Centek Laboratories TO-15 Package Review CheckList

Client: Matrix Environmental **Project:** Aquino 65-67 Lake **SDG:** C2004010

		YES	NO	NA
Analytical Results	Present and Complete	✓		
TIC's Present	Present and Complete	✓		
	Holdin Times Met	✓		

Comments:

Chain of Custody	Present and Complete	✓		
Surrogate	Present and Complete	✓		
	Recoveries within Limits	✓		
	Sample(s) reanalyzed			✓
Internal Standards Recovery	Present and Complete	✓		
	Recoveries within Limits	✓		
	Sample(s) reanalyzed			✓

Comments:

Lab Control Sample (LCS)	Present and Complete	✓		
	Recoveries within Limits	✓		
Lab Control Sample Dupe (LCSD)	Present and Complete	✓		
	Recoveries within Limits	✓		
MS/MSD	Present and Complete			✓
	Recoveries within Limits			✓

Comments: No MS/MSD

Sample Raw Data	Present and Complete	✓		
	Spectra present	✓		

Comments:

Centek Laboratories TO-15 Package Review CheckList

Client: Matrix Environmental **Project:** Aquino 65-67 Lake **SDG:** C2004010

		YES	NO	NA
Standards Data				
Intial Calibration	Present and Complete	✓		
	Calibration meets criteria	✓		
Continuing Calibration	Present and Complete	✓		
	Calibration meets criteria	✓		
Standards Raw Data	Present and Complete	✓		

Comments:

		YES	NO	NA
Raw Quality Control Data				
Tune Criteria Report	Present and Complete	✓		
Method Blank Data	MB Results <PQL	✓		
	Associated results flagged "B"			✓
LCS Sample Data	Present and Complete	✓		
LCSD Sample Data	Present and Complete	✓		
MS/MSD Sample Data	Present and Complete			✓

Comments:

		YES	NO	NA
Logbooks				
Injection Log		✓		
Standards Log		✓		
Can Cleaning Log		✓		
Calculation Sheet		✓		
IDL's		✓		
Canister Order Form		✓		
Sample Tracking Form		✓		

Additional Comments:

Section Supervisor: [signature] Date: 4/24/20

QC Supervisor: [signature] Date: 4/24/20

CENTEK LABORATORIES, LLC
143 Midler Park Drive * Syracuse, NY 13206
Phone (315) 431-9730 * Emergency 24/7 (315) 416-2752
NYSDOH ELAP Certificate No. 11830

Analytical Report

Steve Marchetti
Matrix Environmental Technologies, Inc
3730 California Rd.
Orchard Park, NY 14127

TEL: (585) 770-4332
FAX
RE: Aquino 65-67 Lake Ave.

Wednesday, April 15, 2020
Order No.: C2004010

Dear Steve Marchetti:

Centek Laboratories, LLC received 1 sample(s) on 4/9/2020 for the analyses presented in the following report.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness. Release of the data contained in this hardcopy data package and/or in the computer readable data submitted has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the case narrative. All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

Centek Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service. Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.

Centek Laboratories SOP TS-80

Analytical results relate to samples as received at laboratory. We do our best to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services.

Please contact your client service representative at (315) 431-9730 or myself, if you would like any additional information regarding this report.

This report cannot be reproduced except in its entirety, without prior written authorization.

Sincerely,

William Dobbin
Lead Technical Director

Disclaimer: The test results and procedures utilized, and laboratory interpretations of the data obtained by Centek as contained in this report are believed by Centek to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of Centek for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages. ELAP does not offer certification for the following parameters by this method at present time, they are: 4-ethyltoluene, ethyl acetate, propylene, tetrahydrofuran, 4-PCH, sulfur derived and silcon series compounds.

Centek Laboratories, LLC Terms and Conditions

Sample Submission

All samples sent to Centek Laboratories should be accompanied by our Request for Analysis Form or Chain of Custody Form. A Chain of Custody will be provided with each order shipped for all sampling events, or if needed, one is available at our website www.CentekLabs.com. Samples received after 3:00pm are considered to be a part of the next day's business.

Sample Media

Samples can be collected in an canister or a Tedlar bag. Depending on your analytical needs, Centek Laboratories may receive a bulk, liquid, soil or other matrix sample for headspace analysis.

Blanks

Every sample is run with a surrogate or tracer compound at a pre-established concentration. The surrogate compound run with each sample is used as a standard to measure the performance of each run of the instrument. If required, a Minican can be provided containing nitrogen to be run as a trip blank with your samples.

Sampling Equipment

Centek Laboratories will be happy to provide the canisters to carry-out your sampling event at no charge. The necessary accessories, such as regulators, tubing or personal sampling belts, are also provided to meet your sampling needs. The customer is responsible for all shipping charges to the client's destination and return shipping to the laboratory. Client assumes all responsibility for lost, stolen and any dameges of equipment.

Turn Around time (TAT)

Centek Laboratories will provide results to its clients in one business-week by 6:00pm EST after receipt of samples. For example, if samples are received on a Monday they are due on the following Monday by 6:00pm EST. Results are faxed or emailed to the requested location indicated on the Chain of Custody. Non-routine analysis may require more than the one business-week turnaround time. Please confirm non-routine sample turnaround times.

Reporting

Results are emailed or faxed at no additional charge. A hard copy of the result report is mailed within 24 hours of the faxing or emailing of your results. Cat "B" like packages are within 3-4 weeks from time of analysis. Standard Electronic Disk Deliverables (EDD) is also available at no additional charge.

Payment Terms

Payment for all purchases shall be due within 30 days from date of invoice. The client agrees to pay a finance charge of 1.5% per month on the overdue balance and cost of collection, including attorney fees, if collection proceedings are necessary. You must have a completed credit application on file to extend credit. Purchase orders or checks information must be submitted for us to release results

Rush Turnaround Samples

Expedited turn around times is available. Please confirm rush turnaround times with Client Services before submitting samples.

Applicable Surcharges for Rush Turnaround Samples:
Same day TAT = 200%
Next business day TAT by Noon = 150%
Next business day TAT by 6:00pm = 100%
Second business day TAT by 6:00pm = 75%
Third business day TAT by 6:00pm = 50%
Fourth business day TAT by 6:00pm = 35%
Fifth business day = Standard

Statement of Confidentiality

Centek Laboratories, LLC is aware of the importance of the confidentiality of results to many of our clients. Your name and data will be held in the strictest of confidence. We will not accept business that may constitute a conflict of interest. We commonly sign Confidential Nondisclosure Agreements with clients prior to beginning work. All research, results and reports will be kept strictly confidential. Secrecy Agreements and Disclosure Statements will be signed for the client if so specified. Results will be provided only to the addressee specified on the Chain of Custody Form submitted with the samples unless law requires release. Written permission is required from the addressee to release results to any other party.

Limitation on Liability

Centek Laboratories, LLC warrants the test results to be accurate to the methodology and sample type for each sample submitted to Centek Laboratories, LLC. In no event shall Centek Laboratories, LLC be liable for direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages whatsoever, even if Centek Laboratories, LLC has been previously advised of the possibility of such damages whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use or performance of the information, services, products and materials available from the laboratory or this site. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you. This is a comprehensive limitation of

liability that applies to all damages of any kind, including (without limitation) compensatory, direct, indirect or consequential damages, loss of data, income or profit and or loss of or damage to property and claims of third parties.

ASP CAT B DELIVERABLE PACKAGE
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CENTEK LABORATORIES, LLC

Date: *24-Apr-20*

CLIENT: Matrix Environmental Technologies, Inc

Project: Aquino 65-67 Lake Ave.

Lab Order: C2004010

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Centek Laboratories, LLC SOP TS-80
Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

NYSDEC ASP samples:
Canisters should be evacuated to a reading of less than or equal to 50 millitorr prior to shipment to sampling personnel. The vacuum in the canister will be field checked prior to sampling, and must read 28" of Hg (±2", vacuum, absolute) before a sample can be collected. After the sample has been collected, the pressure of the canister will be read and recorded again, and must be 5" of Hg (±1", vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg,±1". Please record and report the pressure/vacuum of received canisters on the sample receipt paperwork. A pressure/vacuum reading should also be taken just prior to the withdrawal of sample from the canister, and recorded on the sample preparation log sheet. All regulators are calibrated to meet these requirements before they leave the laboratory. However, due to environmental conditions and use of the equipment Centek can not guarantee that this criteria can always be achieved.

Centek Labs - Chain of Custody

Centek Laboratories

143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com

Vapor Intrusion & IAQ

(DJH - 4-9-20)

Site Name: Aquino 65-67 Lake Ave.
Project: Building 1 Resample
PO#: 18-046
Quote # Q-
Canister Order #: 8307

Detection Limit	Report Level
☐ 5ppbv	☐ Level I
☐ 1ug/M3	☐ Level II
☒ 1ug/M3 + 0.2 NYS	☒ Cat "B" Like
☐	☐

TAT Turnaround Time:	Check One	Rush TAT Surcharge %	Due Date:
5 Business Days	☒	0%	
4 Business Days	☐	25%	
3 Business Days	☐	50%	
2 Business Days	☐	75%	
*Next Day by 5pm	☐	100%	
*Next Day by Noon	☐	150%	
*Same Day	☐	200%	

Company: Matrix Environmental Tech. Inc.
Report to: Steve Marchetti
Address: PO Box 427
City, State, Zip Orchard Park NY 14127
Email: smarchetti@matrixbiotech.com
Phone: 585-771-4537

Company: Check Here If Same: ☒
Invoice to:
Address:
City, State, Zip
Email:
Phone:

*For Same and Next Day TAT Please Notify Lab

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Field Vacuum Start / Stop	Labs Vacuum** RecV/Analysis	Comments
[illegible]					[illegible]	/	
					/	/	
Building 1 - Indoor Air	4-16-20	287	173	TO-15	28 / 0	-1 / -1	Sampled 4-6-20 (24 HR)
					/	/	
					/	/	
					/	/	
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Chain of Custody	Print Name	Signature	Date/Time	Courier: CIRCLE ONE
Sampled by:	Steve Marchetti	[signature]	4-7-20/8:20	FedEx UPS Pickup/Dropoff
Relinquished by:				**For LAB USE ONLY
Received at Lab by:	Dan Hunt	[signature]	4/9/20	Work Order # C2004010

***Chain of Custody must be completed in full. Lack of any missing information will affect your Turn Around Times (TAT)

*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.

Centek Laboratories, LLC

CENTEK LABORATORIES, LLC

Date: *24-Apr-20*

CLIENT: Matrix Environmental Technologies, Inc
Project: Aquino 65-67 Lake Ave.
Lab Order: C2004010

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C2004010-001A	Building 1- Indoor Air	287,173	4/6/2020	4/9/2020

CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name MATRIX ENVIRONMENTAL

Date and Time Receive 4/9/2020

Work Order Number C2004010

Received by: DH

Checklist completed by [signature] 4/9/2020 (Signature / Date)

Reviewed by WD 4/9/20 (Initials / Date)

Matrix:

Carrier name: FedEx Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
COC signed when relinquished and received?	Yes ☑	No ☐	
COC agrees with sample labels?	Yes ☑	No ☐	
COC completely filled out?	Yes ☐	No ☑	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Client contacted Yes Date contacted: 4/9/2020 Person contacted Steve Marchetti

Contacted by: DH Regarding: Incomplete COC

Comments: Steve didn't label "Company:" on the COC.

Corrective Action Called Steve, left voicemail. Steve called back and asked me to write in "Matrix Environmental Tech. Inc." into "Company:" Category on the COC. I wrote the company name on the COC and initialled and wrote the date next to the company name.

QC'd By: DATE:

Centek Laboratories, LLC

24-Apr-20

Lab Order: C2004010
Client: Matrix Environmental Technologies, Inc
Project: Aquino 65-67 Lake Ave.

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C2004010-001A	Building 1- Indoor Air	4/6/2020	Air	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			4/10/2020
				1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			4/9/2020

CANISTER ORDER

CENTEK LABORATORIES, LLC
Air Quality Testing...It's a Gas
143 Midler Park Drive * Syracuse, NY 13206
TEL: 315-431-9730 * FAX: 315-431-9731

8307
24-Apr-20

SHIPPED TO:

Company: Matrix Environmental Technologies, Inc
Contact: Steve Marchetti
Address: 3730 California Rd.
Orchard Park, NY 14127
Phone: (716) 662-0745
Quote ID: 0
Project:
PO:

Submitted By:
MadeBy: rjp
Ship Date: 3/20/2020
VIA: UPS - Ground
Due Date: 3/25/2020

Bottle Code	Bottle Type	TEST(s)	QTY
MC1000CC	1L Mini-Can	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DC	2

Can / Reg ID	Description
173	Time-Set Reg - 666 VI
180	Time-Set Reg - 654 VI
287	1L Mini-Can - 255 VI
1177	1L Mini-Can - 1240 VI

Comments: (2) 1 L @ 24 Hours SHIP TO:
Steve MarchettiWAC 030920 D-J
4570 Green Road,
Lockport, NY 14094
585-770-4332

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: *17-Apr-20*

CLIENT: Matrix Environmental Technologies, Inc
Lab Order: C2004010
Project: Aquino 65-67 Lake Ave.
Lab ID: C2004010-001A

Client Sample ID: Building 1- Indoor Air
Tag Number: 287,173
Collection Date: 4/6/2020
Matrix: AIR

Analyses	Result	DL	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-1			"Hg		4/9/2020
Lab Vacuum Out	-30			"Hg		4/9/2020
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/9/2020 4:26:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2,4-Trimethylbenzene	0.24	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,3,5-Trimethylbenzene	0.10	0.15	J	ppbV	1	4/9/2020 4:26:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	4/9/2020 4:26:00 PM
2,2,4-trimethylpentane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
4-ethyltoluene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Acetone	14	3.0		ppbV	10	4/10/2020 12:14:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Benzene	0.30	0.15		ppbV	1	4/9/2020 4:26:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Bromoform	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Carbon disulfide	0.10	0.15	J	ppbV	1	4/9/2020 4:26:00 PM
Carbon tetrachloride	< 0.030	0.030		ppbV	1	4/9/2020 4:26:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Chloroform	0.18	0.15		ppbV	1	4/9/2020 4:26:00 PM
Chloromethane	0.71	0.15		ppbV	1	4/9/2020 4:26:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/9/2020 4:26:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Cyclohexane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Ethyl acetate	0.21	0.15		ppbV	1	4/9/2020 4:26:00 PM

Qualifiers:

SC	Sub-Contracted	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
S	Spike Recovery outside accepted recovery limits	DL	Detection Limit

Centek Laboratories, LLC

Date: *17-Apr-20*

CLIENT:	Matrix Environmental Technologies, Inc	**Client Sample ID:**	Building 1- Indoor Air
Lab Order:	C2004010	**Tag Number:**	287,173
Project:	Aquino 65-67 Lake Ave.	**Collection Date:**	4/6/2020
Lab ID:	C2004010-001A	**Matrix:**	AIR

Analyses	Result	DL	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		**TO-15**				Analyst: **RJP**
Ethylbenzene	0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 11	0.22	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 113	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 114	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 12	0.46	0.15		ppbV	1	4/9/2020 4:26:00 PM
Heptane	0.11	0.15	J	ppbV	1	4/9/2020 4:26:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Hexane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Isopropyl alcohol	4.1	1.5		ppbV	10	4/10/2020 12:14:00 AM
m&p-Xylene	0.33	0.30		ppbV	1	4/9/2020 4:26:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	4/9/2020 4:26:00 PM
Methyl Ethyl Ketone	2.7	3.0	J	ppbV	10	4/10/2020 12:14:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	4/9/2020 4:26:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Methylene chloride	0.19	0.15		ppbV	1	4/9/2020 4:26:00 PM
o-Xylene	0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Propylene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Styrene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Tetrachloroethylene	0.27	0.15		ppbV	1	4/9/2020 4:26:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Toluene	0.74	0.15		ppbV	1	4/9/2020 4:26:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/9/2020 4:26:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/9/2020 4:26:00 PM
Surr: Bromofluorobenzene	112	70-130		%REC	1	4/9/2020 4:26:00 PM

Qualifiers:	SC	Sub-Contracted	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits	DL	Detection Limit

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

Date: 17-Apr-20

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-040920	112							
ALCS1UGD-040920	110							
AMB1UG-040920	71.0							
C2004010-001A	112							

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

1

Centek Laboratories, LLC
GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AR040902.D
Tune Time : 9 Apr 2020 9:56 am

Daily Calibration File : C:\HPCHEM\1\DATA\AR040902.D

File	Sample	DL	Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 40948	(IS2) 133862	(IS3) 121631
AR040903.D	ALCS1UG-040920		112	41190	134311	124990
AR040904.D	AMB1UG-040920		71	37267	118206	106322
AR040910.D	C2004010-001A		112	48211	171509	163761
AR040918.D	ALCS1UGD-040920		110	45167	155577	141178
AR040919.D	C2004010-001A	10x	79	41215	130825	117209

t - fails 24hr time check * - fails criteria

Created: Fri Apr 17 11:41:02 2020 MSD #1/

CENTEK LABORATORIES, LLC

Date: *17-Apr-20*

ANALYTICAL QC SUMMARY REPORT

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **ALCS1UG-040920** SampType: **LCS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.120	0.15	1	0	112	70	130				
1,1,2,2-Tetrachloroethane	1.160	0.15	1	0	116	70	130				
1,1,2-Trichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.000	0.040	1	0	100	70	130				
1,2,4-Trichlorobenzene	0.9200	0.15	1	0	92.0	70	130				
1,2,4-Trimethylbenzene	0.9800	0.15	1	0	98.0	70	130				
1,2-Dibromoethane	1.130	0.15	1	0	113	70	130				
1,2-Dichlorobenzene	1.070	0.15	1	0	107	70	130				
1,2-Dichloroethane	0.9300	0.15	1	0	93.0	70	130				
1,2-Dichloropropane	1.160	0.15	1	0	116	70	130				
1,3,5-Trimethylbenzene	1.150	0.15	1	0	115	70	130				
1,3-butadiene	0.7900	0.15	1	0	79.0	70	130				
1,3-Dichlorobenzene	1.070	0.15	1	0	107	70	130				
1,4-Dichlorobenzene	1.030	0.15	1	0	103	70	130				
1,4-Dioxane	1.090	0.30	1	0	109	70	130				
2,2,4-trimethylpentane	1.110	0.15	1	0	111	70	130				
4-ethyltoluene	1.090	0.15	1	0	109	70	130				
Acetone	1.100	0.30	1	0	110	70	130				
Allyl chloride	0.9500	0.15	1	0	95.0	70	130				
Benzene	1.110	0.15	1	0	111	70	130				
Benzyl chloride	0.8500	0.15	1	0	85.0	70	130				
Bromodichloromethane	1.080	0.15	1	0	108	70	130				
Bromoform	0.8300	0.15	1	0	83.0	70	130				
Bromomethane	1.080	0.15	1	0	108	70	130				

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: ALCS1UG-040920 SampType: LCS TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 16240
Client ID: ZZZZZ Batch ID: R16240 TestNo: TO-15 Analysis Date: 4/9/2020 SeqNo: 184806

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	1.040	0.15	1	0	104	70	130				
Carbon tetrachloride	1.080	0.030	1	0	108	70	130				
Chlorobenzene	1.080	0.15	1	0	108	70	130				
Chloroethane	1.120	0.15	1	0	112	70	130				
Chloroform	0.9900	0.15	1	0	99.0	70	130				
Chloromethane	0.8600	0.15	1	0	86.0	70	130				
cis-1,2-Dichloroethene	0.9600	0.040	1	0	96.0	70	130				
cis-1,3-Dichloropropene	1.130	0.15	1	0	113	70	130				
Cyclohexane	1.090	0.15	1	0	109	70	130				
Dibromochloromethane	0.9900	0.15	1	0	99.0	70	130				
Ethyl acetate	0.9500	0.15	1	0	95.0	70	130				
Ethylbenzene	1.000	0.15	1	0	100	70	130				
Freon 11	0.9700	0.15	1	0	97.0	70	130				
Freon 113	1.030	0.15	1	0	103	70	130				
Freon 114	0.9300	0.15	1	0	93.0	70	130				
Freon 12	0.9700	0.15	1	0	97.0	70	130				
Heptane	1.100	0.15	1	0	110	70	130				
Hexachloro-1,3-butadiene	1.120	0.15	1	0	112	70	130				
Hexane	0.8800	0.15	1	0	88.0	70	130				
Isopropyl alcohol	0.9500	0.15	1	0	95.0	70	130				
m&p-Xylene	2.200	0.30	2	0	110	70	130				
Methyl Butyl Ketone	0.9900	0.30	1	0	99.0	70	130				
Methyl Ethyl Ketone	0.9200	0.30	1	0	92.0	70	130				
Methyl Isobutyl Ketone	0.9500	0.30	1	0	95.0	70	130				
Methyl tert-butyl ether	0.9200	0.15	1	0	92.0	70	130				
Methylene chloride	1.010	0.15	1	0	101	70	130				
o-Xylene	1.170	0.15	1	0	117	70	130				
Propylene	1.030	0.15	1	0	103	70	130				
Styrene	1.180	0.15	1	0	118	70	130				
Tetrachloroethylene	1.160	0.15	1	0	116	70	130				
Tetrahydrofuran	0.8900	0.15	1	0	89.0	70	130				

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Centek Laboratories, LLC

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Centek Laboratories, LLC

Sample ID: **ALCS1UG-040920** SampType: **LCS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	1.080	0.15	1	0	108	70	130				
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
trans-1,3-Dichloropropene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.290	0.030	1	0	129	70	130				
Vinyl acetate	0.7900	0.15	1	0	79.0	70	130				
Vinyl Bromide	1.010	0.15	1	0	101	70	130				
Vinyl chloride	0.9100	0.040	1	0	91.0	70	130				
Surr: Bromofluorobenzene	1.120	0	1	0	112	70	130				

Sample ID: **ALCS1UGD-040920** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.040	0.15	1	0	104	70	130	1.12	7.41	30	
1,1,2,2-Tetrachloroethane	1.120	0.15	1	0	112	70	130	1.16	3.51	30	
1,1,2-Trichloroethane	1.120	0.15	1	0	112	70	130	1.17	4.37	30	
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130	1.02	0	30	
1,1-Dichloroethene	1.090	0.040	1	0	109	70	130	1	8.61	30	
1,2,4-Trichlorobenzene	1.000	0.15	1	0	100	70	130	0.92	8.33	30	
1,2,4-Trimethylbenzene	0.9700	0.15	1	0	97.0	70	130	0.98	1.03	30	
1,2-Dibromoethane	1.100	0.15	1	0	110	70	130	1.13	2.69	30	
1,2-Dichlorobenzene	1.140	0.15	1	0	114	70	130	1.07	6.33	30	
1,2-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.93	2.17	30	
1,2-Dichloropropane	1.110	0.15	1	0	111	70	130	1.16	4.41	30	
1,3,5-Trimethylbenzene	1.130	0.15	1	0	113	70	130	1.15	1.75	30	
1,3-butadiene	0.7200	0.15	1	0	72.0	70	130	0.79	9.27	30	
1,3-Dichlorobenzene	1.160	0.15	1	0	116	70	130	1.07	8.07	30	
1,4-Dichlorobenzene	1.190	0.15	1	0	119	70	130	1.03	14.4	30	
1,4-Dioxane	1.090	0.30	1	0	109	70	130	1.09	0	30	
2,2,4-trimethylpentane	1.050	0.15	1	0	105	70	130	1.11	5.56	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **ALCS1UGD-040920** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	1.070	0.15	1	0	107	70	130	1.09	1.85	30	
Acetone	1.160	0.30	1	0	116	70	130	1.1	5.31	30	
Allyl chloride	0.9700	0.15	1	0	97.0	70	130	0.95	2.08	30	
Benzene	1.120	0.15	1	0	112	70	130	1.11	0.897	30	
Benzyl chloride	1.040	0.15	1	0	104	70	130	0.85	20.1	30	
Bromodichloromethane	1.000	0.15	1	0	100	70	130	1.08	7.69	30	
Bromoform	0.8000	0.15	1	0	80.0	70	130	0.83	3.68	30	
Bromomethane	0.8400	0.15	1	0	84.0	70	130	1.08	25.0	30	
Carbon disulfide	1.020	0.15	1	0	102	70	130	1.04	1.94	30	
Carbon tetrachloride	1.010	0.030	1	0	101	70	130	1.08	6.70	30	
Chlorobenzene	1.060	0.15	1	0	106	70	130	1.08	1.87	30	
Chloroethane	0.7400	0.15	1	0	74.0	70	130	1.12	40.9	30	R
Chloroform	1.000	0.15	1	0	100	70	130	0.99	1.01	30	
Chloromethane	0.8200	0.15	1	0	82.0	70	130	0.86	4.76	30	
cis-1,2-Dichloroethene	1.020	0.040	1	0	102	70	130	0.96	6.06	30	
cis-1,3-Dichloropropene	1.080	0.15	1	0	108	70	130	1.13	4.52	30	
Cyclohexane	1.050	0.15	1	0	105	70	130	1.09	3.74	30	
Dibromochloromethane	0.9500	0.15	1	0	95.0	70	130	0.99	4.12	30	
Ethyl acetate	0.9700	0.15	1	0	97.0	70	130	0.95	2.08	30	
Ethylbenzene	0.9900	0.15	1	0	99.0	70	130	1	1.01	30	
Freon 11	0.9800	0.15	1	0	98.0	70	130	0.97	1.03	30	
Freon 113	1.050	0.15	1	0	105	70	130	1.03	1.92	30	
Freon 114	0.8900	0.15	1	0	89.0	70	130	0.93	4.40	30	
Freon 12	0.9400	0.15	1	0	94.0	70	130	0.97	3.14	30	
Heptane	1.060	0.15	1	0	106	70	130	1.1	3.70	30	
Hexachloro-1,3-buladiene	1.120	0.15	1	0	112	70	130	1.12	0	30	
Hexane	0.9300	0.15	1	0	93.0	70	130	0.88	5.52	30	
Isopropyl alcohol	1.060	0.15	1	0	106	70	130	0.95	10.9	30	
m&p-Xylene	2.140	0.30	2	0	107	70	130	2.2	2.76	30	
Methyl Butyl Ketone	1.020	0.30	1	0	102	70	130	0.99	2.99	30	
Methyl Ethyl Ketone	0.9400	0.30	1	0	94.0	70	130	0.92	2.15	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Centek Laboratories, LLC

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **ALCS1UGD-040920** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	0.9300	0.30	1	0	93.0	70	130	0.95	2.13	30	
Methyl tert-butyl ether	1.020	0.15	1	0	102	70	130	0.92	10.3	30	
Methylene chloride	0.9900	0.15	1	0	99.0	70	130	1.01	2.00	30	
o-Xylene	1.120	0.15	1	0	112	70	130	1.17	4.37	30	
Propylene	1.020	0.15	1	0	102	70	130	1.03	0.976	30	
Styrene	1.160	0.15	1	0	116	70	130	1.18	1.71	30	
Tetrachloroethylene	1.140	0.15	1	0	114	70	130	1.16	1.74	30	
Tetrahydrofuran	0.9400	0.15	1	0	94.0	70	130	0.89	5.46	30	
Toluene	1.070	0.15	1	0	107	70	130	1.08	0.930	30	
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130	0.98	1.02	30	
trans-1,3-Dichloropropene	1.000	0.15	1	0	100	70	130	0.99	1.01	30	
Trichloroethene	1.220	0.030	1	0	122	70	130	1.29	5.58	30	
Vinyl acetate	0.8300	0.15	1	0	83.0	70	130	0.79	4.94	30	
Vinyl Bromide	1.110	0.15	1	0	111	70	130	1.01	9.43	30	
Vinyl chloride	0.8700	0.040	1	0	87.0	70	130	0.91	4.49	30	
Surr: Bromofluorobenzene	1.100	0	1	0	110	70	130	0	0	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Centek Laboratories, LLC

Date: *17-Apr-20*

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040920** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.040	0.040									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									

Qualifiers:

.	Results reported are not blank corrected	E	Estimated Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit	ND	Not Detected at the Limit of Detection	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits	DL	Detection Limit		

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: AMB1UG-040920 SampType: MBLK TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 16240
Client ID: ZZZZZ Batch ID: R16240 TestNo: TO-15 Analysis Date: 4/9/2020 SeqNo: 184805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.030	0.030									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.040	0.040									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.15	0.15									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Centek Laboratories, LLC

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040920** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.030	0.030									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.040	0.040									
Surr: Bromofluorobenzene	0.7100	0	1	0	71.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Estimated Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit	ND	Not Detected at the Limit of Detection	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits	DL	Detection Limit		

Centek Laboratories, LLC

Centek Laboratories
IDL Study

1ug/m3 Detection Limit
July 2019

Method TO-15
Units=ppb

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #6	IDL #7	AVG	StdDev	%Rec	IDL
Propylene	0.30	0.34	0.34	0.33	0.36	0.37	0.34	0.28	0.34	0.03	112.4%	0.090
Freon 12	0.30	0.34	0.34	0.33	0.37	0.37	0.37	0.28	0.34	0.03	114.3%	0.102
Chloromethane	0.30	0.36	0.36	0.36	0.35	0.37	0.37	0.30	0.35	0.02	117.6%	0.076
Freon 114	0.30	0.34	0.33	0.35	0.39	0.38	0.38	0.28	0.35	0.04	116.7%	0.120
Vinyl Chloride	0.30	0.36	0.34	0.33	0.38	0.37	0.37	0.28	0.35	0.03	115.7%	0.108
Butane	0.30	0.38	0.33	0.37	0.39	0.38	0.39	0.27	0.36	0.04	119.5%	0.139
1,3-butadiene	0.30	0.33	0.33	0.36	0.38	0.40	0.38	0.34	0.36	0.03	120.0%	0.087
Bromomethane	0.30	0.34	0.38	0.35	0.40	0.41	0.39	0.34	0.37	0.03	124.3%	0.092
Chloroethane	0.30	0.36	0.38	0.37	0.42	0.37	0.41	0.31	0.37	0.04	124.8%	0.113
Ethanol	0.30	0.34	0.34	0.32	0.33	0.32	0.30	0.34	0.33	0.01	109.0%	0.047
Acrolein	0.30	0.31	0.32	0.30	0.35	0.34	0.36	0.26	0.32	0.03	106.7%	0.107
Vinyl Bromide	0.30	0.35	0.32	0.33	0.40	0.33	0.37	0.29	0.34	0.04	113.8%	0.112
Freon 11	0.30	0.38	0.30	0.33	0.35	0.33	0.35	0.32	0.34	0.03	112.4%	0.081
Acetone	0.30	0.38	0.35	0.32	0.30	0.36	0.35	0.26	0.33	0.04	110.5%	0.129
Pentane	0.30	0.34	0.31	0.33	0.36	0.34	0.35	0.27	0.33	0.03	109.5%	0.095
Isopropyl alcohol	0.30	0.38	0.34	0.36	0.35	0.34	0.35	0.33	0.35	0.02	116.7%	0.051
1,1-dichloroethene	0.30	0.30	0.30	0.32	0.35	0.33	0.32	0.25	0.31	0.03	103.3%	0.099
Freon 113	0.30	0.32	0.32	0.32	0.36	0.34	0.36	0.27	0.33	0.03	109.0%	0.097
t-Butyl alcohol	0.30	0.31	0.28	0.30	0.34	0.31	0.31	0.23	0.30	0.03	99.0%	0.108
Methylene chloride	0.30	0.33	0.32	0.32	0.34	0.35	0.35	0.25	0.32	0.03	107.6%	0.108
Allyl chloride	0.30	0.31	0.31	0.30	0.36	0.34	0.33	0.26	0.32	0.03	105.2%	0.101
Carbon disulfide	0.30	0.34	0.32	0.32	0.35	0.34	0.35	0.26	0.33	0.03	108.6%	0.099
trans-1,2-dichloroethene	0.30	0.32	0.31	0.30	0.33	0.34	0.32	0.24	0.31	0.03	102.9%	0.103
methyl tert-butyl ether	0.30	0.28	0.29	0.28	0.31	0.30	0.31	0.23	0.29	0.03	95.2%	0.087
1,1-dichloroethane	0.30	0.31	0.31	0.32	0.35	0.35	0.33	0.25	0.32	0.03	105.7%	0.107
Vinyl acetate	0.30	0.28	0.30	0.28	0.30	0.29	0.30	0.20	0.28	0.04	92.9%	0.112
Methyl Ethyl Ketone	0.30	0.31	0.31	0.30	0.31	0.30	0.31	0.21	0.29	0.04	97.6%	0.116
cis-1,2-dichloroethene	0.30	0.30	0.30	0.30	0.32	0.30	0.30	0.22	0.29	0.03	97.1%	0.102
Hexane	0.30	0.30	0.29	0.29	0.29	0.30	0.30	0.20	0.28	0.04	93.8%	0.114
Ethyl acetate	0.30	0.29	0.30	0.29	0.29	0.28	0.28	0.20	0.28	0.03	91.9%	0.107
Chloroform	0.30	0.33	0.32	0.32	0.35	0.34	0.34	0.25	0.32	0.03	107.1%	0.105
Tetrahydrofuran	0.30	0.30	0.29	0.31	0.31	0.31	0.32	0.25	0.30	0.02	99.5%	0.074
1,2-dichloroethane	0.30	0.31	0.33	0.31	0.36	0.35	0.35	0.25	0.32	0.04	107.6%	0.119
1,1,1-trichloroethane	0.30	0.33	0.33	0.32	0.39	0.39	0.38	0.28	0.35	0.04	115.2%	0.132
Cyclohexane	0.30	0.30	0.30	0.29	0.31	0.32	0.31	0.23	0.29	0.03	98.1%	0.094
Carbon tetrachloride	0.30	0.29	0.30	0.30	0.35	0.35	0.35	0.26	0.31	0.04	104.8%	0.113
Benzene	0.30	0.31	0.32	0.33	0.36	0.35	0.34	0.26	0.32	0.03	108.1%	0.104
Methyl methacrylate	0.30	0.29	0.30	0.30	0.32	0.30	0.31	0.23	0.29	0.03	97.6%	0.092

Centek Laboratories
IDL Study

1ug/m3 Detection Limit
July 2019

Method TO-15
Units=ppb

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #6	IDL #7	AVG	StdDev	%Rec	IDL
1,4-dioxane	0.30	0.31	0.30	0.30	0.34	0.32	0.33	0.22	0.30	0.04	101.0%	0.124
2,2,4-trimethylpentane	0.30	0.30	0.30	0.31	0.34	0.33	0.34	0.24	0.31	0.03	102.9%	0.110
Heptane	0.30	0.30	0.29	0.30	0.31	0.31	0.33	0.22	0.29	0.04	98.1%	0.110
Trichloroethene	0.30	0.30	0.29	0.29	0.32	0.34	0.33	0.24	0.30	0.03	100.5%	0.105
1,2-dichloropropane	0.30	0.33	0.33	0.32	0.38	0.39	0.37	0.28	0.34	0.04	114.3%	0.123
Bromodichloromethane	0.30	0.34	0.33	0.34	0.38	0.40	0.38	0.28	0.35	0.04	116.7%	0.127
cis-1,3-dichloropropene	0.30	0.32	0.33	0.33	0.34	0.35	0.34	0.25	0.32	0.03	107.6%	0.105
trans-1,3-dichloropropene	0.30	0.33	0.33	0.33	0.34	0.34	0.32	0.24	0.32	0.04	106.2%	0.111
1,1,2-trichloroethane	0.30	0.35	0.33	0.33	0.38	0.38	0.38	0.27	0.35	0.04	115.2%	0.127
Toluene	0.30	0.29	0.35	0.29	0.29	0.29	0.28	0.20	0.28	0.04	94.8%	0.138
Methyl Isobutyl Ketone	0.30	0.29	0.36	0.29	0.30	0.29	0.28	0.20	0.29	0.05	95.7%	0.147
Dibromochloromethane	0.30	0.30	0.36	0.31	0.35	0.34	0.35	0.26	0.32	0.04	108.1%	0.113
Methyl Butyl Ketone	0.30	0.28	0.31	0.27	0.27	0.28	0.26	0.23	0.27	0.02	90.5%	0.076
1,2-dibromoethane	0.30	0.30	0.35	0.30	0.34	0.33	0.34	0.24	0.31	0.04	104.8%	0.120
Tetrachloroethylene	0.30	0.30	0.36	0.29	0.33	0.31	0.32	0.26	0.31	0.03	103.3%	0.099
Chlorobenzene	0.30	0.31	0.31	0.31	0.34	0.33	0.34	0.24	0.31	0.03	103.8%	0.108
Ethylbenzene	0.30	0.31	0.28	0.31	0.32	0.30	0.30	0.20	0.29	0.04	96.2%	0.129
m&p-xylene	0.60	0.60	0.55	0.58	0.62	0.61	0.60	0.40	0.57	0.08	94.3%	0.241
Nonane	0.30	0.30	0.27	0.22	0.31	0.30	0.31	0.21	0.27	0.04	91.4%	0.134
Styrene	0.30	0.29	0.30	0.25	0.32	0.30	0.32	0.21	0.28	0.04	94.8%	0.127
Bromoform	0.30	0.31	0.33	0.28	0.34	0.34	0.34	0.23	0.31	0.04	103.3%	0.131
o-xylene	0.30	0.30	0.31	0.25	0.33	0.34	0.33	0.22	0.30	0.05	99.0%	0.143
Cumene	0.30	0.23	0.27	0.22	0.31	0.30	0.30	0.20	0.26	0.04	87.1%	0.140
Bromofluorobenzene	1.00	0.88	1.03	0.89	1.08	1.06	1.09	1.08	1.02	0.09	101.6%	0.287
1,1,2,2-tetrachloroethane	0.30	0.30	0.35	0.30	0.37	0.35	0.36	0.25	0.33	0.04	108.6%	0.137
Propylbenzene	0.30	0.24	0.27	0.22	0.31	0.28	0.29	0.24	0.26	0.03	88.1%	0.101
2-Chlorotoluene	0.30	0.26	0.32	0.25	0.33	0.29	0.34	0.24	0.29	0.04	96.7%	0.128
4-ethyltoluene	0.30	0.23	0.28	0.22	0.31	0.28	0.30	0.21	0.26	0.04	87.1%	0.128
1,3,5-trimethylbenzene	0.30	0.24	0.28	0.24	0.32	0.32	0.31	0.20	0.27	0.05	91.0%	0.148
1,2,4-trimethylbenzene	0.30	0.22	0.26	0.22	0.29	0.28	0.29	0.19	0.25	0.04	83.3%	0.126
1,3-dichlorobenzene	0.30	0.27	0.31	0.26	0.34	0.25	0.33	0.21	0.28	0.05	93.8%	0.148
benzyl chloride	0.30	0.26	0.31	0.26	0.32	0.28	0.31	0.24	0.28	0.03	94.3%	0.097
1,4-dichlorobenzene	0.30	0.25	0.30	0.26	0.33	0.22	0.33	0.19	0.27	0.05	89.5%	0.170
1,2,3-trimethylbenzene	0.30	0.24	0.26	0.23	0.29	0.28	0.29	0.18	0.25	0.04	84.3%	0.125
1,2-dichlorobenzene	0.30	0.27	0.32	0.26	0.34	0.29	0.32	0.21	0.29	0.04	95.7%	0.140
1,2,4-trichlorobenzene	0.30	0.20	0.22	0.20	0.24	0.25	0.24	0.15	0.21	0.03	71.4%	0.109
Naphthalene	0.30	0.20	0.23	0.19	0.24	0.26	0.25	0.13	0.21	0.05	71.4%	0.142
Hexachloro-1,3-butadiene	0.30	0.28	0.35	0.27	0.35	0.33	0.34	0.22	0.31	0.05	101.9%	0.157

