Toll Free: (800) 969-3159
Phone: (973) 560-1400
Fax: (973) 560-0400
An Environmental Consulting & Remediation Firm
www.ewma.com

Sent Via Regular Mail

December 12, 2011

Mr. Raymond Strassler, Case Manager
New Jersey Department of Environmental Protection
Bureau of Underground Storage Tanks
401 East State Street, P.O. Box 433
Trenton, New Jersey 08625

Re: ***Off-Site Vapor Intrusion Investigation***
Former JS Popper Inc.
200 Liberty Street, Little Ferry, Bergen County
ISRA Case #E20020336, SRP PI#012006
EWMA Case No. 202913

Premises: **Memorial Public School**
130 Liberty Street
Little Ferry, New Jersey

Dear Mr. Strassler:

EWMA, LLC (EWMA) was retained by J.S. Popper, Inc. (Popper) to prepare this Off-Site Vapor Intrusion letter report to summarize the recent Vapor Intrusion (VI) investigation conducted at the Memorial Public School located at 130 Liberty Street, Little Ferry, New Jersey. This VI investigation was required by the New Jersey Department of Environmental Protection (NJDEP) in their October 20, 2011 email and was based on the close proximity of the Memorial Public School to the chlorinated volatile organic compound (clVOC) ground water contaminant plume emanating from the former JS Popper facility located at 200 Liberty Street, Little Ferry, New Jersey. All sampling activities were conducted in accordance with NJDEP's Vapor Intrusion guidance Document (2005 with revisions).

VAPOR INTRUSION INVESTIGATION

EWMA visited and surveyed the Memorial Public School to assess possible background sources prior to sub-slab soil gas sampling. During the site visit, EWMA collected information on the building, the occupants, and potential sources of sub-slab contamination as per the NJDEP *Indoor Air Building Survey and Sampling Form*, which is included as **Attachment 1**.

On November 16, 2011, EWMA collected two sub-slab soil gas samples (SS-1 and SS-2) to assess possible VI at the Memorial Public School. As detailed in the *Indoor Air Building Survey and Sampling Form* (**Attachment 1),** the Memorial Public School is a partial one to two story building. Portions of the building are slab on grade and the remaining portions of the building are constructed with partially earthen crawl spaces. Degreasing agents are utilized during general maintenance operations conducted at the School. However, these materials were not noted in the vicinity of where the sub-slab sampling locations were installed. No other potential background sources of clVOCs were identified during EWMA's building survey.

One sub-slab soil gas sampling point was installed in the Resource Center and the other sub-slab soil gas sampling point was installed in the Art Room. The sub-slab soil gas sampling locations are depicted on **Figure 1**. EWMA notes that a sub-slab soil gas sampling point could not be installed in the northern most section of the school due to an earthen crawl space.

The sub-slab soil gas samples were collected using 1-liter Suma Canisters fitted with flow controllers calibrated at the laboratory in order to allow the collection of the samples over approximately 30 minutes. In accordance with the NJDEP VIG, the sub-slab vapor probes were purged by drawing three volumes at a rate of less than 200-ml per minute prior to collection of the sub-slab sample.

The two soil gas samples (SS-1 and SS-2) were submitted to IAL, a NJDEP licensed laboratory (certification No. 14751), for Volatile Organic Compound analysis by the Environmental Protection Agency (EPA) Method TO-15 pursuant to the NJDEP Vapor Intrusion Guidance Document.

Laboratory analytical results from both sub-slab soil gas sampling locations indicated compliance with NJDEP's Residential Soil Gas Screening Levels (SGSLs). The sub-slab soil gas sampling results are provided on **Table 1** and the laboratory analytical data package is provided in **Attachment 2**. Since the sub-slab soil gas samples were in compliance with NJDEP's Residential SGSLs, the indoor air and background samples were not analyzed.

CONCLUSIONS

Results from the two sub-slab soil gas samples obtained from the Memorial Public School were in compliance with NJDEP's Residential SGSLs. Based on laboratory analytical results, the clVOC detected in ground water at the former JS Popper facility do not pose a threat to indoor air quality at the Memorial Public School.

Based on the above information, no further investigation of the Memorial Public School with regards to potential vapor intrusion is warranted.

If you have any questions or comments, please feel free to contact me at (973) 560-1400, Ext. 173 or Alfred Moffit at Ext. 144.

Sincerely,
EWMA, LLC

Alan Arico
Senior Environmental Scientist

Enclosures:

Table 1 – Sub-Slab Air Sampling Results
Figure 1 – VI Sample Location Plan
Attachment 1 – Indoor Air Building Survey and Sampling Form
Attachment 2 - Laboratory Analytical Data Package

cc: J.S. Popper, Inc. (w/ enclosures)
Frank Scarafile, Superintendent, Little Ferry Board of Education (w/ enclosures)

TABLES

Memorial School
130 Liberty St, Little Ferry, NJ
Sub-Slab Soil Gas
Sampling Results Summary
November 16, 2011

Chemical	CAS Number	Molecular Weight	Soil Gas Screening Levels				SS-1 E11-11497-01		SS-2 E11-11497-02	
			Residential		Non-residential		Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab
			(ppbv)	*(µg/m3)*	(ppbv)	*(µg/m3)*	(ppbv)	*(µg/m3)*	(ppbv)	*(µg/m3)*
Acetone (2-propanone)	67-64-1	58.08	69,000	160,000	97,000	230,000	**85**	202.39	**43**	101.67
Benzene	71-43-2	78.11	5	16	8	26	ND	ND	ND	ND
Bromodichloromethane	75-27-4	163.8	5	34	5	34	ND	ND	ND	ND
Bromoethene	593-60-2	106.9	5	22	5	22	ND	ND	ND	ND
Bromoform	75-25-2	252.8	8	80	18	180	ND	ND	ND	ND
Bromomethane (Methyl bromide)	74-83-9	94.94	66	260	92	360	ND	ND	ND	ND
1,3-Butadiene	106-99-0	54.09	5	11	5	11	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	1,100	3,300	1,500	1,500	**7.2**	21.23	ND	ND
Carbon disulfide	75-15-0	76.14	12,000	36,000	16,000	51,000	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	153.8	5	31	5	31	ND	ND	ND	ND
Chlorobenzene	108-90-7	112.6	550	2,600	780	3,600	ND	ND	ND	ND
Chloroethane	75-00-3	64.52	41	110	93	250	ND	ND	ND	ND
Chloroform	67-66-3	119.4	5	24	5	24	ND	ND	ND	ND
Chloromethane (Methyl chloride)	74-87-3	50.49	2,300	4,700	3,200	6,600	ND	ND	ND	ND
3-Chloropropene (allyl chloride)	107-05-1	76.53	5	16	11	34	ND	ND	ND	ND
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.6	700	3,600	990	5,100	ND	ND	ND	ND
Cyclohexane	110-82-7	84.16	90,000	310,000	130,000	430,000	ND	ND	ND	ND
Dibromochloromethane	124-48-1	208.3	5	43	5	43	ND	ND	ND	ND
1,2-Dibromoethane	106-93-4	187.9	5	38	5	38	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	147.0	1,200	7,300	1,700	10,000	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	147.0	91	550	130	770	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	147.0	5	30	5	32	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	120.9	1,800	9,100	2,600	13,000	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	98.96	6,300	26,000	8,800	36,000	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	98.96	5	20	5	5	ND	ND	ND	ND
1,1-Dichloroethene	75-35-4	96.94	2,800	11,000	3,900	15,000	ND	ND	ND	ND
1,2-Dichloroethene (cis)	156-59-2	96.94	460	1,800	640	2,600	ND	ND	ND	ND
1,2-Dichloroethene (trans)	156-60-5	96.94	920	3,600	1,300	5,100	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	113.0	5	23	5	23	ND	ND	ND	ND
cis-1,3-Dichloropropene	10061-01-5	111.0	7	31	16	72	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061-02-6	111.0	7	31	16	72	ND	ND	ND	ND
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.9	NA	NS	NS	NA	ND	ND	ND	ND
Ethylbenzene	100-41-4	106.2	12,000	53,000	17,000	74,000	ND	ND	ND	ND
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.2	NA	NA	NS	NA	ND	ND	ND	ND
n-Heptane	142-82-5	100.2	NA	NA	NS	NA	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	260.8	5	53	5	53	ND	ND	ND	ND
n-Hexane	110-54-3	86.17	10,000	36,000	14,000	51,000	ND	ND	ND	ND
Methylene chloride	75-09-2	84.94	NA	NA	NS	NA	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	108-10-1	100.2	NA	NA	NS	NA	ND	ND	ND	ND
MTBE (Methyl *tert* -butyl ether)	1634-04-4	88.15	55	190	120	430	ND	ND	ND	ND
Styrene	100-42-5	104.1	22	NA	50	180	ND	ND	ND	ND
Tertiary butyl alcohol (TBA)	75-65-0	74.12	12,000	52,000	17,000	73,000	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	167.9	5	34	5	34	ND	ND	ND	ND
Tetrachloroethene (PCE)	127-18-4	165.8	5	NA	5	36	ND	ND	ND	ND
Toluene	108-88-3	92.14	68,000	260,000	95,000	360,000	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	181.5	200,000	1,600,000	290,000	2,200,000	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	133.4	250	1,800	340	2,600	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	133.4	9,400	51,000	13,000	72,000	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.4	5	27	5	27	ND	ND	ND	ND
Trichloroethene (TCE)	79-01-6	131.4	5	27	5	27	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	75-69-4	137.4	6,500	36,000	9,100	51,000	ND	ND	ND	ND
1,2,4-Trimethylbenzene	95-63-6	120.2	NA	NA	NA	NA	ND	ND	ND	ND
1,3,5-Trimethylbenzene	108-67-8	120.2	NA	NA	NA	NA	ND	ND	ND	ND
2,2,4-Trimethylpentane	540-84-1	114.2	NA	NA	NA	NA	ND	ND	ND	ND
Vinyl chloride	75-01-4	62.50	5	13	19	48	ND	ND	ND	ND
Total Xylenes	NA	106.2	1,300	5,500	1,800	7,700	ND	ND	ND	ND

Notes:

Bold - Detected above Reporting Limit

NA - Standards not available

FIGURES

LEGEND

VI SAMPLING LOCATIONS

PROPERTY BOUNDARY

SOURCE: GOOGLE EARTH AERIAL

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)

An Environmental Consulting & Remediation Firm
100 Misty Lane
P.O. Box 5430
Parsippany, NJ 07054

SCALE: AS SHOWN	PROJECT# 202913
DATE: 12/5/11	
DRAWN BY: RR	
CHECKED BY: AA	

FILE: k:\drawings\202000\202913\2011 DEC\202913f1A.dwg

VAPOR INTRUSION SAMPLE LOCATION PLAN

MEMORIAL SCHOOL
130 LIBERTY STREET
LITTLE FERRY, NEW JERSEY

FIGURE# 1

ATTACHMENT 1

New Jersey Department of Environmental Protection

INDOOR AIR BUILDING SURVEY and SAMPLING FORM

Preparer's name: Alan Arico / EWMA, LLC Date: 11/16/11

Preparer's affiliation: Consultant - JS Popper Phone #: 973-560-1400

Site Name: former JS Popper Case #: _____

Part I - Occupants Memorial School

Building Address: 130 Liberty St, Little Ferry, NJ

Property Contact: Bill Goode Owner / Renter / (other) Bldg + Grounds Supervisor

Contact's Phone: home ( ) _____ work (201) 641-6192 x1615 cell ( ) _____

# of Building occupants: Children under age 13 (776) Children age 13-18 _____ Adults (75)

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: 1 to 2 Story Public School Year constructed: 1969 (Additions 78', 90' + 93')

Sensitive population: day care / nursing home / hospital / (school) / other (specify): _____

Number of floors below grade: 0 (full basement / (crawl space) / (slab on grade))

Number of floors at or above grade: 1 to 2

Depth of basement below grade surface: NA ft. Basement size: NA ft^2

Basement floor construction: concrete / dirt / floating / stone / other (specify): NA

Foundation walls: poured concrete / (cinder blocks) / stone / other (specify) _____

Basement sump present? *Yes* / (*No*) Sump pump? *Yes* / (*No*) Water in sump? *Yes* / (*No*)

Type of heating system (circle all that apply):

hot air circulation	hot air radiation	wood	steam radiation
heat pump	(hot water radiation)	kerosene heater	electric baseboard
other (specify): _____			

Type of ventilation system (circle all that apply):

central air conditioning	mechanical fans	bathroom ventilation fans
(individual air conditioning units)	kitchen range hood fan	outside air intake
other (specify): _____		

Type of fuel utilized (circle all that apply):

(Natural gas) / (electric) / fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes* / (*No*)

Is there a whole house fan? *Yes* / (*No*)

Septic system? *Yes* / *Yes (but not used)* / (*No*)

Irrigation/private well? *Yes* / *Yes (but not used)* / (*No*)

Type of ground cover outside of building: (grass) / (concrete) / (asphalt) other (specify) _____

Existing subsurface depressurization (radon) system in place? *Yes* / (*No*) *active / passive*

Sub-slab vapor/moisture barrier in place? *Yes* / (*No*)
Type of barrier: _____

Part III - Outside Contaminant Sources

NJDEP contaminated site (1000-ft. radius): JS Popper

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): Liberty St. + Parking Lots

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans	Garage	No
Gas-powered equipment	Garage	NO
Kerosene storage cans		NA
Paints / thinners / strippers	Garage	NA
Cleaning solvents	Garage	NA
Oven cleaners		NA
Carpet / upholstery cleaners		NA
Other house cleaning products	Supply Closets & Garages	No
Moth balls		NA
Polishes / waxes		NA
Insecticides		NA
Furniture / floor polish	Supply closet	No
Nail polish / polish remover		NA
Hairspray		NA
Cologne / perfume		NA
Air fresheners		NA
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		NA
New carpeting / flooring		NA
Hobbies - glues, paints, etc.	Art Room	No

Part V – Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No How often? Unknown

Last time someone smoked in the building? Never hours / days ago

Does the building have an attached garage directly connected to living space? (Yes) / No

If so, is a car usually parked in the garage? (Yes) / No — Tractor

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? (Yes) / No

Do the occupants of the building have their clothes dry cleaned? (Yes) / No

If yes, how often? (weekly) / monthly / 3-4 times a year

Do any of the occupants use solvents in work? (Yes) / No

If yes, what types of solvents are used? degreasers, Peroxide, Simple Green

If yes, are their clothes washed at work? Yes / (No)

Have any pesticides/herbicides been applied around the building or in the yard? Yes / (No)

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / (No) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? (Yes) / No

If yes, when within 6 months and where? Gym + Kitchen (Admin)

Part VI – Sampling Information

Sample Technician: Alan Arico Phone number: (973) 560 - 1400

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / (Stainless Steel Canister) / Other (specify): _____

Analytical Method: (TO-15) / TO-17 / other: _____ Cert. Laboratory: 14571

Sample locations (floor, room):

Field ID # SS-1 - Resource Room Field ID # ____ - _____

Field ID # SS-2 - Art Room Field ID # ____ - _____

Were "Instructions for Occupants" followed? (Yes) / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building

See Figure 1

Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? *Yes* / *No*

Describe the general weather conditions: Rainy + Cool

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Both Sub-Slab Soil Gas Samples were compliant w/NJDEP Residential Soil Gas Screenig Levels. Unsealed Crawl Space Exists over several additions of Bldg, The rest is Slab on grade.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

LEGEND

VI SAMPLING LOCATIONS

PROPERTY BOUNDARY

SOURCE: GOOGLE EARTH AERIAL

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)

An Environmental Consulting & Remediation Firm
100 Misty Lane
P.O. Box 5430
Parsippany, NJ 07054

SCALE: AS SHOWN	PROJECT# 202913
DATE: 12/5/11	
DRAWN BY: RR	
CHECKED BY: AA	

FILE: k:\drawings\202000\202913\2011 DEC\202913f1A.dwg

VAPOR INTRUSION SAMPLE LOCATION PLAN

MEMORIAL SCHOOL
130 LIBERTY STREET
LITTLE FERRY, NEW JERSEY

FIGURE# 1

ATTACHMENT 2

EPA TO-15 DATA PACKAGE

ANALYTICAL DATA PACKAGE FOR THE
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON NEW JERSEY 08625

Integrated Analytical Laboratories, LLC — **Randolph, NJ 07869**
Project#: JS Popper - 202913 — **Contract #: NA**
SDG #: E11-11497 — **NJDEP Certification#: 14751**
Date of first sample receipt: 11/17/2011 — **Date of last sample receipt: 11/17/2011**

Client: Environmental Waste Management Associates

Project/Site: JS Popper - 202913/Memorial Middle School

Client Sample Number	Laboratory Sample	Sample Location	Date/Time of Collect
SS-1	E11-11497-01	NA	11/16/2011 14:31
SS-2	E11-11497-02	NA	11/16/2011 14:30

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of data contained in this hardcopy data package and in the computer-readable data submitted on CD/diskette and by electronic mail has been authorized by the laboratory manager or his designee, as verified by the following signature.

Michael H. Leftin, Ph.D.
Laboratory Director

Date: December 07, 2011

Jeri Rossi
Quality Assurance Officer

Date: December 07, 2011

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Section I: Chain of Custody

Integrated Analytical Labs
273 Franklin Rd
Randolph, NJ 07869

External Chain of Custody Record/ Field Test Data Sheet USEPA Method TO-15

11497

Contact Us: 973 361-4252
fax: 973 366-5613
Web: www.ialonline.com

Client Contact Information

Company: EWMA, LLC
Address: 100 Misty Lane
City/State/Zip: Parsippany, NJ
Phone: 973-560-1400
Fax:

Project Information

Project Name: JS Popper - 202913
Project Manager: Al Moffit
PM Signature: for Al Moffit
PM E-Mail: Al.Moffit@ewma.com
Sampler: Alan Arico

Carrier (check one): ___ IAL Courier ___ Client Courier ___ FedEx

1 of 1 COCs

ALL FIELDS IN RED ARE REQUIRED

Site: Memorial Middle School
Site Contact: Bill Goode

Invoice Information

PO Number: L11093

Analysis Turnaround Time- IF NO TAT IS SPECIFIED, 2 WEEK TAT IS ASSUMED

Standard: 2 weeks (10 business days) (circled) Results needed by: ___
Rush (Specify Lab-Approved TAT): ___

Barometric Pressure

Start: 29.75↓ Stop: 29.7↓

Sample Identification	Start DATE & TIME (24 Hr Clock / Military Time)	End DATE & TIME (24 Hr Clock / Military Time)	Starting Canister Pressure in Field ("Hg)	Ending Canister Pressure in Field ("Hg)	Starting Temp. (°F)	Ending Temp. (°F)	Outgoing Canister Pressure in Lab ("Hg)	Incoming Canister Pressure in Lab ("Hg)	Flow Regulator ID	Canister ID	Canister Size (L)	Flow Controller Readout (cc/min)	EPA TO - 15	NJDEP LLTO-15	Library Search (Specify 10, 20, or 30 TICs)	Other (Explain Below)	NJDEP Regulatory Data Package	NJDEP Reduced Data Package (LLTO-15 Only)	NYSDEC / DOH Data Package	Other Data Package Type (Explain Below)	Results Only (No Data Package)	Indoor / Ambient Air	Soil Gas / Sub or Near Slab	Stack Emissions
SS-1	11/14/11 1431	11/14/11 1501	30	3	72	72	-29	-3	A0986374	1546	1	33.5	X				X						X	
SS-2	11/14/11 1430	11/14/11 1500	30	2.5	72	72	-29	-2	A0986434	1545	1	33.3	X				X						X	

Comments / Special Analysis Instructions / QC Requirements:

Note: Hold or contingent samples may be designated by writing an "H" or "C" in the appropriate analysis method box. If additional analysis instructions are necessary, please use the "Comments" section

Shipping Information / Canister Preparation (for laboratory use only)

Individual Preparing Canisters / Title: Joseph Walukiewicz / Air Department Sample Custodian
Lab Affixed Seal Number(s): IAL 20110834
Date/Time Shipping Container Sealed: 11/14/11 15:00

Laboratory Canister Certification

GC/MS Analyst Signature: [signature]

External Chain of Custody

Relinquished	*Received*	*Time/Date*	*Reason for Change of External Custody*
[signature]	Alan Arico/EWMA	15:00 11/14/11	shipment from laboratory to client
Alan Arico	[signature]	08:06 11/17/11	Shipment from Client to Lab
	[signature]	8:15 11/17/11	

Individual Resealing Shipping Container Name: Alan Arico/EWMA
Time/Date Sample Shipping Container Resealed: 11/16/11 15:5
Time/Date Sample Shipping Container Opened:
Time/Date Internal Chain of Custody Initiated:

Title: Sr. Environmental Scientist
NJDEP Affixed Seal Number:
Individual Opening Sample Shipping Container: Joseph Walukiewicz

White and yellow - lab copies; Pink - client copy

Use appropriate care with IAL sampling equipment when sampling and packing for shipment. The client is responsible for all damage incurred to IAL equipment. Notify IAL if equipment is damaged upon receipt. Holding time before sampling is 30 days, after sampling is 30 days; failure to follow these times may result in data rejection by regulatory agencies. The lab will contact you if your COC is not clear, incomplete, or if discrepancies exist. The use of initials is not permitted on the COC except when correcting errors.

DEP-077
Rev. 3/04

New Jersey Department of Environmental Protection

Internal Chain of Custody

Instructions: Use 1 form for each 20 samples of aliquot.

Laboratory Person Breaking Field Seal on Sample Shuttle & Accepting Responsibility for Sample

Laboratory: Integrated Analytical Laboratories
Location: 273 Franklin Rd Randolph, NJ 07869
Name: Padraic Jenkins
Title: Air Department Receiving
Field Sample Seal No.:
Date Broken: / /
Military Time Seal Broken:
Case No.: E11- 11497
Analytical Parameter/Fraction: LLTO -15

Sample No.	Aliquot/Extract No.	Sample No.	Aliquot/Extract No.
SS-1	E11-11497-01		
SS-2	" -02		

Date	Time	Relinquished By	Received By	Purpose of Change of Custody
11/17/11	8:15	SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME Padraic Jenkins	1. Sample log-in 2. Pressure Check 3. Pre-analysis storage
11/17/11	9:30	SIGNATURE PRINTED NAME Padraic Jenkins	SIGNATURE PRINTED NAME	Placement in TO-15 sample storage area until ready for analysis
11 21 11	1335	SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME Jeff Schmitt	TO-15/LLTO-15 analysis on: 11497-01, 02
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	

Distribution: White – Original (Sent With Report) Yellow – Contractor Archive Pink – Sample Custodian – Interim Copy

Section II: Methodology Review

Methodology Summary for Air Collected from Hazardous Waste Site Contract

Laboratory:	**Integrated Analytical Lab, LLC**	**Project No:**	**JS Popper - 202913**
Location:	**Randolph, NJ**	**SDG No:**	**E11-11497**

Name	**Required Methodology**	**Indicate Method**
Volatile Organics	US EPA TO-15	US EPA Method TO-15

Section III: Case Narrative

CASE NARRATIVE

ANALYTICAL DATA PACKAGE FOR THE
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON NEW JERSEY 08625

Integrated Analytical Laboratories, LLC — **Randolph, NJ 07869**
Project #: JS Popper - 202913 — **Contact#: NA**
SDG #: E11-11497 — **NJDEP Certification#: 14751**
Date of first sample receipt: 11/17/2011 — **Date of last sample receipt: 11/17/2011**

Client: Environmental Waste Management Associates — **Analytical Method: TO-15**
Project/Site: JS Popper - 202913 / Memorial Middle School

Client ID	Lab ID	Receipt Date	Analysis Date	DF	Diluted For
SS-1	E11-11497-01	11/17/2011	11/21/2011	1.0	NA
SS-2	E11-11497-02	11/17/2011	11/21/2011	1.0	NA

Sample Receipt: Samples were received in good condition. Documentation was in order.
Samples were received at IAL by: Padraic Jenkins

Sample Preparation: None required. There is no sample preservation for TO-15 other than using a summa-type (or equivalent) canister.

Sample Analysis:

Hold Time: All within recommended hold times.

Instrument Calibration: Meets method criteria.

Analysis performed by: Jeff Schmitt

Analysis nonconformities: none

QC Data: All QC data are acceptable. This includes the internal standards, BFB/Tune, daily calibration standards, laboratory control samples (LCS), and clean canister certification unless otherwise noted above in "Analysis nonconformities."

Rejections: none

Canister-to-Canister dilutions: none

Dilutions: Dilutions, if necessary, will be conducted directly on the instrument up to a 50x dilution. When dilutions of 100x to 50,000x are necessary, the laboratory must inject a volume of sample into another certified clean canister and add humidified Z-1 zero air to the remainder of the canister volume. Tedlar bags are not used for dilutions.

Dilutions of any kind will result in elevated reporting limits. Any dilution using EPA Method TO-15 will cause the following compounds to be over the NJDEP Vapor Intrusion Screening Levels for both soil gas and indoor air (based on residential):

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Allyl chloride	Chloroform	*trans*-1,3-Dichloropropene
Benzene	Dibromochloromethane	Hexachlorobutadiene
Bromodichloromethane	1,3-Dichlorbenzene - *IA only*	Methylene chloride - *IA only*
Bromoform	1,2-Dibromomethane	1,1,2,2-Tetrachloroethane
Bromomethane - *IAonly*	1,4-Dichlorobenzene	Tetrachloroethene
1,3-Butadiene	1,2-Dichloroethane	1,1,2-Trichloroethane
Carbon Tetrachloride	1,2-Dichloropropane	Trichloroethene
Chloroethane - *IA only*	*cis*-1,3-Dichloropropene	Vinyl bromide
		Vinyl chloride

IAL will attempt to run all samples at the lowest dilutions possible. All soil gas samples will be screened upon receipt to the lab. If screening data shows high concentrations of target or non-target compounds, the sample will be run at a dilution and ALL reporting limits will be elevated. This will be indicated in the dilution table above in the "diluted for" column. If a sample is run straight and compounds exceed the calibration curve, only the compounds diluted for will have elevated reporting limits (e.g. if a sample has high Acetone and requires a 10x dilution, the only the reporting limit for acetone will be elevated)

Initial reporting limits, before any dilutions are conducted, are below state and federal guidance/remediation criteria.

On-instrument dilutions are conducted as follows:

Dilution Factor	Sample Volume Injected
1	500ml
2.5	200ml
5	100ml
10	50ml
20	25ml
25	20ml
50	10ml

Canister-to-canister dilutions are conducted as follows:

A certified clean canister is obtained and evacuated to approximately -30"Hg. Both the clean/dilution canister and sample canister are fitted with a ¼" Swagelok® nut fitting equipped with septa. Depending on dilution factor necessary, a sample aliquot is removed from the canister and injected into the clean canister using 30cc Multifit gas-tight syringe. Once the correct sample aliquot has been transferred, the dilution canister should be connected to the humidified Z-1 zero air supply and filled to ambient pressure (0"Hg).

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Dilution Factor	Sample Aliquot	Z-1 Make-up Air Added
100	60ml	5940ml
1000	6ml	5994ml

If further dilutions need to be made from the dilution canister, they may be made on-instrument. Using a 100x dilution canister, the following on-instrument dilutions can be produced:

Dilution Factor	Sample Volume Injected
100	500ml
250	200ml
500	100ml
1000	50ml
2000	25ml
2500	20ml
5000	10ml

Using a 1000x dilution canister, the following on-instrument dilutions can be produced:

Dilution Factor	Sample Volume Injected
1000	500ml
2500	200ml
5000	100ml
10,000	50ml
20,000	25ml
25,000	20ml
50,000	10ml

If further dilutions need to be made from the dilution canister, beyond 50,000x, a subsequent canister-to-canister dilution must be made using the above prescribed protocol.

GC Column and ID: Instrument AA: RTX-1 SN 922567, Instrument AF: RTX-1 SN 869201

Calibration Standards: Only gas phase standards were used. Primary and second-source standards provided by Scott Specialty Gases / Air Liquide

Working Standards: Primary source calibration standards [the Initial Calibration Curve (ICAL), the Daily Calibration Standard (DCVS), and the Reporting Limit Laboratory Control Sample (RLLCS)] are created using 2 certified-clean canisters, depending on concentration necessary.

Primary source standards are created from Scott Gas, Cylinder #ALM031705 (starting 5/26/11 through 5/23/12) @ 100ppb per compound, with exception of m&p-xylenes @ 200ppb. Standard is directly introduced into the instrument for 40ppbv, 20ppbv, 10ppbv,

and 2ppbv concentrations. Dilutions are made accordingly, on instrument, with humidified clean air. A canister for the 0.20ppbv standard is prepared and contains a standard at 1ppbv (2ppbv m&p-xylenes). A 1:5 dilution is made from this canister.

The second source standard, or the Initial Calibration Verification Standard (ICVSS), is introduced into the instrument in the same manner as the primary source standard, using Scott Gas, Cylinder #AAL071685 (starting 5/23/11 through 4/25/12) @ 100ppb per compound, with exception of m&p-xylenes @ 200ppb.

Internal standards are created from Scott Gas, Cylinder #ALM012015 @ 100ppb per compound. Standard is directly introduced into the instrument to reach the 10ppbv concentrations. 1:10 Dilutions are made on instrument with humidified clean air. 50ml of internal standard is added to every standard, method blank, instrument blank, and sample run.

10/07/2011

100 ppbv internal standard mix - prepared in cylinder #ALM012015
10 ppbv per standard/sample - 50 ml injected

100 ppbv calibration standard - prepared in cylinder #ALM031705.
40 ppbv standard - 200 ml injected
20 ppbv standard - 100 ml injected
10 ppbv standard* - 50 ml injected
*Standard also used for CCCVS
2 ppbv standard - 10 ml injected

1 ppbv calibration standard - prepared in canister #2071
0.20 ppbv standard* - 100ml injected
*Standard also used for RLLCS

11/07/2011

100 ppbv internal standard mix - prepared in cylinder #ALM012015
10 ppbv per standard/sample - 50 ml injected

100 ppbv calibration standard - prepared in cylinder #ALM031705.
10 ppbv standard* - 50 ml injected
*Standard also used for DCVS & CCCVS

1 ppbv calibration standard - prepared in canister #2071.
0.20 ppbv standard* - 100ml injected
*Standard also used for RLLCS

Method Blank - prepared in canister #3813.
500ml injected

11/21/2011

CASE NARRATIVE

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Date of first sample receipt: 11/17/2011 — **Date of last sample receipt: 11/17/2011**

Client: Environmental Waste Management Associates — **Analytical Method: TO-15**
Project/Site: JS Popper - 202913 / Memorial Middle School

11/21/2011

100 ppbv internal standard mix - prepared in cylinder #ALM012015
10 ppbv per standard/sample - 50 ml injected

100 ppbv calibration standard - prepared in cylinder #ALM031705.
10 ppbv standard* - 50 ml injected
*Standard also used for DCVS & CCCVS

Method Blank - prepared in canister #3813.
500ml injected

Sample E11-11497-01 - sample taken in canister #1546
50ml sample volume injected, 1x dilution

Sample E11-11497-02 - sample taken in canister #1545
50ml sample volume injected, 1x dilution

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. All conversions are based upon a room temperature of 77°F(25°C) and room pressure of 101.325 kPa (1atm).

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of data contained in this hardcopy data package and in the computer-readable data submitted on CD/diskette and by electronic mail has been authorized by the laboratory manager or his designee, as verified by the following signature.

Michael H. Leftin, Ph.D.
Laboratory Director

December 05, 2011
Date

Section IV: Method Detection Limit Summary

METHOD DETECTION LIMIT (MDL) REPORT

Integrated Analytical Laboratories - Randolph, NJ

Matrix: Air
Column ID: Restek Rtx-1, 60 meter, 0.32mm ID, 1 um
Instrument ID: GC - Finnigan TraceGC / Trace DSQ (IAL ID: *Instrument AF*)
Report Prepared by: Jeff Schmitt
Preparation Date: 6/10/2011

MDL Effective Date: 6/9/2011
MDL Expiration Date: 6/8/2012
MDL Analysis Date: 6/9/2011
Analyst: Jeff Schmitt

Filename	Run #	Date/Time	Filename	Run #	Date/Time
af1567mdl	Run 1	6/9/11 21:21	af1572mdl	Run 6	6/10/11 2:16
af1568mdl	Run 2	6/9/11 22:04	af1573mdl	Run 7	6/10/11 2:58
af1569mdl	Run 3	6/9/11 22:48			
af1570mdl	Run 4	6/9/11 23:27			
af1571mdl	Run 5	6/10/11 0:10			

Compound Name	Run 1*	Run 2*	Run 3*	Run 4*	Run 5*	Run 6*	Run 7*	MEAN Value	TRUE Value	Percent Recovery	Std Dev Conc	MDL ppbv	RL ppbv	True value/ MDL**
Propene	0.25	0.23	0.23	0.24	0.19	0.23	0.22	0.23	0.20	114	0.019	0.057	0.40	3.53
Dichlorodifluoromethane	0.28	0.27	0.27	0.29	0.28	0.37	0.37	0.30	0.20	152	0.045	0.136	0.40	1.47
Chloromethane	0.24	0.23	0.24	0.24	0.23	0.30	0.31	0.26	0.20	128	0.034	0.102	0.40	1.96
1,2-Dichlorotetrafluoroethane	0.32	0.31	0.31	0.31	0.31	0.37	0.38	0.33	0.20	165	0.031	0.093	0.40	2.15
Vinyl chloride	0.23	0.22	0.22	0.23	0.23	0.24	0.24	0.23	0.20	115	0.008	0.024	0.40	8.17
1,3-Butadiene	0.22	0.21	0.23	0.22	0.24	0.23	0.22	0.22	0.20	112	0.010	0.029	0.40	6.84
n-Butane	0.28	0.26	0.27	0.27	0.28	0.27	0.27	0.27	0.20	136	0.007	0.021	0.40	9.67
Bromomethane	0.23	0.22	0.23	0.22	0.22	0.22	0.21	0.22	0.20	111	0.007	0.021	0.40	9.67
Chloroethane	0.23	0.22	0.21	0.20	0.21	0.19	0.21	0.21	0.20	105	0.013	0.039	0.40	5.17
Ethanol	0.28	0.25	0.25	0.24	0.22	0.18	0.21	0.23	0.20	116	0.033	0.097	0.40	2.05
Vinyl bromide	0.22	0.22	0.21	0.20	0.21	0.20	0.18	0.21	0.20	103	0.014	0.042	0.40	4.77
Acrolein	0.22	0.17	0.24	0.20	0.23	0.22	0.23	0.22	0.20	108	0.024	0.071	0.40	2.81
Acetone	0.26	0.25	0.25	0.23	0.25	0.25	0.26	0.25	0.20	125	0.010	0.030	0.40	6.67
Trichlorofluoromethane	0.25	0.25	0.25	0.27	0.30	0.31	0.31	0.28	0.20	139	0.029	0.086	0.40	2.32
Isopropanol	0.25	0.23	0.25	0.23	0.23	0.23	0.23	0.24	0.20	118	0.010	0.029	0.40	6.84
n-Pentane	0.23	0.23	0.22	0.23	0.21	0.21	0.20	0.22	0.20	109	0.012	0.036	0.40	5.49
1,1-Dichloroethene	0.23	0.22	0.22	0.21	0.21	0.21	0.23	0.22	0.20	109	0.009	0.027	0.40	7.41
Tert-butyl alcohol	0.23	0.24	0.22	0.24	0.23	0.20	0.21	0.22	0.20	112	0.015	0.045	0.40	4.41
Methylene chloride	0.36	0.35	0.34	0.35	0.34	0.35	0.30	0.34	0.20	171	0.020	0.059	0.40	3.42
Allyl Chloride	0.19	0.18	0.19	0.18	0.18	0.17	0.20	0.18	0.20	92	0.010	0.029	0.40	6.84
1,1,2-Trichloro-1,2,2-trifluoroethane	0.25	0.25	0.24	0.24	0.24	0.23	0.24	0.24	0.20	121	0.007	0.021	0.40	9.67
Carbon disulfide	0.21	0.22	0.21	0.21	0.21	0.22	0.21	0.21	0.20	106	0.005	0.015	0.40	13.67
1,2-Dichloroethene (trans)	0.16	0.19	0.19	0.20	0.18	0.19	0.19	0.19	0.20	93	0.013	0.038	0.40	5.24
1,1-Dichloroethane	0.22	0.23	0.23	0.23	0.23	0.23	0.22	0.23	0.20	114	0.005	0.015	0.40	13.67
Methyl tert-butyl ether	0.24	0.24	0.23	0.25	0.24	0.25	0.24	0.24	0.20	121	0.007	0.021	0.40	9.67
Methyl ethyl ketone	0.21	0.20	0.21	0.19	0.20	0.18	0.18	0.20	0.20	98	0.013	0.038	0.40	5.24
1,2-Dichloroethene (cis)	0.21	0.22	0.20	0.21	0.21	0.22	0.21	0.21	0.20	106	0.007	0.021	0.40	9.67
Ethyl acetate	0.20	0.21	0.20	0.17	0.19	0.01	0.16	0.16	0.20	81	0.070	0.209	0.40	0.96
n-Hexane	0.22	0.22	0.21	0.21	0.21	0.20	0.20	0.21	0.20	105	0.008	0.024	0.40	8.17
Chloroform	0.23	0.23	0.23	0.24	0.25	0.26	0.27	0.24	0.20	122	0.016	0.049	0.40	4.12
Tetrahydrofuran	0.22	0.21	0.21	0.19	0.20	0.17	0.18	0.20	0.20	99	0.018	0.054	0.40	3.71
1,2-Dichloroethane	0.20	0.19	0.20	0.20	0.22	0.22	0.23	0.21	0.20	104	0.015	0.044	0.40	4.56
1,1,1-Trichloroethane	0.21	0.21	0.21	0.22	0.23	0.23	0.24	0.22	0.20	111	0.012	0.036	0.40	5.49
Benzene	0.24	0.23	0.23	0.21	0.24	0.20	0.21	0.22	0.20	111	0.016	0.048	0.40	4.16
Carbon tetrachloride	0.20	0.21	0.21	0.21	0.23	0.23	0.22	0.22	0.20	108	0.011	0.034	0.40	5.88
Cyclohexane	0.19	0.20	0.19	0.19	0.19	0.17	0.17	0.19	0.20	93	0.011	0.034	0.40	5.88
1,2-Dichloropropane	0.20	0.20	0.20	0.18	0.19	0.17	0.16	0.19	0.20	93	0.016	0.049	0.40	4.12
Bromodichloromethane	0.19	0.20	0.20	0.20	0.21	0.21	0.21	0.20	0.20	101	0.008	0.023	0.40	8.83
1,4-Dioxane	0.19	0.18	0.18	0.17	0.19	0.17	0.16	0.18	0.20	89	0.011	0.033	0.40	6.00
Trichloroethene	0.21	0.21	0.20	0.20	0.20	0.18	0.19	0.20	0.20	99	0.011	0.032	0.40	6.24
2,2,4-Trimethylpentane	0.25	0.25	0.24	0.22	0.23	0.20	0.20	0.23	0.20	114	0.021	0.064	0.40	3.12
Methyl methacrylate	0.18	0.18	0.17	0.16	0.16	0.13	0.15	0.16	0.20	81	0.018	0.053	0.40	3.76
n-Heptane	0.20	0.20	0.19	0.17	0.18	0.15	0.16	0.18	0.20	89	0.020	0.059	0.40	3.42
1,3-Dichloropropene (cis)	0.19	0.19	0.18	0.18	0.18	0.17	0.17	0.18	0.20	90	0.008	0.024	0.40	8.17
Methyl isobutyl ketone	0.21	0.20	0.19	0.17	0.17	0.16	0.15	0.18	0.20	89	0.022	0.066	0.40	3.04

METHOD DETECTION LIMIT (MDL) REPORT

Integrated Analytical Laboratories - Randolph, NJ

Matrix: Air
Column ID: Restek Rtx-1, 60 meter, 0.32mm ID, 1 um
Instrument ID: GC - Finnigan TraceGC / Trace DSQ (IAL ID: *Instrument AF*)
Report Prepared by: Jeff Schmitt
Preparation Date: 6/10/2011

MDL Effective Date: 6/9/2011
MDL Expiration Date: 6/8/2012
MDL Analysis Date: 6/9/2011
Analyst: Jeff Schmitt

Filename	Run #	Date/Time	Filename	Run #	Date/Time
af1567mdl	Run 1	6/9/11 21:21	af1572mdl	Run 6	6/10/11 2:16
af1568mdl	Run 2	6/9/11 22:04	af1573mdl	Run 7	6/10/11 2:58
af1569mdl	Run 3	6/9/11 22:48			
af1570mdl	Run 4	6/9/11 23:27			
af1571mdl	Run 5	6/10/11 0:10			

Compound Name	Run 1*	Run 2*	Run 3*	Run 4*	Run 5*	Run 6*	Run 7*	MEAN Value	TRUE Value	Percent Recovery	Std Dev Conc	MDL ppbv	RL ppbv	True value/ MDL**
1,3-Dichloropropene (trans)	0.17	0.17	0.16	0.17	0.17	0.15	0.16	0.16	0.20	82	0.008	0.024	0.40	8.48
1,1,2-Trichloroethane	0.21	0.20	0.20	0.19	0.19	0.18	0.19	0.19	0.20	97	0.010	0.029	0.40	6.84
Toluene	0.25	0.24	0.24	0.21	0.22	0.19	0.19	0.22	0.20	110	0.024	0.073	0.40	2.72
Methyl n-butyl ketone	0.16	0.14	0.15	0.13	0.13	0.11	0.12	0.13	0.20	67	0.017	0.052	0.40	3.88
Dibromochloromethane	0.21	0.20	0.21	0.19	0.21	0.19	0.19	0.20	0.20	100	0.010	0.030	0.40	6.67
1,2-Dibromoethane	0.19	0.20	0.19	0.19	0.20	0.18	0.17	0.19	0.20	94	0.011	0.032	0.40	6.24
Tetrachloroethene	0.22	0.22	0.21	0.21	0.22	0.20	0.20	0.21	0.20	106	0.009	0.027	0.40	7.41
Chlorobenzene	0.25	0.24	0.23	0.23	0.23	0.21	0.22	0.23	0.20	115	0.013	0.039	0.40	5.17
Ethylbenzene	0.29	0.28	0.28	0.26	0.27	0.24	0.24	0.27	0.20	133	0.020	0.060	0.40	3.36
Xylenes (m&p)	0.62	0.60	0.57	0.56	0.57	0.51	0.52	0.56	0.40	141	0.040	0.118	0.40	1.69
Bromoform	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.20	76	0.005	0.015	0.40	13.67
Styrene	0.20	0.20	0.20	0.21	0.20	0.18	0.18	0.20	0.20	98	0.011	0.034	0.40	5.88
1,1,2,2-Tetrachloroethane	0.18	0.18	0.16	0.17	0.16	0.16	0.16	0.17	0.20	84	0.010	0.029	0.40	7.01
Xylene (o)	0.23	0.23	0.23	0.22	0.22	0.20	0.20	0.22	0.20	109	0.013	0.040	0.40	4.96
n-Nonane	0.20	0.19	0.18	0.18	0.17	0.15	0.16	0.18	0.20	88	0.017	0.052	0.40	3.88
Cumene	0.32	0.31	0.30	0.30	0.31	0.28	0.29	0.30	0.20	151	0.013	0.040	0.40	4.96
2-Chlorotoluene	0.23	0.21	0.21	0.22	0.23	0.21	0.29	0.23	0.20	114	0.029	0.086	0.40	2.34
4-Ethyltoluene	0.17	0.16	0.17	0.17	0.16	0.19	0.16	0.17	0.20	84	0.011	0.032	0.40	6.24
1,3,5-Trimethylbenzene	0.18	0.16	0.16	0.17	0.18	0.15	0.16	0.17	0.20	83	0.011	0.034	0.40	5.88
1,2,4-Trimethylbenzene	0.11	0.12	0.11	0.12	0.10	0.10	0.11	0.11	0.20	55	0.008	0.024	0.40	8.17
1,3-Dichlorobenzene	0.09	0.08	0.08	0.09	0.11	0.09	0.09	0.09	0.20	45	0.010	0.030	0.40	6.67
1,4-Dichlorobenzene	0.08	0.09	0.09	0.11	0.10	0.19	0.04	0.10	0.20	50	0.045	0.136	0.40	1.47
1,2-Dichlorobenzene	0.13	0.14	0.13	0.17	0.16	0.19	0.17	0.16	0.20	78	0.023	0.069	0.40	2.90
1,2,4-Trichlorobenzene	0.17	0.16	0.17	0.18	0.19	0.19	0.18	0.18	0.20	89	0.011	0.033	0.40	6.00
1,3-Hexachlorobutadiene	0.19	0.20	0.20	0.20	0.22	0.20	0.19	0.20	0.20	100	0.010	0.030	0.40	6.67

Processing Method: C:\MSDCHEM\1\METHODS\AF0610.M
Initial Calibration: C:\MSDCHEM\1\METHODS\AF0610.M
Location of this file: P:\Paldata\Pal Reports\TO-15 MDLS

Lauren Jenkins
Supervisor reviewing study

Jeri Rossi
QA Manager

Instrument used for Clean Canister Certification Analysis? YES

Date: June 10, 2011

Date: December 2, 2011

**Some "True Value/MDL" ratios exceed the requested value of 10. All 8 runs produced nearly identical values resulting in low standard deviation. Since MDL is a factor of standard deviation, the resulting MDLs are low. Reproducing the study would yield similar results.

