CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Cover Page

Order ID : P1747

Project ID : Walter Gladwin Recreation Center, Bronx, NY

Client : LiRo Engineers, Inc.

Lab Sample Number	Client Sample Number
P1747-01	MW-01
P1747-02	MW-01-DUP
P1747-03	MW-01
P1747-04	MW-02
P1747-05	TWP-04
P1747-06	TRIP-BLANK-1
P1747-07	MW-01
P1747-08	MW-01-DUP
P1747-09	MW-02
P1747-10	TWP-04

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____ Date: 3/27/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

LiRo Engineers, Inc.
Project Name: Walter Gladwin Recreation Center, Bronx, NY
Project # N/A
Chemtech Project # P1747
Test Name: VOC-NYCD

A. Number of Samples and Date of Receipt:
10 Water samples were received on 03/13/2024.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Anions Group1, CBOD5, Chloride, Dissolved ICP-TAL Metals, Dissolved Mercury, DISSOLVED METALS-TAL, Flash Point, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-NYCD, METALS-TAL, Non-Polar Material, NYCDischarge, PCB, Pesticide-TCL, Phenolics, SVOC-NYCD, SVOC-TCL BNA -20, TKN, Total Nitrogen, TS, TSS, VOC-NYCD and VOC-TCLVOA-10. This data package contains results for VOC-NYCD.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_X were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UIThe analysis of VOC-NYCD was based on method 624.1.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.

E. Additional Comments:
As per method, MS/MSD is required to be performed with the sample analysis. However, Lab did not receive sufficient volume to perform the MS/MSD therefore MS/MSD were not performed for this project. However, Lab has performed LCS/LCSD instead.

Trip Blank was not provided with this set of samples.

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Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

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DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value**.** This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P1747

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: PATEL VAISHALI **Date:** 03/27/2024

2nd Level QA Review Signature: _____ **Date:** _____

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284 Sheffield Street, Mountainside, New Jersey - 07092

Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	P1747	**OrderDate:**	3/13/2024 12:28:00 PM
Client:	LiRo Engineers, Inc.	**Project:**	Walter Gladwin Recreation Center, Bronx, NY
Contact:	Steve Frank	**Location:**	I21,I31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P1747-03	**MW-01**	**Water**			**03/13/24**			**03/13/24**
			VOC-NYCD	624.1			03/14/24	

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Hit Summary Sheet
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID:								
				0				

Total Voc :

Total Concentration:

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QC SUMMARY

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Surrogate Summary

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: SW624.1

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
P1747-03	MW-01	1,2-Dichloroethane-d4	30	30.6	102	91	110
		Toluene-d8	30	29.7	99	91	112
		4-Bromofluorobenzene	30	29.1	97	63	112
VX0314WBL01	VX0314WBL01	1,2-Dichloroethane-d4	30	30.4	101	91	110
		Toluene-d8	30	27.7	92	91	112
		4-Bromofluorobenzene	30	26.1	87	63	112
VX0314WBS01	VX0314WBS01	1,2-Dichloroethane-d4	30	29.8	99	91	110
		Toluene-d8	30	30.8	103	91	112
		4-Bromofluorobenzene	30	31.2	104	63	112
VX0314WBSD0	VX0314WBSD01	1,2-Dichloroethane-d4	30	27.6	92	91	110
		Toluene-d8	30	33.1	110	91	112
		4-Bromofluorobenzene	30	30.7	102	63	112

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: SW624.1 **Datafile :** VX040631.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VX0314WBS01	Methyl tert-butyl Ether	20	18.8	ug/L	94			82	114	
	Carbon Tetrachloride	20	19.0	ug/L	95			70	130	
	Chloroform	20	19.1	ug/L	96			70	135	
	1,1,1-Trichloroethane	20	18.8	ug/L	94			70	130	
	Benzene	20	18.8	ug/L	94			65	135	
	Toluene	20	19.9	ug/L	100			70	130	
	Tetrachloroethene	20	20.2	ug/L	101			70	130	
	Ethyl Benzene	20	20.1	ug/L	101			60	140	
	m/p-Xylenes	40	40.4	ug/L	101			87	111	
	o-Xylene	20	20.3	ug/L	102			87	111	
	1,4-Dichlorobenzene	20	20.4	ug/L	102			65	135	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: SW624.1 **Datafile :** VX040632.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	Limits RPD
VX0314WBSD01	Methyl tert-butyl Ether	20	19.4	ug/L	97	3		82	114	20
	Carbon Tetrachloride	20	20.2	ug/L	101	6		70	130	20
	Chloroform	20	19.7	ug/L	99	3		70	135	20
	1,1,1-Trichloroethane	20	19.9	ug/L	100	6		70	130	20
	Benzene	20	18.3	ug/L	92	2		65	135	20
	Toluene	20	21.2	ug/L	106	6		70	130	20
	Tetrachloroethene	20	21.6	ug/L	108	7		70	130	20
	Ethyl Benzene	20	19.4	ug/L	97	4		60	140	20
	m/p-Xylenes	40	37.8	ug/L	95	6		87	111	20
	o-Xylene	20	19.6	ug/L	98	4		87	111	20
	1,4-Dichlorobenzene	20	21.0	ug/L	105	3		65	135	20

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VX0314WBL01

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040633.D Lab Sample ID: VX0314WBL01

Date Analyzed: 03/14/2024 Time Analyzed: 11:06

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_X

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VX0314WBS01	VX0314WBS01	VX040631.D	03/14/2024
VX0314WBSD01	VX0314WBSD01	VX040632.D	03/14/2024
MW-01	P1747-03	VX040637.D	03/14/2024

COMMENTS:

Raw Data: **VX040578.D**

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040578.D BFB Injection Date: 03/05/2024

Instrument ID: MSVOA_X BFB Injection Time: 08:37

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.1
75	30.0 - 60.0% of mass 95	56.7
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.8 (1) 1
174	50.0 - 100.0% of mass 95	76.2
175	5.0 - 9.0% of mass 174	5.5 (7.2) 1
176	95.0 - 101.0% of mass 174	73.2 (96.1) 1
177	5.0 - 9.0% of mass 176	5 (6.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VX040579.D	03/05/2024	10:58
VSTDICCC020	VSTDICCC020	VX040580.D	03/05/2024	11:21
VSTDICC050	VSTDICC050	VX040581.D	03/05/2024	11:44
VSTDICC100	VSTDICC100	VX040582.D	03/05/2024	12:07
VSTDICC150	VSTDICC150	VX040583.D	03/05/2024	12:30

Raw Data: **VX040629.D**

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040629.D BFB Injection Date: 03/14/2024

Instrument ID: MSVOA_X BFB Injection Time: 09:03

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23
75	30.0 - 60.0% of mass 95	58.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.6 (0.9) 1
174	50.0 - 100.0% of mass 95	71.7
175	5.0 - 9.0% of mass 174	5.6 (7.8) 1
176	95.0 - 101.0% of mass 174	70 (97.7) 1
177	5.0 - 9.0% of mass 176	4.8 (6.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC020	VSTDCCC020	VX040630.D	03/14/2024	09:43
VX0314WBS01	VX0314WBS01	VX040631.D	03/14/2024	10:11
VX0314WBSD01	VX0314WBSD01	VX040632.D	03/14/2024	10:39
VX0314WBL01	VX0314WBL01	VX040633.D	03/14/2024	11:06
MW-01	P1747-03	VX040637.D	03/14/2024	12:46

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: VX040630.D Date Analyzed: 03/14/2024

Instrument ID: MSVOA_X Time Analyzed: 09:43

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	16791	4.89	101481	6.76	90514	10.05
UPPER LIMIT	33582	5.391	202962	7.257	181028	10.549
LOWER LIMIT	8395.5	4.391	50740.5	6.257	45257	9.549
EPA SAMPLE NO.						
MW-01	15477	4.90	88123	6.76	81835	10.06
VX0314WBL01	15289	4.90	88714	6.76	81679	10.06
VX0314WBS01	14121	4.89	80662	6.76	73806	10.05
VX0314WBSD01	15443	4.90	83166	6.76	75172	10.06

IS1 = Bromochloromethane
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

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SAMPLE DATA

Raw Data: **VX040637.D**

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/13/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-03	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-NYCD
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX040637.D	1		03/14/24 12:46	VX031424

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-Butyl Ether	0.83	U	0.83	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.91	U	0.91	5.00	ug/L
67-66-3	Chloroform	0.72	U	0.72	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.79	U	0.79	5.00	ug/L
71-43-2	Benzene	0.69	U	0.69	5.00	ug/L
108-88-3	Toluene	0.72	U	0.72	5.00	ug/L
127-18-4	Tetrachloroethene	0.94	U	0.94	5.00	ug/L
100-41-4	Ethyl Benzene	0.73	U	0.73	5.00	ug/L
1330-20-7	Total Xylenes	2.52	U	2.52	15.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.95	U	0.95	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	30.6		91 - 110	102%	SPK: 30
2037-26-5	Toluene-d8	29.7		91 - 112	99%	SPK: 30
460-00-4	4-Bromofluorobenzene	29.1		63 - 112	97%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	15500	4.897			
540-36-3	1,4-Difluorobenzene	88100	6.763			
3114-55-4	Chlorobenzene-d5	81800	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Quantitation Report (QT Reviewed)

Sample Results: **VX040637.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040637.D
Acq On : 14 Mar 2024 12:46
Operator : JC/MD
Sample : P1747-03
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
MW-01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

Quant Time: Mar 15 05:42:58 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.897	128	15477	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	88123	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	81835	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	47285	30.590	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 101.967%			
60) 4-Bromofluorobenzene	11.079	95	40904	29.140	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 97.133%			
63) Toluene-d8	8.647	98	107314	29.673	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 98.900%			
Target Compounds						Qvalue
15) Acetone	2.373	58	343m	2.004	ug/l	
25) Chloroform	5.092	83	1507	0.702	ug/l	93

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

Sample Results: **VX040637.D**

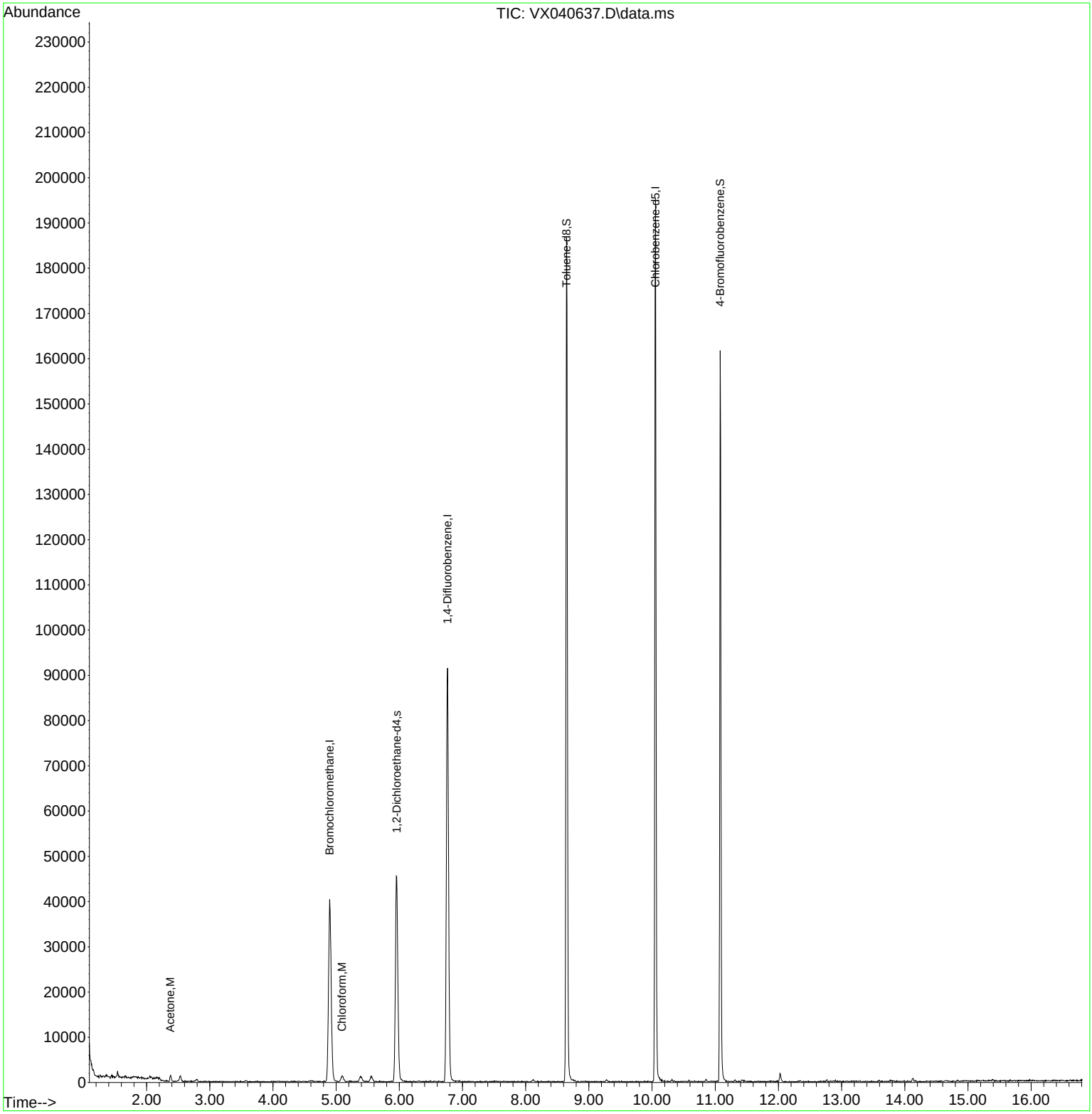
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040637.D
Acq On : 14 Mar 2024 12:46
Operator : JC/MD
Sample : P1747-03
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

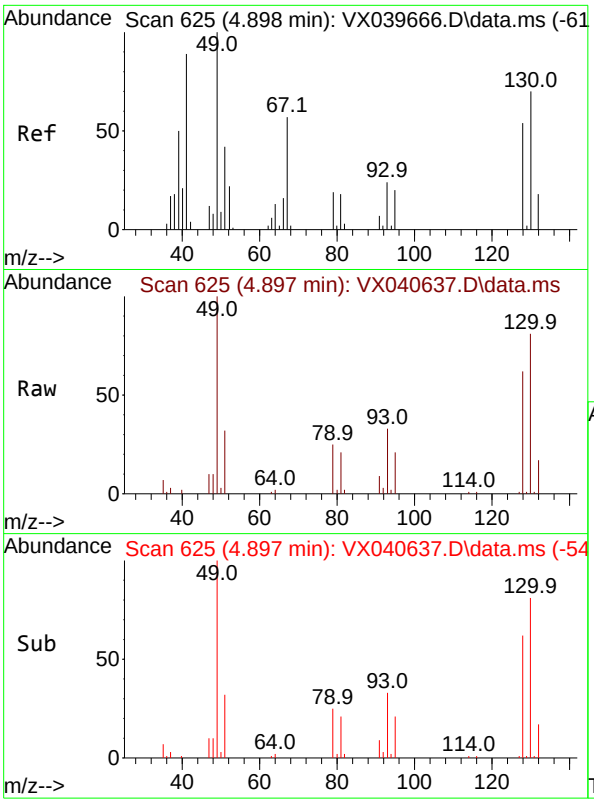
Quant Time: Mar 15 05:42:58 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
MW-01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

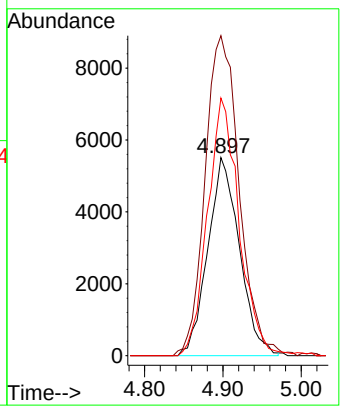




#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.897 min Scan# 6
Delta R.T. -0.001 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion:128 Resp: 1547

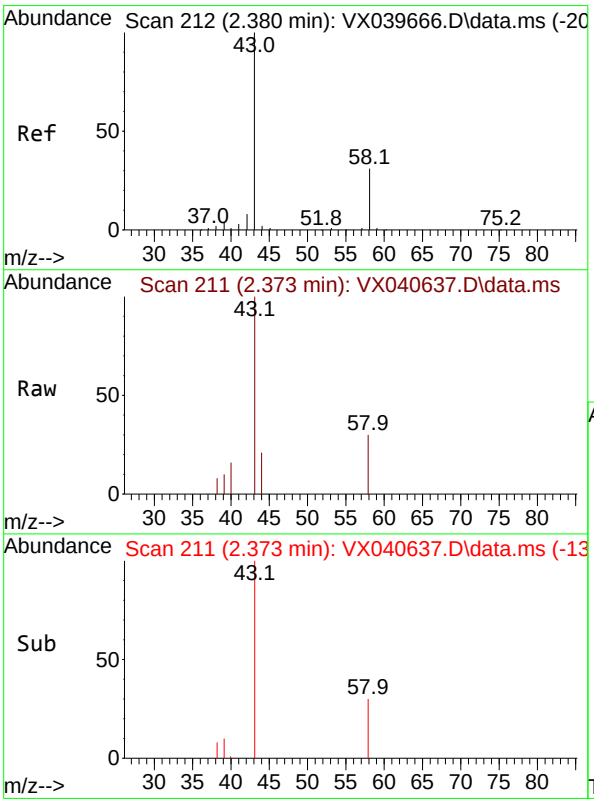
Ion	Ratio	Lower	Upper
128	100		
49	172.4	0.0	444.0
130	129.8	0.0	297.8



Instrument :
MSVOA_X
ClientSampleId :
MW-01

Manual Integrations
APPROVED

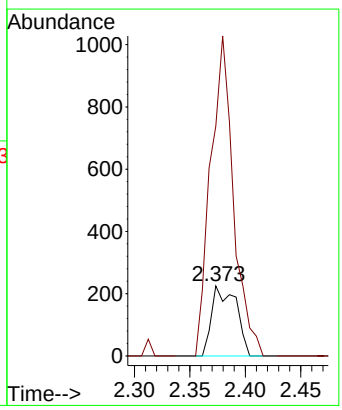
Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

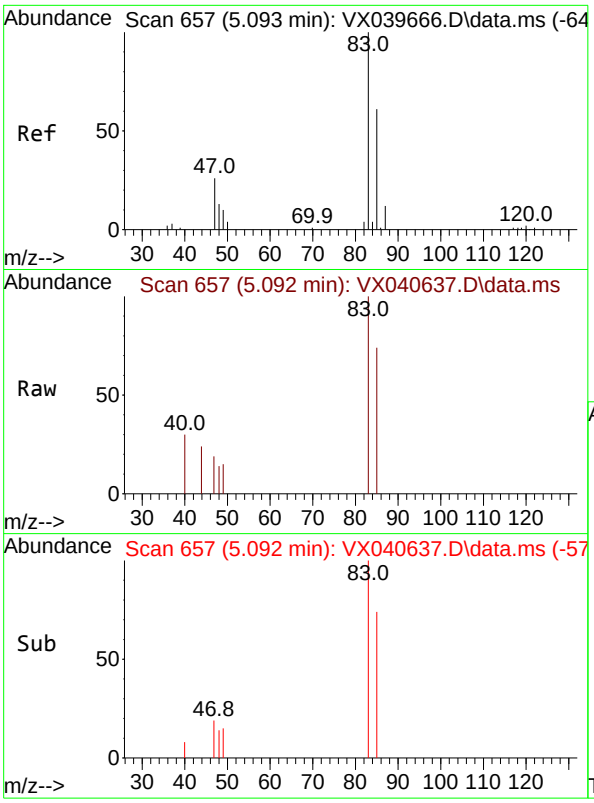


#15
Acetone
Concen: 2.004 ug/l m
RT: 2.373 min Scan# 211
Delta R.T. -0.007 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion: 58 Resp: 343

Ion	Ratio	Lower	Upper
58	100		
43	328.0	249.9	374.9





#25
Chloroform
Concen: 0.702 ug/l
RT: 5.092 min Scan# 6
Delta R.T. -0.001 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

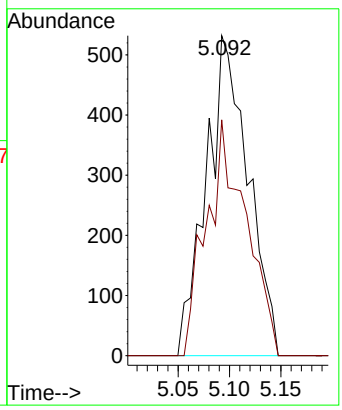
Tgt Ion: 83 Resp: 150

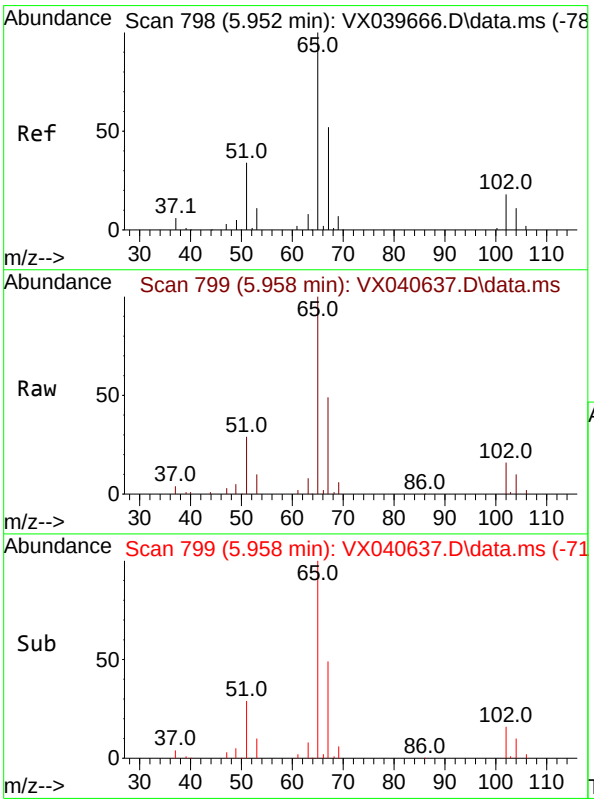
Ion	Ratio	Lower	Upper
83	100		
85	73.7	54.6	81.8

Instrument :
MSVOA_X
ClientSampleId :
MW-01

Manual Integrations
APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

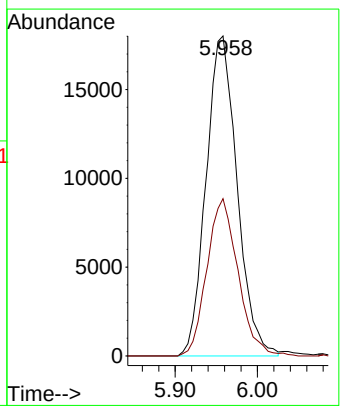


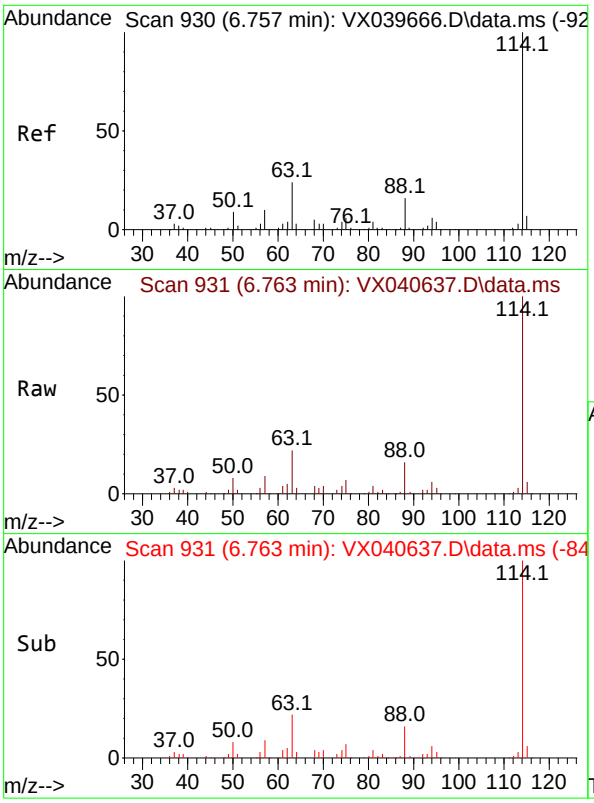


#27
1,2-Dichloroethane-d4
Concen: 30.590 ug/l
RT: 5.958 min Scan# 799
Delta R.T. 0.006 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion: 65 Resp: 47285

Ion	Ratio	Lower	Upper
65	100		
67	49.1	42.5	63.7

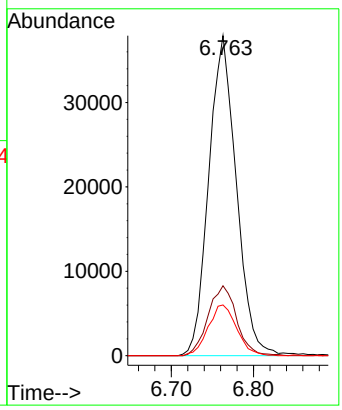




#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.763 min Scan# 9
Delta R.T. 0.006 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion:114 Resp: 8812

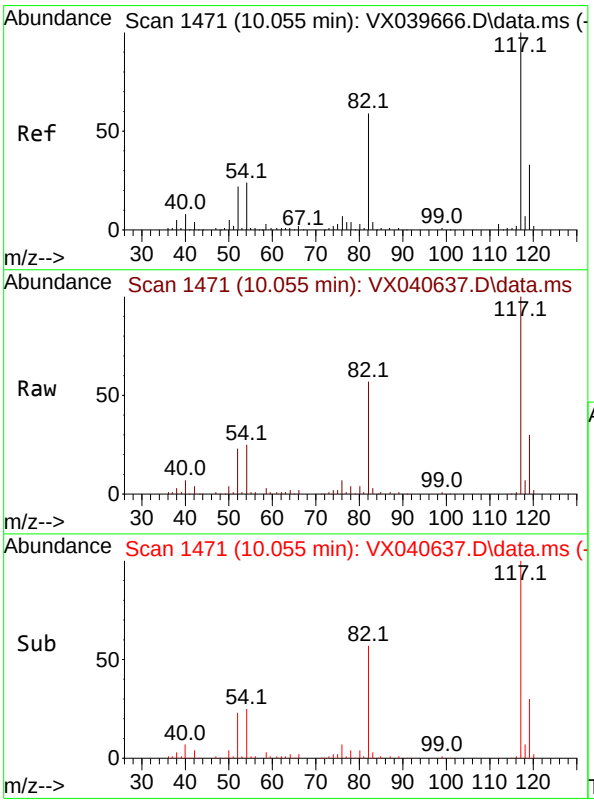
Ion	Ratio	Lower	Upper
114	100		
63	22.6	17.0	25.4
88	16.4	12.7	19.1



Instrument :
MSVOA_X
ClientSampleId :
MW-01

Manual Integrations
APPROVED

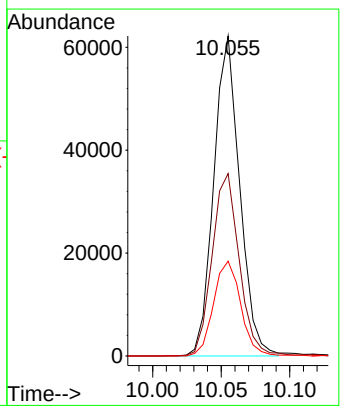
Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

