eurofins | Air Toxics

3/11/2019
Mr. Jim Tomalia
Arcadis U.S., Inc.
28550 Cabot Dr.
Suite 500
Novi MI 48377

Project Name: Ford LTP
Project #:
Workorder #: 1903104

Dear Mr. Jim Tomalia

The following report includes the data for the above referenced project for sample(s) received on 3/5/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1903104

Work Order Summary

CLIENT:	Mr. Jim Tomalia Arcadis U.S., Inc. 28550 Cabot Dr. Suite 500 Novi, MI 48377	**BILL TO:**	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	517-819-0356	**P.O. #**	MI001454.0003
FAX:		**PROJECT #**	Ford LTP
DATE RECEIVED:	03/05/2019	**CONTACT:**	Ausha Scott
DATE COMPLETED:	03/11/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IAB-34940BEACON-02_022819	Modified TO-15	5.5 "Hg	5 psi
02A	IAF-34940BEACON-01_022819	Modified TO-15	5.5 "Hg	5 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 03/11/19

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Arcadis U.S., Inc.
Workorder# 1903104

Two 6 Liter Summa Canister (100% Certified) samples were received on March 05, 2019. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. All The canisters used for this project have been certified to the Reporting Limit for the target analytes included in this workorder. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	IAB-34940BEACON-02_022819		
Lab ID:	1903104-01A	**Date/Time Analyzed:**	3/8/19 08:51 PM
Date/Time Collected:	3/1/19 09:07 AM	**Dilution Factor:**	1.64
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd22.i / 22030817

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.12	0.32	0.65	Not Detected
1,4-Dioxane	123-91-1	0.14	0.30	0.59	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.14	0.32	0.65	Not Detected
Tetrachloroethene	127-18-4	0.067	0.56	1.1	0.23 J
trans-1,2-Dichloroethene	156-60-5	0.10	0.32	0.65	0.15 J
Trichloroethene	79-01-6	0.095	0.44	0.88	Not Detected
Vinyl Chloride	75-01-4	0.060	0.21	0.42	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	91
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	IAF-34940BEACON-01_022819		
Lab ID:	1903104-02A	**Date/Time Analyzed:**	3/8/19 09:32 PM
Date/Time Collected:	3/1/19 09:03 AM	**Dilution Factor:**	1.64
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd22.i / 22030818

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.12	0.32	0.65	Not Detected
1,4-Dioxane	123-91-1	0.14	0.30	0.59	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.14	0.32	0.65	Not Detected
Tetrachloroethene	127-18-4	0.067	0.56	1.1	0.25 J
trans-1,2-Dichloroethene	156-60-5	0.10	0.32	0.65	Not Detected
Trichloroethene	79-01-6	0.095	0.44	0.88	Not Detected
Vinyl Chloride	75-01-4	0.060	0.21	0.42	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	Lab Blank		
Lab ID:	1903104-03A	**Date/Time Analyzed:**	3/8/19 11:46 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd22.i / 22030805a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.075	0.20	0.40	Not Detected
1,4-Dioxane	123-91-1	0.084	0.18	0.36	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.088	0.20	0.40	Not Detected
Tetrachloroethene	127-18-4	0.041	0.34	0.68	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.062	0.20	0.40	Not Detected
Trichloroethene	79-01-6	0.058	0.27	0.54	Not Detected
Vinyl Chloride	75-01-4	0.036	0.13	0.26	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	92

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	CCV		
Lab ID:	1903104-04A	**Date/Time Analyzed:**	3/8/19 09:18 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd22.i / 22030802

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	92
1,4-Dioxane	123-91-1	109
cis-1,2-Dichloroethene	156-59-2	96
Tetrachloroethene	127-18-4	94
trans-1,2-Dichloroethene	156-60-5	93
Trichloroethene	79-01-6	95
Vinyl Chloride	75-01-4	94

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	105

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	LCS		
Lab ID:	1903104-05A	**Date/Time Analyzed:**	3/8/19 10:02 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd22.i / 22030803

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	100
1,4-Dioxane	123-91-1	118
cis-1,2-Dichloroethene	156-59-2	111
Tetrachloroethene	127-18-4	99
trans-1,2-Dichloroethene	156-60-5	86
Trichloroethene	79-01-6	100
Vinyl Chloride	75-01-4	106

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	104

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	LCSD		
Lab ID:	1903104-05AA	**Date/Time Analyzed:**	3/8/19 10:55 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd22.i / 22030804

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	104
1,4-Dioxane	123-91-1	124
cis-1,2-Dichloroethene	156-59-2	117
Tetrachloroethene	127-18-4	101
trans-1,2-Dichloroethene	156-60-5	89
Trichloroethene	79-01-6	102
Vinyl Chloride	75-01-4	110

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	103

* % Recovery is calculated using unrounded analytical results.

March 11, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: Eurofins Air Toxics - Folsom
Laboratory submittal: 1903104
Sample date: 2019-03-01
Report received by CADENA: 2019-03-11
Initial Data Verification completed by CADENA: 2019-03-11

2 Air samples were analyzed for TO-15 parameters.

There were no significant QC anomalies or exceptions to report.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at http://clms.cadenaco.com/index.cfm.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

ARCADIS Design & Consultancy for natural and built assets

Ford Motor Company – Livonia Transmission Project

DATA REVIEW

Livonia, Michigan

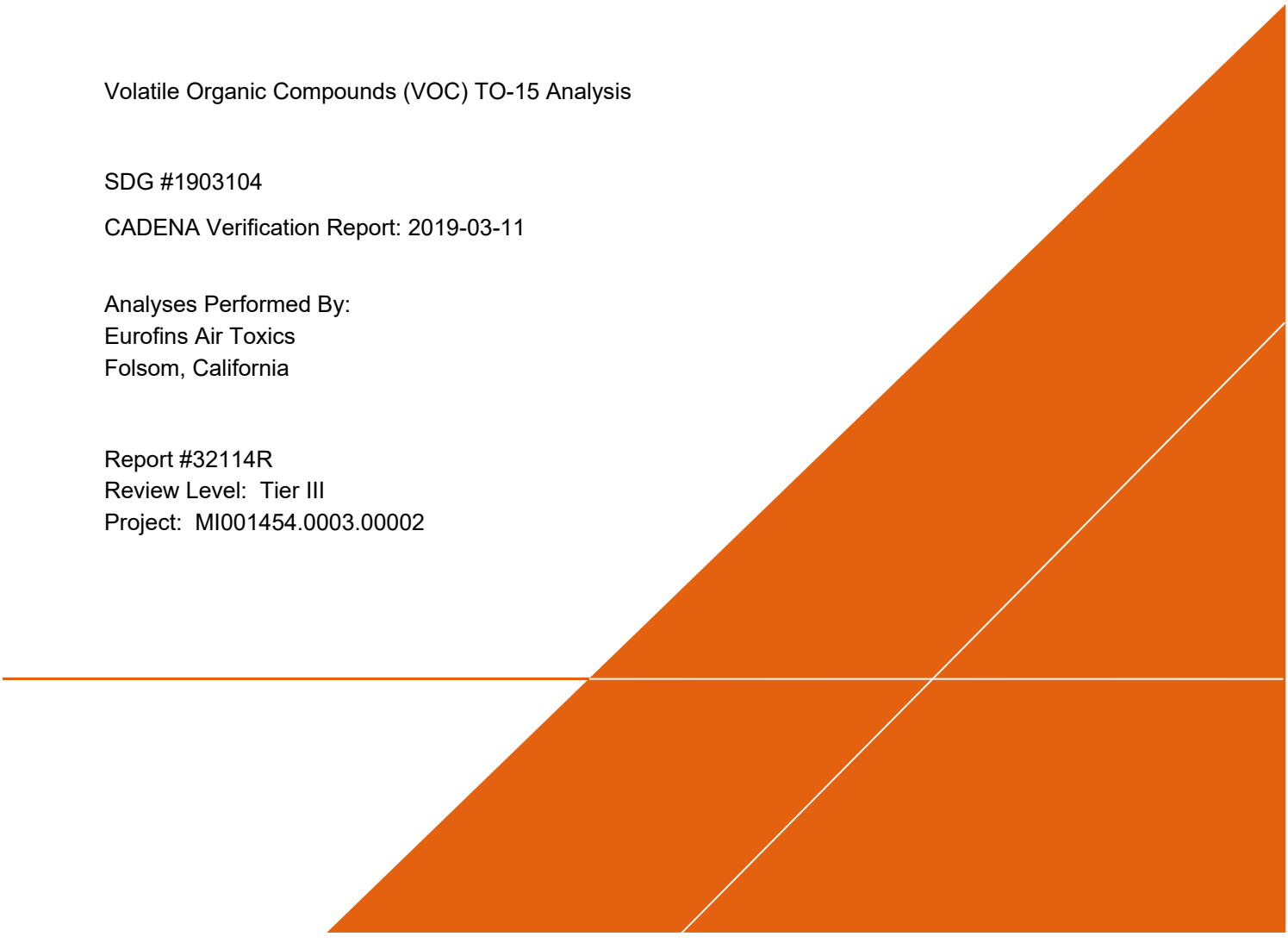
Volatile Organic Compounds (VOC) TO-15 Analysis

SDG #1903104

CADENA Verification Report: 2019-03-11

Analyses Performed By:
Eurofins Air Toxics
Folsom, California

Report #32114R
Review Level: Tier III
Project: MI001454.0003.00002



SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 1903104 for samples collected in association with the Ford – Livonia, Michigan site. The review was conducted as a Tier III validation in addition to a verification/Tier II validation review performed by CADENA Inc. and included review of level IV laboratory data package completeness. Only elements of a Tier III validation effort (Tier III includes a detailed review of laboratory raw data to check for errors in calculation, calibration review, internal standard review and compound identification) and omitted deviations from the CADENA verification/Tier II report are documented in this report. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis		
						TO-15 (Full Scan)	TO-15 (SIM)	MISC
1903104	IAB-34940BEACON-02_022819	1903104-01A	Air	3/1/2019		X		
	IAF-34940BEACON-01_022819	1903104-02A	Air	3/1/2019		X		

DATA REVIEW

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of Quality Assurance or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

DATA REVIEW

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method TO-15 (Full Scan). Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

  UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

  J+ The result is an estimated quantity, but the result may be biased high.

  J- The result is an estimated quantity, but the result may be biased low.

  UB Analyte considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
USEPA TO-15	Air	30 days from collection to analysis (Canister)	Ambient Temperature	< -1" Hg

All samples were analyzed within the specified holding time and canister return pressure / vacuum criteria.

2. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

All compounds associated with the initial calibrations were within the specified control limits.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the continuing calibrations were within the specified control limits.

4. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than 140% or less than 60% of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

DATA REVIEW

5. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: TO-15 (Full Scan)	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Canister return pressure (<-1”Hg)		X		X	
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

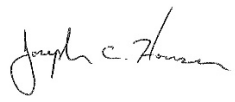
%RSD Relative standard deviation

%R Percent recovery

RPD Relative percent difference

%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

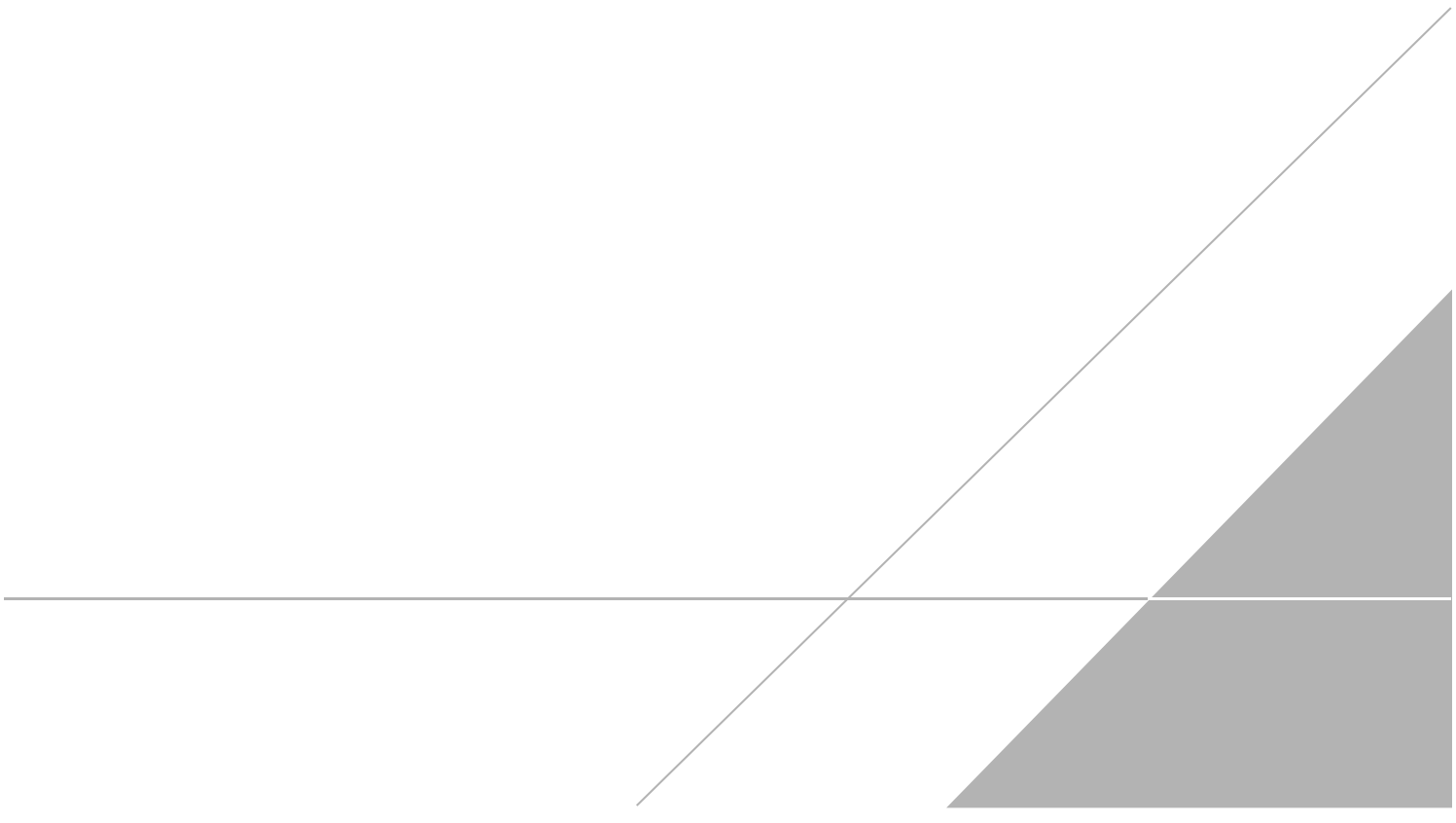
DATE: March 19, 2019

PEER REVIEW: Dennis Capria

DATE: March 26, 2019

CHAIN OF CUSTODY

CORRECTED SAMPLE ANALYSIS DATA SHEETS



MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	IAB-34940BEACON-02_022819		
Lab ID:	1903104-01A	**Date/Time Analyzed:**	3/8/19 08:51 PM
Date/Time Collected:	3/1/19 09:07 AM	**Dilution Factor:**	1.64
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd22.i / 22030817

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1,1-Dichloroethene	75-35-4	0.12	0.32	0.65	Not Detected
1,4-Dioxane	123-91-1	0.14	0.30	0.59	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.14	0.32	0.65	Not Detected
Tetrachloroethene	127-18-4	0.067	0.56	1.1	0.23 J
trans-1,2-Dichloroethene	156-60-5	0.10	0.32	0.65	0.15 J
Trichloroethene	79-01-6	0.095	0.44	0.88	Not Detected
Vinyl Chloride	75-01-4	0.060	0.21	0.42	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	91
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	IAF-34940BEACON-01_022819		
Lab ID:	1903104-02A	**Date/Time Analyzed:**	3/8/19 09:32 PM
Date/Time Collected:	3/1/19 09:03 AM	**Dilution Factor:**	1.64
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd22.i / 22030818

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.12	0.32	0.65	Not Detected
1,4-Dioxane	123-91-1	0.14	0.30	0.59	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.14	0.32	0.65	Not Detected
Tetrachloroethene	127-18-4	0.067	0.56	1.1	0.25 J
trans-1,2-Dichloroethene	156-60-5	0.10	0.32	0.65	Not Detected
Trichloroethene	79-01-6	0.095	0.44	0.88	Not Detected
Vinyl Chloride	75-01-4	0.060	0.21	0.42	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	100

Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1903104

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Click links below to view:
Canister Sampling Guide
Helium Shroud Video

Client:	Ford	PID:	NA
Project Name:	Ford LTP		
Project Manager:	Kris Hinskey	P.O.#	MI001454.0003
Sampler:	H. LADD, S. TURNER		
Site Name:	34940 Beacon		

Special Instructions/Notes: Report ONLY: 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, 1,4-Dioxane, PCE, TCE and VC. Submit results through Cadena at jim.tomalia@cadena.com. Cadena #E203631. Level IV Reporting

Turnaround Time (Rush surcharges may apply)
5 Day Turnaround Time

Lab ID	Sample Identification	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses			
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	TO-15 (See Special Instructions/Notes)			
	~~AA-34940BEACON-01_022519~~	~~6L6857~~	~~22080~~	~~2-28-19~~	~~0926~~	~~3-1-19~~	~~6608~~	~~-29~~	~~0~~			X		LLS	
01A	IAB-34940BEACON-02_022519	6L6800	20482	2-28-19	0907	3-1-19	0907	-29	-5.5			X			
02A	IAF-34940BEACON-01_022819	6L0781	22279	2-28-19	0903	3-1-19	0903	-29	-5			X			
	~~IAG-34940BEACON-03_022819~~	~~6L0958~~	~~10105~~	~~2-28-19~~	~~0919~~	~~3-1-19~~	~~0919~~	~~-29~~	~~-27~~			X		MS	

