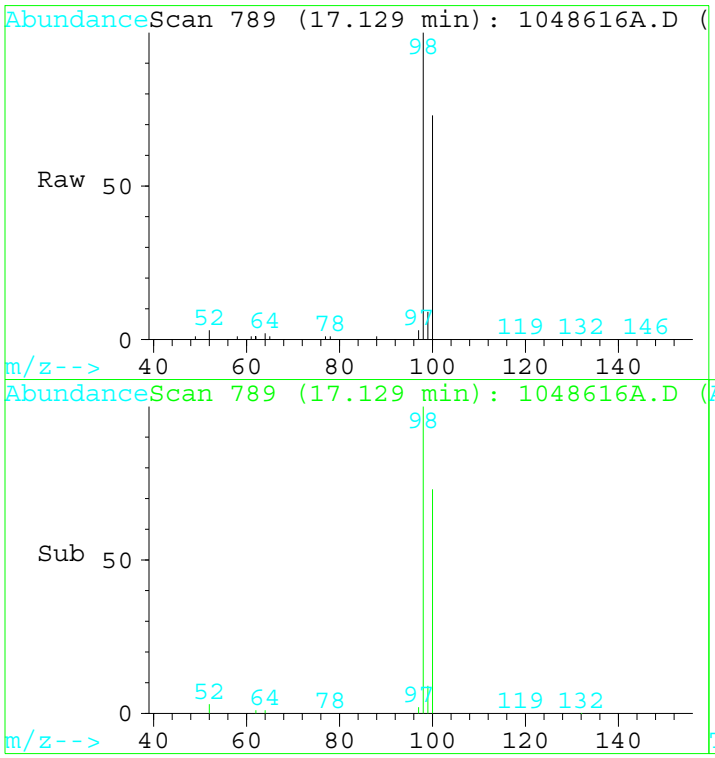


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 906
Delta R.T. 0.06 min
Lab File: 1048616A.D
Acq: 15 Dec 110 8:15 pm

Tgt Ion:117 Resp: 157686

Ion	Ratio	Lower	Upper
117	100		
82	39.8	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

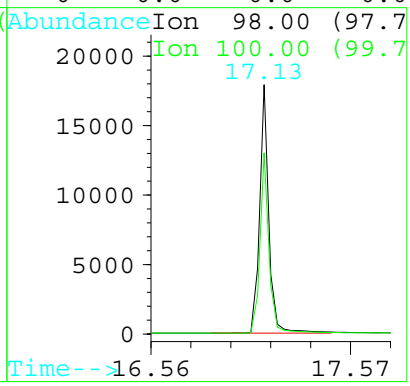


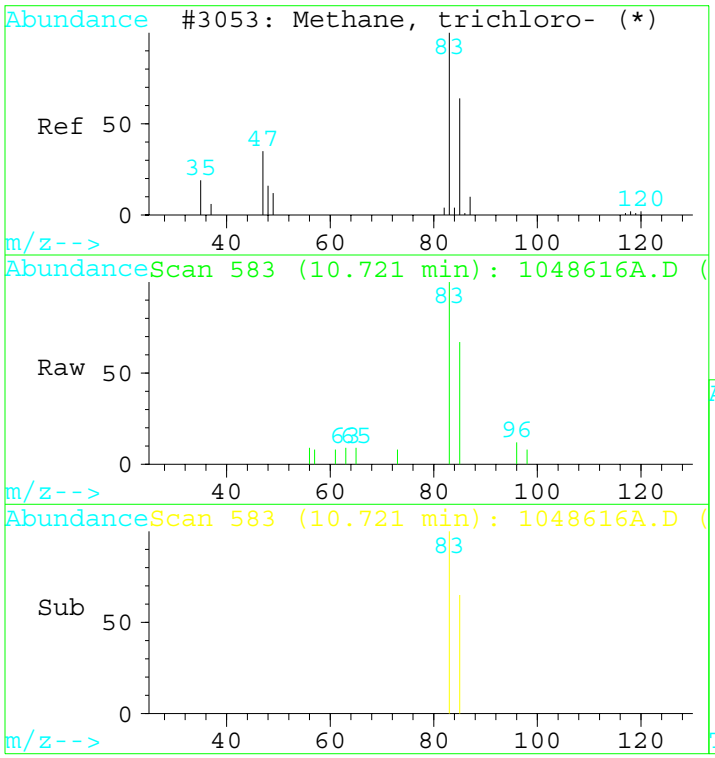


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.13 min Scan# 789
Delta R.T. 0.08 min
Lab File: 1048616A.D
Acq: 15 Dec 110 8:15 pm

Tgt Ion:98 Resp: 57955

Ion	Ratio	Lower	Upper
98	100		
100	71.2	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

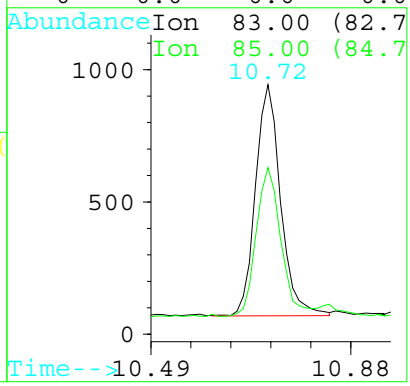


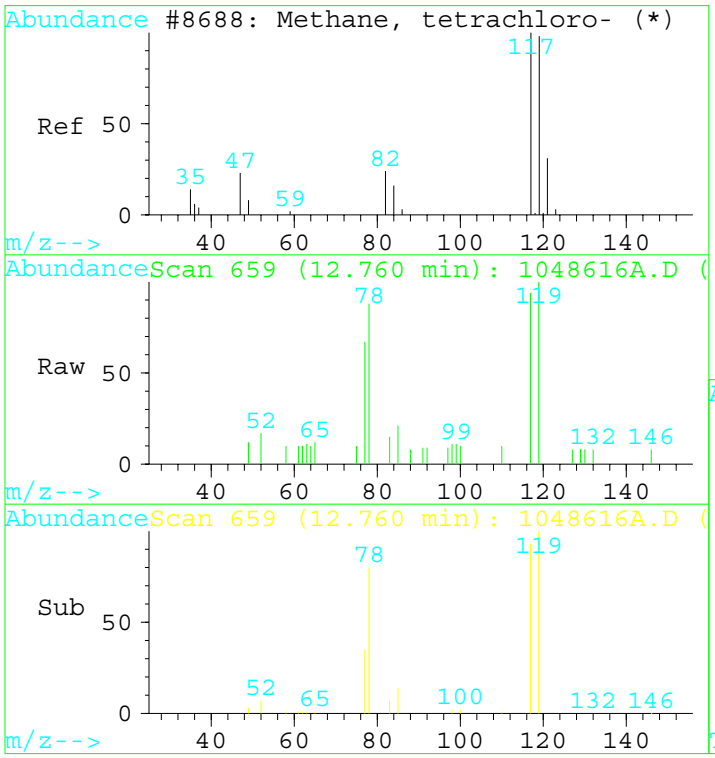


#3
Chloroform
Concen: 0.02 ppbV
RT: 10.72 min Scan# 583
Delta R.T. 0.06 min
Lab File: 1048616A.D
Acq: 15 Dec 110 8:15 pm

Tgt Ion:83 Resp: 2971

Ion	Ratio	Lower	Upper
83	100		
85	61.8	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

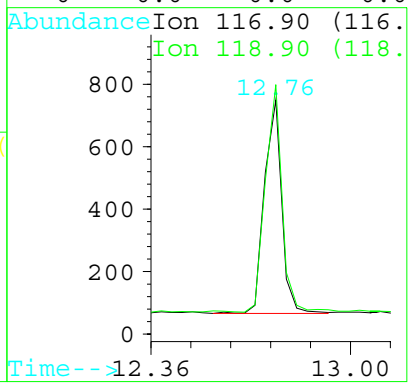


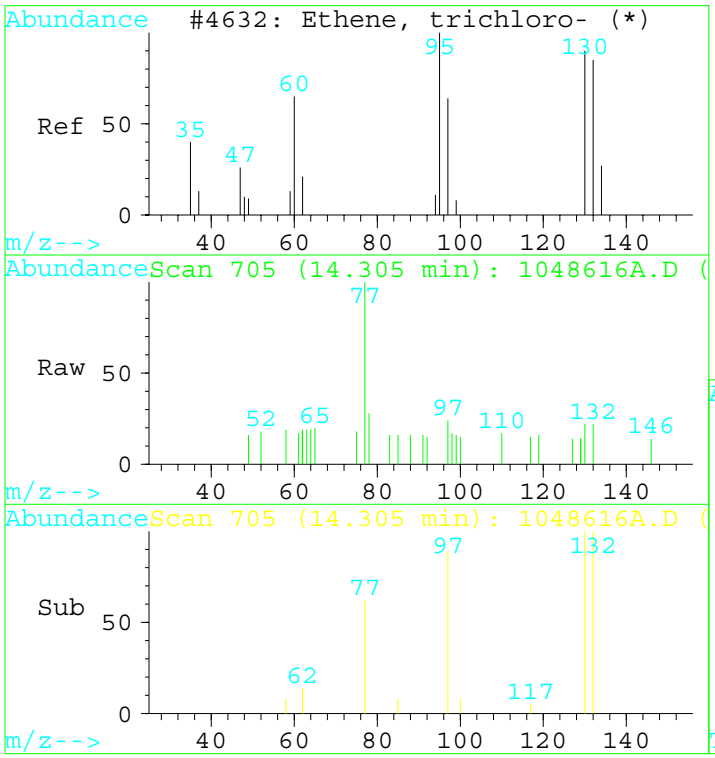


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.76 min Scan# 659
Delta R.T. 0.10 min
Lab File: 1048616A.D
Acq: 15 Dec 110 8:15 pm

Tgt Ion:116.9 Resp: 2643

Ion	Ratio	Lower	Upper
117	100		
119	106.1	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

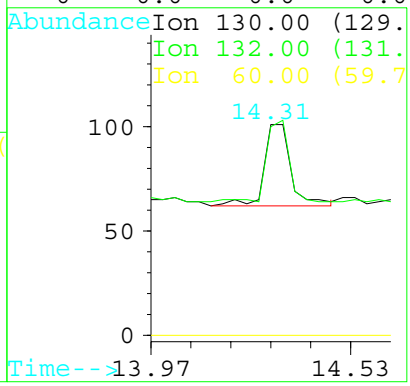




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.31 min Scan# 705
Delta R.T. 0.05 min
Lab File: 1048616A.D
Acq: 15 Dec 110 8:15 pm

Tgt Ion:130 Resp: 203

Ion	Ratio	Lower	Upper
130	100		
132	94.7	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048617A.D
Acq Time : 15 Dec 110 8:58 pm Operator: JF
Sample : IA-BP-CR-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

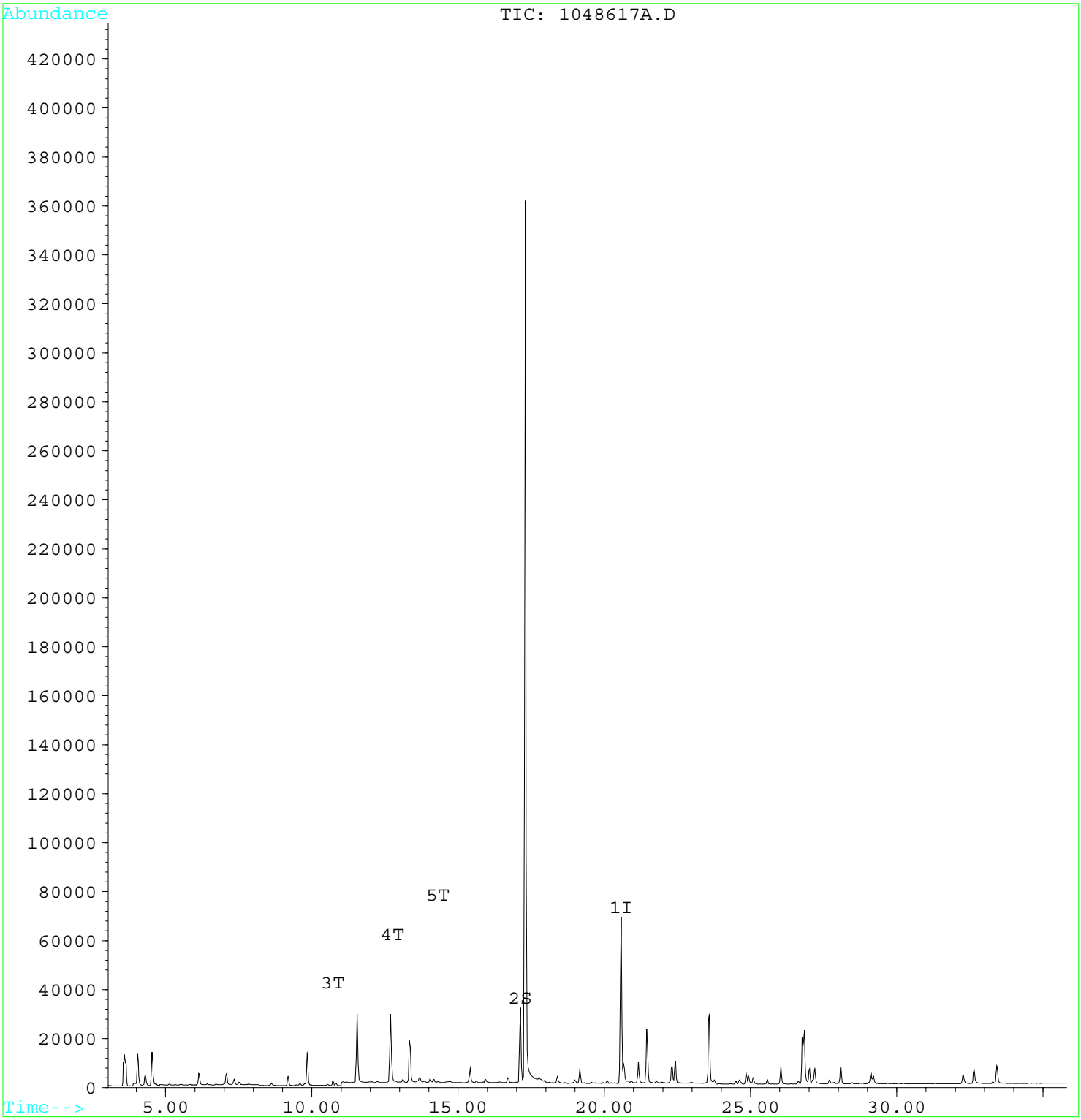
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.58	117	161687	0.20	ppbV	0.07
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	56329	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	4702	0.03	ppbV	98
4) Carbon tetrachloride	12.76	117	2037	0.02	ppbV	100
5) Trichloroethene	14.31	130	363	0.00	ppbV #	75

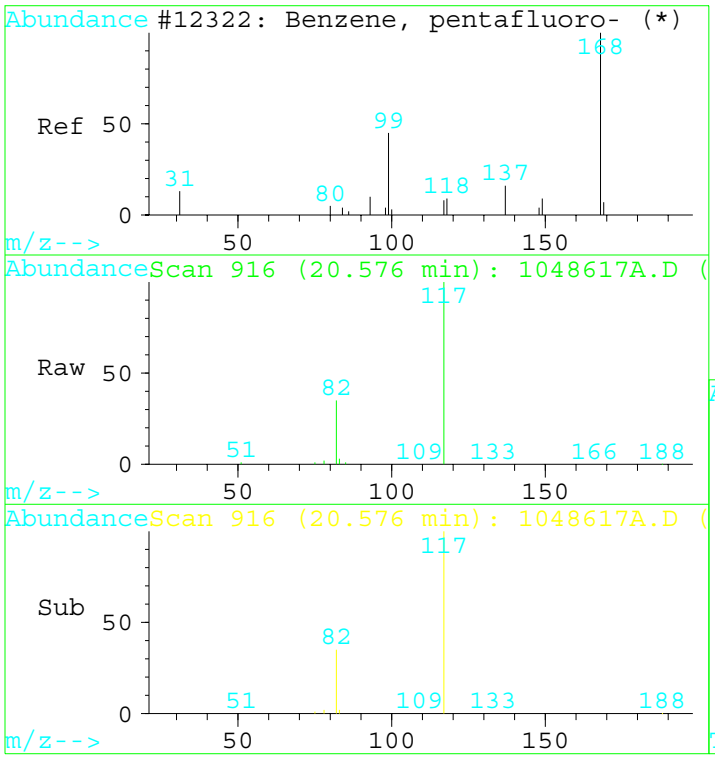
(#) = qualifier out of range (m) = manual integration
1048617A.D CNTHG_A.M Mon Dec 20 12:42:11 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12150MSC\1048617A.D
Acq Time : 15 Dec 110 8:58 pm Operator: JF
Sample : IA-BP-CR-002 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 12:30 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

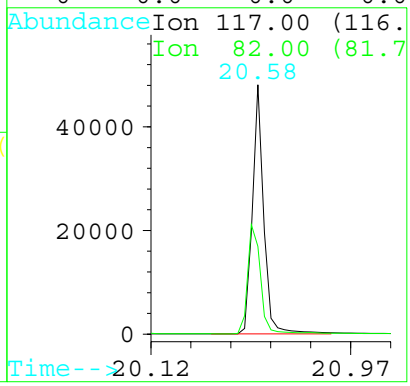


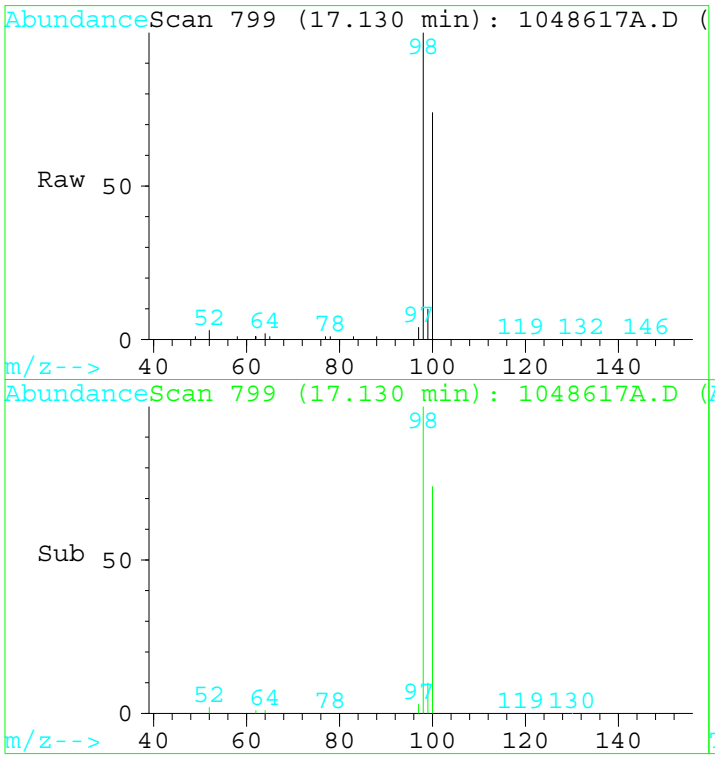


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 916
Delta R.T. 0.07 min
Lab File: 1048617A.D
Acq: 15 Dec 110 8:58 pm

Tgt Ion:117 Resp: 161687

Ion	Ratio	Lower	Upper
117	100		
82	35.1	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

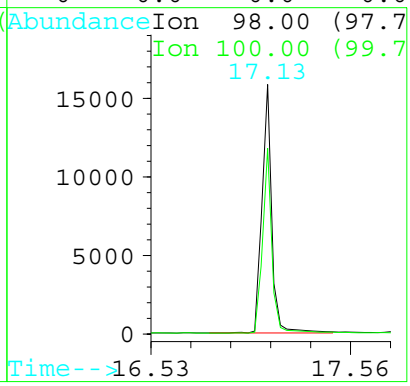


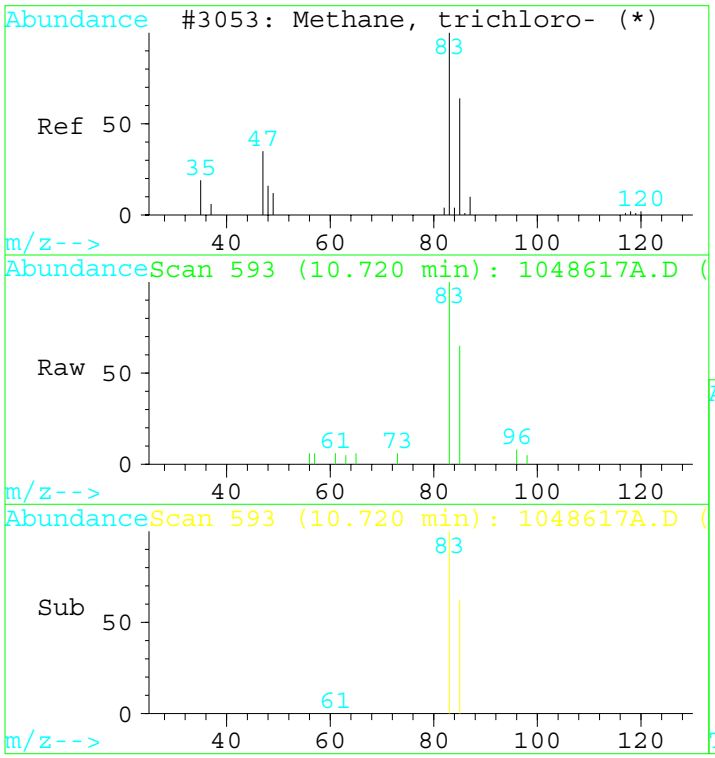


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.13 min Scan# 799
Delta R.T. 0.08 min
Lab File: 1048617A.D
Acq: 15 Dec 110 8:58 pm

Tgt Ion:98 Resp: 56329

Ion	Ratio	Lower	Upper
98	100		
100	70.8	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

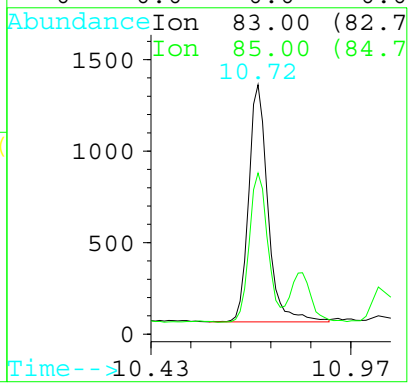


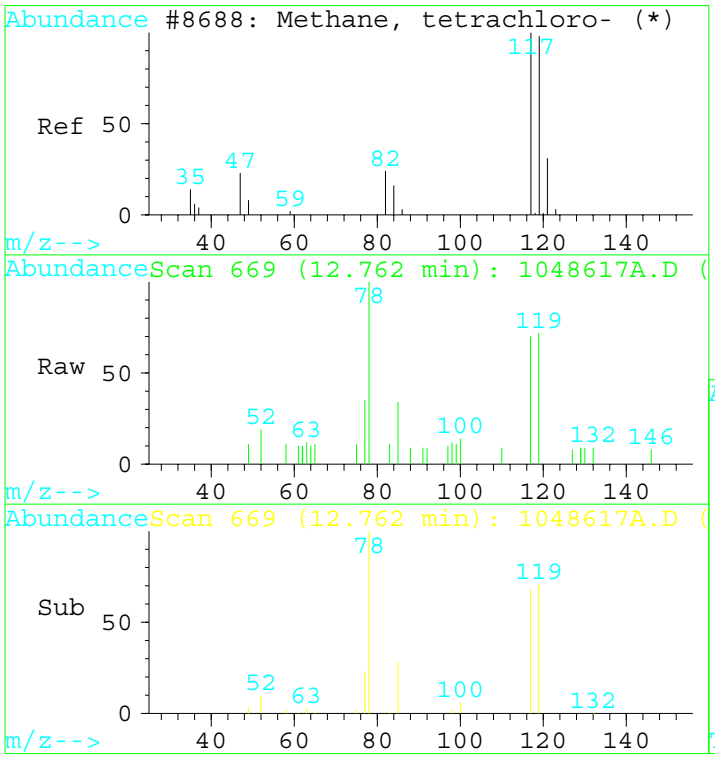


#3
Chloroform
Concen: 0.03 ppbV
RT: 10.72 min Scan# 593
Delta R.T. 0.06 min
Lab File: 1048617A.D
Acq: 15 Dec 110 8:58 pm

Tgt Ion:83 Resp: 4702

Ion	Ratio	Lower	Upper
83	100		
85	62.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

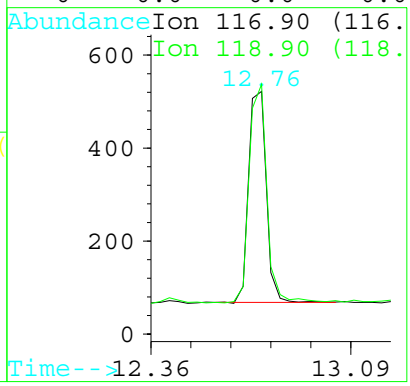


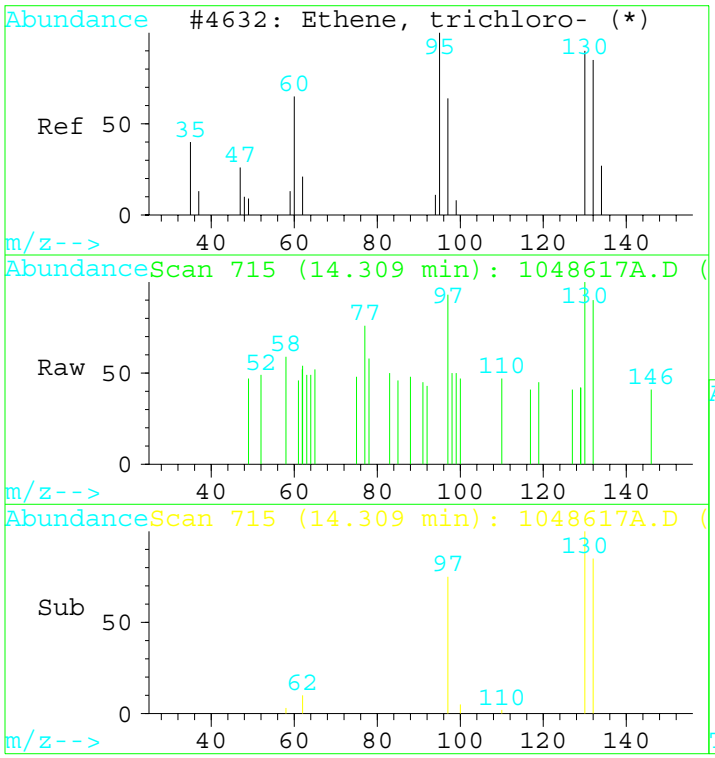


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.76 min Scan# 669
Delta R.T. 0.10 min
Lab File: 1048617A.D
Acq: 15 Dec 110 8:58 pm

Tgt Ion:116.9 Resp: 2037

Ion	Ratio	Lower	Upper
117	100		
119	103.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

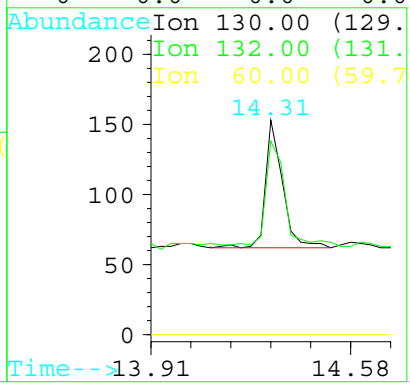




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.31 min Scan# 715
Delta R.T. 0.05 min
Lab File: 1048617A.D
Acq: 15 Dec 110 8:58 pm

Tgt Ion:130 Resp: 363

Ion	Ratio	Lower	Upper
130	100		
132	79.7	84.0	126.0#
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Daily Analytical Batch #: 121610-MSC

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\C12160A.D
Acq Time : 16 Dec 110 9:15 am Operator: KT
Sample : ST60421 + ST60550 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:03 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

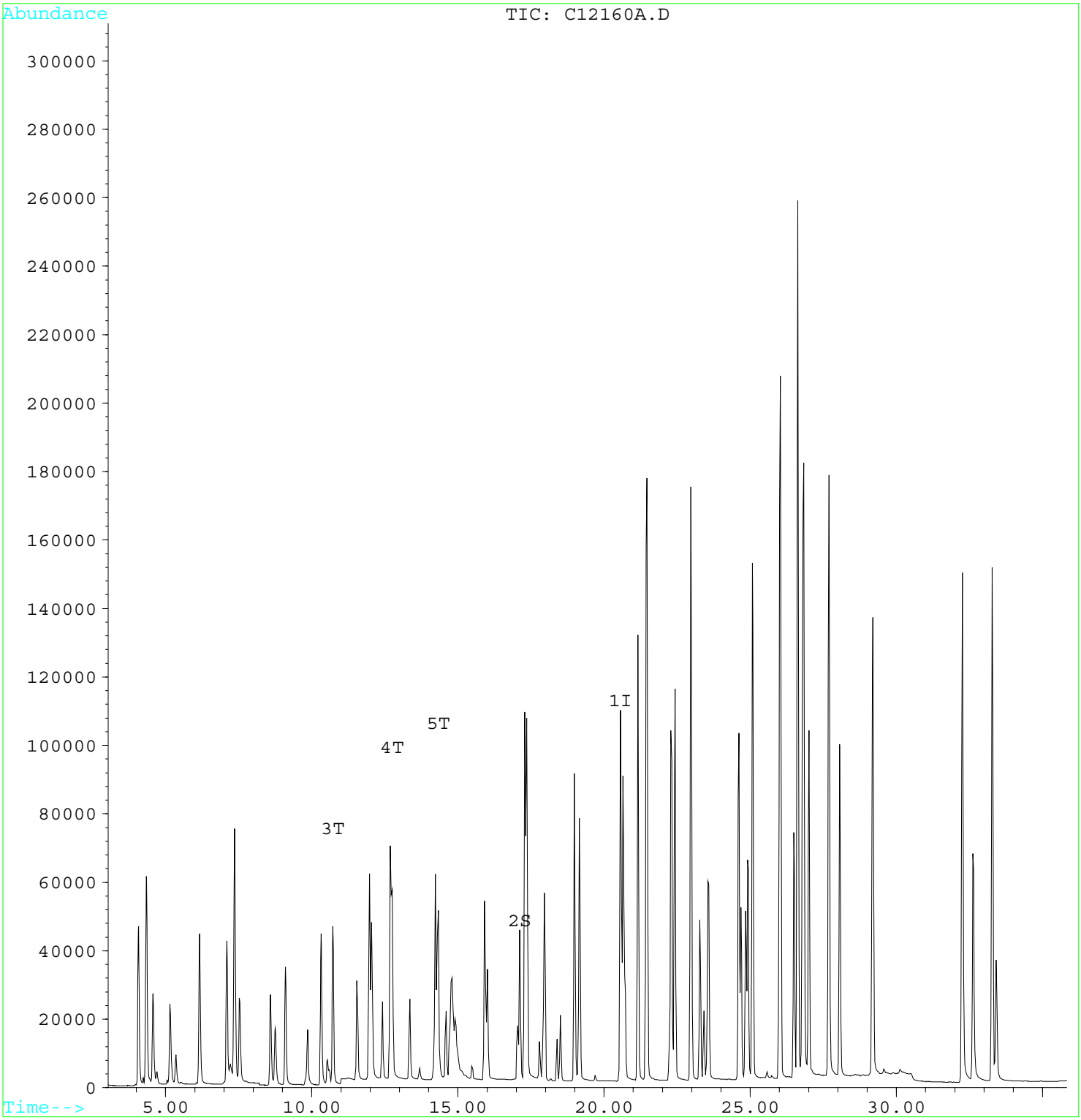
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.56	117	228924	0.20	ppbV	0.05
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	72371	0.18	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	111820	0.47	ppbV	99
4) Carbon tetrachloride	12.75	117	83612	0.51	ppbV	97
5) Trichloroethene	14.33	130	67118	0.46	ppbV	99

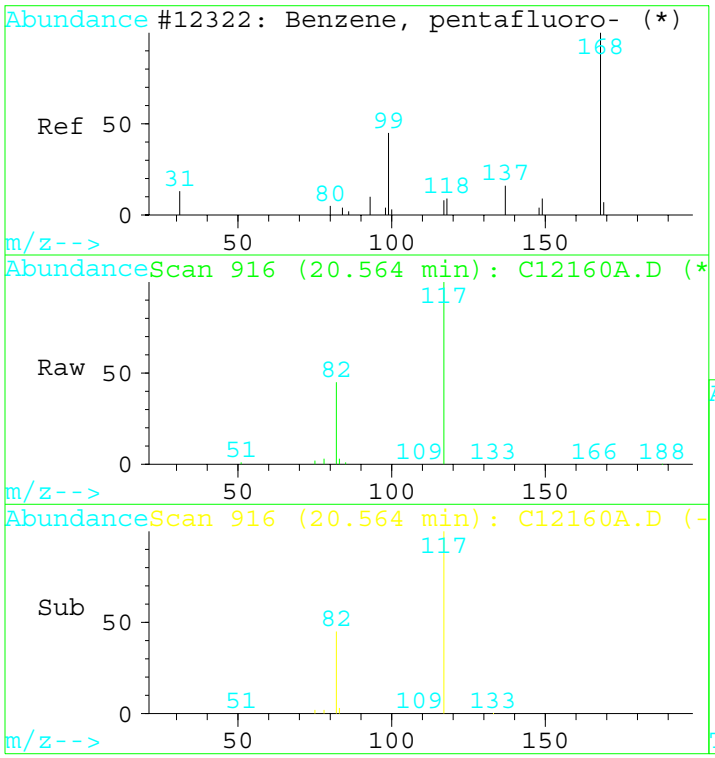
(#) = qualifier out of range (m) = manual integration
C12160A.D CNTHG_A.M Mon Dec 20 15:44:04 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\C12160A.D
Acq Time : 16 Dec 110 9:15 am Operator: KT
Sample : ST60421 + ST60550 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:03 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

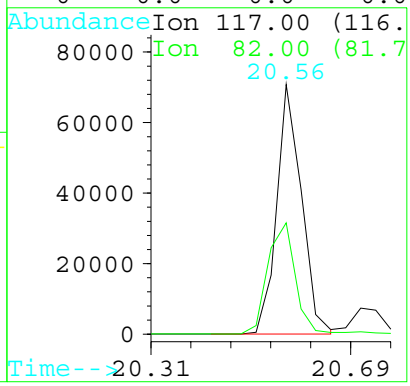


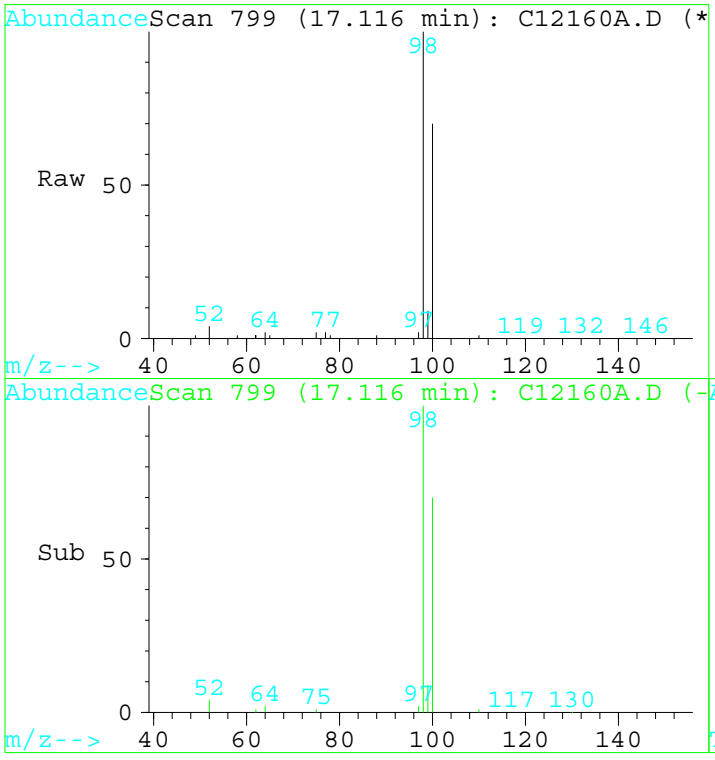


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.56 min Scan# 916
Delta R.T. 0.05 min
Lab File: C12160A.D
Acq: 16 Dec 110 9:15 am

Tgt Ion:117 Resp: 228924

Ion	Ratio	Lower	Upper
117	100		
82	44.7	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

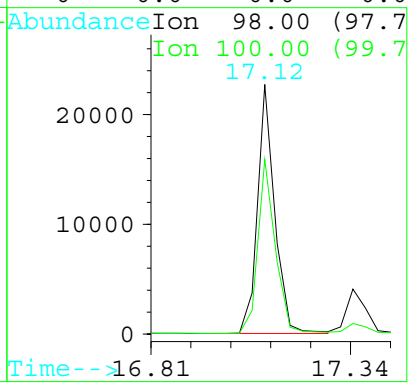


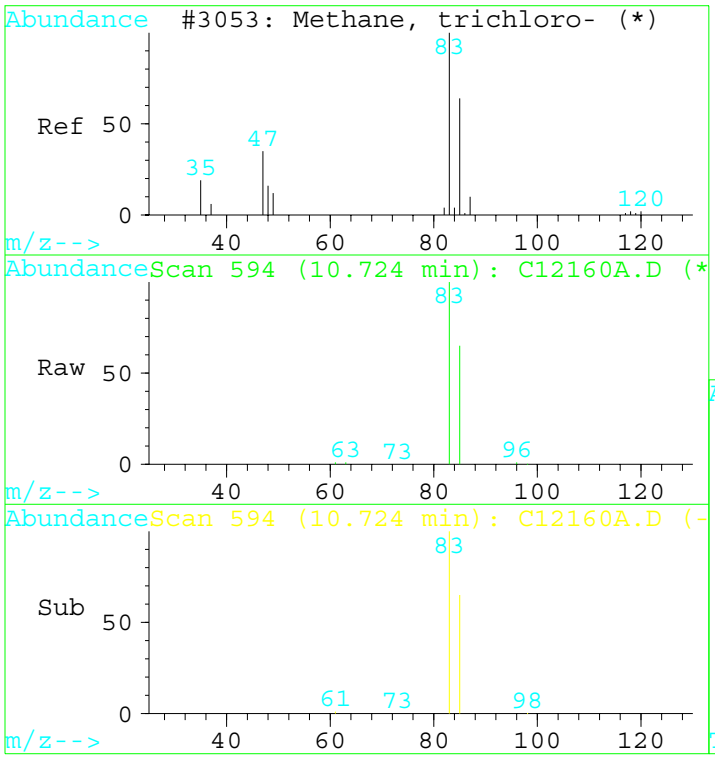


#2
Toluene-d8
Concen: 0.18 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: C12160A.D
Acq: 16 Dec 110 9:15 am

Tgt Ion:98 Resp: 72371

Ion	Ratio	Lower	Upper
98	100		
100	70.8	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

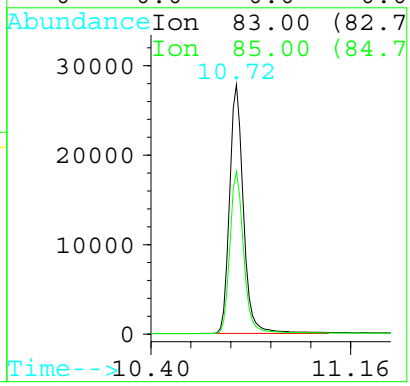


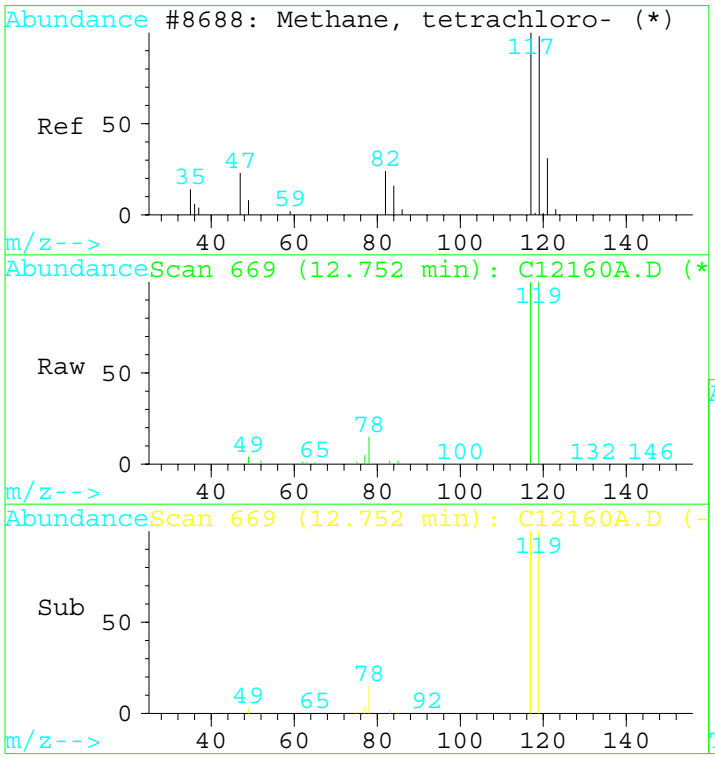


#3
Chloroform
Concen: 0.47 ppbV
RT: 10.72 min Scan# 594
Delta R.T. 0.06 min
Lab File: C12160A.D
Acq: 16 Dec 110 9:15 am

Tgt Ion:83 Resp: 111820

Ion	Ratio	Lower	Upper
83	100		
85	65.2	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

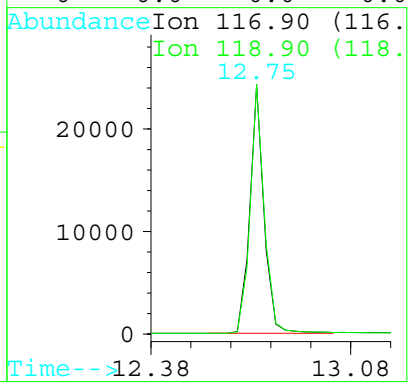


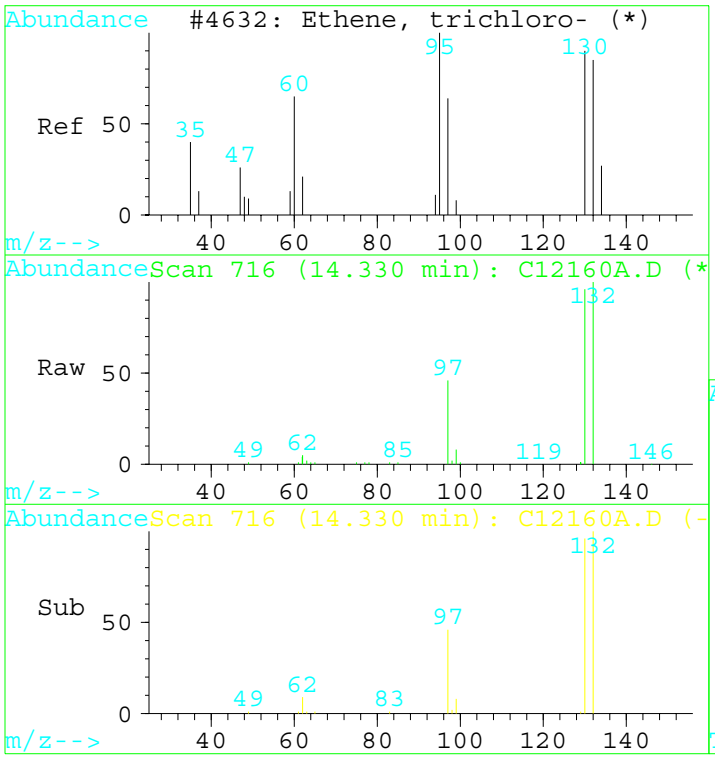


#4
Carbon tetrachloride
Concen: 0.51 ppbV
RT: 12.75 min Scan# 669
Delta R.T. 0.09 min
Lab File: C12160A.D
Acq: 16 Dec 110 9:15 am

Tgt Ion:116.9 Resp: 83612

Ion	Ratio	Lower	Upper
117	100		
119	100.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

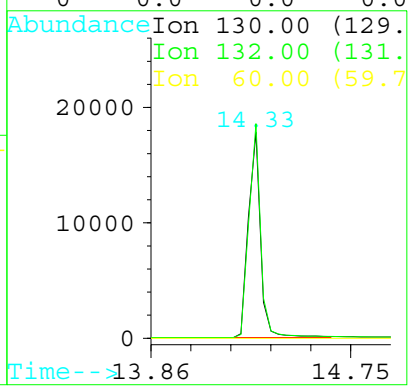




#5
Trichloroethene
Concen: 0.46 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: C12160A.D
Acq: 16 Dec 110 9:15 am

Tgt Ion:130 Resp: 67118

Ion	Ratio	Lower	Upper
130	100		
132	104.2	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\B12160B.D
Acq Time : 16 Dec 110 1:14 pm Operator: KB
Sample : METHOD BLANK Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

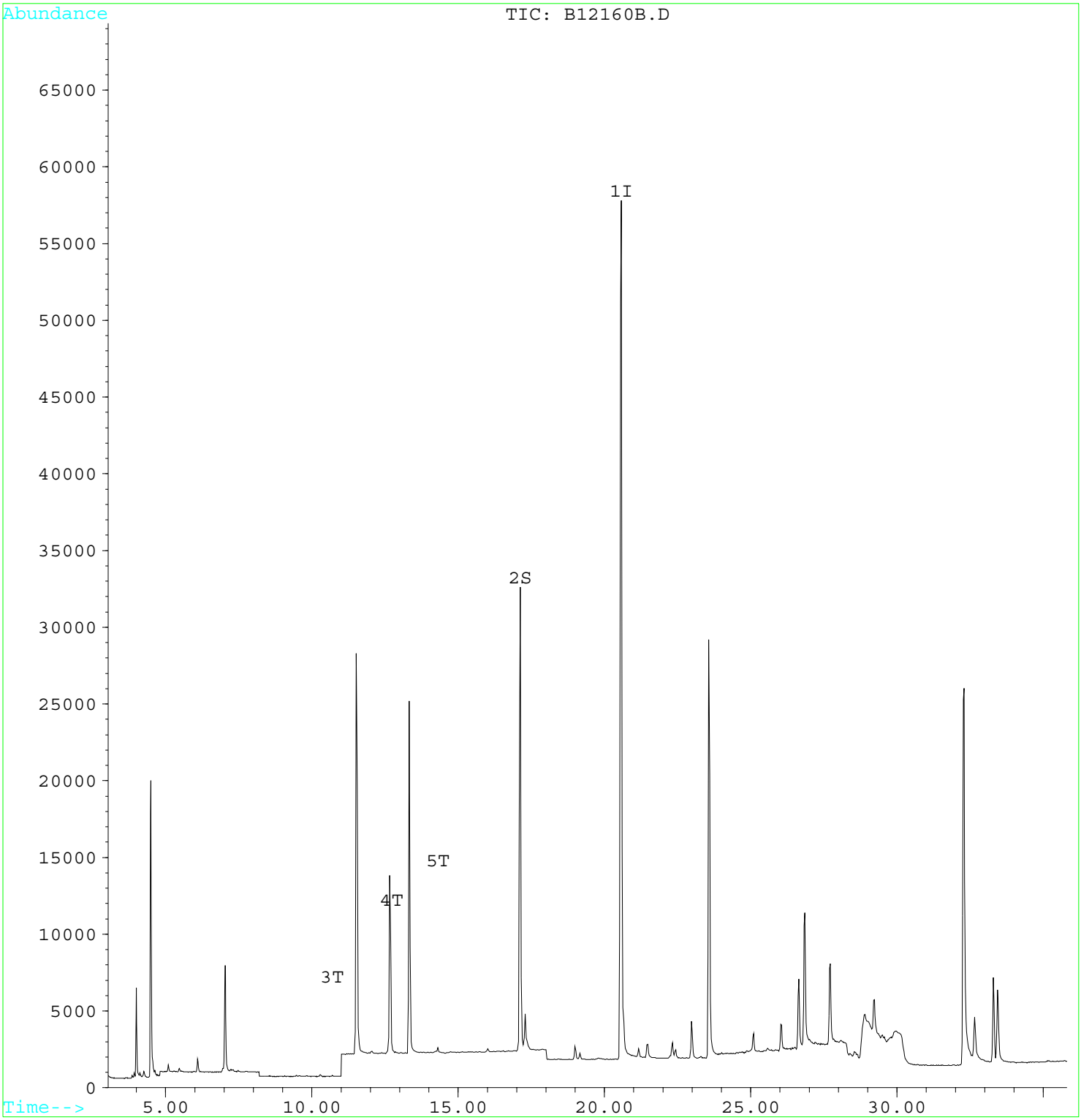
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.58	117	144681	0.20	ppbV	0.07
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	54790	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.70	83	158	0.00	ppbV	92
4) Carbon tetrachloride	12.72	117	54	0.00	ppbV	82
5) Trichloroethene	14.30	130	314	0.00	ppbV	92