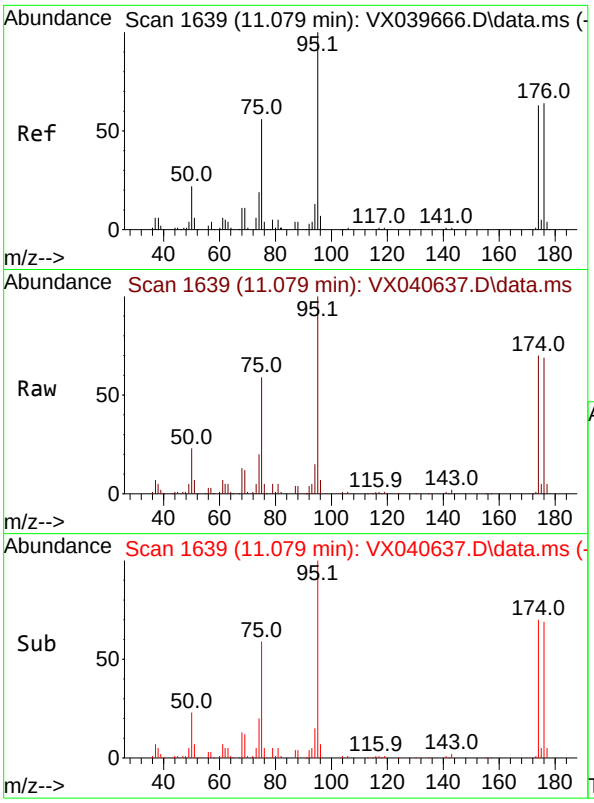


#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.055 min Scan# 1471
Delta R.T. -0.000 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion:117 Resp: 81835

Ion	Ratio	Lower	Upper
117	100		
82	59.5	47.0	70.6
119	31.0	25.2	37.8

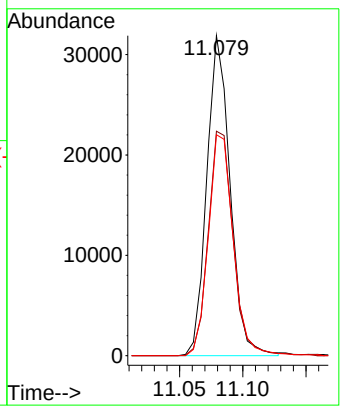




#60
4-Bromofluorobenzene
Concen: 29.140 ug/l
RT: 11.079 min Scan# 1
Delta R.T. 0.000 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion: 95 Resp: 4090

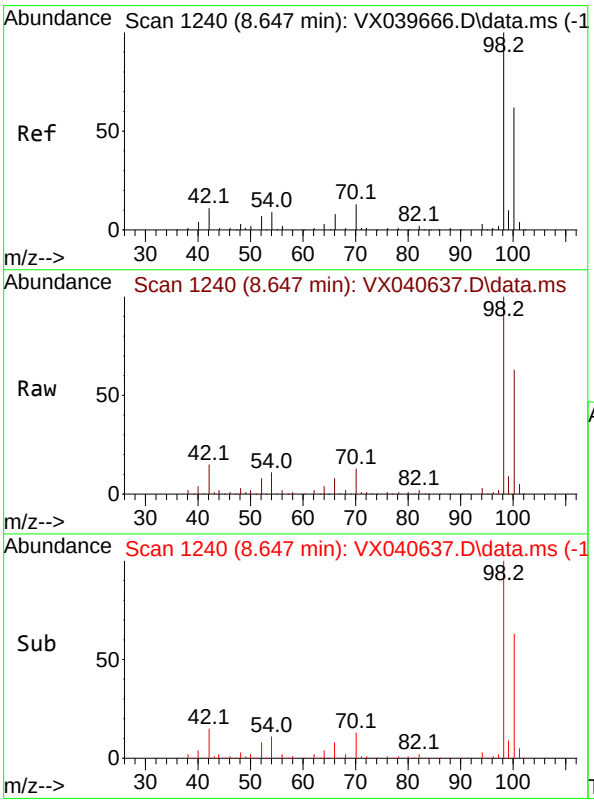
Ion	Ratio	Lower	Upper
95	100		
174	74.6	55.4	83.2
176	73.9	52.6	78.8



Instrument :
MSVOA_X
ClientSampleId :
MW-01

Manual Integrations
APPROVED

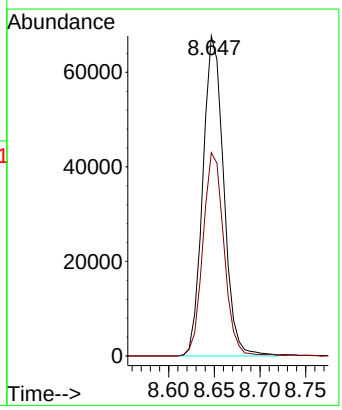
Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024



#63
Toluene-d8
Concen: 29.673 ug/l
RT: 8.647 min Scan# 1240
Delta R.T. -0.000 min
Lab File: VX040637.D
Acq: 14 Mar 2024 12:46

Tgt Ion: 98 Resp: 107314

Ion	Ratio	Lower	Upper
98	100		
100	64.0	51.0	76.4



CHEMTECH

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: MSVOA_X Calibration Date(s): 03/05/2024 03/05/2024

Heated Purge: (Y/N) N Calibration Time(s): 10:58 12:30

GC Column: DB-624UI ID: 0.18 (mm)

LAB FILE ID: RRF005 = VX040579.D RRF020 = VX040580.D RRF050 = VX040581.D
RRF100 = VX040582.D RRF150 = VX040583.D RRF =

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF150	RRF	$\overline{RRF}$	% RSD
Methyl tert-Butyl Ether	6.759	5.818	6.419	6.925	7.091		6.602	7.6
Carbon Tetrachloride	0.565	0.506	0.545	0.567	0.568		0.551	4.8
Chloroform	4.296	3.676	4.073	4.347	4.401		4.158	7.1
1,1,1-Trichloroethane	0.699	0.611	0.630	0.662	0.669		0.654	5.3
Benzene	1.497	1.333	1.370	1.401	1.408		1.402	4.3
Toluene	1.745	1.725	1.674	1.490	1.627		1.652	6.1
Tetrachloroethene	0.392	0.370	0.368	0.313	0.338		0.356	8.6
Ethyl Benzene	1.945	1.761	1.979	1.914	1.926		1.905	4.4
m/p-Xylenes	0.698	0.651	0.736	0.717	0.715		0.704	4.5
o-Xylene	0.635	0.638	0.711	0.699	0.703		0.677	5.5
1,4-Dichlorobenzene	0.817	0.782	0.876	0.881	0.954		0.862	7.7
1,2-Dichloroethane-d4	2.970	2.805	2.931	3.131	3.145		2.996	4.8
Toluene-d8	1.288	1.478	1.338	1.223	1.302		1.326	7.1
4-Bromofluorobenzene	0.443	0.506	0.544	0.536	0.543		0.515	8.3

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

Response Factor Report MSVOA_X

Method Path : Z:\voasrv\HPCHEM1\MSVOA_X\Method\
Method File : 624X030524W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Tue Mar 05 13:21:29 2024
Response Via : Initial Calibration

Calibration Files
5 =VX040579.D 20 =VX040580.D 50 =VX040581.D 100 =VX040582.D 150 =VX040583.D

		Compound	5	20	50	100	150	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	M	Dichlorodifluoro...	2.233	1.810	1.960	2.081	2.089	2.035	7.79
3)	M	Chloromethane	2.262	1.907	1.964	2.125	2.166	2.085	7.02
4)	M	Vinyl Chloride	2.489	2.023	2.127	2.332	2.294	2.253	8.06
5)	M	Bromomethane	1.785	1.465	1.485	1.093	1.053	1.376	22.15
6)	M	Chloroethane	1.574	1.096	1.388	1.228	1.332	1.324	13.51
7)	M	Trichlorofluorom...	3.536	2.900	3.723	3.478	3.515	3.430	9.08
8)	T	Diethyl Ether	1.234	0.990	1.257	1.156	1.186	1.165	9.02
9)		1,1,2-Trichlorot...	2.013	1.675	1.840	1.954	1.914	1.879	6.93
10)	M	1,1-Dichloroethene	1.920	1.570	1.737	1.849	1.869	1.789	7.80
11)		Methyl Iodide	2.037	1.858	2.191	2.350	2.383	2.164	10.15
12)		Methyl Acetate	2.840	2.618	3.008	3.111	3.158	2.947	7.48
13)	M	Acrolein	0.589	0.483	0.555	0.563	0.588	0.556	7.82
14)	M	Acrylonitrile	1.196	1.041	1.150	1.192	1.223	1.160	6.16
15)	M	Acetone	0.341	0.318	0.333	0.337	0.329	0.332	2.59
16)	M	Carbon Disulfide	5.232	4.243	4.795	5.129	5.185	4.917	8.42
17)		Allyl chloride	3.465	2.924	3.193	3.463	3.463	3.301	7.31
18)	M	Methylene Chloride	2.157	1.813	1.984	2.119	2.139	2.043	7.12
19)	M	trans-1,2-Dichlo...	1.996	1.745	1.934	2.050	2.041	1.953	6.41
20)	T	Diisopropyl ether	6.684	5.844	6.381	6.938	7.167	6.603	7.81
21)	M	1,1-Dichloroethane	3.897	3.398	3.730	3.975	3.997	3.799	6.51
22)	M	cis-1,2-Dichloro...	2.228	2.046	2.287	2.373	2.406	2.268	6.29
23)	M	tert-Butyl Alcohol	0.561	0.471	0.522	0.580	0.608	0.548	9.77
24)	M	Methyl tert-Buty...	6.759	5.818	6.419	6.925	7.091	6.602	7.63
25)	M	Chloroform	4.296	3.676	4.073	4.347	4.401	4.158	7.14
26)		Cyclohexane	3.174	2.636	3.079	3.241	3.201	3.066	8.09
27)	s	1,2-Dichloroetha...	2.970	2.805	2.931	3.131	3.145	2.996	4.77
28)	I	1,4-Difluorobenzene	----------ISTD----------						
29)		1,1-Dichloropropene	0.549	0.478	0.518	0.528	0.523	0.519	5.00
30)	M	2-Butanone	0.338	0.309	0.309	0.311	0.317	0.317	3.84
31)		2,2-Dichloropropane	0.560	0.535	0.553	0.572	0.581	0.560	3.21
32)	M	1,1,1-Trichloroe...	0.699	0.611	0.630	0.662	0.669	0.654	5.27
33)	M	Carbon Tetrachlo...	0.565	0.506	0.545	0.567	0.568	0.551	4.80
34)	M	Benzene	1.497	1.333	1.370	1.401	1.408	1.402	4.34
35)		Methacrylonitrile	0.327	0.316	0.313	0.334	0.336	0.325	3.22
36)	M	1,2-Dichloroethane	0.693	0.627	0.612	0.654	0.655	0.648	4.77
37)	M	Trichloroethene	0.424	0.353	0.371	0.355	0.380	0.377	7.61
38)		Methylcyclohexane	0.601	0.532	0.575	0.542	0.545	0.559	5.07
39)	M	1,2-Dichloropropane	0.394	0.347	0.361	0.336	0.346	0.357	6.29
40)		Dibromomethane	0.305	0.279	0.285	0.260	0.273	0.280	5.83
41)	M	Bromodichloromet...	0.598	0.537	0.564	0.531	0.560	0.558	4.76
42)	M	Vinyl Acetate	1.108	1.029	1.067	1.111	1.138	1.091	3.93
43)		Ethyl Acetate	0.647	0.592	0.557	0.581	0.606	0.597	5.60
44)		Isopropyl Acetate	0.961	0.898	0.937	0.970	0.997	0.953	3.92
45)	T	1,4-Dioxane	0.011	0.010	0.010	0.009	0.010	0.010	7.82
46)		Methyl methacrylate	0.475	0.464	0.472	0.468	0.486	0.473	1.76
47)		n-amyl Acetate	0.700	0.702	0.876	0.935	0.892	0.821	13.58
48)	M	t-1,3-Dichloropr...	0.601	0.536	0.606	0.593	0.612	0.590	5.20
49)	T	cis-1,3-Dichloro...	0.625	0.561	0.621	0.589	0.606	0.601	4.32
50)	M	1,1,2-Trichloroe...	0.414	0.360	0.369	0.354	0.365	0.372	6.36
51)		Ethyl methacrylate	0.580	0.563	0.603	0.583	0.602	0.586	2.87
52)		1,3-Dichloropropane	0.693	0.621	0.652	0.608	0.604	0.636	5.85
53)	M	Dibromochloromet...	0.438	0.401	0.426	0.432	0.426	0.425	3.32
54)	M	1,2-Dibromoethane	0.434	0.395	0.415	0.424	0.394	0.412	4.27
55)	M	2-Chloroethyl vi...	0.310	0.299	0.300	0.286	0.298	0.299	2.89
56)	M	Bromoform	0.259	0.266	0.319	0.334	0.328	0.301	11.89

Method Path : Z:\voasrv\HPCHEM1\MSVOA_X\Method\
Method File : 624X030524W.M

57)	I	Chlorobenzene-d5	----------ISTD----------						
58)	M	4-Methyl-2-Penta...	0.664	0.707	0.670	0.621	0.678	0.668	4.63
59)	M	2-Hexanone	0.522	0.557	0.535	0.542	0.542	0.540	2.34
60)	S	4-Bromofluoroben...	0.443	0.506	0.544	0.536	0.543	0.515	8.30
61)	M	Tetrachloroethene	0.392	0.370	0.368	0.313	0.338	0.356	8.65
62)	M	Toluene	1.745	1.725	1.674	1.490	1.627	1.652	6.14
63)	S	Toluene-d8	1.288	1.478	1.338	1.223	1.302	1.326	7.12
64)	M	Chlorobenzene	1.043	0.944	1.038	1.011	1.013	1.010	3.90
65)		1,1,1,2-Tetrachl...	0.380	0.355	0.404	0.386	0.401	0.385	5.13
66)	M	Ethyl Benzene	1.945	1.761	1.979	1.914	1.926	1.905	4.41
67)	M	m/p-Xylenes	0.698	0.651	0.736	0.717	0.715	0.704	4.54
68)	M	o-Xylene	0.635	0.638	0.711	0.699	0.703	0.677	5.48
69)	M	Styrene	0.998	1.077	1.202	1.198	1.214	1.138	8.45
70)		Isopropylbenzene	1.707	1.703	1.907	1.918	1.915	1.830	6.25
71)	M	1,1,2,2-Tetrachl...	0.588	0.611	0.662	0.676	0.671	0.642	6.15
72)		1,2,3-Trichlorop...	0.568	0.516	0.566	0.660	0.576	0.577	9.01
73)		Bromobenzene	0.412	0.405	0.446	0.447	0.456	0.433	5.35
74)		n-propylbenzene	2.107	2.070	2.379	2.367	2.377	2.260	6.95
75)		2-Chlorotoluene	1.273	1.222	1.393	1.390	1.429	1.341	6.62
76)		1,3,5-Trimethylb...	1.419	1.472	1.650	1.680	1.834	1.611	10.39
77)		t-1,4-Dichloro-2...	0.128	0.166	0.187	0.202	0.214	0.179	18.74
78)		4-Chlorotoluene	1.442	1.402	1.646	1.678	1.831	1.600	11.09
79)		tert-butylbenzene	1.308	1.326	1.598	1.571	1.715	1.504	11.90
80)		1,2,4-Trimethylb...	1.415	1.405	1.657	1.652	1.808	1.587	10.94
81)		sec-Butylbenzene	1.821	1.761	2.088	2.037	2.219	1.985	9.59
82)		p-Isopropyltoluene	1.456	1.440	1.679	1.697	1.854	1.625	10.80
83)	M	1,3-Dichlorobenzene	0.768	0.767	0.859	0.873	0.948	0.843	9.12
84)	M	1,4-Dichlorobenzene	0.817	0.782	0.876	0.881	0.954	0.862	7.66
85)		n-Butylbenzene	1.489	1.399	1.660	1.517	1.840	1.581	10.92
86)	T	Hexachloroethane	0.253	0.241	0.297	0.284	0.343	0.284	14.27
87)	M	1,2-Dichlorobenzene	0.804	0.755	0.851	0.776	0.909	0.819	7.56
88)		1,2-Dibromo-3-Ch...	0.161	0.157	0.178	0.163	0.200	0.172	10.31
89)		1,2,4-Trichlorob...	0.572	0.503	0.553	0.522	0.608	0.552	7.53
90)		Hexachlorobutadiene	0.229	0.202	0.232	0.212	0.239	0.223	6.91
91)	M	Naphthalene	1.753	1.622	1.875	1.704	2.041	1.799	9.07
92)		1,2,3-Trichlorob...	0.559	0.496	0.566	0.500	0.599	0.544	8.22

(#) = Out of Range

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040579.D
Acq On : 05 Mar 2024 10:58
Operator : JC/MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 05 13:13:25 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :John Carlone
03/05/2024
Supervised By :Mahesh Dadoda
03/06/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.897	128	16388	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	90070	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	89521	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	48676	18.946	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 63.167%#			
60) 4-Bromofluorobenzene	11.079	95	39683	20.098	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 67.000%			
63) Toluene-d8	8.647	98	115293	31.325	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 104.400%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	6099	2.203	ug/l	94
3) Chloromethane	1.300	50	6177	2.008	ug/l	97
4) Vinyl Chloride	1.374	62	6797	2.264	ug/l	98
5) Bromomethane	1.599	94	4875	3.398	ug/l	90
6) Chloroethane	1.678	64	4300	3.147	ug/l	93
7) Trichlorofluoromethane	1.886	101	9658	2.278	ug/l	93
8) Diethyl Ether	2.136	74	3371	2.125	ug/l	97
9) 1,1,2-Trichlorotrifluo...	2.325	101	5497	2.117	ug/l	95
10) 1,1-Dichloroethene	2.319	96	5245	2.108	ug/l	96
11) Methyl Iodide	2.453	142	5564	2.041	ug/l	94
12) Methyl Acetate	2.703	43	7758	1.936	ug/l	96
13) Acrolein	2.239	56	8045	13.457	ug/l	94
14) Acrylonitrile	3.062	53	16331	8.888	ug/l	96
15) Acetone	2.379	58	4658	8.037	ug/l	78
16) Carbon Disulfide	2.508	76	14291	2.131	ug/l	99
17) Allyl chloride	2.660	41	9463	1.929	ug/l	88
18) Methylene Chloride	2.794	84	5892	2.026	ug/l	98
19) trans-1,2-Dichloroethene	3.093	96	5452	2.065	ug/l	95
20) Diisopropyl ether	3.757	45	18255	1.906	ug/l #	86
21) 1,1-Dichloroethane	3.605	63	10644	1.991	ug/l	96
22) cis-1,2-Dichloroethene	4.489	96	6086	1.972	ug/l	90
23) tert-Butyl Alcohol	2.965	59	7664	8.904	ug/l #	100
24) Methyl tert-Butyl Ether	3.111	73	18461	2.025	ug/l	94
25) Chloroform	5.092	83	11734	2.236	ug/l	88
26) Cyclohexane	5.470	56	8668	1.869	ug/l #	97
29) 1,1-Dichloropropene	5.696	75	8248	3.191	ug/l	96
30) 2-Butanone	4.556	43	25363	13.681	ug/l #	95
31) 2,2-Dichloropropane	4.477	77	8414	2.928	ug/l	96
32) 1,1,1-Trichloroethane	5.385	97	10495	3.513	ug/l	96
33) Carbon Tetrachloride	5.678	117	8488	3.604	ug/l	92
34) Benzene	6.037	78	22472	2.931	ug/l	95
35) Methacrylonitrile	4.916	41	4914m	2.755	ug/l	
36) 1,2-Dichloroethane	6.086	62	10396	3.458	ug/l #	93
37) Trichloroethene	7.129	130	6365	3.494	ug/l	81
38) Methylcyclohexane	7.379	83	9020	2.852	ug/l	95
39) 1,2-Dichloropropane	7.427	63	5915	2.863	ug/l	100
40) Dibromomethane	7.586	93	4573	3.277	ug/l	95
41) Bromodichloromethane	7.824	83	8978	3.472	ug/l	93
42) Vinyl Acetate	3.721	43	83196	13.573	ug/l	98

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040579.D
Acq On : 05 Mar 2024 10:58
Operator : JC/MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 05 13:13:25 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :John Carlone
03/05/2024
Supervised By :Mahesh Dadoda
03/06/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.721	43	9718	2.797	ug/l		96
44) Isopropyl Acetate	6.342	43	14421	2.685	ug/l		95
45) 1,4-Dioxane	7.659	88	3326m	64.222	ug/l		
46) Methyl methacrylate	7.696	41	7137	2.766	ug/l		95
47) n-amyl Acetate	10.841	43	10514	2.241	ug/l		95
48) t-1,3-Dichloropropene	8.982	75	9026	3.243	ug/l		92
49) cis-1,3-Dichloropropene	8.366	75	9376	3.076	ug/l	#	86
50) 1,1,2-Trichloroethane	9.153	97	6209	3.246	ug/l		97
51) Ethyl methacrylate	9.116	69	8714	2.727	ug/l		95
52) 1,3-Dichloropropane	9.305	76	10398	3.150	ug/l		97
53) Dibromochloromethane	9.518	129	6574	3.693	ug/l		98
54) 1,2-Dibromoethane	9.610	107	6510	3.247	ug/l		96
55) 2-Chloroethyl vinyl ether	8.244	63	23284	14.974	ug/l		98
56) Bromoform	10.799	173	3884	3.239	ug/l	#	93
58) 4-Methyl-2-Pentanone	8.573	43	49560	16.831	ug/l		99
59) 2-Hexanone	9.427	43	38930	16.332	ug/l		95
61) Tetrachloroethene	9.275	164	5844	4.928	ug/l	#	91
62) Toluene	8.720	91	26031	3.922	ug/l		98
64) Chlorobenzene	10.079	112	15563	4.033	ug/l		99
65) 1,1,1,2-Tetrachloroethane	10.165	131	5672	4.135	ug/l		98
66) Ethyl Benzene	10.195	91	29014	3.981	ug/l		98
67) m/p-Xylenes	10.305	106	20842	7.830	ug/l		97
68) o-Xylene	10.640	106	9478	3.547	ug/l		98
69) Styrene	10.652	104	14883	3.484	ug/l		94
70) Isopropylbenzene	10.963	105	25462	3.610	ug/l		98
71) 1,1,2,2-Tetrachloroethane	11.213	83	8777	3.240	ug/l		100
72) 1,2,3-Trichloropropane	11.238	75	8473m	3.739	ug/l		
73) Bromobenzene	11.195	156	6150	3.949	ug/l		92
74) n-propylbenzene	11.305	91	31433	3.738	ug/l		99
75) 2-Chlorotoluene	11.366	91	18986	3.634	ug/l		96
76) 1,3,5-Trimethylbenzene	11.451	105	21175	3.514	ug/l		99
77) t-1,4-Dichloro-2-butene	11.018	75	1915	2.575	ug/l		84
78) 4-Chlorotoluene	11.457	91	21522	3.714	ug/l		97
79) tert-butylbenzene	11.713	119	19511	3.417	ug/l		96
80) 1,2,4-Trimethylbenzene	11.750	105	21105	3.529	ug/l		98
81) sec-Butylbenzene	11.890	105	27175	3.703	ug/l		100
82) p-Isopropyltoluene	12.012	119	21725	3.720	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	11453	3.935	ug/l		98
84) 1,4-Dichlorobenzene	12.042	146	12192	4.223	ug/l		99
85) n-Butylbenzene	12.335	91	22223	4.158	ug/l		99
86) Hexachloroethane	12.536	117	3770	3.773	ug/l		83
87) 1,2-Dichlorobenzene	12.335	146	11999	4.114	ug/l		98
88) 1,2-Dibromo-3-Chloropr...	12.945	75	2395	3.692	ug/l		95
89) 1,2,4-Trichlorobenzene	13.591	180	8538	5.192	ug/l		99
90) Hexachlorobutadiene	13.725	225	3422	4.753	ug/l		96
91) Naphthalene	13.774	128	26158	4.077	ug/l		99
92) 1,2,3-Trichlorobenzene	13.963	180	8334	4.895	ug/l		99

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

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040579.D
Acq On : 05 Mar 2024 10:58
Operator : JC/MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 05 13:13:25 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

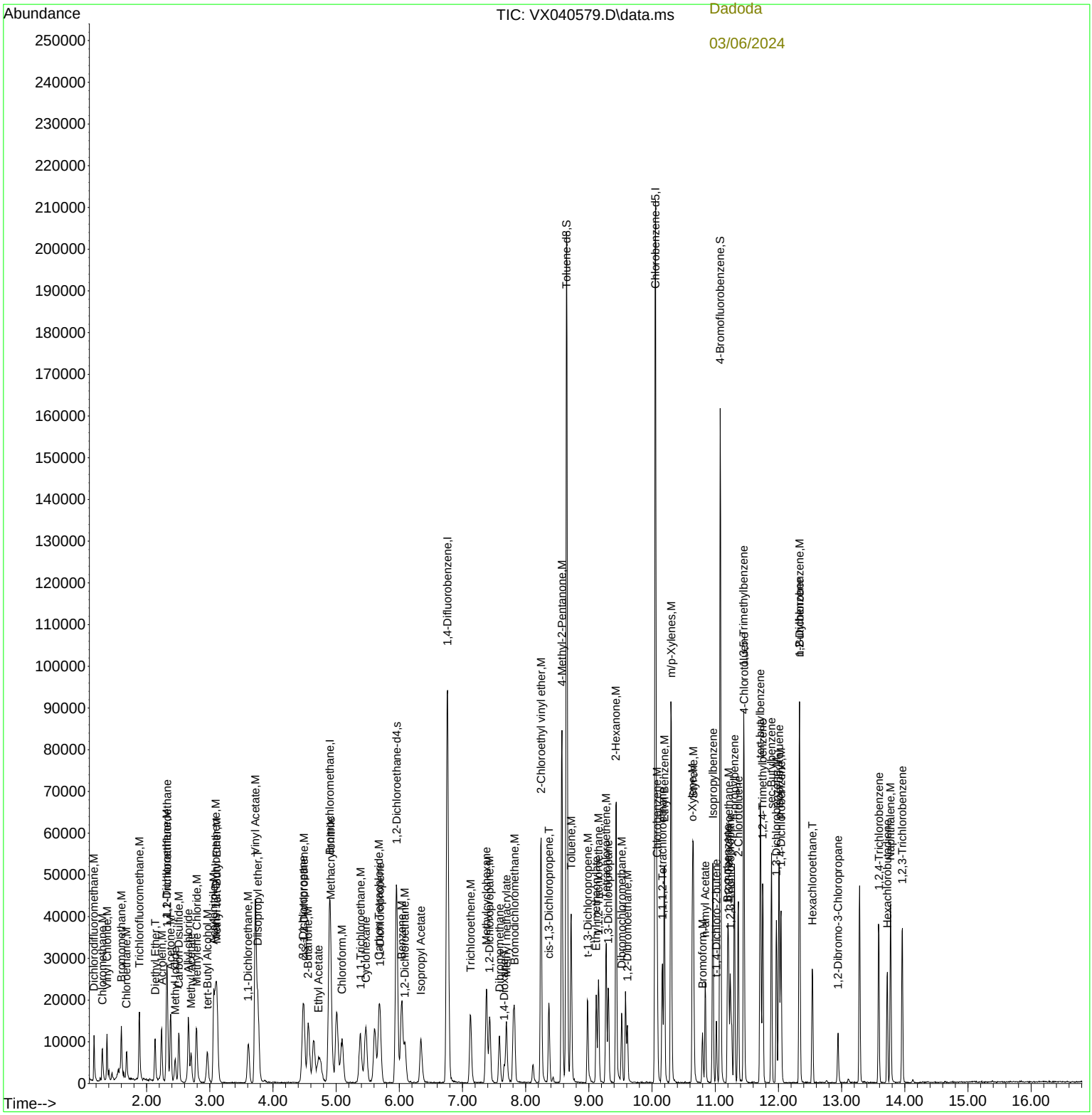
Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :John Carlone