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = \frac{Ax * Cis}{Ais * Cx}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Cx = concentration of the compound being measured (ppbv)
Cis = concentration of the internal standard (ppbv)

Percent Relative Standard Deviation (%RSD)

$$\% RSD = \frac{\text{Standard deviation of RRF values} * 100}{\text{mean RRF}}$$

Percent Difference (%D)

$$\% D = \frac{(RRFc - \text{mean } RRFi) * 100}{\text{mean } RRFi}$$

where: RRFc = relative response factor from the continuing calibration
mean RRFi = mean relative response factor from the initial calibration

Sample Calculations

$$ppbv = \frac{Ax * Is * Df}{Ais * RRF}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Is = Concentration of the internal standard injected (ppbv)
RRF= relative response factor for the compound being measured
Df = Dilution factor

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC

Date: *17-Apr-20*

CLIENT:	Matrix Environmental Technologies, Inc	**Client Sample ID:**	Building 1- Indoor Air
Lab Order:	C2004010	**Tag Number:**	287,173
Project:	Aquino 65-67 Lake Ave.	**Collection Date:**	4/6/2020
Lab ID:	C2004010-001A	**Matrix:**	AIR

Analyses	Result	DL	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-1			"Hg		4/9/2020
Lab Vacuum Out	-30			"Hg		4/9/2020
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/9/2020 4:26:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2,4-Trimethylbenzene	0.24	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,3,5-Trimethylbenzene	0.10	0.15	J	ppbV	1	4/9/2020 4:26:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	4/9/2020 4:26:00 PM
2,2,4-trimethylpentane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
4-ethyltoluene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Acetone	14	3.0		ppbV	10	4/10/2020 12:14:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Benzene	0.30	0.15		ppbV	1	4/9/2020 4:26:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Bromoform	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Carbon disulfide	0.10	0.15	J	ppbV	1	4/9/2020 4:26:00 PM
Carbon tetrachloride	< 0.030	0.030		ppbV	1	4/9/2020 4:26:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Chloroform	0.18	0.15		ppbV	1	4/9/2020 4:26:00 PM
Chloromethane	0.71	0.15		ppbV	1	4/9/2020 4:26:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/9/2020 4:26:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Cyclohexane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Ethyl acetate	0.21	0.15		ppbV	1	4/9/2020 4:26:00 PM

Qualifiers:

SC	Sub-Contracted	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
S	Spike Recovery outside accepted recovery limits	DL	Detection Limit

Centek Laboratories, LLC

Date: *17-Apr-20*

CLIENT:	Matrix Environmental Technologies, Inc	**Client Sample ID:**	Building 1- Indoor Air
Lab Order:	C2004010	**Tag Number:**	287,173
Project:	Aquino 65-67 Lake Ave.	**Collection Date:**	4/6/2020
Lab ID:	C2004010-001A	**Matrix:**	AIR

Analyses	Result	DL	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		**TO-15**				Analyst: **RJP**
Ethylbenzene	0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 11	0.22	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 113	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 114	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Freon 12	0.46	0.15		ppbV	1	4/9/2020 4:26:00 PM
Heptane	0.11	0.15	J	ppbV	1	4/9/2020 4:26:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Hexane	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Isopropyl alcohol	4.1	1.5		ppbV	10	4/10/2020 12:14:00 AM
m&p-Xylene	0.33	0.30		ppbV	1	4/9/2020 4:26:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	4/9/2020 4:26:00 PM
Methyl Ethyl Ketone	2.7	3.0	J	ppbV	10	4/10/2020 12:14:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	4/9/2020 4:26:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Methylene chloride	0.19	0.15		ppbV	1	4/9/2020 4:26:00 PM
o-Xylene	0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Propylene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Styrene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Tetrachloroethylene	0.27	0.15		ppbV	1	4/9/2020 4:26:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Toluene	0.74	0.15		ppbV	1	4/9/2020 4:26:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/9/2020 4:26:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	4/9/2020 4:26:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/9/2020 4:26:00 PM
Surr: Bromofluorobenzene	112	70-130		%REC	1	4/9/2020 4:26:00 PM

Qualifiers:	SC	Sub-Contracted	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits	DL	Detection Limit

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040910.D Vial: 10
Acq On : 9 Apr 2020 4:26 pm Operator: RJP
Sample : C2004010-001A Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:40 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.91	128	48211	1.00	ppb		0.01
35) 1,4-difluorobenzene	12.20	114	171509	1.00	ppb		0.01
50) Chlorobenzene-d5	17.00	117	163761	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.74	95	131094	1.12	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 112.00%				
Target Compounds							Qvalue
3) Freon 12	4.26	85	98523	0.46	ppb		97
4) Chloromethane	4.47	50	33008	0.71	ppb		98
14) Freon 11	5.92	101	50144	0.22	ppb		98
15) Acetone	6.08	58	400871	15.25	ppb	#	100
17) Isopropyl alcohol	6.20	45	300696	4.87	ppb	#	1
21) Methylene chloride	7.16	84	10203	0.19	ppb		92
23) Carbon disulfide	7.31	76	16870	0.10	ppb		95
28) Methyl Ethyl Ketone	9.01	72	80422	3.65	ppb	#	100
31) Ethyl acetate	9.62	43	21390	0.21	ppb		91
32) Chloroform	10.08	83	25670	0.18	ppb		100
38) Carbon tetrachloride	11.55	117	14839	0.09	ppb		94
39) Benzene	11.51	78	42453	0.30	ppb		99
43) Heptane	12.73	43	6424	0.11	ppb	#	78
51) Toluene	14.96	92	71229	0.74	ppb		98
56) Tetrachloroethylene	16.02	164	22229	0.27	ppb		97
58) Ethylbenzene	17.32	91	30591	0.15	ppb		98
59) m&p-xylene	17.50	91	59588	0.33	ppb		100
63) o-xylene	18.03	91	31525	0.15	ppb		98
70) 1,3,5-trimethylbenzene	19.45	105	23454m	0.10	ppb		
71) 1,2,4-trimethylbenzene	19.95	105	45283	0.24	ppb		100

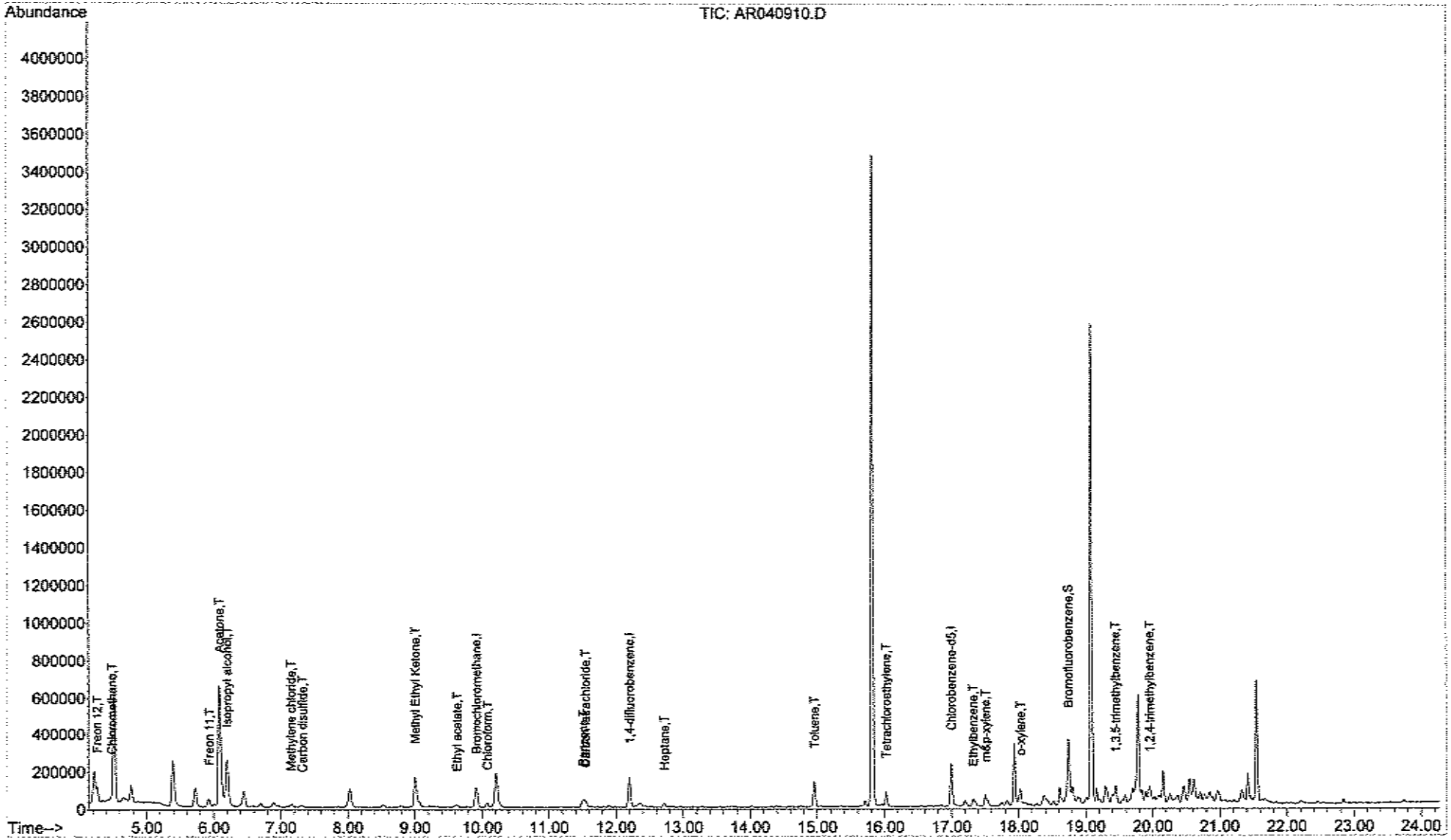
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040910.D
Acq On : 9 Apr 2020 4:26 pm
Sample : C2004010-001A
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 15 11:39 2020

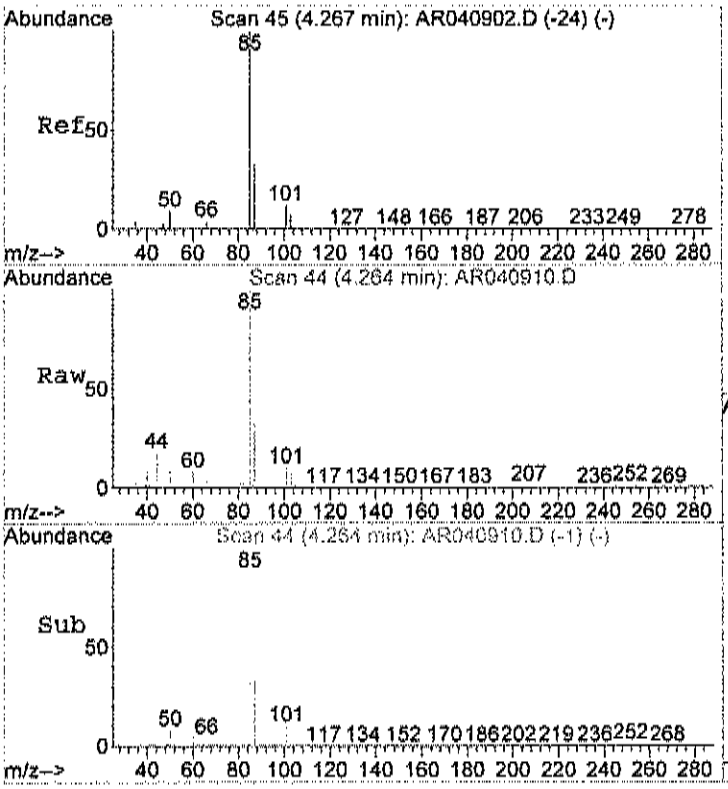
Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Initial Calibration



AR040910.D A320_1UG.M Fri Apr 17 11:38:35 2020 MSD1 Page 2

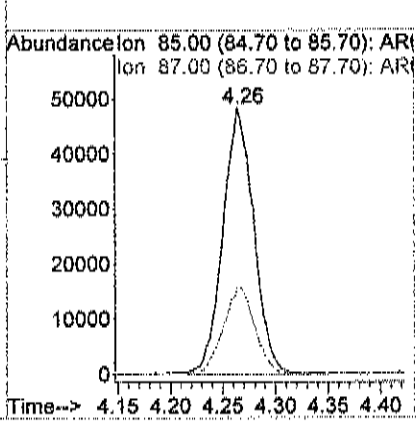
Centek Laboratories, LLC

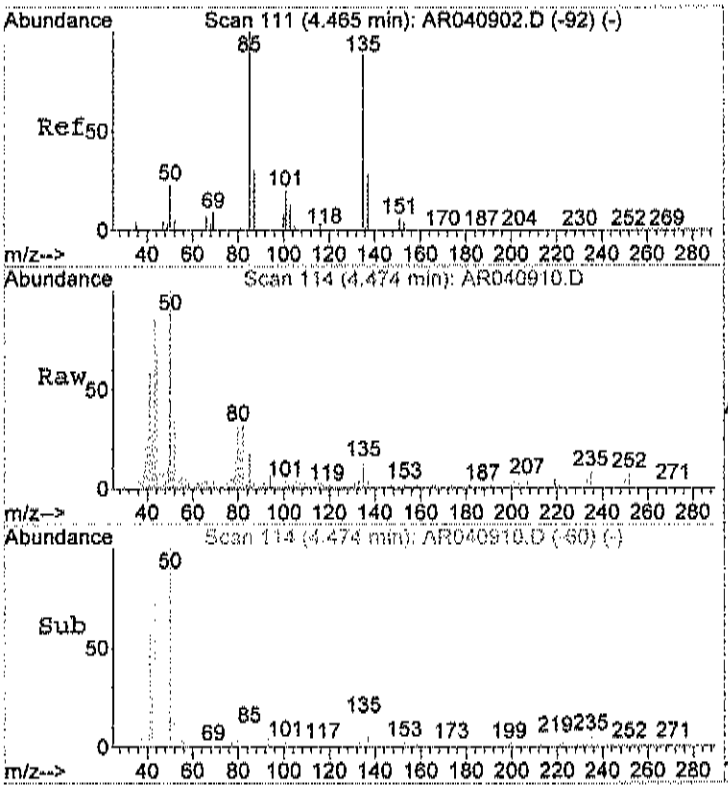


#3
Freon 12
Concen: 0.46 ppb
RT: 4.26 min Scan# 44
Delta R.T. 0.00 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 85 Resp: 98523

Ion	Ratio	Lower	Upper
85	100		
87	33.6	11.9	51.9

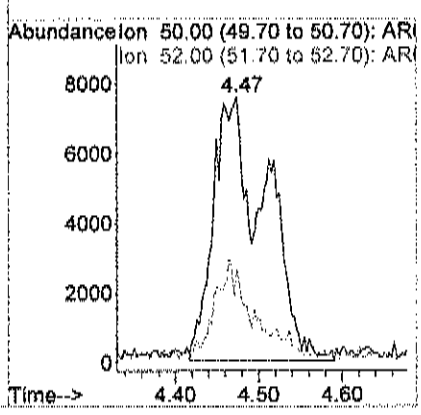


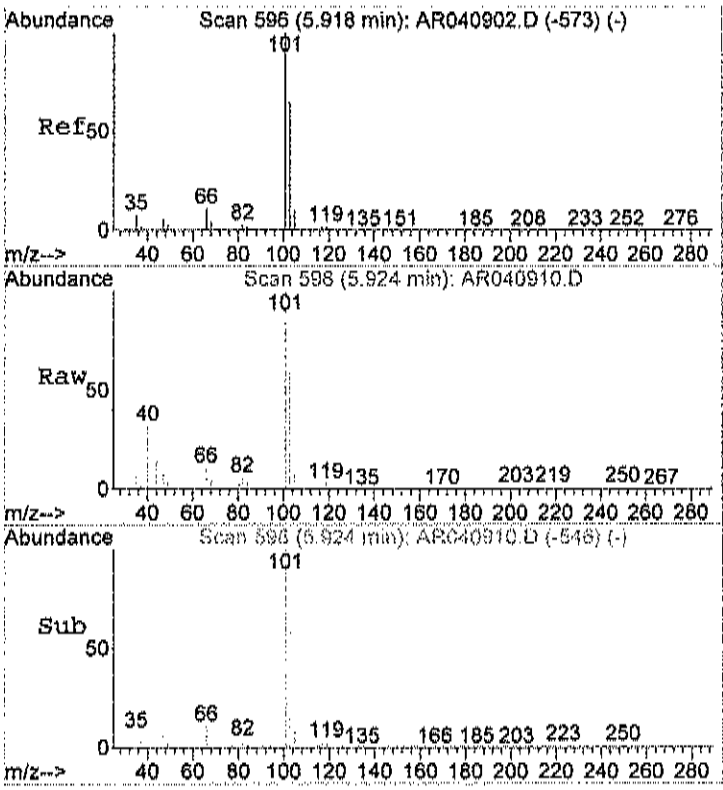


#4
Chloromethane
Concen: 0.71 ppb
RT: 4.47 min Scan# 114
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 50 Resp: 33008

Ion	Ratio	Lower	Upper
50	100		
52	27.3	6.1	46.1

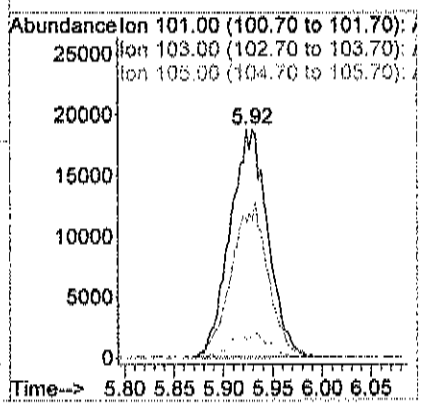


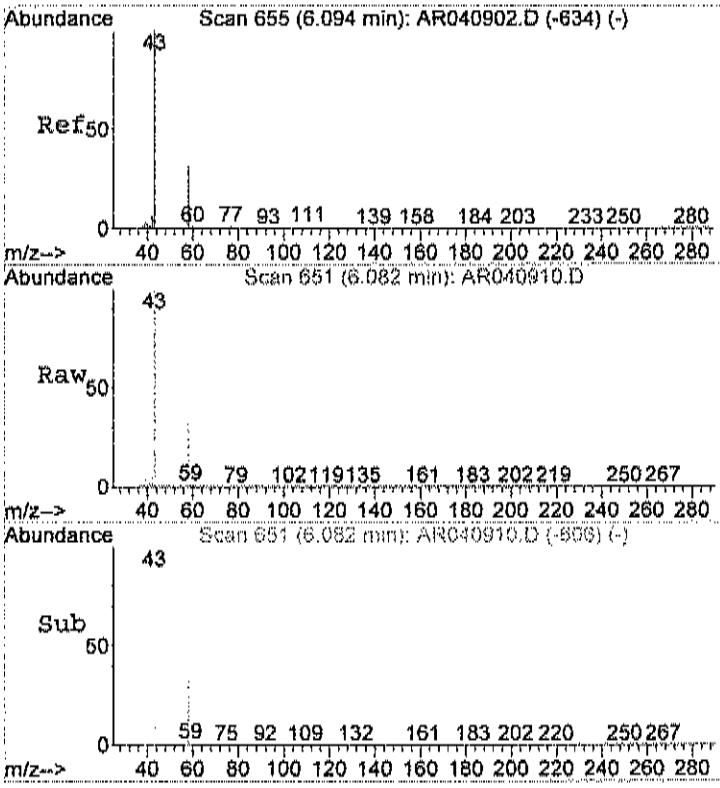


#14
Freon 11
Concen: 0.22 ppb
RT: 5.92 min Scan# 598
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion:101 Resp: 50144

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.2	84.2
105	10.8	0.0	30.3

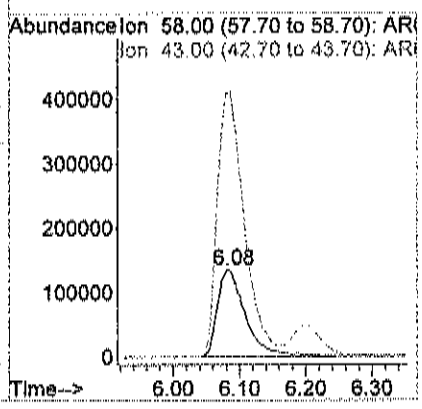


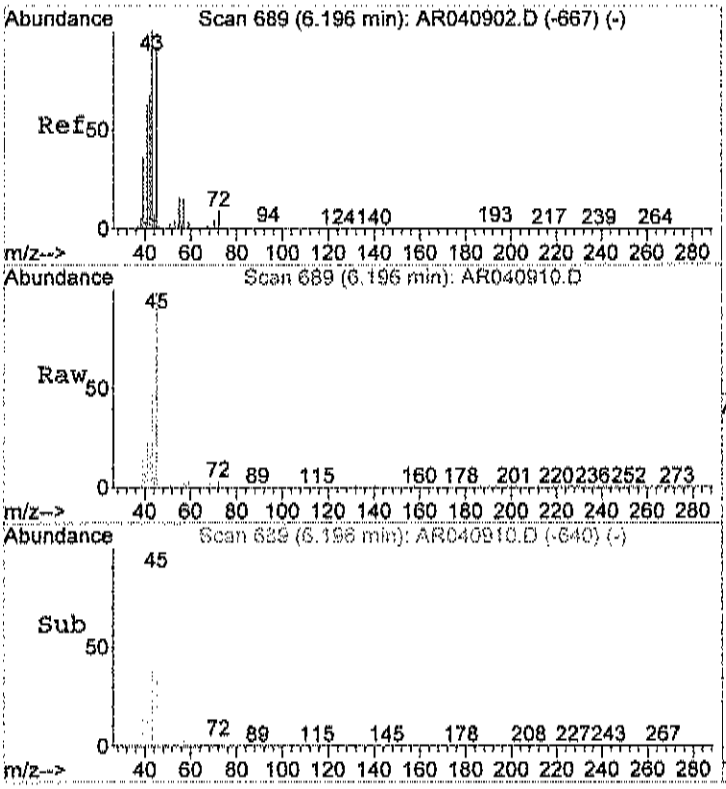


#15
Acetone
Concen: 15.25 ppb
RT: 6.08 min Scan# 651
Delta R.T. -0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 58 Resp: 400871

Ion	Ratio	Lower	Upper
58	100		
43	327.1	0.0	30.0#

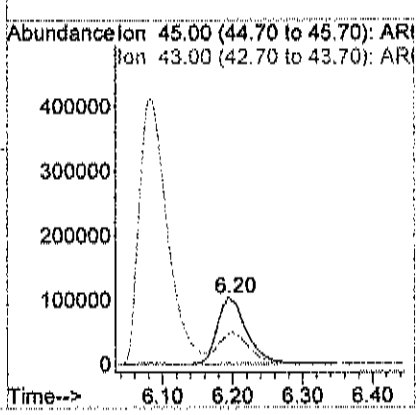


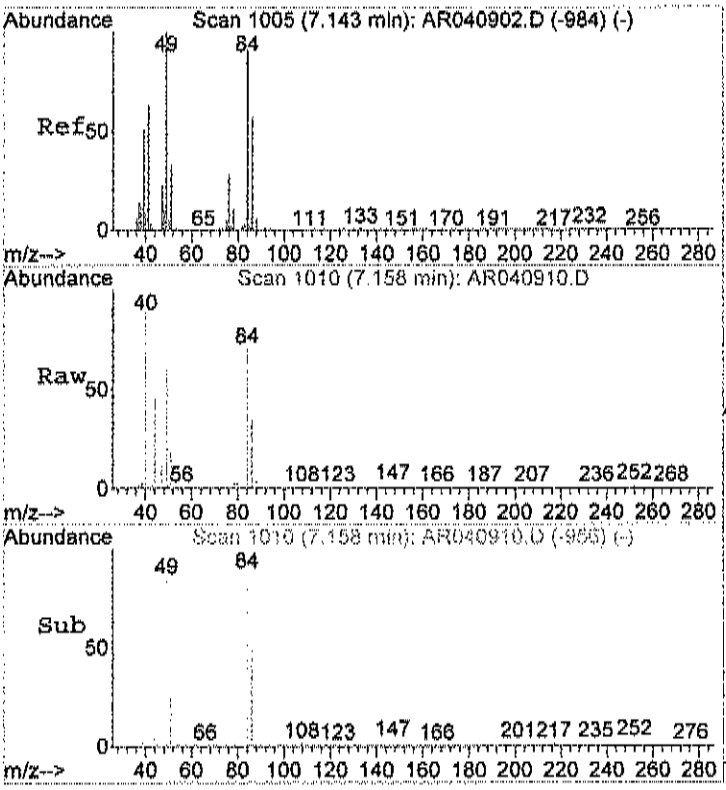


#17
Isopropyl alcohol
Concen: 4.87 ppb
RT: 6.20 min Scan# 689
Delta R.T. -0.00 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 45 Resp: 300696

Ion	Ratio	Lower	Upper
45	100		
43	0.0	196.5	236.5#

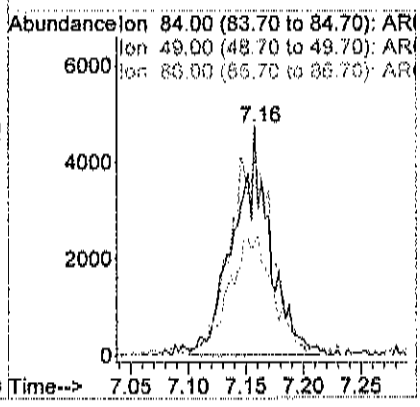


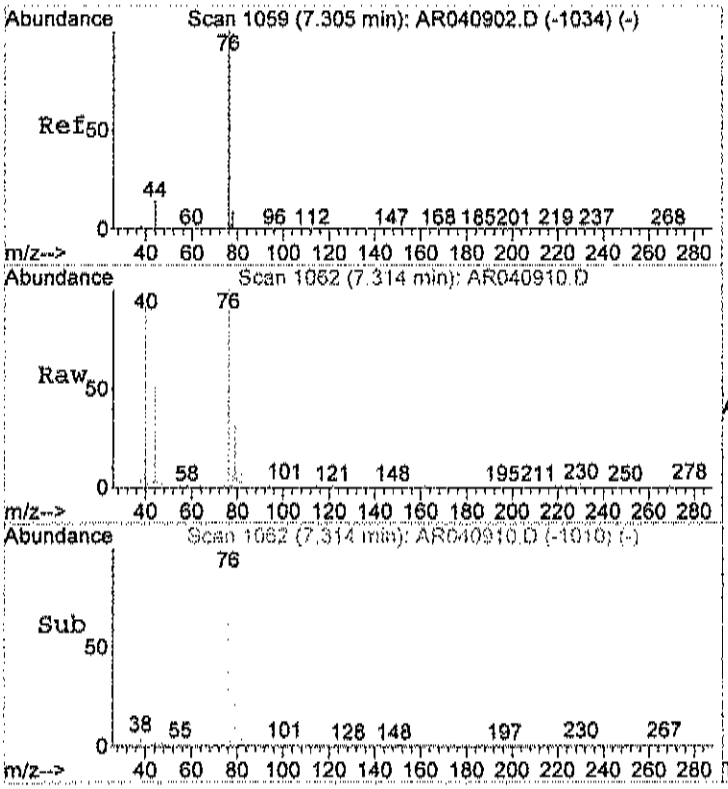


#21
Methylene chloride
Concen: 0.19 ppb
RT: 7.16 min Scan# 1010
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 84 Resp: 10203

Ion	Ratio	Lower	Upper
84	100		
49	107.2	101.4	141.4
86	65.9	45.4	85.4

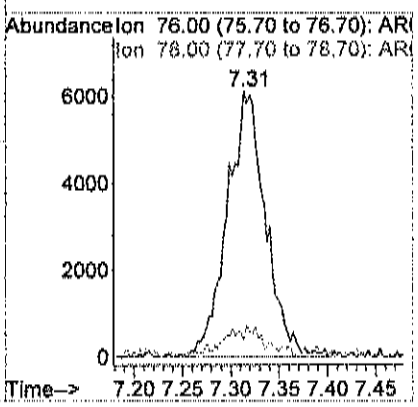


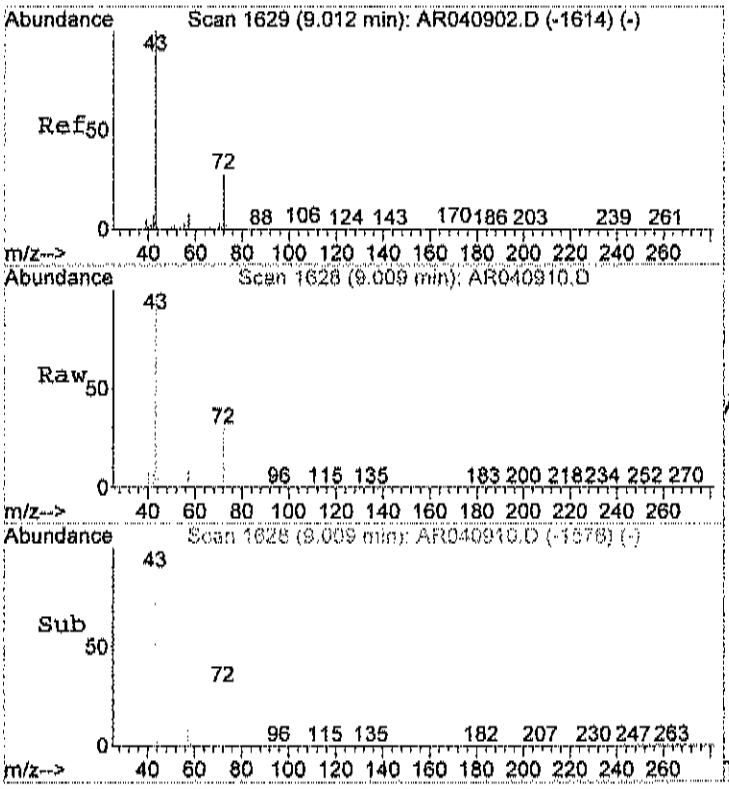


#23
Carbon disulfide
Concen: 0.10 ppb
RT: 7.31 min Scan# 1062
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 76 Resp: 16870

Ion	Ratio	Lower	Upper
76	100		
78	11.4	0.0	29.7

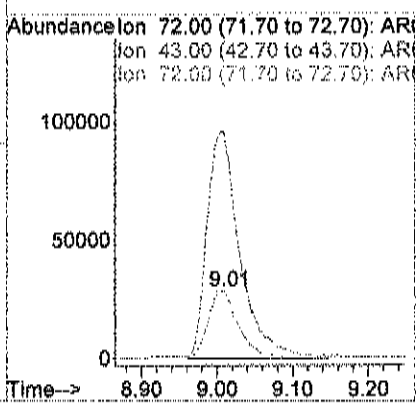


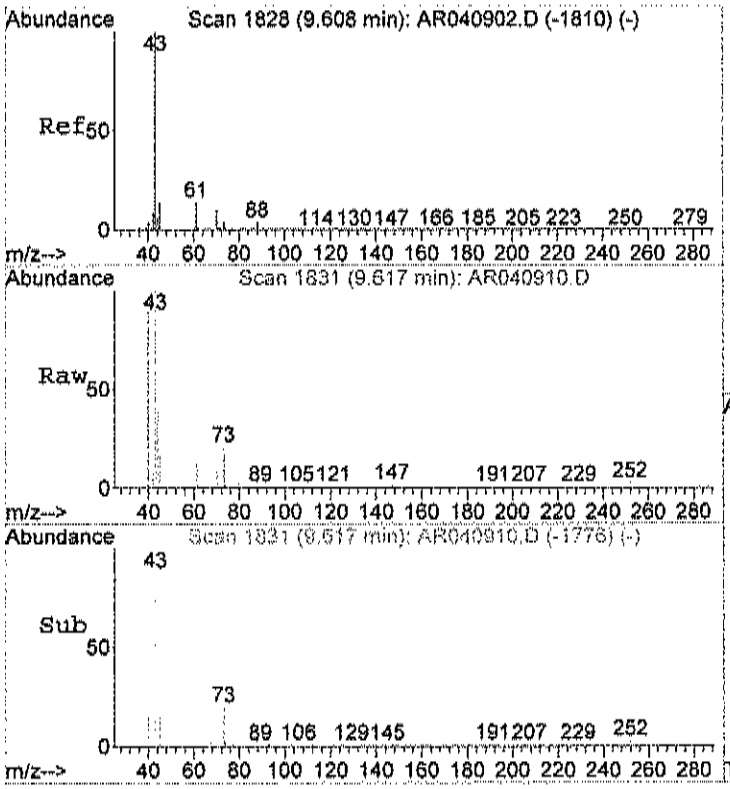


#28
Methyl Ethyl Ketone
Concen: 3.65 ppb
RT: 9.01 min Scan# 1628
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 72 Resp: 80422

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0

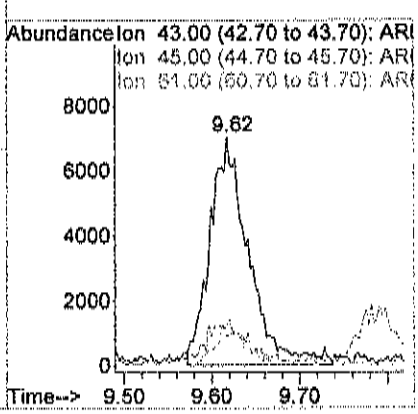


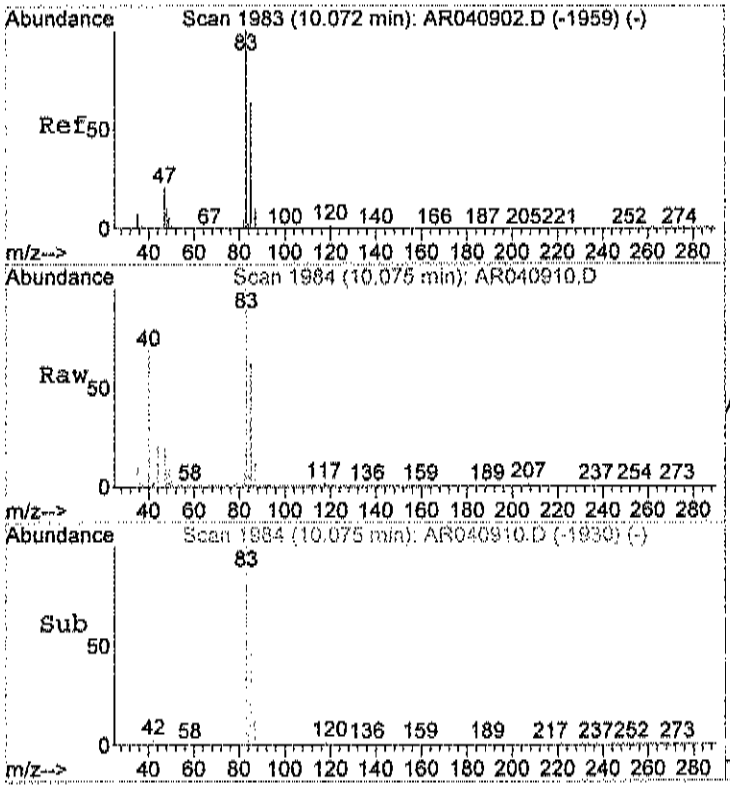


#31
Ethyl acetate
Concen: 0.21 ppb
RT: 9.62 min Scan# 1831
Delta R.T. 0.02 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 43 Resp: 21390