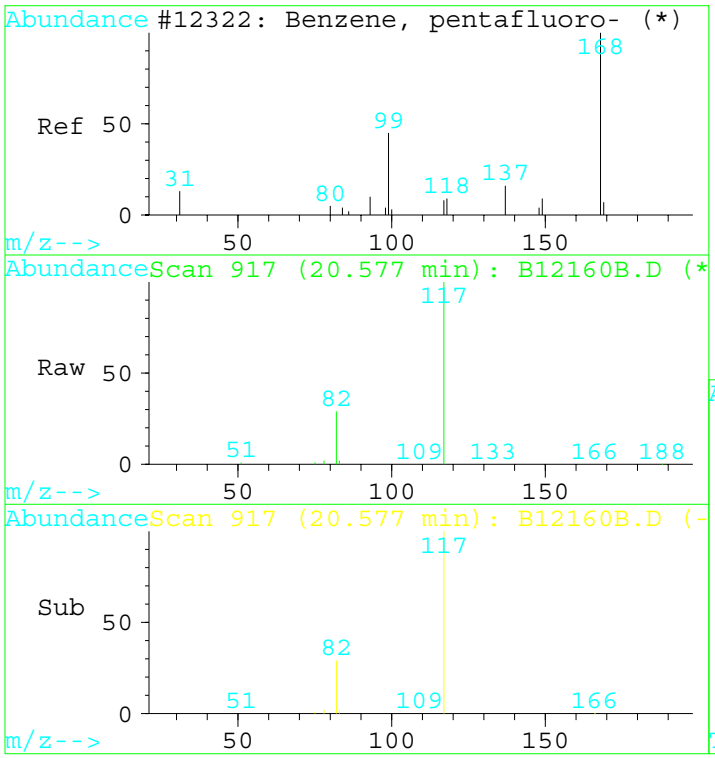
(#) = qualifier out of range (m) = manual integration
B12160B.D CNTHG_A.M Mon Dec 20 15:41:02 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\B12160B.D
Acq Time : 16 Dec 110 1:14 pm Operator: KB
Sample : METHOD BLANK Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

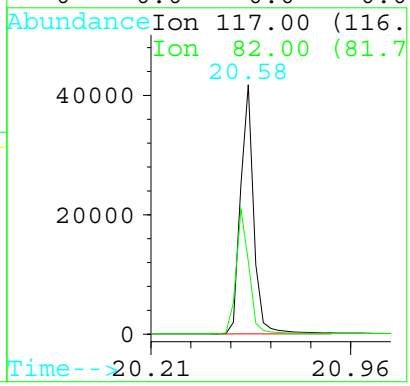


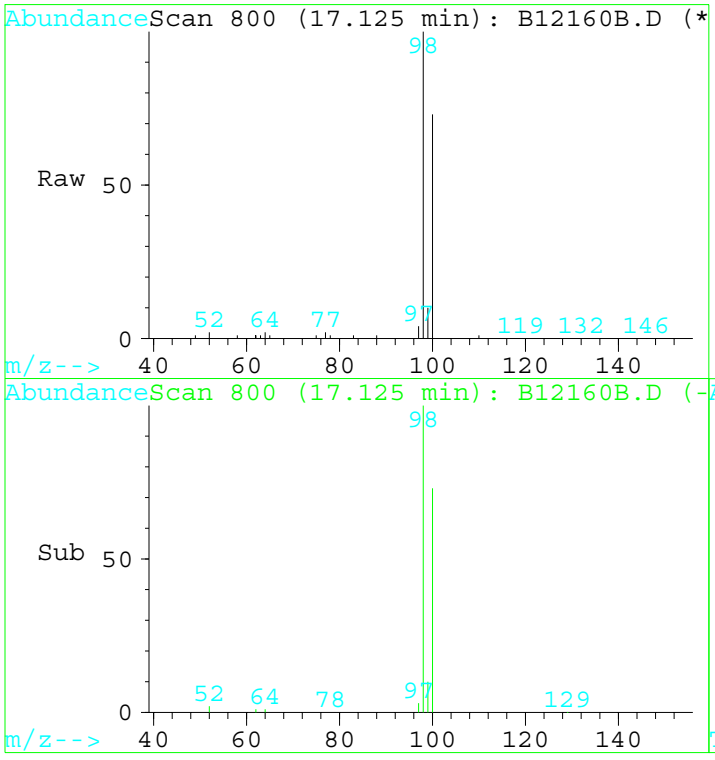


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 917
Delta R.T. 0.07 min
Lab File: B12160B.D
Acq: 16 Dec 110 1:14 pm

Tgt Ion:117 Resp: 144681

Ion	Ratio	Lower	Upper
117	100		
82	29.1	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

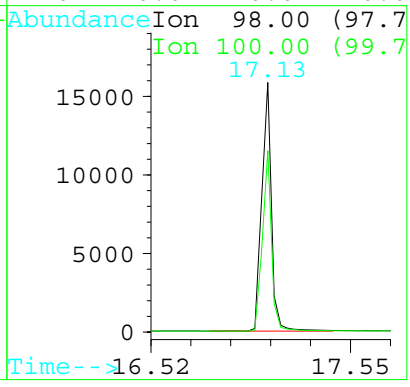


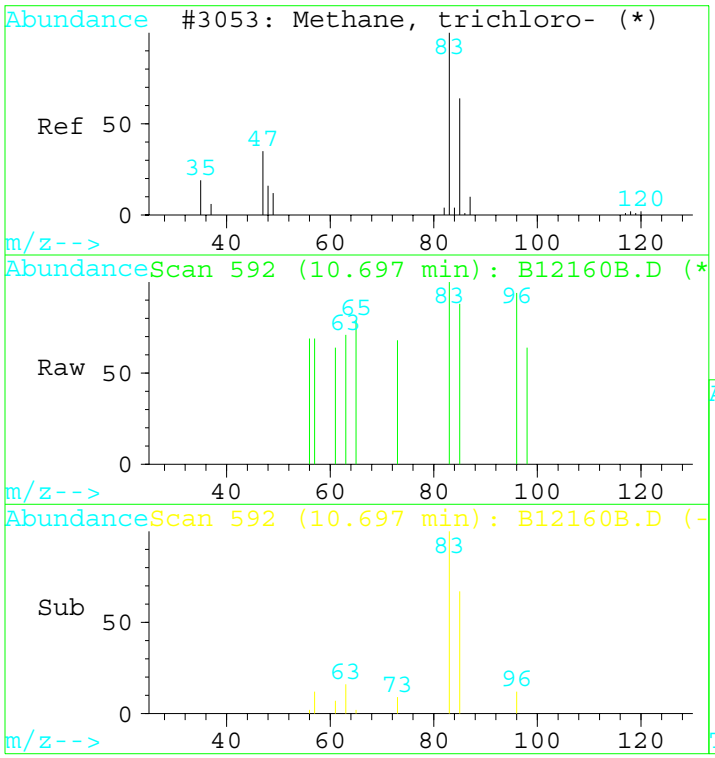


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.13 min Scan# 800
Delta R.T. 0.08 min
Lab File: B12160B.D
Acq: 16 Dec 110 1:14 pm

Tgt Ion:98 Resp: 54790

Ion	Ratio	Lower	Upper
98	100		
100	69.1	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

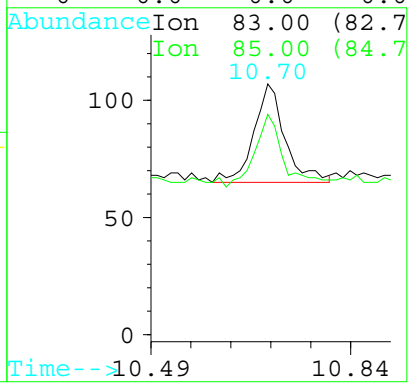


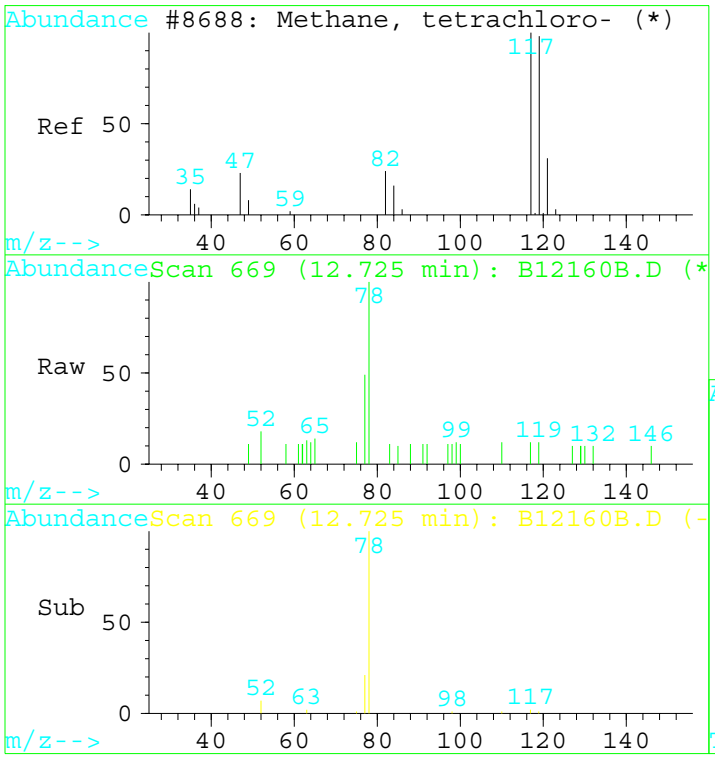


#3
Chloroform
Concen: 0.00 ppbV
RT: 10.70 min Scan# 592
Delta R.T. 0.04 min
Lab File: B12160B.D
Acq: 16 Dec 110 1:14 pm

Tgt Ion:83 Resp: 158

Ion	Ratio	Lower	Upper
83	100		
85	70.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

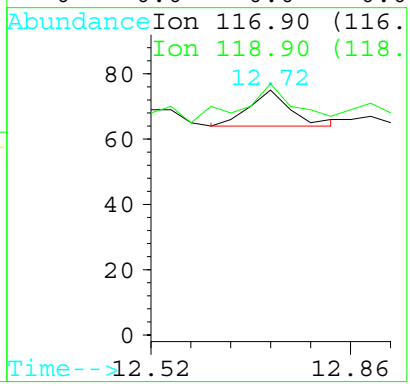


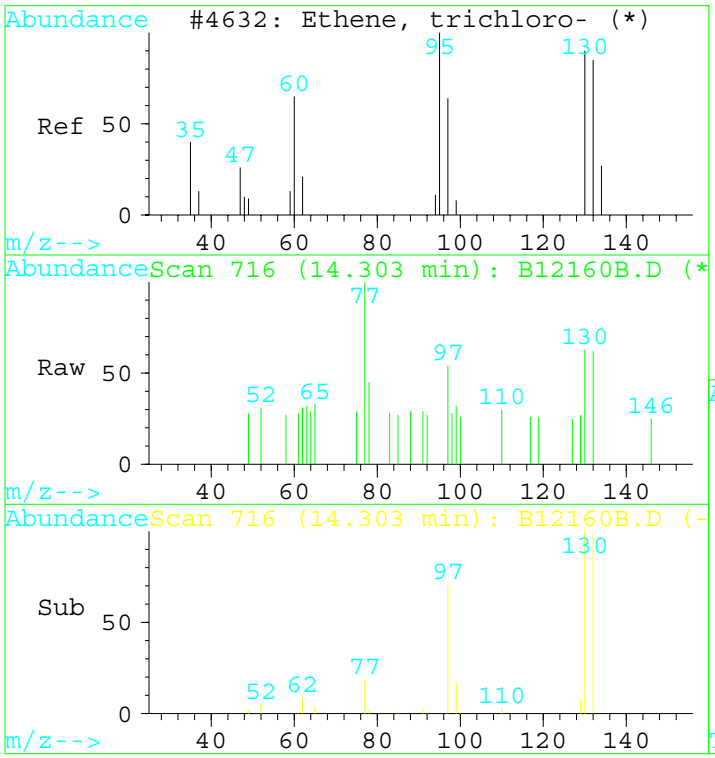


#4
Carbon tetrachloride
Concen: 0.00 ppbV
RT: 12.72 min Scan# 669
Delta R.T. 0.06 min
Lab File: B12160B.D
Acq: 16 Dec 110 1:14 pm

Tgt Ion:116.9 Resp: 54

Ion	Ratio	Lower	Upper
117	100		
119	85.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

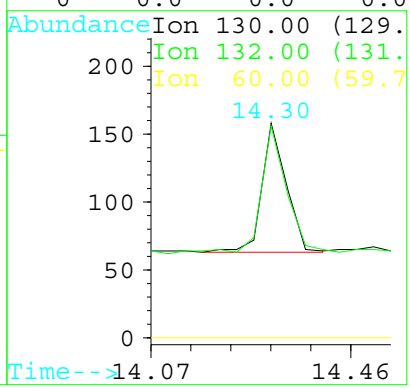




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.30 min Scan# 716
Delta R.T. 0.04 min
Lab File: B12160B.D
Acq: 16 Dec 110 1:14 pm

Tgt Ion:130 Resp: 314

Ion	Ratio	Lower	Upper
130	100		
132	96.8	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\QC12160A.D
Acq Time : 16 Dec 110 10:11 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:03 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

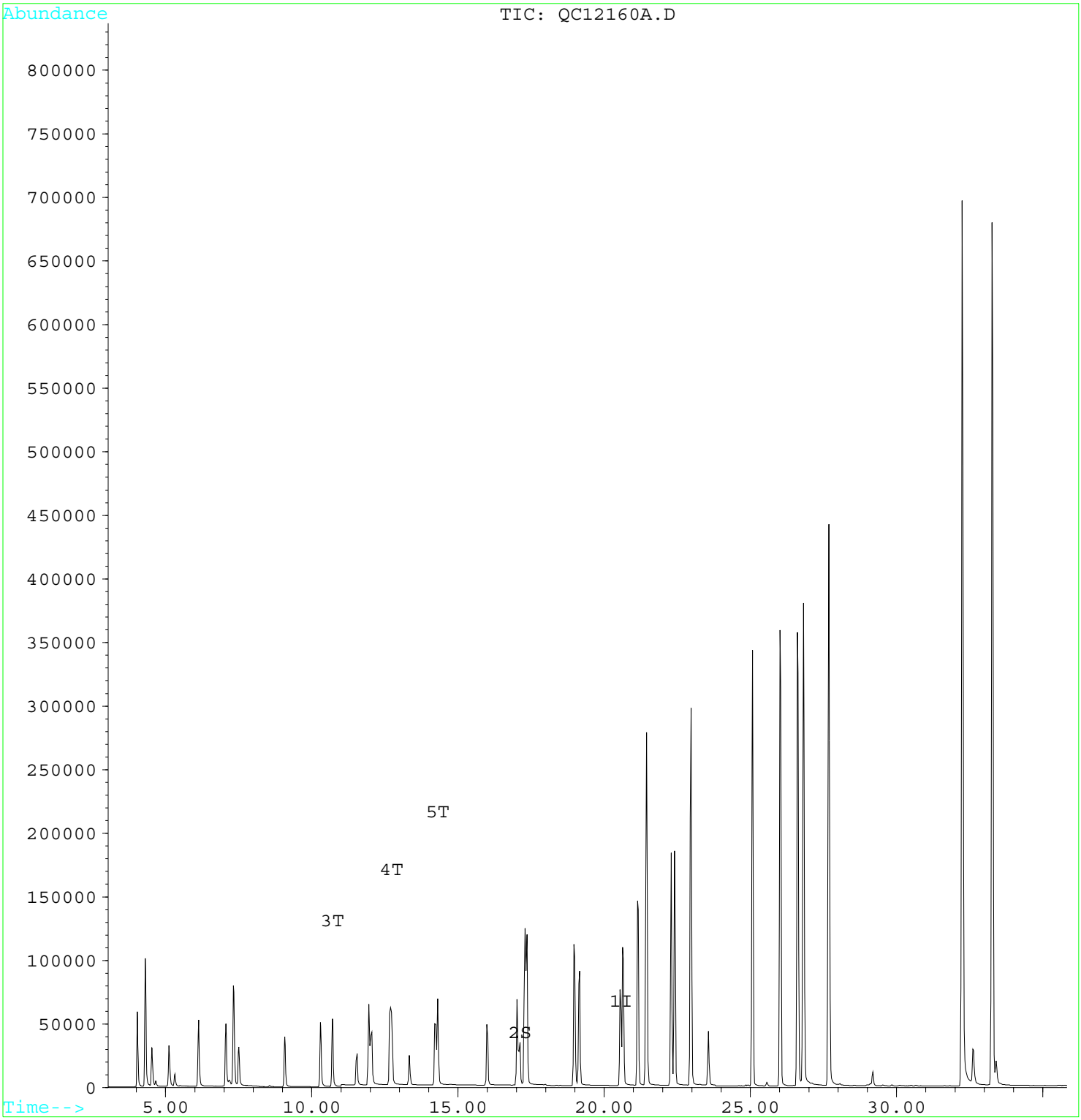
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	181616	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	63211	0.20	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.71	83	114751	0.61	ppbV	100
4) Carbon tetrachloride	12.73	117	88617	0.68	ppbV	94
5) Trichloroethene	14.30	130	75297	0.65	ppbV	94

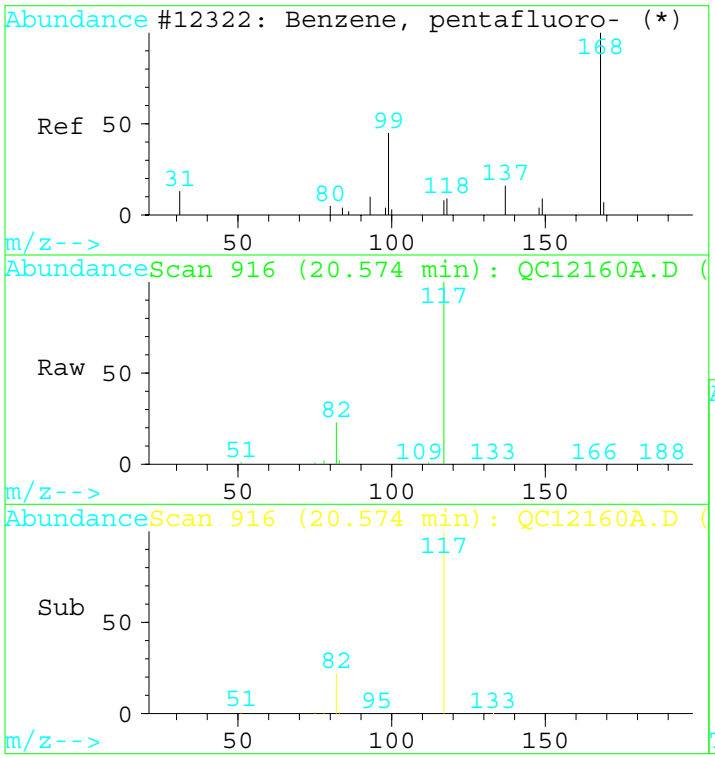
(#) = qualifier out of range (m) = manual integration
QC12160A.D CNTHG_A.M Mon Dec 20 15:44:34 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\QC12160A.D
Acq Time : 16 Dec 110 10:11 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:03 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

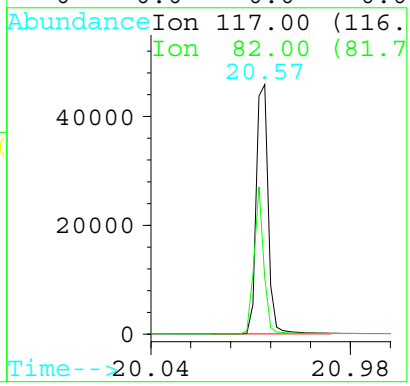


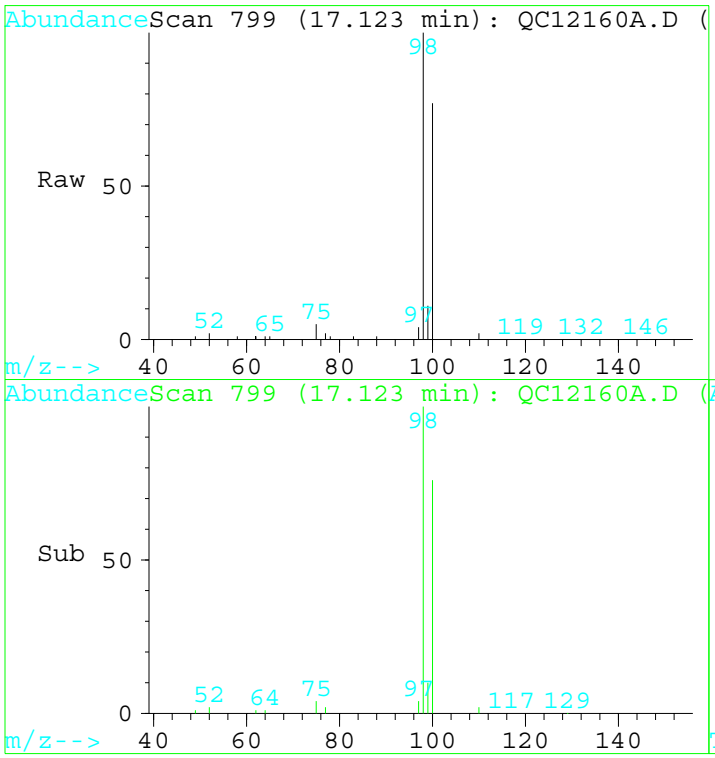


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 916
Delta R.T. 0.06 min
Lab File: QC12160A.D
Acq: 16 Dec 110 10:11 am

Tgt Ion:117 Resp: 181616

Ion	Ratio	Lower	Upper
117	100		
82	22.4	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

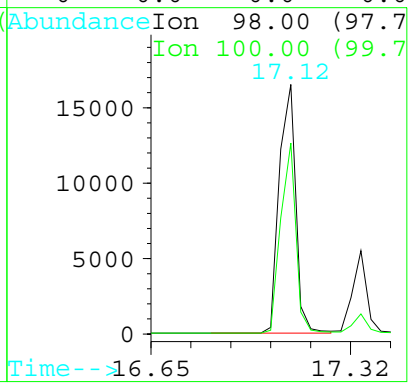


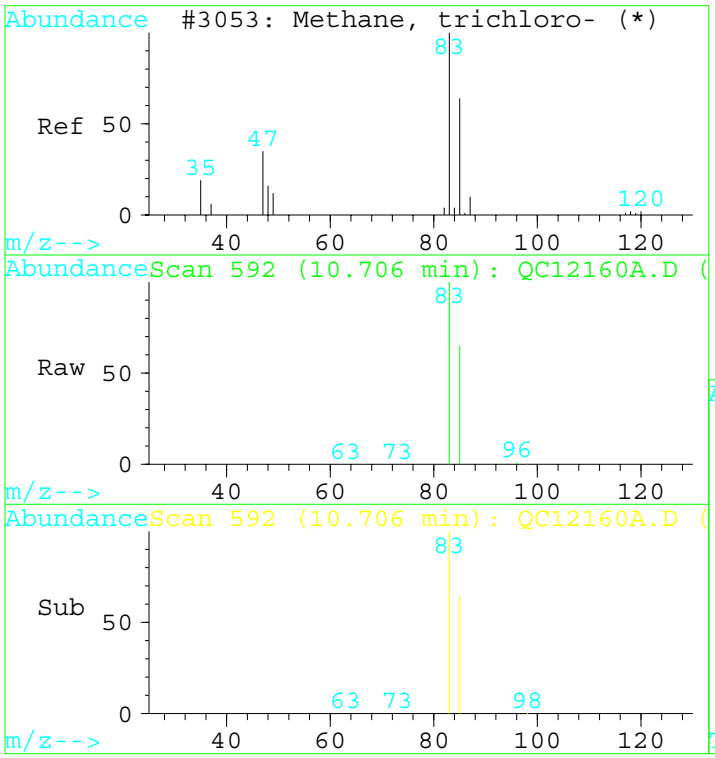


#2
Toluene-d8
Concen: 0.20 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: QC12160A.D
Acq: 16 Dec 110 10:11 am

Tgt Ion:98 Resp: 63211

Ion	Ratio	Lower	Upper
98	100		
100	70.9	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

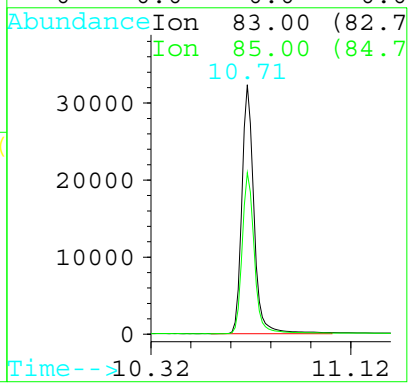


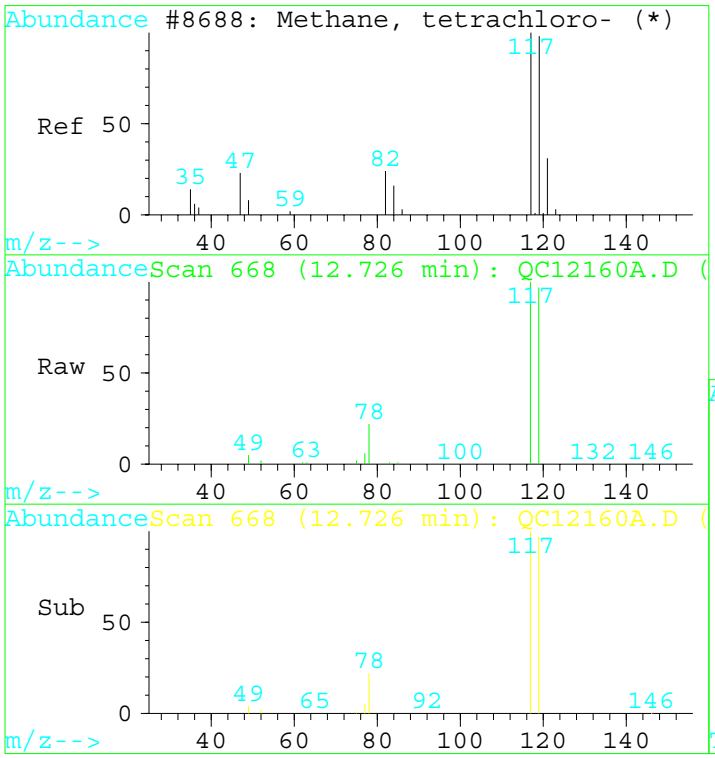


#3
Chloroform
Concen: 0.61 ppbV
RT: 10.71 min Scan# 592
Delta R.T. 0.05 min
Lab File: QC12160A.D
Acq: 16 Dec 110 10:11 am

Tgt Ion:83 Resp: 114751

Ion	Ratio	Lower	Upper
83	100		
85	64.6	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

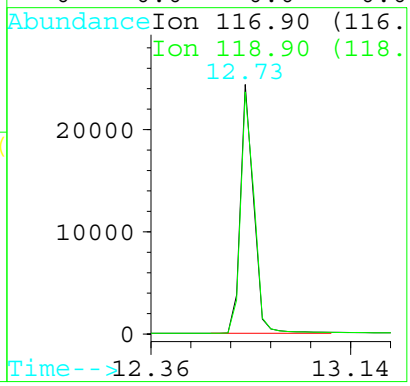


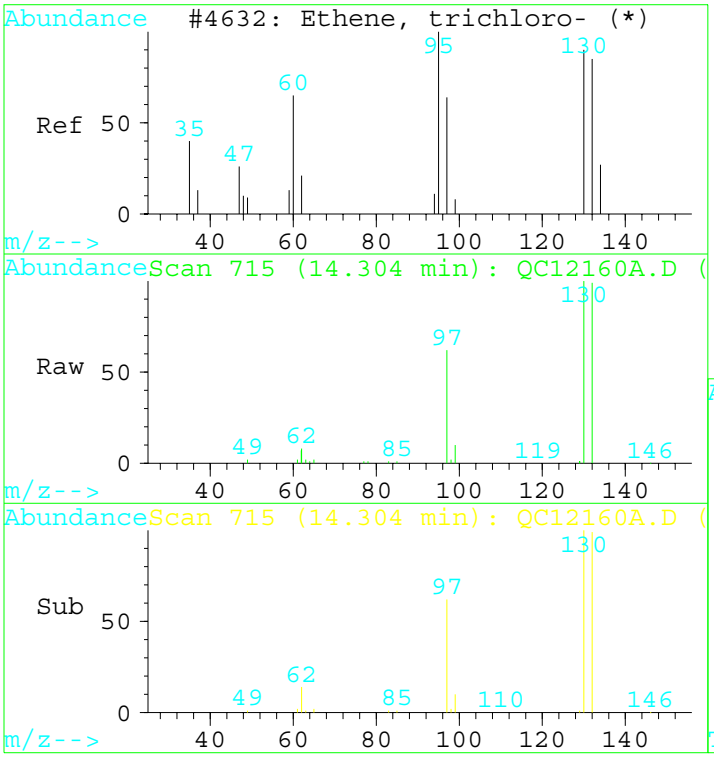


#4
Carbon tetrachloride
Concen: 0.68 ppbV
RT: 12.73 min Scan# 668
Delta R.T. 0.07 min
Lab File: QC12160A.D
Acq: 16 Dec 110 10:11 am

Tgt Ion:116.9 Resp: 88617

Ion	Ratio	Lower	Upper
117	100		
119	97.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

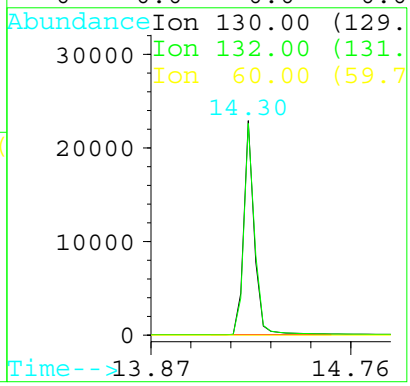




#5
Trichloroethene
Concen: 0.65 ppbV
RT: 14.30 min Scan# 715
Delta R.T. 0.04 min
Lab File: QC12160A.D
Acq: 16 Dec 110 10:11 am

Tgt Ion:130 Resp: 75297

Ion	Ratio	Lower	Upper
130	100		
132	98.7	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\QC12160B.D
Acq Time : 16 Dec 110 10:57 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:03 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

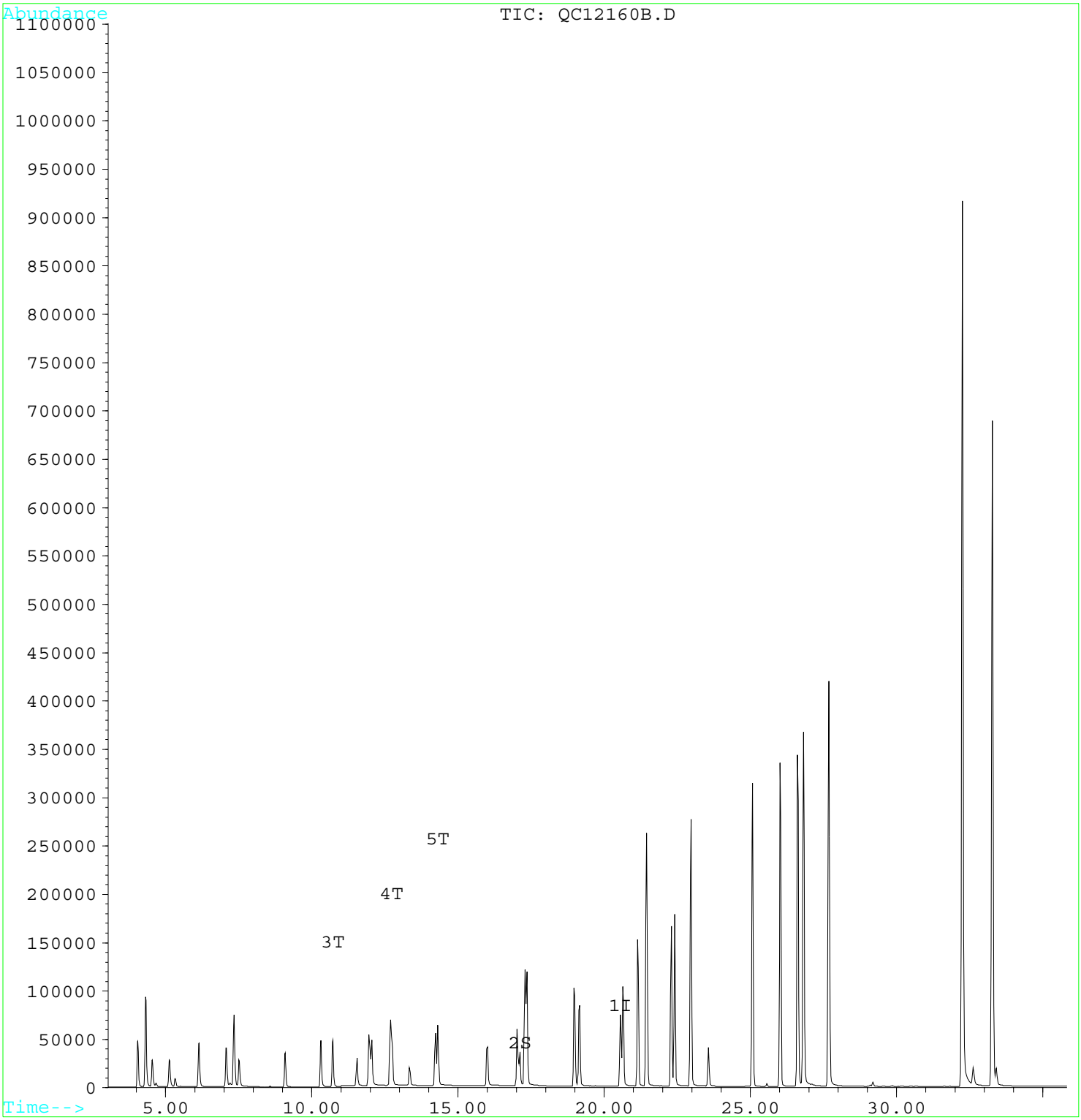
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.55	117	169029	0.20	ppbV	0.04
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	60646	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	109578	0.63	ppbV	97
4) Carbon tetrachloride	12.73	117	83858	0.69	ppbV	93
5) Trichloroethene	14.31	130	70960	0.66	ppbV	94

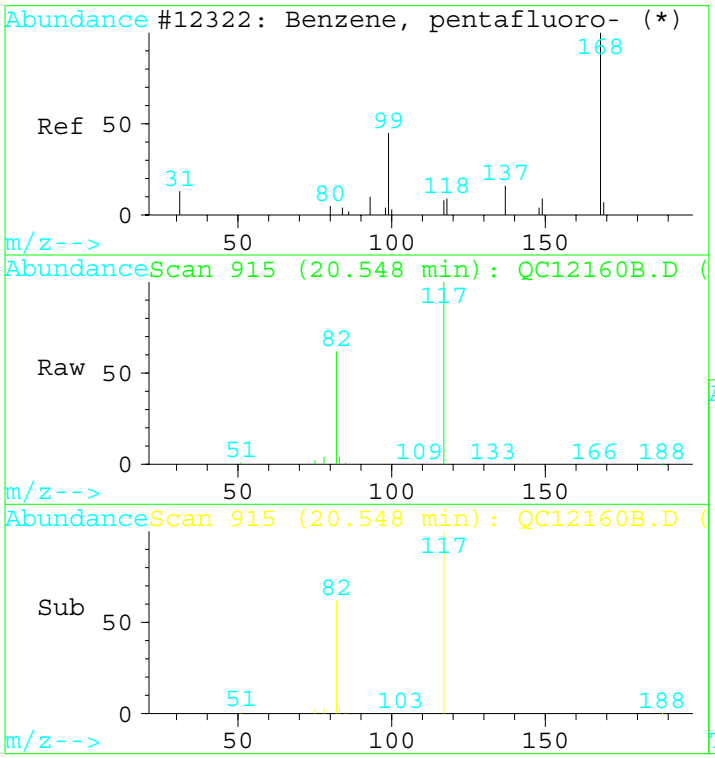
(#) = qualifier out of range (m) = manual integration
QC12160B.D CNTHG_A.M Mon Dec 20 15:45:51 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\QC12160B.D
Acq Time : 16 Dec 110 10:57 am Operator: KT
Sample : ST60022 Inst : MSC HP597
Misc : Multiplr: 1.00
Quant Time: Dec 20 15:03 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

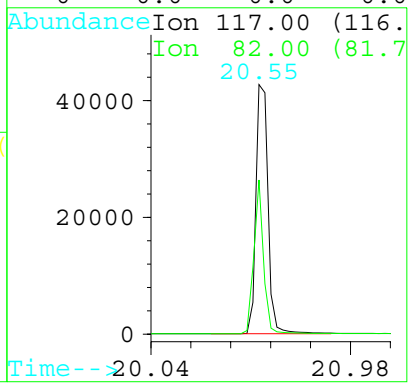


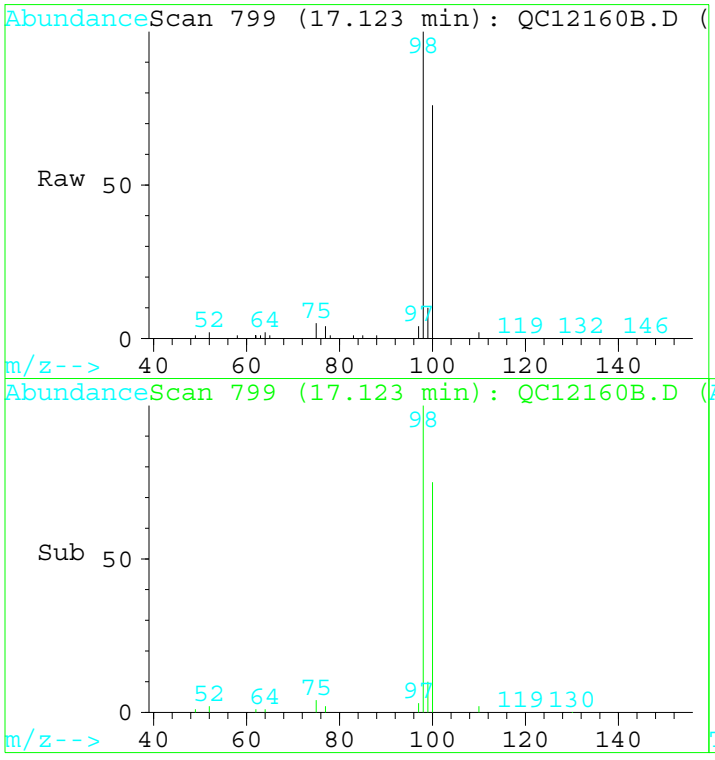


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.55 min Scan# 915
Delta R.T. 0.04 min
Lab File: QC12160B.D
Acq: 16 Dec 110 10:57 am

Tgt Ion:117 Resp: 169029

Ion	Ratio	Lower	Upper
117	100		
82	61.8	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

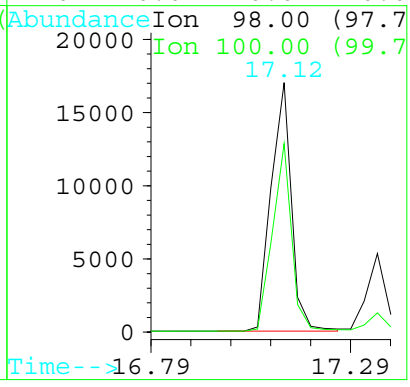


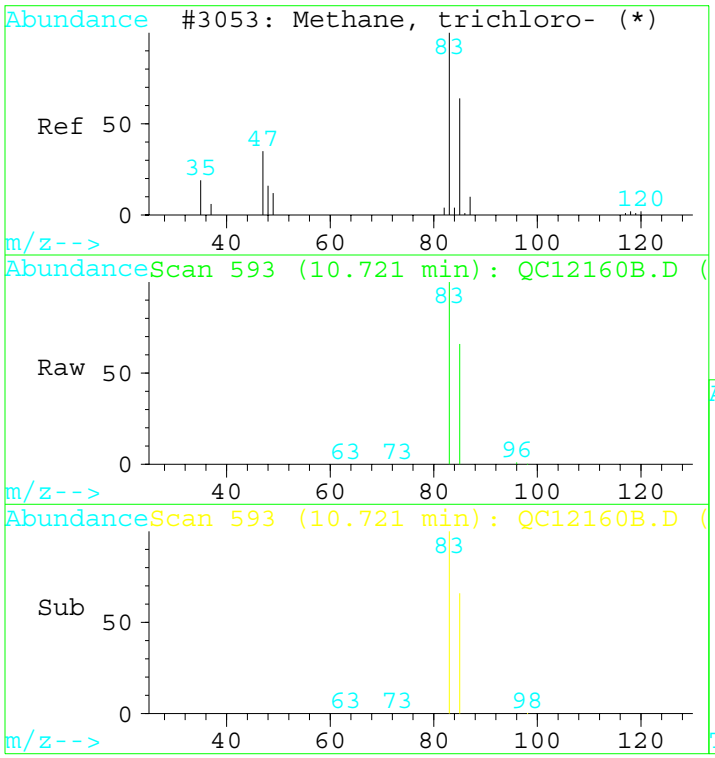


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.12 min Scan# 799
Delta R.T. 0.07 min
Lab File: QC12160B.D
Acq: 16 Dec 110 10:57 am

Tgt Ion:98 Resp: 60646

Ion	Ratio	Lower	Upper
98	100		
100	70.7	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

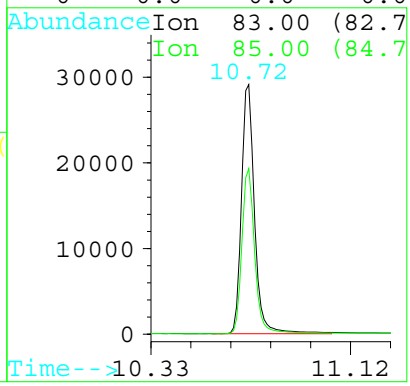


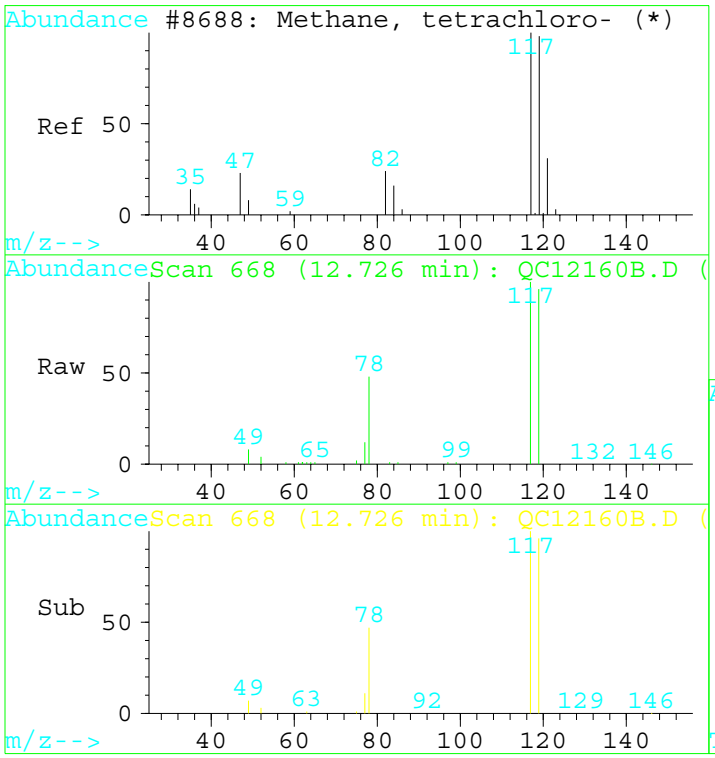


#3
Chloroform
Concen: 0.63 ppbV
RT: 10.72 min Scan# 593
Delta R.T. 0.06 min
Lab File: QC12160B.D
Acq: 16 Dec 110 10:57 am

Tgt Ion:83 Resp: 109578

Ion	Ratio	Lower	Upper
83	100		
85	66.3	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

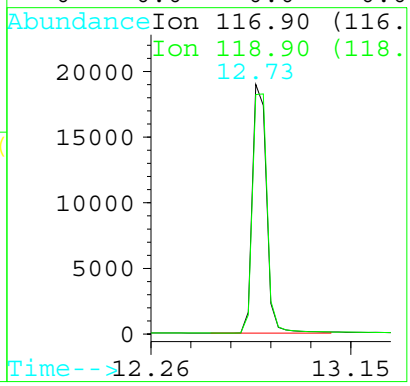


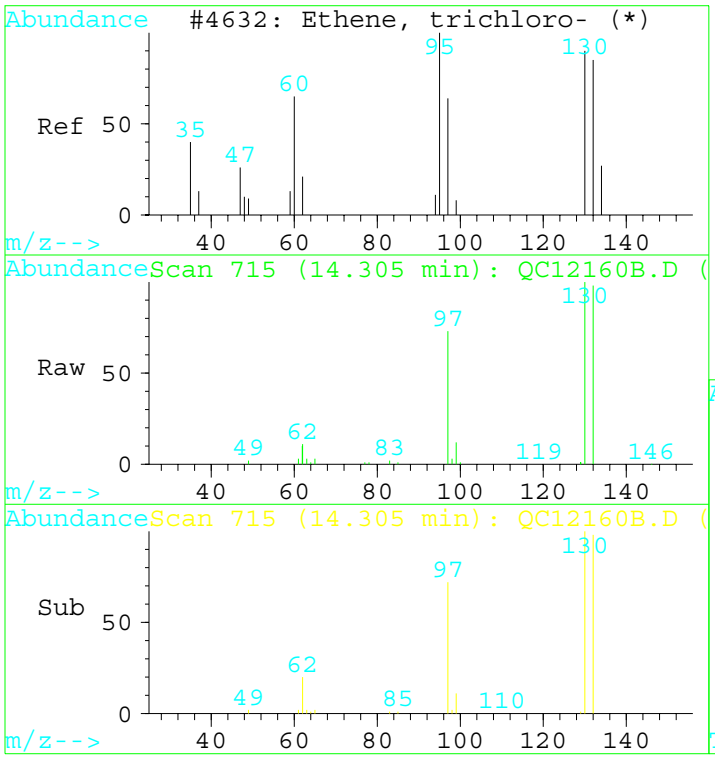


#4
Carbon tetrachloride
Concen: 0.69 ppbV
RT: 12.73 min Scan# 668
Delta R.T. 0.07 min
Lab File: QC12160B.D
Acq: 16 Dec 110 10:57 am