Relinquished by: (Signature/Affiliation) Tatiana Klyane / Arcadis	Date 3/1/19	Time 1600	Received by: (Signature/Affiliation) FedEx	Date 3/5/19	Time 1025
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: FedEx	Custody Seals Intact?	Yes	No	None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

eurofins | Air Toxics

3/11/2019
Mr. Jim Tomalia
Arcadis U.S., Inc.
28550 Cabot Dr.
Suite 500
Novi MI 48377

Project Name: Ford LTP
Project #:
Workorder #: 1903091

Dear Mr. Jim Tomalia

The following report includes the data for the above referenced project for sample(s) received on 3/4/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1903091

Work Order Summary

CLIENT:	Mr. Jim Tomalia Arcadis U.S., Inc. 28550 Cabot Dr. Suite 500 Novi, MI 48377	**BILL TO:**	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	517-819-0356	**P.O. #**	MI001454.0003
FAX:		**PROJECT #**	Ford LTP
DATE RECEIVED:	03/04/2019	**CONTACT:**	Ausha Scott
DATE COMPLETED:	03/11/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SSMP-34940BEACON-01_030119	TO-15	4.0 "Hg	15 psi
02A	Lab Blank	TO-15	NA	NA
03A	CCV	TO-15	NA	NA
04A	LCS	TO-15	NA	NA
04AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 03/11/19

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 1903091

One 1 Liter Summa Canister (100% Certified) sample was received on March 04, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	SSMP-34940BEACON-01_030119		
Lab ID:	1903091-01A	**Date/Time Analyzed:**	3/9/19 02:20 AM
Date/Time Collected:	3/1/19 09:38 AM	**Dilution Factor:**	2.33
Media:	1 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd3.i / 3030826

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.7	3.7	4.6	Not Detected
1,4-Dioxane	123-91-1	1.5	8.4	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.0	3.7	4.6	Not Detected
Tetrachloroethene	127-18-4	1.6	6.3	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.4	3.7	4.6	Not Detected
Trichloroethene	79-01-6	1.0	5.0	6.3	Not Detected
Vinyl Chloride	75-01-4	1.7	2.4	3.0	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	104

EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	Lab Blank		
Lab ID:	1903091-02A	**Date/Time Analyzed:**	3/8/19 11:06 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd3.i / 3030806c

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.71	1.6	2.0	Not Detected
1,4-Dioxane	123-91-1	0.65	3.6	7.2	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.44	1.6	2.0	Not Detected
Tetrachloroethene	127-18-4	0.68	2.7	3.4	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.59	1.6	2.0	Not Detected
Trichloroethene	79-01-6	0.43	2.1	2.7	Not Detected
Vinyl Chloride	75-01-4	0.72	1.0	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	102

EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	CCV		
Lab ID:	1903091-03A	**Date/Time Analyzed:**	3/8/19 09:02 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd3.i / 3030802

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	102
1,4-Dioxane	123-91-1	98
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	108
trans-1,2-Dichloroethene	156-60-5	103
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	104

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	85
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	101

EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	LCS		
Lab ID:	1903091-04A	**Date/Time Analyzed:**	3/8/19 09:25 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd3.i / 3030803

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	103
1,4-Dioxane	123-91-1	93
cis-1,2-Dichloroethene	156-59-2	103
Tetrachloroethene	127-18-4	106
trans-1,2-Dichloroethene	156-60-5	89
Trichloroethene	79-01-6	94
Vinyl Chloride	75-01-4	107

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	94

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	LCSD		
Lab ID:	1903091-04AA	**Date/Time Analyzed:**	3/8/19 09:48 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd3.i / 3030804

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	104
1,4-Dioxane	123-91-1	97
cis-1,2-Dichloroethene	156-59-2	102
Tetrachloroethene	127-18-4	106
trans-1,2-Dichloroethene	156-60-5	89
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	107

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	87
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	98

* % Recovery is calculated using unrounded analytical results.

March 11, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: Eurofins Air Toxics - Folsom
Laboratory submittal: 1903091
Sample date: 2019-03-01
Report received by CADENA: 2019-03-11
Initial Data Verification completed by CADENA: 2019-03-11

1 Air sample was analyzed for TO-15 parameters.

There were no significant QC anomalies or exceptions to report.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at http://clms.cadenaco.com/index.cfm.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

ARCADIS Design & Consultancy for natural and built assets

Ford Motor Company – Livonia Transmission Project

DATA REVIEW

Livonia, Michigan

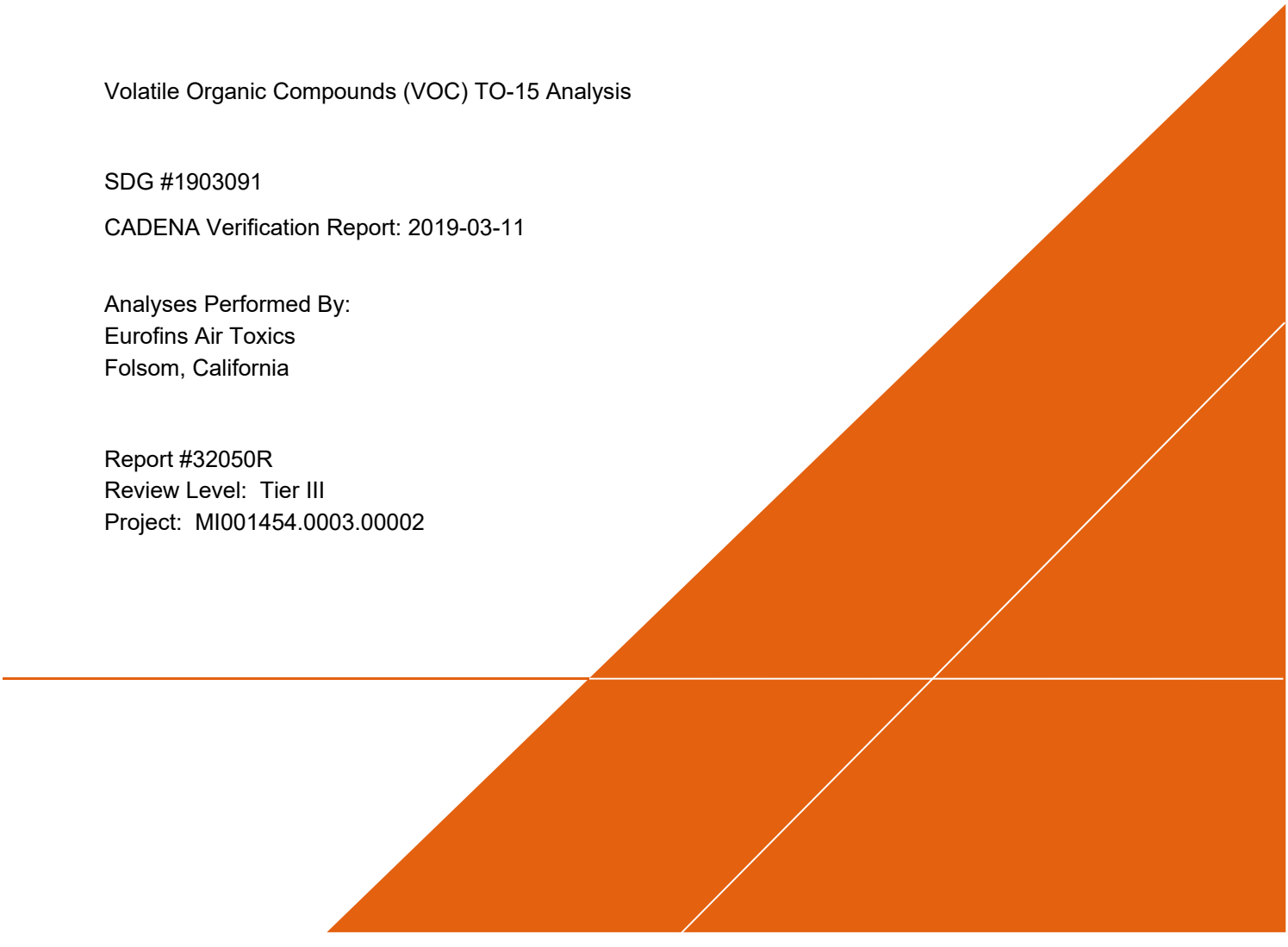
Volatile Organic Compounds (VOC) TO-15 Analysis

SDG #1903091

CADENA Verification Report: 2019-03-11

Analyses Performed By:
Eurofins Air Toxics
Folsom, California

Report #32050R
Review Level: Tier III
Project: MI001454.0003.00002



SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 1903091 for samples collected in association with the Ford – Livonia, Michigan site. The review was conducted as a Tier III validation in addition to a verification/Tier II validation review performed by CADENA Inc. and included review of level IV laboratory data package completeness. Only elements of a Tier III validation effort (Tier III includes a detailed review of laboratory raw data to check for errors in calculation, calibration review, internal standard review and compound identification) and omitted deviations from the CADENA verification/Tier II report are documented in this report. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis		
						TO-15 (Full Scan)	TO-15 (SIM)	MISC
1903091	SSMP-34940BEACON-01_030119	1903091-01A	Air	3/1/2019		X		

DATA REVIEW

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of Quality Assurance or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

DATA REVIEW

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method TO-15 (Full Scan). Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

  UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

  J+ The result is an estimated quantity, but the result may be biased high.

  J- The result is an estimated quantity, but the result may be biased low.

  UB Analyte considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
USEPA TO-15	Air	30 days from collection to analysis (Canister)	Ambient Temperature	< -1" Hg

All samples were analyzed within the specified holding time and canister return pressure / vacuum criteria.

2. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

All compounds associated with the initial calibrations were within the specified control limits.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the continuing calibrations were within the specified control limits.

4. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than 140% or less than 60% of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

DATA REVIEW

5. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: TO-15 (Full Scan)	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Canister return pressure (<-1”Hg)		X		X	
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

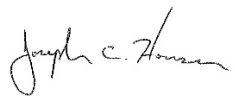
%RSD Relative standard deviation

%R Percent recovery

RPD Relative percent difference

%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

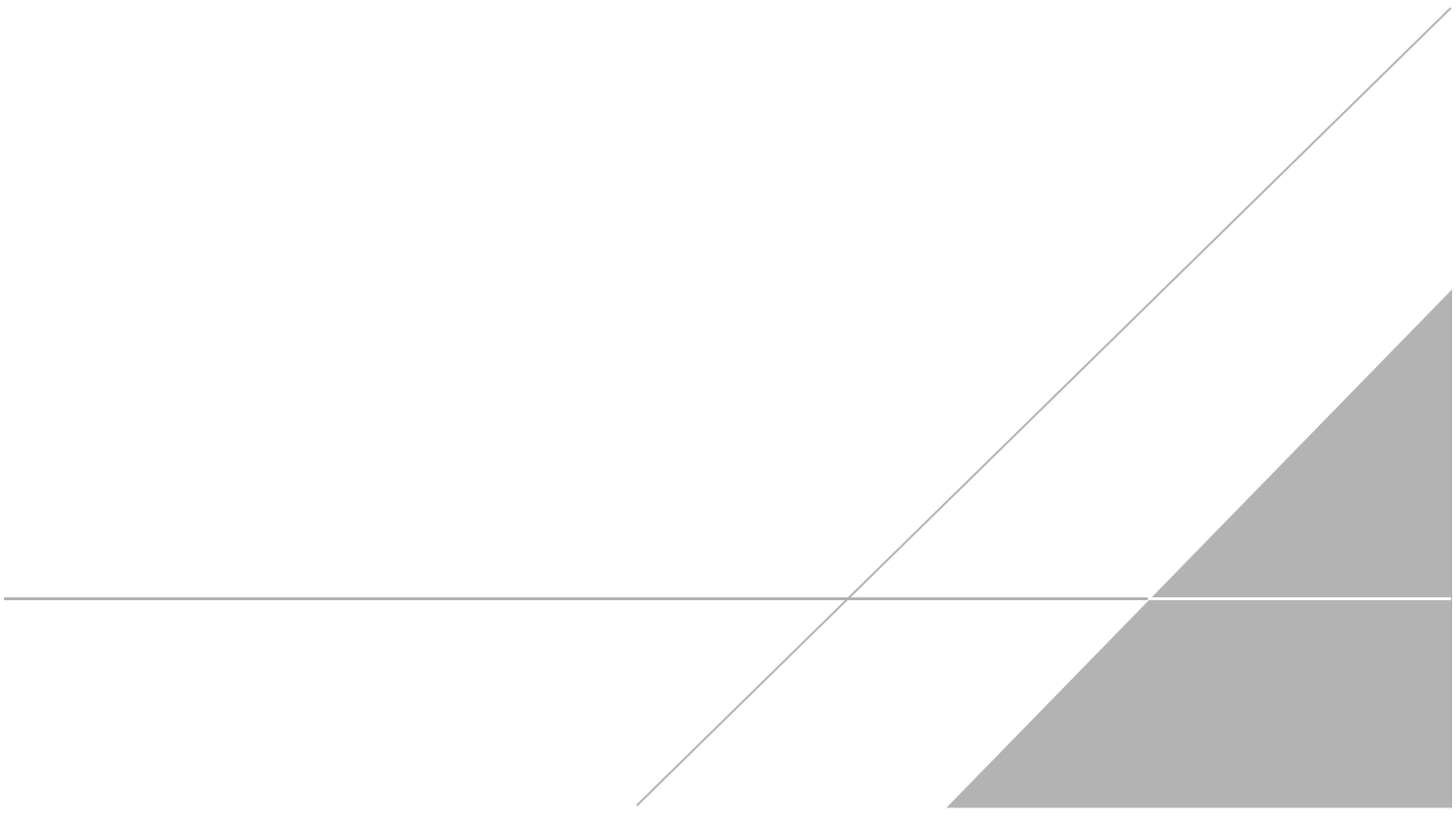
DATE: March 15, 2019

PEER REVIEW: Dennis Capria

DATE: March 18, 2019

CHAIN OF CUSTODY

CORRECTED SAMPLE ANALYSIS DATA SHEETS



EPA METHOD TO-15 GC/MS FULL SCAN
Ford LTP

Client ID:	SSMP-34940BEACON-01_030119		
Lab ID:	1903091-01A	**Date/Time Analyzed:**	3/9/19 02:20 AM
Date/Time Collected:	3/1/19 09:38 AM	**Dilution Factor:**	2.33
Media:	1 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd3.i / 3030826

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	1.7	3.7	4.6	Not Detected
1,4-Dioxane	123-91-1	1.5	8.4	17	Not Detected
cis-1,2-Dichloroethene	156-59-2	1.0	3.7	4.6	Not Detected
Tetrachloroethene	127-18-4	1.6	6.3	7.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.4	3.7	4.6	Not Detected
Trichloroethene	79-01-6	1.0	5.0	6.3	Not Detected
Vinyl Chloride	75-01-4	1.7	2.4	3.0	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	104

Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1903091

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Click links below to view:
Canister Sampling Guide
Helium Shroud Video

Client: Ford PID: NA
Project Name: Ford LTP
Project Manager: Kris Hinskey P.O.# MI001454.0003
Sampler: S. JOHNSON, J WEST
Site Name: 34940 Beacon

Special Instructions/Notes: Report ONLY: 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, 1,4-Dioxane, PCE, TCE and VC.
Submit results through Cadena at jim.tomalia@cadena.com.
Cadena #E203631. Level IV Reporting

Turnaround Time (Rush surcharges may apply)
5 Day Turnaround Time

Lab ID	Sample Identification	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses			
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	TO-15 (See Special Instructions/Notes)			
01A	SSMP-34940BEACON-01_030119	1L576	23690	3-1-19	0927	3-1-19	0938	-30	-5			X			

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Marissa Kloma / Arcadis	3/1/19	1600		3/04/19	0915
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: FedEx | Custody Seals Intact? Yes No None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-108816-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey

Authorized for release by:
3/11/2019 4:42:53 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 240-108816-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-108816-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The sample was received on 3/2/2019 9:45 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2º C and 2.0º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Sample SUMP-34940BEACON-01-022819 (240-108816-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The sample was analyzed on 03/06/2019.