03/05/2024
Supervised By :Mahesh Dadoda

03/06/2024



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040580.D
Acq On : 05 Mar 2024 11:21
Operator : JC/MD
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 05 13:11:33 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.897	128	17095	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	89801	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	78444	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	47951	17.892	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 59.633%#			
60) 4-Bromofluorobenzene	11.079	95	39721	22.958	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 76.533%			
63) Toluene-d8	8.647	98	115902	35.937	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 119.800%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	20625	7.141	ug/l	97
3) Chloromethane	1.294	50	21734	6.773	ug/l	93
4) Vinyl Chloride	1.374	62	23061	7.364	ug/l	98
5) Bromomethane	1.605	94	16701	11.160	ug/l	93
6) Chloroethane	1.691	64	12495	8.766	ug/l	96
7) Trichlorofluoromethane	1.886	101	33045	7.473	ug/l	94
8) Diethyl Ether	2.136	74	11288	6.822	ug/l	98
9) 1,1,2-Trichlorotrifluo...	2.331	101	19086	7.047	ug/l	96
10) 1,1-Dichloroethene	2.318	96	17895	6.895	ug/l	89
11) Methyl Iodide	2.453	142	21174	7.446	ug/l	92
12) Methyl Acetate	2.703	43	29836	7.138	ug/l	97
13) Acrolein	2.233	56	27501	44.099	ug/l	100
14) Acrylonitrile	3.062	53	59330	30.954	ug/l	97
15) Acetone	2.379	58	18143	30.009	ug/l	71
16) Carbon Disulfide	2.514	76	48351	6.911	ug/l	97
17) Allyl chloride	2.660	41	33327	6.512	ug/l	87
18) Methylene Chloride	2.788	84	20663	6.811	ug/l	96
19) trans-1,2-Dichloroethene	3.093	96	19885	7.221	ug/l	98
20) Diisopropyl ether	3.757	45	66601	6.668	ug/l	87
21) 1,1-Dichloroethane	3.611	63	38730	6.944	ug/l	100
22) cis-1,2-Dichloroethene	4.489	96	23317	7.244	ug/l	99
23) tert-Butyl Alcohol	2.959	59	26812	29.862	ug/l #	100
24) Methyl tert-Butyl Ether	3.117	73	66308	6.971	ug/l	94
25) Chloroform	5.098	83	41896	7.654	ug/l	94
26) Cyclohexane	5.464	56	30037	6.208	ug/l #	97
29) 1,1-Dichloropropene	5.690	75	28626	11.108	ug/l	100
30) 2-Butanone	4.556	43	92582	50.090	ug/l	99
31) 2,2-Dichloropropane	4.483	77	32015	11.174	ug/l	96
32) 1,1,1-Trichloroethane	5.385	97	36571	12.279	ug/l	97
33) Carbon Tetrachloride	5.678	117	30316	12.911	ug/l	98
34) Benzene	6.037	78	79811	10.440	ug/l	98
35) Methacrylonitrile	4.922	41	18910	10.633	ug/l	96
36) 1,2-Dichloroethane	6.086	62	37525	12.518	ug/l	96
37) Trichloroethene	7.129	130	21161	11.651	ug/l	94
38) Methylcyclohexane	7.379	83	31865	10.106	ug/l	96
39) 1,2-Dichloropropane	7.427	63	20801	10.098	ug/l	98
40) Dibromomethane	7.580	93	16710	12.010	ug/l	96
41) Bromodichloromethane	7.817	83	32119	12.458	ug/l #	99
42) Vinyl Acetate	3.721	43	308093	50.415	ug/l	98

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040580.D
Acq On : 05 Mar 2024 11:21
Operator : JC/MD
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 05 13:11:33 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.714	43	35456	10.234	ug/l		96
44) Isopropyl Acetate	6.342	43	53751	10.036	ug/l		96
45) 1,4-Dioxane	7.659	88	11672	226.051	ug/l		94
46) Methyl methacrylate	7.689	41	27770	10.796	ug/l		91
47) n-amyl Acetate	10.841	43	42029	8.986	ug/l		99
48) t-1,3-Dichloropropene	8.982	75	32099	11.568	ug/l		93
49) cis-1,3-Dichloropropene	8.366	75	33615	11.061	ug/l		94
50) 1,1,2-Trichloroethane	9.153	97	21546	11.297	ug/l		99
51) Ethyl methacrylate	9.116	69	33689	10.574	ug/l		98
52) 1,3-Dichloropropane	9.305	76	37195	11.301	ug/l		100
53) Dibromochloromethane	9.518	129	24002	13.523	ug/l		98
54) 1,2-Dibromoethane	9.610	107	23635	11.824	ug/l		98
55) 2-Chloroethyl vinyl ether	8.238	63	89420	57.680	ug/l		100
56) Bromoform	10.799	173	15937	13.331	ug/l	#	95
58) 4-Methyl-2-Pentanone	8.573	43	184814	71.626	ug/l		98
59) 2-Hexanone	9.427	43	145518	69.670	ug/l		96
61) Tetrachloroethene	9.275	164	19325	18.598	ug/l		97
62) Toluene	8.720	91	90225	15.515	ug/l		97
64) Chlorobenzene	10.079	112	49389	14.607	ug/l		96
65) 1,1,1,2-Tetrachloroethane	10.159	131	18542	15.425	ug/l		98
66) Ethyl Benzene	10.195	91	92107	14.424	ug/l		99
67) m/p-Xylenes	10.299	106	68138	29.212	ug/l		94
68) o-Xylene	10.640	106	33388	14.258	ug/l		95
69) Styrene	10.652	104	56329	15.047	ug/l		98
70) Isopropylbenzene	10.963	105	89061	14.410	ug/l		100
71) 1,1,2,2-Tetrachloroethane	11.207	83	31944	13.456	ug/l		100
72) 1,2,3-Trichloropropane	11.238	75	26994m	13.595	ug/l		
73) Bromobenzene	11.195	156	21159	15.506	ug/l		94
74) n-propylbenzene	11.305	91	108275	14.693	ug/l		100
75) 2-Chlorotoluene	11.366	91	63924	13.963	ug/l		99
76) 1,3,5-Trimethylbenzene	11.451	105	76986	14.581	ug/l		97
77) t-1,4-Dichloro-2-butene	11.018	75	8684	13.327	ug/l		85
78) 4-Chlorotoluene	11.451	91	73298	14.435	ug/l		99
79) tert-butylbenzene	11.713	119	69367	13.865	ug/l		96
80) 1,2,4-Trimethylbenzene	11.750	105	73496	14.026	ug/l		100
81) sec-Butylbenzene	11.890	105	92116	14.326	ug/l		100
82) p-Isopropyltoluene	12.012	119	75289	14.713	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	40109	15.726	ug/l		98
84) 1,4-Dichlorobenzene	12.042	146	40877	16.159	ug/l		98
85) n-Butylbenzene	12.335	91	73152	15.619	ug/l		98
86) Hexachloroethane	12.536	117	12580	14.369	ug/l		85
87) 1,2-Dichlorobenzene	12.335	146	39473	15.444	ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.945	75	8204	14.433	ug/l		98
89) 1,2,4-Trichlorobenzene	13.585	180	26279	18.236	ug/l		99
90) Hexachlorobutadiene	13.725	225	10565	16.747	ug/l		99
91) Naphthalene	13.774	128	84827	15.088	ug/l		100
92) 1,2,3-Trichlorobenzene	13.963	180	25929	17.378	ug/l		99

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

ICAL Form

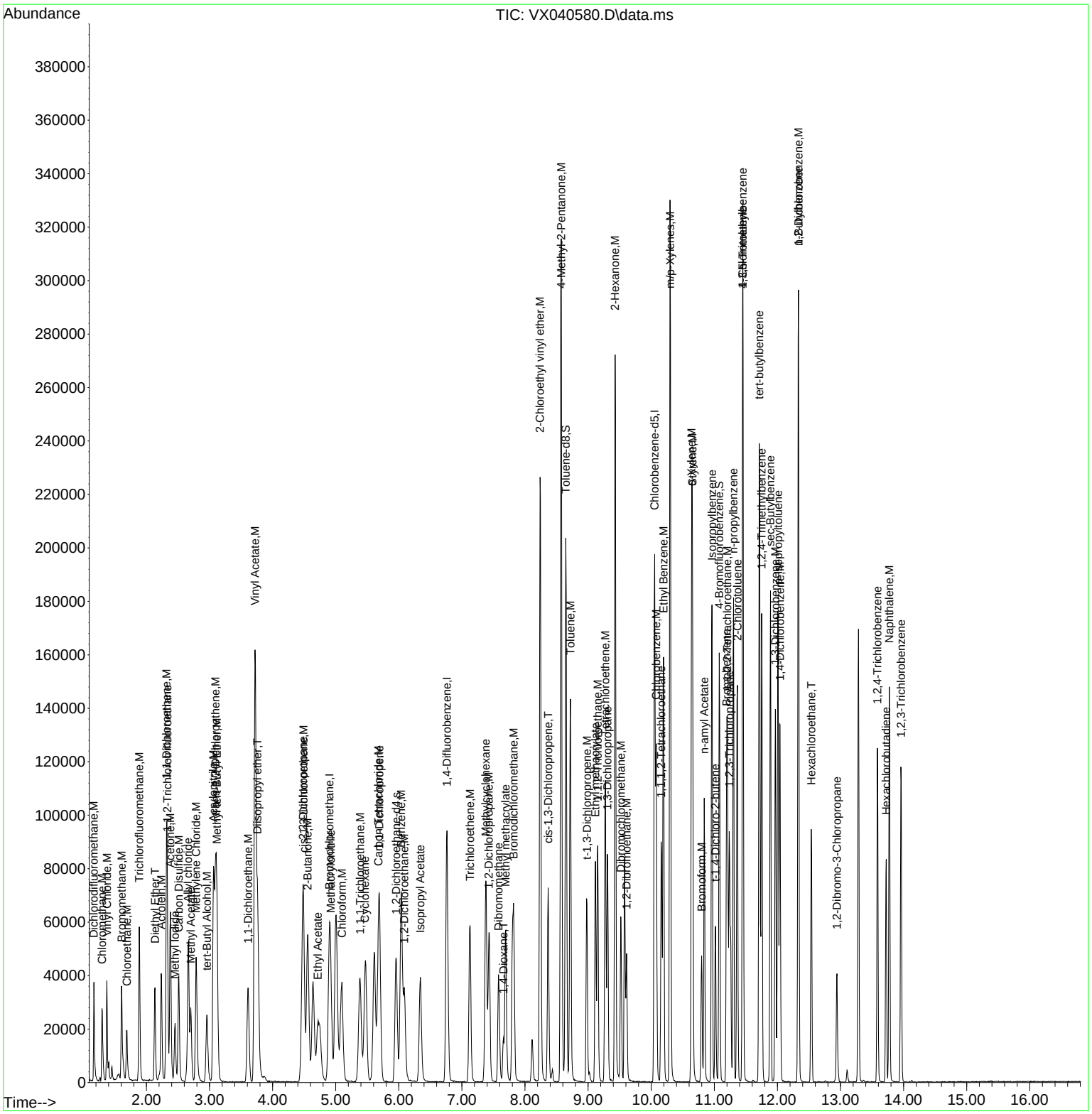
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040580.D
Acq On : 05 Mar 2024 11:21
Operator : JC/MD
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 05 13:11:33 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040581.D
Acq On : 05 Mar 2024 11:44
Operator : JC/MD
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 05 13:15:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.903	128	14094	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	80975	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	76859	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	41303	18.693	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 62.300%#			
60) 4-Bromofluorobenzene	11.079	95	41824	24.672	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 82.233%			
63) Toluene-d8	8.647	98	102841	32.545	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 108.467%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	46052	19.340	ug/l	100
3) Chloromethane	1.294	50	46129	17.437	ug/l	98
4) Vinyl Chloride	1.374	62	49966	19.353	ug/l	99
5) Bromomethane	1.599	94	34875	28.267	ug/l	99
6) Chloroethane	1.685	64	32608	27.747	ug/l	98
7) Trichlorofluoromethane	1.886	101	87459	23.989	ug/l	97
8) Diethyl Ether	2.136	74	29522	21.642	ug/l	98
9) 1,1,2-Trichlorotrifluo...	2.331	101	43225	19.357	ug/l	95
10) 1,1-Dichloroethene	2.319	96	40793	19.066	ug/l	98
11) Methyl Iodide	2.453	142	51461	21.949	ug/l	97
12) Methyl Acetate	2.703	43	70648	20.502	ug/l	98
13) Acrolein	2.233	56	65161	126.737	ug/l	98
14) Acrylonitrile	3.062	53	135082	85.482	ug/l	98
15) Acetone	2.380	58	39102	78.447	ug/l	77
16) Carbon Disulfide	2.508	76	112632	19.526	ug/l	98
17) Allyl chloride	2.660	41	74994	17.775	ug/l	85
18) Methylene Chloride	2.788	84	46600	18.631	ug/l	98
19) trans-1,2-Dichloroethene	3.093	96	45431	20.011	ug/l	98
20) Diisopropyl ether	3.763	45	149882	18.200	ug/l	93
21) 1,1-Dichloroethane	3.611	63	87613	19.054	ug/l	96
22) cis-1,2-Dichloroethene	4.489	96	53733	20.248	ug/l	99
23) tert-Butyl Alcohol	2.965	59	61274	82.775	ug/l #	100
24) Methyl tert-Butyl Ether	3.117	73	150774	19.226	ug/l	94
25) Chloroform	5.099	83	95668	21.199	ug/l	96
26) Cyclohexane	5.470	56	72333	18.133	ug/l #	97
29) 1,1-Dichloropropene	5.690	75	69844	30.057	ug/l	97
30) 2-Butanone	4.556	43	208516	125.111	ug/l	98
31) 2,2-Dichloropropane	4.477	77	74652	28.895	ug/l	98
32) 1,1,1-Trichloroethane	5.379	97	85055	31.670	ug/l	98
33) Carbon Tetrachloride	5.678	117	73588	34.757	ug/l	95
34) Benzene	6.037	78	184912	26.824	ug/l	98
35) Methacrylonitrile	4.916	41	42251	26.347	ug/l	96
36) 1,2-Dichloroethane	6.086	62	82599	30.557	ug/l	95
37) Trichloroethene	7.129	130	50091	30.584	ug/l	91
38) Methylcyclohexane	7.379	83	77667	27.318	ug/l	98
39) 1,2-Dichloropropane	7.427	63	48657	26.197	ug/l	97
40) Dibromomethane	7.580	93	38474	30.666	ug/l	97
41) Bromodichloromethane	7.824	83	76058	32.715	ug/l	96
42) Vinyl Acetate	3.721	43	720313	130.715	ug/l	99

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040581.D
Acq On : 05 Mar 2024 11:44
Operator : JC/MD
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 05 13:15:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.714	43	75219	24.079	ug/l		99
44) Isopropyl Acetate	6.336	43	126495	26.194	ug/l		95
45) 1,4-Dioxane	7.659	88	25702	552.025	ug/l		97
46) Methyl methacrylate	7.690	41	63744	27.484	ug/l		92
47) n-amyl Acetate	10.841	43	118176	28.020	ug/l		98
48) t-1,3-Dichloropropene	8.976	75	81755	32.673	ug/l		99
49) cis-1,3-Dichloropropene	8.366	75	83871	30.606	ug/l		94
50) 1,1,2-Trichloroethane	9.153	97	49862	28.993	ug/l		98
51) Ethyl methacrylate	9.116	69	81387	28.330	ug/l		96
52) 1,3-Dichloropropane	9.305	76	88021	29.659	ug/l		99
53) Dibromochloromethane	9.518	129	57545	35.955	ug/l		100
54) 1,2-Dibromoethane	9.610	107	55950	31.042	ug/l		100
55) 2-Chloroethyl vinyl ether	8.244	63	202739	145.030	ug/l		99
56) Bromoform	10.799	173	43019	39.906	ug/l	#	97
58) 4-Methyl-2-Pentanone	8.574	43	429348	169.828	ug/l		99
59) 2-Hexanone	9.427	43	342748	167.483	ug/l		97
61) Tetrachloroethene	9.275	164	47177	46.338	ug/l		98
62) Toluene	8.720	91	214469	37.640	ug/l		99
64) Chlorobenzene	10.079	112	132983	40.142	ug/l		100
65) 1,1,1,2-Tetrachloroethane	10.165	131	51775	43.960	ug/l		97
66) Ethyl Benzene	10.195	91	253488	40.515	ug/l		98
67) m/p-Xylenes	10.299	106	188438	82.454	ug/l		96
68) o-Xylene	10.640	106	91055	39.686	ug/l		94
69) Styrene	10.652	104	154032	41.994	ug/l		98
70) Isopropylbenzene	10.963	105	244332	40.347	ug/l		98
71) 1,1,2,2-Tetrachloroethane	11.213	83	84760	36.441	ug/l		98
72) 1,2,3-Trichloropropane	11.238	75	72535m	37.284	ug/l		
73) Bromobenzene	11.195	156	57195	42.779	ug/l		96
74) n-propylbenzene	11.305	91	304808	42.215	ug/l		99
75) 2-Chlorotoluene	11.366	91	178383	39.768	ug/l		98
76) 1,3,5-Trimethylbenzene	11.451	105	211325	40.849	ug/l		98
77) t-1,4-Dichloro-2-butene	11.018	75	23945	37.505	ug/l		83
78) 4-Chlorotoluene	11.451	91	210904	42.392	ug/l		97
79) tert-butylbenzene	11.713	119	204686	41.756	ug/l		98
80) 1,2,4-Trimethylbenzene	11.750	105	212241	41.339	ug/l		100
81) sec-Butylbenzene	11.890	105	267444	42.452	ug/l		100
82) p-Isopropyltoluene	12.006	119	215095	42.900	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	110069	44.047	ug/l		99
84) 1,4-Dichlorobenzene	12.042	146	112237	45.284	ug/l		98
85) n-Butylbenzene	12.329	91	212687	46.348	ug/l		98
86) Hexachloroethane	12.536	117	38002	44.302	ug/l		89
87) 1,2-Dichlorobenzene	12.335	146	108993	43.522	ug/l		100
88) 1,2-Dibromo-3-Chloropr...	12.939	75	22767	40.878	ug/l		100
89) 1,2,4-Trichlorobenzene	13.585	180	70901	50.216	ug/l		98
90) Hexachlorobutadiene	13.725	225	29724	48.090	ug/l		99
91) Naphthalene	13.774	128	240190	43.603	ug/l		99
92) 1,2,3-Trichlorobenzene	13.957	180	72496	49.591	ug/l		99

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

ICAL Form

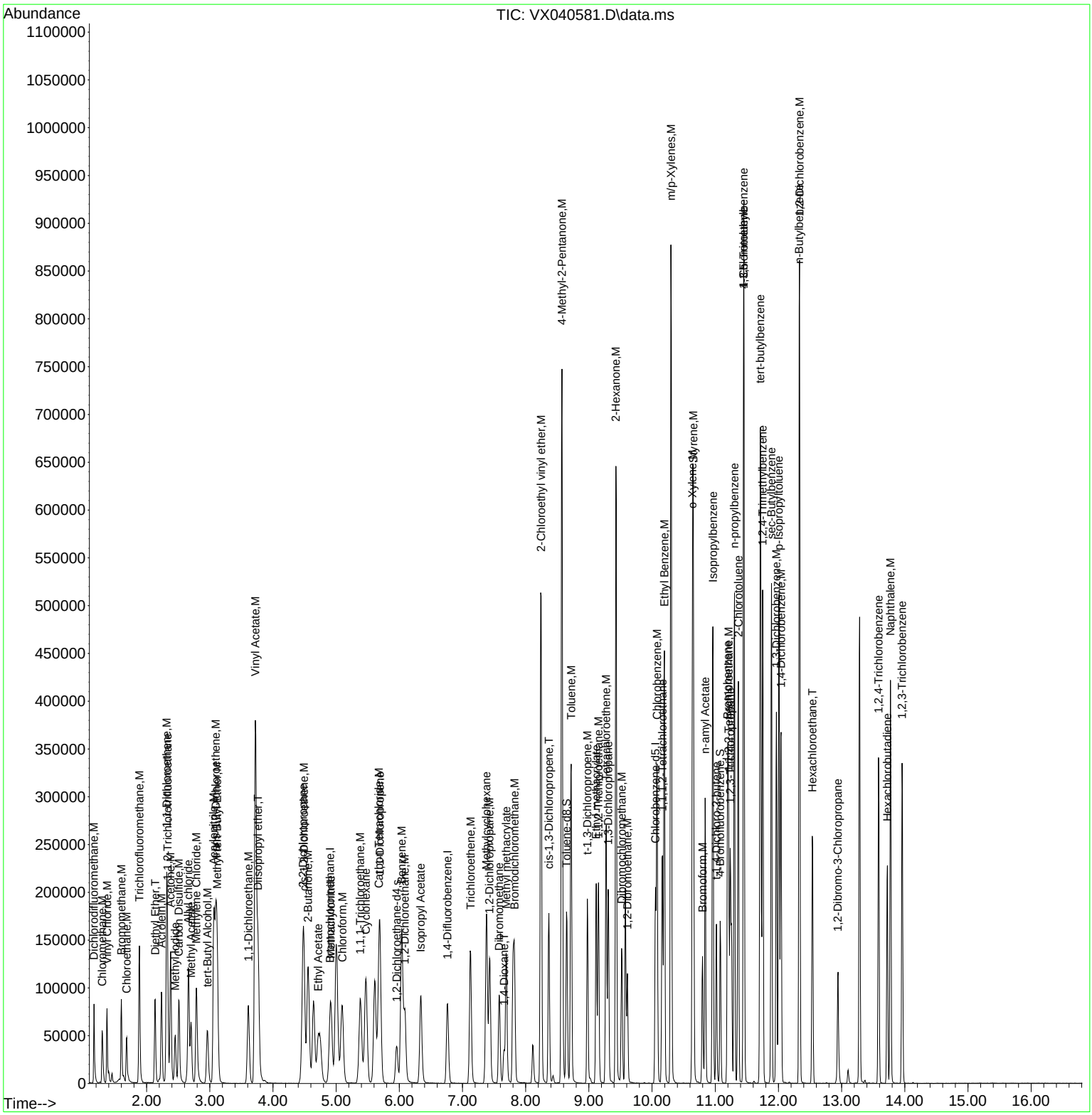
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040581.D
Acq On : 05 Mar 2024 11:44
Operator : JC/MD
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 05 13:15:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040582.D
Acq On : 05 Mar 2024 12:07
Operator : JC/MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 05 13:16:24 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :John Carlone

03/05/2024
Supervised By :Mahesh Dadoda

03/06/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.903	128	15229	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	90762	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	88299	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	47677	19.970	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 66.567%#			
60) 4-Bromofluorobenzene	11.079	95	47304	24.289	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 80.967%			
63) Toluene-d8	8.653	98	108031	29.758	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.200%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	105660	41.067	ug/l	98
3) Chloromethane	1.294	50	107880	37.740	ug/l	97
4) Vinyl Chloride	1.373	62	118389	42.437	ug/l	97
5) Bromomethane	1.599	94	55463	41.604	ug/l	99
6) Chloroethane	1.672	64	62316	49.074	ug/l	97
7) Trichlorofluoromethane	1.879	101	176558	44.819	ug/l	95
8) Diethyl Ether	2.135	74	58697	39.822	ug/l	96
9) 1,1,2-Trichlorotrifluo...	2.324	101	99184	41.107	ug/l	95
10) 1,1-Dichloroethene	2.312	96	93852	40.595	ug/l	95
11) Methyl Iodide	2.453	142	119276	47.082	ug/l	97
12) Methyl Acetate	2.702	43	157927	42.415	ug/l	98
13) Acrolein	2.239	56	142991	257.388	ug/l	100
14) Acrylonitrile	3.068	53	302607	177.222	ug/l	98
15) Acetone	2.379	58	85448	158.651	ug/l	69
16) Carbon Disulfide	2.507	76	260374	41.774	ug/l	96
17) Allyl chloride	2.660	41	175795	38.561	ug/l	89
18) Methylene Chloride	2.788	84	107585	39.808	ug/l	98
19) trans-1,2-Dichloroethene	3.087	96	104051	42.415	ug/l	95
20) Diisopropyl ether	3.763	45	352178	39.577	ug/l	92
21) 1,1-Dichloroethane	3.611	63	201768	40.610	ug/l	99
22) cis-1,2-Dichloroethene	4.489	96	120484	42.017	ug/l	94
23) tert-Butyl Alcohol	2.971	59	147226	184.064	ug/l #	100
24) Methyl tert-Butyl Ether	3.117	73	351521	41.484	ug/l	95
25) Chloroform	5.092	83	220649	45.251	ug/l	94
26) Cyclohexane	5.470	56	164549	38.176	ug/l #	96
29) 1,1-Dichloropropene	5.690	75	159849	61.372	ug/l	97
30) 2-Butanone	4.556	43	471117	252.193	ug/l	99
31) 2,2-Dichloropropane	4.477	77	173194	59.808	ug/l	97
32) 1,1,1-Trichloroethane	5.379	97	200373	66.562	ug/l	98
33) Carbon Tetrachloride	5.678	117	171589	72.305	ug/l	95
34) Benzene	6.037	78	423959	54.870	ug/l	98
35) Methacrylonitrile	4.922	41	101066	56.227	ug/l	96
36) 1,2-Dichloroethane	6.086	62	197830	65.293	ug/l #	95
37) Trichloroethene	7.122	130	107406	58.508	ug/l	97
38) Methylcyclohexane	7.378	83	164116	51.501	ug/l	98
39) 1,2-Dichloropropane	7.427	63	101763	48.880	ug/l	99
40) Dibromomethane	7.580	93	78789	56.028	ug/l	95
41) Bromodichloromethane	7.823	83	160726	61.679	ug/l	96
42) Vinyl Acetate	3.721	43	1681332	272.210	ug/l	99

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040582.D
Acq On : 05 Mar 2024 12:07
Operator : JC/MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :John Carlone
03/05/2024
Supervised By :Mahesh Dadoda
03/06/2024

Quant Time: Mar 05 13:16:24 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.714	43	175815	50.212	ug/l		99
44) Isopropyl Acetate	6.342	43	293572	54.235	ug/l		95
45) 1,4-Dioxane	7.659	88	54681	1047.792	ug/l		95
46) Methyl methacrylate	7.689	41	141661	54.492	ug/l		95
47) n-amyl Acetate	10.841	43	282764	59.815	ug/l		99
48) t-1,3-Dichloropropene	8.976	75	179320	63.937	ug/l		95
49) cis-1,3-Dichloropropene	8.366	75	178339	58.062	ug/l		91
50) 1,1,2-Trichloroethane	9.153	97	107244	55.634	ug/l		98
51) Ethyl methacrylate	9.116	69	176480	54.806	ug/l		95
52) 1,3-Dichloropropane	9.305	76	183928	55.293	ug/l		100
53) Dibromochloromethane	9.524	129	130573	72.786	ug/l		98
54) 1,2-Dibromoethane	9.610	107	128203	63.460	ug/l		99
55) 2-Chloroethyl vinyl ether	8.244	63	432581	276.079	ug/l		99
56) Bromoform	10.799	173	101001	83.588	ug/l	#	98
58) 4-Methyl-2-Pentanone	8.573	43	913841	314.637	ug/l		99
59) 2-Hexanone	9.433	43	797701	339.293	ug/l		97
61) Tetrachloroethene	9.274	164	92078	78.723	ug/l		98
62) Toluene	8.720	91	438655	67.011	ug/l		100
64) Chlorobenzene	10.079	112	297525	78.174	ug/l		99
65) 1,1,1,2-Tetrachloroethane	10.165	131	113750	84.068	ug/l		98
66) Ethyl Benzene	10.195	91	563468	78.391	ug/l		100
67) m/p-Xylenes	10.299	106	422052	160.749	ug/l		96
68) o-Xylene	10.640	106	205715	78.045	ug/l		96
69) Styrene	10.652	104	352586	83.672	ug/l		98
70) Isopropylbenzene	10.963	105	564458	81.134	ug/l		98
71) 1,1,2,2-Tetrachloroethane	11.213	83	198828	74.407	ug/l		99
72) 1,2,3-Trichloropropane	11.238	75	194322m	86.943	ug/l		
73) Bromobenzene	11.195	156	131422	85.561	ug/l		96
74) n-propylbenzene	11.305	91	696571	83.975	ug/l		100
75) 2-Chlorotoluene	11.366	91	409067	79.380	ug/l		100
76) 1,3,5-Trimethylbenzene	11.451	105	494609	83.220	ug/l		98
77) t-1,4-Dichloro-2-butene	11.018	75	59453	81.057	ug/l		83
78) 4-Chlorotoluene	11.457	91	493889	86.410	ug/l		98
79) tert-butylbenzene	11.713	119	462385	82.106	ug/l		98
80) 1,2,4-Trimethylbenzene	11.750	105	486098	82.412	ug/l		97
81) sec-Butylbenzene	11.890	105	599433	82.822	ug/l		99
82) p-Isopropyltoluene	12.012	119	499331	86.687	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	256930	89.495	ug/l		98
84) 1,4-Dichlorobenzene	12.042	146	259445	91.115	ug/l		99
85) n-Butylbenzene	12.335	91	446570	84.706	ug/l		98
86) Hexachloroethane	12.536	117	83734	84.969	ug/l		90
87) 1,2-Dichlorobenzene	12.335	146	228524	79.430	ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.945	75	47902	74.865	ug/l		99
89) 1,2,4-Trichlorobenzene	13.585	180	153524	94.646	ug/l		98
90) Hexachlorobutadiene	13.725	225	62452	87.949	ug/l		97
91) Naphthalene	13.774	128	501625	79.265	ug/l		99
92) 1,2,3-Trichlorobenzene	13.963	180	147110	87.593	ug/l		100