Ion	Ratio	Lower	Upper
43	100		
45	20.0	0.0	34.5
61	13.5	0.0	35.8

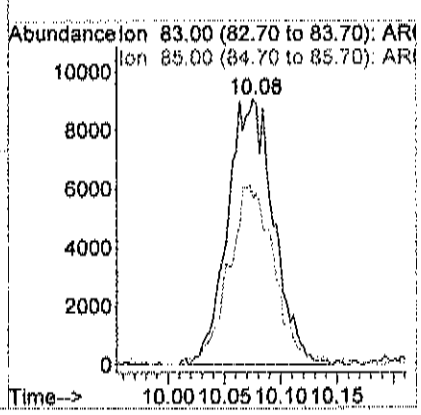


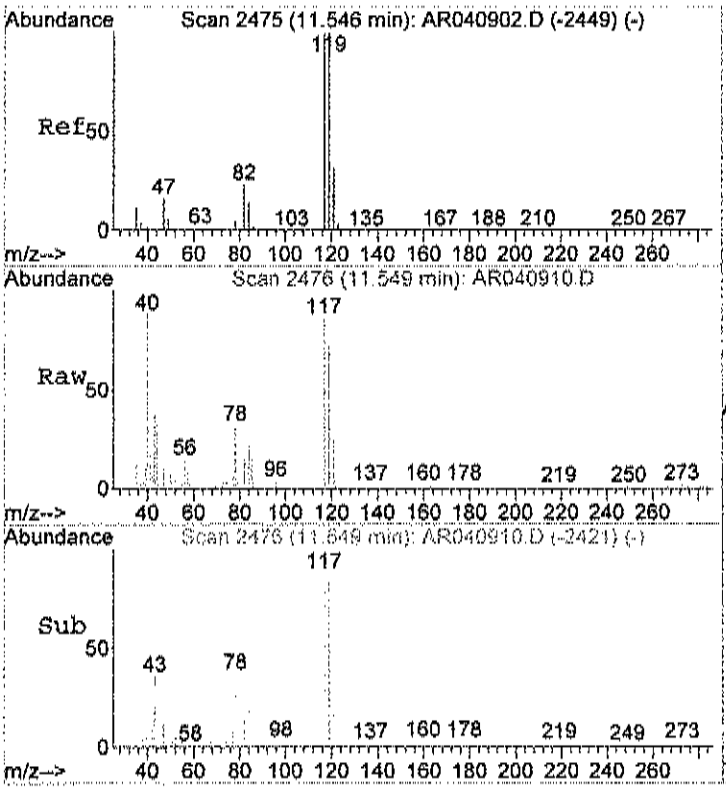


#32
Chloroform
Concen: 0.18 ppb
RT: 10.08 min Scan# 1984
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 83 Resp: 25670

Ion	Ratio	Lower	Upper
83	100		
85	66.8	46.5	86.5

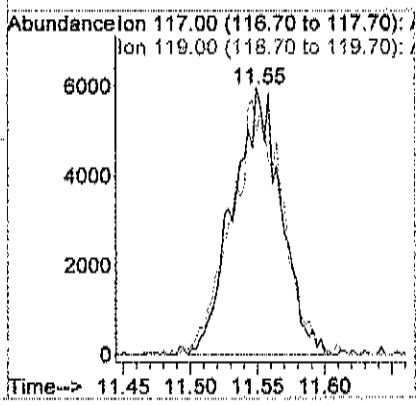


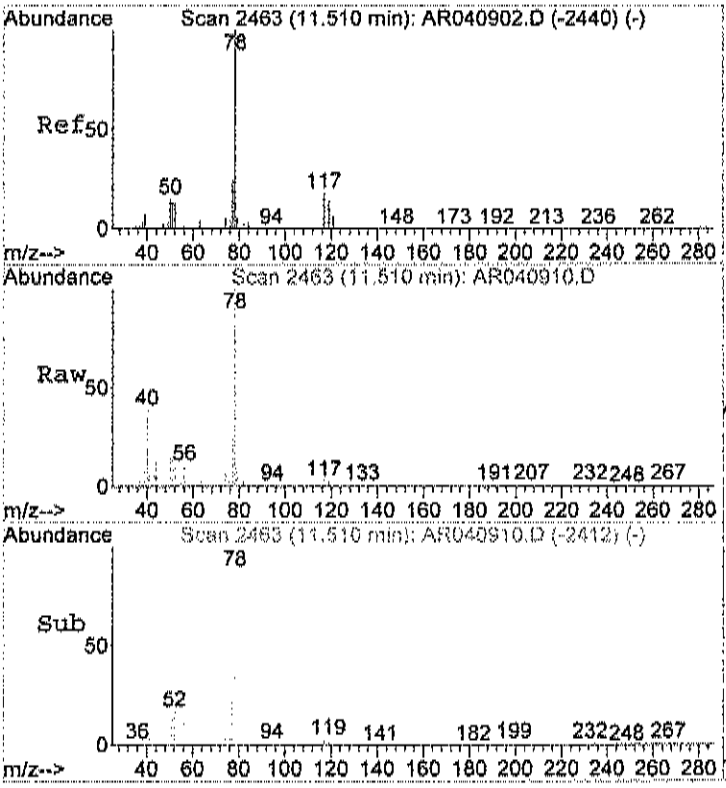


#38
Carbon tetrachloride
Concen: 0.09 ppb
RT: 11.55 min Scan# 2476
Delta R.T. 0.02 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion:117 Resp: 14839

Ion	Ratio	Lower	Upper
117	100		
119	101.1	75.6	115.6

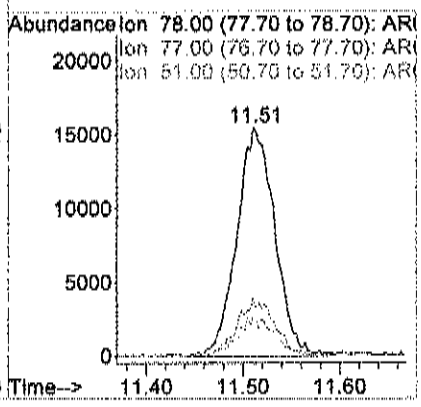


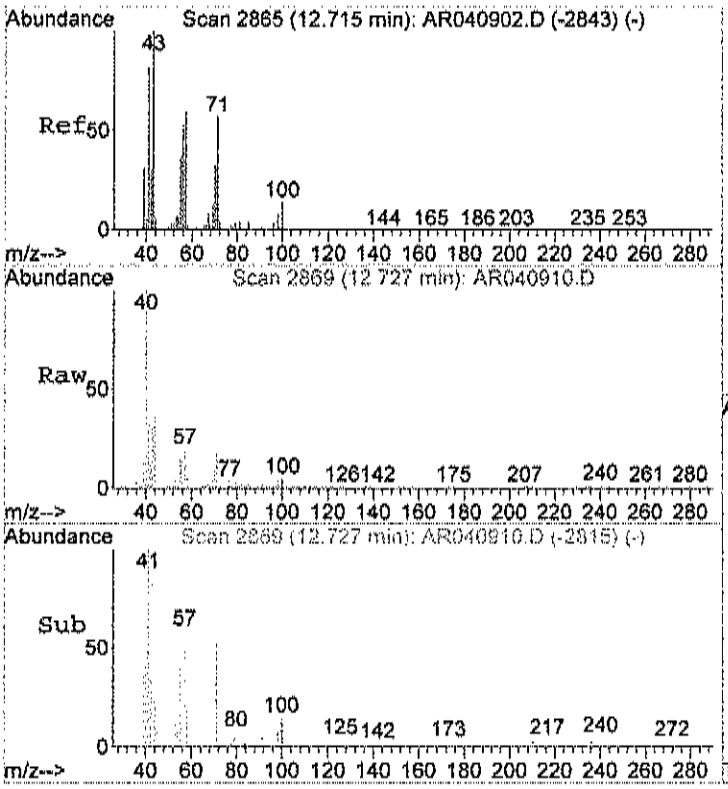


#39
Benzene
Concen: 0.30 ppb
RT: 11.51 min Scan# 2463
Delta R.T. 0.00 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 78 Resp: 42453

Ion	Ratio	Lower	Upper
78	100		
77	24.4	4.1	44.1
51	17.2	0.0	36.8

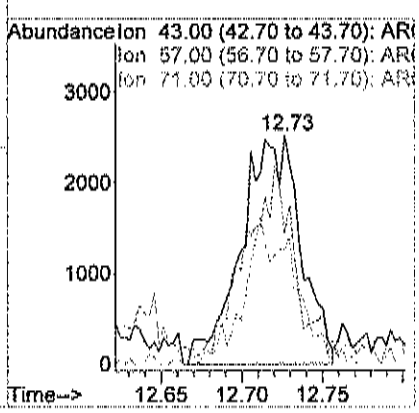


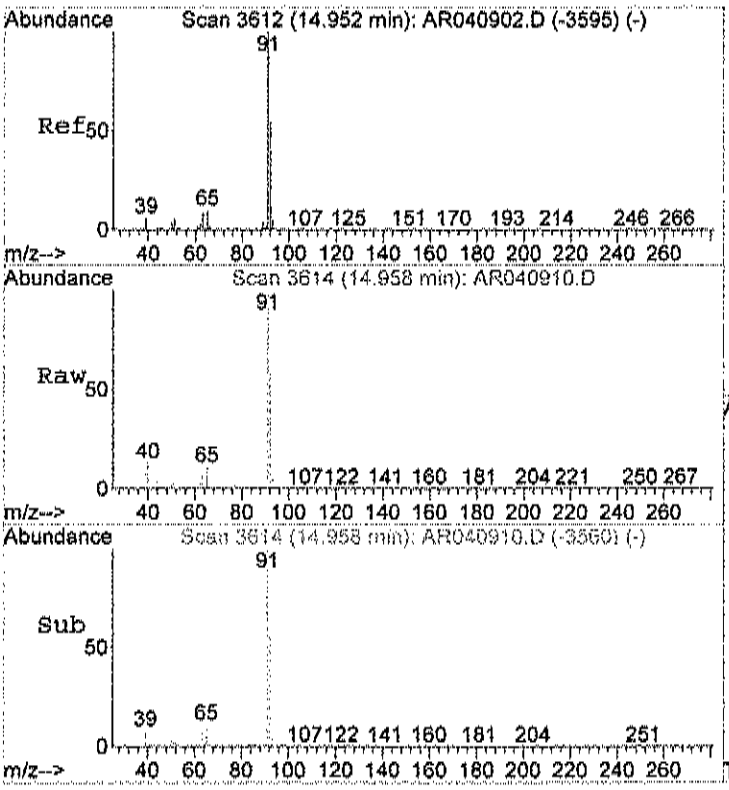


#43
Heptane
Concen: 0.11 ppb
RT: 12.73 min Scan# 2869
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 43 Resp: 6424

Ion	Ratio	Lower	Upper
43	100		
57	77.1	36.0	76.0#
71	49.9	42.5	82.5

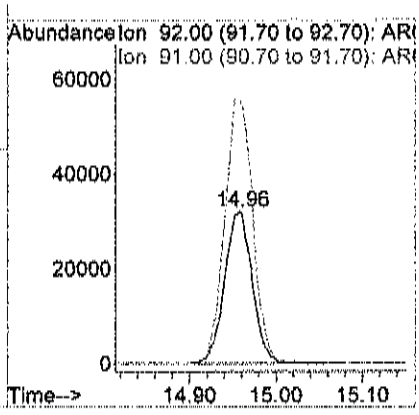


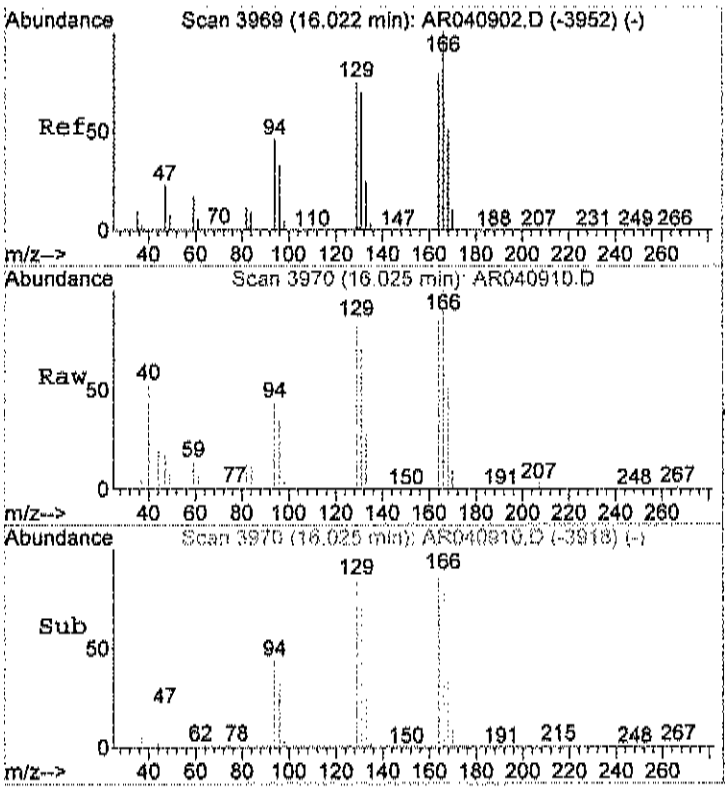


#51
Toluene
Concen: 0.74 ppb
RT: 14.96 min Scan# 3614
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 92 Resp: 71229

Ion	Ratio	Lower	Upper
92	100		
91	177.7	154.5	194.5

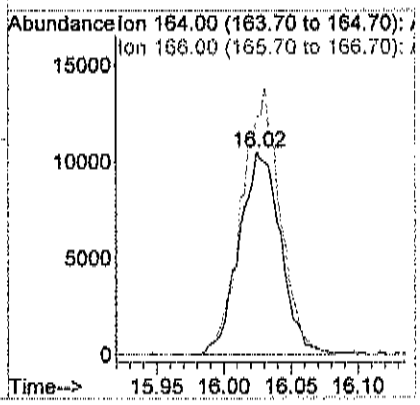


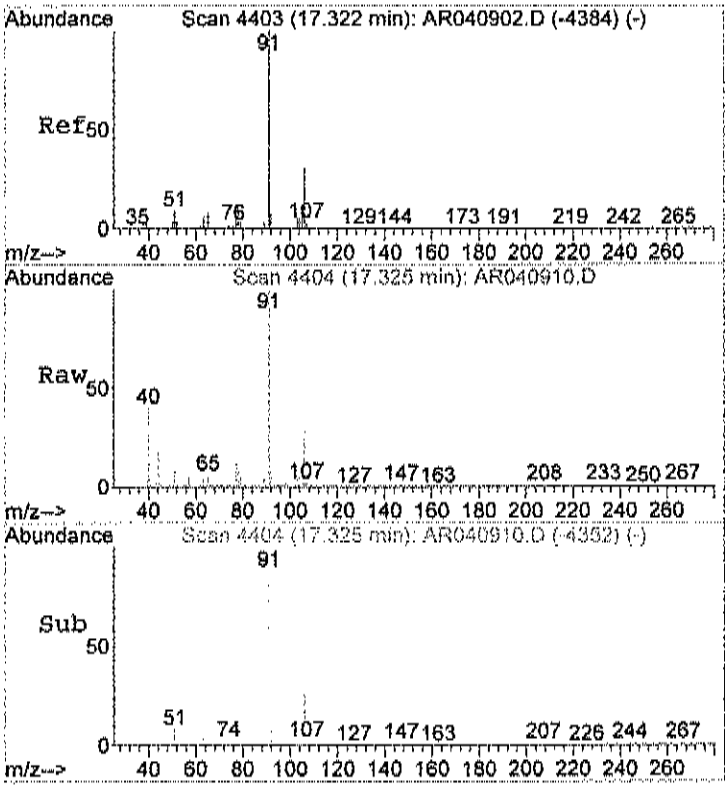


#56
Tetrachloroethylene
Concen: 0.27 ppb
RT: 16.02 min Scan# 3970
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion:164 Resp: 22229

Ion	Ratio	Lower	Upper
164	100		
166	122.9	106.4	146.4

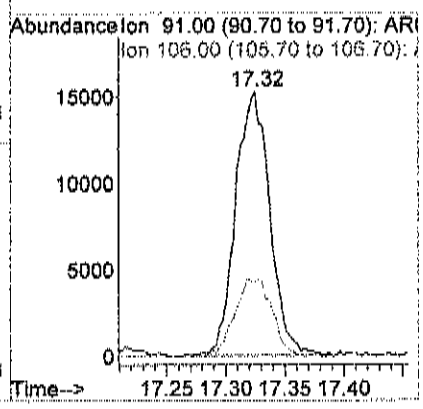


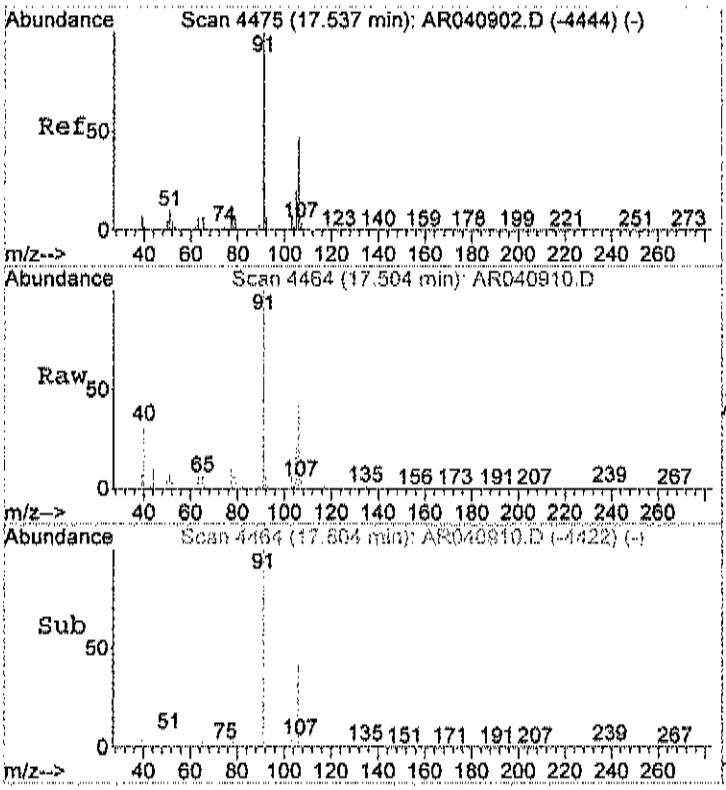


#58
Ethylbenzene
Concen: 0.15 ppb
RT: 17.32 min Scan# 4404
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 91 Resp: 30591

Ion	Ratio	Lower	Upper
91	100		
106	32.6	11.7	51.7

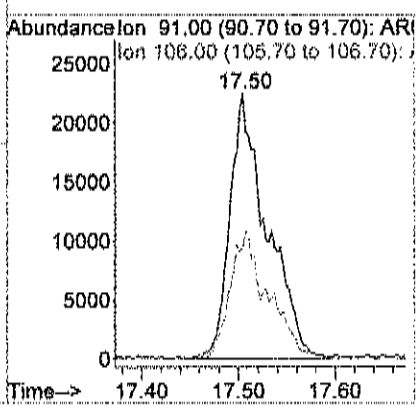


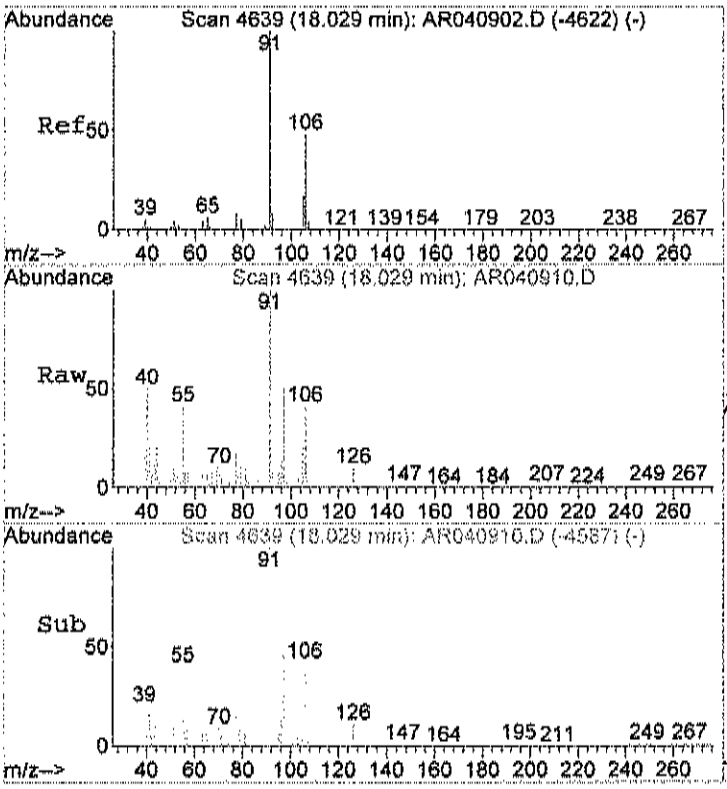


#59
m&p-xylene
Concen: 0.33 ppb
RT: 17.50 min Scan# 4464
Delta R.T. -0.02 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 91 Resp: 59588

Ion	Ratio	Lower	Upper
91	100		
106	49.2	29.0	69.0

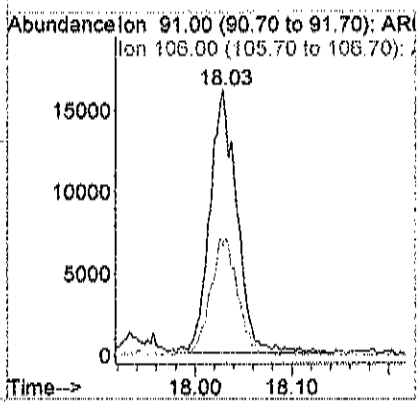


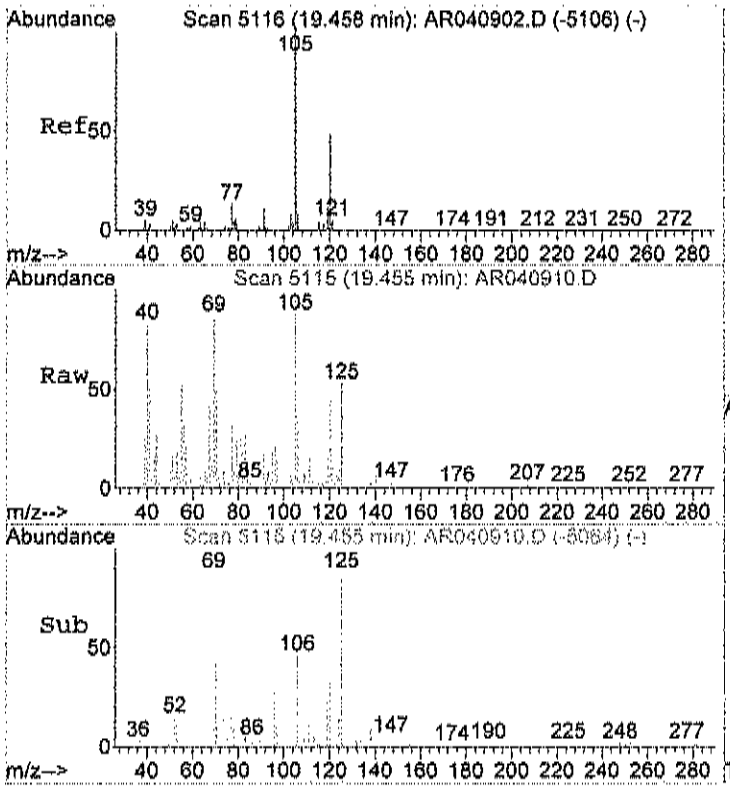


#63
o-xylene
Concen: 0.15 ppb
RT: 18.03 min Scan# 4639
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion: 91 Resp: 31525

Ion	Ratio	Lower	Upper
91	100		
106	44.9	26.2	66.2

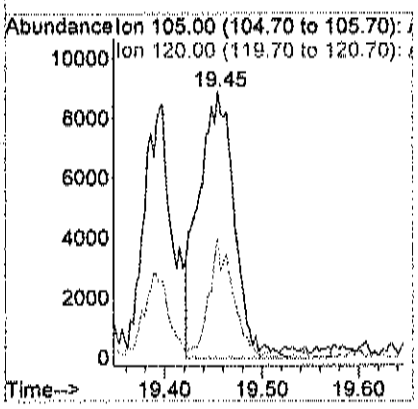


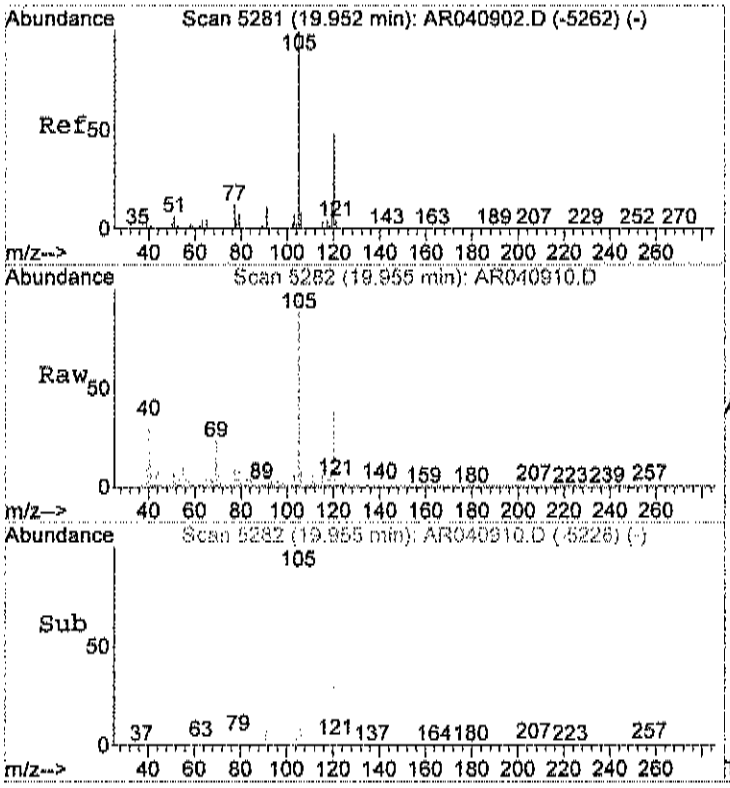


#70
1,3,5-trimethylbenzene
Concen: 0.10 ppb m
RT: 19.45 min Scan# 5115
Delta R.T. 0.00 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion:105 Resp: 23454

Ion	Ratio	Lower	Upper
105	100		
120	28.1	28.2	68.2#

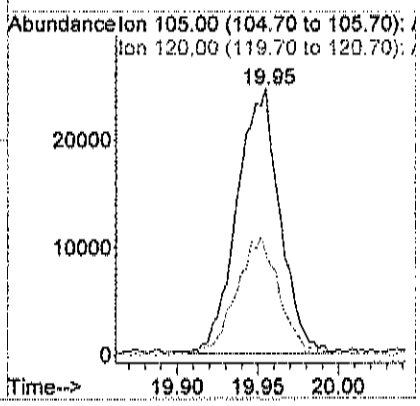




#71
1,2,4-trimethylbenzene
Concen: 0.24 ppb
RT: 19.95 min Scan# 5282
Delta R.T. 0.01 min
Lab File: AR040910.D
Acq: 9 Apr 2020 4:26 pm

Tgt Ion:105 Resp: 45283

Ion	Ratio	Lower	Upper
105	100		
120	44.7	24.9	64.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040919.D
Acq On : 10 Apr 2020 12:14 am
Sample : C2004010-001A 10x
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:49 2020

Vial: 19
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

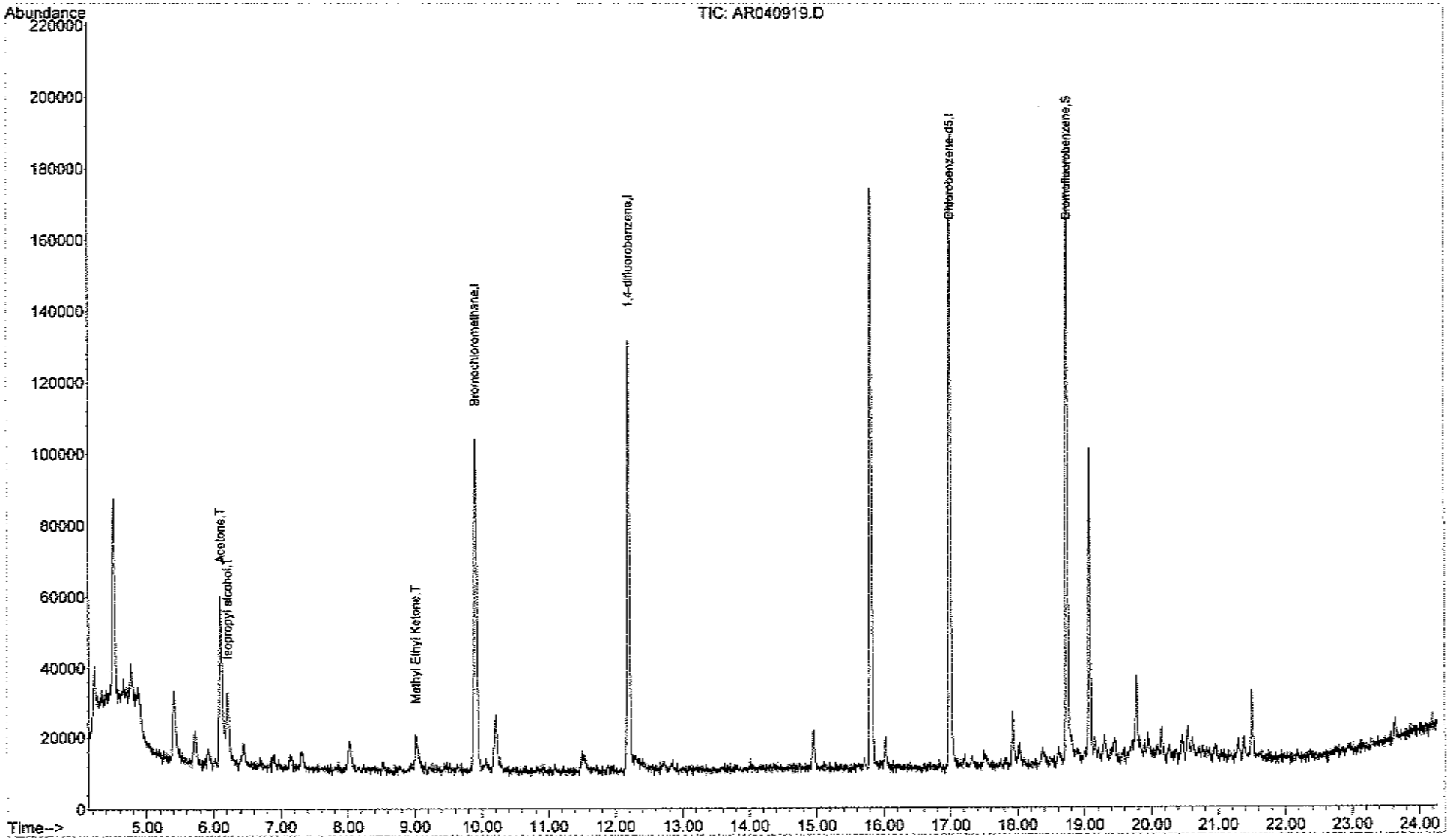
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.91	128	41215	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.20	114	130825	1.00	ppb	0.00
50) Chlorobenzene-d5	17.00	117	117209	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.74	95	66587	0.79	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 79.00%			
Target Compounds						Qvalue
15) Acetone	6.09	58	31925	1.42	ppb	# 100
17) Isopropyl alcohol	6.21	45	21798	0.41	ppb	# 1
28) Methyl Ethyl Ketone	9.01	72	5158	0.27	ppb	# 100

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

Quantitation Report (QT Reviewed)

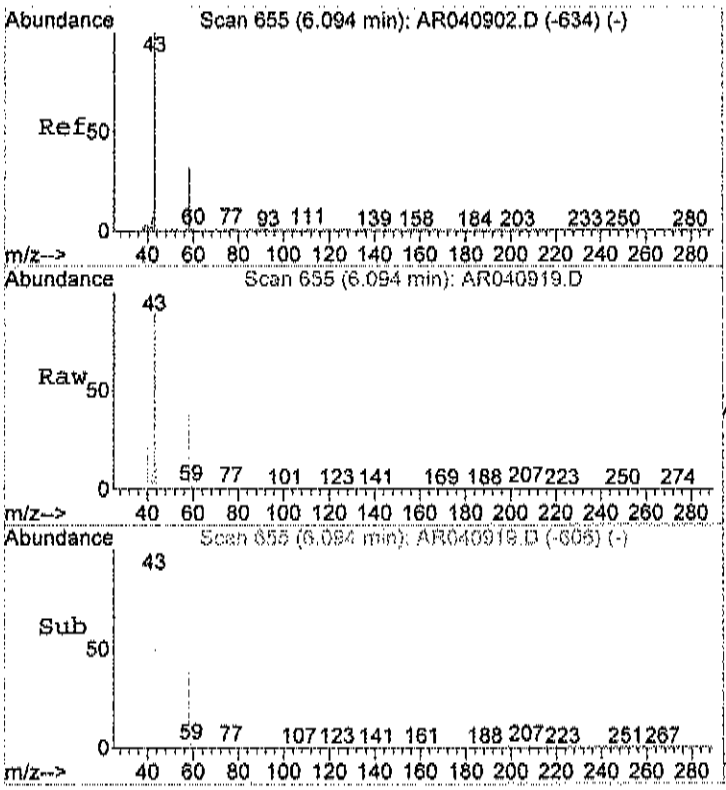
Data File : C:\HPCHEM\1\DATA\AR040919.D Vial: 19
Acq On : 10 Apr 2020 12:14 am Operator: RJP
Sample : C2004010-001A 10x Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 15 11:40 2020 Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Initial Calibration



AR040919.D A320_1UG.M Fri Apr 17 11:38:49 2020 MSD1 Page 2

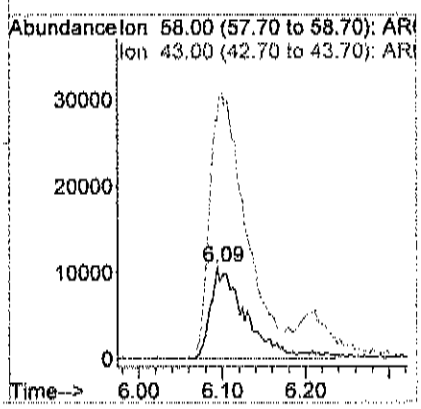
Centek Laboratories, LLC

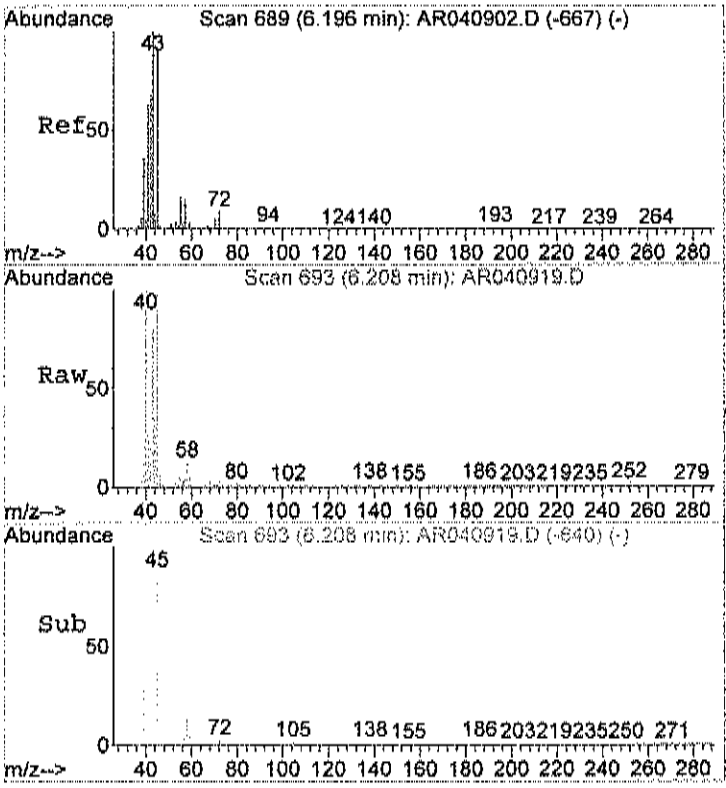


#15
Acetone
Concen: 1.42 ppb
RT: 6.09 min Scan# 655
Delta R.T. -0.00 min
Lab File: AR040919.D
Acq: 10 Apr 2020 12:14 am