Section V: Method TO-15 Unit Conversion Table

Chemical	CAS Number	Molecular Weight	Insert Results in ppbv	Q	Generates Results in µg/m3	QAS Decision	Foot-notes
Acetone (2-propanone)	67-64-1	58.08	**85**		202.39		
Benzene	71-43-2	78.11	4.0	U	12.78		
Bromodichloromethane	75-27-4	163.8	4.0	U	26.80		
Bromoethene	593-60-2	106.9	4.0	U	17.49		
Bromoform	75-25-2	252.8	4.0	U	41.36		
Bromomethane (Methyl bromide)	74-83-9	94.94	4.0	U	15.53		
1,3-Butadiene	106-99-0	54.09	4.0	U	8.85		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	**7.2**		21.23		
Carbon disulfide	75-15-0	76.14	4.0	U	12.46		
Carbon tetrachloride	56-23-5	153.8	4.0	U	25.16		
Chlorobenzene	108-90-7	112.6	4.0	U	18.42		
Chloroethane	75-00-3	64.52	4.0	U	10.56		
Chloroform	67-66-3	119.4	4.0	U	19.53		
Chloromethane (Methyl chloride)	74-87-3	50.49	4.0	U	8.26		
3-Chloropropene (allyl chloride)	107-05-1	76.53	4.0	U	12.52		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.6	4.0	U	20.71		
Cyclohexane	110-82-7	84.16	4.0	U	13.77		
Dibromochloromethane	124-48-1	208.3	4.0	U	34.08		
1,2-Dibromoethane	106-93-4	187.9	4.0	U	30.74		
1,2-Dichlorobenzene	95-50-1	147.0	4.0	U	24.05		
1,3-Dichlorobenzene	541-73-1	147.0	4.0	U	24.05		
1,4-Dichlorobenzene	106-46-7	147.0	4.0	U	24.05		
Dichlorodifluoromethane	75-71-8	120.9	4.0	U	19.78		
1,1-Dichloroethane	75-34-3	98.96	4.0	U	16.19		
1,2-Dichloroethane	107-06-2	98.96	4.0	U	16.19		
1,1-Dichloroethene	75-35-4	96.94	4.0	U	15.86		
1,2-Dichloroethene (cis)	156-59-2	96.94	4.0	U	15.86		
1,2-Dichloroethene (trans)	156-60-5	96.94	4.0	U	15.86		
1,2-Dichloropropane	78-87-5	113.0	4.0	U	18.49		
cis-1,3-Dichloropropene	10061-01-5	111.0	4.0	U	18.16		
trans-1,3-Dichloropropene	10061-02-6	111.0	4.0	U	18.16		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.9	4.0	U	27.96		
Ethylbenzene	100-41-4	106.2	4.0	U	17.37		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.2	4.0	U	19.66		
n-Heptane	142-82-5	100.2	4.0	U	16.39		
Hexachlorobutadiene	87-68-3	260.8	4.0	U	42.67		
n-Hexane	110-54-3	86.17	4.0	U	14.10		
Methylene chloride	75-09-2	84.94	4.0	U	13.90		
4-Methyl-2-pentanone (MIBK)	108-10-1	100.2	4.0	U	16.39		
MTBE (Methyl *tert* -butyl ether)	1634-04-4	88.15	4.0	U	14.42		
Styrene	100-42-5	104.1	4.0	U	17.03		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	4.0	U	12.13		
1,1,2,2-Tetrachloroethane	79-34-5	167.9	4.0	U	27.47		
Tetrachloroethene (PCE)	127-18-4	165.8	4.0	U	27.12		
Toluene	108-88-3	92.14	4.0	U	15.07		
1,2,4-Trichlorobenzene	120-82-1	181.5	4.0	U	29.69		
1,1,1-Trichloroethane	71-55-6	133.4	4.0	U	21.82		
1,1,2-Trichloroethane	79-00-5	133.4	4.0	U	21.82		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.4	4.0	U	30.66		
Trichloroethene (TCE)	79-01-6	131.4	4.0	U	21.50		
Trichlorofluoromethane (Freon 11)	75-69-4	137.4	4.0	U	22.48		
1,2,4-Trimethylbenzene	95-63-6	120.2	4.0	U	19.66		
1,3,5-Trimethylbenzene	108-67-8	120.2	4.0	U	19.66		
2,2,4-Trimethylpentane	540-84-1	114.2	4.0	U	18.68		
Vinyl chloride	75-01-4	62.50	4.0	U	10.22		
Xylenes (m&p)	179601-23-1	106.2	4.0	U	17.37		
Xylenes (o)	95-47-6	106.2	4.0	U	17.37		

TARGET ANALYSES - TO-15
AIR RESULTS

Chemical	CAS Number	Molecular Weight	Insert Results in ppbv	Q	Generates Results in µg/m3	QAS Decision	Foot-notes
Acetone (2-propanone)	67-64-1	58.08	**43**		101.67		
Benzene	71-43-2	78.11	4.0	U	12.78		
Bromodichloromethane	75-27-4	163.8	4.0	U	26.80		
Bromoethene	593-60-2	106.9	4.0	U	17.49		
Bromoform	75-25-2	252.8	4.0	U	41.36		
Bromomethane (Methyl bromide)	74-83-9	94.94	4.0	U	15.53		
1,3-Butadiene	106-99-0	54.09	4.0	U	8.85		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	4.0	U	11.80		
Carbon disulfide	75-15-0	76.14	4.0	U	12.46		
Carbon tetrachloride	56-23-5	153.8	4.0	U	25.16		
Chlorobenzene	108-90-7	112.6	4.0	U	18.42		
Chloroethane	75-00-3	64.52	4.0	U	10.56		
Chloroform	67-66-3	119.4	4.0	U	19.53		
Chloromethane (Methyl chloride)	74-87-3	50.49	4.0	U	8.26		
3-Chloropropene (allyl chloride)	107-05-1	76.53	4.0	U	12.52		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.6	4.0	U	20.71		
Cyclohexane	110-82-7	84.16	4.0	U	13.77		
Dibromochloromethane	124-48-1	208.3	4.0	U	34.08		
1,2-Dibromoethane	106-93-4	187.9	4.0	U	30.74		
1,2-Dichlorobenzene	95-50-1	147.0	4.0	U	24.05		
1,3-Dichlorobenzene	541-73-1	147.0	4.0	U	24.05		
1,4-Dichlorobenzene	106-46-7	147.0	4.0	U	24.05		
Dichlorodifluoromethane	75-71-8	120.9	4.0	U	19.78		
1,1-Dichloroethane	75-34-3	98.96	4.0	U	16.19		
1,2-Dichloroethane	107-06-2	98.96	4.0	U	16.19		
1,1-Dichloroethene	75-35-4	96.94	4.0	U	15.86		
1,2-Dichloroethene (cis)	156-59-2	96.94	4.0	U	15.86		
1,2-Dichloroethene (trans)	156-60-5	96.94	4.0	U	15.86		
1,2-Dichloropropane	78-87-5	113.0	4.0	U	18.49		
cis-1,3-Dichloropropene	10061-01-5	111.0	4.0	U	18.16		
trans-1,3-Dichloropropene	10061-02-6	111.0	4.0	U	18.16		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.9	4.0	U	27.96		
Ethylbenzene	100-41-4	106.2	4.0	U	17.37		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.2	4.0	U	19.66		
n-Heptane	142-82-5	100.2	4.0	U	16.39		
Hexachlorobutadiene	87-68-3	260.8	4.0	U	42.67		
n-Hexane	110-54-3	86.17	4.0	U	14.10		
Methylene chloride	75-09-2	84.94	4.0	U	13.90		
4-Methyl-2-pentanone (MIBK)	108-10-1	100.2	4.0	U	16.39		
MTBE (Methyl *tert* -butyl ether)	1634-04-4	88.15	4.0	U	14.42		
Styrene	100-42-5	104.1	4.0	U	17.03		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	4.0	U	12.13		
1,1,2,2-Tetrachloroethane	79-34-5	167.9	4.0	U	27.47		
Tetrachloroethene (PCE)	127-18-4	165.8	4.0	U	27.12		
Toluene	108-88-3	92.14	4.0	U	15.07		
1,2,4-Trichlorobenzene	120-82-1	181.5	4.0	U	29.69		
1,1,1-Trichloroethane	71-55-6	133.4	4.0	U	21.82		
1,1,2-Trichloroethane	79-00-5	133.4	4.0	U	21.82		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.4	4.0	U	30.66		
Trichloroethene (TCE)	79-01-6	131.4	4.0	U	21.50		
Trichlorofluoromethane (Freon 11)	75-69-4	137.4	4.0	U	22.48		
1,2,4-Trimethylbenzene	95-63-6	120.2	4.0	U	19.66		
1,3,5-Trimethylbenzene	108-67-8	120.2	4.0	U	19.66		
2,2,4-Trimethylpentane	540-84-1	114.2	4.0	U	18.68		
Vinyl chloride	75-01-4	62.50	4.0	U	10.22		
Xylenes (m&p)	179601-23-1	106.2	4.0	U	17.37		
Xylenes (o)	95-47-6	106.2	4.0	U	17.37		

Section VI: Quality Control Data Summary

BFB Tune Summary

Method Blank

Laboratory Control Sample

Internal Standard Area Summary

BFB

Data Path: C:\MSDChem\1\DATA\100711\

Data File: AF2990BFB.D

Acq On: 10/7/2011 7:55:00AM

Operator: jls

Sample: BFB

Misc: ALM012015

ALS Vial: 1 **Multiplier:** 1

Integration File: LSCINT.P

Method: C:\MSDCHEM\1\METHODS\AF1007.M

Last Update: Tue Oct 11 08:37:45 2011

Spectrum Information:

PassFail	Target Mass	Rel. to Mass	Lower Limit %	Higher Limit %	Raw Abundance	% Relative Abundance
PASS	50	95	8	40	30290	19.5
PASS	75	95	30	66	83877	54.0
PASS	95	95	100	100	155328	100.0
PASS	96	95	5	9	10215	6.6
PASS	173	174	0.00	2	722	0.5
PASS	174	95	50	120	143834	92.6
PASS	175	174	4	9	11659	8.1
PASS	176	174	93	101	139802	97.2
PASS	177	176	5	9	8644	6.2

Runs with this BFB:

Lab Sample Number	Date File	Field Sample	Date/Time of Sample/Standard Analysis
BFB	AF2990BFB	NA	10/7/2011 7:55:00 AM
40 PPBV STD	AF2991STD01	NA	10/7/2011 8:46:00 AM
20 PPBV STD	AF2992STD02	NA	10/7/2011 9:34:00 AM
10 PPBV STD. STD	AF2993STD03	NA	10/7/2011 10:17:00 AM
0.2 PPBV STD	AF2995STD05	NA	10/7/2011 12:20:00 PM
2 PPBV STD	AF2994STD04	NA	10/7/2011 1:44:00 PM
10 PPBV ICVSS	AF2996ICVSS	NA	10/7/2011 5:50:00 PM

BFB

Data Path: C:\MSDChem\1\DATA\110711\

Data File: AF3300BFB.D

Acq On: 11/7/2011 9:30:00AM

Operator: jls

Sample: BFB

Misc: ALM012015

ALS Vial: 1 **Multiplier:** 1

Integration File: LSCINT.P

Method: C:\MSDCHEM\1\METHODS\AF1007.M

Last Update: Tue Oct 11 08:37:45 2011

Spectrum Information:

PassFail	Target Mass	Rel. to Mass	Lower Limit %	Higher Limit %	Raw Abundance	% Relative Abundance
PASS	50	95	8	40	25482	18.9
PASS	75	95	30	66	75922	56.2
PASS	95	95	100	100	135178	100.0
PASS	96	95	5	9	7950	5.9
PASS	173	174	0.00	2	711	0.6
PASS	174	95	50	120	122197	90.4
PASS	175	174	4	9	6754	5.5
PASS	176	174	93	101	118464	96.9
PASS	177	176	5	9	7395	6.2

Runs with this BFB:

Lab Sample Number	Date File	Field Sample	Date/Time of Sample/Standard Analysis
BFB	AF3300BFB	NA	11/7/2011 9:30:00 AM
10 PPBV DCVS.	AF3301DCVS	NA	11/7/2011 11:29:00 AM
10 PPBV LCS	AF3302LCS01	NA	11/7/2011 11:37:00 AM
10 PPBV LCS	AF3303LCS02	NA	11/7/2011 12:25:00 PM
METHOD BLANK	AF3304BLK	NA	11/7/2011 1:54:00 PM
02 PPBV RLLCS	AF3305RLLCS	NA	11/7/2011 2:36:00 PM
1402	AF3306	NA	11/7/2011 3:31:00 PM
1524	AF3307	NA	11/7/2011 4:17:00 PM
10 PPBV CCCVS.	AF3319CCCVS	NA	11/8/2011 12:59:00 AM

BFB

Data Path: C:\MSDChem\1\DATA\112111\

Data File: AF3573BFB.D

Acq On: 11/21/2011 8:32:00AM

Operator: jls

Sample: BFB

Misc: ALM012015

ALS Vial: 1 **Multiplier:** 1

Integration File: LSCINT.P

Method: C:\MSDCHEM\1\METHODS\AF1007.M

Last Update: Fri Nov 11 09:36:50 2011

Spectrum Information:

PassFail	Target Mass	Rel. to Mass	Lower Limit %	Higher Limit %	Raw Abundance	% Relative Abundance
PASS	50	95	8	40	26696	21.3
PASS	75	95	30	66	68706	54.8
PASS	95	95	100	100	125392	100.0
PASS	96	95	5	9	8560	6.8
PASS	173	174	0.00	2	1089	0.9
PASS	174	95	50	120	123892	98.8
PASS	175	174	4	9	9517	7.7
PASS	176	174	93	101	120269	97.1
PASS	177	176	5	9	8477	7.0

Runs with this BFB:

Lab Sample Number	Date File	Field Sample	Date/Time of Sample/Standard Analysis
BFB	AF3573BFB	NA	11/21/2011 8:32:00 AM
10 PPBV DCVS.	AF3574DCVS	NA	11/21/2011 9:25:00 AM
10 PPBV LCS	AF3575LCS01	NA	11/21/2011 10:26:00 AM
10 PPBV LCS	AF3576LCS02	NA	11/21/2011 11:08:00 AM
METHOD BLANK	AF3577BLK	NA	11/21/2011 12:35:00 PM
E11-11497-01	AF3587	SS-1	11/21/2011 10:12:00 PM
E11-11497-02	AF3589	SS-2	11/21/2011 11:40:00 PM
10 PPBV CCCVS.	AF3600CCCVS	NA	11/22/2011 7:36:00 AM

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3304BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/7/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
Acetone	67-64-1	0.03	ND
Allyl chloride	107-05-1	0.11	ND
Benzene	71-43-2	0.08	ND
Bromodichloromethane	75-27-4	0.02	ND
Bromoform	75-25-2	0.04	ND
Bromomethane	74-83-9	0.12	ND
1,3-Butadiene	106-99-0	0.21	ND
Chlorobenzene	108-90-7	0.07	ND
Chloroethane	75-00-3	0.08	ND
Chloroform	67-66-3	0.02	ND
Chloromethane	74-87-3	0.02	ND
Carbon disulfide	75-15-0	0.06	ND
Carbon tetrachloride	56-23-5	0.03	ND
2-Chlorotoluene	95-49-8	0.10	ND
Cyclohexane	110-82-7	0.11	ND
Dibromochloromethane	124-48-1	0.05	ND
1,2-Dibromoethane	106-93-4	0.07	ND
1,2-Dichlorobenzene	95-50-1	0.10	ND
1,3-Dichlorobenzene	541-73-1	0.09	ND
1,4-Dichlorobenzene	106-46-7	0.09	ND
Dichlorodifluoromethane	75-71-8	0.02	ND
1,1-Dichloroethane	75-34-3	0.02	ND
1,2-Dichloroethane	107-06-2	0.02	ND
1,1-Dichloroethene	75-35-4	0.04	ND
1,2-Dichloroethene (cis)	156-59-2	0.06	ND
1,2-Dichloroethene (trans)	156-60-5	0.06	ND
1,2-Dichloropropane	78-87-5	0.05	ND
1,3-Dichloropropene (cis)	10061-01-5	0.10	ND
1,3-Dichloropropene (trans)	10061-02-6	0.09	ND
1,2-Dichlorotetrafluoroethane	76-14-2	0.06	ND
Ethylbenzene	100-41-4	0.11	ND
4-Ethyltoluene	622-96-8	0.11	ND
n-Heptane	142-82-5	0.06	ND
1,3-Hexachlorobutadiene	87-68-3	0.10	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3304BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/7/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
n-Hexane	110-54-3	0.06	ND
Methylene chloride	75-09-2	0.17	0.11
Methyl ethyl ketone	78-93-3	0.05	ND
Methyl isobutyl ketone	108-10-1	0.05	ND
Methyl tert-butyl ether	1634-04-4	0.11	ND
Styrene	100-42-5	0.12	ND
Tert-butyl alcohol	75-65-0	0.07	ND
1,1,2,2-Tetrachloroethane	79-34-5	0.08	ND
Tetrachloroethene	127-18-4	0.09	ND
Toluene	108-88-3	0.11	ND
1,2,4-Trichlorobenzene	120-82-1	0.15	ND
1,1,1-Trichloroethane	71-55-6	0.04	ND
1,1,2-Trichloroethane	79-00-5	0.06	ND
Trichloroethene	79-01-6	0.06	ND
Trichlorofluoromethane	75-69-4	0.03	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.04	ND
1,2,4-Trimethylbenzene	95-63-6	0.13	ND
1,3,5-Trimethylbenzene	108-67-8	0.10	ND
2,2,4-Trimethylpentane	540-84-1	0.08	ND
Vinyl bromide	593-60-2	0.11	ND
Vinyl chloride	75-01-4	0.05	ND
Xylenes (m&p)	179601-23-1	0.22	ND
Xylenes (o)	95-47-6	0.09	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3577BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/21/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
Acetone	67-64-1	0.03	ND
Allyl chloride	107-05-1	0.11	ND
Benzene	71-43-2	0.08	ND
Bromodichloromethane	75-27-4	0.02	ND
Bromoform	75-25-2	0.04	ND
Bromomethane	74-83-9	0.12	ND
1,3-Butadiene	106-99-0	0.21	ND
Chlorobenzene	108-90-7	0.07	ND
Chloroethane	75-00-3	0.08	ND
Chloroform	67-66-3	0.02	ND
Chloromethane	74-87-3	0.02	ND
Carbon disulfide	75-15-0	0.06	ND
Carbon tetrachloride	56-23-5	0.03	ND
2-Chlorotoluene	95-49-8	0.10	ND
Cyclohexane	110-82-7	0.11	ND
Dibromochloromethane	124-48-1	0.05	ND
1,2-Dibromoethane	106-93-4	0.07	ND
1,2-Dichlorobenzene	95-50-1	0.10	ND
1,3-Dichlorobenzene	541-73-1	0.09	ND
1,4-Dichlorobenzene	106-46-7	0.09	ND
Dichlorodifluoromethane	75-71-8	0.02	ND
1,1-Dichloroethane	75-34-3	0.02	ND
1,2-Dichloroethane	107-06-2	0.02	ND
1,1-Dichloroethene	75-35-4	0.04	ND
1,2-Dichloroethene (cis)	156-59-2	0.06	ND
1,2-Dichloroethene (trans)	156-60-5	0.06	ND
1,2-Dichloropropane	78-87-5	0.05	ND
1,3-Dichloropropene (cis)	10061-01-5	0.10	ND
1,3-Dichloropropene (trans)	10061-02-6	0.09	ND
1,2-Dichlorotetrafluoroethane	76-14-2	0.06	ND
Ethylbenzene	100-41-4	0.11	ND
4-Ethyltoluene	622-96-8	0.11	ND
n-Heptane	142-82-5	0.06	ND
1,3-Hexachlorobutadiene	87-68-3	0.10	ND
n-Hexane	110-54-3	0.06	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3577BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/21/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
Methylene chloride	75-09-2	0.17	0.040
Methyl ethyl ketone	78-93-3	0.05	ND
Methyl isobutyl ketone	108-10-1	0.05	ND
Methyl tert-butyl ether	1634-04-4	0.11	ND
Styrene	100-42-5	0.12	ND
Tert-butyl alcohol	75-65-0	0.07	ND
1,1,2,2-Tetrachloroethane	79-34-5	0.08	ND
Tetrachloroethene	127-18-4	0.09	ND
Toluene	108-88-3	0.11	ND
1,2,4-Trichlorobenzene	120-82-1	0.15	ND
1,1,1-Trichloroethane	71-55-6	0.04	ND
1,1,2-Trichloroethane	79-00-5	0.06	ND
Trichloroethene	79-01-6	0.06	ND
Trichlorofluoromethane	75-69-4	0.03	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.04	ND
1,2,4-Trimethylbenzene	95-63-6	0.13	ND
1,3,5-Trimethylbenzene	108-67-8	0.10	ND
2,2,4-Trimethylpentane	540-84-1	0.08	ND
Vinyl bromide	593-60-2	0.11	ND
Vinyl chloride	75-01-4	0.05	ND
Xylenes (m&p)	179601-23-1	0.22	ND
Xylenes (o)	95-47-6	0.09	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3302LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
Acetone	67-64-1	13	130	
Allyl chloride	107-05-1	14	140	*
Benzene	71-43-2	11	110	
Bromodichloromethane	75-27-4	11	110	
Bromoform	75-25-2	10	100	
Bromomethane	74-83-9	11	110	
1,3-Butadiene	106-99-0	12	120	
Chlorobenzene	108-90-7	12	120	
Chloroethane	75-00-3	13	130	
Chloroform	67-66-3	12	120	
Chloromethane	74-87-3	13	130	
Carbon disulfide	75-15-0	11	110	
Carbon tetrachloride	56-23-5	12	120	
2-Chlorotoluene	95-49-8	12	120	
Cyclohexane	110-82-7	12	120	
Dibromochloromethane	124-48-1	11	110	
1,2-Dibromoethane	106-93-4	11	110	
1,2-Dichlorobenzene	95-50-1	11	110	
1,3-Dichlorobenzene	541-73-1	12	120	
1,4-Dichlorobenzene	106-46-7	11	110	
Dichlorodifluoromethane	75-71-8	11	110	
1,1-Dichloroethane	75-34-3	11	110	
1,2-Dichloroethane	107-06-2	12	120	
1,1-Dichloroethene	75-35-4	12	120	
1,2-Dichloroethene (cis)	156-59-2	12	120	
1,2-Dichloroethene (trans)	156-60-5	13	130	
1,2-Dichloropropane	78-87-5	11	110	
1,3-Dichloropropene (cis)	10061-01-5	11	110	
1,3-Dichloropropene (trans)	10061-02-6	13	130	
1,2-Dichlorotetrafluoroethane	76-14-2	12	120	
Ethylbenzene	100-41-4	11	110	
4-Ethyltoluene	622-96-8	10	100	
n-Heptane	142-82-5	11	110	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3302LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
1,3-Hexachlorobutadiene	87-68-3	11	110	
n-Hexane	110-54-3	13	130	
Methylene chloride	75-09-2	9.6	96	
Methyl ethyl ketone	78-93-3	12	120	
Methyl isobutyl ketone	108-10-1	11	110	
Methyl tert-butyl ether	1634-04-4	11	110	
Styrene	100-42-5	10	100	
Tert-butyl alcohol	75-65-0	9.2	92	
1,1,2,2-Tetrachloroethane	79-34-5	11	110	
Tetrachloroethene	127-18-4	12	120	
Toluene	108-88-3	12	120	
1,2,4-Trichlorobenzene	120-82-1	8.8	88	
1,1,1-Trichloroethane	71-55-6	11	110	
1,1,2-Trichloroethane	79-00-5	10	100	
Trichloroethene	79-01-6	11	110	
Trichlorofluoromethane	75-69-4	14	140	*
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	13	130	
1,2,4-Trimethylbenzene	95-63-6	10	100	
1,3,5-Trimethylbenzene	108-67-8	11	110	
2,2,4-Trimethylpentane	540-84-1	11	110	
Vinyl bromide	593-60-2	13	130	
Vinyl chloride	75-01-4	12	120	
Xylenes (m&p)	179601-23-1	22	110	
Xylenes (o)	95-47-6	12	120	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3303LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
Acetone	67-64-1	11	110
Allyl chloride	107-05-1	12	120
Benzene	71-43-2	9.3	93
Bromodichloromethane	75-27-4	9.3	93
Bromoform	75-25-2	8.5	85
Bromomethane	74-83-9	11	110
1,3-Butadiene	106-99-0	11	110
Chlorobenzene	108-90-7	10	100
Chloroethane	75-00-3	10	100
Chloroform	67-66-3	10	100
Chloromethane	74-87-3	11	110
Carbon disulfide	75-15-0	13	130
Carbon tetrachloride	56-23-5	9.5	95
2-Chlorotoluene	95-49-8	10	100
Cyclohexane	110-82-7	9.9	99
Dibromochloromethane	124-48-1	9.4	94
1,2-Dibromoethane	106-93-4	9.0	90
1,2-Dichlorobenzene	95-50-1	9.6	96
1,3-Dichlorobenzene	541-73-1	10	100
1,4-Dichlorobenzene	106-46-7	9.2	92
Dichlorodifluoromethane	75-71-8	9.8	98
1,1-Dichloroethane	75-34-3	9.5	95
1,2-Dichloroethane	107-06-2	9.8	98
1,1-Dichloroethene	75-35-4	11	110
1,2-Dichloroethene (cis)	156-59-2	10.0	100
1,2-Dichloroethene (trans)	156-60-5	11	110
1,2-Dichloropropane	78-87-5	9.3	93
1,3-Dichloropropene (cis)	10061-01-5	9.1	91
1,3-Dichloropropene (trans)	10061-02-6	9.9	99
1,2-Dichlorotetrafluoroethane	76-14-2	10	100
Ethylbenzene	100-41-4	9.2	92
4-Ethyltoluene	622-96-8	8.7	87
n-Heptane	142-82-5	9.3	93

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3303LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
1,3-Hexachlorobutadiene	87-68-3	10	100
n-Hexane	110-54-3	10	100
Methylene chloride	75-09-2	8.1	81
Methyl ethyl ketone	78-93-3	10	100
Methyl isobutyl ketone	108-10-1	9.3	93
Methyl tert-butyl ether	1634-04-4	9.8	98
Styrene	100-42-5	8.4	84
Tert-butyl alcohol	75-65-0	7.6	76
1,1,2,2-Tetrachloroethane	79-34-5	9.7	97
Tetrachloroethene	127-18-4	11	110
Toluene	108-88-3	10	100
1,2,4-Trichlorobenzene	120-82-1	8.6	86
1,1,1-Trichloroethane	71-55-6	9.2	92
1,1,2-Trichloroethane	79-00-5	8.8	88
Trichloroethene	79-01-6	9.6	96
Trichlorofluoromethane	75-69-4	12	120
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	11	110
1,2,4-Trimethylbenzene	95-63-6	8.9	89
1,3,5-Trimethylbenzene	108-67-8	9.5	95
2,2,4-Trimethylpentane	540-84-1	9.3	93
Vinyl bromide	593-60-2	11	110
Vinyl chloride	75-01-4	10	100
Xylenes (m&p)	179601-23-1	18	92
Xylenes (o)	95-47-6	10	100

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3575LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
Acetone	67-64-1	9.4	94
Allyl chloride	107-05-1	9.2	92
Benzene	71-43-2	8.6	86
Bromodichloromethane	75-27-4	8.4	84
Bromoform	75-25-2	7.8	78
Bromomethane	74-83-9	8.4	84
1,3-Butadiene	106-99-0	11	110
Chlorobenzene	108-90-7	9.6	96
Chloroethane	75-00-3	8.6	86
Chloroform	67-66-3	9.0	90
Chloromethane	74-87-3	9.7	97
Carbon disulfide	75-15-0	11	110
Carbon tetrachloride	56-23-5	8.5	85
2-Chlorotoluene	95-49-8	9.0	90
Cyclohexane	110-82-7	8.8	88
Dibromochloromethane	124-48-1	8.7	87
1,2-Dibromoethane	106-93-4	8.2	82
1,2-Dichlorobenzene	95-50-1	8.8	88
1,3-Dichlorobenzene	541-73-1	9.3	93
1,4-Dichlorobenzene	106-46-7	8.4	84
Dichlorodifluoromethane	75-71-8	8.7	87
1,1-Dichloroethane	75-34-3	8.4	84
1,2-Dichloroethane	107-06-2	9.2	92
1,1-Dichloroethene	75-35-4	10	100
1,2-Dichloroethene (cis)	156-59-2	8.8	88
1,2-Dichloroethene (trans)	156-60-5	9.5	95
1,2-Dichloropropane	78-87-5	8.3	83
1,3-Dichloropropene (cis)	10061-01-5	8.2	82
1,3-Dichloropropene (trans)	10061-02-6	9.6	96
1,2-Dichlorotetrafluoroethane	76-14-2	9.2	92
Ethylbenzene	100-41-4	8.7	87
4-Ethyltoluene	622-96-8	7.9	79
n-Heptane	142-82-5	8.7	87
1,3-Hexachlorobutadiene	87-68-3	9.1	91

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3575LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
n-Hexane	110-54-3	9.7	97	
Methylene chloride	75-09-2	7.1	71	
Methyl ethyl ketone	78-93-3	8.7	87	
Methyl isobutyl ketone	108-10-1	8.6	86	
Methyl tert-butyl ether	1634-04-4	8.6	86	
Styrene	100-42-5	7.8	78	
Tert-butyl alcohol	75-65-0	6.7	67	*
1,1,2,2-Tetrachloroethane	79-34-5	8.7	87	
Tetrachloroethene	127-18-4	9.6	96	
Toluene	108-88-3	9.3	93	
1,2,4-Trichlorobenzene	120-82-1	7.2	72	
1,1,1-Trichloroethane	71-55-6	8.2	82	
1,1,2-Trichloroethane	79-00-5	8.0	80	
Trichloroethene	79-01-6	8.6	86	
Trichlorofluoromethane	75-69-4	10	100	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	9.9	99	
1,2,4-Trimethylbenzene	95-63-6	8.0	80	
1,3,5-Trimethylbenzene	108-67-8	8.5	85	
2,2,4-Trimethylpentane	540-84-1	8.5	85	
Vinyl bromide	593-60-2	9.9	99	
Vinyl chloride	75-01-4	9.0	90	
Xylenes (m&p)	179601-23-1	17	86	
Xylenes (o)	95-47-6	9.3	93	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3576LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
Acetone	67-64-1	9.6	96
Allyl chloride	107-05-1	10	100
Benzene	71-43-2	8.6	86
Bromodichloromethane	75-27-4	8.2	82
Bromoform	75-25-2	7.7	77
Bromomethane	74-83-9	9.4	94
1,3-Butadiene	106-99-0	11	110
Chlorobenzene	108-90-7	9.4	94
Chloroethane	75-00-3	9.2	92
Chloroform	67-66-3	9.1	91
Chloromethane	74-87-3	9.8	98
Carbon disulfide	75-15-0	12	120
Carbon tetrachloride	56-23-5	8.8	88
2-Chlorotoluene	95-49-8	9.0	90
Cyclohexane	110-82-7	8.9	89
Dibromochloromethane	124-48-1	8.6	86
1,2-Dibromoethane	106-93-4	8.2	82
1,2-Dichlorobenzene	95-50-1	8.7	87
1,3-Dichlorobenzene	541-73-1	8.9	89
1,4-Dichlorobenzene	106-46-7	8.2	82
Dichlorodifluoromethane	75-71-8	8.7	87
1,1-Dichloroethane	75-34-3	8.6	86
1,2-Dichloroethane	107-06-2	8.9	89
1,1-Dichloroethene	75-35-4	10	100
1,2-Dichloroethene (cis)	156-59-2	9.0	90
1,2-Dichloroethene (trans)	156-60-5	9.2	92
1,2-Dichloropropane	78-87-5	8.1	81
1,3-Dichloropropene (cis)	10061-01-5	8.0	80
1,3-Dichloropropene (trans)	10061-02-6	9.3	93
1,2-Dichlorotetrafluoroethane	76-14-2	9.3	93
Ethylbenzene	100-41-4	8.5	85
4-Ethyltoluene	622-96-8	7.6	76
n-Heptane	142-82-5	8.7	87
1,3-Hexachlorobutadiene	87-68-3	9.0	90

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3576LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
n-Hexane	110-54-3	9.5	95	
Methylene chloride	75-09-2	7.3	73	
Methyl ethyl ketone	78-93-3	9.0	90	
Methyl isobutyl ketone	108-10-1	8.4	84	
Methyl tert-butyl ether	1634-04-4	8.7	87	
Styrene	100-42-5	7.5	75	
Tert-butyl alcohol	75-65-0	6.7	67	*
1,1,2,2-Tetrachloroethane	79-34-5	8.7	87	
Tetrachloroethene	127-18-4	9.7	97	
Toluene	108-88-3	9.3	93	
1,2,4-Trichlorobenzene	120-82-1	5.6	56	*
1,1,1-Trichloroethane	71-55-6	8.4	84	
1,1,2-Trichloroethane	79-00-5	8.2	82	
Trichloroethene	79-01-6	8.7	87	
Trichlorofluoromethane	75-69-4	10	100	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	9.6	96	
1,2,4-Trimethylbenzene	95-63-6	7.6	76	
1,3,5-Trimethylbenzene	108-67-8	8.2	82	
2,2,4-Trimethylpentane	540-84-1	8.6	86	
Vinyl bromide	593-60-2	9.5	95	
Vinyl chloride	75-01-4	9.1	91	
Xylenes (m&p)	179601-23-1	17	84	
Xylenes (o)	95-47-6	9.0	90	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Integrated Analytical Laboratories LLC

Internal Standard Area and Retention Time Summary

Lab File ID (Standard): AF3301DCVS **Date Analyzed:** 11/7/2011

Instrument: AA **ICAL Date:** 10/7/2011

			BROMOCHLOROMETHANE				1,4-DIFLUOROBENZENE				D-5 CHLOROBENZENE			
			Area #		RT		Area #		RT		Area #		RT	
	CALIBRATION STANDARD		184824		8.340		761168		10.440		685542		15.780	
	UPPER LIMIT		258754		8.67		1065635		10.77		959759		16.11	
	LOWER LIMIT		110894		8.01		456701		10.11		411325		15.45	
Lab ID		DF	Area #	%	RT	+/-	Area #	%	RT	+/-	Area #	%	RT	+/-
Method Blank	AF3304BLK	1.0	178639	-3.35	8.35	0.01	797237	4.74	10.45	0.01	689632	0.60	15.79	0.01
Reporting Limit Laboratory Control Standard	AF3305RLLCS	1.0	186677	1.00	8.35	0.01	800111	5.12	10.44	0.00	724482	5.68	15.79	0.01
1402	AF3306	1.0	174840	-5.40	8.35	0.01	772627	1.51	10.43	-0.01	679662	-0.86	15.77	-0.01
1524	AF3307	1.0	178388	-3.48	8.35	0.01	788035	3.53	10.44	0.00	703141	2.57	15.79	0.01
Closing Calibration	AF3319CCCVS	1.0	187853	1.64	8.35	0.01	806276	5.93	10.44	0.00	720293	5.07	15.74	-0.04

Difference of Internal Area must be within +/- 40%; Retention Times must be within +/- 0.33 minute.
* Values outsite QC limits.

Integrated Analytical Laboratories LLC

Internal Standard Area and Retention Time Summary

Lab File ID (Standard): AF3574DCVS **Date Analyzed:** 11/21/2011

Instrument: AA **ICAL Date:** 10/7/2011

			BROMOCHLOROMETHANE				1,4-DIFLUOROBENZENE				D-5 CHLOROBENZENE			
			Area #		RT		Area #		RT		Area #		RT	
	CALIBRATION STANDARD		222935		8.340		971857		10.440		828858		15.780	
	UPPER LIMIT		312109		8.67		1360600		10.77		1160401		16.11	
	LOWER LIMIT		133761		8.01		583114		10.11		497315		15.45	
Lab ID		DF	Area #	%	RT	+/-	Area #	%	RT	+/-	Area #	%	RT	+/-
Method Blank	AF3577BLK	1.0	196366	-11.92	8.36	0.02	975768	0.40	10.44	0.00	827309	-0.19	15.78	0.00
E11-11497-01	AF3587	1.0	203738	-8.61	8.35	0.01	1004609	3.37	10.44	0.00	924335	11.52	15.78	0.00
E11-11497-02	AF3589	1.0	208498	-6.48	8.36	0.02	989282	1.79	10.44	0.00	908998	9.67	15.78	0.00
Closing Calibration	AF3600CCCVS	1.0	230024	3.18	8.35	0.01	983008	1.15	10.44	0.00	746548	-9.93	15.79	0.01

Difference of Internal Area must be within +/- 40%; Retention Times must be within +/- 0.33 minute.
* Values outsite QC limits.

Section VII: Sample Data Summary

Certificate of Analysis

Summary of Results

Quantitation Reports, Chromatograms,
and Peak Integration Reports

CERTIFICATE OF ANALYSIS

ANALYTICAL DATA PACKAGE FOR THE
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON NEW JERSEY 08625

Integrated Analytical Laboratories, LLC — **Randolph, NJ 07869**
Project#: JS Popper - 202913 — **Contract #: NA**
SDG #: E11-11497 — **NJDEP Certification#: 14751**
Date of first sample receipt: 11/17/2011 — **Date of last sample receipt: 11/17/2011**

Client: Environmental Waste Management Associates
100 Misty Lane
Parsippany, NJ 07054
Attention: Attention: Al Moffit

Project/Site: JS Popper - 202913/Memorial Middle School

Analysis conducted at: Integrated Analytical laboratories, LLC
273 Franklin Road
Randolph, NJ 07869
Contact: Michael H. Leftin, Ph.D.

NJDEP number: 14751
ELAP lab number: 11402

Sample(s):
E11-11497-01
E11-11497-02

Samples for this analysis were received in good condition with a chain of custody.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Once analysis has been performed on canisters that meets regulatory criteria, samples are recycled for future use, unless other provisions have been made by the client.