The continuing calibration verification (CCV) associated with batch 370483 recovered above the upper control limit for Vinyl Chloride and/or 1,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: SUMP-34940BEACON-01-022819 (240-108816-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Sample SUMP-34940BEACON-01-022819 (240-108816-1) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The sample was analyzed on 03/04/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-108816-1	SUMP-34940BEACON-01-022819	Water	02/28/19 09:35	03/02/19 09:45

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Client Sample ID: SUMP-34940BEACON-01-022819 — Lab Sample ID: 240-108816-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.84	J	1.0	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Client Sample ID: SUMP-34940BEACON-01-022819
Date Collected: 02/28/19 09:35
Date Received: 03/02/19 09:45

Lab Sample ID: 240-108816-1
Matrix: Water

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/19 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*63 - 125*		*03/04/19 19:14*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/06/19 19:17	1
cis-1,2-Dichloroethene	**0.84**	**J**	1.0	0.16	ug/L			03/06/19 19:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/06/19 19:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/06/19 19:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/06/19 19:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/06/19 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 121*		*03/06/19 19:17*	*1*
4-Bromofluorobenzene (Surr)	*94*		*59 - 120*		*03/06/19 19:17*	*1*
Toluene-d8 (Surr)	*109*		*70 - 123*		*03/06/19 19:17*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 128*		*03/06/19 19:17*	*1*

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: ICV 240-367104/14 Calibration Date: 02/07/2019 15:22

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8027.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2965	0.2155		0.00727	0.0100	-27.3	50.0
Chloromethane	Ave	0.2437	0.1916	0.1000	0.00786	0.0100	-21.4	50.0
Butadiene	Ave	0.2273	0.1923		0.00846	0.0100	-15.4	50.0
Vinyl chloride	Ave	0.2648	0.2502		0.00945	0.0100	-5.5	20.0
Bromomethane	Ave	0.1749	0.1599		0.00914	0.0100	-8.6	50.0
Chloroethane	Ave	0.1395	0.1398		0.0100	0.0100	0.3	50.0
Dichlorofluoromethane	Ave	0.3514	0.3586		0.0102	0.0100	2.0	50.0
Trichlorofluoromethane	Ave	0.3720	0.3714		0.00998	0.0100	-0.2	50.0
Ethyl ether	Ave	0.1858	0.1927		0.0104	0.0100	3.7	50.0
Acrolein	Ave	0.0478	0.0476		0.0498	0.0500	-0.3	50.0
1,1-Dichloroethene	Ave	0.2297	0.2301		0.0100	0.0100	0.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1930	0.1932		0.0100	0.0100	0.1	50.0
Acetone	Ave	0.1072	0.1040		0.0194	0.0200	-3.0	50.0
Iodomethane	Ave	0.4080	0.4225		0.0104	0.0100	3.5	50.0
Carbon disulfide	Ave	0.7535	0.7034		0.00934	0.0100	-6.6	50.0
3-Chloro-1-propene	Ave	0.1694	0.1694		0.0100	0.0100	-0.0	50.0
Methyl acetate	Ave	0.2292	0.2239		0.0195	0.0200	-2.3	50.0
Methylene Chloride	Lin1		0.2589		0.00975	0.0100	-2.5	50.0
2-Methyl-2-propanol	Ave	0.0387	0.0366		0.0946	0.100	-5.4	50.0
Acrylonitrile	Ave	0.1197	0.1160		0.0969	0.100	-3.1	50.0
trans-1,2-Dichloroethene	Ave	0.2733	0.2926		0.0107	0.0100	7.1	50.0
Methyl tert-butyl ether	Ave	0.6104	0.6251		0.0102	0.0100	2.4	50.0
Hexane	Lin1		0.0663		0.0101	0.0100	0.8	20.0
1,1-Dichloroethane	Ave	0.4478	0.4612	0.1000	0.0103	0.0100	3.0	50.0
Vinyl acetate	Ave	0.4212	0.4555		0.0108	0.0100	8.1	50.0
2,2-Dichloropropane	Ave	0.0660	0.0608		0.00921	0.0100	-7.9	50.0
cis-1,2-Dichloroethene	Ave	0.2845	0.2960		0.0104	0.0100	4.0	50.0
2-Butanone (MEK)	Ave	0.1351	0.1368		0.0203	0.0200	1.3	50.0
Chlorobromomethane	Ave	0.1457	0.1446		0.00993	0.0100	-0.7	50.0
Tetrahydrofuran	Ave	0.0906	0.0830		0.0183	0.0200	-8.4	50.0
Chloroform	Ave	0.4338	0.4439		0.0102	0.0100	2.3	20.0
1,1,1-Trichloroethane	Ave	0.3774	0.3805		0.0101	0.0100	0.8	50.0
Cyclohexane	Ave	0.3509	0.3668		0.0105	0.0100	4.5	50.0
1,1-Dichloropropene	Ave	0.3456	0.3570		0.0103	0.0100	3.3	50.0
Carbon tetrachloride	Ave	0.3572	0.3548		0.00993	0.0100	-0.7	50.0
Isobutyl alcohol	Ave	0.0197	0.0199		0.254	0.250	1.4	50.0
Benzene	Ave	1.001	1.000		0.00998	0.0100	-0.2	50.0
1,2-Dichloroethane	Ave	0.3480	0.3422		0.00983	0.0100	-1.7	50.0
n-Heptane	Lin1		0.0515		0.00896	0.0100	-10.4	50.0
Trichloroethene	Ave	0.2978	0.2982		0.0100	0.0100	0.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: ICV 240-367104/14 Calibration Date: 02/07/2019 15:22

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8027.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.3885	0.3731		0.00960	0.0100	-4.0	50.0
1,2-Dichloropropane	Ave	0.2100	0.2111		0.0101	0.0100	0.5	20.0
Dibromomethane	Ave	0.1475	0.1557		0.0106	0.0100	5.6	50.0
1,4-Dioxane	Lin1		0.0027		0.163	0.200	-18.4	50.0
Dichlorobromomethane	Ave	0.3202	0.3096		0.00967	0.0100	-3.3	50.0
2-Chloroethyl vinyl ether	Ave	0.1287	0.1154		0.00896	0.0100	-10.4	50.0
cis-1,3-Dichloropropene	Ave	0.3323	0.3447		0.0104	0.0100	3.8	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2408	0.2395		0.0199	0.0200	-0.5	50.0
Toluene	Ave	1.444	1.486		0.0103	0.0100	2.9	20.0
trans-1,3-Dichloropropene	Ave	0.4702	0.4369		0.00929	0.0100	-7.1	50.0
Ethyl methacrylate	Ave	0.3915	0.3637		0.00929	0.0100	-7.1	50.0
1,1,2-Trichloroethane	Ave	0.3033	0.2899		0.00956	0.0100	-4.4	50.0
Tetrachloroethene	Ave	0.3229	0.3283		0.0102	0.0100	1.7	50.0
1,3-Dichloropropane	Ave	0.4858	0.4860		0.0100	0.0100	0.0	50.0
2-Hexanone	Ave	0.2590	0.2563		0.0198	0.0200	-1.0	50.0
Chlorodibromomethane	Ave	0.3521	0.3693		0.0105	0.0100	4.9	50.0
Ethylene Dibromide	Ave	0.3126	0.2892		0.00925	0.0100	-7.5	50.0
Chlorobenzene	Ave	0.9680	0.9501	0.3000	0.00982	0.0100	-1.8	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3713	0.3714		0.0100	0.0100	0.0	50.0
Ethylbenzene	Ave	0.4859	0.4717		0.00971	0.0100	-2.9	20.0
m-Xylene & p-Xylene	Ave	0.5666	0.5960		0.0105	0.0100	5.2	50.0
o-Xylene	Ave	0.5483	0.5526		0.0101	0.0100	0.8	50.0
Styrene	Ave	0.9241	0.9199		0.00995	0.0100	-0.5	50.0
Bromoform	Ave	0.2804	0.2771	0.1000	0.00988	0.0100	-1.2	50.0
Isopropylbenzene	Ave	1.410	1.425		0.0101	0.0100	1.0	50.0
1,1,2,2-Tetrachloroethane	Ave	0.8110	0.7825	0.3000	0.00965	0.0100	-3.5	50.0
Bromobenzene	Ave	0.7495	0.7090		0.00946	0.0100	-5.4	50.0
1,2,3-Trichloropropane	Ave	0.2816	0.2766		0.00982	0.0100	-1.8	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2588	0.2519		0.00973	0.0100	-2.7	50.0
N-Propylbenzene	Ave	0.7593	0.7548		0.00994	0.0100	-0.6	50.0
2-Chlorotoluene	Ave	0.6805	0.7074		0.0104	0.0100	4.0	50.0
1,3,5-Trimethylbenzene	Ave	2.068	2.065		0.00999	0.0100	-0.1	50.0
4-Chlorotoluene	Ave	0.6970	0.7266		0.0104	0.0100	4.2	50.0
tert-Butylbenzene	Ave	1.769	1.706		0.00965	0.0100	-3.5	50.0
1,2,4-Trimethylbenzene	Ave	2.086	2.075		0.00995	0.0100	-0.5	50.0
sec-Butylbenzene	Ave	2.519	2.561		0.0102	0.0100	1.7	50.0
1,3-Dichlorobenzene	Ave	1.363	1.309		0.00961	0.0100	-3.9	50.0
4-Isopropyltoluene	Ave	2.229	2.248		0.0101	0.0100	0.9	50.0
1,4-Dichlorobenzene	Ave	1.462	1.373		0.00939	0.0100	-6.1	50.0
1,2-Dichlorobenzene	Ave	1.275	1.209		0.00948	0.0100	-5.2	50.0
n-Butylbenzene	Ave	1.818	1.699		0.00935	0.0100	-6.5	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: ICV 240-367104/14 Calibration Date: 02/07/2019 15:22

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8027.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.2374		0.00979	0.0100	-2.1	50.0
1,2,4-Trichlorobenzene	Ave	0.8021	0.7506		0.00936	0.0100	-6.4	50.0
Hexachlorobutadiene	Ave	0.3705	0.2825		0.00762	0.0100	-23.8	50.0
Naphthalene	Ave	2.134	1.995		0.00935	0.0100	-6.5	50.0
1,2,3-Trichlorobenzene	Ave	0.7522	0.7514		0.00999	0.0100	-0.1	50.0
Dibromofluoromethane (Surr)	Ave	0.2333	0.2347		0.0201	0.0200	0.6	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2824	0.2726		0.0193	0.0200	-3.5	50.0
Toluene-d8 (Surr)	Ave	1.187	1.203		0.0203	0.0200	1.4	50.0
4-Bromofluorobenzene (Surr)	Ave	0.3796	0.3597		0.0190	0.0200	-5.2	50.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8027.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 07-Feb-2019 15:22:30 ALS Bottle#: 7 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-014
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist:

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:15:38 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:15:49

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	98	1136874	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	83	742699	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	94	406319	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	98	266836	20.0	20.1	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	97	309934	20.0	19.3	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	92	893512	20.0	20.3	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	86	267153	20.0	19.0	
9 Dichlorodifluoromethane	85	1.156	1.168	-0.012	99	122492	10.0	7.27	
10 Chloromethane	50	1.322	1.310	0.012	98	108930	10.0	7.86	
13 Butadiene	54	1.369	1.369	0.000	95	109324	10.0	8.46	
12 Vinyl chloride	62	1.393	1.393	0.000	98	142219	10.0	9.45	
15 Bromomethane	94	1.594	1.606	-0.012	92	90908	10.0	9.14	
16 Chloroethane	64	1.653	1.665	-0.012	98	79487	10.0	10.0	
17 Dichlorofluoromethane	67	1.807	1.807	0.000	98	203824	10.0	10.2	
18 Trichlorofluoromethane	101	1.854	1.831	0.023	95	211117	10.0	9.98	
19 Ethyl ether	59	2.055	2.067	-0.012	89	109517	10.0	10.4	
20 Acrolein	56	2.162	2.162	0.000	98	135366	50.0	49.8	
21 1,1-Dichloroethene	96	2.245	2.245	0.000	98	130822	10.0	10.0	
22 1,1,2-Trichloro-1,2,2-trif	151	2.280	2.280	0.000	91	109807	10.0	10.0	
23 Acetone	43	2.292	2.292	0.000	100	118234	20.0	19.4	
25 Iodomethane	142	2.363	2.363	0.000	95	240134	10.0	10.4	
26 Carbon disulfide	76	2.410	2.411	0.000	99	399812	10.0	9.34	
28 3-Chloro-1-propene	76	2.541	2.541	0.000	88	96291	10.0	10.0	
29 Methyl acetate	43	2.564	2.564	0.000	97	254495	20.0	19.5	
30 Methylene Chloride	84	2.635	2.647	-0.012	87	147143	10.0	9.75	
31 2-Methyl-2-propanol	59	2.754	2.754	0.000	96	208181	100.0	94.6	
32 Acrylonitrile	53	2.848	2.848	0.000	98	659215	100.0	96.9	
34 trans-1,2-Dichloroethene	96	2.872	2.872	0.000	98	166333	10.0	10.7	
33 Methyl tert-butyl ether	73	2.884	2.884	0.000	95	355339	10.0	10.2	
35 Hexane	86	3.097	3.109	-0.012	92	37666	10.0	10.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 1,1-Dichloroethane	63	3.215	3.215	0.000	97	262156	10.0	10.3	
37 Vinyl acetate	43	3.262	3.274	-0.012	97	258898	10.0	10.8	
41 cis-1,2-Dichloroethene	96	3.700	3.700	0.000	80	168258	10.0	10.4	
43 2,2-Dichloropropane	97	3.700	3.700	0.000	63	34552	10.0	9.21	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	99	155571	20.0	20.3	
47 Chlorobromomethane	128	3.890	3.890	0.000	88	82193	10.0	9.93	
48 Tetrahydrofuran	42	3.937	3.937	0.000	80	94338	20.0	18.3	
49 Chloroform	83	3.961	3.961	0.000	94	252351	10.0	10.2	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	98	216310	10.0	10.1	
51 Cyclohexane	56	4.162	4.162	0.000	87	208525	10.0	10.5	
53 Carbon tetrachloride	117	4.256	4.256	0.000	93	201657	10.0	9.93	
52 1,1-Dichloropropene	75	4.245	4.256	-0.011	95	202920	10.0	10.3	
54 Isobutyl alcohol	41	4.363	4.363	0.000	87	185080	250.0	253.6	
55 Benzene	78	4.422	4.422	0.000	95	568169	10.0	9.98	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	97	194510	10.0	9.83	
58 n-Heptane	100	4.659	4.659	0.000	44	29291	10.0	8.96	
60 Trichloroethene	130	4.966	4.966	0.000	93	169532	10.0	10.0	
62 Methylcyclohexane	83	5.132	5.132	0.000	89	212078	10.0	9.60	
63 1,2-Dichloropropane	63	5.156	5.156	0.000	95	119996	10.0	10.1	
65 Dibromomethane	93	5.250	5.250	0.000	90	88497	10.0	10.6	
66 1,4-Dioxane	88	5.274	5.274	0.000	94	31141	200.0	163.1	
67 Dichlorobromomethane	83	5.392	5.392	0.000	100	175974	10.0	9.67	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	91	65573	10.0	8.96	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	97	195960	10.0	10.4	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	95	272309	20.0	19.9	
72 Toluene	91	6.067	6.067	0.000	97	551967	10.0	10.3	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	92	162243	10.0	9.29	
74 Ethyl methacrylate	69	6.363	6.363	0.000	87	135071	10.0	9.29	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	90	107634	10.0	9.56	
76 Tetrachloroethene	164	6.552	6.552	0.000	97	121909	10.0	10.2	
77 1,3-Dichloropropane	76	6.576	6.576	0.000	89	180490	10.0	10.0	
78 2-Hexanone	43	6.658	6.659	-0.001	95	190355	20.0	19.8	
80 Chlorodibromomethane	129	6.777	6.777	0.000	88	137141	10.0	10.5	
82 Ethylene Dibromide	107	6.871	6.872	-0.001	99	107383	10.0	9.25	
84 Chlorobenzene	112	7.333	7.333	0.000	98	352832	10.0	9.82	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	93	137909	10.0	10.0	
86 Ethylbenzene	106	7.439	7.439	0.000	98	175181	10.0	9.71	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	98	221333	10.0	10.5	
88 o-Xylene	106	7.913	7.913	0.000	96	205210	10.0	10.1	
89 Styrene	104	7.925	7.925	0.000	92	341620	10.0	9.95	
90 Bromoform	173	8.090	8.090	0.000	98	102912	10.0	9.88	
91 Isopropylbenzene	105	8.268	8.268	0.000	95	529237	10.0	10.1	
95 Bromobenzene	156	8.552	8.540	0.012	88	144029	10.0	9.46	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	97	158969	10.0	9.65	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	85	56194	10.0	9.82	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	82	51170	10.0	9.73	
98 N-Propylbenzene	120	8.658	8.658	0.000	99	153347	10.0	9.94	
99 2-Chlorotoluene	126	8.741	8.741	0.000	98	143712	10.0	10.4	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	95	419613	10.0	9.99	
101 4-Chlorotoluene	126	8.836	8.848	-0.012	97	147608	10.0	10.4	
102 tert-Butylbenzene	119	9.143	9.155	-0.012	91	346660	10.0	9.65	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	97	421589	10.0	9.95	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 sec-Butylbenzene	105	9.356	9.356	0.000	93	520257	10.0	10.2	
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	99	266004	10.0	9.61	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	97	456786	10.0	10.1	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	97	279004	10.0	9.39	
111 n-Butylbenzene	91	9.901	9.901	0.000	97	345182	10.0	9.35	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	96	245592	10.0	9.48	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	93	48232	10.0	9.79	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	91	152496	10.0	9.36	
117 Hexachlorobutadiene	225	11.676	11.676	0.000	97	57388	10.0	7.62	
118 Naphthalene	128	11.723	11.723	0.000	96	405313	10.0	9.35	
119 1,2,3-Trichlorobenzene	180	11.971	11.960	0.011	97	152661	10.0	9.99	
S 133 Trihalomethanes, Total	1				0		40.0	40.3	
S 159 Total BTEX	1				0		50.0	50.6	
S 132 Xylenes, Total	106				0		20.0	20.6	

Reagents:

VMFASPW_00287	Amount Added:	8.00	Units: uL		
VMFASAW_00266	Amount Added:	8.00	Units: uL		
VMFASGW_00295	Amount Added:	8.00	Units: uL		
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL	Run Reagent	
vm50ss_stk_00079	Amount Added:	2.00	Units: uL	Run Reagent	
vmDist_H2o_00138	Amount Added:	0.00	Units:	Run Reagent	