Tgt Ion:116.9 Resp: 83858

Ion	Ratio	Lower	Upper
117	100		
119	95.9	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

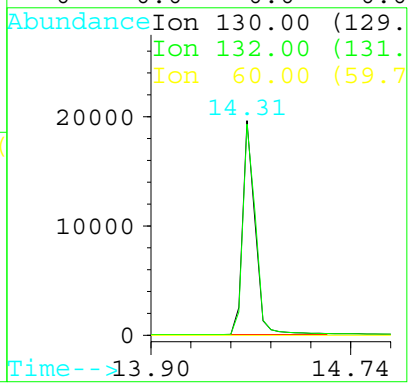




#5
Trichloroethene
Concen: 0.66 ppbV
RT: 14.31 min Scan# 715
Delta R.T. 0.05 min
Lab File: QC12160B.D
Acq: 16 Dec 110 10:57 am

Tgt Ion:130 Resp: 70960

Ion	Ratio	Lower	Upper
130	100		
132	98.4	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048618A.D
Acq Time : 16 Dec 110 2:07 pm Operator: KT
Sample : IA-BP-SO-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

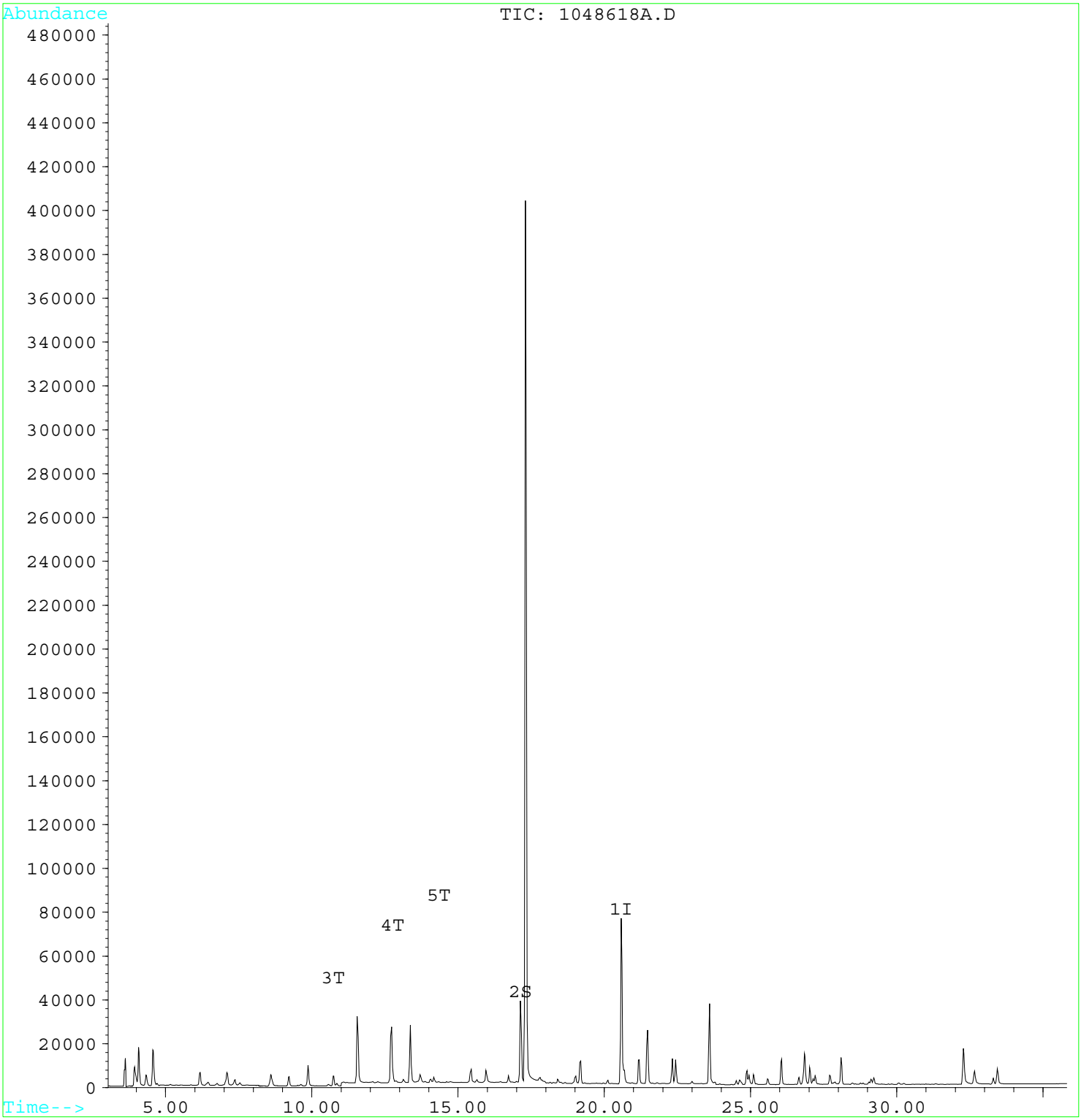
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.58	117	175726	0.20	ppbV	0.07
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	69306	0.23	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.73	83	10263	0.06	ppbV	98
4) Carbon tetrachloride	12.76	117	3702	0.03	ppbV	95
5) Trichloroethene	14.34	130	492	0.00	ppbV	90

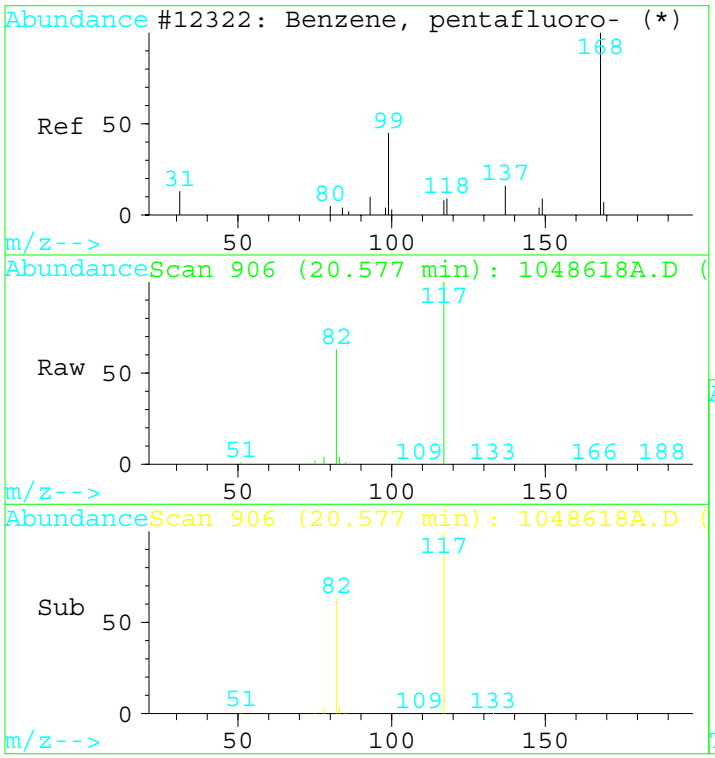
(#) = qualifier out of range (m) = manual integration
1048618A.D CNTHG_A.M Mon Dec 20 15:04:29 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048618A.D
Acq Time : 16 Dec 110 2:07 pm Operator: KT
Sample : IA-BP-SO-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

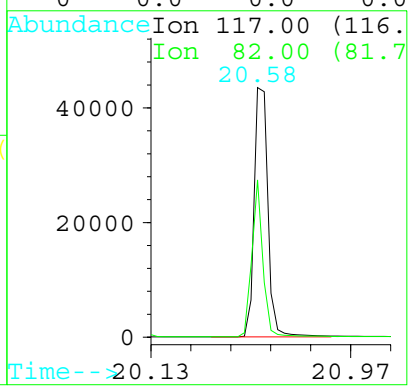


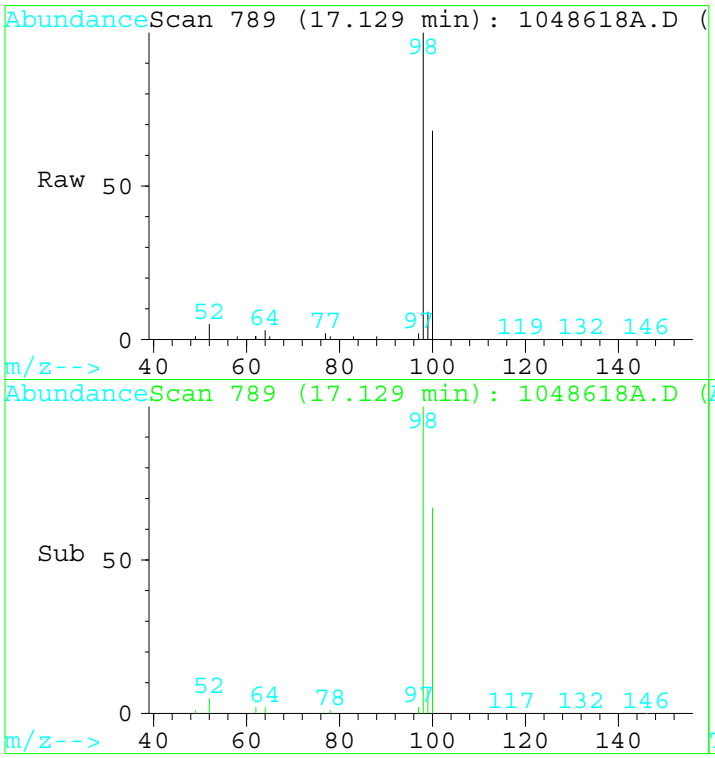


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.58 min Scan# 906
Delta R.T. 0.07 min
Lab File: 1048618A.D
Acq: 16 Dec 110 2:07 pm

Tgt Ion:117 Resp: 175726

Ion	Ratio	Lower	Upper
117	100		
82	63.0	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

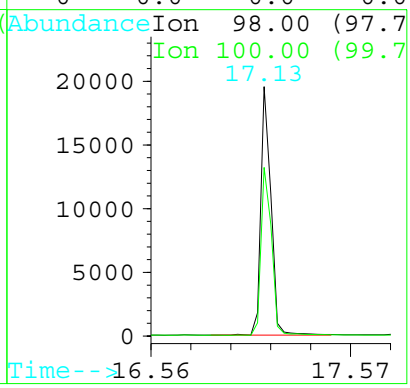


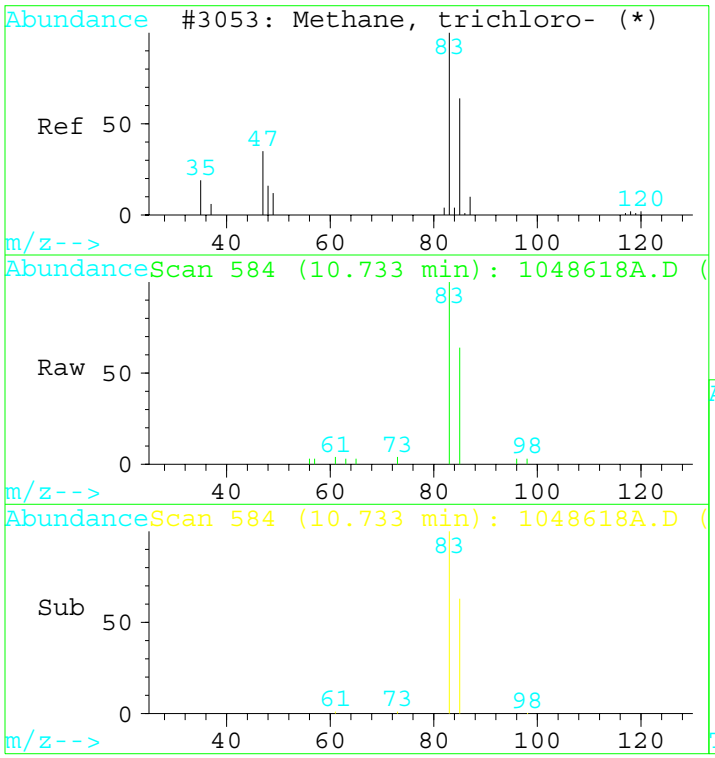


#2
Toluene-d8
Concen: 0.23 ppbV
RT: 17.13 min Scan# 789
Delta R.T. 0.08 min
Lab File: 1048618A.D
Acq: 16 Dec 110 2:07 pm

Tgt Ion:98 Resp: 69306

Ion	Ratio	Lower	Upper
98	100		
100	70.4	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

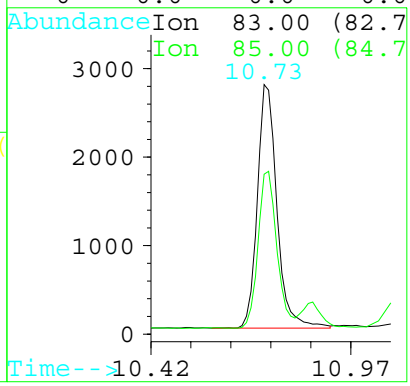


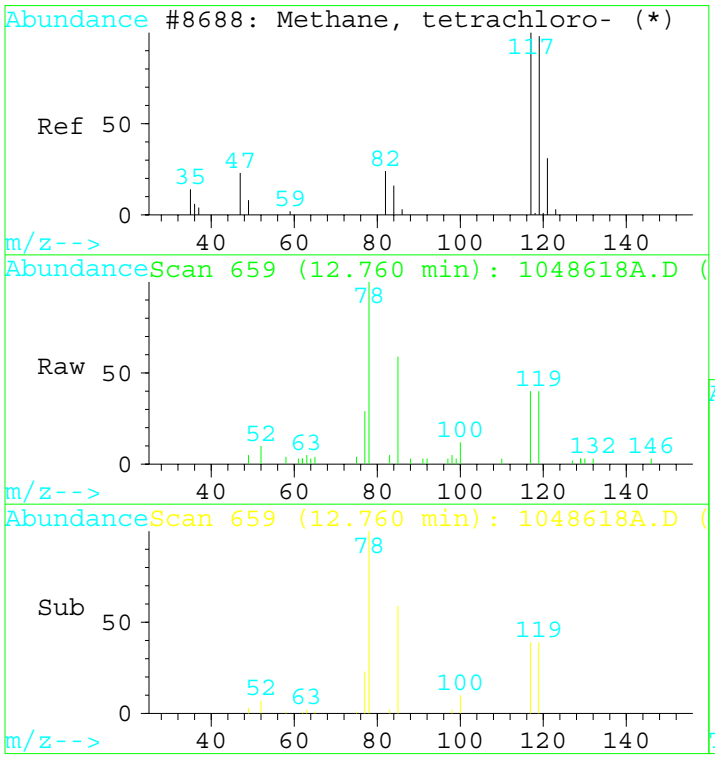


#3
Chloroform
Concen: 0.06 ppbV
RT: 10.73 min Scan# 584
Delta R.T. 0.07 min
Lab File: 1048618A.D
Acq: 16 Dec 110 2:07 pm

Tgt Ion:83 Resp: 10263

Ion	Ratio	Lower	Upper
83	100		
85	62.6	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

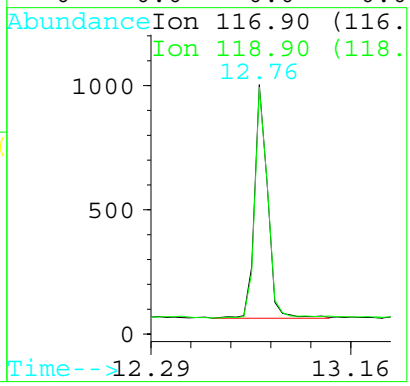


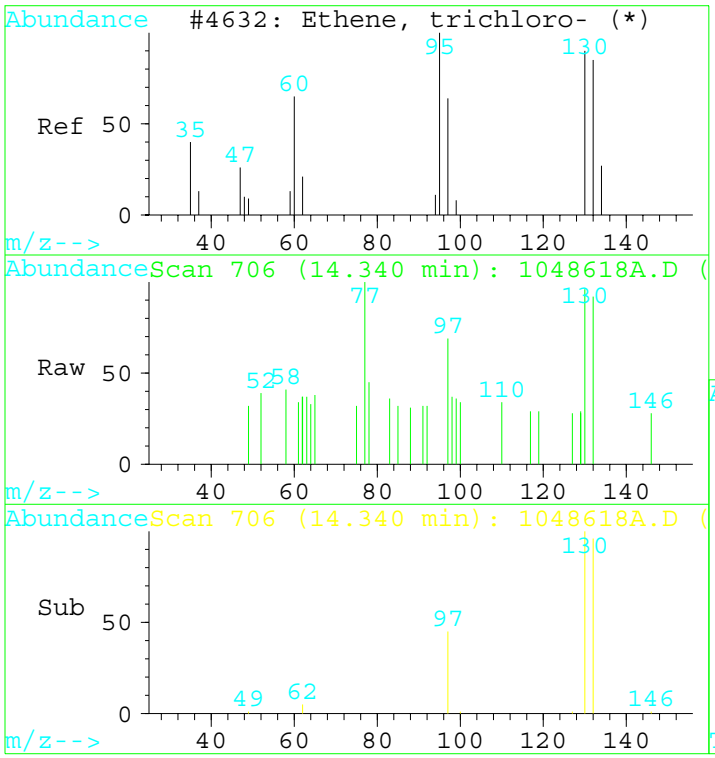


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.76 min Scan# 659
Delta R.T. 0.10 min
Lab File: 1048618A.D
Acq: 16 Dec 110 2:07 pm

Tgt Ion:116.9 Resp: 3702

Ion	Ratio	Lower	Upper
117	100		
119	98.3	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

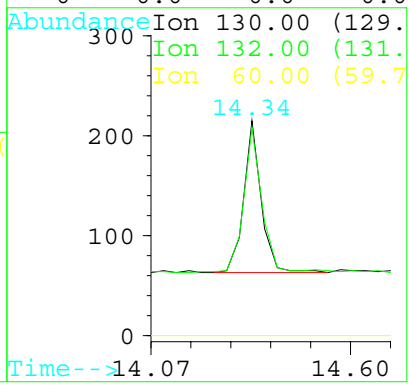




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.34 min Scan# 706
Delta R.T. 0.08 min
Lab File: 1048618A.D
Acq: 16 Dec 110 2:07 pm

Tgt Ion:130 Resp: 492

Ion	Ratio	Lower	Upper
130	100		
132	94.4	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048619A.D
Acq Time : 16 Dec 110 2:51 pm Operator: KT
Sample : OA-BP-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

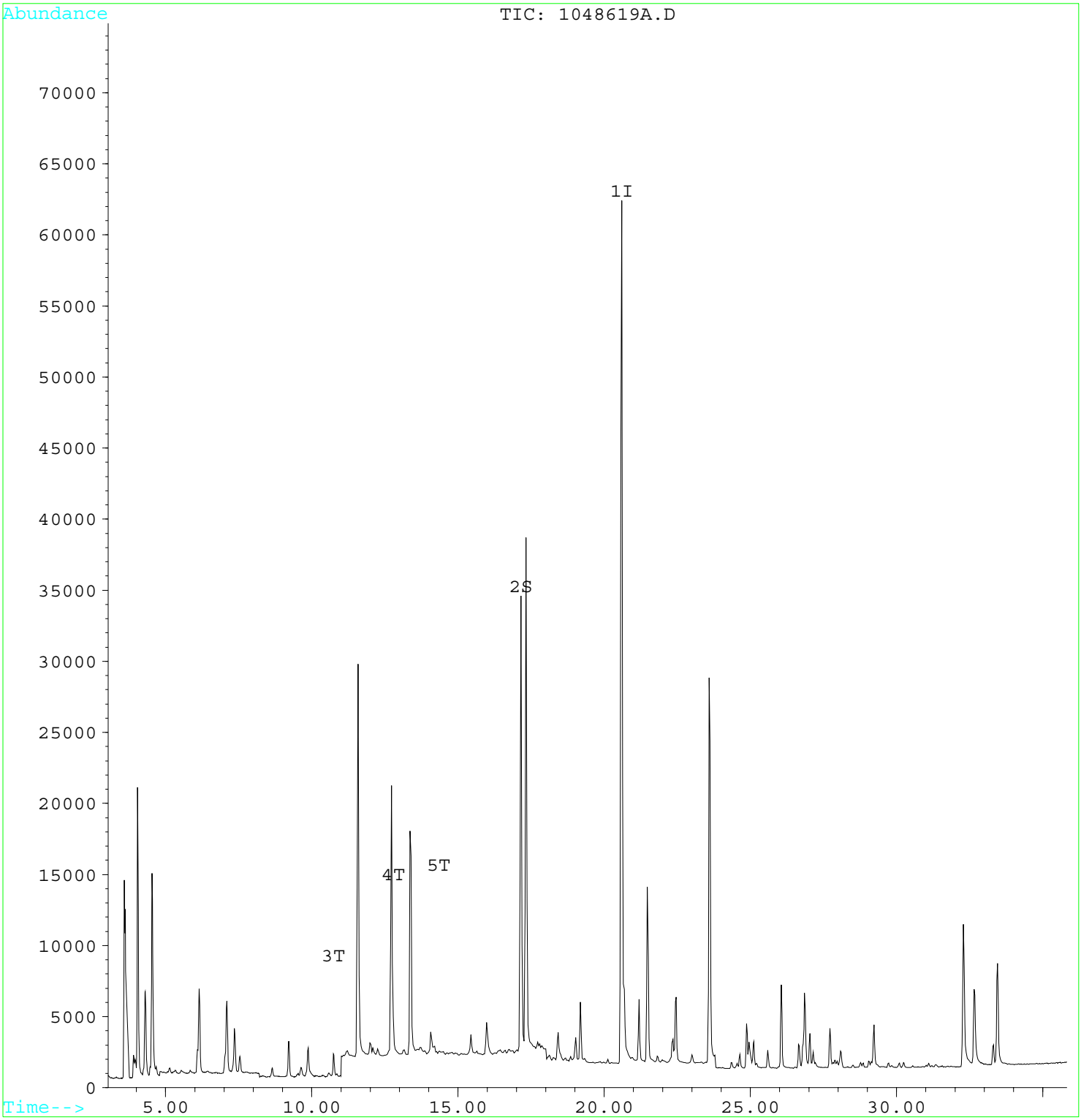
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	149308	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.16	98	56972	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.74	83	3226	0.02	ppbV	99
4) Carbon tetrachloride	12.79	117	3804	0.04	ppbV	98
5) Trichloroethene	14.34	130	274	0.00	ppbV	88

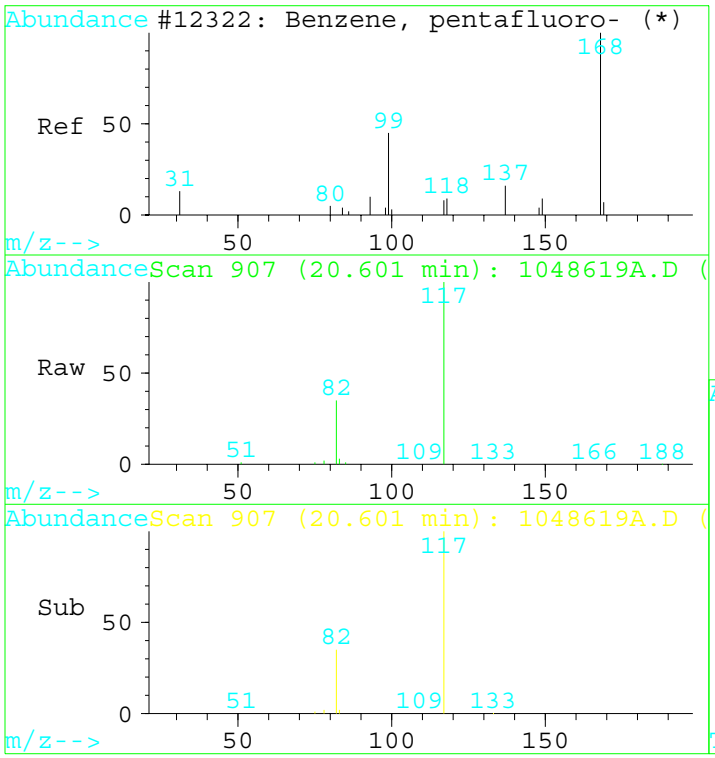
(#) = qualifier out of range (m) = manual integration
1048619A.D CNTHG_A.M Mon Dec 20 15:04:57 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048619A.D
Acq Time : 16 Dec 110 2:51 pm Operator: KT
Sample : OA-BP-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

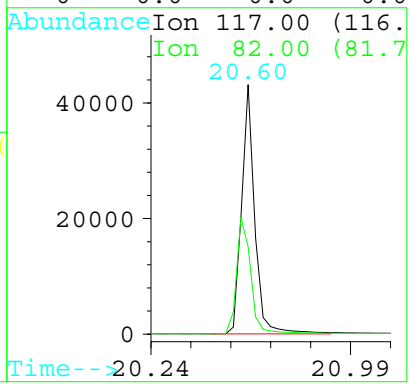


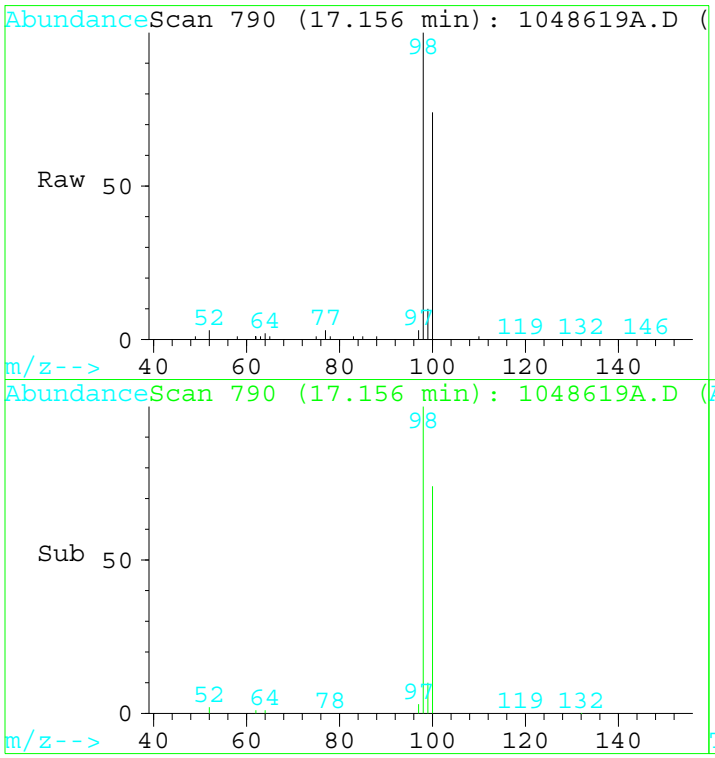


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 907
Delta R.T. 0.09 min
Lab File: 1048619A.D
Acq: 16 Dec 110 2:51 pm

Tgt Ion:117 Resp: 149308

Ion	Ratio	Lower	Upper
117	100		
82	34.9	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

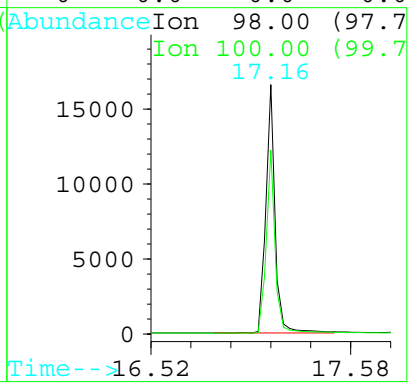


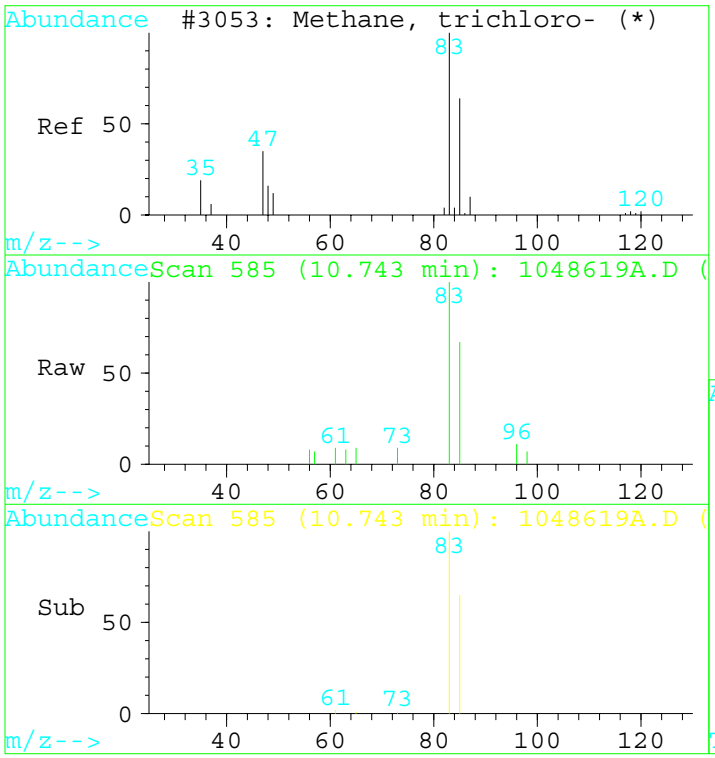


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.16 min Scan# 790
Delta R.T. 0.11 min
Lab File: 1048619A.D
Acq: 16 Dec 110 2:51 pm

Tgt Ion:98 Resp: 56972

Ion	Ratio	Lower	Upper
98	100		
100	70.7	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

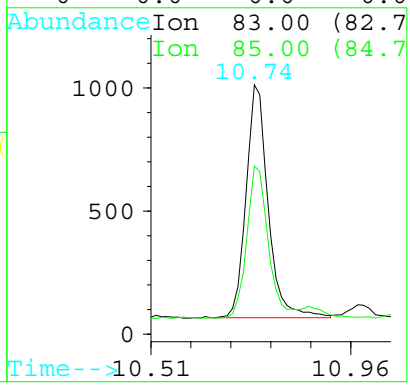


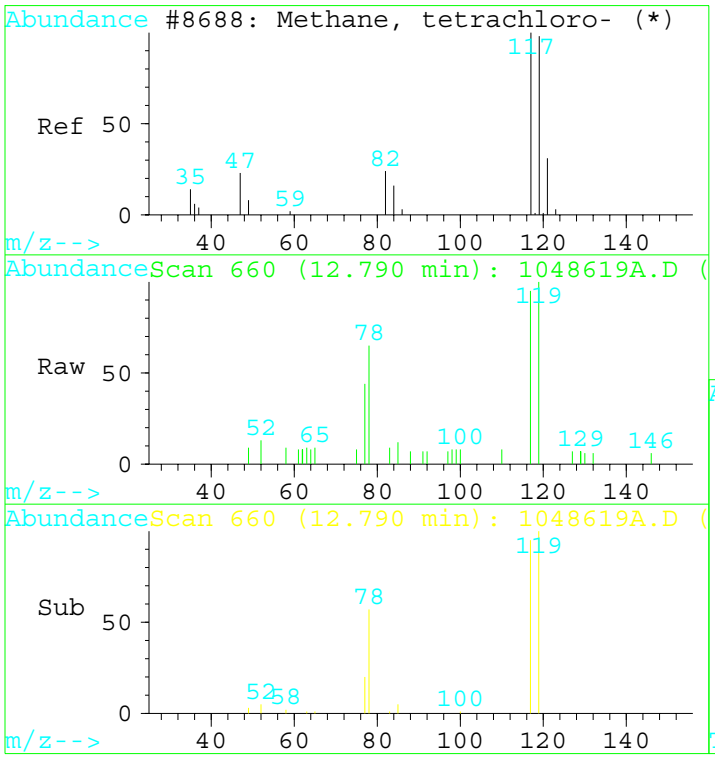


#3
Chloroform
Concen: 0.02 ppbV
RT: 10.74 min Scan# 585
Delta R.T. 0.08 min
Lab File: 1048619A.D
Acq: 16 Dec 110 2:51 pm

Tgt Ion:83 Resp: 3226

Ion	Ratio	Lower	Upper
83	100		
85	64.8	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

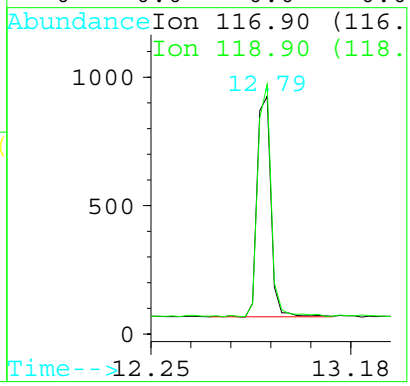


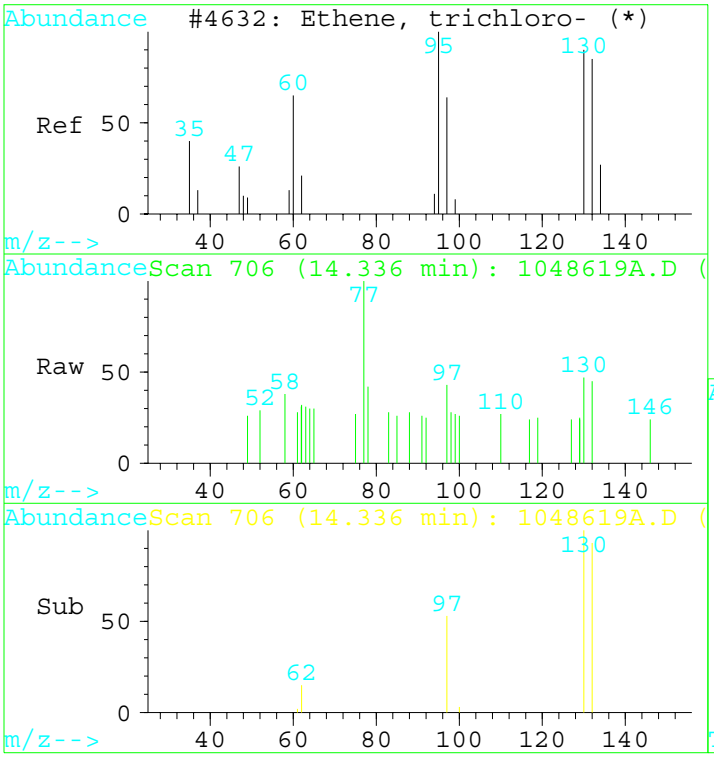


#4
Carbon tetrachloride
Concen: 0.04 ppbV
RT: 12.79 min Scan# 660
Delta R.T. 0.13 min
Lab File: 1048619A.D
Acq: 16 Dec 110 2:51 pm

Tgt Ion:116.9 Resp: 3804

Ion	Ratio	Lower	Upper
117	100		
119	105.1	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

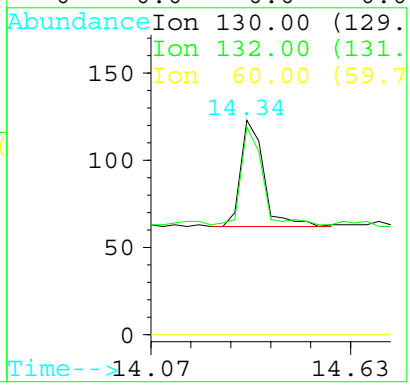




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.34 min Scan# 706
Delta R.T. 0.08 min
Lab File: 1048619A.D
Acq: 16 Dec 110 2:51 pm

Tgt Ion:130 Resp: 274

Ion	Ratio	Lower	Upper
130	100		
132	92.6	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048620A.D
Acq Time : 16 Dec 110 3:34 pm Operator: KT
Sample : IA-LB-O1-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

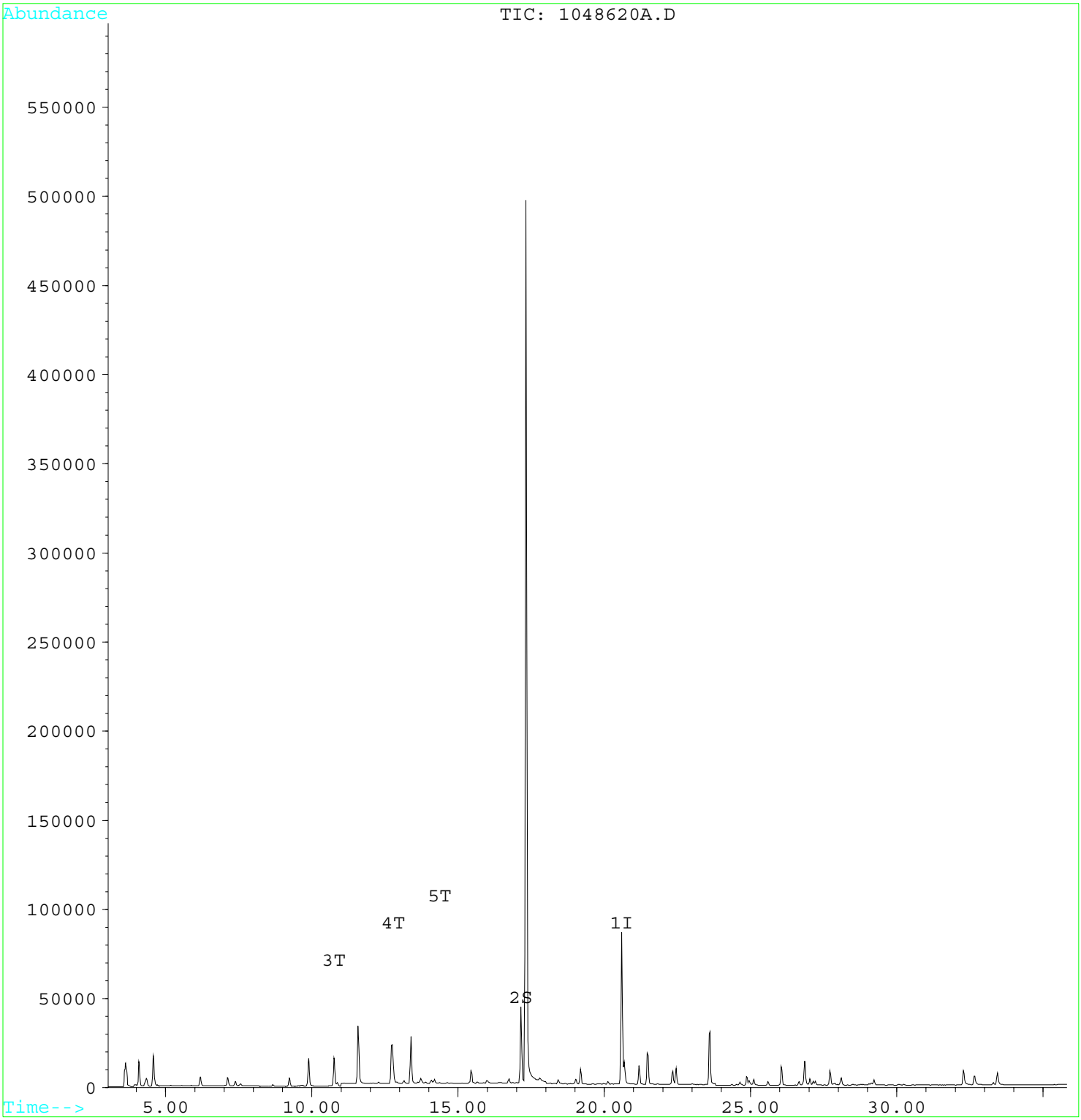
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	189617	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	73985	0.23	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.76	83	38228	0.20	ppbV	99
4) Carbon tetrachloride	12.78	117	12208	0.09	ppbV	95
5) Trichloroethene	14.36	130	507	0.00	ppbV	100

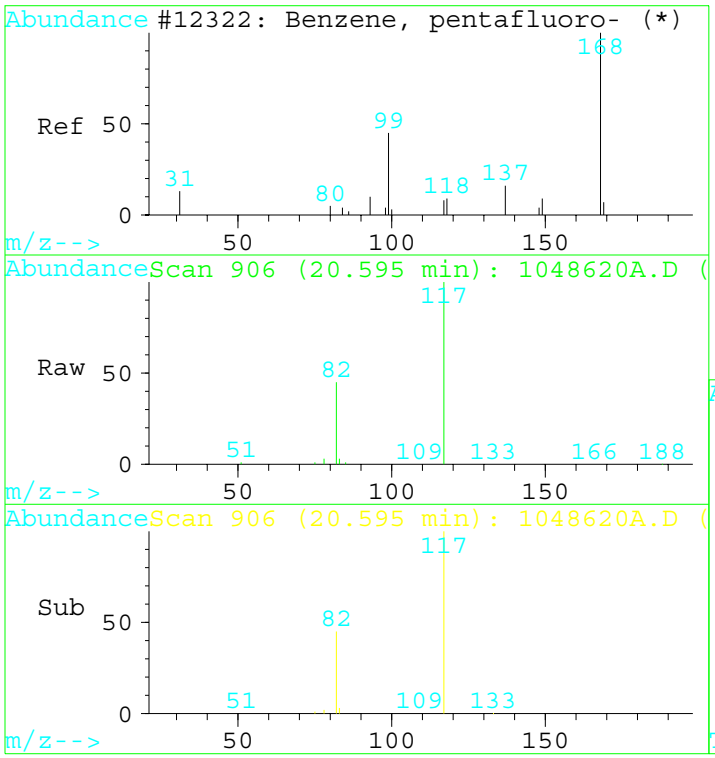
(#) = qualifier out of range (m) = manual integration
1048620A.D CNTHG_A.M Mon Dec 20 15:05:22 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048620A.D
Acq Time : 16 Dec 110 3:34 pm Operator: KT
Sample : IA-LB-01-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

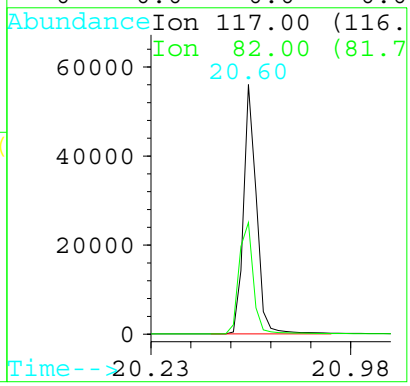


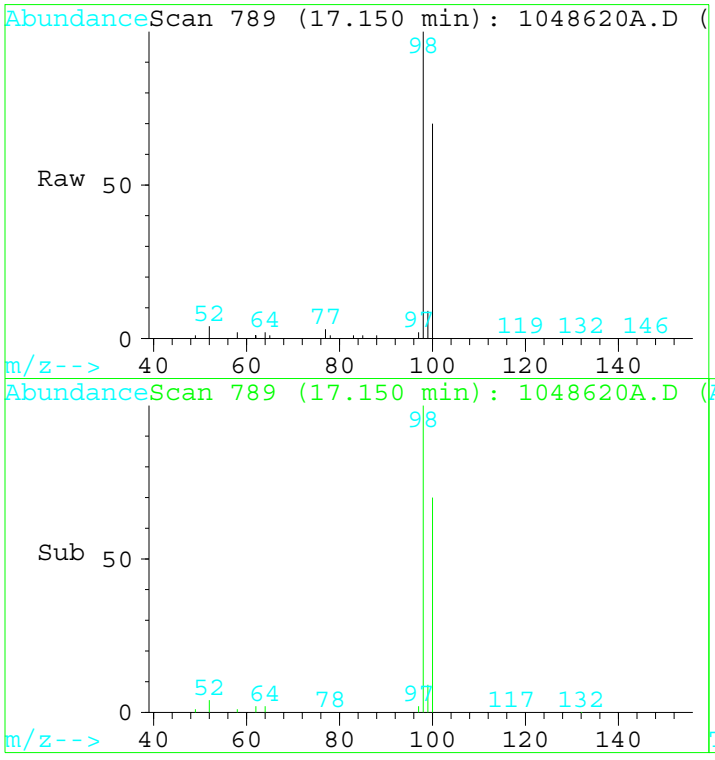


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 906
Delta R.T. 0.09 min
Lab File: 1048620A.D
Acq: 16 Dec 110 3:34 pm

Tgt Ion:117 Resp: 189617

Ion	Ratio	Lower	Upper
117	100		
82	44.7	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

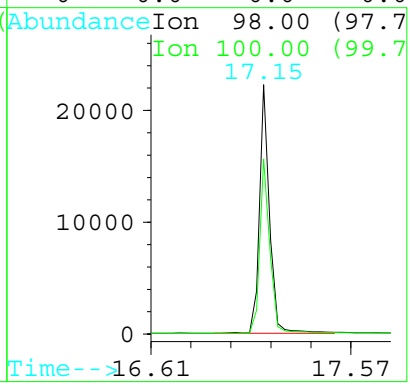


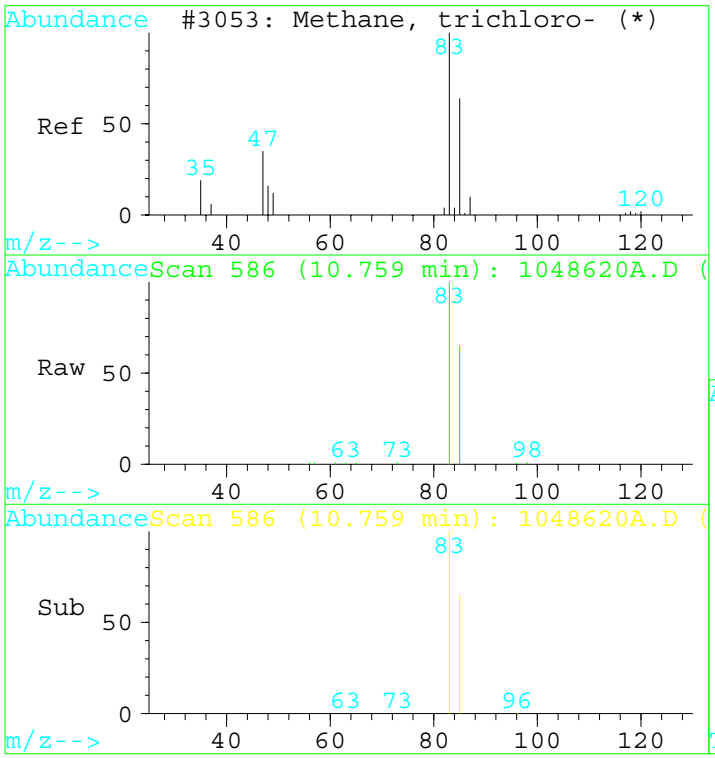


#2
Toluene-d8
Concen: 0.23 ppbV
RT: 17.15 min Scan# 789
Delta R.T. 0.10 min
Lab File: 1048620A.D
Acq: 16 Dec 110 3:34 pm

Tgt Ion:98 Resp: 73985

Ion	Ratio	Lower	Upper
98	100		
100	70.5	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