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

ICAL Form

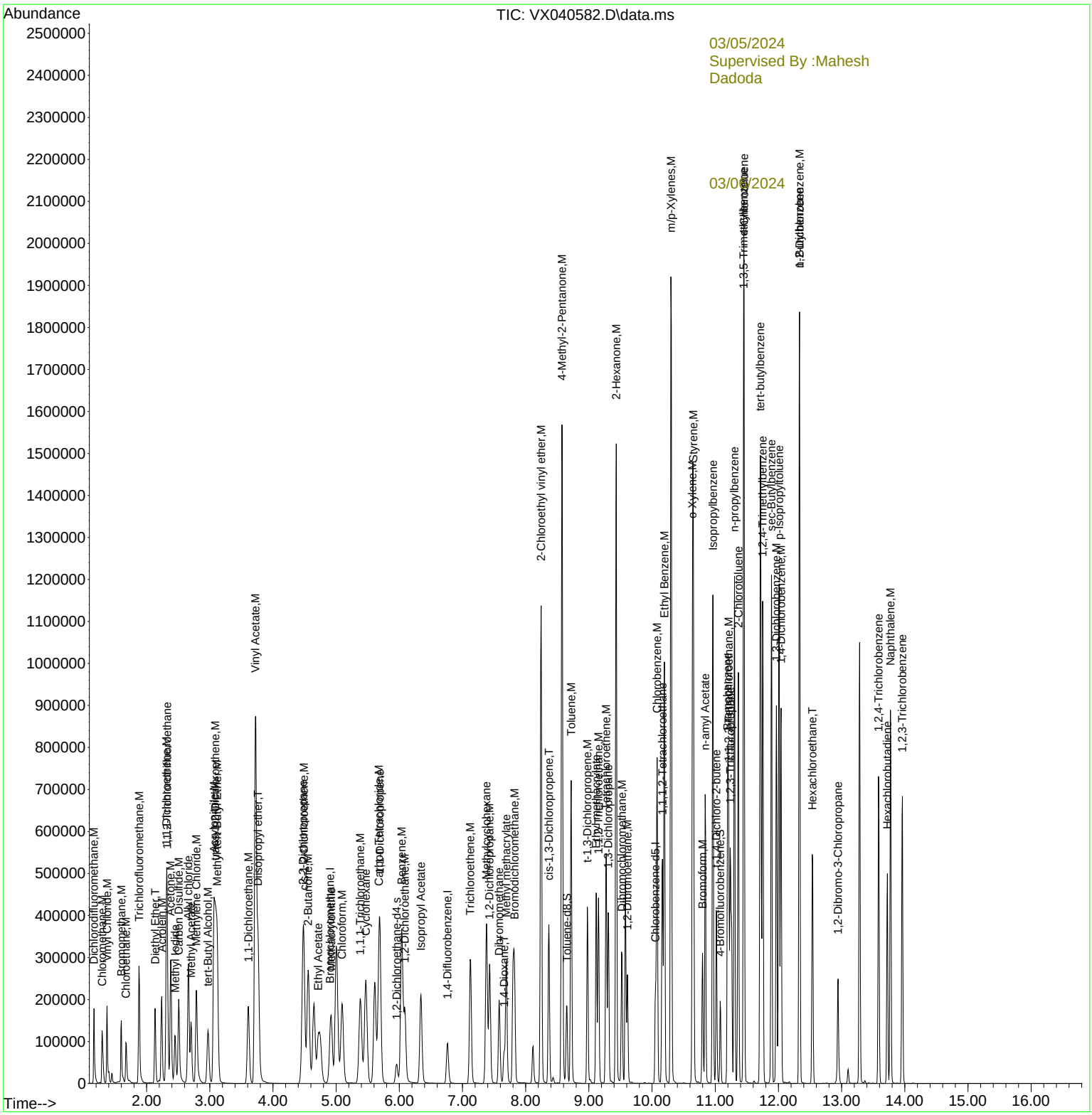
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040582.D
Acq On : 05 Mar 2024 12:07
Operator : JC/MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 05 13:16:24 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :John Carlone



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040583.D
Acq On : 05 Mar 2024 12:30
Operator : JC/MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 05 13:17:29 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.903	128	15141	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	90491	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	82295	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	47615	20.060	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 66.867%#			
60) 4-Bromofluorobenzene	11.079	95	44721	24.638	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 82.133%			
63) Toluene-d8	8.653	98	107147	31.668	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 105.567%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	158148	61.825	ug/l	98
3) Chloromethane	1.294	50	164013	57.711	ug/l	95
4) Vinyl Chloride	1.373	62	173690	62.622	ug/l	99
5) Bromomethane	1.593	94	79707	60.138	ug/l	100
6) Chloroethane	1.666	64	100855	79.885	ug/l	96
7) Trichlorofluoromethane	1.879	101	266128	67.948	ug/l	96
8) Diethyl Ether	2.135	74	89785	61.267	ug/l	100
9) 1,1,2-Trichlorotrifluo...	2.324	101	144900	60.402	ug/l	95
10) 1,1-Dichloroethene	2.312	96	141494	61.558	ug/l	96
11) Methyl Iodide	2.446	142	180421	71.631	ug/l	95
12) Methyl Acetate	2.702	43	239042	64.573	ug/l	99
13) Acrolein	2.239	56	222549	402.924	ug/l	99
14) Acrylonitrile	3.068	53	462809	272.619	ug/l	98
15) Acetone	2.385	58	124691	232.859	ug/l	71
16) Carbon Disulfide	2.507	76	392530	63.343	ug/l	99
17) Allyl chloride	2.660	41	262130	57.833	ug/l	89
18) Methylene Chloride	2.788	84	161948	60.272	ug/l	97
19) trans-1,2-Dichloroethene	3.086	96	154509	63.350	ug/l	99
20) Diisopropyl ether	3.763	45	542588	61.329	ug/l	91
21) 1,1-Dichloroethane	3.605	63	302596	61.257	ug/l	99
22) cis-1,2-Dichloroethene	4.489	96	182119	63.880	ug/l	95
23) tert-Butyl Alcohol	2.983	59	230088	289.331	ug/l #	100
24) Methyl tert-Butyl Ether	3.117	73	536842	63.722	ug/l	96
25) Chloroform	5.092	83	333152	68.720	ug/l	94
26) Cyclohexane	5.470	56	242363	56.557	ug/l #	96
29) 1,1-Dichloropropene	5.690	75	236597	91.110	ug/l	98
30) 2-Butanone	4.562	43	716523	384.709	ug/l	98
31) 2,2-Dichloropropane	4.476	77	263075	91.118	ug/l	96
32) 1,1,1-Trichloroethane	5.385	97	302729	100.865	ug/l	98
33) Carbon Tetrachloride	5.671	117	257156	108.686	ug/l	97
34) Benzene	6.037	78	636848	82.670	ug/l	98
35) Methacrylonitrile	4.922	41	152101	84.874	ug/l	96
36) 1,2-Dichloroethane	6.086	62	296560	98.172	ug/l	96
37) Trichloroethene	7.122	130	171881	93.911	ug/l	100
38) Methylcyclohexane	7.378	83	246462	77.573	ug/l	99
39) 1,2-Dichloropropane	7.433	63	156654	75.472	ug/l	98
40) Dibromomethane	7.580	93	123397	88.012	ug/l	96
41) Bromodichloromethane	7.823	83	253239	97.471	ug/l	100
42) Vinyl Acetate	3.727	43	2575374	418.206	ug/l	99

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040583.D
Acq On : 05 Mar 2024 12:30
Operator : JC/MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 05 13:17:29 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.714	43	274108	78.518	ug/l		100
44) Isopropyl Acetate	6.342	43	451041	83.576	ug/l		96
45) 1,4-Dioxane	7.659	88	86643	1665.217	ug/l		96
46) Methyl methacrylate	7.695	41	219827	84.813	ug/l		94
47) n-amyl Acetate	10.841	43	403742	85.663	ug/l		99
48) t-1,3-Dichloropropene	8.976	75	276895	99.024	ug/l		96
49) cis-1,3-Dichloropropene	8.366	75	274205	89.540	ug/l		93
50) 1,1,2-Trichloroethane	9.152	97	165061	85.884	ug/l		98
51) Ethyl methacrylate	9.116	69	272495	84.877	ug/l		95
52) 1,3-Dichloropropane	9.311	76	273084	82.341	ug/l		100
53) Dibromochloromethane	9.524	129	192788	107.788	ug/l		100
54) 1,2-Dibromoethane	9.610	107	178192	88.468	ug/l		100
55) 2-Chloroethyl vinyl ether	8.244	63	673444	431.088	ug/l		100
56) Bromoform	10.799	173	148504	123.270	ug/l	#	97
58) 4-Methyl-2-Pentanone	8.579	43	1394247	515.063	ug/l		99
59) 2-Hexanone	9.433	43	1115918	509.271	ug/l		97
61) Tetrachloroethene	9.274	164	139090	127.592	ug/l		96
62) Toluene	8.720	91	669412	109.724	ug/l		99
64) Chlorobenzene	10.079	112	416755	117.490	ug/l		98
65) 1,1,1,2-Tetrachloroethane	10.164	131	164816	130.695	ug/l		98
66) Ethyl Benzene	10.195	91	792614	118.315	ug/l		99
67) m/p-Xylenes	10.305	106	588491	240.494	ug/l		97
68) o-Xylene	10.640	106	289160	117.706	ug/l		96
69) Styrene	10.658	104	499592	127.207	ug/l		98
70) Isopropylbenzene	10.963	105	787947	121.521	ug/l		98
71) 1,1,2,2-Tetrachloroethane	11.213	83	276237	110.918	ug/l		99
72) 1,2,3-Trichloropropane	11.237	75	236839m	113.697	ug/l		
73) Bromobenzene	11.201	156	187738	131.142	ug/l		95
74) n-propylbenzene	11.305	91	978115	126.519	ug/l		99
75) 2-Chlorotoluene	11.365	91	587913	122.409	ug/l		99
76) 1,3,5-Trimethylbenzene	11.451	105	754508	136.211	ug/l		99
77) t-1,4-Dichloro-2-butene	11.018	75	87895	128.576	ug/l		85
78) 4-Chlorotoluene	11.457	91	753519	141.453	ug/l		98
79) tert-butylbenzene	11.713	119	705822	134.477	ug/l		98
80) 1,2,4-Trimethylbenzene	11.750	105	744028	135.344	ug/l		98
81) sec-Butylbenzene	11.890	105	913171	135.375	ug/l		99
82) p-Isopropyltoluene	12.006	119	762734	142.076	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	390059	145.780	ug/l		98
84) 1,4-Dichlorobenzene	12.042	146	392391	147.859	ug/l		99
85) n-Butylbenzene	12.335	91	757234	154.112	ug/l		99
86) Hexachloroethane	12.536	117	141282	153.825	ug/l		91
87) 1,2-Dichlorobenzene	12.335	146	374169	139.542	ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.938	75	82215	137.866	ug/l		96
89) 1,2,4-Trichlorobenzene	13.585	180	250113	165.442	ug/l		98
90) Hexachlorobutadiene	13.725	225	98534	148.885	ug/l		96
91) Naphthalene	13.774	128	839683	142.365	ug/l		99
92) 1,2,3-Trichlorobenzene	13.963	180	246470	157.461	ug/l		100

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

ICAL Form

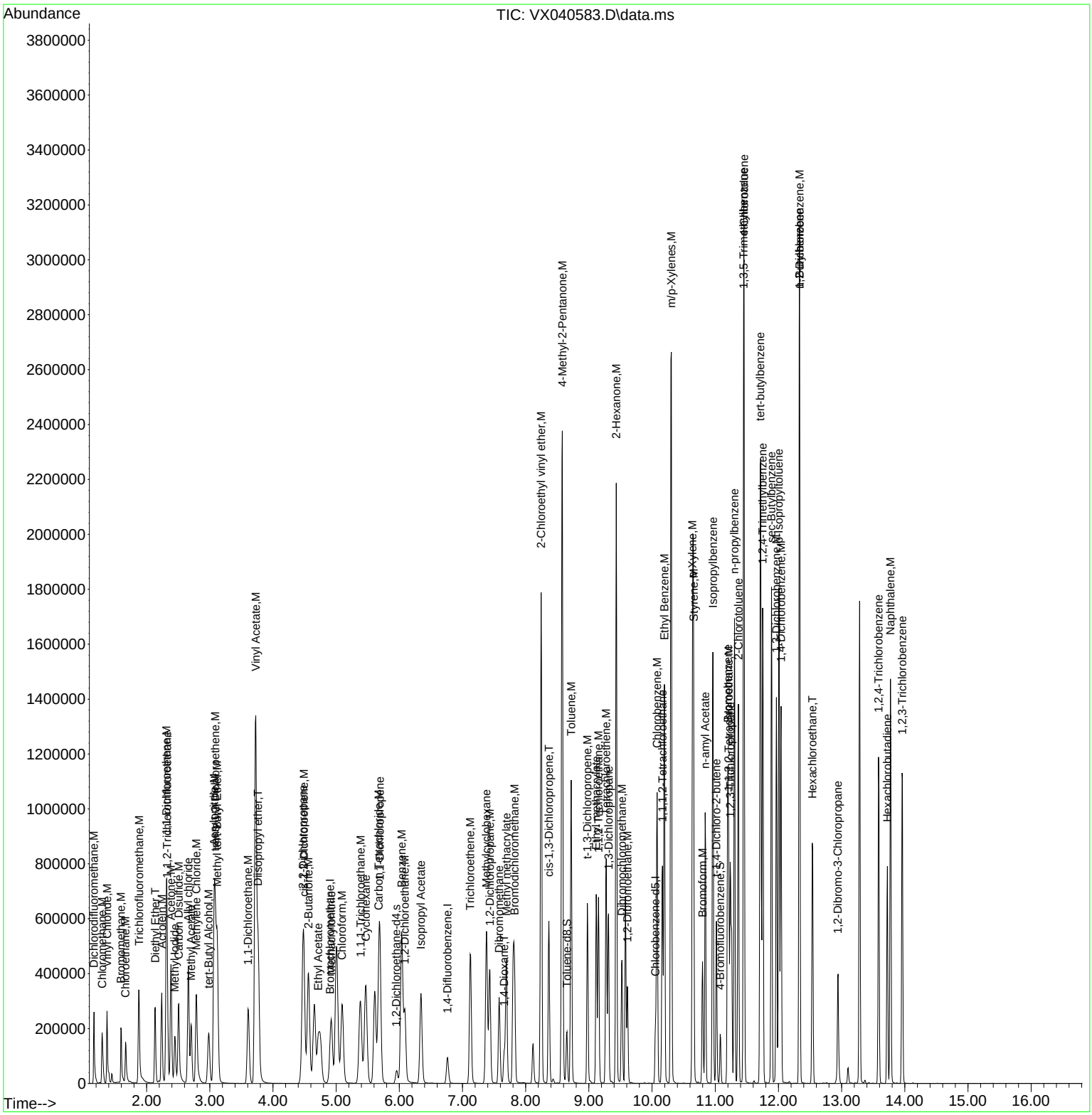
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040583.D
Acq On : 05 Mar 2024 12:30
Operator : JC/MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 05 13:17:29 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:11:20 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :John Carlone 03/05/2024
Supervised By :Mahesh Dadoda 03/06/2024



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Manual Integrations APPROVED

Reviewed By :John Carlone 03/06/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	17398	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	98843	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	86200	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	50870	29.276	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 97.600%			
60) 4-Bromofluorobenzene	11.079	95	46169	31.225	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 104.067%			
63) Toluene-d8	8.647	98	123989	32.548	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 108.500%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.167	85	25073	21.248	ug/l	97
3) Chloromethane	1.295	50	24462	20.233	ug/l	95
4) Vinyl Chloride	1.374	62	26720	20.449	ug/l	96
5) Bromomethane	1.605	94	18230	22.844	ug/l	97
6) Chloroethane	1.685	64	15585	20.302	ug/l	98
7) Trichlorofluoromethane	1.886	101	39514	19.862	ug/l	95
8) Diethyl Ether	2.130	74	12993	19.235	ug/l	97
9) 1,1,2-Trichlorotrifluo...	2.325	101	23930	21.960	ug/l	97
10) 1,1-Dichloroethene	2.319	96	21316	20.546	ug/l	100
11) Methyl Iodide	2.447	142	23890	19.039	ug/l	93
12) Methyl Acetate	2.703	43	32980	19.298	ug/l	97
13) Acrolein	2.233	56	30525	94.743	ug/l	98
14) Acrylonitrile	3.063	53	64755	96.225	ug/l	97
15) Acetone	2.374	58	18795	97.708	ug/l	69
16) Carbon Disulfide	2.508	76	58357	20.466	ug/l	96
17) Allyl chloride	2.660	41	37767	19.726	ug/l	86
18) Methylene Chloride	2.788	84	24326	20.536	ug/l	99
19) trans-1,2-Dichloroethene	3.087	96	23144	20.433	ug/l	88
20) Diisopropyl ether	3.758	45	74823	19.541	ug/l	97
21) 1,1-Dichloroethane	3.605	63	45413	20.611	ug/l	97
22) cis-1,2-Dichloroethene	4.489	96	26809	20.381	ug/l	97
23) tert-Butyl Alcohol	2.953	59	30256	95.158	ug/l #	100
24) Methyl tert-Butyl Ether	3.111	73	77683	20.288	ug/l	94
25) Chloroform	5.087	83	48961	20.302	ug/l	95
26) Cyclohexane	5.465	56	36338	20.435	ug/l #	94
29) 1,1-Dichloropropene	5.684	75	34995	20.454	ug/l	98
30) 2-Butanone	4.544	43	101499	97.218	ug/l	99
31) 2,2-Dichloropropane	4.471	77	38901	21.066	ug/l	98
32) 1,1,1-Trichloroethane	5.385	97	43489	20.173	ug/l	96
33) Carbon Tetrachloride	5.678	117	36376	20.055	ug/l	98
34) Benzene	6.032	78	93435	20.230	ug/l	96
35) Methacrylonitrile	4.916	41	20587	19.208	ug/l	97
36) 1,2-Dichloroethane	6.080	62	42340	19.827	ug/l #	88
37) Trichloroethene	7.123	130	25001	20.143	ug/l	93
38) Methylcyclohexane	7.379	83	39105	21.226	ug/l	98
39) 1,2-Dichloropropane	7.422	63	23865	20.294	ug/l	97
40) Dibromomethane	7.580	93	18677	20.217	ug/l	94
41) Bromodichloromethane	7.818	83	37436	20.369	ug/l	96
42) Vinyl Acetate	3.715	43	356915	99.292	ug/l	99

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Manual Integrations APPROVED

Reviewed By :John Carlone 03/06/2024
Supervised By :Mahesh Dadoda 03/06/2024

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.709	43	39503	20.090	ug/l		97
44) Isopropyl Acetate	6.336	43	60021	19.123	ug/l		98
45) 1,4-Dioxane	7.653	88	12735	394.731	ug/l		96
46) Methyl methacrylate	7.690	41	31587	20.263	ug/l		94
47) n-amyl Acetate	10.842	43	50473	18.659	ug/l		100
48) t-1,3-Dichloropropene	8.976	75	39025	20.090	ug/l		95
49) cis-1,3-Dichloropropene	8.366	75	40466	20.449	ug/l		94
50) 1,1,2-Trichloroethane	9.147	97	24615	20.059	ug/l		99
51) Ethyl methacrylate	9.116	69	38262	19.805	ug/l		98
52) 1,3-Dichloropropane	9.305	76	42130	20.120	ug/l		98
53) Dibromochloromethane	9.519	129	27478	19.643	ug/l		100
54) 1,2-Dibromoethane	9.604	107	27063	19.931	ug/l		100
55) 2-Chloroethyl vinyl ether	8.238	63	100359	102.007	ug/l		99
56) Bromoform	10.799	173	17865	18.005	ug/l	#	96
58) 4-Methyl-2-Pentanone	8.568	43	203520	106.030	ug/l		99
59) 2-Hexanone	9.427	43	163762	105.625	ug/l		96
61) Tetrachloroethene	9.269	164	23161	22.638	ug/l		97
62) Toluene	8.714	91	104317	21.973	ug/l		99
64) Chlorobenzene	10.080	112	59403	20.472	ug/l		100
65) 1,1,1,2-Tetrachloroethane	10.159	131	21325	19.268	ug/l		98
66) Ethyl Benzene	10.189	91	111725	20.410	ug/l		96
67) m/p-Xylenes	10.299	106	81703	40.419	ug/l		94
68) o-Xylene	10.640	106	39344	20.219	ug/l		96
69) Styrene	10.653	104	64974	19.874	ug/l		97
70) Isopropylbenzene	10.964	105	111738	21.251	ug/l		99
71) 1,1,2,2-Tetrachloroethane	11.207	83	38106	20.672	ug/l		98
72) 1,2,3-Trichloropropane	11.238	75	32544m	19.622	ug/l		
73) Bromobenzene	11.195	156	26220	21.064	ug/l		92
74) n-propylbenzene	11.305	91	136161	20.967	ug/l		100
75) 2-Chlorotoluene	11.366	91	78913	20.477	ug/l		100
76) 1,3,5-Trimethylbenzene	11.451	105	96039	20.747	ug/l		99
77) t-1,4-Dichloro-2-butene	11.018	75	9724	18.865	ug/l		85
78) 4-Chlorotoluene	11.451	91	95501	20.774	ug/l		98
79) tert-butylbenzene	11.713	119	88892	20.574	ug/l		97
80) 1,2,4-Trimethylbenzene	11.750	105	92569	20.296	ug/l		99
81) sec-Butylbenzene	11.890	105	119186	20.894	ug/l		98
82) p-Isopropyltoluene	12.006	119	103844	22.240	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	50741	20.950	ug/l		98
84) 1,4-Dichlorobenzene	12.043	146	54310	21.927	ug/l		99
85) n-Butylbenzene	12.329	91	102259	22.507	ug/l		97
86) Hexachloroethane	12.536	117	17886	21.953	ug/l		94
87) 1,2-Dichlorobenzene	12.335	146	50624	21.509	ug/l		97
88) 1,2-Dibromo-3-Chloropr...	12.939	75	10997	22.312	ug/l		95
89) 1,2,4-Trichlorobenzene	13.585	180	35771	22.572	ug/l		97
90) Hexachlorobutadiene	13.725	225	14354	22.400	ug/l		98
91) Naphthalene	13.774	128	112701	21.802	ug/l		99
92) 1,2,3-Trichlorobenzene	13.963	180	33852	21.664	ug/l		98

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

ICAL Form

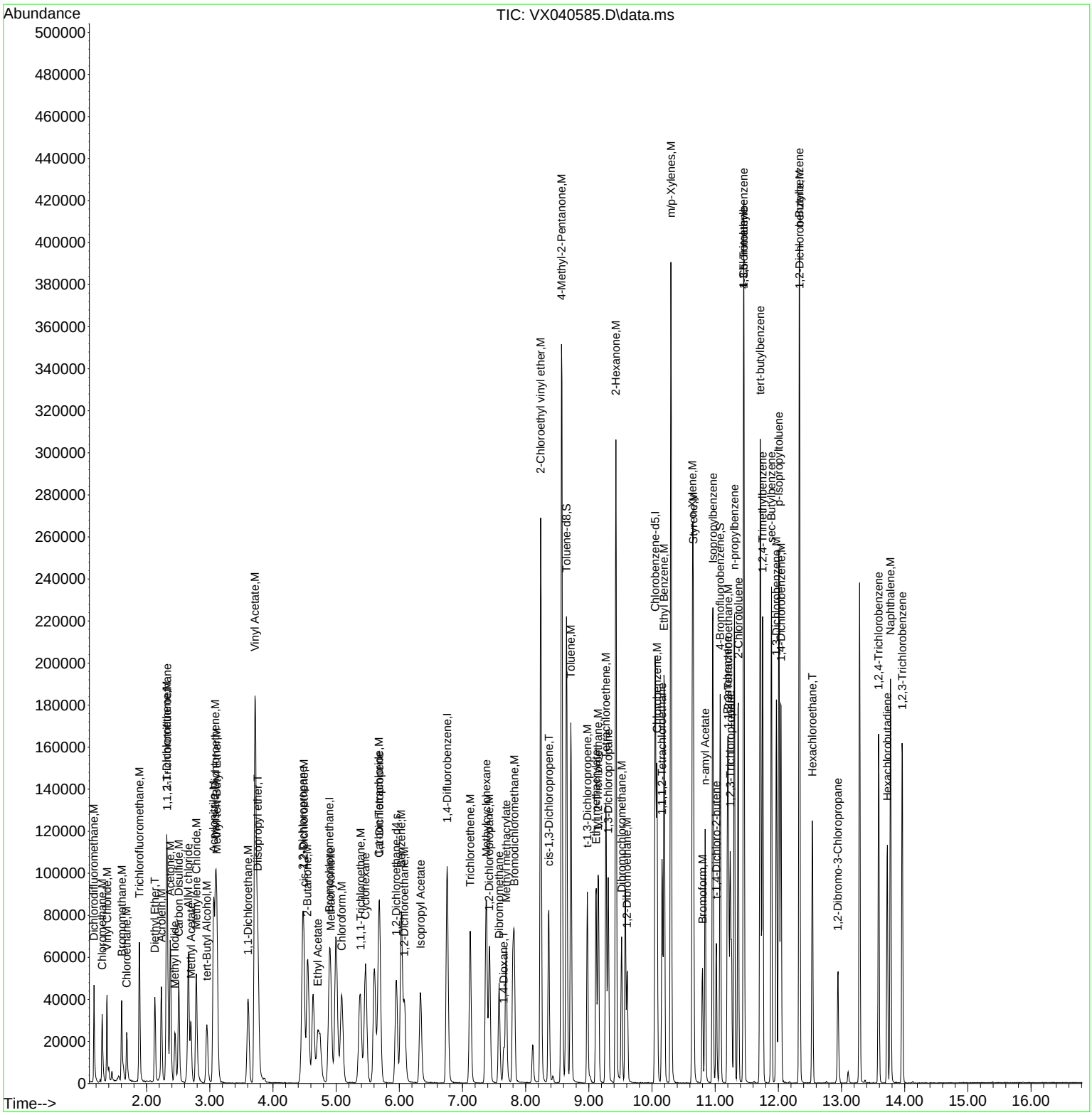
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Manual Integrations APPROVED