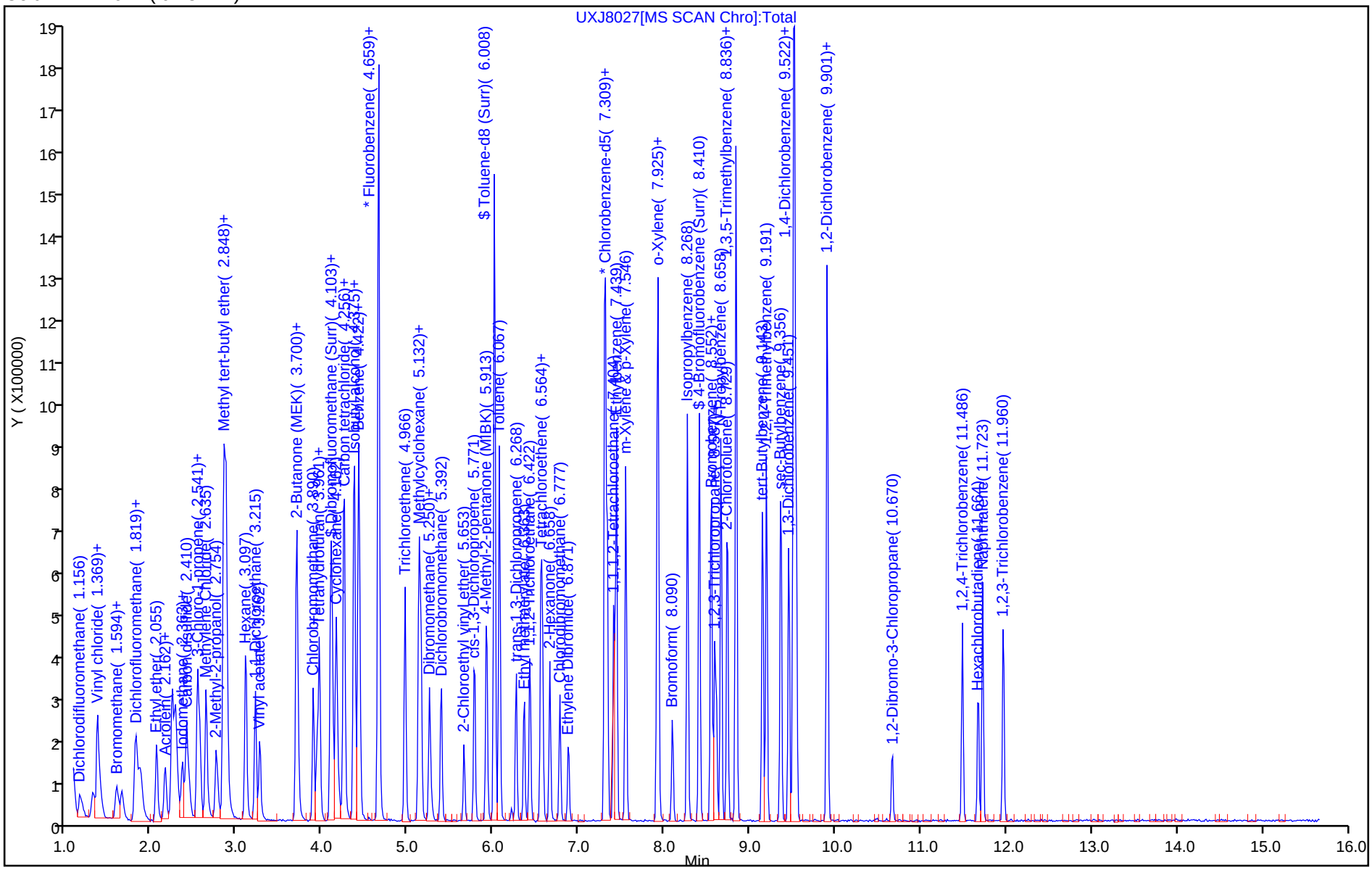
Report Date: 08-Feb-2019 09:15:45 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8027.D

Injection Date:	07-Feb-2019 15:22:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	ICV			Worklist Smp#:	14
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: ICV 240-367104/15 Calibration Date: 02/07/2019 17:58

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8034.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2333	0.2472		0.0212	0.0200	5.9	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2824	0.2744		0.0194	0.0200	-2.8	50.0
Toluene-d8 (Surr)	Ave	1.187	1.173		0.0198	0.0200	-1.2	50.0
4-Bromofluorobenzene (Surr)	Ave	0.3796	0.3662		0.0193	0.0200	-3.5	50.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8034.D
Lims ID: ICV A9
Client ID:
Sample Type: ICV
Inject. Date: 07-Feb-2019 17:58:30 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-015
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist:

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:15:38 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:53:04

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	100	1095747	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	77	685491	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	91	350426	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	95	270885	20.0	21.2	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	94	300650	20.0	19.4	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	92	803880	20.0	19.8	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	87	251011	20.0	19.3	
27 Acetonitrile	41	2.517	2.517	0.000	99	186717	100.0	105.4	
39 2-Chloro-1,3-butadiene	53	3.298	3.286	0.012	85	215755	10.0	10.4	
38 Isopropyl ether	87	3.286	3.286	0.000	90	108209	10.0	10.5	
40 Tert-butyl ethyl ether	59	3.594	3.582	0.012	94	315929	10.0	10.5	
44 Propionitrile	54	3.759	3.759	0.000	23	241667	100.0	101.0	
45 Ethyl acetate	43	3.771	3.771	0.000	96	247987	20.0	18.8	
46 Methacrylonitrile	41	3.889	3.890	-0.001	91	907357	100.0	99.8	
57 Tert-amyl methyl ether	73	4.528	4.529	-0.001	92	321983	10.0	10.6	
59 n-Butanol	56	4.919	4.919	0.000	88	130328	250.0	237.6	
61 Ethyl acrylate	55	5.061	5.061	0.000	97	135427	10.0	9.07	
64 Methyl methacrylate	41	5.262	5.262	0.000	85	188872	20.0	19.6	
68 2-Nitropropane	41	5.582	5.582	0.000	94	84065	20.0	18.9	
79 n-Butyl acetate	43	6.777	6.789	-0.012	97	141764	10.0	9.48	
83 1-Chlorohexane	91	7.321	7.321	0.000	94	150288	10.0	10.3	
92 Cyclohexanone	55	8.339	8.339	0.000	82	43960	100.0	91.9	
103 Pentachloroethane	167	9.155	9.155	0.000	92	126476	20.0	14.8	
109 1,2,3-Trimethylbenzene	105	9.605	9.605	0.000	94	388080	10.0	10.3	
110 Benzyl chloride	126	9.676	9.676	0.000	99	59598	10.0	9.03	
115 1,3,5-Trichlorobenzene	180	10.883	10.883	0.000	93	168026	10.0	10.1	
120 2-Methylnaphthalene	142	13.048	13.048	0.000	67	198099	20.0	12.0	

Reagents:

VMFASA9W_00218	Amount Added:	8.00	Units: uL	
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL	Run Reagent
vm50ss_stk_00079	Amount Added:	2.00	Units: uL	Run Reagent
vmDist_H2o_00138	Amount Added:	0.00	Units:	Run Reagent

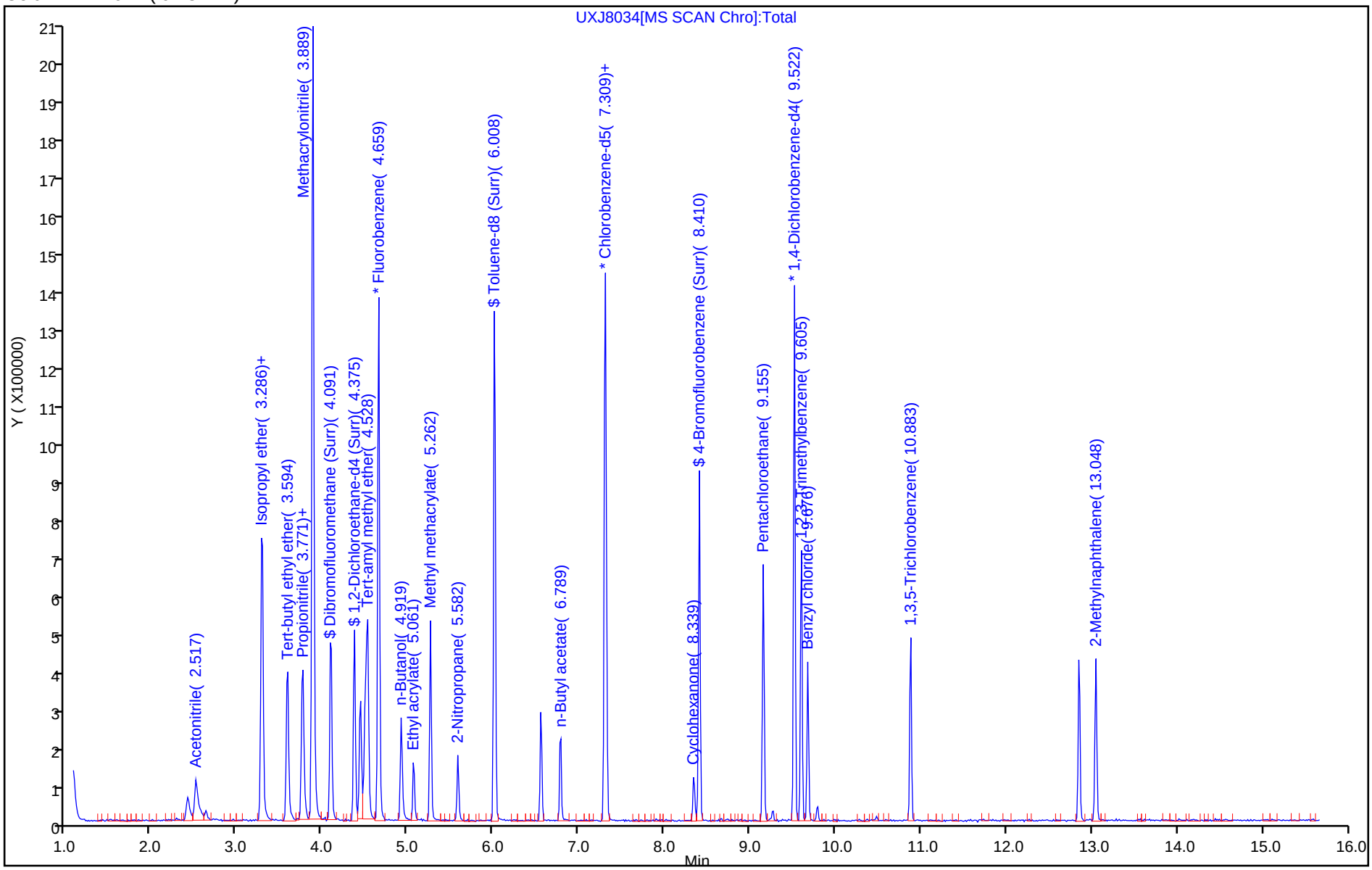
Report Date: 08-Feb-2019 09:15:50 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8034.D

Injection Date:	07-Feb-2019 17:58:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	ICV A9			Worklist Smp#:	15
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: ICV 240-367104/15 Calibration Date: 02/07/2019 17:58

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 15:44

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 17:35

Lab File ID: UXJ8034.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0323	0.0341		0.105	0.100	5.4	50.0
Isopropyl ether	Ave	0.1872	0.1975		0.0105	0.0100	5.5	50.0
2-Chloro-1,3-butadiene	Ave	0.3783	0.3938		0.0104	0.0100	4.1	50.0
Tert-butyl ethyl ether	Ave	0.5509	0.5767		0.0105	0.0100	4.7	50.0
Propionitrile	Ave	0.0437	0.0441		0.101	0.100	1.0	50.0
Ethyl acetate	Ave	0.2406	0.2263		0.0188	0.0200	-5.9	50.0
Methacrylonitrile	Ave	0.1660	0.1656		0.0998	0.100	-0.2	50.0
Tert-amyl methyl ether	Ave	0.5547	0.5877		0.0106	0.0100	5.9	50.0
n-Butanol	Ave	0.0160	0.0152		0.238	0.250	-5.0	50.0
Ethyl acrylate	Ave	0.2725	0.2472		0.00907	0.0100	-9.3	50.0
Methyl methacrylate	Ave	0.1760	0.1724		0.0196	0.0200	-2.1	50.0
2-Nitropropane	Ave	0.0812	0.0767		0.0189	0.0200	-5.6	50.0
n-Butyl acetate	Ave	0.2731	0.2588		0.00948	0.0100	-5.2	50.0
1-Chlorohexane	Ave	0.4268	0.4385		0.0103	0.0100	2.7	50.0
Cyclohexanone	Lin1		0.0251		0.0919	0.100	-8.1	50.0
Pentachloroethane	Ave	0.2485	0.1845		0.0148	0.0200	-25.8	50.0
1,2,3-Trimethylbenzene	Ave	2.159	2.215		0.0103	0.0100	2.6	50.0
Benzyl chloride	Ave	0.3768	0.3402		0.00903	0.0100	-9.7	50.0
1,3,5-Trichlorobenzene	Ave	0.9457	0.9590		0.0101	0.0100	1.4	50.0
2-Methylnaphthalene	Lin		0.5653		0.0120	0.0200	-40.0	50.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8034.D
Lims ID: ICV A9
Client ID:
Sample Type: ICV
Inject. Date: 07-Feb-2019 17:58:30 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-015
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist:

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:15:38 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:53:04

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	100	1095747	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	77	685491	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	91	350426	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	95	270885	20.0	21.2	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	94	300650	20.0	19.4	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	92	803880	20.0	19.8	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	87	251011	20.0	19.3	
27 Acetonitrile	41	2.517	2.517	0.000	99	186717	100.0	105.4	
39 2-Chloro-1,3-butadiene	53	3.298	3.286	0.012	85	215755	10.0	10.4	
38 Isopropyl ether	87	3.286	3.286	0.000	90	108209	10.0	10.5	
40 Tert-butyl ethyl ether	59	3.594	3.582	0.012	94	315929	10.0	10.5	
44 Propionitrile	54	3.759	3.759	0.000	23	241667	100.0	101.0	
45 Ethyl acetate	43	3.771	3.771	0.000	96	247987	20.0	18.8	
46 Methacrylonitrile	41	3.889	3.890	-0.001	91	907357	100.0	99.8	
57 Tert-amyl methyl ether	73	4.528	4.529	-0.001	92	321983	10.0	10.6	
59 n-Butanol	56	4.919	4.919	0.000	88	130328	250.0	237.6	
61 Ethyl acrylate	55	5.061	5.061	0.000	97	135427	10.0	9.07	
64 Methyl methacrylate	41	5.262	5.262	0.000	85	188872	20.0	19.6	
68 2-Nitropropane	41	5.582	5.582	0.000	94	84065	20.0	18.9	
79 n-Butyl acetate	43	6.777	6.789	-0.012	97	141764	10.0	9.48	
83 1-Chlorohexane	91	7.321	7.321	0.000	94	150288	10.0	10.3	
92 Cyclohexanone	55	8.339	8.339	0.000	82	43960	100.0	91.9	
103 Pentachloroethane	167	9.155	9.155	0.000	92	126476	20.0	14.8	
109 1,2,3-Trimethylbenzene	105	9.605	9.605	0.000	94	388080	10.0	10.3	
110 Benzyl chloride	126	9.676	9.676	0.000	99	59598	10.0	9.03	
115 1,3,5-Trichlorobenzene	180	10.883	10.883	0.000	93	168026	10.0	10.1	
120 2-Methylnaphthalene	142	13.048	13.048	0.000	67	198099	20.0	12.0	

Reagents:

VMFASA9W_00218	Amount Added:	8.00	Units: uL	
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL	Run Reagent
vm50ss_stk_00079	Amount Added:	2.00	Units: uL	Run Reagent
vmDist_H2o_00138	Amount Added:	0.00	Units:	Run Reagent

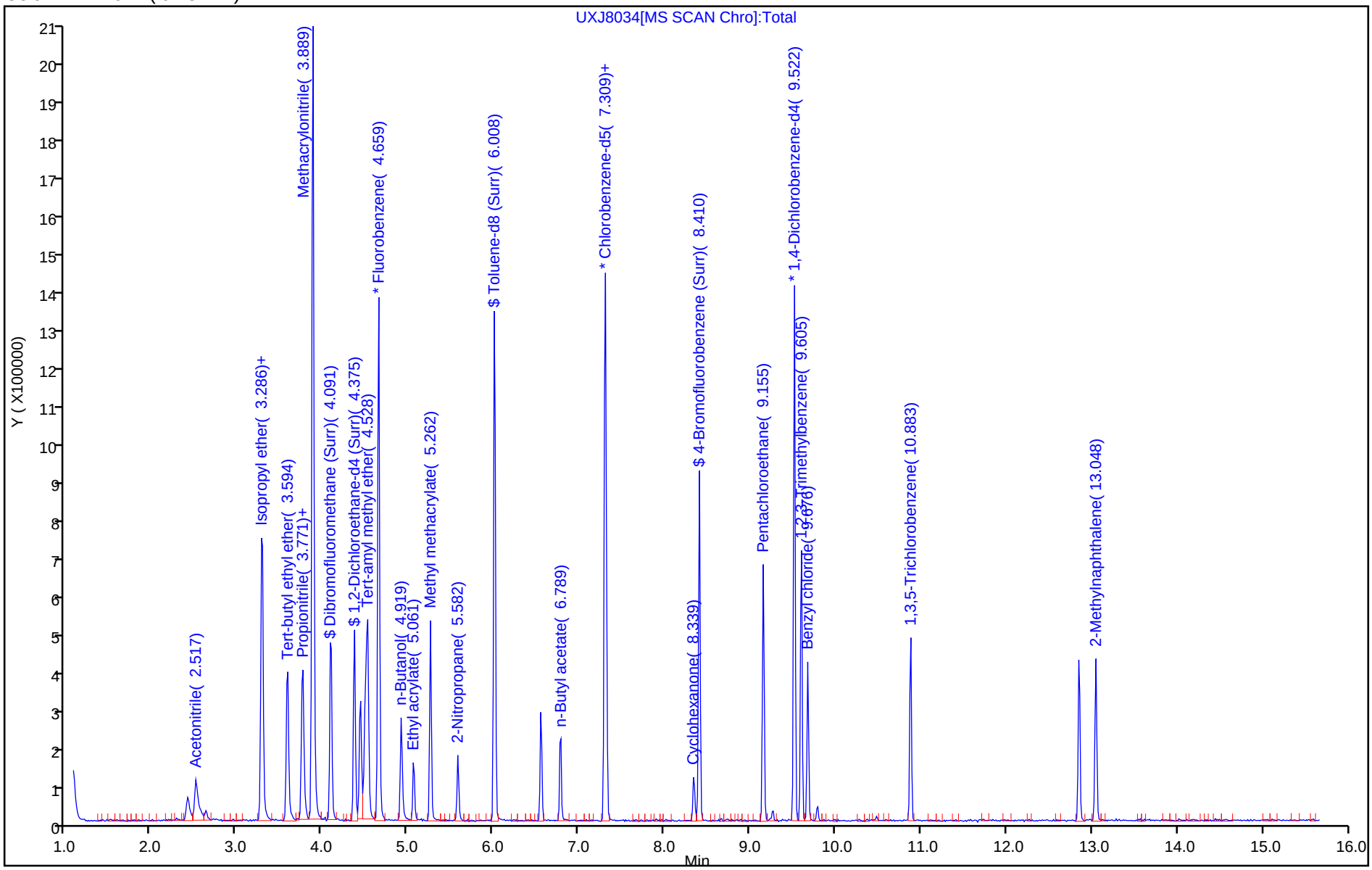
Report Date: 08-Feb-2019 09:15:50 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8034.D