Michael H. Leftin, Ph.D.
Laboratory Director

Date: November 30, 2011

Integrated Analytical Laboratories LLC

Summary of Results

Environmental Waste Management Associates
100 Misty Lane
Parsippany, NJ 07054
Attn: Al Moffit
Project: JS Popper - 202913
Site: Memorial Middle School

Report Date: 11/28/11
Job Number: E11-11497
Date Received: 11/17/11
Date Analyzed: 11/21/11
Data File: AF3587
Summa ID: 1546

Analysis: Volatile Organic Compounds by EPA Method TO-15

	Sample Name:	SS-1		Reporting	
	IAL ID:	E11-11497-01		Limits	
Compound	**CAS #**	**ppbv**	**ug/m3**	**ppbv**	**ug/m3**
Acetone	67-64-1	85	202	4.0	9.5
Allyl chloride	107-05-1	ND	ND	4.0	13
Benzene	71-43-2	ND	ND	4.0	13
Bromodichloromethane	75-27-4	ND	ND	4.0	27
Bromoform	75-25-2	ND	ND	4.0	41
Bromomethane	74-83-9	ND	ND	4.0	16
1,3-Butadiene	106-99-0	ND	ND	4.0	8.9
Chlorobenzene	108-90-7	ND	ND	4.0	18
Chloroethane	75-00-3	ND	ND	4.0	11
Chloroform	67-66-3	ND	ND	4.0	20
Chloromethane	74-87-3	ND	ND	4.0	8.3
Carbon disulfide	75-15-0	ND	ND	4.0	13
Carbon tetrachloride	56-23-5	ND	ND	4.0	25
2-Chlorotoluene	95-49-8	ND	ND	4.0	21
Cyclohexane	110-82-7	ND	ND	4.0	14
Dibromochloromethane	124-48-1	ND	ND	4.0	34
1,2-Dibromoethane	106-93-4	ND	ND	4.0	31
1,2-Dichlorobenzene	95-50-1	ND	ND	4.0	24
1,3-Dichlorobenzene	541-73-1	ND	ND	4.0	24
1,4-Dichlorobenzene	106-46-7	ND	ND	4.0	24
Dichlorodifluoromethane	75-71-8	ND	ND	4.0	20
1,1-Dichloroethane	75-34-3	ND	ND	4.0	16
1,2-Dichloroethane	107-06-2	ND	ND	4.0	16
1,1-Dichloroethene	75-35-4	ND	ND	4.0	16
1,2-Dichloroethene (cis)	156-59-2	ND	ND	4.0	16
1,2-Dichloroethene (trans)	156-60-5	ND	ND	4.0	16
1,2-Dichloropropane	78-87-5	ND	ND	4.0	19
1,3-Dichloropropene (cis)	10061-01-5	ND	ND	4.0	18
1,3-Dichloropropene (trans)	10061-02-6	ND	ND	4.0	18
1,2-Dichlorotetrafluoroethane	76-14-2	ND	ND	4.0	28
Ethylbenzene	100-41-4	ND	ND	4.0	17
4-Ethyltoluene	622-96-8	ND	ND	4.0	20
n-Heptane	142-82-5	ND	ND	4.0	16
1,3-Hexachlorobutadiene	87-68-3	ND	ND	4.0	43
n-Hexane	110-54-3	ND	ND	4.0	14
Methylene chloride	75-09-2	ND	ND	4.0	14
Methyl ethyl ketone	78-93-3	7.2	21	4.0	12
Methyl isobutyl ketone	108-10-1	ND	ND	4.0	16
Methyl tert-butyl ether	1634-04-4	ND	ND	4.0	14
Styrene	100-42-5	ND	ND	4.0	17
Tert-butyl alcohol	75-65-0	ND	ND	4.0	12
1,1,2,2-Tetrachloroethane	79-34-5	ND	ND	4.0	28
Tetrachloroethene	127-18-4	ND	ND	4.0	27
Toluene	108-88-3	ND	ND	4.0	15
1,2,4-Trichlorobenzene	120-82-1	ND	ND	4.0	30
1,1,1-Trichloroethane	71-55-6	ND	ND	4.0	22
1,1,2-Trichloroethane	79-00-5	ND	ND	4.0	22
Trichloroethene	79-01-6	ND	ND	4.0	22
Trichlorofluoromethane	75-69-4	ND	ND	4.0	23
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	ND	4.0	31
1,2,4-Trimethylbenzene	95-63-6	ND	ND	4.0	20
1,3,5-Trimethylbenzene	108-67-8	ND	ND	4.0	20
2,2,4-Trimethylpentane	540-84-1	ND	ND	4.0	19
Vinyl bromide	593-60-2	ND	ND	4.0	18
Vinyl chloride	75-01-4	ND	ND	4.0	10
Xylenes (m&p)	179601-23-1	ND	ND	4.0	17
Xylenes (o)	95-47-6	ND	ND	4.0	17

D = Extra dilution required for this compound

Analyst: J. Schmitt

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\112111\
Data File : af3587.D
Acq On : 21 Nov 11 22:12
Operator : JLS.
Sample : 11497-01 x 10 dil.
Misc : 1546 Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 23 09:42:55 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.35	130	203738	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	1004609	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.78	117	924335	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.98	95	505668	9.42	ppbV	0.01

Spiked Amount 10.000 Range 75 - 125 Recovery = 94.20%

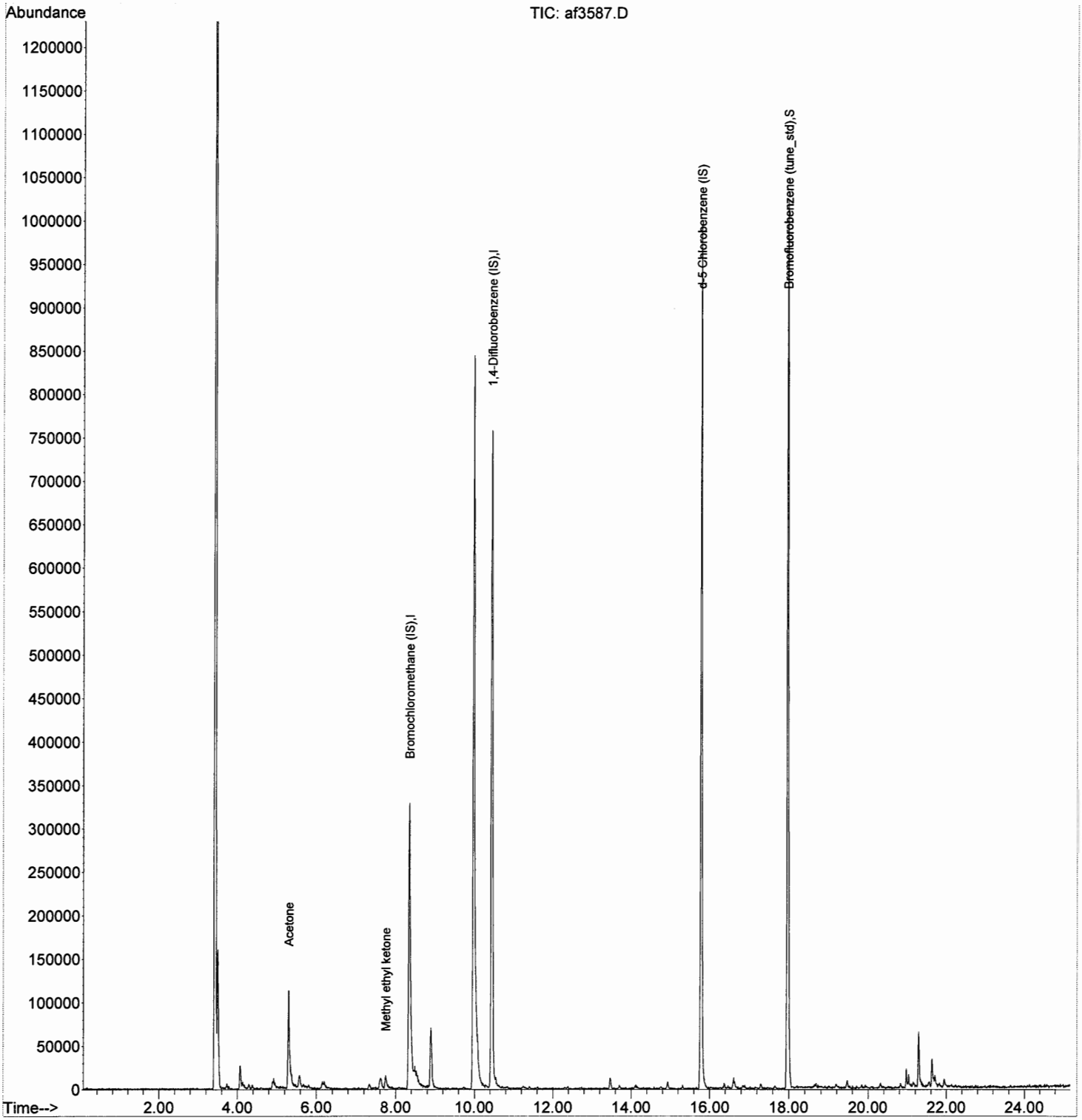
Target Compounds						Qvalue
14) Acetone	5.30	43	227938	8.52	ppbV #	98
28) Methyl ethyl ketone	7.75	43	31302	0.72	ppbV	99

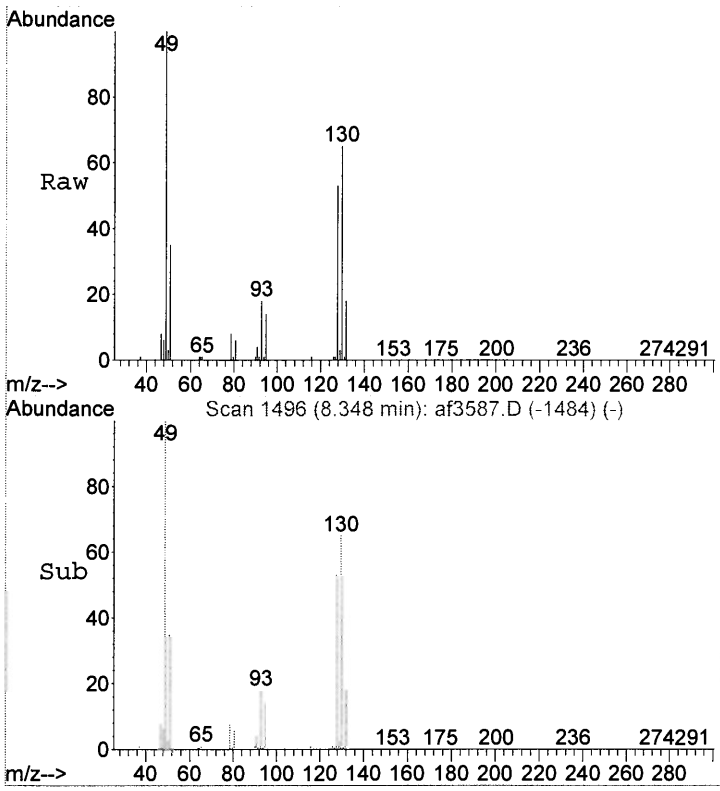
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\112111\
Data File : af3587.D
Acq On : 21 Nov 11 22:12
Operator : JLS.
Sample : 11497-01 x 10 dil.
Misc : 1546 Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 23 09:42:55 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration

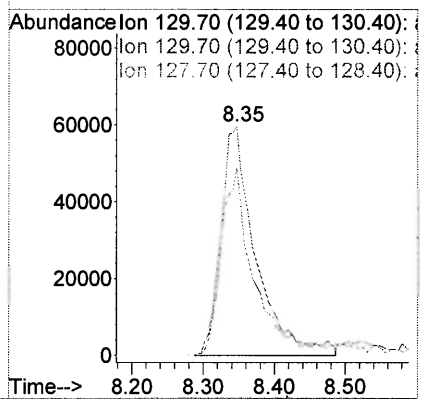


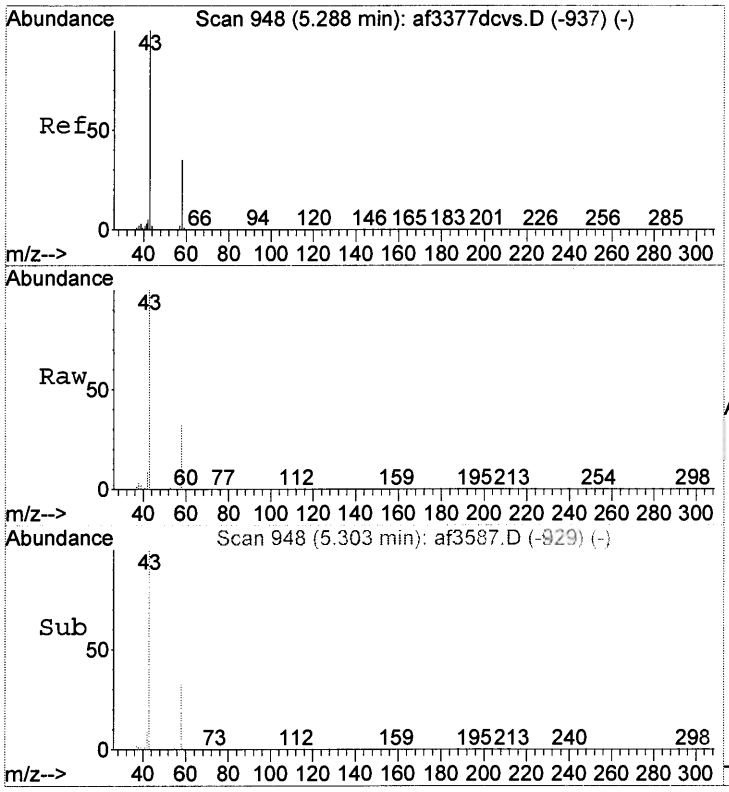


#1
Bromochloromethane (IS)
Concen: 10.00 ppbV
RT: 8.35 min Scan# 1496
Delta R.T. -0.00 min
Lab File: af3587.D
Acq: 21 Nov 11 22:12

Tgt Ion:130 Resp: 203738

Ion	Ratio	Lower	Upper
130	100		
130	100.0	80.0	120.0
128	77.1	62.6	94.0

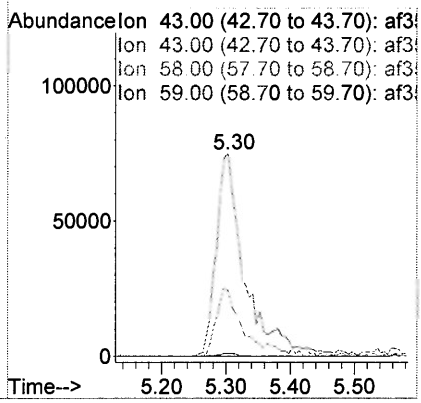


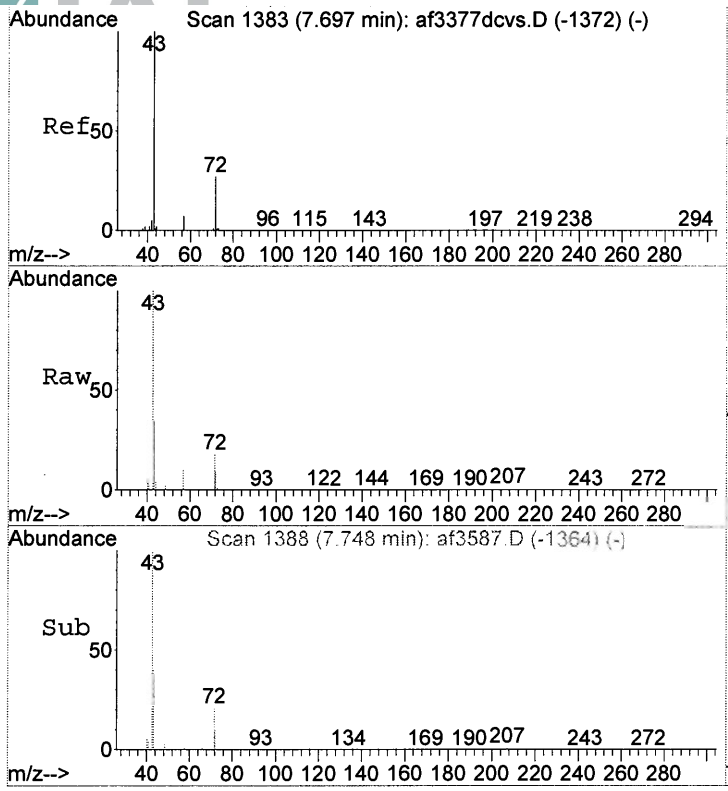


#14
Acetone
Concen: 8.52 ppbV
RT: 5.30 min Scan# 948
Delta R.T. 0.00 min
Lab File: af3587.D
Acq: 21 Nov 11 22:12

Tgt Ion: 43 Resp: 227938

Ion	Ratio	Lower	Upper
43	100		
43	100.0	80.0	120.0
58	31.6	28.0	42.0
59	0.0	0.9	1.3#

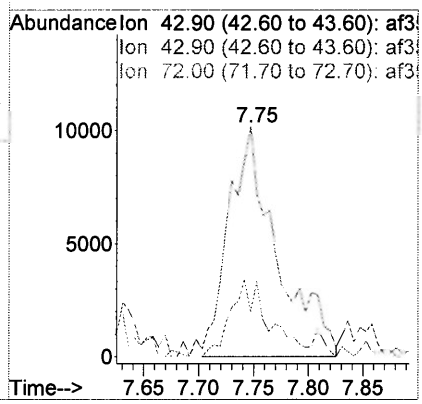


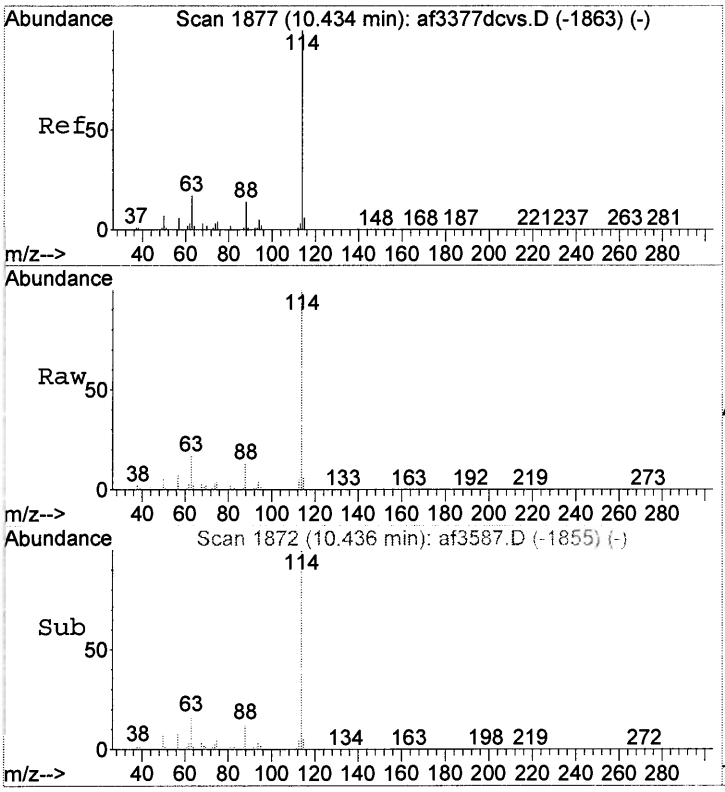


#28
Methyl ethyl ketone
Concen: 0.72 ppbV
RT: 7.75 min Scan# 1388
Delta R.T. 0.03 min
Lab File: af3587.D
Acq: 21 Nov 11 22:12

Tgt Ion: 43 Resp: 31302

Ion	Ratio	Lower	Upper
43	100		
43	100.0	80.0	120.0
72	26.2	22.6	33.8

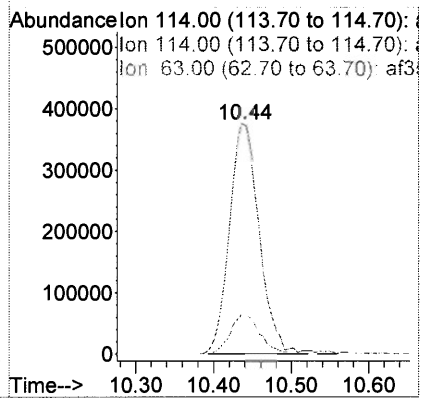


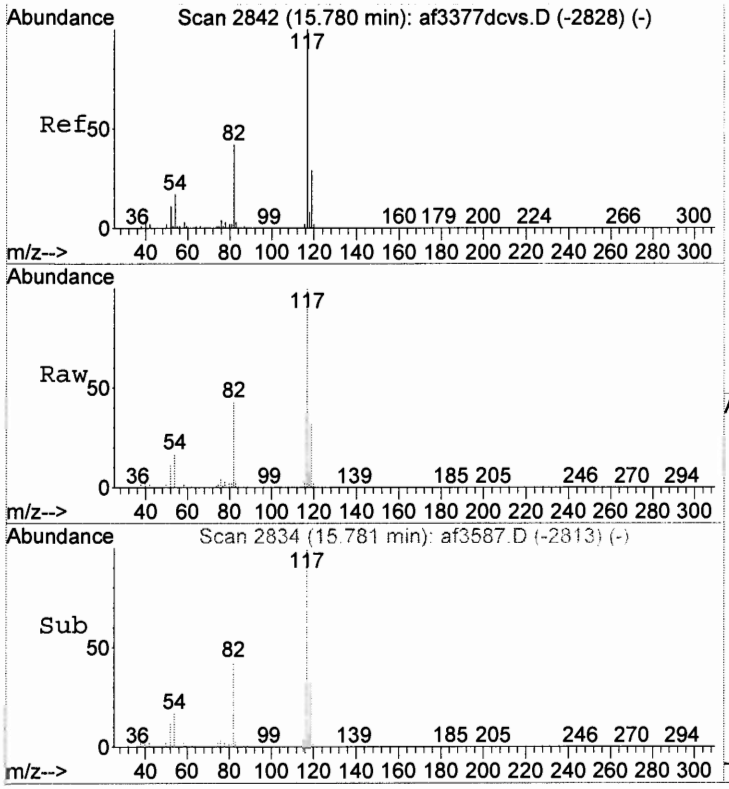


#33
1,4-Difluorobenzene (IS)
Concen: 10.00 ppbV
RT: 10.44 min Scan# 1872
Delta R.T. -0.01 min
Lab File: af3587.D
Acq: 21 Nov 11 22:12

Tgt Ion:114 Resp: 1004609

Ion	Ratio	Lower	Upper
114	100		
114	100.0	80.0	120.0
63	17.1	15.8	23.6

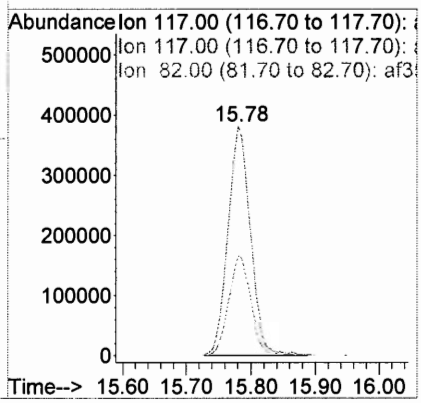


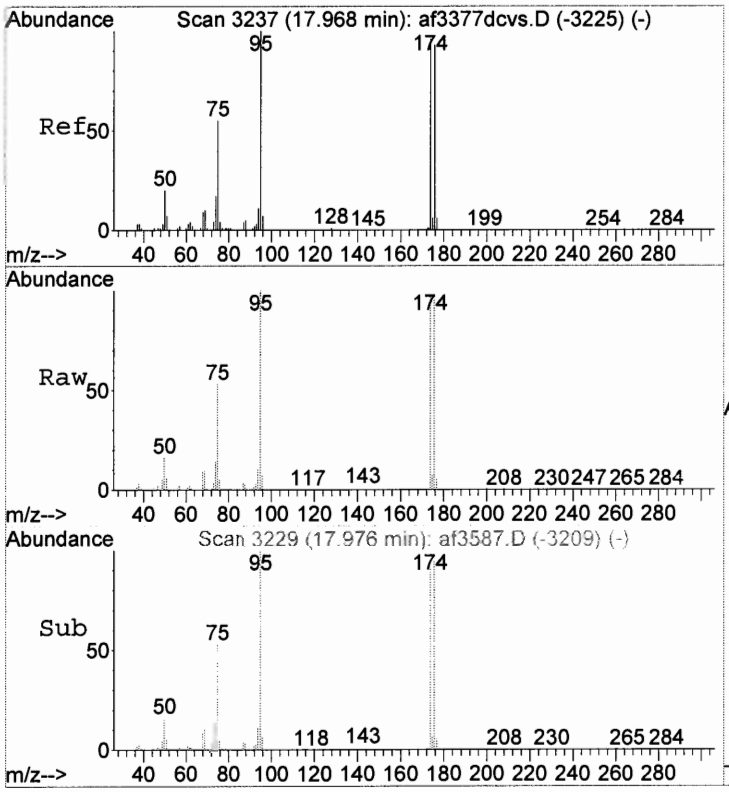


#51
d-5 Chlorobenzene (IS)
Concen: 10.00 ppbV
RT: 15.78 min Scan# 2834
Delta R.T. 0.02 min
Lab File: af3587.D
Acq: 21 Nov 11 22:12

Tgt Ion:117 Resp: 924335

Ion	Ratio	Lower	Upper
117	100		
117	100.0	80.0	120.0
82	0.0	47.3	70.9#

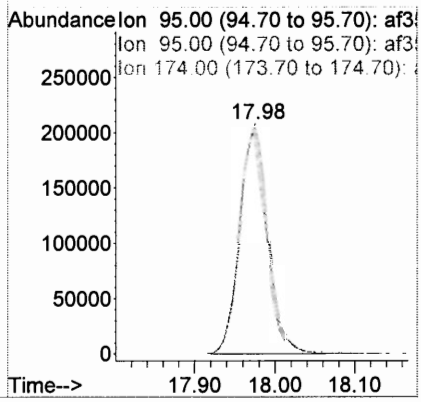




#65
Bromofluorobenzene (tune_std)
Concen: Below ppbV
RT: 17.98 min Scan# 3229
Delta R.T. 0.01 min
Lab File: af3587.D
Acq: 21 Nov 11 22:12

Tgt Ion: 95 Resp: 505668

Ion	Ratio	Lower	Upper
95	100		
95	100.0	80.0	120.0
174	95.8	54.1	81.1#



Integrated Analytical Laboratories LLC

Summary of Results

Environmental Waste Management Associates
100 Misty Lane
Parsippany, NJ 07054
Attn: Al Moffit
Project: JS Popper - 202913
Site: Memorial Middle School

Report Date: 11/28/11
Job Number: E11-11497
Date Received: 11/17/11
Date Analyzed: 11/21/11
Data File: AF3589
Summa ID: 1545

Analysis: Volatile Organic Compounds by EPA Method TO-15

	Sample Name:	SS-2		Reporting	
	IAL ID:	E11-11497-02		Limits	
Compound	**CAS #**	**ppbv**	**ug/m3**	**ppbv**	**ug/m3**
Acetone	67-64-1	43	102	4.0	9.5
Allyl chloride	107-05-1	ND	ND	4.0	13
Benzene	71-43-2	ND	ND	4.0	13
Bromodichloromethane	75-27-4	ND	ND	4.0	27
Bromoform	75-25-2	ND	ND	4.0	41
Bromomethane	74-83-9	ND	ND	4.0	16
1,3-Butadiene	106-99-0	ND	ND	4.0	8.9
Chlorobenzene	108-90-7	ND	ND	4.0	18
Chloroethane	75-00-3	ND	ND	4.0	11
Chloroform	67-66-3	ND	ND	4.0	20
Chloromethane	74-87-3	ND	ND	4.0	8.3
Carbon disulfide	75-15-0	ND	ND	4.0	13
Carbon tetrachloride	56-23-5	ND	ND	4.0	25
2-Chlorotoluene	95-49-8	ND	ND	4.0	21
Cyclohexane	110-82-7	ND	ND	4.0	14
Dibromochloromethane	124-48-1	ND	ND	4.0	34
1,2-Dibromoethane	106-93-4	ND	ND	4.0	31
1,2-Dichlorobenzene	95-50-1	ND	ND	4.0	24
1,3-Dichlorobenzene	541-73-1	ND	ND	4.0	24
1,4-Dichlorobenzene	106-46-7	ND	ND	4.0	24
Dichlorodifluoromethane	75-71-8	ND	ND	4.0	20
1,1-Dichloroethane	75-34-3	ND	ND	4.0	16
1,2-Dichloroethane	107-06-2	ND	ND	4.0	16
1,1-Dichloroethene	75-35-4	ND	ND	4.0	16
1,2-Dichloroethene (cis)	156-59-2	ND	ND	4.0	16
1,2-Dichloroethene (trans)	156-60-5	ND	ND	4.0	16
1,2-Dichloropropane	78-87-5	ND	ND	4.0	19
1,3-Dichloropropene (cis)	10061-01-5	ND	ND	4.0	18
1,3-Dichloropropene (trans)	10061-02-6	ND	ND	4.0	18
1,2-Dichlorotetrafluoroethane	76-14-2	ND	ND	4.0	28
Ethylbenzene	100-41-4	ND	ND	4.0	17
4-Ethyltoluene	622-96-8	ND	ND	4.0	20
n-Heptane	142-82-5	ND	ND	4.0	16
1,3-Hexachlorobutadiene	87-68-3	ND	ND	4.0	43
n-Hexane	110-54-3	ND	ND	4.0	14
Methylene chloride	75-09-2	ND	ND	4.0	14
Methyl ethyl ketone	78-93-3	ND	ND	4.0	12
Methyl isobutyl ketone	108-10-1	ND	ND	4.0	16
Methyl tert-butyl ether	1634-04-4	ND	ND	4.0	14
Styrene	100-42-5	ND	ND	4.0	17
Tert-butyl alcohol	75-65-0	ND	ND	4.0	12
1,1,2,2-Tetrachloroethane	79-34-5	ND	ND	4.0	28
Tetrachloroethene	127-18-4	ND	ND	4.0	27
Toluene	108-88-3	ND	ND	4.0	15
1,2,4-Trichlorobenzene	120-82-1	ND	ND	4.0	30
1,1,1-Trichloroethane	71-55-6	ND	ND	4.0	22
1,1,2-Trichloroethane	79-00-5	ND	ND	4.0	22
Trichloroethene	79-01-6	ND	ND	4.0	22
Trichlorofluoromethane	75-69-4	ND	ND	4.0	23
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	ND	4.0	31
1,2,4-Trimethylbenzene	95-63-6	ND	ND	4.0	20
1,3,5-Trimethylbenzene	108-67-8	ND	ND	4.0	20
2,2,4-Trimethylpentane	540-84-1	ND	ND	4.0	19
Vinyl bromide	593-60-2	ND	ND	4.0	18
Vinyl chloride	75-01-4	ND	ND	4.0	10
Xylenes (m&p)	179601-23-1	ND	ND	4.0	17
Xylenes (o)	95-47-6	ND	ND	4.0	17

D = Extra dilution required for this compound

Analyst: J. Schmitt

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\112111\
Data File : af3589.D
Acq On : 21 Nov 11 23:40
Operator : JLS.
Sample : 11497-02 x 10 dil.
Misc : 1545 Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 23 09:45:35 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.36	130	208498	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	989282	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.78	117	908998	10.00	ppbV	0.01

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	480060	9.10	ppbV	0.01

Spiked Amount 10.000 Range 75 - 125 Recovery = 91.00%

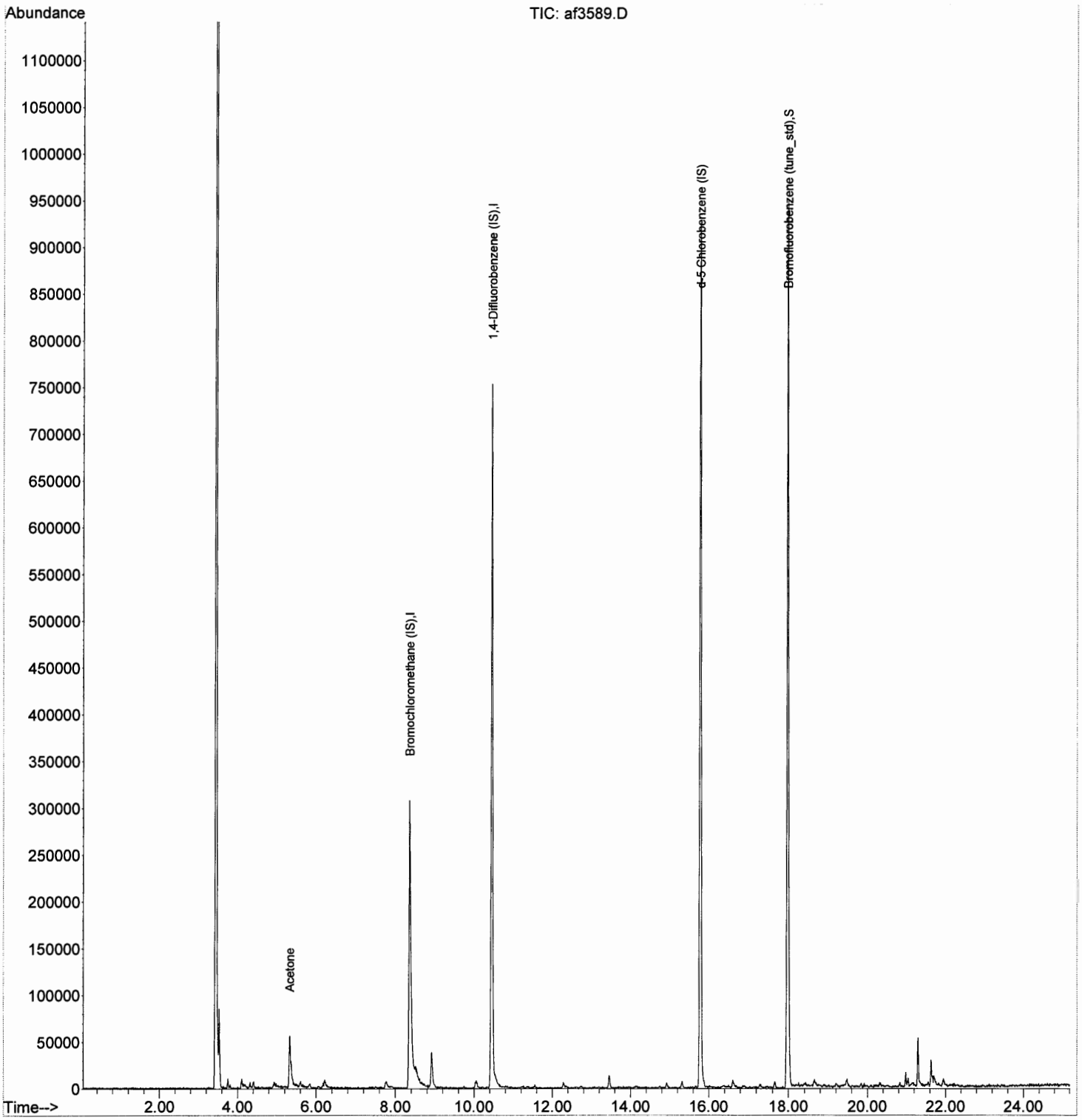
Target Compounds						Qvalue
14) Acetone	5.33	43	117133	4.28	ppbV #	95

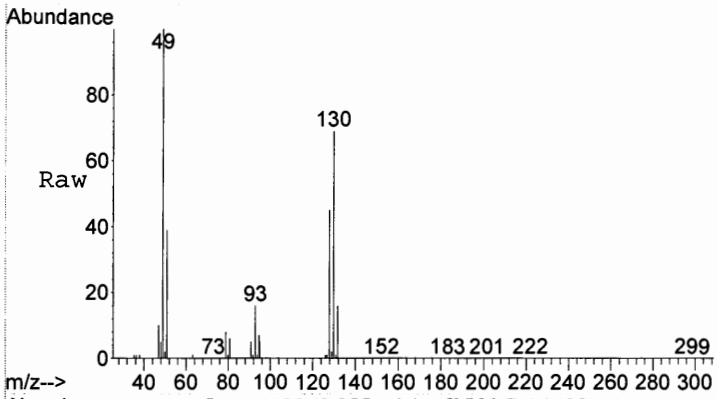
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\112111\
Data File : af3589.D
Acq On : 21 Nov 11 23:40
Operator : JLS.
Sample : 11497-02 x 10 dil.
Misc : 1545 Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 23 09:45:35 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration

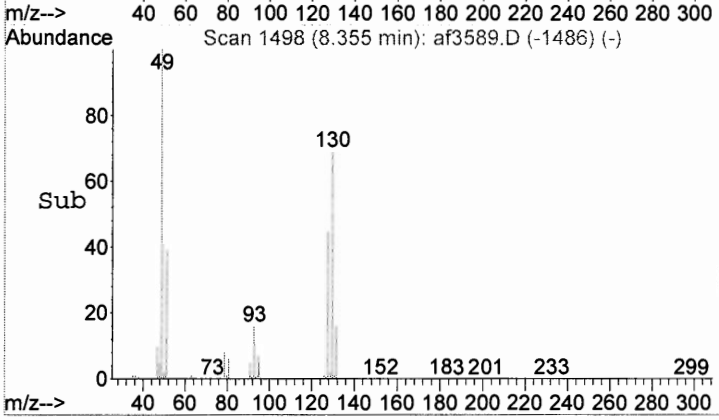


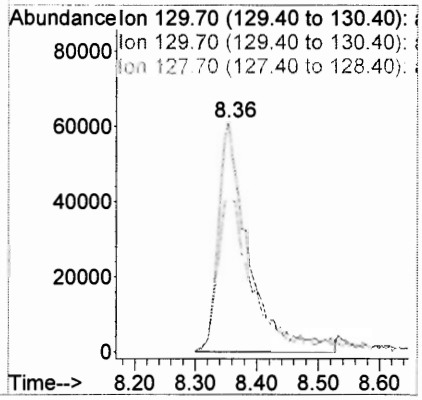


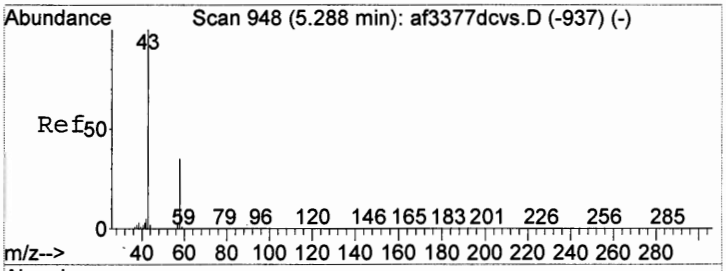
#1
Bromochloromethane (IS)
Concen: 10.00 ppbV
RT: 8.36 min Scan# 1498
Delta R.T. 0.00 min
Lab File: af3589.D
Acq: 21 Nov 11 23:40

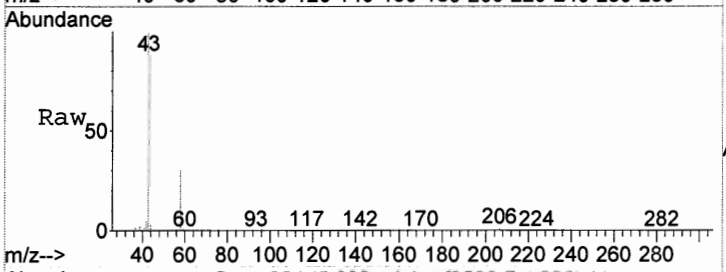
Tgt Ion:130 Resp: 208498

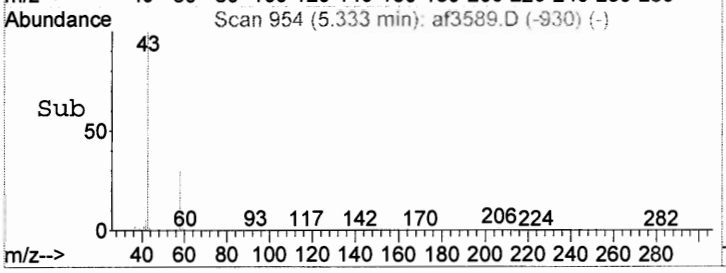
Ion	Ratio	Lower	Upper
130	100		
130	100.0	80.0	120.0
128	76.3	62.6	94.0







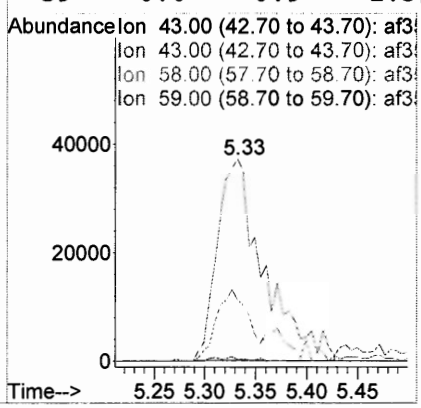


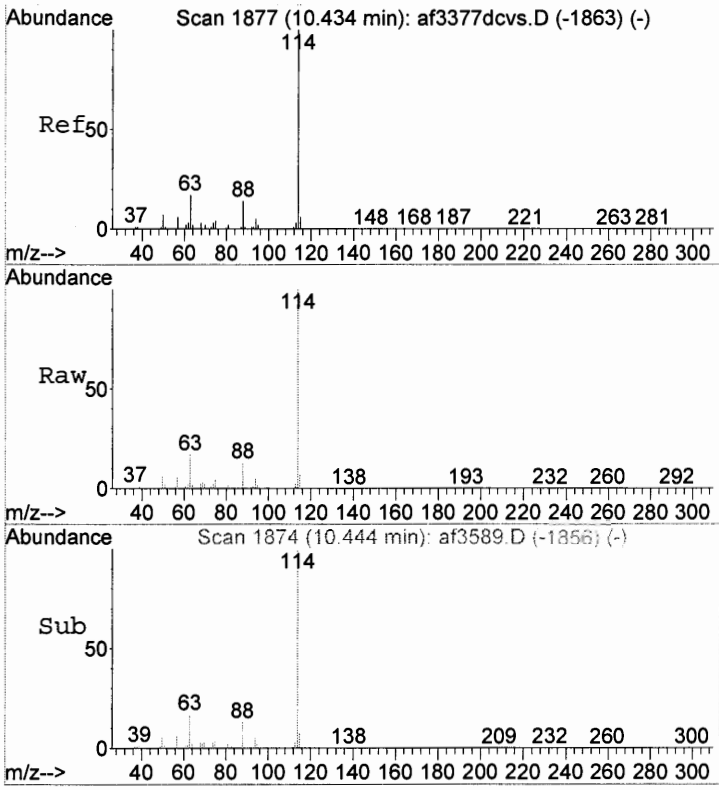


#14
Acetone
Concen: 4.28 ppbV
RT: 5.33 min Scan# 954
Delta R.T. 0.03 min
Lab File: af3589.D
Acq: 21 Nov 11 23:40

Tgt Ion: 43 Resp: 117133

Ion	Ratio	Lower	Upper
43	100		
43	100.0	80.0	120.0
58	24.5	28.0	42.0#
59	0.0	0.9	1.3#

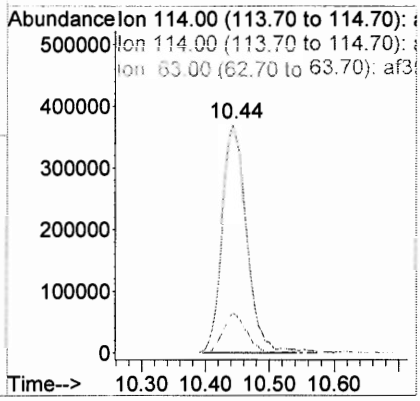


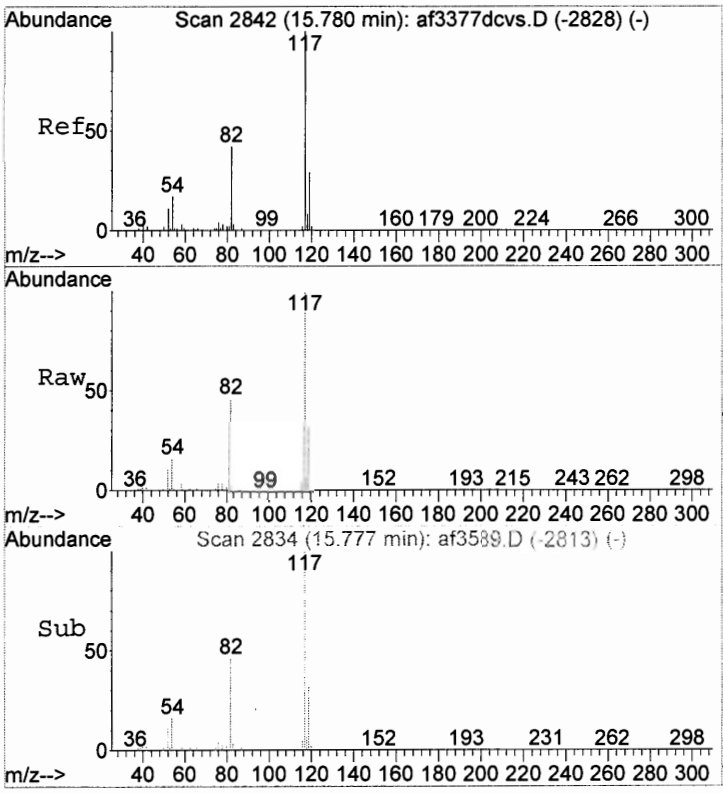


#33
1,4-Difluorobenzene (IS)
Concen: 10.00 ppbV
RT: 10.44 min Scan# 1874
Delta R.T. -0.00 min
Lab File: af3589.D
Acq: 21 Nov 11 23:40

Tgt Ion:114 Resp: 989282

Ion	Ratio	Lower	Upper
114	100		
114	100.0	80.0	120.0
63	16.8	15.8	23.6

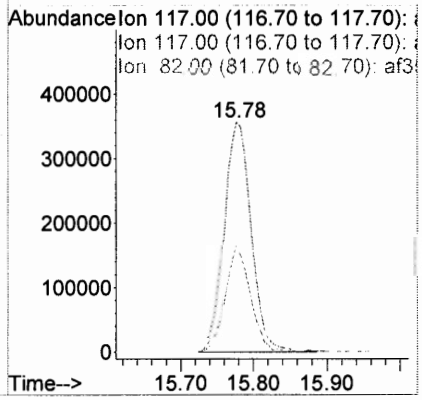


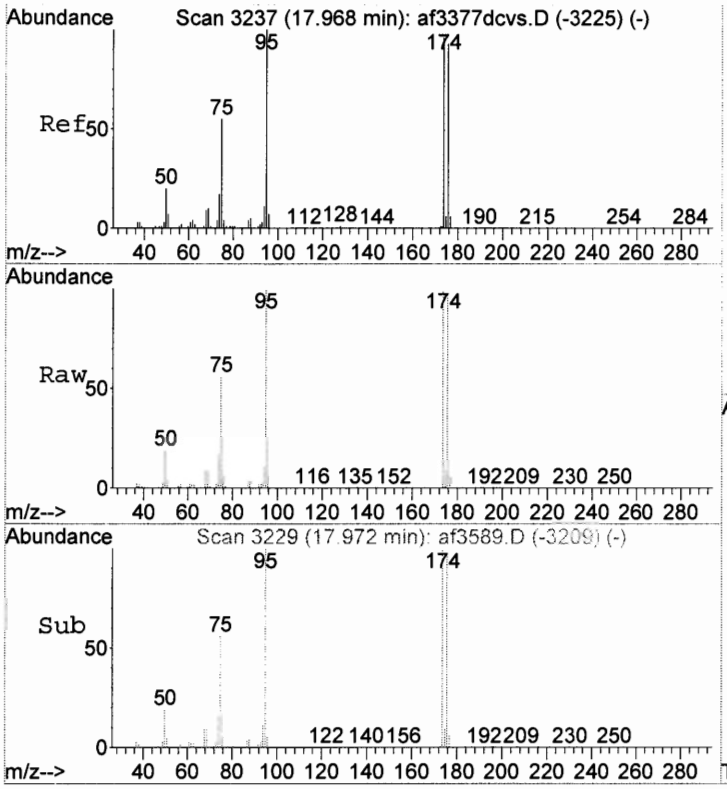


#51
d-5 Chlorobenzene (IS)
Concen: 10.00 ppbV
RT: 15.78 min Scan# 2834
Delta R.T. 0.01 min
Lab File: af3589.D
Acq: 21 Nov 11 23:40

Tgt Ion:117 Resp: 908998

Ion	Ratio	Lower	Upper
117	100		
117	100.0	80.0	120.0
82	0.0	47.3	70.9#

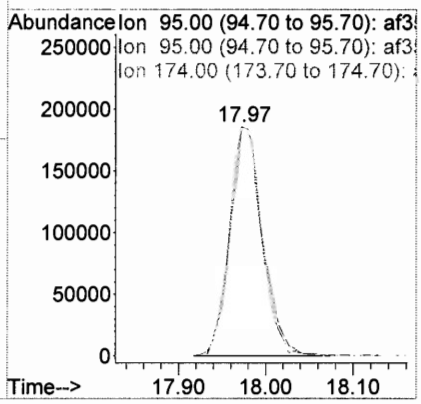




#65
Bromofluorobenzene (tune_std)
Concen: Below ppbV
RT: 17.97 min Scan# 3229
Delta R.T. 0.01 min
Lab File: af3589.D
Acq: 21 Nov 11 23:40

Tgt Ion: 95 Resp: 480060

Ion	Ratio	Lower	Upper
95	100		
95	100.0	80.0	120.0
174	0.0	54.1	81.1#



Section VIII: Standards Data

Initial Calibration Data

Continuing Calibration Data

Initial Calibration Data Summary Report

Initial Calibration Curve: 10/07/2011

Initial Calibration Curve: 10/07/2011 **Date/Time of Calibration:** 10/7/2011 12:20
Instrument: AA **Sample ID:** AF1007.M

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF2990BFB]	10/07/2011 07:55
40 PPBV STD [AF2991STD01]	10/07/2011 08:46
20 PPBV STD [AF2992STD02]	10/07/2011 09:34
10 PPBV STD [AF2993STD03]	10/07/2011 10:17
0.2 PPBV STD [AF2995STD05]	10/07/2011 12:20
2 PPBV STD [AF2994STD04]	10/07/2011 13:44
10 PPBV ICVSS [AF2996ICVSS]	10/07/2011 17:50