Reviewed By :John Carlone 03/06/2024
Supervised By :Mahesh Dadoda 03/06/2024



Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	102	0.00
2	M	Dichlorodifluoromethane	2.035	2.162	-6.2	122	0.00
3	M	Chloromethane	2.085	2.109	-1.2	113	0.00
4	M	Vinyl Chloride	2.253	2.304	-2.3	116	0.00
5	M	Bromomethane	1.376	1.572	-14.2	109	0.01
6	M	Chloroethane	1.324	1.344	-1.5	125	0.02
7	M	Trichlorofluoromethane	3.430	3.407	0.7	120	0.01
8	T	Diethyl Ether	1.165	1.120	3.9	115	0.00
9		1,1,2-Trichlorotrifluoroeth	1.879	2.063	-9.8	125	0.00
10	M	1,1-Dichloroethene	1.789	1.838	-2.7	119	0.00
11		Methyl Iodide	2.164	2.060	4.8	113	0.00
12		Methyl Acetate	2.947	2.843	3.5	111	0.00
13	M	Acrolein	0.556	0.526	5.4	111	0.00
14	M	Acrylonitrile	1.160	1.117	3.7	109	0.00
15	M	Acetone	0.332	0.324	2.4	104	0.00
16	M	Carbon Disulfide	4.917	5.031	-2.3	121	0.00
17		Allyl chloride	3.301	3.256	1.4	113	0.00
18	M	Methylene Chloride	2.043	2.097	-2.6	118	0.00
19	M	trans-1,2-Dichloroethene	1.953	1.995	-2.2	116	0.00
20	T	Diisopropyl ether	6.603	6.451	2.3	112	0.00
21	M	1,1-Dichloroethane	3.799	3.915	-3.1	117	0.00
22	M	cis-1,2-Dichloroethene	2.268	2.311	-1.9	115	0.00
23	M	tert-Butyl Alcohol	0.548	0.522	4.7	113	-0.04
24	M	Methyl tert-Butyl Ether	6.602	6.698	-1.5	117	0.00
25	M	Chloroform	4.158	4.221	-1.5	117	0.00
26		Cyclohexane	3.066	3.133	-2.2	121	0.00
27	s	1,2-Dichloroethane-d4	2.996	2.924	2.4	106	0.00
28	I	1,4-Difluorobenzene	1.000	1.000	0.0	110	0.00
29		1,1-Dichloropropene	0.519	0.531	-2.3	122	0.00
30	M	2-Butanone	0.317	0.308	2.8	110	-0.01
31		2,2-Dichloropropane	0.560	0.590	-5.4	122	0.00
32	M	1,1,1-Trichloroethane	0.654	0.660	-0.9	119	0.01
33	M	Carbon Tetrachloride	0.551	0.552	-0.2	120	0.00
34	M	Benzene	1.402	1.418	-1.1	117	0.00
35		Methacrylonitrile	0.325	0.312	4.0	109	0.00
36	M	1,2-Dichloroethane	0.648	0.643	0.8	113	0.00
37	M	Trichloroethene	0.377	0.379	-0.5	118	0.00
38		Methylcyclohexane	0.559	0.593	-6.1	123	0.00
39	M	1,2-Dichloropropane	0.357	0.362	-1.4	115	0.00
40		Dibromomethane	0.280	0.283	-1.1	112	0.00
41	M	Bromodichloromethane	0.558	0.568	-1.8	117	0.00
42	M	Vinyl Acetate	1.091	1.083	0.7	116	0.00
43		Ethyl Acetate	0.597	0.599	-0.3	111	0.00
44		Isopropyl Acetate	0.953	0.911	4.4	112	0.00
45	T	1,4-Dioxane	0.010	0.010	0.0	109	0.00
46		Methyl methacrylate	0.473	0.479	-1.3	114	0.00
47		n-amyl Acetate	0.821	0.766	6.7	120	0.00
48	M	t-1,3-Dichloropropene	0.590	0.592	-0.3	122	0.00

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	0.601	0.614	-2.2	120	0.00
50	M	1,1,2-Trichloroethane	0.372	0.374	-0.5	114	0.00
51		Ethyl methacrylate	0.586	0.581	0.9	114	0.00
52		1,3-Dichloropropane	0.636	0.639	-0.5	113	0.00
53	M	Dibromochloromethane	0.425	0.417	1.9	114	0.00
54	M	1,2-Dibromoethane	0.412	0.411	0.2	115	0.00
55	M	2-Chloroethyl vinyl ether	0.299	0.305	-2.0	112	0.00
56	M	Bromoform	0.301	0.271	10.0	112	0.00
57	I	Chlorobenzene-d5	1.000	1.000	0.0	110	0.00
58	M	4-Methyl-2-Pentanone	0.668	0.708	-6.0	110	0.00
59	M	2-Hexanone	0.540	0.570	-5.6	113	0.00
60	S	4-Bromofluorobenzene	0.515	0.536	-4.1	116	0.00
61	M	Tetrachloroethene	0.356	0.403	-13.2	120	0.00
62	M	Toluene	1.652	1.815	-9.9	116	0.00
63	S	Toluene-d8	1.326	1.438	-8.4	107	0.00
64	M	Chlorobenzene	1.010	1.034	-2.4	120	0.00
65		1,1,1,2-Tetrachloroethane	0.385	0.371	3.6	115	0.00
66	M	Ethyl Benzene	1.905	1.944	-2.0	121	0.00
67	M	m/p-Xylenes	0.704	0.711	-1.0	120	0.00
68	M	o-Xylene	0.677	0.685	-1.2	118	0.00
69	M	Styrene	1.138	1.131	0.6	115	0.00
70		Isopropylbenzene	1.830	1.944	-6.2	125	0.00
71	M	1,1,2,2-Tetrachloroethane	0.642	0.663	-3.3	119	0.00
72		1,2,3-Trichloropropane	0.577	0.566	1.9	121	0.00
73		Bromobenzene	0.433	0.456	-5.3	124	0.00
74		n-propylbenzene	2.260	2.369	-4.8	126	0.00
75		2-Chlorotoluene	1.341	1.373	-2.4	123	0.00
76		1,3,5-Trimethylbenzene	1.611	1.671	-3.7	125	0.00
77		t-1,4-Dichloro-2-butene	0.179	0.169	5.6	112	0.00
78		4-Chlorotoluene	1.600	1.662	-3.9	130	0.00
79		tert-butylbenzene	1.504	1.547	-2.9	128	0.00
80		1,2,4-Trimethylbenzene	1.587	1.611	-1.5	126	0.00
81		sec-Butylbenzene	1.985	2.074	-4.5	129	0.00
82		p-Isopropyltoluene	1.625	1.807	-11.2	138	0.00
83	M	1,3-Dichlorobenzene	0.843	0.883	-4.7	127	0.00
84	M	1,4-Dichlorobenzene	0.862	0.945	-9.6	133	0.00
85		n-Butylbenzene	1.581	1.779	-12.5	140	0.00
86	T	Hexachloroethane	0.284	0.311	-9.5	142	0.00
87	M	1,2-Dichlorobenzene	0.819	0.881	-7.6	128	0.00
88		1,2-Dibromo-3-Chloropropane	0.172	0.191	-11.0	134	0.00
89		1,2,4-Trichlorobenzene	0.552	0.622	-12.7	136	0.00
90		Hexachlorobutadiene	0.223	0.250	-12.1	136	0.00
91	M	Naphthalene	1.799	1.961	-9.0	133	0.00
92		1,2,3-Trichlorobenzene	0.544	0.589	-8.3	131	0.00

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

Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	30.000	30.000	0.0	102	0.00
2	M	Dichlorodifluoromethane	20.000	21.248	-6.2	122	0.00
3	M	Chloromethane	20.000	20.233	-1.2	113	0.00
4	M	Vinyl Chloride	20.000	20.449	-2.2	116	0.00
5	M	Bromomethane	20.000	22.844	-14.2	109	0.01
6	M	Chloroethane	20.000	20.302	-1.5	125	0.02
7	M	Trichlorofluoromethane	20.000	19.862	0.7	120	0.01
8	T	Diethyl Ether	20.000	19.235	3.8	115	0.00
9		1,1,2-Trichlorotrifluoroeth	20.000	21.960	-9.8	125	0.00
10	M	1,1-Dichloroethene	20.000	20.546	-2.7	119	0.00
11		Methyl Iodide	20.000	19.039	4.8	113	0.00
12		Methyl Acetate	20.000	19.298	3.5	111	0.00
13	M	Acrolein	100.000	94.743	5.3	111	0.00
14	M	Acrylonitrile	100.000	96.225	3.8	109	0.00
15	M	Acetone	100.000	97.708	2.3	104	0.00
16	M	Carbon Disulfide	20.000	20.466	-2.3	121	0.00
17		Allyl chloride	20.000	19.726	1.4	113	0.00
18	M	Methylene Chloride	20.000	20.536	-2.7	118	0.00
19	M	trans-1,2-Dichloroethene	20.000	20.433	-2.2	116	0.00
20	T	Diisopropyl ether	20.000	19.541	2.3	112	0.00
21	M	1,1-Dichloroethane	20.000	20.611	-3.1	117	0.00
22	M	cis-1,2-Dichloroethene	20.000	20.381	-1.9	115	0.00
23	M	tert-Butyl Alcohol	100.000	95.158	4.8	113	-0.04
24	M	Methyl tert-Butyl Ether	20.000	20.288	-1.4	117	0.00
25	M	Chloroform	20.000	20.302	-1.5	117	0.00
26		Cyclohexane	20.000	20.435	-2.2	121	0.00
27	s	1,2-Dichloroethane-d4	30.000	29.276	2.4	106	0.00
28	I	1,4-Difluorobenzene	30.000	30.000	0.0	110	0.00
29		1,1-Dichloropropene	20.000	20.454	-2.3	122	0.00
30	M	2-Butanone	100.000	97.218	2.8	110	-0.01
31		2,2-Dichloropropane	20.000	21.066	-5.3	122	0.00
32	M	1,1,1-Trichloroethane	20.000	20.173	-0.9	119	0.01
33	M	Carbon Tetrachloride	20.000	20.055	-0.3	120	0.00
34	M	Benzene	20.000	20.230	-1.2	117	0.00
35		Methacrylonitrile	20.000	19.208	4.0	109	0.00
36	M	1,2-Dichloroethane	20.000	19.827	0.9	113	0.00
37	M	Trichloroethene	20.000	20.143	-0.7	118	0.00
38		Methylcyclohexane	20.000	21.226	-6.1	123	0.00
39	M	1,2-Dichloropropane	20.000	20.294	-1.5	115	0.00
40		Dibromomethane	20.000	20.217	-1.1	112	0.00
41	M	Bromodichloromethane	20.000	20.369	-1.8	117	0.00
42	M	Vinyl Acetate	100.000	99.292	0.7	116	0.00
43		Ethyl Acetate	20.000	20.090	-0.4	111	0.00
44		Isopropyl Acetate	20.000	19.123	4.4	112	0.00
45	T	1,4-Dioxane	400.000	394.731	1.3	109	0.00
46		Methyl methacrylate	20.000	20.263	-1.3	114	0.00
47		n-amyl Acetate	20.000	18.659	6.7	120	0.00
48	M	t-1,3-Dichloropropene	20.000	20.090	-0.4	122	0.00

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040585.D
Acq On : 05 Mar 2024 13:36
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX030524

Quant Time: Mar 06 00:10:15 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	20.000	20.449	-2.2	120	0.00
50	M	1,1,2-Trichloroethane	20.000	20.059	-0.3	114	0.00
51		Ethyl methacrylate	20.000	19.805	1.0	114	0.00
52		1,3-Dichloropropane	20.000	20.120	-0.6	113	0.00
53	M	Dibromochloromethane	20.000	19.643	1.8	114	0.00
54	M	1,2-Dibromoethane	20.000	19.931	0.3	115	0.00
55	M	2-Chloroethyl vinyl ether	100.000	102.007	-2.0	112	0.00
56	M	Bromoform	20.000	18.005	10.0	112	0.00
57	I	Chlorobenzene-d5	30.000	30.000	0.0	110	0.00
58	M	4-Methyl-2-Pentanone	100.000	106.030	-6.0	110	0.00
59	M	2-Hexanone	100.000	105.625	-5.6	113	0.00
60	S	4-Bromofluorobenzene	30.000	31.225	-4.1	116	0.00
61	M	Tetrachloroethene	20.000	22.638	-13.2	120	0.00
62	M	Toluene	20.000	21.973	-9.9	116	0.00
63	S	Toluene-d8	30.000	32.548	-8.5	107	0.00
64	M	Chlorobenzene	20.000	20.472	-2.4	120	0.00
65		1,1,1,2-Tetrachloroethane	20.000	19.268	3.7	115	0.00
66	M	Ethyl Benzene	20.000	20.410	-2.1	121	0.00
67	M	m/p-Xylenes	40.000	40.419	-1.0	120	0.00
68	M	o-Xylene	20.000	20.219	-1.1	118	0.00
69	M	Styrene	20.000	19.874	0.6	115	0.00
70		Isopropylbenzene	20.000	21.251	-6.3	125	0.00
71	M	1,1,2,2-Tetrachloroethane	20.000	20.672	-3.4	119	0.00
72		1,2,3-Trichloropropane	20.000	19.622	1.9	121	0.00
73		Bromobenzene	20.000	21.064	-5.3	124	0.00
74		n-propylbenzene	20.000	20.967	-4.8	126	0.00
75		2-Chlorotoluene	20.000	20.477	-2.4	123	0.00
76		1,3,5-Trimethylbenzene	20.000	20.747	-3.7	125	0.00
77		t-1,4-Dichloro-2-butene	20.000	18.865	5.7	112	0.00
78		4-Chlorotoluene	20.000	20.774	-3.9	130	0.00
79		tert-butylbenzene	20.000	20.574	-2.9	128	0.00
80		1,2,4-Trimethylbenzene	20.000	20.296	-1.5	126	0.00
81		sec-Butylbenzene	20.000	20.894	-4.5	129	0.00
82		p-Isopropyltoluene	20.000	22.240	-11.2	138	0.00
83	M	1,3-Dichlorobenzene	20.000	20.950	-4.7	127	0.00
84	M	1,4-Dichlorobenzene	20.000	21.927	-9.6	133	0.00
85		n-Butylbenzene	20.000	22.507	-12.5	140	0.00
86	T	Hexachloroethane	20.000	21.953	-9.8	142	0.00
87	M	1,2-Dichlorobenzene	20.000	21.509	-7.5	128	0.00
88		1,2-Dibromo-3-Chloropropane	20.000	22.312	-11.6	134	0.00
89		1,2,4-Trichlorobenzene	20.000	22.572	-12.9	136	0.00
90		Hexachlorobutadiene	20.000	22.400	-12.0	136	0.00
91	M	Naphthalene	20.000	21.802	-9.0	133	0.00
92		1,2,3-Trichlorobenzene	20.000	21.664	-8.3	131	0.00

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

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: MSVOA_X Calibration Date/Time: 03/14/2024 09:43

Lab File ID: VX040630.D Init. Calib. Date(s): 03/05/2024 03/05/2024

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:58 12:30

GC Column: DB-624UI ID: 0.18 (mm)

COMPOUND	RRF	RRF020	MIN RRF	%D	MAX%D
Methyl tert-Butyl Ether	6.602	6.116		-7.36	
Carbon Tetrachloride	0.551	0.479	0.1	-13.07	
Chloroform	4.158	3.929	0.2	-5.51	
1,1,1-Trichloroethane	0.654	0.584	0.1	-10.7	
Benzene	1.402	1.224	0.5	-12.7	
Toluene	1.652	1.432	0.4	-13.32	
Tetrachloroethene	0.356	0.336	0.2	-5.62	
Ethyl Benzene	1.905	1.799	0.1	-5.56	
m/p-Xylenes	0.704	0.671	0.3	-4.69	
o-Xylene	0.677	0.620	0.3	-8.42	
1,4-Dichlorobenzene	0.862	0.825	0.2	-4.29	
1,2-Dichloroethane-d4	2.996	3.235	0.01	7.98	
Toluene-d8	1.326	1.232	0.01	-7.09	
4-Bromofluorobenzene	0.515	0.520	0.2	0.97	

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone
03/15/2024
Supervised By :Mahesh Dadoda
03/15/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	16791	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	101481	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	90514	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	54315	32.388	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 107.967%			
60) 4-Bromofluorobenzene	11.079	95	47078	30.322	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 101.067%			
63) Toluene-d8	8.647	98	111492	27.873	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 92.900%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	20497	17.998	ug/l	99
3) Chloromethane	1.294	50	21180	18.151	ug/l	96
4) Vinyl Chloride	1.374	62	22840	18.112	ug/l	99
5) Bromomethane	1.605	94	16726	21.717	ug/l	96
6) Chloroethane	1.685	64	14750	19.908	ug/l	94
7) Trichlorofluoromethane	1.886	101	36204	18.856	ug/l	97
8) Diethyl Ether	2.130	74	11622	17.828	ug/l	96
9) 1,1,2-Trichlorotrifluo...	2.331	101	20476	19.469	ug/l	94
10) 1,1-Dichloroethene	2.319	96	19120	19.095	ug/l	87
11) Methyl Iodide	2.453	142	21532	17.780	ug/l	93
12) Methyl Acetate	2.697	43	30065	18.228	ug/l	98
13) Acrolein	2.233	56	28970	93.167	ug/l	99
14) Acrylonitrile	3.056	53	58109	89.470	ug/l	98
15) Acetone	2.373	58	17640m	95.019	ug/l	
16) Carbon Disulfide	2.508	76	48997	17.805	ug/l	99
17) Allyl chloride	2.660	41	34294	18.559	ug/l	86
18) Methylene Chloride	2.788	84	21380	18.702	ug/l	97
19) trans-1,2-Dichloroethene	3.093	96	20247	18.521	ug/l	95
20) Diisopropyl ether	3.757	45	68314	18.486	ug/l	93
21) 1,1-Dichloroethane	3.605	63	40739	19.158	ug/l	98
22) cis-1,2-Dichloroethene	4.489	96	23357	18.399	ug/l	94
23) tert-Butyl Alcohol	2.947	59	24769	80.717	ug/l #	100
24) Methyl tert-Butyl Ether	3.105	73	68465	18.527	ug/l	95
25) Chloroform	5.080	83	43977	18.895	ug/l	96
26) Cyclohexane	5.464	56	31158	18.155	ug/l #	94
29) 1,1-Dichloropropene	5.684	75	31107	17.709	ug/l	98
30) 2-Butanone	4.544	43	89288	83.299	ug/l	98
31) 2,2-Dichloropropane	4.471	77	34705	18.305	ug/l	97
32) 1,1,1-Trichloroethane	5.373	97	39490	17.842	ug/l	96
33) Carbon Tetrachloride	5.672	117	32392	17.394	ug/l	99
34) Benzene	6.031	78	82825	17.466	ug/l	99
35) Methacrylonitrile	4.910	41	19080	17.339	ug/l	94
36) 1,2-Dichloroethane	6.080	62	39378	17.961	ug/l	96
37) Trichloroethene	7.117	130	22392	17.572	ug/l	98
38) Methylcyclohexane	7.373	83	32298	17.076	ug/l	98
39) 1,2-Dichloropropane	7.421	63	21661	17.941	ug/l	100
40) Dibromomethane	7.574	93	17312	18.252	ug/l	96
41) Bromodichloromethane	7.812	83	34907	18.499	ug/l	95
42) Vinyl Acetate	3.715	43	314409	85.193	ug/l	100

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone

03/15/2024

Supervised By :Mahesh Dadoda

03/15/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Ethyl Acetate	4.702	43	32904	16.299	ug/l	99
44) Isopropyl Acetate	6.330	43	53861	16.715	ug/l	94
45) 1,4-Dioxane	7.653	88	10408	314.218	ug/l	98
46) Methyl methacrylate	7.684	41	27466	17.161	ug/l	96
47) n-amyl Acetate	10.841	43	45773	16.482	ug/l	96
48) t-1,3-Dichloropropene	8.976	75	31288	15.688	ug/l	95
49) cis-1,3-Dichloropropene	8.360	75	34001	16.735	ug/l	92
50) 1,1,2-Trichloroethane	9.147	97	20590	16.343	ug/l	97
51) Ethyl methacrylate	9.110	69	30909	15.583	ug/l	95
52) 1,3-Dichloropropane	9.305	76	36477	16.967	ug/l	99
53) Dibromochloromethane	9.519	129	24612	17.136	ug/l	96
54) 1,2-Dibromoethane	9.604	107	24356	17.471	ug/l	97
55) 2-Chloroethyl vinyl ether	8.238	63	71148	70.437	ug/l	98
56) Bromoform	10.799	173	18236	17.901	ug/l	98
58) 4-Methyl-2-Pentanone	8.567	43	163808	81.273	ug/l	99
59) 2-Hexanone	9.427	43	143018	87.848	ug/l	96
61) Tetrachloroethene	9.269	164	20296	18.892	ug/l	96
62) Toluene	8.714	91	86414	17.334	ug/l	99
64) Chlorobenzene	10.079	112	57538	18.884	ug/l	97
65) 1,1,1,2-Tetrachloroethane	10.159	131	21776	18.738	ug/l	96
66) Ethyl Benzene	10.189	91	108583	18.891	ug/l	97
67) m/p-Xylenes	10.299	106	81001	38.162	ug/l	98
68) o-Xylene	10.640	106	37419	18.313	ug/l	91
69) Styrene	10.652	104	65126	18.971	ug/l	97
70) Isopropylbenzene	10.957	105	106206	19.236	ug/l	97
71) 1,1,2,2-Tetrachloroethane	11.213	83	35516	18.349	ug/l	99
72) 1,2,3-Trichloropropane	11.238	75	32785m	18.825	ug/l	
73) Bromobenzene	11.195	156	24562	18.792	ug/l	98
74) n-propylbenzene	11.305	91	132661	19.455	ug/l	99
75) 2-Chlorotoluene	11.360	91	78958	19.512	ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	91651	18.855	ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	9745	18.005	ug/l	83
78) 4-Chlorotoluene	11.451	91	92083	19.076	ug/l	98
79) tert-butylbenzene	11.713	119	86484	19.063	ug/l	96
80) 1,2,4-Trimethylbenzene	11.750	105	91158	19.034	ug/l	98
81) sec-Butylbenzene	11.890	105	113534	18.954	ug/l	100
82) p-Isopropyltoluene	12.006	119	93572	19.085	ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	48459	19.054	ug/l	97
84) 1,4-Dichlorobenzene	12.042	146	49775	19.138	ug/l	98
85) n-Butylbenzene	12.329	91	88198	18.487	ug/l	98
86) Hexachloroethane	12.536	117	16222	18.962	ug/l	91
87) 1,2-Dichlorobenzene	12.335	146	46994	19.015	ug/l	98
88) 1,2-Dibromo-3-Chloropr...	12.939	75	9474	18.306	ug/l	97
89) 1,2,4-Trichlorobenzene	13.585	180	30557	18.363	ug/l	94
90) Hexachlorobutadiene	13.725	225	12842	19.086	ug/l	98
91) Naphthalene	13.774	128	94788	17.463	ug/l	99
92) 1,2,3-Trichlorobenzene	13.963	180	31324	19.091	ug/l	95

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

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

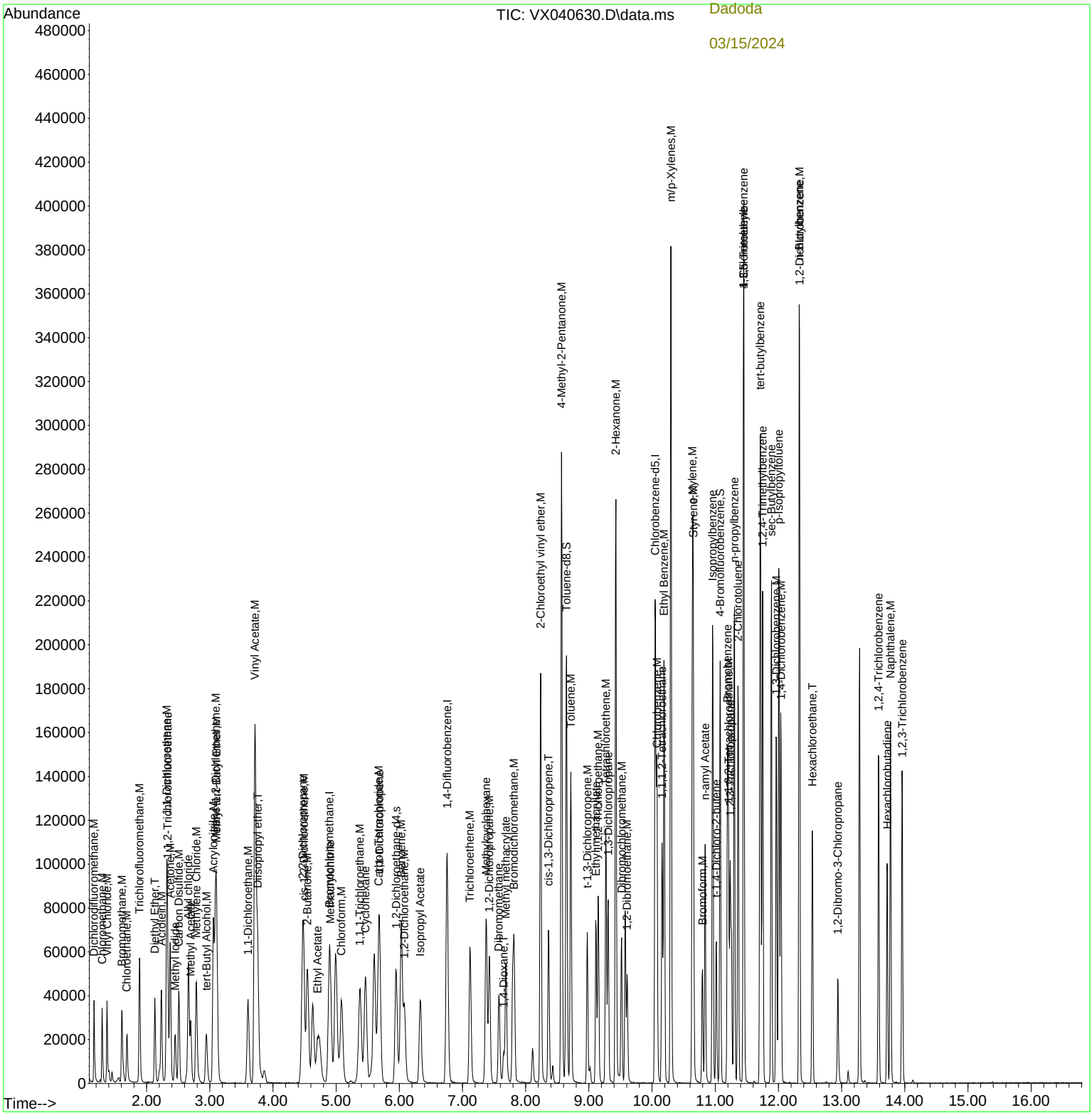
Manual Integrations APPROVED

Reviewed By :John Carlone

03/15/2024

Supervised By :Mahesh Dadoda

03/15/2024



Evaluate Continuing Calibration Report

Sample Results: **VX040630.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	98	0.00
2	M	Dichlorodifluoromethane	2.035	1.831	10.0	99	0.00
3	M	Chloromethane	2.085	1.892	9.3	97	0.00
4	M	Vinyl Chloride	2.253	2.040	9.5	99	0.00
5	M	Bromomethane	1.376	1.494	-8.6	100	0.01
6	M	Chloroethane	1.324	1.318	0.5	118	0.02
7	M	Trichlorofluoromethane	3.430	3.234	5.7	110	0.01
8	T	Diethyl Ether	1.165	1.038	10.9	103	0.00
9		1,1,2-Trichlorotrifluoroeth	1.879	1.829	2.7	107	0.00
10	M	1,1-Dichloroethene	1.789	1.708	4.5	107	0.00
11		Methyl Iodide	2.164	1.924	11.1	102	0.00
12		Methyl Acetate	2.947	2.686	8.9	101	0.00
13	M	Acrolein	0.556	0.518	6.8	105	0.00
14	M	Acrylonitrile	1.160	1.038	10.5	98	0.00
15	M	Acetone	0.332	0.315	5.1	97	0.00
16	M	Carbon Disulfide	4.917	4.377	11.0	101	0.00
17		Allyl chloride	3.301	3.064	7.2	103	0.00
18	M	Methylene Chloride	2.043	1.910	6.5	103	0.00
19	M	trans-1,2-Dichloroethene	1.953	1.809	7.4	102	0.00
20	T	Diisopropyl ether	6.603	6.103	7.6	103	0.00
21	M	1,1-Dichloroethane	3.799	3.639	4.2	105	0.00
22	M	cis-1,2-Dichloroethene	2.268	2.087	8.0	100	0.00
23	M	tert-Butyl Alcohol	0.548	0.443	19.2	92	-0.04
24	M	Methyl tert-Butyl Ether	6.602	6.116	7.4	103	0.00
25	M	Chloroform	4.158	3.929	5.5	105	-0.01
26		Cyclohexane	3.066	2.783	9.2	104	0.00
27	s	1,2-Dichloroethane-d4	2.996	3.235	-8.0	113	0.00
28	I	1,4-Difluorobenzene	1.000	1.000	0.0	113	0.00
29		1,1-Dichloropropene	0.519	0.460	11.4	109	0.00
30	M	2-Butanone	0.317	0.264	16.7	96	-0.01
31		2,2-Dichloropropane	0.560	0.513	8.4	108	0.00
32	M	1,1,1-Trichloroethane	0.654	0.584	10.7	108	0.00
33	M	Carbon Tetrachloride	0.551	0.479	13.1	107	0.00
34	M	Benzene	1.402	1.224	12.7	104	0.00
35		Methacrylonitrile	0.325	0.282	13.2	101	0.00
36	M	1,2-Dichloroethane	0.648	0.582	10.2	105	0.00
37	M	Trichloroethene	0.377	0.331	12.2	106	-0.01
38		Methylcyclohexane	0.559	0.477	14.7	101	0.00
39	M	1,2-Dichloropropane	0.357	0.320	10.4	104	0.00
40		Dibromomethane	0.280	0.256	8.6	104	0.00
41	M	Bromodichloromethane	0.558	0.516	7.5	109	0.00
42	M	Vinyl Acetate	1.091	0.929	14.8	102	0.00
43		Ethyl Acetate	0.597	0.486	18.6	93	0.00
44		Isopropyl Acetate	0.953	0.796	16.5	100	0.00
45	T	1,4-Dioxane	0.010	0.008	20.0	89	0.00
46		Methyl methacrylate	0.473	0.406	14.2	99	0.00
47		n-amyl Acetate	0.821	0.677	17.5	109	0.00
48	M	t-1,3-Dichloropropene	0.590	0.462	21.7	97	0.00

