

# Screening Level Vapor Intrusion Assessment Report

# Former Franklin Power Products 400 Forsythe Street Indianapolis, Indiana

# State Cleanup Site No. 0000807

April 27, 2020 SMA Project No. HH187004A

Prepared By:

St. John-Mittelhauser & Associates, Inc., A Terracon Company 1401 Branding Avenue, Suite 315 Downers Grove, Illinois 60515



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#### 1.0 INTRODUCTION

St. John – Mittelhauser & Associates (SMA), a Terracon Company, has prepared this *Screening Level Vapor Intrusion Assessment Report* for the Former Franklin Power Products Facility located at 400 Forsythe Street, Franklin, Indiana (the Site). A Site Vicinity Map is provided as Figure 1. This document summarizes sampling methodologies and results of paired indoor air / sub-slab sampling performed within the Site building by SMA between March 11 and 13, 2020. Outside temperatures during the sampling event, which was conducted on March 13, 2020, were recorded to range between 43° and 48°F, which constitutes conditions considered representative of the winter heating season. Sampling was conducted during the day with all building windows closed and heating systems in operation.

#### 2.0 SITE DESCRIPTION AND SAMPLING RATIONALE

The Site property consists of an irregular shaped parcel totaling approximately 11.4 acres. The property currently contains one building totaling approximately 104,700 ft<sup>2</sup> and is constructed with a slab on grade foundation. A small pre-fabricated building is also present east of the main building at the north end of the property. The main building encompasses approximately 20% of the total footprint of the Site, with the remaining ground cover being asphalt, gravel, or vegetation. The building slab is approximately 6-inches thick and ceiling heights vary between 10 and approximately 30 feet.

The objective of the sampling activities was to screen for the potential for vapor intrusion (VI) in occupied portions of the Site building that are not currently used for warehouse space, and is a follow up to the sampling performed by Keramida Inc. in 2018.

#### 3.0 INVESTIGATION METHODS

#### 3.1 PRE-SAMPLING SURVEYS

A survey of the building was performed on March 11, 2020, prior to initiating sampling activities, in order to identify potential indoor sources of volatile organic compounds (VOCs) that may interfere with an accurate assessment of potential VI and to identify sampling locations. This



inventory of chemical storage containers identified to be present during the time of the sampling. The results of this pre-sampling survey are documented in the Indoor Air Building Survey Checklist provided as Appendix A. Identified chemicals within the building were found to include various cleaning agents, latex-based paints, spray paints and soaps. SMA found no evidence of the storage of chemicals containing constituents of potential concern (COPCs) historically documented in soil and groundwater beneath and in the vicinity of the Site property.

#### 3.2 SUB-SLAB SOIL GAS SAMPLE COLLECTION

A total of eight sub-slab sampling ports (SS-1 through SS-8) were installed within the Site building on March 11, 2020, at the approximate locations shown in Figure 2. Each sampling port was installed using a rotary hammer drill to create a 5/8-inch diameter hole through the concrete slab, approximately 2-inches into the underlying fill material. The hole was then re-drilled with a 1.5inch diameter drill bit approximately 1.75-inches into the slab. A Vapor Pin sampling port was then installed in the borehole and sealed with a silicon sleeve. The sampling ports were capped following installation, and their integrity confirmed through water dam leak testing. Note that sampling point SS-8 was shifted slightly south of the southern wall of the Powerhouse Athletics tenant space due to issues drilling through the slab to the north of the wall. The area immediately north of the wall corresponds to two loading docks. The concrete floor slab in this area is presumed to be reinforced.

Prior to sample collection on March 13, 2020, each sampling port was purged of approximately three internal volumes (~30 mL) using a plastic syringe. The sampling ports were then connected to 6-liter Summa canisters fitted with 8-hour flow regulators using 0.187-inch ID Teflon tubing. The sampling train also included an isolation valve adjacent to the sampling port; a three-way valve connected to an in-line hand pump, and vacuum gauge between the sampling port and Summa Canister. All connections between the Summa canisters, flow regulators and valving were secured with appropriate Swagelok fittings. The connections between sample tubing and sampling ports were made using short sections of Tygon R-3063 tubing as a bridge. Prior to sample collection, a shut-in test was performed at each location to confirm the airtightness of the fittings between the sample probe and Summa canister. The tests were performed by shutting the isolation valve adjacent to the sample port and using a hand pump to achieve an induced vacuum of 30-inches of water head within the sample train. The vacuum was then monitored for



a minimum of 1-minute to confirm that it remained steady. Following the shut-in tests, samples were collected and submitted to Envision Laboratories in Indianapolis, Indiana for analysis of VOCs using USEPA Test Method TO-15.

It is of note that field personnel suspended the collection of sub-slab sample SS-4 approximately three hours into the sample collection. The initial vacuum measured in the Summa canister for this sample was noted to be 8-inches Hg, indicating the canister had leaked prior to the initiation of sampling.

#### 3.3 INDOOR AIR SAMPLE COLLECTION

A total of eight indoor air samples (IA-1 through IA-8) were collected concurrently with the subslab samples discussed in Section 3.2. Each sample was collected from commonly occupied areas using 6-liter Summa canisters fitted with regulators to withdraw time-integrated samples over an 8-hour time period. All connections between the Summa canisters and flow regulators were secured with laboratory-provided Swagelok fittings. The samples were submitted to Envision Laboratories in Indianapolis, Indiana under chain of custody protocols for analysis of VOCs using USEPA Test Method TO-15.

One duplicate sample was initially planned to be performed in conjunction with sample IA-3; however, the initial vacuum measured in the Summa canister for this sample was noted to be 18-inches Hg (compared to an anticipated 28 to 30-inches Hg), indicating the canister had leaked prior to the initiation of sampling. The primary objective of the collection of the duplicate sample was the evaluation of variance and reproducibility during sample collection and analysis. As discussed in Section 4.0, there were no VOCs detected in any indoor air sample collected during the investigation. Therefore, the variance and reproducibility during sample collection and analysis is not in question.

#### 3.4 AMBIENT AIR SAMPLE COLLECTION

One outdoor, ambient air sample was collected concurrently with other investigation samples by placing a 6-L Summa canister at a location determined to be upwind of the facility over the course of the investigation (see Figure 2). The sample was collected using a 6-liter Summa canister



fitted with a laboratory provided regulator to withdraw a time-integrated sample over an 8-hour time period. All connections between the Summa canisters and flow regulators were secured with laboratory-provided Swagelok fittings. The sample was submitted to Envision Laboratories in Indianapolis, Indiana under chain of custody protocols for analysis of VOCs using USEPA Test Method TO-15.

#### 4.0 SAMPLING RESULTS

Laboratory analytical results from the March 2020 vapor intrusion screening sampling are provided as Table 1, and are summarized in Figure 2. In addition, the laboratory analytical report is provided in Appendix B. The analytical results are broken down into two general categories: 1) analytical results obtained from sub-slab locations, and 2) analytical results obtained from locations representative of breathing air (both indoor and outdoor air).

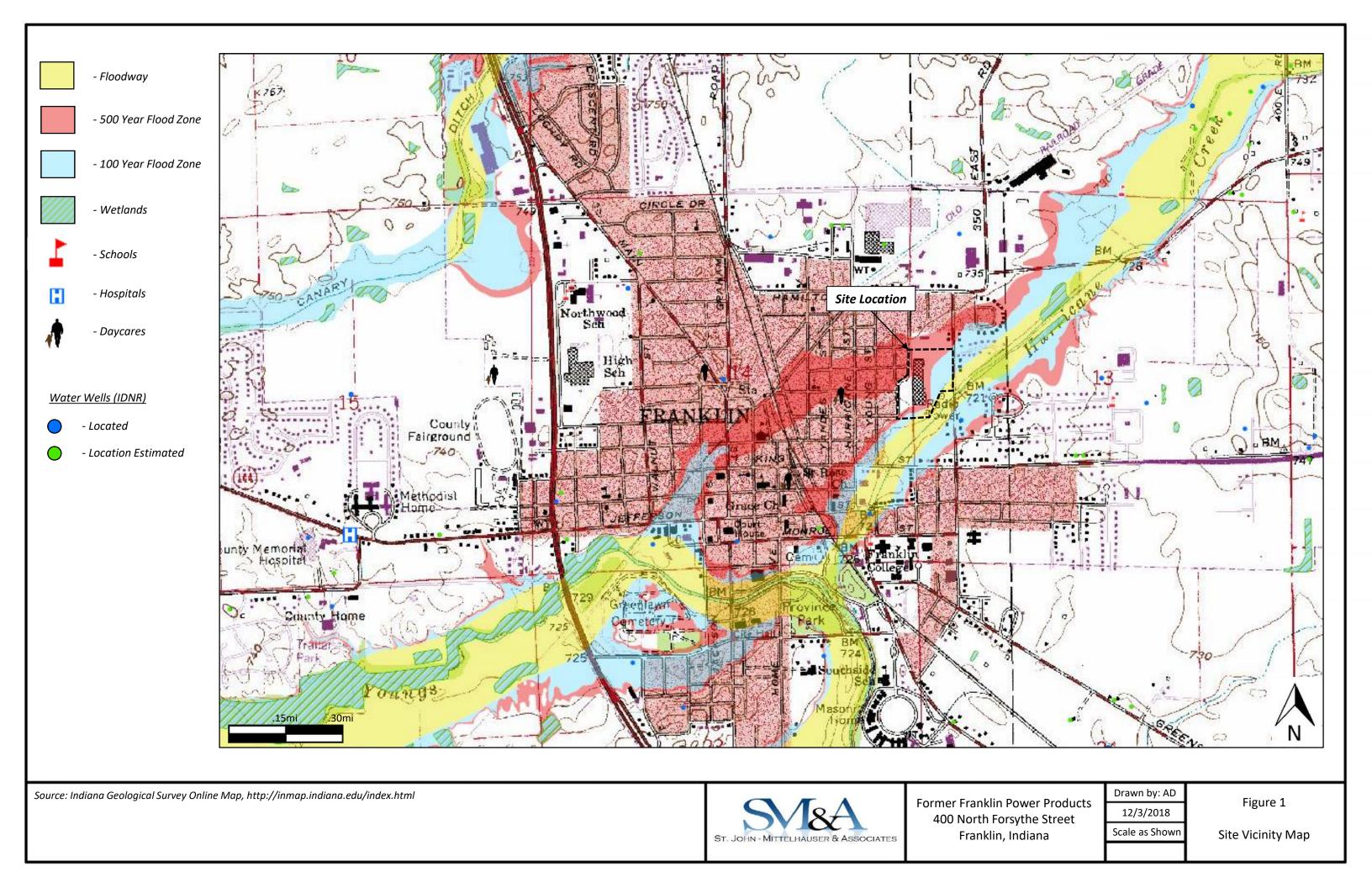
The sampling results indicated the presence tetrachloroethylene (PCE) and trichloroethylene (TCE) at concentrations exceeding laboratory quantification limits in three of the seven sub-slab samples collected during the sampling event; however, neither constituent was detected at concentrations exceeding either residential or commercial/industrial sub-slab screening levels outlined in the Indiana Department of Environmental Management's (IDEM) *Remediation Closure Guide* (RCG; updated March 2020) and *Attenuation Factors* Guidance Document (dated September 29, 2016). There were no detections of any VOCs in indoor air samples.

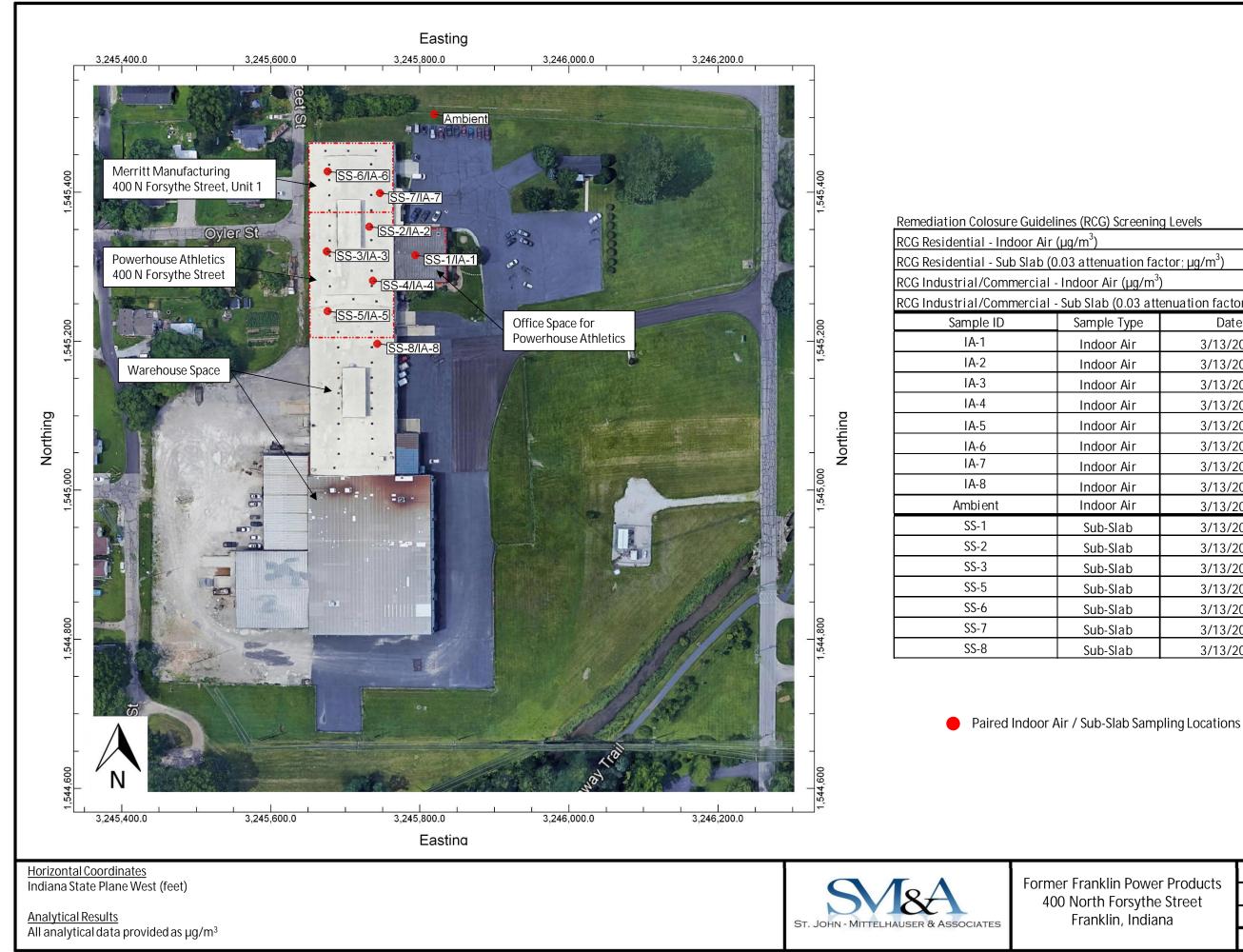
#### 5.0 CONCLUSION AND RECOMMENDATIONS

Paired sub-slab and indoor air sampling conducted in the Site building in March 2020 indicate all VOCs were below both residential and commercial/industrial screening levels outlined in the IDEM's RCG. Consistent with guidance set forth in the RCG, SMA recommends an additional round of paired sub-slab and indoor air sampling in the summer months, which, along with the winter sampling conducted in March 2020, are considered to represent conditions most favorable for vapor intrusion.



FIGURES





reenin	g Levels	Tetrachloroethylene	Trichloroethylene
		42	2.1
ion fa	ctor; µg/m³)	<u>1400</u>	<u>70</u>
µg/m³	)	180	8.8
	enuation factor; µg/m <sup>3</sup> )	<u>6000</u>	<u>293.3</u>
уре	Date		
١r	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
Nir	3/13/2020	<3.19	<1.07
b	3/13/2020	<3.19	28.5
b	3/13/2020	<3.19	<1.07
b	3/13/2020	36.7	<1.07
b	3/13/2020	<3.19	<1.07
b	3/13/2020	<3.19	<1.07
b	3/13/2020	8.82	<1.07
b	3/13/2020	<3.19	<1.07

Dower Droducts	Drawn by: AD	Figure 2
Power Products sythe Street	4/9/2020	J
Indiana	Scale as Shown	
		Sample Results



TABLES

Table 1. Vapor Intrusion Screening Results (ug/m<sup>3</sup>) Former Franklin Power Products Facility 400 N. Forsythe Street, Franklin, Indiana (Attenuation Factors for Standard Buildings)

Remediation Colosure Guidel	ines (RCG)		Tetrachloroethylene	Trichloroethylene
RCG Residential - Indoor Air (µ	ıg/m³)		42	2.1
RCG Residential - Sub Slab (0.0	03 attenuation factor	r; μg/m³)	1400	<u>70</u>
RCG Industrial/Commercial - I	ndoor Air (µg/m <sup>3</sup> )		180	8.8
RCG Industrial/Commercial - S		, U	<u>6000</u>	<u>293.3</u>
Sample ID	Sample Type	Date		
IA-1	Indoor Air	3/13/2020	<3.19	<1.07
IA-2	Indoor Air	3/13/2020	<3.19	<1.07
IA-3	Indoor Air	3/13/2020	<3.19	<1.07
IA-4	Indoor Air	3/13/2020	<3.19	<1.07
IA-5	Indoor Air	3/13/2020	<3.19	<1.07
IA-6	Indoor Air	3/13/2020	<3.19	<1.07
IA-7	Indoor Air	3/13/2020	<3.19	<1.07
IA-8	Indoor Air	3/13/2020	<3.19	<1.07
Ambient	Indoor Air	3/13/2020	<3.19	<1.07
SS-1	Sub-Slab	3/13/2020	<3.19	28.5
SS-2	Sub-Slab	3/13/2020	<3.19	<1.07
SS-3	Sub-Slab	3/13/2020	36.7	<1.07
SS-5	Sub-Slab	3/13/2020	<3.19	<1.07
SS-6	Sub-Slab	3/13/2020	<3.19	<1.07
SS-7	Sub-Slab	3/13/2020	8.82	<1.07
	300-3100	5/15/2020	0.02	<1.07



APPENDIX A

Prepared by: Scott Hoppel (SmA) March 11, 2020

# Vapor Intrusion Investigation Documentation

Part I: General Information

Complete Pai	rt I for each sampling event (may	v involve multiple stru	ctures)			
Release	For Known Source(s):					
	Site Name FPP		Site Number			
	400 Forsythe	St				
	Franklin, In	)				
	Source not known					
Chemicals	Check all that apply:					
	Chlorinated solvents 🗆 Petroleu	🕅 Chlorinated solvents 🗆 Petroleum hydrocarbons 🗖 Unknown				
	$\Box$ Other (specify):					
Rationale	Condition(s) prompting investigation	Condition(s) prompting investigation (check all that apply):				
	□ Odor complaint					
	Ground water contamination lev	els (from offsit	e)			
	□ Soil contamination levels	n for potentia	l UI in occupied partim r used for wavehouse space			
	Other (specify): j + ine s	it puilding no	+ used for wavehouse Space			
Weather	Precipitation $\leq 12$ hours prior to sat	npling? 🛛 Yes 🖾 No	-			
	Outside temperature range: 43	°F to 48 °F				
Personnel	Sampler(s)	Affiliation	Telephone			
	SLOTH Happel	SMA	317-229-6680			
	Preparer	Affiliation	Telephone			
	Stot H Happe	Sm				
	Laboratory:	2///7				
	-					
	Enulsian Air					

#### Vapor Intrusion Investigation Documentation

Part II: General Structure Characteristics and Sampling Information

Complete a se	🗆 Residential 🖾 Non-residential 🗆 Multi-unit	Year Constructed: 1940	
	Floors at/above grade:	Ceiling Height (feet): 20 +	
	Sensitive population? No D Yes ( <i>specify</i> ):	Coming Height (loct).	
	Surrounding area:  Bare soil/Vegetation  Imperv	ious Mixed	
	$\Box$ Basement $\Box$ Crawl space $\bigotimes$ Slab on grade $\Box$ Con		
Basement	Depth of basement floor below ground surface (feet)		
if applicable)	Basement area: $ft^2$		
	Floor is Dirt/stones Slab Other (specify):		
	Walls are $\Box$ Block $\Box$ Poured $\Box$ Other ( <i>specify</i> ):		
	Floor sealed?  Yes  No	Walls sealed? □ Yes □ No	
	Sump?  Yes  No	Water in sump?  Yes  No	
	Floor cracks? 🗆 Yes 🗆 No	Wall cracks? 🗆 Yes 🗆 No	
leating	System type (check all that apply):	L	
-	$\square$ Hot air circulation $\square$ Hot air radiation $\square$ Steam radiation $\square$ Wood		
	$\square$ Heat number $\square$ Hot water radiation $\square$ Kerosene $\square$	Electric baseboard	
	$\Box$ Heat pump $\Box$ Hot water radiation $\Box$ Kerosene $\Box$	Electric baseboard	
	□ Heat pump □ Hot water radiation □ Kerosene □ □ Other ( <i>specify</i> ):	Electric baseboard	
		Electric baseboard	
	□ Other ( <i>specify</i> ): Fuel type ( <i>check all that apply</i> ):		
	□ Other ( <i>specify</i> ): Fuel type ( <i>check all that apply</i> ): ▼Natural gas □ Electric □ Oil □ Wood □ Coal □		
~	<ul> <li>□ Other (specify):</li> <li>Fuel type (check all that apply):</li> <li>▶ Natural gas □ Electric □ Oil □ Wood □ Coal □</li> <li>□ Other (specify):</li> </ul>	Kerosene	
Dther	□ Other ( <i>specify</i> ): Fuel type ( <i>check all that apply</i> ): ▼Natural gas □ Electric □ Oil □ Wood □ Coal □		
)ther	<ul> <li>□ Other (specify):</li> <li>Fuel type (check all that apply):</li> <li>▶ Natural gas □ Electric □ Oil □ Wood □ Coal □</li> <li>□ Other (specify):</li> </ul>	Kerosene	
Dther	<ul> <li>□ Other (specify):</li> <li>Fuel type (check all that apply):</li> <li>▼Anatural gas □ Electric □ Oil □ Wood □ Coal □</li> <li>□ Other (specify):</li> <li>Whole house fan? ¥ Yes □ No</li> </ul>	Kerosene Septic? 🗆 Yes 🗶 No	
)ther	□ Other (specify): Fuel type (check all that apply): XNatural gas □ Electric □ Oil □ Wood □ Coal □ □ Other (specify): Whole house fan? XYes □ No Well? □ Yes No Sub-slab vapor/moisture barrier? □ Yes □ No A Do	Kerosene Septic? 🗆 Yes 🗶 No	
Dther	□ Other (specify): Fuel type (check all that apply): ANatural gas □ Electric □ Oil □ Wood □ Coal □ □ Other (specify): Whole house fan? X Yes □ No Well? □ Yes X No	Kerosene Septic? 🗆 Yes 🗶 No	
)ther	□ Other (specify): Fuel type (check all that apply): XNatural gas □ Electric □ Oil □ Wood □ Coal □ □ Other (specify): Whole house fan? XYes □ No Well? □ Yes No Sub-slab vapor/moisture barrier? □ Yes □ No A Do	Kerosene Septic? 🗆 Yes 🗶 No	

Complete a separate Part II for each structure

0	Fisure	2				
Dee	1 Sure					
		×				
		×				
		×				
	Transl	Floor	Duran			
ID	Type <sup>1</sup>	Floor	Room	Vol (mL)	Time (hrs)	Method <sup>2</sup>

Part II: Structure Characteristics and Sampling Information continued

<sup>1</sup> IA = indoor air SS = sub-slab SGe = exterior soil gas CS = crawl space NS = near-slab exterior <sup>2</sup> TO-14A; TO-15; TO-15SIM; TO-17; Other (specify)

### Vapor Intrusion Investigation Documentation

Part III: Indoor Air Background Investigation

Complete a separate Part III for any structure with suspected background source

#### Structure address:

Potential background contaminant(s):

□ Yes	No	Do structure occupants smoke? Not in building
□ Yes	<b>₩</b> No	If yes, last time someone smoked in structure: Garage attached to living space? If yes, is a vehicle usually parked in the garage?
□ Yes	<b>K</b> No	If yes, how often:
□ Yes	No	If yes, last time newly dry cleaned clothes brought home: Occupants use solvents at place of employment? If yes, what types:
□ Yes	<b>D</b> No	If yes, are their clothes washed away from home? Are pesticides applied in/around structure? If yes, which pesticides:
□ Yes	No	If yes, when: Has there ever been a fire in the structure? If yes, when:
□ Yes	No No	Painting or staining in the building in the last six months? If yes, when: If yes, which rooms:

### Vapor Intrusion Investigation Documentation

Part III: Indoor Air Background Investigation continued

Indoor Chemical Inventory

Potential Sources	Location(s)	Removed? Y/N/NA
Gasoline storage cans		
Gas powered equipment		
Kerosene storage cans	Gorcant (powerhouse small room)	N
Paint/thinner/stripper		
Cleaning solvents		
Oven cleaner		
Carpet/upholstery cleaner		
Other cleaning products		. 1
Moth balls	Household cleaning products	N
Polish/wax		
Insecticide		
Nail polish/polish remover		
Hairspray		
Cologne/perfume		
Air fresheners		
Indoor fuel tank		
Wood stove or fireplace		
New furniture/upholstery		
New carpeting/flooring		
Hobby chemicals: glues, paints, lacquers, darkroom chemicals, etc.	Paint	N
Scented trees, wreaths, potpourri, etc.		
Other		



**APPENDIX B** 



EnvisionAir 1441 Sadlier Circle West Drive Indianapolis, IN 46239 Ph: 317-351-0885 Fax: 317-351-0882 www.envision-air.com

Mr. Perre Burns St. John-Mittelhauser & Associates 8541 Bash Street Suite #102 Indianapolis, IN 46250

March 20, 2020

EnvisionAir Project Number: 2020-192 Client Project Name: Franklin

Dear Mr. Burns,

Please find the attached analytical report for the samples received March 13, 2020. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

tanty a. Munnicutt

Stan Hunnicutt

Project Manager EnvisionAir, LLC



Canister Pressure / Vacuum

#### Client Name: ST JOHN MITTELHAUSER

Project ID: FRANKLIN

Client Project Manager: PERRE BURNS

EnvisionAir Project Number: 2020-192

#### Sample Summary

#### START START Lab Initial Field Final Field Received Date Time End Date End Time Date Time Laboratory Sample Number: Sample Description: Matrix: Collected: Collected: Collected: Received: Received (in. Hg) (in. Hg) (in. Hg) 20-876 IA-1 3/13/20 5:49 3/13/20 13:43 3/13/20 15:20 -30 -9.5 -9.5 A 20-877 SS-1 3/13/20 5:48 3/13/20 13:44 3/13/20 15:20 -30 -7.5 -7.5 A 20-878 IA-2 А 3/13/20 5:56 3/13/20 13:47 3/13/20 15:20 -30 -8.5 -8.5 20-879 SS-2 3/13/20 5:55 3/13/20 13:48 3/13/20 15:20 -30 -8 A -8 20-880 IA-3 А 3/13/20 6:01 3/13/20 13:58 3/13/20 15:20 -29 -9 -9 -7 -7 20-881 SS-3 А 3/13/20 3/13/20 -28 6:00 14:00 3/13/20 15:20 20-882 IA-4 A 3/13/20 6:07 3/13/20 14:03 3/13/20 15:20 -28 -11 -11 20-884 IA-5 A 3/13/20 6:11 3/13/20 14:05 3/13/20 15:20 -30 -10 -10 20-885 SS-5 3/13/20 6:10 3/13/20 14:06 3/13/20 15:20 -30 -9 -9 A 20-886 IA-6 А 3/13/20 6:18 3/13/20 14:20 3/13/20 15:20 -30 -9.5 -9.5 20-887 SS-6 3/13/20 3/13/20 -7 -7 А 6:17 14:22 3/13/20 15:20 -30 3/13/20 -8 20-888 А 3/13/20 6:22 3/13/20 15:20 -30 -8 IA-7 14:24 20-889 SS-7 3/13/20 А 3/13/20 6:21 14:26 3/13/20 15:20 -29 -8 -8 20-890 IA-8 A 3/13/20 7:05 3/13/20 14:38 3/13/20 15:20 -28 -8 -8 20-891 SS-8 A 3/13/20 7:03 3/13/20 14:40 3/13/20 15:20 -29 -8 -8 20-892 AMBIENT 3/13/20 5:40 3/13/20 13:40 3/13/20 15:20 -30 -8 A -8



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-1
EnvisionAir Sample Number:	20-876

Sample Collection START Date/Time:	3/13/20	5:49
Sample Collection END Date/Time:	3/13/20	13:43
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro	•		
Analysis Date/Time:	3-17-20/06:10		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(2)
Client Sample ID:	SS-1
EnvisionAir Sample Number:	20-877

Sample Collection START Date/Time:	3/13/20	5:48
Sample Collection END Date/Time:	3/13/20	13:44
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	<u>Flag</u>
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m<sup>3</sup></u>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	28.5	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/20:48		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-2
EnvisionAir Sample Number:	20-878

Sample Collection START Date/Time:	3/13/20	5:56
Sample Collection END Date/Time:	3/13/20	13:47
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	Reporting Limit ug/m <sup>3</sup>	<u>Flag</u>
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	<u>Sample Results ug/m³</u>	Reporting Limit ug/m <sup>3</sup> Fla	<u>ag</u>
Chloroform	< 0.83	0.83	-
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/06:52		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(2)
Client Sample ID:	SS-2
EnvisionAir Sample Number:	20-879

Sample Collection START Date/Time:	3/13/20	5:55
Sample Collection END Date/Time:	3/13/20	13:48
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	<u>Flag</u>
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	<u>Sample Results ug/m³</u>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro	•		
Analysis Date/Time:	3-17-20/21:23		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-3
EnvisionAir Sample Number:	20-880

Sample Collection START Date/Time:	3/13/20	6:01
Sample Collection END Date/Time:	3/13/20	13:58
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m<sup>3</sup></u>	Flag
Chloroform	< 0.83	0.83	-
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/08:12		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(2)
Client Sample ID:	SS-3
EnvisionAir Sample Number:	20-881

Sample Collection START Date/Time:	3/13/20	6:00
Sample Collection END Date/Time:	3/13/20	14:00
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	36.7	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/21:56		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-4
EnvisionAir Sample Number:	20-882

Sample Collection START Date/Time:	3/13/20	6:07
Sample Collection END Date/Time:	3/13/20	14:03
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/09:37		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-5
EnvisionAir Sample Number:	20-884

Sample Collection START Date/Time:	3/13/20	6:11
Sample Collection END Date/Time:	3/13/20	14:05
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	-
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/10:19		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(2)
Client Sample ID:	SS-5
EnvisionAir Sample Number:	20-885

Sample Collection START Date/Time:	3/13/20	6:10
Sample Collection END Date/Time:	3/13/20	14:06
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	<u>Flag</u>
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19 <u>.</u> 8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/22:30		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-6

EnvisionAir Sample Number:

Sample Matrix:

Sample Collection START Date/Time:	3/13/20	6:18
Sample Collection END Date/Time:	3/13/20	14:20
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	

20-886



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m<sup>3</sup></u>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/12:46		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(2)
Client Sample ID:	SS-6
EnvisionAir Sample Number:	20-887

Sample Collection START Date/Time:	3/13/20	6:17
Sample Collection END Date/Time:	3/13/20	14:22
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro	•		
Analysis Date/Time:	3-17-20/23:04		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-7
EnvisionAir Sample Number:	20-888

Sample Collection START Date/Time:	3/13/20	6:22
Sample Collection END Date/Time:	3/13/20	14:24
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/13:26		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(2)
Client Sample ID:	SS-7
EnvisionAir Sample Number:	20-889

Sample Collection START Date/Time:	3/13/20	6:21
Sample Collection END Date/Time:	3/13/20	14:26
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	<u>Flag</u>
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m<sup>3</sup></u>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	8.82	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro	•		
Analysis Date/Time:	3-17-20/23:39		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	IA-8
EnvisionAir Sample Number:	20-890

Sample Collection START Date/Time:	3/13/20	7:05
Sample Collection END Date/Time:	3/13/20	14:38
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	Flag
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m³</u>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-17-20/14:08		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER		
Project ID:	FRANKLIN		
Client Project Manager:	PERRE BURNS		
EnvisionAir Project Number:	2020-192		
Analytical Method: Analytical Batch:	TO-15 031620CAIR		
Client Sample ID:	SS-8		
EnvisionAir Sample Number: Sample Matrix:	20-891 AIR		

Sample Collection START Date/Time:	3/13/20	7:03
Sample Collection END Date/Time:	3/13/20	14:40
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
4-Ethyltoluene	< 492	492	-
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m<sup>3</sup></u>	Flag
Chloroform	< 0.83	0.83	_
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro			
Analysis Date/Time:	3-18-20/00:12		
Analyst Initials	tjg		



Client Name:	ST JOHN-MITTELHAUSER
Project ID:	FRANKLIN
Client Project Manager:	PERRE BURNS
EnvisionAir Project Number:	2020-192
Analytical Method: Analytical Batch:	TO-15 031620CAIR(1)
Client Sample ID:	AMBIENT
EnvisionAir Sample Number: Sample Matrix:	20-892 AIR

Sample Collection START Date/Time:	3/13/20	5:40
Sample Collection END Date/Time:	3/13/20	13:40
Sample Received Date/Time:	3/13/20	15:20

<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	Reporting Limit ug/m <sup>3</sup>	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



<u>Compounds</u>	Sample Results ug/m <sup>3</sup>	<u>Reporting Limit ug/m<sup>3</sup></u>	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
Naphthalene	< 0.524	0.524	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surro	•		
Analysis Date/Time:	3-17-20/02:40		
Analyst Initials	tjg		



Analytical Report

## **TO-15 Quality Control Data**

EnvisionAir Batch Number:	031620CAIR(1)		
Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	<u>Flags</u>
4-Ethyltoluene	< 100	100	
4-Methyl-2-pentanone (MIBK)	< 500	500	
1,1,1-Trichloroethane	< 100	100	
1,1,2,2-Tetrachloroethane	< 0.049	0.049	1
1,1,2-Trichloroethane	< 0.038	0.038	1
1,1-Dichloroethane	< 1	1	
1,1-Dichloroethene	< 50	50	
1,2,4-Trichlorobenzene	< 0.1	0.1	
1,2,4-Trimethylbenzene	< 1	1	
1,2-dibromoethane (EDB)	< 0.0041	0.0041	1
1,2-Dichlorobenzene	< 10	10	
1,2-Dichloroethane	< 0.1	0.1	
1,2-Dichloropropane	< 0.1	0.1	
1,3,5-Trimethylbenzene	< 1	1	
1,3-Butadiene	< 0.1	0.1	
1,3-Dichlorobenzene	< 10	10	
1,4-Dichlorobenzene	< 0.1	0.1	
1,4-Dioxane	< 0.5	0.5	
2-Butanone (MEK)	< 1000	1000	
2-Hexanone	< 5	5	
Acetone	< 1000	1000	
Benzene	< 0.5	0.5	
Benzyl Chloride	< 0.08	0.08	1
Bromodichloromethane	< 0.08	0.08	1
Bromoform	< 1	1	
Bromomethane	< 1	1	
Carbon Disulfide	< 100	100	
Carbon Tetrachloride	< 0.1	0.1	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
Chloroform	< 0.17	0.17	
Chloromethane	< 10	10	
cis-1,2-Dichloroethene	< 5	5	
cis-1,3-Dichloropropene	< 1	1	
Cyclohexane	< 1600	1600	
Dibromochloromethane	< 0.1	0.1	
Dichlorodifluoromethane	< 10	10	
Ethyl Acetate	< 15	15	
Ethylbenzene	< 2	2	
Hexachloro-1,3-butadiene	< 0.1	0.1	
Isooctane	< 100	100	
m,p-Xylene	< 10	10	
Methylene Chloride	< 12	12	
Methyl-tert-butyl ether	< 10	10	
N-Heptane	< 100	100	
N-Hexane	< 50	50	
Naphthalene	< 0.1	0.1	
o-Xylene	< 10	10	
Propylene	< 100	100	
Styrene	< 100	100	
Tetrachloroethene	< 0.47	0.47	
Tetrahydrofuran	< 100	100	