RParameter	RRF 0.2ppbv	RRF 2ppbv	RRF 10ppbv	RRF 20ppbv	RRF 40ppbv	Avg ppbv	% RSD
Bromochloromethane	----------ISTD----------						
1,4-Difluorobenzene	----------ISTD----------						
d-5 Chlorobenzene	----------ISTD----------						
Acetone	1.2	1.5	1.2	1.3	1.3	1.3	7.0
Allyl chloride	0.58	0.45	0.40	0.41	0.33	0.43	21
Benzene	1.3	0.96	0.80	0.83	0.82	0.95	23
Bromodichloromethane	0.64	0.46	0.40	0.42	0.42	0.47	21
Bromoform	0.46	0.30	0.27	0.28	0.27	0.31	26
Bromomethane	0.82	0.81	0.65	0.69	0.65	0.72	12
1,3-Butadiene	0.69	0.67	0.57	0.56	0.54	0.61	11
Chlorobenzene	0.78	0.86	0.75	0.78	0.73	0.78	6.5
Chloroethane	0.58	0.58	0.49	0.50	0.49	0.53	9.1
Chloroform	1.9	1.8	1.5	1.5	1.5	1.7	12
Chloromethane	0.92	1.1	0.86	0.93	0.90	0.94	8.8
Carbon disulfide	1.9	2.8	2.4	2.6	2.3	2.4	14
Carbon tetrachloride	0.62	0.44	0.37	0.38	0.37	0.44	24
2-Chlorotoluene	0.81	0.91	0.80	0.87	0.79	0.84	6.2
Cyclohexane	0.38	0.31	0.24	0.26	0.25	0.29	20
Dibromochloromethane	0.63	0.64	0.56	0.61	0.59	0.61	5.6
1,2-Dibromoethane	0.77	0.57	0.51	0.54	0.52	0.58	19
1,2-Dichlorobenzene	0.77	0.56	0.57	0.65	0.57	0.63	14
1,3-Dichlorobenzene	0.66	0.64	0.64	0.71	0.64	0.66	4.3
1,4-Dichlorobenzene	0.94	0.62	0.62	0.70	0.62	0.70	20
Dichlorodifluoromethane	2.6	1.9	1.5	1.6	1.5	1.8	25
1,1-Dichloroethane	2.9	2.1	1.6	1.7	1.7	2.0	26
1,2-Dichloroethane	0.34	0.29	0.25	0.26	0.25	0.28	14
1,1-Dichloroethene	1.6	1.4	1.1	1.2	1.1	1.3	17
1,2-Dichloroethene (trans)	1.7	1.3	1.1	1.1	1.2	1.3	21
1,2-Dichloroethene (trans)	1.5	1.0	0.97	1.1	1.1	1.1	19
1,2-Dichloropropane	0.41	0.32	0.27	0.27	0.26	0.31	20
1,3-Dichloropropene (cis)	0.77	0.55	0.48	0.50	0.49	0.56	22
1,3-Dichloropropene (trans)	0.36	0.49	0.43	0.46	0.44	0.44	11
1,2-Dichlorotetrafluoroethane	1.9	2.2	1.7	1.8	1.6	1.8	12
1,4-Dioxane	0.065	0.16	0.14	0.15	0.15	0.13	29
Ethanol	0.47	0.58	0.50	0.56	0.55	0.53	8.3
Ethylbenzene	1.7	1.2	1.1	1.1	0.90	1.2	25
4-Ethyltoluene	1.4	1.2	1.1	1.2	0.93	1.2	16

***% RSD (Relative Standard Deviation) must be within 30%**
****An exception is made for 2 compounds that must be within 40%**
RRF - Relative Response Factor

Initial Calibration Data Summary Report

Initial Calibration Curve: 10/07/2011

Initial Calibration Curve: 10/07/2011 **Date/Time of Calibration:** 10/7/2011 12:20
Instrument: AA **Sample ID:** AF1007.M

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF2990BFB]	10/07/2011 07:55
40 PPBV STD [AF2991STD01]	10/07/2011 08:46
20 PPBV STD [AF2992STD02]	10/07/2011 09:34
10 PPBV STD [AF2993STD03]	10/07/2011 10:17
0.2 PPBV STD [AF2995STD05]	10/07/2011 12:20
2 PPBV STD [AF2994STD04]	10/07/2011 13:44
10 PPBV ICVSS [AF2996ICVSS]	10/07/2011 17:50

RParameter	RRF 0.2ppbv	RRF 2ppbv	RRF 10ppbv	RRF 20ppbv	RRF 40ppbv	Avg ppbv	% RSD
n-Heptane	0.70	0.49	0.41	0.41	0.40	0.48	27
1,3-Hexachlorobutadiene	0.64	0.65	0.69	0.75	0.64	0.67	6.7
n-Hexane	1.6	1.6	1.3	1.2	1.3	1.4	12
Isopropanol	2.6	2.0	1.5	1.7	1.8	1.9	21
Methylene chloride	2.3	1.6	1.3	1.3	1.3	1.6	28
Methyl ethyl ketone	2.1	2.3	2.0	2.1	2.2	2.1	5.2
Methyl isobutyl ketone	0.71	0.66	0.58	0.62	0.59	0.63	8.0
Methyl methacrylate	0.37	0.35	0.29	0.31	0.30	0.32	11
Methyl tert-butyl ether	4.3	3.3	2.8	2.8	2.9	3.2	20
Styrene	0.98	0.86	0.74	0.80	0.73	0.82	12
Tert-butyl alcohol	1.4	1.2	1.5	1.6	1.7	1.5	13
1,1,2,2-Tetrachloroethane	0.70	0.71	0.61	0.67	0.65	0.67	5.8
Tetrachloroethene	0.40	0.47	0.40	0.42	0.39	0.42	7.6
Tetrahydrofuran	0.43	0.32	0.26	0.27	0.26	0.31	24
Toluene	0.87	0.96	0.80	0.90	0.79	0.87	8.2
1,2,4-Trichlorobenzene	0.21	0.18	0.22	0.28	0.24	0.23	16
1,1,1-Trichloroethane	0.65	0.44	0.37	0.38	0.38	0.44	27
1,1,2-Trichloroethane	0.44	0.32	0.25	0.27	0.26	0.31	25
Trichloroethene	0.46	0.36	0.30	0.32	0.30	0.35	20
Trichlorofluoromethane	2.0	2.0	1.5	1.5	1.4	1.7	16
1,1,2-Trichloro-1,2,2-trifluoroethane	1.9	1.7	1.4	1.5	1.4	1.6	14
1,2,4-Trimethylbenzene	0.76	0.60	0.55	0.64	0.56	0.62	14
1,3,5-Trimethylbenzene	0.68	0.71	0.62	0.71	0.65	0.67	6.1
2,2,4-Trimethylpentane	1.8	1.3	1.1	1.1	1.00	1.2	26
Vinyl bromide	0.89	0.81	0.69	0.74	0.76	0.78	9.6
Vinyl chloride	1.4	0.98	0.87	0.90	0.87	1.0	23
Xylenes (m&p)	1.3	0.93	0.79	0.88	0.67	0.91	25
Xylenes (o)	0.71	0.96	0.81	0.89	0.81	0.84	11

***% RSD (Relative Standard Deviation) must be within 30%**
****An exception is made for 2 compounds that must be within 40%**
RRF - Relative Response Factor

Response Factor Report DSQ.

Method Path : C:\MSDCHEM\1\METHODS\
Method File : AF1007.M
Title : TO-15 on the Finnigan TraceGC / Trace DSQ
Last Update : Tue Oct 11 08:30:39 2011
Response Via : Initial Calibration

Calibration Files
0.2 =af2995std05.D 2 =af2994std04.D 10 =af2993std03.D
20 =af2992std02.D 40 =af2991std01.D =

		Compound	0.2	2	10	20	40	Avg	%RSD
1)	I	Bromochloromethane (I ----------ISTD----------							
2)		Propene	0.935	0.756	0.649	0.660	0.622	0.724	17.69
3)		Dichlorodifluorom	2.605	1.890	1.534	1.645	1.475	1.830	25.22
4)		Chloromethane	0.915	1.078	0.860	0.932	0.904	0.938	8.84
5)		1,2-Dichlorotetra	1.905	2.178	1.688	1.788	1.625	1.837	11.87
6)		Vinyl chloride	1.418	0.980	0.865	0.904	0.871	1.008	23.22
7)		1,3-Butadiene	0.691	0.668	0.570	0.561	0.536	0.605	11.49
8)		n-Butane	1.569	1.620	1.325	1.420	1.325	1.452	9.43
9)		Bromomethane	0.823	0.809	0.648	0.687	0.648	0.723	11.98
10)		Chloroethane	0.583	0.582	0.490	0.502	0.492	0.530	9.10
11)		Ethanol	0.473	0.577	0.499	0.563	0.550	0.532	8.32
12)		Bromoethene	0.888	0.807	0.688	0.744	0.759	0.777	9.65
13)		Acrolein	0.168	0.250	0.273	0.309	0.317	0.263	22.80
14)		Acetone	1.248	1.459	1.220	1.322	1.316	1.313	7.04
15)		Trichlorofluorome	2.016	1.972	1.542	1.511	1.423	1.693	16.48
16)		Isopropanol	2.594	2.021	1.549	1.652	1.840	1.931	21.35
17)		n-Pentane	1.913	1.704	1.308	1.425	1.404	1.551	16.12
18)		1,1-Dichloroethen	1.635	1.385	1.110	1.203	1.139	1.294	16.86
19)		Tert-butyl alcoho	1.422	1.188	1.475	1.573	1.697	1.471	12.92
20)		Methylene chlorid	2.308	1.614	1.252	1.346	1.275	1.559	28.41
21)		Allyl chloride	0.575	0.449	0.402	0.408	0.329	0.433	20.88
22)		1,1,2-Trichloro-1	1.927	1.746	1.409	1.490	1.447	1.603	13.95
23)		Carbon disulfide	1.946	2.827	2.368	2.568	2.328	2.407	13.50
24)		1,2-Dichloroethen	1.523	1.045	0.966	1.052	1.097	1.136	19.48
25)		1,1-Dichloroethan	2.883	2.106	1.605	1.704	1.706	2.001	26.46
26)		Methyl tert-butyl	4.269	3.277	2.758	2.791	2.872	3.193	19.92
27)		Vinyl acetate	2.170	1.556	1.542	1.555	1.655	1.695	15.87
28)		Methyl ethyl keto	2.106	2.315	2.012	2.104	2.156	2.139	5.21
29)		1,2-Dichloroethen	1.703	1.322	1.089	1.051	1.177	1.268	20.85
30)		Ethyl acetate	0.353	0.343	0.320	0.332	0.357	0.341	4.46
31)		n-Hexane	1.562	1.555	1.254	1.227	1.315	1.383	11.83
32)		Chloroform	1.936	1.807	1.514	1.524	1.546	1.665	11.64
33)	I	1,4-Difluorobenzene (----------ISTD----------							
34)		Tetrahydrofuran	0.430	0.315	0.257	0.269	0.264	0.307	23.64
35)		1,2-Dichloroethan	0.337	0.291	0.246	0.258	0.254	0.277	13.61
36)		1,1,1-Trichloroet	0.648	0.444	0.367	0.382	0.379	0.444	26.52
37)		Benzene	1.325	0.957	0.801	0.826	0.824	0.947	23.27
38)		Carbon tetrachlor	0.617	0.443	0.367	0.376	0.372	0.435	24.41
39)		Cyclohexane	0.380	0.306	0.244	0.256	0.251	0.288	19.99
40)		1,2-Dichloropropa	0.411	0.319	0.267	0.272	0.264	0.307	20.36
41)		Bromodichlorometh	0.643	0.463	0.402	0.416	0.417	0.468	21.44
42)		1,4-Dioxane	0.065	0.156	0.140	0.148	0.145	0.131	28.58
43)		Trichloroethene	0.462	0.361	0.299	0.315	0.301	0.347	19.75
44)		2,2,4-Trimethylpe	1.777	1.293	1.052	1.090	0.997	1.242	25.72
45)		Methyl methacryla	0.368	0.350	0.290	0.313	0.297	0.324	10.50
46)		n-Heptane	0.702	0.485	0.405	0.412	0.395	0.480	26.93
47)		cis-1,3-Dichlorop	0.771	0.554	0.477	0.499	0.494	0.559	21.84
48)		Methyl isobutyl k	0.705	0.658	0.583	0.620	0.590	0.631	8.04
49)		trans-1,3-Dichlor	0.362	0.491	0.432	0.455	0.442	0.437	10.86
50)		1,1,2-Trichloroet	0.435	0.319	0.253	0.268	0.260	0.307	24.71
51)		d-5 Chlorobenzene (IS ----------ISTD----------							
52)		Toluene	0.867	0.964	0.804	0.904	0.791	0.866	8.26
53)		Methyl n-butyl ke	0.526	0.665	0.622	0.703	0.676	0.639	10.84

Response Factor Report DSQ.

Method Path : C:\MSDCHEM\1\METHODS\
Method File : AF1007.M
Title : TO-15 on the Finnigan TraceGC / Trace DSQ
Last Update : Tue Oct 11 08:30:39 2011
Response Via : Initial Calibration

Calibration Files
0.2 =af2995std05.D 2 =af2994std04.D 10 =af2993std03.D
20 =af2992std02.D 40 =af2991std01.D =

		Compound	0.2	2	10	20	40	Avg	%RSD
54)		Dibromochlorometh	0.633	0.644	0.560	0.607	0.585	0.606	5.69
55)		1,2-Dibromoethane	0.772	0.569	0.510	0.544	0.515	0.582	18.68
56)		Tetrachloroethene	0.403	0.469	0.403	0.423	0.387	0.417	7.62
57)		Chlorobenzene	0.784	0.859	0.745	0.783	0.727	0.780	6.52
58)		Ethylbenzene	1.672	1.231	1.050	1.128	0.896	1.196	24.50
59)		Xylenes (m&p)	1.277	0.931	0.794	0.876	0.667	0.909	25.15
60)		Bromoform	0.459	0.298	0.265	0.282	0.268	0.314	26.02
61)		Styrene	0.983	0.860	0.742	0.802	0.732	0.824	12.49
62)		1,1,2,2-Tetrachlo	0.700	0.706	0.611	0.665	0.650	0.666	5.81
63)		Xylene (o)	0.714	0.955	0.810	0.886	0.813	0.836	10.83
64)		n-Nonane	0.953	0.609	0.518	0.573	0.529	0.637	28.38
65)	S	Bromofluorobenzen	0.564	0.591	0.580	0.594	0.573	0.580	2.13
66)		Cumene	2.048	1.462	1.213	1.335	0.978	1.407	28.45
67)		2-Chlorotoluene	0.808	0.910	0.801	0.869	0.790	0.836	6.20
68)		n-Propylbenzene	1.509	1.532	1.313	1.426	1.035	1.363	14.84
69)		4-Ethyltoluene	1.439	1.202	1.065	1.197	0.926	1.166	16.33
70)		1,3,5-Trimethylbe	0.681	0.712	0.619	0.713	0.645	0.674	6.18
71)		1,2,4-Trimethylbe	0.758	0.598	0.551	0.639	0.559	0.621	13.57
72)		Benzyl chloride	0.613	0.809	1.033	1.141	0.918	0.903	22.60
73)		1,3-Dichlorobenze	0.657	0.643	0.636	0.706	0.641	0.656	4.35
74)		1,4-Dichlorobenze	0.940	0.619	0.623	0.702	0.619	0.701	19.78
75)		1,2-Dichlorobenze	0.770	0.561	0.574	0.653	0.566	0.625	14.33
76)		1,2,4-Trichlorobe	0.211	0.181	0.217	0.278	0.244	0.226	16.13
77)		1,3-Hexachlorobut	0.644	0.651	0.685	0.749	0.640	0.674	6.77

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2991std01.D
Acq On : 07 Oct 2011 08:46
Operator : JLS.
Sample : 40 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 08:21:26 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Tue Oct 11 08:21:18 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS)	8.33	130	243456	10.00	ppbV		0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	1061370	10.00	ppbV		0.01
51) d-5 Chlorobenzene (IS)	15.73	117	907210	10.00	ppbV		-0.01
System Monitoring Compounds							
65) Bromofluorobenzene (tune_s	17.93	95	519449	9.86	ppbV		-0.01
Spiked Amount 10.000 Range 75 - 125 Recovery = 98.60%							
Target Compounds							Qvalue
2) Propene	3.62	41	605666	34.34	ppbV		98
3) Dichlorodifluoromethane	3.69	85	1435957	32.24	ppbV		100
4) Chloromethane	3.84	50	880446	45.89	ppbV	#	98
5) 1,2-Dichlorotetrafluoroeth	3.95	85	1582843	35.41	ppbV	#	91
6) Vinyl chloride	4.05	62	848420	34.74	ppbV		100
7) 1,3-Butadiene	4.18	54	521931	35.43	ppbV	#	53
8) n-Butane	4.22	43	1290442	36.51	ppbV		99
9) Bromomethane	4.43	94	630639	35.84	ppbV		98
10) Chloroethane	4.60	64	479047	37.14	ppbV		100
11) Ethanol	4.82	45	535992	42.15	ppbV		99
12) Bromoethene	4.95	106	739016	39.06	ppbV		100
13) Acrolein	5.09	56	309137	48.18	ppbV		97
14) Acetone	5.23	43	1281336	40.21	ppbV		100
15) Trichlorofluoromethane	5.37	101	1385515	33.67	ppbV		93
16) Isopropanol	5.52	45	1791400	38.28	ppbV		99
17) n-Pentane	5.72	43	1367671	36.24	ppbV		96
18) 1,1-Dichloroethene	6.00	61	1109044	35.06	ppbV		99
19) Tert-butyl alcohol	6.11	59	1652849	46.04	ppbV		100
20) Methylene chloride	6.14	49	1241742	32.46	ppbV	#	79
21) Allyl chloride	6.25	76	320715	30.34	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.38	101	1408792	36.09	ppbV	#	75
23) Carbon disulfide	6.42	76	2266848	37.66	ppbV	#	97
24) 1,2-Dichloroethene (trans)	7.08	61	1067804	38.59	ppbV		99
25) 1,1-Dichloroethane	7.29	63	1661575	34.11	ppbV		100
26) Methyl tert-butyl ether	7.33	73	2796808	35.97	ppbV		99
27) Vinyl acetate	7.45	43	1611291	39.04	ppbV	#	93
28) Methyl ethyl ketone	7.70	43	2099625	40.33	ppbV		100
29) 1,2-Dichloroethene (cis)	8.15	61	1145725	37.10	ppbV		98
30) Ethyl acetate	8.38	45	347596	51.76	ppbV	#	72
31) n-Hexane	8.36	57	1280942	38.05	ppbV		97
32) Chloroform	8.47	83	1505805	37.14	ppbV		99
34) Tetrahydrofuran	8.87	42	1121448	34.41	ppbV	#	95
35) 1,2-Dichloroethane	9.27	62	1079716	36.68	ppbV	#	88
36) 1,1,1-Trichloroethane	9.53	97	1609776	34.16	ppbV		100
37) Benzene	10.05	78	3499813	34.83	ppbV		99
38) Carbon tetrachloride	10.21	117	1579254	34.20	ppbV		100
39) Cyclohexane	10.35	84	1065658	34.92	ppbV		99
40) 1,2-Dichloropropane	10.97	63	1121497	34.46	ppbV		99
41) Bromodichloromethane	11.20	83	1769330	35.60	ppbV		93
42) 1,4-Dioxane	11.22	88	614322	44.27	ppbV		96
43) Trichloroethene	11.24	130	1276078	34.61	ppbV		100
44) 2,2,4-Trimethylpentane	11.29	57	4234357	32.13	ppbV		98
45) Methyl methacrylate	11.47	41	1259057	36.66	ppbV		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2991std01.D
Acq On : 07 Oct 2011 08:46
Operator : JLS.
Sample : 40 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 08:21:26 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Tue Oct 11 08:21:18 2011
Response via : Initial Calibration

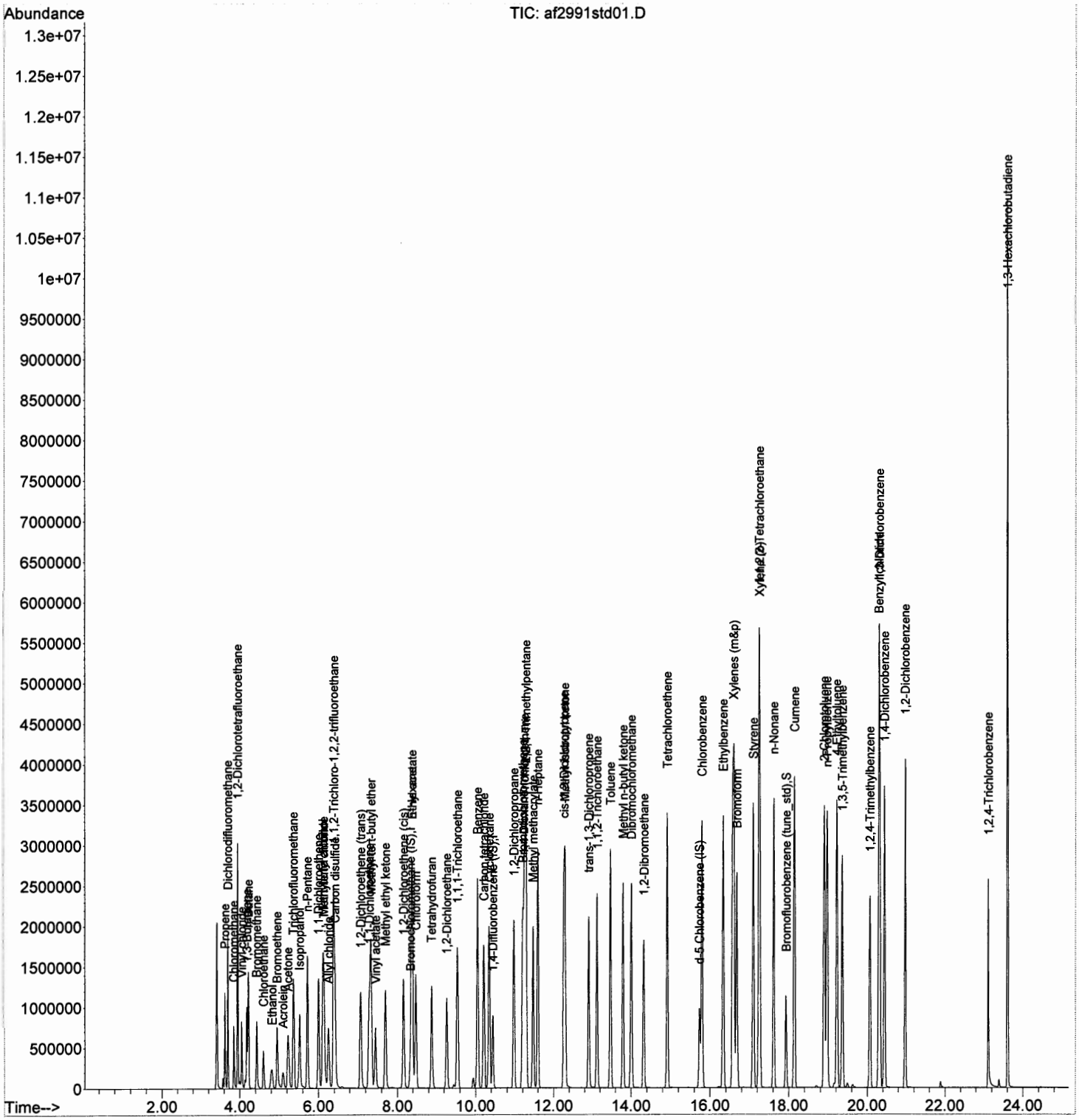
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) n-Heptane	11.59	43	1675256	32.90 ppbV	99
47) cis-1,3-Dichloropropene	12.26	75	2099223	35.37 ppbV	100
48) Methyl isobutyl ketone	12.30	43	2503864	37.38 ppbV #	96
49) trans-1,3-Dichloropropene	12.90	75	1877550	40.51 ppbV #	77
50) 1,1,2-Trichloroethane	13.12	97	1103833	33.88 ppbV	97
52) Toluene	13.48	91	2870842	36.54 ppbV	96
53) Methyl n-butyl ketone	13.79	43	2454888	42.37 ppbV #	82
54) Dibromochloromethane	14.01	129	2121265	38.59 ppbV	99
55) 1,2-Dibromoethane	14.32	107	1868461	35.40 ppbV	99
56) Tetrachloroethene	14.92	166	1403997	37.12 ppbV	98
57) Chlorobenzene	15.80	112	2637931	37.29 ppbV	99
58) Ethylbenzene	16.33	91	3252975	29.99 ppbV	98
59) Xylenes (m&p)	16.59	91	4838331	58.68 ppbV	96
60) Bromoform	16.68	171	970759	34.04 ppbV	100
61) Styrene	17.10	104	2657496	35.56 ppbV	100
62) 1,1,2,2-Tetrachloroethane	17.24	83	2359639	39.03 ppbV	99
63) Xylene (o)	17.26	91	2949868	38.91 ppbV	95
64) n-Nonane	17.62	43	1921331	33.27 ppbV #	75
66) Cumene	18.14	105	3548161	27.80 ppbV	96
67) 2-Chlorotoluene	18.90	91	2866155	37.81 ppbV	98
68) n-Propylbenzene	18.98	91	3757163	30.38 ppbV #	73
69) 4-Ethyltoluene	19.22	105	3359754	31.77 ppbV #	91
70) 1,3,5-Trimethylbenzene	19.36	105	2339801	38.27 ppbV #	92
71) 1,2,4-Trimethylbenzene	20.07	105	2029974	36.03 ppbV	93
72) Benzyl chloride	20.29	91	3331179	40.67 ppbV #	88
73) 1,3-Dichlorobenzene	20.32	146	2324385	39.03 ppbV	98
74) 1,4-Dichlorobenzene	20.44	146	2244571	35.32 ppbV	98
75) 1,2-Dichlorobenzene	20.98	146	2053247	36.23 ppbV	97
76) 1,2,4-Trichlorobenzene	23.11	180	885257	43.16 ppbV	98
77) 1,3-Hexachlorobutadiene	23.61	225	2320894	37.97 ppbV #	91

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2991std01.D
Acq On : 07 Oct 2011 08:46
Operator : JLS.
Sample : 40 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 08:21:26 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Tue Oct 11 08:21:18 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2992std02.D
Acq On : 07 Oct 2011 09:34
Operator : JLS.
Sample : 20 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 13:34:53 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 13:34:14 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.28	130	225737	10.00	ppbV	-0.07
33) 1,4-Difluorobenzene (IS)	10.43	114	995312	10.00	ppbV	-0.02
51) d-5 Chlorobenzene (IS)	15.78	117	830487	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.98	95	493053	10.23	ppbV	0.02

Spiked Amount 10.000 Range 75 - 125 Recovery = 102.30%

Target Compounds						Qvalue
2) Propene	3.66	41	298071	17.36	ppbV	98
3) Dichlorodifluoromethane	3.74	85	742688	17.98	ppbV	100
4) Chloromethane	3.91	50	420808	18.50	ppbV #	98
5) 1,2-Dichlorotetrafluoroeth	4.02	85	807339	19.47	ppbV #	92
6) Vinyl chloride	4.14	62	408043	19.21	ppbV	99
7) 1,3-Butadiene	4.27	54	253136	16.79	ppbV #	53
8) n-Butane	4.32	43	641168	19.57	ppbV	98
9) Bromomethane	4.54	94	310114	19.05	ppbV	99
10) Chloroethane	4.71	64	226712	20.02	ppbV	100
11) Ethanol	4.91	45	254159	20.42	ppbV	99
12) Bromoethene	5.04	106	335717	19.14	ppbV	99
13) Acrolein	5.18	56	139567	23.65	ppbV	98
14) Acetone	5.30	43	596632	20.86	ppbV	100
15) Trichlorofluoromethane	5.44	101	682048	18.42	ppbV	93
16) Isopropanol	5.58	45	745827	17.75	ppbV	99
17) n-Pentane	5.78	43	643522	20.05	ppbV	95
18) 1,1-Dichloroethene	6.06	61	543063	18.59	ppbV	98
19) Tert-butyl alcohol	6.15	59	710146	21.86	ppbV	100
20) Methylene chloride	6.19	49	607552	20.42	ppbV #	94
21) Allyl chloride	6.30	76	184424	18.85	ppbV	100
22) 1,1,2-Trichloro-1,2,2-trif	6.43	101	672491	20.92	ppbV #	90
23) Carbon disulfide	6.47	76	1159398	21.72	ppbV	99
24) 1,2-Dichloroethene (trans)	7.10	61	474726	19.18	ppbV	99
25) 1,1-Dichloroethane	7.30	63	769385	17.04	ppbV	100
26) Methyl tert-butyl ether	7.34	73	1260253	17.48	ppbV	99
27) Vinyl acetate	7.45	43	702211	18.40	ppbV #	94
28) Methyl ethyl ketone	7.68	43	949839	19.67	ppbV	100
29) 1,2-Dichloroethene (cis)	8.11	61	474696	17.62	ppbV	97
30) Ethyl acetate	8.33	45	149715	18.11	ppbV #	69
31) n-Hexane	8.32	57	554131	17.75	ppbV	97
32) Chloroform	8.43	83	687871	16.79	ppbV	100
34) Tetrahydrofuran	8.84	42	534933	17.51	ppbV #	85
35) 1,2-Dichloroethane	9.24	62	513908	21.68	ppbV #	88
36) 1,1,1-Trichloroethane	9.52	97	760010	17.20	ppbV	99
37) Benzene	10.04	78	1644555	17.45	ppbV	100
38) Carbon tetrachloride	10.20	117	749084	18.12	ppbV	99
39) Cyclohexane	10.33	84	509809	17.81	ppbV	99
40) 1,2-Dichloropropane	10.97	63	540831	17.72	ppbV	99
41) Bromodichloromethane	11.19	83	828496	17.78	ppbV	93
42) 1,4-Dioxane	11.21	88	295117	22.68	ppbV	94
43) Trichloroethene	11.24	130	626884	18.13	ppbV	99
44) 2,2,4-Trimethylpentane	11.28	57	2169449	17.57	ppbV	99
45) Methyl methacrylate	11.46	41	623291	19.35	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2992std02.D
Acq On : 07 Oct 2011 09:34
Operator : JLS.
Sample : 20 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 13:34:53 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 13:34:14 2011
Response via : Initial Calibration

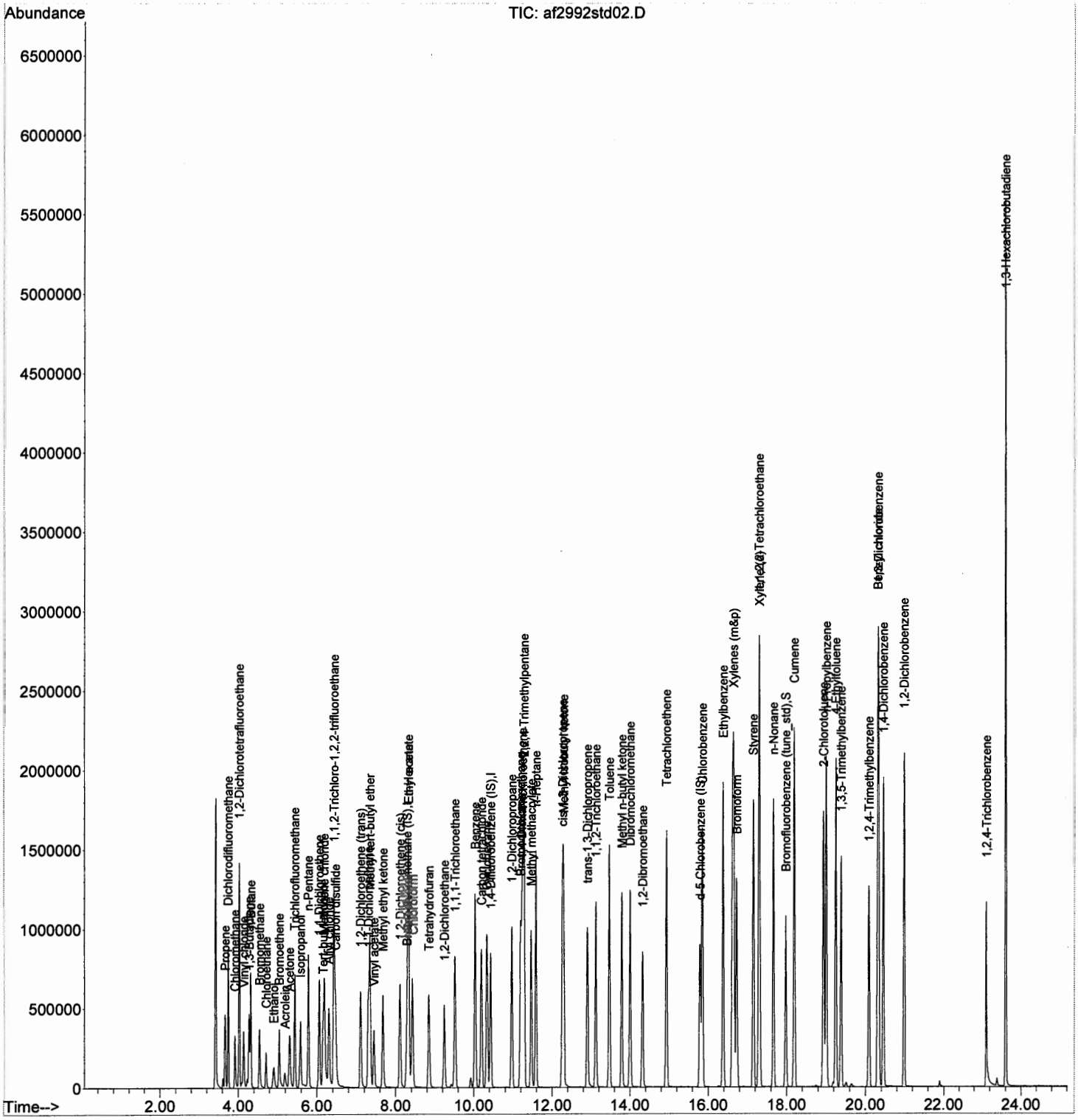
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) n-Heptane	11.59	43	821008	17.19 ppbV	99
47) cis-1,3-Dichloropropene	12.26	75	993380	17.85 ppbV	100
48) Methyl isobutyl ketone	12.30	43	1233385	19.64 ppbV #	96
49) trans-1,3-Dichloropropene	12.90	75	906667	20.86 ppbV #	77
50) 1,1,2-Trichloroethane	13.12	97	533852	17.47 ppbV	97
52) Toluene	13.47	91	1501578	18.72 ppbV	93
53) Methyl n-butyl ketone	13.79	43	1167993	22.02 ppbV #	80
54) Dibromochloromethane	14.00	129	1008610	18.71 ppbV	100
55) 1,2-Dibromoethane	14.32	107	903281	18.67 ppbV	100
56) Tetrachloroethene	14.93	166	702598	17.93 ppbV	98
57) Chlorobenzene	15.85	112	1300618	20.09 ppbV	100
58) Ethylbenzene	16.38	91	1874357	19.10 ppbV #	94
59) Xylenes (m&p)	16.64	91	2911047	38.56 ppbV #	89
60) Bromoform	16.72	171	468385	18.33 ppbV	100
61) Styrene	17.15	104	1331822	19.47 ppbV	99
62) 1,1,2,2-Tetrachloroethane	17.29	83	1103931	18.07 ppbV	100
63) Xylene (o)	17.31	91	1471621	18.83 ppbV	97
64) n-Nonane	17.66	43	951910	18.39 ppbV #	75
66) Cumene	18.19	105	2217431	18.98 ppbV #	91
67) 2-Chlorotoluene	18.94	91	1443490	20.81 ppbV	96
68) n-Propylbenzene	19.01	91	2367997	20.92 ppbV	94
69) 4-Ethyltoluene	19.25	105	1987467	19.49 ppbV #	86
70) 1,3,5-Trimethylbenzene	19.39	105	1184673	20.69 ppbV #	90
71) 1,2,4-Trimethylbenzene	20.08	105	1060853	20.80 ppbV	93
72) Benzyl chloride	20.31	91	1895422	22.10 ppbV	98
73) 1,3-Dichlorobenzene	20.33	146	1171854	21.49 ppbV	98
74) 1,4-Dichlorobenzene	20.45	146	1166528	20.05 ppbV	100
75) 1,2-Dichlorobenzene	20.99	146	1083824	20.88 ppbV	99
76) 1,2,4-Trichlorobenzene	23.11	180	461051	26.06 ppbV	100
77) 1,3-Hexachlorobutadiene	23.61	225	1243390	20.78 ppbV #	90

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2992std02.D
Acq On : 07 Oct 2011 09:34
Operator : JLS.
Sample : 20 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 13:34:53 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 13:34:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2993std03.D
Acq On : 07 Oct 2011 10:17
Operator : JLS.
Sample : 10 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 13:34:21 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 13:34:14 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.35	130	229806	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	976859	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.76	117	843343	10.00	ppbV	0.00
System Monitoring Compounds						
65) Bromofluorobenzene (tune_s	17.96	95	489401	10.00	ppbV	0.00
Spiked Amount 10.000 Range 75 - 125 Recovery = 100.00%						
Target Compounds						Qvalue
2) Propene	3.68	41	149126	8.53	ppbV	100
3) Dichlorodifluoromethane	3.75	85	352564	8.39	ppbV	99
4) Chloromethane	3.92	50	197625	8.53	ppbV #	98
5) 1,2-Dichlorotetrafluoroeth	4.02	85	387938	9.19	ppbV #	91
6) Vinyl chloride	4.14	62	198692	9.19	ppbV	100
7) 1,3-Butadiene	4.28	54	131014	8.54	ppbV #	53
8) n-Butane	4.31	43	304491	9.13	ppbV	97
9) Bromomethane	4.54	94	148861	8.98	ppbV	99
10) Chloroethane	4.71	64	112680	9.78	ppbV	99
11) Ethanol	4.89	45	114586	9.04	ppbV	99
12) Bromoethene	5.04	106	158140	8.85	ppbV	99
13) Acrolein	5.19	56	62623	10.42	ppbV	94
14) Acetone	5.30	43	280434	9.63	ppbV	100
15) Trichlorofluoromethane	5.44	101	354360	9.40	ppbV	92
16) Isopropanol	5.56	45	355887	8.32	ppbV #	94
17) n-Pentane	5.78	43	300668	9.20	ppbV	98
18) 1,1-Dichloroethene	6.05	61	255179	8.58	ppbV	99
19) Tert-butyl alcohol	6.13	59	338884	10.25	ppbV	100
20) Methylene chloride	6.18	49	287777	9.50	ppbV #	94
21) Allyl chloride	6.30	76	92467	9.28	ppbV	100
22) 1,1,2-Trichloro-1,2,2-trif	6.43	101	323721	9.89	ppbV #	90
23) Carbon disulfide	6.47	76	544219	10.01	ppbV #	97
24) 1,2-Dichloroethene (trans)	7.11	61	221950	8.81	ppbV	98
25) 1,1-Dichloroethane	7.32	63	368804	8.02	ppbV	99
26) Methyl tert-butyl ether	7.35	73	633729	8.64	ppbV	99
27) Vinyl acetate	7.46	43	354347	9.12	ppbV #	94
28) Methyl ethyl ketone	7.71	43	462381	9.41	ppbV	100
29) 1,2-Dichloroethene (cis)	8.17	61	250250	9.12	ppbV	98
30) Ethyl acetate	8.40	45	73547	8.74	ppbV #	61
31) n-Hexane	8.38	57	288184	9.07	ppbV	96
32) Chloroform	8.48	83	347969	8.34	ppbV	100
34) Tetrahydrofuran	8.88	42	251117	8.37	ppbV #	96
35) 1,2-Dichloroethane	9.28	62	239876	10.31	ppbV #	88
36) 1,1,1-Trichloroethane	9.55	97	358629	8.27	ppbV	99
37) Benzene	10.05	78	782246	8.46	ppbV	100
38) Carbon tetrachloride	10.21	117	358890	8.85	ppbV	100
39) Cyclohexane	10.35	84	238170	8.48	ppbV	99
40) 1,2-Dichloropropane	10.98	63	260871	8.71	ppbV	98
41) Bromodichloromethane	11.20	83	393037	8.59	ppbV	93
42) 1,4-Dioxane	11.23	88	136900	10.72	ppbV	94
43) Trichloroethene	11.25	130	292050	8.61	ppbV	99
44) 2,2,4-Trimethylpentane	11.29	57	1027202	8.47	ppbV	100
45) Methyl methacrylate	11.48	41	283653	8.97	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2993std03.D
Acq On : 07 Oct 2011 10:17
Operator : JLS.
Sample : 10 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 13:34:21 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 13:34:14 2011
Response via : Initial Calibration

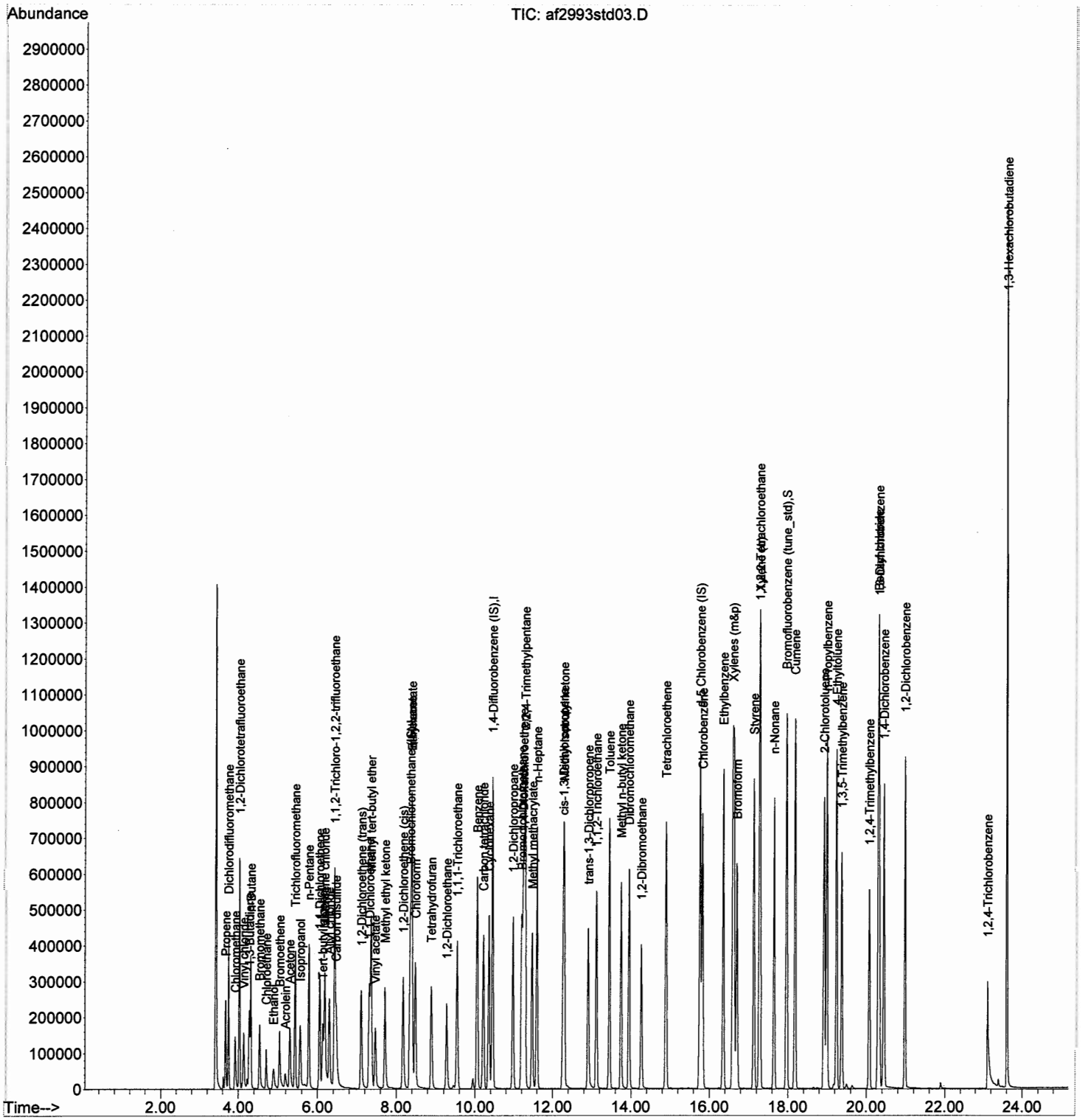
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) n-Heptane	11.60	43	395421	8.44	ppbV		99
47) cis-1,3-Dichloropropene	12.27	75	465864	8.53	ppbV		100
48) Methyl isobutyl ketone	12.30	43	569459	9.24	ppbV	#	96
49) trans-1,3-Dichloropropene	12.90	75	422191	9.90	ppbV	#	77
50) 1,1,2-Trichloroethane	13.11	97	247331	8.25	ppbV		97
52) Toluene	13.45	91	678138	8.33	ppbV		93
53) Methyl n-butyl ketone	13.75	43	524498	9.74	ppbV	#	80
54) Dibromochloromethane	13.95	129	472439	8.63	ppbV		100
55) 1,2-Dibromoethane	14.26	107	430382	8.76	ppbV		100
56) Tetrachloroethene	14.89	166	339841	8.54	ppbV		98
57) Chlorobenzene	15.82	112	628285	9.55	ppbV		99
58) Ethylbenzene	16.36	91	885660	8.89	ppbV	#	94
59) Xylenes (m&p)	16.60	91	1338614	17.46	ppbV	#	89
60) Bromoform	16.70	171	223875	8.63	ppbV		100
61) Styrene	17.13	104	625347	9.00	ppbV		99
62) 1,1,2,2-Tetrachloroethane	17.27	83	515484	8.31	ppbV		100
63) Xylene (o)	17.29	91	683238	8.61	ppbV		97
64) n-Nonane	17.65	43	437144	8.32	ppbV	#	77
66) Cumene	18.18	105	1023018	8.62	ppbV	#	76
67) 2-Chlorotoluene	18.93	91	675199	9.59	ppbV		96
68) n-Propylbenzene	19.00	91	1107354	9.63	ppbV		94
69) 4-Ethyltoluene	19.24	105	898005	8.67	ppbV	#	86
70) 1,3,5-Trimethylbenzene	19.37	105	522028	8.98	ppbV	#	92
71) 1,2,4-Trimethylbenzene	20.08	105	464758	8.97	ppbV		93
72) Benzyl chloride	20.30	91	870859	10.00	ppbV		98
73) 1,3-Dichlorobenzene	20.32	146	536575	9.69	ppbV		99
74) 1,4-Dichlorobenzene	20.44	146	525129	8.89	ppbV		100
75) 1,2-Dichlorobenzene	20.98	146	484076	9.19	ppbV		99
76) 1,2,4-Trichlorobenzene	23.11	180	183196	10.20	ppbV		98
77) 1,3-Hexachlorobutadiene	23.60	225	577988	9.51	ppbV	#	84