Sample Results: **VX040630.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	0.601	0.503	16.3	101	0.00
50	M	1,1,2-Trichloroethane	0.372	0.304	18.3	96	0.00
51		Ethyl methacrylate	0.586	0.457	22.0	92	0.00
52		1,3-Dichloropropane	0.636	0.539	15.3	98	0.00
53	M	Dibromochloromethane	0.425	0.364	14.4	103	0.00
54	M	1,2-Dibromoethane	0.412	0.360	12.6	103	0.00
55	M	2-Chloroethyl vinyl ether	0.299	0.210	29.8#	80	0.00
56	M	Bromoform	0.301	0.270	10.3	114	0.00
57	I	Chlorobenzene-d5	1.000	1.000	0.0	115	0.00
58	M	4-Methyl-2-Pentanone	0.668	0.543	18.7	89	0.00
59	M	2-Hexanone	0.540	0.474	12.2	98	0.00
60	S	4-Bromofluorobenzene	0.515	0.520	-1.0	119	0.00
61	M	Tetrachloroethene	0.356	0.336	5.6	105	0.00
62	M	Toluene	1.652	1.432	13.3	96	0.00
63	S	Toluene-d8	1.326	1.232	7.1	96	0.00
64	M	Chlorobenzene	1.010	0.954	5.5	116	0.00
65		1,1,1,2-Tetrachloroethane	0.385	0.361	6.2	117	0.00
66	M	Ethyl Benzene	1.905	1.799	5.6	118	0.00
67	M	m/p-Xylenes	0.704	0.671	4.7	119	0.00
68	M	o-Xylene	0.677	0.620	8.4	112	0.00
69	M	Styrene	1.138	1.079	5.2	116	0.00
70		Isopropylbenzene	1.830	1.760	3.8	119	0.00
71	M	1,1,2,2-Tetrachloroethane	0.642	0.589	8.3	111	0.00
72		1,2,3-Trichloropropane	0.577	0.543	5.9	121	0.00
73		Bromobenzene	0.433	0.407	6.0	116	0.00
74		n-propylbenzene	2.260	2.198	2.7	123	0.00
75		2-Chlorotoluene	1.341	1.308	2.5	124	0.00
76		1,3,5-Trimethylbenzene	1.611	1.519	5.7	119	0.00
77		t-1,4-Dichloro-2-butene	0.179	0.161	10.1	112	0.00
78		4-Chlorotoluene	1.600	1.526	4.6	126	0.00
79		tert-butylbenzene	1.504	1.433	4.7	125	0.00
80		1,2,4-Trimethylbenzene	1.587	1.511	4.8	124	0.00
81		sec-Butylbenzene	1.985	1.881	5.2	123	0.00
82		p-Isopropyltoluene	1.625	1.551	4.6	124	0.00
83	M	1,3-Dichlorobenzene	0.843	0.803	4.7	121	0.00
84	M	1,4-Dichlorobenzene	0.862	0.825	4.3	122	0.00
85		n-Butylbenzene	1.581	1.462	7.5	121	0.00
86	T	Hexachloroethane	0.284	0.269	5.3	129	0.00
87	M	1,2-Dichlorobenzene	0.819	0.779	4.9	119	0.00
88		1,2-Dibromo-3-Chloropropane	0.172	0.157	8.7	115	0.00
89		1,2,4-Trichlorobenzene	0.552	0.506	8.3	116	0.00
90		Hexachlorobutadiene	0.223	0.213	4.5	122	0.00
91	M	Naphthalene	1.799	1.571	12.7	112	0.00
92		1,2,3-Trichlorobenzene	0.544	0.519	4.6	121	0.00

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

Sample Results: **VX040630.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	30.000	30.000	0.0	98	0.00
2	M	Dichlorodifluoromethane	20.000	17.998	10.0	99	0.00
3	M	Chloromethane	20.000	18.151	9.2	97	0.00
4	M	Vinyl Chloride	20.000	18.112	9.4	99	0.00
5	M	Bromomethane	20.000	21.717	-8.6	100	0.01
6	M	Chloroethane	20.000	19.908	0.5	118	0.02
7	M	Trichlorofluoromethane	20.000	18.856	5.7	110	0.01
8	T	Diethyl Ether	20.000	17.828	10.9	103	0.00
9		1,1,2-Trichlorotrifluoroeth	20.000	19.469	2.7	107	0.00
10	M	1,1-Dichloroethene	20.000	19.095	4.5	107	0.00
11		Methyl Iodide	20.000	17.780	11.1	102	0.00
12		Methyl Acetate	20.000	18.228	8.9	101	0.00
13	M	Acrolein	100.000	93.167	6.8	105	0.00
14	M	Acrylonitrile	100.000	89.470	10.5	98	0.00
15	M	Acetone	100.000	95.019	5.0	97	0.00
16	M	Carbon Disulfide	20.000	17.805	11.0	101	0.00
17		Allyl chloride	20.000	18.559	7.2	103	0.00
18	M	Methylene Chloride	20.000	18.702	6.5	103	0.00
19	M	trans-1,2-Dichloroethene	20.000	18.521	7.4	102	0.00
20	T	Diisopropyl ether	20.000	18.486	7.6	103	0.00
21	M	1,1-Dichloroethane	20.000	19.158	4.2	105	0.00
22	M	cis-1,2-Dichloroethene	20.000	18.399	8.0	100	0.00
23	M	tert-Butyl Alcohol	100.000	80.717	19.3	92	-0.04
24	M	Methyl tert-Butyl Ether	20.000	18.527	7.4	103	0.00
25	M	Chloroform	20.000	18.895	5.5	105	-0.01
26		Cyclohexane	20.000	18.155	9.2	104	0.00
27	s	1,2-Dichloroethane-d4	30.000	32.388	-8.0	113	0.00
28	I	1,4-Difluorobenzene	30.000	30.000	0.0	113	0.00
29		1,1-Dichloropropene	20.000	17.709	11.5	109	0.00
30	M	2-Butanone	100.000	83.299	16.7	96	-0.01
31		2,2-Dichloropropane	20.000	18.305	8.5	108	0.00
32	M	1,1,1-Trichloroethane	20.000	17.842	10.8	108	0.00
33	M	Carbon Tetrachloride	20.000	17.394	13.0	107	0.00
34	M	Benzene	20.000	17.466	12.7	104	0.00
35		Methacrylonitrile	20.000	17.339	13.3	101	0.00
36	M	1,2-Dichloroethane	20.000	17.961	10.2	105	0.00
37	M	Trichloroethene	20.000	17.572	12.1	106	-0.01
38		Methylcyclohexane	20.000	17.076	14.6	101	0.00
39	M	1,2-Dichloropropane	20.000	17.941	10.3	104	0.00
40		Dibromomethane	20.000	18.252	8.7	104	0.00
41	M	Bromodichloromethane	20.000	18.499	7.5	109	0.00
42	M	Vinyl Acetate	100.000	85.193	14.8	102	0.00
43		Ethyl Acetate	20.000	16.299	18.5	93	0.00
44		Isopropyl Acetate	20.000	16.715	16.4	100	0.00
45	T	1,4-Dioxane	400.000	314.218	21.4	89	0.00
46		Methyl methacrylate	20.000	17.161	14.2	99	0.00
47		n-amyl Acetate	20.000	16.482	17.6	109	0.00
48	M	t-1,3-Dichloropropene	20.000	15.688	21.6	97	0.00

Sample Results: **VX040630.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040630.D
Acq On : 14 Mar 2024 09:43
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Mar 15 05:41:21 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	20.000	16.735	16.3	101	0.00
50	M	1,1,2-Trichloroethane	20.000	16.343	18.3	96	0.00
51		Ethyl methacrylate	20.000	15.583	22.1	92	0.00
52		1,3-Dichloropropane	20.000	16.967	15.2	98	0.00
53	M	Dibromochloromethane	20.000	17.136	14.3	103	0.00
54	M	1,2-Dibromoethane	20.000	17.471	12.6	103	0.00
55	M	2-Chloroethyl vinyl ether	100.000	70.437	29.6#	80	0.00
56	M	Bromoform	20.000	17.901	10.5	114	0.00
57	I	Chlorobenzene-d5	30.000	30.000	0.0	115	0.00
58	M	4-Methyl-2-Pentanone	100.000	81.273	18.7	89	0.00
59	M	2-Hexanone	100.000	87.848	12.2	98	0.00
60	S	4-Bromofluorobenzene	30.000	30.322	-1.1	119	0.00
61	M	Tetrachloroethene	20.000	18.892	5.5	105	0.00
62	M	Toluene	20.000	17.334	13.3	96	0.00
63	S	Toluene-d8	30.000	27.873	7.1	96	0.00
64	M	Chlorobenzene	20.000	18.884	5.6	116	0.00
65		1,1,1,2-Tetrachloroethane	20.000	18.738	6.3	117	0.00
66	M	Ethyl Benzene	20.000	18.891	5.5	118	0.00
67	M	m/p-Xylenes	40.000	38.162	4.6	119	0.00
68	M	o-Xylene	20.000	18.313	8.4	112	0.00
69	M	Styrene	20.000	18.971	5.1	116	0.00
70		Isopropylbenzene	20.000	19.236	3.8	119	0.00
71	M	1,1,2,2-Tetrachloroethane	20.000	18.349	8.3	111	0.00
72		1,2,3-Trichloropropane	20.000	18.825	5.9	121	0.00
73		Bromobenzene	20.000	18.792	6.0	116	0.00
74		n-propylbenzene	20.000	19.455	2.7	123	0.00
75		2-Chlorotoluene	20.000	19.512	2.4	124	0.00
76		1,3,5-Trimethylbenzene	20.000	18.855	5.7	119	0.00
77		t-1,4-Dichloro-2-butene	20.000	18.005	10.0	112	0.00
78		4-Chlorotoluene	20.000	19.076	4.6	126	0.00
79		tert-butylbenzene	20.000	19.063	4.7	125	0.00
80		1,2,4-Trimethylbenzene	20.000	19.034	4.8	124	0.00
81		sec-Butylbenzene	20.000	18.954	5.2	123	0.00
82		p-Isopropyltoluene	20.000	19.085	4.6	124	0.00
83	M	1,3-Dichlorobenzene	20.000	19.054	4.7	121	0.00
84	M	1,4-Dichlorobenzene	20.000	19.138	4.3	122	0.00
85		n-Butylbenzene	20.000	18.487	7.6	121	0.00
86	T	Hexachloroethane	20.000	18.962	5.2	129	0.00
87	M	1,2-Dichlorobenzene	20.000	19.015	4.9	119	0.00
88		1,2-Dibromo-3-Chloropropane	20.000	18.306	8.5	115	0.00
89		1,2,4-Trichlorobenzene	20.000	18.363	8.2	116	0.00
90		Hexachlorobutadiene	20.000	19.086	4.6	122	0.00
91	M	Naphthalene	20.000	17.463	12.7	112	0.00
92		1,2,3-Trichlorobenzene	20.000	19.091	4.5	121	0.00

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

CHEMTECH

QC SAMPLE DATA

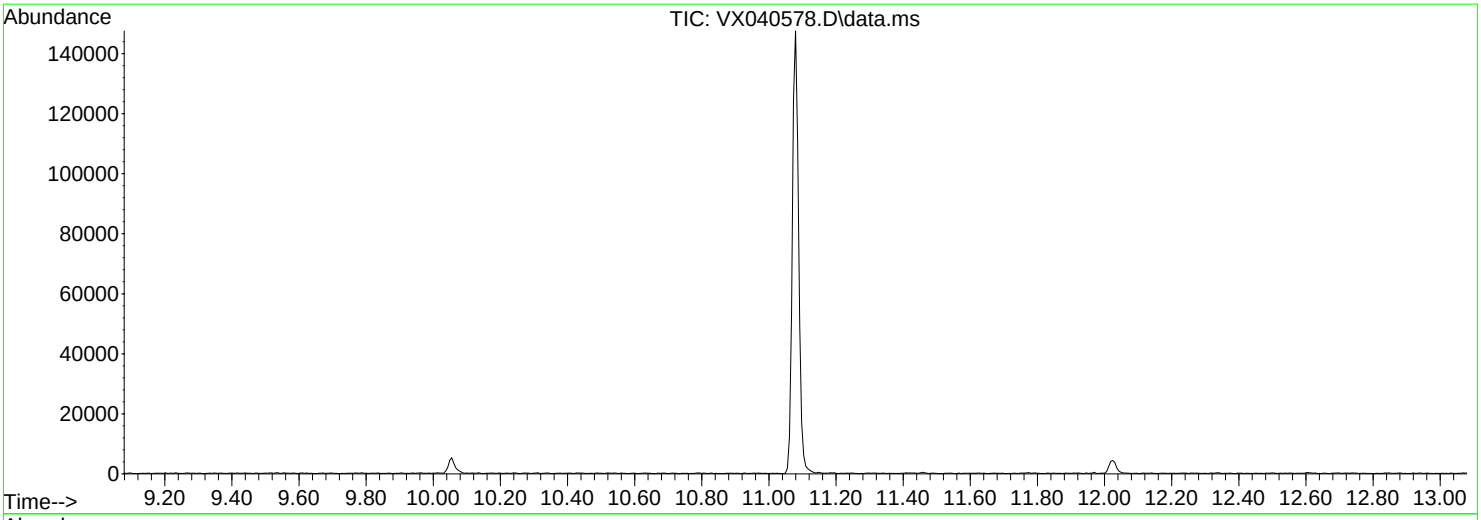
Sample Results: **VX040578.D**

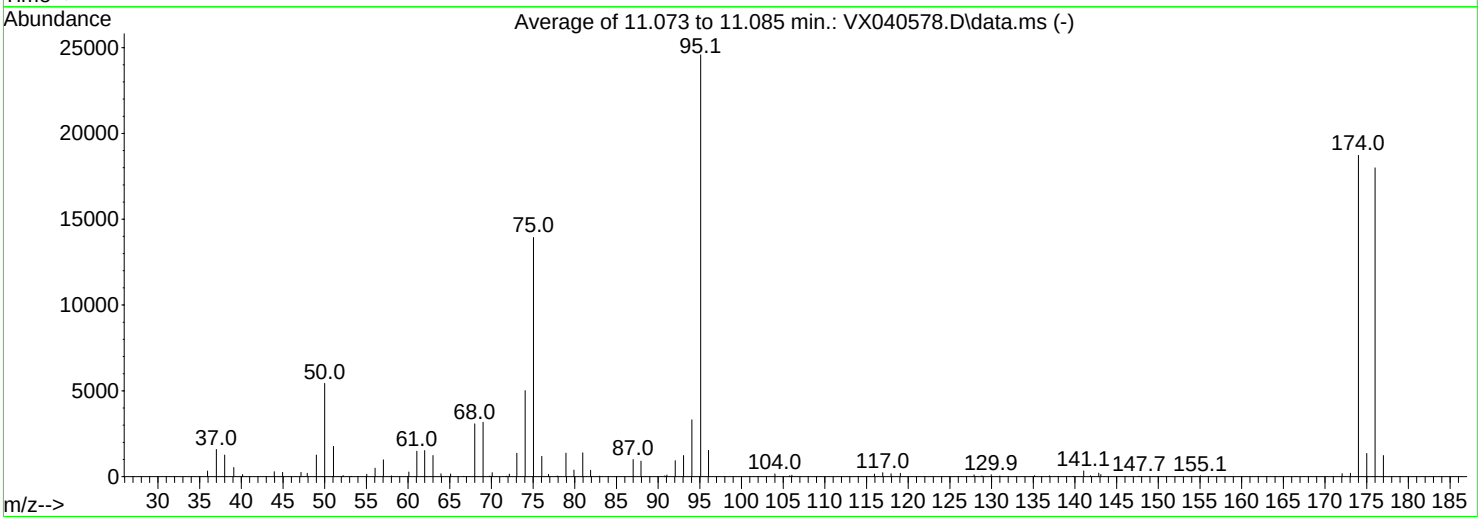
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX030524\
Data File : VX040578.D
Acq On : 05 Mar 2024 08:37
Operator : JC/MD
Sample : BFB
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
BFB

Integration File: RTEINT3.P

Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Tue Mar 05 13:21:29 2024





AutoFind: Scans 1638, 1639, 1640; Background Corrected with Scan 1633

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.1	5434	PASS
75	95	30	60	56.7	13941	PASS
95	95	100	100	100.0	24579	PASS
96	95	5	9	6.2	1528	PASS
173	174	0.00	2	1.0	192	PASS
174	95	50	100	76.2	18723	PASS
175	174	5	9	7.2	1353	PASS
176	174	95	101	96.1	17999	PASS
177	176	5	9	6.8	1232	PASS

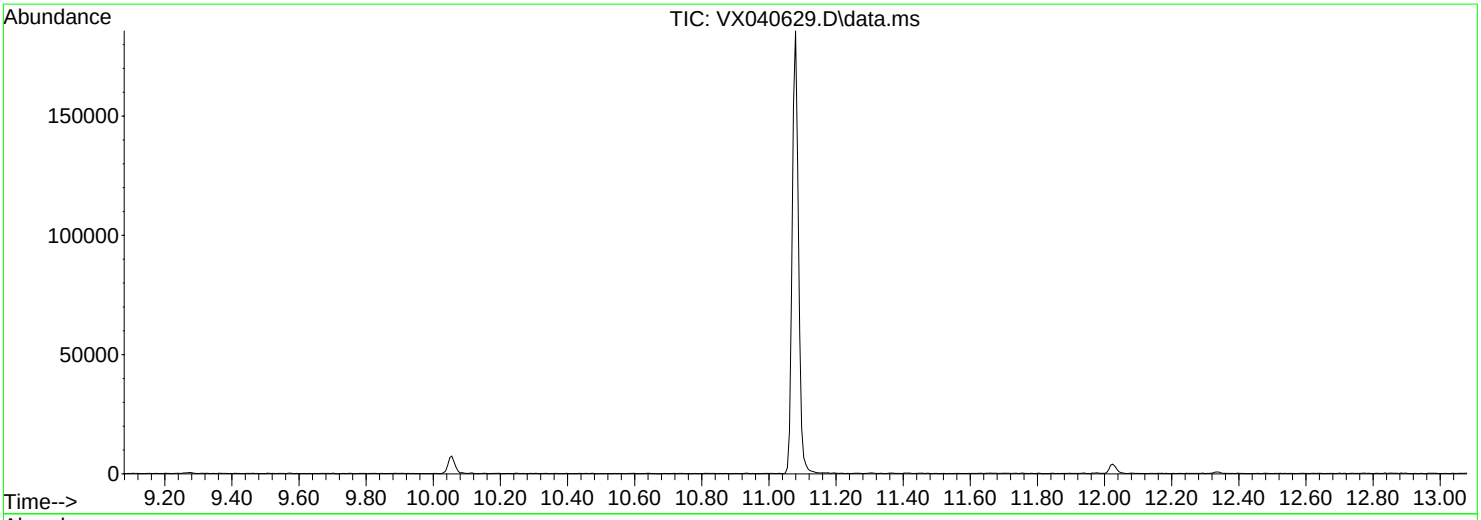
Sample Results: **VX040629.D**

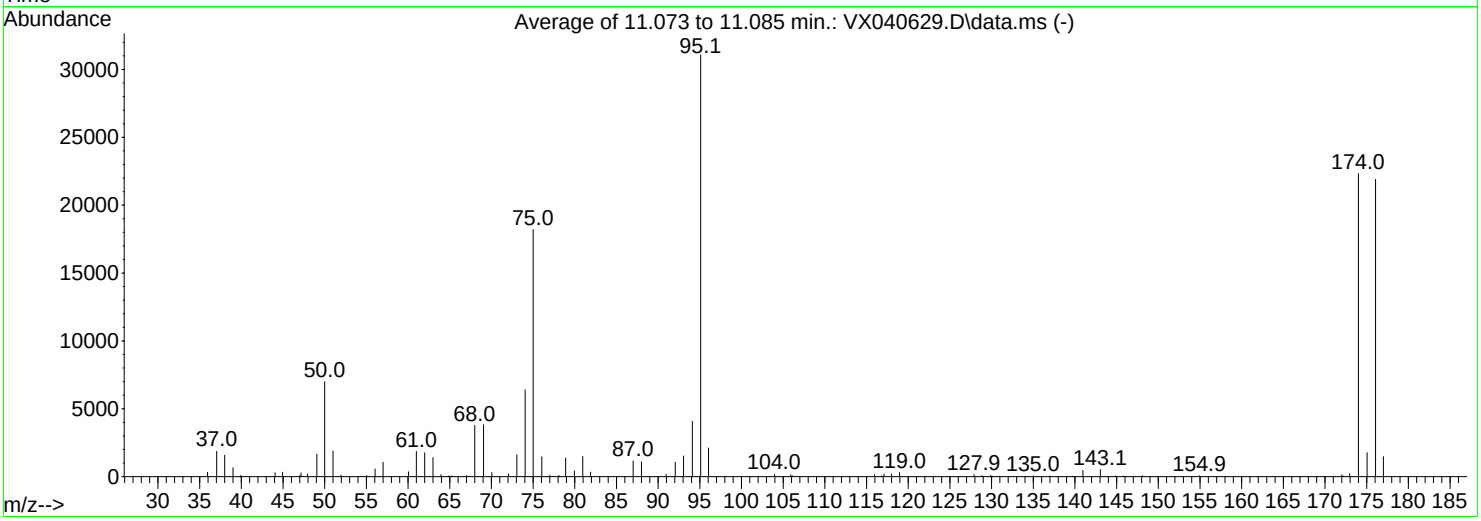
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040629.D
Acq On : 14 Mar 2024 09:03
Operator : JC/MD
Sample : BFB
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
BFB

Integration File: RTEINT3.P

Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Tue Mar 05 13:21:29 2024





AutoFind: Scans 1638, 1639, 1640; Background Corrected with Scan 1633

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	6991	PASS
75	95	30	60	58.6	18201	PASS
95	95	100	100	100.0	31077	PASS
96	95	5	9	6.8	2106	PASS
173	174	0.00	2	0.9	210	PASS
174	95	50	100	71.8	22323	PASS
175	174	5	9	7.9	1767	PASS
176	174	95	101	98.1	21909	PASS
177	176	5	9	6.7	1474	PASS

Raw Data: **VX040633.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	VX0314WBL01	SDG No.:	P1747
Lab Sample ID:	VX0314WBL01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-NYCD
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX040633.D	1		03/14/24 11:06	VX031424

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-Butyl Ether	0.83	U	0.83	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.91	U	0.91	5.00	ug/L
67-66-3	Chloroform	0.72	U	0.72	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.79	U	0.79	5.00	ug/L
71-43-2	Benzene	0.69	U	0.69	5.00	ug/L
108-88-3	Toluene	0.72	U	0.72	5.00	ug/L
127-18-4	Tetrachloroethene	0.94	U	0.94	5.00	ug/L
100-41-4	Ethyl Benzene	0.73	U	0.73	5.00	ug/L
1330-20-7	Total Xylenes	2.52	U	2.52	15.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.95	U	0.95	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	30.4		91 - 110	101%	SPK: 30
2037-26-5	Toluene-d8	27.7		91 - 112	92%	SPK: 30
460-00-4	4-Bromofluorobenzene	26.1		63 - 112	87%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	15300	4.897			
540-36-3	1,4-Difluorobenzene	88700	6.763			
3114-55-4	Chlorobenzene-d5	81700	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **VX040633.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040633.D
Acq On : 14 Mar 2024 11:06
Operator : JC/MD
Sample : VX0314WBL01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBL01

Quant Time: Mar 15 05:42:20 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