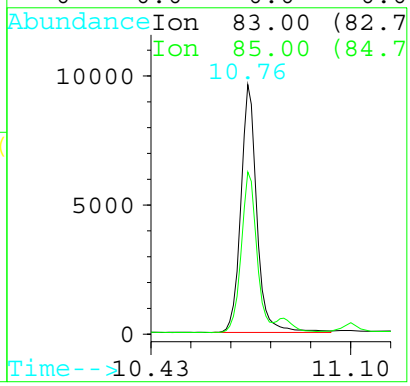


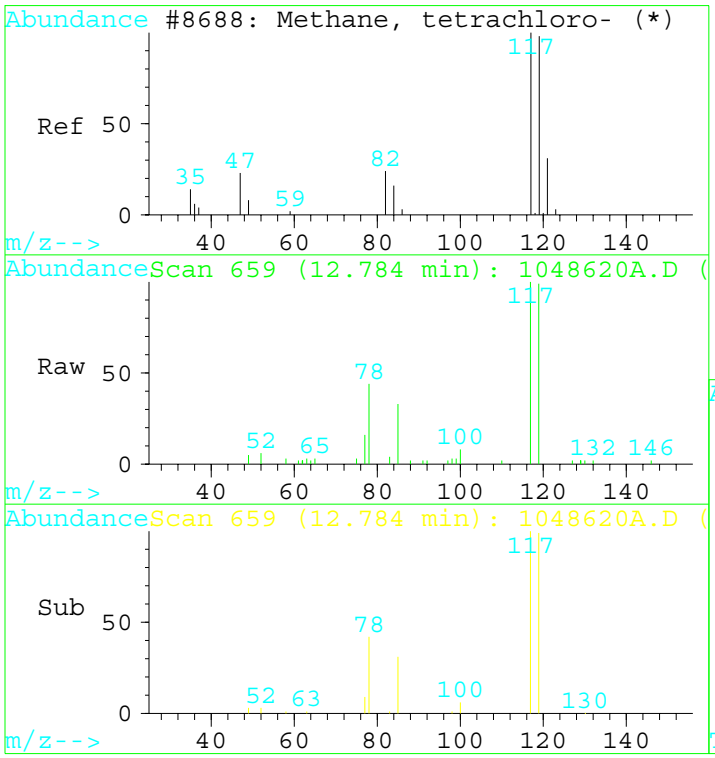


#3
Chloroform
Concen: 0.20 ppbV
RT: 10.76 min Scan# 586
Delta R.T. 0.10 min
Lab File: 1048620A.D
Acq: 16 Dec 110 3:34 pm

Tgt Ion:83 Resp: 38228

Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

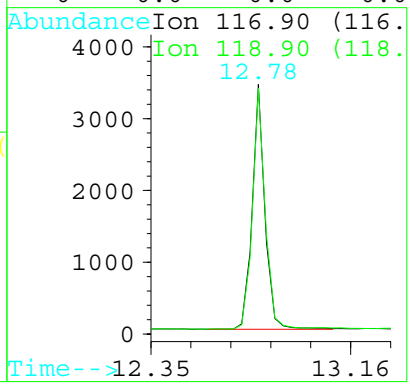


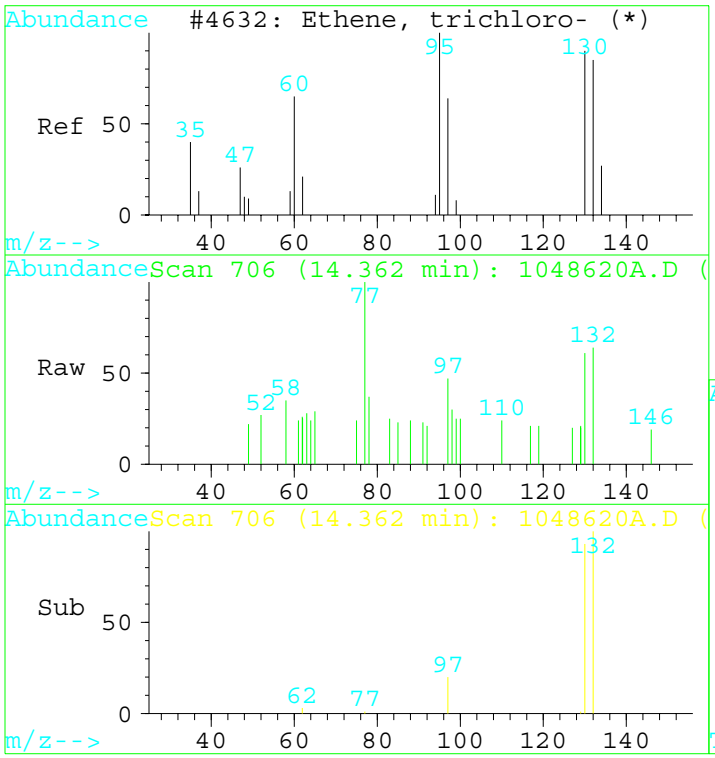


#4
Carbon tetrachloride
Concen: 0.09 ppbV
RT: 12.78 min Scan# 659
Delta R.T. 0.12 min
Lab File: 1048620A.D
Acq: 16 Dec 110 3:34 pm

Tgt Ion:116.9 Resp: 12208

Ion	Ratio	Lower	Upper
117	100		
119	98.4	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

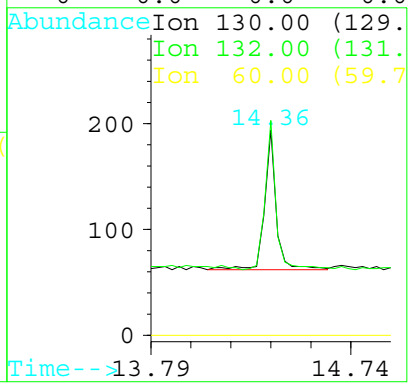




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.36 min Scan# 706
Delta R.T. 0.10 min
Lab File: 1048620A.D
Acq: 16 Dec 110 3:34 pm

Tgt Ion:130 Resp: 507

Ion	Ratio	Lower	Upper
130	100		
132	105.3	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048621A.D
Acq Time : 16 Dec 110 4:20 pm Operator: KT
Sample : IA-LB-O2-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

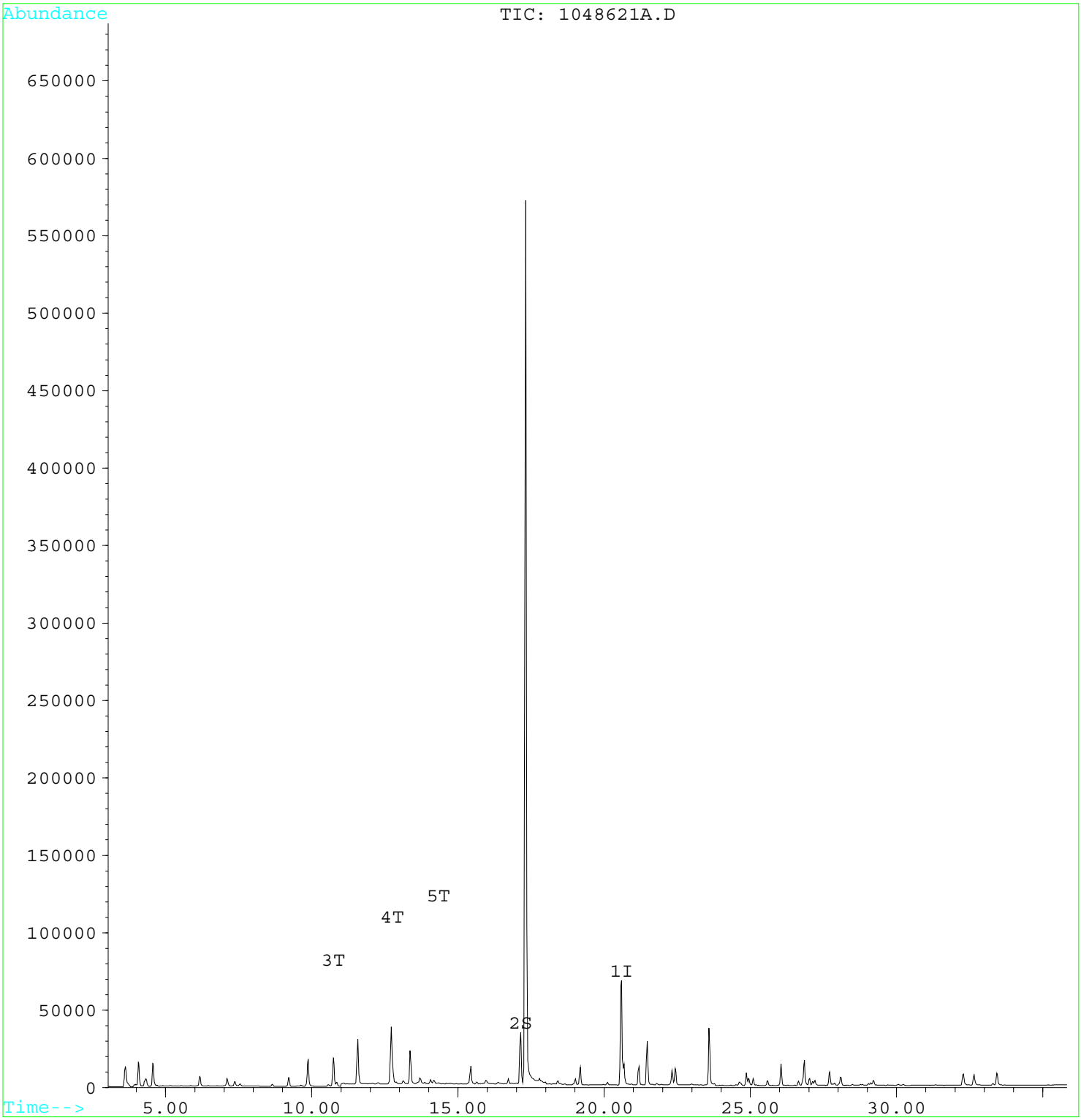
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	177758	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	67218	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.74	83	43731	0.24	ppbV	99
4) Carbon tetrachloride	12.75	117	14429	0.11	ppbV	92
5) Trichloroethene	14.33	130	653	0.01	ppbV	99

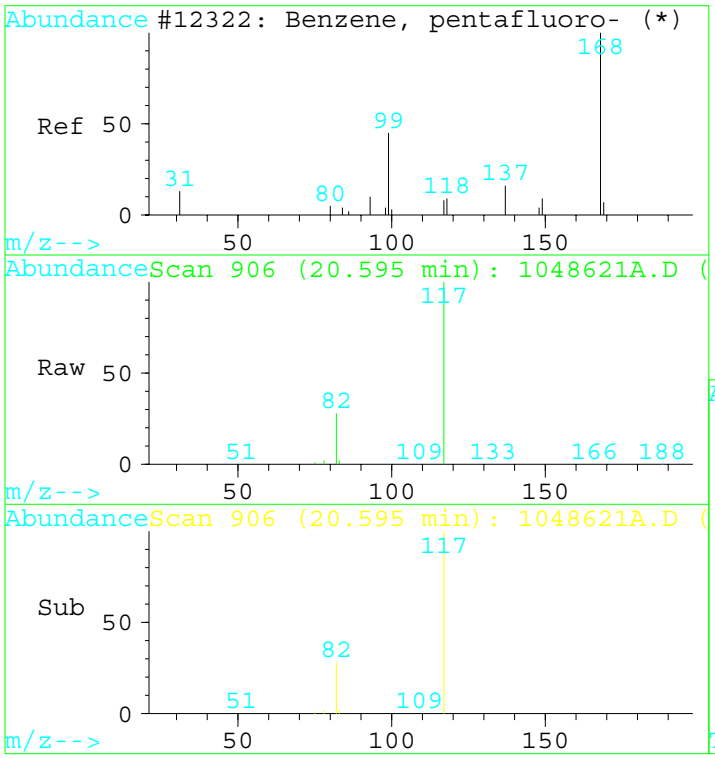
(#) = qualifier out of range (m) = manual integration
1048621A.D CNTHG_A.M Mon Dec 20 15:05:56 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048621A.D
Acq Time : 16 Dec 110 4:20 pm Operator: KT
Sample : IA-LB-02-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

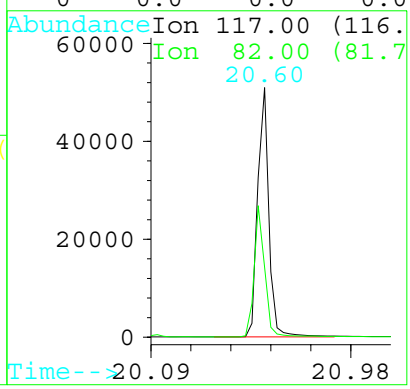


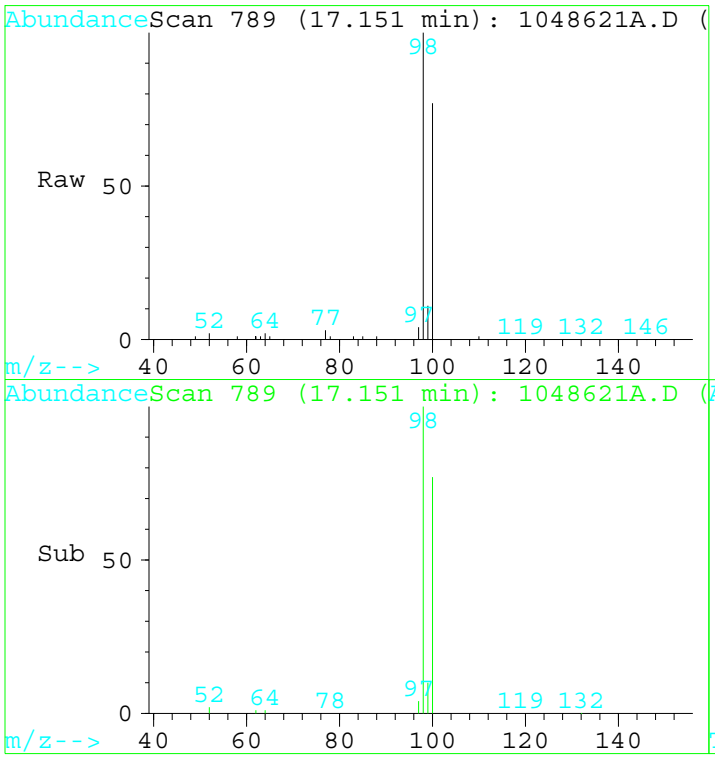


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 906
Delta R.T. 0.09 min
Lab File: 1048621A.D
Acq: 16 Dec 110 4:20 pm

Tgt Ion:117 Resp: 177758

Ion	Ratio	Lower	Upper
117	100		
82	27.9	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

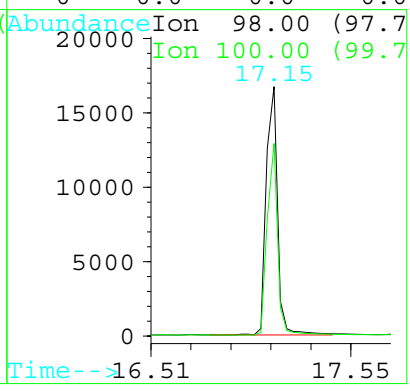


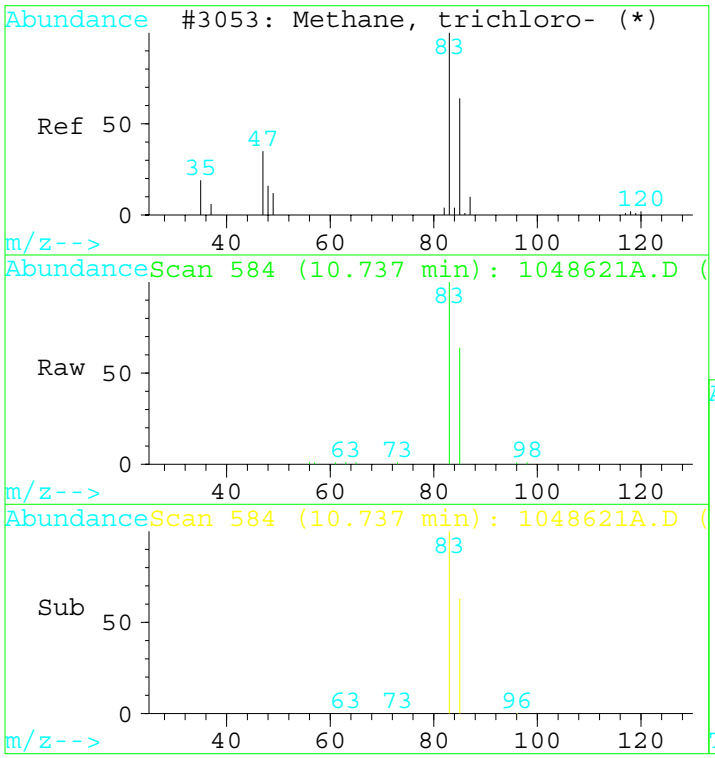


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.15 min Scan# 789
Delta R.T. 0.10 min
Lab File: 1048621A.D
Acq: 16 Dec 110 4:20 pm

Tgt Ion:98 Resp: 67218

Ion	Ratio	Lower	Upper
98	100		
100	71.3	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

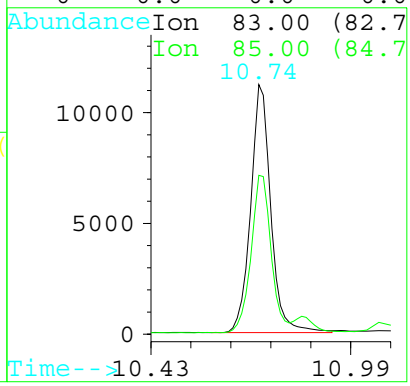


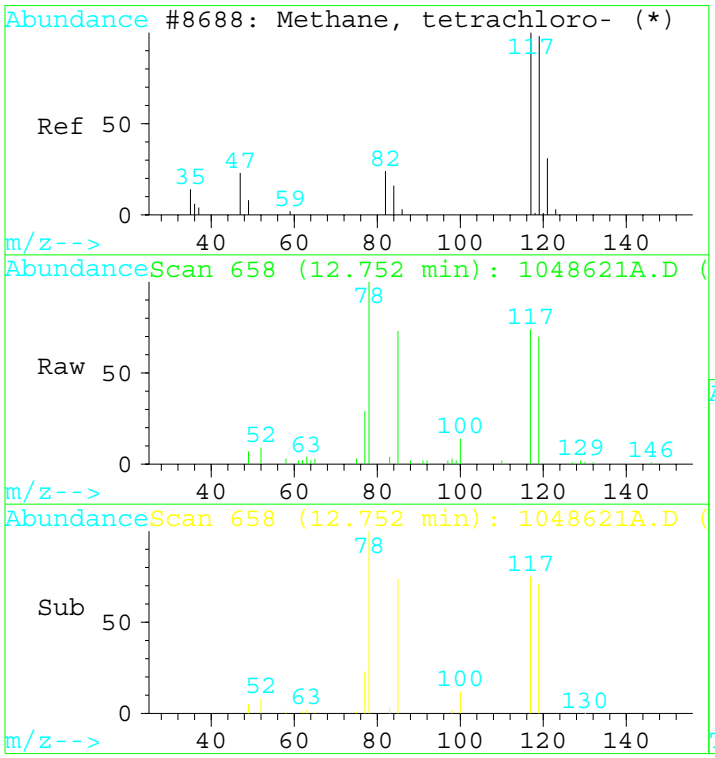


#3
Chloroform
Concen: 0.24 ppbV
RT: 10.74 min Scan# 584
Delta R.T. 0.08 min
Lab File: 1048621A.D
Acq: 16 Dec 110 4:20 pm

Tgt Ion:83 Resp: 43731

Ion	Ratio	Lower	Upper
83	100		
85	63.3	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

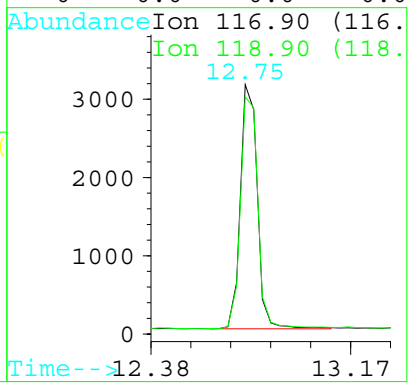


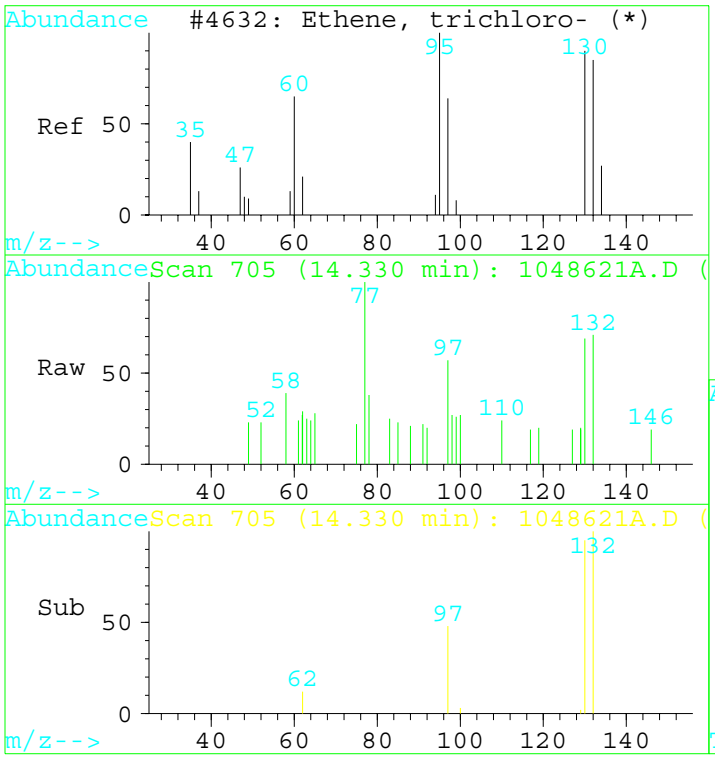


#4
Carbon tetrachloride
Concen: 0.11 ppbV
RT: 12.75 min Scan# 658
Delta R.T. 0.09 min
Lab File: 1048621A.D
Acq: 16 Dec 110 4:20 pm

Tgt Ion:116.9 Resp: 14429

Ion	Ratio	Lower	Upper
117	100		
119	94.8	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

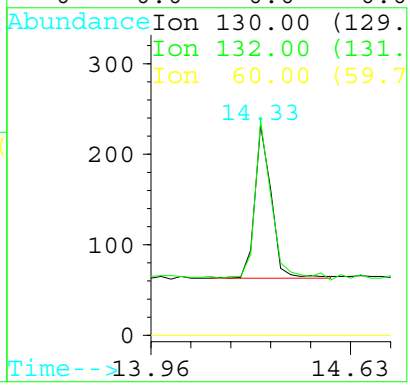




#5
Trichloroethene
Concen: 0.01 ppbV
RT: 14.33 min Scan# 705
Delta R.T. 0.07 min
Lab File: 1048621A.D
Acq: 16 Dec 110 4:20 pm

Tgt Ion:130 Resp: 653

Ion	Ratio	Lower	Upper
130	100		
132	103.6	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048622A.D
Acq Time : 16 Dec 110 5:02 pm Operator: KT
Sample : OA-LB-A1-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

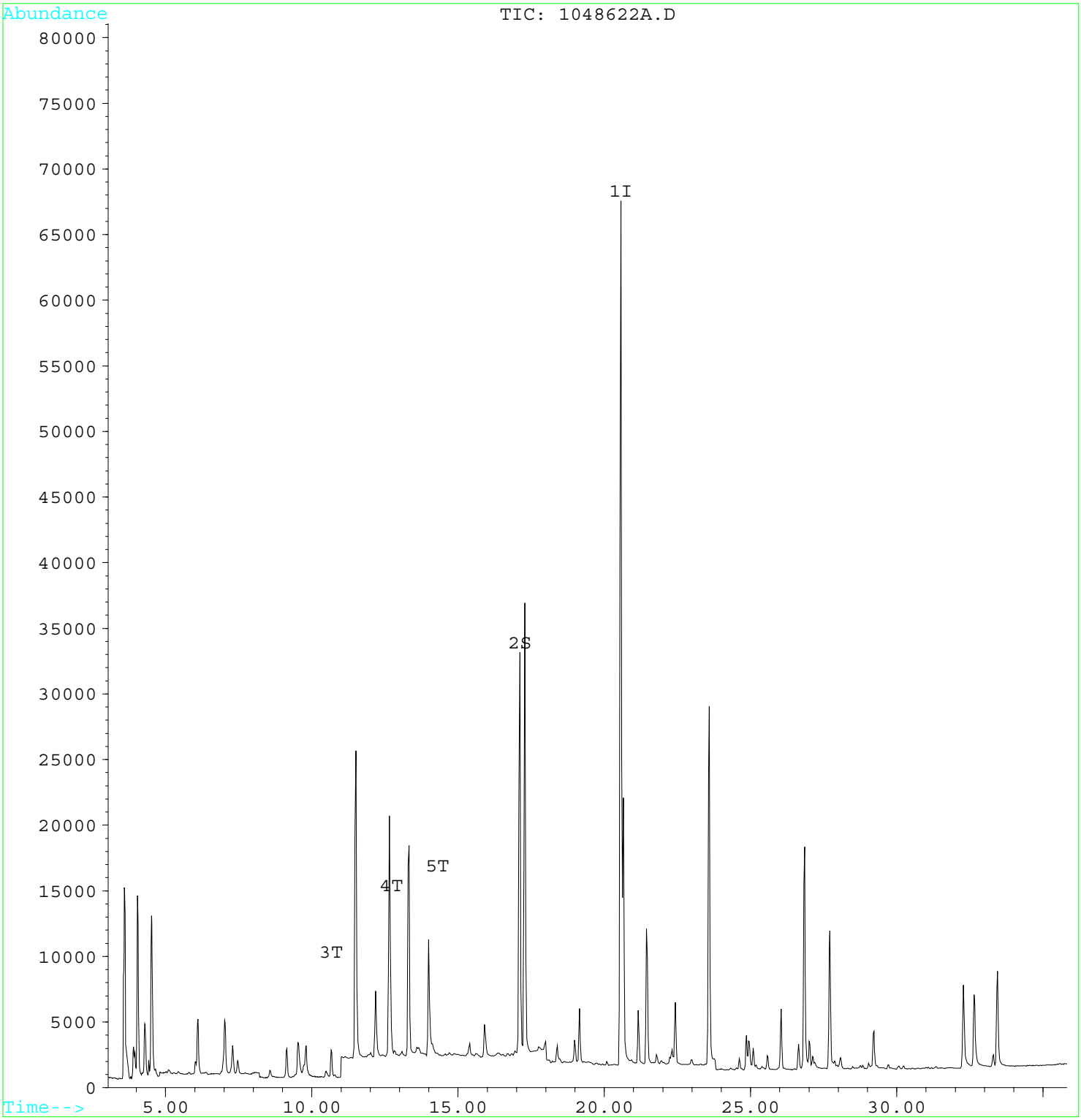
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	150184	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.11	98	59998	0.23	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.66	83	4795	0.03	ppbV	98
4) Carbon tetrachloride	12.72	117	1925	0.02	ppbV	98
5) Trichloroethene	14.29	130	181	0.00	ppbV	96

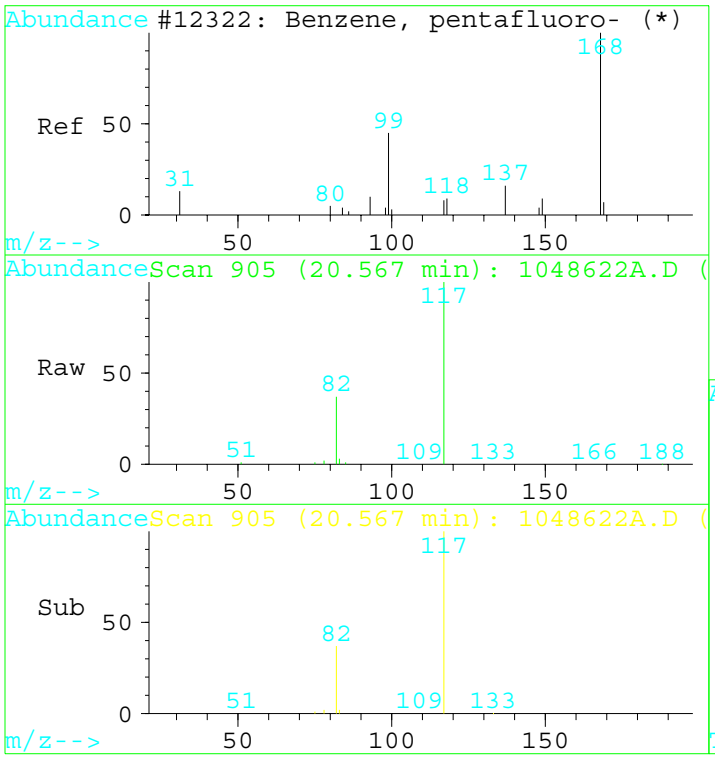
(#) = qualifier out of range (m) = manual integration
1048622A.D CNTHG_A.M Mon Dec 20 15:06:26 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048622A.D
Acq Time : 16 Dec 110 5:02 pm Operator: KT
Sample : OA-LB-A1-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

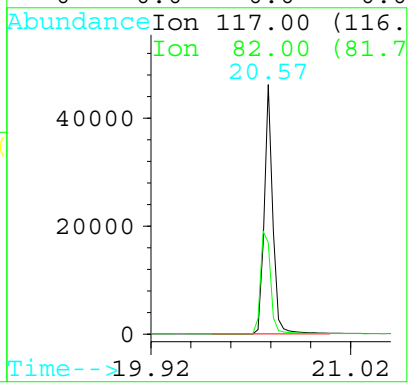


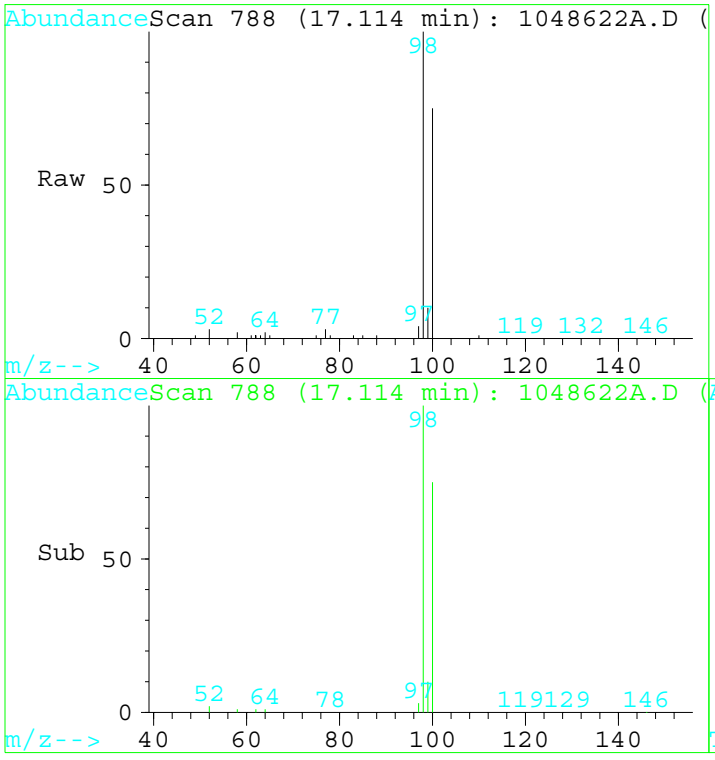


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048622A.D
Acq: 16 Dec 110 5:02 pm

Tgt Ion:117 Resp: 150184

Ion	Ratio	Lower	Upper
117	100		
82	36.6	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

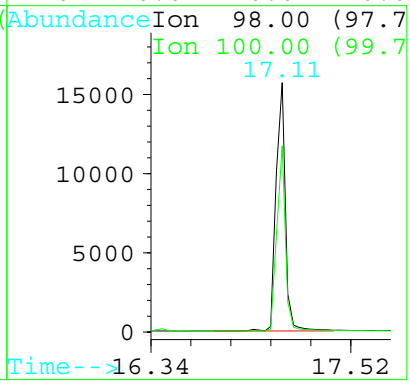


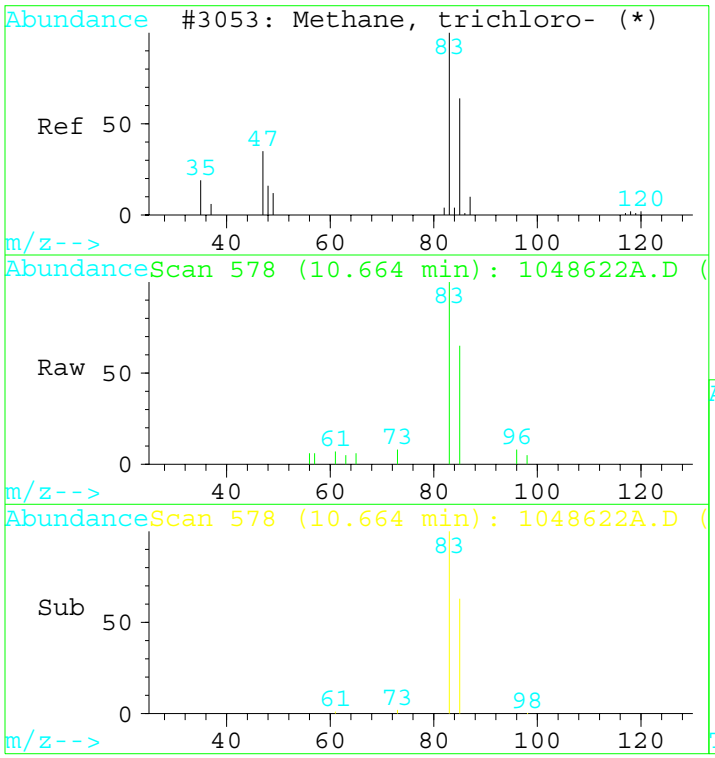


#2
Toluene-d8
Concen: 0.23 ppbV
RT: 17.11 min Scan# 788
Delta R.T. 0.06 min
Lab File: 1048622A.D
Acq: 16 Dec 110 5:02 pm

Tgt Ion:98 Resp: 59998

Ion	Ratio	Lower	Upper
98	100		
100	69.1	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

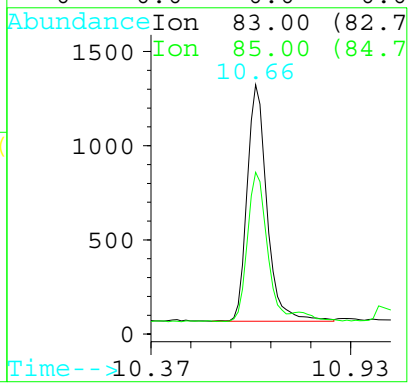


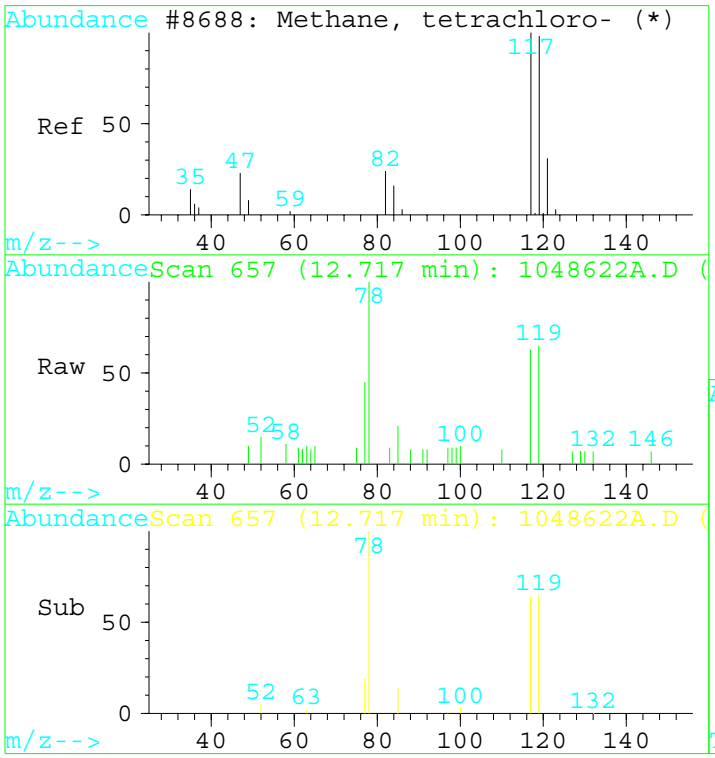


#3
Chloroform
Concen: 0.03 ppbV
RT: 10.66 min Scan# 578
Delta R.T. 0.00 min
Lab File: 1048622A.D
Acq: 16 Dec 110 5:02 pm

Tgt Ion:83 Resp: 4795

Ion	Ratio	Lower	Upper
83	100		
85	62.8	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

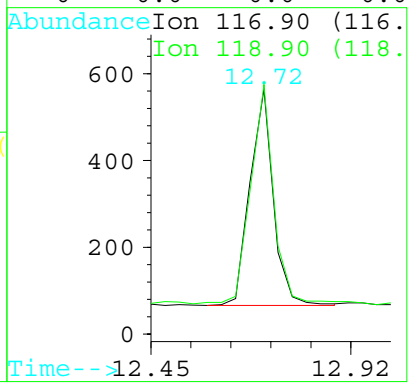


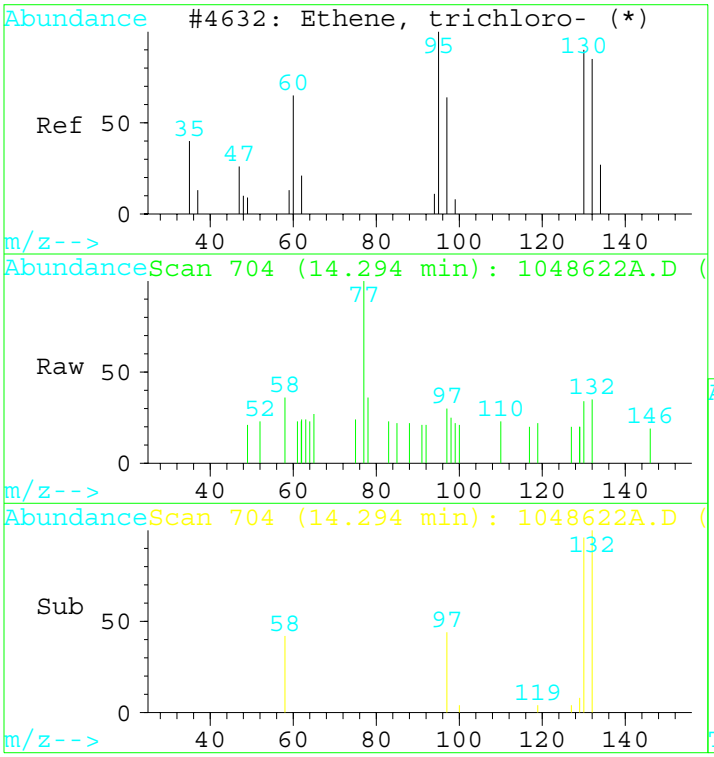


#4
Carbon tetrachloride
Concen: 0.02 ppbV
RT: 12.72 min Scan# 657
Delta R.T. 0.06 min
Lab File: 1048622A.D
Acq: 16 Dec 110 5:02 pm

Tgt Ion:116.9 Resp: 1925

Ion	Ratio	Lower	Upper
117	100		
119	100.8	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

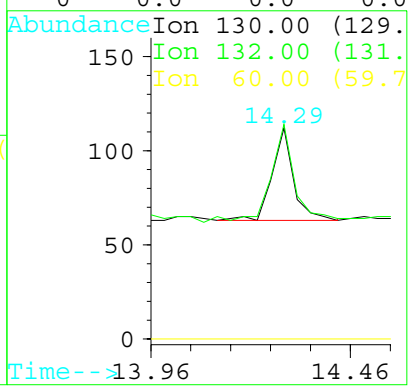




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.29 min Scan# 704
Delta R.T. 0.03 min
Lab File: 1048622A.D
Acq: 16 Dec 110 5:02 pm

Tgt Ion:130 Resp: 181

Ion	Ratio	Lower	Upper
130	100		
132	101.0	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048623A.D
Acq Time : 16 Dec 110 5:45 pm Operator: BB
Sample : IA-SP-CR-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

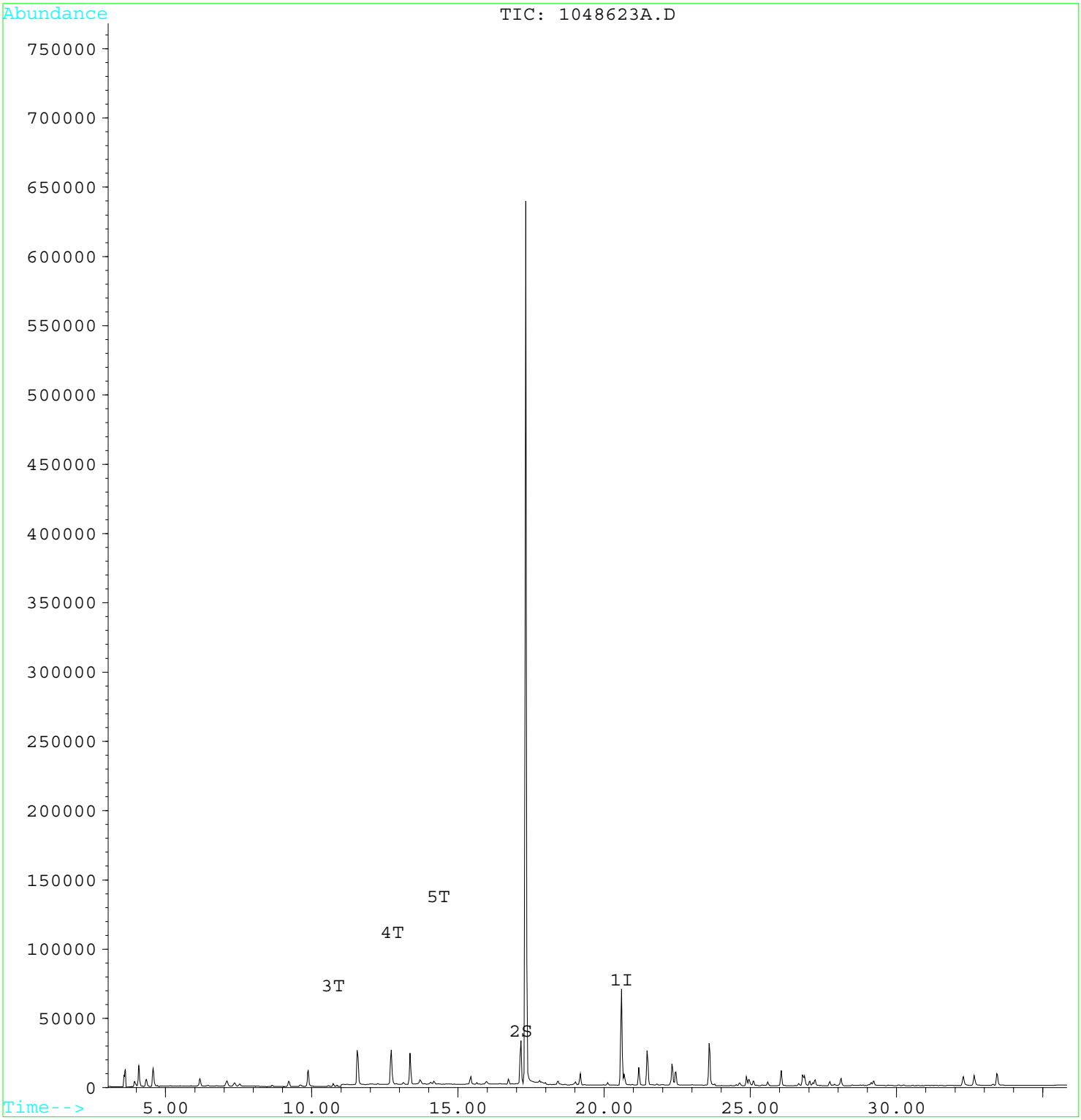
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	157494	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	59630	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.73	83	4405	0.03	ppbV	92
4) Carbon tetrachloride	12.76	117	3286	0.03	ppbV	92
5) Trichloroethene	14.34	130	448	0.00	ppbV #	79

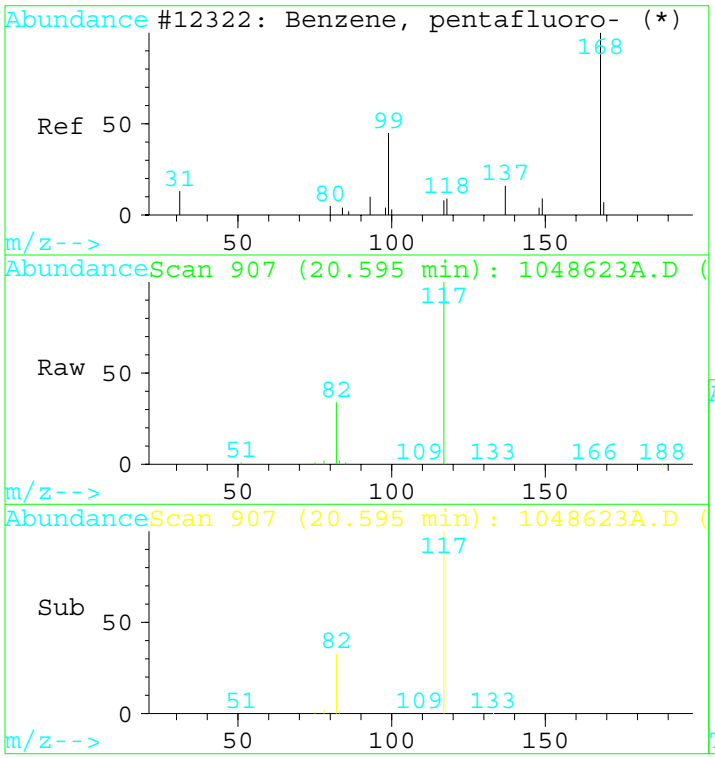
(#) = qualifier out of range (m) = manual integration
1048623A.D CNTHG_A.M Mon Dec 20 15:06:57 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048623A.D
Acq Time : 16 Dec 110 5:45 pm Operator: BB
Sample : IA-SP-CR-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

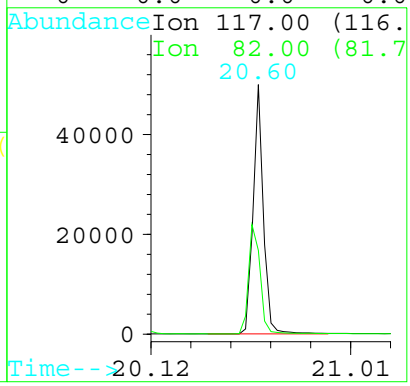


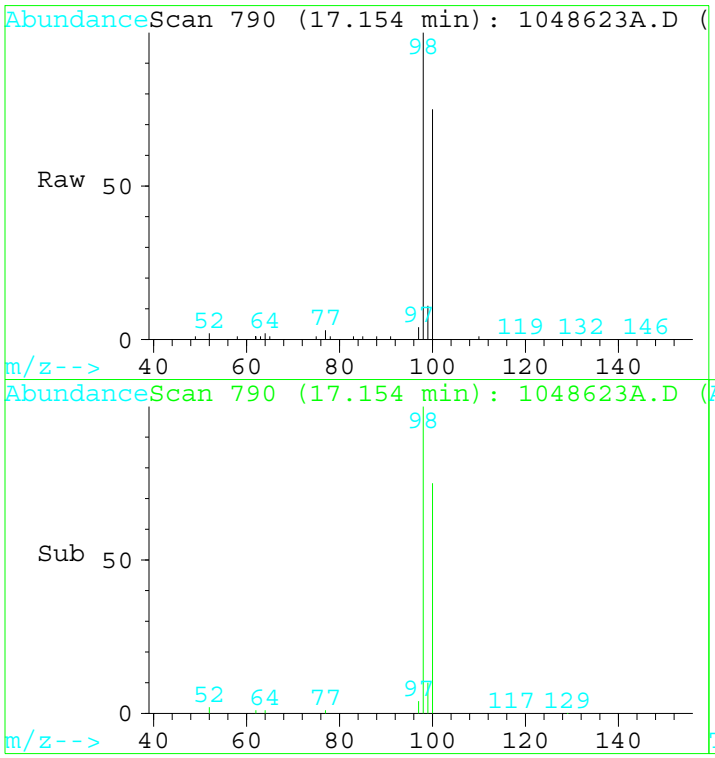


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 907
Delta R.T. 0.09 min
Lab File: 1048623A.D
Acq: 16 Dec 110 5:45 pm