### Analytical Report

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	Reporting Limit (ppbv)	<u>Flags</u>
Toluene	< 1000	1000	
trans-1,2-Dichloroethene	< 10	10	
trans-1,3-Dichloropropene	< 1	1	
Trichloroethene	< 0.2	0.2	
Trichlorofluoromethane	< 100	100	
Vinyl Acetate	< 50	50	
Vinyl Bromide	< 0.1	0.1	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	100%		
Analysis Date/Time:	3-16-20/22:50		
Analyst Initials	tjg		

			LCS/D		LCSD		
LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	Conc(ppbv)	Rec.	Rec.	<u>RPD</u>	Flag
Propylene	9.4	11	10	94%	110%	15.7%	
Dichlorodifluoromethane	9.23	9.78	10	92%	98%	5.8%	
Chloromethane	9.22	9.95	10	92%	100%	7.6%	
Vinyl Chloride	10.5	10	10	105%	100%	4.9%	
1,3-Butadiene	9.78	10.3	10	98%	103%	5.2%	
Bromomethane	9.22	10.3	10	92%	103%	11.1%	
Chloroethane	9.95	10.5	10	100%	105%	5.4%	
Vinyl Bromide	9.94	11.2	10	99%	112%	11.9%	
Trichlorofluoromethane	9.93	11.2	10	99%	112%	12.0%	
Acetone	9.28	9.38	10	93%	94%	1.1%	
1,1-Dichloroethene	10.5	11.1	10	105%	111%	5.6%	
Methylene Chloride	10.2	10.6	10	102%	106%	3.8%	
Carbon Disulfide	10.5	10.7	10	105%	107%	1.9%	
trans-1,2-Dichloroethene	10.1	10.1	10	101%	101%	0.0%	
Methyl-tert-butyl ether	10.1	9.9	10	101%	99%	2.0%	
1,1-Dichloroethane	10.1	10.4	10	101%	104%	2.9%	
Vinyl Acetate	9.26	9.82	10	93%	98%	5.9%	
N-Hexane	9.94	10.4	10	99%	104%	4.5%	
2-Butanone (MEK)	9.79	10.1	10	98%	101%	3.1%	
cis-1,2-Dichloroethene	10	10.4	10	100%	104%	3.9%	
Ethyl Acetate	9.8	9.94	10	98%	99%	1.4%	
Chloroform	10.1	10.6	10	101%	106%	4.8%	
Tetrahydrofuran	10.6	9.86	10	106%	99%	7.2%	
1,2-Dichloroethane	9.74	9.09	10	97%	91%	6.9%	
1,1,1-Trichloroethane	10	8.96	10	100%	90%	11.0%	
Carbon Tetrachloride	10.5	9.37	10	105%	94%	11.4%	
Benzene	11.2	9.92	10	112%	99%	12.1%	
Cyclohexane	11.6	10.2	10	116%	102%	12.8%	
1,2-Dichloropropane	10.9	9.7	10	109%	97%	11.7%	
Trichloroethene	11	9.71	10	110%	97%	12.5%	
Bromodichloromethane	9.96	8.88	10	100%	89%	11.5%	
1.4-Dioxane	11	8.59	10	110%	86%	24.6%	2
Isooctane	10.6	9.68	10	106%	97%	9.1%	
N-Heptane	10.4	9.27	10	104%	93%	11.5%	
cis-1,3-Dichloropropene	10.9	9.73	10	109%	97%	11.3%	
4-Methyl-2-pentanone (MIBK)	11.3	10.1	10	113%	101%	11.2%	
trans-1,3-Dichloropropene	10.6	9.68	10	106%	97%	9.1%	
1,1,2-Trichloroethane	10.2	9.45	10	102%	95%	7.6%	
Toluene	11	10.1	10	110%	101%	8.5%	
2-Hexanone	10	8.91	10	100%	89%	11.5%	
Dibromochloromethane	9.73	9.63	10	97%	96%	1.0%	
1,2-dibromoethane (EDB)	10.8	10.6	10	108%	106%	1.9%	
Tetrachloroethene	10.0	9.76	10	101%	98%	3.4%	
Chlorobenzene	9.6	9.46	10	96%	95%	1.5%	
Ethylbenzene	10.9	10.8	10	109%	108%	0.9%	
m,p-Xylene	20.5	20.1	20	103%	100 %	2.0%	
Bromoform	20.5 9.95	9.72	10	100%	97%	2.3%	
Diomolorm	3.35	5.72	10	10070	51 /0	2.0/0	



EnvisionAir 1441 Sadlier Circle West Drive Indianapolis, IN 46239 Ph: 317-351-0885 Fax: 317-351-0882 www.envision-air.com

## Analytical Report

			LCS/D	LCS	LCSD		
LCS/LCSD	<u>LCS Results (ppbv)</u>	LCSD Results (ppbv)	<u>Conc(ppbv)</u>	Rec.	Rec.	<u>RPD</u>	<u>Flag</u>
Styrene	10.4	10.3	10	104%	103%	1.0%	
1,1,2,2-Tetrachloroethane	9.68	9.94	10	97%	99%	2.7%	
o-Xylene	10	10.3	10	100%	103%	3.0%	
4-Ethyltoluene	10.8	10.9	10	108%	109%	0.9%	
1,3,5-Trimethylbenzene	10.1	9.99	10	101%	100%	1.1%	
1,2,4-Trimethylbenzene	10.7	10.7	10	107%	107%	0.0%	
1,3-Dichlorobenzene	10.9	11.1	10	109%	111%	1.8%	
Benzyl Chloride	9.81	9.45	10	98%	95%	3.7%	
1,4-Dichlorobenzene	8.94	8.81	10	89%	88%	1.5%	
1,2-Dichlorobenzene	9.41	9.56	10	94%	96%	1.6%	
1,2,4-Trichlorobenzene	8.8	9.25	10	88%	93%	5.0%	
Hexachloro-1,3-butadiene	9.26	8.78	10	93%	88%	5.3%	
Naphthalene	9.11	9.94	10	91%	99%	8.7%	
4-bromofluorobenzene (surrogate)	113%	116%					
Analysis Date/Time:	3-16-20/22:39	3-17-20/01:21					
Analyst Initials	tjg	tjg					



Analytical Report

## **TO-15 Quality Control Data**

EnvisionAir Batch Number:	031620CAIR(2)		
Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
4-Ethyltoluene	< 100	100	
4-Methyl-2-pentanone (MIBK)	< 500	500	
1,1,1-Trichloroethane	< 100	100	
1,1,2,2-Tetrachloroethane	< 0.049	0.049	1
1,1,2-Trichloroethane	< 0.038	0.038	1
1,1-Dichloroethane	< 1	1	
1,1-Dichloroethene	< 50	50	
1,2,4-Trichlorobenzene	< 0.1	0.1	
1,2,4-Trimethylbenzene	< 1	1	
1,2-dibromoethane (EDB)	< 0.0041	0.0041	1
1,2-Dichlorobenzene	< 10	10	
1,2-Dichloroethane	< 0.1	0.1	
1,2-Dichloropropane	< 0.1	0.1	
1,3,5-Trimethylbenzene	< 1	1	
1,3-Butadiene	< 0.1	0.1	
1,3-Dichlorobenzene	< 10	10	
1,4-Dichlorobenzene	< 0.1	0.1	
1,4-Dioxane	< 0.5	0.5	
2-Butanone (MEK)	< 1000	1000	
2-Hexanone	< 5	5	
Acetone	< 1000	1000	
Benzene	< 0.5	0.5	
Benzyl Chloride	< 0.08	0.08	1
Bromodichloromethane	< 0.08	0.08	1
Bromoform	< 1	1	
Bromomethane	< 1	1	
Carbon Disulfide	< 100	100	
Carbon Tetrachloride	< 0.1	0.1	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
Chloroform	< 0.17	0.17	
Chloromethane	< 10	10	
cis-1,2-Dichloroethene	< 5	5	
cis-1,3-Dichloropropene	< 1	1	
Cyclohexane	< 1600	1600	
Dibromochloromethane	< 0.1	0.1	
Dichlorodifluoromethane	< 10	10	
Ethyl Acetate	< 15	15	
Ethylbenzene	< 2	2	
Hexachloro-1,3-butadiene	< 0.1	0.1	
Isooctane	< 100	100	
m,p-Xylene	< 10	10	
Methylene Chloride	< 12	12	
Methyl-tert-butyl ether	< 10	10	
N-Heptane	< 100	100	
N-Hexane	< 50	50	
Naphthalene	< 0.1	0.1	
o-Xylene	< 10	10	
Propylene	< 100	100	
Styrene	< 100	100	
Tetrachloroethene	< 0.47	0.47	
Tetrahydrofuran	< 100	100	



### Analytical Report

<u>Method Blank (MB):</u>	MB Results (ppbv)	Reporting Limit (ppbv)	<u>Flags</u>
Toluene	< 1000	1000	
trans-1,2-Dichloroethene	< 10	10	
trans-1,3-Dichloropropene	< 1	1	
Trichloroethene	< 0.2	0.2	
Trichlorofluoromethane	< 100	100	
Vinyl Acetate	< 50	50	
Vinyl Bromide	< 0.1	0.1	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	92%		
Analysis Date/Time:	3-17-20/18:53		
Analyst Initials	tjg		

			LCS/D		LCSD		
LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	<u>Conc(ppbv)</u>	<u>Rec.</u>	<u>Rec.</u>	<u>RPD</u>	Flag
Propylene	9.94	9.78	10	99%	98%	1.6%	
Dichlorodifluoromethane	10.7	10.9	10	107%	109%	1.9%	
Chloromethane	8.28	8.93	10	83%	89%	7.6%	
Vinyl Chloride	9.12	9.28	10	91%	93%	1.7%	
1,3-Butadiene	9.28	8.33	10	93%	83%	10.8%	
Bromomethane	9.23	9.45	10	92%	95%	2.4%	
Chloroethane	8.84	8.99	10	88%	90%	1.7%	
Vinyl Bromide	10.7	10.8	10	107%	108%	0.9%	
Trichlorofluoromethane	11	10.5	10	110%	105%	4.7%	
Acetone	9.43	9.46	10	94%	95%	0.3%	
1,1-Dichloroethene	10.5	10.5	10	105%	105%	0.0%	
Methylene Chloride	10.2	9.29	10	102%	93%	9.3%	
Carbon Disulfide	10.2	9.47	10	102%	95%	7.4%	
trans-1,2-Dichloroethene	9.53	9.5	10	95%	95%	0.3%	
Methyl-tert-butyl ether	9.49	9.9	10	95%	99%	4.2%	
1,1-Dichloroethane	9.68	9.87	10	97%	99%	1.9%	
Vinyl Acetate	8.69	8.21	10	87%	82%	5.7%	
N-Hexane	9.34	9.72	10	93%	97%	4.0%	
2-Butanone (MEK)	9.02	8.92	10	90%	89%	1.1%	
cis-1,2-Dichloroethene	9.75	9.78	10	98%	98%	0.3%	
Ethyl Acetate	9.18	9.51	10	92%	95%	3.5%	
Chloroform	10.2	10.4	10	102%	104%	1.9%	
Tetrahydrofuran	8.49	8.55	10	85%	86%	0.7%	
1,2-Dichloroethane	8.87	9.14	10	89%	91%	3.0%	
1,1,1-Trichloroethane	9.09	9.35	10	91%	94%	2.8%	
Carbon Tetrachloride	9.82	10.2	10	98%	102%	3.8%	
Benzene	9.57	9.7	10	96%	97%	1.3%	
Cyclohexane	9.44	9.68	10	94%	97%	2.5%	
1,2-Dichloropropane	9.23	9.49	10	92%	95%	2.8%	
Trichloroethene	9.64	9.81	10	96%	98%	1.7%	
Bromodichloromethane	8.86	9.24	10	89%	92%	4.2%	
1,4-Dioxane	9.02	8.29	10	90%	83%	8.4%	
Isooctane	9.14	9.4	10	91%	94%	2.8%	
N-Heptane	8.67	8.81	10	87%	88%	1.6%	
cis-1,3-Dichloropropene	9.84	10.1	10	98%	101%	2.6%	
4-Methyl-2-pentanone (MIBK)	9.09	9.44	10	91%	94%	3.8%	
trans-1,3-Dichloropropene	9.49	9.74	10	95%	97%	2.6%	
1,1,2-Trichloroethane	9.46	9.78	10	95%	98%	3.3%	
Toluene	10	10.3	10	100%	103%	3.0%	
2-Hexanone	9.32	8.73	10	93%	87%	6.5%	
Dibromochloromethane	9.15	9.32	10	92%	93%	1.8%	
1,2-dibromoethane (EDB)	9.67	9.81	10	97%	98%	1.4%	
Tetrachloroethene	9.7	9.89	10	97%	99%	1.9%	
Chlorobenzene	8.81	9.01	10	88%	90%	2.2%	
Ethylbenzene	10.1	10.3	10	101%	103%	2.0%	
m,p-Xylene	19	19.2	20	95%	96%	1.0%	
Bromoform	9.74	10	10	97%	100%	2.6%	
					-	-	



EnvisionAir 1441 Sadlier Circle West Drive Indianapolis, IN 46239 Ph: 317-351-0885 Fax: 317-351-0882 www.envision-air.com

## Analytical Report

			LCS/D	LCS	LCSD		
LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	Conc(ppbv)	Rec.	Rec.	<u>RPD</u>	Flag
Styrene	9.72	9.79	10	97%	98%	0.7%	
1,1,2,2-Tetrachloroethane	9.49	9.57	10	95%	96%	0.8%	
o-Xylene	9.6	9.89	10	96%	99%	3.0%	
4-Ethyltoluene	11.2	11	10	112%	110%	1.8%	
1,3,5-Trimethylbenzene	9.92	10.2	10	99%	102%	2.8%	
1,2,4-Trimethylbenzene	11	11.1	10	110%	111%	0.9%	
1,3-Dichlorobenzene	10.9	11	10	109%	110%	0.9%	
Benzyl Chloride	9.11	9.45	10	91%	95%	3.7%	
1,4-Dichlorobenzene	9.46	8.92	10	95%	89%	5.9%	
1,2-Dichlorobenzene	10.2	10.4	10	102%	104%	1.9%	
1,2,4-Trichlorobenzene	11	10.9	10	110%	109%	0.9%	
Hexachloro-1,3-butadiene	10.5	10.3	10	105%	103%	1.9%	
Naphthalene	10.9	10.6	10	109%	106%	2.8%	
4-bromofluorobenzene (surrogate)	98%	99%					
Analysis Date/Time:	3-17-20/19:38	3-17-20/20:15					
Analyst Initials	tjg	tjg					



## Flag Number

## <u>Comments</u>

1 2 Reporting limit is supported by MDL. TJG RPD is biased high, but recoveries are within control. TJG 3/18/20

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10-816	5.6-	5,6	30	11080	14115			×	h51 02	3-13-	64:5	3-13-20	626	TA-1	
EnvisionAir Sample Number	Lab Received (in. Hg)	Final Field (in. Hg)	Initial Field (in. Hg)	Flow Controller Serial #	Canister Serial #			<b>₫ō</b> -	Le Coll.	Coll. Date	Coll. Time	Coll. Date	Media Type	Air Sample ID	
	Vacuum	Canister Pressure / Vacuum	Canister .	Indoor-Air:			10.13		on Tube	0 = 1 Liter Canister 0 = 6 Liter Canister = Tediar Bag = Thermal Desorption Tube	3386	Media type:	bus, days)	Desired TAT: (Please Circle One) 1 day 2 days 3 days (Std (5	De 1 d
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CHAIN OF CUSTODY RECORD

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# 2020-192



# <u>TO-15 VOC</u>

• Sequence Log

## Injection Log

### C:\HPCHEM\1\DATA\031620C Directory:

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Line	Vial FileName	Multiplier	SampleName	Misc Info		Injected
1 2 3 4 5 6 7 8 9	1 0101001.D 2 0201002.D 3 0301003.D 4 0401004.D 5 0501005.D 6 0601006.D 7 0701007.D 8 0801008.D 9 0901009.D	1. 1. 1. 1. 1. 1.	BFB/10PPBV TO-15 ICAL 0.05PPBV TO-15 ICAL 0.10PPBV TO-15 ICAL 0.5PPBV TO-15 ICAL 1PPBV TO-15 ICAL 2PPBV TO-15 ICAL 5PPBV TO-15 ICAL 10PPBV TO-15 ICAL 20PPBV TO-15 ICAL	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC		16 Mar 2020 14:23 16 Mar 2020 15:03 16 Mar 2020 15:49 16 Mar 2020 16:31 16 Mar 2020 17:16 16 Mar 2020 17:55 16 Mar 2020 18:37 16 Mar 2020 19:22 16 Mar 2020 20:15
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Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
55 56 57 58 59 60 61 62 63	55 56 57 58 59 60 61 62 63	5501055.D 5601056.D 5701057.D 5801058.D 5901059.D 6001060.D 6101061.D 6201001.D 6301002.D	1. 1. 1. 1. 1. 1.	20-895 20-896 20-897 20-898 20-899 20-882 CONFIRMATION 20-895 CONFIRMATION LCSDD-10PPBV 20-899	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	18 Mar 2020 03:01 18 Mar 2020 03:34 18 Mar 2020 04:07 18 Mar 2020 04:40 18 Mar 2020 05:14 18 Mar 2020 05:51 18 Mar 2020 06:24 18 Mar 2020 07:06 18 Mar 2020 07:38
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1915年19日の全部部 - 1911年	•	1879-35555 1877-3851 1773-757 1875-385 1971-385 1981 1881 1881 1971 1981 1981 1981 1971 197	) () () () () () () () () () () () () ()			18 Mer 201年 33 1 18 Mer 201年 33 1 18 Mer 2010 32 4 18 Mer 2010 34 7 18 Mer 2010 34 7 18 Mer 2010 34 7 18 Mer 2010 34 1 18 Mer 2010 34 1 18 Mer 2010 34 1 18 Mer 2010 35 3 18 M
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# <u>TO-15 VOC</u> Initial Calibration Data

## • Tune

- Initial Calibration Summary
- Initial Calibration Quant Reports
- Initial Calibration Verification Summary

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## Directory: C:\HPCHEM\1\DATA\031620C

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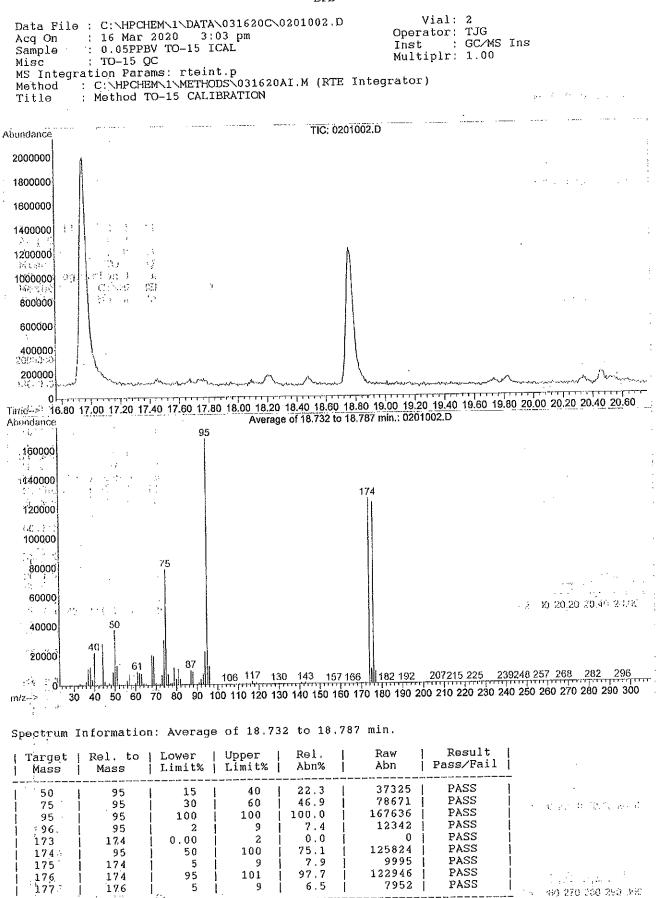
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Line Vial FileName Multiplier	SampleName	Misc Info	Injected
1       1       0101001.D       1.         2       2       0201002.D       1.         3       3       0301003.D       1.         4       4       0401004.D       1.         5       5       0501005.D       1.         6       6       0601006.D       1.         7       7       0701007.D       1.         8       8       0801008.D       1.         9       9       0901009.D       1.	BFB/10PPBV TO-15 ICAL 0.05PPBV TO-15 ICAL 0.10PPBV TO-15 ICAL 0.5PPBV TO-15 ICAL 1PPBV TO-15 ICAL 2PPBV TO-15 ICAL 5PPBV TO-15 ICAL 10PPBV TO-15 ICAL 20PPBV TO-15 ICAL	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	16 Mar 2020 14:23 16 Mar 2020 15:03 16 Mar 2020 15:49 16 Mar 2020 16:31 16 Mar 2020 17:16 16 Mar 2020 17:55 16 Mar 2020 18:37 16 Mar 2020 19:22 16 Mar 2020 20:15
10 10 월1001010.D (이상위) 11 11 1101011.D 1.	20PPBV TO-15 ICAL BFB/CCV 10PPBV TO-15 ICAL RR	TO-15 QC	16 Mar 2020 21:07
1210       1211       1201012.D       M41       M41         13       13       1301013.D       1.         14       14       1401014.D       1.         15       15       15010118.D       1.         16       16       16010118.D       1.         16       16       16010118.D       1.         17       17       17010118.D       1.         18       18       18010118.D       1.         19       19       19010119.D       1.	10PPBV TO-15 ICV/LCS CSI-16025 METHOD BLANK CSI-91444 LCSD-10PPBV 20-870 OA 20-892 AA 20-871	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	16 Mar 2020 21:53 te Mar 2020 22:39 16 Mar 2020 23:14 16 Mar 2020 23:50 17 Mar 2020 05:35 17 Mar 2020 05:29 17 Mar 2020 05:29 17 Mar 2020 02:40 17 Mar 2020 03:22 16 Mar 2020 13: 7
20       20       2001020.D.       1         21       21       2101021.D.       1         22       22       2201022.D.       1         23       23       2301023.D.       1         24       24       2401024.D.       1         25       25       2501025.D.       1         26 <sup>11</sup> 26       2601026.D.       1         27       27       2701027.D.       1         28       28       2801028.D.       1	20-872 20-873 20-875 DUP 20-876 20-878 20-902 OA 20-880 LCSD-10PPBV 20-882 20-884	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	16 Mar 2020 18 7 17 Mar 2020 04:03 17 Mar 2020 04:46 17 Mar 2020 04:46 17 Mar 2020 06:10 17 Mar 2020 06:52 17 Mar 2020 06:52 17 Mar 2020 07:31 17 Mar 2020 08:12 17 Mar 2020 08:55 17 Mar 2020 08:55 17 Mar 2020 09:37 17 Mar 2020 10:19
30       30       3001030.D       1.         31       31       3101031.D       1.         32       32       3201032.D       1.         33       33       3301033.D       1.         34       34       3401034.D       1.         35       35       3501035.D       1.         36       36       3601035.D       1.         36       36       3601035.D       1.         36       36       3601036.D       1.         37       37       3701037.D       1.	20-880 RR CON CLEAN PORT CLEANOUT 20-886 20-888 20-890 20-874:10 LCSDD-10ppbv CSI-83841 LCSDDD 10ppbv BFB/CCV 10ppbv	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	17 Mar 2020 11:23 17 Mar 2020 12:05 17 Mar 2020 12:05 17 Mar 2020 13:26 17 Mar 2020 13:26 17 Mar 2020 14:08 17 Mar 2020 14:46 17 Mar 2020 16:15 17 Mar 2020 16:15 17 Mar 2020 17:00 17 Mar 2020 17:00
38       38       3801038.D       1.         39       3901039.D       1.         40       40       4001040.D       1.         41       41       4101041.D       1.         42       42       4201042.D       1.         43       43       4301043.D       1.         44       44       4401044.D       1.         45       45       4501045.D       1.         46       46       4601046.D       1.         47       47       4701047.D       1.         48       48       4801048.D       1.         49       49       4901049.D       1.	CSI-4652 METHOD BLANK LCS-10PPBV 20-877 SS's BEGIN 20-879 20-881 20-885 20-887 20-889	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	17 Mar 2020 18:18 17 Mar 2020 18:53 17 Mar 2020 18:53 17 Mar 2020 20:15 17 Mar 2020 20:15 17 Mar 2020 21:23 17 Mar 2020 21:56 17 Mar 2020 22:30 17 Mar 2020 23:04 17 Mar 2020 23:04
48       48       4801048.D       1.         49       49       4901049.D       1.         50       50       5001050.D       1.         51       51       5101051.D       1.         52       52       5201052.D       1.         53       53       5301053.D       1.         54       54       5401054.D       1.	20-891 20-902 OA 20-893 20-894 LCSD-10PPBV	TO-15 QC TO-15 QC TO-15 QC TO-15 QC TO-15 QC	18 Mar 2020 00:12 18 Mar 2020 00:44 18 Mar 2020 01:18 18 Mar 2020 01:51 18 Mar 2020 01:51 18 Mar 2020 02:28
	Page 1		29 Mar 2020 21 41 2 7 A 41 2 Page 50 of 152

Res	ponse Factor Report GC/MS Ins			
Method : C:\HPCHEM\1\M Fitle : Method TO-15 Last Update : Tue Mar 17 09 Response via : Initial Calib	9:49:17 2020			
Calibration Files	1 40101			
$\begin{array}{rcl} & 11010111.D & .5\\ & 2 & =0601006.D & 1 \end{array}$	=0401004.D 5 =0701007.D =0501005.D 20 =1001010.D			, ;
Compound	10 .5 5 2 1 20	Avg %RSD	· :	:
<pre>2) T Propylene 3) T Dichlorodifluoromet 4) T Chloromethane 5) T Vinyl Chloride 6) T 1,3-Butadiene 7) T Bromomethane 8) T Vinyl Bromide 0) T Trichlorofluorometh 1) T Acétone 2) Isépřépyl Alcohol ( 3) T,1-Dichloroethene 4) T Methylene Chloride 5) T Carbén Disulfide 6) T trans-1,2-Dichloroe 7) T Methyl-tert-butyl e 8) T Vinyl Acétate 6) T N-Héxané 1) T 2-Butanoné (MEK) 2) T cis-1,2-Dichloroethane</pre>	$ \begin{array}{c} I \\ \hline I \\ I \\$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
<ul> <li>(3) T Ethyl Acetate</li> <li>(4) T Chloroform</li> <li>(5) T 1.4-Difluorobenzene</li> <li>(6) T Tetrahydrofuran</li> <li>(7) T 1.2-Dichloroethane</li> <li>(8) T 1.4-Tichloroethane</li> </ul>	6.138 5.554 6.403 6.611 6.939 5.932 3.330 3.632 3.567 3.357 2.978 3.572 (ISTDISTD 0.539 0.659 0.501 0.525 0.529 0.541 0.474 0.455 0.427 0.448 0.514 0.514 0.606 0.741 0.573 0.592 0.585 0.662	6.228       7.40         3.391       6.65         .0.559       10.18         0.482       8.98         0.636       10.11	· · · · ·	
<ul> <li>1, 1-Dichleropropene</li> <li>T 1, 1-Dichleropropene</li> <li>T Cařbon Tetrachlorid</li> <li>T Benzene</li> <li>T Cyclohexane</li> <li>T 1, 2-Dichleropropane</li> <li>T Trichleroethene</li> <li>T Bromodichleromethan</li> <li>T 1, 4-Dioxane</li> <li>T 1, 4-Dioxane</li> <li>T 1, 5-Dichleropropane</li> <li>T 1, 4-Dioxane</li> <li>T 1, 4-Dioxane</li> <li>T 1, 5-Dichleropropane</li> <li>T 1, 4-Dioxane</li> <li>T 1, 3-Dichleropro</li> <li>T 1, 1, 2-Trichleroetha</li> <li>T 2-Hexanone</li> <li>T 2-Hexanone</li> </ul>	0,779 0.868 0.689 0.638 0.737 0.828 0.645 0.669 0.595 0.617 0.635 0.700 1.222 0.947 1.163 1.130 1.136 1.243 0.773 0.649 0.766 0.725 0.645 0.781 0.523 0.460 0.495 0.502 0.474 0.542 0.439 0.389 0.413 0.438 0.407 0.476 0.794 0.918 0.745 0.768 0.746 0.826 0.143 0.134 0.122 0.124 0.133 0.126 2.386 1.931 2.433 2.291 2.212 2.306 0.822 0.705 0.794 0.839 0.774 0.911 0.779 0.686 0.689 0.622 0.654 0.776 1.001 0.935 0.934 0.866 0.813 1.026 0.528 0.566 0.440 0.447 0.545 0.495 0.415 0.404 0.385 0.396 0.392 0.434 1.191 1.046 1.108 1.055 1.042 1.196 0.727 0.783 0.794 0.808 0.655 0.822	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		• • • •
<ul> <li>45) I Chlorobenzene-d5 (IS</li> <li>46) T Dibromochloromethan</li> <li>47) T 1,2-Dibromoethane (</li> <li>48) T Tetrachloroethene</li> <li>49) T Chlorobenzene</li> <li>50) T Ethylbenzene</li> <li>51) T m,p-Xylene</li> <li>52) T Bromoform</li> <li>53) T Styrene</li> <li>54) T 1,1,2,2-Tetrachloro</li> <li>55) T o-Xylene</li> <li>56) S 4-Bromofluorobenzen</li> <li>57) T 4-Ethyltoluene</li> <li>58) T 1,3,5-Trimethylbenz</li> <li>59) T 1,2,4-Trimethylbenz</li> <li>59) T 1,3-Dichlorobenzene</li> <li>61) T Benzyl Chloride</li> <li>62) T 1,4-Dichlorobenzene</li> </ul>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7 9 2 4 4 4 7 7 4 7 9 8 8 4 1 1 3 0	

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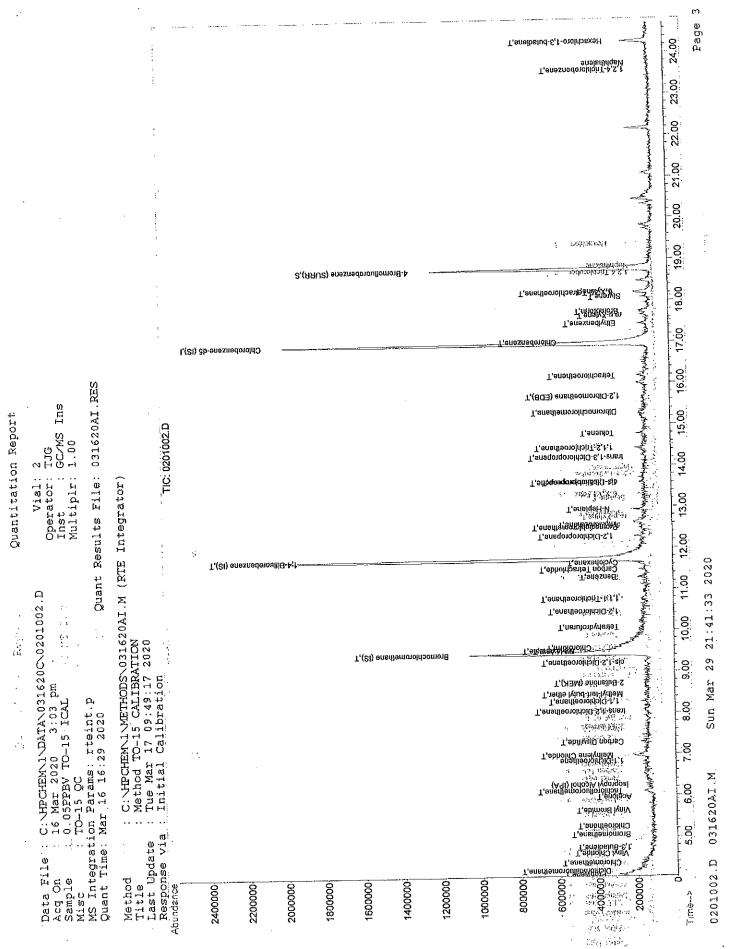
Quantitation Report Data File : C:\HPCHEM\1\DATA\031620C\0201002.D Acq On : 16 Mar 2020 3:03 pm Sample : 0.05PPBV TO-15 ICAL Misc : TO-15 QC Vial: 2 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00 Quant Results File: 031620AI,RES MS Integration Params: rteint p . Quant Time: Mar 16 16:29 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title: Method TO-15 CALIBRATIONLast Update: Mon Mar 02 10:20:05 2020Response via: Initial CalibrationDataAcq Meth: ENV05 . . R.T. QIon Response Conc Units Dev(Min) No. of the second 1) Bromochloromethane (IS) 9.42 128 764309 25) 1.4-Difluorobenzene (IS) 11.72 114 3103979 245) Chlorobenzene-d5 (IS) 16.95 117 2136266 5.00 ppbv -0.03 5,00 ppbv -0,02 System Moniforing Compounds 788828 4.33 ppbv -0.03 H456) 4-Bromeflüerobenzene (SURR 18.76 95 Recovery = 86.60% WE Spiked Amount - The 5:000 Range 62 - 145 Övalue Target Compounds Ge 2) Propylene 0.04 ppbv # 1 39 2691 4,07 93 0.07 ppbv 0.04 ppbv 4,16 44776 85 T: 3) Dichlorod Mfluoromethane 4.36 2237 4) (Childromethane 4 Re 5) Vinyl Chidride 50 0.05 ppbv 62 2551 4,59 1 3258 0.08 ppbv # L: 6) 1,34Butadlene 4.75 39 0.06 ppbv 0.07 ppbv # 3701 94 5,05 7) Bromomethane 1 1938 64 5.26 ) 8) Chloroethane 5.0 6.09 5.96 6.24 6.82 5.95 0.06 ppbv # 44 - 9)-Vinyl-Bromide 3702 106 0.07 ppbv 0.02 ppbv # 86 >y=vinyr=Bromide 10) Trishforoffuoromethane 11) Acetone 12) Isopropyl Alcohol (IPA) 13) 1.1-Dichloroethene 14) Methylene Chloride 15) Carbon Disulfide 15) Carbon Disulfide 16) Virging 1.2-Dichloroethene 46318 101 2942 39 43 0.03 ppbv 3704m 45 0.08 ppbv # 0.69 ppbv # 70 17870 61 76 49150 84 100 0.11 ppbv # 7,28 76 29396 0.02 ppbv # 0.05 ppbv 57 2985 15)Carbon Districte16)trans-1, 2-Dichloroethene8.0217)Methyl-tert-butyl ether8.4517)Methyl-tert-butyl ether8.27 96 16) trans-1, 2-Dichloroethene 19509m 73 59 0.13 ppbv # 34688 18) 1.1-Dichloroethane 20) N-Hexane 63 0.13 ppbv # 70 21064 9.51 57 207 N-Hexane 21) 2-Butanone (MEK) 0.02 ppbv # 0.04 ppbv # 65 4006 43 8.73 9.22 9.51 41 9284 61 - 22) cis-1,2-Dichloroethene 23) Ethyl Acetate 0,05 ppbv # 0,05 ppbv # 0.02 ppbv # 94 18086 43 82 24157 83 9,56 24) Chloroform 22 1851 26) Tetrahydrofuran 27) 1,2-Dichloroethane 10.07 42 25 0.01 ppbv # . . . . . . 10.46 10.76 62 4262 57 0.05 ppbv # 97 22343 28) 1;1;1-Trichloroethane 0.02 ppbv # 54 7299 75 28) 1,1-Dichlöropropené
30) Carbon Tetrachloride
31) Benzeñe
32) Cyclóhexane 13.59 0.03 ppbv # 87 117 18213 11,47 0.05 ppbv # 0.05 ppbv # 0.09 ppbv # 79 21253 78 11.28 59 9898 56 11.64 40 14875 63 12.28 33) 1.2-Dichloropropane 34) Trichloroethéne 0.05 ppbv # 64 11494 12.5612.5012.5395 0.06 ppbv # 0.01 ppbv # 89 29139 83 1 877 88 76 0.13 ppbv # 29827 43 0.02 ppbv # 7299 64 75 0.01 ppbv # 15 41) tràns-1,3-Dichloropropene14.2142) 1,1,2-Trichloroethane14.4443) Toluene14.79 3408 75 0.09 ppbv # 53 18405 83 0.06 ppbv # 92 42693 91 0.07 ppbv # 0.02 ppbv 80 29900 15.29 129 46) Dibromochloromethane 82 47) 1,2-Dibromoethane (EDB) 48) Tetrachloroethene 49) Chlorobenzene 107 4789 15,68 17356 0.05 ppbv 16.17 166 0.08 ppbv # 0.08 ppbv # 42 40) [hlorobenzene]
50) Ethylbenzene]
51) m.p-Xylene
52) Bromoform
53) Styrene
54) i 1 2 2-Tetrachloroethane 37842 17.01 112 90 49682 91 91 17.45 0.14 ppbv 0.07 ppbv # 33027 17.64 77 17.75 173 29633 9Ż 0.04 ppbv 15781 18,10 104 9Ġ 0.14 ppbv # 54)1,1,2,2-Tetrachloroethane18.198355)55)6-Xylene18.2210664)1,2,4-Trichlorobenzene23.57180 62135 78 0.06 ppbv # 13903 3683 5439 0.06 ppbv 64) 1,2,4-Trichlorobenzene 0.03 ppbv 23.74 128 65) Naphthalene \_\_\_\_\_