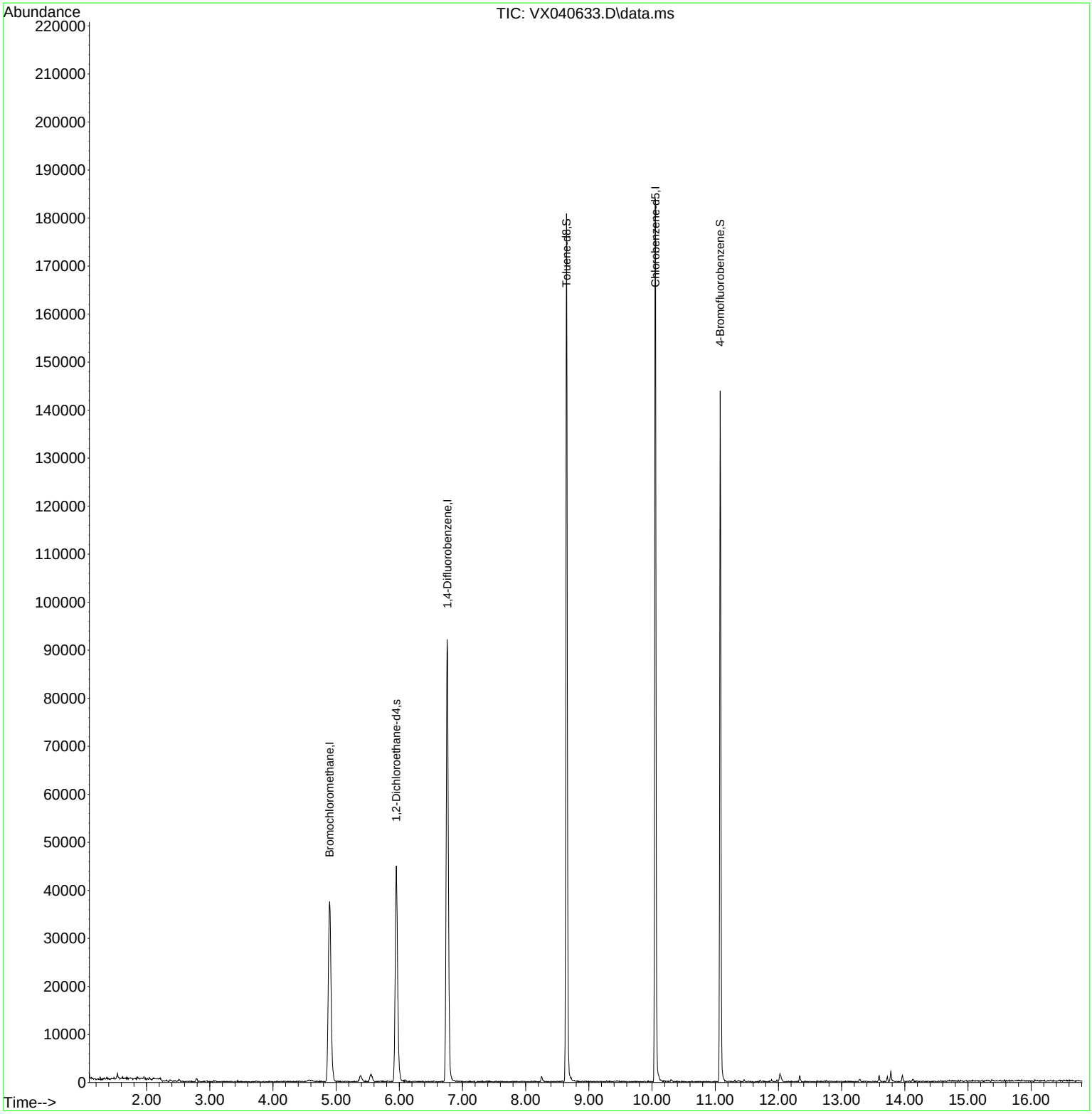
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.897	128	15289	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	88714	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	81679	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	46366	30.364	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 101.200%			
60) 4-Bromofluorobenzene	11.079	95	36574	26.105	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 87.000%			
63) Toluene-d8	8.647	98	100129	27.740	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 92.467%			
Target Compounds						Qvalue

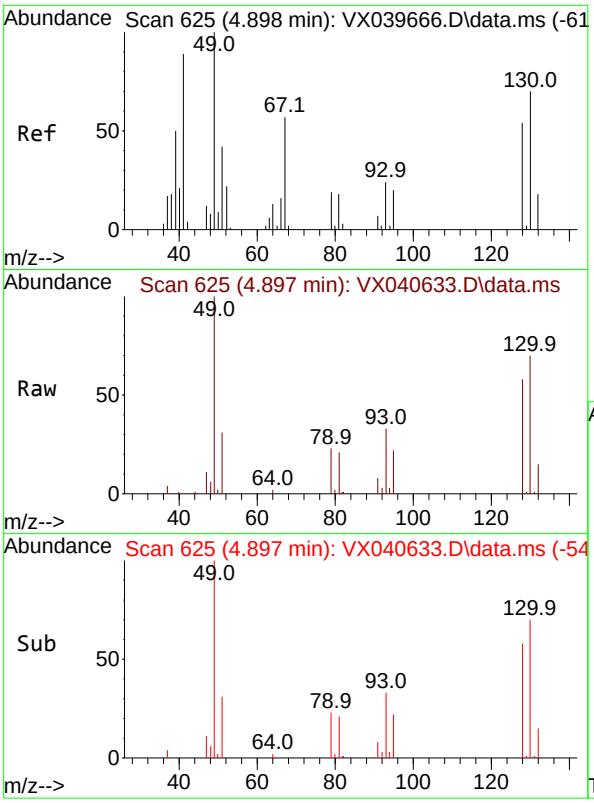
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040633.D
Acq On : 14 Mar 2024 11:06
Operator : JC/MD
Sample : VX0314WBL01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBL01

Quant Time: Mar 15 05:42:20 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration



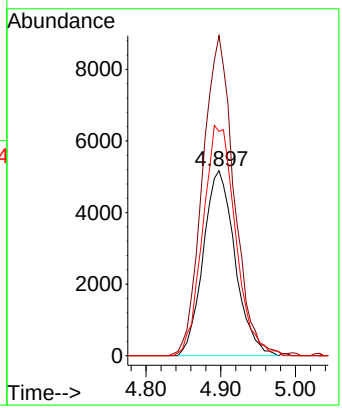


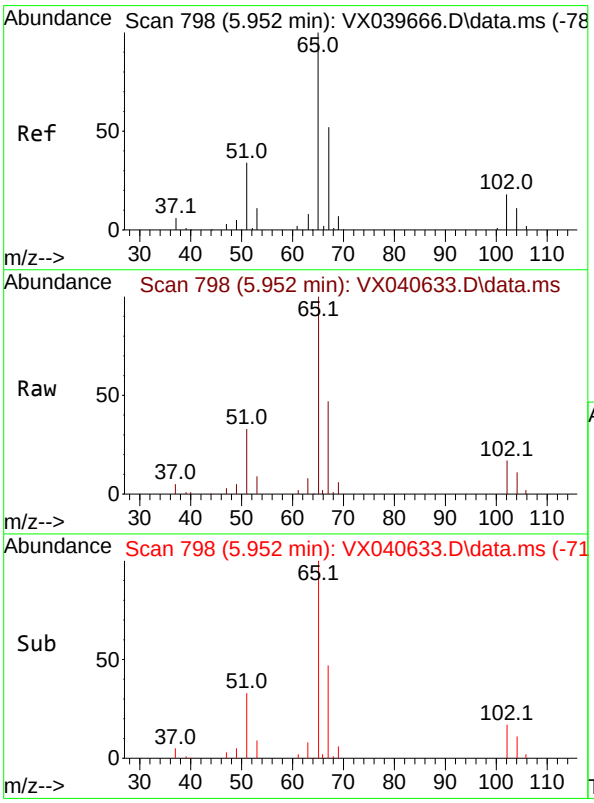
#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.897 min Scan# 6
Delta R.T. -0.001 min
Lab File: VX040633.D
Acq: 14 Mar 2024 11:06

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBL01

Tgt Ion:128 Resp: 15289

Ion	Ratio	Lower	Upper
128	100		
49	171.1	0.0	444.0
130	127.6	0.0	297.8

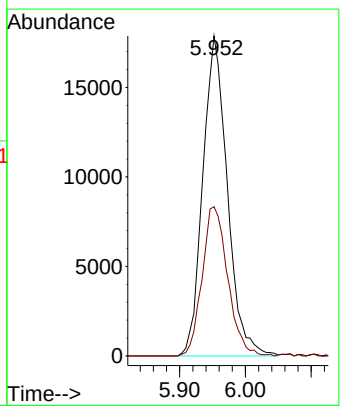


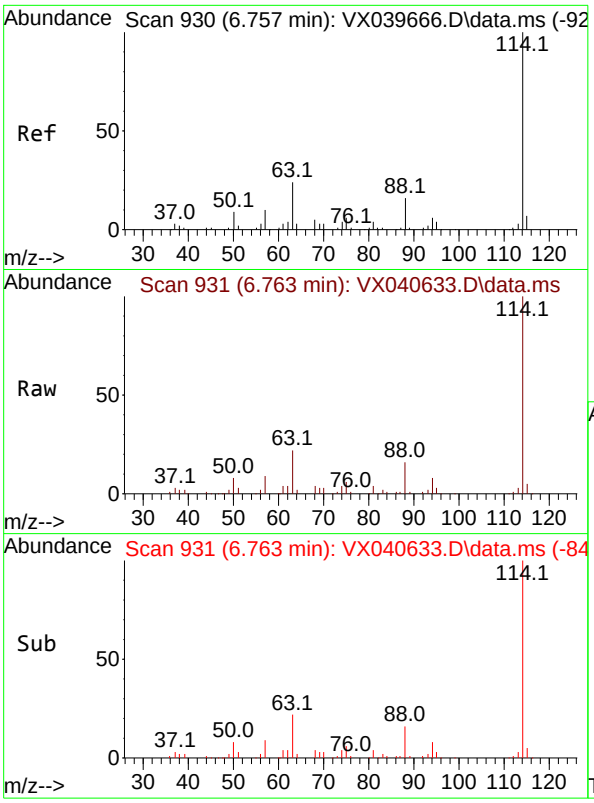


#27
1,2-Dichloroethane-d4
Concen: 30.364 ug/l
RT: 5.952 min Scan# 798
Delta R.T. 0.000 min
Lab File: VX040633.D
Acq: 14 Mar 2024 11:06

Tgt Ion: 65 Resp: 46366

Ion	Ratio	Lower	Upper
65	100		
67	48.5	42.5	63.7



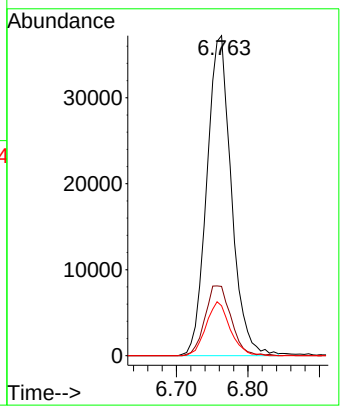


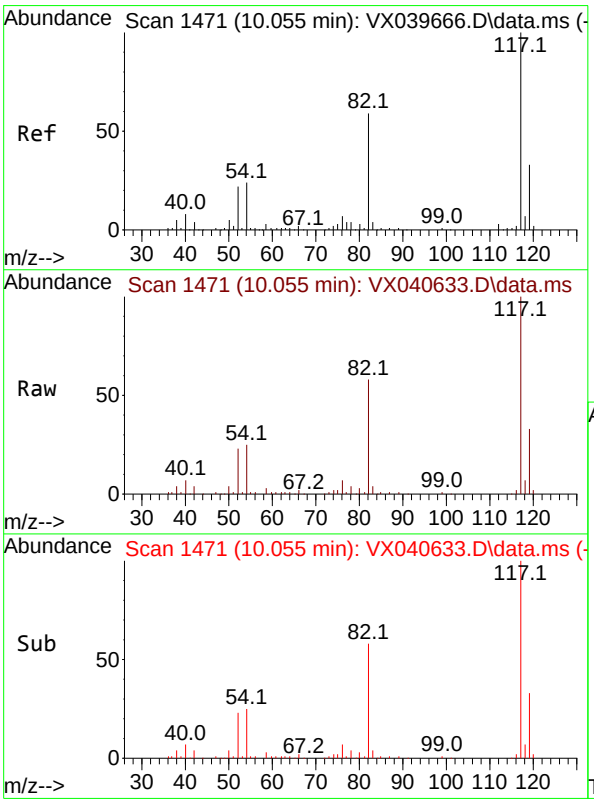
#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.763 min Scan# 9
Delta R.T. 0.006 min
Lab File: VX040633.D
Acq: 14 Mar 2024 11:06

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBL01

Tgt Ion:114 Resp: 88714

Ion	Ratio	Lower	Upper
114	100		
63	22.9	17.0	25.4
88	16.4	12.7	19.1

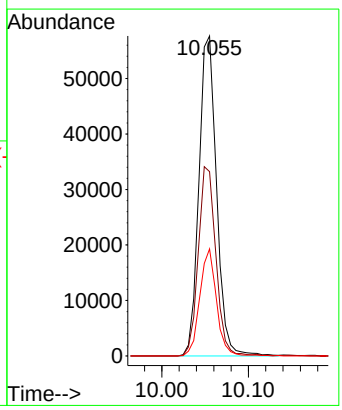


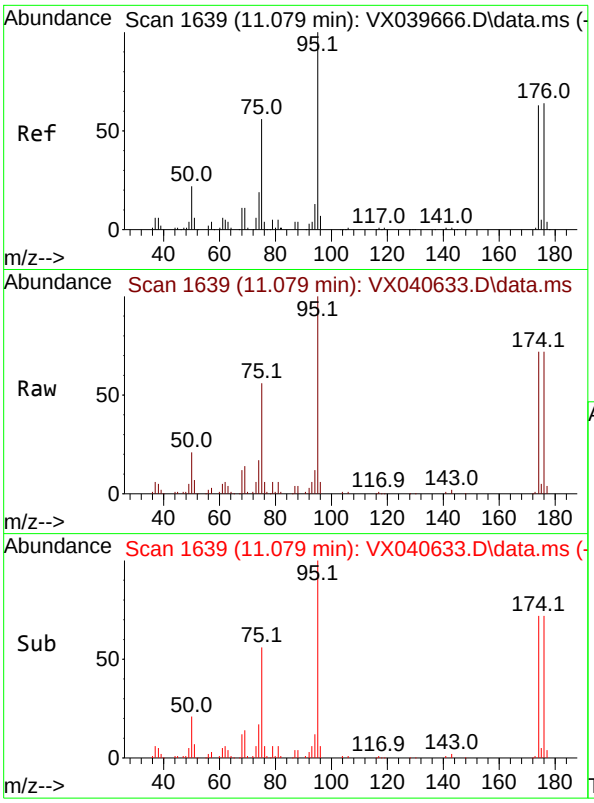


#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.055 min Scan# 1471
Delta R.T. 0.000 min
Lab File: VX040633.D
Acq: 14 Mar 2024 11:06

Tgt Ion:117 Resp: 81679

Ion	Ratio	Lower	Upper
117	100		
82	58.7	47.0	70.6
119	31.4	25.2	37.8



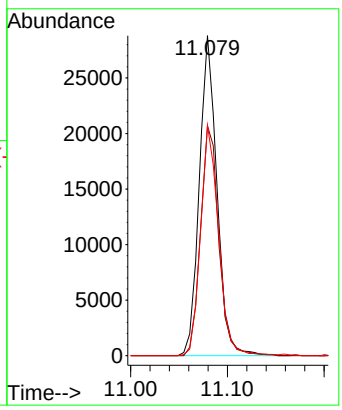


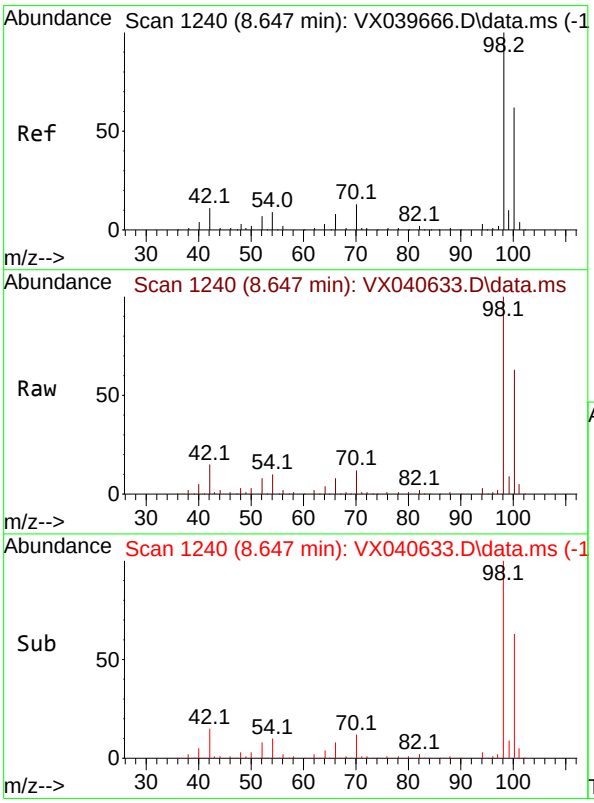
#60
4-Bromofluorobenzene
Concen: 26.105 ug/l
RT: 11.079 min Scan# 1
Delta R.T. 0.000 min
Lab File: VX040633.D
Acq: 14 Mar 2024 11:06

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBL01

Tgt Ion: 95 Resp: 36574

Ion	Ratio	Lower	Upper
95	100		
174	74.6	55.4	83.2
176	73.1	52.6	78.8

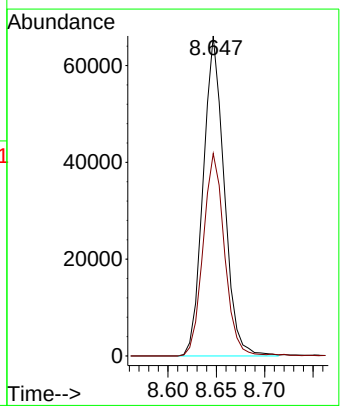




#63
Toluene-d8
Concen: 27.740 ug/l
RT: 8.647 min Scan# 1240
Delta R.T. -0.000 min
Lab File: VX040633.D
Acq: 14 Mar 2024 11:06

Tgt Ion: 98 Resp: 100129

Ion	Ratio	Lower	Upper
98	100		
100	64.1	51.0	76.4



Raw Data: **VX040631.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	VX0314WBS01	SDG No.:	P1747
Lab Sample ID:	VX0314WBS01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-NYCD
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX040631.D	1		03/14/24 10:11	VX031424

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-Butyl Ether	18.8		0.83	5.00	ug/L
56-23-5	Carbon Tetrachloride	19.0		0.91	5.00	ug/L
67-66-3	Chloroform	19.1		0.72	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	18.8		0.79	5.00	ug/L
71-43-2	Benzene	18.8		0.69	5.00	ug/L
108-88-3	Toluene	19.9		0.72	5.00	ug/L
127-18-4	Tetrachloroethene	20.2		0.94	5.00	ug/L
100-41-4	Ethyl Benzene	20.1		0.73	5.00	ug/L
1330-20-7	Total Xylenes	60.7		2.52	15.0	ug/L
106-46-7	1,4-Dichlorobenzene	20.4		0.95	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	29.8		91 - 110	99%	SPK: 30
2037-26-5	Toluene-d8	30.8		91 - 112	103%	SPK: 30
460-00-4	4-Bromofluorobenzene	31.2		63 - 112	104%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	14100	4.891			
540-36-3	1,4-Difluorobenzene	80700	6.757			
3114-55-4	Chlorobenzene-d5	73800	10.049			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040631.D
Acq On : 14 Mar 2024 10:11
Operator : JC/MD
Sample : VX0314WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 15 05:41:40 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	14121m	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	80662	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	73806	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	41962	29.753	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 99.167%			
60) 4-Bromofluorobenzene	11.079	95	39481	31.186	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 103.967%			
63) Toluene-d8	8.647	98	100457	30.799	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 102.667%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	17227	17.987	ug/l	96
3) Chloromethane	1.294	50	17101	17.427	ug/l	97
4) Vinyl Chloride	1.374	62	18593	17.532	ug/l	99
5) Bromomethane	1.605	94	13880	21.429	ug/l	99
6) Chloroethane	1.691	64	12604	20.229	ug/l	94
7) Trichlorofluoromethane	1.886	101	34784	21.542	ug/l	96
8) Diethyl Ether	2.130	74	11406	20.805	ug/l	99
9) 1,1,2-Trichlorotrifluo...	2.331	101	17462	19.743	ug/l	94
10) 1,1-Dichloroethene	2.319	96	15939	18.928	ug/l	94
11) Methyl Iodide	2.453	142	18976	18.632	ug/l	96
12) Methyl Acetate	2.697	43	25720	18.542	ug/l	93
13) Acrolein	2.233	56	24050	91.969	ug/l	99
14) Acrylonitrile	3.062	53	48100	88.063	ug/l	98
15) Acetone	2.373	58	13901	89.036	ug/l	72
16) Carbon Disulfide	2.514	76	41848	18.082	ug/l	98
17) Allyl chloride	2.666	41	28234	18.169	ug/l	89
18) Methylene Chloride	2.788	84	18227	18.958	ug/l #	91
19) trans-1,2-Dichloroethene	3.093	96	17567	19.108	ug/l	94
20) Diisopropyl ether	3.751	45	57758	18.585	ug/l #	83
21) 1,1-Dichloroethane	3.611	63	33303	18.622	ug/l	99
22) cis-1,2-Dichloroethene	4.483	96	19416	18.186	ug/l	90
23) tert-Butyl Alcohol	2.946	59	20947	81.169	ug/l #	100
24) Methyl tert-Butyl Ether	3.105	73	58532	18.834	ug/l	94
25) Chloroform	5.092	83	37408	19.111	ug/l	92
26) Cyclohexane	5.470	56	27492	19.048	ug/l #	8
29) 1,1-Dichloropropene	5.684	75	26656	19.092	ug/l	96
30) 2-Butanone	4.544	43	73522	86.294	ug/l	98
31) 2,2-Dichloropropane	4.471	77	30592	20.301	ug/l	96
32) 1,1,1-Trichloroethane	5.379	97	33138	18.836	ug/l	96
33) Carbon Tetrachloride	5.678	117	28104	18.987	ug/l	97
34) Benzene	6.031	78	70841	18.795	ug/l	98
35) Methacrylonitrile	4.916	41	15259	17.446	ug/l	98
36) 1,2-Dichloroethane	6.086	62	33248	19.079	ug/l #	94
37) Trichloroethene	7.123	130	19565	19.317	ug/l	87
38) Methylcyclohexane	7.379	83	29062	19.330	ug/l	96
39) 1,2-Dichloropropane	7.427	63	18609	19.391	ug/l	99
40) Dibromomethane	7.574	93	14527	19.269	ug/l	96
41) Bromodichloromethane	7.818	83	29477	19.654	ug/l	97
42) Vinyl Acetate	3.715	43	265592	90.540	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040631.D
Acq On : 14 Mar 2024 10:11
Operator : JC/MD
Sample : VX0314WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 15 05:41:40 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.702	43	28684	17.876	ug/l		99
44) Isopropyl Acetate	6.336	43	47170	18.416	ug/l		93
45) 1,4-Dioxane	7.659	88	8051	305.794	ug/l		95
46) Methyl methacrylate	7.690	41	23217	18.250	ug/l		93
47) n-amyl Acetate	10.841	43	40793	18.480	ug/l		99
48) t-1,3-Dichloropropene	8.976	75	31252	19.714	ug/l		92
49) cis-1,3-Dichloropropene	8.366	75	31982	19.805	ug/l		91
50) 1,1,2-Trichloroethane	9.147	97	18983	18.956	ug/l		97
51) Ethyl methacrylate	9.116	69	28937	18.354	ug/l		98
52) 1,3-Dichloropropane	9.305	76	33222	19.442	ug/l		98
53) Dibromochloromethane	9.518	129	22175	19.425	ug/l		97
54) 1,2-Dibromoethane	9.610	107	20867	18.832	ug/l		98
55) 2-Chloroethyl vinyl ether	8.238	63	75206	93.671	ug/l		99
56) Bromoform	10.799	173	16400	20.254	ug/l	#	99
58) 4-Methyl-2-Pentanone	8.567	43	155030	94.331	ug/l		98
59) 2-Hexanone	9.427	43	120193	90.541	ug/l		97
61) Tetrachloroethene	9.269	164	17737	20.247	ug/l		95
62) Toluene	8.714	91	80966	19.918	ug/l		100
64) Chlorobenzene	10.079	112	50666	20.393	ug/l		99
65) 1,1,1,2-Tetrachloroethane	10.159	131	19349	20.418	ug/l		96
66) Ethyl Benzene	10.189	91	94181	20.095	ug/l		97
67) m/p-Xylenes	10.299	106	69844	40.355	ug/l		97
68) o-Xylene	10.640	106	33742	20.252	ug/l		96
69) Styrene	10.652	104	57437	20.518	ug/l		99
70) Isopropylbenzene	10.957	105	93687	20.810	ug/l		98
71) 1,1,2,2-Tetrachloroethane	11.213	83	31369	19.875	ug/l		99
72) 1,2,3-Trichloropropane	11.238	75	28284m	19.917	ug/l		
73) Bromobenzene	11.195	156	21918	20.565	ug/l		96
74) n-propylbenzene	11.305	91	116009	20.864	ug/l		99
75) 2-Chlorotoluene	11.360	91	68151	20.654	ug/l		99
76) 1,3,5-Trimethylbenzene	11.451	105	80397	20.285	ug/l		97
77) t-1,4-Dichloro-2-butene	11.018	75	8885	20.132	ug/l		86
78) 4-Chlorotoluene	11.451	91	81610	20.733	ug/l		96
79) tert-butylbenzene	11.713	119	76592	20.704	ug/l		96
80) 1,2,4-Trimethylbenzene	11.750	105	80489	20.611	ug/l		98
81) sec-Butylbenzene	11.890	105	99655	20.403	ug/l		99
82) p-Isopropyltoluene	12.006	119	82213	20.564	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	43565	21.007	ug/l		97
84) 1,4-Dichlorobenzene	12.042	146	43242	20.390	ug/l		99
85) n-Butylbenzene	12.329	91	78928	20.289	ug/l		98
86) Hexachloroethane	12.536	117	14175	20.320	ug/l		89
87) 1,2-Dichlorobenzene	12.335	146	41934	20.809	ug/l		98
88) 1,2-Dibromo-3-Chloropr...	12.939	75	8007	18.973	ug/l		97
89) 1,2,4-Trichlorobenzene	13.585	180	27686	20.404	ug/l		99
90) Hexachlorobutadiene	13.725	225	11887	21.666	ug/l		96
91) Naphthalene	13.774	128	85203	19.250	ug/l		100
92) 1,2,3-Trichlorobenzene	13.963	180	27150	20.293	ug/l		99

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

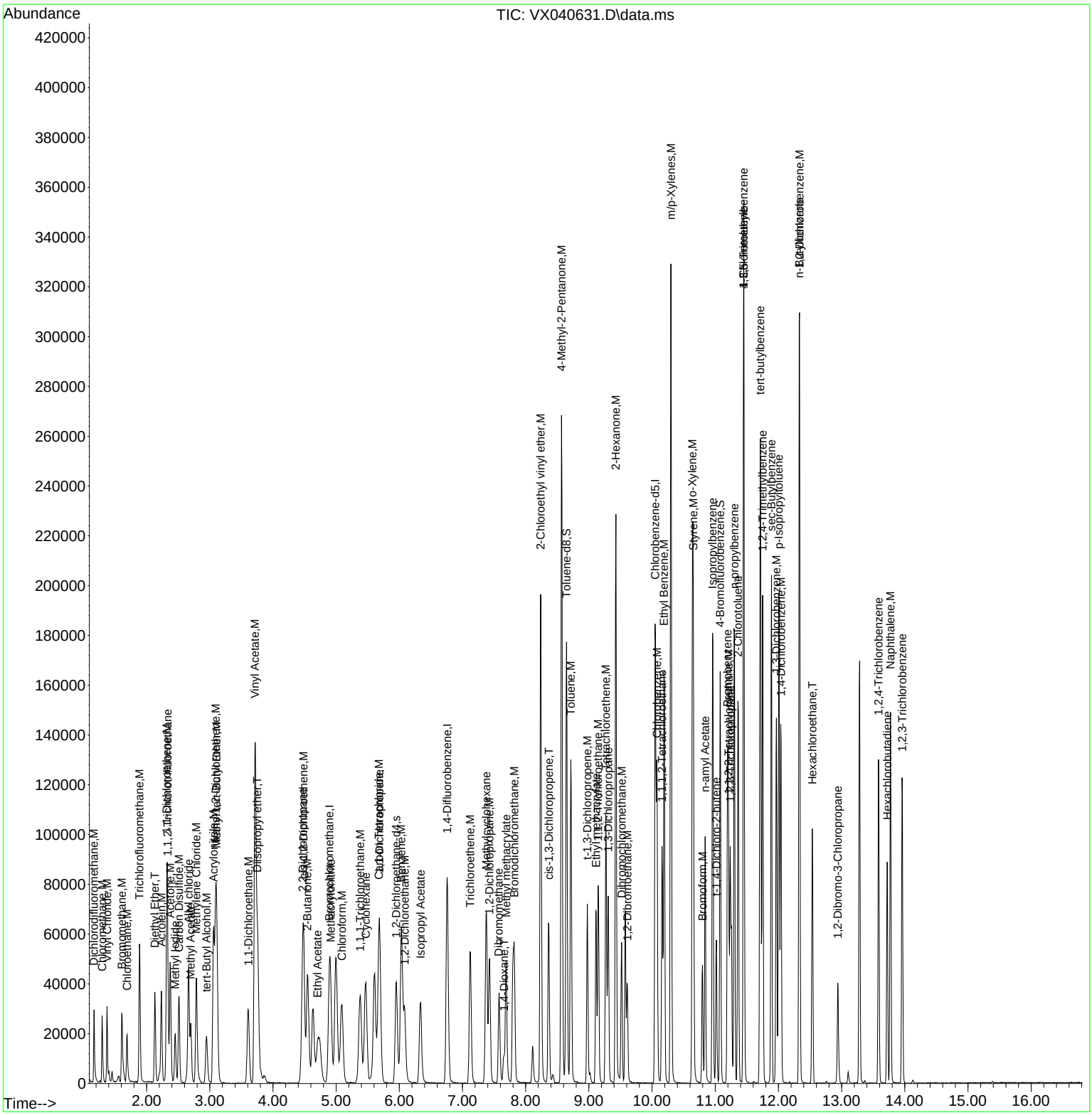
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040631.D
Acq On : 14 Mar 2024 10:11
Operator : JC/MD
Sample : VX0314WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 15 05:41:40 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024