Injection Date:	07-Feb-2019 17:58:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	ICV A9			Worklist Smp#:	15
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: CCVIS 240-370483/2 Calibration Date: 03/06/2019 10:11

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8591.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2965	0.2607		0.00879	0.0100	-12.1	50.0
Chloromethane	Ave	0.2437	0.3296	0.1000	0.0135	0.0100	35.3	50.0
Butadiene	Ave	0.2273	0.2691		0.0118	0.0100	18.4	50.0
Vinyl chloride	Ave	0.2648	0.3319		0.0125	0.0100	25.3*	20.0
Bromomethane	Ave	0.1749	0.1763		0.0101	0.0100	0.8	50.0
Chloroethane	Ave	0.1395	0.1765		0.0127	0.0100	26.5	50.0
Dichlorofluoromethane	Ave	0.3514	0.3779		0.0108	0.0100	7.5	50.0
Trichlorofluoromethane	Ave	0.3720	0.3044		0.00818	0.0100	-18.2	50.0
Ethyl ether	Ave	0.1858	0.2222		0.0120	0.0100	19.6	50.0
Acrolein	Ave	0.0478	0.0557		0.0582	0.0500	16.5	50.0
1,1-Dichloroethene	Ave	0.2297	0.2220		0.00966	0.0100	-3.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1930	0.1547		0.00802	0.0100	-19.8	50.0
Acetone	Ave	0.1072	0.1329		0.0248	0.0200	24.0	50.0
Iodomethane	Ave	0.4080	0.3371		0.00826	0.0100	-17.4	50.0
Carbon disulfide	Ave	0.7535	0.7978		0.0106	0.0100	5.9	50.0
3-Chloro-1-propene	Ave	0.1694	0.1754		0.0104	0.0100	3.6	50.0
Methyl acetate	Ave	0.2292	0.3329		0.0291	0.0200	45.3	50.0
Methylene Chloride	Lin1		0.2578		0.00970	0.0100	-3.0	50.0
2-Methyl-2-propanol	Ave	0.0387	0.0385		0.0994	0.100	-0.6	50.0
Acrylonitrile	Ave	0.1197	0.1614		0.135	0.100	34.8	50.0
trans-1,2-Dichloroethene	Ave	0.2733	0.2471		0.00904	0.0100	-9.6	50.0
Methyl tert-butyl ether	Ave	0.6104	0.5698		0.00934	0.0100	-6.6	50.0
Hexane	Lin1		0.0639		0.00974	0.0100	-2.6	20.0
1,1-Dichloroethane	Ave	0.4478	0.4938	0.1000	0.0110	0.0100	10.3	50.0
Vinyl acetate	Ave	0.4212	0.5579		0.0132	0.0100	32.4	50.0
2,2-Dichloropropane	Ave	0.0660	0.0533		0.00807	0.0100	-19.3	50.0
cis-1,2-Dichloroethene	Ave	0.2845	0.2563		0.00901	0.0100	-9.9	50.0
2-Butanone (MEK)	Ave	0.1351	0.2016		0.0299	0.0200	49.3	50.0
Chlorobromomethane	Ave	0.1457	0.1168		0.00802	0.0100	-19.8	50.0
Tetrahydrofuran	Ave	0.0906	0.1408		0.0311	0.0200	55.3*	50.0
Chloroform	Ave	0.4338	0.4102		0.00946	0.0100	-5.4	20.0
1,1,1-Trichloroethane	Ave	0.3774	0.3046		0.00807	0.0100	-19.3	50.0
Cyclohexane	Ave	0.3509	0.4518		0.0129	0.0100	28.8	50.0
1,1-Dichloropropene	Ave	0.3456	0.3786		0.0110	0.0100	9.5	50.0
Carbon tetrachloride	Ave	0.3572	0.2905		0.00813	0.0100	-18.7	50.0
Isobutyl alcohol	Ave	0.0197	0.0299		0.380	0.250	52.0*	50.0
Benzene	Ave	1.001	1.091		0.0109	0.0100	9.0	50.0
1,2-Dichloroethane	Ave	0.3480	0.3299		0.00948	0.0100	-5.2	50.0
n-Heptane	Lin1		0.0607		0.0105	0.0100	5.2	50.0
Trichloroethene	Ave	0.2978	0.2390		0.00803	0.0100	-19.7	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: CCVIS 240-370483/2 Calibration Date: 03/06/2019 10:11

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8591.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.3885	0.3832		0.00986	0.0100	-1.4	50.0
1,2-Dichloropropane	Ave	0.2100	0.2700		0.0129	0.0100	28.6*	20.0
Dibromomethane	Ave	0.1475	0.1428		0.00968	0.0100	-3.2	50.0
1,4-Dioxane	Lin1		0.0037		0.215	0.200	7.3	50.0
Dichlorobromomethane	Ave	0.3202	0.3130		0.00977	0.0100	-2.3	50.0
2-Chloroethyl vinyl ether	Ave	0.1287	0.1799		0.0279	0.0200	39.7	50.0
cis-1,3-Dichloropropene	Ave	0.3323	0.3833		0.0115	0.0100	15.4	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2408	0.3453		0.0287	0.0200	43.4	50.0
Toluene	Ave	1.444	1.637		0.0113	0.0100	13.3	20.0
trans-1,3-Dichloropropene	Ave	0.4702	0.5401		0.0115	0.0100	14.9	50.0
Ethyl methacrylate	Ave	0.3915	0.4750		0.0121	0.0100	21.3	50.0
1,1,2-Trichloroethane	Ave	0.3033	0.3076		0.0101	0.0100	1.4	50.0
Tetrachloroethene	Ave	0.3229	0.2604		0.00806	0.0100	-19.4	50.0
1,3-Dichloropropane	Ave	0.4858	0.6015		0.0124	0.0100	23.8	50.0
2-Hexanone	Ave	0.2590	0.3871		0.0299	0.0200	49.5	50.0
Chlorodibromomethane	Ave	0.3521	0.3210		0.00912	0.0100	-8.8	50.0
Ethylene Dibromide	Ave	0.3126	0.3054		0.00977	0.0100	-2.3	50.0
Chlorobenzene	Ave	0.9680	0.9237	0.3000	0.00954	0.0100	-4.6	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3713	0.2984		0.00804	0.0100	-19.6	50.0
Ethylbenzene	Ave	0.4859	0.4731		0.00974	0.0100	-2.6	20.0
m-Xylene & p-Xylene	Ave	0.5666	0.5807		0.0102	0.0100	2.5	50.0
o-Xylene	Ave	0.5483	0.5148		0.00939	0.0100	-6.1	50.0
Styrene	Ave	0.9241	0.9125		0.00987	0.0100	-1.3	50.0
Bromoform	Ave	0.2804	0.2144	0.1000	0.00765	0.0100	-23.5	50.0
Isopropylbenzene	Ave	1.410	1.324		0.00939	0.0100	-6.1	50.0
Bromobenzene	Ave	0.7495	0.6806		0.00908	0.0100	-9.2	50.0
1,1,2,2-Tetrachloroethane	Ave	0.8110	1.082	0.3000	0.0133	0.0100	33.4	50.0
1,2,3-Trichloropropane	Ave	0.2816	0.3308		0.0117	0.0100	17.5	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2588	0.3551		0.0137	0.0100	37.2	50.0
N-Propylbenzene	Ave	0.7593	0.8515		0.0112	0.0100	12.1	50.0
2-Chlorotoluene	Ave	0.6805	0.7079		0.0104	0.0100	4.0	50.0
1,3,5-Trimethylbenzene	Ave	2.068	2.315		0.0112	0.0100	12.0	50.0
4-Chlorotoluene	Ave	0.6970	0.7533		0.0108	0.0100	8.1	50.0
tert-Butylbenzene	Ave	1.769	1.898		0.0107	0.0100	7.3	50.0
1,2,4-Trimethylbenzene	Ave	2.086	2.382		0.0114	0.0100	14.2	50.0
sec-Butylbenzene	Ave	2.519	2.812		0.0112	0.0100	11.6	50.0
1,3-Dichlorobenzene	Ave	1.363	1.252		0.00919	0.0100	-8.1	50.0
4-Isopropyltoluene	Ave	2.229	2.333		0.0105	0.0100	4.7	50.0
1,4-Dichlorobenzene	Ave	1.462	1.329		0.00909	0.0100	-9.1	50.0
1,2-Dichlorobenzene	Ave	1.275	1.152		0.00904	0.0100	-9.6	50.0
n-Butylbenzene	Ave	1.818	1.996		0.0110	0.0100	9.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Lab Sample ID: CCVIS 240-370483/2 Calibration Date: 03/06/2019 10:11

Instrument ID: A3UX11 Calib Start Date: 02/07/2019 13:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/07/2019 15:00

Lab File ID: UXJ8591.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.2229		0.00918	0.0100	-8.2	50.0
1,2,4-Trichlorobenzene	Ave	0.8021	0.5386		0.00671	0.0100	-32.9	50.0
Hexachlorobutadiene	Ave	0.3705	0.2174		0.00587	0.0100	-41.3	50.0
Naphthalene	Ave	2.134	1.773		0.00831	0.0100	-16.9	50.0
1,2,3-Trichlorobenzene	Ave	0.7522	0.5593		0.00744	0.0100	-25.6	50.0
Dibromofluoromethane (Surr)	Ave	0.2333	0.2063		0.0177	0.0200	-11.6	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2824	0.2791		0.0198	0.0200	-1.2	50.0
Toluene-d8 (Surr)	Ave	1.187	1.388		0.0234	0.0200	16.9	50.0
4-Bromofluorobenzene (Surr)	Ave	0.3796	0.4074		0.0215	0.0200	7.3	50.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\UXJ8591.D
Lims ID: CCVIS L4 8260
Client ID:
Sample Type: CCVIS
Inject. Date: 06-Mar-2019 10:11:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084948-002
Misc. Info.: J90306A,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub86

Method: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 07-Mar-2019 08:39:30 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.647	4.647	0.000	97	1954046	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.297	7.297	0.000	88	1220550	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	97	543881	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.091	0.000	99	403134	20.0	17.7	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.363	4.363	0.000	97	545404	20.0	19.8	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	93	1693863	20.0	23.4	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	98	497302	20.0	21.5	
9 Dichlorodifluoromethane	85	1.156	1.156	0.000	99	254740	10.0	8.79	
10 Chloromethane	50	1.298	1.298	0.000	99	322055	10.0	13.5	
13 Butadiene	54	1.357	1.357	0.000	97	262879	10.0	11.8	
12 Vinyl chloride	62	1.369	1.369	0.000	98	324234	10.0	12.5	
15 Bromomethane	94	1.582	1.582	0.000	89	172293	10.0	10.1	
16 Chloroethane	64	1.641	1.641	0.000	100	172444	10.0	12.7	
17 Dichlorofluoromethane	67	1.795	1.795	0.000	97	369210	10.0	10.8	
18 Trichlorofluoromethane	101	1.854	1.854	0.000	97	297394	10.0	8.18	
19 Ethyl ether	59	2.055	2.055	0.000	94	217119	10.0	12.0	
20 Acrolein	56	2.150	2.150	0.000	99	271878	50.0	58.2	
21 1,1-Dichloroethene	96	2.233	2.233	0.000	97	216863	10.0	9.66	
22 1,1,2-Trichloro-1,2,2-trif	151	2.257	2.257	0.000	96	151176	10.0	8.02	
23 Acetone	43	2.280	2.280	0.000	100	259745	20.0	24.8	
25 Iodomethane	142	2.351	2.351	0.000	97	329395	10.0	8.26	
26 Carbon disulfide	76	2.399	2.399	0.000	99	779472	10.0	10.6	
28 3-Chloro-1-propene	76	2.529	2.529	0.000	94	171407	10.0	10.4	
29 Methyl acetate	43	2.552	2.552	0.000	98	650550	20.0	29.1	
30 Methylene Chloride	84	2.635	2.635	0.000	99	251880	10.0	9.70	
31 2-Methyl-2-propanol	59	2.754	2.754	0.000	92	375976	100.0	99.4	
32 Acrylonitrile	53	2.836	2.836	0.000	99	1576387	100.0	134.8	
34 trans-1,2-Dichloroethene	96	2.860	2.860	0.000	97	241383	10.0	9.04	
33 Methyl tert-butyl ether	73	2.872	2.872	0.000	96	556697	10.0	9.34	
35 Hexane	86	3.097	3.097	0.000	94	62454	10.0	9.74	
36 1,1-Dichloroethane	63	3.203	3.203	0.000	97	482452	10.0	11.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Vinyl acetate	43	3.262	3.262	0.000	97	545093	10.0	13.2	
41 cis-1,2-Dichloroethene	96	3.688	3.688	0.000	87	250438	10.0	9.01	
43 2,2-Dichloropropane	97	3.688	3.688	0.000	54	52079	10.0	8.07	
42 2-Butanone (MEK)	43	3.700	3.700	0.000	99	394019	20.0	29.9	
47 Chlorobromomethane	128	3.889	3.889	0.000	96	114142	10.0	8.02	
48 Tetrahydrofuran	42	3.925	3.925	0.000	91	275132	20.0	31.1	
49 Chloroform	83	3.960	3.960	0.000	95	400784	10.0	9.46	
50 1,1,1-Trichloroethane	97	4.102	4.102	0.000	97	297644	10.0	8.07	
51 Cyclohexane	56	4.150	4.150	0.000	93	441454	10.0	12.9	
52 1,1-Dichloropropene	75	4.244	4.244	0.000	95	369860	10.0	11.0	
53 Carbon tetrachloride	117	4.244	4.244	0.000	78	283825	10.0	8.13	
54 Isobutyl alcohol	41	4.363	4.363	0.000	92	455896	250.0	380.1	
55 Benzene	78	4.410	4.410	0.000	96	1065853	10.0	10.9	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	96	322292	10.0	9.48	
58 n-Heptane	100	4.659	4.659	0.000	49	59255	10.0	10.5	
60 Trichloroethene	130	4.954	4.954	0.000	98	233513	10.0	8.03	
62 Methylcyclohexane	83	5.120	5.120	0.000	93	374412	10.0	9.86	
63 1,2-Dichloropropane	63	5.144	5.144	0.000	97	263808	10.0	12.9	
65 Dibromomethane	93	5.238	5.238	0.000	97	139487	10.0	9.68	
66 1,4-Dioxane	88	5.274	5.274	0.000	98	71609	200.0	214.5	
67 Dichlorobromomethane	83	5.380	5.380	0.000	98	305794	10.0	9.77	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	91	351495	20.0	27.9	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	95	374507	10.0	11.5	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	98	674642	20.0	28.7	
72 Toluene	91	6.067	6.067	0.000	98	998800	10.0	11.3	
73 trans-1,3-Dichloropropene	75	6.256	6.256	0.000	95	329613	10.0	11.5	
74 Ethyl methacrylate	69	6.351	6.351	0.000	91	289854	10.0	12.1	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	92	187695	10.0	10.1	
76 Tetrachloroethene	164	6.552	6.552	0.000	95	158918	10.0	8.06	
77 1,3-Dichloropropane	76	6.576	6.576	0.000	91	367062	10.0	12.4	
78 2-Hexanone	43	6.658	6.658	0.000	97	472434	20.0	29.9	
80 Chlorodibromomethane	129	6.777	6.777	0.000	91	195915	10.0	9.12	
82 Ethylene Dibromide	107	6.871	6.871	0.000	99	186376	10.0	9.77	
84 Chlorobenzene	112	7.333	7.333	0.000	95	563681	10.0	9.54	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	97	182107	10.0	8.04	
86 Ethylbenzene	106	7.439	7.439	0.000	98	288707	10.0	9.74	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	97	354374	10.0	10.2	
88 o-Xylene	106	7.913	7.913	0.000	95	314170	10.0	9.39	
89 Styrene	104	7.925	7.925	0.000	93	556874	10.0	9.87	
90 Bromoform	173	8.090	8.090	0.000	95	130862	10.0	7.65	
91 Isopropylbenzene	105	8.268	8.268	0.000	96	808086	10.0	9.39	
95 Bromobenzene	156	8.540	8.540	0.000	97	185081	10.0	9.08	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	92	294265	10.0	13.3	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	87	89944	10.0	11.7	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	83	96563	10.0	13.7	
98 N-Propylbenzene	120	8.658	8.658	0.000	99	231543	10.0	11.2	
99 2-Chlorotoluene	126	8.729	8.729	0.000	96	192509	10.0	10.4	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	86	629633	10.0	11.2	
101 4-Chlorotoluene	126	8.836	8.836	0.000	98	204863	10.0	10.8	
102 tert-Butylbenzene	119	9.143	9.143	0.000	95	516067	10.0	10.7	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	97	647836	10.0	11.4	
105 sec-Butylbenzene	105	9.356	9.356	0.000	95	764671	10.0	11.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	97	340510	10.0	9.19	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	97	634477	10.0	10.5	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	95	361507	10.0	9.09	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	95	313294	10.0	9.04	
111 n-Butylbenzene	91	9.901	9.901	0.000	98	542762	10.0	11.0	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	87	60614	10.0	9.18	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	93	146455	10.0	6.71	
117 Hexachlorobutadiene	225	11.676	11.676	0.000	96	59125	10.0	5.87	
118 Naphthalene	128	11.723	11.723	0.000	97	482067	10.0	8.31	
119 1,2,3-Trichlorobenzene	180	11.960	11.960	0.000	93	152099	10.0	7.44	
S 133 Trihalomethanes, Total	1				0		40.0	36.0	
S 159 Total BTEX	1				0		50.0	51.6	
S 132 Xylenes, Total	106				0		20.0	19.6	