Tgt Ion:117 Resp: 157494

Ion	Ratio	Lower	Upper
117	100		
82	33.5	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

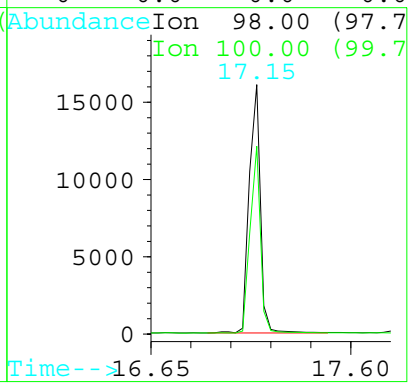


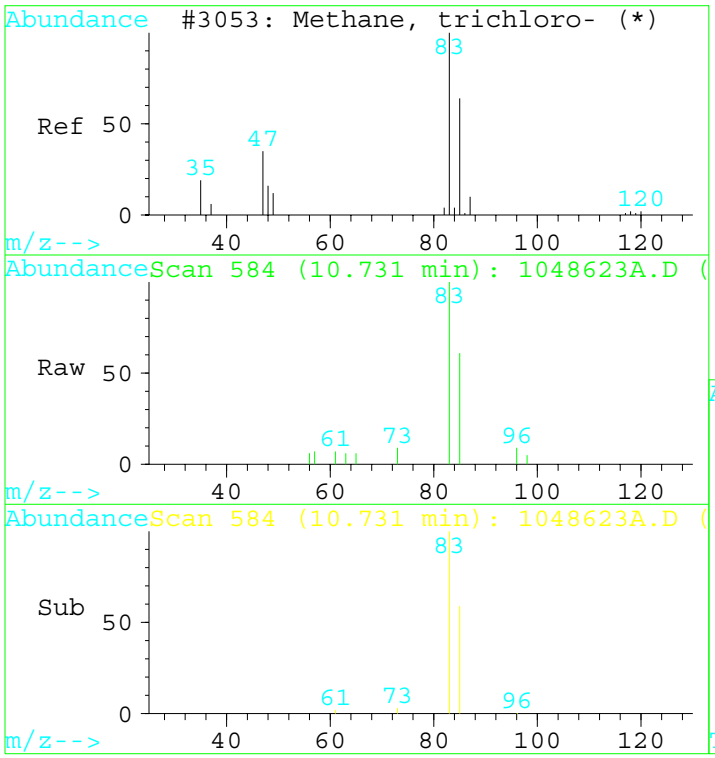


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.15 min Scan# 790
Delta R.T. 0.10 min
Lab File: 1048623A.D
Acq: 16 Dec 110 5:45 pm

Tgt Ion:98 Resp: 59630

Ion	Ratio	Lower	Upper
98	100		
100	69.7	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

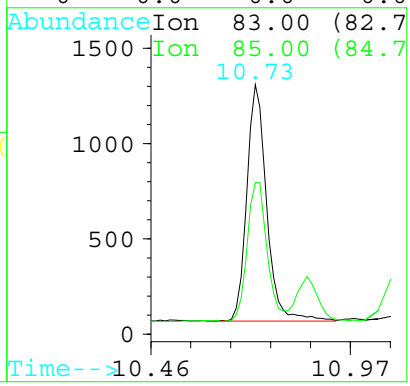


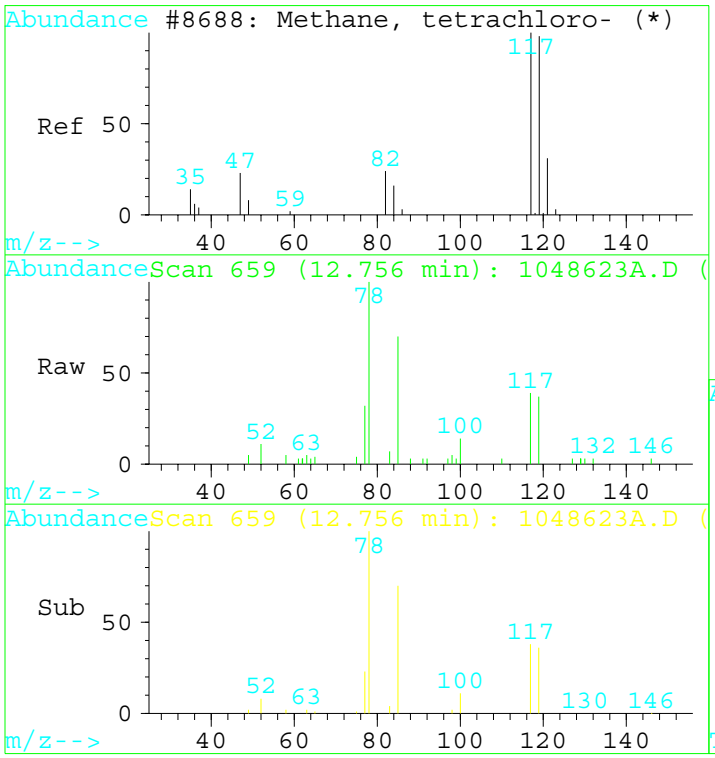


#3
Chloroform
Concen: 0.03 ppbV
RT: 10.73 min Scan# 584
Delta R.T. 0.07 min
Lab File: 1048623A.D
Acq: 16 Dec 110 5:45 pm

Tgt Ion:83 Resp: 4405

Ion	Ratio	Lower	Upper
83	100		
85	58.3	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

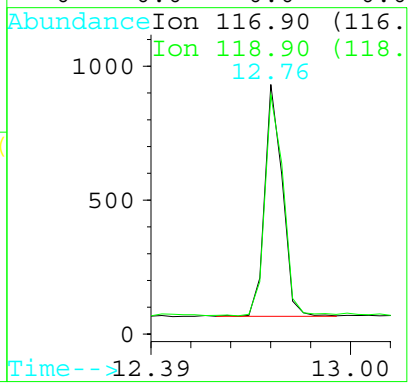


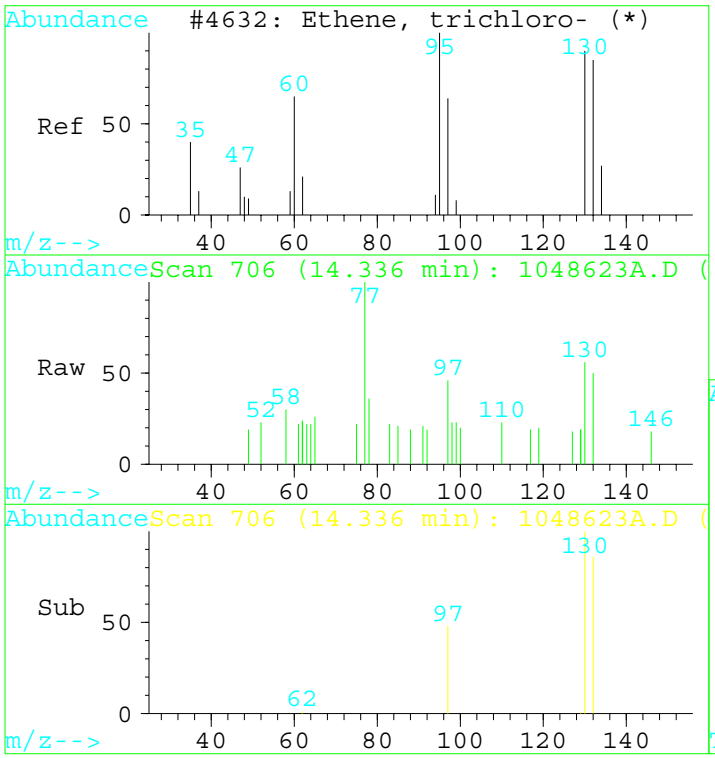


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.76 min Scan# 659
Delta R.T. 0.10 min
Lab File: 1048623A.D
Acq: 16 Dec 110 5:45 pm

Tgt Ion:116.9 Resp: 3286

Ion	Ratio	Lower	Upper
117	100		
119	95.0	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

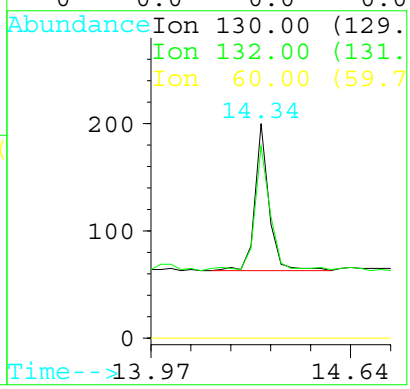




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.34 min Scan# 706
Delta R.T. 0.08 min
Lab File: 1048623A.D
Acq: 16 Dec 110 5:45 pm

Tgt Ion:130 Resp: 448

Ion	Ratio	Lower	Upper
130	100		
132	83.6	84.0	126.0#
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048624A.D
Acq Time : 16 Dec 110 6:26 pm Operator: BB
Sample : IA-WH-SA-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

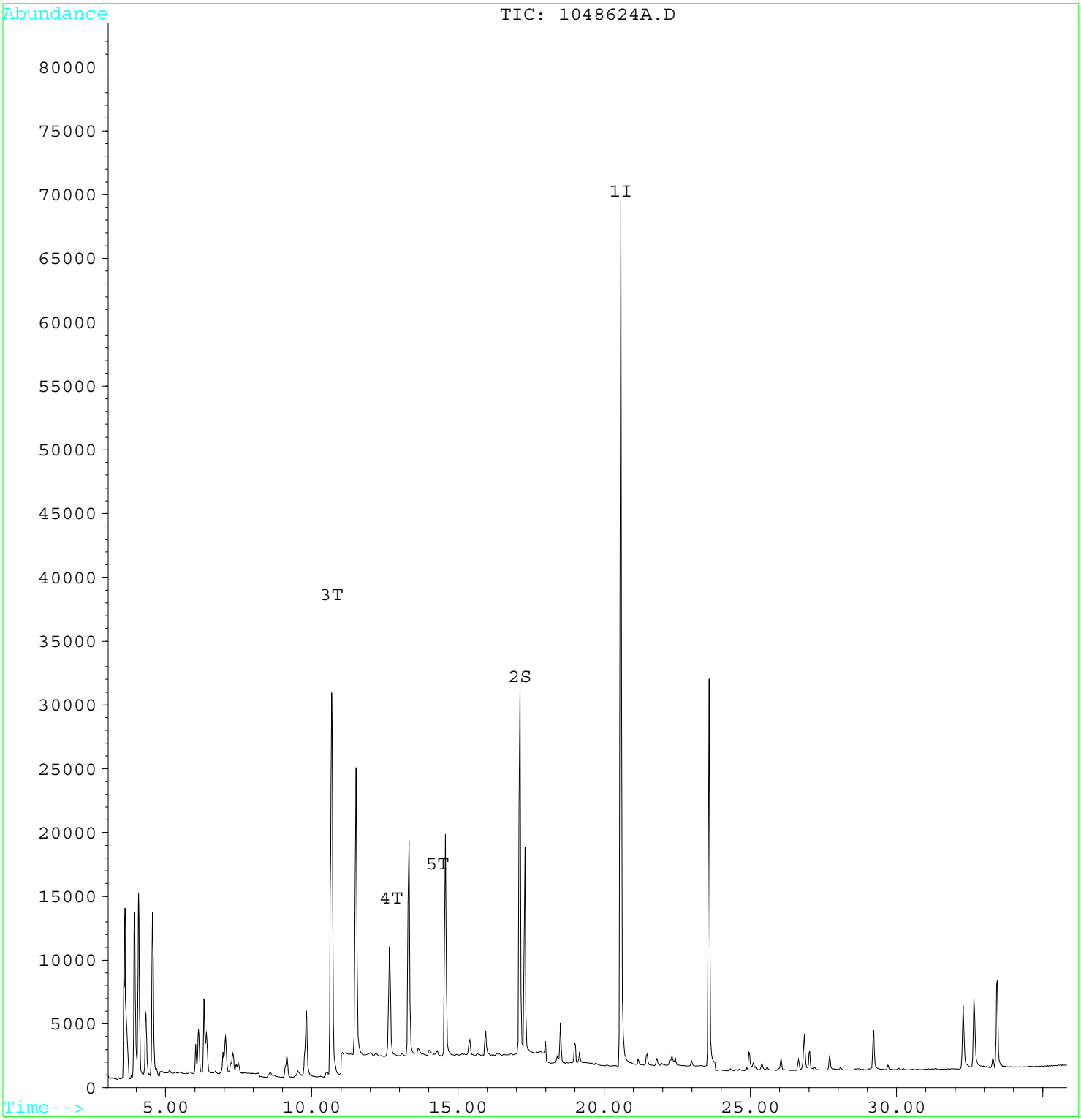
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	151377	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	58399	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.68	83	98463	0.63	ppbV	99
4) Carbon tetrachloride	12.72	117	948	0.01	ppbV	98
5) Trichloroethene	14.30	130	613	0.01	ppbV	93

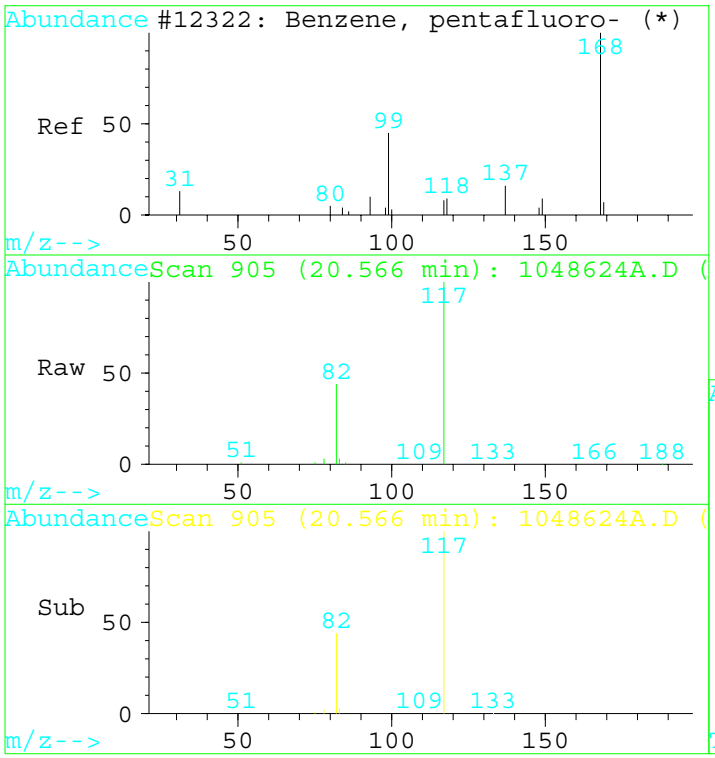
(#) = qualifier out of range (m) = manual integration
1048624A.D CNTHG_A.M Mon Dec 20 15:07:26 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048624A.D
Acq Time : 16 Dec 110 6:26 pm Operator: BB
Sample : IA-WH-SA-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

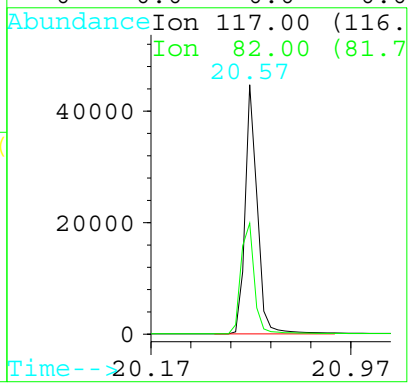


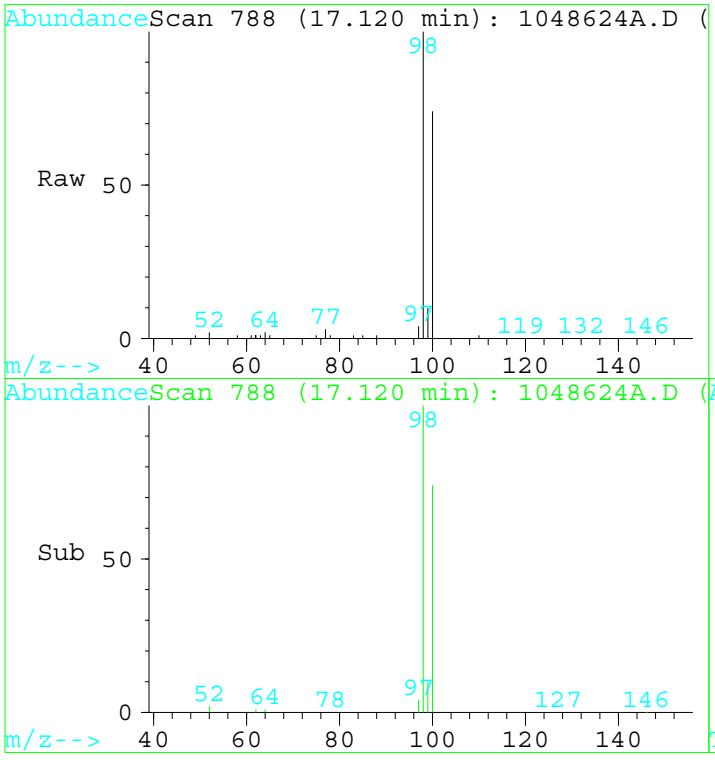


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 905
Delta R.T. 0.06 min
Lab File: 1048624A.D
Acq: 16 Dec 110 6:26 pm

Tgt Ion:117 Resp: 151377

Ion	Ratio	Lower	Upper
117	100		
82	44.4	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

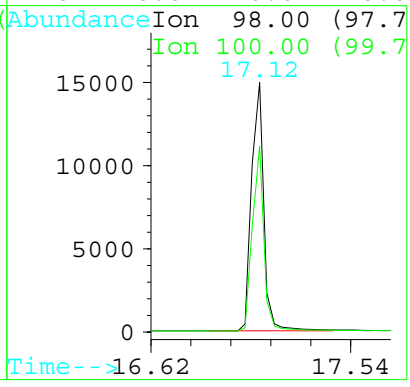


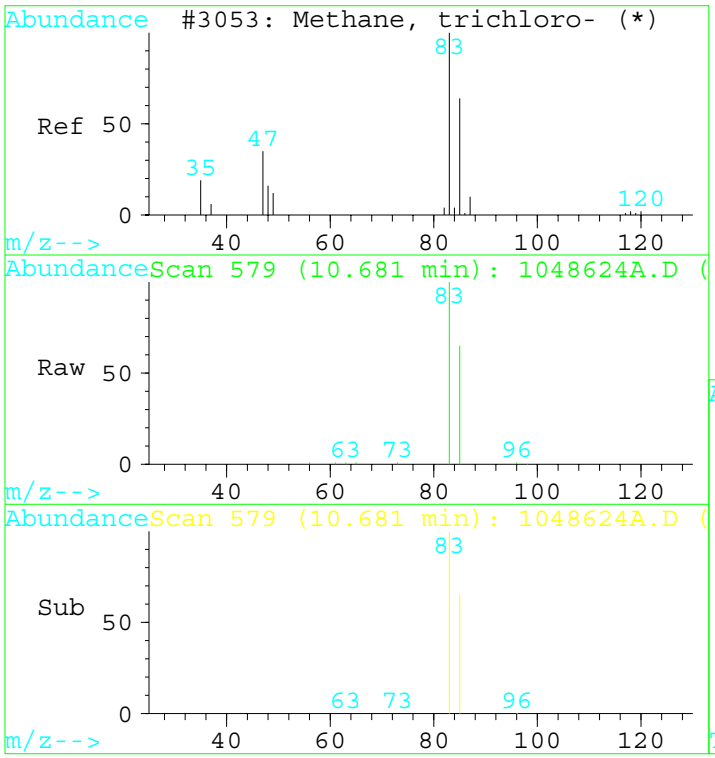


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.12 min Scan# 788
Delta R.T. 0.07 min
Lab File: 1048624A.D
Acq: 16 Dec 110 6:26 pm

Tgt Ion:98 Resp: 58399

Ion	Ratio	Lower	Upper
98	100		
100	70.2	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

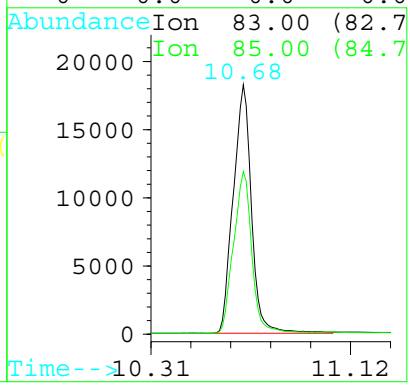


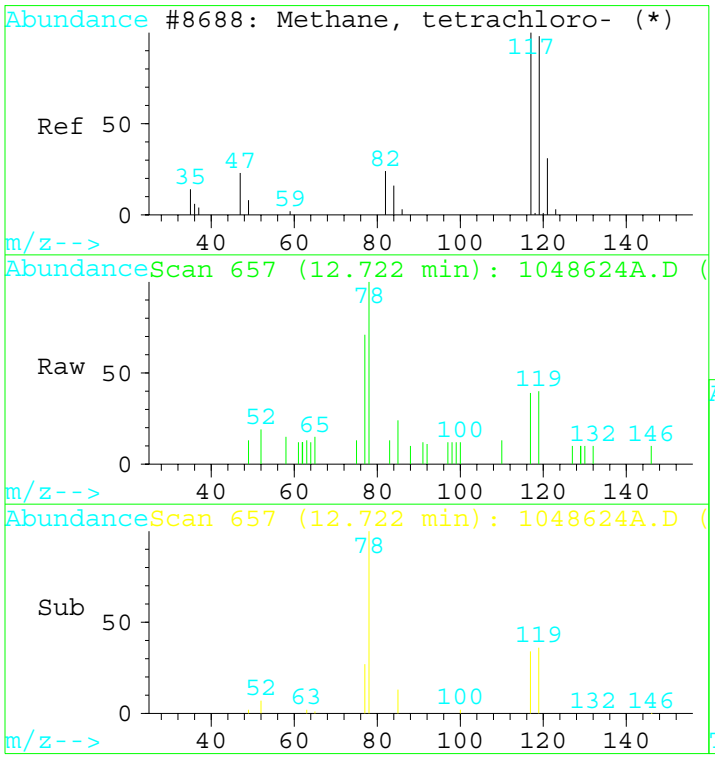


#3
Chloroform
Concen: 0.63 ppbV
RT: 10.68 min Scan# 579
Delta R.T. 0.02 min
Lab File: 1048624A.D
Acq: 16 Dec 110 6:26 pm

Tgt Ion:83 Resp: 98463

Ion	Ratio	Lower	Upper
83	100		
85	64.9	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

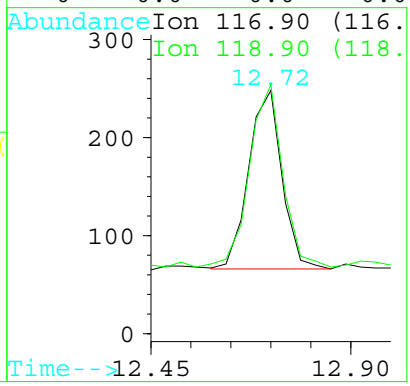


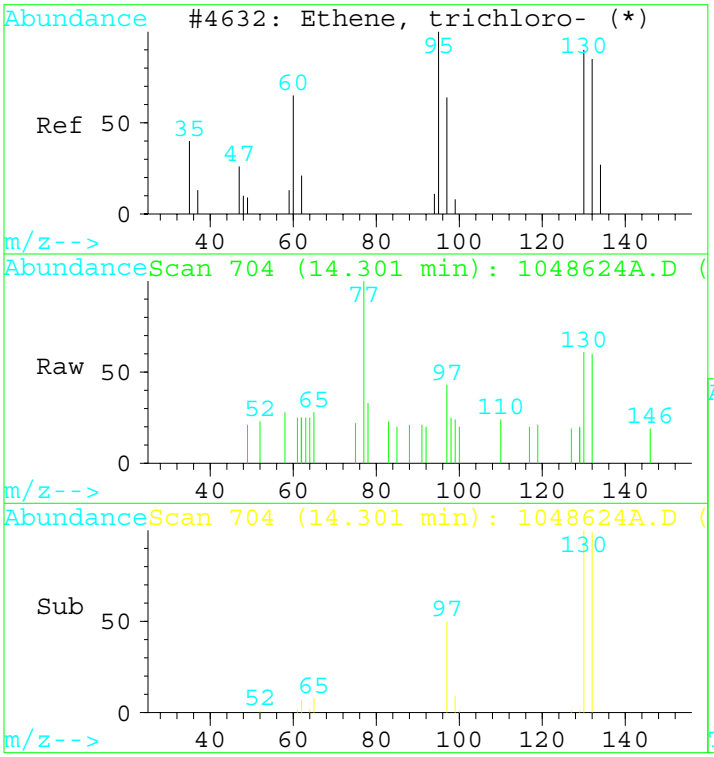


#4
Carbon tetrachloride
Concen: 0.01 ppbV
RT: 12.72 min Scan# 657
Delta R.T. 0.06 min
Lab File: 1048624A.D
Acq: 16 Dec 110 6:26 pm

Tgt Ion:116.9 Resp: 948

Ion	Ratio	Lower	Upper
117	100		
119	101.7	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

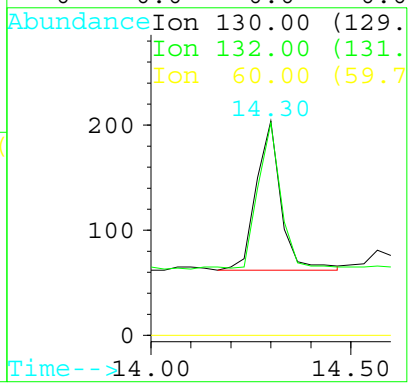




#5
Trichloroethene
Concen: 0.01 ppbV
RT: 14.30 min Scan# 704
Delta R.T. 0.04 min
Lab File: 1048624A.D
Acq: 16 Dec 110 6:26 pm

Tgt Ion:130 Resp: 613

Ion	Ratio	Lower	Upper
130	100		
132	97.9	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048625A.D
Acq Time : 16 Dec 110 7:09 pm Operator: BB
Sample : OA-WH-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

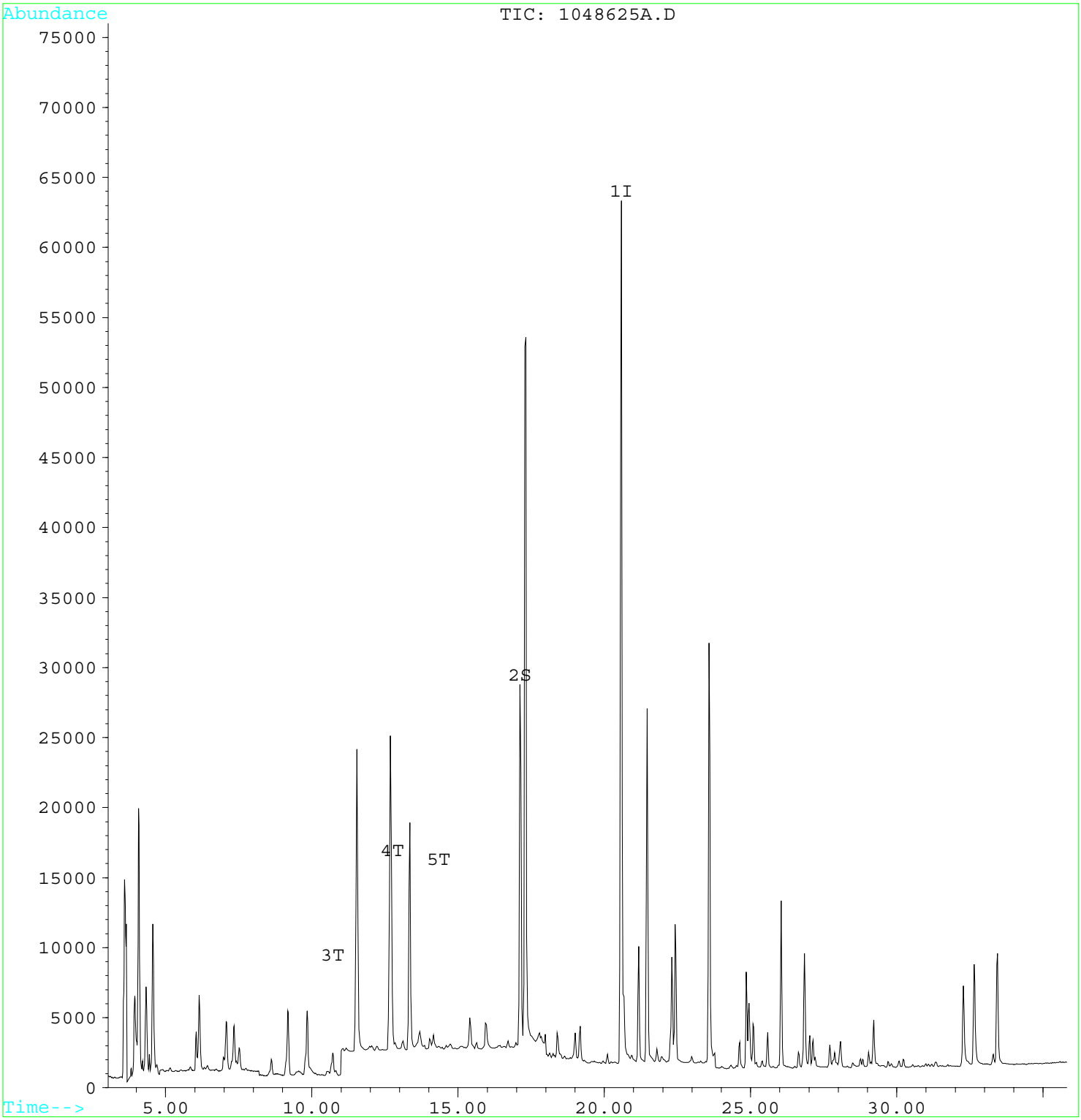
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.59	117	151183	0.20	ppbV	0.08
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.11	98	56362	0.22	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.71	83	4795	0.03	ppbV	94
4) Carbon tetrachloride	12.75	117	4608	0.04	ppbV	97
5) Trichloroethene	14.33	130	248	0.00	ppbV	95

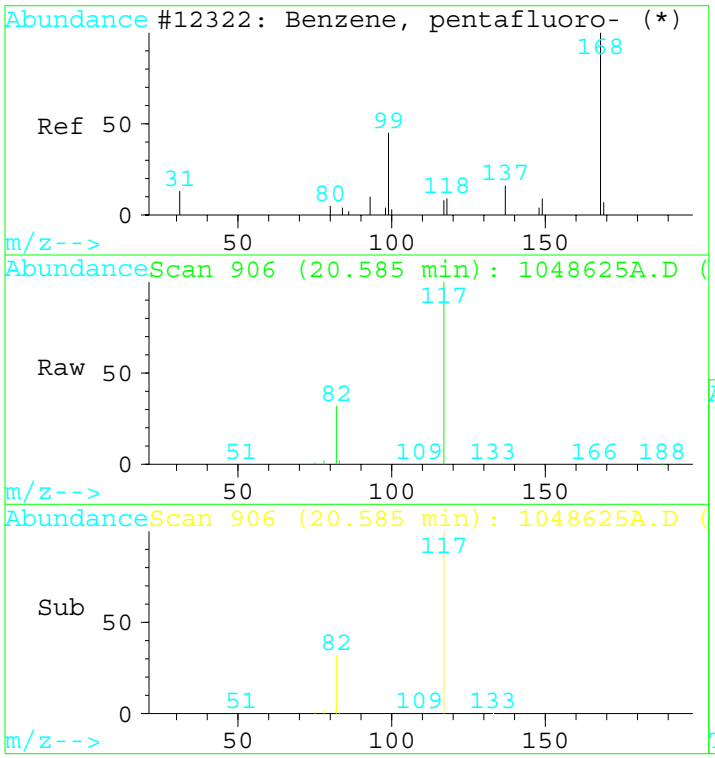
(#) = qualifier out of range (m) = manual integration
1048625A.D CNTHG_A.M Mon Dec 20 15:09:29 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048625A.D
Acq Time : 16 Dec 110 7:09 pm Operator: BB
Sample : OA-WH-AI-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

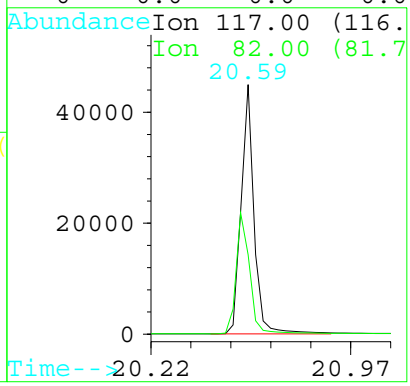


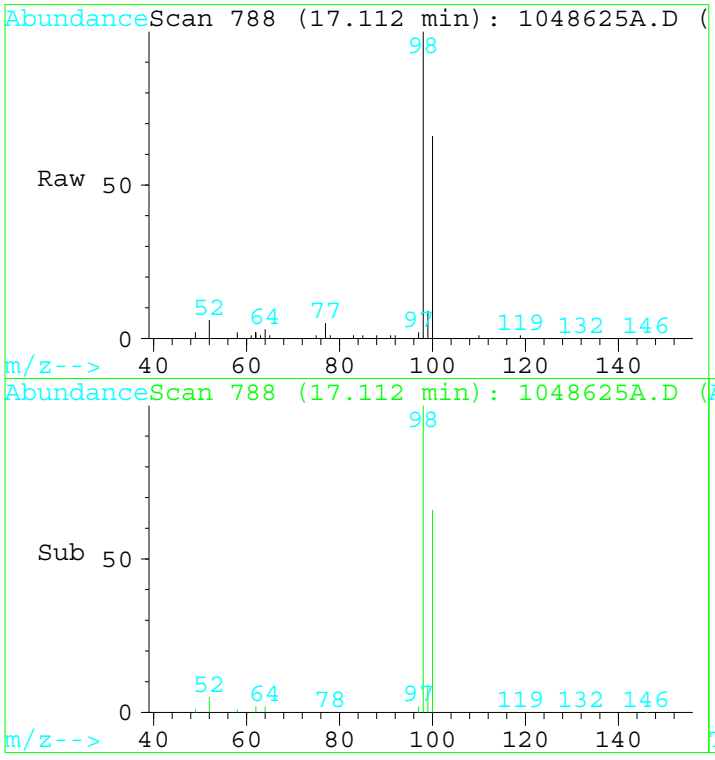


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.59 min Scan# 906
Delta R.T. 0.08 min
Lab File: 1048625A.D
Acq: 16 Dec 110 7:09 pm

Tgt Ion:117 Resp: 151183

Ion	Ratio	Lower	Upper
117	100		
82	31.7	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

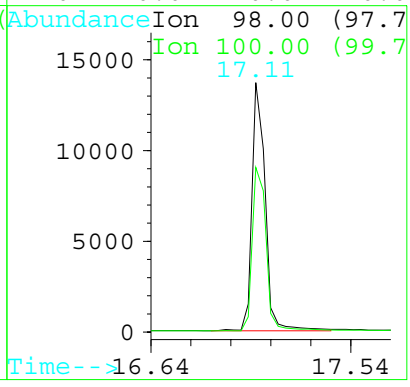


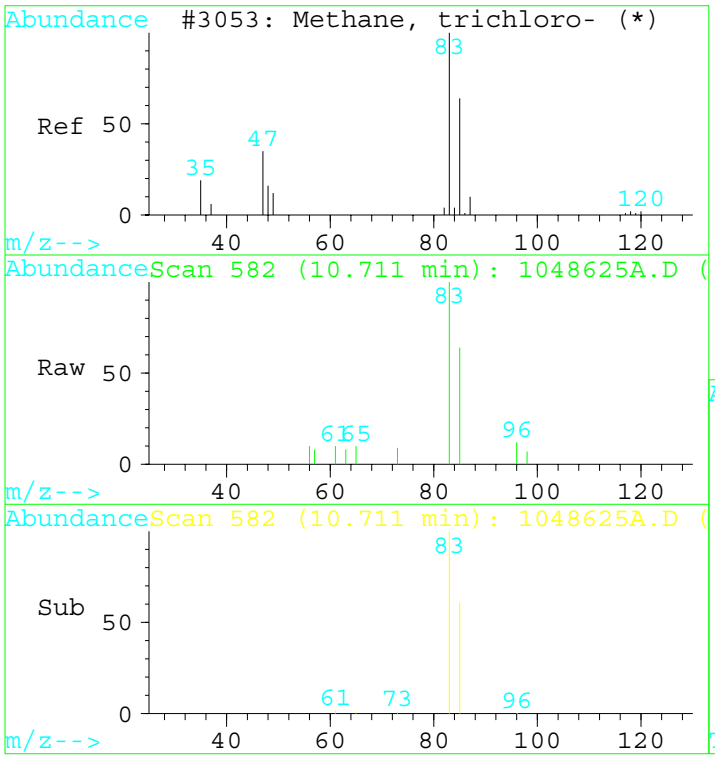


#2
Toluene-d8
Concen: 0.22 ppbV
RT: 17.11 min Scan# 788
Delta R.T. 0.06 min
Lab File: 1048625A.D
Acq: 16 Dec 110 7:09 pm

Tgt Ion:98 Resp: 56362

Ion	Ratio	Lower	Upper
98	100		
100	69.3	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

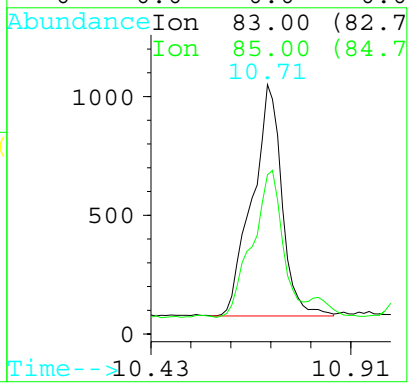


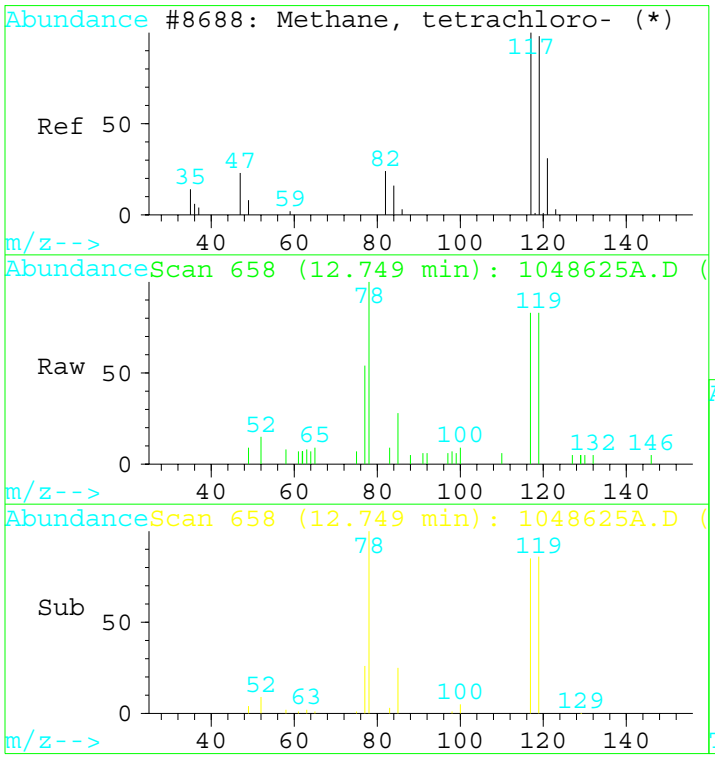


#3
Chloroform
Concen: 0.03 ppbV
RT: 10.71 min Scan# 582
Delta R.T. 0.05 min
Lab File: 1048625A.D
Acq: 16 Dec 110 7:09 pm

Tgt Ion:83 Resp: 4795

Ion	Ratio	Lower	Upper
83	100		
85	59.9	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

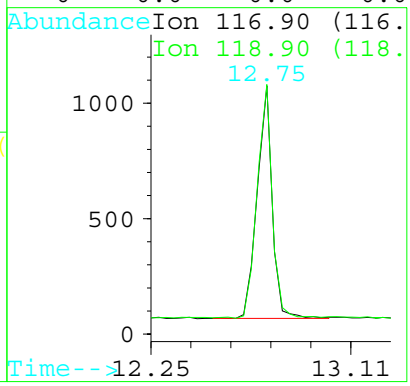


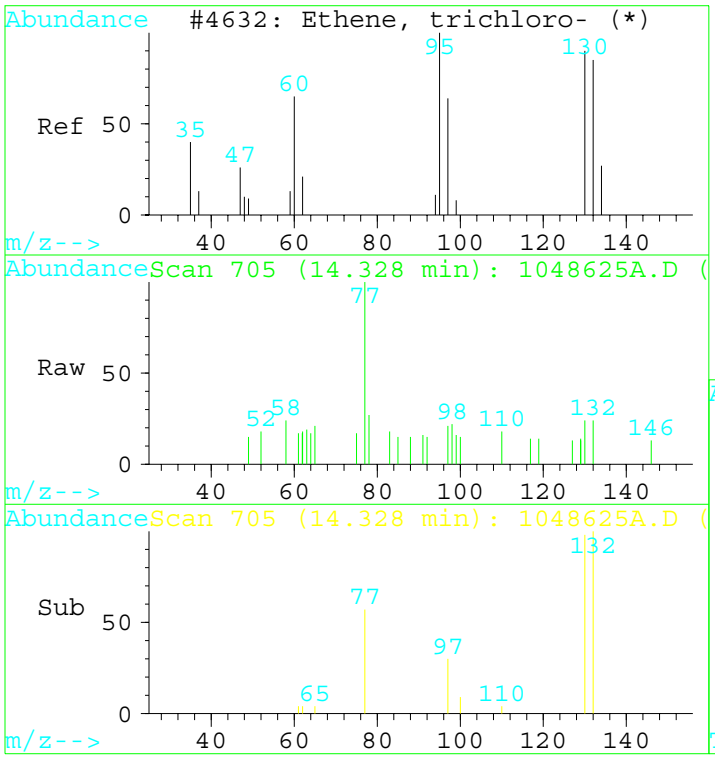


#4
Carbon tetrachloride
Concen: 0.04 ppbV
RT: 12.75 min Scan# 658
Delta R.T. 0.09 min
Lab File: 1048625A.D
Acq: 16 Dec 110 7:09 pm

Tgt Ion:116.9 Resp: 4608

Ion	Ratio	Lower	Upper
117	100		
119	100.3	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

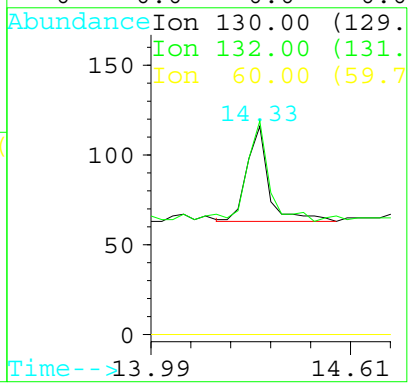




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.33 min Scan# 705
Delta R.T. 0.07 min
Lab File: 1048625A.D
Acq: 16 Dec 110 7:09 pm

Tgt Ion:130 Resp: 248

Ion	Ratio	Lower	Upper
130	100		
132	100.0	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048626A.D
Acq Time : 16 Dec 110 7:51 pm Operator: BB
Sample : OA-UW-OO-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

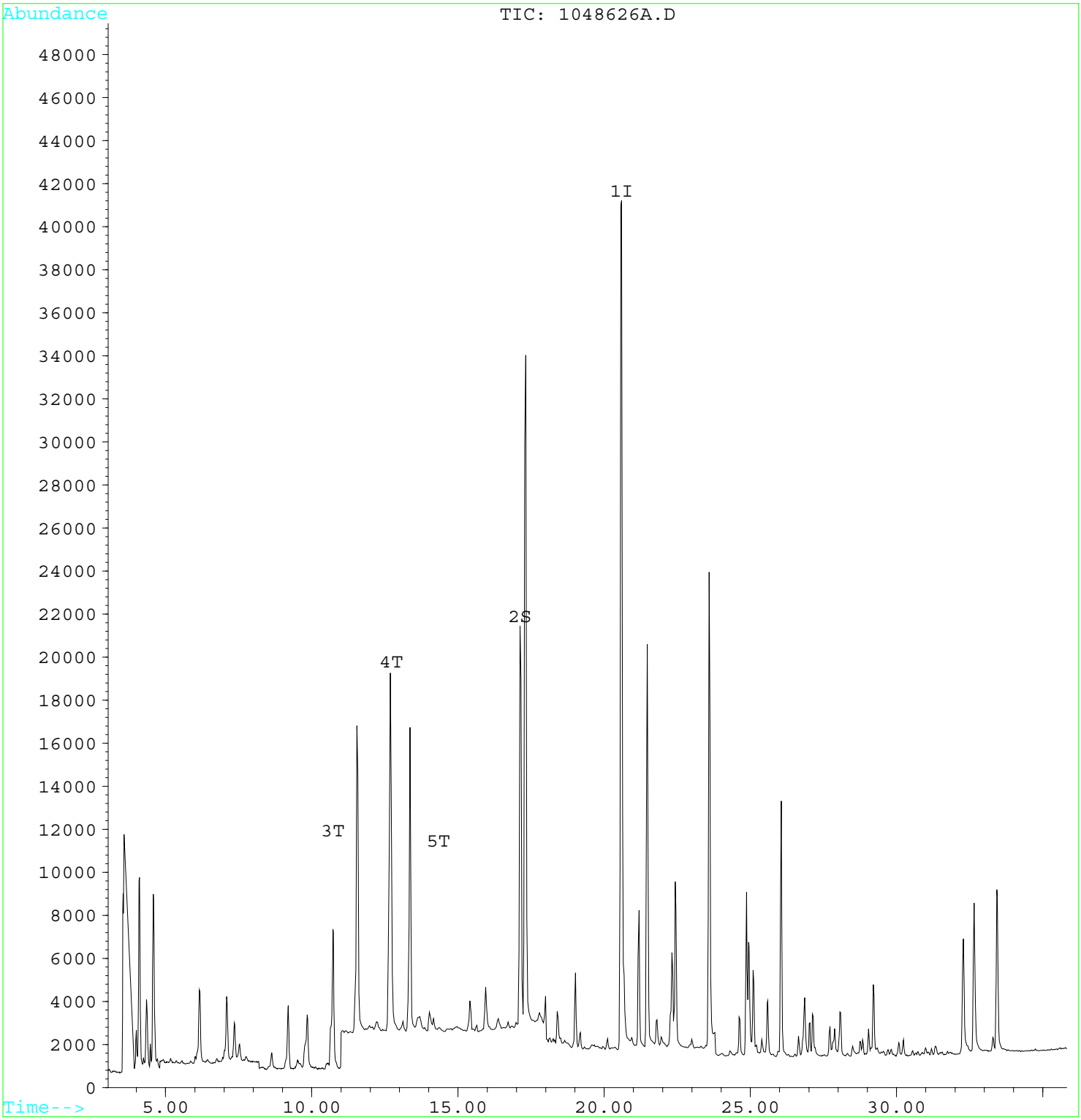
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	111342	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.12	98	44258	0.23	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	20391	0.18	ppbV	100
4) Carbon tetrachloride	12.72	117	3320	0.04	ppbV	93
5) Trichloroethene	14.33	130	114	0.00	ppbV	80