(QT Reviewed)

(#) = qualifier out of range (m) = manual integration 0201002.D 031620AI M Sun Mar 29 21:41:33 2020

Quant	itatio	n Repo	rt (QT	Reviewed)		
Data File : C:\HPCHEM\1\DATA\03162 Acq On : 16 Mar 2020 3:03 pm Sample : 0.05PPBV TO-15 ICAL Misc : TO-15 QC MS Integration Params: rteint.p Quant Time: Mar 16 16:29 2020		1002.E	Ope Ins Mul	Vial: 2 erator: TJG st : GC/MS ltiplr: 1.00 ts File: 0316		\$ s =
Quant Method : C:\HPCHEM\1\METHODS Title : Method TO-15 CALIBE Last Update : Mon Mar 02 10:20:05 Response via : Initial Calibration DataAcq Meth : ENV05	5 2020	20AI.M	(RTE Inte	grator)		t
	R.T.	QIon	Response	Conc Unit	Qvalue	
Compound	24.27			0.25 ppbv		
66) Hexachloro-1.3-butadiene					, (	
MS AND A CONTRACTOR						1 T
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Quantit	ation Repo	rt (QT Rev	iewed)	
			al: 3	
Data File : C:\HPCHEM\1\DATA\0316200		Operat	al: 3 cor: TJG : GC/MS Ins plr: 1.00 7410: 031620AL.RES	to the second
		Inst Multir	Jr: 1,00	ું સ્વ
Acq On : 16 Mar 2020 Sample : 0.10PPBV TO-15 ICAL Misc : TO-15 QC		MUTAT		
	Qı	iant Results H	7ile: 031620AL.RE	<ul> <li>All products</li> <li>All products</li> </ul>
Quant Time: Mar 17 8:47 2020				
Quant Method : C:\HPCHEM\1\METHODS\	031620AL,M	(RIE INVOGIO	,	
Quant Method : C. thousand CALIBRA Title : Method TO-15 CALIBRA Last Update : Tue Mar 17 08;31:44			•	
Response via : Initial Calibration				
		_	wither Dov/Min)	
Internal Standards	R.T. QION	Response Co	nc Units Dev(Min)	
	9.44 128		= 0.01	
1) Bromochloromethane (IS) 25) 1.4-Difluorobenzene (IS) 1.45) Chlorobenzene-d5 (IS)	11 73 114	3236919	5.00 ppbv 0.00 5.00 ppbv 0.00	n an airt a chuir an
25) 1,4-Diridorobenzene-d5 (1S)	16.96 117	2294696		
A. 20			3.39 ppbv 0.00	
System Monitoring Compounds M.56) 4-Bromofluorobenzene (SURR	18.76 95	1017645	= 5/.00%	
	e 62 - 14			والمتعارية المتعارية
人 古ち 王 臣 シネズム アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・ア			Qvalue	
Target Compounds Ou 2) PropyleneC: dec M Du 2) PropyleneC: dec M	4,07 39	<u>1</u> 6540 80550	Qvalue 0.12 ppbv 0.11 ppbv 9 0.11 ppbv 0.10 ppbv 0.10 ppbv 0.13 ppbv 0.10 ppbv	9
20 2) Propytene T: 3) Dichlorod14Luoromethane L: 4) Chloromethane	4,37 50	33158	0.11 ppbv	
Le 4) UCHIOROMETRARE	4.62 62	17525 7336	0.10 pppv 0.10 ppbv	
D: 6):1.3-Butadiene	4,79 39	22958.	0.13 ppbv	
7) Bromomethane	5.28 64			
T: 3) Dichlorodliflüoromethane Le 4) Chléromethane FL 5) Vinyl Chléride T: 6) 1, 3-Butadiené 7) Bromomethane 1 8) Chloroethane 9) Vinyl Bromide 10) Trichloroefluoromethane	5.65 106		0,11 ppbv	93
10) Trichlorofluoromethane	6,12 101	29109	0.10 ppbv	93
11) Acetone 12) Isopropyl Alcohol (IPA)	6.39 45 6.83 61	<b>- - - - - - - - -</b>	VITO PP~-	91
13) 1 1-Dichloroetnene	6.83 61 6.97 84	4 28219m	0.13 ppbv	99
14) Methylene Chloride 15) Carbon Disulfide	7.33 70		0.13 ppbv # 0.08 ppbv	
1 c) trans 1, 2-11 Chioroe meno	8,06 9 8,45 7		0.06 ppbv	86
	8,28 6	3 54082	$0.11 \text{ pp} \sim 1$	
17) Methyl-tellebethane 18) 1.1-Dichloroethane 19) Vinyl Acetate 7.20) N-Hexane (MEK)	v	3 16155 7 35724	vdqq e0.0	
	8,66 4	3 34197	0.08 ppbv 0.08 ppbv 0.08 ppbv	97
221 cis-1,2-Dichloroethene		1 27536 3 49890	0,08 ppbv	
23) Ethvl Acetate		3 54769	0,10 ppbv 0,08 ppbv	
24) Chlorofeëm' 26) Tetrahydrofuran	T 0 1 T 1	12 19838 52 25557	0.08 ppbv	
- 17 1 2-Dichloroethane		44795	0.11 ppbv #	84
28) 1,171-Trichloroethane 29) 1,1-Dichloropropene	13.59	75 31866 17 42141	0.08 ppbv 0.08 ppbv #	91
'ani Carbon'Tetrachioriue		17 42141 78 65858	0,10 ppbv	87
31) Benzene 32) Cyclohexane	11.64	56 45005	0.11 ppbv # 0.12 ppbv #	85
331 1 2-Dichioropropane	T 7 1 7 7	63 31683 95 25715	0,10 ppbv #	87
34) Trichloroethene 35) Bromodichloromethane	12.49	83 59615	0.12 ppbv 0.11 ppbv	
361 1.4-Dioxane	A	88 6728 57 146046	0.12 ppbv	and the second sec
37) Isooctane		43 49200	0.12 ppbv #	47
37) Isobetane 38) N-Heptane 39) cis-1.3-Dichloropropene	13.59	75 32311 43 40083	0.08 ppbv 0.09 ppbv	· · ·
Mathy = 2 - Panallone (M-D)	) 13.73 14.24	43 40083 75 23028	0.08 ppbv	· · · ·
40) 4-Methyl 1. 1-Dichloropropene 41) trans-1,3-Dichloropropene 42) 1,1,2-Trichloroethane	14,43	83 29734	0.12 ppbv 0.10 ppbv #	30
A31 Toluene	14.78	91 71786 43 40969	0.11 ppbV	
(A) 2-Hexanone	15,17 15,29 <sup>1</sup>	129 49161	0.11 ppbv	37
46) Dibromo'chloromethane 47) 1.2-Dibromo'ethane (EDB)	15.62	107 33739 166 32263	0.10 ppbv # 0.10 ppbv #	34
48) Tetrachloroetnene		166 32263 112 57266m	0.11 ppbv	81
49) Chlorobenzene 50) Ethylbenzene	17 45	91 84406	0.10 ppbv # 0.22 ppbv #	92
Film p XVIAne	17.67 17.76	91 65699 173 41938	0,11 ppbv #	92
52) Bromoform		104 37053	0.09 ppbv #	86
53) Styrene				

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· · · (QT Reviewed) Quantitation Report , Vial: 3 Operator: TJG Inst : GC/MS Ins Data File : C:\HPCHEM\1\DATA\031620C\0301003.D Acq On : 16 Mar 2020 3:49 pm Sample : 0.10PPBV TO-15 ICAL Misc : TO-15 QC Multiplr: 1.00 Quant Results File: 031620AI.RES MS Integration Params: rteint.p Quant Time: Mar 17 8:47 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 08:31:44 2020 Response via : Initial Calibration DataAcq Meth : ENV05

Compound	R.T. C	Qlon	Response	Conc Unit	Qvalu	e -
54) 1.1.2.2-Tetrachloroethane 55) o-Xylene 57) 4-Ethyltoluene 58)-1.3.5-Trimethylbenzene 59) 1.2.4-Trimethylbenzene 60) 44(3-Dichlorobenzene 61) Benzyl Chlorobenzene 61) 1.4-Dichlorobenzene 561) 1.2.4-Tribhlorobenzene 563) 1.2.Dichlorobenzene 564) 1.2.4-Tribhlorobenzene 564) 1.2.4-Tribhlorobenzene 565) Naphthalene	18.1918.2319.7319.8120.5420.5420.5120.6221.1023.5623.7424.29	83 106 105 105 146 91 148 146 180 128 225	59560 30830 61430 71565 42123 33830 27091 16479 28262 5310 7169m 5227	0.10 ppbv 0.12 ppbv 0.10 ppbv 0.11 ppbv 0.08 ppbv 0.10 ppbv 0.10 ppbv 0.10 ppbv 0.10 ppbv 0.11 ppbv 0.10 ppbv 0.10 ppbv	# , , , , , ,	98 90 <u>*</u> 83

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	C:\HPCHEM\LDATA\03162 16 Mar 2020 3:49 pm 0.10PPBV TO-15 ICAL TO-15 QC ON Params: rteint.p	: Mar 17 8:47	H H K C										1 4	÷	ALBIOWIGE	un d	- C	0.00	031620AI.M
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Quantit	ation Re	port	(QT Rev	iewed)			
	<u>∿0401004</u>	D	Vi	al: 4		and the	
Data File : C:\HPCHEM\1\DATA\031620C Acg On : 16 Mar 2020 4:31 pm	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Operat	or; TJG ; GC/MS J	ns		
Sample : 0.5PPBV TO-15 ICAL			Multip	lr: 1,00		an history of a s	
Misc : TO-15 QC MS Integration Params: rteint, p		Ouan	t Results F	ile: 031620	AI RES	n na stala Maria I in ar	•
Quant Time: Mar 17 9.07 2020							
Quant Method : C:\HPCHEM\1\METHODS\	031620AL.	.M (R	TE Integrat	,01,	•	AN THE WAY AN	4 1
Quant Method : C. (FGLEAU CALIBRA' Title : Method TO-15 CALIBRA' Last Update : Tue Mar 17 08:29:05						12 <b>1</b> 1	
Response Via : Initiai California					5	naelariti Ganal	
mit-law Moth PNVUD		- Do	CONCEPTER CON	nc Units De	v(Min)		
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	9.43 12	8 6 4 26	00074	5.00 ppbv 5.00 ppbv	-0.04	1.1.1	
arv + k Tifluoroben%ene liel	1.70 11 6.93 11		598258	5,00 ppbv	-0,03		
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System Monitoring Compounds	18.75 9		825913 BOCOVETV	4.03 ppbv = 80,60	-0,01 )%	e governmente e	
IN CREEDICAMOUNT (CAR STORE AND STORE	ə 62 - 1	40	Verniet 1		Qvalue		
Terrat Compounds	4 11 ·	39	55870	0.55 ppbv	Svarae	an a	- 2
()). 2) Propylene T. 3) Dichlorodiffluoromethane	4.18	85	327289	0.57 ppbv 0.77 ppbv			•
L; 4) Chloromethane		50 62	153814 70007	0.58 ppbv		1943) 1945 - 1946 - 1946	
Re 5) Vinyl-Chloride De 6):1,3=Bùtadiene	4.77	39	27489	0.54 ppbv 0.56 ppbv			. · ·
7) Bromomethane	5,00	94 64	69281 25340	0.53 ppbv		1	
8) Chloroethane 9) Vinyl-Bromide	5,67 1	06	65670 412022	0.58 ppbv 0.66 ppbv	н 9 9		
101 Trich Grottworomethane	6.12 1 6.07	01 43	152666	0,72 ppbv		• •	
11) Acetone 12) Isopropyl Alcohol (IPA)	6.38	45 61	69791 154506	0,46 ppbv 0,52 ppbv	# 8	-	
13) 1,1-Dichloroethene 14) Methylene Chloride	6.83 6.98	84	83053	0.52 ppbv 0.58 ppbv		a	
A ISI Carbon Disulfice	7.30 8.04	76 96	227290 68990	0.47 ppbv			•
16) trans 192-Dichloroethene 17) Methyl-tert-butyl ether	8,40	73	201316 167485	0.48 ppbv 0.42 ppbv		3	
18) 1.1-Dichloroethane	8,28 8,52	63 43	146627m	0.41 ppbv		19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 -	
19) Vinyl Acetate 20) N-Hexane	9.51 8.78	57 43	84800 14510	0.27 ppbv 0.04 ppbv	ç	8	
21) 2-Butahone (MEK) 22) cis-1,2-Dichloroethene	9,25	61	94791	0.35 ppbv 0.09 ppbv		97 38	· ·
23) Ethyl Acetate	9,51 9,58	43 83	50904 242006	0,56 ppbv	# 1	\$0	••
24) Chloroform 26) Tetrahydrofuran	10.14	42	100778m 172972	0.54 ppbv 0.67 ppbv	, , #	62	
27) 1.2-Dichloroethane 28) 1.1.1-Trichloroethane	10.45 10.74	62 97	225778	0.71 ppbv	,		
ogi i i-Dichloropropene	13.54 11.45	75 117	140890: 308465	0,42 ppbv 0,75 ppbv	, 1	00 ·	
30) Carbon Tetrachloride 31) Benzene	11.28	78	210094	0.38 ppb/ 0.39 ppb/		-	
32) Cvclohexane	$\frac{11.61}{12.25}$	56 63	125094 74369	0.34 ppb	, #	47	
33) 1,2-Dichloropropane 34) Trìchloroethene	12.52	95		0 47 ppb 0 60 ppb	र # र \$	80 89	
35 Bromodichloromethane	12.47 12.57	83 88	247874 21251	0 41 ppb	v	67	
36) 1.4-Dioxane 37) Isooctane	12.60	57 43	322989 190374	0,31 ppb 0,55 ppb	v # V	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	;
38) N-Heptane	12.89 13.54	75	166553	0.50 ppb 0,48 ppb	V V		
Livoj A_Mothý]-2-Penanone (MIDN)	13.66 14.19	43 75	209479 128653	0.51 ppb	v		
41) trans-1,3-Dichloropropene 42) 1,1,2-Trichloroethane	14.39	83	109129 282375	0,55 ppb 0.46 ppb	v v#	99 89	•
43) Toluene	14,76 15,14	91 43	139423m	0,42 ppt	V	96	
44) 2-Hexanone 46) Dibromochloromethane	15,26	129 107	169598 123013	0,54 ppt 0,52 ppt	ov #	93	
47) 1.2-Dibromoethane (EDB) 48) Tetrachloroethene	15,58 16,15	166	101193	0,45 ppl	v	92 96	
ASI Chlorobenzene	16.99	112 91	203063 289860	0.57 pp 0.53 pp	vc	98	
50) Ethylbenzene 51) m.e-Xvlene	17.65	91	204404	0.97 pp 0.46 pp	vc vd		
50) Ethylbenzene 51) m.p-Xylene 52) Bremoform 53) Styrene	17.74 18.08	173 104	1 2 4 5 4 5 6 6	0 49 DD	οv		
52) Bronolou 53) Styrené							

(#) = qualifier out of range (m) = manual integration 0401004.D 031620AI.M Sun Mar 29 21:41:40 2020

Data File : C:\HPCHEM\1\DATA\031620C\0401004.D Acq On : 16 Mar 2020 4:31 pm Sample :: 0.5PPBV TO-15 ICAL Misc :: TO-15 QC MS Integration Parameter to int p Vial: 4 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00 Quant Results File: 031620AI.RES MS Integration Params: rteint.p Quant Time: Mar 17 9:07 2020 . . . Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 08:29:05 2020 Response via : Initial Calibration DataAcq Meth : ENV05 ٠.

Compound	R.T. QIO	n Response	Conc Unit	Qvalue.	
Compound 54) 1.1.2.2-Tetrachloroethane 55) o-Xylene 55) o-Xylene 55) 1.3.5-Trimethylbenzene (1.59) 1.2.4-Trimethylbenzene (1.50):1.3.4-Trimethylbenzene (1.1:Benzyl Chlorobenzene (1.1:Benzyl Chlorobenzene (1.63) 1.2.4-Trichlorobenzene (1.63) 1.2.4-Trichlorobenzene (1.64) 1.2.4-Trichlorobenzene Le65) Naphthalene	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3         194862           6         85996           5         151436           5         239132           5         172887           6         98406           1         104514           8         54492           6         99144           90         19720           28         26763	0.50 ppbv 0.48 ppbv 0.33 ppbv 0.55 ppbv 0.45 ppbv 0.45 ppbv 0.45 ppbv 0.44 ppbv 0.43 ppbv 0.58 ppbv 0.56 ppbv 0.82 ppb	y 98 y 90 y 98 y 95 y 89 y 89 y 83 y 96 y 96 y 7 58	· · · ·
Tisal 1 2 4-TrichTorobenzene	23.75 12	8 26763	0.56 ppb	v	-

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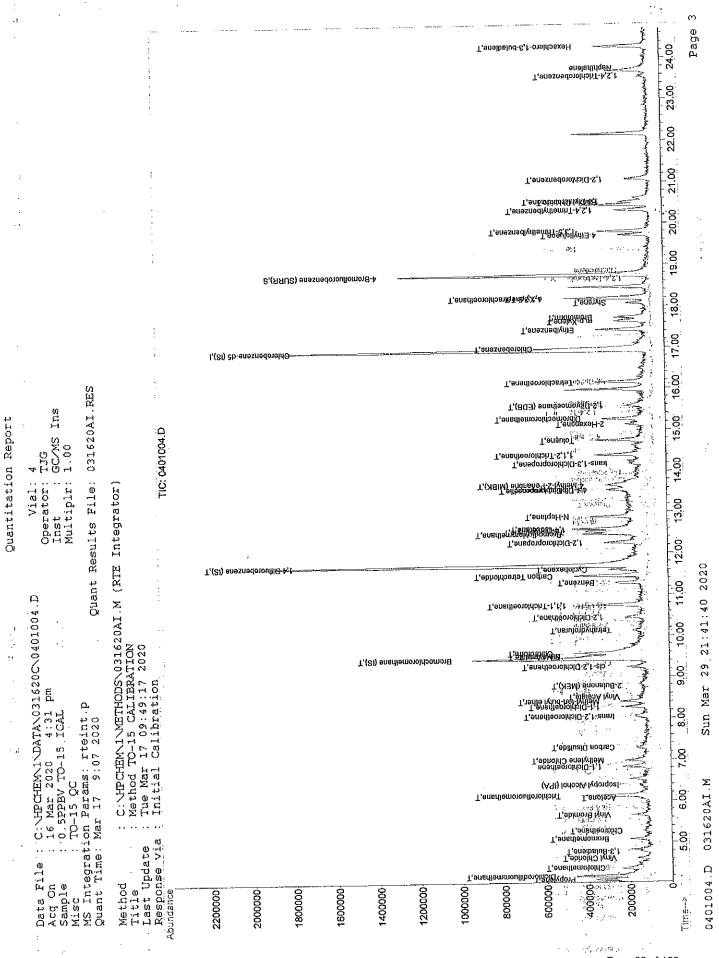
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Quanti	CONTOUR THEFT	iewed)	
Data File : C:\HPCHEM\1\DATA\031620	C/020100010	al: 5 or: TJG	e i ta fi danse.
1 OD ' 16 MAE AVAV		GC/MS INS	
Sample TPPBV 10-13 1000		)lr: 1.00	
	Quant Results F	Rile: 031620AI.RE	
	AND ALE Integrat	tor)	
Quant Method : C:\HPCHEM\1\METHODS Title : Method TO-15 CALIBRA	ATION		
Mar 17 U8 4/109	2020		
Last Update : Internal Indernation Response via : Initial Calibration DataAcq Meth : ENV05			
	R.T. QIon Response Co	nc Units Dev(Min	)
Internal Standards	0 42 128 746236	5.00 ppbv -0.0	3
1) Bromochloromethane (IS)	11,72 114 3015115	5.00 ppbv -0.0 5.00 ppbv 0.0	0
1) Bromochloromethane (IS) 25) 1,4-Difluorobenzene (IS) D 45) Chlorobenzene-d5 (IS)	16.96 117 2079878		1 11 1 11 11 11 11 11 11 11 11 11 11 11
		4 21 npby 0.0	30 90 90 90 90 90 90 90 90 90 90 90 90 90
System Monitoring Compounds 14.56) 4-Bromöfluorobenzene (SURR 14. Spiked Amount - 5,000 Rang	18.76 J3 Recovery	= 84.20%	ning ang hang hang hang hang hang hang han
승규는 비행을 가는 것이 가 가까지 않는 것이 없다.		Qvalue	9 83
Target Compounds	4.07 39 115942 4.15 85 604737	1.03 ppbv # 0.94 ppbv 1	97
13 3) DICUTOLOGALINGELOW	4.32 50 330162m	1,56 ppbv	
Le 4) Chléromethane i Re 5 prvinyl Chloride	4.58 62 151144 4.74 39 63602	1 17 ppbv 1 14 ppbv	97 👌 🗄 91
D. 6) 1, 3-Butadiene 7) Bromomethane	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,20 ppbv #	73
8) "Chloroethane	5.61 106 141441	1.14 ppbv 1.08 ppbv	94 96
8) CHloróethane 9) Vinyl Bromide 10) Třichlorofluoromethane	6.09 101 747576 5,99 43 265216	1,15 ppbv #	82 . 91
10) IFIGHIOIGTIGOTONI 11) Acetone 12) Isopropyl Alcohol (IPA)	6.31 45 100004	1.13 ppbv # 1.03 ppbv	
. 12) 1 1-Dichloroetnene	6.93 84 196269	1,20 ppbv 1,36 ppbv	
14) Methylene Chloride 14) Carbon Disulfide	7.27 76 676789 8.02 96 189053	1,12 ppbv	an a
16) trans-1; 2-Dicatorosther	8,38 73 420932	0.87 ppbv 1.18 ppbv #	91
<pre>(17): Methyl-tert-hutyl ethol [18):1.1-Dichloroethane [21): Vinyl Acetate [20): N-Hexane [21]: 2-Butanone: (MEK) [22]: cis=1.2-Dichloroethene [22]: cis=1.2-Dichloroethene</pre>	8.25 63 514579 8.49 43 455231	1.01 ppbv 1.10 ppbv	94
20) N-Hexane	9,50 57 383494 8,78 43 519882	1,23 ppbv	
21) 2-Butanone (MEK)	9,23 61 280905 9,55 43 735666	0,91 ppbv 1.06 ppbv	
	9,57 83 444411	0.90 ppbv 0.93 ppbv	98 .
24) Chloroform 26) Tetrahydrofuran	10.10 42 211113 10.45 62 309811	1.04 ppbv	95
27) 1,2-Dichloroethane	10.75 97 331705	0.92 ppbv 0.95 ppbv	-
ACT 1 "1" TUTCH LOFODF OPENS	11 48 117 382749	0.80 ppbv 1.14 ppbv #	93
30) Carbon Tetrachloride 31) Benzene	11.30 78 685335 11.63 56 367728	1.04 ppbv #	55 95
32) Cyclohexane 33) 1.2-Dichloropropane	12.28 63 285685	1.18 ppbv # 0.99 ppbv	
	12.49 83 449907	0.96 ppbv 1.05 ppbv	96
35) Bromodichioromethano	12.61 88 69318	1.01 ppbv	0.2
37) Isooctane	12 93 43 466993	1.25 ppbv 0.88 ppbv	93
38) N-Heptane 39) cis-1,3-Dichloropropene MIB	13,60 75 338493 13,67 43 460067	0,94 ppbv #	89
40) 4-Methyl-2-Penanone (Miles		0.81 ppbv 1.07 ppbv	97
	14,80 91 628566	0.91 ppbv 0.96 ppbv	96
42) Toluene 43) Toluene 44) 2-Hexanone	15.14 43 368910m 15.29 129 378218	0,91 ppbv	98 85
46) Dibromochloromethane (EDB)	15,61 107 306872	0.99 ppbv # 0.84 ppbv	· · · · · · · · · · · · · · · · · · ·
18) Tetrachioroethene	17.01 112 475229	1.03 ppbv 1.09 ppbv	98 97
49) Chlorobenzene 50) Ethylbenzene	17.46 91 764430 17.67 91 484121	1,99 ppbv	97 96
51) m.p-Xylene 52) Bromoform	17.75 173 281111	0,75 ppbv # 0,73 ppbv	95
.53) Styrene			
e and the set of range	(m) = manual integration	n	· 1

(#) = qualifier out of range (m) = manual integration
(#) = gualifier out of range (m) = manual integration
0501005 D. 031620AL.M Sun Mar 29 21:41:44 2020

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Qua	ntitation Repo	rt (QT)	Reviewed)			
Data File : C:\HPCHEM\1\DATA\031 Acq On : 16 Mar 2020 5:16 p Sample : 1PPBV TO-15 ICAL	620C\0501005.D m	Ope Ins Mul	Vial: 5 rator: TJG t : GC/MS Ir tiplr: 1.00			
MS Integration Params, iteration Over Time: Mar 17 8:49 2020			s File: 031620 <i>i</i>	AT ' KEN		$(\cdot)$ -
Quant Method : C:\HPCHEM\1\METHC Title : Method TO-15 CALJ Last Update : Tue Mar 17 08:27 Response via : Initial Calibrat DataAcg Meth : ENV05	:56 2020 ion				•••	
Compound	R,T, QIon	Response	Conc Unit Qv	alue		
Compound 54) 1.1.2.2-Tetrachloroethane 55) o-Xylehe 57) 4-Ethyltoluene 5458) 1.3.5-Trimethylbenzene 559) 1.2.4-Trimethylbenzene 560) 1.3-Dichlorobenzene 561) Benzyl Chloride 562) 1.4-Dichlorobenzene 563) 172-Dichlorobenzene 564) 1.2.4-Trichlorobenzene 565) Naphthalene 58.66) Hexachloro-1.3-butadiene	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	600684 244595 531500 614003 499732 279866 220877 182080 281529 43213 67955	1.22 ppbv 1.06 ppbv 0.88 ppbv 1.09 ppbv 1.00 ppbv 0.88 ppbv 0.70 ppbv 1.16 ppbv 0.94 ppbv 0.97 ppbv 1.12 ppbv 2.61 ppbv	99 95 97 98 99 97 97 97 98		<b>3</b> .,
	(m) - manua	al integrat	.ion		-	Pe
(#) = qualifier out of ran asologs D 031620AI M	ige (m) = manua Sun Mar 29 21	1:41:44 202	20		Page	64 of 152

 $^{\circ}$ Page 24.00 T,analbalud-E,t-otoldoaxaH T,9n9znadorohonT4,2,1 Majānee 23.00 22.00 21.00 T, an a roben zero do rot do r T.anaznadiydamirt.A.1. T.anaznatianuluuriyaya 20.00 T, energially discontrates the second strategy of the second strat19,00 NERVIER S 2,(AAU2) energedencultomorg-4 18700 T,anenlaoroidar)tailiqX,d,t T,anaryt2 ער: T,enersenset Fithbhcfithfit Fithbr 17.00 1-enstradorolnO I'(SI) gp-auazuagevojųG-16.00 T,enertieronincente.T Quant Results File: 031620AI.RES T.(803) enertisemondiQ-S.t Ins 2-HexanonetT 15,00 Quantitation Report TIC: 0501005.D GCAMS T,enauloT 00. T,ensitieorolitaitT-S, r, r ğ 14,00 ωĘ sarrang Vicini Operator: Inst Multiplr: C:\HPCHEM\l\METHODS\031620AI.M (RTE Integrator) า.(หลาพ) รีกมีโซเซียนระหนายีกคว Vial: 13.00 T,ensiqaH-M 12.00 21:41:44 2020 Benzene,T Carbon Tetrachloride,T Cyclofiexane,L T,(2I) anexnadereellig-k-t 10,00 11,00 C: \HPCHEM\1\DATA\031620C\0501005.D T,anadisonoldanT-1,1;1  $(\cdot, \cdot)^{2n}$ T,enertheorothoid-S,F T,nauloibydaileT TO-15 CALIBRATION 2 ۇ. .. T. Prinklike Hona \_\_\_\_\_ Bromochloromethane (IS),T T,enetheoroldbiG-S,t-sla 6 ⊘ 0.0 Calibration T,(NBM) enclosed (MEK),T Sun Mar Ē T Prefit of the transformer, T rteint.p 5:16 8.00 T,enartisotokhold-S,t-anart 8:49 2020 16 Mar 2020 5: 1PPBV TO-15 ICAL TO-15 QC Ξ, T,ebillusiU nocheO 2.00 Methylene Chlonde, T Method T Tue Mar MS Integration Farams: Quant Time: Mar 17 8:4 Initial 031620AI.M (A9) lodozki (IPA) 6.00 T,ensihemoroultoroldoh Acetone.T T.ablmon8 IvniV T,ansniemonong T,ansniemonon 5.00 Response via Method Title -Last Update .. T.abhold3 Miny 7.9naibaiu8-6,1 Data File Acq On Sample " 0501005.D T,ensitiemmoldO **•១មខណ្ឌទយ** nhhengleppoodlin 1200000 1600000 1000000 800000 600000 400000 200000 1800000 Abundance 2600000 2200000 1400000 2400000 2000000 Misc 7-9(LU) • 54 4451

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Data File : C:\HPCHEM\1\DATA\031620		Operat	or: TJG ; GC/MS Ins	
Acq On : 16 Mar 2020 5:55 pm Sample : 2PPBV TO-15 ICAL		inst Multin	lr: 1,00	a gran and the
va retearstion Params: ILUINV,P	Ou	ant Results E	file: 031620AI.R	EŞ
Quant Time: Mar 17 8:44 2020	¥-		· · · · · ·	
WETHODS	031620AI.M	(RTE Integrat	;or)	
Quant Method : C. th Gibb Directory CALIBRA Title : Method TO-15 CALIBRA	TION			
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Deenonse Via : initian Survey				· · · · · · · · · · · · · · · · · · ·
DataAcq Meth : ENV05			ng limits Dev(Mi	n)
Internal Standards	R.T. QIon	Response Co	nc Units Dev(Min	
	9,45 128	710007	0.00 PP2.	00
1) Bromochloromethane (IS)	11.74 114	3130962	5.00 ppbv 0	00 00
25) 1,4-Difluorobenzene (13)	16.96 117	1850577	2.00 ppnv 0.	
1) Bromochloromethane (IS) 25) 1,4-Difluorobenzene (IS) C(45) Chlorobenzene-d5 (IS)				
System Monitoring Compounds	10 76 95	1234920	4.78 ppbv 0,	00
System Monitoring Compounds H256) 4-Bromofluorobenzene (SURR Spiked Amounto 5,000 Rang	ie 62 - 145	Recovery	= 95,60%	12 11 1
C at 2 and 4			Qvalı	
m-mast Compounds	. 10 . 30	247868	1,98 ppbv	$\mathcal{C} = \mathcal{C} = \{ \phi_i \}_{i \in \mathcal{C}}$
	4.10 39 4,19 85	1370574	2,00 ppbv	99 - Jan .
1. 3 F DICELOLOGATATION ON CONCINC	4,37 50	660038	1 98 ppbv 2 03 ppbv	97
	4,63 62	334997	2,03 ppbv 2,08 ppbv	
Dr 6∳cl,B≓Butadiene	4.78 39	143503 349441	1.92 ppbv #	96
7) Bromomethane	5.08 94 5.28 64		2.04 ppbv	95 97
s) Chloroethane	5,66 106	302208	1.99 ppbv 2.01 ppbv	99
9) Vinyl Bromide 10) Trichloroffuoromethane	6,13 101		1,89 ppbv	· ·
	6.01 43 6.32 45		1,89 ppbv	
121 Teonropyl Alconol (154)	6,32 45 6,84 61	790174	2.08 ppbv	93 96
131 1 1-01CD10F000000	6.97 84	417703	1,92 ppbv 2,01 ppbv #	15
14) Methylene Chloride 15) Carbon Disulfide	7.32 76		2.09 ppbv	
Miscy trans-1 2-Dichloroethene	8.06 96 8.40 73		1.87 ppbv	act best
17) Methyl-tert-Dutyl etne	8,29 63	3 1001034	1.99 ppbv #	96
181 1.1 Dichloroethane	, 8,49 43		2.14 ppbv 2.30 ppbv	98
19) Vinyl Acetate 20) N-Hexane	9,53 57		2.26 ppbv #	87
3 ANN A DUTATONE (MEK)	8,78 41 9,26 61	1 577158m	1,92 ppbv	0.2
-221 cis-1,2-Dichloroechene	9.55 4	3 1477632	2.17 ppbv #	82 98
23) Ethyl Acetate 24) Chloroform	9.59 8		1,92 ppbv 1,87 ppbv	91
oci Tetrahvdroturan	10.11 4 10.47 6		1.88 ppbv	
	10.47 6 10.77 9	7 741427	1,84 ppbv	99
28) 1.1.1-Trichloroethane 29) 1.1-Dichloropropene	13.60 7	5 799640	2.00 ppbv 1.73 ppbv	98 -
30) Carbon Tetrachloride	11.50 11		2 08 ppbv	98
21) Benzebe		8 1415508 6 908006	2.11 ppbv	98 99
32) Cyclohexane		628587	2.13 ppbv	<u>, , , , , , , , , , , , , , , , , , , </u>
33) 1.2-Dichloropropane 34) Trichloroethene	12.57 9	5 548631	2.10 ppbv 1.88 ppbv	95
35) Bromodichloromethane	10.00	33 961222 38 130177	1.86 ppbv #	75
361 1.4-Dioxane	A	57 2869759	2.25 ppbv	89
· 37) Isooctane		43 1050902	2.27 ppbv	0.7
38) N-Heptane 39) cis-1,3-Dichloropropene	13,60	75 778483	2.00 ppbv 2.32 ppbv #	91
ANY A Mothy = 2-Penanone (MADA	)	43 1084782 75 468772	1,88 ppbv	· · · · · ·
· · · · · · · · · · · · · · · · · · ·	14.23 14.43	83 495435	1,92 ppbv	97 97
42) 1,1,2-Trichlologunano	14.80	91 1321521	1.91 ppbv 1.69 ppbv #	84
43) Toluene 44) 2-Hexanone		43 682931 29 765436	2.15 ppbv #	98
ACT Dibromochloromethane		29 765436 07 599232	2.12 ppbv #	91
A7) 1.2-Dibromoethane (CDD)		66 460032	1.95 ppbv	99
48) Tetrachloroetnene	<b>T A C C</b>	12 893091	2.11 ppbv 2.22 ppbv	99
49) Chlorobenzene 50) Ethylbenzene	17.46	91 1531221 91 1078363	4.02 ppbv	•
51) m.p-Xylene	17.67 17.75 1	91 1078363 173 468247	1.77 ppbv #	98
52) Bromoform	18,10	104 534676	1.79 ppbv	97
53) Styrene	·····	l integration		
	(m) - manua.	I THREALSTON	•	