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2993std03.D
Acq On : 07 Oct 2011 10:17
Operator : JLS.
Sample : 10 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 13:34:21 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 13:34:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2994std04.D
Acq On : 07 Oct 11 13:44
Operator : JLS.
Sample : 2 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 08:30:25 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Tue Oct 11 08:28:51 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.35	130	217763	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.43	114	958068	10.00	ppbV	-0.01
51) d-5 Chlorobenzene (IS)	15.78	117	878538	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	519408	10.19	ppbV	0.01

Spiked Amount 10.000 Range 75 - 125 Recovery = 101.90%

Target Compounds						Qvalue
2) Propene	3.69	41	32933	2.09	ppbV	98
3) Dichlorodifluoromethane	3.76	85	82334	2.07	ppbV	100
4) Chloromethane	3.94	50	46958	2.30	ppbV	99
5) 1,2-Dichlorotetrafluoroeth	4.04	85	94850	2.37	ppbV #	92
6) Vinyl chloride	4.16	62	42698	1.95	ppbV	100
7) 1,3-Butadiene	4.30	54	29085	2.21	ppbV #	53
8) n-Butane	4.32	43	70537	2.23	ppbV	98
9) Bromomethane	4.55	94	35219	2.24	ppbV	98
10) Chloroethane	4.72	64	25343	2.20	ppbV	99
11) Ethanol	4.89	45	25116	2.74	ppbV #	92
12) Bromoethene	5.07	106	35167	2.08	ppbV	99
13) Acrolein	5.20	56	10904	1.90	ppbV	93
14) Acetone	5.30	43	63553	2.22	ppbV	98
15) Trichlorofluoromethane	5.44	101	85870	2.33	ppbV	93
16) Isopropanol	5.55	45	88014	2.09	ppbV #	96
17) n-Pentane	5.79	43	74201	2.20	ppbV	94
18) 1,1-Dichloroethene	6.07	61	60324	2.14	ppbV	96
19) Tert-butyl alcohol	6.13	59	51719	1.61	ppbV	100
20) Methylene chloride	6.19	49	70297	2.07	ppbV #	95
21) Allyl chloride	6.30	76	19574	2.08	ppbV	100
22) 1,1,2-Trichloro-1,2,2-trif	6.43	101	76036	2.18	ppbV #	90
23) Carbon disulfide	6.50	76	123114	2.35	ppbV #	97
24) 1,2-Dichloroethene (trans)	7.11	61	45510	1.84	ppbV	99
25) 1,1-Dichloroethane	7.31	63	91731	2.11	ppbV	100
26) Methyl tert-butyl ether	7.36	73	142725	2.05	ppbV	99
27) Vinyl acetate	7.47	43	67753	1.84	ppbV #	93
28) Methyl ethyl ketone	7.71	43	100831	2.17	ppbV	100
29) 1,2-Dichloroethene (cis)	8.17	61	57581	2.08	ppbV	97
30) Ethyl acetate	8.40	45	14924	2.01	ppbV #	70
31) n-Hexane	8.38	57	67741	2.25	ppbV	97
32) Chloroform	8.47	83	78699	2.17	ppbV	99
34) Tetrahydrofuran	8.89	42	60338	2.05	ppbV #	96
35) 1,2-Dichloroethane	9.26	62	55814	2.10	ppbV #	95
36) 1,1,1-Trichloroethane	9.53	97	85110	2.00	ppbV	99
37) Benzene	10.05	78	183356	2.02	ppbV	100
38) Carbon tetrachloride	10.21	117	84820	2.04	ppbV	99
39) Cyclohexane	10.35	84	58698	2.13	ppbV	98
40) 1,2-Dichloropropane	10.98	63	61201	2.08	ppbV	99
41) Bromodichloromethane	11.20	83	88660	1.98	ppbV	93
42) 1,4-Dioxane	11.22	88	29883	2.39	ppbV	93
43) Trichloroethene	11.24	130	69139	2.08	ppbV	98
44) 2,2,4-Trimethylpentane	11.28	57	247737	2.08	ppbV	99
45) Methyl methacrylate	11.47	41	66996	2.16	ppbV	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2994std04.D
Acq On : 07 Oct 11 13:44
Operator : JLS.
Sample : 2 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 08:30:25 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Tue Oct 11 08:28:51 2011
Response via : Initial Calibration

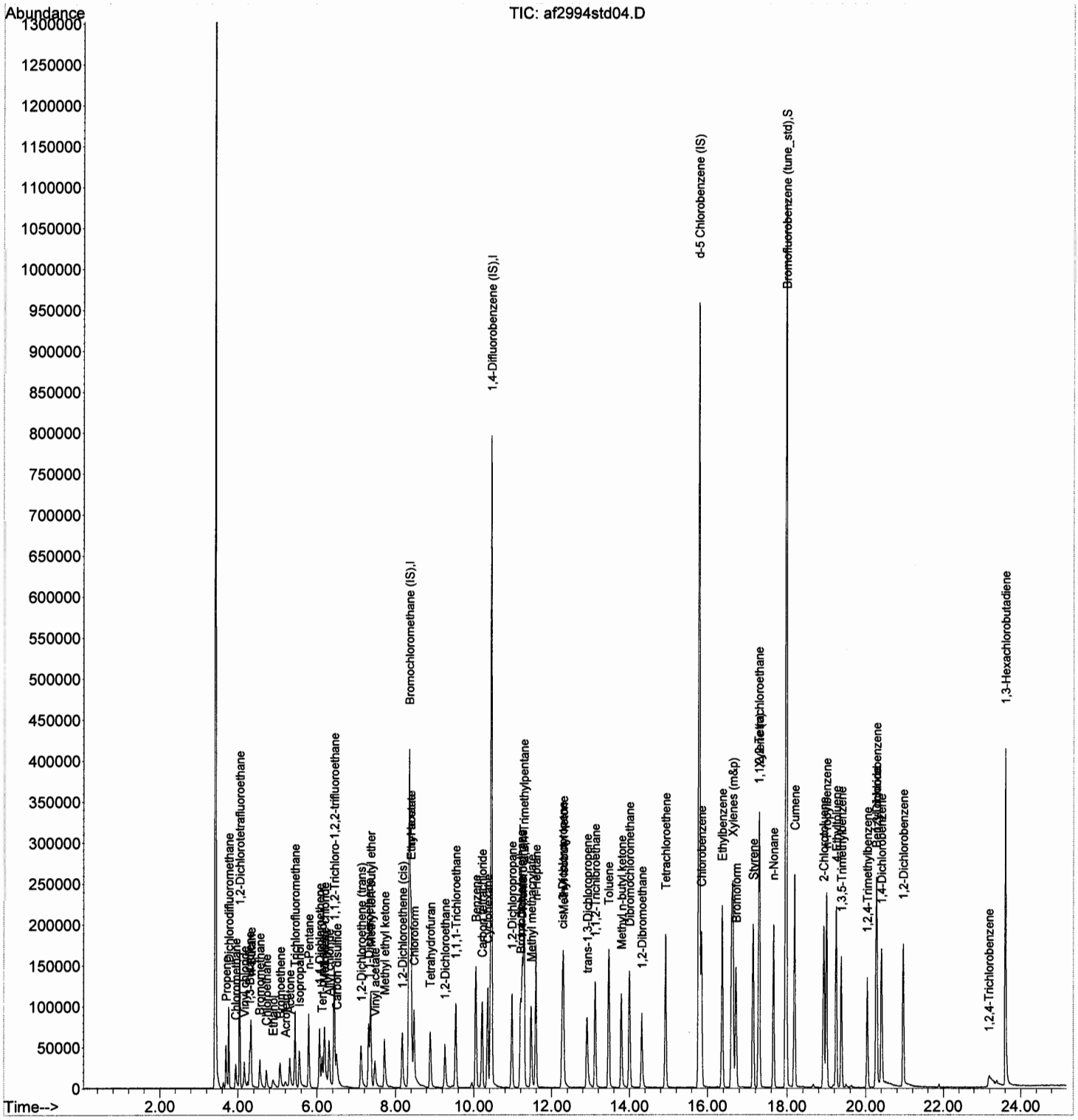
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) n-Heptane	11.59	43	92995	2.02 ppbV	98
47) cis-1,3-Dichloropropene	12.27	75	106141	1.98 ppbV	100
48) Methyl isobutyl ketone	12.30	43	126139	2.09 ppbV #	95
49) trans-1,3-Dichloropropene	12.91	75	94167	2.25 ppbV #	92
50) 1,1,2-Trichloroethane	13.11	97	61120	2.08 ppbV	96
52) Toluene	13.46	91	169371	2.23 ppbV	94
53) Methyl n-butyl ketone	13.79	43	116872	2.08 ppbV #	80
54) Dibromochloromethane	14.00	129	113202	2.13 ppbV	100
55) 1,2-Dibromoethane	14.31	107	99959	1.96 ppbV	100
56) Tetrachloroethene	14.93	166	82380	2.25 ppbV	99
57) Chlorobenzene	15.85	112	150947	2.20 ppbV	100
58) Ethylbenzene	16.37	91	216298	2.06 ppbV #	94
59) Xylenes (m&p)	16.63	91	327172	4.10 ppbV #	58
60) Bromoform	16.72	171	52380	1.90 ppbV	100
61) Styrene	17.14	104	151183	2.09 ppbV	99
62) 1,1,2,2-Tetrachloroethane	17.28	83	124032	2.12 ppbV	99
63) Xylene (o)	17.30	91	167780	2.29 ppbV	96
64) n-Nonane	17.65	43	106981	1.91 ppbV #	77
66) Cumene	18.18	105	256829	2.08 ppbV #	76
67) 2-Chlorotoluene	18.93	91	159892	2.18 ppbV	97
68) n-Propylbenzene	19.00	91	269247	2.25 ppbV	94
69) 4-Ethyltoluene	19.25	105	211199	2.06 ppbV #	86
70) 1,3,5-Trimethylbenzene	19.37	105	125172	2.11 ppbV #	61
71) 1,2,4-Trimethylbenzene	20.04	105	105001	1.92 ppbV	94
72) Benzyl chloride	20.26	91	142171	1.79 ppbV	100
73) 1,3-Dichlorobenzene	20.28	146	112911	1.96 ppbV	99
74) 1,4-Dichlorobenzene	20.40	146	108797	1.77 ppbV	100
75) 1,2-Dichlorobenzene	20.96	146	98590	1.80 ppbV	99
76) 1,2,4-Trichlorobenzene	23.17	180	31746	1.83 ppbV	70
77) 1,3-Hexachlorobutadiene	23.60	225	114419	1.93 ppbV #	88

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2994std04.D
Acq On : 07 Oct 11 13:44
Operator : JLS.
Sample : 2 ppbv std.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 08:30:25 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Tue Oct 11 08:28:51 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2995std05.D
Acq On : 07 Oct 2011 12:20
Operator : JLS.
Sample : 0.2 ppbv std.
Misc : 2882. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 16:04:35 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 16:02:20 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.34	130	212939	10.00	ppbV	-0.01
33) 1,4-Difluorobenzene (IS)	10.43	114	923485	10.00	ppbV	-0.01
51) d-5 Chlorobenzene (IS)	15.78	117	814538	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.98	95	459752	9.72	ppbV	0.02

Spiked Amount 10.000 Range 75 - 125 Recovery = 97.20%

Target Compounds							Qvalue
2) Propene	3.72	41	3982	0.26	ppbV	#	64
3) Dichlorodifluoromethane	3.79	85	11092	0.28	ppbV	#	86
4) Chloromethane	3.98	50	3895	0.23	ppbV	#	93
5) 1,2-Dichlorotetrafluoroeth	4.06	85	8114	0.21	ppbV		99
6) Vinyl chloride	4.18	62	6039	0.28	ppbV		99
7) 1,3-Butadiene	4.32	54	2944	0.23	ppbV	#	53
8) n-Butane	4.35	43	6681	0.22	ppbV	#	86
9) Bromomethane	4.58	94	3505	0.23	ppbV	#	90
10) Chloroethane	4.74	64	2483	0.22	ppbV	#	86
11) Ethanol	4.93	45	2016	0.18	ppbV		98
12) Bromoethene	5.09	106	3780	0.23	ppbV		94
13) Acrolein	5.22	56	714	0.13	ppbV		89
14) Acetone	5.34	43	5317	0.19	ppbV	#	89
15) Trichlorofluoromethane	5.46	101	8586	0.24	ppbV	#	82
16) Isopropanol	5.57	45	11046	0.27	ppbV		100
17) n-Pentane	5.81	43	8145	0.25	ppbV		93
18) 1,1-Dichloroethene	6.07	61	6962	0.25	ppbV		97
19) Tert-butyl alcohol	6.16	59	6054	0.19	ppbV		100
20) Methylene chloride	6.20	49	9831	0.29	ppbV	#	79
21) Allyl chloride	6.32	76	2448	0.26	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.44	101	8205	0.24	ppbV	#	75
23) Carbon disulfide	6.51	76	8287	0.16	ppbV	#	96
24) 1,2-Dichloroethene (trans)	7.12	61	6488	0.27	ppbV		94
25) 1,1-Dichloroethane	7.31	63	12279	0.29	ppbV		98
26) Methyl tert-butyl ether	7.37	73	18180	0.27	ppbV		99
27) Vinyl acetate	7.49	43	9241	0.26	ppbV		98
28) Methyl ethyl ketone	7.73	43	8970	0.20	ppbV		98
29) 1,2-Dichloroethene (cis)	8.17	61	7254	0.27	ppbV		97
30) Ethyl acetate	8.41	45	1503	0.26	ppbV	#	15
31) n-Hexane	8.39	57	6651	0.23	ppbV	#	90
32) Chloroform	8.47	83	8245	0.23	ppbV		100
34) Tetrahydrofuran	8.90	42	7949	0.28	ppbV		97
35) 1,2-Dichloroethane	9.28	62	6230	0.24	ppbV	#	88
36) 1,1,1-Trichloroethane	9.53	97	11962	0.29	ppbV	#	94
37) Benzene	10.04	78	24474	0.28	ppbV		99
38) Carbon tetrachloride	10.21	117	11392	0.28	ppbV	#	52
39) Cyclohexane	10.34	84	7027	0.26	ppbV		94
40) 1,2-Dichloropropane	10.98	63	7585	0.27	ppbV		97
41) Bromodichloromethane	11.19	83	11878	0.27	ppbV		100
42) 1,4-Dioxane	11.25	88	1195	0.10	ppbV	#	59
43) Trichloroethene	11.24	130	8526	0.27	ppbV		99
44) 2,2,4-Trimethylpentane	11.28	57	32817	0.29	ppbV		99
45) Methyl methacrylate	11.48	41	6802	0.23	ppbV	#	55

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2995std05.D
Acq On : 07 Oct 2011 12:20
Operator : JLS.
Sample : 0.2 ppbv std.
Misc : 2882. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 16:04:35 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 16:02:20 2011
Response via : Initial Calibration

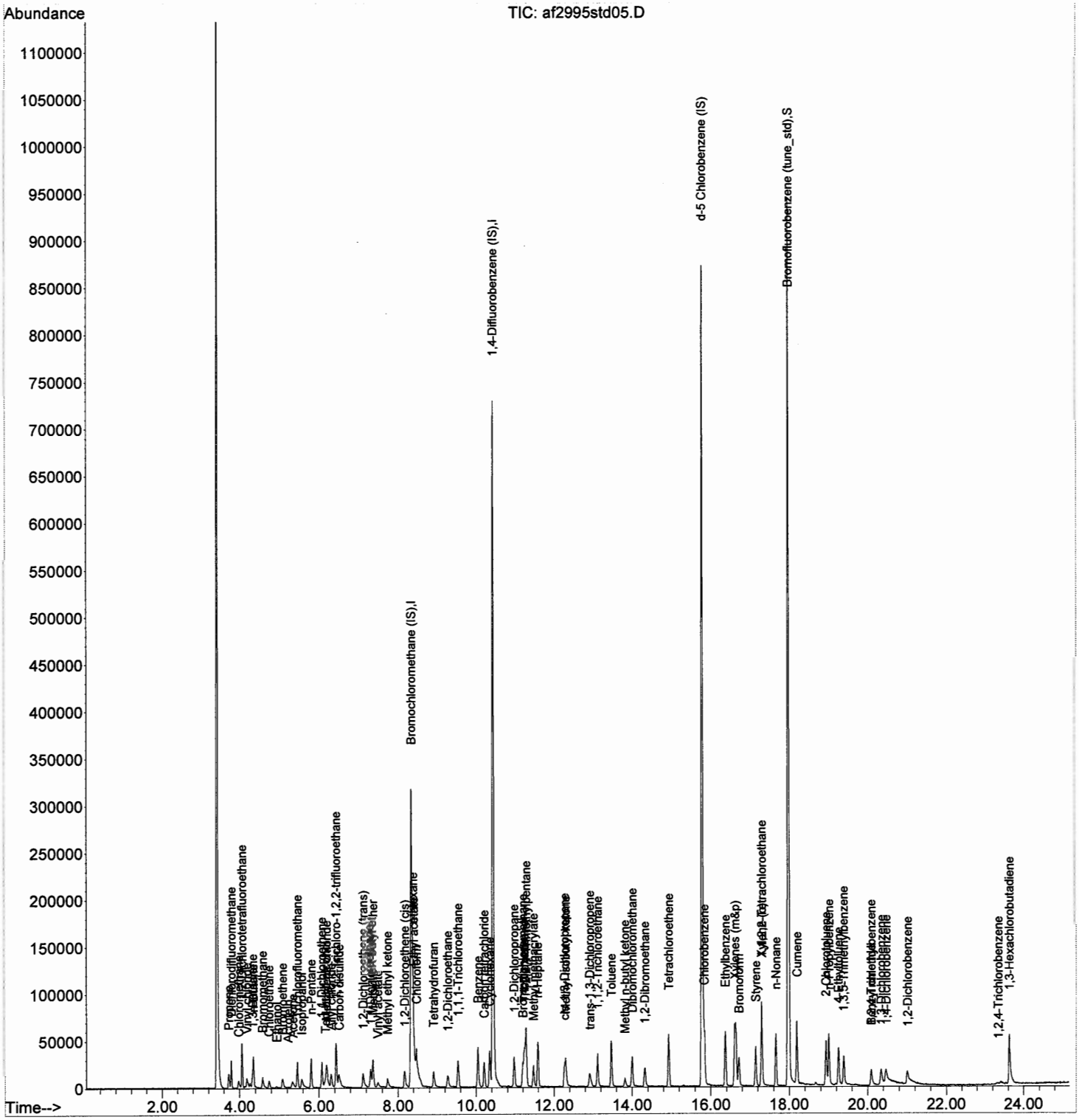
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) n-Heptane	11.59	43	12965	0.29 ppbV	98
47) cis-1,3-Dichloropropene	12.27	75	14247	0.28 ppbV #	92
48) Methyl isobutyl ketone	12.30	43	13013	0.22 ppbV	98
49) trans-1,3-Dichloropropene	12.92	75	6684	0.17 ppbV #	90
50) 1,1,2-Trichloroethane	13.11	97	8026	0.28 ppbV	97
52) Toluene	13.46	91	14123	0.20 ppbV	97
53) Methyl n-butyl ketone	13.81	43	8576	0.16 ppbV	90
54) Dibromochloromethane	14.00	129	10310	0.21 ppbV #	60
55) 1,2-Dibromoethane	14.32	107	12573	0.27 ppbV	98
56) Tetrachloroethene	14.93	166	6559	0.19 ppbV	98
57) Chlorobenzene	15.84	112	12780	0.20 ppbV	99
58) Ethylbenzene	16.37	91	27236	0.28 ppbV #	94
59) Xylenes (m&p)	16.61	91	41609	0.56 ppbV #	89
60) Bromoform	16.72	171	7474	0.29 ppbV	100
61) Styrene	17.15	104	16016	0.24 ppbV	97
62) 1,1,2,2-Tetrachloroethane	17.29	83	11403	0.21 ppbV	96
63) Xylene (o)	17.30	91	11630	0.17 ppbV	99
64) n-Nonane	17.66	43	15531	0.30 ppbV #	80
66) Cumene	18.19	105	33363	0.25 ppbV #	89
67) 2-Chlorotoluene	18.93	91	13167	0.16 ppbV	99
68) n-Propylbenzene	19.01	91	24575	0.19 ppbV	96
69) 4-Ethyltoluene	19.25	105	23450	0.25 ppbV #	83
70) 1,3,5-Trimethylbenzene	19.38	105	11088	0.20 ppbV #	61
71) 1,2,4-Trimethylbenzene	20.09	105	12354	0.24 ppbV	94
72) Benzyl chloride	20.09	91	9989	0.16 ppbV	75
73) 1,3-Dichlorobenzene	20.34	146	10702	0.20 ppbV #	88
74) 1,4-Dichlorobenzene	20.47	146	15315	0.27 ppbV	96
75) 1,2-Dichlorobenzene	21.00	146	12549	0.25 ppbV	100
76) 1,2,4-Trichlorobenzene	23.34	180	3444	0.23 ppbV	94
77) 1,3-Hexachlorobutadiene	23.62	225	10488	0.19 ppbV #	83

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2995std05.D
Acq On : 07 Oct 2011 12:20
Operator : JLS.
Sample : 0.2 ppbv std.
Misc : 2882. Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 10 16:04:35 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Oct 10 16:02:20 2011
Response via : Initial Calibration



Continuing Calibration Data Summary Report

Initial Calibration Curve:	**10/07/2011**	**Date/Time of Calibration:**	**11/7/2011 11:29**
Instrument:	**AA**	**Sample ID:**	**DCS**
Amount of standard injected (ml):	**50**	**Laboratory ID:**	**AF3301DCVS**

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 09:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
CLEAN CAN CERTIFICATION, BATCH MASTER 1402 [AF3306]	11/07/2011 15:31
CLEAN CAN CERTIFICATION, BATCH MASTER 1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 00:59

Compound Name	Average RRF	Standard RRF	% Difference	PassFail	*
Acetone	1.3	1.5	-14	PASS	
Allyl chloride	0.43	0.50	-15	PASS	
Benzene	0.95	1.0	-9.6	PASS	
Bromodichloromethane	0.47	0.50	-7.7	PASS	
Bromoform	0.31	0.30	4.5	PASS	
Bromomethane	0.72	0.92	-27	PASS	
1,3-Butadiene	0.61	0.75	-24	PASS	
Chlorobenzene	0.78	0.90	-15	PASS	
Chloroethane	0.53	0.62	-18	PASS	
Chloroform	1.7	1.9	-14	PASS	
Chloromethane	0.94	1.2	-25	PASS	
Carbon disulfide	2.4	2.5	-2.0	PASS	
Carbon tetrachloride	0.44	0.48	-11	PASS	
2-Chlorotoluene	0.84	0.92	-9.9	PASS	
Cyclohexane	0.29	0.33	-16	PASS	
Dibromochloromethane	0.61	0.64	-5.3	PASS	
1,2-Dibromoethane	0.58	0.59	-1.7	PASS	
1,2-Dichlorobenzene	0.63	0.66	-5.9	PASS	
1,3-Dichlorobenzene	0.66	0.73	-11	PASS	
1,4-Dichlorobenzene	0.70	0.71	-1.3	PASS	
Dichlorodifluoromethane	1.8	2.1	-14	PASS	
1,1-Dichloroethane	2.0	2.1	-6.3	PASS	
1,2-Dichloroethane	0.28	0.32	-14	PASS	
1,1-Dichloroethene	1.3	1.6	-27	PASS	
1,2-Dichloroethene (cis)	1.3	1.4	-12	PASS	
1,2-Dichloroethene (trans)	1.1	1.4	-21	PASS	
1,2-Dichloropropane	0.31	0.33	-6.2	PASS	
1,3-Dichloropropene (cis)	0.56	0.60	-8.1	PASS	
1,3-Dichloropropene (trans)	0.44	0.52	-18	PASS	
1,2-Dichlorotetrafluoroethane	1.8	2.2	-22	PASS	
Ethylbenzene	1.2	1.3	-5.7	PASS	
4-Ethyltoluene	1.2	1.1	4.1	PASS	
n-Heptane	0.48	0.53	-9.8	PASS	
1,3-Hexachlorobutadiene	0.67	0.87	-29	PASS	
n-Hexane	1.4	1.6	-18	PASS	
Methylene chloride	1.6	1.4	7.8	PASS	
Methyl ethyl ketone	2.1	2.4	-11	PASS	
Methyl isobutyl ketone	0.63	0.64	-1.4	PASS	
Methyl tert-butyl ether	3.2	3.4	-5.9	PASS	
Styrene	0.82	0.77	7.2	PASS	
Tert-butyl alcohol	1.5	1.8	-25	PASS	

***%Difference must be within +/- 30%**

RRF - Relative Response Factor

Continuing Calibration Data Summary Report

Initial Calibration Curve:	**10/07/2011**	**Date/Time of Calibration:**	**11/7/2011 11:29**
Instrument:	**AA**	**Sample ID:**	**DCS**
Amount of standard injected (ml):	**50**	**Laboratory ID:**	**AF3301DCVS**

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 09:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
CLEAN CAN CERTIFICATION, BATCH MASTER 1402 [AF3306]	11/07/2011 15:31
CLEAN CAN CERTIFICATION, BATCH MASTER 1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 00:59

Compound Name	Average RRF	Standard RRF	% Difference	PassFail	*
1,1,2,2-Tetrachloroethane	0.67	0.69	-3.2	PASS	
Tetrachloroethene	0.42	0.49	-16	PASS	
Toluene	0.87	1.0	-18	PASS	
1,2,4-Trichlorobenzene	0.23	0.27	-20	PASS	
1,1,1-Trichloroethane	0.44	0.48	-8.3	PASS	
1,1,2-Trichloroethane	0.31	0.32	-3.3	PASS	
Trichloroethene	0.35	0.39	-12	PASS	
Trichlorofluoromethane	1.7	2.2	-28	PASS	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.6	2.0	-22	PASS	
1,2,4-Trimethylbenzene	0.62	0.60	3.4	PASS	
1,3,5-Trimethylbenzene	0.67	0.70	-3.1	PASS	
2,2,4-Trimethylpentane	1.2	1.4	-9.3	PASS	
Vinyl bromide	0.78	0.95	-22	PASS	
Vinyl chloride	1.0	1.2	-15	PASS	
Xylenes (m&p)	0.91	0.95	-4.7	PASS	
Xylenes (o)	0.84	0.93	-12	PASS	

***%Difference must be within +/- 30%**

RRF - Relative Response Factor

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3301dcvs.D
Acq On : 07 Nov 2011 11:29
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 11:56:16 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 11:56:11 2011
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 0% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 500%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS)	1.000	1.000	0.0	80	-0.01
2		Propene	0.724	0.890	-22.9	110	0.00
3		Dichlorodifluoromethane	1.830	2.078	-13.6	109	0.00
4		Chloromethane	0.938	1.176	-25.4	110	0.00
5		1,2-Dichlorotetrafluoroetha	1.837	2.249	-22.4	107	0.00
6		Vinyl chloride	1.008	1.158	-14.9	108	0.00
7		1,3-Butadiene	0.605	0.752	-24.3	106	0.00
8		n-Butane	1.452	1.880	-29.5	114	0.00
9		Bromomethane	0.723	0.919	-27.1	114	0.00
10		Chloroethane	0.530	0.624	-17.7	102	0.00
11		Ethanol	0.532	0.678	-27.4	109	0.00
12		Bromoethene	0.777	0.951	-22.4	111	0.00
13		Acrolein	0.263	0.331	-25.9	98	0.00
14		Acetone	1.313	1.492	-13.6	98	0.00
15		Trichlorofluoromethane	1.693	2.173	-28.4	113	0.00
16		Isopropanol	1.931	2.314	-19.8	120	0.00
17		n-Pentane	1.551	1.907	-23.0	117	0.00
18		1,1-Dichloroethene	1.294	1.638	-26.6	119	0.00
19		Tert-butyl alcohol	1.471	1.838	-24.9	100	0.00
20		Methylene chloride	1.559	1.437	7.8	92	0.00
21		Allyl chloride	0.433	0.498	-15.0	100	0.00
22		1,1,2-Trichloro-1,2,2-trifl	1.603	1.954	-21.9	112	0.00
23		Carbon disulfide	2.407	2.454	-2.0	83	0.00
24		1,2-Dichloroethene (trans)	1.136	1.375	-21.0	115	0.00
25		1,1-Dichloroethane	2.001	2.127	-6.3	107	-0.01
26		Methyl tert-butyl ether	3.193	3.382	-5.9	99	0.00
27		Vinyl acetate	1.695	2.169	-28.0	113	0.00
28		Methyl ethyl ketone	2.139	2.367	-10.7	95	0.00
29		1,2-Dichloroethene (cis)	1.268	1.420	-12.0	105	0.00
30		Ethyl acetate	0.341	0.410	-20.2	103	0.00
31		n-Hexane	1.383	1.625	-17.5	104	0.00
32		Chloroform	1.665	1.890	-13.5	100	0.00
33	I	1,4-Difluorobenzene (IS)	1.000	1.000	0.0	78	0.00
34		Tetrahydrofuran	0.307	0.325	-5.9	98	0.00
35		1,2-Dichloroethane	0.277	0.315	-13.7	100	0.00
36		1,1,1-Trichloroethane	0.444	0.481	-8.3	102	-0.01
37		Benzene	0.947	1.038	-9.6	101	0.00
38		Carbon tetrachloride	0.435	0.481	-10.6	102	-0.01
39		Cyclohexane	0.288	0.334	-16.0	107	0.00
40		1,2-Dichloropropane	0.307	0.326	-6.2	95	0.00
41		Bromodichloromethane	0.468	0.504	-7.7	98	0.00
42		1,4-Dioxane	0.131	0.158	-20.6	88	-0.02
43		Trichloroethene	0.347	0.388	-11.8	101	0.00
44		2,2,4-Trimethylpentane	1.242	1.357	-9.3	101	0.00
45		Methyl methacrylate	0.324	0.365	-12.7	98	0.00
46		n-Heptane	0.480	0.527	-9.8	101	-0.01
47		cis-1,3-Dichloropropene	0.559	0.604	-8.1	99	0.00

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3301dcvs.D
Acq On : 07 Nov 2011 11:29
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 11:56:16 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 11:56:11 2011
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 0% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 500%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48		Methyl isobutyl ketone	0.631	0.640	-1.4	86	0.00
49		trans-1,3-Dichloropropene	0.437	0.517	-18.3	93	0.00
50		1,1,2-Trichloroethane	0.307	0.317	-3.3	98	0.00
51		d-5 Chlorobenzene (IS)	1.000	1.000	0.0	81	0.02
52		Toluene	0.866	1.018	-17.6	103	0.02
53		Methyl n-butyl ketone	0.639	0.667	-4.4	87	0.04
54		Dibromochloromethane	0.606	0.638	-5.3	93	0.05
55		1,2-Dibromoethane	0.582	0.592	-1.7	94	0.06
56		Tetrachloroethene	0.417	0.485	-16.3	98	0.03
57		Chlorobenzene	0.780	0.897	-15.0	98	0.02
58		Ethylbenzene	1.196	1.264	-5.7	98	0.01
59		Xylenes (m&p)	0.909	0.952	-4.7	98	0.04
60		Bromoform	0.314	0.300	4.5	92	0.01
61		Styrene	0.824	0.765	7.2	84	0.00
62		1,1,2,2-Tetrachloroethane	0.666	0.687	-3.2	91	0.01
63		Xylene (o)	0.836	0.934	-11.7	94	0.00
64		n-Nonane	0.637	0.595	6.6	93	0.01
65	S	Bromofluorobenzene (tune_st	0.580	0.572	1.4	80	0.01
66		Cumene	1.407	1.447	-2.8	97	0.01
67		2-Chlorotoluene	0.836	0.919	-9.9	93	0.00
68		n-Propylbenzene	1.363	1.501	-10.1	93	0.00
69		4-Ethyltoluene	1.166	1.118	4.1	85	0.00
70		1,3,5-Trimethylbenzene	0.674	0.695	-3.1	91	0.00
71		1,2,4-Trimethylbenzene	0.621	0.600	3.4	88	0.00
72		Benzyl chloride	0.903	1.071	-18.6	84	0.00
73		1,3-Dichlorobenzene	0.656	0.729	-11.1	93	0.00
74		1,4-Dichlorobenzene	0.701	0.710	-1.3	93	0.00
75		1,2-Dichlorobenzene	0.625	0.662	-5.9	94	0.00
76		1,2,4-Trichlorobenzene	0.226	0.270	-19.5	101	0.00
77		1,3-Hexachlorobutadiene	0.674	0.869	-28.9	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3301dcvs.D
Acq On : 07 Nov 2011 11:29
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 11:56:16 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 11:56:11 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.34	130	184824	10.00	ppbV	-0.01
33) 1,4-Difluorobenzene (IS)	10.44	114	761168	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.78	117	685542	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	392198	9.86	ppbV	0.01

Spiked Amount 10.000 Range 75 - 125 Recovery = 98.60%

Target Compounds						Qvalue
2) Propene	3.67	41	164544	12.29	ppbV	99
3) Dichlorodifluoromethane	3.75	85	383983	11.35	ppbV	100
4) Chloromethane	3.92	50	217318	12.54	ppbV	99
5) 1,2-Dichlorotetrafluoroeth	4.02	85	415665	12.24	ppbV	100
6) Vinyl chloride	4.14	62	214104	11.50	ppbV	100
7) 1,3-Butadiene	4.27	54	138910	12.42	ppbV	100
8) n-Butane	4.31	43	347541	12.95	ppbV	98
9) Bromomethane	4.53	94	169790	12.71	ppbV	100
10) Chloroethane	4.71	64	115382	11.78	ppbV	99
11) Ethanol	4.89	45	125220	12.73	ppbV	98
12) Bromoethene	5.04	106	175686	12.23	ppbV	100
13) Acrolein	5.18	56	61138	12.56	ppbV	95
14) Acetone	5.29	43	275693	11.36	ppbV	100
15) Trichlorofluoromethane	5.43	101	401577	12.84	ppbV	93
16) Isopropanol	5.56	45	427710	11.98	ppbV	99
17) n-Pentane	5.78	43	352507	12.30	ppbV	97
18) 1,1-Dichloroethene	6.05	61	302807	12.66	ppbV	97
19) Tert-butyl alcohol	6.14	59	339698	12.50	ppbV	100
20) Methylene chloride	6.18	49	265612	9.22	ppbV #	79
21) Allyl chloride	6.29	76	92077	11.51	ppbV	100
22) 1,1,2-Trichloro-1,2,2-trif	6.42	101	361074	12.18	ppbV	100
23) Carbon disulfide	6.47	76	453536	10.19	ppbV	99
24) 1,2-Dichloroethene (trans)	7.10	61	254164	12.10	ppbV	99
25) 1,1-Dichloroethane	7.30	63	393200	10.63	ppbV	100
26) Methyl tert-butyl ether	7.35	73	625002	10.59	ppbV	99
27) Vinyl acetate	7.46	43	400855	12.79	ppbV	98
28) Methyl ethyl ketone	7.71	43	437451	11.07	ppbV	100
29) 1,2-Dichloroethene (cis)	8.17	61	262496	11.20	ppbV	97
30) Ethyl acetate	8.40	45	75834	12.04	ppbV	99
31) n-Hexane	8.38	57	300351	11.75	ppbV	97
32) Chloroform	8.48	83	349408	11.35	ppbV	99
34) Tetrahydrofuran	8.88	42	247245	10.58	ppbV	100
35) 1,2-Dichloroethane	9.27	62	239731	11.36	ppbV #	88
36) 1,1,1-Trichloroethane	9.54	97	366026	10.83	ppbV	99
37) Benzene	10.05	78	790330	10.97	ppbV	100
38) Carbon tetrachloride	10.20	117	366299	11.06	ppbV	99
39) Cyclohexane	10.35	84	254089	11.61	ppbV	99
40) 1,2-Dichloropropane	10.97	63	247766	10.62	ppbV	99
41) Bromodichloromethane	11.19	83	383291	10.75	ppbV	93
42) 1,4-Dioxane	11.22	88	120178	12.08	ppbV	96
43) Trichloroethene	11.24	130	295517	11.18	ppbV	99
44) 2,2,4-Trimethylpentane	11.29	57	1032941	10.93	ppbV	99
45) Methyl methacrylate	11.47	41	277797	11.28	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3301dcvs.D
Acq On : 07 Nov 2011 11:29
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 11:56:16 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 11:56:11 2011
Response via : Initial Calibration

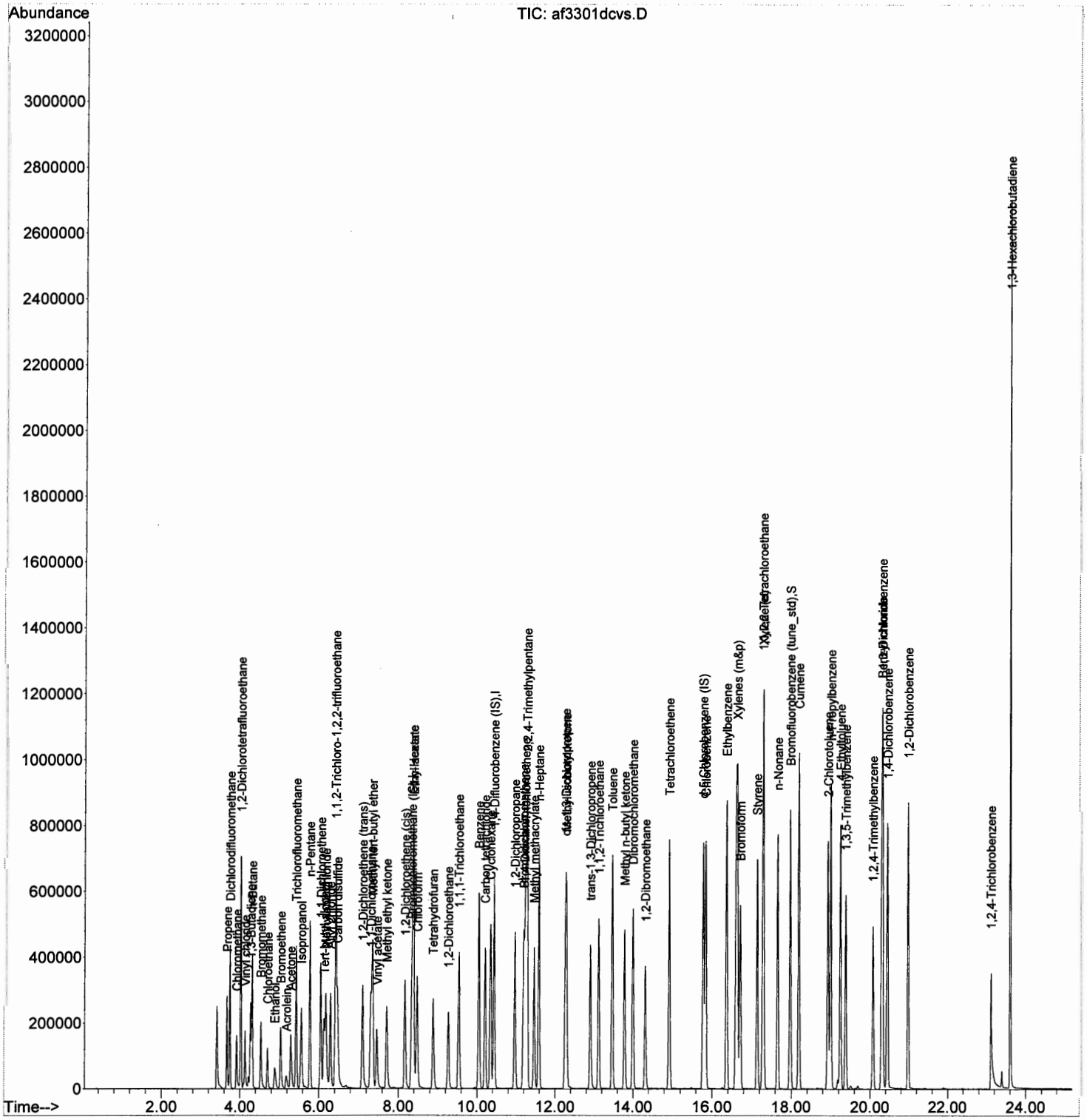
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) n-Heptane	11.59	43	401069	10.98	ppbV		100
47) cis-1,3-Dichloropropene	12.26	75	460024	10.81	ppbV		100
48) Methyl isobutyl ketone	12.29	43	487237	10.14	ppbV	#	96
49) trans-1,3-Dichloropropene	12.90	75	393234	11.83	ppbV	#	93
50) 1,1,2-Trichloroethane	13.12	97	241163	10.32	ppbV		97
52) Toluene	13.46	91	697631	11.75	ppbV		93
53) Methyl n-butyl ketone	13.79	43	457393	10.45	ppbV	#	81
54) Dibromochloromethane	14.00	129	437335	10.53	ppbV		100
55) 1,2-Dibromoethane	14.32	107	405545	10.17	ppbV		100
56) Tetrachloroethene	14.93	166	332611	11.64	ppbV		98
57) Chlorobenzene	15.84	112	614758	11.50	ppbV		99
58) Ethylbenzene	16.37	91	866660	10.57	ppbV	#	75
59) Xylenes (m&p)	16.64	91	1305898	20.96	ppbV	#	89
60) Bromoform	16.71	171	205847	9.55	ppbV		100
61) Styrene	17.14	104	524586	9.29	ppbV		100
62) 1,1,2,2-Tetrachloroethane	17.28	83	470937	10.31	ppbV		100
63) Xylene (o)	17.30	91	640612	11.18	ppbV		97
64) n-Nonane	17.66	43	407573	9.34	ppbV	#	73
66) Cumene	18.19	105	991744	10.28	ppbV	#	91
67) 2-Chlorotoluene	18.93	91	629896	11.00	ppbV		96
68) n-Propylbenzene	19.00	91	1029231	11.02	ppbV		93
69) 4-Ethyltoluene	19.25	105	766742	9.59	ppbV	#	87
70) 1,3,5-Trimethylbenzene	19.38	105	476400	10.31	ppbV	#	91
71) 1,2,4-Trimethylbenzene	20.07	105	411233	9.66	ppbV		93
72) Benzyl chloride	20.30	91	734306	11.86	ppbV		98
73) 1,3-Dichlorobenzene	20.32	146	499561	11.10	ppbV		98
74) 1,4-Dichlorobenzene	20.44	146	486801	10.14	ppbV		100
75) 1,2-Dichlorobenzene	20.98	146	453952	10.60	ppbV		99
76) 1,2,4-Trichlorobenzene	23.11	180	184772	11.92	ppbV		100
77) 1,3-Hexachlorobutadiene	23.60	225	596009	12.90	ppbV	#	58