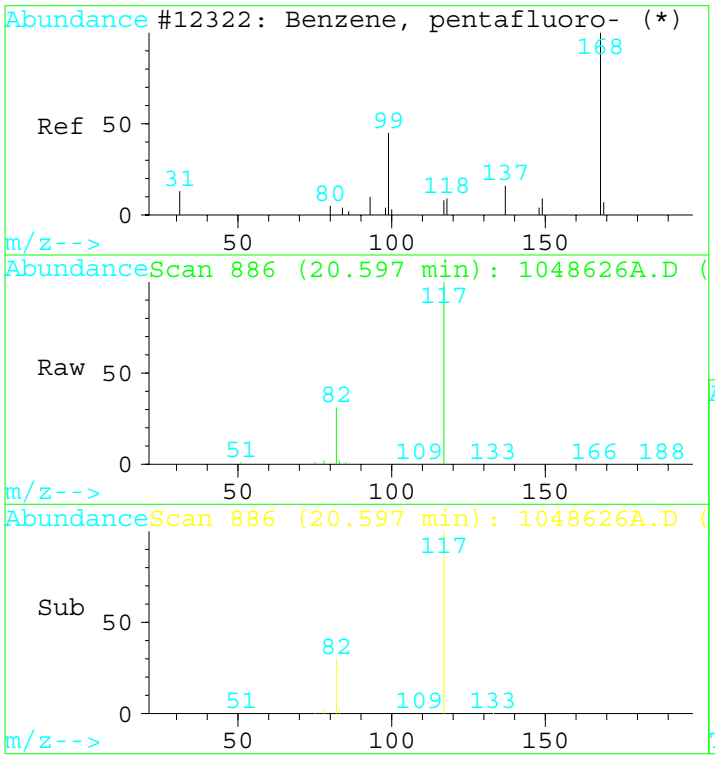
(#) = qualifier out of range (m) = manual integration
1048626A.D CNTHG_A.M Mon Dec 20 15:29:52 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048626A.D
Acq Time : 16 Dec 110 7:51 pm Operator: BB
Sample : OA-UW-OO-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

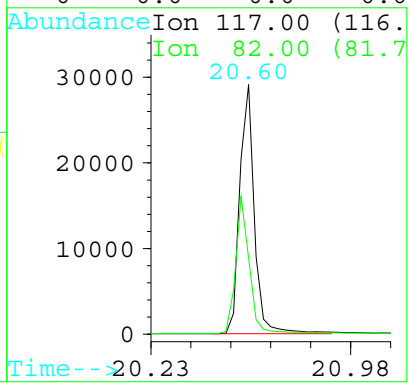


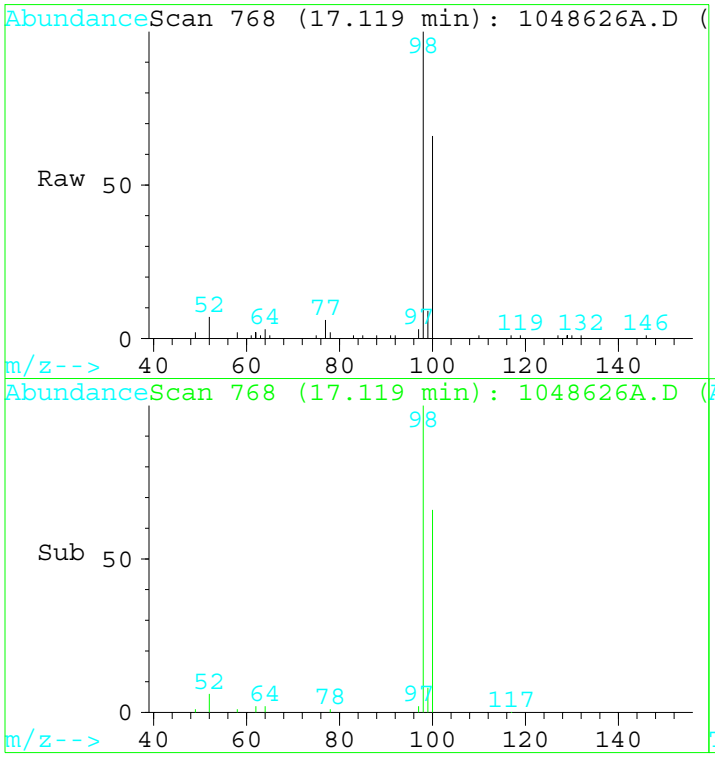


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 886
Delta R.T. 0.09 min
Lab File: 1048626A.D
Acq: 16 Dec 110 7:51 pm

Tgt Ion:117 Resp: 111342

Ion	Ratio	Lower	Upper
117	100		
82	30.3	31.8	47.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

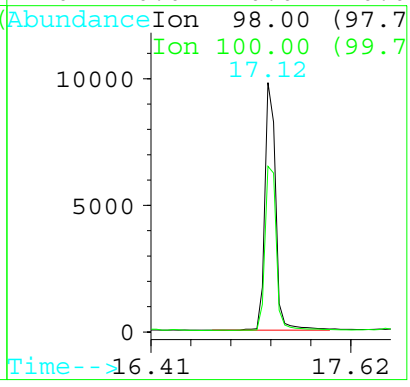


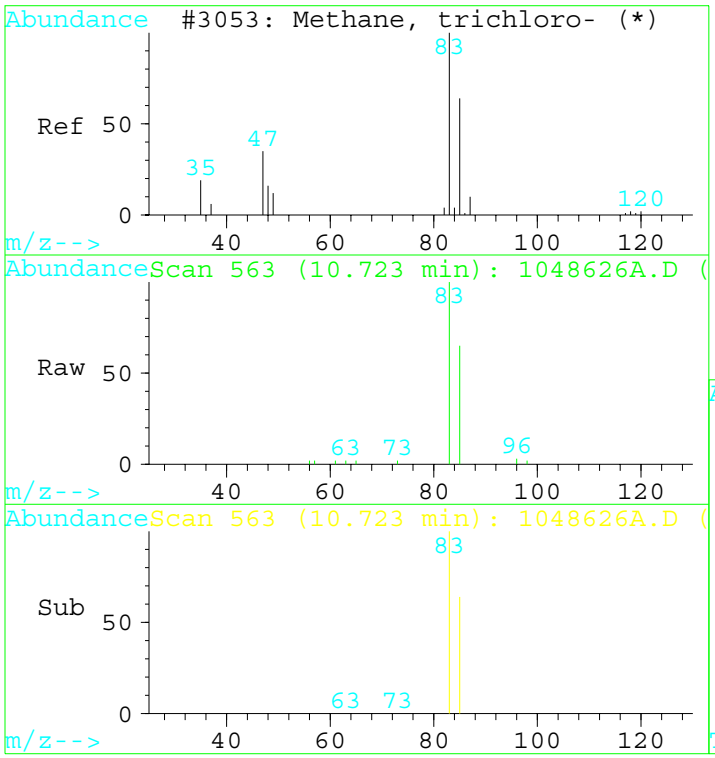


#2
Toluene-d8
Concen: 0.23 ppbV
RT: 17.12 min Scan# 768
Delta R.T. 0.07 min
Lab File: 1048626A.D
Acq: 16 Dec 110 7:51 pm

Tgt Ion:98 Resp: 44258

Ion	Ratio	Lower	Upper
98	100		
100	69.4	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

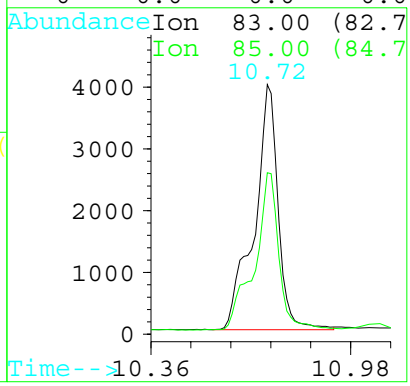


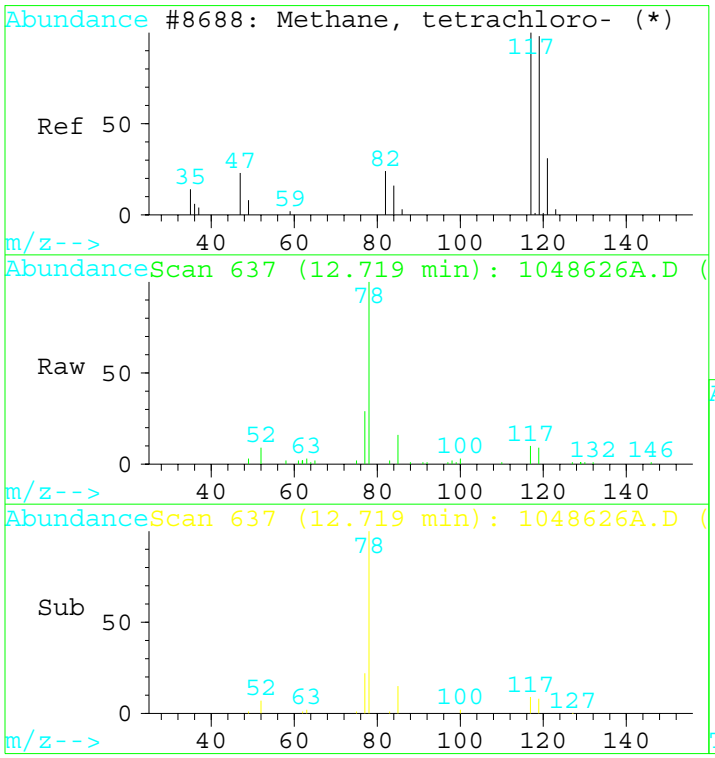


#3
Chloroform
Concen: 0.18 ppbV
RT: 10.72 min Scan# 563
Delta R.T. 0.06 min
Lab File: 1048626A.D
Acq: 16 Dec 110 7:51 pm

Tgt Ion:83 Resp: 20391

Ion	Ratio	Lower	Upper
83	100		
85	64.1	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

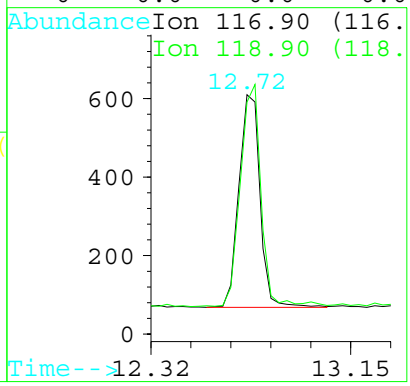


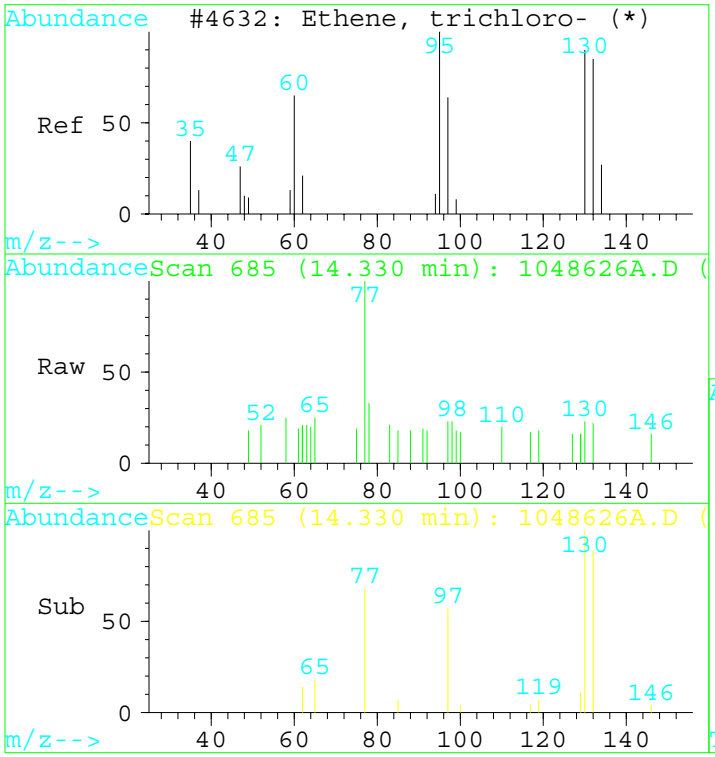


#4
Carbon tetrachloride
Concen: 0.04 ppbV
RT: 12.72 min Scan# 637
Delta R.T. 0.06 min
Lab File: 1048626A.D
Acq: 16 Dec 110 7:51 pm

Tgt Ion:116.9 Resp: 3320

Ion	Ratio	Lower	Upper
117	100		
119	95.8	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

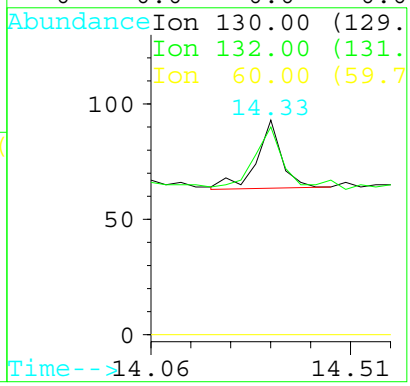




#5
Trichloroethene
Concen: 0.00 ppbV
RT: 14.33 min Scan# 685
Delta R.T. 0.07 min
Lab File: 1048626A.D
Acq: 16 Dec 110 7:51 pm

Tgt Ion:130 Resp: 114

Ion	Ratio	Lower	Upper
130	100		
132	84.5	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048627A.D
Acq Time : 16 Dec 110 8:39 pm Operator: BB
Sample : OA-U1-G2-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

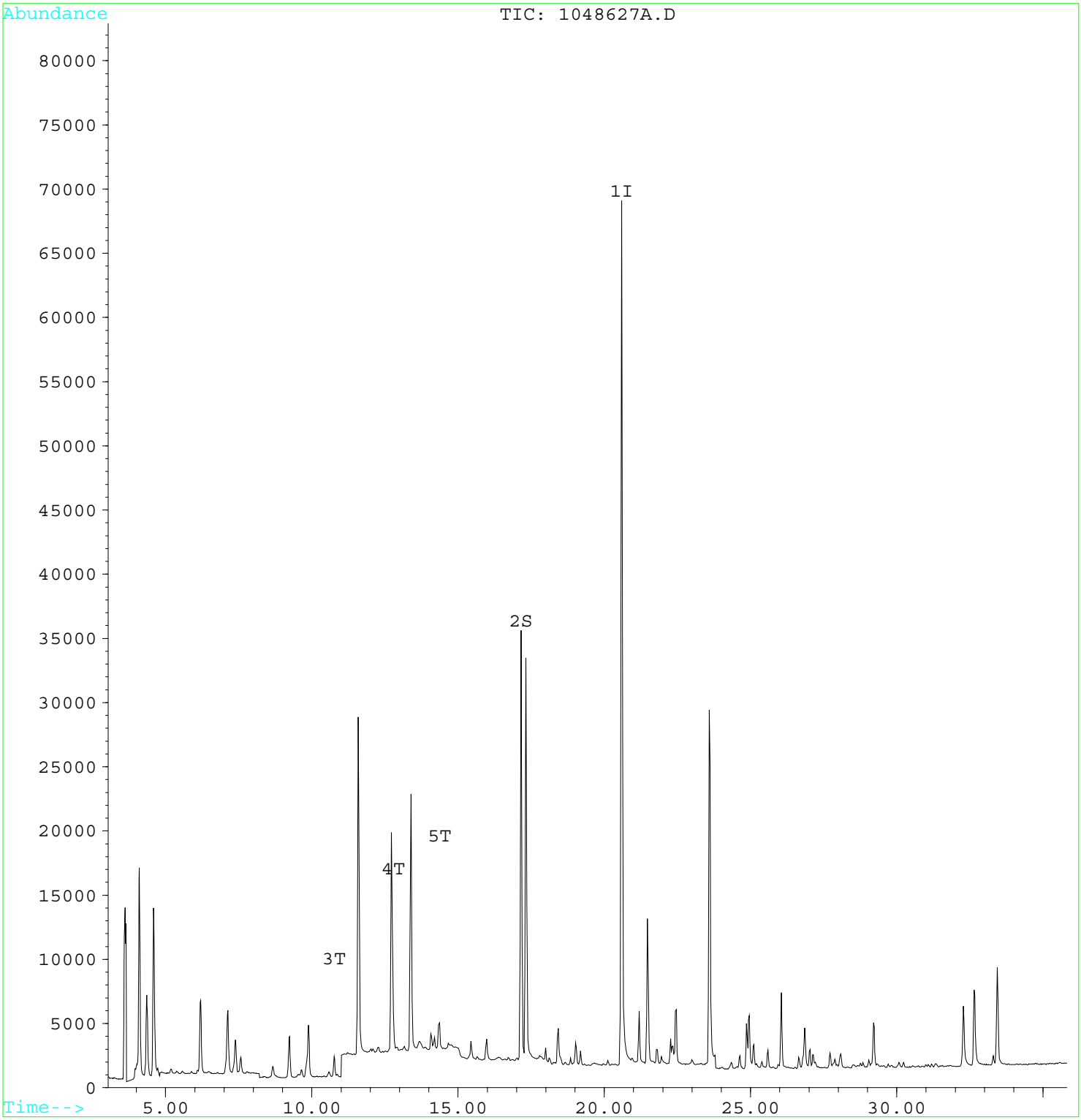
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	154561	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	56751	0.21	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.77	83	3527	0.02	ppbV	95
4) Carbon tetrachloride	12.79	117	3498	0.03	ppbV	98
5) Trichloroethene	14.37	130	2919	0.03	ppbV	97

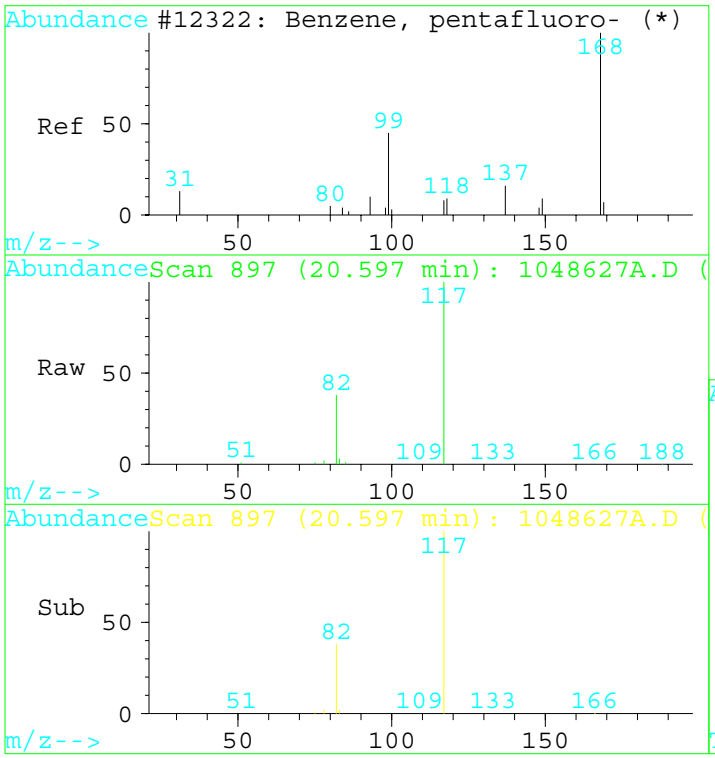
(#) = qualifier out of range (m) = manual integration
1048627A.D CNTHG_A.M Mon Dec 20 15:36:19 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12160MSC\1048627A.D
Acq Time : 16 Dec 110 8:39 pm Operator: BB
Sample : OA-U1-G2-001 Inst : MSC HP597
Misc : NORTHGATE Multiplr: 1.00
Quant Time: Dec 20 15:02 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

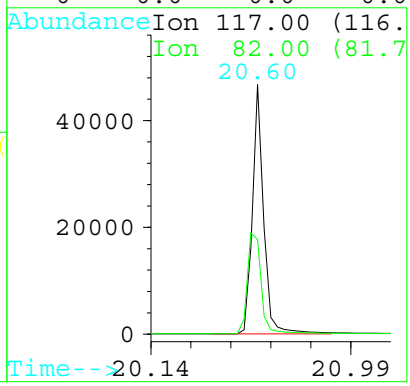


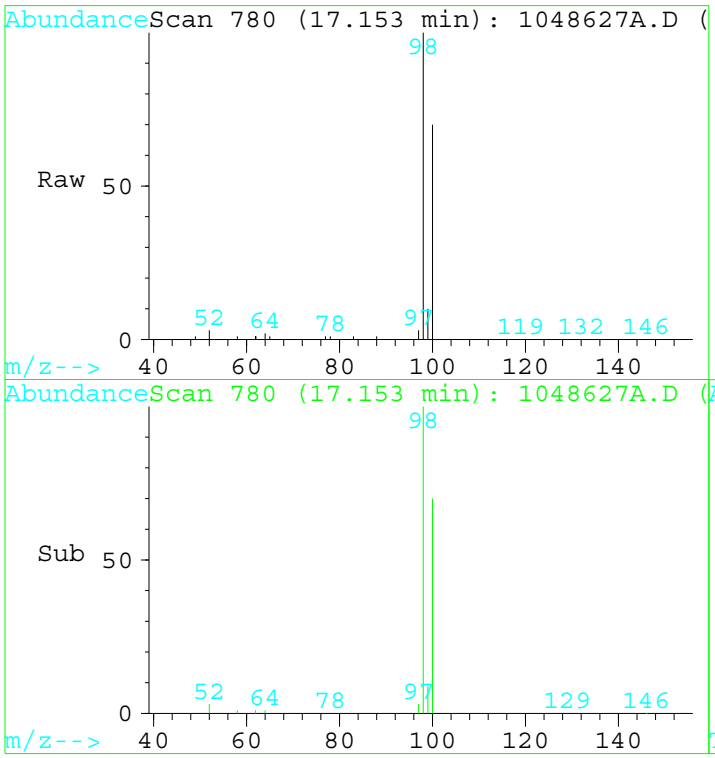


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 897
Delta R.T. 0.09 min
Lab File: 1048627A.D
Acq: 16 Dec 110 8:39 pm

Tgt Ion:117 Resp: 154561

Ion	Ratio	Lower	Upper
117	100		
82	37.7	31.8	47.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

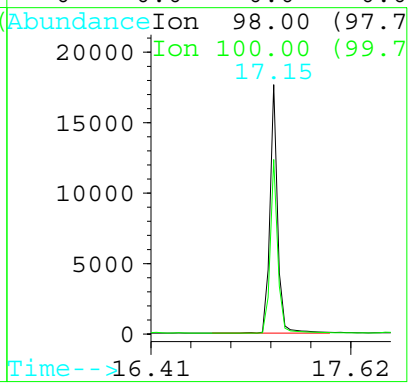


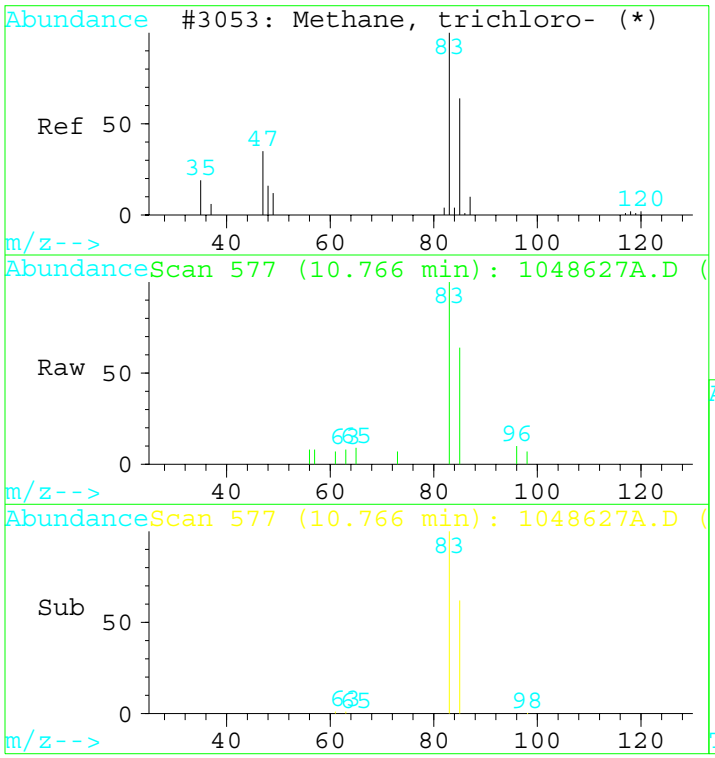


#2
Toluene-d8
Concen: 0.21 ppbV
RT: 17.15 min Scan# 780
Delta R.T. 0.10 min
Lab File: 1048627A.D
Acq: 16 Dec 110 8:39 pm

Tgt Ion:98 Resp: 56751

Ion	Ratio	Lower	Upper
98	100		
100	68.6	56.8	85.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

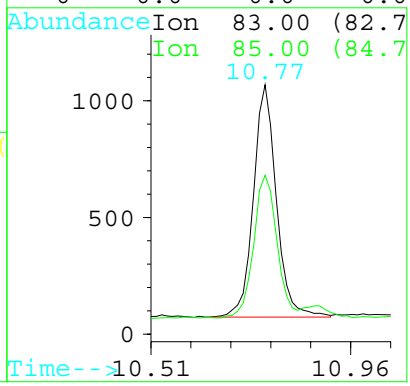


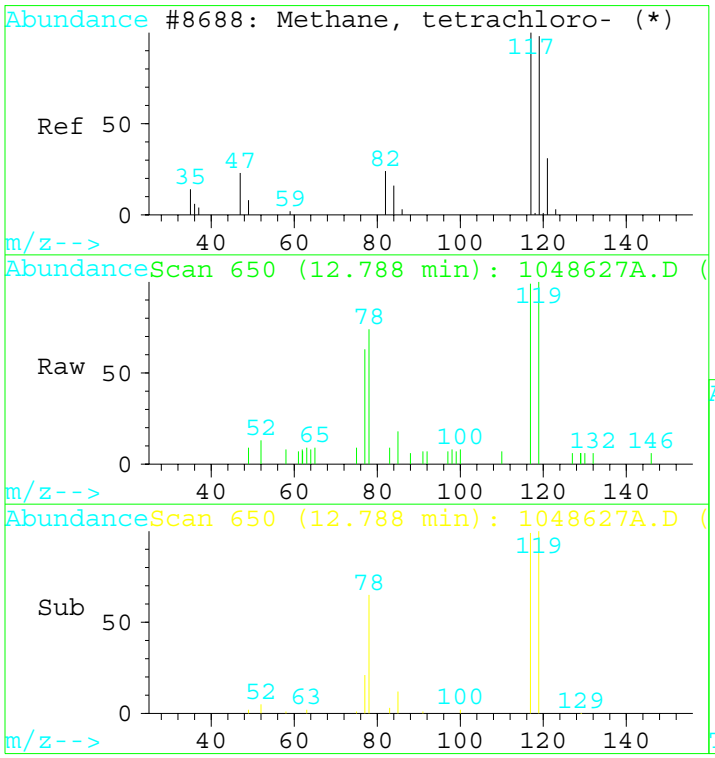


#3
Chloroform
Concen: 0.02 ppbV
RT: 10.77 min Scan# 577
Delta R.T. 0.11 min
Lab File: 1048627A.D
Acq: 16 Dec 110 8:39 pm

Tgt Ion:83 Resp: 3527

Ion	Ratio	Lower	Upper
83	100		
85	60.4	51.4	77.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

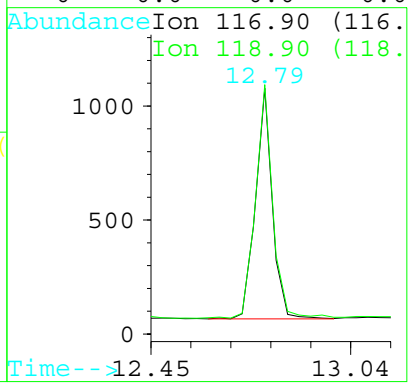


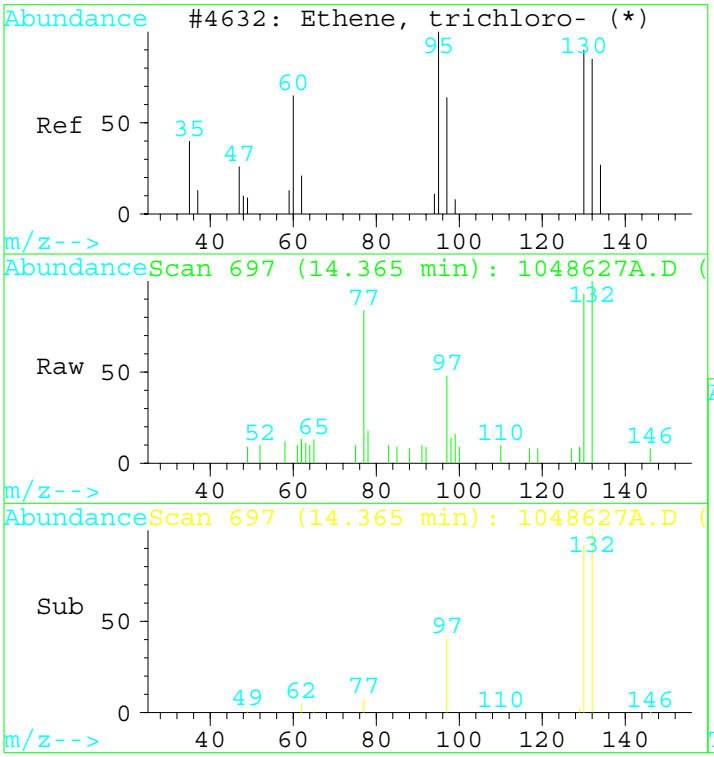


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.79 min Scan# 650
Delta R.T. 0.13 min
Lab File: 1048627A.D
Acq: 16 Dec 110 8:39 pm

Tgt Ion:116.9 Resp: 3498

Ion	Ratio	Lower	Upper
117	100		
119	101.1	82.6	124.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

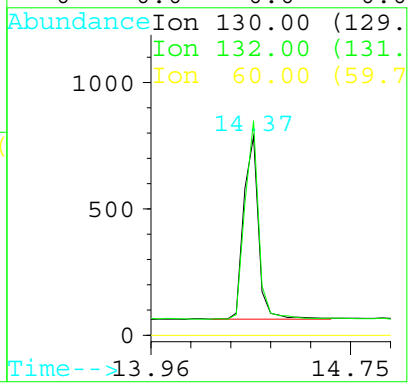




#5
Trichloroethene
Concen: 0.03 ppbV
RT: 14.37 min Scan# 697
Delta R.T. 0.11 min
Lab File: 1048627A.D
Acq: 16 Dec 110 8:39 pm

Tgt Ion:130 Resp: 2919

Ion	Ratio	Lower	Upper
130	100		
132	108.6	84.0	126.0
60	0.0	0.0	0.0
0	0.0	0.0	0.0



7.2: Ion Spectra for Initial Calibration
METHOD: CNTHG_A.M

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020D.D
Acq Time : 2 Dec 110 2:10 pm Operator: KT
Sample : ST60421 + ST60550 Inst : MS3
Misc : 10.0 ML Multiplr: 1.00
Quant Time: Dec 17 9:49 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

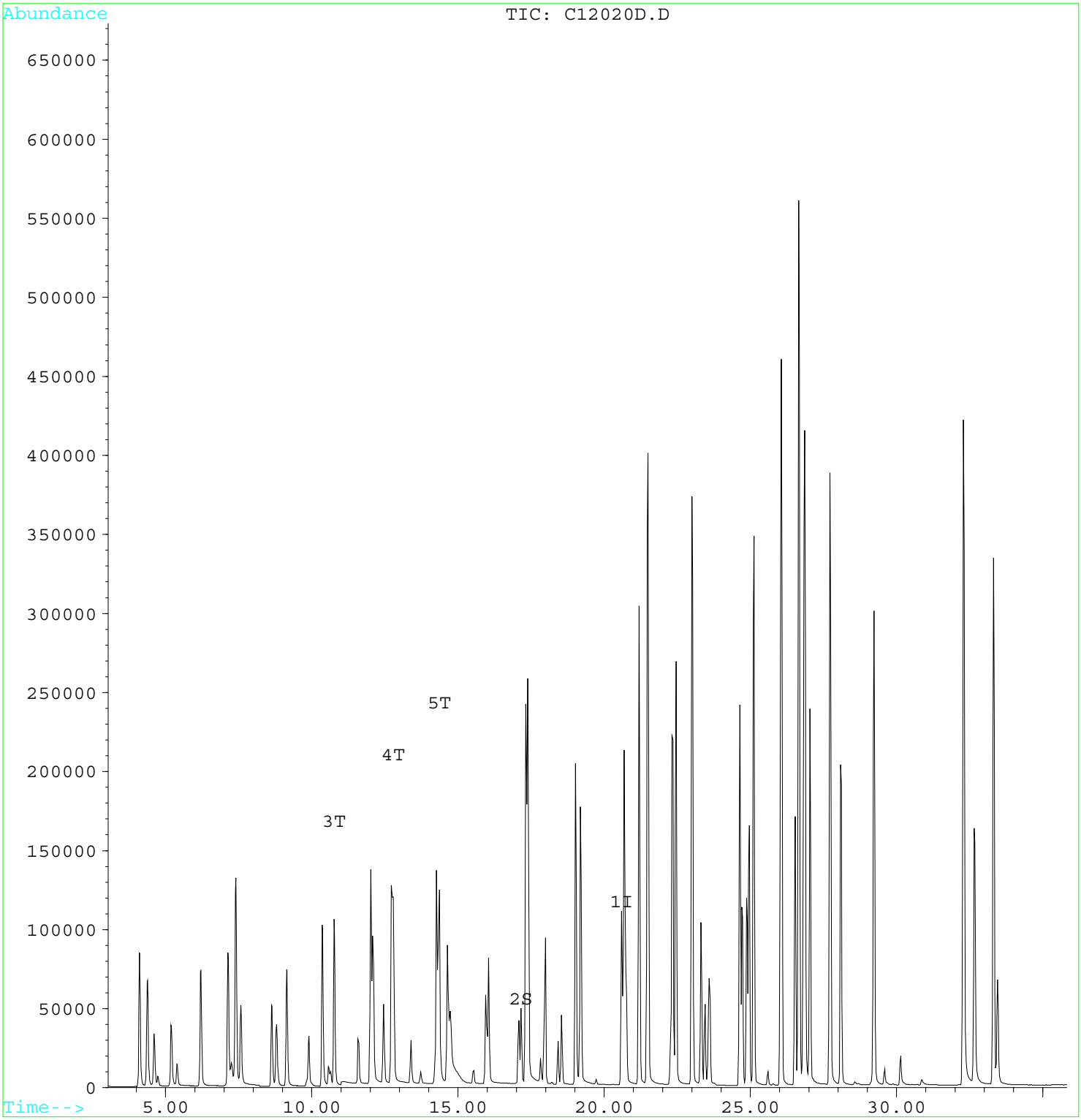
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	232554	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	80146	0.15	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.76	83	255162	0.96	ppbV	99
4) Carbon tetrachloride	12.79	117	178324	1.20	ppbV	93
5) Trichloroethene	14.37	130	156107	1.08	ppbV	91

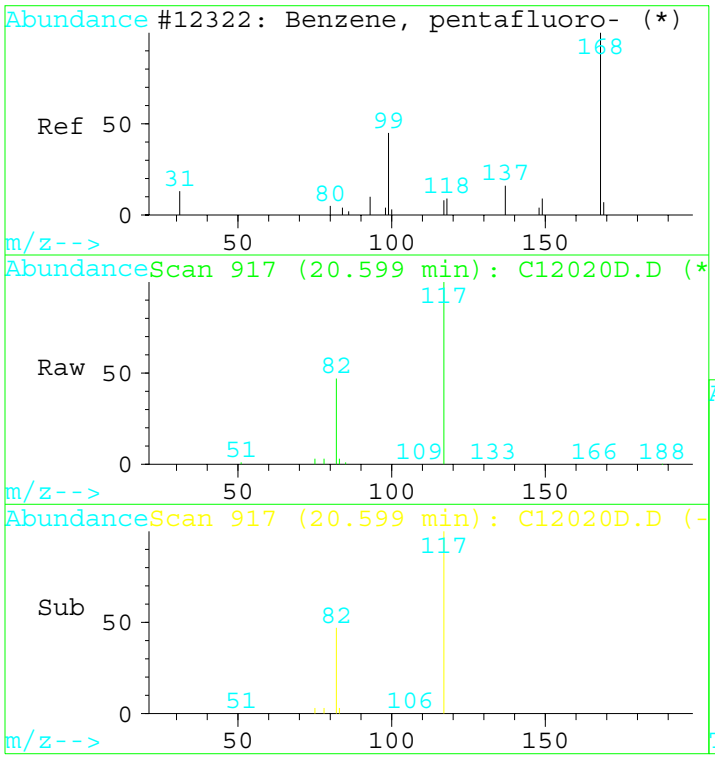
(#) = qualifier out of range (m) = manual integration
C12020D.D CNTHG_A.M Fri Dec 17 09:55:51 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020D.D
Acq Time : 2 Dec 110 2:10 pm Operator: KT
Sample : ST60421 + ST60550 Inst : MS3
Misc : 10.0 ML Multiplr: 1.00
Quant Time: Dec 17 9:49 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

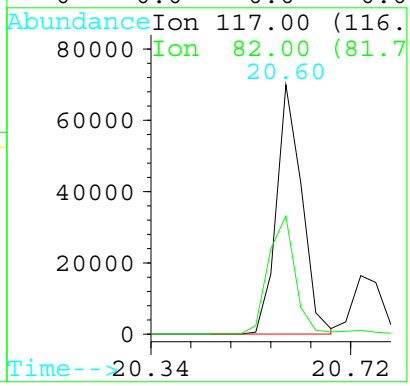


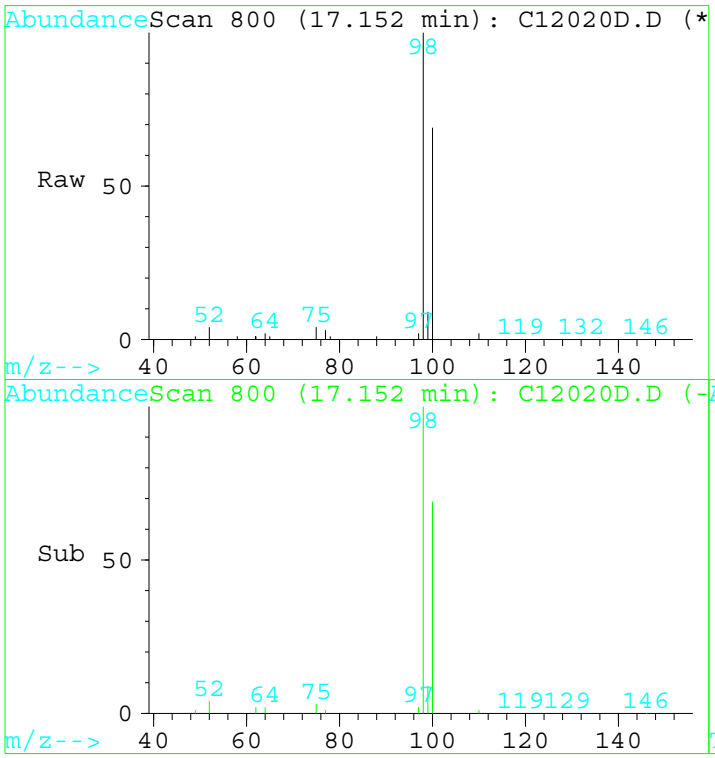


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 917
Delta R.T. 0.09 min
Lab File: C12020D.D
Acq: 2 Dec 110 2:10 pm

Tgt Ion:117 Resp: 232554

Ion	Ratio	Lower	Upper
117	100		
82	47.4	52.6	78.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

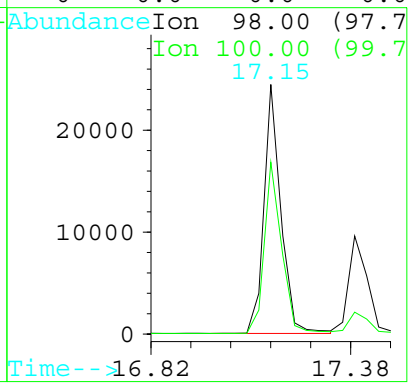


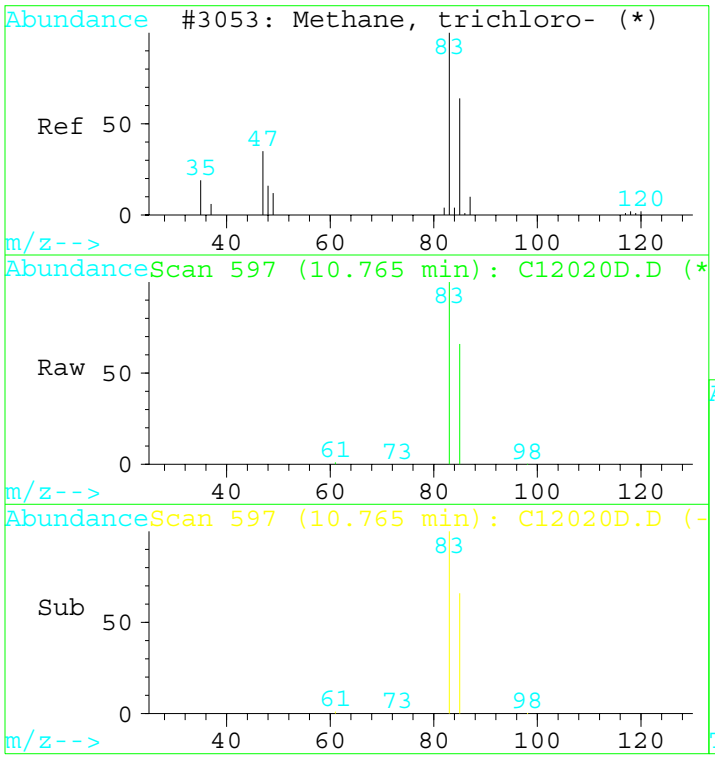


#2
Toluene-d8
Concen: 0.15 ppbV
RT: 17.15 min Scan# 800
Delta R.T. 0.10 min
Lab File: C12020D.D
Acq: 2 Dec 110 2:10 pm

Tgt Ion:98 Resp: 80146

Ion	Ratio	Lower	Upper
98	100		
100	70.6	58.6	87.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

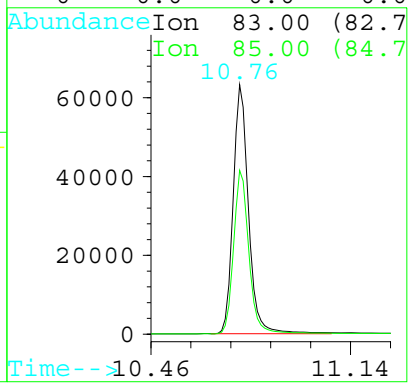


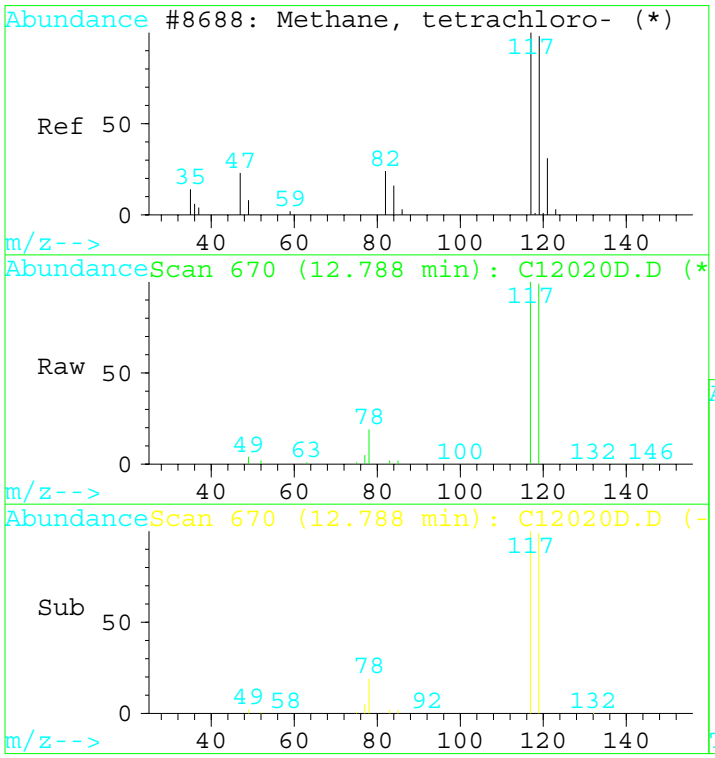


#3
Chloroform
Concen: 0.96 ppbV
RT: 10.76 min Scan# 597
Delta R.T. 0.10 min
Lab File: C12020D.D
Acq: 2 Dec 110 2:10 pm

Tgt Ion:83 Resp: 255162

Ion	Ratio	Lower	Upper
83	100		
85	65.6	51.8	77.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

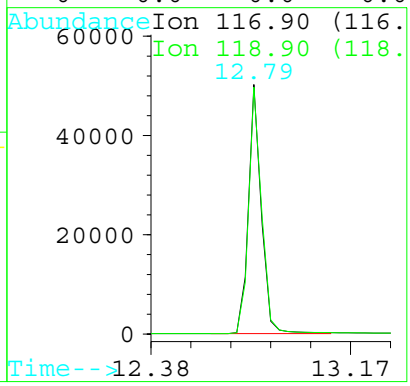


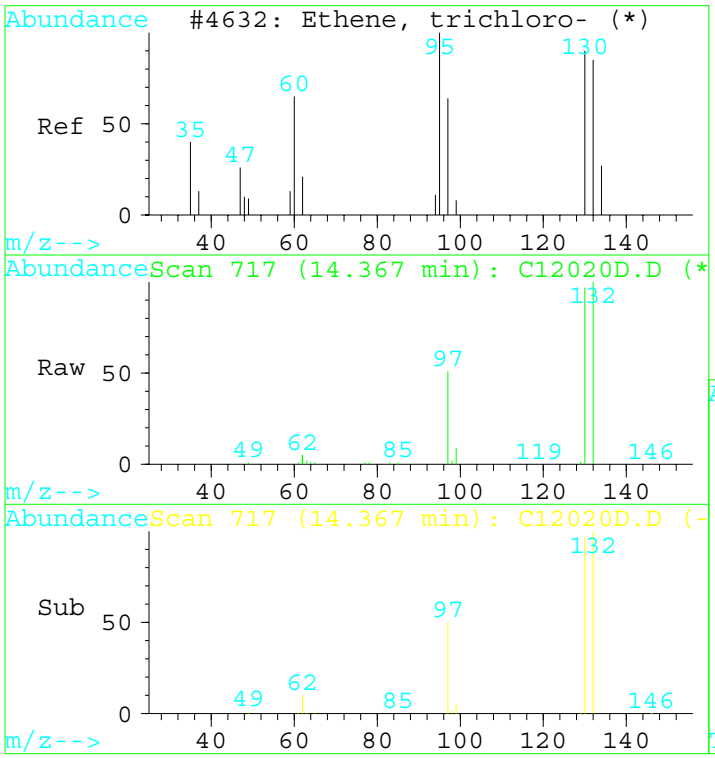


#4
Carbon tetrachloride
Concen: 1.20 ppbV
RT: 12.79 min Scan# 670
Delta R.T. 0.13 min
Lab File: C12020D.D
Acq: 2 Dec 110 2:10 pm

Tgt Ion:116.9 Resp: 178324

Ion	Ratio	Lower	Upper
117	100		
119	98.9	73.4	110.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

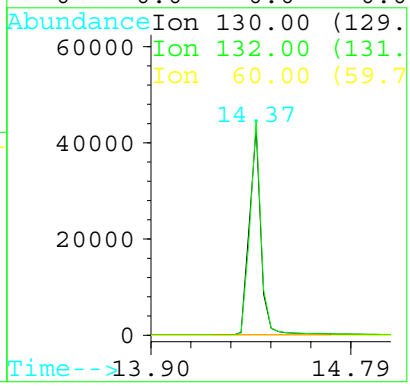




#5
Trichloroethene
Concen: 1.08 ppbV
RT: 14.37 min Scan# 717
Delta R.T. 0.11 min
Lab File: C12020D.D
Acq: 2 Dec 110 2:10 pm