(#) = qualifier out of range (m) = manual integration 0601006.D 031620AL M Sun Mar 29 21:41:54 2020 Page 1

Vial: 6 Data File : C:\HPCHEM\1\DATA\031620C\0601006.D Operator: TJG Acg On : 16 Mar 2020 5:55 pm Sample : 2PPBV TO-15 ICAL Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 17 8:44 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI,M (RTE Integrator) Method TO-15 CALIBRATION Last Update : Tue Mar 17 08:42:10 2020 Response via : Initial Calibration DataAcg Meth : ENV05

R.T. QIon Response Conc Unit Qvalue Compound 98 1.85 ppbv 54) 1.1.2.2-Tetrachloroethane 18.20 0.55) 0-Xylene 18.23 18.23 18.23 873090 83 97 2.04 ppbv 444098 · 18.23 106 1.62 ppbv 97 792394 19.73 105 57) 4-Ethyltoluene 58) 1,3.5-Trimethylbenzene 97 1.67 ppbv 19.82 105 835576 1.90 ppbv 1.70 ppbv 753769 105 H.59) 1.2.4-Trimethylbenzene M.60)'1./3-Dichlorobenzene 20.33 427557 20.55 146  $\varepsilon \in [0, \infty)$ 1.74 ppbv 91 417124 20.52 (61) Benzyl Chloride 1.35 ppbv 

 (61) \* Denzy1 Chlorobenzene
 20,55
 148

 (62) 1.4-Dichlorobenzene
 21.09
 146

 (163) 1/2 #Dichlorobenzene
 23.56
 180

 (164) 1.2.4-Trichlorobenzene
 23.75
 128

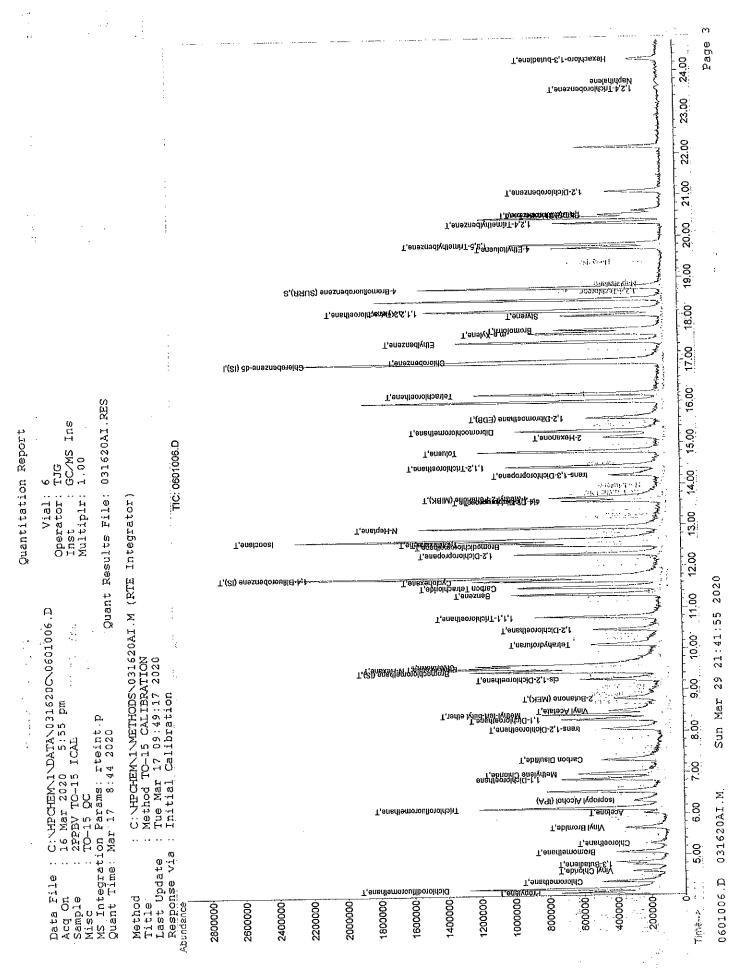
 (165) Naphthaleñe
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 (166) Hexachloro-1.3-butadiene
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 163687 2.00 ppbv 457937m 2.03 ppbv 69781 1 92 ppbv 105569m 1.59 ppbv. 75833

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Data File : C:\HPCHEM\1\DATA\031620 Acq On : 16 Mar 2020 6:37 pm Sample : 5PPBV TO-15 ICAL Misc : TO-15 QC	Opera Inst Multi	ial: 7 tor: TJG ; GC/MS Ins plr: 1.00	2 4 
MISC MS Integration Params: rteint.p Quant Time: Mar 17 9:54 2020		File: 031620AI.RES	
Quant Method : C:\HPCHEM\1\METHODS Title : Method TO-15 CALIBR Last Update : Tue Mar 17 09:49:17 Response via : Initial Calibration DataAcq Meth : ENV05	2020		
Internal Standards	R.T. Qion Response Co		
25) 1,4-Diffusional and (is) (45) Chlorobenzene-d5 (IS)		5.00 ppbv 0.00 5.00 ppbv 0.00	
System Monitoring Compounds Mi56) 4-Bromöfluórobenzene (SURR Mi Spiked Amountains 5,000 Rang Contract Maria	ge 62 - 145 Recovery	Ovaluə	) 
Target Compounds O. 2) Propylene 11 Ti 3) Dichlorodiffuoromethane Rt 5) Vinyl Chloride Dr 6) 1.3-Butadiene 7) Bromomethane 8) Chloroethane 9) Vinyl Bromide 10) Trichlorofluoromethane 11) Acetone 12) Isopropyl Alcohol (IPA) 13) 1.1-Dichloroethene 14) Methylene Chloride 15) Carbon Disulfide 16) Sthansull 2-Dichloroethene 17) Methyl-tert-butyl ether 18) 1.1-Dichloroethane 20) N-Hexane 21) -2-Butanone (MEK) 22) cis-1.2-Dichloroethene 23) Ethyl Acetate 24) Chloroform 26) Tetrahydrofuran 27) 1.2-Dichloroethane 28) 1.1-Dichloropropene 30) Carbon Tetrachloride 31) Benzene 32) Cyclohexane 33) 1.2-Dichloropropane 34) Trichloroethane 35) Bromodichloromethane 36) 1.4-Dioxane 37) Isooctane 38) N-Heptane	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5.59 ppbv 4.92 ppbv 9 5.22 ppbv 9 4.30 ppbv 9 4.80 ppbv 9 4.80 ppbv 9 4.80 ppbv 9 4.85 ppbv 4.98 ppbv 4.99 ppbv 4.65 ppbv 4.65 ppbv 4.76 ppbv 4.52 ppbv 4.52 ppbv 4.55 ppbv 4.55 ppbv 4.63 ppbv 4.63 ppbv 4.63 ppbv 4.63 ppbv 4.63 ppbv 4.63 ppbv 4.65 ppbv 4.74 ppbv 4.65 ppbv 4.57 ppbv 4.57 ppbv 4.57 ppbv 4.57 ppbv 4.57 ppbv 4.56 ppbv 4.57 ppbv 4.57 ppbv 4.51 ppbv 5.04 ppbv 4.84 ppbv 4.84 ppbv	6 7 9 5 7 7 00 5 5 4 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
<pre>39) cis-1.3-Dichloropropene 40) 4-Methyl-2-Penanone (MIBK 41) trans-1.3-Dichloropropene 42) 1.1.2-Trichloroethane 43) Toluene 44) 2-Hexanone 46) Dibromochloromethane 47) 1.2-Dibromoethane (EDB) 48) Tetrachloroethene 49) Chlorobenzene 50) Ethylbenzene 51) m.p-Xylene 52) Bromoform 53) Styrene</pre>	() 13.66 43 3355777	5.08 ppbv 4.41 ppbv 4.67 ppbv 5.00 ppbv 4.18 ppbv 4.36 ppbv 4.63 ppbv 4.63 ppbv 4.43 ppbv 4.43 ppbv 4.99 ppbv 9.09 ppbv 4.25 ppbv # 4.46 ppbv	97 99 98 99 92 99 97 98 99 99 99 99 99 99 99 97

Page 1

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Data File : G:\HPCHEM\1\DATA\031620C\0701007.D Acq On : : 16 Mar 2020 6:37 pm Sample : 5PPBV TO-15 ICAL Vial: 7 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00 TO-15 QC Quant Results File: 031620AI.RES Misc MS Integration Params: rteint.p Quant Time: Mar 17 9:54 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05

Compound	R.T. (	QION	Response		Qvalue
54) 1.1.2.2-Tetrachloroethane 55) o-Xylene 55) o-Xylene 58) 1.3.5-Trimethylbenzene 59) 1.2.4-Trimethylbenzene 60) 1.3.3-Dichlorobenzene 51) Benzyl Chloride 62) 1.4-Dichlorobenzene 64) 1.2.4-Trichlorobenzene 56) 1.2.4-Trichlorobenzene 56) 1.2.4-Trichlorobenzene 56) Naphthalene 56) Hexachloro-1.3-butadiene 50.60	$18.20 \\ 18.23 \\ 19.73 \\ 19.82 \\ 20.34 \\ 20.54 \\ 20.51 \\ 20.62 \\ 21.09 \\ 23.56 \\ 23.74 \\ 24.29 \\ $	83 106 105 105 146 91 148 146 180 128 225	3135303 1459353 3398294 3123082 2458541 1778264 1870509 686380 1594708 202923 379773 187227	4.59 ppbv 4.62 ppbv 4.32 ppbv 4.31 ppbv 5.04 ppbv 4.56 ppbv 4.75 ppbv 5.05 ppbv 3.56 ppbv	97 99 99 99

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(#) = qualifier out of	range (m) = manual integration Sun Mar 29 21:41:58 2020

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Quantitation Report

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Page 71 of 152 • .

	ation Report (QT Rev	iewed)	
	acion 10F	al: 11	. ,
Data File : C:\HPCHEM\1\DATA\031620C Acq On : 16 Mar 2020 9:53 pm Sample : BFB/CCV 10PPBV TO-15 ICA Misc : TO-15 QC	LRR Unst	cor: TJG ; GC/MS Ins nlr: 1.00	arates au tear
MS Integration Params, 1001000	Quant Results 1	File: 031620AI.RE	line in an
Quant Method : C:\HPCHEM\1\METHODS\ Title : Method TO-15 CALIBRA Last Update : Tue Mar 17 09:49:17 Response via : Initial Calibration	2020		<ul> <li>A Constraint of the second seco</li></ul>
Internal Standards	R.T. Qion Response Co	5.00 ppbv 0.0	0
1) Bromochiloromethalio (IS) 1 25) 1,4-Difluorobenzene (IS) 1 25) Chlorobenzene-d5 (IS) 1	9.45 128 994770 1.74 114 4282523 .6.96 117 3156797	5.00 ppbv 0.0 5.00 ppbv 0.0	0 0
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C remonunds	4.07 39 1509186	8,56 ppbv 1	00 00
1arger Components 1 22 2) Propylene 7: 3) Dichlorodi fluoromethane	4.16 85 8104969	8,79 ppbv 1	00
a) chloromethane	4 59 62 2318350	10.22 ppbV <sup>1</sup>	00 00
N= 5) VinVl Chloride N= 6) 1.3-Butadlene	4.74 39 887764 5.05 94 2196116	9.21 ppbv -	00
7) Bromomethane	5.26 64 877934	10.20 000	.00
8 HTChlordethane 9) Vinyl-Bromide	5.65 106 1991009 6.11 101 8935276	9.59 ppbv 4	,00 100
10) Trichlorofluoromethane 11) Acetone	5.98 43 3132111	9.97 ppbv	L00 /
12) ISODTODYL AFCONGE (	6.83 61 5215164	10,11 ppbv	100 100
13) 1,1-Dichloroethene 13) 1,1-Dichloroethene 14) Methylene Chloride	6.97 84 2882015	9.91 ppbv	100
	8 04 96 2764027	10.30 ppbv	100 - Series
14.16) Trans-1,2-Dichloroethene 17) Methyl-tert-butyl ether	8,38 73 7809733	9.96 ppbv	100
181 1 1-DICHLOLOGANANO	8 48 43 8009485	Vdqq 00,0	100 100
19) Vinýl Acetate	9,51 57 5983815	9,96 ppbv	100
AND A DUTADONE (MEK)	0 25 61 4793829	9,94 ppbv 9,87 ppbv	100
22) cis-1,2-Dichloroethene 23) Ethyl Acetate	9,53 43 12230095 9,61 83 6636124	9.84 ppbv	100 100
AAA Chiorotorm	10.08 42 4618328	9.65 ppbv 9.84 ppbv	100
26) Tetrahydrofuran 27) 1/2-Dichlordethane	10 77 97 5186870	9,51 ppbv	100 100
28) 1.1.1-Trichtoropropene	13,60 75 6671710	10.33 ppbv 10.26 ppbv	100
30) Carbon Tetrachioride	11 32 78 10469448	10.74 ppbv 10.92 ppbv	100 100
31) Benzene 32) Cyclohexane	11.65 56 6621786 12.30 63 4483024	10.38 ppbv	100 100
33) 1,2-Dichloropropane 34) Trichloroethene	12.57 95 3762204	10.39 ppbv 9.72 ppbv	100
35) Bromodichioromethano	12.51 83 6803931 12.56 88 1228907	10.59 ppbv	100 100
36) 1,4-Dioxane 37) Isooctane	12.64 57 20436237	10.13 ppbv 9.83 ppbv	100
l any 13 Hontang	13 60 75 6671710	10,94 ppbv 10,89 ppbv	100 100
38) N-Heptano 39) cis-1,3-Dichloropropene 40) 4-Methyl-2-Penanone (MIBK	) $13.65$ $43$ $8574344$	10.59 ppbv	100 100
ATT Francel 3-01 CHTOFOPT OPCORT	14 44 83 3553627	10.07 ppbv 10.76 ppbv	100
41) trans Trichloroethane 42) 1.1.2-Trichloroethane 43) Toluene	14.79 91 10201376 15.11 43 6228030	9.20 ppbv	100 100
44) 2-Hexanone	15.30 129 5941146	9.54 ppbv 10.38 ppbv	100
(1) 1 2-Dipromotione (LCC)	16 19 166 4034477	9 94 ppbv 9 60 ppbv	100 100
48) Tetrachloroethene 49) Chlorobenzene	17.01 112 7097896	10.81 ppb∨	100
50) Ethylbenzene	17.66 91 8610744	20.45 ppbv	100 100
51) m,p-Xylene 52) Bromoform	17,76 173 4584970		100
53) Styrene	18.09 104 5742510		

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031620C\1101011.D Acq On : 16 Mar 2020 9:53 pm Sample : BFB/CCV 10PPBV TO-15 ICAL RR Misc : TO-15 QC MS Integration Params: rteint.p Quant Time: Mar 17 9:50 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION

Vial: 11 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00

#### Quant Results File: 031620AI.RES

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Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:49:17 2020Response via: Initial CalibrationDataAcq Meth.: ENV05 D. T. Olon Response Conc. Unit Ovalue

Compound	R.T.	QION	Response	Cone unit	QVAIUS
54) 1,1,2,2-Tetrachloroethane 55) o-Xylene 55) J-Ethyltoluene 58) 1,3,5-Trimethylbenzene 59) 1,2,4-Trimethylbenzene (61) Benzyl Chloride 62) 1,4-Dichlorobenzene (63) 1,2-Dichlorobenzene (64) 1,2,4-Trichlorobenzene (64) 1,2,4-Trichlorobenzene (65) Naphthalene 66) Hexachloro-1,3-butadiene	$18.20\\18.23\\19.73\\19.82\\20.33\\20.54\\20.51\\20.63\\21.09\\23.55\\23.75\\24.29$	83 106 105 105 146 91 148 146 180 128 225	$\begin{array}{c} 7918070\\ 3842896\\ 9859428\\ 8544239\\ 7301914\\ 4726055\\ 4741556\\ 1777189\\ 3843798\\ 444194\\ 850324\\ 573562 \end{array}$	9.64 ppbv 10.12 ppbv 10.84 ppbv 9.83 ppbv 10.63 ppbv 11.15 ppbv 9.62 ppbv 8.72 ppbv 9.52 ppbv 9.19 ppbv 9.08 ppbv 9.08 ppbv	100 100 100 100 100 100 100 100 100 100

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.:		0316 710N 2020		T,eY	amore birth	Bromochloromethanet (IS). T Chloroform, T	
	620CN1 m ICAL	DS/ 17 01				T.(NBM) enone (MEK) Q	т 29
	FA\03162 9:53 pm TO-15 ] fnt.p 020	VMETHODSN031620AI 5 CALIBRATION 09:49:17 2020 ibration ibration				T, anarita principation of the state of the	Sun Mar
		MNINMETHODS 0-15 CALIBR 17 09:49:17 Calibration					: Sui
. :	SO TT D					A 1-Dichlorothene Methylene Chloride, 1 Carbon Disulijde, 7	1
	HEM 202 QC ams:	C: \HPCHEN\] Method TO-1 Tue Mar 17 Initial Cal					
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	Data Fi Acq On Sample Misc MS Inte Quant 7	Method Title Last Update Response via 1.8e+07	1.7e+07 1.6e+07 1.5e+07	1.3e+07 1.2e+07	1.1e+07 1e+07	1         Dichlorodilluoromethione           0 <td>1101011</td>	1101011
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Quantitation Report

Quantitation Report Vial: 10 Operator: TJG • • • • Data File : C:\HPCHEM\1\DATA\031620C\1001010.D Inst : GC/MS Ins Acq On : 16 Mar 2020 9:07 pm Sample : 20PPEV TO-15 ICAL . . . . . Multiplr: 1.00 TO-15 QC Quant Results File: 031620AL.RES Misc MS Integration Params; rteint.p i walati wa Quant Time: Mar 17 9:56 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) 1 . · · · · Method TO-15 CALIBRATION 120 Last Update Tue Mar 17 09:49:17 2020 ١. Response via : Initial Calibration . . . DataAcg Meth : ENV05 R.T. Qion Response Conc Units Dev(Min) ------Internal Standards 5.00 ppbv 0.02 965833 9,47 128 1) Bromochloromethane (IS) 0,01 5.00 ppbv 4057095 11.75 114 25) 1,4-Difluorobenzene (IS) 0.00 5,00 ppbv 3062240 16.96 117 3 45) Chlorobenzenedd (IS) System Monitoring Compounds 0,00 4.68 ppbv 14.56) 4-Bromöfluorobenzene (SURR 18,77 95 1369886 4. Spiked Amount 5,000 Range 62 - 145 Recovery = 93.60% . v... Ked Amount
 Target Compounds
 2) Propyllene<sup>(1)</sup>
 3) Dichlorodlflüdromethane
 4) Udlføromethäne<sup>14</sup>
 5) State 10 Chloride Qvaluə · · · · 91 21.80 ppbv 39 3733210 4,10 20.43 ppbv 85 17361580 4,19 98 50 7764066 18 60 ppbv 97 4.37 20 80 ppbv 23 02 ppbv 4580419 4,63 62 9 N ÷. 5 jevinyl Chloride 2032448  $\mathbf{R}_{i}^{\perp}$ 39 4.79 98 20 68 ppbv 2.5 6) 1, 3-Butadlene 4789424 D. 94 98 5.10 21 85 ppbv 7) Bromomethane 1816318 64 99 5,30 8) Chloroethane 23.13 ppbv 106 4634500 9) Vinyl Bromide 98 5.68 20.74 ppbv 101 18759440 10) Trichlörofluoromethane 11) Acetoné 6.15 97 20.15 ppbv 43 7003861 45 6832741 6,00 96 22,20 ppbv # 6,30 45 12) Isopropyl Alcohol (IPA) 99 22,38 ppbv . . 61 11204029 13) 1.1-Dichloroethene 99 6,87 22,32 ppbv 84 6393340 6,99 91 21,81 ppbv 314) Methylene Chloride 76 17949700 7,33 92. 15) Carbon Disulfide 21.71 ppbv 96 5656533 16) trans-1,2-Dichloroethene 17) Methyl-tert-butyl ether 8.07 100 20,79 ppbv 73 15264789 8,40 93 20.28 ppbv # 63 14059826 8,31 98 20.41 ppbv 18):1,1-Dichloroethane 18 Jul, 1-Dichloroethane (19) Vinyl Acetate 20) N-Hexane (MEK) 22) Cis-1, 2-Dichloroethane (23) Ethyl Acetate 24) Chloroform 43 17464043 8,50 98 18.77 ppbv 57 11209020 9.54 97 21.75 ppbv 43 15008945 8.79 99 21 49 ppbv 18 88 ppbv • 61 10068207 9,28 9,55 96 43 22713827 98 .: 20 88 ppbv 83 13677874 9,62 97 21.57 ppbv 24) Chloroform 42 9774830 10.10 98 21.13 ppbv 26) Tetrahydrofuran 62 8270452 27) 1.2-Dichloroethane 28) 1.1.1-Trichloroethane 10.48 99 20.80 ppbv 97 10741241 10.79 99 21 95 ppbv 75 13430316 13.61 100 29) 1,1-Dichloropropene 22.26 ppbv 117 11363131 30) Carbon Tétrachloride 31) Benzene 11.5199 21,84 ppbv 78 20177109 11.34 98 22.06 ppbv 32) Cyclohexane 56 12675505 11.67 98 21.49 ppbv 63 8792438 12.31 98 33) 1.2-Dichloropropane 22.51 ppbv 95 7720594 34) Trichlóroethene 35) Bromodichloromethane 12.58 98 20.23 ppbv 83 13408218 12.52 21.37 ppbv 19.27 ppbv 88 2349011m 36) 1.4-Dioxane 37) Isooctane 38) N-Heptane • 1 12,57 57 36820644 12.65 97 43 12776625 18,83 ppbv 12.95 99 23.24 ppbv 75 13430316 13.61 99 39) cis-1.3-Dichloropropene 22,37 ppbv 43 16689706 40) 4-Methyl-2-Penanone (MIBK) 13.67 41) trans-1.3-Dichloropropene 14.23 98 23,92 pppv · 75 9670099 83 7037643 14 23 99 21.04 ppbV 14,44 96 42) 1,1,2-Trichloroethane 21.64 ppbv 91 19438547 14.80 98 20.92 ppbv 43) Toluene 44) 2-Hexanone 43 13416590 15, 1299 20.79 ppbv 129 12551685 46) Dibromochloromethane 15.30 22.53 ppbv 22.37 ppbv 100 107 10776932 15,62 47) 1.2-Dibromöethane (EDB) 98 166 8811306 16.20 98 19.99 ppbv 19.20 ppbv 48) Tetrachloroethene 112 14343325 17.02 91 49) Chlorobenzene 91 22442338 17.46 99 91 17528284 42 91 ppb∨ 50) Ethylbenzene 17.67 98 23.18 ppbv # 51) m.p-Xylene 173 10355954 17.76 100 22.39 ppbv 52) Bromoform 18.10 104 12130251 ----

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(QT Reviewed)

53) Styrene (#) = qualifier out of range (m) = manual integration COLORED CONT M Sun Mar 29 21:42:24 2020

Vial: 10 Data File : C:NHPCHEM\1\DATA\031620C\1001010.D Operator: TJG Inst : GC/MS Ins Acq On : 16 Mar 2020 9:07 pm Sample : 20PPBV TO-15 ICAL Multiplr: 1.00 TO-15 QC Quant Results File: 031620AI.RES MS Integration Params: rteint p Quant Time: Mar 17 9:56 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title Method TO-15 CALIBRATION Last Update Tue Mar 17 09:49:17 2020 Response via Initial Calibration DataAcq Meth : ENV05 - 1 1 Qvalue sponse Conc Unit

	R,T.	QIon	Response		
Compound 54) 1.1.2.2-Tetrachloroethane 55) o-Xylene 55) 4-Ethyltoluene 58) 1.3.5-Trimethylbenzene 59) 1.2.4-Trimethylbenzene (61)tBenzyl Chloride 62) 1.4-Dichlorobenzene (63) £.24Dichlorobenzene (63) £.24Dichlorobenzene 564 1.2.4-Trichlorobenzene 5.65 Naphthalene	$18.20 \\ 18.23 \\ 19.73 \\ 19.82 \\ 20.34 \\ 20.54 \\ 20.52 \\ 21.09 \\ 23.56 \\ 23.74 \\ 24.28 \\ 24.2$	83 106 105 105 146 91 148 146 180 128	16026151 7935224 20043302 17604390 14210768 8646525 9527345 3684554 7790561 963776 1829934m	20.12 ppbv 21.54 ppbv 22.71 ppbv 20.87 ppbv 21.34 ppbv 21.34 ppbv 21.03 ppbv 19.93 ppbv 18.64 ppbv 19.90 ppbv 20.56 ppbv 20.15 ppbv 22.30 ppbv	98 99 94 97 97

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0     0 <td></td> <td></td> <td></td> <td></td> <td>Т,өлафзото</td> <td>ល់លំខនាវង្សត្វស្នង</td> <td>(Xib</td> <td></td> <td>T,ane</td> <td></td> <td>- 8</td> <td>Y.AKXA</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>· · · · · · · · · · · · · · · · · · ·</td> <td></td> <td></td> <td></td>					Т,өлафзото	ល់លំខនាវង្សត្វស្នង	(Xib		T,ane		- 8	Y.AKXA							· · · · · · · · · · · · · · · · · · ·			
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0         0	Report	δo	1620AI.							T,9ni	T,en	aukoT Victoria	910									
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		0 	gration ime: Ma)	6 d 2												T,en	ierliem F,F T,ei	inyl Chloride 1.3-Buladien		: عمر محمد المحمد محمد المحمد الم محمد المحمد ا	2.00	
Data Acq O Sampl Misc Maisc Maisc Matho Sampl 3.44+07 3.44+07 3.44+07 3.44+07 3.44+07 3.44+07 3.44+07 3.44+07 3.44+07 1.68+07 1.68+07 1.68+07 1.68+07 1.68+07 1.68+07 1.28+07 1.28+07 1.28+07 1.28+07 2.280000 8000000 8000000 8000000 8000000 8000000		  	a) (	Method Title Last Up Respons	Abundarce 3.4e+07	3.2e+U/ 3e+07	2.8e+07	2.6e+07	2.4e+07	2.2e+07	2e+07	1.8e+07	1.6e+07 1.6e+07	46+07	1.2e+07 협	1e+07 1e407	800000	600000	4000000	200000		1001010.D

i T	Benzyl Chloride 1,4-Dichlorobenzene 1,2-Dichlorobenzene 1,2.4-Trichlorobenzene Naphthalene Hexachloro-1,3-butadien	e 	0.639 0.077 0.148 0.100	.0.289	1.9 10,5 5.9 13.0 8.8 7.0	101 102 98 95 100 101	0.00 0.00 0.01 0.01 0.00 0.00
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Quantitation Report Vial: 12 Data File : C:\HPCHEM\1\DATA\031620C\1201012.D Operator: TJG Inst : GC/MS Ins Acq On : 16 Mar 2020 10:39 pm Sample : 10PPBV TO-15 ICV/LCS Misc : TO-15 QC Multiplr: 1.00 Quant Results File: 031620AI.RES MS Integration Params: rteint p Quant Time: Mar 17 9:50 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) 1) Bromochloromethane (IS)9.4612810212565.00 ppbv0.0225) 1.4-Difluorobenzene (IS)11.7511441823415.00 ppbv0.0145) Chlorobenzene-d5 (IS)16.9711731380395.00 ppbv0.01 'Internal Standards 5 45) Chlorobenzene-d5 (IS) 

 System Monitoring Compounds
 5.67 ppbv
 0.00

 1:56)
 4-Bromöfluorobenzene (SURR 18.77 95
 1701471
 5.67 ppbv
 0.00

 14:
 Spiked Amounte 5:
 5.000
 Range 62 - 145
 Recovery
 = 113.40%

 14:
 Spiked Amounte 5:
 5.000
 Range 62 - 145
 Recovery
 = 0.00

 15:
 Target Compounds
 0.00
 0.00
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 16:
 16:
 16:
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 10:
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 17:
 18:
 18:
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 39
 1701964
 9.40 ppbv
 93

 17:
 3?
 DichlorodiffEuoromethane
 4.17
 85
 8292916
 9.23 ppbv
 100

 16:
 14:
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 4.36
 50
 4070132
 9.22 ppbv
 99

 10.46 ppbv 9.78 ppbv 9.22 ppbv 9.22 ppbv L. 4) Uchloromethaned R. 5) Vinyl Chloride D. 6) 1.3 Butadiene 7) Bromomethane 62 2435225 39 913402 4,61 

 Fa
 5 / 1,3 Butadiene

 D.
 6 / 1,3 Butadiene

 7)
 Bromomethane

 8)
 Chloroethane

 9)
 Vinyl Bromide

 10)
 Trithlorofluoromethane

 11)
 Acetone

 12)
 Isopropyl Alcohol (IPA)

 13
 - Dichloroethene

 14
 - Dichloroethene

 15
 - 768748

 4.78 95 87 9 95 ppbv # 99 9 94 ppbv 9 93 ppbv 98 
 9494304
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 95 11)Acetone12)Isopropyl Alcohol (IPA)13)1.1-Dichloroethene13)1.1-Dichloroethene14)Methylene Chloride15)Carbon Disulfide16)trans-1, 2-Dichloroethene17)Methyl-tert-butyl ether18)1.1-Dichloroethane20)N-Héxane21)2-Butanone (MEK)22)cis-1, 2-Dichloroethene9,5523)Ethyl Acetate9,6210,09 99 61 5581354 92 84 3075778 
 3075778
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 96 97 96 99 73 95 63 98 9.26 ppbv 9.94 ppbv 43 8377519 98 57 6278909 57 6470576 9.79 Pp5 43 7141576 9.79 Pp5 61 4973464 10.04 ppbv 61 4973466 9.80 ppbv 96 97 100 9.5543124721669.80ppbv9.6283697541710.07ppbv10.0942497021910.64ppbv10.486239312239.74ppbv10.8097533112310.01ppbv13.6075646822010.26ppbv11.51117553306210.51ppbv11.34781064687811.18ppbv12.3163460323110.91ppbv12.5895387980110.97ppbv12.518368077149.96ppbv . 97 23) Ethyl Acetate 24) Chloroform 94 26) Tetrahydrofuran 27) 1,2-Dichloroethane 28) 1.1.1-Trichlor 96 99 28) 1.1.1-Trichloroethane 29) 1.1-Dichloropropene 99 100 99 30) Carbon Tetrachloride 31) Benzenë 32) Cyclohexane 98 -99 12.31 12.51 12.57 12.65 12.95 33) 1,2-Dichloropropane
34) Trichloroethene
35) Bromodichloromethane 99 - 99 83 6807714 88 1248720 57 20838199 9 96 ppbv 95 11.02 ppbv - 99 36) 1,4-Dioxane 10.58 ppbv 97 43 7263417 75 6468220 43 8718761 10,39 ppbv 10.86 ppbv 37) Isooctane 38) N-Heptane 99 30, dis-1,3-Dichloropropene 13.60 100 11.34 ppbv 10.59 ppbv 

 39) cis-1,3-Dichloropropene
 13.66

 40) 4-Methyl-2-Penanone (MIBK)
 13.66

 41) trans-1.3-Dichloropropene
 14.22

 42) 1,1,2-Trichloroethane
 14.45

 42) Toluete
 14.80

 99 75 4412549 83 3521403 10.21 ppbv 10.95 ppbv 10.00 ppbv . 99 99 43) Tolueñe14.80911014143510.95ppbv44) 2-Hexanone15.1243661371510.00ppbv46) Dibromochloromethane15.3112960180929.73ppbv47) 1, 2-Dibromoethane (EDB)15.61107529406110.80ppbv48) Tetrachloroethene16.20166407868210.11ppbv49) Chlorobenzene17.0111270575879.60ppbv50) Ethylbenzene17.46911299236210.85ppbv51) m, p-Xylene17.7617345534699.95ppbv52) Bromoform18.09104575026310.36ppbv 91 10141435 95 99 97 98 99 99 100 99 99 

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Data File : C:\HPCHEM\1\DATA\031620C\1201012.D Acq On : 16 Mar 2020 10:39 pm Sample : 10PPBV TO-15 ICV/LCS Misc : TO-15 QC MS Integration Params; rteint.p Quant Time: Mar 17 9:50 2020 Qu Quant Method : C:\HPCHEM\1\METHODS\031620AI.M

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Vial: 12 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00