Raw Data: **VX040632.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	VX0314WBSD01	SDG No.:	P1747
Lab Sample ID:	VX0314WBSD01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-NYCD
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX040632.D	1		03/14/24 10:39	VX031424

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
1634-04-4	Methyl tert-Butyl Ether	19.4		0.83	5.00	ug/L
56-23-5	Carbon Tetrachloride	20.2		0.91	5.00	ug/L
67-66-3	Chloroform	19.7		0.72	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	19.9		0.79	5.00	ug/L
71-43-2	Benzene	18.3		0.69	5.00	ug/L
108-88-3	Toluene	21.2		0.72	5.00	ug/L
127-18-4	Tetrachloroethene	21.6		0.94	5.00	ug/L
100-41-4	Ethyl Benzene	19.4		0.73	5.00	ug/L
1330-20-7	Total Xylenes	57.4		2.52	15.0	ug/L
106-46-7	1,4-Dichlorobenzene	21.0		0.95	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	27.6		91 - 110	92%	SPK: 30
2037-26-5	Toluene-d8	33.1		91 - 112	110%	SPK: 30
460-00-4	4-Bromofluorobenzene	30.7		63 - 112	102%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	15400	4.897			
540-36-3	1,4-Difluorobenzene	83200	6.763			
3114-55-4	Chlorobenzene-d5	75200	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040632.D
Acq On : 14 Mar 2024 10:39
Operator : JC/MD
Sample : VX0314WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 05:42:01 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.897	128	15443	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	83166	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	75172	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	42601	27.621	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 92.067%			
60) 4-Bromofluorobenzene	11.079	95	39561	30.681	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 102.267%			
63) Toluene-d8	8.647	98	109877	33.075	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 110.267%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	19487	18.605	ug/l	99
3) Chloromethane	1.294	50	18544	17.279	ug/l	96
4) Vinyl Chloride	1.374	62	19610	16.908	ug/l	98
5) Bromomethane	1.605	94	13306	18.784	ug/l	99
6) Chloroethane	1.685	64	12209	17.917	ug/l	93
7) Trichlorofluoromethane	1.886	101	32391	18.343	ug/l	99
8) Diethyl Ether	2.130	74	11341	18.915	ug/l	97
9) 1,1,2-Trichlorotrifluo...	2.331	101	18536	19.163	ug/l	94
10) 1,1-Dichloroethene	2.319	96	17045	18.509	ug/l	91
11) Methyl Iodide	2.453	142	20593	18.489	ug/l	93
12) Methyl Acetate	2.703	43	31251	20.601	ug/l	98
13) Acrolein	2.233	56	28188	98.565	ug/l	99
14) Acrylonitrile	3.056	53	56999	95.422	ug/l	99
15) Acetone	2.373	58	16338	95.687	ug/l	78
16) Carbon Disulfide	2.508	76	44361	17.527	ug/l #	94
17) Allyl chloride	2.660	41	31993	18.825	ug/l	85
18) Methylene Chloride	2.788	84	21124	20.091	ug/l	98
19) trans-1,2-Dichloroethene	3.087	96	18370	18.271	ug/l	95
20) Diisopropyl ether	3.751	45	65129	19.162	ug/l #	81
21) 1,1-Dichloroethane	3.611	63	37917	19.387	ug/l #	95
22) cis-1,2-Dichloroethene	4.483	96	22194	19.009	ug/l	94
23) tert-Butyl Alcohol	2.947	59	25923m	91.851	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	66019	19.425	ug/l	94
25) Chloroform	5.092	83	42115	19.674	ug/l	96
26) Cyclohexane	5.470	56	29961	18.982	ug/l #	98
29) 1,1-Dichloropropene	5.690	75	28816	20.017	ug/l	97
30) 2-Butanone	4.550	43	84918	96.669	ug/l #	96
31) 2,2-Dichloropropane	4.471	77	33229	21.387	ug/l	95
32) 1,1,1-Trichloroethane	5.385	97	36186	19.949	ug/l	97
33) Carbon Tetrachloride	5.672	117	30804	20.184	ug/l	90
34) Benzene	6.037	78	71153	18.309	ug/l	99
35) Methacrylonitrile	4.922	41	18469m	20.480	ug/l	
36) 1,2-Dichloroethane	6.086	62	34724	19.326	ug/l #	95
37) Trichloroethene	7.123	130	19458	18.633	ug/l	90
38) Methylcyclohexane	7.379	83	28605	18.454	ug/l	98
39) 1,2-Dichloropropane	7.427	63	18317	18.512	ug/l	99
40) Dibromomethane	7.580	93	14400	18.525	ug/l	92
41) Bromodichloromethane	7.818	83	30461	19.698	ug/l	95
42) Vinyl Acetate	3.715	43	305071	100.867	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040632.D
Acq On : 14 Mar 2024 10:39
Operator : JC/MD
Sample : VX0314WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 05:42:01 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.708	43	29243	17.676	ug/l		98
44) Isopropyl Acetate	6.330	43	47296	17.910	ug/l		95
45) 1,4-Dioxane	7.653	88	8741	322.005	ug/l		98
46) Methyl methacrylate	7.690	41	24355	18.568	ug/l		93
47) n-amyl Acetate	10.841	43	39661	17.426	ug/l		97
48) t-1,3-Dichloropropene	8.976	75	33985	20.793	ug/l		95
49) cis-1,3-Dichloropropene	8.366	75	34264	20.579	ug/l		90
50) 1,1,2-Trichloroethane	9.147	97	21696	21.013	ug/l		95
51) Ethyl methacrylate	9.116	69	33154	20.396	ug/l		99
52) 1,3-Dichloropropane	9.305	76	36609	20.779	ug/l		98
53) Dibromochloromethane	9.518	129	23791	20.213	ug/l		100
54) 1,2-Dibromoethane	9.610	107	23189	20.297	ug/l		99
55) 2-Chloroethyl vinyl ether	8.238	63	83872	101.319	ug/l		99
56) Bromoform	10.799	173	15643	18.737	ug/l	#	98
58) 4-Methyl-2-Pentanone	8.567	43	177737	106.182	ug/l		98
59) 2-Hexanone	9.427	43	139202	102.955	ug/l		96
61) Tetrachloroethene	9.275	164	19232	21.555	ug/l		96
62) Toluene	8.714	91	87566	21.150	ug/l		99
64) Chlorobenzene	10.079	112	49122	19.412	ug/l		96
65) 1,1,1,2-Tetrachloroethane	10.159	131	18596	19.267	ug/l		96
66) Ethyl Benzene	10.189	91	92479	19.373	ug/l		97
67) m/p-Xylenes	10.299	106	66706	37.841	ug/l		96
68) o-Xylene	10.640	106	33326	19.639	ug/l		98
69) Styrene	10.652	104	54978	19.283	ug/l		98
70) Isopropylbenzene	10.963	105	88313	19.260	ug/l		98
71) 1,1,2,2-Tetrachloroethane	11.213	83	32708	20.347	ug/l		98
72) 1,2,3-Trichloropropane	11.238	75	26528m	18.341	ug/l		
73) Bromobenzene	11.195	156	21000	19.346	ug/l		96
74) n-propylbenzene	11.305	91	114276	20.179	ug/l		99
75) 2-Chlorotoluene	11.360	91	68373	20.345	ug/l		100
76) 1,3,5-Trimethylbenzene	11.451	105	82091	20.336	ug/l		97
77) t-1,4-Dichloro-2-butene	11.018	75	9014	20.054	ug/l		88
78) 4-Chlorotoluene	11.451	91	81627	20.361	ug/l		98
79) tert-butylbenzene	11.713	119	78402	20.809	ug/l		95
80) 1,2,4-Trimethylbenzene	11.750	105	84490	21.243	ug/l		97
81) sec-Butylbenzene	11.890	105	105038	21.115	ug/l		100
82) p-Isopropyltoluene	12.006	119	88048	21.624	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	46732	22.125	ug/l		97
84) 1,4-Dichlorobenzene	12.042	146	45376	21.008	ug/l		99
85) n-Butylbenzene	12.329	91	82055	20.710	ug/l		99
86) Hexachloroethane	12.536	117	15106	21.261	ug/l		95
87) 1,2-Dichlorobenzene	12.335	146	43954	21.415	ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.945	75	9146	21.278	ug/l		98
89) 1,2,4-Trichlorobenzene	13.585	180	30166	21.828	ug/l		99
90) Hexachlorobutadiene	13.725	225	11470	20.526	ug/l		98
91) Naphthalene	13.774	128	88675	19.671	ug/l		99
92) 1,2,3-Trichlorobenzene	13.963	180	27071	19.866	ug/l		98

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

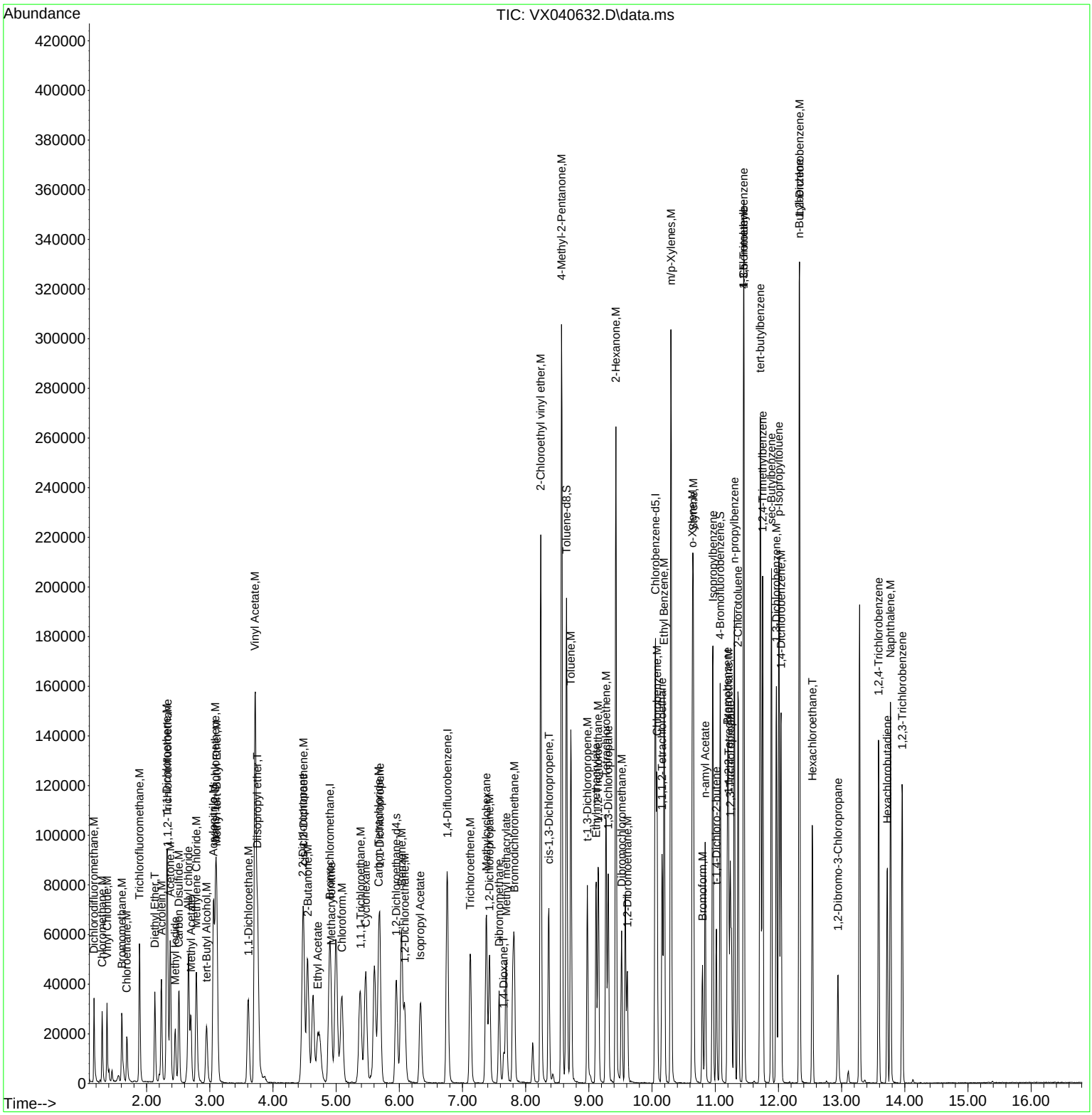
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX031424\
Data File : VX040632.D
Acq On : 14 Mar 2024 10:39
Operator : JC/MD
Sample : VX0314WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 05:42:01 2024
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X030524W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Tue Mar 05 13:21:29 2024
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0314WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 03/15/2024
Supervised By :Mahesh Dadoda 03/15/2024



CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	VX030524	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICC005	VX040579.D	1,2,3-Trichloropropane	JOHN	3/5/2024 3:07:44 PM	MMDadoda	3/6/2024 11:25:57 AM	Peak Integrated by Software
VSTDICC005	VX040579.D	1,4-Dioxane	JOHN	3/5/2024 3:07:44 PM	MMDadoda	3/6/2024 11:25:57 AM	Peak Integrated by Software
VSTDICC005	VX040579.D	Methacrylonitrile	JOHN	3/5/2024 3:07:44 PM	MMDadoda	3/6/2024 11:25:57 AM	Peak Integrated by Software
VSTDICCC020	VX040580.D	1,2,3-Trichloropropane	JOHN	3/5/2024 3:07:52 PM	MMDadoda	3/6/2024 11:25:57 AM	Peak Integrated by Software
VSTDICC050	VX040581.D	1,2,3-Trichloropropane	JOHN	3/5/2024 3:08:00 PM	MMDadoda	3/6/2024 11:26:03 AM	Peak Integrated by Software
VSTDICC100	VX040582.D	1,2,3-Trichloropropane	JOHN	3/5/2024 3:08:08 PM	MMDadoda	3/6/2024 11:26:03 AM	Peak Integrated by Software
VSTDICC150	VX040583.D	1,2,3-Trichloropropane	JOHN	3/5/2024 3:08:16 PM	MMDadoda	3/6/2024 11:26:05 AM	Peak Integrated by Software
VSTDICV020	VX040585.D	1,2,3-Trichloropropane	JOHN	3/6/2024 9:39:58 AM	MMDadoda	3/6/2024 11:26:10 AM	Peak Integrated by Software
VSTDCCC020	VX040591.D	1,2,3-Trichloropropane	JOHN	3/6/2024 9:40:40 AM	MMDadoda	3/6/2024 11:26:13 AM	Peak Integrated by Software

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Manual Integration Report

Sequence:	VX031424	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC020	VX040630.D	1,2,3-Trichloropropane	JOHN	3/15/2024 9:15:28 AM	MMDadoda	3/15/2024 4:05:05 PM	Peak Integrated by Software
VSTDCCC020	VX040630.D	Acetone	JOHN	3/15/2024 9:15:28 AM	MMDadoda	3/15/2024 4:05:05 PM	Peak Integrated by Software
VX0314WBS01	VX040631.D	1,2,3-Trichloropropane	JOHN	3/15/2024 9:15:34 AM	MMDadoda	3/15/2024 4:05:05 PM	Peak Integrated by Software
VX0314WBS01	VX040631.D	Bromochloromethane	JOHN	3/15/2024 9:15:34 AM	MMDadoda	3/15/2024 4:05:05 PM	Peak Integrated by Software
VX0314WBSD01	VX040632.D	1,2,3-Trichloropropane	JOHN	3/15/2024 9:15:40 AM	MMDadoda	3/15/2024 4:05:06 PM	Peak Integrated by Software
VX0314WBSD01	VX040632.D	Methacrylonitrile	JOHN	3/15/2024 9:15:40 AM	MMDadoda	3/15/2024 4:05:06 PM	Peak Integrated by Software
P1747-03	VX040637.D	Acetone	JOHN	3/15/2024 9:15:45 AM	MMDadoda	3/15/2024 4:05:07 PM	Peak Integrated by Software
VSTDCCC020	VX040638.D	1,2,3-Trichloropropane	JOHN	3/15/2024 9:15:51 AM	MMDadoda	3/15/2024 4:05:09 PM	Peak Integrated by Software

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX030524

Review By	John Carlone	Review On	3/5/2024 4:27:59 PM		
Supervise By	Mahesh Dadoda	Supervise On	3/6/2024 11:26:25 AM		
SubDirectory	VX030524	HP Acquire Method		HP Processing Method	624X030524W.M

STD. NAME	STD REF.#
Tune/Reschk	VP126363
Initial Calibration Stds	VP126389,VP126390,VP126391,VP126392,VP126393
CCC	VP126364
Internal Standard/PEM	
ICV/I.BLK	VP126394
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VX040578.D	05 Mar 2024 08:37	JC/MD	Ok
2	VSTDICC005	VX040579.D	05 Mar 2024 10:58	JC/MD	Ok,M
3	VSTDICCC020	VX040580.D	05 Mar 2024 11:21	JC/MD	Ok,M
4	VSTDICC050	VX040581.D	05 Mar 2024 11:44	JC/MD	Ok,M
5	VSTDICC100	VX040582.D	05 Mar 2024 12:07	JC/MD	Ok,M
6	VSTDICC150	VX040583.D	05 Mar 2024 12:30	JC/MD	Ok,M
7	IBLK	VX040584.D	05 Mar 2024 12:53	JC/MD	Ok
8	VSTDICV020	VX040585.D	05 Mar 2024 13:36	JC/MD	Ok,M
9	VX0305WBS01	VX040586.D	05 Mar 2024 14:03	JC/MD	Ok,M
10	VX0305WBSD01	VX040587.D	05 Mar 2024 14:34	JC/MD	Ok,M
11	VX0305WBL01	VX040588.D	05 Mar 2024 15:00	JC/MD	Ok
12	P1187-07 2.5PPB	VX040589.D	05 Mar 2024 15:27	JC/MD	Ok,M
13	P1187-08 5.0PPB	VX040590.D	05 Mar 2024 15:50	JC/MD	Ok,M
14	VSTDCCC020	VX040591.D	05 Mar 2024 16:24	JC/MD	Ok,M

M : Manual Integration

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX031424

Review By	John Carlone	Review On	3/15/2024 9:17:26 AM		
Supervise By	Mahesh Dadoda	Supervise On	3/15/2024 4:05:13 PM		
SubDirectory	VX031424	HP Acquire Method		HP Processing Method	624X030524W.M

STD. NAME	STD REF.#
Tune/Reschk	VP126595
Initial Calibration Stds	
CCC	VP126596,VP126597
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VX040629.D	14 Mar 2024 09:03	JC/MD	Ok
2	VSTDCCC020	VX040630.D	14 Mar 2024 09:43	JC/MD	Ok,M
3	VX0314WBS01	VX040631.D	14 Mar 2024 10:11	JC/MD	Ok,M
4	VX0314WBSD01	VX040632.D	14 Mar 2024 10:39	JC/MD	Ok,M
5	VX0314WBL01	VX040633.D	14 Mar 2024 11:06	JC/MD	Ok
6	P1727-02	VX040634.D	14 Mar 2024 11:38	JC/MD	Ok
7	P1727-01	VX040635.D	14 Mar 2024 12:01	JC/MD	Ok
8	IBLK	VX040636.D	14 Mar 2024 12:23	JC/MD	Ok
9	P1747-03	VX040637.D	14 Mar 2024 12:46	JC/MD	Ok,M
10	VSTDCCC020	VX040638.D	14 Mar 2024 16:05	JC/MD	Ok,M

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX030524

Review By	John Carlone	Review On	3/5/2024 4:27:59 PM		
Supervise By	Mahesh Dadoda	Supervise On	3/6/2024 11:26:25 AM		
SubDirectory	VX030524	HP Acquire Method		HP Processing Method	624X030524W.M

STD. NAME	STD REF.#
Tune/Reschk	VP126363
Initial Calibration Stds	VP126389,VP126390,VP126391,VP126392,VP126393
CCC	VP126364
Internal Standard/PEM	
ICV/I.BLK	VP126394
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VX040578.D	05 Mar 2024 08:37		JC/MD	Ok
2	VSTDICC005	VSTDICC005	VX040579.D	05 Mar 2024 10:58	624-Method	JC/MD	Ok,M
3	VSTDICCC020	VSTDICCC020	VX040580.D	05 Mar 2024 11:21		JC/MD	Ok,M
4	VSTDICC050	VSTDICC050	VX040581.D	05 Mar 2024 11:44		JC/MD	Ok,M
5	VSTDICC100	VSTDICC100	VX040582.D	05 Mar 2024 12:07		JC/MD	Ok,M
6	VSTDICC150	VSTDICC150	VX040583.D	05 Mar 2024 12:30		JC/MD	Ok,M
7	IBLK	IBLK	VX040584.D	05 Mar 2024 12:53		JC/MD	Ok
8	VSTDICV020	ICVVX030524	VX040585.D	05 Mar 2024 13:36		JC/MD	Ok,M
9	VX0305WBS01	VX0305WBS01	VX040586.D	05 Mar 2024 14:03		JC/MD	Ok,M
10	VX0305WBSD01	VX0305WBSD01	VX040587.D	05 Mar 2024 14:34		JC/MD	Ok,M
11	VX0305WBL01	VX0305WBL01	VX040588.D	05 Mar 2024 15:00		JC/MD	Ok
12	P1187-07 2.5PPB	LOD-MDL-WATER-01-(	VX040589.D	05 Mar 2024 15:27		JC/MD	Ok,M
13	P1187-08 5.0PPB	LOQ-WATER-02-QT1-2	VX040590.D	05 Mar 2024 15:50		JC/MD	Ok,M
14	VSTDCCC020	VSTDCCC020EC	VX040591.D	05 Mar 2024 16:24		JC/MD	Ok,M

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX031424

Review By	John Carlone	Review On	3/15/2024 9:17:26 AM		
Supervise By	Mahesh Dadoda	Supervise On	3/15/2024 4:05:13 PM		
SubDirectory	VX031424	HP Acquire Method		HP Processing Method	624X030524W.M

STD. NAME	STD REF.#
Tune/Reschk	VP126595
Initial Calibration Stds	
CCC	VP126596,VP126597
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VX040629.D	14 Mar 2024 09:03		JC/MD	Ok
2	VSTDCCC020	VSTDCCC020	VX040630.D	14 Mar 2024 09:43	pH#Lot#V12668	JC/MD	Ok,M
3	VX0314WBS01	VX0314WBS01	VX040631.D	14 Mar 2024 10:11		JC/MD	Ok,M
4	VX0314WBSD01	VX0314WBSD01	VX040632.D	14 Mar 2024 10:39		JC/MD	Ok,M
5	VX0314WBL01	VX0314WBL01	VX040633.D	14 Mar 2024 11:06		JC/MD	Ok
6	P1727-02	240313039-03-TRIP-BL	VX040634.D	14 Mar 2024 11:38	vial A pH#6.0	JC/MD	Ok
7	P1727-01	240313044-02-VOA	VX040635.D	14 Mar 2024 12:01	vial A pH#6.0	JC/MD	Ok
8	IBLK	IBLK	VX040636.D	14 Mar 2024 12:23		JC/MD	Ok
9	P1747-03	MW-01	VX040637.D	14 Mar 2024 12:46	vial A pH<2	JC/MD	Ok,M
10	VSTDCCC020	VSTDCCC020EC	VX040638.D	14 Mar 2024 16:05		JC/MD	Ok,M

M : Manual Integration

CHEMTECH

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO.
QUOTE NO. P1747
COC Number 2043853

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: LiRo Engineers, Inc.
ADDRESS: 703 Fourimer street
CITY Brooklyn STATE: NY ZIP: 11211
ATTENTION: Steve Frank / Amy Hewson
PHONE: 716 882-5476 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Walter Gladwin Park Rec. Center
PROJECT NO.: 19-294-0265.01 LOCATION: Bronx, NY
PROJECT MANAGER: Steve Frank
e-mail: franks@liro-hill.com
PHONE: 716 882-5476 FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS: Same
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: 5 day TAT DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☒ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC + Raw Data) ☐ NYS ASP A ☐ NYS ASP B
☐ Other
☐ EDD FORMAT

ANALYSIS

1 TCL VOCs
2 SVOCs
3 PCBs
4 Pesticides
5 TAL metals*
6
7 NYCDEP Sanitary or Combined Sewer Discharge Parameters
8
9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
								A	D	B	→	→	→	~	~		← Specify Preservatives
1.	MW-01	GW		X	3/12/24	0800	7	X	X	X	X	X					A-HCl D-NaOH
2.	MW-01 DUP	GW		X	↓	0830	7	X	X	X	X	X					B-HN03 E-ICE
3.	MW-01	GW		X	3/13/24	1000	14							X	X		C-H2SO4 F-OTHER
4.	MW-02	GW		X	3/12/24	1200	7	X	X	X	X	X					
5.	TWP-04	GW		X	↓	1100	7	X	X	X	X	X					
6.	Trip Blank #1	DI Water		X	—	—	2	X									
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. Eva Hu	3/13/24 1220	1. 3-13-24
2.		2.
3.	3-13-24 1630	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.4 °C
Comments: * TAL Metals (Filtered & Unfiltered)

Page 1 of 1
CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☒ Picked Up ☐ Field Sampling
Shipment Complete ☐ YES ☐ NO

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0649
DOD ELAP (L-A-B)	L2219
Maine	2022022
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	P330-21-00137
Texas	T104704488-23-16

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P1747 LIRO01
Client Name : LiRo Engineers, Inc.
Client Contact : Steve Frank
Invoice Name : LiRo Engineers, Inc.
Invoice Contact : Steve Frank

Order Date : 3/13/2024 12:28:00 PM
Project Name : Walter Gladwin Recreation
Receive DateTime : 3/13/2024 ~~12:00:00 AM~~ 16:30
Purchase Order :

Project Mgr :
Report Type : NYS ASP A
EDD Type : NYSDEC EDD V-3
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P1747-01	MW-01	Water	03/12/2024	08:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-02	MW-01-DUP	Water	03/12/2024	08:30					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-03	MW-01	Water	03/13/2024	10:00					
					VOC-NYCD	NYCDischarge	624.1		5 Bus. Days
P1747-04	MW-02	Water	03/12/2024	12:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-05	MW-04	Water	03/12/2024	11:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-06	TRIP-BLANK	Water	03/12/2024	00:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days

Relinguished By :
Date / Time : 3-14-24 0903

Received By :
Date / Time : 3/14/24 09:03

Storage Area : **VOA Refridgerator Room**

Ref #4
Ref #5