Tgt Ion:130 Resp: 156107

Ion	Ratio	Lower	Upper
130	100		
132	103.3	75.8	113.6
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020E.D
Acq Time : 2 Dec 110 3:04 pm Operator: KT
Sample : ST60421 + ST60550 Inst : MS3
Misc : 2.0 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

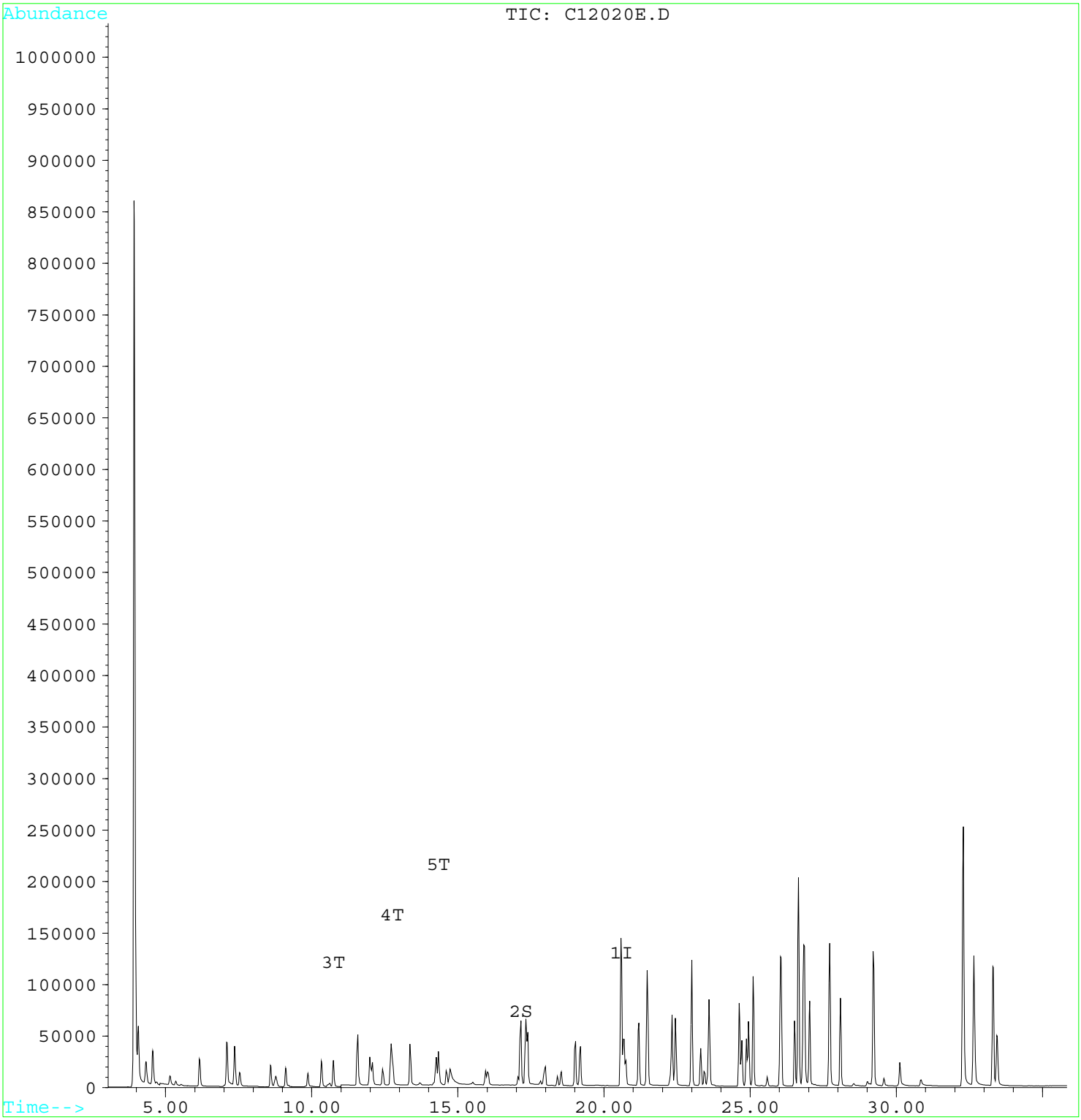
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	345010	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.16	98	126682	0.16	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.74	83	56182	0.14	ppbV	100
4) Carbon tetrachloride	12.75	117	39503	0.17	ppbV	96
5) Trichloroethene	14.33	130	36989	0.16	ppbV	99

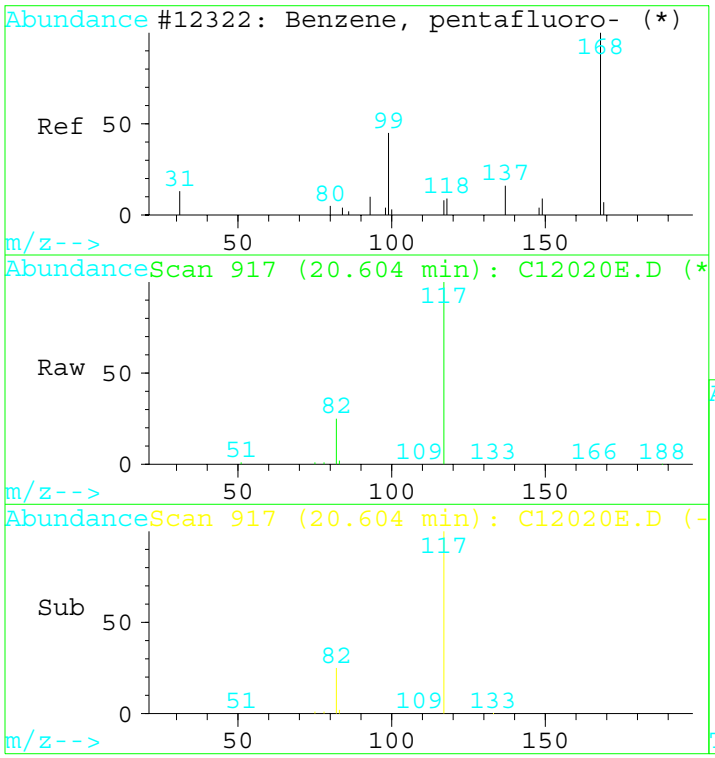
(#) = qualifier out of range (m) = manual integration
C12020E.D CNTHG_A.M Fri Dec 17 09:56:19 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020E.D
Acq Time : 2 Dec 110 3:04 pm Operator: KT
Sample : ST60421 + ST60550 Inst : MS3
Misc : 2.0 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

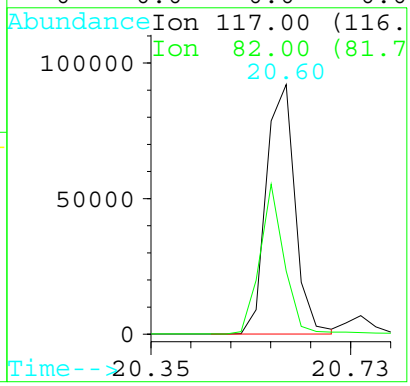


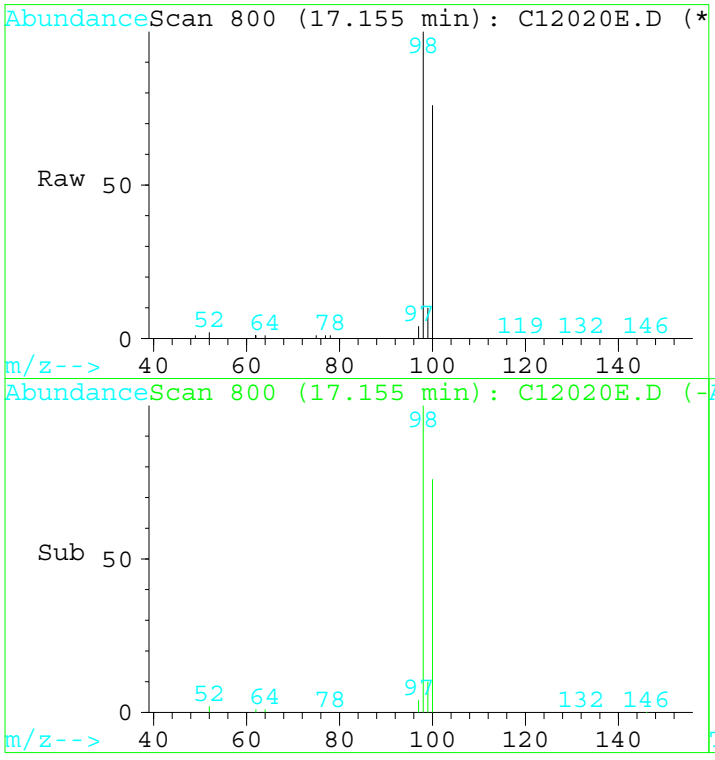


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 917
Delta R.T. 0.09 min
Lab File: C12020E.D
Acq: 2 Dec 110 3:04 pm

Tgt Ion:117 Resp: 345010

Ion	Ratio	Lower	Upper
117	100		
82	25.1	52.6	78.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

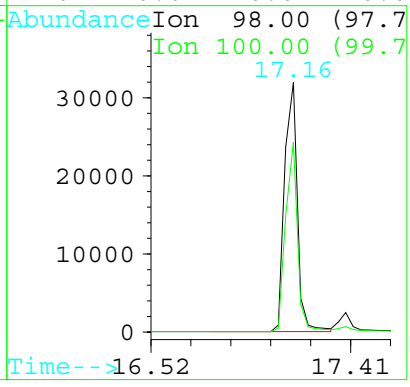


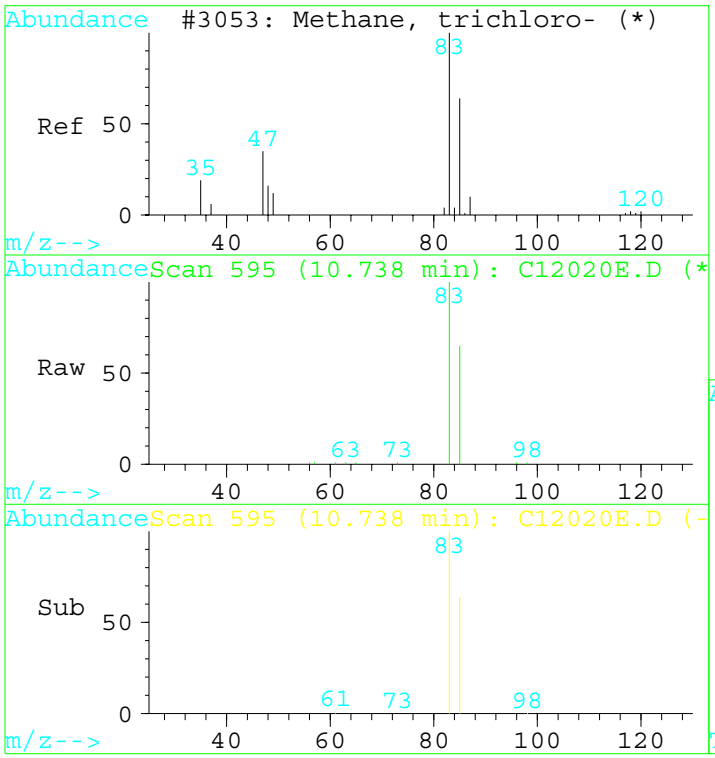


#2
Toluene-d8
Concen: 0.16 ppbV
RT: 17.16 min Scan# 800
Delta R.T. 0.11 min
Lab File: C12020E.D
Acq: 2 Dec 110 3:04 pm

Tgt Ion:98 Resp: 126682

Ion	Ratio	Lower	Upper
98	100		
100	70.9	58.6	87.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

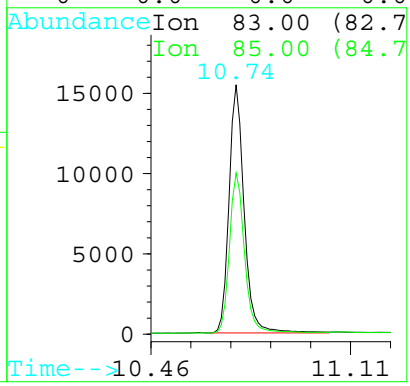


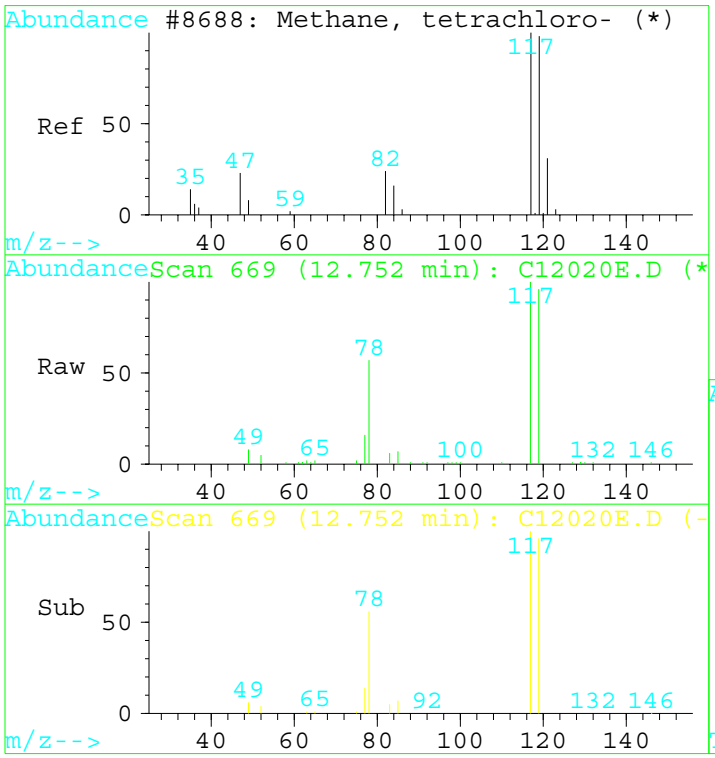


#3
Chloroform
Concen: 0.14 ppbV
RT: 10.74 min Scan# 595
Delta R.T. 0.08 min
Lab File: C12020E.D
Acq: 2 Dec 110 3:04 pm

Tgt Ion:83 Resp: 56182

Ion	Ratio	Lower	Upper
83	100		
85	64.4	51.8	77.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

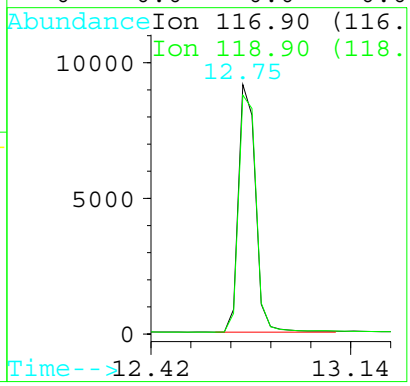


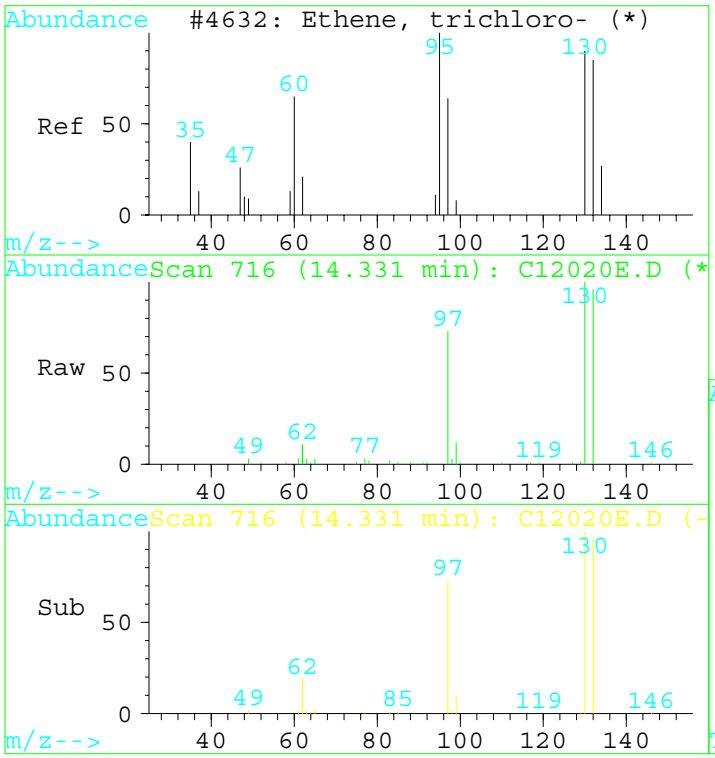


#4
Carbon tetrachloride
Concen: 0.17 ppbV
RT: 12.75 min Scan# 669
Delta R.T. 0.09 min
Lab File: C12020E.D
Acq: 2 Dec 110 3:04 pm

Tgt Ion:116.9 Resp: 39503

Ion	Ratio	Lower	Upper
117	100		
119	95.7	73.4	110.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

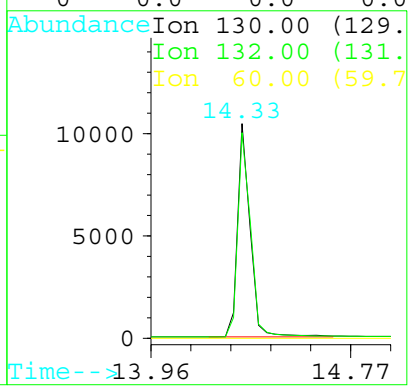




#5
Trichloroethene
Concen: 0.16 ppbV
RT: 14.33 min Scan# 716
Delta R.T. 0.07 min
Lab File: C12020E.D
Acq: 2 Dec 110 3:04 pm

Tgt Ion:130 Resp: 36989

Ion	Ratio	Lower	Upper
130	100		
132	95.6	75.8	113.6
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020K.D
Acq Time : 2 Dec 110 7:46 pm Operator: BB
Sample : ST60421 + ST60550 Inst : MS3
Misc : 0.25 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

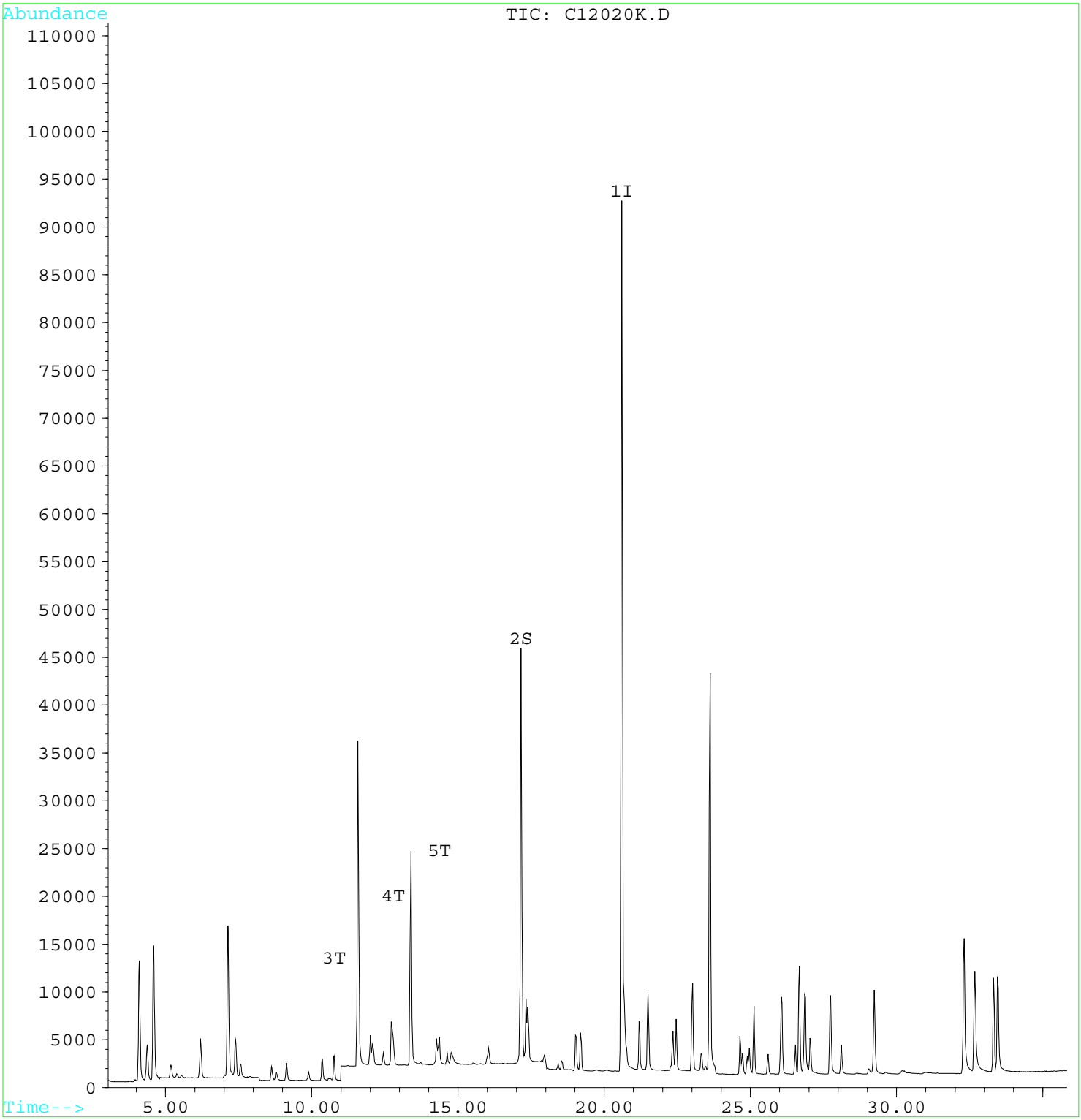
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	206762	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.15	98	73124	0.16	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.76	83	5553	0.02	ppbV	99
4) Carbon tetrachloride	12.79	117	3986	0.03	ppbV	90
5) Trichloroethene	14.37	130	3657	0.03	ppbV	88

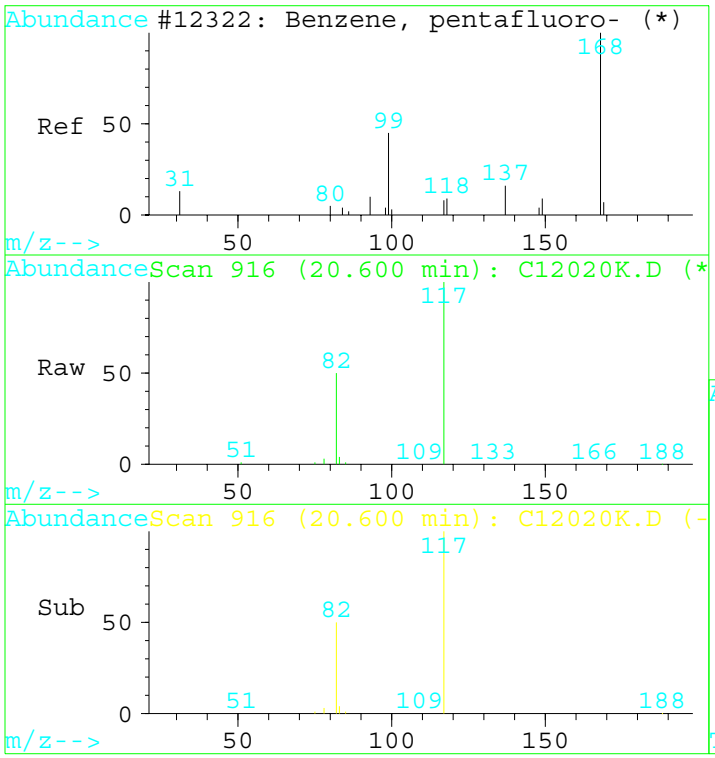
(#) = qualifier out of range (m) = manual integration
C12020K.D CNTHG_A.M Fri Dec 17 09:56:44 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020K.D
Acq Time : 2 Dec 110 7:46 pm Operator: BB
Sample : ST60421 + ST60550 Inst : MS3
Misc : 0.25 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

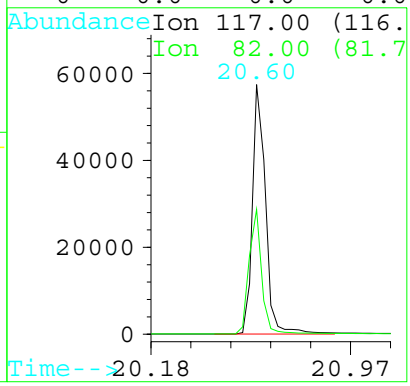


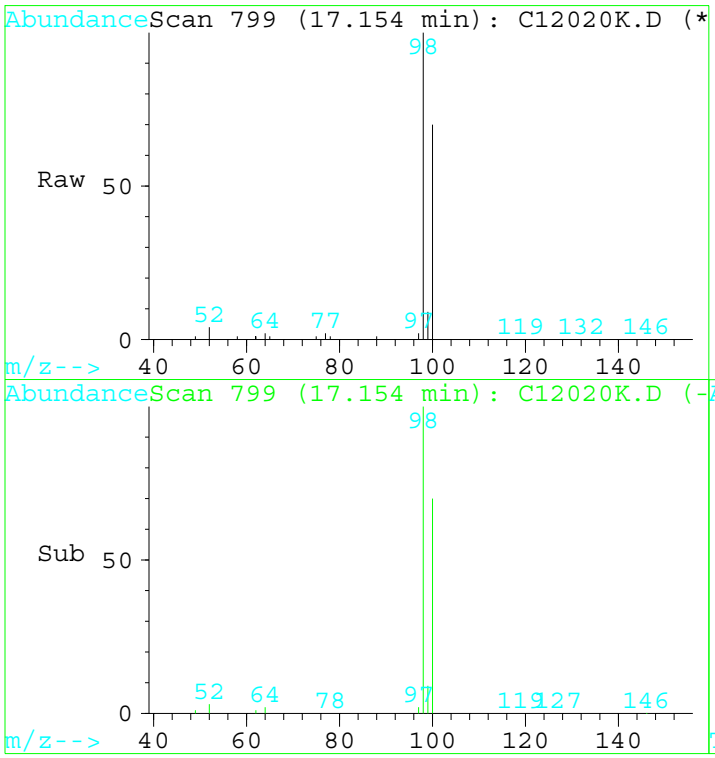


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 916
Delta R.T. 0.09 min
Lab File: C12020K.D
Acq: 2 Dec 110 7:46 pm

Tgt Ion:117 Resp: 206762

Ion	Ratio	Lower	Upper
117	100		
82	50.0	52.6	78.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

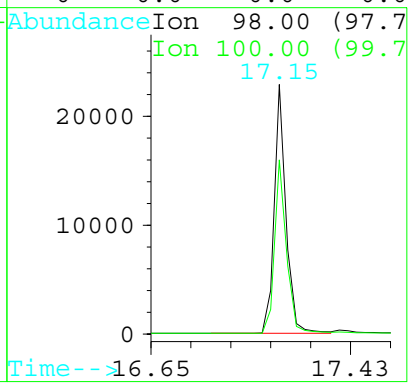


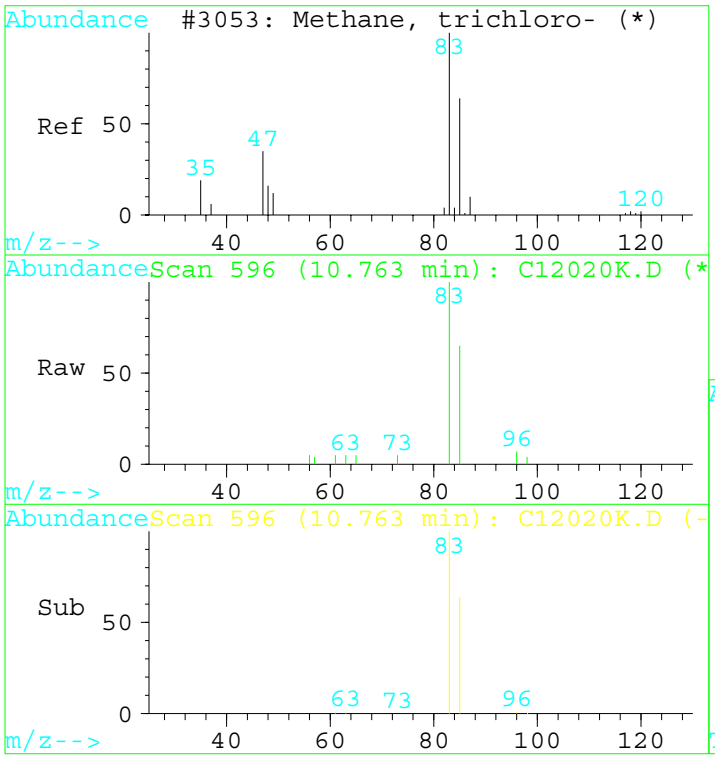


#2
Toluene-d8
Concen: 0.16 ppbV
RT: 17.15 min Scan# 799
Delta R.T. 0.10 min
Lab File: C12020K.D
Acq: 2 Dec 110 7:46 pm

Tgt Ion:98 Resp: 73124

Ion	Ratio	Lower	Upper
98	100		
100	71.5	58.6	87.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

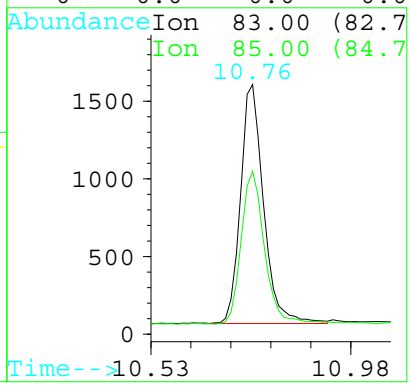


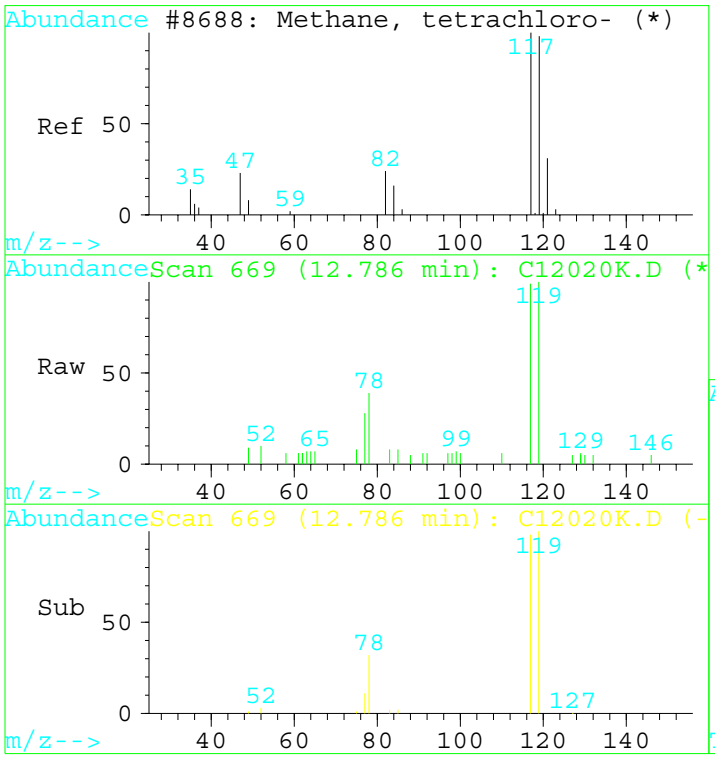


#3
Chloroform
Concen: 0.02 ppbV
RT: 10.76 min Scan# 596
Delta R.T. 0.10 min
Lab File: C12020K.D
Acq: 2 Dec 110 7:46 pm

Tgt Ion:83 Resp: 5553

Ion	Ratio	Lower	Upper
83	100		
85	63.8	51.8	77.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

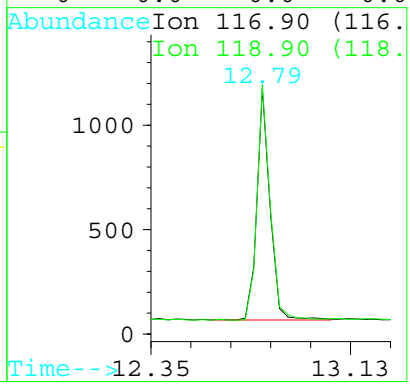


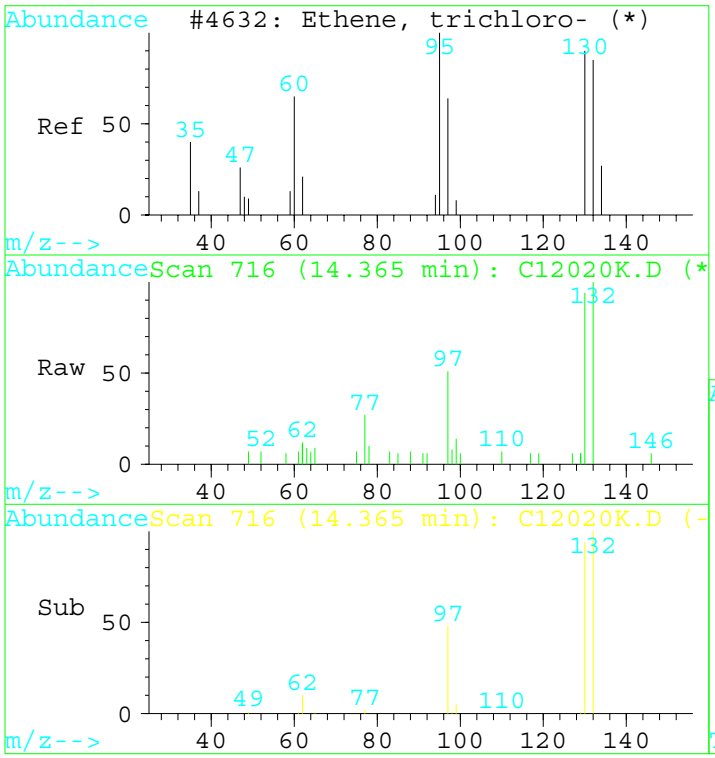


#4
Carbon tetrachloride
Concen: 0.03 ppbV
RT: 12.79 min Scan# 669
Delta R.T. 0.13 min
Lab File: C12020K.D
Acq: 2 Dec 110 7:46 pm

Tgt Ion:116.9 Resp: 3986

Ion	Ratio	Lower	Upper
117	100		
119	101.5	73.4	110.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

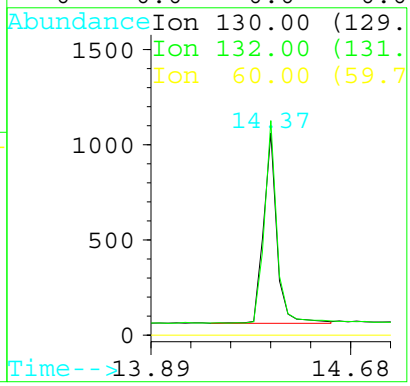




#5
Trichloroethene
Concen: 0.03 ppbV
RT: 14.37 min Scan# 716
Delta R.T. 0.11 min
Lab File: C12020K.D
Acq: 2 Dec 110 7:46 pm

Tgt Ion:130 Resp: 3657

Ion	Ratio	Lower	Upper
130	100		
132	106.2	75.8	113.6
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020L.D
Acq Time : 2 Dec 110 8:35 pm Operator: BB
Sample : ST60421 + ST60550 Inst : MS3
Misc : 0.5 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

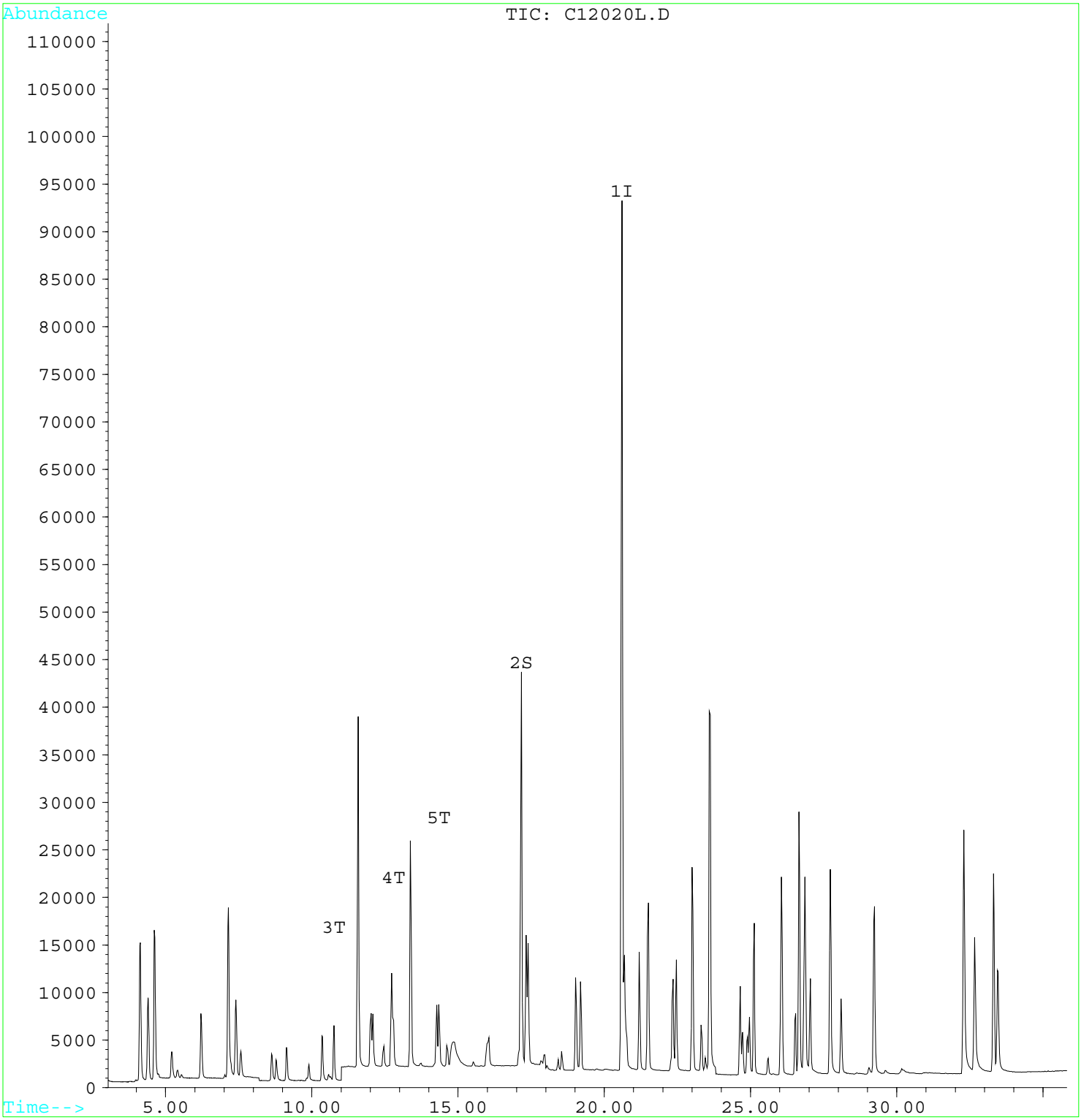
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	199305	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.16	98	71409	0.16	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.76	83	12306	0.05	ppbV	99
4) Carbon tetrachloride	12.80	117	8494	0.06	ppbV	90
5) Trichloroethene	14.34	130	7403	0.06	ppbV	99

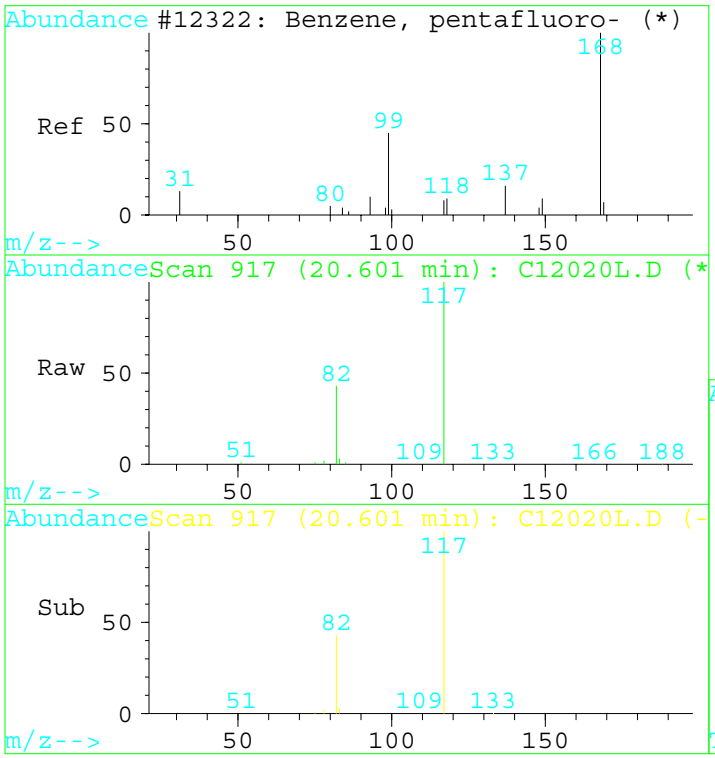
(#) = qualifier out of range (m) = manual integration
C12020L.D CNTHG_A.M Fri Dec 17 09:58:16 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020L.D
Acq Time : 2 Dec 110 8:35 pm Operator: BB
Sample : ST60421 + ST60550 Inst : MS3
Misc : 0.5 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

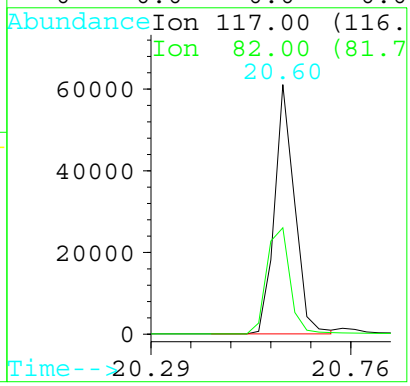


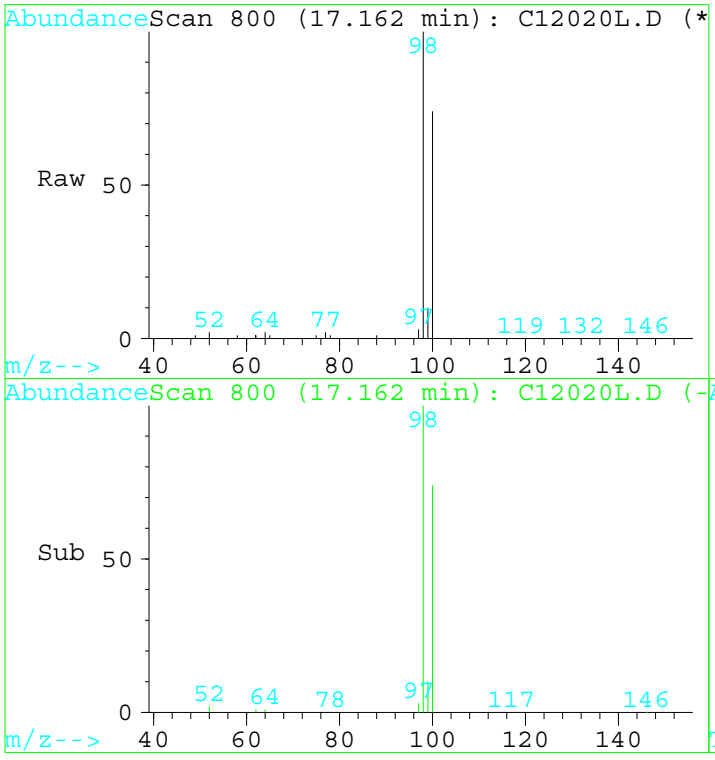


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 917
Delta R.T. 0.09 min
Lab File: C12020L.D
Acq: 2 Dec 110 8:35 pm

Tgt Ion:117 Resp: 199305

Ion	Ratio	Lower	Upper
117	100		
82	42.6	52.6	78.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

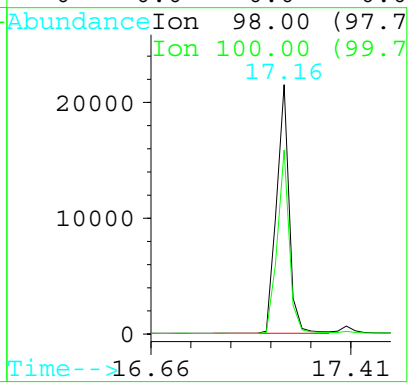


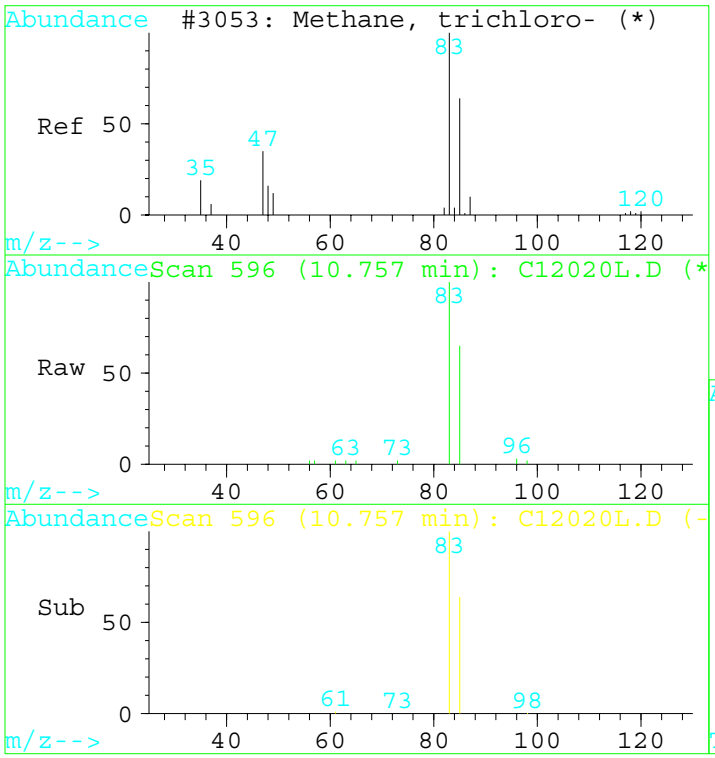


#2
Toluene-d8
Concen: 0.16 ppbV
RT: 17.16 min Scan# 800
Delta R.T. 0.11 min
Lab File: C12020L.D
Acq: 2 Dec 110 8:35 pm

Tgt Ion:98 Resp: 71409

Ion	Ratio	Lower	Upper
98	100		
100	70.3	58.6	87.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