### Quant Results File: 031620AI.RES

Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
54) 1,1,2,2-Tetrachloroethane 55) o-Xylene 55) 4-Ethyltoluene 55) 1,2,4-Trimethylbenzene 60) 1,3-Dichlorobenzene 61) Benzyl Chloride 62) 1,4-Dichlorobenzene 63) 1,2-Dichlorobenzene 64) 1,2-Dichlorobenzene 56) 1,2-Dichlorobenzene 56) 1,2-Dichlorobenzene 56) 1,2-bichlorobenzene 56) 1,2-bichlorobenzene 56) 1,2-bichlorobenzene 56) Naphthalene 56) Hexachloro-1,3-butadiene	$18.20 \\ 18.23 \\ 19.73 \\ 19.82 \\ 20.34 \\ 20.54 \\ 20.63 \\ 21.09 \\ 23.56 \\ 23.75 \\ 24.29 \\ \end{tabular}$	146 91 148 146 180	$\begin{array}{c} 7899714\\ 3789030\\ 9743785\\ 8715323\\ 7277556\\ 4582599\\ 4805662\\ 1811671\\ 3774888\\ 422491\\ 848157\\ 581972 \end{array}$	9.68 ppbv 10.04 ppbv 10.77 ppbv 10.68 ppbv 10.66 ppbv 10.87 ppbv 9.81 ppbv 9.41 ppbv 8.80 ppbv 9.11 ppbv 9.26 ppbv	97 99 98 98 98 99 98 99 99 99 7 98 99 98 99 98 7 98

(#) = qualifier out of range (m) = manual integration 1201012.D 031620AI.M Sun Mar 29 21:42:34 2020

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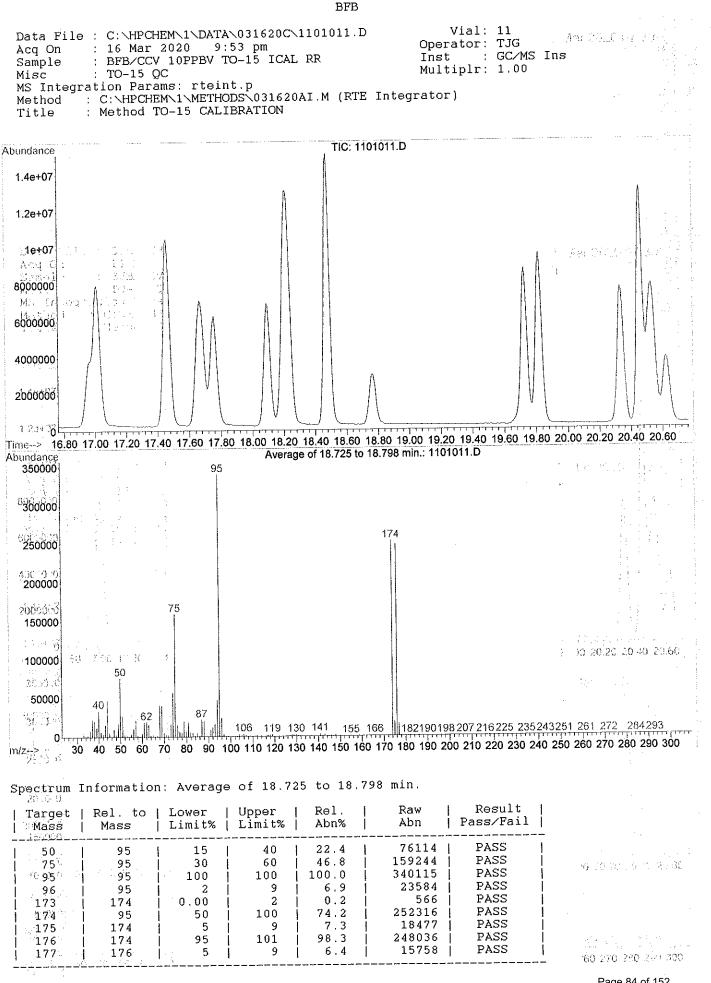
Page 82 of 152

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# <u>TO-15 VOC</u> <u>Continuing Calibration Data</u>

- Tune Data
- Continuing Calibration Verification Summary
- Continuing Calibration Verification (CCV) Quant Report
- Internal Standard Area Summary



1101011.D 031620AI.M 0.31

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Wed Mar 18 07:39:55 2020

Page 84 of 152

 Evaluate Continuing Calibration Report

 Data File : C:\HPCHEM\1\DATA\031620C\1101011.D
 Vial: 11

 Acq On : 16 Mar 2020 9:53 pm
 Operator: TJG

 Sample : BFB/CCV 10PPBV TO-15 ICAL RR
 Inst : GC/MS Ins

 Misc : TO-15 QC
 Multiplr: 1.00

 Ms Integration Params: rteint.p
 Method

 Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator)

 Title : Method TO-15 CALIBRATION

 Last Update : Tue Mar 17 09:49:17 2020

 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min Max. RRF Dev : 50% Max. Rel. Area : 200%

Compound 1 T Bromochloromethane (IS) 2 T PropyIene 3 T Dichlorodifluoromethane 4 T le Chloromethane 5 T Vinyl Chloride 5 T Vinyl Brömide 7 T Bromomethane 5 T Od Chloroethane 5 T Od Chloroethane 10 T Urfrichlorofthuoromethane 10 T Officient 12 Isopropyl Alcohol (IPA) 13 R f. 1-Dichloroethene 14 T Methylene Chloride 15 T Carbon Disulfide 16 T trans-1.2-Dichloroethene 17 T Methyl-tert-butyl ether 18 T f. 1-Dichloroethane 19 T Viñyl Acetate 20 T N-Hexane 21 T 2-Butänone (MEK) 22 T cis-1.2-Dichloroethene 23 T Ethyl-Acetate 24 T Chloroethane 25 T 1,4-Diflüorobenzene (IS) 26 T T tetrahydrofuran 27 T 3 K.2-Dichloroethane 28 T 1,1-Dichloroethane 29 T 1,1-Dichloropropene 30 T Carbon Tetrachloride 31 T Benzene 32 T Gyćlohexane 33 T H/2-Dichloroethane 34 T Trichloroethane 35 T Bromodichloromethane 36 T J.4-Dichloropropene 36 T J.4-Dichloropropene 37 T Isooctane 38 T N-Heptane 39 T cis-1.3-Dichloropropene 34 T Trichloroethane 35 T J.2-Dichloropropene 34 T Trichloroethane 35 T J.2-Dichloropropene 34 T Trichloroethane 35 T J.2-Dichloropropene 34 T Trichloroethane 35 T J.2-Dichloropropene 36 T J.2-Dichloropropene 37 T J.2-Dichloropropene 38 T N-Heptane 39 T cis-1.3-Dichloropropene 30 T Cis-1.3-Dichloropropene 31 T J.2-Trichloroethane 32 T J.2-Hexanone 33 T J.2-Hexanone 34 T Toluene 35 T Scholoropropene 36 T J.2-Hexanone 37 T J.2-Hexanone 38 T N-Heptane 39 T Cis-1.3-Dichloropropene 30 T Cis-1.3-Dichloropropene 31 T J.2-Hexanone 32 T J.2-Hexanone 33 T J.2-Hexanone 34 T Toluene 35 T Scholoropropene 36 T J.2-Hexanone 37 T J.2-Hexanone 38 T N-Heptane 39 T Cis-1.3-Dichloropropene 30 T Cis-1.3-Dichloropropene 31 T J.2-Hexanone 32 T J.2-Hexanone 33 T J.2-Hexanone 34 T Toluene 35 T Scholoropropene 36 T J.2-Hexanone 37 T J.2-Hexanone 38 T Scholoropropene 39 T Scholoropropene 30 T Cis-1.3-Dichloropropene 31 T J.2-Hexanone 32 T Sch	AvgRF	CCRF	%Dev An		Dev(min)	
1 T Bromochloromethane (IS)	1,000	1.000	0.0	100	0.00 0.00	$[0, -k^{-1}]$
2°T Propylene	4 300	4 074		100	0.00	
3CT IN Dichierodifiuorometnane	4,355	1 899	12.1	100	0,00	
4. To Chioromethane	1 140	1 165	-2.2	100	0.00	
	0 457	0.446	2,4	100	0.00	
7 T Promomothane	1 199	1.104	7.9	100	0,00	
%er où Chloroethane	0.430	0.441	-2.6	100	0.00	
%iT ≥ Vinvl Brömide	1.037	1.001	3,5	100	0.00	
ther Unitchlorofluoromethane	4,682	4,491	4,1	100	0,00	
1KT COMACETONE Multic	1.800	1.574	12.6	100	0,00	.:
12 Isopropyl Alcohol (IPA)	1.594	1.589	0.3	100	0.00	
181 RF1,1-Dichloroethene	2.592	2.621	-1.1	100	0.00	
14 T Methylene Chloride	1 483	1,449	2.3	100	0.00 0.00	
15 T Carbon Disulfide	4.261	4.224	V, 9 2 0	100	0.00	
16 T trans-1,2-Dichloroethene	1.349	1,389	-3,0	100	0,00	
17-T Methyl-tert-butyl ether	3.801	3,940	-3,3	100	0.00	
18 T 1,1-Dichloroethane	3.388	3.574	0.4 0.1	100	0.00	
19 T Vinyl Acetate	4,447	4,020	2 7	100	0.00	
20 T N-Hexane (MEV)	3 572	3 557	0.4	100	0.00	
21 1 2-Dulanone (MER)	2 425	2,410	0.6	100	0.00	
22 T CIS-1, Z-Brennor of theme	6,228	6.147	1.3	100	0.00	
	3,391	3,336	1,6	100	0.00	
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25 T 1.4-Difluorobenzene (IS)	1,000	1.000	0.0	100	0.00	
26 T Tetrahydrofuran	0,559	0.539	3.6	100	0.00	
27°T 31 1,2-Dichloroethane	0.482	0.474	1.7	100	0.00	· ·
28 T 1/1/1/Trichloroethane	0,636	0.606	4.7	100	0.00	
29 T 1,1-Dichloropropene	0.754	0.779	-3.3	100	0,00	
30 T Carbon Tetrachloride	0.629	0.645	-2.5	100	0.00 0,00	
31 T Benzene	1.139	1,444	/.3	100	0,00	
32 T Gyclohexane	0.708	0,773	-3.8	100	0.00	
33 T 1922-Dichtoropropane	0,004	0, 22, 3	-3.8	100	0.00	
34 I IfichiorOethene	0.423	0.794	2.8	100	0,00	
36 T 1 A-Dioxane	0.135	0.143	-5.9	100	0.00	
37 T Frenchane	2,354	2.386	-1.4	100	0,00	
38 T N-Heptane	0.836	0.822	1.7	100	0.00	
39 T cis-1 3-Dichloropropene	0.712	0.779	-9.4	100	0.00	
40 T 42Methyl=2-Penanone (MIBK)	0.919	1.001	-8.9	100	0.00	
41 T trans-1.3-Dichloropropene	0.498	0.528	-6.0	100	0.00	
42 T 1,1,2-Trichloroethane	0.412	0.415	-0.7	100	0,00	
43 T Toluene	1.107	1,191	-7.6	100	0.00	
44 T 2-Hexanone	0,791	0.727	8.1	100	0.00	
28 - Charles Carles - Arroy	1.000	1.000	0.0	100	0.00	
45 I Chlorobenzene-d5 (IS)	0,986	0.941	4.6	100	0.00	
40 T Dibromochloromethane 47 T 1/2-Dibromoethane (EDB)	0.781	0.811	-3,8	100		
	0,643	0.639	0.6	100		
48 T Tetrachloroethene 49 T Chlorobenzene	1.171	1.124	4.0	100		
56 T Ethylbenzene	1.908	2,062	-8.1	100	0.00	
51 T m,p-Xylene	0.667	0.682	-2.2	100	0,00	
52 T Bromoform	0,729	0.726	0.4	100		
53 T Styréne	0.885	0.910	-2.8	100		
54 T 1.1.2.2-Tetrachloroethane	1.300	1.254	3.5	100		
55 T O-Xylene	0.601	0.609	-1.3	100		
56 S 4 Bromofluorobenzene (SURR)	0.478	0.539	-12.8	100		
57 T 4-Ethyltoluene	1.441	1,562	-8.4	100		
58 T 1.3.5-Trimethylbenzene	1,377	1,353	1.7			Pag
59 T 1,2,4 Trimethylbenzene	1,088	1.157	-6.3 -11.6	$100 \\ 100$		0
60 T 1,3-Dichlorobenzene	0.671	0.749	-11.0	100	0.00	

T T T T	Benzyl Chloride 1,4-Dichlorobenz 1,2-Dichlorobenz 1,2,4-Trichlorob Naphthalene Hexachloro-1,3-b	ene ene enzene utadiene	0.148 0.100	0.609 0.070 0.135	9.0	100 100 100 100 100 100	0.00 0.00 0.00 0.00 0.00 0.00
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Data File : C:\HPCHEM\1\DATA\031620C\1101011.D Vial: 11 Operator: TJG Acq On : 16 Mar 2020 9:53 pm Sample : BFB/CCV 10PPBV TO-15 ICAL RR Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Time: Mar 17 9:50 2020 Quant Results File: 031620AI.RES Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 

 1) Bromochloromethane (IS)
 9.45
 128
 994770
 5.00 ppbv
 0.00

 25)
 1.4-Difluorobenzene (IS)
 11.74
 114
 4282523
 5.00 ppbv
 0.00

 245)
 Chlorobenzene-d5 (IS)
 16.96
 117
 3156797
 5.00 ppbv
 0.00

 A. On L: M. 2019 System MonitoFing'/Compounds M056) 4-Bromö%FüöröBenzene (SURR 18.76 95 1702676 5.64 ppbv 0.00 MC SpikedaAmountoCom 5.000 Range 62 - 145 Recovery = 112.80% Control Physics AmountoCom 5.000 Range 62 - 145 Recovery = 112.80% -system wolltoping Compounds Wi50 4-Bromofbliotoberzone (SURR 18.76 95 1702676 5.64 ppbv 0.00 Rissing Compounds (SURR 18.76 95 1702676 5.64 ppbv 0.00 Rissing Compounds (SURR 18.76 95 1702676 5.64 ppbv 100 Rissing Compounds (SURR 18.76 95 1702676 5.64 ppbv 100 Rissing Compounds (SURR 18.76 95 170286 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 170286 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 170286 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 170286 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 120186 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 120186 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 120186 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 120186 8.56 ppbv 100 Rissing Compounds (SURR 18.76 95 1201876 1201

Quantitation Report

(QT Reviewed)

(#) = qualifier out of range (m) = manual integration 1101011 D 031620AI.M Wed Mar 18 07:40:09 2020

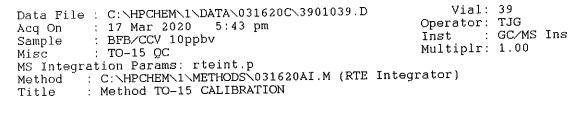
Data File : C:\HPCHEM\1\DATA\0	Quantitation Rep 31620C\1101011.	D	Reviewed) Vial: <u>11</u>		
Acq On : 16 Mar 2020 9:53 Sample : BFB/CCV 10PFBV TO- Misc : TO-15 QC MS Integration Params: rteint. Quant Time: Mar 17 9:50 2020	pm 15 ICAL RR P	Op In: Mu	erator: TJG st : GC/MS ltiplr: 1.00 ts File: 0316		
Quant Method : C:\HPCHEM\1\MET Title : Method TO-15 CA Last Update : Tue Mar 17 09:4 Response via : Initial Calibra DataAcq Meth : ENV05	LIBRATION 19:17 2020	(RTE Inte	grator)		
Compolund	R.T. QION	Response	Conc Unit	Qvalue	
Compound 54) 1,1,2,2-Tetrachloroethan 55) bo-Xylene 55) bo-Xylene 55) 1,3,5-Trimethylbenzene 59) 1,2,4-Trimethylbenzene 50) 1,3-Dichlorobenzene 51) Benzyl Chloride 62) 1,4-Dichlorobenzene 52) 1,2-4-Trichlorobenzene 53) 1,2-4-Trichlorobenzene 53) 1,2-4-Trichlorobenzene 54) 1,2,4-Trichlorobenzene 55) Naphthalene 56) Hexachloro-1,3-butadiene	ne 18.20 83 18.23 106 19.73 105 19.82 105 20.33 105 20.54 146 20.51 91 20.63 148 21.09 146 23.55 180 23.75 128	7918070 3842896 9859428 8544239 7301914 4726055 4741556 1777189	9.64 ppbv 10.12 ppbv 10.84 ppbv 9.83 ppbv 10.63 ppbv 11.15 ppbv 9.62 ppbv 8.72 ppbv 9.52 ppbv 9.19 ppbv 9.08 ppbv	100 100 100 100 100 100 100 100 100 100	
D::     A.H. (16)     B::     B::       Comp Anne       (10)     A.H. (16)     B::       (11)     (11)     B::     B::       (12)     (11)     (11)     B::       (12)     (11)     (11) <td></td> <td></td> <td></td> <td></td> <td></td>					
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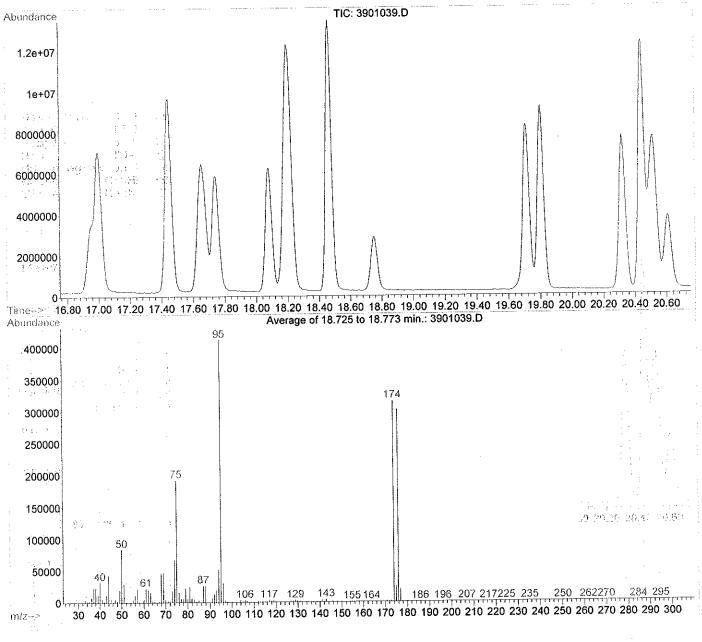
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20CN110 ICAL RR	СТО 0110 1001 1002 0000	Biomochloromethane (IS),T Chloroethene,T Biomochloromethane (IS),T Chloroethene,T
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TAN03161 9:53 pm TO-15 TO-15 1nt.p	METH 5 CAL 19 10 10 10 10 10 10 10 10 10 10 10 10 10	00 00 00 00 00 00 00 00 00 00
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	A A A A A A A A A A A A A A A A A A A	Page 89 of 152
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### Tune File : C:\HPCHEM\1\DATA\031620C\1101011.D Tune Time : 16 Mar 2020 9:53 pm

## Daily Calibration File : C:\HPCHEM\1\DATA\031620C\1101011.D

				994770	4282520	31,56800
File	Sample	Surrogate	Recovery %	Internal	Standard	Responses
=======	======================================	=========	=================	======================================		3138039
1401014,	D METHOD B	100		736385	2597659	1778498
1601016.	D LCSD-10P				3965824	2751678
1801018	D 20-892 A			645106		
2301023.	D 20-876	90		682703	2166408	1774865
	D 20-878	101		669614	1812240	1504678
2601026.	D 20-880	100		707442	2060203	1036484
2801028.	D 20-882	94		747250	2586599	2021427
2901029	D=20=884			818466	2807792	1990460
<u>_2011</u> 3201032;	D 20-886	98		716151	2582065	1887131
3301033:	D 20-888	94		756924	2557989	1733888
<u>ــــــــــــــــــــــــــــــــــــ</u>	D 20-890	98	4000 \$1	747750	2379769	1708260
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Spectrum Information: Average of 18.725 to 18.773 min.

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail
$\begin{vmatrix} 50 \\ 75 \\ 95 \\ 96 \\ 173 \\ 174 \\ 175 \\ 176 \\ 177 \end{vmatrix}$	95   95   95   174   95   174   174   174   176	15   30   100   2   0.00   50   5   95   5	40 60 100 9 2 100 9 101 9	20.4 46.6 100.0 7.2 0.4 76.6 8.0 95.8 6.6	84168   192106   412004   29661   1196   315733   25373   302315   19981	PASS PASS PASS PASS PASS PASS PASS PASS

-150-279 -> 0-2 ≥ 300

 $p_{1}(t_{1},t_{2},t_{3$ 

## Evaluate Continuing Calibration Report

Acq On Sample Misc	: C:\HPCHEM\1\DATA\031620C\3901039.D : 17 Mar 2020 5:43 pm : BFB/CCV 10ppbv : TO-15 QC ation Params: rteint.p	Vial: 39 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00	
Method	C:\HPCHEM\1\METHODS\031620AI.M (RTE	Integrator)	

Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:49:17 2020Response via: Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min Max. RRF Dev : 50% Max. Rel. Area : 200%

	RRF Dev : 50% Max. Rel. Af Compound	AvgRF	CCRF	%Dev Ar	ea%	Dev(min)	
<b></b> - 1 T	Bromochloromethane (IS) Propylene Dichlorodifluoromethane Chloromethane Vinyl Chloride 1,3-Butadiene Bromomethane Chloroethane Vinyl Bromide Vinyl Bromide Vinyl Bromide Vinyl Bromide Vinyl Bromide Vinyl Bromide Vinyl Bromide Vinyl Bromide Chloroethane Methylene Chloride Carbon Disulfide trans-12-Dichloroethene	1.000	1.000	0.0	86	-0.01	
$2^{5}$ T	Propylene	0,886	0.781	11.9		0.01	
3 Т	Dichlorodifluoromethane	4,399	4,917	-11.8	104	0.02	
4 T	· Chloromethane	2.161	1.843	14.7	83 76	0.02 0.02	
$5 \cdot T$	Vinyl Chloride	1.140	1.032	9,5 6 8	82	0.02	
6' T :	1,3-Butadiene	0.457	U,426	0.0	90	0.02	
7 T	Bromomethane	1,199	1,103	3.0	82	0.02	
8 T	Chloroethane	0.430	1 099	_5.0	93	0.01	
9 T	Vinyl Bromide	1.037	1 985	-6.5	95	0,01	
106T	TELECTOR PROFOME TURNE	4.004	4.903	77	91	0.00	
11日 1	TERRARUL Algobol (TDA)	1 594	1 511	5.2	82	0,00	
12	Supropyl Alconol (IFA)	2 592	2.770	-6.9	91	0.01	
13 14 T	Mothylene Chloride	1.483	1.458	1.7	86	0,00	
$14^{-1}$ 15 T	Carbon Digulfide	4.261	4.333	-1.7	88	0.01	
15 T 16 T	trans_122-Dichloroethene	1,349	1,281	5.0	79	0.00	
17 T	Methyl-tert-butyl ether	3.801	1,281 3,795	0.2	83	0,00	
18 T	t 1-Dichloroethane	3.588	3,545	1.2	85	0.00	
19 T	Vinvl <sup>®</sup> Acetate	4.429	3,993	98	85	0.00	
20 T	N-Hexane	3,092	2.980	3.6	85	0,00	
21 T	2-Butanone (MEK)	3.572	3.236	9.4	78	-0.01	
22 T	cis-1,2-Dichloroethene	2.425	2.387	1.6	85	0.00	
23 T	Ethyl Acetate	6.228	5,673	8.9	79	0.00	
24 T	Carbon Disulfide trans-1,2-Dichloroethene Methyl-tert-butyl ether 1,1-Dichloroethane Vinyl Acetate N-Hexane 2-Butanone (MEK) cis-1,2-Dichloroethene Ethyl Acetate Chloroform 1,4-Difluorobenzene (IS) Tetrahydrofuran 1,2-Dichloroethane 1,1,1-Trichloroethane 1,1,0-Dichloropropene Carbon Tetrachloride Benzene Cyclohexane 1,2-Dichloropropane Trichloroethene Bromodichloromethane 1,4-Dioxane Isooctane N-Heptane cis-1,3-Dichloropropene 4-Methyl-2-Penanone (MIBK) trans-1,3-Dichloropropene 1,1,2-Trichloroethane Toluone	3,391	3.483	-2.7	90	-0.01	
25 T	1,4-Difluorobenzene (IS)	1.000	1.000	0.0	91	-0,01	
26 T	Tetrahydrofuran	0.559	0,464		78	0.00	
27 T	1,2-Dichloroethane	0.482	0,465		89	0,00	
28 T	1,1,1-Trichloroethane	0.636	0.622	2.2	93	0.00	
29 T	1,1-Dichloropropene	0,754	0,740	1.9	86	-0.02 -0.01	
30 T	Carbon Tetrachioride	0.629	0.667 1.165	-6.0 -2.3	94 87	-0.01	
31 T	Benzene	1.139	1.100		85	-0.01	
32 T	Cyclonexane	0,700	0,725 0.505		88	-0.01	
33 T	1,2-Dichioropropane	0,004	0.305	-4.0	91	-0.01	
34 T	Trichloroethene Deservishlenemethene	0.425	0.783	4.2	90	-0.01	
35 T	Bromodicnioromethane	0.017	0.122	9.6	78	0,00	
36 I 37 T		2 354	2.282		87		
ാര്ന	N Hontano	0.836	0.766		85	-0.01	
20 I 70 I	dig_1_3_Dichloronronene	0.712	0.740	-3.9	86	-0.02	
32 I 40 T	$f_{-Methyl=2-Penanone}$ (MIBK)	0.919	0.892	2.9	81	0,00	
40 I 41 T	trans-1.3-Dichloropropene	0.498	0,892 0.521	-4.6	90	-0,01	
42 T	1,1,2-Trichloroethane	0.412	0.417	-1.2	91	-0.02	
43 T	Toluene	1.107	1.178	-6.4	90	0.00	
44 T	2-Hexanone	0.791	0.662	16.3	83	-0.01	
45 I	Chlorobenzene-d5 (IS)	1.000	1.000	0,0	91	0,00	
46 T	Dibromochloromethane	0.986	0,983	0.3	95	-0.02	
47 T	1,2-Dibromoethane (EDB)	0.781	0.815	-4.4	92		
48 T	Tetrachloroethene	0.643	0.674	-4.8	96		
49 T	Chlorobenzene	1.171	1.112	5.0	90		
50 T	Ethylbenzene	1.908	2.088	-9.4	92		
51 T	m,p-Xylene	0.667	0.688	-3.1	92		
5 <u>2</u> T	Bromoform	0,729	0.773	-6.0	97		
53 T	Styrene	0.885	0,921	-4.1	92		
54 T	1,1,2,2-Tetrachloroethane	1.300	1.318	-1.4	96		
55 T	o-Xylene	0.601	0.620	-3.2	93		
56 S	4-Bromofluorobenzene (SURR)	0.478	0.459	4.0	78		
57 T	4-Ethyltoluene	1.441	1.682	-16.7	98 97		
58 T	1,3,5-Trimethylbenzene	1,377	1.439	-4.5 -16.3	97 100		Page 92 of 152
59 T	1,2,4-Trimethylbenzene	1.088	1.265	-16.3 -17.9	96		-
60 T	1,3-Dichlorobenzene	0.671	0.791	-11.7	50	4 · 4 +	

61 63 64 65 66	T 1,4-Dichlorobenzene T 1,2-Dichlorobenzene T 1,2,4-Trichlorobenzene Naphthalene T Hexachloro-1,3-butadiene	0.781 0.323 0.639 0.077 0.148 0.100	0.782 0.317 0.691 0.079 0.145 0.100	$ \begin{array}{c} -0.1 \\ 1.9 \\ -8.1 \\ -2.6 \\ 2.0 \\ 0.0 \end{array} $	95 103 104 102 98 101	-0.02 -0.01 0.00 -0.01
	(#) = Out of Range 1101011.D 031620AI.M	SPCC's c Wed Mar 18 (	out = 0 ( )7:42:33	CCC's out 2020	= 0	
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Vial: 39 Data File : C:\HPCHEM\1\DATA\031620C\3901039.D Data FileC. GPCHEMIN (DATA (051020003901039.D)Operator: TJGAcq On: 17 Mar 20205:43 pmOperator: TJGSample: BFB/CCV 10ppbvInst: GC/MS InsMisc: TO-15 QCMultiplr: 1.00MS Integration Params: rteint.pQuant Time: Mar 18 6:55 2020Quant Results File: 031620AI.RES Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 

 Internal Standards
 K.I. (1001)
 Response
 Conc on the bev (MIII)

 1) Bromochloromethane (IS)
 9.43
 128
 854125
 5.00 ppbv
 -0.01

 25)
 1.4-Difluorobenzene (IS)
 11.73
 114
 3895359
 5.00 ppbv
 -0.01

 3.45)
 Chlorobenzene (IS)
 16.95
 117
 2881981
 5.00 ppbv
 0.00

 3.45)
 Chlorobenzene (SUPP
 18
 75
 95
 1323666
 4
 80 ppbv
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Quantitation Report

(QT Reviewed)

(#) = qualifier out of range (m) = manual integration 3901039.D 031620AI.M Wed Mar 18 07:42:40 2020

ta File : C:\HPCHEM\1\DATA\03162 q On : 17 Mar 2020 5:43 pm mple : BFB/CCV 10ppbv sc : TO-15 QC Integration Params: rteint p want Time: Mar 18 6:55 2020	0C\390:		Op In Mu	Vial: 39 erator: TJG st : GC/MS ltiplr: 1,00 ts File: 0316	
ant Method : C:\HPCHEM\1\METHODS tle : Method TO-15 CALIBR st Update : Tue Mar 17 09:49:17 sponse via : Initial Calibration taAcg Meth : ENV05	ATION 2020	)AI.M	(RTE Inte	grator)	
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
54) 1,1.2,2-Tetrachloroethane 55) o-Xylene (1) 57) 4-Ethyltoluene 58) 1,3,5-Trimethylbenzene 60) 1,3-Dichlorobenzene 61) Benzyl Chloride 62) 1,4-Dichlorobenzene 63) 1,2-Dichlorobenzene 63) 1,2-Dichlorobenzene 64) 1,2,4-Trichlorobenzene 65) Naphthalene 66) Hexachloro+1,3-butadiene	18.1918.2219.7119.8020.3220.5220.4920.6121.0823.5423.7424.28	83 106 105 105 146 91 148 146 180 128	7597567 3574620 9696478 8293649 7292909 4560207 4506371 1827865 3983495 454476	10.31 ppbv 11.68 ppbv 10.45 ppbv 11.63 ppbv 11.78 ppbv 10.01 ppbv 9.82 ppbv 10.81 ppbv 10.30 ppbv 9.77 ppbv	98 99 99 99 99 99 98 98
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	39 TJG GC/MS 1.00	0316;		TIC: 3901039.D							T,ensrited T,ensu	-Trichlorc	T,9n9ponqo 1,1,2		-E,t-enei					14.00	
Quantitation	Vial: Operator: Inst : Multiplr:	File:	Integrator)	ÖF								A BRING	<b>Halozoló</b> 488	A610				<u></u>	=	13.00	
uant	Oper Inst Mult	lts	ltegr				T,enstoo	osi -	1	T.effe, F.effe	<u>settas Tris Dif</u>	iorometa barror	doinona Bromodich								
CN CN		Resul											2-Dichloropi		edonoufii(	<u>]-þ'l</u>				12.00	0
	Ą	Quant	M (RTE								1.		chloroethan T,ensenet atbon Tetra IS),T Cyc							11.00	0 2020
	01039	Ox	1620AI.M ON 20									10	10 di 00101de	T,9i	ioroelhan hydrofura				$\equiv$	10.00	07:42:40
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•	е с с		MNINMETHODS 0-15 CALIBRS 17 09:49:17 Calibration	):: +: 									T,nəribə iytu			-r.r oA IyniV enoneiu8-	- 5-		<u> </u>		Wed Mar
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	Data F. Acq On Sample Misc	ant	Method Title Last U	Abundance 1.6e+07	1.5e+07	1.4e+07	1.3e+07	1.2e+07	1.1e+07	1e+07	0000006	8000000	000000	0000009	500000	4000000 4000000	300000	00000 00000 7 Page 9	00000000000000000000000000000000000000	Time> 0	3901039.D

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Tune File : C:\HPCHEM\1\DATA\031620C\3901039.D Tune Time : 17 Mar 2020 5:43 pm

## Daily Calibration File : C:\HPCHEM\1\DATA\031620C\3901039.D

	· · ·		854125	3895360	2881980
File	Sample	Surrogate Recovery %	Internal	Standard	Responses
4101041.D	METHOD B	92	725365	2192265	1410608
4201042.D	LCS-10PP	98	758736	3670951	2789122
4301043.D	LCSD-10P	99	783188	3821190	2947817
4401044.D	20-877 S	103	778379	2594721	2014890
4501045 D	20-879	108	789277	2871598	2141298
4601046.D	20-881	104	742498	2542597	2441256
4701047.D	20-885	110	652086	1634857	1426134
4801048.D	20-887	107	690378	1659803	1636245
••••	20-889	103	688386	1810437	1934286
5001050.D	20-891	101	782549	2515724	2690440

t - fails 24hr time check \* - fails criteria

Created: Wed Mar 18 07:51:51 2020 GC

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# <u>TO-15 VOC</u> Quality Control Data

- Method Blank (MB)
- Laboratory Control Standard (LCS)