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3301dcvs.D
Acq On : 07 Nov 2011 11:29
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 11:56:16 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 11:56:11 2011
Response via : Initial Calibration



Continuing Calibration Data Summary Report

Initial Calibration Curve:	**10/07/2011**	**Date/Time of Calibration:**	**11/21/2011 09:25**
Instrument:	**AA**	**Sample ID:**	**DCS**
Amount of standard injected (ml):	**50**	**Laboratory ID:**	**AF3574DCVS**

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3573BFB]	11/21/2011 08:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 09:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 07:36

Compound Name	**Average RRF**	**Standard RRF**	**% Difference**	**PassFail**	*****
Acetone	1.3	1.4	-7.3	PASS	
Allyl chloride	0.43	0.52	-21	PASS	
Benzene	0.95	0.91	3.5	PASS	
Bromodichloromethane	0.47	0.42	10	PASS	
Bromoform	0.31	0.27	13	PASS	
Bromomethane	0.72	0.82	-13	PASS	
1,3-Butadiene	0.61	0.78	-28	PASS	
Chlorobenzene	0.78	0.82	-5.6	PASS	
Chloroethane	0.53	0.54	-1.1	PASS	
Chloroform	1.7	1.7	-2.0	PASS	
Chloromethane	0.94	1.1	-14	PASS	
Carbon disulfide	2.4	3.1	-29	PASS	
Carbon tetrachloride	0.44	0.42	4.6	PASS	
2-Chlorotoluene	0.84	0.84	-1.0	PASS	
Cyclohexane	0.29	0.28	2.1	PASS	
Dibromochloromethane	0.61	0.58	4.0	PASS	
1,2-Dibromoethane	0.58	0.53	8.9	PASS	
1,2-Dichlorobenzene	0.63	0.56	9.8	PASS	
1,3-Dichlorobenzene	0.66	0.64	2.9	PASS	
1,4-Dichlorobenzene	0.70	0.63	9.7	PASS	
Dichlorodifluoromethane	1.8	1.9	-4.0	PASS	
1,1-Dichloroethane	2.0	2.0	1.0	PASS	
1,2-Dichloroethane	0.28	0.28	-0.70	PASS	
1,1-Dichloroethene	1.3	1.5	-14	PASS	
1,2-Dichloroethene (cis)	1.3	1.3	-0.80	PASS	
1,2-Dichloroethene (trans)	1.1	1.2	-7.5	PASS	
1,2-Dichloropropane	0.31	0.28	8.5	PASS	
1,3-Dichloropropene (cis)	0.56	0.51	8.4	PASS	
1,3-Dichloropropene (trans)	0.44	0.45	-1.8	PASS	
1,2-Dichlorotetrafluoroethane	1.8	2.0	-8.4	PASS	
Ethylbenzene	1.2	1.2	2.0	PASS	
4-Ethyltoluene	1.2	1.00	14	PASS	
n-Heptane	0.48	0.47	2.1	PASS	
1,3-Hexachlorobutadiene	0.67	0.63	6.2	PASS	
n-Hexane	1.4	1.5	-8.7	PASS	
Methylene chloride	1.6	1.2	20	PASS	
Methyl ethyl ketone	2.1	2.1	2.3	PASS	
Methyl isobutyl ketone	0.63	0.56	11	PASS	
Methyl tert-butyl ether	3.2	3.0	5.3	PASS	
Styrene	0.82	0.71	14	PASS	
Tert-butyl alcohol	1.5	1.6	-8.5	PASS	
1,1,2,2-Tetrachloroethane	0.67	0.65	3.0	PASS	

***%Difference must be within +/- 30%**

RRF - Relative Response Factor

Continuing Calibration Data Summary Report

Initial Calibration Curve:	**10/07/2011**	**Date/Time of Calibration:**	**11/21/2011 09:25**
Instrument:	**AA**	**Sample ID:**	**DCS**
Amount of standard injected (ml):	**50**	**Laboratory ID:**	**AF3574DCVS**

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 08:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 09:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 07:36

Compound Name	Average RRF	Standard RRF	% Difference	PassFail	*
Tetrachloroethene	0.42	0.46	-9.8	PASS	
Toluene	0.87	0.93	-7.5	PASS	
1,2,4-Trichlorobenzene	0.23	0.17	25	PASS	
1,1,1-Trichloroethane	0.44	0.42	5.9	PASS	
1,1,2-Trichloroethane	0.31	0.27	13	PASS	
Trichloroethene	0.35	0.34	3.5	PASS	
Trichlorofluoromethane	1.7	2.0	-17	PASS	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.6	1.8	-9.5	PASS	
1,2,4-Trimethylbenzene	0.62	0.52	17	PASS	
1,3,5-Trimethylbenzene	0.67	0.61	9.5	PASS	
2,2,4-Trimethylpentane	1.2	1.2	5.4	PASS	
Vinyl bromide	0.78	0.84	-8.6	PASS	
Vinyl chloride	1.0	1.1	-4.3	PASS	
Xylenes (m&p)	0.91	0.87	4.8	PASS	
Xylenes (o)	0.84	0.87	-4.3	PASS	

***%Difference must be within +/- 30%**

RRF - Relative Response Factor

Evaluate Continuing Calibration Report

Data Path : E:\Data\2011\112111\
Data File : af3574dcvs.D
Acq On : 21 Nov 2011 09:25
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:41:24 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 21 11:38:43 2011
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 0% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 500%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS)	1.000	1.000	0.0	97	0.00
2		Propene	0.724	0.781	-7.9	117	0.00
3		Dichlorodifluoromethane	1.830	1.904	-4.0	120	0.00
4		Chloromethane	0.938	1.070	-14.1	121	0.00
5		1,2-Dichlorotetrafluoroetha	1.837	1.992	-8.4	114	0.00
6		Vinyl chloride	1.008	1.051	-4.3	118	0.00
7		1,3-Butadiene	0.605	0.776	-28.3	132	0.00
8		n-Butane	1.452	1.754	-20.8	128	0.00
9		Bromomethane	0.723	0.815	-12.7	122	0.00
10		Chloroethane	0.530	0.536	-1.1	106	0.00
11		Ethanol	0.532	0.568	-6.8	111	0.00
12		Bromoethene	0.777	0.844	-8.6	119	0.00
13		Acrolein	0.263	0.301	-14.4	107	0.00
14		Acetone	1.313	1.409	-7.3	112	0.00
15		Trichlorofluoromethane	1.693	1.976	-16.7	124	0.00
16		Isopropanol	1.931	2.263	-17.2	142	-0.02
17		n-Pentane	1.551	1.914	-23.4	142	0.00
18		1,1-Dichloroethene	1.294	1.472	-13.8	129	0.00
19		Tert-butyl alcohol	1.471	1.596	-8.5	105	0.00
20		Methylene chloride	1.559	1.243	20.3	96	0.00
21		Allyl chloride	0.433	0.523	-20.8	126	0.00
22		1,1,2-Trichloro-1,2,2-trifl	1.603	1.755	-9.5	121	0.00
23		Carbon disulfide	2.407	3.105	-29.0	127	0.00
24		1,2-Dichloroethene (trans)	1.136	1.221	-7.5	123	0.00
25		1,1-Dichloroethane	2.001	1.981	1.0	120	0.00
26		Methyl tert-butyl ether	3.193	3.024	5.3	106	0.00
27		Vinyl acetate	1.695	2.061	-21.6	130	0.00
28		Methyl ethyl ketone	2.139	2.090	2.3	101	0.00
29		1,2-Dichloroethene (cis)	1.268	1.278	-0.8	114	0.00
30		Ethyl acetate	0.341	0.363	-6.5	110	0.00
31		n-Hexane	1.383	1.503	-8.7	116	0.00
32		Chloroform	1.665	1.699	-2.0	109	0.00
33	I	1,4-Difluorobenzene (IS)	1.000	1.000	0.0	99	0.00
34		Tetrahydrofuran	0.307	0.283	7.8	110	0.00
35		1,2-Dichloroethane	0.277	0.279	-0.7	113	-0.01
36		1,1,1-Trichloroethane	0.444	0.418	5.9	113	-0.02
37		Benzene	0.947	0.914	3.5	114	0.00
38		Carbon tetrachloride	0.435	0.415	4.6	112	0.00
39		Cyclohexane	0.288	0.282	2.1	115	0.00
40		1,2-Dichloropropane	0.307	0.281	8.5	105	0.00
41		Bromodichloromethane	0.468	0.420	10.3	104	0.00
42		1,4-Dioxane	0.131	0.157	-19.8	111	-0.02
43		Trichloroethene	0.347	0.335	3.5	112	0.00
44		2,2,4-Trimethylpentane	1.242	1.175	5.4	111	-0.01
45		Methyl methacrylate	0.324	0.319	1.5	109	0.00
46		n-Heptane	0.480	0.470	2.1	115	0.00
47		cis-1,3-Dichloropropene	0.559	0.512	8.4	107	0.00

Evaluate Continuing Calibration Report

Data Path : E:\Data\2011\112111\
Data File : af3574dcvs.D
Acq On : 21 Nov 2011 09:25
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:41:24 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 21 11:38:43 2011
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 0% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 500%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48		Methyl isobutyl ketone	0.631	0.561	11.1	96	0.00
49		trans-1,3-Dichloropropene	0.437	0.445	-1.8	102	0.00
50		1,1,2-Trichloroethane	0.307	0.268	12.7	105	0.00
51		d-5 Chlorobenzene (IS)	1.000	1.000	0.0	98	0.02
52		Toluene	0.866	0.931	-7.5	114	0.02
53		Methyl n-butyl ketone	0.639	0.618	3.3	98	0.04
54		Dibromochloromethane	0.606	0.582	4.0	102	0.04
55		1,2-Dibromoethane	0.582	0.530	8.9	102	0.05
56		Tetrachloroethene	0.417	0.458	-9.8	112	0.03
57		Chlorobenzene	0.780	0.824	-5.6	109	0.01
58		Ethylbenzene	1.196	1.172	2.0	110	0.01
59		Xylenes (m&p)	0.909	0.865	4.8	107	0.02
60		Bromoform	0.314	0.274	12.7	102	0.01
61		Styrene	0.824	0.712	13.6	94	0.00
62		1,1,2,2-Tetrachloroethane	0.666	0.646	3.0	104	0.01
63		Xylene (o)	0.836	0.872	-4.3	106	0.00
64		n-Nonane	0.637	0.543	14.8	103	0.00
65	S	Bromofluorobenzene (tune_st	0.580	0.528	9.0	89	0.00
66		Cumene	1.407	1.333	5.3	108	0.00
67		2-Chlorotoluene	0.836	0.844	-1.0	104	0.00
68		n-Propylbenzene	1.363	1.378	-1.1	103	0.00
69		4-Ethyltoluene	1.166	0.998	14.4	92	0.00
70		1,3,5-Trimethylbenzene	0.674	0.610	9.5	97	0.00
71		1,2,4-Trimethylbenzene	0.621	0.517	16.7	92	0.00
72		Benzyl chloride	0.903	0.892	1.2	85	0.00
73		1,3-Dichlorobenzene	0.656	0.637	2.9	98	0.00
74		1,4-Dichlorobenzene	0.701	0.633	9.7	100	0.00
75		1,2-Dichlorobenzene	0.625	0.564	9.8	96	0.00
76		1,2,4-Trichlorobenzene	0.226	0.169	25.2	76	0.00
77		1,3-Hexachlorobutadiene	0.674	0.632	6.2	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3574dcvs.D
Acq On : 21 Nov 2011 09:25
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:41:24 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 21 11:38:43 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS)	8.34	130	222935	10.00	ppbV		0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	971857	10.00	ppbV		0.00
51) d-5 Chlorobenzene (IS)	15.78	117	828858	10.00	ppbV		0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	437675	9.10	ppbV		0.00

Spiked Amount 10.000 Range 75 - 125 Recovery = 91.00%

Target Compounds							Qvalue
2) Propene	3.67	41	174144	10.78	ppbV		96
3) Dichlorodifluoromethane	3.75	85	424498	10.41	ppbV		99
4) Chloromethane	3.92	50	238464	11.41	ppbV	#	98
5) 1,2-Dichlorotetrafluoroeth	4.02	85	443996	10.84	ppbV	#	91
6) Vinyl chloride	4.13	62	234325	10.43	ppbV		99
7) 1,3-Butadiene	4.28	54	173105	12.83	ppbV	#	53
8) n-Butane	4.32	43	390954	12.08	ppbV		97
9) Bromomethane	4.53	94	181639	11.27	ppbV		100
10) Chloroethane	4.71	64	119542	10.12	ppbV		99
11) Ethanol	4.89	45	126658	10.67	ppbV		98
12) Bromoethene	5.04	106	188204	10.86	ppbV		100
13) Acrolein	5.18	56	67018	11.41	ppbV		99
14) Acetone	5.29	43	314213	10.73	ppbV		99
15) Trichlorofluoromethane	5.43	101	440557	11.68	ppbV		93
16) Isopropanol	5.55	45	504567	11.72	ppbV		99
17) n-Pentane	5.78	43	426595	12.34	ppbV		96
18) 1,1-Dichloroethene	6.05	61	328261	11.38	ppbV		96
19) Tert-butyl alcohol	6.13	59	355820	10.85	ppbV		100
20) Methylene chloride	6.18	49	277001	7.97	ppbV	#	94
21) Allyl chloride	6.29	76	116494	12.07	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.43	101	391330	10.95	ppbV	#	75
23) Carbon disulfide	6.47	76	692105	12.90	ppbV		99
24) 1,2-Dichloroethene (trans)	7.10	61	272253	10.75	ppbV		98
25) 1,1-Dichloroethane	7.31	63	441653	9.90	ppbV		100
26) Methyl tert-butyl ether	7.35	73	674224	9.47	ppbV		99
27) Vinyl acetate	7.46	43	459369	12.15	ppbV	#	94
28) Methyl ethyl ketone	7.70	43	465926	9.77	ppbV		99
29) 1,2-Dichloroethene (cis)	8.17	61	284978	10.08	ppbV		96
30) Ethyl acetate	8.39	45	80977	10.66	ppbV	#	76
31) n-Hexane	8.38	57	335007	10.87	ppbV		98
32) Chloroform	8.48	83	378838	10.20	ppbV		100
34) Tetrahydrofuran	8.88	42	275090	9.22	ppbV	#	85
35) 1,2-Dichloroethane	9.27	62	270934	10.05	ppbV	#	88
36) 1,1,1-Trichloroethane	9.53	97	406365	9.42	ppbV		99
37) Benzene	10.05	78	888518	9.66	ppbV		100
38) Carbon tetrachloride	10.21	117	403347	9.54	ppbV		100
39) Cyclohexane	10.35	84	274324	9.82	ppbV		100
40) 1,2-Dichloropropane	10.97	63	272639	9.15	ppbV		99
41) Bromodichloromethane	11.19	83	408016	8.97	ppbV		93
42) 1,4-Dioxane	11.22	88	152575	12.01	ppbV		96
43) Trichloroethene	11.24	130	325661	9.65	ppbV		98
44) 2,2,4-Trimethylpentane	11.28	57	1141915	9.46	ppbV		99
45) Methyl methacrylate	11.47	41	309684	9.85	ppbV		100

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3574dcvs.D
Acq On : 21 Nov 2011 09:25
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:41:24 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 21 11:38:43 2011
Response via : Initial Calibration

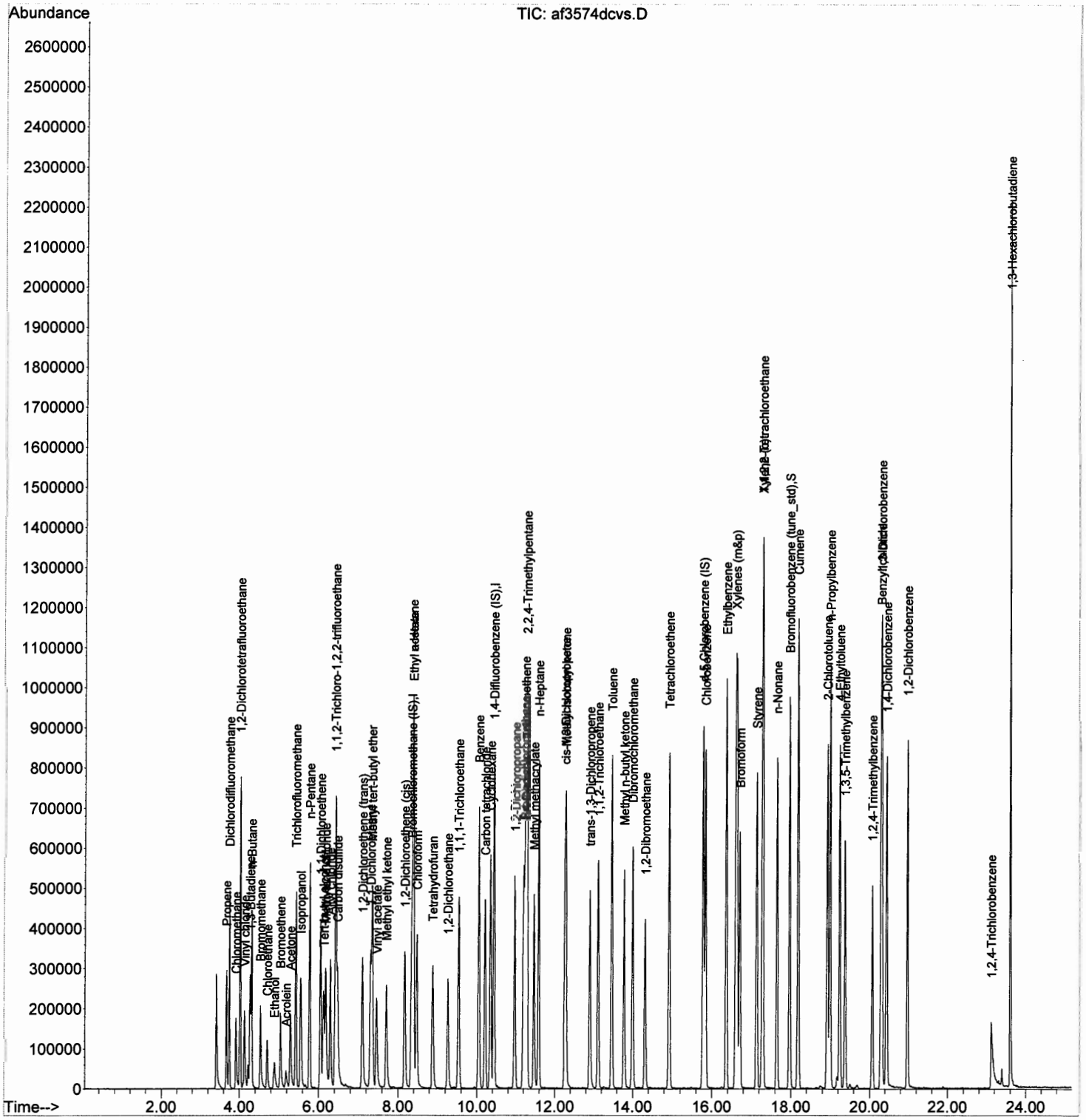
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) n-Heptane	11.59	43	456711	9.79	ppbV	99
47) cis-1,3-Dichloropropene	12.26	75	497591	9.16	ppbV	100
48) Methyl isobutyl ketone	12.29	43	544793	8.88	ppbV	99
49) trans-1,3-Dichloropropene	12.90	75	432468	10.19	ppbV	100
50) 1,1,2-Trichloroethane	13.12	97	260227	8.72	ppbV	97
52) Toluene	13.47	91	771787	10.75	ppbV	95
53) Methyl n-butyl ketone	13.78	43	512394	9.68	ppbV	99
54) Dibromochloromethane	13.99	129	482537	9.61	ppbV	99
55) 1,2-Dibromoethane	14.32	107	439508	9.11	ppbV	100
56) Tetrachloroethene	14.92	166	379665	10.99	ppbV	99
57) Chlorobenzene	15.84	112	683142	10.57	ppbV	99
58) Ethylbenzene	16.37	91	971428	9.80	ppbV #	95
59) Xylenes (m&p)	16.62	91	1434573	19.04	ppbV	99
60) Bromoform	16.71	171	227507	8.73	ppbV	100
61) Styrene	17.14	104	590128	8.64	ppbV	98
62) 1,1,2,2-Tetrachloroethane	17.28	83	535099	9.69	ppbV	100
63) Xylene (o)	17.29	91	722491	10.43	ppbV	96
64) n-Nonane	17.65	43	450139	8.53	ppbV	99
66) Cumene	18.18	105	1104684	9.47	ppbV	100
67) 2-Chlorotoluene	18.93	91	699518	10.10	ppbV	97
68) n-Propylbenzene	19.00	91	1141763	10.11	ppbV	92
69) 4-Ethyltoluene	19.24	105	826911	8.56	ppbV	99
70) 1,3,5-Trimethylbenzene	19.38	105	505413	9.05	ppbV	99
71) 1,2,4-Trimethylbenzene	20.07	105	428207	8.32	ppbV	95
72) Benzyl chloride	20.29	91	739199	9.88	ppbV	96
73) 1,3-Dichlorobenzene	20.32	146	527823	9.70	ppbV	98
74) 1,4-Dichlorobenzene	20.44	146	524328	9.03	ppbV	100
75) 1,2-Dichlorobenzene	20.97	146	467131	9.02	ppbV	100
76) 1,2,4-Trichlorobenzene	23.12	180	139795	7.46	ppbV	96
77) 1,3-Hexachlorobutadiene	23.60	225	523772	9.38	ppbV #	90

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

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3574dcvs.D
Acq On : 21 Nov 2011 09:25
Operator : JLS.
Sample : 10 ppbv DCVS.
Misc : ALM031705. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:41:24 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 21 11:38:43 2011
Response via : Initial Calibration



Section IX: Raw Quality Control Data Package

BFB Tune Spectra

Method Blank

Laboratory Control Sample

Instrument Run Logs

Pressure Gauge Readings (initial and final)

Example Calculations

Screening Data

Clean Canister Certification

BFB

Data Path: C:\MSDChem\1\DATA\100711\

Data File: AF2990BFB.D

Acq On: 10/7/2011 7:55:00AM

Operator: jls

Sample: BFB

Misc: ALM012015

ALS Vial: 1 **Multiplier:** 1

Integration File: LSCINT.P

Method: C:\MSDCHEM\1\METHODS\AF1007.M

Last Update: Tue Oct 11 08:37:45 2011

Spectrum Information:

PassFail	Target Mass	Rel. to Mass	Lower Limit %	Higher Limit %	Raw Abundance	% Relative Abundance
PASS	50	95	8	40	30290	19.5
PASS	75	95	30	66	83877	54.0
PASS	95	95	100	100	155328	100.0
PASS	96	95	5	9	10215	6.6
PASS	173	174	0.00	2	722	0.5
PASS	174	95	50	120	143834	92.6
PASS	175	174	4	9	11659	8.1
PASS	176	174	93	101	139802	97.2
PASS	177	176	5	9	8644	6.2

Runs with this BFB:

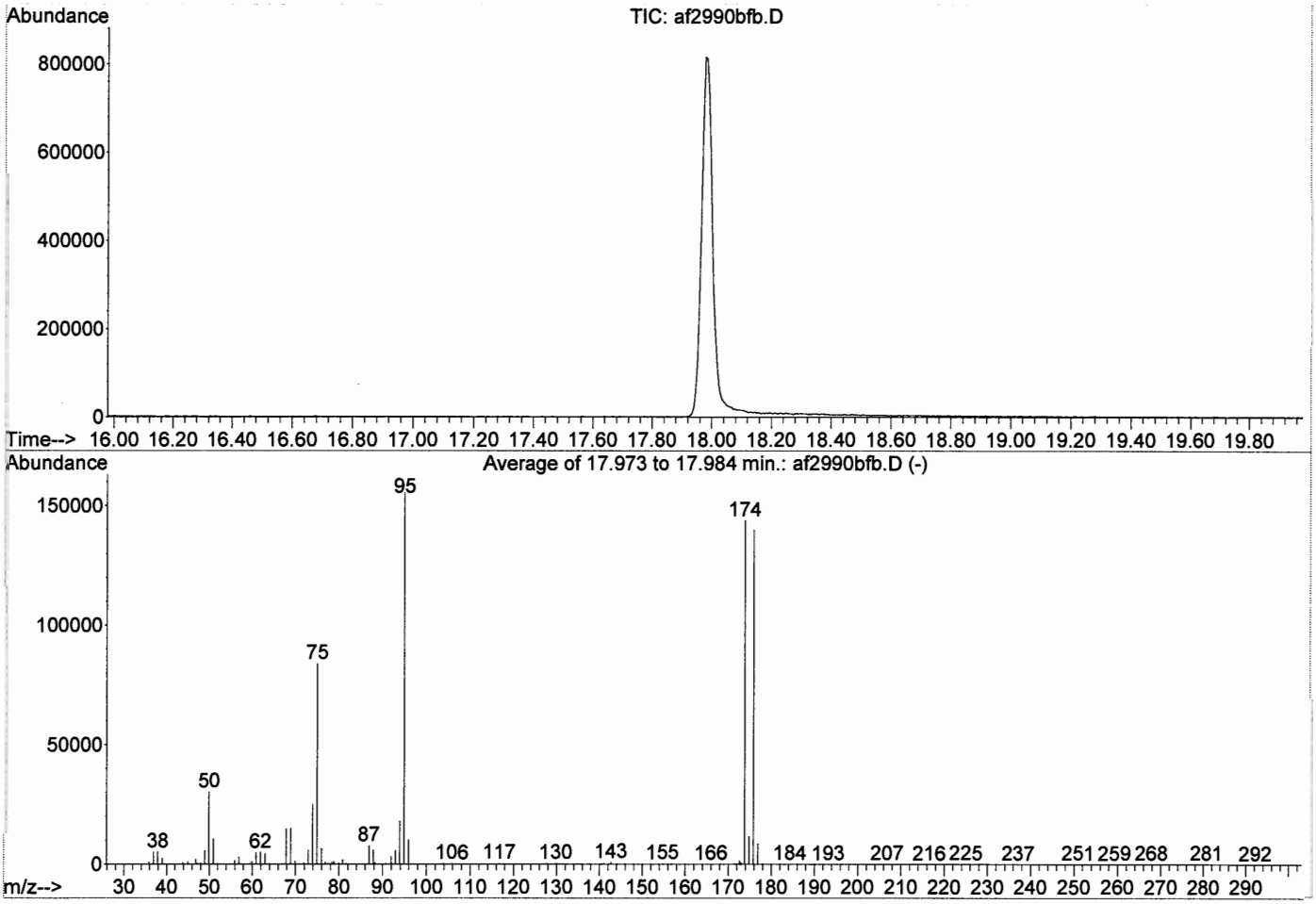
Lab Sample Number	Date File	Field Sample	Date/Time of Sample/Standard Analysis
BFB	AF2990BFB	NA	10/7/2011 7:55:00 AM
40 PPBV STD	AF2991STD01	NA	10/7/2011 8:46:00 AM
20 PPBV STD	AF2992STD02	NA	10/7/2011 9:34:00 AM
10 PPBV STD. STD	AF2993STD03	NA	10/7/2011 10:17:00 AM
0.2 PPBV STD	AF2995STD05	NA	10/7/2011 12:20:00 PM
2 PPBV STD	AF2994STD04	NA	10/7/2011 1:44:00 PM
10 PPBV ICVSS	AF2996ICVSS	NA	10/7/2011 5:50:00 PM

BFB

Data Path : C:\MSDChem\1\DATA\100711\
Data File : af2990bfb.D
Acq On : 07 Oct 2011 07:55
Operator : JLS.
Sample : bfb.
Misc : ALM012015.
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\AF1007.M
Title : TO-15 on the Finnigan TraceGC / Trace DSQ
Last Update : Tue Oct 11 08:37:45 2011



AutoFind: Scans 3238, 3239, 3240; Background Corrected with Scan 3223

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.5	30290	PASS
75	95	30	66	54.0	83877	PASS
95	95	100	100	100.0	155328	PASS
96	95	5	9	6.6	10215	PASS
173	174	0.00	2	0.5	722	PASS
174	95	50	120	92.6	143834	PASS
175	174	4	9	8.1	11659	PASS
176	174	93	101	97.2	139802	PASS
177	176	5	9	6.2	8644	PASS

BFB

Data Path: C:\MSDChem\1\DATA\110711\

Data File: AF3300BFB.D

Acq On: 11/7/2011 9:30:00AM

Operator: jls

Sample: BFB

Misc: ALM012015

ALS Vial: 1 **Multiplier:** 1

Integration File: LSCINT.P

Method: C:\MSDCHEM\1\METHODS\AF1007.M

Last Update: Tue Oct 11 08:37:45 2011

Spectrum Information:

PassFail	Target Mass	Rel. to Mass	Lower Limit %	Higher Limit %	Raw Abundance	% Relative Abundance
PASS	50	95	8	40	25482	18.9
PASS	75	95	30	66	75922	56.2
PASS	95	95	100	100	135178	100.0
PASS	96	95	5	9	7950	5.9
PASS	173	174	0.00	2	711	0.6
PASS	174	95	50	120	122197	90.4
PASS	175	174	4	9	6754	5.5
PASS	176	174	93	101	118464	96.9
PASS	177	176	5	9	7395	6.2

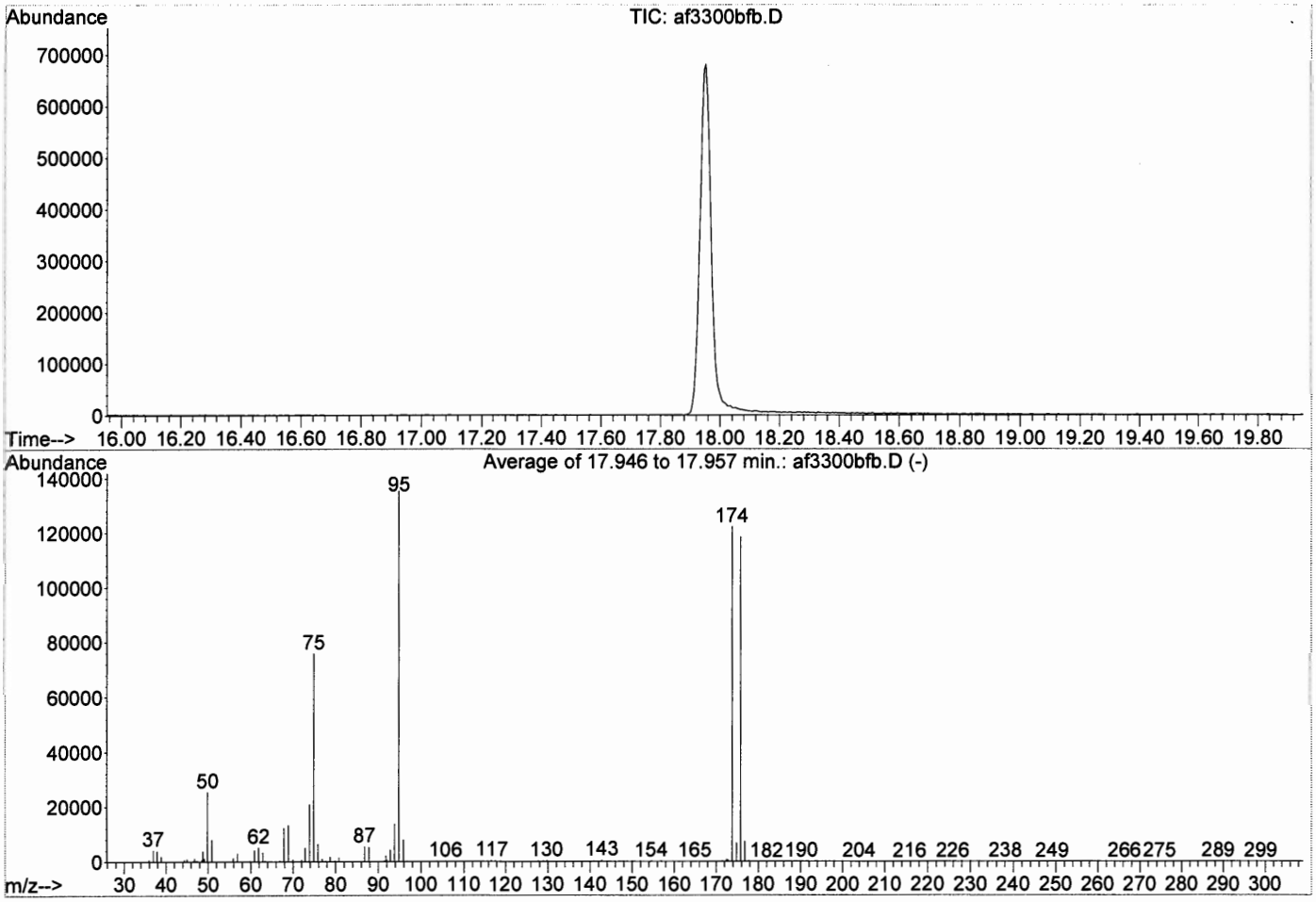
Runs with this BFB:

Lab Sample Number	Date File	Field Sample	Date/Time of Sample/Standard Analysis
BFB	AF3300BFB	NA	11/7/2011 9:30:00 AM
10 PPBV DCVS.	AF3301DCVS	NA	11/7/2011 11:29:00 AM
10 PPBV LCS	AF3302LCS01	NA	11/7/2011 11:37:00 AM
10 PPBV LCS	AF3303LCS02	NA	11/7/2011 12:25:00 PM
METHOD BLANK	AF3304BLK	NA	11/7/2011 1:54:00 PM
02 PPBV RLLCS	AF3305RLLCS	NA	11/7/2011 2:36:00 PM
1402	AF3306	NA	11/7/2011 3:31:00 PM
1524	AF3307	NA	11/7/2011 4:17:00 PM
10 PPBV CCCVS.	AF3319CCCVS	NA	11/8/2011 12:59:00 AM

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3300bfb.D
Acq On : 07 Nov 2011 09:30
Operator : JLS.
Sample : bfb.
Misc : ALM012015.
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\AF1007.M
Title : TO-15 on the Finnigan TraceGC / Trace DSQ
Last Update : Tue Oct 11 08:37:45 2011



AutoFind: Scans 3233, 3234, 3235; Background Corrected with Scan 3219

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	25482	PASS
75	95	30	66	56.2	75922	PASS
95	95	100	100	100.0	135178	PASS
96	95	5	9	5.9	7950	PASS
173	174	0.00	2	0.6	711	PASS
174	95	50	120	90.4	122197	PASS
175	174	4	9	5.5	6754	PASS
176	174	93	101	96.9	118464	PASS
177	176	5	9	6.2	7395	PASS

BFB

Data Path: C:\MSDChem\1\DATA\112111\

Data File: AF3573BFB.D

Acq On: 11/21/2011 8:32:00AM

Operator: jls

Sample: BFB

Misc: ALM012015

ALS Vial: 1 **Multiplier:** 1

Integration File: LSCINT.P

Method: C:\MSDCHEM\1\METHODS\AF1007.M

Last Update: Fri Nov 11 09:36:50 2011

Spectrum Information:

PassFail	Target Mass	Rel. to Mass	Lower Limit %	Higher Limit %	Raw Abundance	% Relative Abundance
PASS	50	95	8	40	26696	21.3
PASS	75	95	30	66	68706	54.8
PASS	95	95	100	100	125392	100.0
PASS	96	95	5	9	8560	6.8
PASS	173	174	0.00	2	1089	0.9
PASS	174	95	50	120	123892	98.8
PASS	175	174	4	9	9517	7.7
PASS	176	174	93	101	120269	97.1
PASS	177	176	5	9	8477	7.0

Runs with this BFB:

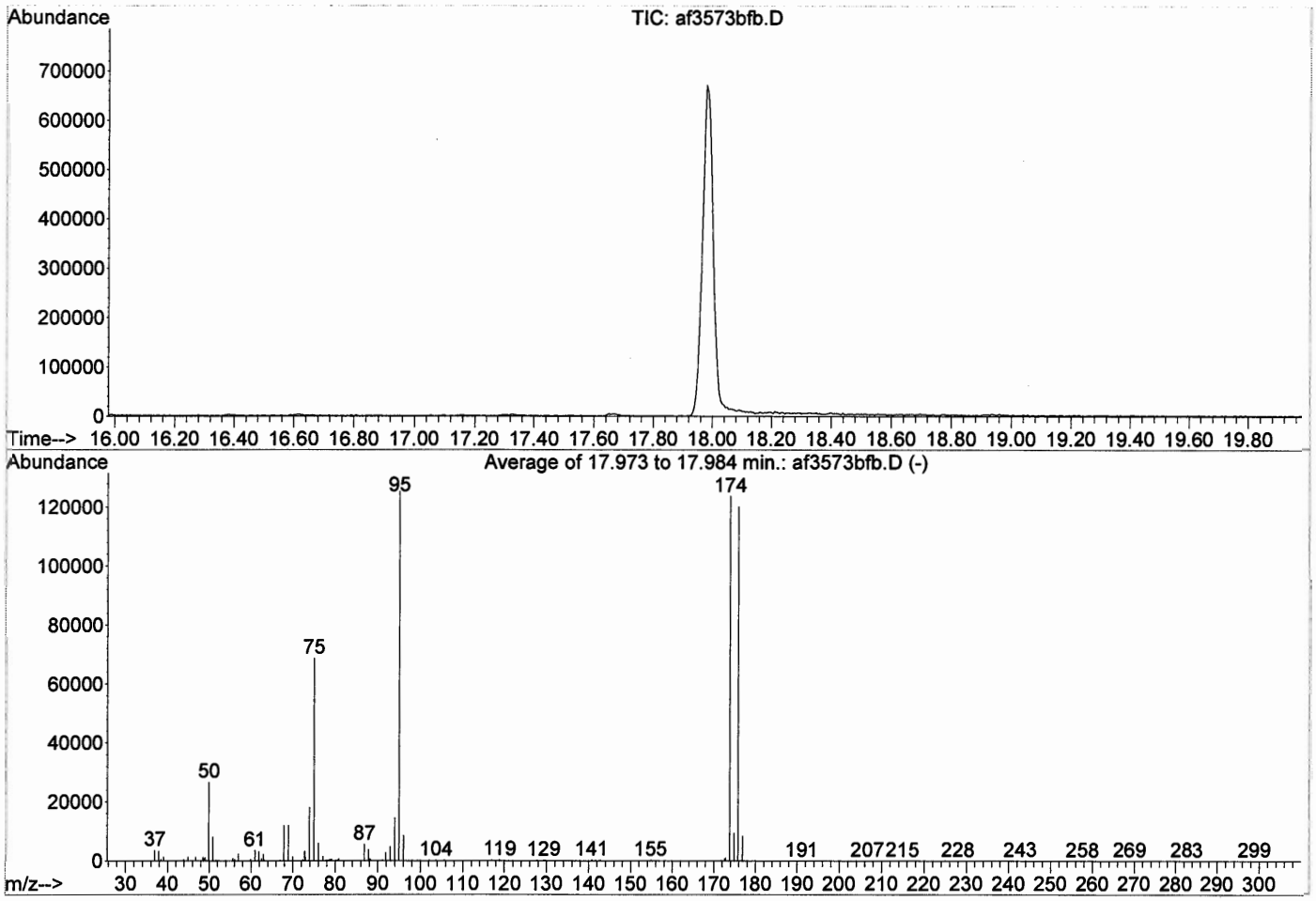
Lab Sample Number	Date File	Field Sample	Date/Time of Sample/Standard Analysis
BFB	AF3573BFB	NA	11/21/2011 8:32:00 AM
10 PPBV DCVS.	AF3574DCVS	NA	11/21/2011 9:25:00 AM
10 PPBV LCS	AF3575LCS01	NA	11/21/2011 10:26:00 AM
10 PPBV LCS	AF3576LCS02	NA	11/21/2011 11:08:00 AM
METHOD BLANK	AF3577BLK	NA	11/21/2011 12:35:00 PM
E11-11497-01	AF3587	SS-1	11/21/2011 10:12:00 PM
E11-11497-02	AF3589	SS-2	11/21/2011 11:40:00 PM
10 PPBV CCCVS.	AF3600CCCVS	NA	11/22/2011 7:36:00 AM

BFB

Data Path : E:\Data\2011\112111\
Data File : af3573bfb.D
Acq On : 21 Nov 2011 08:32
Operator : JLS.
Sample : bfb.
Misc : ALM012015.
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\AF1007.M
Title : TO-15 on the Finnigan TraceGC / Trace DSQ
Last Update : Fri Nov 11 09:36:50 2011



AutoFind: Scans 3229, 3230, 3231; Background Corrected with Scan 3218

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.3	26696	PASS
75	95	30	66	54.8	68706	PASS
95	95	100	100	100.0	125392	PASS
96	95	5	9	6.8	8560	PASS
173	174	0.00	2	0.9	1089	PASS
174	95	50	120	98.8	123892	PASS
175	174	4	9	7.7	9517	PASS
176	174	93	101	97.1	120269	PASS
177	176	5	9	7.0	8477	PASS

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3304BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/7/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
Acetone	67-64-1	0.03	ND
Allyl chloride	107-05-1	0.11	ND
Benzene	71-43-2	0.08	ND
Bromodichloromethane	75-27-4	0.02	ND
Bromoform	75-25-2	0.04	ND
Bromomethane	74-83-9	0.12	ND
1,3-Butadiene	106-99-0	0.21	ND
Chlorobenzene	108-90-7	0.07	ND
Chloroethane	75-00-3	0.08	ND
Chloroform	67-66-3	0.02	ND
Chloromethane	74-87-3	0.02	ND
Carbon disulfide	75-15-0	0.06	ND
Carbon tetrachloride	56-23-5	0.03	ND
2-Chlorotoluene	95-49-8	0.10	ND
Cyclohexane	110-82-7	0.11	ND
Dibromochloromethane	124-48-1	0.05	ND
1,2-Dibromoethane	106-93-4	0.07	ND
1,2-Dichlorobenzene	95-50-1	0.10	ND
1,3-Dichlorobenzene	541-73-1	0.09	ND
1,4-Dichlorobenzene	106-46-7	0.09	ND
Dichlorodifluoromethane	75-71-8	0.02	ND
1,1-Dichloroethane	75-34-3	0.02	ND
1,2-Dichloroethane	107-06-2	0.02	ND
1,1-Dichloroethene	75-35-4	0.04	ND
1,2-Dichloroethene (cis)	156-59-2	0.06	ND
1,2-Dichloroethene (trans)	156-60-5	0.06	ND
1,2-Dichloropropane	78-87-5	0.05	ND
1,3-Dichloropropene (cis)	10061-01-5	0.10	ND
1,3-Dichloropropene (trans)	10061-02-6	0.09	ND
1,2-Dichlorotetrafluoroethane	76-14-2	0.06	ND
Ethylbenzene	100-41-4	0.11	ND
4-Ethyltoluene	622-96-8	0.11	ND
n-Heptane	142-82-5	0.06	ND
1,3-Hexachlorobutadiene	87-68-3	0.10	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3304BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/7/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
n-Hexane	110-54-3	0.06	ND
Methylene chloride	75-09-2	0.17	0.11
Methyl ethyl ketone	78-93-3	0.05	ND
Methyl isobutyl ketone	108-10-1	0.05	ND
Methyl tert-butyl ether	1634-04-4	0.11	ND
Styrene	100-42-5	0.12	ND
Tert-butyl alcohol	75-65-0	0.07	ND
1,1,2,2-Tetrachloroethane	79-34-5	0.08	ND
Tetrachloroethene	127-18-4	0.09	ND
Toluene	108-88-3	0.11	ND
1,2,4-Trichlorobenzene	120-82-1	0.15	ND
1,1,1-Trichloroethane	71-55-6	0.04	ND
1,1,2-Trichloroethane	79-00-5	0.06	ND
Trichloroethene	79-01-6	0.06	ND
Trichlorofluoromethane	75-69-4	0.03	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.04	ND
1,2,4-Trimethylbenzene	95-63-6	0.13	ND
1,3,5-Trimethylbenzene	108-67-8	0.10	ND
2,2,4-Trimethylpentane	540-84-1	0.08	ND
Vinyl bromide	593-60-2	0.11	ND
Vinyl chloride	75-01-4	0.05	ND
Xylenes (m&p)	179601-23-1	0.22	ND
Xylenes (o)	95-47-6	0.09	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3304blk.D
Acq On : 07 Nov 11 13:54
Operator : JLS.
Sample : Method Blank.
Misc : 3813. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 14:50:49 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 12:04:00 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.35	130	178639	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.45	114	797237	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.79	117	689632	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.98	95	350322	8.75	ppbV	0.02