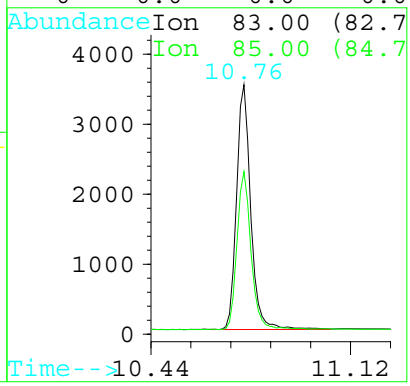


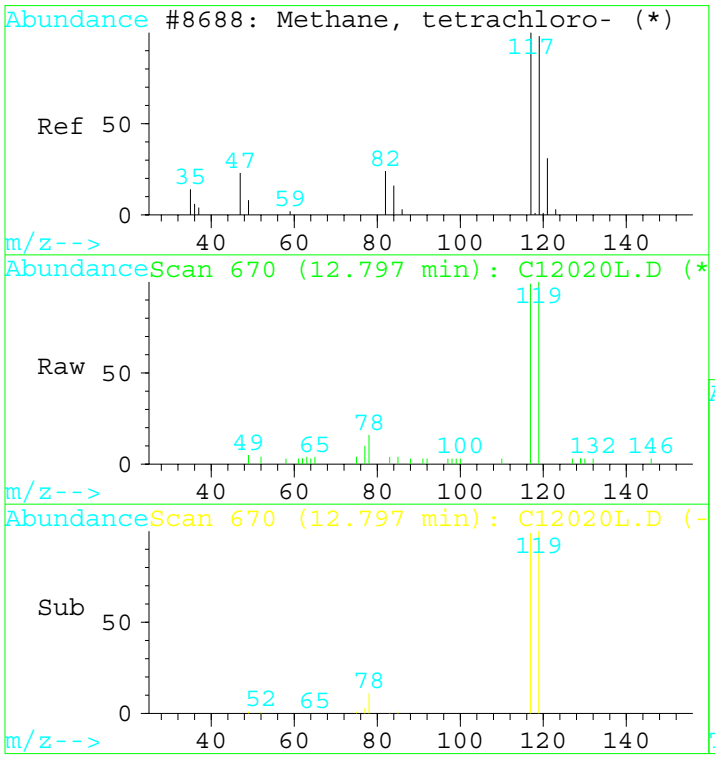


#3
Chloroform
Concen: 0.05 ppbV
RT: 10.76 min Scan# 596
Delta R.T. 0.10 min
Lab File: C12020L.D
Acq: 2 Dec 110 8:35 pm

Tgt Ion:83 Resp: 12306

Ion	Ratio	Lower	Upper
83	100		
85	64.4	51.8	77.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

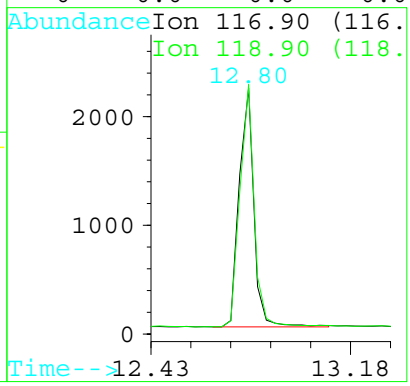


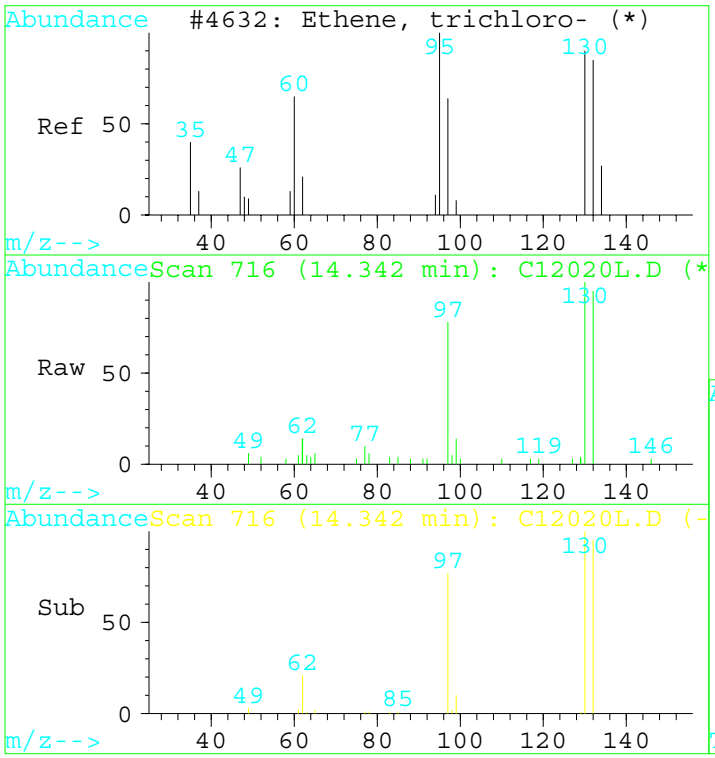


#4
Carbon tetrachloride
Concen: 0.06 ppbV
RT: 12.80 min Scan# 670
Delta R.T. 0.14 min
Lab File: C12020L.D
Acq: 2 Dec 110 8:35 pm

Tgt Ion:116.9 Resp: 8494

Ion	Ratio	Lower	Upper
117	100		
119	101.4	73.4	110.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

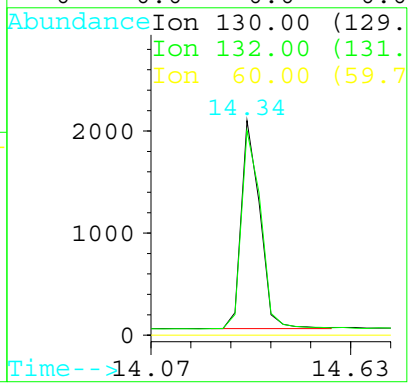




#5
Trichloroethene
Concen: 0.06 ppbV
RT: 14.34 min Scan# 716
Delta R.T. 0.08 min
Lab File: C12020L.D
Acq: 2 Dec 110 8:35 pm

Tgt Ion:130 Resp: 7403

Ion	Ratio	Lower	Upper
130	100		
132	95.2	75.8	113.6
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020M.D
Acq Time : 2 Dec 110 9:20 pm Operator: BB
Sample : ST60421 + ST60550 Inst : MS3
Misc : 1.0 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

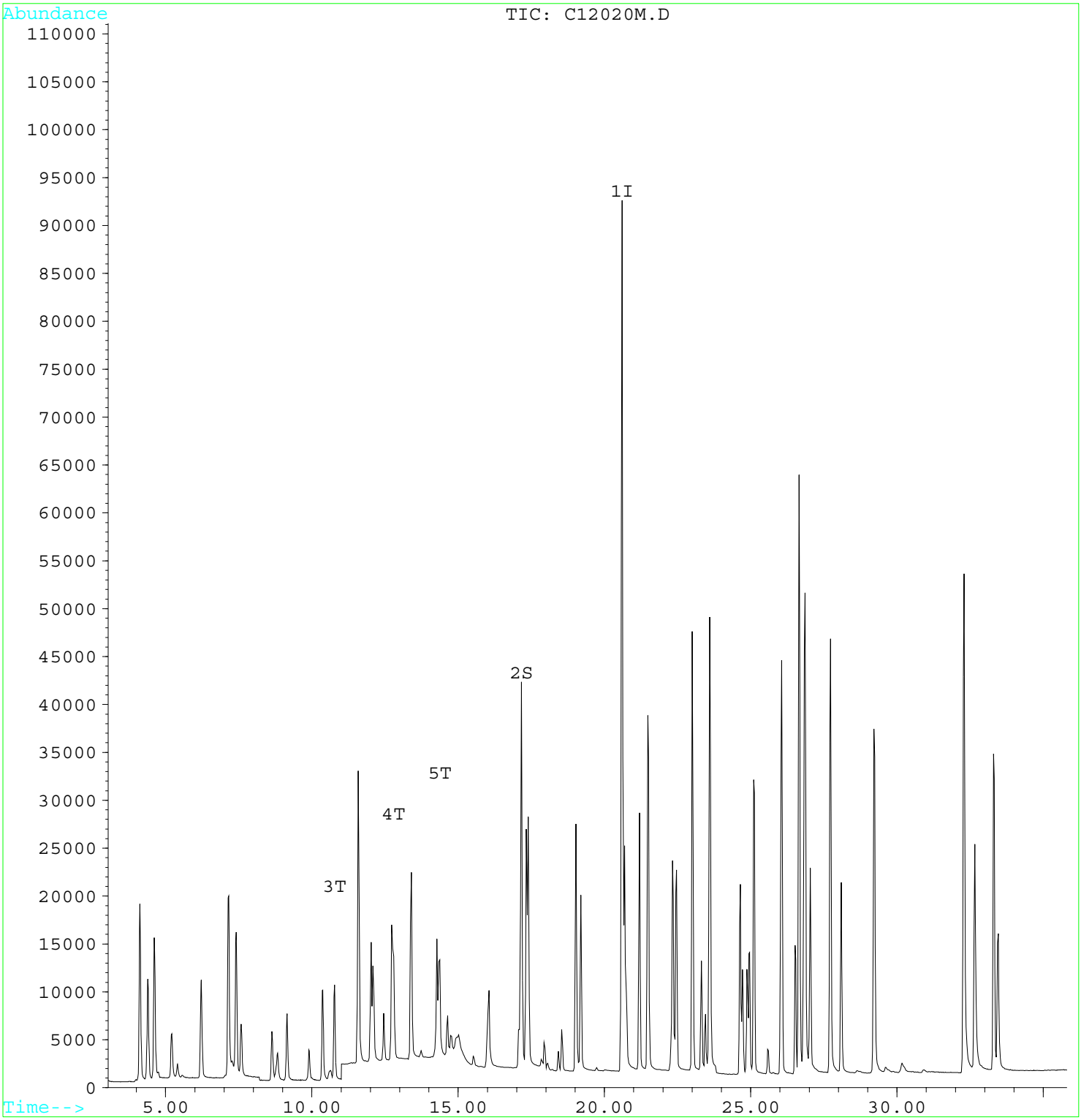
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.60	117	209793	0.20	ppbV	0.09
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.16	98	70922	0.15	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.77	83	25439	0.10	ppbV	100
4) Carbon tetrachloride	12.79	117	16160	0.12	ppbV	93
5) Trichloroethene	14.37	130	14745	0.11	ppbV	88

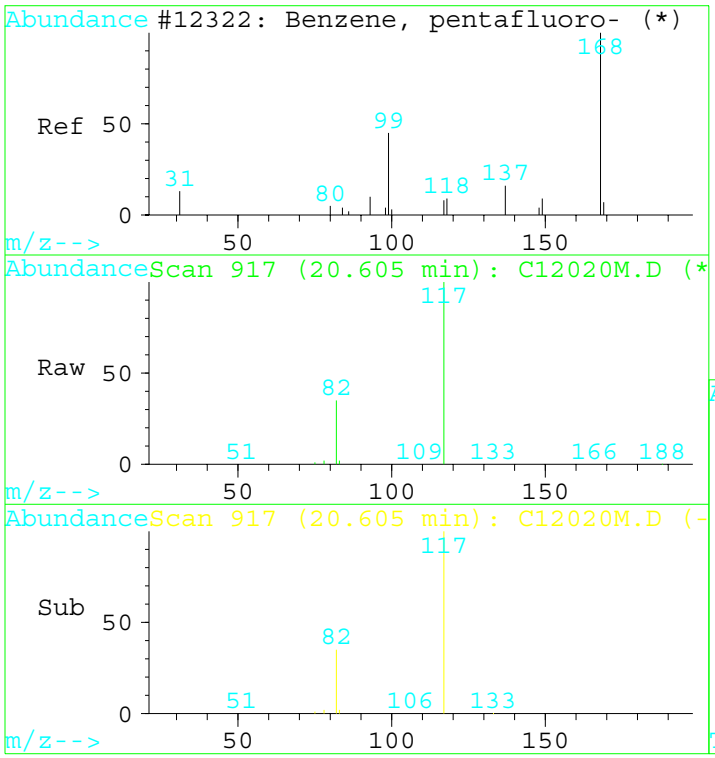
(#) = qualifier out of range (m) = manual integration
C12020M.D CNTHG_A.M Fri Dec 17 09:58:41 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12020M.D
Acq Time : 2 Dec 110 9:20 pm Operator: BB
Sample : ST60421 + ST60550 Inst : MS3
Misc : 1.0 ML Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

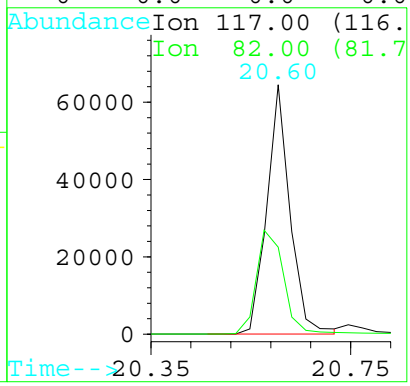


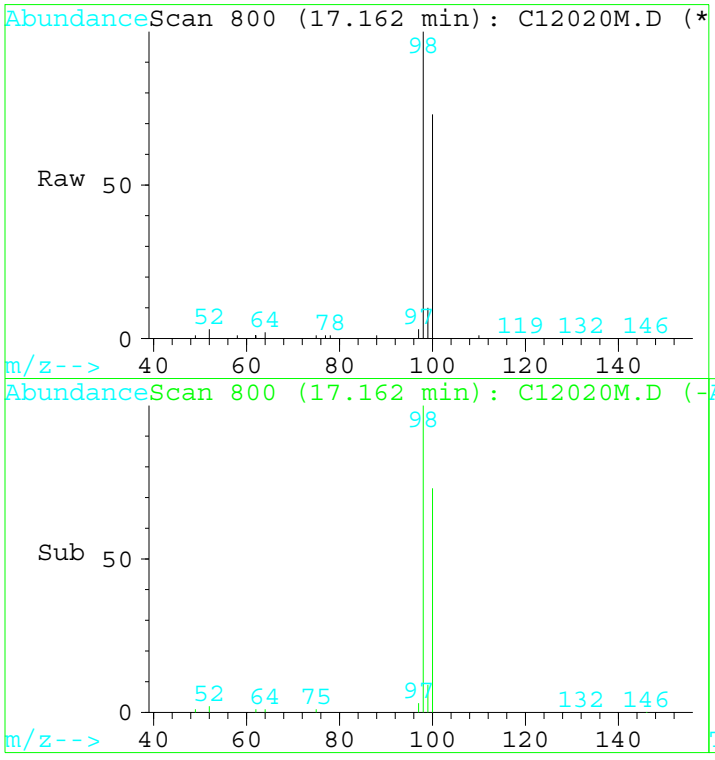


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.60 min Scan# 917
Delta R.T. 0.09 min
Lab File: C12020M.D
Acq: 2 Dec 110 9:20 pm

Tgt Ion:117 Resp: 209793

Ion	Ratio	Lower	Upper
117	100		
82	34.8	52.6	78.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

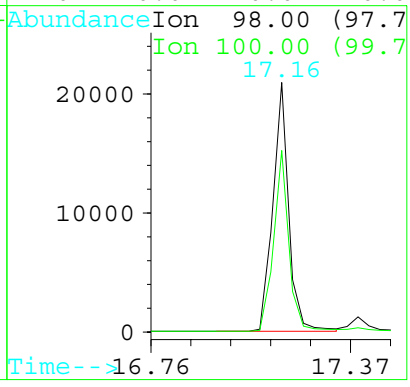


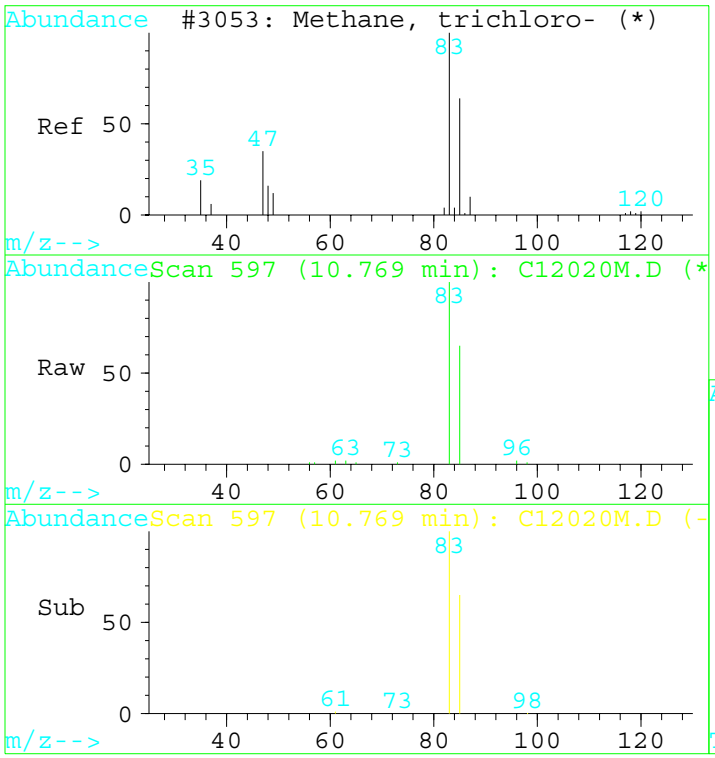


#2
Toluene-d8
Concen: 0.15 ppbV
RT: 17.16 min Scan# 800
Delta R.T. 0.11 min
Lab File: C12020M.D
Acq: 2 Dec 110 9:20 pm

Tgt Ion:98 Resp: 70922

Ion	Ratio	Lower	Upper
98	100		
100	70.0	58.6	87.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

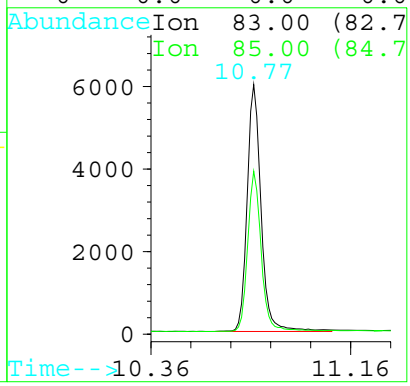


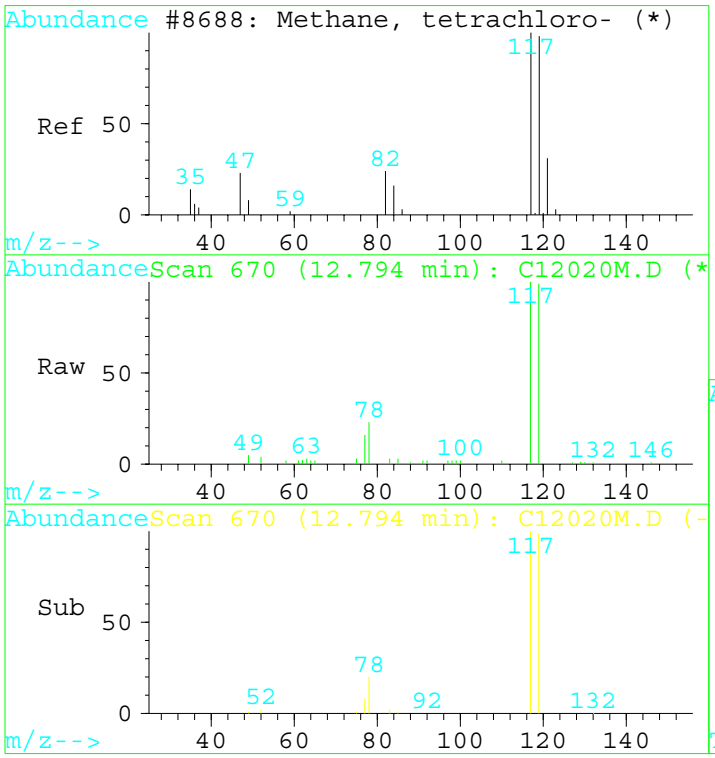


#3
Chloroform
Concen: 0.10 ppbV
RT: 10.77 min Scan# 597
Delta R.T. 0.11 min
Lab File: C12020M.D
Acq: 2 Dec 110 9:20 pm

Tgt Ion:83 Resp: 25439

Ion	Ratio	Lower	Upper
83	100		
85	64.9	51.8	77.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

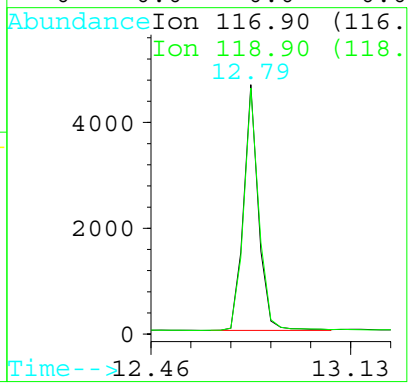


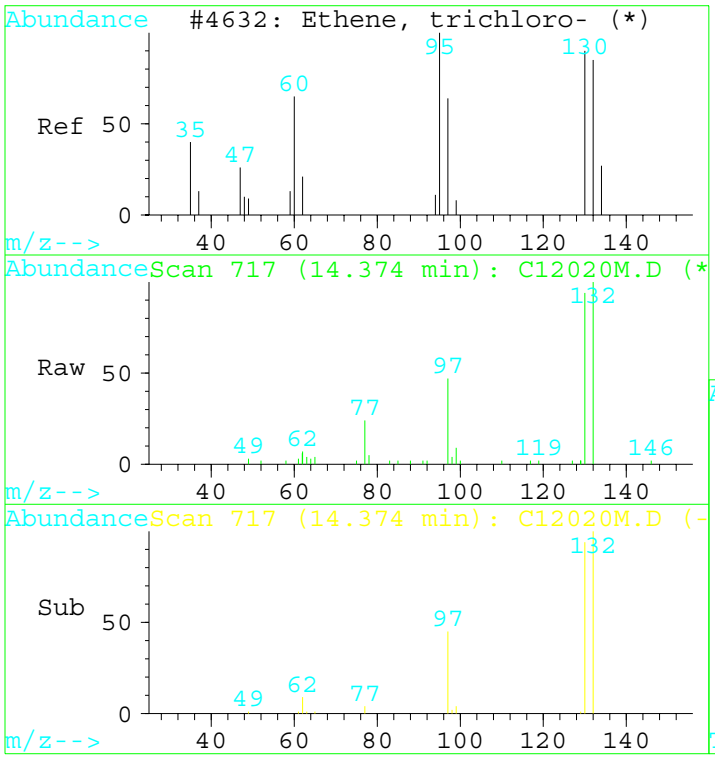


#4
Carbon tetrachloride
Concen: 0.12 ppbV
RT: 12.79 min Scan# 670
Delta R.T. 0.13 min
Lab File: C12020M.D
Acq: 2 Dec 110 9:20 pm

Tgt Ion:116.9 Resp: 16160

Ion	Ratio	Lower	Upper
117	100		
119	98.6	73.4	110.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

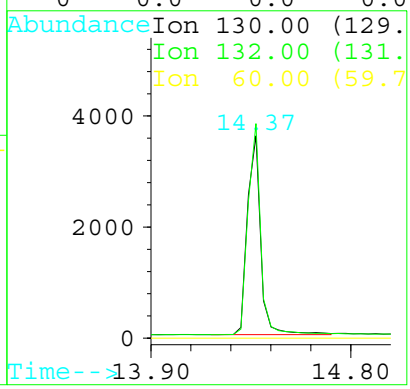




#5
Trichloroethene
Concen: 0.11 ppbV
RT: 14.37 min Scan# 717
Delta R.T. 0.11 min
Lab File: C12020M.D
Acq: 2 Dec 110 9:20 pm

Tgt Ion:130 Resp: 14745

Ion	Ratio	Lower	Upper
130	100		
132	106.2	75.8	113.6
60	0.0	0.0	0.0
0	0.0	0.0	0.0



Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12030A.D
Acq Time : 3 Dec 110 9:27 am Operator: KB
Sample : ST60421 + ST60550 Inst : MS3
Misc : Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

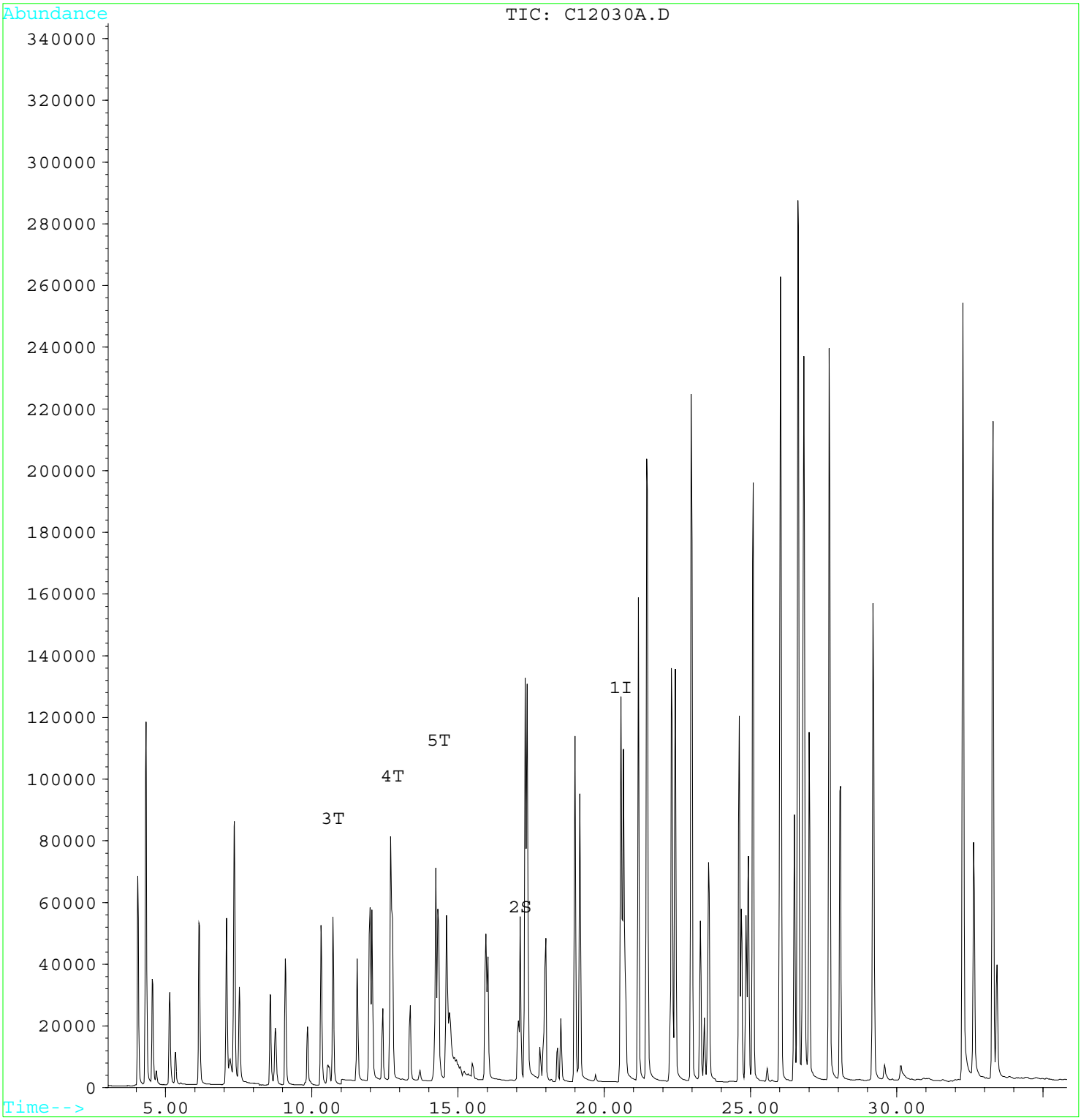
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	20.57	117	273532	0.20	ppbV	0.06
System Monitoring Compounds						%Recovery
2) Toluene-d8	17.13	98	86339	0.14	ppbV	
Target Compounds						Qvalue
3) Chloroform	10.72	83	120756	0.38	ppbV	99
4) Carbon tetrachloride	12.76	117	90377	0.50	ppbV	88
5) Trichloroethene	14.34	130	77380	0.44	ppbV	89

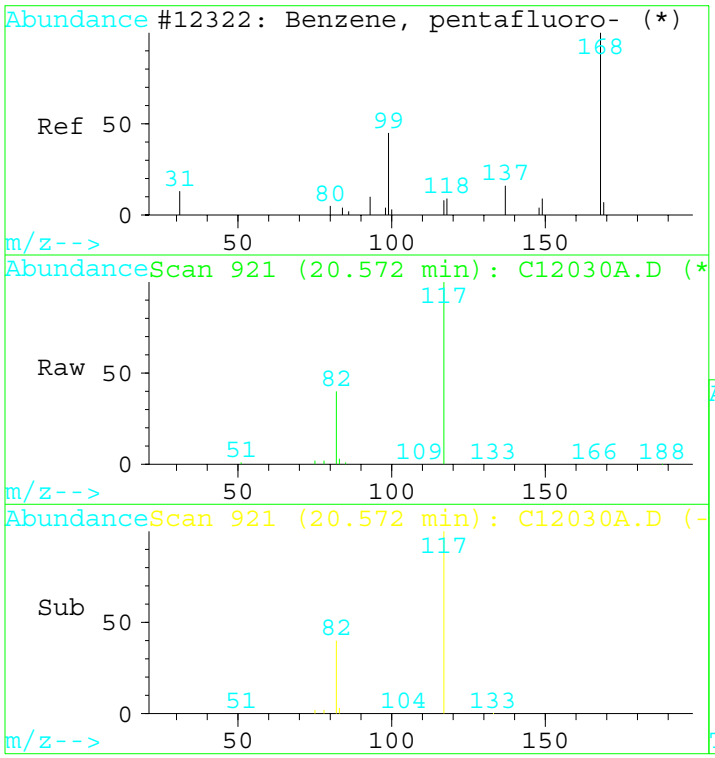
(#) = qualifier out of range (m) = manual integration
C12030A.D CNTHG_A.M Fri Dec 17 09:59:04 2010 Page 1

Quantitation Report

Data File : C:\MSCHEM\2\DATA\12020M~1\C12030A.D
Acq Time : 3 Dec 110 9:27 am Operator: KB
Sample : ST60421 + ST60550 Inst : MS3
Misc : Multiplr: 1.00
Quant Time: Dec 17 9:50 19110

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15
Last Update : Fri Dec 17 09:54:00 2010
Response via : Multiple Level Calibration

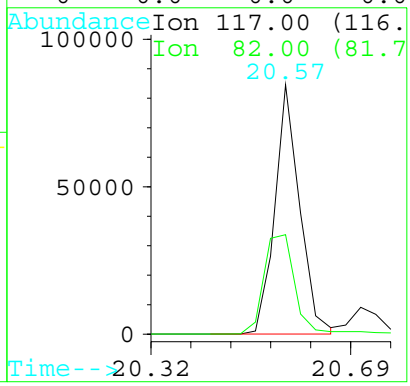


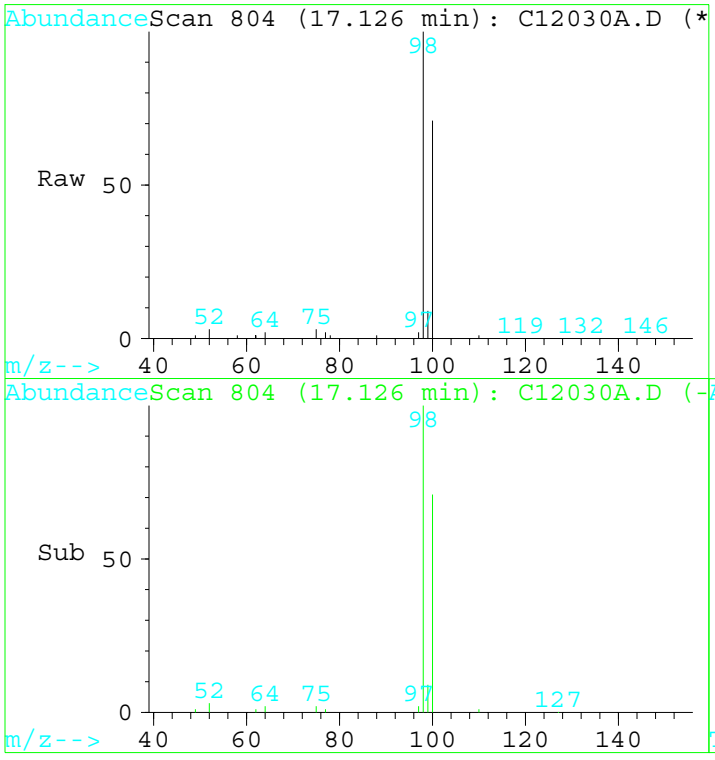


#1
Chlorobenzene-d5
Concen: 0.20 ppbV
RT: 20.57 min Scan# 921
Delta R.T. 0.06 min
Lab File: C12030A.D
Acq: 3 Dec 110 9:27 am

Tgt Ion:117 Resp: 273532

Ion	Ratio	Lower	Upper
117	100		
82	39.8	52.6	78.8#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

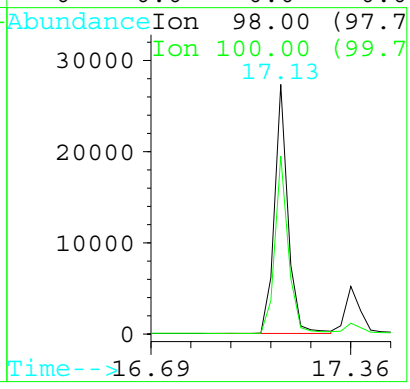


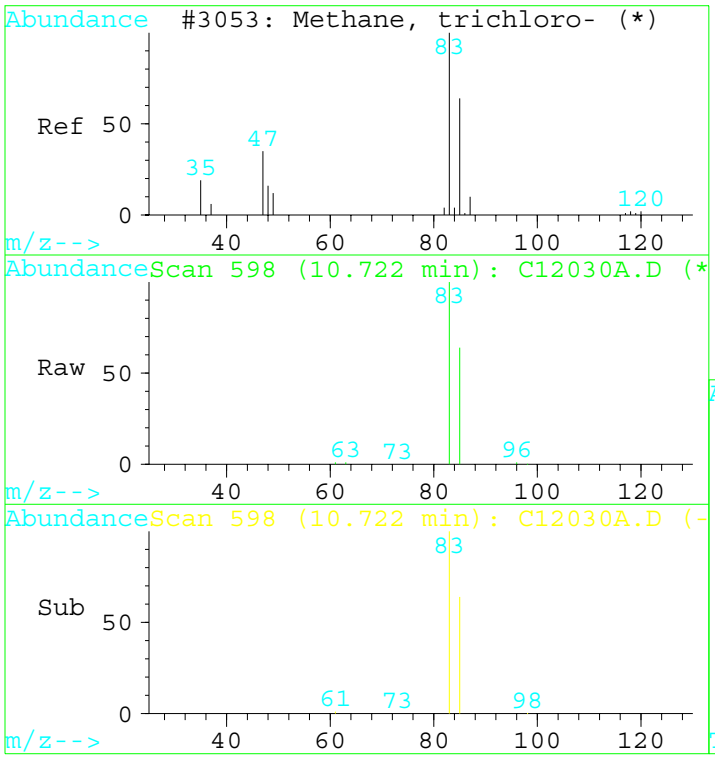


#2
Toluene-d8
Concen: 0.14 ppbV
RT: 17.13 min Scan# 804
Delta R.T. 0.08 min
Lab File: C12030A.D
Acq: 3 Dec 110 9:27 am

Tgt Ion:98 Resp: 86339

Ion	Ratio	Lower	Upper
98	100		
100	71.0	58.6	87.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

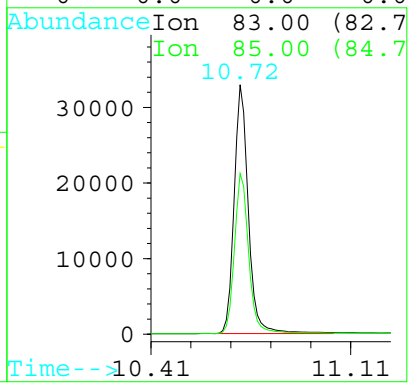


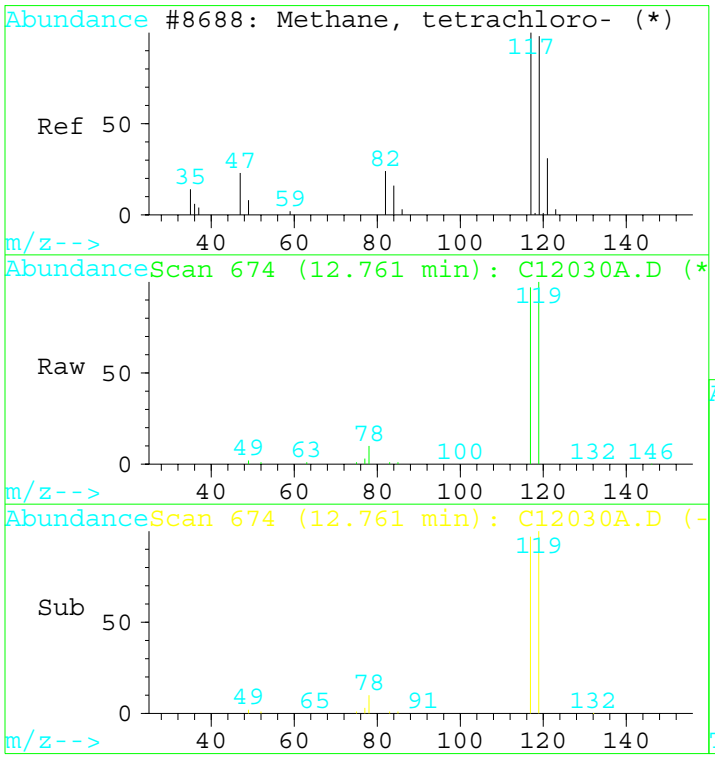


#3
Chloroform
Concen: 0.38 ppbV
RT: 10.72 min Scan# 598
Delta R.T. 0.06 min
Lab File: C12030A.D
Acq: 3 Dec 110 9:27 am

Tgt Ion:83 Resp: 120756

Ion	Ratio	Lower	Upper
83	100		
85	64.3	51.8	77.8
0	0.0	0.0	0.0
0	0.0	0.0	0.0

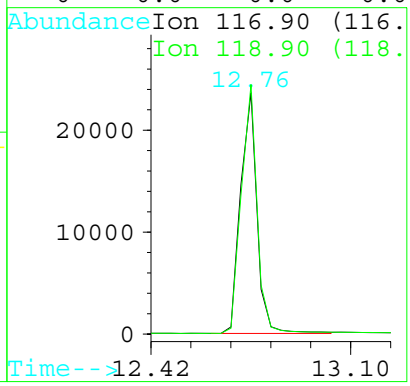


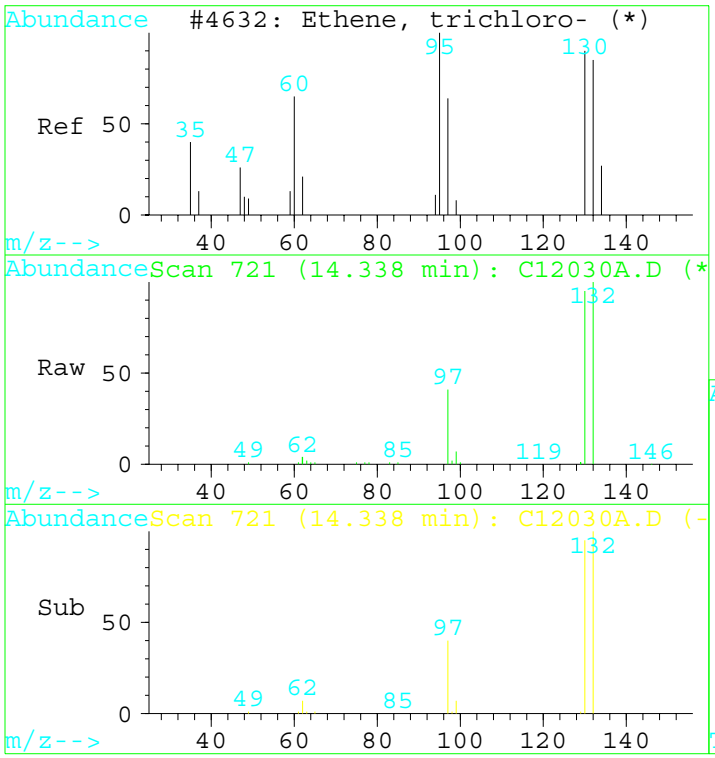


#4
Carbon tetrachloride
Concen: 0.50 ppbV
RT: 12.76 min Scan# 674
Delta R.T. 0.10 min
Lab File: C12030A.D
Acq: 3 Dec 110 9:27 am

Tgt Ion:116.9 Resp: 90377

Ion	Ratio	Lower	Upper
117	100		
119	103.3	73.4	110.2
0	0.0	0.0	0.0
0	0.0	0.0	0.0

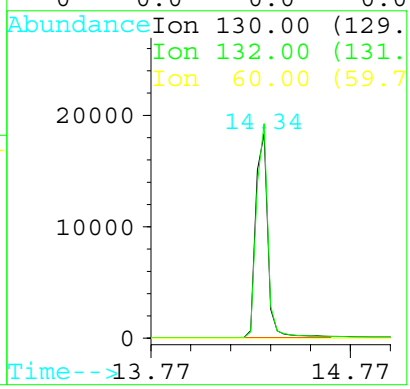




#5
Trichloroethene
Concen: 0.44 ppbV
RT: 14.34 min Scan# 721
Delta R.T. 0.08 min
Lab File: C12030A.D
Acq: 3 Dec 110 9:27 am

Tgt Ion:130 Resp: 77380

Ion	Ratio	Lower	Upper
130	100		
132	105.0	75.8	113.6
60	0.0	0.0	0.0
0	0.0	0.0	0.0

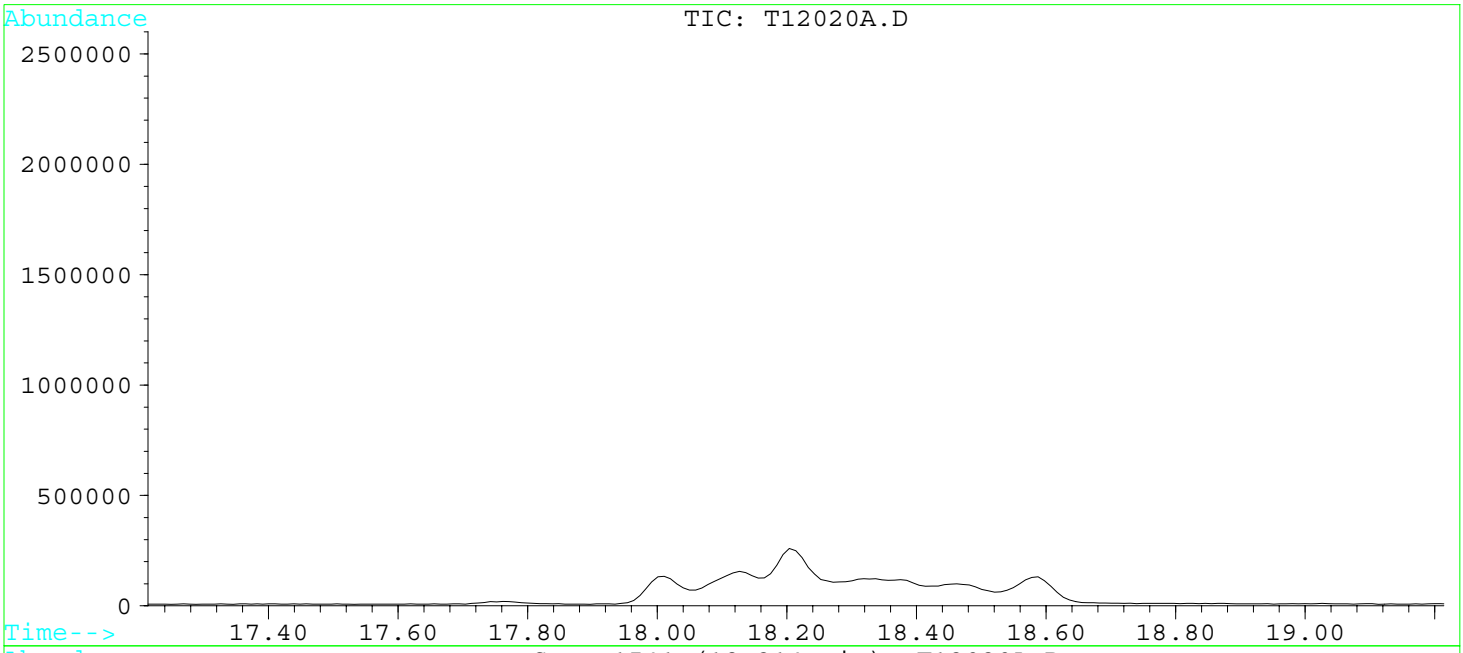


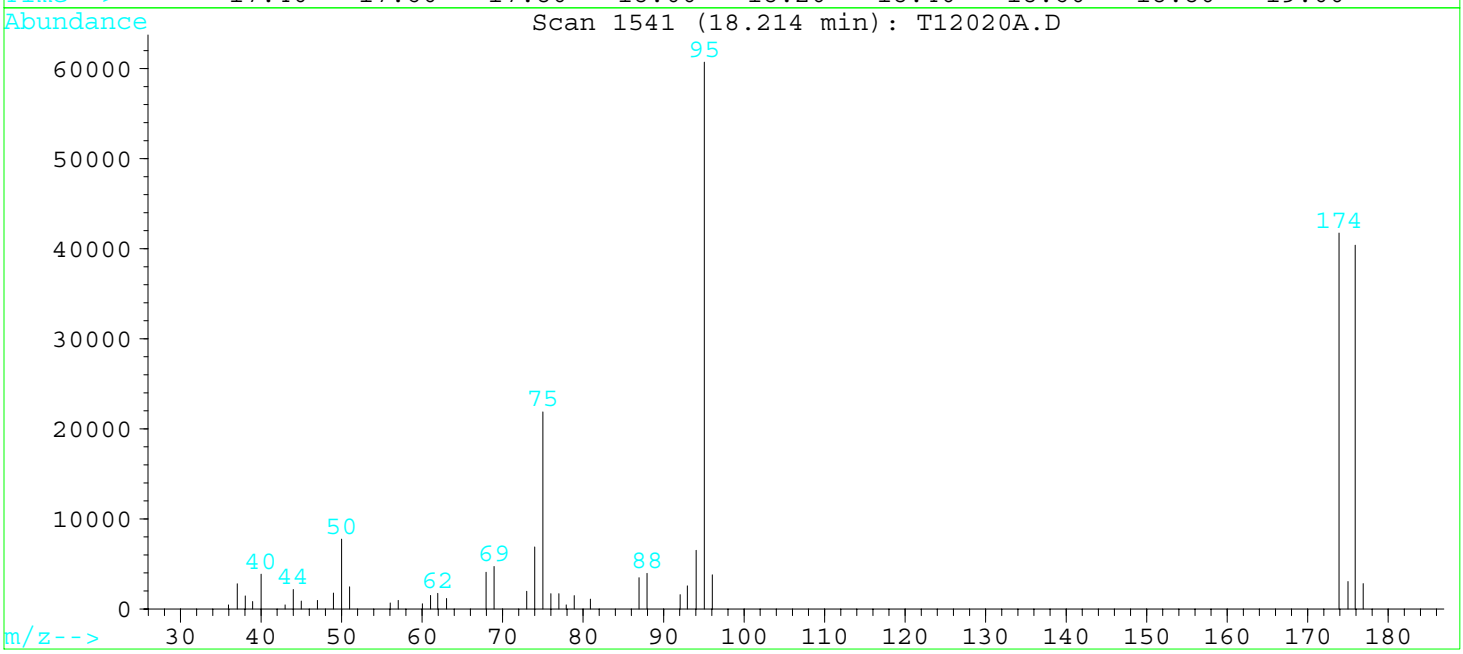
7.3: Initial Calibration Tune Data

Data File : C:\MSCHEM\2\DATA\T12020A.D
Acq Time : 2 Dec 110 8:42 am
Sample : BFB TUNE
Misc :

Operator: KT
Inst : MS3
Multiplr: 1.00

Method : C:\MSCHEM\2\METHODS\CNTHG_A.M
Title : EPA T0-15





Peak Apex is scan: 1541

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	12.8	7766	PASS
75	95	30	66	36.1	21896	PASS
95	95	100	100	100.0	60720	PASS
96	95	5	9	6.2	3792	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	68.7	41744	PASS
175	174	4	9	7.3	3049	PASS
176	174	93	101	96.8	40400	PASS
177	176	5	9	7.0	2822	PASS

T12020A.D CNTHG_A.M Tue Dec 21 12:51:18 2010