Quant	itation Rep	ort (QT	Reviewed	l)	
Data File : C:\HPCHEM\1\DATA\03162 Acq On : 16 Mar 2020 10:39 pm Sample : 10PPBV TO-15 ICV/LCS Misc : TO-15 QC MS Integration Params: rteint p	30C\1201012.	Ope Ins	Vial: 1 ərator: T st : G ltiplr: 1	IJG GC/MS Ins	
Quant Time: Mar 17 9:50 2020	Q	uant Result	ts File:	031620AI.RES	$P^{Heat}_{\mu\nu}$
Quant Method : C:\HPCHEM\1\METHOD Title : Method TO-15 CALIBI Last Update : Tue Mar 17 09:49:1 Response via : Initial Calibration DataAcq Meth : ENV05	RATION 7 2020	i (RTE Integ	grator)		januarian National Security Manuarian Manuarian Manuarian Manuarian Manuarian Manuarian
Internal Standards	R.T. QION	Response	Conc Uni	its Dev(Min)	
1) Bromochloromethane (IS) 25) 1,4-Difluorobenzene (IS) De45) FChlorobenzene-d5 (IS) Act in 16 March	9.46 128 11.75 114 16.97 117	1021256	5.00 p 5.00 p		
System MonitoPrig Compounds M156) 4-Bromöflügröbenzene (SURR MS Spikedanounters 5,000 Ran & ni fim: Har 12	18.77 95 ge 62 - 145	1701471 i Recove	5.67 g ry = 1	ppbv 0.00 113.40%	an a
Target Compounds Qu 2) ProbyleneC dP Ti 3) Dichlorodifluoromethane L2 4) QH foromethane L2 4) QH foromethane L2 4) QH foromethane L2 4) QH foromethane L2 4) QH foromethane 18 5) OVinyl Chloride 0 6) 1, 3 = Bitad fend 7) Bromomethane 8) Chloroethane 9) Vinyl Bromide 10) Trichlorofluoromethane 11) Acetone 10 12) Isopropyl Alcohol (IPA) 13) 1, 1-Dichloroethene 14) Methylene Chloride 15) Carbon Disulfide 16) trans 1, 2-Dichloroethene 17) Methyl-tert-butyl ether 18) 1, 1-Dichloroethane 19) Vinyl Acetate 20) N-Hexane 21) 2-Butanone (MEK) 22) Cis-1, 2-Dichloroethene 23) Ethyl Acetate 24) Chloroform 26) Tetrahydrofuran 27) 1, 2-Dichloroethane 29) 1, 1-Dichloropropene 30) Carbon Tetrachloride 31) Benzene 32) Cyclohexane 33) 1, 2-Dichloropropane 34) Trichloroethane 35) Bromodichloromethane 36) 1, 4-Dioxane 37) Isooctane 38) N-Heptane 39) cis-1, 3-Dichloropropene	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2106549 9494304 3411720 3140543 5581354 3075778 9101902 2768748 7838220 7369181 8377519 6278909 7141576 4973464 12472166 6975417 4970219 3931223 5331123 6468220 5533062 10646878 6864104 4603231 3879801 6807714 1248720 20838199 7263417	9.23 9.22 10.46 9.78 9.22 9.95 9.94 9.28 9.65 10.54 10.16 10.46 10.05 9.26 9.94 9.79 10.005 9.26 9.94 9.79 10.005 10.07 10.64 9.74 10.97 10.97 10.97 9.965 10.51 11.18 11.59 10.97 9.965 10.51 10.97 9.965 10.51 10.64 9.74 10.97 10.97 9.965 10.51 10.51 10.51 10.51 10.51 10.51 10.97 9.965 10.97 9.965 10.97 10.97 10.97 10.58 10.39 10.86	ppbv       100'         ppbv       99         ppbv       98         ppbv       95         ppbv       98         ppbv       99         ppbv       95         ppbv       98         ppbv       99         ppbv       99         ppbv       99         ppbv       92         ppbv       92         ppbv       92         ppbv       92         ppbv       92         ppbv       92         ppbv       95         ppbv       97         ppbv       97         ppbv       97         ppbv       97         ppbv       97         ppbv       97         ppbv       94         ppbv       99         ppbv <t< td=""><td></td></t<>	
<pre>40) 4-Methyl-2-Penanone (MIBK) 41) trans-1.3-Dichloropropene 42) 1.1.24Trichloroethane 43) Toluene 44) 2-Hexañone 46) Dibromochloromethane 47) 1.2-Dibromoethane (EDB) 48) Tetrachloroethene 49) Chlorobenzene 50) Ethylbenzene 51) m.p-Xylene 52) Bromoform 53) Styrene</pre>	15.12       43         15.31       129         15.61       107         16.20       166         17.01       112         17.46       91         17.76       173         18.09       104	4412549 3521403 10141435 6613715 6018092 5294061 4078682 7057587 12992362 8594747 4553469 5750263	$11.34 \\ 10.59 \\ 10.21 \\ 10.95 \\ 10.00 \\ 9.73 \\ 10.80 \\ 10.11 \\ 9.60 \\ 10.85 \\ 20.53 \\ 9.95 \\ 10.36 $	ppbv     99       ppbv     99       ppbv     99       ppbv     95       ppbv     99       ppbv     99       ppbv     99       ppbv     97       ppbv     98       ppbv     99	
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Qua	ntitatio	n Rep	ort (QT	Reviewed)		
Data File : C:\HPCHEM\1\DATA\031 Acq On :: 16 Mar 2020 10:39 p Sample : 10PPBV TO-15 ICV/LCS Misc : TO-15 QC	m	01012.	Op In	Vial: 12 erator: TJG st : GC/M ltiplr: 1.00		
MS Integration Params: rteint.p Quant Time: Mar 17 9:50 2020		Q	uant Resul	ts File: 031	620AI.RES	
Quant Method : C:\HPCHEM\1\METHO Title : Method TO-15 CALI Last Update : Tue Mar 17 09:49: Response via : Initial Calibrati DataAcq Meth : ENV05	BRATION 17 2020	20AI.M	(RTE Inte		:	. *
Compound	R.T.	QIon	Response	Conc Unit	Qvalue	
54) 1,1,2,2-Tetrachloroethane D=55) Fo-Xylene Hills Ac57 Mid-Ethyltoluene	18.23 19.73	106	3789030	9.68 ppbv 10.04 ppbv 10.77 ppbv	7 97 7 99	

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So58101,3,5-Trimethylbenzene	19,82	105	8715323	10.08	ppbv	98
M 59) 1.2.4-Trimethylbenzene	20.34	105	7277556	10.66	ppbv	99
M660) 133-Dichlörobenzene	20.54	146	4582599	10.87		98
	20.51	91	4805662	9.81	* * .	99:
(61) Benzyl Chloride	20.51	148	1811671	8,94		99
62) 1,4-Dichlorobenzene		146	3774888	9.41		98
(2263) 1,24Dichlerobenzene	21.09			8.80	* * .	98
164) 1,2,4-Tridhlörobenzene	23.56	180	422491			
Le65) Whaph thal one a line is the	23.75	128	848157	9.11	ppbv #	91
K666) Hexachloro 1,3-butadiene	24.29	225	581972	9.26	ppbv	99
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コージョン (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	NHPCHEMNIN 6 Mar 2020 0PPBV TO-15 0-15 QC n Params: r ar 17, 9:50 ar 17, 9:50 c:NHPCHEM c:NHPCHEM method TC initial C	T,enisritemoroufloronitionolitoritoritoritoronitionolitoronitionolitoronitionolitoritoritoritoritoritoritoritoritoritor
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Quantitation Report (QT Reviewed) Vial: 16 Data File : C:\HPCHEM\1\DATA\031620C\1601016.D Operator: TJG : 17 Mar 2020 1:21 am Acq On : GC/MS Ins Inst : LCSD-10PPBV Sample Multiplr: 1.00 : TO-15 QC Misc MS Integration Params: rteint.p Quant Results File: 031620AI.RES George Ouant Time: Mar 17 15:14 2020 Corterio Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) 64.94 Title : Method TO-15 CALIBRATION 1 See provided Last Update : Tue Mar 17 09:49:17 2020 9.649 Response via : Initial Calibration DataAcq Meth : ENV05 -20 R.T. QIon Response Conc Units Dev(Min) Internal Standards 5.00 ppbv 1) Bromochloromethane (IS) 9.46 0.01 819606 128 0.01 3965824 5.00 ppbv 11,75 25) 1.4-Difluorobenzene (IS) 1140.02 5,00 ppbv 16.97 117 2751678 0 45) Chlorobenzene-d5 (IS) Ar in 1 Mar System MonitorPnd Compounds 156) 4-Bromoffluorobenzene (SURR 18.77 95 1525028 5.80 ppbv 0.01 Recovery = 116.00% MS Spiked Amount 5:000 Range 62 - 145 in the second nt Tuger Hag 17  $\pm e^{i t \cdot d N_{\rm eff}}$ Qvalue Target Compounds 11.02 ppbv 16 J. 93 Qu 2) Propylene Mer 4 39 1600822 4.10 9.78 ppbv 9.95 ppbv 85 7053537 97 Ti 3) Dichlorodifluoromethane 4,19 ويدرد مدرجت المحار L: 4)UCHlöromethane<sup>36</sup> R: 5 MNAnvliChløride 99. 50 3523731 4.37 10.02 ppbv ann a' Tairte 1871919 Re 5 prVinyl Chloride 4.62 62 99 774067 10.33 ppbv De 6)-1,3-Butadiene 4,78 39 40 j. j. 97 ort itsels Ter 10.28 ppbv 5.09 94 2019742 7) Bromomethane i di si 5.29 5.68 6.15 6.00 95 j 64 742016 10.52 ppbv 8) Chloroëthane 96 9) Vinyl Bromide 1897905 11.16 ppbv 106 11.19 ppbv 100 10) Trichlorofluoromethane 101 8588116 9.38 ppbv 2767626 96 11) Acetone 12) Isopropyl Alcohol (IPA) 13) 1.1-Dichloroethene 43 6.29 2831858 10,84 ppbv # 89 45 95 11.10 ppbv 6.86 61 4718192 6.99 94 314) Methylene Chloride 84 2576983 10.60 ppbv 89 (15) Carbon Disulfide 7.33 76 7485991 10.72 ppbv 7.33 8.06 8.40 8.31 16) trans 1(2 Dichlordethene 10.08 ppbv 96 2229270 96  $\lambda_{i}^{(1)}(y_{i},t_{i})_{i} \in [0,\infty)$ 99' 17) Methyl-tert-butyl ether 73 6168845 9,90 ppbv  $\frac{1}{2}$  and  $\frac{1}{2}$ 18)1,1-Dichloroethane 19) Vinyl'Abetate 97 10.40 ppbv # 6119358 63 5.47 8.50 9.54 8.79 99 43 7126577 9.82 ppbv in de la composición de la composicinde la composición de la composición de la composición de la compo 20) N-Hexañe 21) 2-Butanone (MEK) 22) cis-1 2-Dichloroethene 57 10.35 ppbv 98 5243672 1 t 1. s 10.09 ppbv 96 5907199 43  $(-, \cdot, \cdot) \in \mathbb{R}$ 9,27 98.1 4148068 10.44 ppbv 61 Second 1 9.94 ppbv 98. 23) Ethyl Acetate 9.54 43 10147015 10.62 ppbv 96 24) Chloroform 9,62 83 5906126 9.86 ppbv 91 26) Tetrahydrofuran 10.09 42 4366556 98 27) 1,2-Dichlordethane 28) 1,1.1-Trichloroethane 10,48 62 3477599 9.09 ppbv 10.79 8.96 ppbv 97 98 4521356 29) 1.1-Dichloropropene 13.61 75 5496780 9,19 ppbv 99 9.37 ppbv 100 4676284 30) Carbon Tetrachloride 117 11.51 31) Benzene 32) Cyclohexane  $11.3\overline{4}$ 78 8957097 9.92 ppbv 99  $11.67 \\ 12.31$ 98 56 5711072 10.17 ppbv 9.70 ppbv 99 33) 1,2-Dichloropropane 34) Trichloroethene 63 3878681 9.71 ppbv 12.58 3256808 99. 95 35) Bromodichloromethane 99 8,88 ppbv 12.52 83 5756357 t protos Presidentes 36) 1,4-Dioxañe 12,58 88 923515 8.59 ppbv 98 N 2 1 

 37)
 Isooctane
 12.66

 38)'
 N-Heptane
 12.95

 39)
 cis-1,3-Dichloropropene
 13.61

 40)
 4-Methyl-2-Penanone (MIBK)
 13.62

 100 57 18081278 9.68 ppbv 9.27 ppbv 96 43 6144100 1.14 9.73 ppbv 98 75 5496780 43 7386039 10.13 ppbv 98 41) trans-1,3-Dichloropropene 14.23 9.68 ppbv 99 75 3824721 42) 1,1,2-Trichloroethane 3090520 9,45 ppbv 98 14.45 83 43) Toluene 44) 2-<sup>D-</sup> 99 ; 14,81 91 8821527 10.05 ppbv 2-Hexanoné 5588213 8.91 ppbv 94 15.13 43 100 46) Dibromochloromethane 15,31 129 5226270 9.63 ppbv 10.60 ppbv 95 47) 1.2-Dibromoethane (EDB) 107 4557691 15.62 16.20 17.02 99 48) Tetrachloroethene 166 3454003 9.76 ppbv 49) Chlorobenzene 50) Ethylbenzene 9.46 ppbv 1126100947 99 10.77 ppbv 17.47 91 11305088 100 51) m.p-Xylene 52) Bromoform 91 7382503 17,67 20,11 ppbv 100 9.72 ppbv # 17.76 173 3902571 98 53) Styrene 2.4 99 18,10 104 5012569 10.30 ppbv -----(#) = qualifier out of range (m) = manual integration Page 102 of 152<sup>Page 1</sup> 1601016 D 031620AI.M Wed Mar 18 07:40:17 2020

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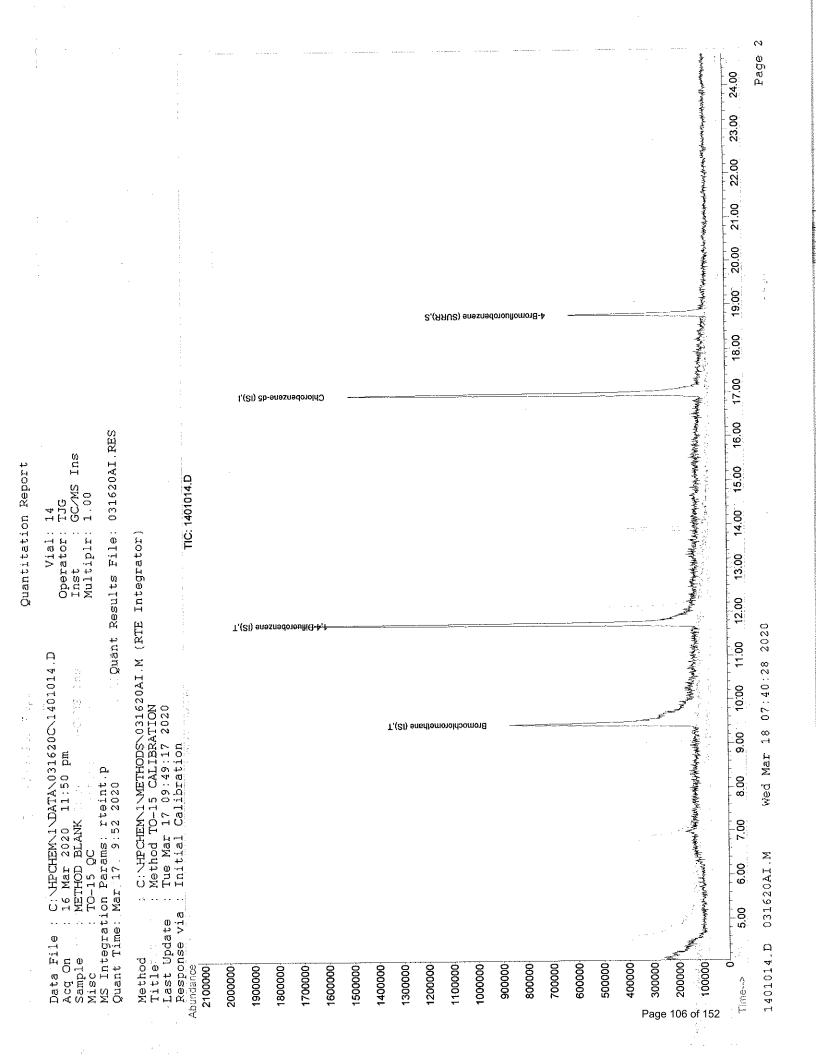
Quant	titation Report ((	)T Reviewed)	
Data File : C:\HPCHEM\1\DATA\03167 Acq On : 17 Mar 2020 1:21 am Sample : LCSD-10PPBV Misc : TO-15 QC MS Integration Params: rteint.p Quant Time: Mar 17 15:14 2020		Vial: 16 Dperator: TJG Inst : GC/MS Ins Multiplr: 1.00 ults File: 031620AI.RES	
Quant Method : C:\HPCHEM\1\METHOD Title : Method TO-15 CALIB Last Update : Tue Mar 17 09:49:1 Response via : Initial Calibration DataAcq Meth : ENV05	5\031620AI.M (RTE In RATION 7 2020		
Compound	R.T. QIon Respons	e Conc Unit Qvalue	
54) 1,1,2,2-Tetrachloroethane 55) 5-Xylene 5 A 57) 4-Ethyltoluene 58) 1,3,5-Trimethylbenzene M560; 1,2,4-Trimethylbenzene 61) Benzyl Chloride 62) 1,4-Dichlorobenzene 64) 1,2,4-Trichlorobenzene 1,2,4-Trichlorobenzene 52) Naphthalene 866) Hexachloro-1,3-butadiene	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	10.26 ppbv       99         10.88 ppbv       99         9.99 ppbv       99         10.71 ppbv       100         11.05 ppbv       99         9.45 ppbv       100         8.81 ppbv       98         9.56 ppbv       99         9.25 ppbv       99         9.94 ppbv       90	
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			T,ອກຣຕ່າອວາວໄດ້ຊີ <del>ເອເຊອີ</del> ໄຊຊີເຊີນຊີ	14     Chierobenzene-d5.(IS).L     Chierobenzene-d5.(IS).L     Chierobenzene.T       1     Ethylbenzene.d5.(IS).L     Ethylbenzene.T       0     5     5       0     5     5       0     5     5       0     5     5	
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Quantitation	Vi Operat Inst Multip ht Results Fi	(RTE Integrator TIC	- Isooclane,T	8     Benzene, T.     Benzene, T.       7,4-Difluorobenzene (IS), T.     Cyclohexane, T.       1,2-Dichloroproprogram, T.     1,2-Dichloroproprogram, T.       1,2-Dichloroproprogram, T.     1,2-Dichloroproprogram, T.       1,2-Dichloroproprogram, T.     1,2-Dichloroproprogram, T.	2020
•	031620CN1601016.D 21 am 21 am	ETHODSN031620AI.M CALIBRATION :49:17 2020 :49:17 roto ration		2.Butanone (MEK), T 6. 8. 8. 9. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	r 18 07:40:18
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Quantitation Report (QT Reviewed) ÷ Vial: 14 Operator: TJG Data File : C:\HPCHEM\1\DATA\031620C\1401014.D Acq On : 16 Mar 2020 11:50 pm Sample : METHOD BLANK Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint p Quant Results File: 031620AL.RES And dest Quant Time: Mar 17 9:52 2020 1.00 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) 1 Starte Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration Tanaharin Mali 13.1943.5.1 1965年1月3日 DataAcq Meth : ENV05 avi in Line R.T. QIon Response Conc Units Dev(Min) Internal Standards 1) Bromochloromethane (IS)9.441287363855.00 ppbv25) 1.4-Difluorobenzene (IS)11.7311425976595.00 ppbv245) Chlorobenzene-d5 (IS)16.9611717784985.00 ppbv -0,00 0.00 0.00 ac du la la la la System Monitoring Compounds M156) 4-Bromo#łuórobenzene (SURR 18.79 95 849704 5.00 ppbv 0.02 MS Spiked Amount 3:000 Range 62 - 145 Recovery = 100.00%  $1,2,\ldots,n$ Ç nt Tin > Mar 17 5. a na she Qvalue Target Compounds E Methid I C day 114 S JA DAL Qu é Methae Ny fatri Turi N ri <u>ر ( ۱</u> . 5 name name i dig  $\frac{1}{2}$ 122 STREE V B SMECE. : 40 95 - 97 Re ACC 168 有一一股176% Da gaar in the ĥ. HERE I TEST STORES مالية الالالد للتيت ليتريدونيون ---S. 1 from characteries. ÷ 医内外外胚层 化结合剂 . . . 1.1 and the other of the second second ÷ + . and 100 主新 正田宇 15 1 ЪĐ 1 子見家 的复数感觉的 MĚ please mander a al estas estas 输行性性 化二乙酸化 主义 get to total 5 ્રે 1  $^{2}$  $\hat{X}_{\mu}$ gan na si 12 and a second s and a star Shine and ĩ.Μ ALC: LARGE SE an an starta 17. das n de la deservación Altrastructuras Altrastructuras .  $f \in \operatorname{str}$ ۰., i. : · · · Sec. Sec. (#) = qualifier out of range (m) = manual integration 1401014.D 031620AI.M Wed Mar 18 07:40:28 2020

Page 105 of 152 Page 1



Vial: 42 Data File : C:\HPCHEM\1\DATA\031620C\4201042.D Operator: TJG Acq On : 17 Mar 2020 7:38 pm Sample : LCS-10PPBV Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Time: Mar 18 6:53 2020 Quant Results File: 031620AI.RES Quant Time: Mar 18 6:53 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration period se د به د میزد میر د به د میزد میر ۲۰ می ام د DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards R.T. QIon Response Conc Units Dev(Min) 1) Bromochloromethane (IS)9.441287587365.00 ppbv0.0025) 1.4-Difluorobenzene (IS)11.7311436709515.00 ppbv-0.0145) Chlorobenzene-d5 (IS)16.9411727891225.00 ppbv-0.01 -0.01System Monitoring Compounds 56) 4-Bromofluorobenzene (SURR 18.75 95 1301580 4.88 ppbv -0.01 Mo Spiked Amount 50000 Range 62 - 145 Recovery = 97.60% ng Kasalan da 1974 -1. A. . . . . 

Quantitation Report

(QT Reviewed)

(#) = qualifier out of range (m) = manual integration 4201042.D 031620AI.M Wed Mar 18 07:42:48 2020

Quan	titation Rep	ort (QT	Reviewed)		
Data File : C:\HPCHEM\1\DATA\0316 Acq On : 17 Mar 2020 7:38 pm Sample : LCS-10PPBV Misc : TO-15 QC MS Integration Params: rteint.p Quant Time: Mar 18 6:53 2020		Op In Mu	Vial: 42 erator: TJG st : GC/MS In ltiplr: 1.00 ts File: 0316202		
Quant Method : C:\HPCHEM\1\METHOD Title : Method TO-15 CALIE Last Update : Tue Mar 17 09:49:1 Response via : Initial Calibratic DataAcq Meth : ENV05	S\031620AI.M RATION 7 2020		:		n Alfred Alfred
Compound	R.T. QIon	Response	Conc Unit Qv	alue	
<pre>b 55) o-Xylene</pre>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 6886737\\ 3219166\\ 8974341\\ 7618842\\ 6692689\\ 4062343\\ 3965949\\ 1703613\\ 3620997\\ 470075\\ 902690\\ 586519 \end{array}$	9.49 ppbv 9.60 ppbv 11.17 ppbv 9.92 ppbv 11.03 ppbv 10.85 ppbv 9.11 ppbv 9.11 ppbv 9.46 ppbv 10.15 ppbv 11.01 ppbv 10.91 ppbv 10.50 ppbv	99 97 99 100 99 97 100 98 98 98	ŝ. g j.
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Wed Mar 18 07:42:48 2020 031620AI.M 4201042.D

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Page 24.00 T,ensibslud-6,1-oroldosx9H 1,2,4-Trichlorobenzene,T 23.00 22.00 21.00 T,9neznedonoidoid-S,1 T,enesmediyrlaminT-A,S,† T,enesmedorafiabriobt/p tysne8 T,enesmedorofnor0-A,1 20.00 19.00 noleon<u>T</u>.A.S. 8 T,ensitieronompanae/XSSC,1,1 T,enertl2 8 T, enervy without a more than the second sec Ethylbenzene,T 17.00 T,eneznedotoldD ---I,(CI) cb-enscredoroldD 16.00 T,enschloroethene,T 031620AI.RES T,(803) enertheomordiG-S,h suI 15.00 T,enskhemorokhomondiQ T,anonexaH-S TIC: 4201042.D GC/MS T,ensuloT 00. 42 TJG T,anshisotohichT-S, f, f 8 T,enegorgonolhoid-E,t-anent ing and the state 4 Results File: Vial: Multiplr: Integrator Operator T,(YABIM)Terternangereinen (MIBK),T 13.00 nst T,enstqeH-N T,enstooosl T,១កនុព្ភលេសព្ទស្មារ T,១កន័ព្ទផ្សារវិវិវិវិវិវិវិវិវិវិភិភពលាខ្មែរ Bromoticihorony 12.00 C:\HPCHEM\1\METHODS\031620AI.M (RTE Method TO-15 CALIBRATION Tue Mar 17 09:49:17 2020 Initial Calibration Benzene (IS), T Cyclohexane, T, 4-Diffuorobenzene (IS), T Cyclohexane, T Quant 11.00 C: NHPCHEMN1NDATAN031620CN4201042.D T,ensitieoroidonT-r,i,r T, ensilieoroldoi (G-S, r 10.00 T,nehutofutan,T Cis-1,2-Dichloroethene,T Bromochloromethene (I.S),T Chloroform,T T STEBUCK SYNHO 006 7,(X∃M) enonsiu8-S шđ T,enerijeoroici.2.1.-ខ.1 T,enerijeoroici.2.1, 1 T,inyi Aciali, P, 181, 191, 191, 1 Tinyi Acialiti ms: rteint.p 6:53 2020 7:38 8.00 T, sbillusiQ notheO 7.00 17 Mar 2020 LCS-10PPBV TO-15 QC Methylene Chloride, T ion Params (A91) IortoolA lygonges Mar 18 6.00 T,ensritemoroultoroldon T T,enoteoA T, sbimora tyniV T,ensihamomota Chloroethane,T 5.00 Response via Method Title Last Update MS Integrat T,enerthemeter, T,enerthemeter ime File F г эзэнхсол T,ensniemoroutliboroth;C Acq On Sample Misc 4000000 Quant 300000 2000000 1000000 5000000 1.2e+07 1.1e+07 1e+07 800000 700000 600000 1.4e+07 0000000 Abundance 1.3e+07 Data A-0E Page 109 of 152

Quantitation Report

Vial: 43 Data File : C:\HPCHEM\1\DATA\031620C\4301043.D Operator: TJG Acq On : 17 Mar 2020 8:15 pm Sample : LCSD-10PPBV Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 . . . . MS Integration Params: rteint.p 1986) - 194 Quant Results File: 031620AI.RES Quant Time: Mar 18 6:54 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 n strand geboordering Response via : Initial Calibration DataAcg Meth : ENV05 13 R.T. QIon Response Conc Units Dev(Min) Internal Standards 

 1) Bromochloromethane (IS)
 9.43
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 25) 1.4-Difluorobenzene (IS)
 11.72
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 45) Chlorobenzene-d5 (IS)
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 も 雪戸 上 À. : System Monitoring Compounds System Monitoring Compounds H 56) 4-Bromöfluorobenzene (SURR 18.75 95 1401540 4.97 ppbv -0.01 

 H\*55;4
 4-Dromófiluorobienzone (SURR 18.75
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 Recovery
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 11: Spiked = Amount 5,000 Range 62 - 145 Recovery = 99.40% · · · / AL CARLES IN 0

Quantitation Report

(QT Reviewed)

(#) = qualifier out of range (m) = manual integration 4301043 D 031620AI.M Wed Mar 18 07:42:52 2020

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#### Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031620C\4301043.D Acq On : 17 Mar 2020 8:15 pm Sample : LCSD-10PPBV Misc : TO-15 QC Vial: 43 Operator: TJG Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 18 6:54 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 Gammanumd Regnonge Conc Unit Ovalue OTem

Compound	R.T.	Qion	Response	Cone unit	Qva108
Compound 54) 1,1,2,2-Tetrachloroethane 55) o-Xylene 57) 4-Ethyltoluene 58) 1,3,5-Trimethylbenzene 59) 1,2,4-Trimethylbenzene 60) 1,3-Dichlorobenzene (61) Benzyl Chloride 62) 1,4-Dichlorobenzene (63) 1,24-Dichlorobenzene 164) 1,2,4-Trichlorobenzene 164) 1,2,4-Trichlorobenzene 164) 1,2,4-Trichlorobenzene 164) 1,2,4-Trichlorobenzene 164) 1,2,4-Trichlorobenzene 164) 1,2,4-Trichlorobenzene 164) 1,2,4-Trichlorobenzene	R.1.         18.18         19.71         19.80         20.32         20.49         20.61         21.07         23.54         23.73         24.27	83 105 105 105 146 91 148 146 180 128 225	7339813 3508682 9345848 8272171 7138822 4332813 4347945 1698306 3910673 489400 929887 606723	9,57 ppbv 9,89 ppbv 11,00 ppbv 10,19 ppbv 11,13 ppbv 10,95 ppbv 9,45 ppbv 8,92 ppbv 10,38 ppbv 10,38 ppbv 10,64 ppbv 10,28 ppbv	

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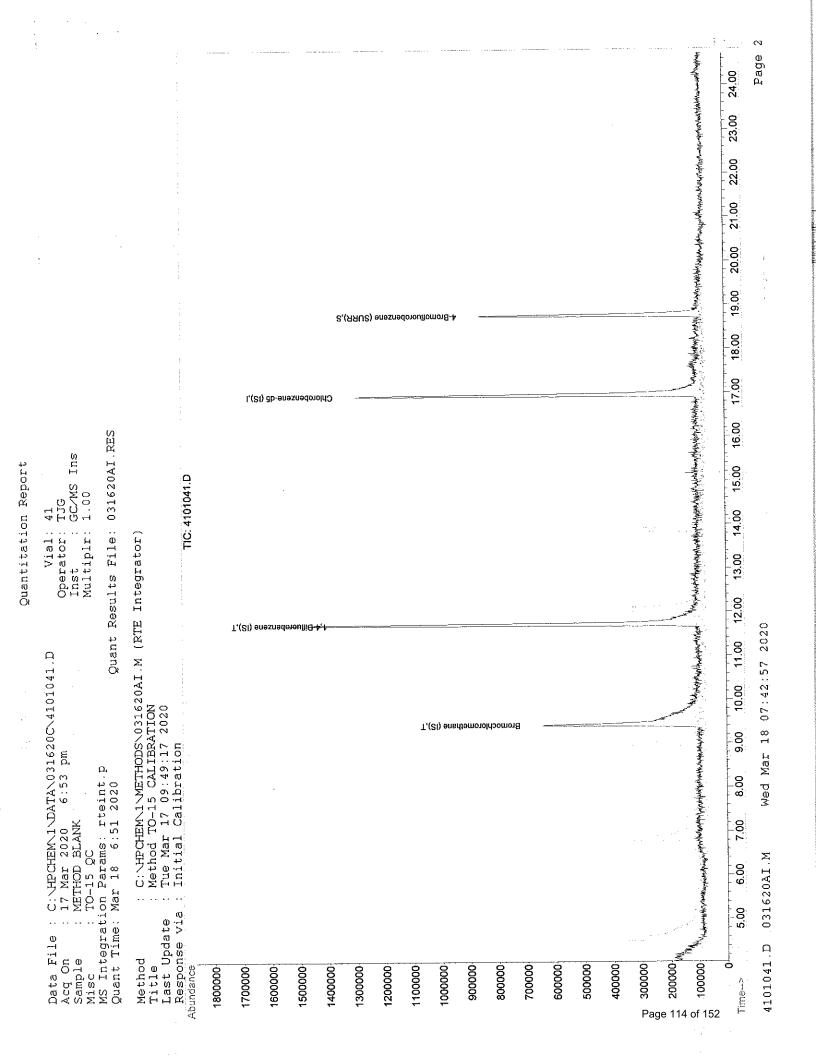
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	Data Fi Acq On Sample Misc	MS Integrat Quant Time:	Method Title Last Updo	Abundance	1.5e+07	1.4e+07	1.3e+07	1.2e+07	1.1e+07	1e+07	90000000 T,91	000000 800000 800000	7000000 31/10/00000	6000000 Bi	500000-	4000000		200000	1000000		4301043.D
				A														Page	e 112 of 152	2 1	v

Vial: 41 Data File : C:\HPCHEM\1\DATA\031620C\4101041.D : 17 Mar 2020 6:53 pm Operator: TJG Acq On Inst : GC/MS Ins METHOD BLANK Sample TO-15 QC Multiplr: 1.00 Misc MS Integration Params: rteint.p Sec. Quant Results File: 031620AI.RES Quant Time: Mar 18 6:51 2020  $\gamma^{*}=\gamma^{*}$ Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) 19 E. Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 an segun Terregen gana Response via : Initial Calibration DataAcq Meth : ENV05 9 R.T. QIon Response Conc Units Dev(Min) Internal Standards \_\_\_\_\_\_ 9.42 128 11.71 114 16.94 117 5.00 ppbv 725365 -0.02 1) Bromochloromethane (IS) 5.00 ppbv -0,03 25) 1,4-Difluorobenzene (IS) D-45) Chlorobenzene-d5 (IS) 2192265 5.00 ppbv -0,01 1410608 . . System Monitoring Compounds 54.56) 4-Bromofluorobenzene (SURR 18.76 95 620427 4.60 ppbv bE Spiked-Amount from 5.000 Range 62 - 145 Recovery = 92.00% C nt Time that if 0.00 Qvalue Target Compounds ी महत्व में साम ્રપ  $\{\{i_1,i_2,\dots,i_N\}$ . . . . The eff 括法律法 1.1 सर्वे के स्टब्स् Rean Ann ge 1.0 the first  $q_{\rm M} = 2 q_{\rm M}^2$ ١. A. ges al la Merca Mo  $\ell^{*}$  $\langle ,i \in \mathcal{I} \rangle$ 4 . در د j. ÷.,, 1.1 ÷ \_\_\_\_\_

Quantitation Report

(QT Reviewed)



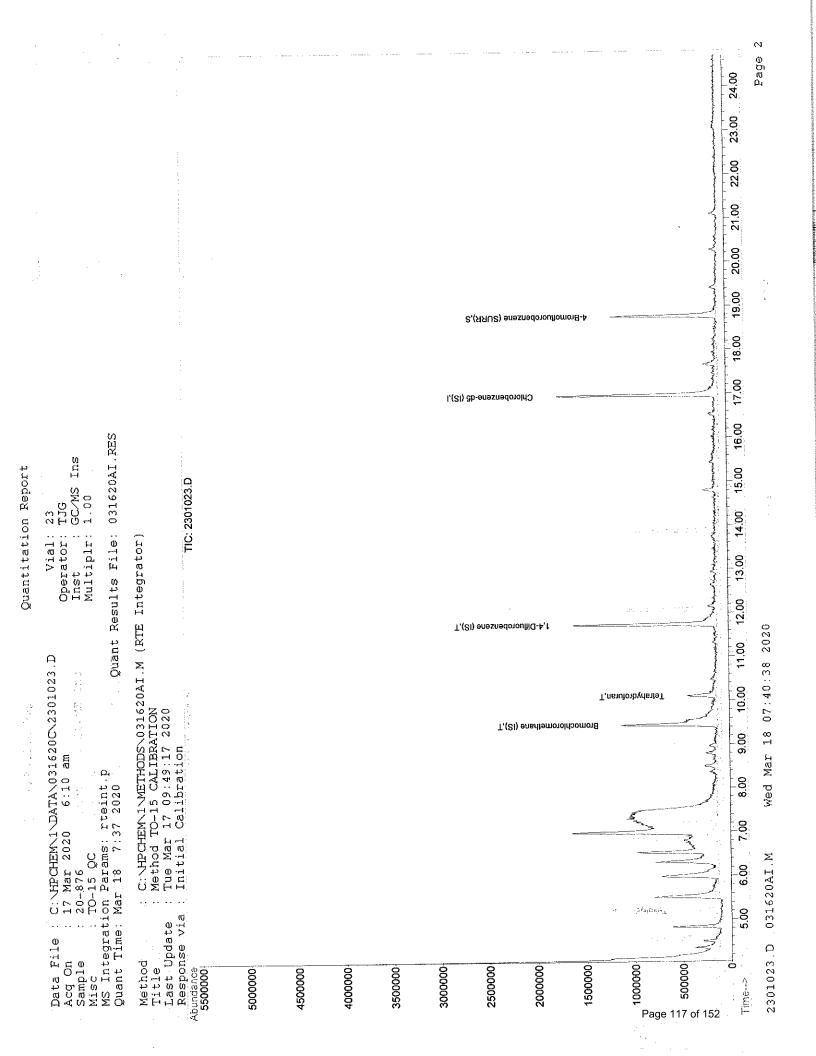


# <u>TO-15 VOC</u>

• Raw Sample Data

No. Ŷ Quantitation Report (QT Reviewed) Vial: 23 Data File : C:\HPCHEM\1\DATA\031620C\2301023.D : 17 Mar 2020 6:10 am Operator: TJG Acq On Inst : GC/MS Ins : 20-876 Sample Multiplr: 1,00 : TO-15 QC Misc MS Integration Params: rteint p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:37 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 £ Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 222 \_\_\_\_\_ 1) Bromochloromethane (IS)9.4412825) 1.4-Difluorobenzene (IS)11.73114 5,00 ppbv 0,00 682703 2166408 5.00 ppbv 0.00 25) 1.4-Difluorobenzene (IS) 0,00 16.96 117 1774865 5.00 ppbv D 45) Chlorobenzene-d5 (IS) 1 1)41 Ac ba System Monitoring Compounds M.56) 4-Bromoflubrobenzene (SURR 18.77 95 767764 4,52 ppbv 0.00 Recovery = 90.40% Spiked Amounta un 5:000 Range 62 - 145 Q ht Tim. Mar 10 <u>8</u> Qvalue Target Compounds 347876 1.44 ppbv # 89 Qu26) Wethahydrofuran 🥂 42 10.10 1.7 Ti Machor ŭhat.+L+  $\mathbb{T}_{M} \times \mathbb{M}$ 1.61911-24  $= E_{1}$ men vi al \_\_\_\_HEID\_C\_C LC: Aco Herbi 1 sinal tenderis -6 and the second second second r Brock ob. yww.a.k.t 1. 1. 1. 18 6 200 8 1. 1 an an ann an Arrienna 19 Ann an Arrienna 19 · • . 1.∱. len ter en sin sin gader en len ter 4 2425 (1) 法定的法 可能 C 7 . Jan Caree Jalo  $\delta_{j}^{2} = \left\{ \frac{1}{2} \frac{1}{2} \frac{1}{2} \left\{ 1 - \frac{1}{2} \frac{1}{2} \frac{1}{2} + \frac{1}{2} \frac{1}{2} + \frac{1}{2} \right\} = \left\{ 1 - \frac{1}{2} \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \frac{1}{2} + \frac{1}$ . . 21 Den tir . 1001 71∃⊁g 2 an a gettad et · · · · · in a start of the second s Second seco angal satu ng s See he are ; ... \_\_\_\_\_\_\_