Tgt Ion: 58 Resp: 31925

Ion	Ratio	Lower	Upper
58	100		
43	335.3	0.0	30.0#

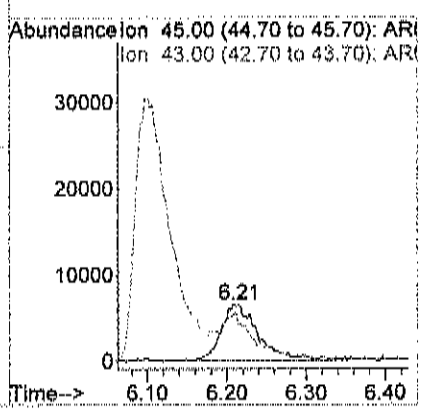


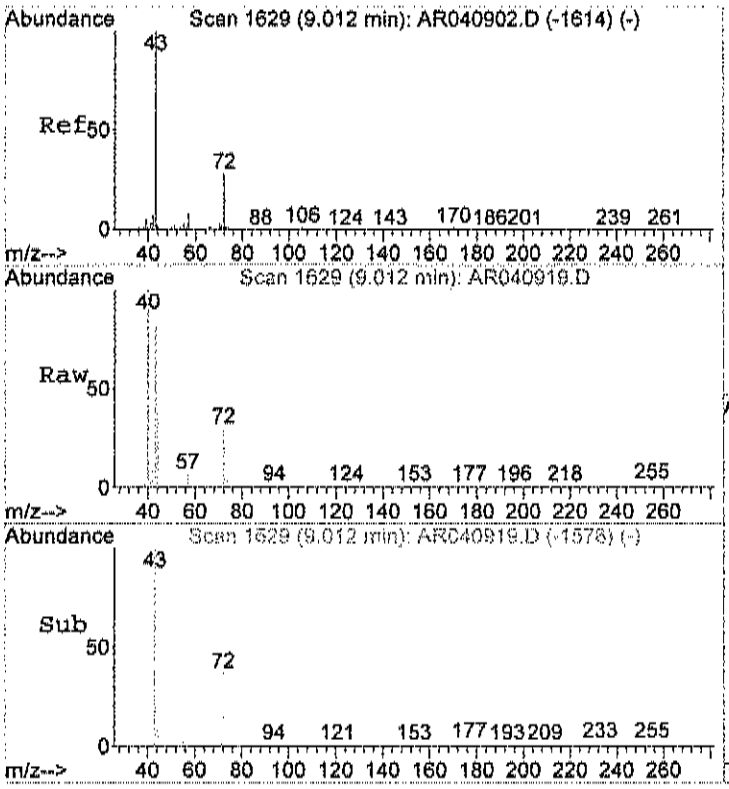


#17
Isopropyl alcohol
Concen: 0.41 ppb
RT: 6.21 min Scan# 693
Delta R.T. 0.01 min
Lab File: AR040919.D
Acq: 10 Apr 2020 12:14 am

Tgt Ion: 45 Resp: 21798

Ion	Ratio	Lower	Upper
45	100		
43	0.0	196.5	236.5#

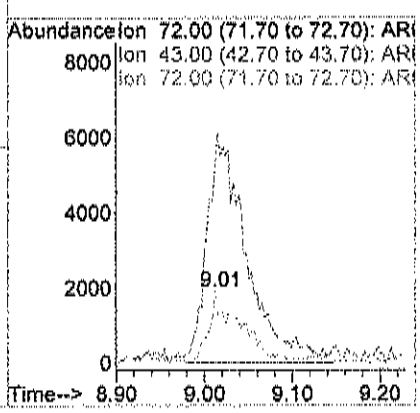




#28
Methyl Ethyl Ketone
Concen: 0.27 ppb
RT: 9.01 min Scan# 1629
Delta R.T. 0.01 min
Lab File: AR040919.D
Acq: 10 Apr 2020 12:14 am

Tgt Ion: 72 Resp: 5158

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INITIAL CALIBRATION

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Initial Calibration

Calibration Files
2.0 =AR032004.D 1.5 =AR032005.D 1.25 =AR032006.D
1.0 =AR032007.D 0.75 =AR032008.D 0.50 =AR032009.D

		Compound	2.0	1.5	1.25	1.0	0.75	0.50	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Propylene	0.673	0.704	0.732	0.711	0.712	0.678	0.720	5.99
3)	T	Freon 12	4.504	4.566	4.523	4.523	4.451	4.366	4.461	1.77
4)	T	Chloromethane	0.949	0.934	0.929	0.982	0.969	0.947	0.968	5.88
5)	T	Freon 114	3.497	3.502	3.471	3.528	3.429	3.385	3.454	1.54
6)	T	Vinyl Chloride	0.910	0.923	0.913	0.891	0.903	0.934	0.909	4.47
7)	T	Butane	0.905	0.929	0.933	1.001	0.960	0.922	0.961	4.81
8)	T	1,3-butadiene	0.723	0.777	0.766	0.778	0.730	0.784	0.798	9.93
9)	T	Bromomethane	1.257	1.380	1.354	1.386	1.366	1.291	1.340	3.50
10)	T	Chloroethane	0.471	0.583	0.563	0.587	0.580	0.585	0.545	9.66
11)	T	Ethanol	0.232	0.249	0.267	0.240	0.231	0.231	0.255	12.12
12)	T	Acrolein	0.290	0.287	0.288	0.297	0.293	0.285	0.285	3.53
13)	T	Vinyl Bromide	1.165	1.136	1.139	1.100	1.107	1.091	1.127	2.23
14)	T	Freon 11	4.810	4.767	4.758	4.738	4.693	4.629	4.692	2.30
15)	T	Acetone	0.551	0.555	0.555	0.544	0.550	0.538	0.545	2.46
16)	T	Pentane	0.976	1.004	1.015	0.957	0.982	0.926	0.982	3.72
17)	T	Isopropyl alcoh	1.347	1.343	1.333	1.221	1.153	1.205	1.280	6.95
18)	T	1,1-dichloroeth	1.025	1.054	1.061	1.035	1.035	1.023	1.033	2.97
19)	T	Freon 113	2.821	2.795	2.785	2.778	2.768	2.736	2.758	2.26
20)	t	t-Butyl alcohol	1.591	1.559	1.549	1.469	1.382	1.464	1.464	6.57
21)	T	Methylene chlor	1.087	1.115	1.114	1.113	1.146	1.083	1.141	5.97
22)	T	Allyl chloride	1.040	1.036	1.044	1.048	1.001	0.915	0.993	5.99
23)	T	Carbon disulfid	3.272	3.299	3.381	3.378	3.441	3.382	3.485	7.97
24)	T	trans-1,2-dichl	1.537	1.534	1.542	1.539	1.483	1.477	1.490	3.96
25)	T	methyl tert-but	2.442	2.360	2.345	2.294	2.168	2.052	2.216	7.54
26)	T	1,1-dichloroeth	2.068	2.088	2.121	2.098	2.048	2.092	2.058	2.76
27)	T	Vinyl acetate	1.455	1.489	1.485	1.422	1.410	1.313	1.405	5.19
28)	T	Methyl Ethyl Ke	0.462	0.456	0.465	0.454	0.429	0.406	0.457	9.00
29)	T	cis-1,2-dichlor	1.380	1.416	1.379	1.402	1.366	1.320	1.374	6.01
30)	T	Hexane	1.461	1.452	1.444	1.418	1.176	1.196	1.294	12.70
31)	T	Ethyl acetate	2.183	2.192	2.160	2.121	2.036	1.895	2.073	5.27
32)	T	Chloroform	2.985	2.989	2.998	2.988	2.971	2.858	2.941	2.30
33)	T	Tetrahydrofuran	0.779	0.746	0.757	0.760	0.689	0.707	0.725	6.26
34)	T	1,2-dichloroeth	1.922	1.886	1.920	1.924	1.896	1.844	1.889	1.88
35)	I	1,4-difluorobenzene	----------ISTD----------							
36)	T	1,1,1-trichloro	0.893	0.869	0.864	0.852	0.831	0.842	0.856	2.55
37)	T	Cyclohexane	0.363	0.345	0.343	0.322	0.310	0.290	0.316	10.57
38)	T	Carbon tetrachl	1.043	1.022	1.013	1.007	0.994	1.003	0.963	12.84
39)	T	Benzene	0.889	0.876	0.868	0.840	0.806	0.795	0.831	5.31
40)	T	Methyl methacry	0.337	0.316	0.307	0.288	0.281	0.266	0.292	9.84
41)	T	1,4-dioxane	0.220	0.216	0.205	0.194	0.184	0.171	0.188	13.28
42)	T	2,2,4-trimethyl	1.178	1.157	1.132	1.075	1.056	0.995	1.067	7.90
43)	T	Heptane	0.394	0.385	0.373	0.352	0.345	0.309	0.340	13.41
44)	T	Trichloroethene	0.465	0.464	0.462	0.440	0.441	0.440	0.422	13.02
45)	T	1,2-dichloropro	0.336	0.332	0.323	0.321	0.317	0.317	0.325	2.93
46)	T	Bromodichlorome	0.920	0.904	0.889	0.866	0.864	0.874	0.880	2.51
47)	T	cis-1,3-dichlor	0.591	0.571	0.547	0.537	0.510	0.490	0.519	10.41
48)	T	trans-1,3-dichl	0.454	0.452	0.430	0.429	0.409	0.380	0.413	8.20
49)	T	1,1,2-trichloro	0.445	0.441	0.437	0.428	0.426	0.415	0.425	4.55
50)	I	Chlorobenzene-d5	----------ISTD----------							
51)	T	Toluene	0.673	0.657	0.646	0.598	0.594	0.532	0.585	12.60

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Initial Calibration

Calibration Files
2.0 =AR032004.D 1.5 =AR032005.D 1.25 =AR032006.D
1.0 =AR032007.D 0.75 =AR032008.D 0.50 =AR032009.D

		Compound	2.0	1.5	1.25	1.0	0.75	0.50	Avg	%RSD
52)	T	Methyl Isobutyl	0.588	0.559	0.534	0.517	0.496	0.476	0.524	8.10
53)	T	Dibromochlorome	1.004	1.011	0.993	0.950	0.967	0.950	0.976	2.54
54)	T	Methyl Butyl Ke	0.519	0.473	0.456	0.450	0.436	0.387	0.447	11.03
55)	T	1,2-dibromoetha	0.741	0.728	0.732	0.698	0.697	0.687	0.706	3.66
56)	T	Tetrachloroethy	0.520	0.521	0.509	0.500	0.492	0.498	0.500	3.08
57)	T	Chlorobenzene	0.987	0.986	0.971	0.923	0.927	0.897	0.935	4.65
58)	T	Ethylbenzene	1.514	1.445	1.371	1.286	1.256	1.141	1.258	14.72
59)	T	m&p-xylene	1.334	1.280	1.246	1.158	1.100	0.953	1.089	18.86
60)	T	Nonane	0.670	0.641	0.619	0.571	0.550	0.468	0.558	14.61
61)	T	Styrene	1.021	0.986	0.966	0.911	0.854	0.746	0.853	16.61
62)	T	Bromoform	1.005	0.985	0.976	0.938	0.945	0.883	0.940	5.16
63)	T	o-xylene	1.502	1.448	1.428	1.376	1.315	1.206	1.313	11.64
64)	T	Cumene	1.743	1.634	1.580	1.460	1.357	1.200	1.402	17.19
65)	S	Bromofluorobenz	0.827	0.820	0.798	0.778	0.769	0.710	0.718	11.87
66)	T	1,1,2,2-tetrach	1.066	1.051	1.038	1.003	0.988	0.964	1.014	3.50
67)	T	Propylbenzene	0.477	0.450	0.436	0.393	0.368	0.318	0.377	19.90
68)	T	2-Chlorotoluene	0.503	0.475	0.470	0.453	0.432	0.380	0.424	15.19
69)	T	4-ethyltoluene	1.851	1.773	1.688	1.588	1.422	1.191	1.486	18.71
70)	T	1,3,5-trimethyl	1.707	1.632	1.578	1.478	1.402	1.227	1.399	17.70
71)	T	1,2,4-trimethyl	1.485	1.385	1.303	1.188	1.064	0.952	1.146	20.05
72)	T	1,3-dichloroben	1.089	1.040	1.018	0.940	0.822	0.711	0.893	16.86
73)	T	benzyl chloride	1.005	0.923	0.872	0.805	0.771	0.559	0.801	17.72
74)	T	1,4-dichloroben	1.130	1.052	1.027	0.964	0.751	0.663	0.875	21.69
75)	T	1,2,3-trimethyl	1.662	1.542	1.503	1.374	1.226	1.039	1.286	21.23
76)	T	1,2-dichloroben	1.103	1.038	1.015	0.958	0.841	0.790	0.909	15.46
77)	T	1,2,4-trichloro	0.537	0.434	0.420	0.375	0.314	0.306	0.373	22.90
78)	T	Naphthalene	1.175	0.986	0.900	0.800	0.661	0.571	0.792	27.05
79)	T	Hexachloro-1,3-	0.889	0.842	0.831	0.791	0.790	0.744	0.797	6.81

(#) = Out of Range ### Number of calibration levels exceeded format ###

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032004.D
Acq On : 20 Mar 2020 6:04 pm
Sample : A1UG_2.0
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:02:53 2020

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.90	128	40365	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	146150	1.00	ppb		0.00
50) Chlorobenzene-d5	16.99	117	137131	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.73	95	113450	1.06	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propylene	4.21	41	54355	1.89	ppb		90
3) Freon 12	4.26	85	363605	1.99	ppb		99
4) Chloromethane	4.46	50	76615	1.93	ppb		95
5) Freon 114	4.46	85	282350	1.98	ppb		95
6) Vinyl Chloride	4.66	62	73492	2.04	ppb		98
7) Butane	4.77	43	73085	1.81	ppb		94
8) 1,3-butadiene	4.76	39	58386	1.86	ppb		98
9) Bromomethane	5.11	94	101472	1.81	ppb		99
10) Chloroethane	5.29	64	38001m	1.60	ppb		
11) Ethanol	5.38	45	18695m	1.93	ppb		
12) Acrolein	5.97	56	23385	1.95	ppb		95
13) Vinyl Bromide	5.64	106	94081	2.12	ppb		99
14) Freon 11	5.91	101	388291	2.03	ppb		99
15) Acetone	6.08	58	44444	2.03	ppb	#	100
16) Pentane	6.20	42	78809	2.04	ppb	#	43
17) Isopropyl alcohol	6.19	45	108761	2.21	ppb	#	46
18) 1,1-dichloroethene	6.68	96	82714	1.98	ppb		95
19) Freon 113	6.88	101	227722	2.03	ppb		96
20) t-Butyl alcohol	6.91	59	128414	2.16	ppb	#	89
21) Methylene chloride	7.14	84	87790	1.95	ppb		100
22) Allyl chloride	7.12	41	83941	1.98	ppb		94
23) Carbon disulfide	7.31	76	264145	1.94	ppb		100
24) trans-1,2-dichloroethene	8.08	61	124065	2.00	ppb		99
25) methyl tert-butyl ether	8.10	73	197125	2.13	ppb		95
26) 1,1-dichloroethane	8.51	63	166954	1.97	ppb		99
27) Vinyl acetate	8.50	43	117487	2.05	ppb		98
28) Methyl Ethyl Ketone	9.00	72	37334	2.04	ppb	#	100
29) cis-1,2-dichloroethene	9.45	61	111412	1.97	ppb		98
30) Hexane	9.05	57	117908	2.06	ppb		98
31) Ethyl acetate	9.60	43	176246	2.06	ppb		98
32) Chloroform	10.06	83	240965	2.00	ppb		99
33) Tetrahydrofuran	10.23	42	62873	2.05	ppb		94
34) 1,2-dichloroethane	11.17	62	155156	2.00	ppb		100
36) 1,1,1-trichloroethane	10.89	97	260991	2.10	ppb		97
37) Cyclohexane	11.60	56	106212	2.26	ppb		95
38) Carbon tetrachloride	11.54	117	304914	2.07	ppb		98
39) Benzene	11.50	78	259908	2.12	ppb		98
40) Methyl methacrylate	13.06	41	98562	2.34	ppb		97
41) 1,4-dioxane	13.08	88	64289	2.27	ppb		95
42) 2,2,4-trimethylpentane	12.36	57	344317	2.19	ppb		99
43) Heptane	12.71	43	115122	2.23	ppb		96
44) Trichloroethene	12.83	130	136029	2.11	ppb		97
45) 1,2-dichloropropane	12.94	63	98085	2.09	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032004.D Vial: 4
Acq On : 20 Mar 2020 6:04 pm Operator: RJP
Sample : A1UG_2.0 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:02:53 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Bromodichloromethane	13.28	83	268913	2.12	ppb		99
47)	cis-1,3-dichloropropene	14.10	75	172624	2.20	ppb		99
48)	trans-1,3-dichloropropene	14.87	75	132615	2.11	ppb		99
49)	1,1,2-trichloroethane	15.19	97	130013	2.08	ppb		99
51)	Toluene	14.94	92	184515	2.25	ppb		97
52)	Methyl Isobutyl Ketone	14.01	43	161401	2.28	ppb		99
53)	Dibromochloromethane	15.93	129	275423	2.12	ppb		100
54)	Methyl Butyl Ketone	15.37	43	142401m	2.33	ppb		
55)	1,2-dibromoethane	16.19	107	203215	2.12	ppb		98
56)	Tetrachloroethylene	16.02	164	142580	2.08	ppb		98
57)	Chlorobenzene	17.04	112	270703	2.14	ppb		99
58)	Ethylbenzene	17.31	91	415296	2.35	ppb		99
59)	m&p-xylene	17.53	91	731553	4.61	ppb		97
60)	Nonane	17.92	43	183652	2.34	ppb		98
61)	Styrene	17.98	104	280049	2.24	ppb		99
62)	Bromoform	18.11	173	275733	2.14	ppb		99
63)	o-xylene	18.02	91	411983	2.18	ppb		97
64)	Cumene	18.62	105	478077	2.39	ppb		99
66)	1,1,2,2-tetrachloroethane	18.49	83	292494	2.13	ppb		100
67)	Propylbenzene	19.20	120	130808	2.43	ppb		89
68)	2-Chlorotoluene	19.24	126	138059	2.23	ppb	#	86
69)	4-ethyltoluene	19.39	105	507598	2.33	ppb		98
70)	1,3,5-trimethylbenzene	19.45	105	468078	2.31	ppb		97
71)	1,2,4-trimethylbenzene	19.94	105	407396	2.50	ppb		99
72)	1,3-dichlorobenzene	20.27	146	298538	2.32	ppb		99
73)	benzyl chloride	20.34	91	275580	2.50	ppb		97
74)	1,4-dichlorobenzene	20.41	146	309922	2.35	ppb		99
75)	1,2,3-trimethylbenzene	20.46	105	455862	2.42	ppb		97
76)	1,2-dichlorobenzene	20.78	146	302526	2.30	ppb		99
77)	1,2,4-trichlorobenzene	23.03	180	147151	2.86	ppb		99
78)	Naphthalene	23.25	128	322288m	2.94	ppb		
79)	Hexachloro-1,3-butadiene	23.38	225	243943	2.25	ppb		90

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

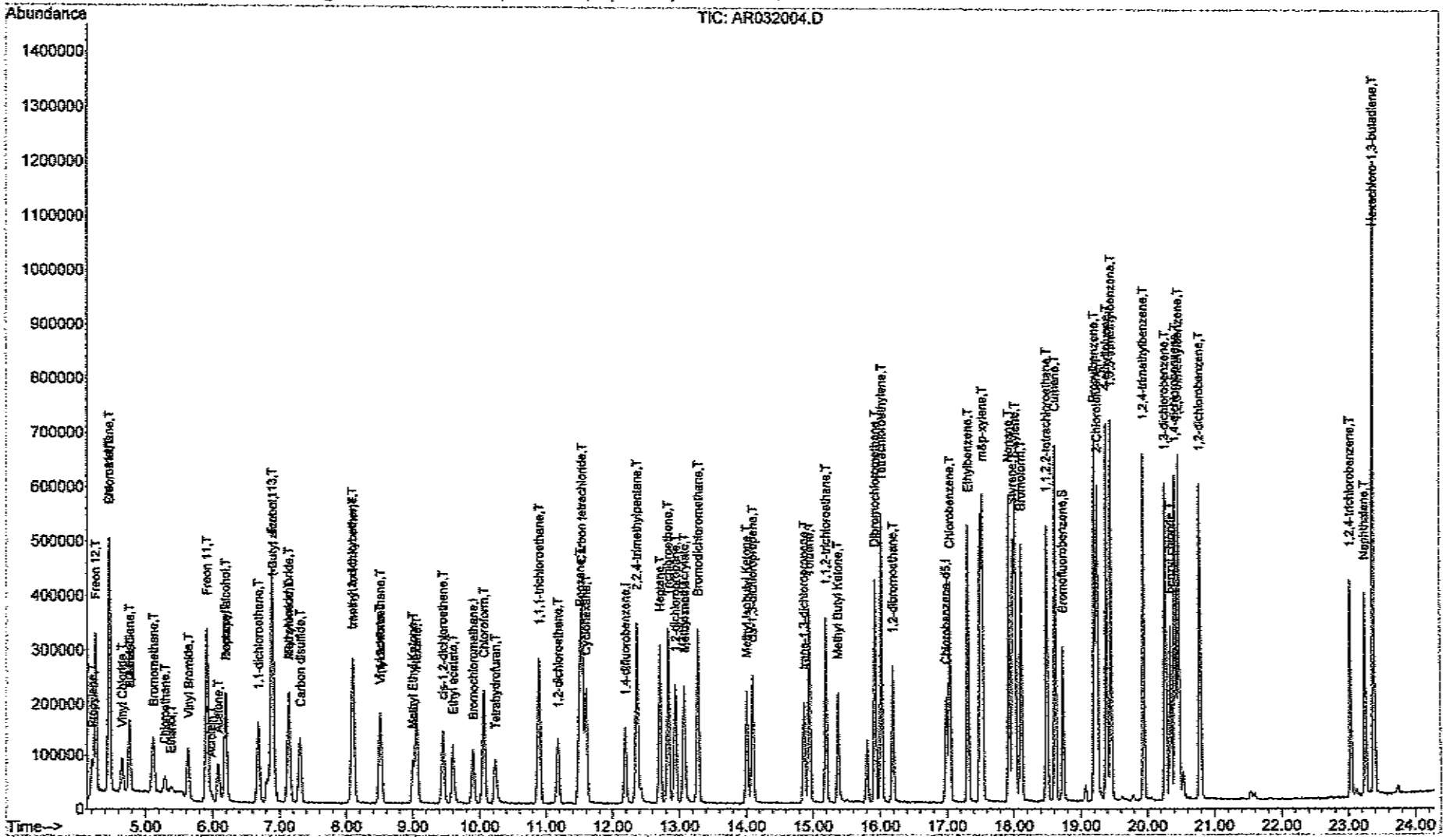
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032004.D
Acq On : 20 Mar 2020 6:04 pm
Sample : A1UG_2.0
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:16 2020

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032005.D Vial: 5
Acq On : 20 Mar 2020 6:53 pm Operator: RJP
Sample : A1UG_1.50 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:02:15 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.90	128	40432	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	148606	1.00	ppb		0.00
50) Chlorobenzene-d5	16.99	117	136983	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.74	95	112341	1.05	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 105.00%			
Target Compounds							Qvalue
2) Propylene	4.20	41	42692	1.48	ppb		92
3) Freon 12	4.26	85	276922	1.51	ppb		98
4) Chloromethane	4.46	50	56664	1.43	ppb		97
5) Freon 114	4.46	85	212389	1.49	ppb		95
6) Vinyl Chloride	4.66	62	55962	1.55	ppb		99
7) Butane	4.76	43	56322m	1.39	ppb		
8) 1,3-butadiene	4.76	39	47146m	1.50	ppb		
9) Bromomethane	5.11	94	83721	1.49	ppb		99
10) Chloroethane	5.29	64	35347	1.49	ppb		98
11) Ethanol	5.40	45	15119	1.56	ppb		86
12) Acrolein	5.98	56	17423	1.45	ppb		97
13) Vinyl Bromide	5.64	106	68886	1.55	ppb		99
14) Freon 11	5.91	101	289112	1.51	ppb		99
15) Acetone	6.09	58	33666	1.53	ppb	#	100
16) Pentane	6.19	42	60873	1.57	ppb		97
17) Isopropyl alcohol	6.20	45	81456	1.65	ppb	#	82
18) 1,1-dichloroethene	6.69	96	63951	1.53	ppb		98
19) Freon 113	6.89	101	169509	1.51	ppb		96
20) t-Butyl alcohol	6.90	59	94558	1.59	ppb	#	88
21) Methylene chloride	7.14	84	67607	1.50	ppb		97
22) Allyl chloride	7.12	41	62816	1.48	ppb		92
23) Carbon disulfide	7.31	76	200058	1.46	ppb		99
24) trans-1,2-dichloroethene	8.09	61	93014	1.50	ppb		98
25) methyl tert-butyl ether	8.10	73	143137	1.54	ppb		94
26) 1,1-dichloroethane	8.51	63	126649	1.49	ppb		99
27) Vinyl acetate	8.50	43	90317	1.57	ppb		98
28) Methyl Ethyl Ketone	9.00	72	27647	1.51	ppb	#	100
29) cis-1,2-dichloroethene	9.46	61	85905	1.52	ppb		99
30) Hexane	9.06	57	88051	1.54	ppb		99
31) Ethyl acetate	9.60	43	132966	1.55	ppb		99
32) Chloroform	10.06	83	181271	1.50	ppb		97
33) Tetrahydrofuran	10.24	42	45257	1.48	ppb		91
34) 1,2-dichloroethane	11.18	62	114388	1.47	ppb		99
36) 1,1,1-trichloroethane	10.89	97	193702	1.53	ppb		98
37) Cyclohexane	11.60	56	76866	1.61	ppb		92
38) Carbon tetrachloride	11.54	117	227751	1.52	ppb		99
39) Benzene	11.50	78	195213	1.56	ppb		98
40) Methyl methacrylate	13.07	41	70373	1.64	ppb		95
41) 1,4-dioxane	13.09	88	48155	1.67	ppb		93
42) 2,2,4-trimethylpentane	12.37	57	257931	1.61	ppb		100
43) Heptane	12.71	43	85876	1.64	ppb		97
44) Trichloroethene	12.84	130	103337	1.58	ppb		97
45) 1,2-dichloropropane	12.94	63	74049	1.55	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032005.D
Acq On : 20 Mar 2020 6:53 pm
Sample : A1UG_1.50
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:02:15 2020

Vial: 5
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Bromodichloromethane	13.28	83	201513	1.57	ppb		99
47)	cis-1,3-dichloropropene	14.10	75	127327	1.59	ppb		100
48)	trans-1,3-dichloropropene	14.87	75	100842	1.58	ppb		90
49)	1,1,2-trichloroethane	15.19	97	98341	1.55	ppb		100
51)	Toluene	14.95	92	134931	1.65	ppb		99
52)	Methyl Isobutyl Ketone	14.01	43	114830	1.62	ppb		100
53)	Dibromochloromethane	15.93	129	207659	1.60	ppb		99
54)	Methyl Butyl Ketone	15.38	43	97109m	1.59	ppb		
55)	1,2-dibromoethane	16.19	107	149507	1.56	ppb		99
56)	Tetrachloroethylene	16.02	164	107029	1.56	ppb		100
57)	Chlorobenzene	17.04	112	202635	1.60	ppb		100
58)	Ethylbenzene	17.31	91	296828	1.69	ppb		98
59)	m&p-xylene	17.53	91	526058	3.32	ppb		98
60)	Nonane	17.93	43	131690	1.68	ppb		98
61)	Styrene	17.99	104	202600	1.62	ppb		98
62)	Bromoform	18.11	173	202344	1.57	ppb		100
63)	o-xylene	18.02	91	297431	1.58	ppb		98
64)	Cumene	18.62	105	335767	1.68	ppb		99
66)	1,1,2,2-tetrachloroethane	18.49	83	215868	1.57	ppb		100
67)	Propylbenzene	19.20	120	92458	1.72	ppb		86
68)	2-Chlorotoluene	19.25	126	97561	1.57	ppb	#	83
69)	4-ethyltoluene	19.39	105	364286	1.68	ppb		98
70)	1,3,5-trimethylbenzene	19.45	105	335430	1.66	ppb		97
71)	1,2,4-trimethylbenzene	19.94	105	284662	1.75	ppb		98
72)	1,3-dichlorobenzene	20.27	146	213660	1.66	ppb		99
73)	benzyl chloride	20.35	91	189653	1.72	ppb		96
74)	1,4-dichlorobenzene	20.41	146	216219	1.64	ppb		98
75)	1,2,3-trimethylbenzene	20.47	105	316833	1.68	ppb		97
76)	1,2-dichlorobenzene	20.78	146	213279	1.63	ppb		100
77)	1,2,4-trichlorobenzene	23.03	180	89096	1.73	ppb		99
78)	Naphthalene	23.25	128	202549	1.85	ppb		98
79)	Hexachloro-1,3-butadiene	23.38	225	173103	1.60	ppb		90

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

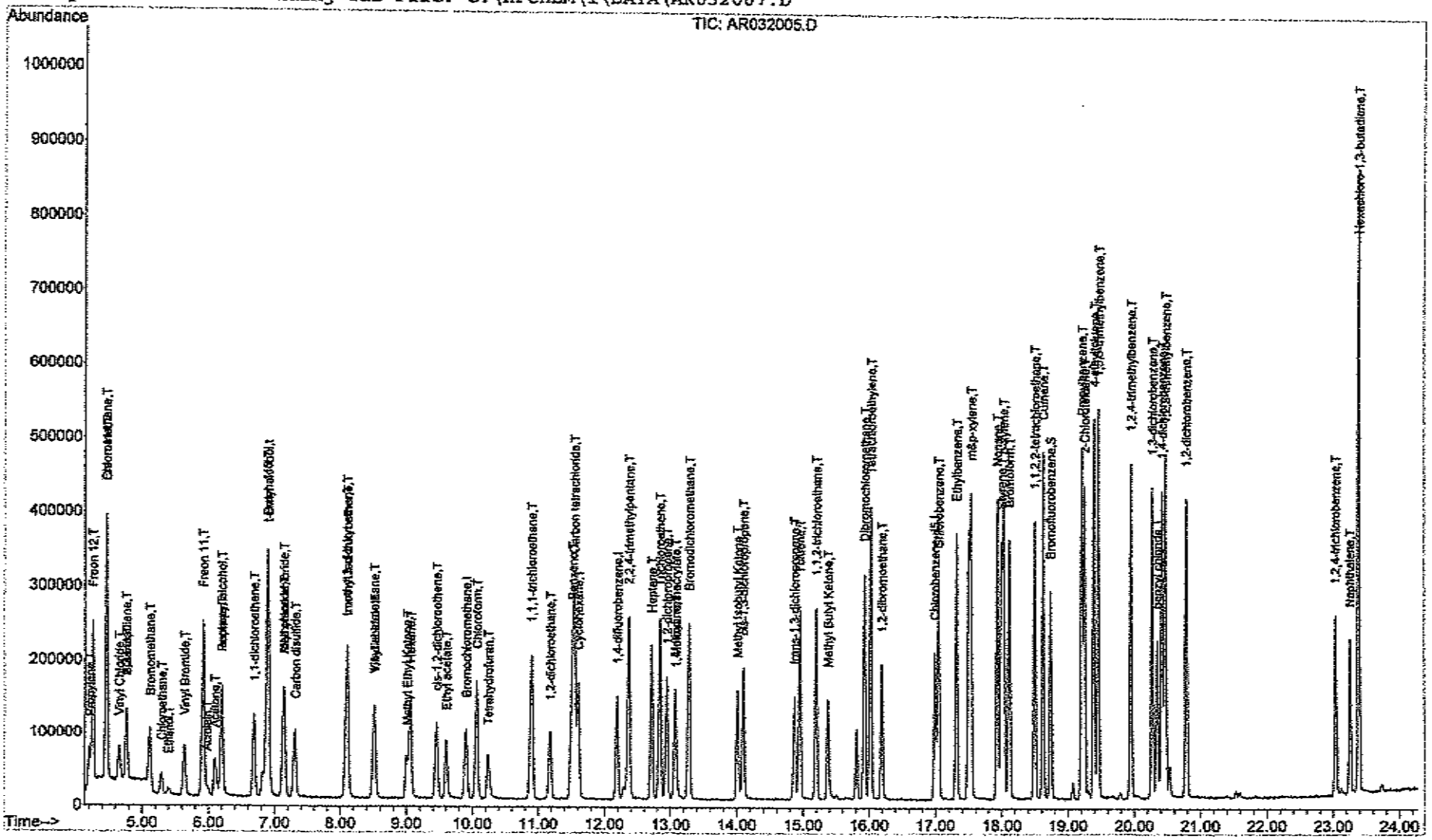
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032005.D
Acq On : 20 Mar 2020 6:53 pm
Sample : A1UG_1.50
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:17 2020

Vial: 5
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032006.D Vial: 6
Acq On : 20 Mar 2020 7:40 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:01:38 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.90	128	40069	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	149361	1.00	ppb		0.00
50) Chlorobenzene-d5	16.99	117	136800	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.73	95	109138	1.03	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 103.00%			
Target Compounds							Qvalue
2) Propylene	4.22	41	36688	1.29	ppb		92
3) Freon 12	4.26	85	226564	1.25	ppb		99
4) Chloromethane	4.46	50	46548	1.18	ppb		100
5) Freon 114	4.46	85	173855	1.23	ppb		96
6) Vinyl Chloride	4.66	62	45738	1.28	ppb		99
7) Butane	4.77	43	46727	1.16	ppb		94
8) 1,3-butadiene	4.76	39	38390m	1.23	ppb		
9) Bromomethane	5.12	94	67792m	1.22	ppb		
10) Chloroethane	5.29	64	28195	1.20	ppb		97
11) Ethanol	5.40	45	13384	1.39	ppb		97
12) Acrolein	5.99	56	14402	1.21	ppb		99
13) Vinyl Bromide	5.63	106	57057	1.29	ppb		99
14) Freon 11	5.92	101	238301	1.26	ppb		99
15) Acetone	6.09	58	27792	1.28	ppb	#	100
16) Pentane	6.21	42	50815	1.33	ppb		98
17) Isopropyl alcohol	6.20	45	66789	1.37	ppb	#	79
18) 1,1-dichloroethene	6.69	96	53144	1.28	ppb		96
19) Freon 113	6.89	101	139512	1.25	ppb		96
20) t-Butyl alcohol	6.91	59	77572	1.32	ppb	#	86
21) Methylene chloride	7.15	84	55779	1.25	ppb		98
22) Allyl chloride	7.13	41	52302	1.25	ppb		93
23) Carbon disulfide	7.31	76	169342	1.25	ppb		100
24) trans-1,2-dichloroethene	8.09	61	77212	1.25	ppb		99
25) methyl tert-butyl ether	8.11	73	117428	1.28	ppb		93
26) 1,1-dichloroethane	8.52	63	106220	1.26	ppb		99
27) Vinyl acetate	8.51	43	74403	1.31	ppb		99
28) Methyl Ethyl Ketone	9.01	72	23296	1.28	ppb	#	100
29) cis-1,2-dichloroethene	9.46	61	69084	1.23	ppb		97
30) Hexane	9.06	57	72312	1.27	ppb		98
31) Ethyl acetate	9.61	43	108204	1.27	ppb		99
32) Chloroform	10.07	83	150181	1.25	ppb		98
33) Tetrahydrofuran	10.24	42	37916	1.25	ppb		94
34) 1,2-dichloroethane	11.18	62	96169	1.25	ppb		100
36) 1,1,1-trichloroethane	10.89	97	161347	1.27	ppb		97
37) Cyclohexane	11.60	56	63955	1.33	ppb		93
38) Carbon tetrachloride	11.54	117	189133	1.26	ppb		99
39) Benzene	11.51	78	162113	1.29	ppb		98
40) Methyl methacrylate	13.07	41	57275	1.33	ppb		97
41) 1,4-dioxane	13.08	88	38357	1.33	ppb		95
42) 2,2,4-trimethylpentane	12.36	57	211406	1.32	ppb		99
43) Heptane	12.71	43	69602	1.32	ppb		97
44) Trichloroethene	12.83	130	86225	1.31	ppb		98
45) 1,2-dichloropropane	12.94	63	60286	1.26	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032006.D
Acq On : 20 Mar 2020 7:40 pm
Sample : A1UG_1.25
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:01:38 2020