Reagents:

VMRGAS_00284	Amount Added:	8.00	Units: uL	
VMAROLISTDW_00287	Amount Added:	8.00	Units: uL	
VMRPRIMW_00324	Amount Added:	8.00	Units: uL	
vm40ml_vials_00009	Amount Added:	0.00	Units:	Run Reagent
vm50ss_stk_00079	Amount Added:	2.00	Units: uL	Run Reagent
VM50IS_00073	Amount Added:	2.00	Units: uL	Run Reagent
vmDist_H2o_00139	Amount Added:	0.00	Units:	Run Reagent

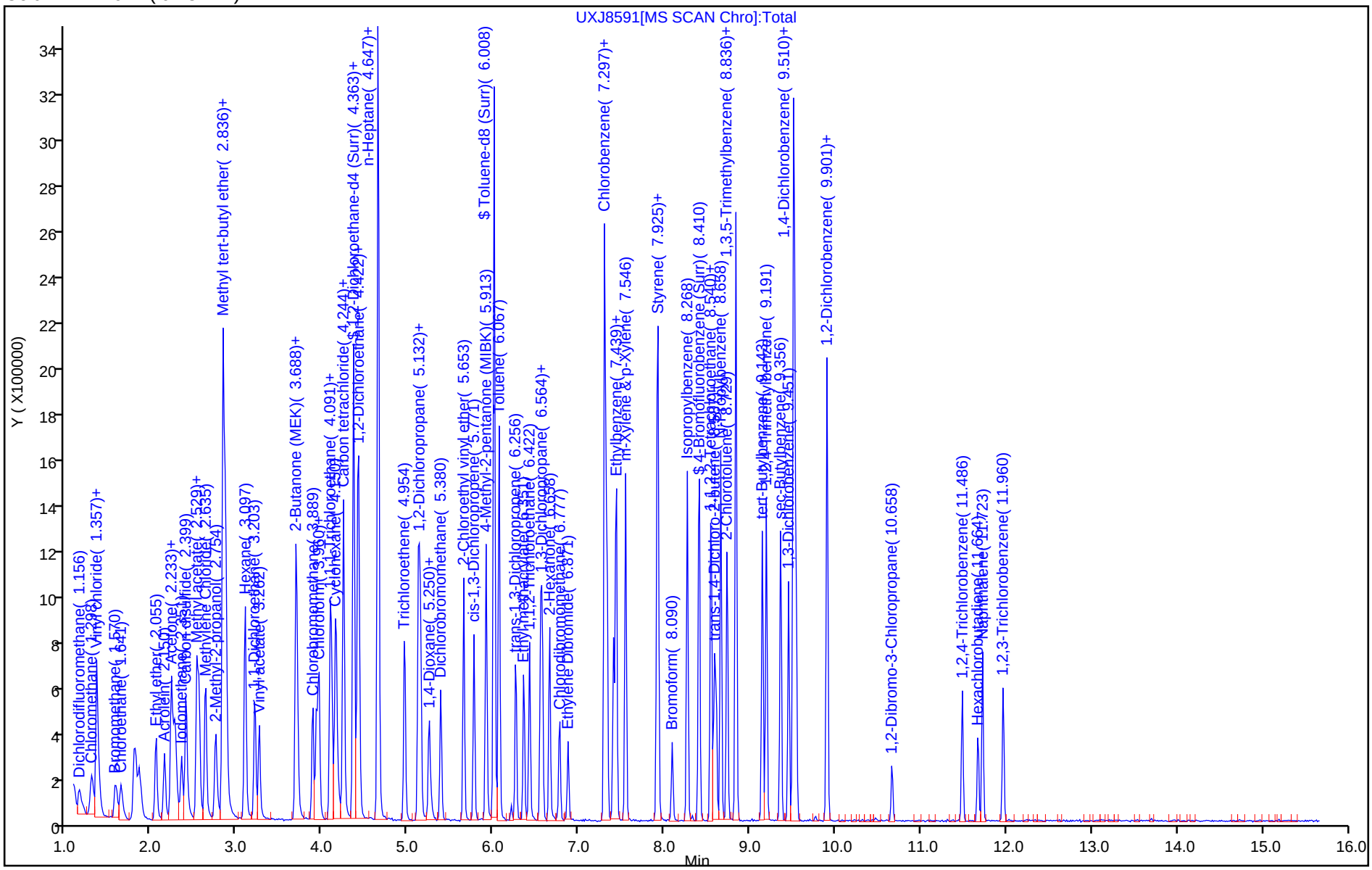
Report Date: 07-Mar-2019 08:39:32 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\UXJ8591.D