(#) = qualifier out of range (m) = manual integration 2301023.D 031620AI.M Wed Mar 18 07:40:38 2020



Data File : C:\HPCHEM\1\DATA\031620C\4401044.D Vial: 44 Operator: TJG : 17 Mar 2020 8:48 pm Acq On 20-877 SS's BEGIN TO-15 QC Inst : GC/MS Ins Sample Multiplr: 1.00 Misc MS Integration Params: rteint p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:43 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min). Internal Standards 

 1) Bromochloromethane (IS)
 9.42
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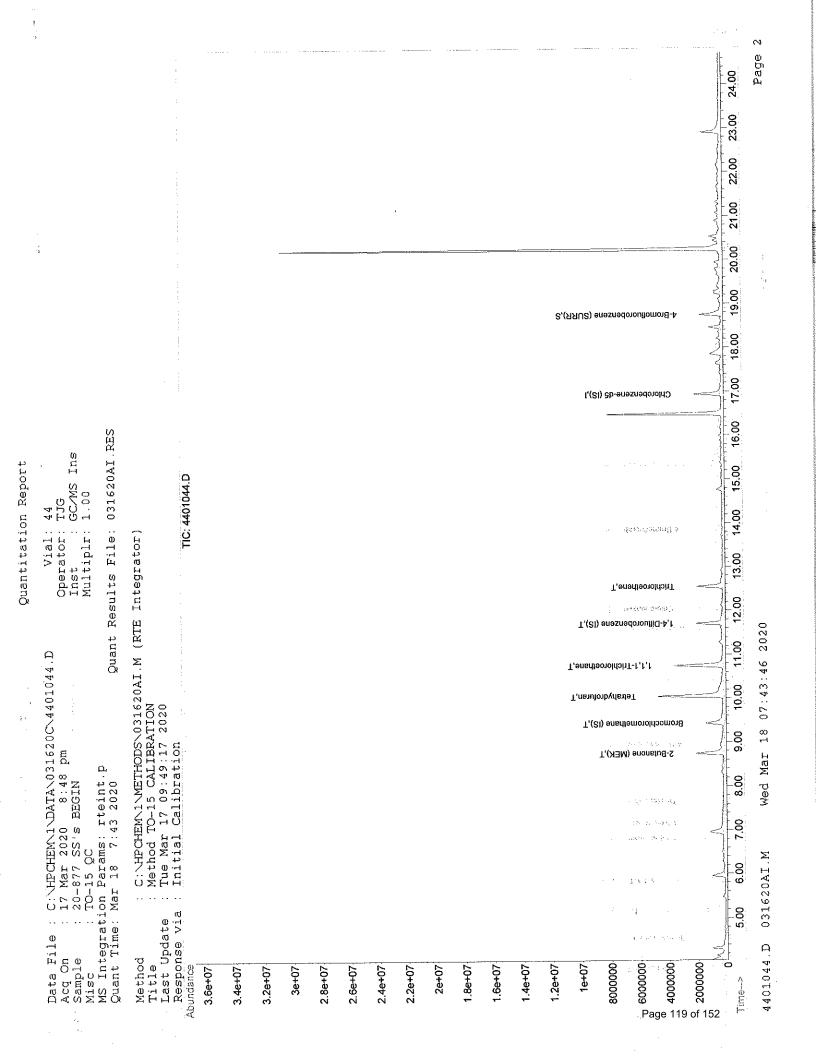
 25) 1.4-Difluorobenzene (IS)
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 15) Chlorobenzene-d5 (IS)
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 5.00 ppbv -0.03 778379 5.00 ppbv 2594721 -0,03 25) 1.4-Difluorobenzene (IS) 2014890 5.00 ppbv -0.02 45) Chlorobenzene-d5 (IS) System Monitoring Compounds Ma56) 4-Bromofluorobenzene (SURR 18.74 95 Spiked Amount 5.000 Range 62 - 145 990742 5.14 ppbv -0.02 Recovery = 102.80% Qvalue Target Compounds 221) 2-Butanone (MEK) 226) Tetrahydrofuran 228) 1,1,1,1-Trichloroethane 43 5134095 9.23 ppbv 97 8.74 42 5549278 97 3619179 95 1163881 19.14 ppbv 10.04 96 98 10.96 ppbv 10.74 😳 34) Trichloroethene 🦾 12,54 5.31 ppbv  $12^{10}$ . . . L ÷. 1.6 8 8 alaber Baser alle sonder og som Benarden Baser Borner alle so Stater og som Baser ander som ť  $^{1}$  s  $^{1}$  $\{\cdot\}$ 115 ٠,  $(j_1, 2)$  $\{x_i\}_{i=1}^{n-1} \in A_{i+1}$ í.  $\mathbb{N}_{2}$ , A 6 1 1  $\mathcal{A}^{*}$ 

Quantitation Report

(QT Reviewed)



(QT Reviewed) Quantitation Report 9 Ó Data File : C:\HPCHEM\1\DATA\031620C\2401024.D -Vial: 24 Operator: TJG Acq On : 17 Mar 2020 6:52 am Sample : 20-878 Misc : TO-15 QC ; GC/MS Ins Inst Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:37 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION 41.303 Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards \_\_\_\_\_ 

 1) Bromochloromethane (IS)
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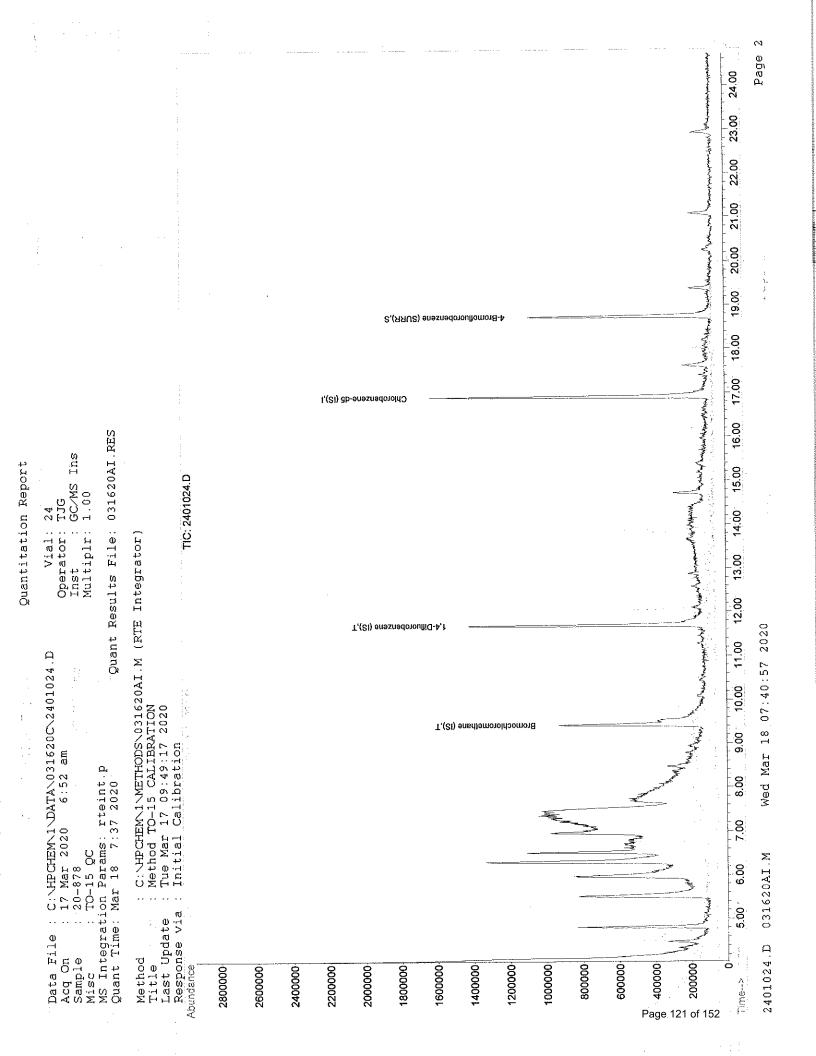
 25) 1,4-Difluorobenzene (IS)
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 15) Chlorobenzene-d5 (IS)
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 -0.02 669614 5.00 ppbv -0.05 5.00 ppbv 1812240 25) 1,4-Difluorobenzene (IS) 5.00 ppbv -0.04D 45) Chlorobenzene-d5 (IS) 1504678 System Monitoring Compounds 725009 5.04 ppbv -0.02M156) 4-Bromo'fluorobenzene (SURR 18.74 95 Recovery = 100.80% MS Spiked Amountains 5,000 Range 62 - 145 Q int Time: Mar 10 5 Qvalue Target Compounds t.Methid ⊂ C.JP Qu 1 Ti : Meshou ٠,) ..... Updata The Mc 1.0 mary via constraint ΞE Act He b - Elfos  $\hat{D}^{2}$ arritht literation 1 and the second second second second . . Fitter of around d 3  $\lambda_{i,i}$ ×. 1998 きみ目転で 北新ご ş 计正式的 网络马尔西兰语 14 ashada manjakasan Uti Tumo dine ta ų, light Commandia Chillean de la des ų . A ÷. 1.00 2011 E. C.  $[k_i]$ yr e yr y Carlyfarfy 124  $e_{ij} = e_{ij} + e_{ij}$  $\{x_i,y_i\}_{i\in \mathbb{N}} = \{x_i,y_i\}_{i\in \mathbb{N}} \in \{i,j\}$ Alex Alex Alexiting 1 2000 Alexandron (1903 5 1 I I I 1 t di s  $(1,1) \in \mathbb{R}^{n}$ Ç. 111111 1.1 ·•••, . 1 - j. 4 (#) = qualifier out of range (m) = manual integration

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Quantitation Report Vial: 45 Data File : C:\HPCHEM\1\DATA\031620C\4501045.D : 17 Mar 2020 9:23 pm Operator: TJG Acq On 20-879 TO-15 QC Inst : GC/MS Ins Sample Multiplr: 1.00 Misc MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:44 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards \_\_\_\_\_ \_\_\_\_\_ 9.43 128 11.71 114 16.94 117 5.00 ppbv -0.02 789277 1) Bromochloromethane (IS) 5.00 ppbv -0.03 2871598 25) 1,4-Difluorobenzene (IS) 5.00 ppbv -0.02 2 45) Chlorobenzene-d5 (IS) 2141298 System Monitoring Compounds 7 56) 4-Bromöfłübrobenzene (SURR 18.74 95 1107477 5.41 ppbv -0.02 E Spiked Amount 5:000 Range 62 - 145 Recovery = 108.20% Qvalue Target Compounds 221) 2-Butanone (MEK) 26) Tetrahydrofuran 28) 1.1.1-Trichloroethane 43 10605661 18.81 ppbv 8,74 34.12 ppbv 2.60 ppbv 3.10 ppbv 42 10946929 10.04 97 949373 10.75 97 17.64 91 884653 🕾 51) m.p-Xylene

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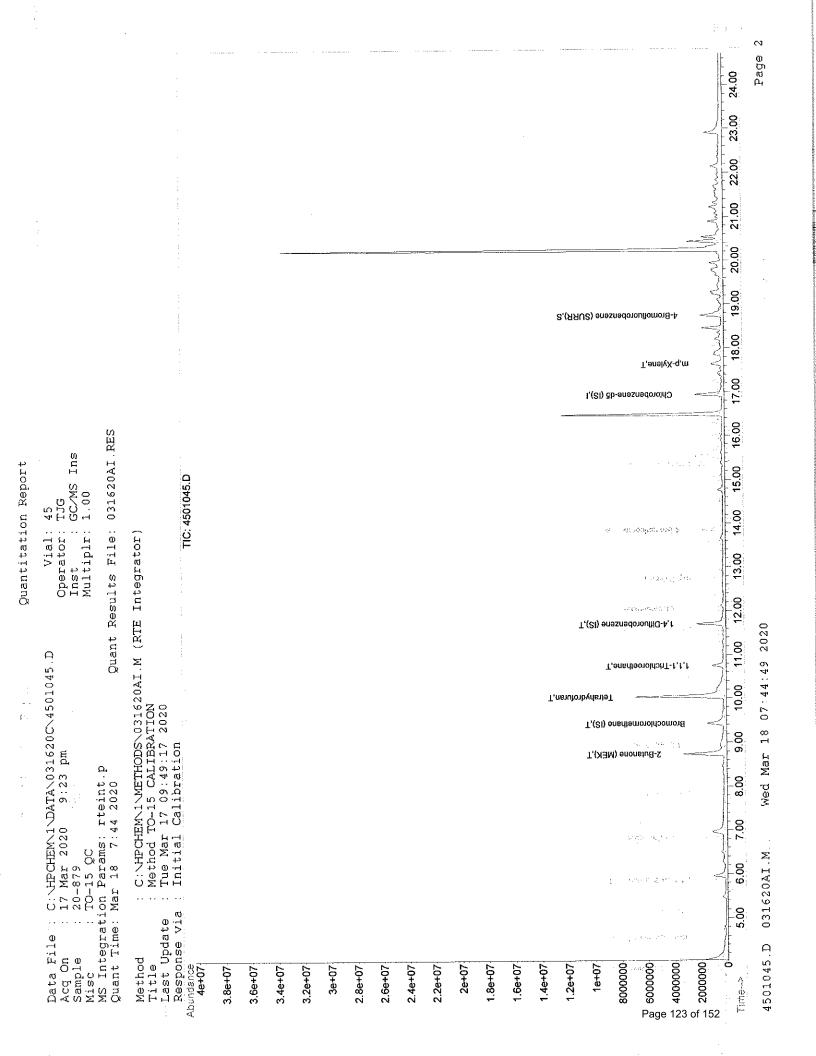
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(#) = qualifier out of range (m) = manual integration 4501045.D 031620AI.M Wed Mar 18 07:44:49 2020

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Quantitation Report (QT Reviewed) Data File : C:\HPCHEM\1\DATA\031620C\2601026.D Vial: 26 Acq On : 17 Mar 2020 8:12 am Operator: TJG Inst : GC/MS Ins : 20-880 Sample : TO-15 QC Multiplr: 1,00 Misc MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 17 11:47 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards \_\_\_\_\_ \_\_\_\_\_ 

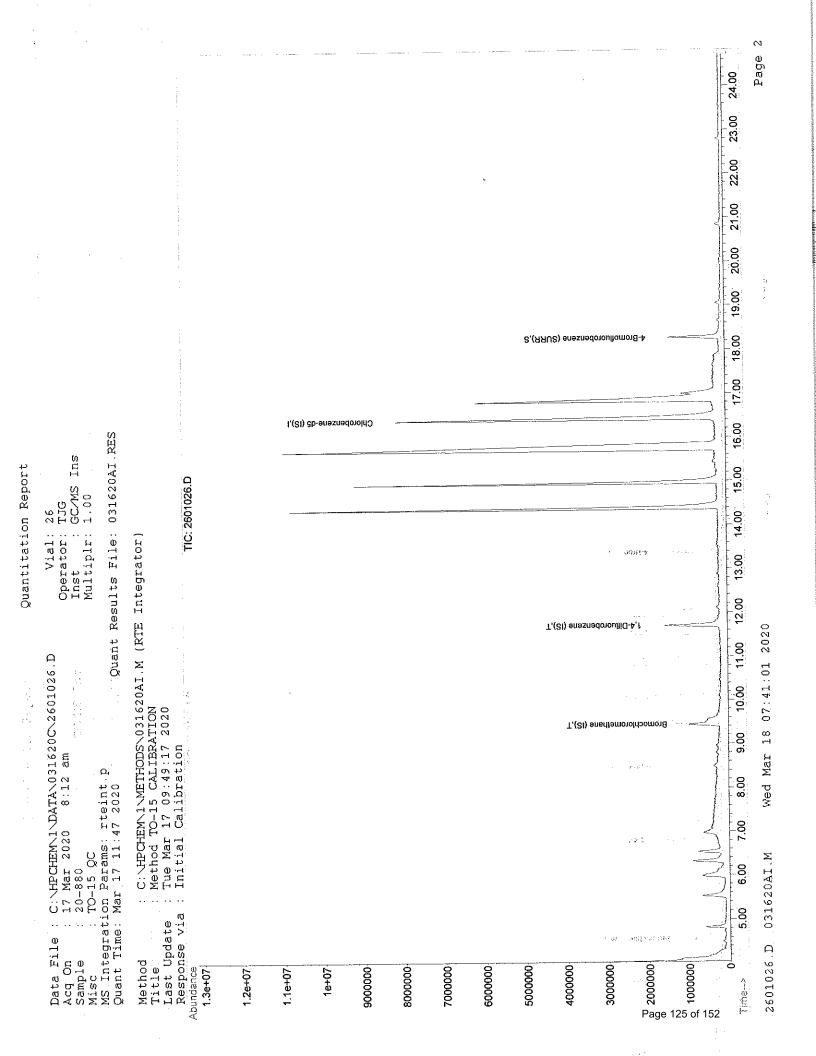
 1) Bromochloromethane (IS)
 9.44
 128

 25) 1,4-Difluorobenzene (IS)
 11.70
 114

 25) Chlorobenzene-d5 (IS)
 16.40
 117

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Vial: 46 Data File : C:\HPCHEM\1\DATA\031620C\4601046.D Operator: TJG Acq On : 17 Mar 2020 9:56 pm Sample : 20-881 Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:45 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 1) Bromochloromethane (IS)9.4312874249825) 1.4-Difluorobenzene (IS)11.711142542597D.45) Chlorobenzene-d5 (IS)16.941172441256 

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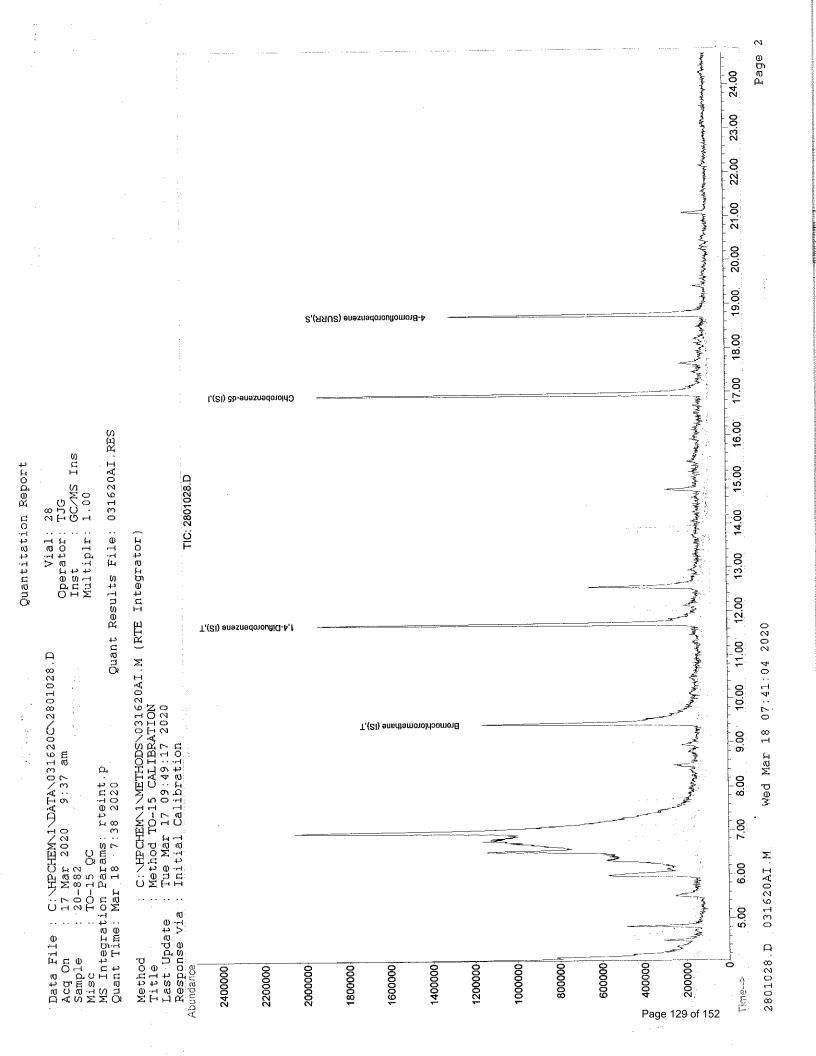
Quantitation Report

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#### (#) = qualifier out of range (m) = manual integration 4601046.D 031620AI.M Wed Mar 18 13:56:15 2020

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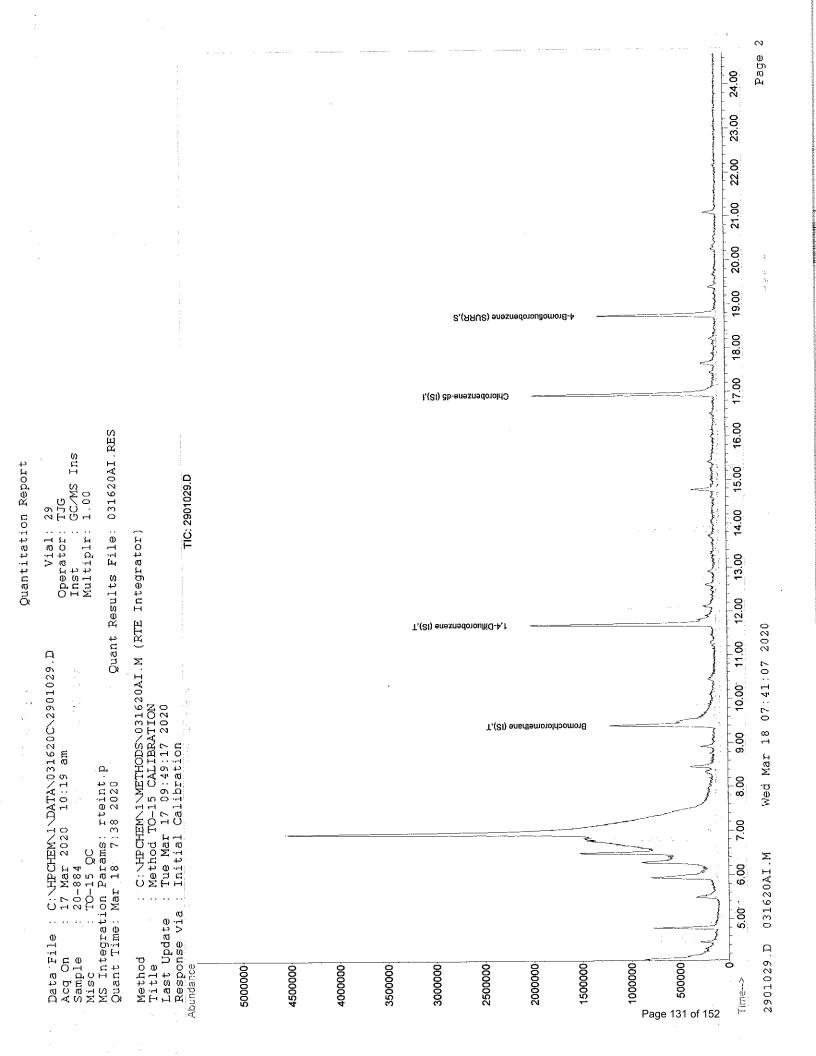
(QT Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\031620C\2801028.D Vial: 28 : 17 Mar 2020 9:37 am : 20-882 Operator: TJG Acq On Inst : GC/MS Ins Sample : TO-15 QC Multiplr: 1.00 Misc MS Integration Params: rteint p Quant Results File: 031620AI.RES Ouant Time: Mar 18 7:38 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 Sa. 1983 A. R.T. QIon Response Conc Units Dev(Min) Internal Standards 1.5 1)Bromochloromethane (IS)9.4212825)1.4-Difluorobenzene (IS)11.71114 -0.02 747250 5.00 ppbv ÷, 25) 1.4-Difluorobenzene (IS) 245) Chlorobenzene-d5 (IS) 2586599 5.00 ppbv -0.02 16.94 117 5,00 ppbv -0.01 2021427 ٦٠: 1 14 System Monitoring Compounds Mi56) 4-Bromo@Puorobenzene (SURR 18.76 95 907811 4.70 ppbv MS SpikedaAmounParage 5,000 Range 62 - 145 Recovery = 94.00% 0.00 3 ht Time: Mar 15 Ç Qvalue Target Compounds € Merch 3 CC 499 Qu - 4  $T_{1}$ Rechor 13 :  $L^{\odot}$ Up l.t n an star Thrìoba Tue M -0089 V 3  $\mathbf{P}_{i}$ 780 A 6 E Add Set 5  $D_{C}$ ornal Chaudhribs برادات مرابعته مراجع . ) three ch blone at  $\frac{1}{2} \left( f \right) \left( s = 4 \frac{1}{2} \int_{0}^{\infty} ds \, ds \, ds \, ds \right)$ 生产生物 化静力和分子 ÷, 14 动力的 计标识时 白  $\mathbb{P}^{\ell_{1}}$ 1 1912 Mailtac 194 J. 512 使き物構成の 内部の自己の主にも an Thair Awar in N. N 3 la di potren Santa (1 - Milia) 4 4 . - 1 1990 a 191 al ar s Su 181 Is  $\left| \cdot \right\rangle$ - 111 N 1  $\{\cdot\}_{i=1}^{n}$ (1, j)in the design of . . . . . n an an ann an an an Ar An Arthreachan an Ar An Ar An Ar Ar Ar 2 and an Article All and Article Ve . ). 14 THE REPORT  $h_{11}^{\rm el}$ an e e e e e I, 4: 11 



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Vial: 29 Data File : C:\HPCHEM\1\DATA\031620C\2901029.D : 17 Mar 2020 10:19 am : 20-884 : TO-15 QC Operator: TJG Acq On Inst : GC/MS Ins Sample Multiplr: 1.00 Misc MS Integration Params: rteint p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:38 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 . .... 10 Response via : Initial Calibration DataAcq Meth : ENV05 6.1  ${\bf t}_{i,j}$ R.T. QIon Response Conc Units Dev(Min) Internal Standards  $^{\circ}$   $\wedge$ 5.00 ppbv -0.041) Bromochloromethane (IS) 9.41 128 818466 25) 1.4-Difluorobenzene (IS)11.7011428077920.45) Chlorobenzene-d5 (IS)16.941171990460 5.00 ppbv -0.045.00 ppbv -0.02 At  $h_{\rm e} = 1$  Mar 2System Monitoring Compounds M156) 4-Bromoflubrobenzene (SURR 18.76 95 917277 4.82 ppbv 0.00 MS SpikedSAmounterans 57000 Range 62 - 145 Recovery = 96.40% ( bit Time: Mar 17 3 , Qvalue Target Compounds t Math d ⊂ JfPt 14 Qē Ťi Meshoe • ) æ -Tus Ec liedet -1.8 once v a - Intole  $\mathbb{R} \mathcal{E}$ ag i Asia  $\Sigma \hat{z}$ Aco Ma h 7 arro - tha dia 15 . . . . . . . . . . . . a Brow Charlen Profi and a start of the second s 1. See 12 1  $\sim 1^{\circ}$ 网络白色 医粘液反应性 章  $\mathbb{P}_{1}^{\ell}$ 1 4-187-16的生成过去。 . 21 란물 或是装饰样式 适应性的复数 计分析  $\frac{\pi}{2}$ 0.000 i g L) , i Sector -1 strigger a Studio 1 4.6 **...**,  $F_{\rm d}$ 4334 E. A. W. 나는 것이 돈이 물란 것이? Э. e statistics 11 , et Μ. ΥĒ ÷  $V_{e^{-}}$ . . . S 1 a call de la berer \_\_\_\_ (#) = qualifier out of range (m) = manual integration 2901029,D 031620AI,M Wed Mar 18 07:41:07 2020

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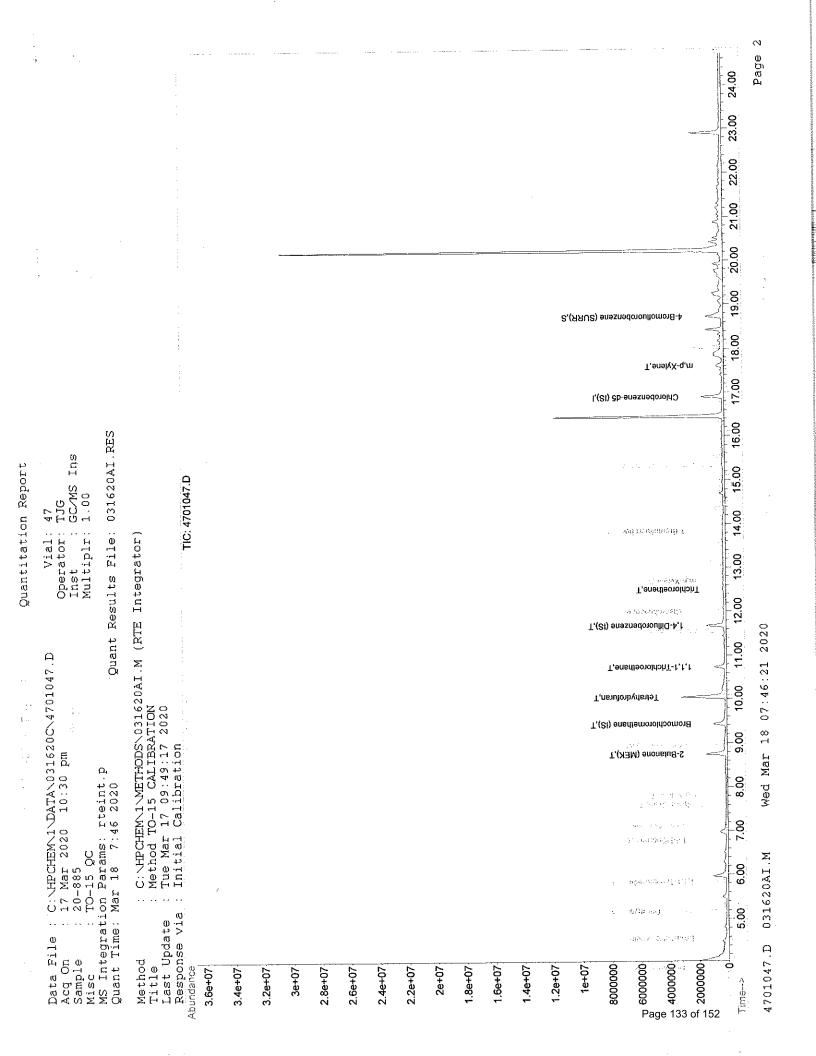
Vial: 47 Data File : C:\HPCHEM\1\DATA\031620C\4701047.D Acq On : 17 Mar 2020 10:30 pm Sample : 20-885 Misc : TO-15 QC Operator: TJG Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Ouant Results File: 031620AI.RES Quant Time: Mar 18 7:46 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 

 1) Bromochloromethane (IS)
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 652086 5.00 ppbv -0,03 -0.06 1634857 5.00 ppbv 25) 1.4-Difluorobenzene (IS) -0.06 5.00 ppbv 45) Chlorobenzene-d5 (IS) 1426134 System Monitoring Compounds 748352 5.49 ppbv -0.05 Recovery = 109.80% 156) 4-Bromofluorobenzene (SURR 18.71 95 M Spiked Amounto 5:000 Range 62 - 145 . Qvalue Target Compounds 21) 2-Butanone (MEK) 26) Tetrahydrofuran 28) 1/1/1-Trichloroethane 8.75 43 4208253 9.03 ppbv 18.52 ppbv 42 3383444 10.0488 817843 3,93 ppbv # 97 10.74 0.18 ppbv 2.31 ppbv 12.50 95 N 34) Trichloroethene 25014 98 17.61 91 439880 <sup>12</sup>51) m.p-Xÿlene  $(g_{i}) \in \mathcal{F}_{i} = \{g_{i}\}$ 2.5 Ą  $\mathbb{H}$ : I. ÷ . 1 1. S. S. S. S. S. S. 3. ъź (#) = qualifier out of range (m) = manual integration