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
46) Bromodichloromethane	13.28	83	165991	1.28 ppb		98
47) cis-1,3-dichloropropene	14.10	75	102118	1.27 ppb		98
48) trans-1,3-dichloropropene	14.87	75	80304	1.25 ppb		98
49) 1,1,2-trichloroethane	15.19	97	81635	1.28 ppb		99
51) Toluene	14.95	92	110542	1.35 ppb		100
52) Methyl Isobutyl Ketone	14.01	43	91325	1.29 ppb		97
53) Dibromochloromethane	15.93	129	169862	1.31 ppb		100
54) Methyl Butyl Ketone	15.38	43	77978m	1.28 ppb		
55) 1,2-dibromoethane	16.19	107	125123	1.31 ppb		99
56) Tetrachloroethylene	16.02	164	87108	1.27 ppb		100
57) Chlorobenzene	17.04	112	165983	1.31 ppb		100
58) Ethylbenzene	17.32	91	234448	1.33 ppb		99
59) m&p-xylene	17.53	91	426148	2.69 ppb		97
60) Nonane	17.93	43	105790	1.35 ppb		98
61) Styrene	17.99	104	165101	1.33 ppb		98
62) Bromoform	18.11	173	166940	1.30 ppb		99
63) o-xylene	18.02	91	244173	1.30 ppb		98
64) Cumene	18.62	105	270109	1.35 ppb		98
66) 1,1,2,2-tetrachloroethane	18.49	83	177550	1.29 ppb		100
67) Propylbenzene	19.21	120	74526	1.39 ppb		88
68) 2-Chlorotoluene	19.24	126	80374	1.30 ppb	#	90
69) 4-ethyltoluene	19.39	105	288577	1.33 ppb		99
70) 1,3,5-trimethylbenzene	19.45	105	269886	1.34 ppb		96
71) 1,2,4-trimethylbenzene	19.94	105	222847	1.37 ppb		98
72) 1,3-dichlorobenzene	20.27	146	174162	1.35 ppb		99
73) benzyl chloride	20.34	91	149073	1.35 ppb		97
74) 1,4-dichlorobenzene	20.42	146	175618	1.33 ppb		100
75) 1,2,3-trimethylbenzene	20.46	105	256934	1.37 ppb		96
76) 1,2-dichlorobenzene	20.78	146	173606	1.33 ppb		100
77) 1,2,4-trichlorobenzene	23.03	180	71841	1.40 ppb		99
78) Naphthalene	23.25	128	153952	1.41 ppb		98
79) Hexachloro-1,3-butadiene	23.38	225	142144	1.31 ppb		90

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

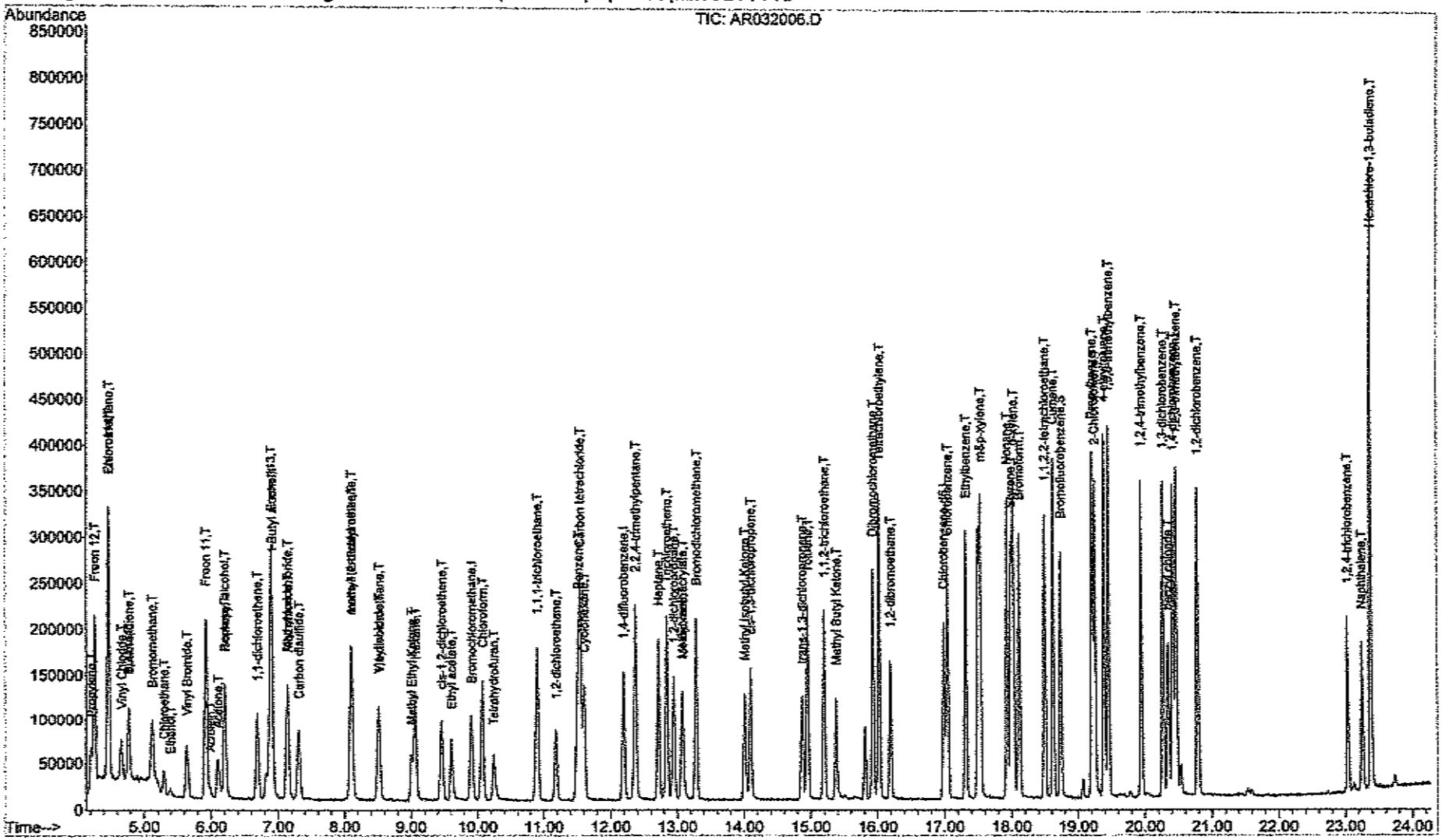
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032006.D
Acq On : 20 Mar 2020 7:40 pm
Sample : A1UG_1.25
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:18 2020

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



AR032006.D A320_1UG.M Fri Apr 10 08:26:49 2020 MSD1 Page 3

Centek Laboratories, LLC

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032007.D Vial: 7
Acq On : 20 Mar 2020 8:27 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 08:18:51 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.90	128	39385	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	150208	1.00	ppb		0.00
50) Chlorobenzene-d5	16.99	117	139425	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.74	95	108476	1.00	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Propylene	4.20	41	28020	1.00	ppb		86
3) Freon 12	4.26	85	178133	1.00	ppb		97
4) Chloromethane	4.46	50	38689	1.00	ppb		95
5) Freon 114	4.46	85	138948	1.00	ppb		96
6) Vinyl Chloride	4.66	62	35085	1.00	ppb		96
7) Butane	4.76	43	39423	1.00	ppb		99
8) 1,3-butadiene	4.76	39	30645	1.00	ppb		99
9) Bromomethane	5.12	94	54570	1.00	ppb		99
10) Chloroethane	5.29	64	23130	1.00	ppb		99
11) Ethanol	5.41	45	9466	1.00	ppb		87
12) Acrolein	5.99	56	11702	1.00	ppb		91
13) Vinyl Bromide	5.64	106	43325	1.00	ppb		100
14) Freon 11	5.92	101	186619	1.00	ppb		98
15) Acetone	6.10	58	21406	1.00	ppb	#	100
16) Pentane	6.20	42	37679	1.00	ppb		92
17) Isopropyl alcohol	6.20	45	48078	1.00	ppb	#	62
18) 1,1-dichloroethene	6.69	96	40749	1.00	ppb		96
19) Freon 113	6.89	101	109404	1.00	ppb		95
20) t-Butyl alcohol	6.90	59	57875	1.00	ppb	#	84
21) Methylene chloride	7.15	84	43823	1.00	ppb		99
22) Allyl chloride	7.13	41	41261	1.00	ppb		94
23) Carbon disulfide	7.31	76	133056	1.00	ppb		98
24) trans-1,2-dichloroethene	8.09	61	60598	1.00	ppb		99
25) methyl tert-butyl ether	8.10	73	90331	1.00	ppb		91
26) 1,1-dichloroethane	8.51	63	82613	1.00	ppb		98
27) Vinyl acetate	8.50	43	56025	1.00	ppb		97
28) Methyl Ethyl Ketone	9.00	72	17886	1.00	ppb	#	100
29) cis-1,2-dichloroethene	9.46	61	55221	1.00	ppb		97
30) Hexane	9.05	57	55850	1.00	ppb		99
31) Ethyl acetate	9.60	43	83531	1.00	ppb		99
32) Chloroform	10.06	83	117697	1.00	ppb		99
33) Tetrahydrofuran	10.24	42	29935	1.00	ppb		96
34) 1,2-dichloroethane	11.17	62	75778	1.00	ppb		97
36) 1,1,1-trichloroethane	10.89	97	127932	1.00	ppb		98
37) Cyclohexane	11.60	56	48339	1.00	ppb		91
38) Carbon tetrachloride	11.53	117	151246	1.00	ppb		99
39) Benzene	11.51	78	126207	1.00	ppb		98
40) Methyl methacrylate	13.07	41	43312	1.00	ppb		96
41) 1,4-dioxane	13.09	88	29116	1.00	ppb		94
42) 2,2,4-trimethylpentane	12.36	57	161481	1.00	ppb		99
43) Heptane	12.71	43	52936	1.00	ppb		96
44) Trichloroethene	12.84	130	66157	1.00	ppb		96
45) 1,2-dichloropropane	12.95	63	48250	1.00	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032007.D
Acq On : 20 Mar 2020 8:27 pm
Sample : A1UG_1.0
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 08:18:51 2020

Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46) Bromodichloromethane	13.28	83	130032	1.00 ppb	99
47) cis-1,3-dichloropropene	14.09	75	80679	1.00 ppb	99
48) trans-1,3-dichloropropene	14.87	75	64500	1.00 ppb	99
49) 1,1,2-trichloroethane	15.19	97	64260	1.00 ppb	100
51) Toluene	14.95	92	83335	1.00 ppb	97
52) Methyl Isobutyl Ketone	14.01	43	72126	1.00 ppb	99
53) Dibromochloromethane	15.92	129	132406	1.00 ppb	100
54) Methyl Butyl Ketone	15.37	43	62690m	1.01 ppb	
55) 1,2-dibromoethane	16.19	107	97298	1.00 ppb	98
56) Tetrachloroethylene	16.02	164	69754	1.00 ppb	100
57) Chlorobenzene	17.04	112	128754	1.00 ppb	100
58) Ethylbenzene	17.32	91	179355	1.00 ppb	98
59) m&p-xylene	17.53	91	323022	2.00 ppb	98
60) Nonane	17.93	43	79661	1.00 ppb	98
61) Styrene	17.99	104	126976	1.00 ppb	98
62) Bromoform	18.11	173	130806	1.00 ppb	99
63) o-xylene	18.02	91	191832	1.00 ppb	98
64) Cumene	18.62	105	203504	1.00 ppb	98
66) 1,1,2,2-tetrachloroethane	18.49	83	139822	1.00 ppb	99
67) Propylbenzene	19.20	120	54834	1.00 ppb	82
68) 2-Chlorotoluene	19.24	126	63097	1.00 ppb	97
69) 4-ethyltoluene	19.38	105	221398	1.00 ppb	98
70) 1,3,5-trimethylbenzene	19.45	105	206004	1.00 ppb	97
71) 1,2,4-trimethylbenzene	19.94	105	165671	1.00 ppb	100
72) 1,3-dichlorobenzene	20.27	146	131078	1.00 ppb	98
73) benzyl chloride	20.34	91	112282	1.00 ppb	96
74) 1,4-dichlorobenzene	20.42	146	134355	1.00 ppb	99
75) 1,2,3-trimethylbenzene	20.47	105	191514	1.00 ppb	96
76) 1,2-dichlorobenzene	20.78	146	133535	1.00 ppb	99
77) 1,2,4-trichlorobenzene	23.03	180	52335	1.00 ppb	99
78) Naphthalene	23.25	128	111570	1.00 ppb	98
79) Hexachloro-1,3-butadiene	23.38	225	110260	1.00 ppb	89

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

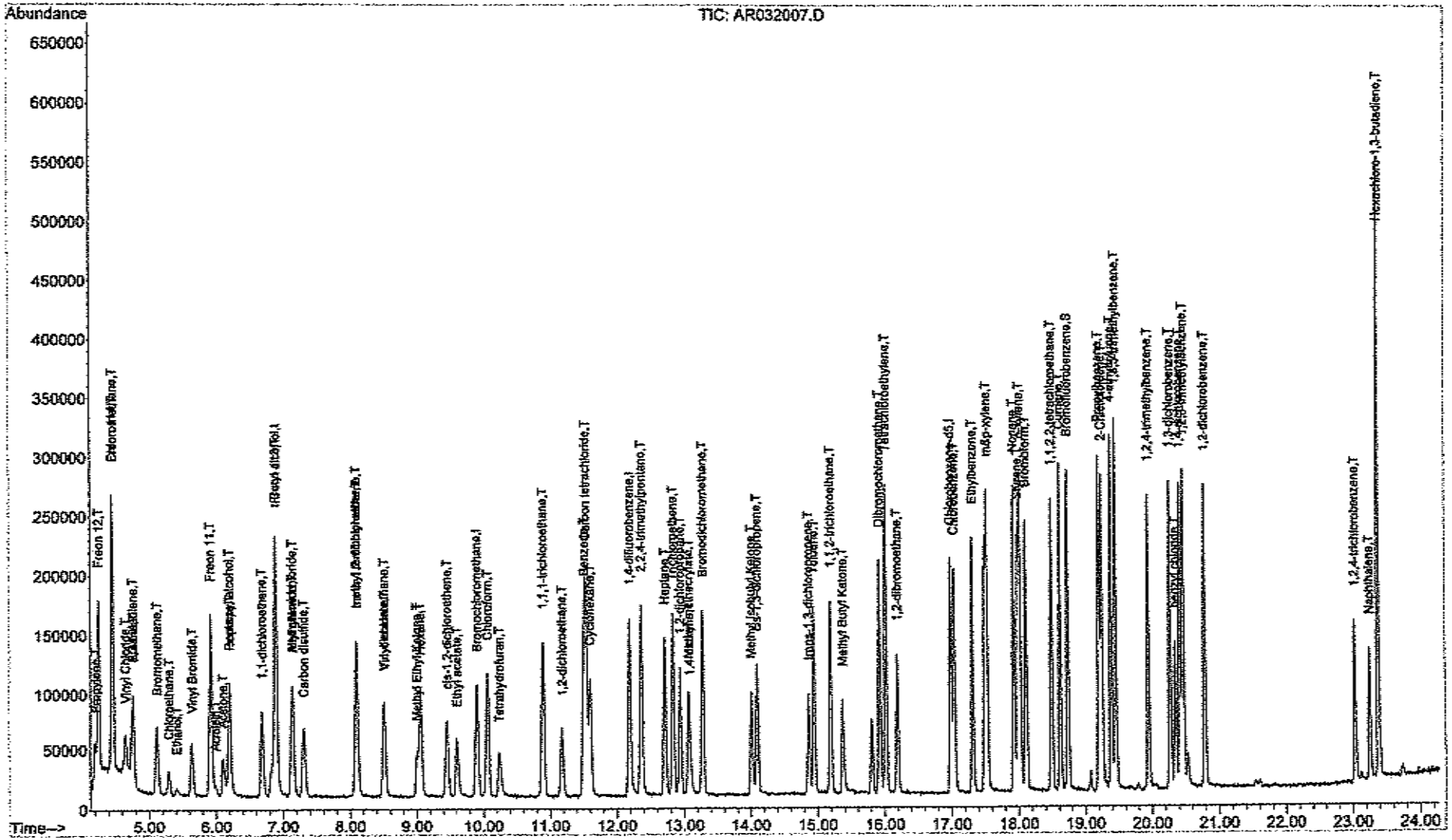
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032007.D
Acq On : 20 Mar 2020 8:27 pm
Sample : A1UG_1.0
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:19 2020

Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032008.D
Acq On : 20 Mar 2020 9:12 pm
Sample : A1UG_0.75
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:03:30 2020

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.91	128	39846	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.19	114	149207	1.00	ppb	0.00
50) Chlorobenzene-d5	16.99	117	135074	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.73	95	103881	0.99	ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 99.00%

Target Compounds							Qvalue
2) Propylene	4.22	41	21270	0.75	ppb		88
3) Freon 12	4.26	85	133030	0.74	ppb		99
4) Chloromethane	4.46	50	28949	0.74	ppb		99
5) Freon 114	4.47	85	102469	0.73	ppb		97
6) Vinyl Chloride	4.66	62	26993	0.76	ppb		100
7) Butane	4.77	43	28687m	0.72	ppb		
8) 1,3-butadiene	4.77	39	21824	0.70	ppb		92
9) Bromomethane	5.13	94	40827	0.74	ppb		99
10) Chloroethane	5.30	64	17340	0.74	ppb		99
11) Ethanol	5.43	45	6913	0.72	ppb		92
12) Acrolein	5.99	56	8768m	0.74	ppb		
13) Vinyl Bromide	5.64	106	33072	0.75	ppb		98
14) Freon 11	5.92	101	140246	0.74	ppb		98
15) Acetone	6.10	58	16422	0.76	ppb	#	100
16) Pentane	6.20	42	29353	0.77	ppb		99
17) Isopropyl alcohol	6.21	45	34469	0.71	ppb	#	57
18) 1,1-dichloroethene	6.69	96	30935	0.75	ppb		95
19) Freon 113	6.89	101	82713	0.75	ppb		95
20) t-Butyl alcohol	6.91	59	41313	0.71	ppb	#	84
21) Methylene chloride	7.15	84	34233	0.77	ppb		97
22) Allyl chloride	7.13	41	29921	0.72	ppb		94
23) Carbon disulfide	7.31	76	102843	0.76	ppb		99
24) trans-1,2-dichloroethene	8.09	61	44309	0.72	ppb		98
25) methyl tert-butyl ether	8.11	73	64798	0.71	ppb		89
26) 1,1-dichloroethane	8.52	63	61212	0.73	ppb		98
27) Vinyl acetate	8.50	43	42147	0.74	ppb		99
28) Methyl Ethyl Ketone	9.01	72	12813	0.71	ppb	#	100
29) cis-1,2-dichloroethene	9.45	61	40824	0.73	ppb		97
30) Hexane	9.06	57	35151	0.62	ppb		90
31) Ethyl acetate	9.60	43	60833	0.72	ppb		100
32) Chloroform	10.07	83	88797	0.75	ppb		97
33) Tetrahydrofuran	10.24	42	20581	0.68	ppb		92
34) 1,2-dichloroethane	11.18	62	56660	0.74	ppb		99
36) 1,1,1-trichloroethane	10.89	97	93006	0.73	ppb		99
37) Cyclohexane	11.60	56	34740	0.72	ppb		92
38) Carbon tetrachloride	11.54	117	111289	0.74	ppb		98
39) Benzene	11.51	78	90221	0.72	ppb		99
40) Methyl methacrylate	13.06	41	31418m	0.73	ppb		
41) 1,4-dioxane	13.09	88	20637	0.71	ppb		95
42) 2,2,4-trimethylpentane	12.36	57	118167	0.74	ppb		98
43) Heptane	12.71	43	38584	0.73	ppb		97
44) Trichloroethene	12.84	130	49299	0.75	ppb		97
45) 1,2-dichloropropane	12.94	63	35428	0.74	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032008.D
Acq On : 20 Mar 2020 9:12 pm
Sample : A1UG_0.75
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:03:30 2020

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46) Bromodichloromethane	13.28	83	96735	0.75 ppb	98
47) cis-1,3-dichloropropene	14.10	75	57127	0.71 ppb	99
48) trans-1,3-dichloropropene	14.87	75	45724	0.71 ppb	98
49) 1,1,2-trichloroethane	15.19	97	47702	0.75 ppb	99
51) Toluene	14.95	92	60216	0.75 ppb	99
52) Methyl Isobutyl Ketone	14.01	43	50280	0.72 ppb	100
53) Dibromochloromethane	15.93	129	97935	0.76 ppb	100
54) Methyl Butyl Ketone	15.38	43	44182	0.74 ppb	100
55) 1,2-dibromoethane	16.19	107	70639	0.75 ppb	97
56) Tetrachloroethylene	16.02	164	49857	0.74 ppb	96
57) Chlorobenzene	17.04	112	93885	0.75 ppb	100
58) Ethylbenzene	17.32	91	127253	0.73 ppb	97
59) m&p-xylene	17.53	91	222943	1.43 ppb	98
60) Nonane	17.93	43	55681	0.72 ppb	98
61) Styrene	17.99	104	86543	0.70 ppb	97
62) Bromoform	18.11	173	95734	0.76 ppb	99
63) o-xylene	18.02	91	133203	0.72 ppb	98
64) Cumene	18.62	105	137453	0.70 ppb	99
66) 1,1,2,2-tetrachloroethane	18.50	83	100137	0.74 ppb	99
67) Propylbenzene	19.20	120	37247	0.70 ppb	80
68) 2-Chlorotoluene	19.25	126	43807	0.72 ppb	99
69) 4-ethyltoluene	19.39	105	144090	0.67 ppb	98
70) 1,3,5-trimethylbenzene	19.45	105	142070	0.71 ppb	97
71) 1,2,4-trimethylbenzene	19.94	105	107830	0.67 ppb	99
72) 1,3-dichlorobenzene	20.26	146	83274	0.66 ppb	99
73) benzyl chloride	20.34	91	78082m	0.72 ppb	
74) 1,4-dichlorobenzene	20.42	146	76103	0.58 ppb	100
75) 1,2,3-trimethylbenzene	20.46	105	124155	0.67 ppb	98
76) 1,2-dichlorobenzene	20.79	146	85228	0.66 ppb	97
77) 1,2,4-trichlorobenzene	23.03	180	31802	0.63 ppb	95
78) Naphthalene	23.25	128	66931	0.62 ppb	98
79) Hexachloro-1,3-butadiene	23.38	225	80059	0.75 ppb	91

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

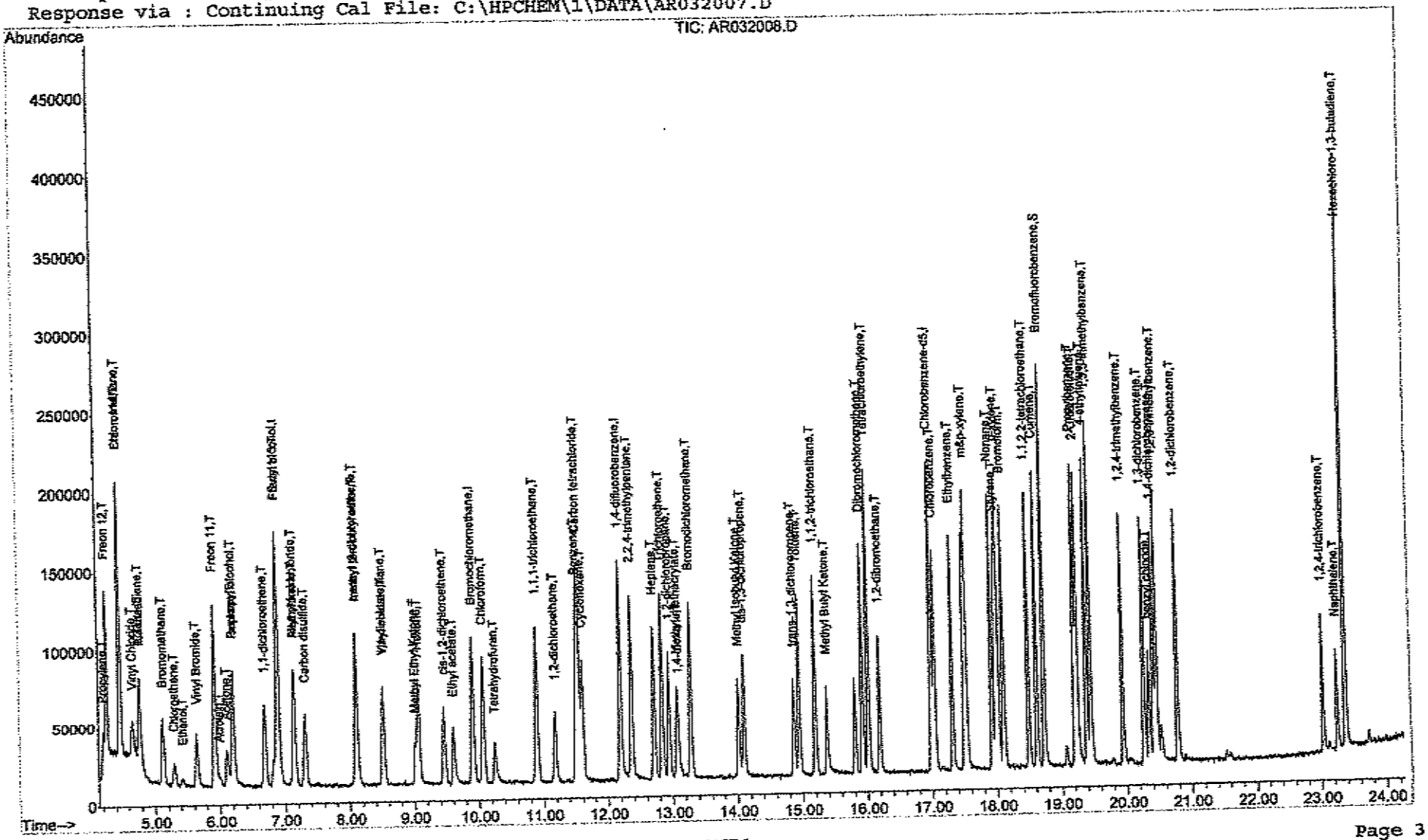
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032008.D
Acq On : 20 Mar 2020 9:12 pm
Sample : A1UG_0.75
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:20 2020

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



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AR032008.D A320_1UG.M Fri Apr 10 08:26:57 2020 MSD1

Centek Laboratories, LLC

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032009.D
Acq On : 20 Mar 2020 9:57 pm
Sample : A1UG_0.50
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:04:31 2020

Vial: 9
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.90	128	40026	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.19	114	145805	1.00	ppb	0.00
50) Chlorobenzene-d5	16.99	117	132358	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.74	95	93983	0.91	ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 91.00%

Target Compounds							Qvalue
2) Propylene	4.22	41	13574	0.48	ppb		81
3) Freon 12	4.26	85	87384	0.48	ppb		98
4) Chloromethane	4.46	50	18957	0.48	ppb		94
5) Freon 114	4.46	85	67736	0.48	ppb		97
6) Vinyl Chloride	4.66	62	18699	0.52	ppb		98
7) Butane	4.77	43	18443	0.46	ppb		97
8) 1,3-butadiene	4.76	39	15683	0.50	ppb		90
9) Bromomethane	5.11	94	25830	0.47	ppb		99
10) Chloroethane	5.29	64	11710	0.50	ppb		99
11) Ethanol	5.41	45	4623	0.48	ppb		81
12) Acrolein	5.99	56	5706	0.48	ppb		95
13) Vinyl Bromide	5.64	106	21830	0.50	ppb		99
14) Freon 11	5.92	101	92642	0.49	ppb		99
15) Acetone	6.11	58	10774	0.50	ppb	#	100
16) Pentane	6.19	42	18527	0.48	ppb		95
17) Isopropyl alcohol	6.20	45	24125	0.49	ppb	#	71
18) 1,1-dichloroethene	6.70	96	20480	0.49	ppb		97
19) Freon 113	6.89	101	54757	0.49	ppb		96
20) t-Butyl alcohol	6.91	59	29303	0.50	ppb	#	85
21) Methylene chloride	7.15	84	21675	0.49	ppb		97
22) Allyl chloride	7.13	41	18321	0.44	ppb		91
23) Carbon disulfide	7.31	76	67675	0.50	ppb		99
24) trans-1,2-dichloroethene	8.09	61	29564	0.48	ppb		99
25) methyl tert-butyl ether	8.11	73	41072	0.45	ppb		88
26) 1,1-dichloroethane	8.51	63	41874	0.50	ppb		95
27) Vinyl acetate	8.50	43	26281	0.46	ppb		94
28) Methyl Ethyl Ketone	9.01	72	8125	0.45	ppb	#	100
29) cis-1,2-dichloroethene	9.45	61	26421	0.47	ppb		97
30) Hexane	9.06	57	23933	0.42	ppb		95
31) Ethyl acetate	9.60	43	37930	0.45	ppb		100
32) Chloroform	10.06	83	57191	0.48	ppb		99
33) Tetrahydrofuran	10.25	42	14155	0.47	ppb		94
34) 1,2-dichloroethane	11.18	62	36897	0.48	ppb		99
36) 1,1,1-trichloroethane	10.90	97	61413	0.49	ppb		100
37) Cyclohexane	11.60	56	21164	0.45	ppb	#	88
38) Carbon tetrachloride	11.54	117	73090	0.50	ppb		98
39) Benzene	11.51	78	57956	0.47	ppb		99
40) Methyl methacrylate	13.07	41	19376	0.46	ppb		99
41) 1,4-dioxane	13.10	88	12485	0.44	ppb		99
42) 2,2,4-trimethylpentane	12.37	57	72508	0.46	ppb		96
43) Heptane	12.71	43	22502	0.44	ppb		94
44) Trichloroethene	12.83	130	32106	0.50	ppb		97
45) 1,2-dichloropropane	12.94	63	23078	0.49	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032009.D
Acq On : 20 Mar 2020 9:57 pm
Sample : A1UG_0.50
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:04:31 2020

Vial: 9
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46) Bromodichloromethane	13.28	83	63720	0.50 ppb	100
47) cis-1,3-dichloropropene	14.10	75	35706	0.46 ppb	98
48) trans-1,3-dichloropropene	14.87	75	27684	0.44 ppb	98
49) 1,1,2-trichloroethane	15.19	97	30288	0.49 ppb	100
51) Toluene	14.95	92	35222	0.45 ppb	97
52) Methyl Isobutyl Ketone	14.01	43	31501	0.46 ppb	99
53) Dibromochloromethane	15.93	129	62885	0.50 ppb	99
54) Methyl Butyl Ketone	15.38	43	25588	0.43 ppb	97
55) 1,2-dibromoethane	16.19	107	45451	0.49 ppb	99
56) Tetrachloroethylene	16.02	164	32947	0.50 ppb	100
57) Chlorobenzene	17.04	112	59388	0.49 ppb	98
58) Ethylbenzene	17.31	91	75509	0.44 ppb	97
59) m&p-xylene	17.53	91	126099	0.82 ppb	98
60) Nonane	17.93	43	30966	0.41 ppb	96
61) Styrene	17.99	104	49364	0.41 ppb	98
62) Bromoform	18.11	173	58465	0.47 ppb	99
63) o-xylene	18.02	91	79820	0.44 ppb	99
64) Cumene	18.62	105	79388	0.41 ppb	98
66) 1,1,2,2-tetrachloroethane	18.49	83	63824	0.48 ppb	100
67) Propylbenzene	19.21	120	21037	0.40 ppb	78
68) 2-Chlorotoluene	19.25	126	25121	0.42 ppb	99
69) 4-ethyltoluene	19.39	105	78806	0.38 ppb	100
70) 1,3,5-trimethylbenzene	19.45	105	81192	0.42 ppb	98
71) 1,2,4-trimethylbenzene	19.94	105	63034	0.40 ppb	98
72) 1,3-dichlorobenzene	20.27	146	47045	0.38 ppb	96
73) benzyl chloride	20.34	91	36997m	0.35 ppb	
74) 1,4-dichlorobenzene	20.42	146	43903	0.34 ppb	98
75) 1,2,3-trimethylbenzene	20.47	105	68793	0.38 ppb	97
76) 1,2-dichlorobenzene	20.78	146	52280	0.41 ppb	99
77) 1,2,4-trichlorobenzene	23.03	180	20263	0.41 ppb	99
78) Naphthalene	23.24	128	37771	0.36 ppb	97
79) Hexachloro-1,3-butadiene	23.38	225	49268	0.47 ppb	90

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

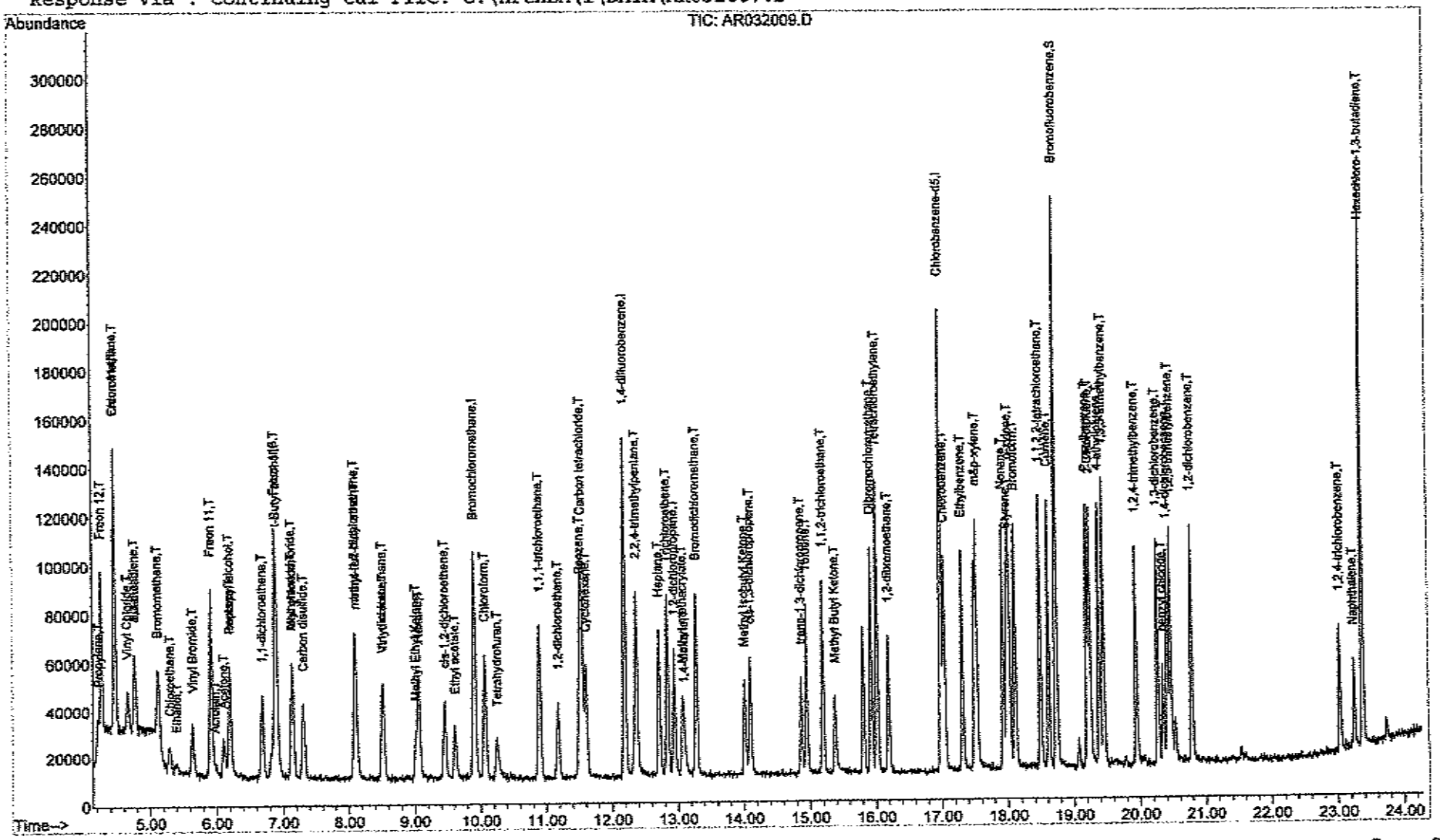
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032009.D
Acq On : 20 Mar 2020 9:57 pm
Sample : A1UG_0.50
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:21 2020