Injection Date:	06-Mar-2019 10:11:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	CCVIS L4 8260			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-367104/7	UXJ8026.D
Level 2	STD8260 240-367104/6	UXJ8025.D
Level 3	STD8260 240-367104/5	UXJ8024.D
Level 4	STD8260 240-367104/4	UXJ8023.D
Level 5	STD8260 240-367104/3	UXJ8022.D
Level 6	STD8260 240-367104/2	UXJ8021.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.2561 0.2965	0.3087	0.3159	0.2838	0.3181	Ave		0.2965				8.0		15.0			
Chloromethane	0.2639 0.2275	0.2688	0.2571	0.2172	0.2275	Ave		0.2437			0.1000	9.1		15.0			
Butadiene	0.2231 0.2211	0.2477	0.2327	0.1982	0.2411	Ave		0.2273				7.7		15.0			
Vinyl chloride	0.2701 0.2501	0.2708	0.2767	0.2462	0.2748	Ave		0.2648				5.0		15.0			
Bromomethane	0.1632 0.1581	0.1890	0.1875	0.1730	0.1786	Ave		0.1749				7.2		15.0			
Chloroethane	0.1115 0.1343	0.1496	0.1465	0.1424	0.1526	Ave		0.1395				10.8		15.0			
Dichlorofluoromethane	0.3612 0.3117	0.3753	0.3677	0.3417	0.3508	Ave		0.3514				6.5		15.0			
Trichlorofluoromethane	0.3705 0.3531	0.3652	0.4043	0.3445	0.3945	Ave		0.3720				6.3		15.0			
Ethyl ether	0.1930 0.1700	0.1835	0.1844	0.1896	0.1946	Ave		0.1858				4.8		15.0			
Acrolein	0.0439 0.0444	0.0477	0.0528	0.0475	0.0503	Ave		0.0478				7.1		15.0			
1,1-Dichloroethene	0.2250 0.2095	0.2341	0.2377	0.2326	0.2395	Ave		0.2297				4.8		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1811 0.1739	0.1966	0.2010	0.2060	0.1992	Ave		0.1930				6.5		15.0			
Acetone	0.1243 0.0933	0.1241	0.1066	0.0942	0.1010	Ave		0.1072				13.1		15.0			
Iodomethane	0.4087 0.3847	0.4067	0.4107	0.4206	0.4165	Ave		0.4080				3.1		15.0			
Carbon disulfide	0.8291 0.6716	0.8391	0.7182	0.7240	0.7387	Ave		0.7535				8.8		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.1813 0.1508	0.1680	0.1668	0.1680	0.1816	Ave		0.1694				6.7		15.0			
Methyl acetate	0.2287 0.2144	0.2201	0.2459	0.2275	0.2383	Ave		0.2292				5.0		15.0			
Methylene Chloride	0.5096 0.2300	0.3875	0.2958	0.2714	0.2723	Lin1	0.2961	0.2352							0.9950		0.9900
2-Methyl-2-propanol	0.0441 0.0356	0.0392	0.0377	0.0362	0.0395	Ave		0.0387				7.9		15.0			
Acrylonitrile	0.1160 0.1145	0.1217	0.1246	0.1171	0.1243	Ave		0.1197				3.7		15.0			
trans-1,2-Dichloroethene	0.2863 0.2479	0.2811	0.2728	0.2682	0.2837	Ave		0.2733				5.2		15.0			
Methyl tert-butyl ether	0.6061 0.5504	0.6345	0.6206	0.6201	0.6306	Ave		0.6104				5.1		15.0			
Hexane	0.0273 0.0675	0.0359	0.0643	0.0670	0.0711	Lin1	-0.048	0.0705							0.9980		0.9900
1,1-Dichloroethane	0.4752 0.3990	0.4658	0.4289	0.4510	0.4670	Ave		0.4478			0.1000	6.5		15.0			
Vinyl acetate	0.3823 0.4460	0.4155	0.4245	0.4177	0.4413	Ave		0.4212				5.4		15.0			
2,2-Dichloropropane	0.0742 0.0561	0.0707	0.0639	0.0641	0.0671	Ave		0.0660				9.5		15.0			
cis-1,2-Dichloroethene	0.2779 0.2586	0.3025	0.2735	0.2928	0.3019	Ave		0.2845				6.2		15.0			
2-Butanone (MEK)	0.1145 0.1384	0.1443	0.1550	0.1256	0.1327	Ave		0.1351				10.5		15.0			
Chlorobromomethane	0.1533 0.1283	0.1594	0.1443	0.1431	0.1455	Ave		0.1457				7.2		15.0			
Tetrahydrofuran	0.0937 0.0892	0.0870	0.0940	0.0860	0.0939	Ave		0.0906				4.1		15.0			
Chloroform	0.4187 0.3891	0.4465	0.4523	0.4492	0.4466	Ave		0.4338				5.8		15.0			
1,1,1-Trichloroethane	0.4191 0.3332	0.3915	0.3584	0.3779	0.3844	Ave		0.3774				7.8		15.0			
Cyclohexane	0.2959 0.3516	0.3335	0.3536	0.3776	0.3932	Ave		0.3509				9.7		15.0			
1,1-Dichloropropene	0.3410 0.3388	0.3355	0.3288	0.3648	0.3649	Ave		0.3456				4.5		15.0			
Carbon tetrachloride	0.3771 0.3264	0.3538	0.3631	0.3545	0.3679	Ave		0.3572				4.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0201 0.0189	0.0188	0.0203	0.0190	0.0209	Ave		0.0197				4.5		15.0			
Benzene	1.0033 0.9512	1.0488	0.9813	1.0084	1.0137	Ave		1.0011				3.3		15.0			
1,2-Dichloroethane	0.3636 0.3225	0.3571	0.3445	0.3564	0.3440	Ave		0.3480				4.2		15.0			
n-Heptane	0.0532 0.0561	0.0394	0.0663	0.0573	0.0616	Lin1	-0.009	0.0586							0.9930		0.9900
Trichloroethene	0.3229 0.2740	0.3112	0.2971	0.2881	0.2932	Ave		0.2978				5.8		15.0			
Methylcyclohexane	0.3518 0.3869	0.3966	0.3694	0.3965	0.4296	Ave		0.3885				6.8		15.0			
1,2-Dichloropropane	0.1979 0.2052	0.2205	0.2101	0.2180	0.2083	Ave		0.2100				4.0		15.0			
Dibromomethane	0.1479 0.1403	0.1518	0.1482	0.1474	0.1493	Ave		0.1475				2.6		15.0			
1,4-Dioxane	0.0021 0.0037	0.0023	0.0036	0.0028	0.0033	Lin1	-0.039	0.0036							0.9910		0.9900
Dichlorobromomethane	0.3397 0.3033	0.3234	0.3316	0.3140	0.3093	Ave		0.3202				4.3		15.0			
2-Chloroethyl vinyl ether	0.1068 0.1514	0.1286	0.1429	0.1184	0.1244	Ave		0.1287				12.6		15.0			
cis-1,3-Dichloropropene	0.3057 0.3545	0.3267	0.3461	0.3301	0.3306	Ave		0.3323				5.1		15.0			
4-Methyl-2-pentanone (MIBK)	0.2124 0.2572	0.2218	0.2653	0.2400	0.2479	Ave		0.2408				8.5		15.0			
Toluene	1.4332 1.4707	1.3622	1.4674	1.4473	1.4836	Ave		1.4441				3.0		15.0			
trans-1,3-Dichloropropene	0.4847 0.4784	0.4842	0.4783	0.4458	0.4500	Ave		0.4702				3.7		15.0			
Ethyl methacrylate	0.3475 0.4188	0.3758	0.3944	0.3988	0.4135	Ave		0.3915				6.7		15.0			
1,1,2-Trichloroethane	0.3624 0.2742	0.3027	0.3051	0.2949	0.2806	Ave		0.3033				10.3		15.0			
Tetrachloroethene	0.3266 0.3072	0.3132	0.3417	0.3262	0.3224	Ave		0.3229				3.7		15.0			
1,3-Dichloropropane	0.5058 0.4783	0.4774	0.4948	0.4817	0.4770	Ave		0.4858				2.4		15.0			
2-Hexanone	0.2241 0.2630	0.2662	0.2752	0.2548	0.2705	Ave		0.2590				7.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.3113 0.3375	0.3763	0.3706	0.3601	0.3570	Ave		0.3521				6.8		15.0			
Ethylene Dibromide	0.3621 0.3033	0.2878	0.3056	0.3062	0.3105	Ave		0.3126				8.2		15.0			
Chlorobenzene	1.0968 0.9164	0.9427	0.9575	0.9435	0.9510	Ave		0.9680			0.3000	6.7		15.0			
1,1,1,2-Tetrachloroethane	0.4421 0.3288	0.3620	0.3454	0.3664	0.3830	Ave		0.3713				10.6		15.0			
Ethylbenzene	0.5029 0.4881	0.4436	0.5010	0.4714	0.5084	Ave		0.4859				5.1		15.0			
m-Xylene & p-Xylene	0.5018 0.6004	0.4989	0.5786	0.5987	0.6211	Ave		0.5666				9.4		15.0			
o-Xylene	0.4845 0.5684	0.5086	0.5333	0.5884	0.6066	Ave		0.5483				8.7		15.0			
Styrene	0.7740 1.0043	0.8247	0.9335	0.9760	1.0322	Ave		0.9241				11.2		15.0			
Bromoform	0.2683 0.2637	0.2827	0.2965	0.2859	0.2852	Ave		0.2804			0.1000	4.3		15.0			
Isopropylbenzene	1.3016 1.4809	1.2282	1.3930	1.4757	1.5831	Ave		1.4104				9.2		15.0			
Bromobenzene	0.7752 0.7796	0.7507	0.7234	0.7177	0.7506	Ave		0.7495				3.4		15.0			
1,1,2,2-Tetrachloroethane	0.8549 0.8003	0.7913	0.8163	0.7838	0.8193	Ave		0.8110			0.3000	3.2		15.0			
1,2,3-Trichloropropane	0.2749 0.2776	0.3041	0.2874	0.2705	0.2749	Ave		0.2816				4.4		15.0			
trans-1,4-Dichloro-2-butene	0.2483 0.2604	0.2632	0.2915	0.2366	0.2526	Ave		0.2588				7.2		15.0			
N-Propylbenzene	0.6807 0.8566	0.6482	0.7462	0.7870	0.8370	Ave		0.7593				11.0		15.0			
2-Chlorotoluene	0.6217 0.7300	0.6045	0.6908	0.7052	0.7308	Ave		0.6805				8.0		15.0			
1,3,5-Trimethylbenzene	1.8263 2.3213	1.7650	2.0474	2.1790	2.2664	Ave		2.0676				11.2		15.0			
4-Chlorotoluene	0.6198 0.7574	0.6373	0.7346	0.7031	0.7299	Ave		0.6970				8.0		15.0			
tert-Butylbenzene	1.5194 2.0713	1.4757	1.8069	1.7744	1.9643	Ave		1.7687				13.4		15.0			
1,2,4-Trimethylbenzene	1.8163 2.3412	1.7839	2.0647	2.1935	2.3174	Ave		2.0862				11.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	2.2345 2.8648	2.2736	2.4455	2.4879	2.8048	Ave		2.5185				10.5		15.0			
1,3-Dichlorobenzene	1.3721 1.3792	1.3531	1.3430	1.3524	1.3792	Ave		1.3632				1.1		15.0			
4-Isopropyltoluene	1.8926 2.5053	1.9908	2.1641	2.3164	2.5054	Ave		2.2291				11.6		15.0			
1,4-Dichlorobenzene	1.7104 1.3790	1.5194	1.3950	1.3809	1.3892	Ave		1.4623				9.1		15.0			
1,2-Dichlorobenzene	1.2698 1.2958	1.2989	1.2234	1.2284	1.3312	Ave		1.2746				3.3		15.0			
n-Butylbenzene	1.7842 2.0152	1.5898	1.7143	1.8014	2.0030	Ave		1.8180				9.1		15.0			
1,2-Dibromo-3-Chloropropane	0.3467 0.2339	0.2240	0.2456	0.2445	0.2477	Lin1	0.0693	0.2354							0.9980		0.9900
1,2,4-Trichlorobenzene	0.8504 0.8238	0.7825	0.7622	0.7359	0.8577	Ave		0.8021				6.2		15.0			
Hexachlorobutadiene	0.4299 0.3238	0.4004	0.3479	0.3514	0.3693	Ave		0.3705				10.4		15.0			
Naphthalene	2.0320 2.5297	1.9621	1.8141	1.9407	2.5249	Ave		2.1339				14.7		15.0			
1,2,3-Trichlorobenzene	0.7838 0.7673	0.7031	0.7101	0.7051	0.8441	Ave		0.7522				7.5		15.0			
Dibromofluoromethane (Surr)	0.2467 0.2099	0.2246	0.2361	0.2411	0.2415	Ave		0.2333				5.9		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2992 0.2455	0.3054	0.2970	0.2790	0.2681	Ave		0.2824				8.1		15.0			
Toluene-d8 (Surr)	1.1868 1.1915	1.0838	1.1660	1.2217	1.2705	Ave		1.1867				5.2		15.0			
4-Bromofluorobenzene (Surr)	0.3769 0.3566	0.3761	0.4007	0.3903	0.3768	Ave		0.3796				3.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-367104/7	UXJ8026.D
Level 2	STD8260 240-367104/6	UXJ8025.D
Level 3	STD8260 240-367104/5	UXJ8024.D
Level 4	STD8260 240-367104/4	UXJ8023.D
Level 5	STD8260 240-367104/3	UXJ8022.D
Level 6	STD8260 240-367104/2	UXJ8021.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	14302 858734	33811	91261	166318	393607	1.00 40.0	2.00	5.00	10.0	20.0
Chloromethane	FB	Ave	14735 658748	29438	74271	127316	281547	1.00 40.0	2.00	5.00	10.0	20.0
Butadiene	FB	Ave	12457 640253	27131	67238	116135	298381	1.00 40.0	2.00	5.00	10.0	20.0
Vinyl chloride	FB	Ave	15085 724231	29665	79953	144260	339988	1.00 40.0	2.00	5.00	10.0	20.0
Bromomethane	FB	Ave	9111 457891	20704	54178	101367	220958	1.00 40.0	2.00	5.00	10.0	20.0
Chloroethane	FB	Ave	6225 388823	16382	42315	83470	188887	1.00 40.0	2.00	5.00	10.0	20.0
Dichlorofluoromethane	FB	Ave	20171 902632	41103	106239	200231	434053	1.00 40.0	2.00	5.00	10.0	20.0
Trichlorofluoromethane	FB	Ave	20689 1022513	40004	116801	201892	488108	1.00 40.0	2.00	5.00	10.0	20.0
Ethyl ether	FB	Ave	10777 492212	20099	53290	111089	240821	1.00 40.0	2.00	5.00	10.0	20.0
Acrolein	FB	Ave	12263 642909	26117	76307	139233	311245	5.00 200	10.0	25.0	50.0	100
1,1-Dichloroethene	FB	Ave	12563 606755	25640	68669	136302	296326	1.00 40.0	2.00	5.00	10.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	10111 503676	21536	58077	120721	246455	1.00 40.0	2.00	5.00	10.0	20.0
Acetone	FB	Ave	13879 540581	27192	61588	110371	249848	2.00 80.0	4.00	10.0	20.0	40.0
Iodomethane	FB	Ave	22823 1113991	44542	118663	246503	515391	1.00 40.0	2.00	5.00	10.0	20.0
Carbon disulfide	FB	Ave	46298 1945109	91902	207524	424295	914051	1.00 40.0	2.00	5.00	10.0	20.0
3-Chloro-1-propene	FB	Ave	10125 436826	18405	48182	98437	224690	1.00 40.0	2.00	5.00	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methyl acetate	FB	Ave	25546 1242117	48220	142070	266658	589687	2.00 80.0	4.00	10.0	20.0	40.0
Methylene Chloride	FB	Lin1	28456 666164	42445	85471	159040	336958	1.00 40.0	2.00	5.00	10.0	20.0
2-Methyl-2-propanol	FB	Ave	24619 1030644	42922	108992	212100	489028	10.0 400	20.0	50.0	100	200
Acrylonitrile	FB	Ave	64753 3314967	133260	360130	686402	1538522	10.0 400	20.0	50.0	100	200
trans-1,2-Dichloroethene	FB	Ave	15989 717821	30791	78810	157177	351024	1.00 40.0	2.00	5.00	10.0	20.0
Methyl tert-butyl ether	FB	Ave	33845 1594022	69489	179324	363372	780350	1.00 40.0	2.00	5.00	10.0	20.0
Hexane	FB	Lin1	1522 195544	3932	18570	39284	87974	1.00 40.0	2.00	5.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	26535 1155574	51015	123928	264327	577900	1.00 40.0	2.00	5.00	10.0	20.0
Vinyl acetate	FB	Ave	21348 1291718	45507	122657	244809	546119	1.00 40.0	2.00	5.00	10.0	20.0
2,2-Dichloropropane	FB	Ave	4143 162380	7740	18470	37577	83030	1.00 40.0	2.00	5.00	10.0	20.0
cis-1,2-Dichloroethene	FB	Ave	15518 748792	33131	79034	171580	373545	1.00 40.0	2.00	5.00	10.0	20.0
2-Butanone (MEK)	FB	Ave	12784 801645	31612	89550	147163	328459	2.00 80.0	4.00	10.0	20.0	40.0
Chlorobromomethane	FB	Ave	8562 371594	17457	41697	83844	180067	1.00 40.0	2.00	5.00	10.0	20.0
Tetrahydrofuran	FB	Ave	10465 516929	19047	54325	100847	232324	2.00 80.0	4.00	10.0	20.0	40.0
Chloroform	FB	Ave	23384 1126807	48908	130678	263272	552690	1.00 40.0	2.00	5.00	10.0	20.0
1,1,1-Trichloroethane	FB	Ave	23404 964948	42875	103539	221456	475687	1.00 40.0	2.00	5.00	10.0	20.0
Cyclohexane	FB	Ave	16522 1018178	36529	102175	221283	486587	1.00 40.0	2.00	5.00	10.0	20.0
1,1-Dichloropropene	FB	Ave	19040 981099	36750	95002	213777	451488	1.00 40.0	2.00	5.00	10.0	20.0
Carbon tetrachloride	FB	Ave	21059 945383	38755	104922	207777	455300	1.00 40.0	2.00	5.00	10.0	20.0
Isobutyl alcohol	CBNZ d5	Ave	17638 920911	35587	100691	178315	411928	25.0 1000	50.0	125	250	500
Benzene	FB	Ave	56029 2754879	114875	283539	590944	1254314	1.00 40.0	2.00	5.00	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	20305 933881	39111	99528	208883	425614	1.00 40.0	2.00	5.00	10.0	20.0
n-Heptane	FB	Lin1	2973 162413	4317	19161	33582	76210	1.00 40.0	2.00	5.00	10.0	20.0
Trichloroethene	FB	Ave	18033 793578	34086	85827	168836	362851	1.00 40.0	2.00	5.00	10.0	20.0
Methylcyclohexane	FB	Ave	19643 1120599	43436	106738	232379	531548	1.00 40.0	2.00	5.00	10.0	20.0
1,2-Dichloropropane	FB	Ave	11053 594323	24147	60714	127764	257754	1.00 40.0	2.00	5.00	10.0	20.0
Dibromomethane	FB	Ave	8259 406414	16623	42824	86362	184789	1.00 40.0	2.00	5.00	10.0	20.0
1,4-Dioxane	FB	Lin1	2371 216961	5017	20834	33357	81643	20.0 800	40.0	100	200	400
Dichlorobromomethane	FB	Ave	18968 878356	35418	95815	184018	382766	1.00 40.0	2.00	5.00	10.0	20.0
2-Chloroethyl vinyl ether	FB	Ave	11930 876953	28161	82558	138767	307879	2.00 80.0	4.00	10.0	20.0	40.0
cis-1,3-Dichloropropene	FB	Ave	17074 1026562	35784	99988	193425	409067	1.00 40.0	2.00	5.00	10.0	20.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	23723 1489645	48587	153307	281355	613490	2.00 80.0	4.00	10.0	20.0	40.0
Toluene	CBNZ d5	Ave	50368 2872531	103151	290746	543872	1170735	1.00 40.0	2.00	5.00	10.0	20.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	17032 934338	36666	94776	167511	355082	1.00 40.0	2.00	5.00	10.0	20.0
Ethyl methacrylate	CBNZ d5	Ave	12213 818004	28459	78145	149850	326308	1.00 40.0	2.00	5.00	10.0	20.0
1,1,2-Trichloroethane	CBNZ d5	Ave	12734 535501	22922	60454	110808	221396	1.00 40.0	2.00	5.00	10.0	20.0
Tetrachloroethene	CBNZ d5	Ave	11477 600080	23718	67708	122571	254413	1.00 40.0	2.00	5.00	10.0	20.0
1,3-Dichloropropane	CBNZ d5	Ave	17776 934162	36153	98029	181024	376403	1.00 40.0	2.00	5.00	10.0	20.0
2-Hexanone	CBNZ d5	Ave	15753 1027463	40322	109052	191478	426962	2.00 80.0	4.00	10.0	20.0	40.0
Chlorodibromomethane	CBNZ d5	Ave	10939 659131	28493	73418	135325	281679	1.00 40.0	2.00	5.00	10.0	20.0
Ethylene Dibromide	CBNZ d5	Ave	12725 592368	21792	60552	115065	245052	1.00 40.0	2.00	5.00	10.0	20.0
Chlorobenzene	CBNZ d5	Ave	38544 1789883	71386	189707	354543	750415	1.00 40.0	2.00	5.00	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	15538 642189	27415	68426	137694	302221	1.00 40.0	2.00	5.00	10.0	20.0
Ethylbenzene	CBNZ d5	Ave	17672 953361	33590	99260	177149	401219	1.00 40.0	2.00	5.00	10.0	20.0
m-Xylene & p-Xylene	CBNZ d5	Ave	17633 1172678	37781	114642	225000	490117	1.00 40.0	2.00	5.00	10.0	20.0
o-Xylene	CBNZ d5	Ave	17027 1110191	38511	105654	221095	478708	1.00 40.0	2.00	5.00	10.0	20.0
Styrene	CBNZ d5	Ave	27201 1961423	62454	184963	366782	814512	1.00 40.0	2.00	5.00	10.0	20.0
Bromoform	CBNZ d5	Ave	9430 515031	21407	58743	107418	225037	1.00 40.0	2.00	5.00	10.0	20.0
Isopropylbenzene	CBNZ d5	Ave	45741 2892282	93008	276000	554538	1249226	1.00 40.0	2.00	5.00	10.0	20.0
Bromobenzene	DCBd 4	Ave	14505 744364	30472	77365	149296	318510	1.00 40.0	2.00	5.00	10.0	20.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	15997 764142	32123	87302	163051	347666	1.00 40.0	2.00	5.00	10.0	20.0
1,2,3-Trichloropropane	DCBd 4	Ave	5144 265100	12345	30733	56270	116642	1.00 40.0	2.00	5.00	10.0	20.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	4646 248656	10685	31177	49221	107185	1.00 40.0	2.00	5.00	10.0	20.0
N-Propylbenzene	DCBd 4	Ave	12737 817872	26311	79799	163725	355179	1.00 40.0	2.00	5.00	10.0	20.0
2-Chlorotoluene	DCBd 4	Ave	11634 697021	24540	73878	146693	310087	1.00 40.0	2.00	5.00	10.0	20.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	34175 2216449	71649	218959	453276	961736	1.00 40.0	2.00	5.00	10.0	20.0
4-Chlorotoluene	DCBd 4	Ave	11598 723168	25871	78564	146255	309733	1.00 40.0	2.00	5.00	10.0	20.0
tert-Butylbenzene	DCBd 4	Ave	28431 1977723	59904	193232	369118	833511	1.00 40.0	2.00	5.00	10.0	20.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	33988 2235448	72413	220805	456294	983336	1.00 40.0	2.00	5.00	10.0	20.0
sec-Butylbenzene	DCBd 4	Ave	41813 2735311	92291	261531	517546	1190193	1.00 40.0	2.00	5.00	10.0	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	25676 1316887	54925	143622	281323	585237	1.00 40.0	2.00	5.00	10.0	20.0
4-Isopropyltoluene	DCBd 4	Ave	35416 2392076	80813	231439	481868	1063145	1.00 40.0	2.00	5.00	10.0	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	32006 1316655	61678	149185	287252	589475	1.00 40.0	2.00	5.00	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-108816-1 Analy Batch No.: 367104

SDG No.:

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/07/2019 13:09 Calibration End Date: 02/07/2019 15:00 Calibration ID: 49373

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2-Dichlorobenzene	DCBd 4	Ave	23761 1237285	52725	130837	255531	564881	1.00 40.0	2.00	5.00	10.0	20.0
n-Butylbenzene	DCBd 4	Ave	33386 1924106	64537	183328	374733	849937	1.00 40.0	2.00	5.00	10.0	20.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	6487 223296	9092	26261	50852	105103	1.00 40.0	2.00	5.00	10.0	20.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	15913 786571	31765	81516	153092	363972	1.00 40.0	2.00	5.00	10.0	20.0
Hexachlorobutadiene	DCBd 4	Ave	8045 309212	16252	37204	73104	156722	1.00 40.0	2.00	5.00	10.0	20.0
Naphthalene	DCBd 4	Ave	38023 2415397	79647	194010	403718	1071425	1.00 40.0	2.00	5.00	10.0	20.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	14666 732633	28542	75944	146668	358175	1.00 40.0	2.00	5.00	10.0	20.0
Dibromofluoromethane (Surr)	FB	Ave	13778 607914	24605	68214	141317	298829	1.00 40.0	2.00	5.00	10.0	20.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	16708 711134	33449	85806	163525	331727	1.00 40.0	2.00	5.00	10.0	20.0
Toluene-d8 (Surr)	CBNZ d5	Ave	41706 2327197	82074	231027	459092	1002587	1.00 40.0	2.00	5.00	10.0	20.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	13244 696421	28481	79386	146668	297359	1.00 40.0	2.00	5.00	10.0	20.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8021.D
Lims ID: STD8260 L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 07-Feb-2019 13:09:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-002
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub78

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:14:31 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:04:40