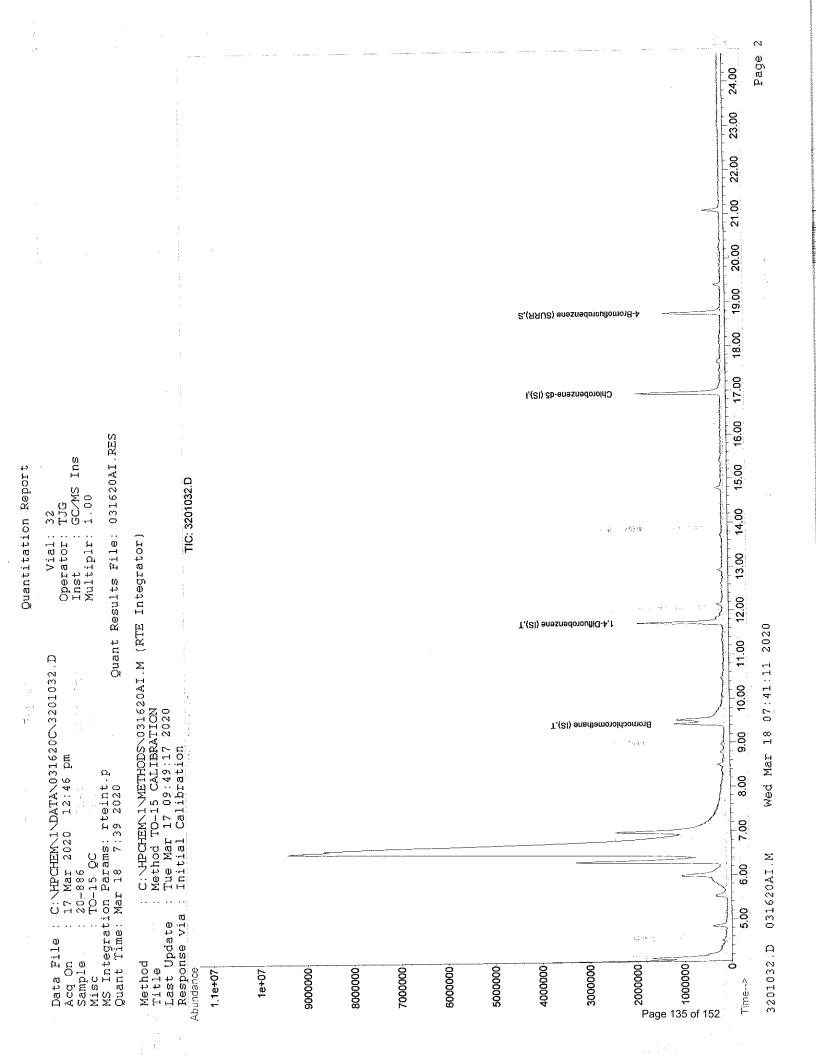


Vial: 32 Data File : C:\HPCHEM\1\DATA\031620C\3201032.D Operator: TJG : 17 Mar 2020 12:46 pm Acq On : GC/MS Ins Inst 20-886 TO-15 QC Sample Multiplr: 1.00 Misc MS Integration Params: rteint p Ouant Results File: 031620AI.RES Quan't Time: Mar 18 7:39 2020 Quant Method : C;\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards -0.015.00 ppbv 1) Bromochloromethane (IS) 9.44 128 716151 11.72 114 16.94 117 -0.022582065 5.00 ppbv 25) 1.4-Difluorobenzene (IS) -0.015.00 ppbv 1887131 245) Chlorobenzene-d5 (IS) Ac Ón 17 M.S.1 System Monitoring Compounds 4.92 ppbv 0,00 56) 4-Bromöflubröbenzene (SURR 18.76 95 888010 Range 62 - 145 Recovery = 98,40% ME Spiked Amount Correction 5:000 The Prese Late  $\frac{1}{2}$ ł, Qvalue Target Compounds 5 Methia - 이것판 QĪ TI 24 5.5 Section 2 Brodest a 1.0 Re  $(1,1) \in \mathbb{R}^{n} \to \mathbb{R}^{n}$  $D_{C}$ ente ta le 1 1<sup>°</sup>r or eh oku v⊂u ... i - 11 an dec 1  $\mathbb{R}^{2}$ a last of other states - $\Delta_{i}^{-1}$ ave the Excellence of . Т < 1/2신조리국 교육 문화가  ${\cal U}_{i}^{s}$ 1 - 1 1.00  $|L_{i}|$  $\{ i \}$ (1)1 i ja P · ·  $J_{\rm B}$ ×, 13

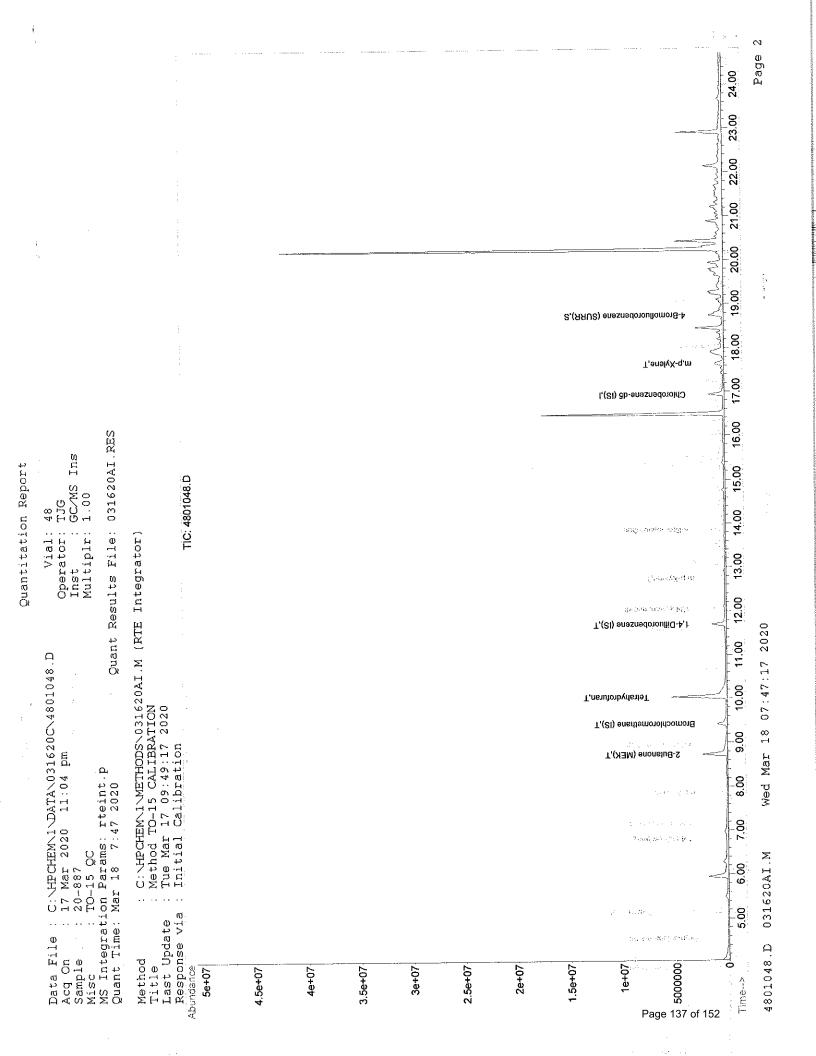
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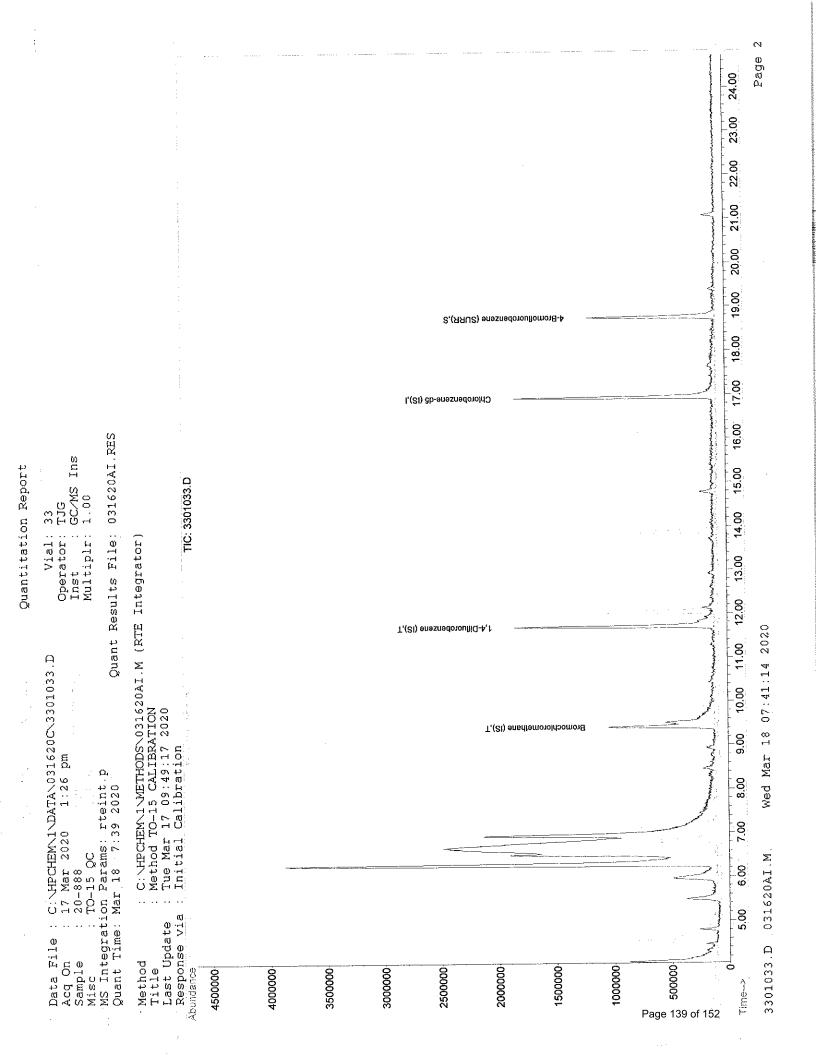


(QT Reviewed) Quantitation Report Vial: 48 Data File : C:\HPCHEM\1\DATA\031620C\4801048.D Operator: TJG ; 17 Mar 2020 11:04 pm Acq On : GC/MS Ins Inst 20-887 TO-15 QC Sample Multiplr: 1.00 Misc MS Integration Params: rteint.p Quant Results File: 031620AL.RES Quant Time: Mar 18 7:47 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 5,00 ppbv -0,03 1) Bromochloromethane (IS) 9,42 128 690378 -0.0411.70 114 5.00 ppbv  $\{ \cdot \}$ 25) 1,4-Difluorobenzene (IS) 1659803 . -0.0216.93 117 5.00 ppbv 1636245 45) Chlorobenzene-d5 (IS) System Monitoring Compounds 5.33 ppbv -0.02 1 56) 4-Bromofluorobenzene (SURR 18.74 95 834347 Range 62 - 145 Recovery = 106.60%M. Spiked Amount 5,000 i en la compañía de la s in the Qvalue Target Compounds 21) 2-Butanone (MEK) 26) Tetrahydrofuran 43 7600715. 15.41 ppbv 8.73 32.05 ppbv 5943370 10.04 42 99 855753 3.92 ppbv 17.64 91 51) m.p-Xylene  ${\mathbb R}^{c}$  $\mathbb{N}$ ۰. з,  $(1,p) \in \mathbb{R}^{d}$ ÷ t is  $\gamma \approx \pm 0.5$  $\frac{1}{2}$ 



(QT Reviewed) Quantitation Report Vial: 33 Data File : C:\HPCHEM\1\DATA\031620C\3301033.D Acq On : 17 Mar 2020 1:26 pm Operator: TJG : GC/MS Ins Inst 20-888 TO-15 QC Sample Multiplr: 1.00 Misc MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 18 7:39 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 : Method TO-15 CALIBRATION Response via : Initial Calibration DataAcq Meth : ENV05 2 R.T. QIon Response Conc Units Dev(Min) Internal Standards -0.04 756924 5,00 ppbv 1) Bromochloromethane (IS) 9.41 128 -0.04 11.70 114 16.94 117 5.00 ppbv 2557989 25) 1,4-Difluorobenzene (IS) 5.00 ppbv -0.021245) Chiorobenzene-d5 (IS) 1733888 1 14.  $\Delta C$ System Monitoring Compounds 4.69 ppbv -0,01 M.56) 4-Bromofluorobenzene (SURR 18.75 95 778525 ME SpikedaAmounterans 5:000 Range 62 - 145 Recovery = 93,80% Qvalue Target Compounds C .374  $[\cdot, A]$  $\begin{array}{c} QL\\ T \end{array}$ ਇੰਸੇ≓ ਹੈ ਹੈ  $^{\circ}$ sie bec 机合金 . . 1.0  $\Sigma^{1}(z) = \lambda^{1}$  $\mathcal{H}_{\bullet}$ an U shine a  $\mathbb{N}$ Alex dia tra (1) 4-5 1911 N. 4 and Hardell جارية محامدة المستعد اليدارية ليوريون ... ) Been ch.ore si .1 114-311363-4-24 2014年1月2日日日日日日日 11 ۱÷.,  $[a_1]$ 4.5 福利 出现 法联合法判断 没  $\dot{\gamma}$ 主义之后 经正任的 法部 15 se: 化基金属 的现在分词 ÷  $\mathbb{R}^{n} \to \mathbb{R}$ 4 a de la caractería  $\frac{1}{2} = \sqrt{12}$ ા  $(x, y) \in \{0\}$ ter Ter  $1 \leq i \leq n$  $\mathbb{C}^{2}$ 1.1.2.5 · 31. 8 1 A W à and the second second ... . Данасти на  $1_{j=1}^{k} < k$ t di Co tra Sco : 4 ÷ ٠,  $\mathcal{A}$ 11

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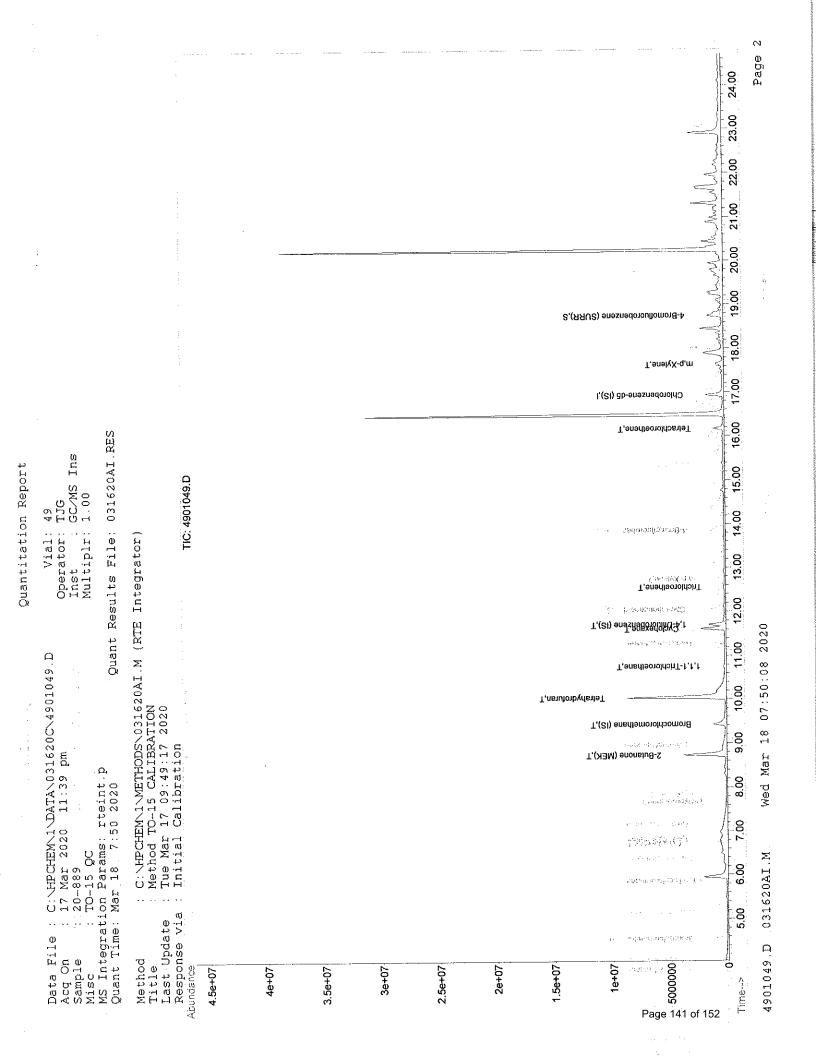


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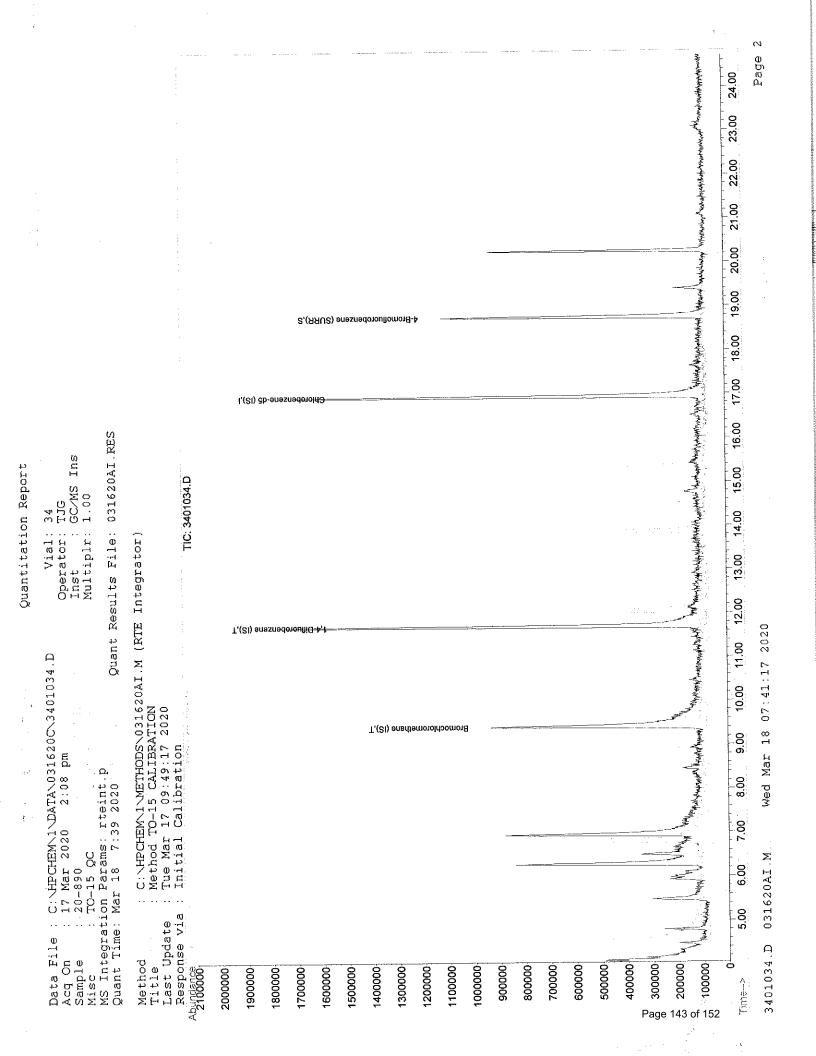
Vial: 49 Data File : C:\HPCHEM\1\DATA\031620C\4901049.D Operator: TJG : 17 Mar 2020 11:39 pm Acq On : GC/MS Ins Inst : 20-889 Sample Multiplr: 1.00 : TO-15 QC Misc MS Integration Params: rteint.p Quant Results File: 031620AL.RES Quant Time: Mar 18 7:50 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 5,00 ppbv -0,03 1) Bromochloromethane (IS) 9.42 128 688386  $\begin{array}{rrrr} 11.71 & 114 \\ 16.94 & 117 \end{array}$ 5.00 ppbv -0.03 1810437 25) 1,4-Difluorobenzene (IS) -0.025.00 ppbv 1934286 0 45) Chlorobenzene-d5 (IS) 1.1.1 À. System Monitoring Compounds 957191 5.17 ppbv -0.01 Recovery = 103.40% 1.56) 4-Bromöfluorobenzene (SURR 18.75 95 ME Spiked Amount State 5,000 Range 62 - 145  $\zeta$  . We find that the Qvalue Target Compounds 97 Q.21) Z=Butanone (MEK) 226) Tetrahydroffuran 2.28) 1111-Trichloroethane 9576491 19,47 ppbv 8.73 43 92.61 ppbv 42 18730851 10.03 0.46 ppbv 7.16 ppbv 0.19 ppbv 99 107162 10.75 97 97 56 1835877 11.62 Re32) Cyclohexane 12.56 95 29800 D 34) Trichloroethene 1.30 ppbv 324619 16.17 166 48) Tetrachloroethene 2.47 ppbv 99 636721 91 17,64 51)∵m;p-Xýlene∵' and the second 나는 가슴 가 봐야 a shekir kari ч, in a t per de marches 1. [14] · 辑起 (14) · 注意 *d* ( лò, and the test 1 ÷ . (#) = qualifier out of range (m) = manual integration Wed Mar 18 07:50:08 2020 4901049.D 031620AI.M

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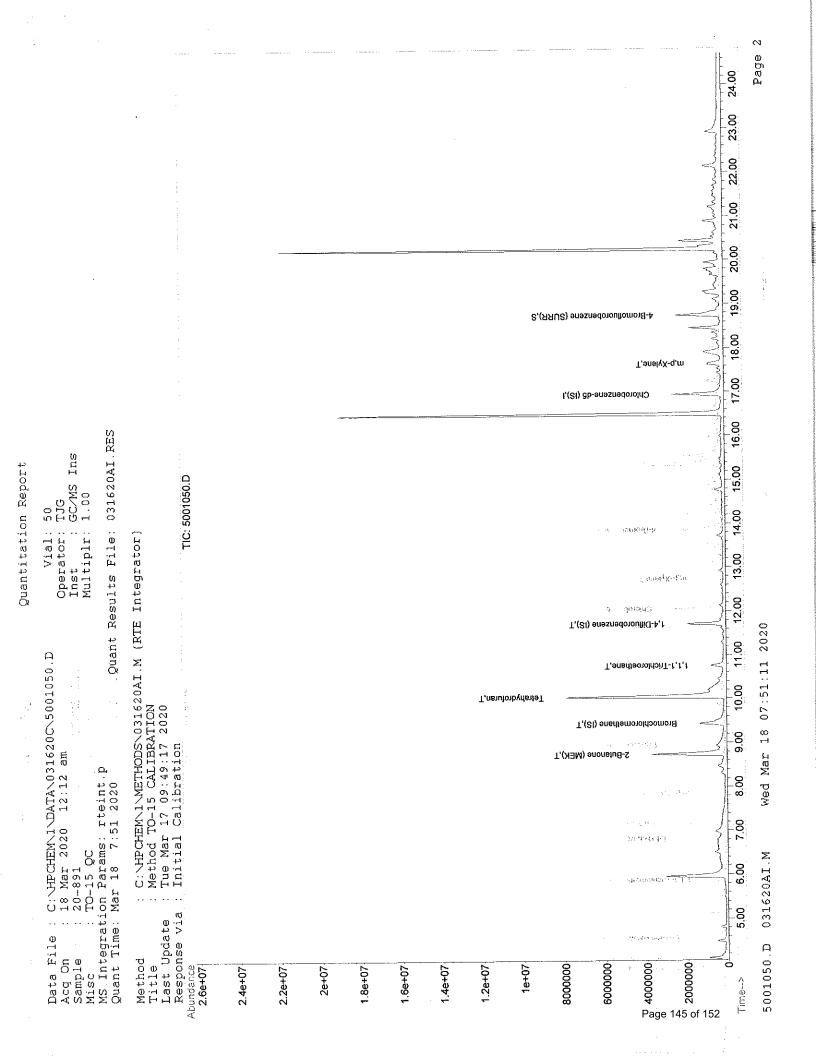
(QT Reviewed) Quantitation Report Vial: 34 Data File : C:\HPCHEM\1\DATA\031620C\3401034.D : 17 Mar 2020 2:08 pm Operator: TJG Acq On Inst : GC/MS Ins ; 20-890 Sample Multiplr: 1.00 ; TO-15 QC Misc MS Integration Params: rteint.p Quant Results File: 031620AL.RES Quant Time: Mar 18 7:39 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) : Method TO-15 CALIBRATION Title Last Update ; Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards -0.04 5.00 ppbv 747750 9,41 128 ' 1) Bromochloromethane (IS) -0.03 25) 1.4-Difluorobenzene (IS) D 45) Chiorobenzene d5 (IS) 11.71 114 2379769 5.00 ppbv -0.025,00 ppbv 1708260 16.94 117 7. 1.1 1417 A. SSystem Monitoring Compounds 4.91 ppbv -0.01 M56) 4-Bromöfluöröbenzene (SURR 18.75 95 801336 Recovery = 98.20% M: Spiked Amoun Races 5,000 Range 62 - 145  $\pm \leq$ € Ho Timer Har (B) - 51 Qvalue Target Compounds ् हेर्ने अस 'egʻ Çî Ti i Maline Haddie - () Bydat -1999 - 44 i.c Re onse V a Vos de li 2125 The ÷ ara, ta tafu ) Brewish opeant . ъ. ٤. national de la sur d Nota de la sur de la s ų, 51 j. Ъ. 1.3. Carl Strandson 7 . 19.01 15 ŝ  $(1, \dots, n) \in \mathbb{R}$ 1 . 1  $\frac{1}{2}$  $\mathbb{E} \left[ \mathcal{A} \right]$ きょうよう 4 1 Application (2010) Applied and 海道 普通 法有效的 ֓ Ż 9 \_\_\_\_\_



Data File : C:\HPCHEM\1\DATA\031620C\5001050.D Vial: 50 Operator: TJG Acq On : 18 Mar 2020 12:12 am Sample : 20-891 Misc : TO-15 QC Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 031620AI.RES and the state Quant Time: Mar 18 7:51 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Tue Mar 17 09:49:17 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 1) Bromochloromethane (IS)9.431287825495.00 ppbv25) 1,4-Difluorobenzene (IS)11.7111425157245.00 ppbv45) Chlorobenzene-d5 (IS)16.9411726904405.00 ppbv -0.02 14 C 4 25) 1,4-Difluorobenzene (IS) 11.71 114 45) Chlorobenzene-d5 (IS) 16.94 117 -0.03 -0.02 System Monitoring Compounds 56) 4-Bromofluorobenzene (SURR 18.75 95 1302717 5.06 ppbv -0.01 Spiked Amount 5.000 Range 62 - 145 Recovery = 101.20% 1 G i he Qvalue Target Compounds 221) 2 Butanone (MEK) 26) Tetrahydrofuran 28) 1,41,1-Trichforoethane 8.74 43 10987597 19.65 ppbv 10.04 10.75 16 - S. S. S. S. 50.98 ppbv 42 14328415 97 688888 2.15 ppbv 2.14 ppbv 98 769572 17,64 91 51) m?p-Xylene 1.20 ١. . t. .  $|\psi_{i,j}| = |\psi_{i,j}| + |\psi_{$ . . 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 in an ar {}€ + 0, -i 1...  $\{\hat{i}\}$ \*

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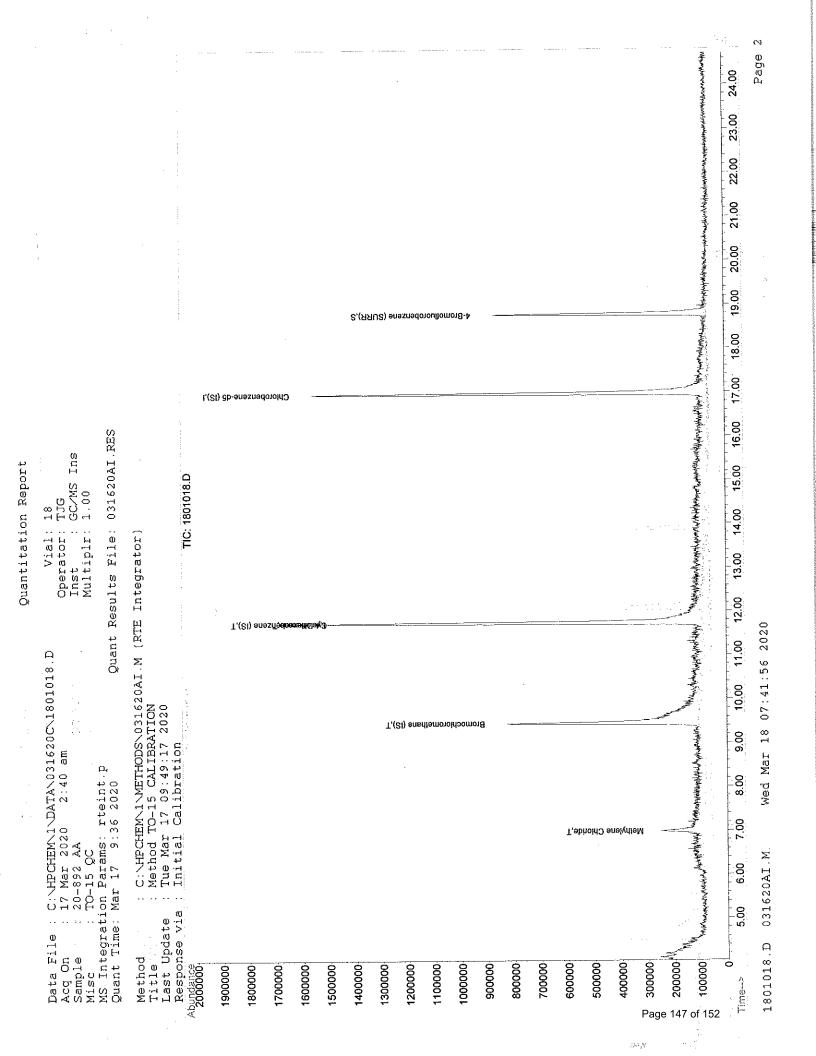
Quantitation Report



Data File : C:\HPCHEM\1\DATA\031620C\1801018.D Vial: 18 Operator: TJG 2:40 am : 17 Mar 2020 Acq On : GC/MS Ins 20-892 AA Inst Sample Multiplr: 1.00 : TO-15 QC Misc MS Integration Params: rteint.p Quant Results File: 031620AI.RES Quant Time: Mar 17 9:36 2020 Quant Method : C:\HPCHEM\1\METHODS\031620AI.M (RTE Integrator) Title: Method TO-15 CALIBRATIONLast Update: Tue Mar 17 09:35:29 2020 Response via : Initial Calibration DataAcq Meth : ENV05 682 R.T. QIon Response Conc Units Dev(Min) Internal Standards 5.00 ppbv 0,00 1) Bromochloromethane (IS) 9.44 128 645106 0.00 11.74 114 5.00 ppbv 2356524 25) 1.4-Difluorobenzene (IS) 0.01 5.00 ppbv 16,97 117 1644844 D 45) Chlorobenzene-d5 (IS) A. . <u>1</u> System Monitoring Compounds 0.02 4.49 ppbv 1956) 4-Bromöfluorobenzene (SURR 18.78 95 678832 Recovery = 89.80% Range 62 - 145 Spiked Amount 5,000 41 7 m 24 t -; Qvalue Target Compounds 0.29 ppbv # 84 57030 1 Qu14) Methylene Chloride 6,98 0.21 ppbv # 6 68599 11,74 56 Ti32) Cyclohexane ALLER DEP A ANDER DEP A 1.0  $(\cdot, \cdot)$ STAR V 3 2014年1月 日二 昭日から  $\mathbb{C}^{2}$ 13 amel ta da la 化合物 医子囊 法非公共员 의 같이 나 방법 (1910년) 1. 전철 전 (1917년) un to decembre de tote mediates ÷,  $\odot$  $\left| \vec{e} \right|$ E. . 10410 医神经病 静脉 主义 前生物 1. - 1. - × tar in tar  $\{f_{ij}^{*}\}_{i \in \mathcal{A}}$ 1.914  $\mathcal{M}_{1}=\frac{1}{2}$ • v τ.: 1 3 \_\_\_\_

Quantitation Report

(QT Reviewed)





## TO-15 Certified Canister

• Cleaned Canister Verification Data

Service. Vial: 5 Data File : C:\HPCHEM\1\DATA\030920\0501005.D Acq On : 9 Mar 2020 11:04 am Sample : CSI-4658-BATCH Misc : TO-15 QC Operator: TJG Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 022820AI.RES Quant Time: Apr 3 15:02 2020 Quant Method : C:\HPCHEM\1\METHODS\022820AI.M (RTE Integrator) Title : Method TO-15 CALIBRATION Last Update : Mon Mar 02 10:20:05 2020 Response via : Initial Calibration DataAcq Meth : ENV05 R.T. QIon Response Conc Units Dev(Min) Internal Standards 
 1) Bromochloromethane (IS)
 9.40
 128

 25) 1.4-Difluorobenzene (IS)
 11.83
 114

 45) Chronbenzene d5 (IS)
 16.95
 117
 -0,06 603250 5.00 ppbv 91576 0,08 5.00 ppbv 25) 1,4-Difluorobenzene (IS) 4 D.45)FChronobenzene-d5 (IS) Ac Do Har D 5.00 ppbv -0,03 2468916 -SSystem Monitofing Compounds M156) 4-Bromothuorobenzene (SURR 18.75 95 1008314 4.79 ppbv -0.03 MS spiredatmountaces 57000 Range 62 - 145 Recovery = 95.80% . . . 🗘 At Time: April 🤉 Qvalue Target Compounds Quint Method C: JiP: Tr a Method 5 . Mether TI Ə La Dodat : Non M Re onte vio Initi 11 Da Aco Main - EU/20 ernal Standayita T ) Bromensh contact 生物 建石的 经收益 1 - Main mbrailig is 7 1 ..... 18. St. 18. St. à i NO LEGAL NO LEVINGES (C 13 4 1 4-Bt 20541650265 ; ? 自主大意观之间的奇话的名字广泛中 . . . F. The gr as contra a as Concentra Canada da 200 a Canada Cata Anderson Catal Ang Nach States 4 ્વ •;  $^{\circ}$ i ...  $E_{\rm elec}$ 1-1 0. anat constructu u a a server the thread of the second See an an the state of a second seco MS11 , . .  ${\bf i}_{i,k}$ 57.05 1 1 e Liber alt de le pr 15.8 Style (Really in

Quantitation Report

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(QT Reviewed) Quantitation Report 100001 Ö 000003\* . . . Data File : C:\HPCHEM\1\DATA\030920\2401024.D Vial: 24 Operator: TJG Acq On 9 Mar 2020 9:44 pm Sample : CSI-16032-BATCH Misc : TO-15 QC ; GC/MS Ins Inst Multiplr: 1.00 MS Integration Params: rteint.p Quant Results File: 022820AI.RES Quant Time: Apr 3 15:02 2020 Quant Method C: HPCHEM 1 METHODS 022820AI.M (RTE Integrator) Title Method TO-15 CALIBRATION Last Update : Mon Mar 02 10:20:05 2020 Response via : Initial Calibration DataAcq Meth : ENV05 ž R.T. QIon Response Conc Units Dev(Min) 4 Internal Standards \_\_\_\_\_ \_\_\_\_\_ 554374 5.00 ppbv 0.00 15 1) Bromochloromethane (IS) 9.47 128 0.0000 (2000) 11.74 114 16.97 117 5.00 ppbv 0,00 1835129 25) 1,4-Difluorobenzene (IS) 0.00 D-45) PCAlorobenzene=d5 (IS) Ac On Mattal 5.00 ppbv 1890308 System Monitoring Compounds 879171 5.45 ppbv Recovery = 109.00% Mi56): 4-Bromöflüörbbenzene (SURR 18.79 95 0.00 述 Spiked Announter ※ 5,000 Range 62 - 145 Sign averages ht Times oprode ) ξ. Qvalue Target Compounds Qu .t.Methad / C. HP. 14 et i Ti - N.) . Mathou - Updati - Morim onse wie - Initi 31 Lá Re Race Mosth : BHV05 Ъe lernal flandorda 1 جاجاه بالأرأب بالصفات التابيا بالسينيان j Eremochiaroueti 72 ) Fide Mit Mational ) Fide Mit Mation ) Fide Mit Mation  $\left| 1 \right\rangle$  $\mathbb{R}$ Ĵ. 法制度 银石 医毛细胞的 鼻下鼻 1 马马拉 加拉社的主任业  $[v_i^{i}]$ ļέ, ' 自動動化 補助 信約 二等 ar Hualet - pro 5. jet (Gogounijs • Lindin Horman Lindin Horman Lindin Corpus Lindin Corpus Lindin Corpus Lindin Corpus Çe. -} 11 1  $R_{\rm C}$ have the one of the set  $D_{\rm C}$ earlies intervention يعقرونا فتاميت المحمد الأالا ) demonstation of the state of 111 4 121.121.121.1 23 all standard at the 的复数形式动物 ÷ an an tha an tha an tha Stair an tha an tha an tha Stair an tha stair an that stair an h, a 1990 - E. H.  $\hat{f}(x)$ ession dia 121833 Net Million the accession second 3 S 3 - + Verilia Statest  $\hat{T} \in \mathcal{L}$ (#) = qualifier out of range (m) = manual integration

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