Vial: 9
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



AR032009.D A320_1UG.M Fri Apr 10 08:27:01 2020 MSD1

Centek Laboratories, LLC

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032010.D Vial: 10
Acq On : 20 Mar 2020 10:41 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:05:03 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.90	128	39159	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	139239	1.00	ppb		0.00
50) Chlorobenzene-d5	16.99	117	126520	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.73	95	87825	0.89	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	=	89.00%		
Target Compounds							Qvalue
2) Propylene	4.21	41	8619	0.31	ppb		75
3) Freon 12	4.26	85	51536	0.29	ppb		100
4) Chloromethane	4.47	50	10933	0.28	ppb		99
5) Freon 114	4.46	85	40201	0.29	ppb		97
6) Vinyl Chloride	4.66	62	10889	0.31	ppb		94
7) Butane	4.76	43	11984	0.31	ppb	#	91
8) 1,3-butadiene	4.76	39	11354	0.37	ppb		80
9) Bromomethane	5.12	94	15478	0.29	ppb		98
10) Chloroethane	5.29	64	5390	0.23	ppb	#	82
11) Ethanol	5.38	45	3097m	0.33	ppb		
12) Acrolein	6.00	56	3209	0.28	ppb		93
13) Vinyl Bromide	5.63	106	13340	0.31	ppb		93
14) Freon 11	5.92	101	54899	0.30	ppb		100
15) Acetone	6.10	58	6055	0.28	ppb	#	100
16) Pentane	6.20	42	11255	0.30	ppb		98
17) Isopropyl alcohol	6.21	45	14441	0.30	ppb	#	71
18) 1,1-dichloroethene	6.69	96	12600	0.31	ppb		96
19) Freon 113	6.88	101	32478	0.30	ppb		94
20) t-Butyl alcohol	6.92	59	15775	0.27	ppb	#	78
21) Methylene chloride	7.14	84	13840	0.32	ppb		97
22) Allyl chloride	7.13	41	11124	0.27	ppb		92
23) Carbon disulfide	7.30	76	42260	0.32	ppb		100
24) trans-1,2-dichloroethene	8.09	61	16591	0.28	ppb		93
25) methyl tert-butyl ether	8.11	73	24616	0.27	ppb		90
26) 1,1-dichloroethane	8.52	63	23460	0.29	ppb		99
27) Vinyl acetate	8.51	43	15306	0.27	ppb		99
28) Methyl Ethyl Ketone	9.01	72	5109	0.29	ppb	#	100
29) cis-1,2-dichloroethene	9.45	61	15194	0.28	ppb		96
30) Hexane	9.06	57	13105	0.24	ppb		91
31) Ethyl acetate	9.61	43	23005	0.28	ppb		98
32) Chloroform	10.07	83	34286	0.29	ppb		97
33) Tetrahydrofuran	10.25	42	7524	0.25	ppb		88
34) 1,2-dichloroethane	11.18	62	22235	0.30	ppb		100
36) 1,1,1-trichloroethane	10.90	97	36236	0.31	ppb		99
37) Cyclohexane	11.60	56	12397	0.28	ppb	#	87
38) Carbon tetrachloride	11.54	117	42968	0.31	ppb		100
39) Benzene	11.51	78	33827	0.29	ppb		98
40) Methyl methacrylate	13.06	41	10279	0.26	ppb		94
41) 1,4-dioxane	13.10	88	6692	0.25	ppb		99
42) 2,2,4-trimethylpentane	12.36	57	41688	0.28	ppb		97
43) Heptane	12.71	43	12348	0.25	ppb		95
44) Trichloroethene	12.83	130	18467	0.30	ppb		98
45) 1,2-dichloropropane	12.94	63	14241	0.32	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032010.D
Acq On : 20 Mar 2020 10:41 pm
Sample : A1UG_0.30
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:05:03 2020

Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46) Bromodichloromethane	13.28	83	36172	0.30	ppb		98
47) cis-1,3-dichloropropene	14.10	75	20161	0.27	ppb		99
48) trans-1,3-dichloropropene	14.87	75	16069	0.27	ppb		91
49) 1,1,2-trichloroethane	15.20	97	17730	0.30	ppb		100
51) Toluene	14.95	92	19449	0.26	ppb		94
52) Methyl Isobutyl Ketone	14.01	43	17760	0.27	ppb		97
53) Dibromochloromethane	15.93	129	37215	0.31	ppb		99
54) Methyl Butyl Ketone	15.38	43	14109	0.25	ppb		99
55) 1,2-dibromoethane	16.19	107	26800	0.30	ppb		95
56) Tetrachloroethylene	16.02	164	18359	0.29	ppb		98
57) Chlorobenzene	17.04	112	34979	0.30	ppb		100
58) Ethylbenzene	17.31	91	40520	0.25	ppb		98
59) m&p-xylene	17.53	91	65980	0.45	ppb		95
60) Nonane	17.92	43	17135m	0.24	ppb		
61) Styrene	17.99	104	26611m	0.23	ppb		
62) Bromoform	18.11	173	34697	0.29	ppb		100
63) o-xylene	18.02	91	41036	0.24	ppb		98
64) Cumene	18.62	105	43867	0.24	ppb		98
66) 1,1,2,2-tetrachloroethane	18.49	83	38665	0.30	ppb		100
67) Propylbenzene	19.20	120	11801	0.24	ppb		86
68) 2-Chlorotoluene	19.24	126	13901	0.24	ppb	#	94
69) 4-ethyltoluene	19.39	105	47038m	0.23	ppb		
70) 1,3,5-trimethylbenzene	19.45	105	44211m	0.24	ppb		
71) 1,2,4-trimethylbenzene	19.94	105	33587	0.22	ppb		99
72) 1,3-dichlorobenzene	20.27	146	31234	0.26	ppb		98
73) benzyl chloride	20.34	91	25032	0.25	ppb		99
74) 1,4-dichlorobenzene	20.41	146	29035	0.24	ppb		97
75) 1,2,3-trimethylbenzene	20.46	105	36588	0.21	ppb		93
76) 1,2-dichlorobenzene	20.79	146	31292	0.26	ppb		97
77) 1,2,4-trichlorobenzene	23.04	180	11014	0.23	ppb		96
78) Naphthalene	23.25	128	22964m	0.23	ppb		
79) Hexachloro-1,3-butadiene	23.38	225	28231	0.28	ppb		90

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

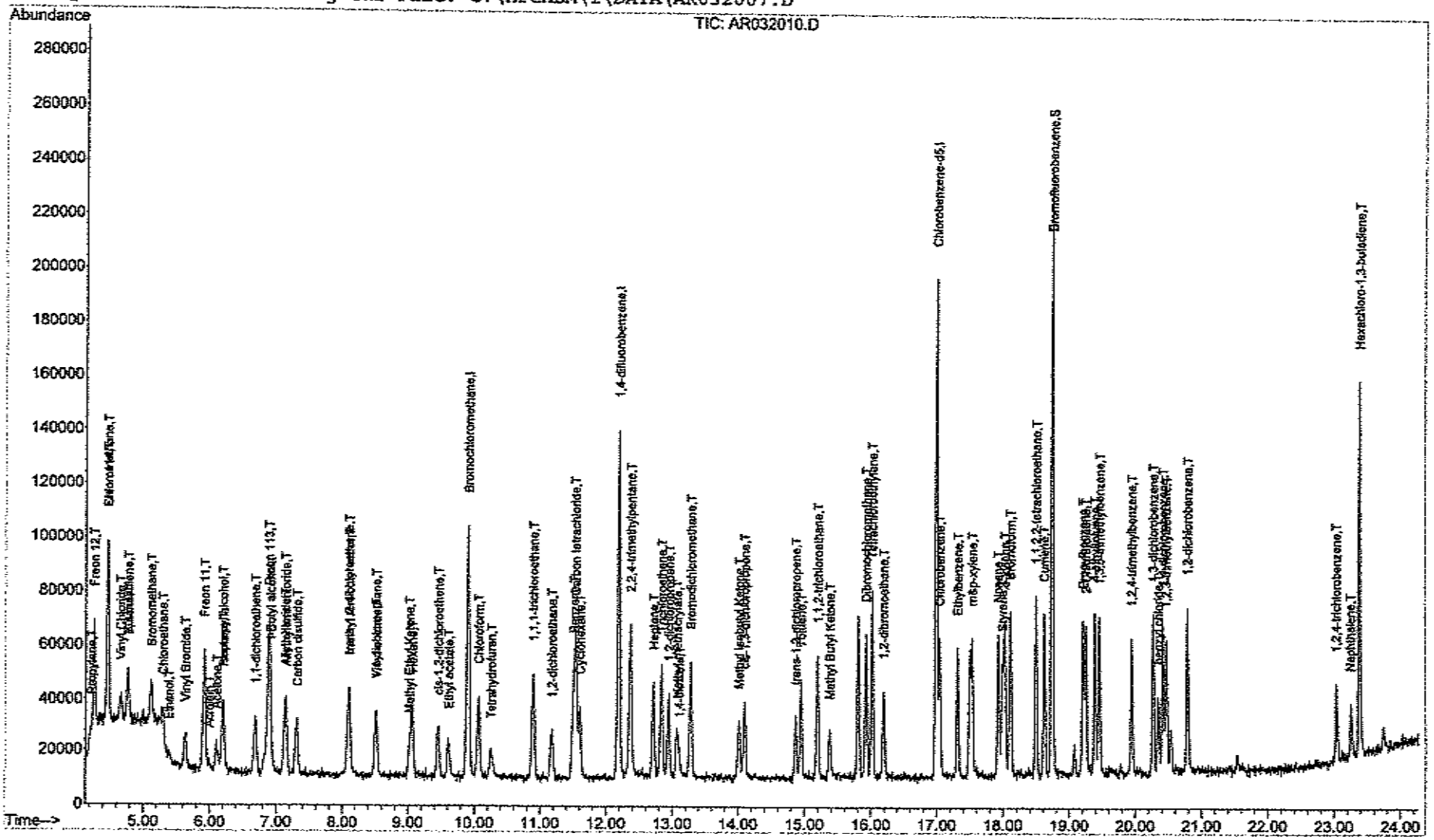
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032010.D
Acq On : 20 Mar 2020 10:41 pm
Sample : A1UG_0.30
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:22 2020

Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



AR032010.D A320_1UG.M Fri Apr 10 08:27:05 2020 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032011.D
Acq On : 20 Mar 2020 11:26 pm
Sample : A1UG_0.15
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:05:32 2020

Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.91	128	38653	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	134135	1.00	ppb		0.00
50) Chlorobenzene-d5	16.99	117	119607	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.73	95	79846	0.86	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 86.00%				
Target Compounds							Qvalue
2) Propylene	4.22	41	4704	0.17	ppb		89
3) Freon 12	4.26	85	25328	0.14	ppb		100
4) Chloromethane	4.47	50	6382	0.17	ppb		95
5) Freon 114	4.46	85	19691	0.14	ppb		92
6) Vinyl Chloride	4.67	62	5423	0.16	ppb		93
7) Butane	4.76	43	5908m	0.15	ppb		
8) 1,3-butadiene	4.77	39	4960	0.16	ppb		86
9) Bromomethane	5.13	94	7952	0.15	ppb		95
10) Chloroethane	5.29	64	3103	0.14	ppb	#	88
11) Ethanol	5.41	45	1868m	0.20	ppb		
12) Acrolein	5.98	56	1549	0.13	ppb		98
13) Vinyl Bromide	5.63	106	6614	0.16	ppb		96
14) Freon 11	5.92	101	25894	0.14	ppb		97
15) Acetone	6.11	58	3214	0.15	ppb	#	100
16) Pentane	6.19	42	6031	0.16	ppb		90
17) Isopropyl alcohol	6.21	45	8162	0.17	ppb	#	72
18) 1,1-dichloroethene	6.69	96	5688	0.14	ppb		93
19) Freon 113	6.89	101	15166	0.14	ppb		98
20) t-Butyl alcohol	6.93	59	7875	0.14	ppb	#	73
21) Methylene chloride	7.14	84	7487	0.17	ppb		98
22) Allyl chloride	7.13	41	5276	0.13	ppb		94
23) Carbon disulfide	7.30	76	23927	0.18	ppb		99
24) trans-1,2-dichloroethene	8.09	61	8090	0.14	ppb		95
25) methyl tert-butyl ether	8.12	73	11455	0.13	ppb		88
26) 1,1-dichloroethane	8.52	63	11324	0.14	ppb		98
27) Vinyl acetate	8.51	43	7892m	0.14	ppb		
28) Methyl Ethyl Ketone	9.02	72	3163m	0.18	ppb		
29) cis-1,2-dichloroethene	9.45	61	7278	0.13	ppb		96
30) Hexane	9.05	57	6298	0.11	ppb		94
31) Ethyl acetate	9.61	43	11823m	0.14	ppb		
32) Chloroform	10.06	83	16370	0.14	ppb		98
33) Tetrahydrofuran	10.26	42	4166	0.14	ppb		98
34) 1,2-dichloroethane	11.19	62	10614	0.14	ppb		98
36) 1,1,1-trichloroethane	10.89	97	16657	0.15	ppb		97
37) Cyclohexane	11.60	56	5264	0.12	ppb	#	80
38) Carbon tetrachloride	11.54	117	20421	0.15	ppb		99
39) Benzene	11.50	78	15385	0.14	ppb		97
40) Methyl methacrylate	13.07	41	5999m	0.16	ppb		
41) 1,4-dioxane	13.10	88	3098	0.12	ppb		94
42) 2,2,4-trimethylpentane	12.37	57	19021	0.13	ppb		95
43) Heptane	12.71	43	5364	0.11	ppb		89
44) Trichloroethene	12.83	130	8308	0.14	ppb		98
45) 1,2-dichloropropane	12.94	63	6383	0.15	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032011.D
Acq On : 20 Mar 2020 11:26 pm
Sample : A1UG_0.15
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:05:32 2020

Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
46)	Bromodichloromethane	13.28	83	17263	0.15 ppb		99
47)	cis-1,3-dichloropropene	14.09	75	8509	0.12 ppb		94
48)	trans-1,3-dichloropropene	14.87	75	7339	0.13 ppb		96
49)	1,1,2-trichloroethane	15.20	97	7718	0.13 ppb		96
51)	Toluene	14.95	92	8438	0.12 ppb		97
52)	Methyl Isobutyl Ketone	14.01	43	9937m	0.16 ppb		
53)	Dibromochloromethane	15.93	129	17097	0.15 ppb		98
54)	Methyl Butyl Ketone	15.38	43	8752m	0.16 ppb		
55)	1,2-dibromoethane	16.19	107	11902	0.14 ppb		95
56)	Tetrachloroethylene	16.02	164	8608	0.14 ppb		100
57)	Chlorobenzene	17.04	112	15528	0.14 ppb		99
58)	Ethylbenzene	17.31	91	17625	0.11 ppb		100
59)	m&p-xylene	17.53	91	27606	0.20 ppb		97
60)	Nonane	17.92	43	8899m	0.13 ppb		
61)	Styrene	17.99	104	11530m	0.11 ppb		
62)	Bromoform	18.11	173	15598	0.14 ppb		100
63)	o-xylene	18.02	91	20589m	0.13 ppb		
64)	Cumene	18.62	105	19538m	0.11 ppb		
66)	1,1,2,2-tetrachloroethane	18.50	83	17666	0.15 ppb		99
67)	Propylbenzene	19.20	120	4761	0.10 ppb		75
68)	2-Chlorotoluene	19.25	126	5652	0.10 ppb	#	1
69)	4-ethyltoluene	19.38	105	20376m	0.11 ppb		
70)	1,3,5-trimethylbenzene	19.45	105	17990m	0.10 ppb		
71)	1,2,4-trimethylbenzene	19.94	105	16231m	0.11 ppb		
72)	1,3-dichlorobenzene	20.27	146	12537	0.11 ppb		96
73)	benzyl chloride	20.34	91	14661m	0.15 ppb		
74)	1,4-dichlorobenzene	20.41	146	11592	0.10 ppb		96
75)	1,2,3-trimethylbenzene	20.47	105	17613m	0.11 ppb		
76)	1,2-dichlorobenzene	20.78	146	12537	0.11 ppb		100
77)	1,2,4-trichlorobenzene	23.03	180	5593m	0.12 ppb		
78)	Naphthalene	23.25	128	11436m	0.12 ppb		
79)	Hexachloro-1,3-butadiene	23.38	225	13297	0.14 ppb		89

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

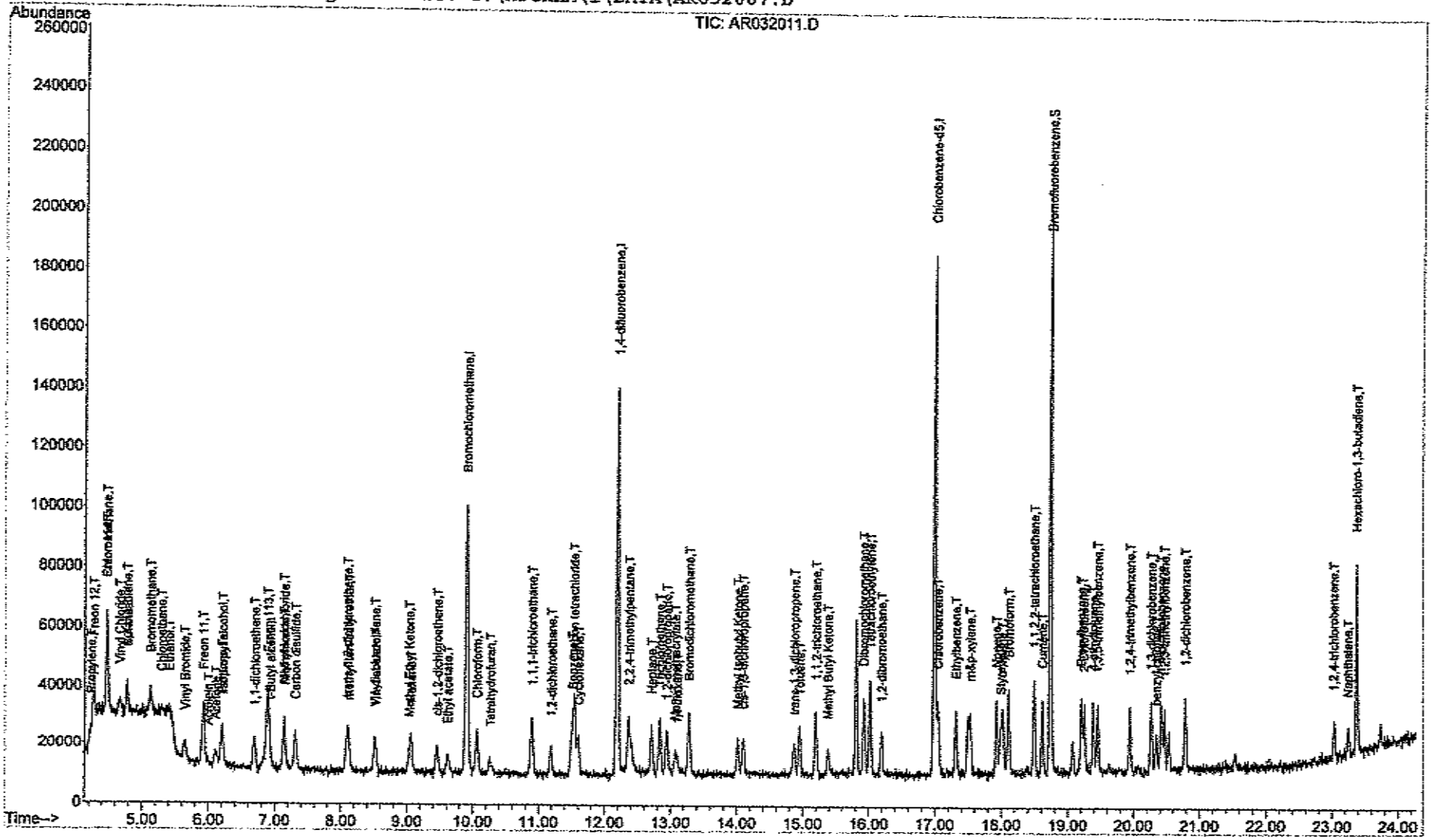
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032011.D
Acq On : 20 Mar 2020 11:26 pm
Sample : A1UG_0.15
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:25 2020

Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



AR032011.D A320_1UG.M Fri Apr 10 08:27:09 2020 MSD1

Page 3

Centek Laboratories, LLC

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032012.D
Acq On : 21 Mar 2020 12:11 am
Sample : A1UG_0.10
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:06:03 2020

Vial: 12
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.90	128	36328	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.18	114	124353	1.00	ppb	0.00
50) Chlorobenzene-d5	16.99	117	114644	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.73	95	71236m	0.80	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 80.00%			
Target Compounds						Qvalue
6) Vinyl Chloride	4.65	62	3437m	0.11	ppb	
18) 1,1-dichloroethene	6.68	96	3587m	0.10	ppb	
29) cis-1,2-dichloroethene	9.44	61	5673m	0.11	ppb	
38) Carbon tetrachloride	11.53	117	12902	0.10	ppb	100
44) Trichloroethene	12.84	130	5341	0.10	ppb	99

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

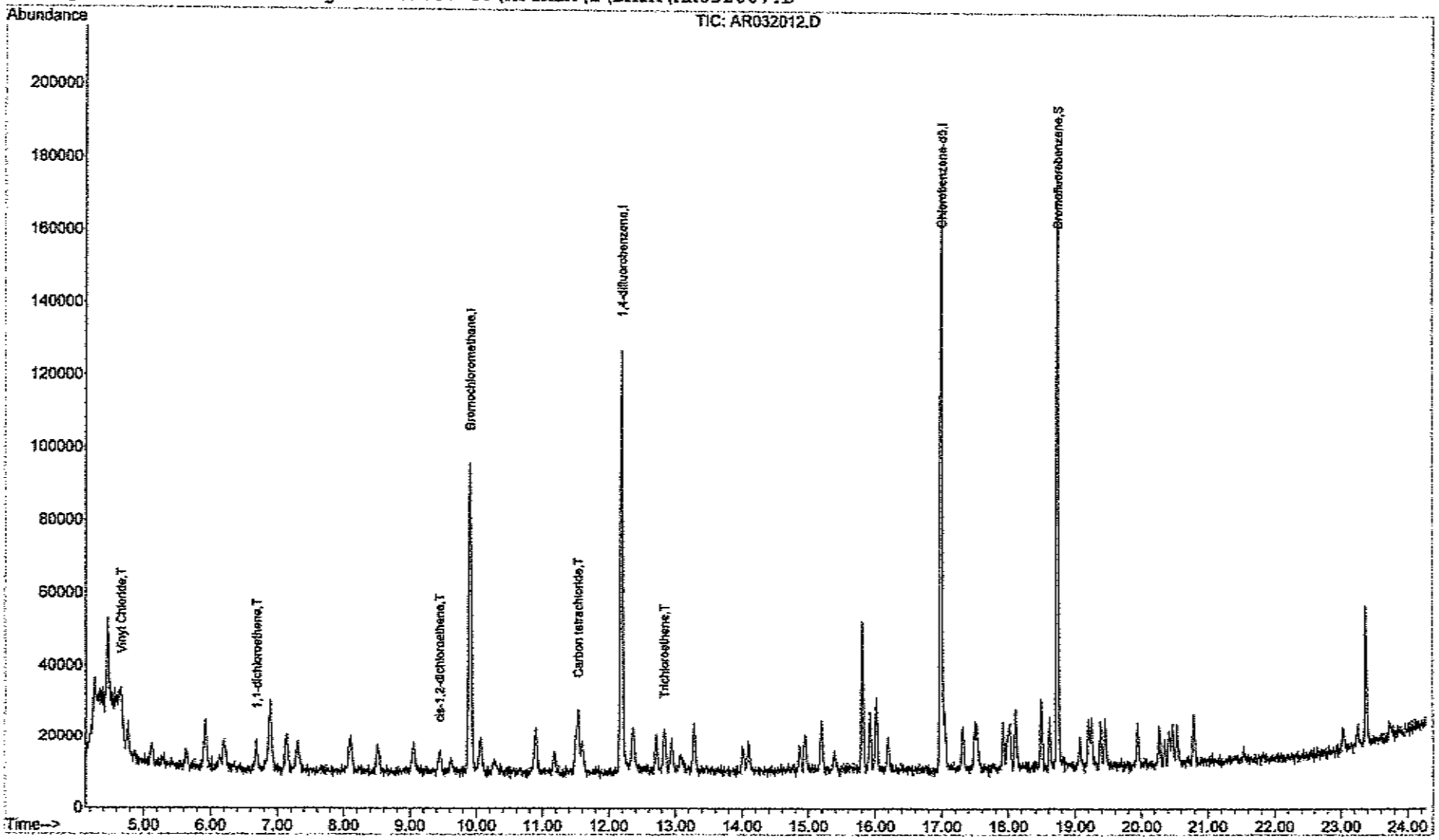
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032012.D
Acq On : 21 Mar 2020 12:11 am
Sample : A1UG_0.10
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:27 2020

Vial: 12
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032013.D
Acq On : 21 Mar 2020 12:55 am
Sample : A1UG_0.04
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:06:34 2020

Vial: 13
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.90	128	36459	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.19	114	125596	1.00 ppb	0.00
50) Chlorobenzene-d5	16.99	117	111181	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	18.74	95	67348m	0.78 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 78.00%		
Target Compounds					Qvalue
6) Vinyl Chloride	4.66	62	1171m	0.04 ppb	
18) 1,1-dichloroethene	6.70	96	1546m	0.04 ppb	
29) cis-1,2-dichloroethene	9.47	61	1992m	0.04 ppb	
38) Carbon tetrachloride	11.53	117	3402	0.03 ppb	87
44) Trichloroethene	12.84	130	1790m	0.03 ppb	
78) Naphthalene	23.25	128	1739m	0.02 ppb	

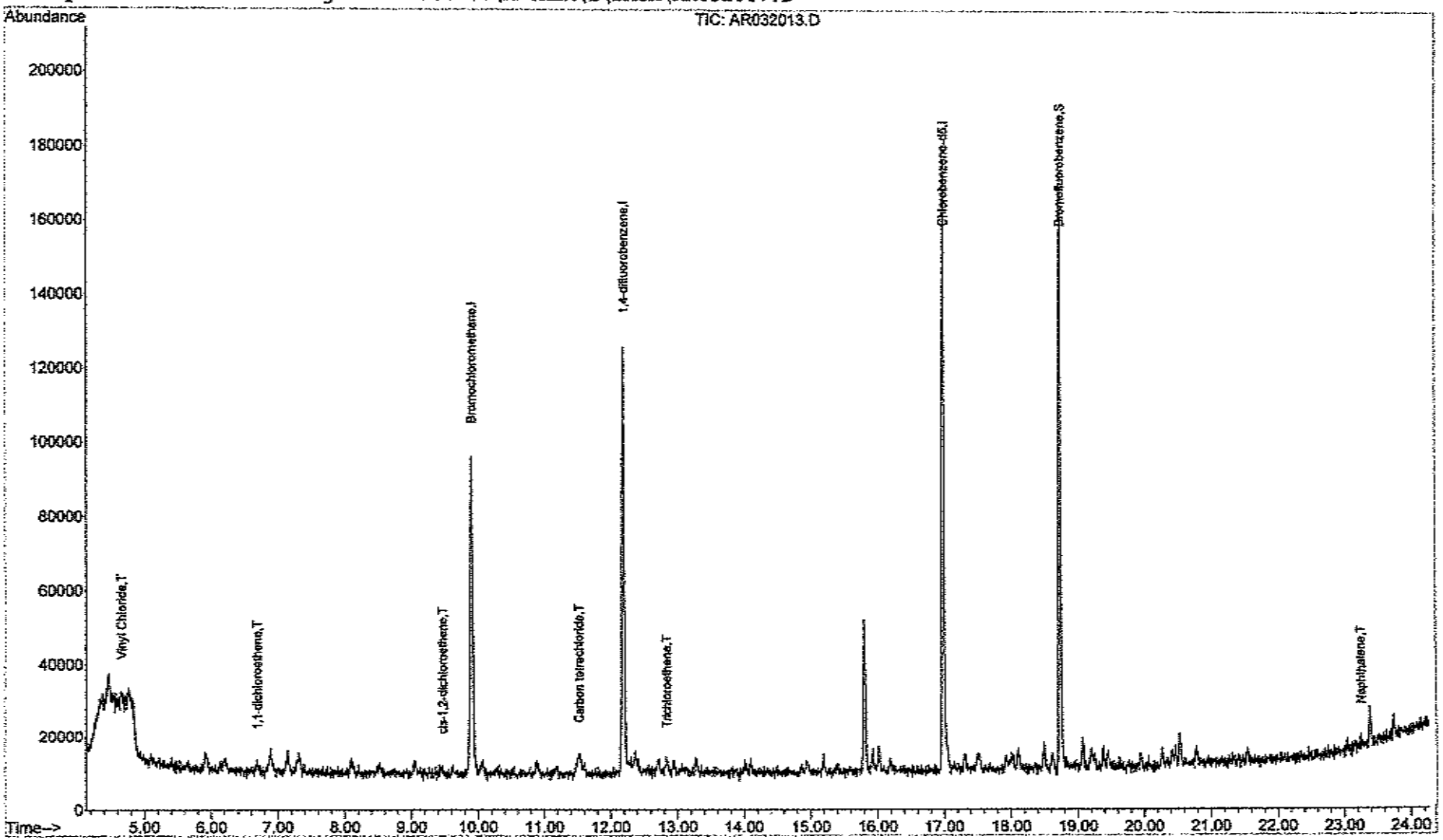
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032013.D
Acq On : 21 Mar 2020 12:55 am
Sample : A1UG_0.04
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:28 2020

Vial: 13
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032014.D Vial: 14
Acq On : 21 Mar 2020 1:39 am Operator: RJP
Sample : A1UG_0.03 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 21 09:07:03 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sat Mar 21 09:01:02 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.90	128	35039	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.19	114	118330	1.00 ppb	0.00
50) Chlorobenzene-d5	16.99	117	109216	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	18.73	95	66173m	0.78 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 78.00%	
Target Compounds					Qvalue
38) Carbon tetrachloride	11.53	117	2692m	0.02 ppb	

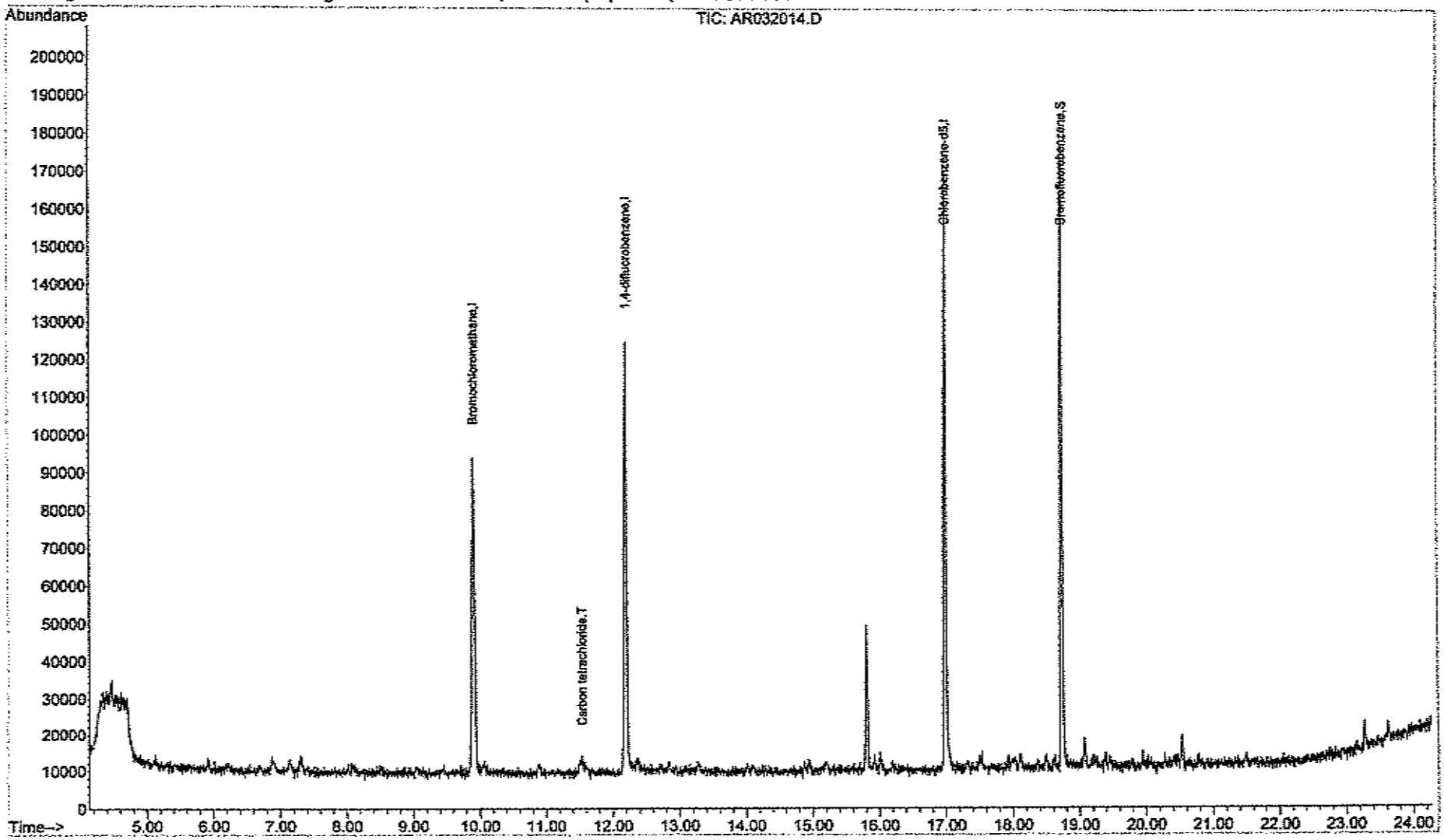
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR032014.D
Acq On : 21 Mar 2020 1:39 am
Sample : A1UG_0.03
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:29 2020

Vial: 14
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 10 08:22:44 2020
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AR032007.D



AR032014.D A320_1UG.M Fri Apr 10 08:27:18 2020 MSD1 Page 2

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AR040902.D Vial: 2
Acq On : 9 Apr 2020 9:56 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	104	0.00
2	T	Propylene	0.720	0.720	0.0	105	0.00
3	T	Freon 12	4.461	4.308	3.4	99	0.00
4	T	Chloromethane	0.968	0.810	16.3	86	0.00
5	T	Freon 114	3.454	3.217	6.9	95	0.00
6	T	Vinyl Chloride	0.909	0.841	7.5	98	0.00
7	T	Butane	0.961	0.801	16.6	83	0.00
8	T	1,3-butadiene	0.798	0.608	23.8	81	0.00
9	T	Bromomethane	1.340	1.178	12.1	88	0.00
10	T	Chloroethane	0.545	0.401	26.4	71	0.00
11	T	Ethanol	0.255	0.209	18.0	91	0.00
12	T	Acrolein	0.285	0.260	8.8	91	0.00
13	T	Vinyl Bromide	1.127	1.139	-1.1	108	0.00
14	T	Freon 11	4.692	4.827	-2.9	106	0.00
15	T	Acetone	0.545	0.572	-5.0	109	0.00
16	T	Pentane	0.982	1.025	-4.4	111	0.00
17	T	Isopropyl alcohol	1.280	1.486	-16.1	127	0.00
18	T	1,1-dichloroethene	1.033	1.068	-3.4	107	0.00
19	T	Freon 113	2.758	2.938	-6.5	110	0.00
20	t	t-Butyl alcohol	1.464	1.525	-4.2	108	0.00
21	T	Methylene chloride	1.141	1.208	-5.9	113	0.00
22	T	Allyl chloride	0.993	1.010	-1.7	100	0.00
23	T	Carbon disulfide	3.485	3.769	-8.1	116	0.00
24	T	trans-1,2-dichloroethene	1.490	1.498	-0.5	101	0.00
25	T	methyl tert-butyl ether	2.216	2.201	0.7	100	0.00
26	T	1,1-dichloroethane	2.058	2.107	-2.4	104	0.00
27	T	Vinyl acetate	1.405	1.177	16.2	86	0.00
28	T	Methyl Ethyl Ketone	0.457	0.430	5.9	98	0.00
29	T	cis-1,2-dichloroethene	1.374	1.340	2.5	99	0.00
30	T	Hexane	1.294	1.312	-1.4	96	0.00
31	T	Ethyl acetate	2.073	2.093	-1.0	103	0.00
32	T	Chloroform	2.941	3.020	-2.7	105	0.00
33	T	Tetrahydrofuran	0.725	0.664	8.4	91	0.00
34	T	1,2-dichloroethane	1.889	1.783	5.6	96	0.00
35	I	1,4-difluorobenzene	1.000	1.000	0.0	89	0.00
36	T	1,1,1-trichloroethane	0.856	0.968	-13.1	101	0.00
37	T	Cyclohexane	0.316	0.349	-10.4	97	0.00
38	T	Carbon tetrachloride	0.963	1.071	-11.2	95	0.00
39	T	Benzene	0.831	0.974	-17.2	103	0.00
40	T	Methyl methacrylate	0.292	0.308	-5.5	95	0.00
41	T	1,4-dioxane	0.188	0.215	-14.4	99	0.00
42	T	2,2,4-trimethylpentane	1.067	1.213	-13.7	101	0.00
43	T	Heptane	0.340	0.385	-13.2	97	0.00
44	T	Trichloroethene	0.422	0.542	-28.4	110	0.00
45	T	1,2-dichloropropane	0.325	0.388	-19.4	108	0.00
46	T	Bromodichloromethane	0.880	0.962	-9.3	99	0.00
47	T	cis-1,3-dichloropropene	0.519	0.608	-17.1	101	0.00
48	T	trans-1,3-dichloropropene	0.413	0.425	-2.9	88	0.00
49	T	1,1,2-trichloroethane	0.425	0.511	-20.2	106	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AR040902.D Vial: 2
Acq On : 9 Apr 2020 9:56 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T	Toluene	0.585	0.662	-13.2	97	0.00
52	T	Methyl Isobutyl Ketone	0.524	0.543	-3.6	92	0.00
53	T	Dibromochloromethane	0.976	1.020	-4.5	94	0.00
54	T	Methyl Butyl Ketone	0.447	0.514	-15.0	100	0.00
55	T	1,2-dibromoethane	0.706	0.837	-18.6	105	0.00
56	T	Tetrachloroethylene	0.500	0.600	-20.0	105	0.00
57	T	Chlorobenzene	0.935	1.048	-12.1	99	0.00
58	T	Ethylbenzene	1.258	1.310	-4.1	89	0.00
59	T	m&p-xylene	1.089	1.245	-14.3	94	0.00
60	T	Nonane	0.558	0.659	-18.1	101	0.00
61	T	Styrene	0.853	1.068	-25.2	102	0.00
62	T	Bromoform	0.940	0.838	10.9	78	0.00
63	T	o-xylene	1.313	1.585	-20.7	100	0.00
64	T	Cumene	1.402	1.508	-7.6	90	0.00
65	S	Bromofluorobenzene	0.718	0.818	-13.9	92	0.00
66	T	1,1,2,2-tetrachloroethane	1.014	1.259	-24.2	110	0.00
67	T	Propylbenzene	0.377	0.417	-10.6	92	0.00
68	T	2-Chlorotoluene	0.424	0.530	-25.0	102	0.00
69	T	4-ethyltoluene	1.486	1.718	-15.6	94	0.00
70	T	1,3,5-trimethylbenzene	1.399	1.672	-19.5	99	0.00
71	T	1,2,4-trimethylbenzene	1.146	1.230	-7.3	90	0.00
72	T	1,3-dichlorobenzene	0.893	1.140	-27.7	106	0.00
73	T	benzyl chloride	0.801	0.923	-15.2	100	0.00
74	T	1,4-dichlorobenzene	0.875	1.108	-26.6	100	0.00
75	T	1,2,3-trimethylbenzene	1.286	1.484	-15.4	94	0.00
76	T	1,2-dichlorobenzene	0.909	1.141	-25.5	104	0.00
77	T	1,2,4-trichlorobenzene	0.373	0.439	-17.7	102	0.00
78	T	Naphthalene	0.792	0.792	0.0	86	0.00
79	T	Hexachloro-1,3-butadiene	0.797	0.964	-21.0	106	0.00