Spiked Amount 10.000 Range 75 - 125 Recovery = 87.50%

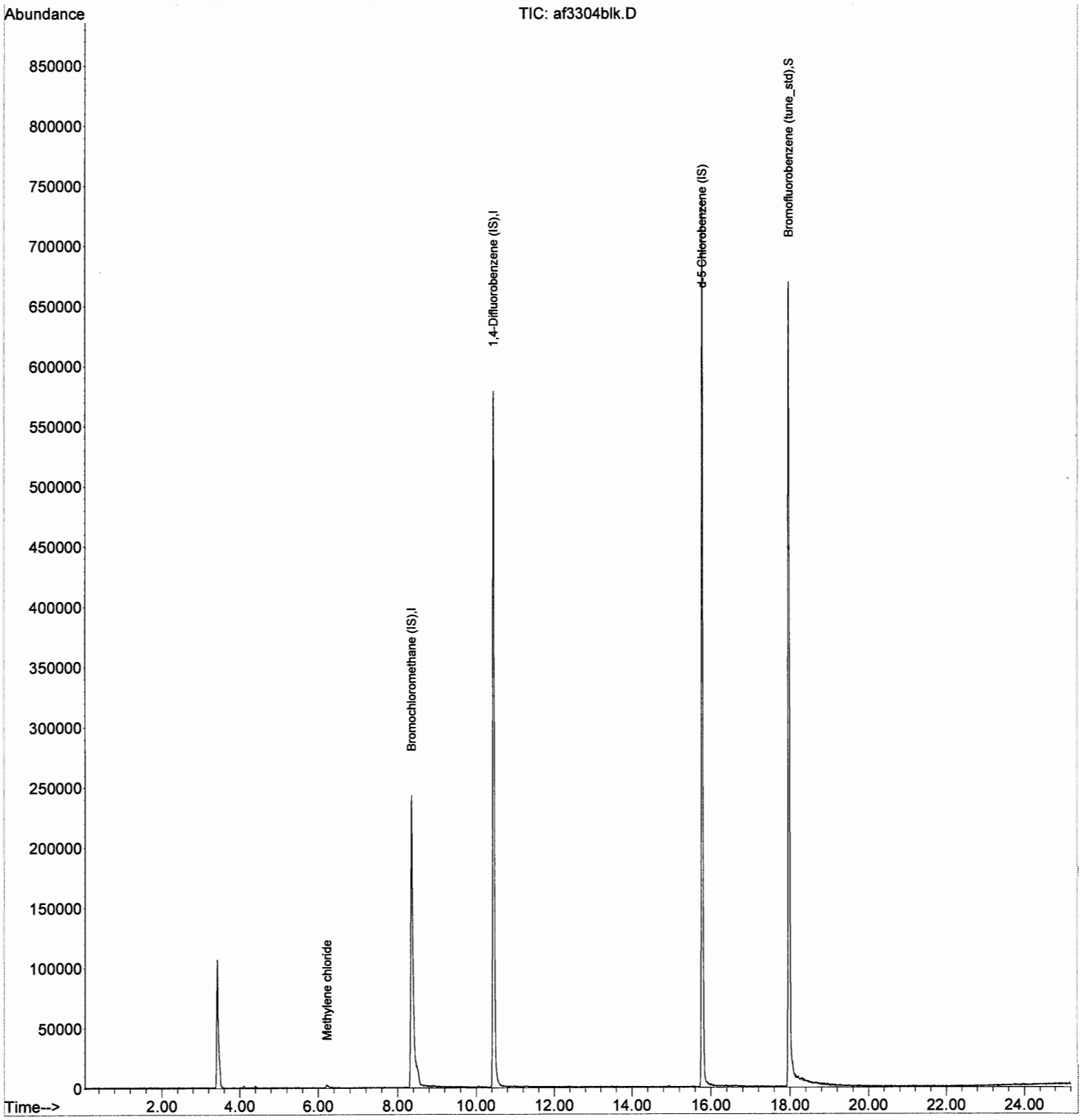
Target Compounds						Qvalue
20) Methylene chloride	6.22	49	3054	0.11	ppbV	98

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3304blk.D
Acq On : 07 Nov 11 13:54
Operator : JLS.
Sample : Method Blank.
Misc : 3813. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 14:50:49 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 12:04:00 2011
Response via : Initial Calibration



Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3577BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/21/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
Acetone	67-64-1	0.03	ND
Allyl chloride	107-05-1	0.11	ND
Benzene	71-43-2	0.08	ND
Bromodichloromethane	75-27-4	0.02	ND
Bromoform	75-25-2	0.04	ND
Bromomethane	74-83-9	0.12	ND
1,3-Butadiene	106-99-0	0.21	ND
Chlorobenzene	108-90-7	0.07	ND
Chloroethane	75-00-3	0.08	ND
Chloroform	67-66-3	0.02	ND
Chloromethane	74-87-3	0.02	ND
Carbon disulfide	75-15-0	0.06	ND
Carbon tetrachloride	56-23-5	0.03	ND
2-Chlorotoluene	95-49-8	0.10	ND
Cyclohexane	110-82-7	0.11	ND
Dibromochloromethane	124-48-1	0.05	ND
1,2-Dibromoethane	106-93-4	0.07	ND
1,2-Dichlorobenzene	95-50-1	0.10	ND
1,3-Dichlorobenzene	541-73-1	0.09	ND
1,4-Dichlorobenzene	106-46-7	0.09	ND
Dichlorodifluoromethane	75-71-8	0.02	ND
1,1-Dichloroethane	75-34-3	0.02	ND
1,2-Dichloroethane	107-06-2	0.02	ND
1,1-Dichloroethene	75-35-4	0.04	ND
1,2-Dichloroethene (cis)	156-59-2	0.06	ND
1,2-Dichloroethene (trans)	156-60-5	0.06	ND
1,2-Dichloropropane	78-87-5	0.05	ND
1,3-Dichloropropene (cis)	10061-01-5	0.10	ND
1,3-Dichloropropene (trans)	10061-02-6	0.09	ND
1,2-Dichlorotetrafluoroethane	76-14-2	0.06	ND
Ethylbenzene	100-41-4	0.11	ND
4-Ethyltoluene	622-96-8	0.11	ND
n-Heptane	142-82-5	0.06	ND
1,3-Hexachlorobutadiene	87-68-3	0.10	ND
n-Hexane	110-54-3	0.06	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Method Blank Report

Lab Sample Name:	**METHOD BLANK**	**Data File:**	**AF3577BLK**
Field Sample Name:	**METHOD BLANK**	**Date Analyzed:**	**11/21/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Runs with this Method Blank:

Standard/Sample Run	**Date/Time of Sample/Standard Injection**
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	**CAS #**	**Reporting Limit (ppbv)**	**Concentration (ppbv)**
Methylene chloride	75-09-2	0.17	0.040
Methyl ethyl ketone	78-93-3	0.05	ND
Methyl isobutyl ketone	108-10-1	0.05	ND
Methyl tert-butyl ether	1634-04-4	0.11	ND
Styrene	100-42-5	0.12	ND
Tert-butyl alcohol	75-65-0	0.07	ND
1,1,2,2-Tetrachloroethane	79-34-5	0.08	ND
Tetrachloroethene	127-18-4	0.09	ND
Toluene	108-88-3	0.11	ND
1,2,4-Trichlorobenzene	120-82-1	0.15	ND
1,1,1-Trichloroethane	71-55-6	0.04	ND
1,1,2-Trichloroethane	79-00-5	0.06	ND
Trichloroethene	79-01-6	0.06	ND
Trichlorofluoromethane	75-69-4	0.03	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.04	ND
1,2,4-Trimethylbenzene	95-63-6	0.13	ND
1,3,5-Trimethylbenzene	108-67-8	0.10	ND
2,2,4-Trimethylpentane	540-84-1	0.08	ND
Vinyl bromide	593-60-2	0.11	ND
Vinyl chloride	75-01-4	0.05	ND
Xylenes (m&p)	179601-23-1	0.22	ND
Xylenes (o)	95-47-6	0.09	ND

Method Blank must be less than the Practical Quantitation Limit (PQL).

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3577blk.D
Acq On : 21 Nov 2011 12:35
Operator : JLS.
Sample : Method Blank.
Misc : 3813. Multiplr: 1.00
Integrator: RTE

Quant Time: Dec 02 16:01:06 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Dec 02 16:00:00 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.36	130	196366	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	975768	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.78	117	827309	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.98	95	394176	8.21	ppbV	0.02

Spiked Amount 10.000 Range 75 - 125 Recovery = 82.10%

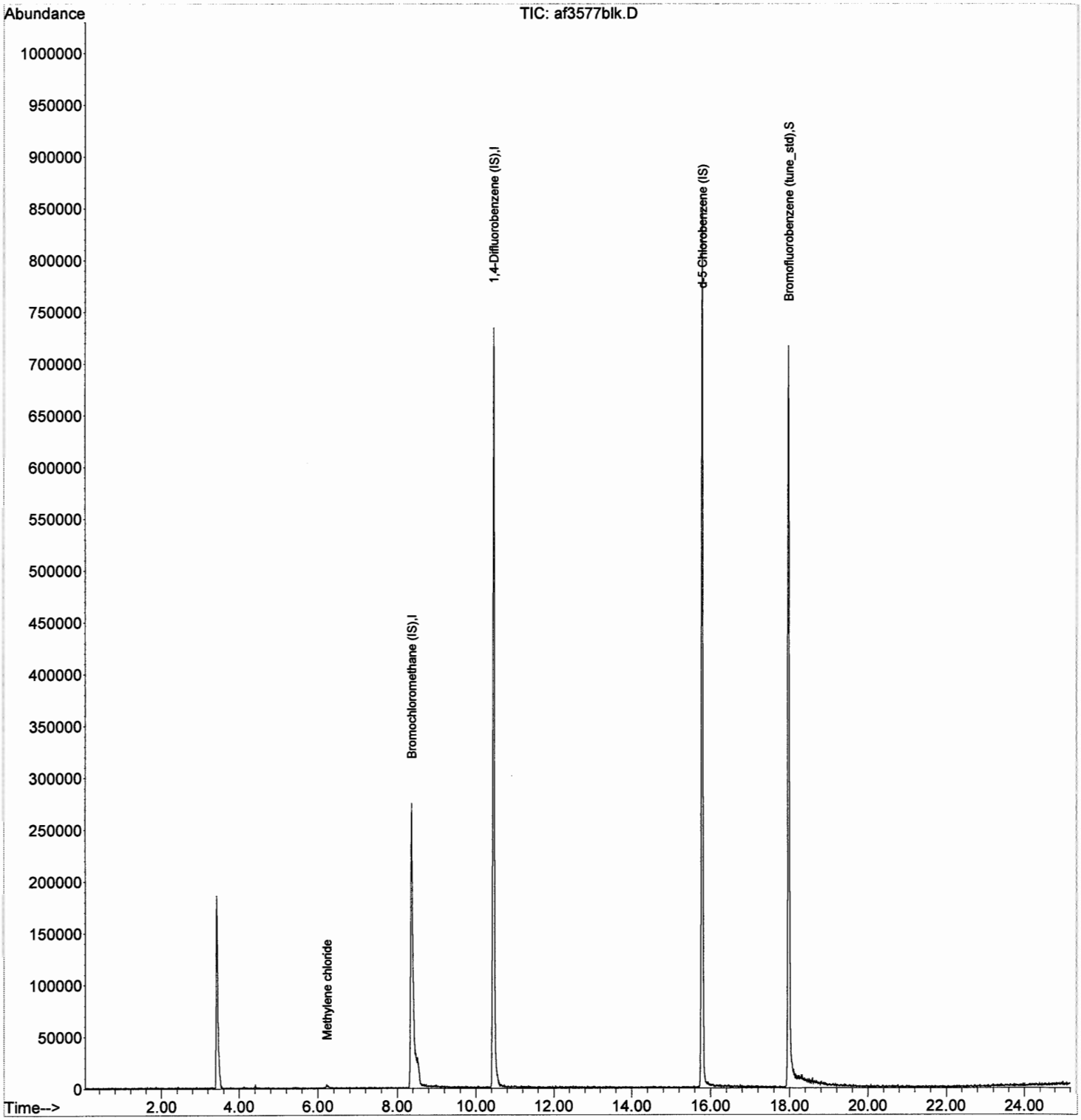
Target Compounds						Qvalue
20) Methylene chloride	6.22	49	1095	0.04	ppbV	98

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

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3577blk.D
Acq On : 21 Nov 2011 12:35
Operator : JLS.
Sample : Method Blank.
Misc : 3813. Multiplr: 1.00
Integrator: RTE

Quant Time: Dec 02 16:01:06 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Dec 02 16:00:00 2011
Response via : Initial Calibration



Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3302LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
Acetone	67-64-1	13	130	
Allyl chloride	107-05-1	14	140	*
Benzene	71-43-2	11	110	
Bromodichloromethane	75-27-4	11	110	
Bromoform	75-25-2	10	100	
Bromomethane	74-83-9	11	110	
1,3-Butadiene	106-99-0	12	120	
Chlorobenzene	108-90-7	12	120	
Chloroethane	75-00-3	13	130	
Chloroform	67-66-3	12	120	
Chloromethane	74-87-3	13	130	
Carbon disulfide	75-15-0	11	110	
Carbon tetrachloride	56-23-5	12	120	
2-Chlorotoluene	95-49-8	12	120	
Cyclohexane	110-82-7	12	120	
Dibromochloromethane	124-48-1	11	110	
1,2-Dibromoethane	106-93-4	11	110	
1,2-Dichlorobenzene	95-50-1	11	110	
1,3-Dichlorobenzene	541-73-1	12	120	
1,4-Dichlorobenzene	106-46-7	11	110	
Dichlorodifluoromethane	75-71-8	11	110	
1,1-Dichloroethane	75-34-3	11	110	
1,2-Dichloroethane	107-06-2	12	120	
1,1-Dichloroethene	75-35-4	12	120	
1,2-Dichloroethene (cis)	156-59-2	12	120	
1,2-Dichloroethene (trans)	156-60-5	13	130	
1,2-Dichloropropane	78-87-5	11	110	
1,3-Dichloropropene (cis)	10061-01-5	11	110	
1,3-Dichloropropene (trans)	10061-02-6	13	130	
1,2-Dichlorotetrafluoroethane	76-14-2	12	120	
Ethylbenzene	100-41-4	11	110	
4-Ethyltoluene	622-96-8	10	100	
n-Heptane	142-82-5	11	110	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3302LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
1,3-Hexachlorobutadiene	87-68-3	11	110	
n-Hexane	110-54-3	13	130	
Methylene chloride	75-09-2	9.6	96	
Methyl ethyl ketone	78-93-3	12	120	
Methyl isobutyl ketone	108-10-1	11	110	
Methyl tert-butyl ether	1634-04-4	11	110	
Styrene	100-42-5	10	100	
Tert-butyl alcohol	75-65-0	9.2	92	
1,1,2,2-Tetrachloroethane	79-34-5	11	110	
Tetrachloroethene	127-18-4	12	120	
Toluene	108-88-3	12	120	
1,2,4-Trichlorobenzene	120-82-1	8.8	88	
1,1,1-Trichloroethane	71-55-6	11	110	
1,1,2-Trichloroethane	79-00-5	10	100	
Trichloroethene	79-01-6	11	110	
Trichlorofluoromethane	75-69-4	14	140	*
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	13	130	
1,2,4-Trimethylbenzene	95-63-6	10	100	
1,3,5-Trimethylbenzene	108-67-8	11	110	
2,2,4-Trimethylpentane	540-84-1	11	110	
Vinyl bromide	593-60-2	13	130	
Vinyl chloride	75-01-4	12	120	
Xylenes (m&p)	179601-23-1	22	110	
Xylenes (o)	95-47-6	12	120	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3302lcs01.D
Acq On : 07 Nov 2011 11:37
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 13:59:42 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 13:59:34 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS)	8.32	130	192488	10.00	ppbV		0.00
33) 1,4-Difluorobenzene (IS)	10.42	114	817716	10.00	ppbV		0.00
51) d-5 Chlorobenzene (IS)	15.75	117	722473	10.00	ppbV		0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.96	95	420272	10.02	ppbV		0.03

Spiked Amount 10.000 Range 75 - 125 Recovery = 100.20%

Target Compounds							Qvalue
2) Propene	3.56	41	170072	12.20	ppbV		100
3) Dichlorodifluoromethane	3.63	85	401271	11.39	ppbV		100
4) Chloromethane	3.80	50	226600	12.55	ppbV	#	98
5) 1,2-Dichlorotetrafluoroeth	3.91	85	440407	12.46	ppbV	#	91
6) Vinyl chloride	4.02	62	224716	11.59	ppbV		100
7) 1,3-Butadiene	4.17	54	137594	11.81	ppbV		98
8) n-Butane	4.22	43	329902	11.81	ppbV		98
9) Bromomethane	4.45	94	153251	11.02	ppbV		100
10) Chloroethane	4.63	64	127936	12.54	ppbV		99
11) Ethanol	4.82	45	107693	10.51	ppbV		99
12) Bromoethene	4.97	106	192303	12.86	ppbV		99
13) Acrolein	5.12	56	69068	13.62	ppbV		97
14) Acetone	5.24	43	320394	12.68	ppbV		99
15) Trichlorofluoromethane	5.38	101	448986	13.78	ppbV		92
16) Isopropanol	5.51	45	476842	12.83	ppbV	#	94
17) n-Pentane	5.73	43	338455	11.34	ppbV		97
18) 1,1-Dichloroethene	6.00	61	305766	12.27	ppbV		98
19) Tert-butyl alcohol	6.09	59	259794	9.18	ppbV		100
20) Methylene chloride	6.13	49	286731	9.55	ppbV	#	93
21) Allyl chloride	6.25	76	118788	14.26	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.38	101	398532	12.91	ppbV	#	89
23) Carbon disulfide	6.42	76	531291	11.47	ppbV	#	99
24) 1,2-Dichloroethene (trans)	7.07	61	284277	13.00	ppbV		98
25) 1,1-Dichloroethane	7.27	63	424785	11.03	ppbV		99
26) Methyl tert-butyl ether	7.32	73	702073	11.42	ppbV		99
27) Vinyl acetate	7.44	43	403712	12.37	ppbV	#	94
28) Methyl ethyl ketone	7.68	43	490709	11.92	ppbV		100
29) 1,2-Dichloroethene (cis)	8.14	61	285139	11.68	ppbV		98
30) Ethyl acetate	8.37	45	83387	12.71	ppbV	#	68
31) n-Hexane	8.35	57	336358	12.64	ppbV		97
32) Chloroform	8.45	83	387332	12.08	ppbV		99
34) Tetrahydrofuran	8.86	42	281019	11.19	ppbV	#	96
35) 1,2-Dichloroethane	9.25	62	271680	11.98	ppbV	#	88
36) 1,1,1-Trichloroethane	9.51	97	404164	11.13	ppbV		98
37) Benzene	10.03	78	882541	11.40	ppbV		100
38) Carbon tetrachloride	10.19	117	409030	11.50	ppbV		100
39) Cyclohexane	10.33	84	282014	11.99	ppbV		99
40) 1,2-Dichloropropane	10.95	63	284800	11.36	ppbV		98
41) Bromodichloromethane	11.18	83	429786	11.23	ppbV	#	92
42) 1,4-Dioxane	11.21	88	141637	13.25	ppbV		97
43) Trichloroethene	11.23	130	324350	11.42	ppbV		100
44) 2,2,4-Trimethylpentane	11.27	57	1132962	11.16	ppbV		99
45) Methyl methacrylate	11.45	41	316161	11.95	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3302lcs01.D
Acq On : 07 Nov 2011 11:37
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 13:59:42 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 13:59:34 2011
Response via : Initial Calibration

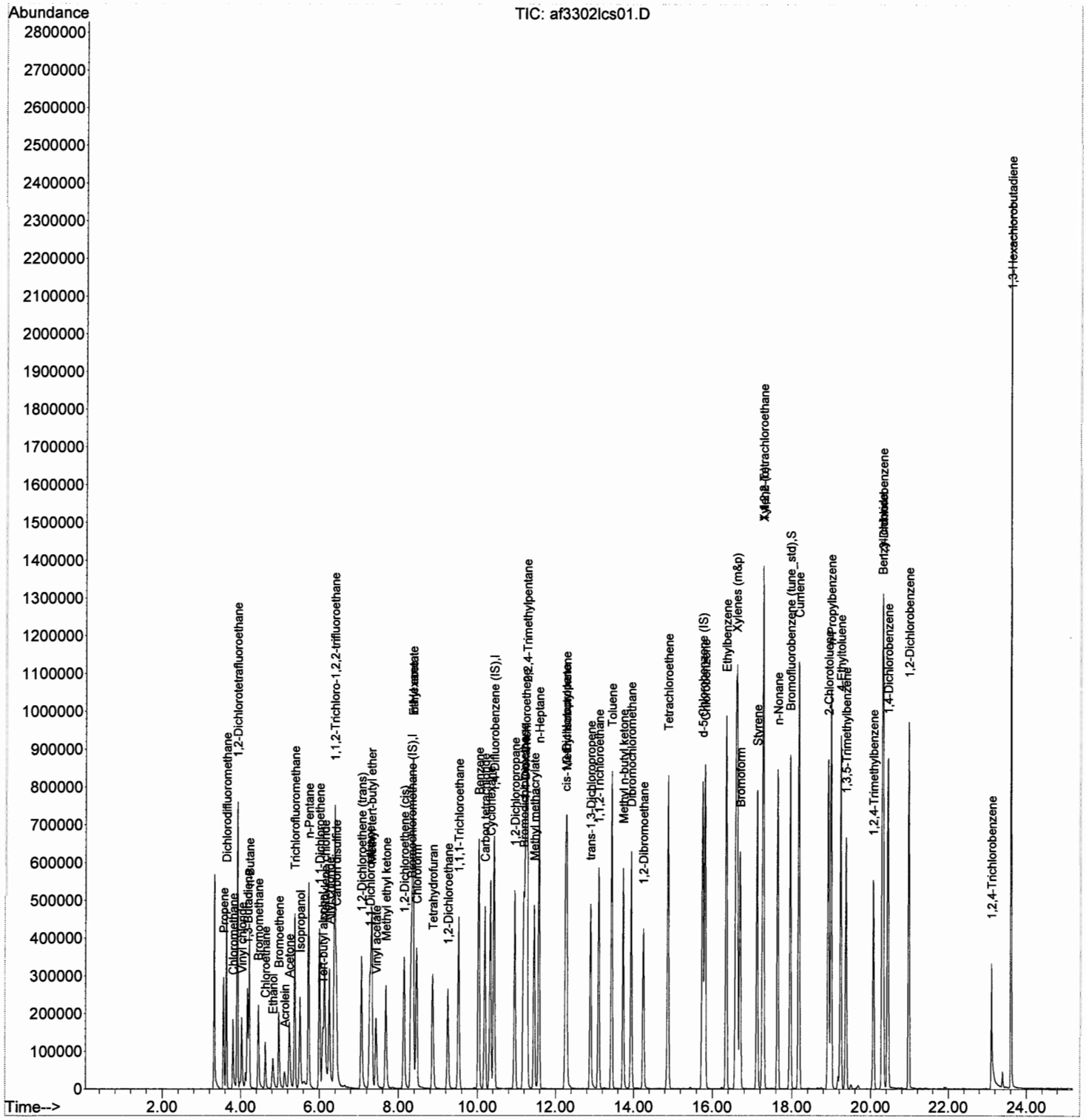
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) n-Heptane	11.58	43	448110	11.42 ppbV	99
47) cis-1,3-Dichloropropene	12.25	75	509200	11.14 ppbV	99
48) Methyl isobutyl ketone	12.28	43	569565	11.04 ppbV	100
49) trans-1,3-Dichloropropene	12.89	75	447028	12.52 ppbV	99
50) 1,1,2-Trichloroethane	13.10	97	262790	10.47 ppbV	98
52) Toluene	13.44	91	751124	12.00 ppbV	94
53) Methyl n-butyl ketone	13.74	43	522886	11.33 ppbV	99
54) Dibromochloromethane	13.93	129	485488	11.09 ppbV	99
55) 1,2-Dibromoethane	14.25	107	450204	10.71 ppbV	100
56) Tetrachloroethene	14.88	166	375240	12.46 ppbV	98
57) Chlorobenzene	15.81	112	688288	12.22 ppbV	99
58) Ethylbenzene	16.34	91	984591	11.40 ppbV #	94
59) Xylenes (m&p)	16.60	91	1465703	22.32 ppbV	100
60) Bromoform	16.69	171	229804	10.12 ppbV	100
61) Styrene	17.12	104	599917	10.08 ppbV	99
62) 1,1,2,2-Tetrachloroethane	17.27	83	546999	11.36 ppbV	100
63) Xylene (o)	17.28	91	727332	12.05 ppbV	97
64) n-Nonane	17.64	43	455212	9.90 ppbV	98
66) Cumene	18.18	105	1113237	10.95 ppbV	100
67) 2-Chlorotoluene	18.92	91	718418	11.90 ppbV	97
68) n-Propylbenzene	18.99	91	1204497	12.23 ppbV	94
69) 4-Ethyltoluene	19.24	105	861193	10.23 ppbV	100
70) 1,3,5-Trimethylbenzene	19.37	105	531642	10.92 ppbV	100
71) 1,2,4-Trimethylbenzene	20.07	105	457444	10.20 ppbV	93
72) Benzyl chloride	20.29	91	840972	12.89 ppbV	98
73) 1,3-Dichlorobenzene	20.32	146	561730	11.85 ppbV	99
74) 1,4-Dichlorobenzene	20.44	146	542914	10.73 ppbV	99
75) 1,2-Dichlorobenzene	20.98	146	507386	11.24 ppbV	100
76) 1,2,4-Trichlorobenzene	23.11	180	143337	8.77 ppbV	96
77) 1,3-Hexachlorobutadiene	23.60	225	551608	11.33 ppbV #	58

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3302lcs01.D
Acq On : 07 Nov 2011 11:37
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 13:59:42 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 13:59:34 2011
Response via : Initial Calibration



Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3303LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
Acetone	67-64-1	11	110
Allyl chloride	107-05-1	12	120
Benzene	71-43-2	9.3	93
Bromodichloromethane	75-27-4	9.3	93
Bromoform	75-25-2	8.5	85
Bromomethane	74-83-9	11	110
1,3-Butadiene	106-99-0	11	110
Chlorobenzene	108-90-7	10	100
Chloroethane	75-00-3	10	100
Chloroform	67-66-3	10	100
Chloromethane	74-87-3	11	110
Carbon disulfide	75-15-0	13	130
Carbon tetrachloride	56-23-5	9.5	95
2-Chlorotoluene	95-49-8	10	100
Cyclohexane	110-82-7	9.9	99
Dibromochloromethane	124-48-1	9.4	94
1,2-Dibromoethane	106-93-4	9.0	90
1,2-Dichlorobenzene	95-50-1	9.6	96
1,3-Dichlorobenzene	541-73-1	10	100
1,4-Dichlorobenzene	106-46-7	9.2	92
Dichlorodifluoromethane	75-71-8	9.8	98
1,1-Dichloroethane	75-34-3	9.5	95
1,2-Dichloroethane	107-06-2	9.8	98
1,1-Dichloroethene	75-35-4	11	110
1,2-Dichloroethene (cis)	156-59-2	10.0	100
1,2-Dichloroethene (trans)	156-60-5	11	110
1,2-Dichloropropane	78-87-5	9.3	93
1,3-Dichloropropene (cis)	10061-01-5	9.1	91
1,3-Dichloropropene (trans)	10061-02-6	9.9	99
1,2-Dichlorotetrafluoroethane	76-14-2	10	100
Ethylbenzene	100-41-4	9.2	92
4-Ethyltoluene	622-96-8	8.7	87
n-Heptane	142-82-5	9.3	93

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3303LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/7/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 9:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
1402 [AF3306]	11/07/2011 15:31
1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 0:59

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
1,3-Hexachlorobutadiene	87-68-3	10	100
n-Hexane	110-54-3	10	100
Methylene chloride	75-09-2	8.1	81
Methyl ethyl ketone	78-93-3	10	100
Methyl isobutyl ketone	108-10-1	9.3	93
Methyl tert-butyl ether	1634-04-4	9.8	98
Styrene	100-42-5	8.4	84
Tert-butyl alcohol	75-65-0	7.6	76
1,1,2,2-Tetrachloroethane	79-34-5	9.7	97
Tetrachloroethene	127-18-4	11	110
Toluene	108-88-3	10	100
1,2,4-Trichlorobenzene	120-82-1	8.6	86
1,1,1-Trichloroethane	71-55-6	9.2	92
1,1,2-Trichloroethane	79-00-5	8.8	88
Trichloroethene	79-01-6	9.6	96
Trichlorofluoromethane	75-69-4	12	120
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	11	110
1,2,4-Trimethylbenzene	95-63-6	8.9	89
1,3,5-Trimethylbenzene	108-67-8	9.5	95
2,2,4-Trimethylpentane	540-84-1	9.3	93
Vinyl bromide	593-60-2	11	110
Vinyl chloride	75-01-4	10	100
Xylenes (m&p)	179601-23-1	18	92
Xylenes (o)	95-47-6	10	100

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3303lcs02.D
Acq On : 07 Nov 2011 12:25
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 14:14:19 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 12:04:00 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS)	8.35	130	190827	10.00	ppbV		0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	834017	10.00	ppbV		0.00
51) d-5 Chlorobenzene (IS)	15.78	117	718968	10.00	ppbV		0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.95	95	424699	10.18	ppbV		-0.02

Spiked Amount 10.000 Range 75 - 125 Recovery = 101.80%

Target Compounds							Qvalue
2) Propene	3.68	41	140670	10.18	ppbV		99
3) Dichlorodifluoromethane	3.75	85	341226	9.77	ppbV		100
4) Chloromethane	3.92	50	196089	10.96	ppbV	#	98
5) 1,2-Dichlorotetrafluoroeth	4.03	85	367334	10.48	ppbV	#	91
6) Vinyl chloride	4.14	62	193402	10.06	ppbV		100
7) 1,3-Butadiene	4.28	54	131246	11.36	ppbV	#	53
8) n-Butane	4.32	43	310675	11.21	ppbV		99
9) Bromomethane	4.54	94	149830	10.86	ppbV		99
10) Chloroethane	4.71	64	102899	10.18	ppbV		100
11) Ethanol	4.89	45	127490	12.55	ppbV		98
12) Bromoethene	5.04	106	164507	11.09	ppbV		99
13) Acrolein	5.19	56	56649	11.27	ppbV		98
14) Acetone	5.30	43	265546	10.60	ppbV		100
15) Trichlorofluoromethane	5.44	101	376801	11.67	ppbV		93
16) Isopropanol	5.57	45	429393	11.65	ppbV	#	94
17) n-Pentane	5.78	43	359578	12.15	ppbV		96
18) 1,1-Dichloroethene	6.05	61	278507	11.28	ppbV		98
19) Tert-butyl alcohol	6.14	59	214343	7.64	ppbV		100
20) Methylene chloride	6.19	49	239433	8.05	ppbV	#	93
21) Allyl chloride	6.30	76	96406	11.67	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.43	101	340955	11.14	ppbV	#	75
23) Carbon disulfide	6.47	76	617021	13.43	ppbV		99
24) 1,2-Dichloroethene (trans)	7.10	61	238911	11.02	ppbV		98
25) 1,1-Dichloroethane	7.32	63	361942	9.48	ppbV		100
26) Methyl tert-butyl ether	7.35	73	596689	9.79	ppbV		99
27) Vinyl acetate	7.47	43	334221	10.33	ppbV	#	92
28) Methyl ethyl ketone	7.71	43	414221	10.15	ppbV		100
29) 1,2-Dichloroethene (cis)	8.17	61	241912	9.99	ppbV		97
30) Ethyl acetate	8.40	45	70605	10.86	ppbV	#	69
31) n-Hexane	8.38	57	275137	10.43	ppbV		98
32) Chloroform	8.48	83	323923	10.19	ppbV		100
34) Tetrahydrofuran	8.88	42	239583	9.36	ppbV	#	95
35) 1,2-Dichloroethane	9.27	62	226234	9.78	ppbV	#	88
36) 1,1,1-Trichloroethane	9.54	97	340458	9.19	ppbV		99
37) Benzene	10.05	78	735140	9.31	ppbV		100
38) Carbon tetrachloride	10.21	117	342832	9.45	ppbV		100
39) Cyclohexane	10.35	84	236844	9.88	ppbV		99
40) 1,2-Dichloropropane	10.97	63	236665	9.26	ppbV		99
41) Bromodichloromethane	11.19	83	362287	9.28	ppbV		93
42) 1,4-Dioxane	11.22	88	125575	11.52	ppbV		94
43) Trichloroethene	11.24	130	276963	9.56	ppbV		99
44) 2,2,4-Trimethylpentane	11.28	57	966278	9.33	ppbV		99
45) Methyl methacrylate	11.46	41	261751	9.70	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3303lcs02.D
Acq On : 07 Nov 2011 12:25
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 14:14:19 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 12:04:00 2011
Response via : Initial Calibration

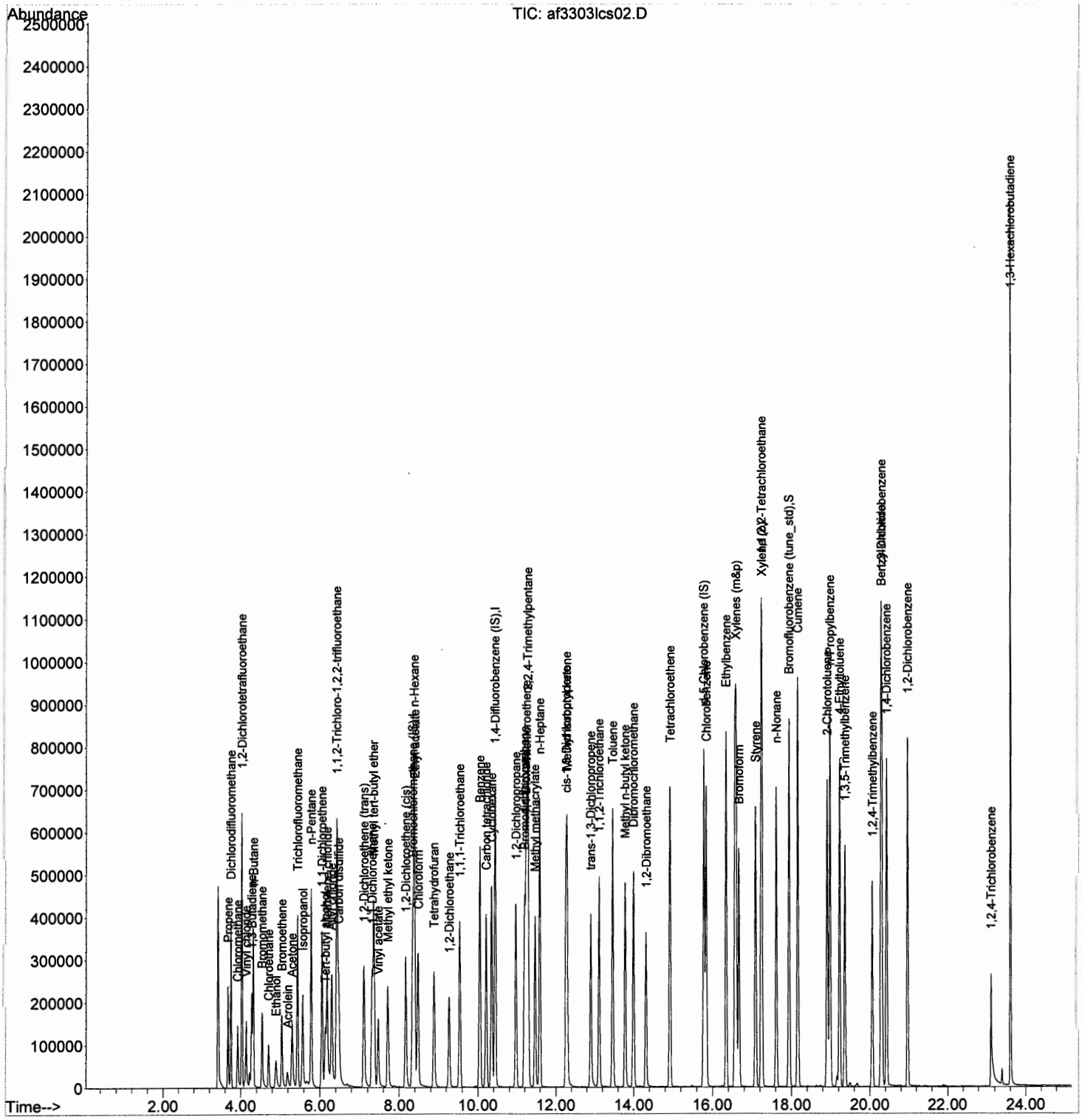
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) n-Heptane	11.59	43	370128	9.25	ppbV	99
47) cis-1,3-Dichloropropene	12.26	75	426058	9.14	ppbV	99
48) Methyl isobutyl ketone	12.29	43	488643	9.28	ppbV	100
49) trans-1,3-Dichloropropene	12.90	75	361749	9.93	ppbV	100
50) 1,1,2-Trichloroethane	13.12	97	225310	8.80	ppbV	96
52) Toluene	13.46	91	648472	10.41	ppbV	94
53) Methyl n-butyl ketone	13.78	43	465254	10.13	ppbV	99
54) Dibromochloromethane	14.00	129	411166	9.44	ppbV	99
55) 1,2-Dibromoethane	14.32	107	376454	9.00	ppbV	100
56) Tetrachloroethene	14.92	166	314870	10.51	ppbV	99
57) Chlorobenzene	15.84	112	570243	10.17	ppbV	99
58) Ethylbenzene	16.34	91	792334	9.22	ppbV #	94
59) Xylenes (m&p)	16.59	91	1199957	18.36	ppbV	100
60) Bromoform	16.67	171	191189	8.46	ppbV	100
61) Styrene	17.09	104	499477	8.43	ppbV	100
62) 1,1,2,2-Tetrachloroethane	17.24	83	462546	9.65	ppbV	100
63) Xylene (o)	17.25	91	620685	10.33	ppbV	97
64) n-Nonane	17.62	43	385740	8.43	ppbV	100
66) Cumene	18.16	105	936286	9.25	ppbV	100
67) 2-Chlorotoluene	18.91	91	601926	10.02	ppbV	96
68) n-Propylbenzene	18.98	91	995884	10.16	ppbV	94
69) 4-Ethyltoluene	19.23	105	731249	8.72	ppbV	100
70) 1,3,5-Trimethylbenzene	19.36	105	458291	9.46	ppbV	99
71) 1,2,4-Trimethylbenzene	20.07	105	395705	8.86	ppbV	93
72) Benzyl chloride	20.29	91	707791	10.90	ppbV	98
73) 1,3-Dichlorobenzene	20.31	146	482629	10.23	ppbV	98
74) 1,4-Dichlorobenzene	20.43	146	463600	9.20	ppbV	99
75) 1,2-Dichlorobenzene	20.97	146	429273	9.56	ppbV	99
76) 1,2,4-Trichlorobenzene	23.11	180	139408	8.57	ppbV	95
77) 1,3-Hexachlorobutadiene	23.60	225	493932	10.20	ppbV #	58

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3303lcs02.D
Acq On : 07 Nov 2011 12:25
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 07 14:14:19 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 12:04:00 2011
Response via : Initial Calibration



Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3575LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
Acetone	67-64-1	9.4	94
Allyl chloride	107-05-1	9.2	92
Benzene	71-43-2	8.6	86
Bromodichloromethane	75-27-4	8.4	84
Bromoform	75-25-2	7.8	78
Bromomethane	74-83-9	8.4	84
1,3-Butadiene	106-99-0	11	110
Chlorobenzene	108-90-7	9.6	96
Chloroethane	75-00-3	8.6	86
Chloroform	67-66-3	9.0	90
Chloromethane	74-87-3	9.7	97
Carbon disulfide	75-15-0	11	110
Carbon tetrachloride	56-23-5	8.5	85
2-Chlorotoluene	95-49-8	9.0	90
Cyclohexane	110-82-7	8.8	88
Dibromochloromethane	124-48-1	8.7	87
1,2-Dibromoethane	106-93-4	8.2	82
1,2-Dichlorobenzene	95-50-1	8.8	88
1,3-Dichlorobenzene	541-73-1	9.3	93
1,4-Dichlorobenzene	106-46-7	8.4	84
Dichlorodifluoromethane	75-71-8	8.7	87
1,1-Dichloroethane	75-34-3	8.4	84
1,2-Dichloroethane	107-06-2	9.2	92
1,1-Dichloroethene	75-35-4	10	100
1,2-Dichloroethene (cis)	156-59-2	8.8	88
1,2-Dichloroethene (trans)	156-60-5	9.5	95
1,2-Dichloropropane	78-87-5	8.3	83
1,3-Dichloropropene (cis)	10061-01-5	8.2	82
1,3-Dichloropropene (trans)	10061-02-6	9.6	96
1,2-Dichlorotetrafluoroethane	76-14-2	9.2	92
Ethylbenzene	100-41-4	8.7	87
4-Ethyltoluene	622-96-8	7.9	79
n-Heptane	142-82-5	8.7	87
1,3-Hexachlorobutadiene	87-68-3	9.1	91

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3575LCS01**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
n-Hexane	110-54-3	9.7	97	
Methylene chloride	75-09-2	7.1	71	
Methyl ethyl ketone	78-93-3	8.7	87	
Methyl isobutyl ketone	108-10-1	8.6	86	
Methyl tert-butyl ether	1634-04-4	8.6	86	
Styrene	100-42-5	7.8	78	
Tert-butyl alcohol	75-65-0	6.7	67	*
1,1,2,2-Tetrachloroethane	79-34-5	8.7	87	
Tetrachloroethene	127-18-4	9.6	96	
Toluene	108-88-3	9.3	93	
1,2,4-Trichlorobenzene	120-82-1	7.2	72	
1,1,1-Trichloroethane	71-55-6	8.2	82	
1,1,2-Trichloroethane	79-00-5	8.0	80	
Trichloroethene	79-01-6	8.6	86	
Trichlorofluoromethane	75-69-4	10	100	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	9.9	99	
1,2,4-Trimethylbenzene	95-63-6	8.0	80	
1,3,5-Trimethylbenzene	108-67-8	8.5	85	
2,2,4-Trimethylpentane	540-84-1	8.5	85	
Vinyl bromide	593-60-2	9.9	99	
Vinyl chloride	75-01-4	9.0	90	
Xylenes (m&p)	179601-23-1	17	86	
Xylenes (o)	95-47-6	9.3	93	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3575lcs01.D
Acq On : 21 Nov 2011 10:26
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:43:41 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.34	130	232436	10.00	ppbV	-0.01
33) 1,4-Difluorobenzene (IS)	10.44	114	990837	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.77	117	855402	10.00	ppbV	0.01

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	452180	9.11	ppbV	0.01

Spiked Amount 10.000 Range 75 - 125 Recovery = 91.10%

Target Compounds							Qvalue
2) Propene	3.67	41	153861	9.14	ppbV		96
3) Dichlorodifluoromethane	3.75	85	371619	8.74	ppbV		100
4) Chloromethane	3.92	50	211787	9.72	ppbV	#	98
5) 1,2-Dichlorotetrafluoroeth	4.02	85	392020	9.18	ppbV	#	91
6) Vinyl chloride	4.14	62	210484	8.99	ppbV		99
7) 1,3-Butadiene	4.27	54	156261	11.11	ppbV	#	53
8) n-Butane	4.32	43	352452	10.45	ppbV		99
9) Bromomethane	4.54	94	140849	8.38	ppbV		96
10) Chloroethane	4.70	64	105442	8.56	ppbV		99
11) Ethanol	4.89	45	130921	10.58	ppbV		99
12) Bromoethene	5.04	106	178009	9.85	ppbV		99
13) Acrolein	5.18	56	60772	9.93	ppbV		87
14) Acetone	5.30	43	286167	9.38	ppbV		99
15) Trichlorofluoromethane	5.44	101	407932	10.37	ppbV		93
16) Isopropanol	5.56	45	450900	10.05	ppbV		99
17) n-Pentane	5.78	43	383741	10.65	ppbV		98
18) 1,1-Dichloroethene	6.05	61	307383	10.22	ppbV		96
19) Tert-butyl alcohol	6.13	59	230284	6.74	ppbV		100
20) Methylene chloride	6.18	49	256296	7.07	ppbV	#	79
21) Allyl chloride	6.29	76	92837	9.23	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.42	101	368076	9.88	ppbV	#	90
23) Carbon disulfide	6.47	76	631860	11.29	ppbV	#	99
24) 1,2-Dichloroethene (trans)	7.11	61	251980	9.54	ppbV		97
25) 1,1-Dichloroethane	7.31	63	392567	8.44	ppbV		100
26) Methyl tert-butyl ether	7.36	73	637183	8.58	ppbV		99
27) Vinyl acetate	7.46	43	376088	9.54	ppbV	#	95
28) Methyl ethyl ketone	7.71	43	432747	8.71	ppbV		99
29) 1,2-Dichloroethene (cis)	8.17	61	258402	8.76	ppbV		96
30) Ethyl acetate	8.39	45	72889	9.20	ppbV	#	64
31) n-Hexane	8.39	57	311166	9.68	ppbV		97
32) Chloroform	8.48	83	346918	8.96	ppbV		98
34) Tetrahydrofuran	8.88	42	250219	8.22	ppbV	#	85
35) 1,2-Dichloroethane	9.27	62	253407	9.22	ppbV	#	88
36) 1,1,1-Trichloroethane	9.53	97	361048	8.21	ppbV		98
37) Benzene	10.05	78	810376	8.64	ppbV		99
38) Carbon tetrachloride	10.21	117	365714	8.48	ppbV		99
39) Cyclohexane	10.34	84	251938	8.84	ppbV		99
40) 1,2-Dichloropropane	10.97	63	253390	8.34	ppbV		100
41) Bromodichloromethane	11.19	83	387189	8.35	ppbV	#	92
42) 1,4-Dioxane	11.22	88	138928	10.72	ppbV	#	92
43) Trichloroethene	11.24	130	296361	8.61	ppbV		99
44) 2,2,4-Trimethylpentane	11.28	57	1049587	8.53	ppbV		99
45) Methyl methacrylate	11.46	41	281725	8.79	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3575lcs01.D
Acq On : 21 Nov 2011 10:26
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:43:41 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration

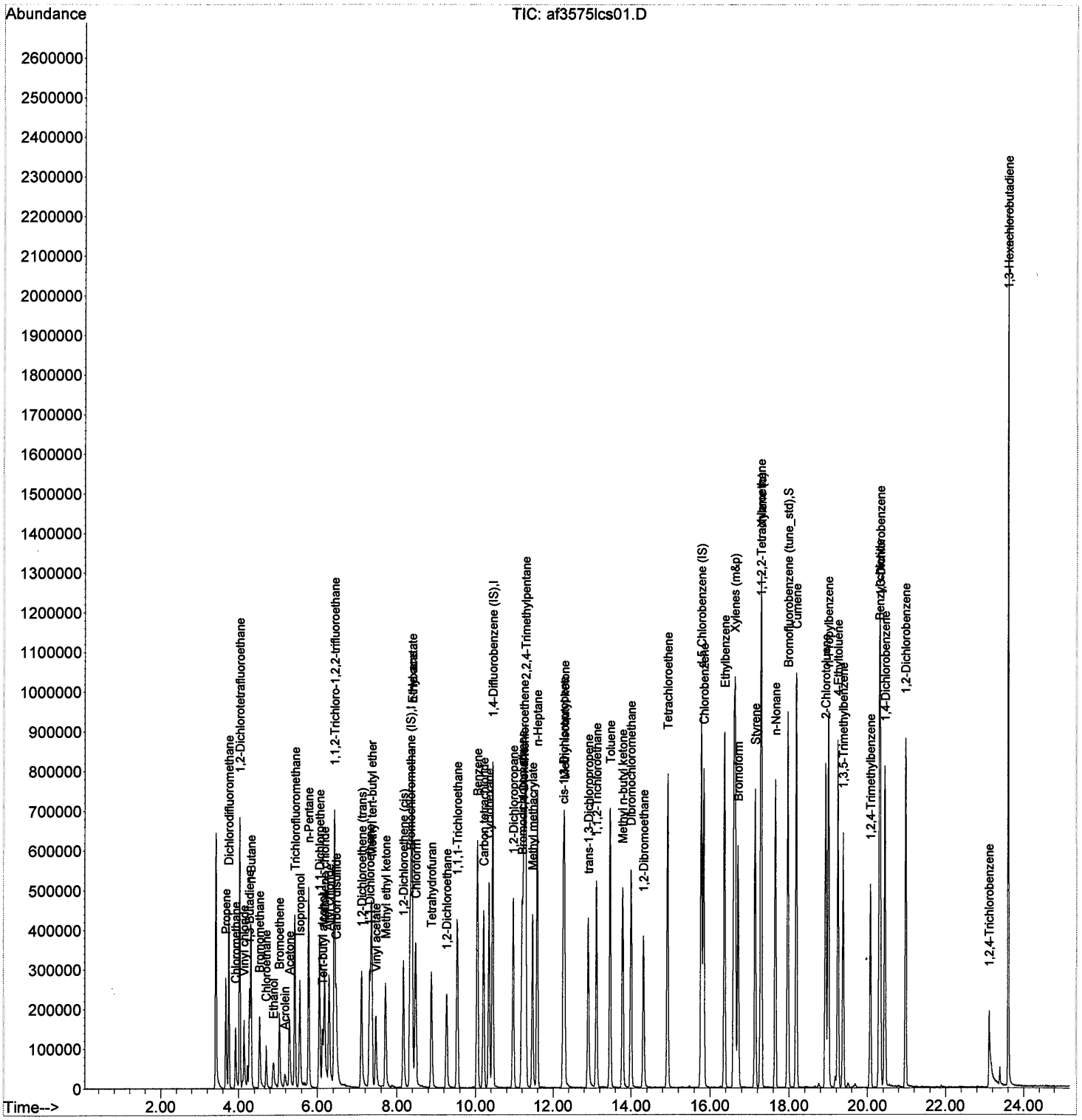
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) n-Heptane	11.59	43	412357	8.67	ppbV	99
47) cis-1,3-Dichloropropene	12.26	75	455820	8.23	ppbV	100
48) Methyl isobutyl ketone	12.29	43	538189	8.61	ppbV	100
49) trans-1,3-Dichloropropene	12.90	75	415913	9.61	ppbV	100
50) 1,1,2-Trichloroethane	13.11	97	244169	8.03	ppbV	96
52) Toluene	13.46	91	689238	9.30	ppbV	95
53) Methyl n-butyl ketone	13.79	43	483432	8.85	ppbV	97
54) Dibromochloromethane	13.99	129	449698	8.68	ppbV	99
55) 1,2-Dibromoethane	14.31	107	407454	8.19	ppbV	99
56) Tetrachloroethene	14.92	166	343928	9.64	ppbV	99
57) Chlorobenzene	15.84	112	639266	9.58	ppbV	99
58) Ethylbenzene	16.37	91	885617	8.66	ppbV #	95
59) Xylenes (m&p)	16.62	91	1331843	17.13	ppbV	99
60) Bromoform	16.71	171	210155	7.81	ppbV	100
61) Styrene	17.14	104	551711	7.83	ppbV	99
62) 1,1,2,2-Tetrachloroethane	17.27	83	497841	8.73	ppbV	100
63) Xylene (o)	17.29	91	664134	9.29	ppbV	96
64) n-Nonane	17.65	43	406956	7.47	ppbV	99
66) Cumene	18.19	105	1042702	8.66	ppbV	100
67) 2-Chlorotoluene	18.92	91	646301	9.04	ppbV	97
68) n-Propylbenzene	19.00	91	1048144	8.99	ppbV #	89
69) 4-Ethyltoluene	19.24	105	792094	7.94	ppbV	99
70) 1,3,5-Trimethylbenzene	19.37	105	492541	8.54	ppbV	99
71) 1,2,4-Trimethylbenzene	20.07	105	426122	8.02	ppbV	93
72) Benzyl chloride	20.30	91	744824	9.64	ppbV	96
73) 1,3-Dichlorobenzene	20.32	146	523354	9.32	ppbV	98
74) 1,4-Dichlorobenzene	20.44	146	503633	8.40	ppbV	99
75) 1,2-Dichlorobenzene	20.97	146	471585	8.82	ppbV	99
76) 1,2,4-Trichlorobenzene	23.11	180	139297	7.20	ppbV	98
77) 1,3-Hexachlorobutadiene	23.60	225	526548	9.14	ppbV #	90

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

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3575lcs01.D
Acq On : 21 Nov 2011 10:26
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 21 11:43:41 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Nov 11 09:36:50 2011
Response via : Initial Calibration



Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3576LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery
Acetone	67-64-1	9.6	96
Allyl chloride	107-05-1	10	100
Benzene	71-43-2	8.6	86
Bromodichloromethane	75-27-4	8.2	82
Bromoform	75-25-2	7.7	77
Bromomethane	74-83-9	9.4	94
1,3-Butadiene	106-99-0	11	110
Chlorobenzene	108-90-7	9.4	94
Chloroethane	75-00-3	9.2	92
Chloroform	67-66-3	9.1	91
Chloromethane	74-87-3	9.8	98
Carbon disulfide	75-15-0	12	120
Carbon tetrachloride	56-23-5	8.8	88
2-Chlorotoluene	95-49-8	9.0	90
Cyclohexane	110-82-7	8.9	89
Dibromochloromethane	124-48-1	8.6	86
1,2-Dibromoethane	106-93-4	8.2	82
1,2-Dichlorobenzene	95-50-1	8.7	87
1,3-Dichlorobenzene	541-73-1	8.9	89
1,4-Dichlorobenzene	106-46-7	8.2	82
Dichlorodifluoromethane	75-71-8	8.7	87
1,1-Dichloroethane	75-34-3	8.6	86
1,2-Dichloroethane	107-06-2	8.9	89
1,1-Dichloroethene	75-35-4	10	100
1,2-Dichloroethene (cis)	156-59-2	9.0	90
1,2-Dichloroethene (trans)	156-60-5	9.2	92
1,2-Dichloropropane	78-87-5	8.1	81
1,3-Dichloropropene (cis)	10061-01-5	8.0	80
1,3-Dichloropropene (trans)	10061-02-6	9.3	93
1,2-Dichlorotetrafluoroethane	76-14-2	9.3	93
Ethylbenzene	100-41-4	8.5	85
4-Ethyltoluene	622-96-8	7.6	76
n-Heptane	142-82-5	8.7	87
1,3-Hexachlorobutadiene	87-68-3	9.0	90

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Laboratory Control Spike

Lab Sample Name: **10 PPBV LCS** **Data File:** **AF3576LCS02**
Spike Amount: **10 ppbv, except m&p-Xylenes at 20 ppbv** **Date Analyzed:** **11/21/2011**

Runs with this LCS:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3573BFB]	11/21/2011 8:32
10 PPBV DCVS. [AF3574DCVS]	11/21/2011 9:25
10 PPBV LCS [AF3575LCS01]	11/21/2011 10:26
10 PPBV LCS [AF3576LCS02]	11/21/2011 11:08
METHOD BLANK [AF3577BLK]	11/21/2011 12:35
E11-11497-01 [AF3587]	11/21/2011 22:12
E11-11497-02 [AF3589]	11/21/2011 23:40
10 PPBV CCCVS. [AF3600CCCVS]	11/22/2011 7:36

Compound	CAS #	Calculated Amount (ppbv)	% Recovery	
n-Hexane	110-54-3	9.5	95	
Methylene chloride	75-09-2	7.3	73	
Methyl ethyl ketone	78-93-3	9.0	90	
Methyl isobutyl ketone	108-10-1	8.4	84	
Methyl tert-butyl ether	1634-04-4	8.7	87	
Styrene	100-42-5	7.5	75	
Tert-butyl alcohol	75-65-0	6.7	67	*
1,1,2,2-Tetrachloroethane	79-34-5	8.7	87	
Tetrachloroethene	127-18-4	9.7	97	
Toluene	108-88-3	9.3	93	
1,2,4-Trichlorobenzene	120-82-1	5.6	56	*
1,1,1-Trichloroethane	71-55-6	8.4	84	
1,1,2-Trichloroethane	79-00-5	8.2	82	
Trichloroethene	79-01-6	8.7	87	
Trichlorofluoromethane	75-69-4	10	100	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	9.6	96	
1,2,4-Trimethylbenzene	95-63-6	7.6	76	
1,3,5-Trimethylbenzene	108-67-8	8.2	82	
2,2,4-Trimethylpentane	540-84-1	8.6	86	
Vinyl bromide	593-60-2	9.5	95	
Vinyl chloride	75-01-4	9.1	91	
Xylenes (m&p)	179601-23-1	17	84	
Xylenes (o)	95-47-6	9.0	90	

LCS recovery must be within 70-130% of the spiked value for 90% of compounds; All compounds must be within 50-150%
*** Values outside of 70-130% QC limits**

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3576lcs02.D
Acq On : 21 Nov 2011 11:08
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Dec 02 16:00:05 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Dec 02 16:00:00 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.35	130	228642	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.44	114	983240	10.00	ppbV	0.00
51) d-5 Chlorobenzene (IS)	15.78	117	850527	10.00	ppbV	0.02

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	471759	9.56	ppbV	0.01

Spiked Amount 10.000 Range 75 - 125 Recovery = 95.60%

Target Compounds							Qvalue
2) Propene	3.67	41	140028	8.45	ppbV		94
3) Dichlorodifluoromethane	3.75	85	362290	8.66	ppbV		100
4) Chloromethane	3.92	50	209252	9.76	ppbV		99
5) 1,2-Dichlorotetrafluoroeth	4.02	85	391269	9.32	ppbV	#	91
6) Vinyl chloride	4.13	62	209540	9.10	ppbV		98
7) 1,3-Butadiene	4.27	54	153247	11.08	ppbV	#	90
8) n-Butane	4.31	43	336478	10.14	ppbV		99
9) Bromomethane	4.53	94	155341	9.40	ppbV		100
10) Chloroethane	4.70	64	111601	9.21	ppbV		100
11) Ethanol	4.89	45	128068	10.52	ppbV		97
12) Bromoethene	5.04	106	169076	9.52	ppbV		99
13) Acrolein	5.19	56	52022	8.64	ppbV		99
14) Acetone	5.30	43	288731	9.62	ppbV		99
15) Trichlorofluoromethane	5.43	101	397758	10.28	ppbV		94
16) Isopropanol	5.56	45	430103	9.74	ppbV		99
17) n-Pentane	5.77	43	401057	11.31	ppbV		92
18) 1,1-Dichloroethene	6.06	61	298190	10.08	ppbV		98
19) Tert-butyl alcohol	6.12	59	225104	6.69	ppbV		100
20) Methylene chloride	6.18	49	261513	7.34	ppbV	#	79
21) Allyl chloride	6.29	76	101280	10.23	ppbV		100
22) 1,1,2-Trichloro-1,2,2-trif	6.42	101	352665	9.62	ppbV	#	88
23) Carbon disulfide	6.47	76	650872	11.83	ppbV		99
24) 1,2-Dichloroethene (trans)	7.10	61	237730	9.15	ppbV		94
25) 1,1-Dichloroethane	7.31	63	393414	8.60	ppbV		100
26) Methyl tert-butyl ether	7.36	73	635036	8.70	ppbV		99
27) Vinyl acetate	7.46	43	353629	9.12	ppbV		97
28) Methyl ethyl ketone	7.71	43	440898	9.02	ppbV		100
29) 1,2-Dichloroethene (cis)	8.17	61	261920	9.03	ppbV		96
30) Ethyl acetate	8.40	45	70810	9.09	ppbV	#	65
31) n-Hexane	8.39	57	299291	9.47	ppbV		98
32) Chloroform	8.48	83	346860	9.11	ppbV		100
34) Tetrahydrofuran	8.89	42	255912	8.48	ppbV	#	96
35) 1,2-Dichloroethane	9.27	62	242728	8.90	ppbV		98
36) 1,1,1-Trichloroethane	9.54	97	366184	8.39	ppbV		99
37) Benzene	10.05	78	804303	8.64	ppbV		99
38) Carbon tetrachloride	10.21	117	377361	8.82	ppbV		100
39) Cyclohexane	10.35	84	250260	8.85	ppbV		98
40) 1,2-Dichloropropane	10.97	63	244530	8.11	ppbV		99
41) Bromodichloromethane	11.20	83	377615	8.20	ppbV		93
42) 1,4-Dioxane	11.22	88	134789	10.48	ppbV		95
43) Trichloroethene	11.25	130	295756	8.66	ppbV		100
44) 2,2,4-Trimethylpentane	11.29	57	1055103	8.64	ppbV		99
45) Methyl methacrylate	11.47	41	287192	9.03	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3576lcs02.D
Acq On : 21 Nov 2011 11:08
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Dec 02 16:00:05 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Dec 02 16:00:00 2011
Response via : Initial Calibration

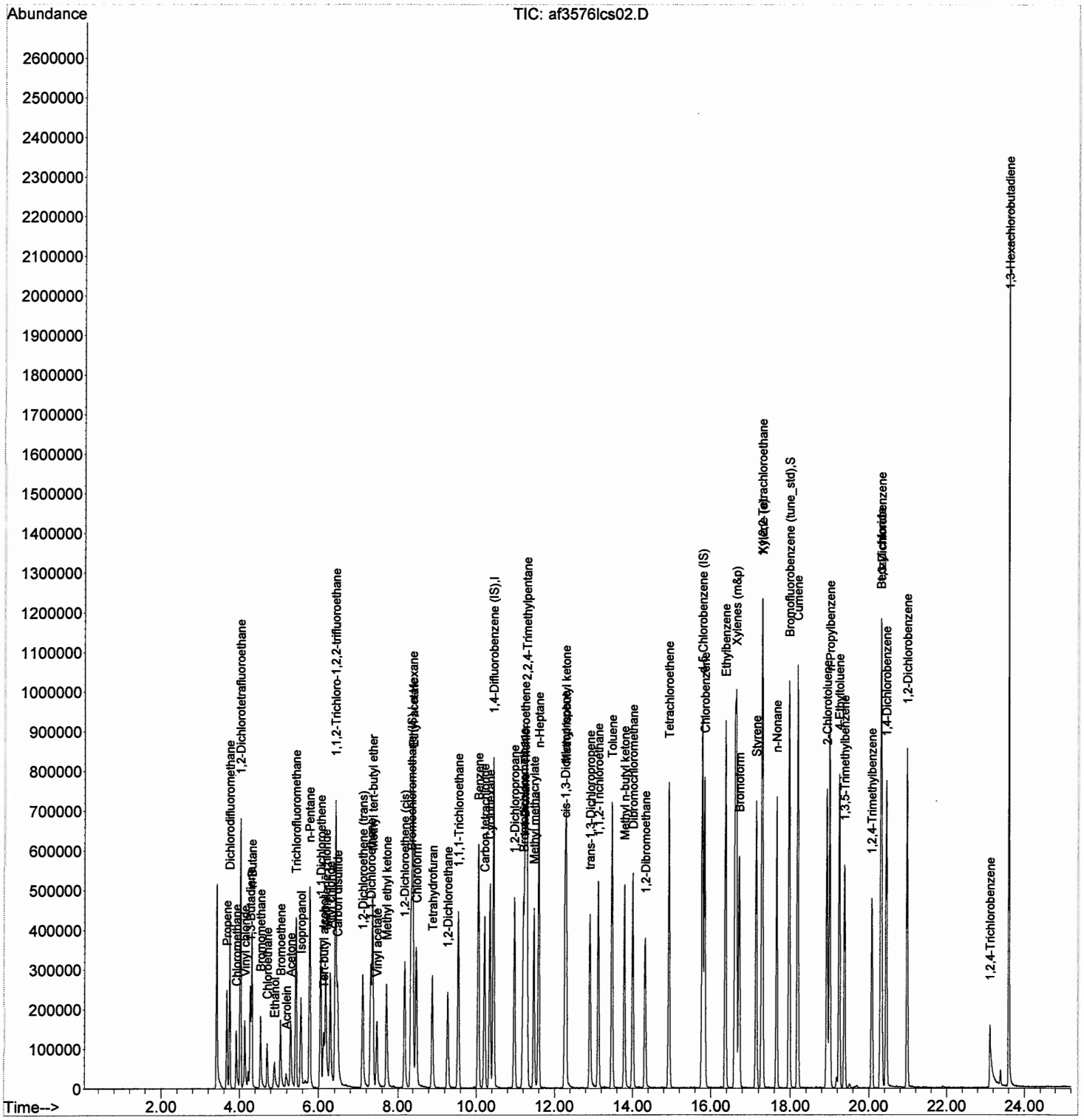
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) n-Heptane	11.59	43	409908	8.69 ppbV	100
47) cis-1,3-Dichloropropene	12.26	75	441151	8.02 ppbV	99
48) Methyl isobutyl ketone	12.29	43	519347	8.37 ppbV	100
49) trans-1,3-Dichloropropene	12.91	75	398154	9.27 ppbV	100
50) 1,1,2-Trichloroethane	13.12	97	246073	8.15 ppbV	96
52) Toluene	13.47	91	686178	9.32 ppbV	95
53) Methyl n-butyl ketone	13.78	43	487634	8.98 ppbV	98
54) Dibromochloromethane	14.00	129	442187	8.58 ppbV	99
55) 1,2-Dibromoethane	14.32	107	405332	8.19 ppbV	99
56) Tetrachloroethene	14.93	166	344148	9.71 ppbV	98
57) Chlorobenzene	15.85	112	620755	9.36 ppbV	99
58) Ethylbenzene	16.37	91	862178	8.48 ppbV	95
59) Xylenes (m&p)	16.64	91	1301547	16.84 ppbV #	69
60) Bromoform	16.72	171	206749	7.73 ppbV	100
61) Styrene	17.15	104	525813	7.50 ppbV	100
62) 1,1,2,2-Tetrachloroethane	17.28	83	490287	8.65 ppbV	100
63) Xylene (o)	17.30	91	639504	9.00 ppbV	96
64) n-Nonane	17.66	43	400893	7.40 ppbV	98
66) Cumene	18.19	105	1012798	8.46 ppbV	100
67) 2-Chlorotoluene	18.93	91	639472	9.00 ppbV	97
68) n-Propylbenzene	19.01	91	1000944	8.63 ppbV #	89
69) 4-Ethyltoluene	19.25	105	751884	7.58 ppbV	99
70) 1,3,5-Trimethylbenzene	19.38	105	469107	8.18 ppbV	100
71) 1,2,4-Trimethylbenzene	20.07	105	402198	7.61 ppbV #	93
72) Benzyl chloride	20.30	91	743912	9.69 ppbV	97
73) 1,3-Dichlorobenzene	20.32	146	499107	8.94 ppbV	98
74) 1,4-Dichlorobenzene	20.45	146	490941	8.24 ppbV	100
75) 1,2-Dichlorobenzene	20.98	146	461201	8.68 ppbV	99
76) 1,2,4-Trichlorobenzene	23.11	180	106874	5.56 ppbV	94
77) 1,3-Hexachlorobutadiene	23.61	225	516143	9.01 ppbV #	89

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

Quantitation Report (QT Reviewed)

Data Path : E:\Data\2011\112111\
Data File : af3576lcs02.D
Acq On : 21 Nov 2011 11:08
Operator : JLS.
Sample : 10 ppbv LCS.
Misc : AAL071685. Multiplr: 1.00
Integrator: RTE

Quant Time: Dec 02 16:00:05 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Fri Dec 02 16:00:00 2011
Response via : Initial Calibration



Integrated Analytical Laboratories
GC/MS Run Log

Instrument ID: Agilent 7890A / 5975C
Column: Restek RTX-1 SN 869201

Target Directory: C:\Agilent GCMS\

Date of Analysis: 11/21/2011
Date of Initial Calibration: 10/7/2011
SDG #: E11-11497

								Make-up Air		*Acquisition*		*Room*		*TO-15 Standard*	
File #	**Laboratory Sample ID**	**QC Check**	**Dilution Factor**	**Can #**	**Analyst**	**Injection Volume (cc)**	**Comments**	**Added to canister (cc)**	**Added for dilution (cc)**	**Date**	**Time**	**Temp**	**BP "Hg**	**Working ID**	**Vendor ID**
af2990bfb	bfb	✓		ALM012015	JLS	50				**10/7/2011**	7:55	70	30.07		
af2991std01	40 ppbv std	✓		ALM031705	JLS	200								10/7/2011	41284573
af2992std02	20 ppbv std	✓		ALM031705	JLS	100									
af2993std03	10 ppbv std	✓		ALM031705	JLS	50									
af2994std04	2 ppbv std	✓		ALM031705	JLS	10									
af2995std05	0.2 ppbv std	✓		2071	JLS	100								10/6/2011	41284573
af2996icvss	10 ppbv ICVSS	✓		AAL071685	JLS	50				10/7/2011	17:50			10/7/2011	41285181

Analyst Name: Jeff Schmitt
Signature: Jeff Schmitt

Supervisor Name: Lauren Jenkins
Signature: Lauren Jenkins

Integrated Analytical Laboratories LLC

Integrated Analytical Laboratories
GC/MS Run Log

Instrument ID: Agilent 7890A / 5975C
Column: Restek RTX-1 SN 869201

Target Directory: C:\Agilent GCMS\

Date of Analysis: 11/21/2011
Date of Initial Calibration: 10/7/2011
SDG #: E11-11497

								Make-up Air		***Acquisition***		***Room***		***TO-15 Standard***	
File #	**Laboratory Sample ID**	**QC Check**	**Dilution Factor**	**Can #**	**Analyst**	**Injection Volume (cc)**	**Comments**	**Added to canister (cc)**	**Added for dilution (cc)**	**Date**	**Time**	**Temp**	**BP "Hg**	**Working ID**	**Vendor ID**
af3300bfb	bfb	✓		ALM012015	JLS	50				**11/7/2011**	9:30	70	30.32		
af3301dcvs	10 ppbv DCVS	✓		ALM031705	JLS	50								10/7/2011	41284573
af3302lcs01	10 ppbv LCS	✓		AAL071685	JLS	50								10/7/2011	41285181
af3303lcs02	10 ppbv LCS	✓		AAL071685	JLS	50									
af3304blk	Method Blank	✓		3813	JLS	500									
af3305rllcs	0.2 ppbv RLLCS	✓		2071	JLS	100								10/6/2011	41284573
af3306	1402	✓			JLS	50									
af3307	1524	✓			JLS	50									
af3308	3025A	✓			JLS	500									
af3309	10791-01 x 10 dil	✓	10	2886	JLS	50									
af3310	10791-02	✓		2749	JLS	500									
af3311	11062-01	✓		3100	JLS	500									
af3312	11062-02	✓		2894A	JLS	500									
af3313	11062-03	✓		2156	JLS	500									
af3314	11062-04	✓		3039A	JLS	500									
af3315	11062-05	✓		3028	JLS	500									
af3316	11062-06	✓		4861	JLS	500									
af3317	11062-07	✓		3038A	JLS	500									
af3318	11062-08	✓		2757	JLS	500									
af3319cccvs	10 ppbv CCCVS	✓		ALM031705	JLS	50				11/8/2011	0:59			10/7/2011	41284573

Analyst Name: Jeff Schmitt
Signature: Jeff Schmitt

Supervisor Name: Lauren Jenkins
Signature: Lauren Jenkins

Integrated Analytical Laboratories
GC/MS Run Log

Instrument ID: Agilent 7890A / 5975C
Column: Restek RTX-1 SN 869201

Target Directory: C:\Agilent GCMS\

Date of Analysis: 11/21/2011
Date of Initial Calibration: 10/7/2011
SDG #: E11-11497

								Make-up Air		*Acquisition*		*Room*		*TO-15 Standard*	
File #	**Laboratory Sample ID**	**QC Check**	**Dilution Factor**	**Can #**	**Analyst**	**Injection Volume (cc)**	**Comments**	**Added to canister (cc)**	**Added for dilution (cc)**	**Date**	**Time**	**Temp**	**BP "Hg**	**Working ID**	**Vendor ID**
af3573bfb	bfb	✓		ALM012015	JLS	50				**11/21/2011**	8:32	74	30.22		
af3574dcvs	10 ppbv DCVS	✓		ALM031705	JLS	50								10/7/2011	41284573
af3575lcs01	10 ppbv LCS	✓		AAL071685	JLS	50								10/7/2011	41285181
af3576lcs02	10 ppbv LCS	✓		AAL071685	JLS	50									
af3577blk	Method Blank	✓		3813	JLS	500									
af3578rllcs	0.2 ppbv RLLCS	✓		2071	JLS	100								10/6/2011	41284573
af3579	3039A	✓			JLS	500									
af3580	11354-01 x 10 dil	✓	10	2095	JLS	50									
af3581	11354-02 x 10 dil	✓	10	3007	JLS	50									
af3582	11354-03 x 10 dil	✓	10	3815	JLS	50									
af3583	11393-03	✓		3014A	JLS	500									
af3584	11393-04 x 50 dil	✓	50	1514	JLS	10									
af3585	11393-04 x 10 dil	✓	10	1514	JLS	50									
af3586	11497-01 x 50 dil	✓	50	1546	JLS	10									
af3587	11497-01 x 10 dil	✓	10	1546	JLS	50									
af3588	11497-02 x 50 dil	✓	50	1545	JLS	10									
af3589	11497-02 x 10 dil	✓	10	1545	JLS	50									
af3590	11498-01 x 50 dil	✓	50	1594	JLS	10									
af3591	11498-01 x 10 dil	✓	10	1594	JLS	50									
af3592	11498-02 x 50 dil	✓	50	1596	JLS	10									
af3593	11498-02 x 10 dil	✓	10	1596	JLS	50									
af3594	11498-03 x 50 dil	✓	50	1073	JLS	10									
af3595	11498-03 x 10 dil	✓	10	1073	JLS	50									
af3596	11498-04 x 50 dil	✓	50	1602	JLS	10									
af3597	11498-04 x 10 dil	✓	10	1602	JLS	50									
af3598	11498-05 x 50 dil	✓	50	1600	JLS	10									
af3599	11498-05 x 10 dil	✓	10	1600	JLS	50									
af3600cccvs	10 ppbv CCCVS	✓		ALM031705	JLS	50				11/22/2011	7:36			10/7/2011	41284573

Analyst Name: Jeff Schmitt
Signature: Jeff Schmitt

Supervisor Name: Lauren Jenkins
Signature: Lauren Jenkins

Integrated Analytical Labs
273 Franklin Rd
Randolph, NJ 07869

External Chain of Custody Record/ Field Test Data Sheet USEPA Method TO-15

1497

Contact Us: 973 361-4252
fax: 973 366-5613
Web: www.ialonline.com

Client Contact Information		Project Information		Carrier (check one): ___ IAL Courier ___ Client Courier ___ FedEx	1 of 1 COCs
Company	EWMA, LLC	Project Name:	JS Popper - 202913	ALL FIELDS IN RED ARE REQUIRED	
Address:	100 Misty Lane	Project Manager:	Al Moffit	Site: Memorial Middle School	
City/State/Zip:	Parsippany, NJ	PM Signature:	for Al Moffit	Site Contact: Bill Goode	
Phone:	973-560-1400	PM E-Mail:	Al.Moffit@ewma.com	Invoice Information	
Fax:		Sampler:	Alan Arico	PO Number: L11093	

Analysis Turnaround Time- IF NO TAT IS SPECIFIED, 2 WEEK TAT IS ASSUMED

Standard: 2 weeks (10 business days) (circled) Results needed by: ____

Rush (Specify Lab-Approved TAT): ____

Barometric Pressure: Start 29.75↓ Stop 29.7↓

Sample Identification	Start DATE & TIME (24 Hr Clock / Military Time)	End DATE & TIME (24 Hr Clock / Military Time)	Starting Canister Pressure in Field ("Hg)	Ending Canister Pressure in Field ("Hg)	Starting Temp. (°F)	Ending Temp. (°F)	Outgoing Canister Pressure in Lab ("Hg)	Incoming Canister Pressure in Lab ("Hg)	Flow Regulator ID	Canister ID	Canister Size (L)	Flow Controller Readout (cc/min)	EPA TO - 15	NJDEP LLTO-15	Library Search (Specify 10, 20, or 30 TICs)	Other (Explain Below)	NJDEP Regulatory Data Package	NJDEP Reduced Data Package (LLTO-15 Only)	NYSDEC / DOH Data Package	Other Data Package Type (Explain Below)	Results Only (No Data Package)	Indoor / Ambient Air	Soil Gas / Sub or Near Slab	Stack Emissions
SS-1	11/14/11 1431	11/14/11 1501	30	3	72	72	-29	-3	A0986374	1546	1	33.5	X				X						X	
SS-2	11/14/11 1430	11/14/11 1500	30	2.5	72	72	-29	-2	A0986434	1545	1	33.3	X				X						X	

Comments / Special Analysis Instructions / QC Requirements:

Note: Hold or contingent samples may be designated by writing an "H" or "C" in the appropriate analysis method box. If additional analysis instructions are necessary, please use the "Comments" section

Shipping Information / Canister Preparation (for laboratory use only)

Individual Preparing Canisters / Title: Joseph Walukiewicz / Air Department Sample Custodian

Lab Affixed Seal Number(s): IAL 20110834

Date/Time Shipping Container Sealed: 11/14/11 15:00

Laboratory Canister Certification

GC/MS Analyst Signature: [signature]

External Chain of Custody

Relinquished	*Received*	*Time/Date*	*Reason for Change of External Custody*
[signature]	Alan Arico/EWMA	15:00 11/14/11	shipment from laboratory to client
Alan Arico	[signature]	08:06 11/17/11	Shipment from Client to Lab
	[signature]	8:15 11/17/11	

Individual Resealing Shipping Container Name: Alan Arico/EWMA

Time/Date Sample Shipping Container Resealed: 11/16/11 15:5

Time/Date Sample Shipping Container Opened:

Time/Date Internal Chain of Custody Initiated:

Title: Sr. Environmental Scientist

NJDEP Affixed Seal Number:

Individual Opening Sample Shipping Container: Joseph Walukiewicz

White and yellow - lab copies; Pink - client copy

Use appropriate care with IAL sampling equipment when sampling and packing for shipment. The client is responsible for all damage incurred to IAL equipment. Notify IAL if equipment is damaged upon receipt. Holding time before sampling is 5 days, after sampling is 30 days; failure to follow these times may result in data rejection by regulatory agencies. The lab will contact you if your COC is not clear, incomplete, or if discrepancies exist. The use of initials is not permitted on the COC except when correcting errors.

Example Calculation (EPA TO-15)

$$\frac{\text{Area of Sample}}{\text{Area of Internal Standard}} \times \frac{\text{Concentration of Internal Standard (10 ppbv)}}{\text{Response Factor}} = \text{Concentration of Sample (ppbv)}$$

Conversion from ppbv to $\mu g/m^3$

$$\frac{\text{Concentration of Compound (ppbv)} \times \text{Molecular Weight of Compound}}{24.45} = \text{Concentration of Compound } (\mu g/m3)$$

Clean Canister Certification Report

Lab Sample Name:	**Clean Canister, Batch Master 1402**	**Data File:**	**AF3306**
Field Sample Name:	**Canister 1402**	**Date Analyzed:**	**11/7/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Canisters associated with this run: 1402,1513,1518,1545(used for E11-11497-02),1546(used for E11-11497-01),1561,1571,1589

Runs with this Clean Canister Certification:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 09:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
CLEAN CAN CERTIFICATION, BATCH MASTER 1402 [AF3306]	11/07/2011 15:31
CLEAN CAN CERTIFICATION, BATCH MASTER 1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 00:59

This canister has been certified clean, all compounds are below 0.2 ppbv.

Compound	CAS #	RL (ppbv)	Calculated Amount (ppbv)
Acetone	67-64-1	0.20	ND
Allyl chloride	107-05-1	0.20	ND
Benzene	71-43-2	0.20	ND
Bromodichloromethane	75-27-4	0.20	ND
Bromoform	75-25-2	0.20	ND
Bromomethane	74-83-9	0.20	ND
1,3-Butadiene	106-99-0	0.20	ND
Chlorobenzene	108-90-7	0.20	ND
Chloroethane	75-00-3	0.20	ND
Chloroform	67-66-3	0.20	ND
Chloromethane	74-87-3	0.20	ND
Carbon disulfide	75-15-0	0.20	ND
Carbon tetrachloride	56-23-5	0.20	ND
2-Chlorotoluene	95-49-8	0.20	ND
Cyclohexane	110-82-7	0.20	ND
Dibromochloromethane	124-48-1	0.20	ND
1,2-Dibromoethane	106-93-4	0.20	ND
1,2-Dichlorobenzene	95-50-1	0.20	ND
1,3-Dichlorobenzene	541-73-1	0.20	ND
1,4-Dichlorobenzene	106-46-7	0.20	ND
Dichlorodifluoromethane	75-71-8	0.20	ND
1,1-Dichloroethane	75-34-3	0.20	ND
1,2-Dichloroethane	107-06-2	0.20	ND
1,1-Dichloroethene	75-35-4	0.20	ND
1,2-Dichloroethene (cis)	156-59-2	0.20	ND
1,2-Dichloroethene (trans)	156-60-5	0.20	ND
1,2-Dichloropropane	78-87-5	0.20	ND
1,3-Dichloropropene (cis)	10061-01-5	0.20	ND
1,3-Dichloropropene (trans)	10061-02-6	0.20	ND
1,2-Dichlorotetrafluoroethane	76-14-2	0.20	ND
Ethylbenzene	100-41-4	0.20	ND
4-Ethyltoluene	622-96-8	0.20	ND
n-Heptane	142-82-5	0.20	ND

Clean Canister Certification Report

Lab Sample Name:	**Clean Canister, Batch Master 1402**	**Data File:**	**AF3306**
Field Sample Name:	**Canister 1402**	**Date Analyzed:**	**11/7/2011**
Sample Volume:	**500ml**	**Matrix:**	**Air**

Canisters associated with this run: 1402,1513,1518,1545(used for E11-11497-02),1546(used for E11-11497-01),1561,1571,1589

Runs with this Clean Canister Certification:

Standard/Sample Run	Date/Time of Sample/Standard Injection
BFB [AF3300BFB]	11/07/2011 09:30
10 PPBV DCVS. [AF3301DCVS]	11/07/2011 11:29
10 PPBV LCS [AF3302LCS01]	11/07/2011 11:37
10 PPBV LCS [AF3303LCS02]	11/07/2011 12:25
METHOD BLANK [AF3304BLK]	11/07/2011 13:54
02 PPBV RLLCS [AF3305RLLCS]	11/07/2011 14:36
CLEAN CAN CERTIFICATION, BATCH MASTER 1402 [AF3306]	11/07/2011 15:31
CLEAN CAN CERTIFICATION, BATCH MASTER 1524 [AF3307]	11/07/2011 16:17
10 PPBV CCCVS. [AF3319CCCVS]	11/08/2011 00:59

This canister has been certified clean, all compounds are below 0.2 ppbv.

Compound	CAS #	RL (ppbv)	Calculated Amount (ppbv)
1,3-Hexachlorobutadiene	87-68-3	0.20	ND
n-Hexane	110-54-3	0.20	ND
Methylene chloride	75-09-2	0.20	ND
Methyl ethyl ketone	78-93-3	0.20	ND
Methyl isobutyl ketone	108-10-1	0.20	ND
Methyl tert-butyl ether	1634-04-4	0.20	ND
Styrene	100-42-5	0.20	ND
Tert-butyl alcohol	75-65-0	0.20	ND
1,1,2,2-Tetrachloroethane	79-34-5	0.20	ND
Tetrachloroethene	127-18-4	0.20	ND
Toluene	108-88-3	0.20	ND
1,2,4-Trichlorobenzene	120-82-1	0.20	ND
1,1,1-Trichloroethane	71-55-6	0.20	ND
1,1,2-Trichloroethane	79-00-5	0.20	ND
Trichloroethene	79-01-6	0.20	ND
Trichlorofluoromethane	75-69-4	0.20	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.20	ND
1,2,4-Trimethylbenzene	95-63-6	0.20	ND
1,3,5-Trimethylbenzene	108-67-8	0.20	ND
2,2,4-Trimethylpentane	540-84-1	0.20	ND
Vinyl bromide	593-60-2	0.20	ND
Vinyl chloride	75-01-4	0.20	ND
Xylenes (m&p)	179601-23-1	0.40	ND
Xylenes (o)	95-47-6	0.20	ND

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3306.D
Acq On : 07 Nov 11 15:31
Operator : JLS.
Sample : 1402.
Misc : 1513, 1518, 1545, 1546, 1561, 1571, 1589 Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 08 08:26:21 2011
Quant Method : C:\MSDCHEM\1\METHODS\AF1007.M
Quant Title : TO-15 on the Finnigan TraceGC / Trace DSQ
QLast Update : Mon Nov 07 12:04:00 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS)	8.35	130	174840	10.00	ppbV	0.00
33) 1,4-Difluorobenzene (IS)	10.43	114	772627	10.00	ppbV	-0.01
51) d-5 Chlorobenzene (IS)	15.77	117	679662	10.00	ppbV	0.01

System Monitoring Compounds

65) Bromofluorobenzene (tune_s	17.97	95	344477	8.73	ppbV	0.00

Spiked Amount 10.000 Range 75 - 125 Recovery = 87.30%

Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\110711\
Data File : af3306.D
Acq On : 07 Nov 11 15:31
Operator : JLS.
Sample : 1402.
Misc : 1513, 1518, 1545, 1546, 1561, 1571, 1589 Multiplr: 1.00
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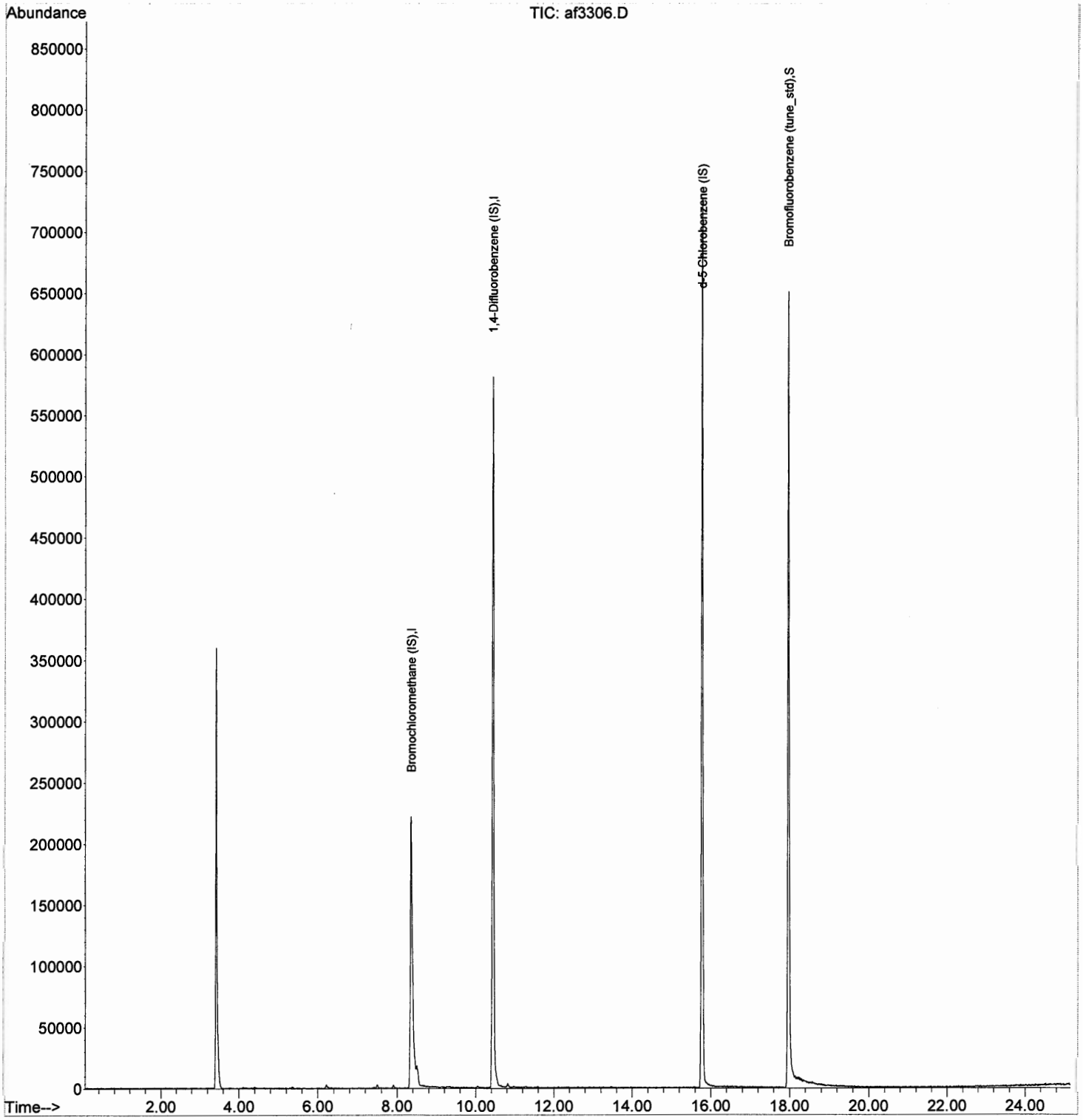

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