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040902.D Vial: 2
Acq On : 9 Apr 2020 9:56 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 10:24:38 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane	9.91	128	40948	1.00 ppb		0.00
35) 1,4-difluorobenzene	12.19	114	133862	1.00 ppb		0.00
50) Chlorobenzene-d5	16.99	117	121631	1.00 ppb		0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.74	95	99549	1.14 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 114.00%			
Target Compounds						Qvalue
2) Propylene	4.21	41	29487	1.00 ppb		96
3) Freon 12	4.27	85	176423	0.97 ppb		98
4) Chloromethane	4.46	50	33151	0.84 ppb		96
5) Freon 114	4.47	85	131710	0.93 ppb		99
6) Vinyl Chloride	4.66	62	34445	0.93 ppb		98
7) Butane	4.77	43	32807	0.83 ppb		96
8) 1,3-butadiene	4.77	39	24889	0.76 ppb		91
9) Bromomethane	5.12	94	48240	0.88 ppb		97
10) Chloroethane	5.29	64	16409	0.73 ppb		94
11) Ethanol	5.38	45	8574m	0.82 ppb		
12) Acrolein	5.98	56	10649	0.91 ppb		97
13) Vinyl Bromide	5.63	106	46621	1.01 ppb		97
14) Freon 11	5.92	101	197647	1.03 ppb		99
15) Acetone	6.09	58	23411	1.05 ppb	#	100
16) Pentane	6.20	42	41973	1.04 ppb	#	43
17) Isopropyl alcohol	6.20	45	60835	1.16 ppb	#	42
18) 1,1-dichloroethene	6.69	96	43744	1.03 ppb		97
19) Freon 113	6.89	101	120304	1.07 ppb		97
20) t-Butyl alcohol	6.92	59	62449	1.04 ppb	#	86
21) Methylene chloride	7.14	84	49446	1.06 ppb		96
22) Allyl chloride	7.14	41	41365	1.02 ppb		93
23) Carbon disulfide	7.30	76	154347	1.08 ppb		99
24) trans-1,2-dichloroethene	8.10	61	61340	1.01 ppb		97
25) methyl tert-butyl ether	8.12	73	90113	0.99 ppb		91
26) 1,1-dichloroethane	8.52	63	86292	1.02 ppb		100
27) Vinyl acetate	8.50	43	48210	0.84 ppb		97
28) Methyl Ethyl Ketone	9.01	72	17599	0.94 ppb	#	100
29) cis-1,2-dichloroethene	9.46	61	54860	0.98 ppb		95
30) Hexane	9.06	57	53734	1.01 ppb		99
31) Ethyl acetate	9.61	43	85699	1.01 ppb		99
32) Chloroform	10.07	83	123654	1.03 ppb		99
33) Tetrahydrofuran	10.25	42	27203	0.92 ppb		91
34) 1,2-dichloroethane	11.19	62	73012	0.94 ppb		99
36) 1,1,1-trichloroethane	10.90	97	129525	1.13 ppb		99
37) Cyclohexane	11.60	56	46713	1.10 ppb		95
38) Carbon tetrachloride	11.55	117	143362	1.11 ppb		98
39) Benzene	11.51	78	130382	1.17 ppb		96
40) Methyl methacrylate	13.08	41	41259	1.05 ppb		94
41) 1,4-dioxane	13.09	88	28767	1.14 ppb		98
42) 2,2,4-trimethylpentane	12.37	57	162338	1.14 ppb		99
43) Heptane	12.71	43	51564	1.13 ppb		97
44) Trichloroethene	12.84	130	72591m	1.29 ppb		
45) 1,2-dichloropropane	12.95	63	51903	1.19 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040902.D Vial: 2
Acq On : 9 Apr 2020 9:56 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 10:24:38 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Bromodichloromethane	13.28	83	128760	1.09	ppb		100
47)	cis-1,3-dichloropropene	14.10	75	81348	1.17	ppb		100
48)	trans-1,3-dichloropropene	14.87	75	56932	1.03	ppb		99
49)	1,1,2-trichloroethane	15.20	97	68373	1.20	ppb		98
51)	Toluene	14.95	92	80530	1.13	ppb		98
52)	Methyl Isobutyl Ketone	14.01	43	66098	1.04	ppb		99
53)	Dibromochloromethane	15.93	129	124095	1.05	ppb		99
54)	Methyl Butyl Ketone	15.39	43	62478	1.15	ppb		98
55)	1,2-dibromoethane	16.20	107	101818	1.18	ppb		97
56)	Tetrachloroethylene	16.02	164	72924	1.20	ppb		99
57)	Chlorobenzene	17.05	112	127459	1.12	ppb		97
58)	Ethylbenzene	17.32	91	159370	1.04	ppb		100
59)	m&p-xylene	17.54	91	302917	2.29	ppb		100
60)	Nonane	17.94	43	80200	1.18	ppb		97
61)	Styrene	18.00	104	129913	1.25	ppb		97
62)	Bromoform	18.12	173	101963	0.89	ppb		100
63)	o-xylene	18.03	91	192757	1.21	ppb		99
64)	Cumene	18.63	105	183362	1.08	ppb		99
66)	1,1,2,2-tetrachloroethane	18.50	83	153135	1.24	ppb		99
67)	Propylbenzene	19.21	120	50668	1.10	ppb		78
68)	2-Chlorotoluene	19.26	126	64421	1.25	ppb	#	86
69)	4-ethyltoluene	19.39	105	208959	1.16	ppb		100
70)	1,3,5-trimethylbenzene	19.46	105	203416	1.20	ppb		99
71)	1,2,4-trimethylbenzene	19.95	105	149593	1.07	ppb		99
72)	1,3-dichlorobenzene	20.28	146	138649	1.28	ppb		99
73)	benzyl chloride	20.35	91	112236	1.15	ppb		99
74)	1,4-dichlorobenzene	20.42	146	134720m	1.27	ppb		
75)	1,2,3-trimethylbenzene	20.47	105	180485	1.15	ppb		100
76)	1,2-dichlorobenzene	20.78	146	138740	1.26	ppb		98
77)	1,2,4-trichlorobenzene	22.99	180	53389	1.18	ppb		98
78)	Naphthalene	23.21	128	96302	1.00	ppb		97
79)	Hexachloro-1,3-butadiene	23.34	225	117290	1.21	ppb		90

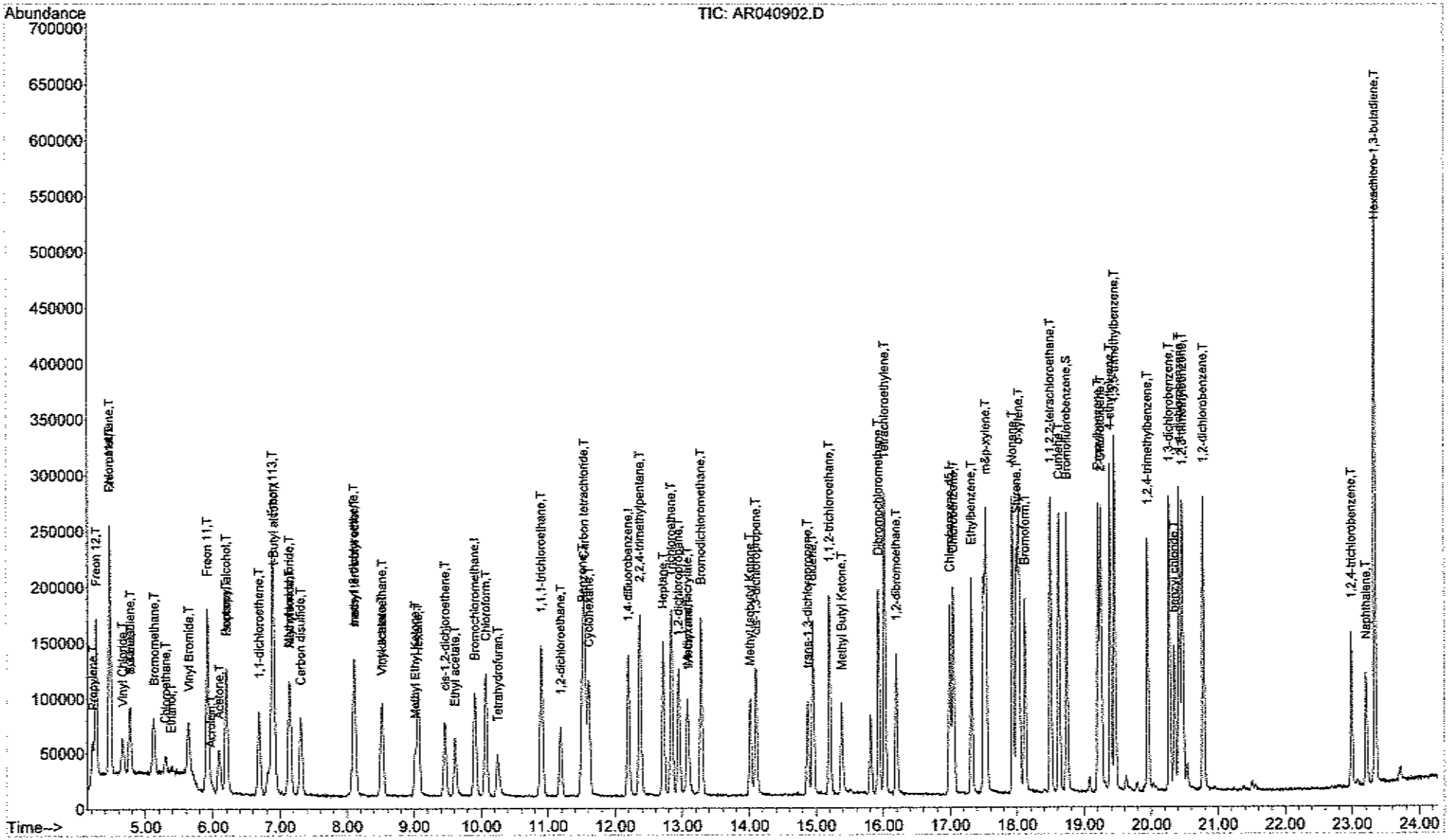
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040902.D
Acq On : 9 Apr 2020 9:56 am
Sample : A1UG_1.0
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 10 10:24 2020

Vial: 2
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:03 2020
Response via : Initial Calibration



Centek Laboratories, LLC

GC/MS VOLATILES-WHOLE AIR

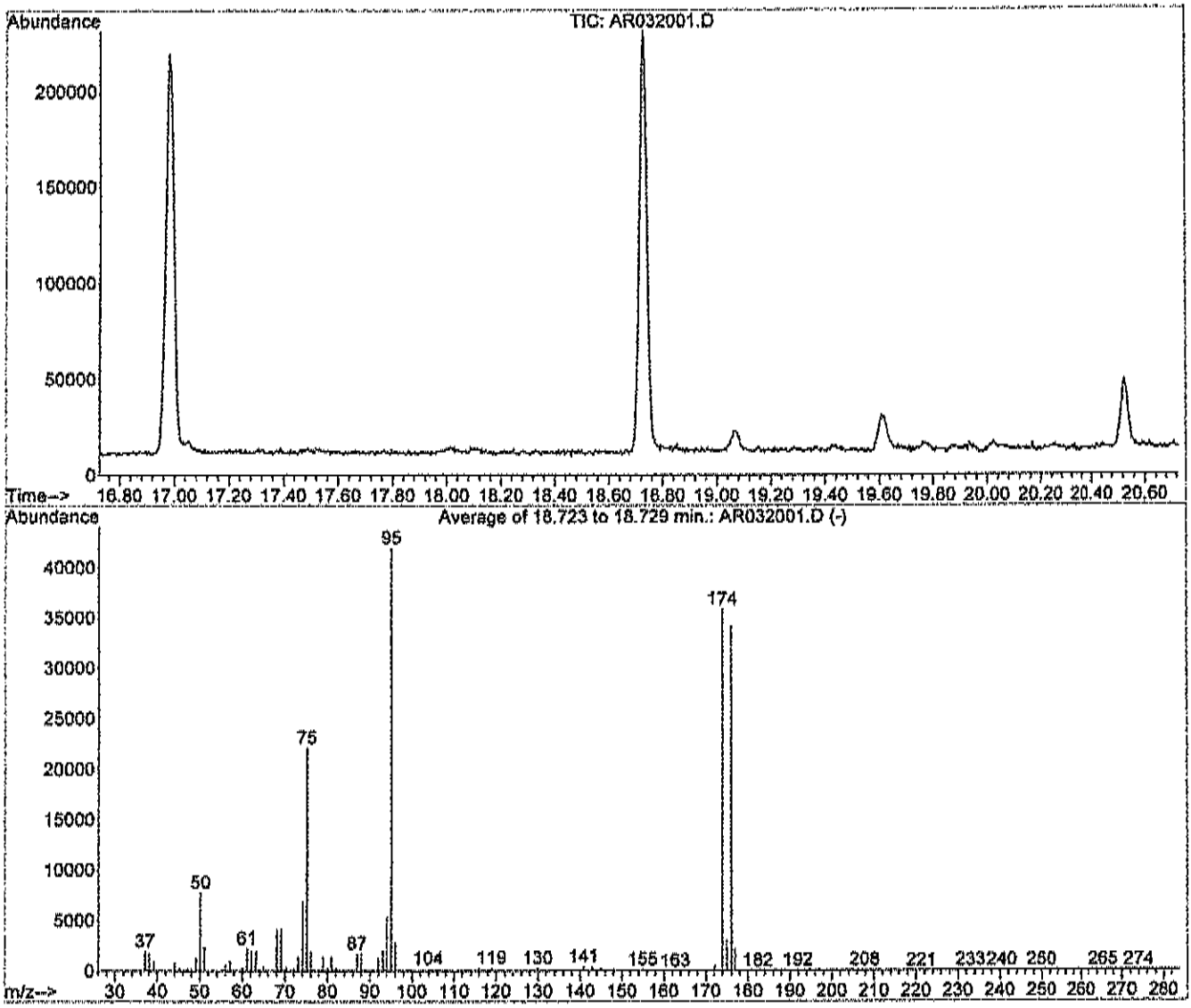
METHOD TO-15

RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AR032001.D
Acq On : 20 Mar 2020 11:13 am
Sample : BFB1UG
Misc : A311_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Vial: 1
Operator: RJP
Inst : MSD #1
Multiplr: 1.00



Spectrum Information: Average of 18.723 to 18.729 min.

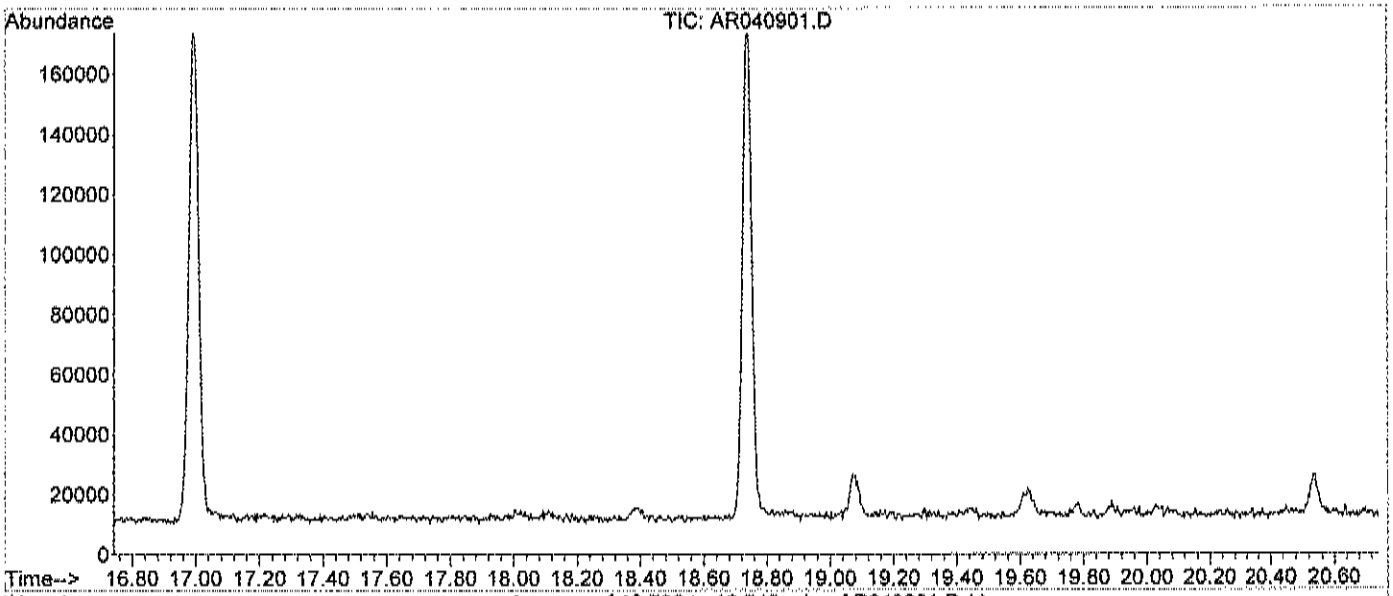
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	7790	PASS
75	95	30	66	52.7	22128	PASS
95	95	100	100	100.0	41964	PASS
96	95	5	9	6.7	2794	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	85.5	35877	PASS
175	174	4	9	8.4	3014	PASS
176	174	95	101	95.6	34290	PASS
177	176	5	9	6.5	2241	PASS

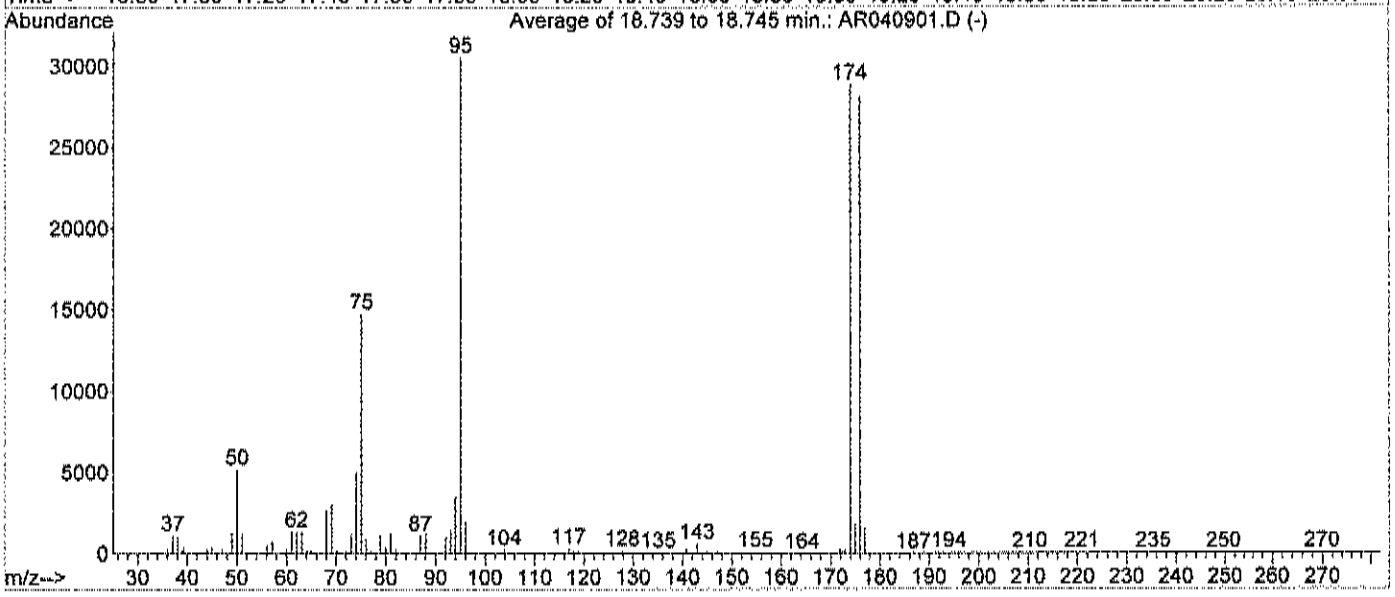
AR032001.D A320_1UG.M Fri Apr 10 08:26:10 2020 MSD1

BFB

Data File : C:\HPCHEM\1\DATA\AR040901.D
Acq On : 9 Apr 2020 9:06 am
Sample : BFB1UG
Misc : A311_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Vial: 1
Operator: RJP
Inst : MSD #1
Multiplr: 1.00





Spectrum Information: Average of 18.739 to 18.745 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.0	5203	PASS
75	95	30	66	48.3	14766	PASS
95	95	100	100	100.0	30544	PASS
96	95	5	9	6.6	2005	PASS
173	174	0.00	2	0.8	232	PASS
174	95	50	120	94.5	28872	PASS
175	174	4	9	6.4	1859	PASS
176	174	95	101	97.5	28136	PASS
177	176	5	9	5.7	1591	PASS

AR040901.D A320_1UG.M Fri Apr 17 11:40:17 2020 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

CENTEK LABORATORIES, LLC

Date: *17-Apr-20*

ANALYTICAL QC SUMMARY REPORT

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040920** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.040	0.040									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: AMB1UG-040920 SampType: MBLK TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 16240
Client ID: ZZZZZ Batch ID: R16240 TestNo: TO-15 Analysis Date: 4/9/2020 SeqNo: 184805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.030	0.030									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.040	0.040									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.15	0.15									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									

Qualifiers:
- . Results reported are not blank corrected
- J Analyte detected below quantitation limit
- S Spike Recovery outside accepted recovery limits
- E Estimated Value above quantitation range
- ND Not Detected at the Limit of Detection
- DL Detection Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Centek Laboratories, LLC

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040920** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.030	0.030									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.040	0.040									
Surr: Bromofluorobenzene	0.7100	0	1	0	71.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Estimated Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit	ND	Not Detected at the Limit of Detection	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits	DL	Detection Limit		

Centek Laboratories, LLC

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040904.D
Acq On : 9 Apr 2020 11:26 am
Sample : AMB1UG-040920
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:34 2020

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.91	128	37267	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.20	114	118206	1.00	ppb	0.01
50) Chlorobenzene-d5	17.00	117	106322	1.00	ppb	0.01
System Monitoring Compounds						
65) Bromofluorobenzene	18.74	95	54184m	0.71	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 71.00%			

Target Compounds Qvalue

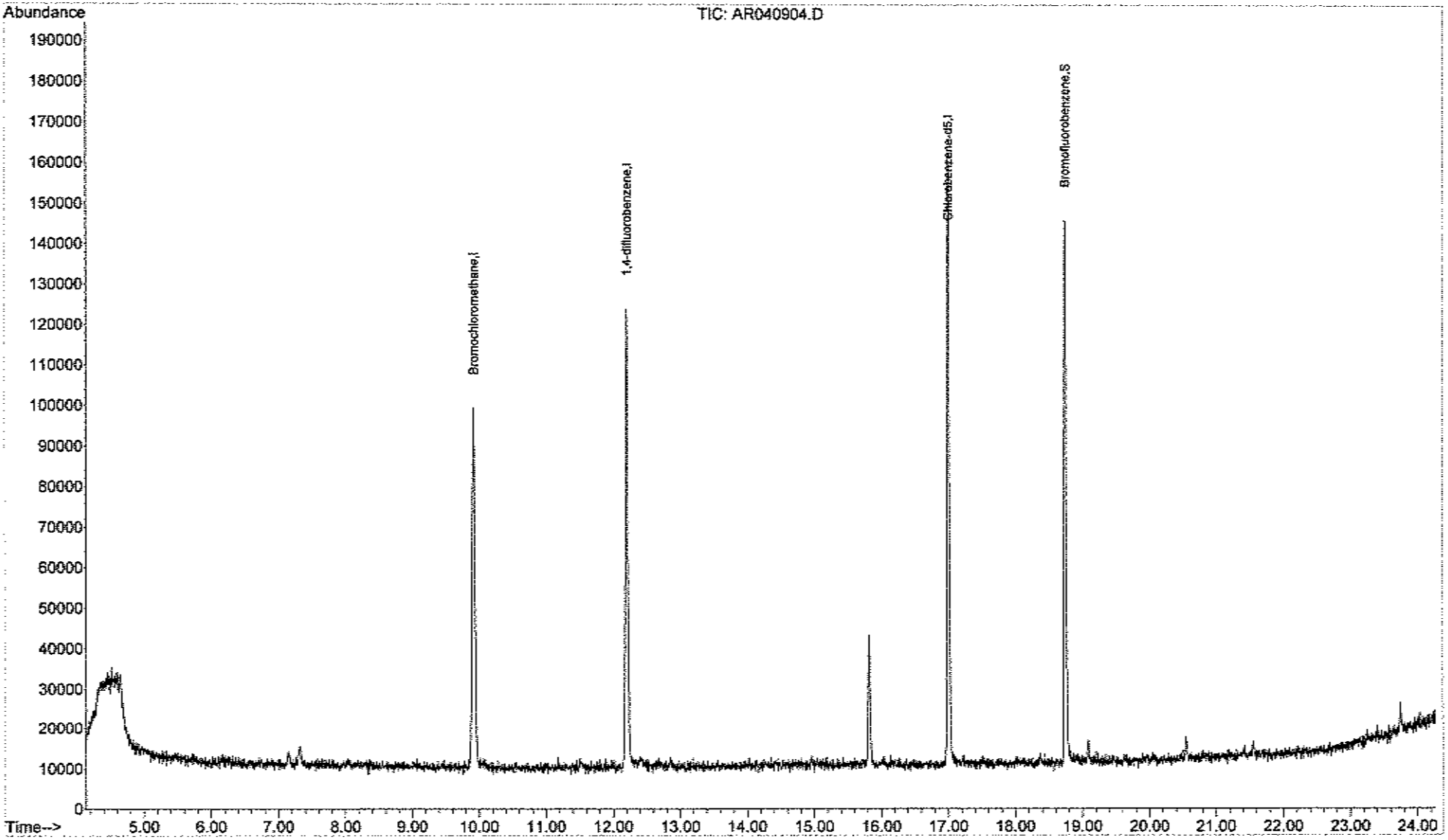
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040904.D
Acq On : 9 Apr 2020 11:26 am
Sample : AMB1UG-040920
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 17 11:14 2020

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Initial Calibration



AR040904.D A320_1UG.M Fri Apr 17 11:39:22 2020 MSD1 Page 2

Centek Laboratories, LLC

CENTEK LABORATORIES, LLC

Date: *17-Apr-20*

ANALYTICAL QC SUMMARY REPORT

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: ALCS1UG-040920 SampType: LCS TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 16240
Client ID: ZZZZZ Batch ID: R16240 TestNo: TO-15 Analysis Date: 4/9/2020 SeqNo: 184806

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.120	0.15	1	0	112	70	130				
1,1,2,2-Tetrachloroethane	1.160	0.15	1	0	116	70	130				
1,1,2-Trichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.000	0.040	1	0	100	70	130				
1,2,4-Trichlorobenzene	0.9200	0.15	1	0	92.0	70	130				
1,2,4-Trimethylbenzene	0.9800	0.15	1	0	98.0	70	130				
1,2-Dibromoethane	1.130	0.15	1	0	113	70	130				
1,2-Dichlorobenzene	1.070	0.15	1	0	107	70	130				
1,2-Dichloroethane	0.9300	0.15	1	0	93.0	70	130				
1,2-Dichloropropane	1.160	0.15	1	0	116	70	130				
1,3,5-Trimethylbenzene	1.150	0.15	1	0	115	70	130				
1,3-butadiene	0.7900	0.15	1	0	79.0	70	130				
1,3-Dichlorobenzene	1.070	0.15	1	0	107	70	130				
1,4-Dichlorobenzene	1.030	0.15	1	0	103	70	130				
1,4-Dioxane	1.090	0.30	1	0	109	70	130				
2,2,4-trimethylpentane	1.110	0.15	1	0	111	70	130				
4-ethyltoluene	1.090	0.15	1	0	109	70	130				
Acetone	1.100	0.30	1	0	110	70	130				
Allyl chloride	0.9500	0.15	1	0	95.0	70	130				
Benzene	1.110	0.15	1	0	111	70	130				
Benzyl chloride	0.8500	0.15	1	0	85.0	70	130				
Bromodichloromethane	1.080	0.15	1	0	108	70	130				
Bromoform	0.8300	0.15	1	0	83.0	70	130				
Bromomethane	1.080	0.15	1	0	108	70	130				

Qualifiers:
- . Results reported are not blank corrected
- J Analyte detected below quantitation limit
- S Spike Recovery outside accepted recovery limits
- E Estimated Value above quantitation range
- ND Not Detected at the Limit of Detection
- DL Detection Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: ALCS1UG-040920 SampType: LCS TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 16240
Client ID: ZZZZZ Batch ID: R16240 TestNo: TO-15 Analysis Date: 4/9/2020 SeqNo: 184806

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	1.040	0.15	1	0	104	70	130				
Carbon tetrachloride	1.080	0.030	1	0	108	70	130				
Chlorobenzene	1.080	0.15	1	0	108	70	130				
Chloroethane	1.120	0.15	1	0	112	70	130				
Chloroform	0.9900	0.15	1	0	99.0	70	130				
Chloromethane	0.8600	0.15	1	0	86.0	70	130				
cis-1,2-Dichloroethene	0.9600	0.040	1	0	96.0	70	130				
cis-1,3-Dichloropropene	1.130	0.15	1	0	113	70	130				
Cyclohexane	1.090	0.15	1	0	109	70	130				
Dibromochloromethane	0.9900	0.15	1	0	99.0	70	130				
Ethyl acetate	0.9500	0.15	1	0	95.0	70	130				
Ethylbenzene	1.000	0.15	1	0	100	70	130				
Freon 11	0.9700	0.15	1	0	97.0	70	130				
Freon 113	1.030	0.15	1	0	103	70	130				
Freon 114	0.9300	0.15	1	0	93.0	70	130				
Freon 12	0.9700	0.15	1	0	97.0	70	130				
Heptane	1.100	0.15	1	0	110	70	130				
Hexachloro-1,3-butadiene	1.120	0.15	1	0	112	70	130				
Hexane	0.8800	0.15	1	0	88.0	70	130				
Isopropyl alcohol	0.9500	0.15	1	0	95.0	70	130				
m&p-Xylene	2.200	0.30	2	0	110	70	130				
Methyl Butyl Ketone	0.9900	0.30	1	0	99.0	70	130				
Methyl Ethyl Ketone	0.9200	0.30	1	0	92.0	70	130				
Methyl Isobutyl Ketone	0.9500	0.30	1	0	95.0	70	130				
Methyl tert-butyl ether	0.9200	0.15	1	0	92.0	70	130				
Methylene chloride	1.010	0.15	1	0	101	70	130				
o-Xylene	1.170	0.15	1	0	117	70	130				
Propylene	1.030	0.15	1	0	103	70	130				
Styrene	1.180	0.15	1	0	118	70	130				
Tetrachloroethylene	1.160	0.15	1	0	116	70	130				
Tetrahydrofuran	0.8900	0.15	1	0	89.0	70	130				

Qualifiers:
- . Results reported are not blank corrected
- J Analyte detected below quantitation limit
- S Spike Recovery outside accepted recovery limits
- E Estimated Value above quantitation range
- ND Not Detected at the Limit of Detection
- DL Detection Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Centek Laboratories, LLC

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **ALCS1UG-040920** SampType: **LCS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	1.080	0.15	1	0	108	70	130				
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
trans-1,3-Dichloropropene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.290	0.030	1	0	129	70	130				
Vinyl acetate	0.7900	0.15	1	0	79.0	70	130				
Vinyl Bromide	1.010	0.15	1	0	101	70	130				
Vinyl chloride	0.9100	0.040	1	0	91.0	70	130				
Surr: Bromofluorobenzene	1.120	0	1	0	112	70	130				

Sample ID: **ALCS1UGD-040920** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.040	0.15	1	0	104	70	130	1.12	7.41	30	
1,1,2,2-Tetrachloroethane	1.120	0.15	1	0	112	70	130	1.16	3.51	30	
1,1,2-Trichloroethane	1.120	0.15	1	0	112	70	130	1.17	4.37	30	
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130	1.02	0	30	
1,1-Dichloroethene	1.090	0.040	1	0	109	70	130	1	8.61	30	
1,2,4-Trichlorobenzene	1.000	0.15	1	0	100	70	130	0.92	8.33	30	
1,2,4-Trimethylbenzene	0.9700	0.15	1	0	97.0	70	130	0.98	1.03	30	
1,2-Dibromoethane	1.100	0.15	1	0	110	70	130	1.13	2.69	30	
1,2-Dichlorobenzene	1.140	0.15	1	0	114	70	130	1.07	6.33	30	
1,2-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.93	2.17	30	
1,2-Dichloropropane	1.110	0.15	1	0	111	70	130	1.16	4.41	30	
1,3,5-Trimethylbenzene	1.130	0.15	1	0	113	70	130	1.15	1.75	30	
1,3-butadiene	0.7200	0.15	1	0	72.0	70	130	0.79	9.27	30	
1,3-Dichlorobenzene	1.160	0.15	1	0	116	70	130	1.07	8.07	30	
1,4-Dichlorobenzene	1.190	0.15	1	0	119	70	130	1.03	14.4	30	
1,4-Dioxane	1.090	0.30	1	0	109	70	130	1.09	0	30	
2,2,4-trimethylpentane	1.050	0.15	1	0	105	70	130	1.11	5.56	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: **ALCS1UGD-040920** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **16240**
Client ID: **ZZZZZ** Batch ID: **R16240** TestNo: **TO-15** Analysis Date: **4/9/2020** SeqNo: **184807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	1.070	0.15	1	0	107	70	130	1.09	1.85	30	
Acetone	1.160	0.30	1	0	116	70	130	1.1	5.31	30	
Allyl chloride	0.9700	0.15	1	0	97.0	70	130	0.95	2.08	30	
Benzene	1.120	0.15	1	0	112	70	130	1.11	0.897	30	
Benzyl chloride	1.040	0.15	1	0	104	70	130	0.85	20.1	30	
Bromodichloromethane	1.000	0.15	1	0	100	70	130	1.08	7.69	30	
Bromoform	0.8000	0.15	1	0	80.0	70	130	0.83	3.68	30	
Bromomethane	0.8400	0.15	1	0	84.0	70	130	1.08	25.0	30	
Carbon disulfide	1.020	0.15	1	0	102	70	130	1.04	1.94	30	
Carbon tetrachloride	1.010	0.030	1	0	101	70	130	1.08	6.70	30	
Chlorobenzene	1.060	0.15	1	0	106	70	130	1.08	1.87	30	
Chloroethane	0.7400	0.15	1	0	74.0	70	130	1.12	40.9	30	R
Chloroform	1.000	0.15	1	0	100	70	130	0.99	1.01	30	
Chloromethane	0.8200	0.15	1	0	82.0	70	130	0.86	4.76	30	
cis-1,2-Dichloroethene	1.020	0.040	1	0	102	70	130	0.96	6.06	30	
cis-1,3-Dichloropropene	1.080	0.15	1	0	108	70	130	1.13	4.52	30	
Cyclohexane	1.050	0.15	1	0	105	70	130	1.09	3.74	30	
Dibromochloromethane	0.9500	0.15	1	0	95.0	70	130	0.99	4.12	30	
Ethyl acetate	0.9700	0.15	1	0	97.0	70	130	0.95	2.08	30	
Ethylbenzene	0.9900	0.15	1	0	99.0	70	130	1	1.01	30	
Freon 11	0.9800	0.15	1	0	98.0	70	130	0.97	1.03	30	
Freon 113	1.050	0.15	1	0	105	70	130	1.03	1.92	30	
Freon 114	0.8900	0.15	1	0	89.0	70	130	0.93	4.40	30	
Freon 12	0.9400	0.15	1	0	94.0	70	130	0.97	3.14	30	
Heptane	1.060	0.15	1	0	106	70	130	1.1	3.70	30	
Hexachloro-1,3-butadiene	1.120	0.15	1	0	112	70	130	1.12	0	30	
Hexane	0.9300	0.15	1	0	93.0	70	130	0.88	5.52	30	
Isopropyl alcohol	1.060	0.15	1	0	106	70	130	0.95	10.9	30	
m&p-Xylene	2.140	0.30	2	0	107	70	130	2.2	2.76	30	
Methyl Butyl Ketone	1.020	0.30	1	0	102	70	130	0.99	2.99	30	
Methyl Ethyl Ketone	0.9400	0.30	1	0	94.0	70	130	0.92	2.15	30	

Qualifiers:
. Results reported are not blank corrected
J Analyte detected below quantitation limit
S Spike Recovery outside accepted recovery limits
E Estimated Value above quantitation range
ND Not Detected at the Limit of Detection
DL Detection Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Centek Laboratories, LLC

CLIENT: Matrix Environmental Technologies, Inc
Work Order: C2004010
Project: Aquino 65-67 Lake Ave.

TestCode: 0.20_NYS

Sample ID: ALCS1UGD-040920 SampType: LCSD TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 16240
Client ID: ZZZZZ Batch ID: R16240 TestNo: TO-15 Analysis Date: 4/9/2020 SeqNo: 184807

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	0.9300	0.30	1	0	93.0	70	130	0.95	2.13	30	
Methyl tert-butyl ether	1.020	0.15	1	0	102	70	130	0.92	10.3	30	
Methylene chloride	0.9900	0.15	1	0	99.0	70	130	1.01	2.00	30	
o-Xylene	1.120	0.15	1	0	112	70	130	1.17	4.37	30	
Propylene	1.020	0.15	1	0	102	70	130	1.03	0.976	30	
Styrene	1.160	0.15	1	0	116	70	130	1.18	1.71	30	
Tetrachloroethylene	1.140	0.15	1	0	114	70	130	1.16	1.74	30	
Tetrahydrofuran	0.9400	0.15	1	0	94.0	70	130	0.89	5.46	30	
Toluene	1.070	0.15	1	0	107	70	130	1.08	0.930	30	
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130	0.98	1.02	30	
trans-1,3-Dichloropropene	1.000	0.15	1	0	100	70	130	0.99	1.01	30	
Trichloroethene	1.220	0.030	1	0	122	70	130	1.29	5.58	30	
Vinyl acetate	0.8300	0.15	1	0	83.0	70	130	0.79	4.94	30	
Vinyl Bromide	1.110	0.15	1	0	111	70	130	1.01	9.43	30	
Vinyl chloride	0.8700	0.040	1	0	87.0	70	130	0.91	4.49	30	
Surr: Bromofluorobenzene	1.100	0	1	0	110	70	130	0	0	30	

Qualifiers:
- . Results reported are not blank corrected
- J Analyte detected below quantitation limit
- S Spike Recovery outside accepted recovery limits
- E Estimated Value above quantitation range
- ND Not Detected at the Limit of Detection
- DL Detection Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Centek Laboratories, LLC

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040903.D Vial: 3
Acq On : 9 Apr 2020 10:44 am Operator: RJP
Sample : ALCS1UG-040920 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:33 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.92	128	41190	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.20	114	134311	1.00	ppb	0.01
50) Chlorobenzene-d5	17.00	117	124990	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.74	95	100382	1.12	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 112.00%			
Target Compounds						Qvalue
2) Propylene	4.22	41	30609	1.03	ppb	99
3) Freon 12	4.27	85	177456	0.97	ppb	99
4) Chloromethane	4.47	50	34364	0.86	ppb	96
5) Freon 114	4.47	85	132438	0.93	ppb	99
6) Vinyl Chloride	4.67	62	34135	0.91	ppb	96
7) Butane	4.78	43	32478	0.82	ppb	98
8) 1,3-butadiene	4.78	39	25849	0.79	ppb	100
9) Bromomethane	5.13	94	59671	1.08	ppb	98
10) Chloroethane	5.30	64	25169	1.12	ppb	98
11) Ethanol	5.42	45	10002	0.95	ppb	93
12) Acrolein	6.00	56	9787	0.83	ppb	96
13) Vinyl Bromide	5.65	106	46653	1.01	ppb	98
14) Freon 11	5.93	101	188207	0.97	ppb	98
15) Acetone	6.11	58	24768	1.10	ppb #	100
16) Pentane	6.21	42	40982	1.01	ppb	98
17) Isopropyl alcohol	6.21	45	49974	0.95	ppb #	63
18) 1,1-dichloroethene	6.70	96	42618	1.00	ppb	99
19) Freon 113	6.90	101	117360	1.03	ppb	98
20) t-Butyl alcohol	6.92	59	55250	0.92	ppb #	82
21) Methylene chloride	7.15	84	47453	1.01	ppb	98
22) Allyl chloride	7.14	41	39010	0.95	ppb	95
23) Carbon disulfide	7.32	76	148564	1.04	ppb	99
24) trans-1,2-dichloroethene	8.10	61	60187	0.98	ppb	97
25) methyl tert-butyl ether	8.12	73	84228	0.92	ppb	88
26) 1,1-dichloroethane	8.53	63	86247	1.02	ppb	97
27) Vinyl acetate	8.51	43	45678	0.79	ppb	96
28) Methyl Ethyl Ketone	9.01	72	17313	0.92	ppb #	100
29) cis-1,2-dichloroethene	9.46	61	54436	0.96	ppb	95
30) Hexane	9.07	57	46863	0.88	ppb	86
31) Ethyl acetate	9.61	43	81537	0.95	ppb	98
32) Chloroform	10.07	83	119921	0.99	ppb	99
33) Tetrahydrofuran	10.26	42	26431	0.89	ppb	94
34) 1,2-dichloroethane	11.19	62	72574	0.93	ppb	100
36) 1,1,1-trichloroethane	10.91	97	128607	1.12	ppb	97
37) Cyclohexane	11.62	56	46165	1.09	ppb	94
38) Carbon tetrachloride	11.56	117	140384	1.08	ppb	99
39) Benzene	11.52	78	124098	1.11	ppb	95
40) Methyl methacrylate	13.07	41	40065	1.02	ppb	93
41) 1,4-dioxane	13.09	88	27621	1.09	ppb	100
42) 2,2,4-trimethylpentane	12.38	57	159055	1.11	ppb	98
43) Heptane	12.72	43	50348	1.10	ppb	94
44) Trichloroethene	12.85	130	72784	1.29	ppb	99
45) 1,2-dichloropropane	12.95	63	50786	1.16	ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040903.D Vial: 3
Acq On : 9 Apr 2020 10:44 am Operator: RJP
Sample : ALCS1UG-040920 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:33 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
46)	Bromodichloromethane	13.29	83	127996	1.08 ppb		99
47)	cis-1,3-dichloropropene	14.11	75	78438	1.13 ppb		100
48)	trans-1,3-dichloropropene	14.87	75	55029	0.99 ppb		88
49)	1,1,2-trichloroethane	15.21	97	66942	1.17 ppb		100
51)	Toluene	14.96	92	78993	1.08 ppb		100
52)	Methyl Isobutyl Ketone	14.02	43	62408	0.95 ppb		98
53)	Dibromochloromethane	15.93	129	120635	0.99 ppb		99
54)	Methyl Butyl Ketone	15.39	43	55164	0.99 ppb		99
55)	1,2-dibromoethane	16.20	107	99656	1.13 ppb		98
56)	Tetrachloroethylene	16.02	164	72653	1.16 ppb		98
57)	Chlorobenzene	17.05	112	126336	1.08 ppb		100
58)	Ethylbenzene	17.33	91	157376	1.00 ppb		99
59)	m&p-xylene	17.54	91	298991	2.20 ppb		98
60)	Nonane	17.94	43	77735	1.11 ppb		99
61)	Styrene	18.00	104	125560	1.18 ppb		99
62)	Bromoform	18.12	173	97771	0.83 ppb		99
63)	o-xylene	18.03	91	192278	1.17 ppb		100
64)	Cumene	18.63	105	181571	1.04 ppb		99
66)	1,1,2,2-tetrachloroethane	18.50	83	147644	1.16 ppb		100
67)	Propylbenzene	19.21	120	49244	1.04 ppb		77
68)	2-Chlorotoluene	19.26	126	63275	1.19 ppb	#	85
69)	4-ethyltoluene	19.39	105	202002	1.09 ppb		100
70)	1,3,5-trimethylbenzene	19.46	105	201761	1.15 ppb		98
71)	1,2,4-trimethylbenzene	19.95	105	140058	0.98 ppb		100
72)	1,3-dichlorobenzene	20.27	146	119838	1.07 ppb		99
73)	benzyl chloride	20.35	91	84715	0.85 ppb		97
74)	1,4-dichlorobenzene	20.42	146	112716	1.03 ppb		99
75)	1,2,3-trimethylbenzene	20.48	105	166952	1.04 ppb		100
76)	1,2-dichlorobenzene	20.79	146	121212	1.07 ppb		99
77)	1,2,4-trichlorobenzene	23.04	180	43038	0.92 ppb		98
78)	Naphthalene	23.26	128	80659	0.81 ppb		95
79)	Hexachloro-1,3-butadiene	23.39	225	111815	1.12 ppb		90

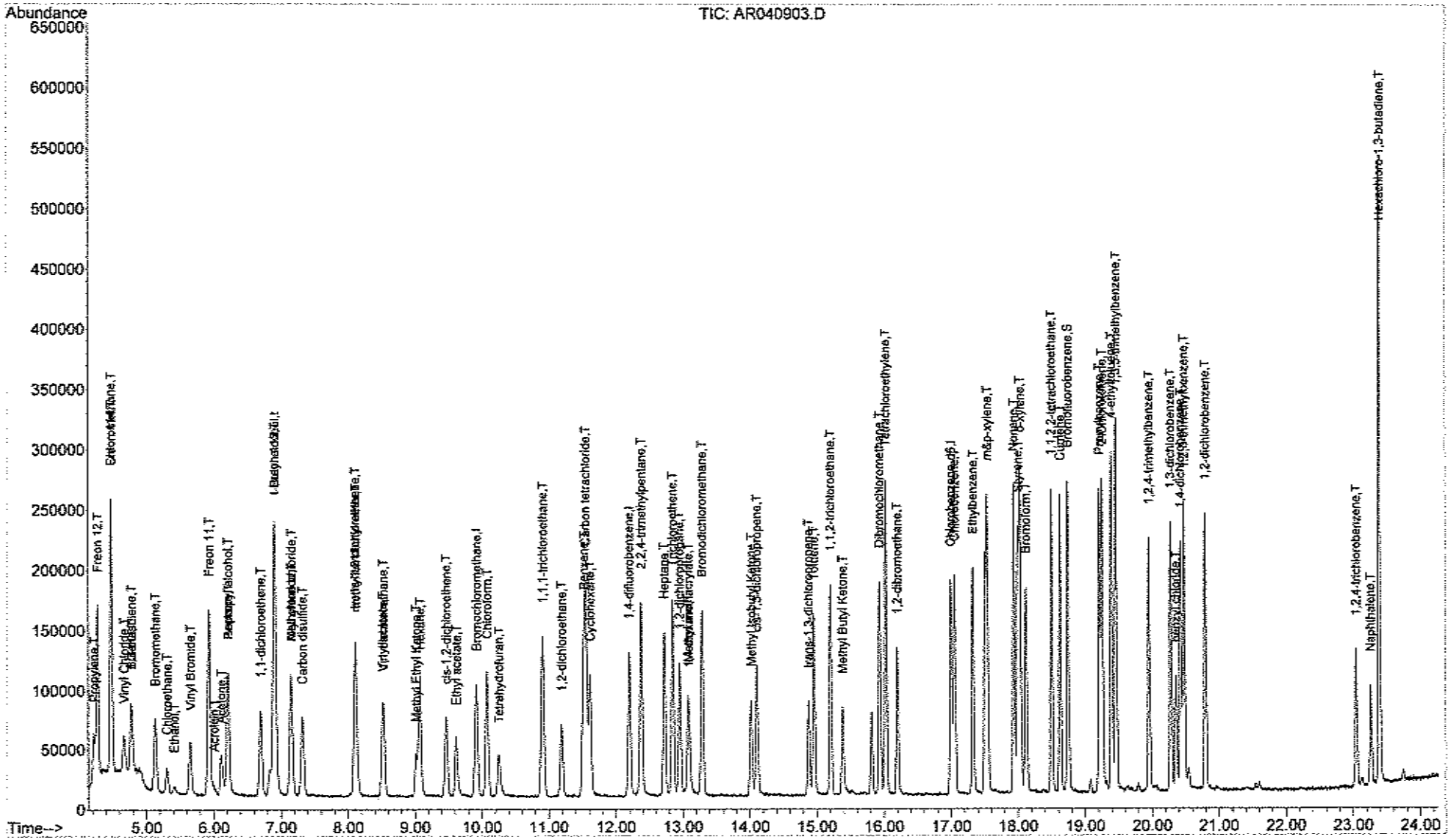
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040903.D
Acq On : 9 Apr 2020 10:44 am
Sample : ALCS1UG-040920
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53 2020

Vial: 3
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Initial Calibration



AR040903.D A320_1UG.M Fri Apr 17 11:39:18 2020 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040918.D Vial: 18
Acq On : 9 Apr 2020 11:29 pm Operator: RJP
Sample : ALCS1UGD-040920 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:48 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.91	128	45167	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.19	114	155577	1.00	ppb		0.00
50) Chlorobenzene-d5	17.00	117	141178	1.00	ppb		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	18.74	95	111146	1.10	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 110.00%				
Target Compounds							Qvalue
2) Propylene	4.21	41	33309	1.02	ppb		91
3) Freon 12	4.26	85	188737	0.94	ppb		97
4) Chloromethane	4.46	50	35842	0.82	ppb		99
5) Freon 114	4.46	85	138104	0.89	ppb		98
6) Vinyl Chloride	4.67	62	35786	0.87	ppb		97
7) Butane	4.77	43	35662	0.82	ppb		95
8) 1,3-butadiene	4.77	39	26085	0.72	ppb		96
9) Bromomethane	5.13	94	51041	0.84	ppb		98
10) Chloroethane	5.30	64	18323m	0.74	ppb		
11) Ethanol	5.40	45	9563	0.83	ppb	#	46
12) Acrolein	5.99	56	11814	0.92	ppb		96
13) Vinyl Bromide	5.64	106	56429	1.11	ppb		100
14) Freon 11	5.92	101	208167	0.98	ppb		99
15) Acetone	6.09	58	28672	1.16	ppb	#	100
16) Pentane	6.20	42	44369	1.00	ppb		94
17) Isopropyl alcohol	6.20	45	61400	1.06	ppb	#	78
18) 1,1-dichloroethene	6.69	96	50849	1.09	ppb		95
19) Freon 113	6.89	101	131367	1.05	ppb		99
20) t-Butyl alcohol	6.91	59	70908	1.07	ppb		92
21) Methylene chloride	7.15	84	50788	0.99	ppb		97
22) Allyl chloride	7.14	41	43582	0.97	ppb		93
23) Carbon disulfide	7.31	76	161211	1.02	ppb		99
24) trans-1,2-dichloroethene	8.10	61	66700	0.99	ppb		93
25) methyl tert-butyl ether	8.12	73	101721	1.02	ppb		95
26) 1,1-dichloroethane	8.52	63	94753	1.02	ppb		99
27) Vinyl acetate	8.51	43	52752	0.83	ppb		97
28) Methyl Ethyl Ketone	9.01	72	19396	0.94	ppb	#	100
29) cis-1,2-dichloroethene	9.46	61	63509	1.02	ppb		95
30) Hexane	9.06	57	54336	0.93	ppb		87
31) Ethyl acetate	9.61	43	90467	0.97	ppb		100
32) Chloroform	10.07	83	133334	1.00	ppb		97
33) Tetrahydrofuran	10.25	42	30849	0.94	ppb		91
34) 1,2-dichloroethane	11.18	62	77590	0.91	ppb		100
36) 1,1,1-trichloroethane	10.91	97	137821	1.04	ppb		99
37) Cyclohexane	11.60	56	51927	1.05	ppb		95
38) Carbon tetrachloride	11.55	117	151380	1.01	ppb		99
39) Benzene	11.51	78	145198	1.12	ppb		98
40) Methyl methacrylate	13.07	41	45585	1.00	ppb		91
41) 1,4-dioxane	13.10	88	31803	1.09	ppb		98
42) 2,2,4-trimethylpentane	12.37	57	174719	1.05	ppb		97
43) Heptane	12.71	43	55886	1.06	ppb		96
44) Trichloroethene	12.84	130	79766	1.22	ppb		99
45) 1,2-dichloropropane	12.95	63	56109	1.11	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040918.D Vial: 18
Acq On : 9 Apr 2020 11:29 pm Operator: RJP
Sample : ALCS1UGD-040920 Inst : MSD #1
Misc : A311_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 13 11:53:48 2020 Quant Results File: A320_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Mar 23 08:34:44 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Bromodichloromethane	13.28	83	136904	1.00	ppb		100
47)	cis-1,3-dichloropropene	14.10	75	86952	1.08	ppb		98
48)	trans-1,3-dichloropropene	14.87	75	63928	1.00	ppb		99
49)	1,1,2-trichloroethane	15.20	97	73903	1.12	ppb		99
51)	Toluene	14.96	92	88514	1.07	ppb		99
52)	Methyl Isobutyl Ketone	14.01	43	68870	0.93	ppb		99
53)	Dibromochloromethane	15.93	129	131273	0.95	ppb		100
54)	Methyl Butyl Ketone	15.38	43	64262	1.02	ppb		99
55)	1,2-dibromoethane	16.20	107	110003	1.10	ppb		98
56)	Tetrachloroethylene	16.02	164	80611	1.14	ppb		99
57)	Chlorobenzene	17.05	112	140211	1.06	ppb		99
58)	Ethylbenzene	17.32	91	176558	0.99	ppb		99
59)	m&p-xylene	17.53	91	328435	2.14	ppb		99
60)	Nonane	17.94	43	82847	1.05	ppb		100
61)	Styrene	17.99	104	139510	1.16	ppb		95
62)	Bromoform	18.11	173	105883	0.80	ppb		100
63)	o-xylene	18.03	91	207087	1.12	ppb		100
64)	Cumene	18.62	105	202279	1.02	ppb		100
66)	1,1,2,2-tetrachloroethane	18.50	83	160607	1.12	ppb		100
67)	Propylbenzene	19.21	120	54607	1.03	ppb		78
68)	2-Chlorotoluene	19.25	126	69017	1.15	ppb	#	88
69)	4-ethyltoluene	19.39	105	224448	1.07	ppb		100
70)	1,3,5-trimethylbenzene	19.46	105	223275	1.13	ppb		98
71)	1,2,4-trimethylbenzene	19.95	105	156396	0.97	ppb		100
72)	1,3-dichlorobenzene	20.28	146	146530	1.16	ppb		99
73)	benzyl chloride	20.35	91	117763	1.04	ppb		97
74)	1,4-dichlorobenzene	20.43	146	147378	1.19	ppb		98
75)	1,2,3-trimethylbenzene	20.47	105	191227	1.05	ppb		99
76)	1,2-dichlorobenzene	20.79	146	146454	1.14	ppb		100
77)	1,2,4-trichlorobenzene	23.04	180	52661	1.00	ppb		99
78)	Naphthalene	23.26	128	95974	0.86	ppb		98
79)	Hexachloro-1,3-butadiene	23.38	225	126032	1.12	ppb		93

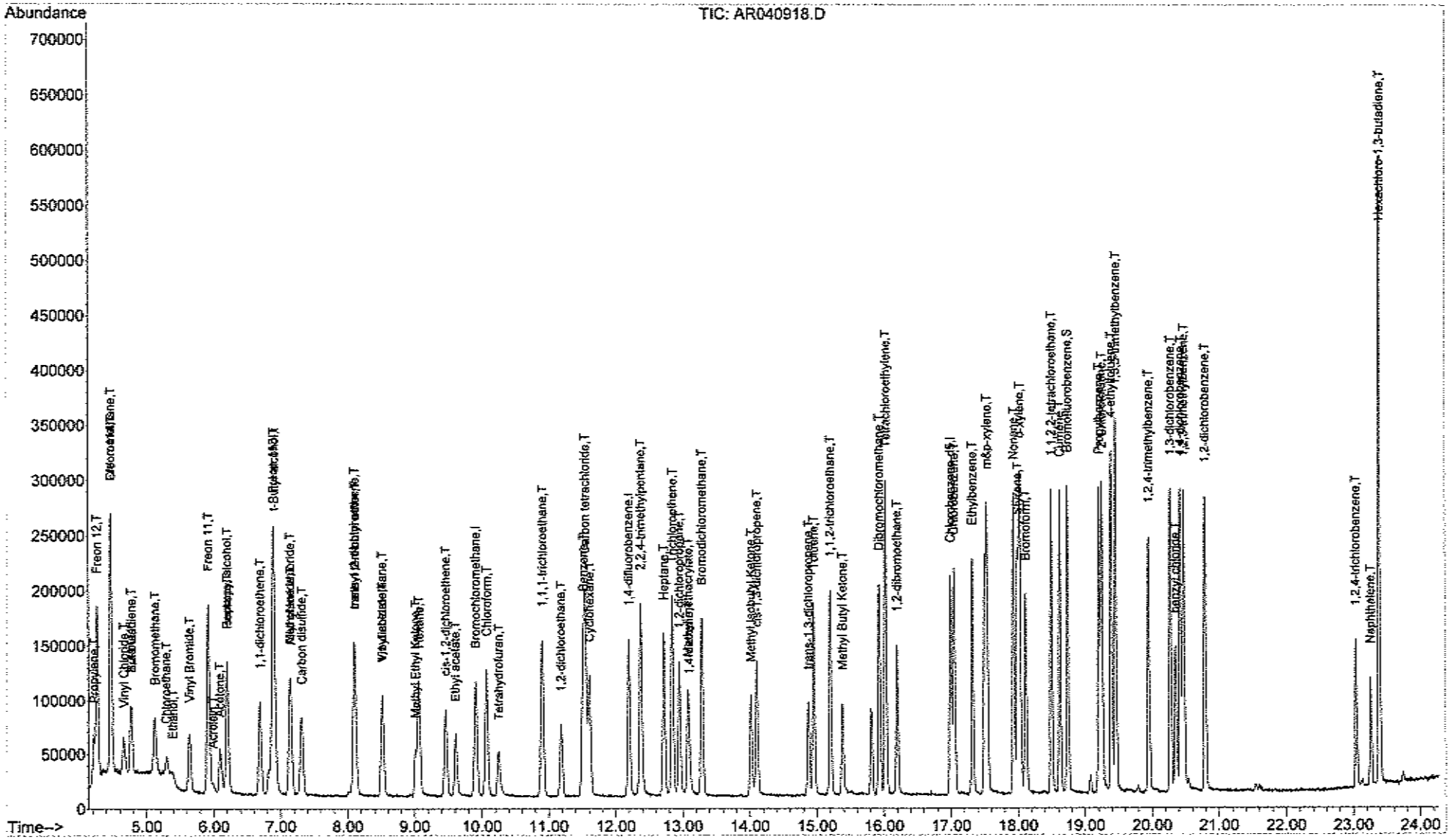
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AR040918.D
Acq On : 9 Apr 2020 11:29 pm
Sample : ALCS1UGD-040920
Misc : A311_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 14 9:59 2020

Vial: 18
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A320_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:38:02 2020
Response via : Initial Calibration



Centek Laboratories, LLC

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Centek Laboratories, LLC

Injection Log

Instrument # 1
Internal Standard Stock # A3729
Standard Stock # A3730
LCS Stock # A3731
Method Ref: EPA TO-15 / Jan. 1999

Directory: C:\HPCHEM\1\DATA

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
11	20	Ar040724.d	1.	C2004007	A311_1UG-003A 40x	8 Apr 2020 05:14
12	21	Ar040725.d	1.	C2004007-005A 10x	A311_1UG	8 Apr 2020 05:59
13	22	Ar040726.d	1.	C2004007-005A 40x	A311_1UG	8 Apr 2020 06:44
14	23	Ar040727.d	1.	C2004007	A311_1UG-004A 40x	8 Apr 2020 08:35
15	24	Ar040728.d	1.	C2004007-006A 40x	A311_1UG	8 Apr 2020 09:20
16		Ar040729.d	1.	No MS or GC data present		
17	1	Ar040901.d	1.	BFB1UG	A311_1UG	9 Apr 2020 09:06
18	2	Ar040902.d	1.	A1UG_1.0	A311_1UG	9 Apr 2020 09:56
19	3	Ar040903.d	1.	ALCS1UG-040920	A311_1UG	9 Apr 2020 10:44
20	4	Ar040904.d	1.	AMB1UG-040920	A311_1UG	9 Apr 2020 11:26
21	5	Ar040905.d	1.	C2004007-002A 81X	A311_1UG	9 Apr 2020 12:12
22	6	Ar040906.d	1.	C2004007-002A 810X	A311_1UG	9 Apr 2020 12:58
23	7	Ar040907.d	1.	C2004007-004A RE	A311_1UG	9 Apr 2020 13:46
24	8	Ar040908.d	1.	C2004007-001A 90X	A311_1UG	9 Apr 2020 14:52
25	9	Ar040909.d	1.	C2004007-003A RE	A311_1UG	9 Apr 2020 15:39
26	10	Ar040910.d	1.	C2004010-001A	A311_1UG	9 Apr 2020 16:26
27	11	Ar040911.d	1.	C2004011-002A	A311_1UG	9 Apr 2020 17:29
28	12	Ar040912.d	1.	C2004011-004A	A311_1UG	9 Apr 2020 18:46
29	13	Ar040913.d	1.	C2004011-006A	A311_1UG	9 Apr 2020 19:33
30	14	Ar040914.d	1.	C2004011-007A	A311_1UG	9 Apr 2020 20:21
31	15	Ar040915.d	1.	C2004011-001A	A311_1UG	9 Apr 2020 21:08
32	16	Ar040916.d	1.	C2004011-003A	A311_1UG	9 Apr 2020 21:55
33	17	Ar040917.d	1.	C2004011-005A	A311_1UG	9 Apr 2020 22:42
34	18	Ar040918.d	1.	ALCS1UGD-040920	A311_1UG	9 Apr 2020 23:29
35	19	Ar040919.d	1.	C2004010-001A 10x	A311_1UG	10 Apr 2020 00:14
36		Ar040920.d	1.	No MS or GC data present		
37	1	Ar041001.d	1.	BFB1UG	A311_1UG	10 Apr 2020 08:23
38	2	Ar041002.d	1.	A1UG	A311_1UG	10 Apr 2020 09:10
39	3	Ar041003.d	1.	ALCS1UG-041020	A311_1UG	10 Apr 2020 10:05
40	4	Ar041004.d	1.	AMB1UG-041020	A311_1UG	10 Apr 2020 10:47
41	5	Ar041005.d	1.	C2004011-004A	A311_1UG	10 Apr 2020 11:34
42	6	Ar041006.d	1.	C2004011-001A 9X	A311_1UG	10 Apr 2020 12:21
43	5	Ar041007.d	1.	C2004011-001A 90X	A311_1UG	10 Apr 2020 14:01
44	1	Ar041008.d	1.		A311_1UG	10 Apr 2020 15:01
45	2	Ar041009.d	1.	C2004011-002A 90X	A311_1UG	10 Apr 2020 15:47
46	3	Ar041010.d	1.	C2004011-004A 10X	A311_1UG	10 Apr 2020 16:33
47	4	Ar041011.d	1.	C2004011-004A 40X	A311_1UG	10 Apr 2020 17:18
48	5	Ar041012.d	1.	C2004011-006A 10X	A311_1UG	10 Apr 2020 18:03
49	6	Ar041013.d	1.	C2004011-006A 40X	A311_1UG	10 Apr 2020 18:48
50	8	Ar041014.d	1.	C2004011-007A 10X	A311_1UG	10 Apr 2020 19:34
51	9	Ar041015.d	1.	C2004011-001A 729X	A311_1UG	10 Apr 2020 20:22
52	10	Ar041016.d	1.	C2004011-001A 7290X	A311_1UG	10 Apr 2020 21:08
53	11	Ar041017.d	1.	C2004011-003A 10X	A311_1UG	10 Apr 2020 21:54
54	12	Ar041018.d	1.	C2004011-003A 40X	A311_1UG	10 Apr 2020 22:39
55	13	Ar041019.d	1.	C2004011-005A 10X	A311_1UG	10 Apr 2020 23:25
56	14	Ar041020.d	1.	C2004011-005A 40X	A311_1UG	11 Apr 2020 00:10
57	15	Ar041021.d	1.	ALCS1UGD-041020	A311_1UG	11 Apr 2020 00:57
58		Ar041301.d	1.	No MS or GC data present		
59	2	Ar041302.d	1.	BFB1UG	A311_1UG	13 Apr 2020 09:37

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-3505	12/3/19	12/10/19	TO15 SULF	A2573	1 ppm	1.5	30	50	WD	
A-3506			↓ H2S	A2572	10.2 ppm	1.47	30	500		
A-3507			TO15 1ug IS	A3498	50 ppb	0.9	45	1		
A-3508			STD	A3499						
A-3509			LCS	A3500						
A-3510	12/10/19	12/17/19	TO15 IS	A2927	1 ppm	1.5	30	50	WD	
A-3511			STD	A2928						
A-3512			LCS	A2929						
A-3513			4PCH	A3305	1.029 ppm	1.46	30	50		
A-3514			4PCHS	A3513	50 ppb	3.0	30	5		
A-3515			FORM	A2926	10.8 ppm	0.21	45	50		
A-3516			SILOX	A2574 / A2633	499 ppb / 500 ppb	3.34 / 3.0	30	50		
A-3517			SULF	A2573	1 ppm	1.5	30	50		
A-3518			H2S	A2572	10.2 ppm	1.47	30	500		
A-3519			H2S25	A3518	500 ppb	1.5	30	25		
A-3520			TO15 1ug IS	A3510	50 ppb	0.9	45	1		
A-3521			STD	A3511						
A-3522			LCS	A3512						
A-3523	11/20/19	11/20/2020	TO15 IS	FF-5014		LINDE	2000 psig	1.0 ppm	LL	
A-3524	12/03/19	12/03/2020	TO15 STD	FF-1174		LINDE	2200 psig	1.0 ppm	LL	
A-3525	12/17/19	12/24/19	TO15 IS	A3523	1 ppm	1.5	30	50	WD	

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GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd
A-3715	3/31/20	4/7/20	T015 SULF	A2573	1 ppm	1.5	30	50	WD	
A-3716			H2S	A2572	10.2 ppm	1.47	30	500		
A-3717			T015 14G IS	A3708	50 ppb	0.9	45	1		
A-3718			STD	A3709						
A-3719			LCS	A3710						
A-3720	4/7/20	4/14/20	T015 IS	A3523	1 ppm	1.5	30	50	WD	
A-3721			STD	A3621						
A-3722			LCS	A3658						
A-3723			4PCH	A3305	1.029 ppm	1.46	30	50		
A-3724			4PCHS	A3723	50 ppb	3.0	30	5		
A-3725			FORM	A2926	10.8 ppm	0.21	45	50		
A-3726			SILOX	A2574 / A2623	449 ppb / 500 ppb	3.34 / 3.0	30	50		
A-3727			SULF	A2573	1 ppm	1.5	30	50		
A-3728			H2S	A2572	10.2 ppm	1.47	30	500		
A-3729			T015 14G IS	A3720	50 ppb	0.9	45	1		
A-3730			STD	A3721						
A-3731			LCS	A3722						
A-										
A-										
A-										
A-										

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Centek Laboratories, LLC

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

QC Canister Cleaning Logbook

Centek Laboratories, LLC

Instrument: Entech 3100

Canister Number	Canister Size	QC Can Number	# of Cycles	Int & Date Cleaned	QC Batch Number	Detection Limits	Leak Test 24hr Int & Date		
210	1L	360	20	3/6/20	WAC030920A	1/g +0.20	+ 30	+ 30	3/10/20
1180							+ 30	+	
93							+ 30	+	
130							+ 30	+	
360							+ 30	+	
1184		1191				B	+ 30	+	
352							+ 30	+	
358							+ 30	+	
544							+ 30	+	
1191							+ 30	+	
353		351				C	+ 30	+	
539							+ 30	+	
239							+ 30	+	
207							+ 30	+	
351							+ 30	+	
287		141				D	+ 30	+	
1174							+ 30	+	
1177							+ 30	+	
1190							+ 30	+	
141							+ 30	+	
106		274				F	+ 30	+	
541							+ 30	+	
157							+ 30	+	
243							+ 30	+	
274									

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Form C151

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2\AR030921.D Vial: 4
Acq On : 10 Mar 2020 1:49 am Operator: RJP
Sample : WAC030920D Inst : MSD #1
Misc : A218_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 06:35:08 2020 Quant Results File: A218_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A218_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Feb 18 17:28:19 2020
Response via : Initial Calibration
DataAcq Meth : 1UG_ENT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.95	128	39108	1.00 ppb	0.02
35) 1,4-difluorobenzene	12.23	114	100950	1.00 ppb	0.02
50) Chlorobenzene-d5	17.02	117	80616m	1.00 ppb	0.01

System Monitoring Compounds

65) Bromofluorobenzene	18.77	95	41194m M	0.74 ppb	0.01

Spiked Amount 1.000 Range 70 - 130 Recovery = 74.00%

Target Compounds Qvalue

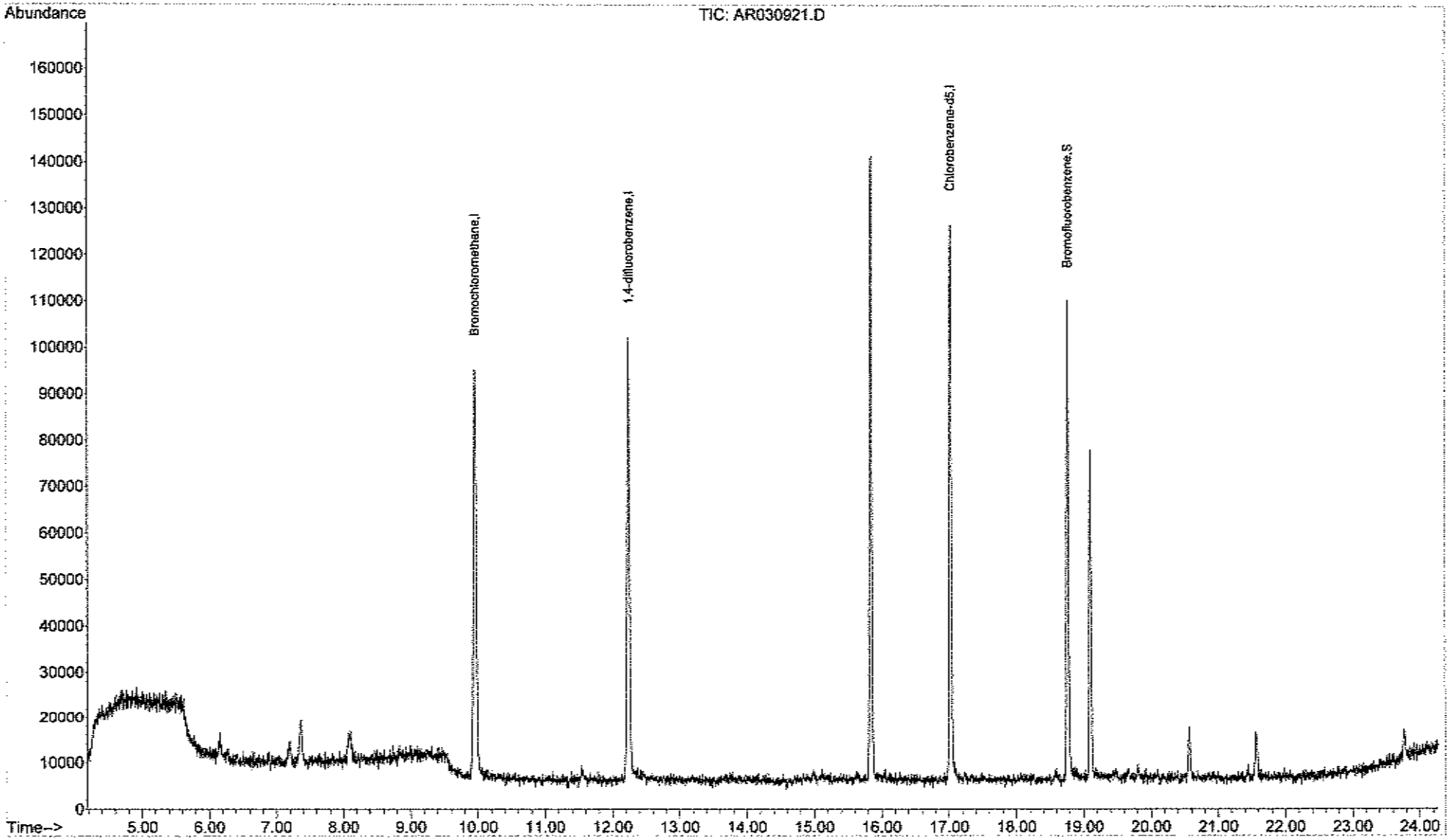
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2\AR030921.D
Acq On : 10 Mar 2020 1:49 am
Sample : WAC030920D
Misc : A218_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 11 13:32 2020

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A218_1UG.RES

Method : C:\HPCHEM\1\METHODS\A320_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Apr 17 11:00:38 2020
Response via : Initial Calibration



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