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.647	4.659	-0.012	94	1448052	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.297	7.309	-0.012	82	976557	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	91	477407	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	95	607914	40.0	36.0	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.363	4.375	-0.012	80	711134	40.0	34.8	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	92	2327197	40.0	40.2	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	86	696421	40.0	37.6	
9 Dichlorodifluoromethane	85	1.156	1.168	-0.012	100	858734	40.0	40.0	
10 Chloromethane	50	1.298	1.310	-0.012	100	658748	40.0	37.3	
13 Butadiene	54	1.357	1.369	-0.012	97	640253	40.0	38.9	
12 Vinyl chloride	62	1.369	1.393	-0.024	98	724231	40.0	37.8	
15 Bromomethane	94	1.570	1.606	-0.036	91	457891	40.0	36.2	
16 Chloroethane	64	1.641	1.665	-0.024	100	388823	40.0	38.5	
17 Dichlorofluoromethane	67	1.795	1.807	-0.012	98	902632	40.0	35.5	
18 Trichlorofluoromethane	101	1.843	1.831	0.012	99	1022513	40.0	38.0	
19 Ethyl ether	59	2.056	2.067	-0.011	89	492212	40.0	36.6	
20 Acrolein	56	2.150	2.162	-0.012	99	642909	200.0	185.9	
21 1,1-Dichloroethene	96	2.233	2.245	-0.012	98	606755	40.0	36.5	
22 1,1,2-Trichloro-1,2,2-trif	151	2.257	2.280	-0.023	90	503676	40.0	36.1	
23 Acetone	43	2.280	2.292	-0.012	100	540581	80.0	69.6	
25 Iodomethane	142	2.351	2.363	-0.012	96	1113991	40.0	37.7	
26 Carbon disulfide	76	2.399	2.411	-0.011	99	1945109	40.0	35.7	
28 3-Chloro-1-propene	76	2.529	2.541	-0.012	88	436826	40.0	35.6	
29 Methyl acetate	43	2.552	2.564	-0.012	97	1242117	80.0	74.9	
30 Methylene Chloride	84	2.635	2.647	-0.012	88	666164	40.0	37.9	
31 2-Methyl-2-propanol	59	2.765	2.754	0.011	97	1030644	400.0	367.7	
32 Acrylonitrile	53	2.836	2.848	-0.012	98	3314967	400.0	382.5	
34 trans-1,2-Dichloroethene	96	2.860	2.872	-0.012	98	717821	40.0	36.3	
33 Methyl tert-butyl ether	73	2.872	2.884	-0.012	94	1594022	40.0	36.1	
35 Hexane	86	3.097	3.109	-0.012	92	195544	40.0	39.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 1,1-Dichloroethane	63	3.203	3.215	-0.012	97	1155574	40.0	35.6	
37 Vinyl acetate	43	3.262	3.274	-0.012	97	1291718	40.0	42.4	
41 cis-1,2-Dichloroethene	96	3.688	3.700	-0.012	82	748792	40.0	36.3	
43 2,2-Dichloropropane	97	3.688	3.700	-0.012	59	162380	40.0	34.0	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	98	801645	80.0	82.0	
47 Chlorobromomethane	128	3.890	3.890	0.000	90	371594	40.0	35.2	
48 Tetrahydrofuran	42	3.925	3.937	-0.012	84	516929	80.0	78.8	
49 Chloroform	83	3.961	3.961	0.000	94	1126807	40.0	35.9	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	98	964948	40.0	35.3	
51 Cyclohexane	56	4.150	4.162	-0.012	88	1018178	40.0	40.1	
53 Carbon tetrachloride	117	4.245	4.256	-0.011	90	945383	40.0	36.6	
52 1,1-Dichloropropene	75	4.245	4.256	-0.011	95	981099	40.0	39.2	
54 Isobutyl alcohol	41	4.363	4.363	0.000	93	920911	1000.0	959.6	
55 Benzene	78	4.422	4.422	0.000	95	2754879	40.0	38.0	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	98	933881	40.0	37.1	
58 n-Heptane	100	4.659	4.659	0.000	71	162413	40.0	38.5	
60 Trichloroethene	130	4.966	4.966	0.000	94	793578	40.0	36.8	
62 Methylcyclohexane	83	5.120	5.132	-0.012	89	1120599	40.0	39.8	
63 1,2-Dichloropropane	63	5.144	5.156	-0.012	95	594323	40.0	39.1	
65 Dibromomethane	93	5.250	5.250	0.000	90	406414	40.0	38.1	
66 1,4-Dioxane	88	5.274	5.274	0.000	91	216961	800.0	843.3	
67 Dichlorobromomethane	83	5.381	5.392	-0.011	99	878356	40.0	37.9	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	92	876953	80.0	94.1	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	96	1026562	40.0	42.7	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	96	1489645	80.0	85.5	
72 Toluene	91	6.067	6.067	0.000	99	2872531	40.0	40.7	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	92	934338	40.0	40.7	
74 Ethyl methacrylate	69	6.351	6.363	-0.012	88	818004	40.0	42.8	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	92	535501	40.0	36.2	
76 Tetrachloroethene	164	6.552	6.552	0.000	98	600080	40.0	38.1	
77 1,3-Dichloropropane	76	6.576	6.576	0.000	88	934162	40.0	39.4	
78 2-Hexanone	43	6.659	6.659	0.000	95	1027463	80.0	81.3	
80 Chlorodibromomethane	129	6.777	6.777	0.000	90	659131	40.0	38.3	
82 Ethylene Dibromide	107	6.872	6.872	0.000	99	592368	40.0	38.8	
84 Chlorobenzene	112	7.333	7.333	0.000	98	1789883	40.0	37.9	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	96	642189	40.0	35.4	
86 Ethylbenzene	106	7.439	7.439	0.000	97	953361	40.0	40.2	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	97	1172678	40.0	42.4	
88 o-Xylene	106	7.913	7.913	0.000	96	1110191	40.0	41.5	
89 Styrene	104	7.925	7.925	0.000	94	1961423	40.0	43.5	
90 Bromoform	173	8.090	8.090	0.000	98	515031	40.0	37.6	
91 Isopropylbenzene	105	8.268	8.268	0.000	95	2892282	40.0	42.0	
95 Bromobenzene	156	8.540	8.540	0.000	88	744364	40.0	41.6	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	94	764142	40.0	39.5	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	86	265100	40.0	39.4	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	80	248656	40.0	40.3	
98 N-Propylbenzene	120	8.658	8.658	0.000	99	817872	40.0	45.1	
99 2-Chlorotoluene	126	8.741	8.741	0.000	98	697021	40.0	42.9	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	96	2216449	40.0	44.9	
101 4-Chlorotoluene	126	8.848	8.848	0.000	98	723168	40.0	43.5	
102 tert-Butylbenzene	119	9.143	9.155	-0.012	91	1977723	40.0	46.8	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	95	2235448	40.0	44.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 sec-Butylbenzene	105	9.356	9.356	0.000	93	2735311	40.0	45.5	
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	99	1316887	40.0	40.5	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	97	2392076	40.0	45.0	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	97	1316655	40.0	37.7	
111 n-Butylbenzene	91	9.901	9.901	0.000	97	1924106	40.0	44.3	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	98	1237285	40.0	40.7	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	93	223296	40.0	39.4	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	93	786571	40.0	41.1	
117 Hexachlorobutadiene	225	11.676	11.676	0.000	96	309212	40.0	35.0	
118 Naphthalene	128	11.723	11.723	0.000	96	2415397	40.0	47.4	
119 1,2,3-Trichlorobenzene	180	11.960	11.960	0.000	94	732633	40.0	40.8	
S 133 Trihalomethanes, Total	1				0		160.0	149.7	
S 159 Total BTEX	1				0		200.0	202.8	
S 130 1,2-Dichloroethene, Total	96				0			72.6	
S 131 1,3-Dichloropropene, Total	75				0			83.4	
S 132 Xylenes, Total	106				0		80.0	83.9	

Reagents:

VMRGAS_00281	Amount Added:	32.00	Units: uL
vm50ss_stk_00079	Amount Added:	32.00	Units: uL
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL
VMRPRIMW_00320	Amount Added:	32.00	Units: uL
VMAROLISTDW_00283	Amount Added:	32.00	Units: uL

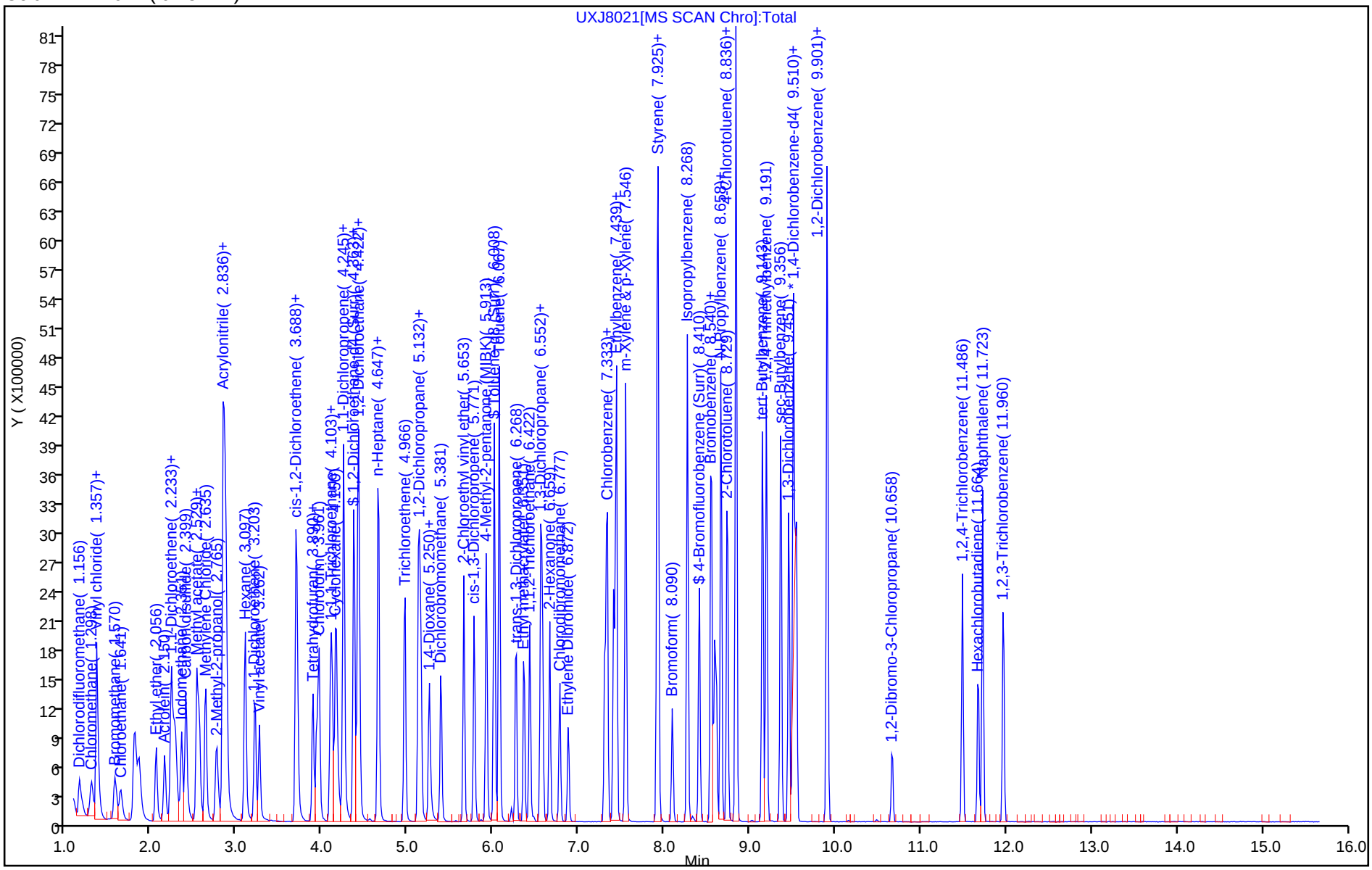
Report Date: 08-Feb-2019 09:14:32 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8021.D

Injection Date:	07-Feb-2019 13:09:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	STD8260 L6			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8022.D
Lims ID: STD8260 L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 07-Feb-2019 13:31:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-003
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub78

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:14:37 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	97	1237419	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	82	789116	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	94	424336	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	97	298829	20.0	20.7	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	95	331727	20.0	19.0	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	92	1002587	20.0	21.4	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	87	297359	20.0	19.9	
9 Dichlorodifluoromethane	85	1.168	1.168	0.000	99	393607	20.0	21.5	
10 Chloromethane	50	1.322	1.310	0.012	99	281547	20.0	18.7	
13 Butadiene	54	1.369	1.369	0.000	97	298381	20.0	21.2	
12 Vinyl chloride	62	1.393	1.393	0.000	98	339988	20.0	20.8	
15 Bromomethane	94	1.594	1.606	-0.012	90	220958	20.0	20.4	
16 Chloroethane	64	1.653	1.665	-0.012	99	188887	20.0	21.9	
17 Dichlorofluoromethane	67	1.807	1.807	0.000	99	434053	20.0	20.0	
18 Trichlorofluoromethane	101	1.830	1.831	-0.001	99	488108	20.0	21.2	
19 Ethyl ether	59	2.067	2.067	0.000	89	240821	20.0	20.9	
20 Acrolein	56	2.162	2.162	0.000	99	311245	100.0	105.3	
21 1,1-Dichloroethene	96	2.245	2.245	0.000	98	296326	20.0	20.8	
22 1,1,2-Trichloro-1,2,2-trif	151	2.280	2.280	0.000	90	246455	20.0	20.6	
23 Acetone	43	2.292	2.292	0.000	99	249848	40.0	37.7	
25 Iodomethane	142	2.363	2.363	0.000	98	515391	20.0	20.4	
26 Carbon disulfide	76	2.410	2.411	0.000	99	914051	20.0	19.6	
28 3-Chloro-1-propene	76	2.540	2.541	-0.001	88	224690	20.0	21.4	
29 Methyl acetate	43	2.564	2.564	0.000	97	589687	40.0	41.6	
30 Methylene Chloride	84	2.635	2.647	-0.012	87	336958	20.0	21.9	
31 2-Methyl-2-propanol	59	2.753	2.754	-0.001	95	489028	200.0	204.2	
32 Acrylonitrile	53	2.848	2.848	0.000	99	1538522	200.0	207.7	
34 trans-1,2-Dichloroethene	96	2.872	2.872	0.000	98	351024	20.0	20.8	
33 Methyl tert-butyl ether	73	2.884	2.884	0.000	96	780350	20.0	20.7	
35 Hexane	86	3.108	3.109	-0.001	91	87974	20.0	20.8	
36 1,1-Dichloroethane	63	3.215	3.215	0.000	96	577900	20.0	20.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Vinyl acetate	43	3.262	3.274	-0.012	97	546119	20.0	21.0	
43 2,2-Dichloropropane	97	3.700	3.700	0.000	61	83030	20.0	20.3	
41 cis-1,2-Dichloroethene	96	3.700	3.700	0.000	81	373545	20.0	21.2	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	98	328459	40.0	39.3	
47 Chlorobromomethane	128	3.889	3.890	-0.001	92	180067	20.0	20.0	
48 Tetrahydrofuran	42	3.937	3.937	0.000	85	232324	40.0	41.4	
49 Chloroform	83	3.960	3.961	-0.001	94	552690	20.0	20.6	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	98	475687	20.0	20.4	
51 Cyclohexane	56	4.162	4.162	0.000	87	486587	20.0	22.4	
52 1,1-Dichloropropene	75	4.256	4.256	0.000	96	451488	20.0	21.1	
53 Carbon tetrachloride	117	4.256	4.256	0.000	91	455300	20.0	20.6	
54 Isobutyl alcohol	41	4.363	4.363	0.000	94	411928	500.0	531.2	
55 Benzene	78	4.422	4.422	0.000	95	1254314	20.0	20.3	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	98	425614	20.0	19.8	
58 n-Heptane	100	4.659	4.659	0.000	53	76210	20.0	21.2	
60 Trichloroethene	130	4.966	4.966	0.000	94	362851	20.0	19.7	
62 Methylcyclohexane	83	5.132	5.132	0.000	89	531548	20.0	22.1	
63 1,2-Dichloropropane	63	5.156	5.156	0.000	94	257754	20.0	19.8	
65 Dibromomethane	93	5.250	5.250	0.000	90	184789	20.0	20.3	
66 1,4-Dioxane	88	5.274	5.274	0.000	89	81643	400.0	377.5	
67 Dichlorobromomethane	83	5.392	5.392	0.000	99	382766	20.0	19.3	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	92	307879	40.0	38.7	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	96	409067	20.0	19.9	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	96	613490	40.0	41.2	
72 Toluene	91	6.067	6.067	0.000	99	1170735	20.0	20.5	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	91	355082	20.0	19.1	
74 Ethyl methacrylate	69	6.363	6.363	-0.001	88	326308	20.0	21.1	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	91	221396	20.0	18.5	
76 Tetrachloroethene	164	6.552	6.552	0.000	97	254413	20.0	20.0	
77 1,3-Dichloropropane	76	6.575	6.576	-0.001	89	376403	20.0	19.6	
78 2-Hexanone	43	6.658	6.659	-0.001	97	426962	40.0	41.8	
80 Chlorodibromomethane	129	6.777	6.777	0.000	89	281679	20.0	20.3	
82 Ethylene Dibromide	107	6.871	6.872	-0.001	96	245052	20.0	19.9	
84 Chlorobenzene	112	7.333	7.333	0.000	97	750415	20.0	19.6	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	96	302221	20.0	20.6	
86 Ethylbenzene	106	7.439	7.439	0.000	98	401219	20.0	20.9	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	98	490117	20.0	21.9	
88 o-Xylene	106	7.913	7.913	0.000	96	478708	20.0	22.1	
89 Styrene	104	7.924	7.925	-0.001	93	814512	20.0	22.3	
90 Bromoform	173	8.090	8.090	0.000	98	225037	20.0	20.3	
91 Isopropylbenzene	105	8.268	8.268	0.000	95	1249226	20.0	22.4	
95 Bromobenzene	156	8.552	8.540	0.012	95	318510	20.0	20.0	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	96	347666	20.0	20.2	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	85	116642	20.0	19.5	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	80	107185	20.0	19.5	
98 N-Propylbenzene	120	8.658	8.658	0.000	99	355179	20.0	22.0	
99 2-Chlorotoluene	126	8.741	8.741	0.000	98	310087	20.0	21.5	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	90	961736	20.0	21.9	
101 4-Chlorotoluene	126	8.836	8.848	-0.012	94	309733	20.0	20.9	
102 tert-Butylbenzene	119	9.143	9.155	-0.012	91	833511	20.0	22.2	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	96	983336	20.0	22.2	
105 sec-Butylbenzene	105	9.356	9.356	0.000	93	1190193	20.0	22.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	97	585237	20.0	20.2	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	97	1063145	20.0	22.5	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	96	589475	20.0	19.0	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	97	564881	20.0	20.9	
111 n-Butylbenzene	91	9.901	9.901	0.000	97	849937	20.0	22.0	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	90	105103	20.0	20.8	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	93	363972	20.0	21.4	
117 Hexachlorobutadiene	225	11.675	11.676	-0.001	95	156722	20.0	19.9	
118 Naphthalene	128	11.723	11.723	0.000	96	1071425	20.0	23.7	
119 1,2,3-Trichlorobenzene	180	11.971	11.960	0.011	95	358175	20.0	22.4	
S 159 Total BTEX	1				0		100.0	105.8	
S 133 Trihalomethanes, Total	1				0		80.0	80.5	
S 130 1,2-Dichloroethene, Total	96				0			42.0	
S 131 1,3-Dichloropropene, Total	75				0			39.0	
S 132 Xylenes, Total	106				0		40.0	44.1	

Reagents:

VMRGAS_00281	Amount Added:	16.00	Units: uL
vm50ss_stk_00079	Amount Added:	16.00	Units: uL
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL
VMRPRIMW_00320	Amount Added:	16.00	Units: uL
VMAROLISTDW_00283	Amount Added:	16.00	Units: uL

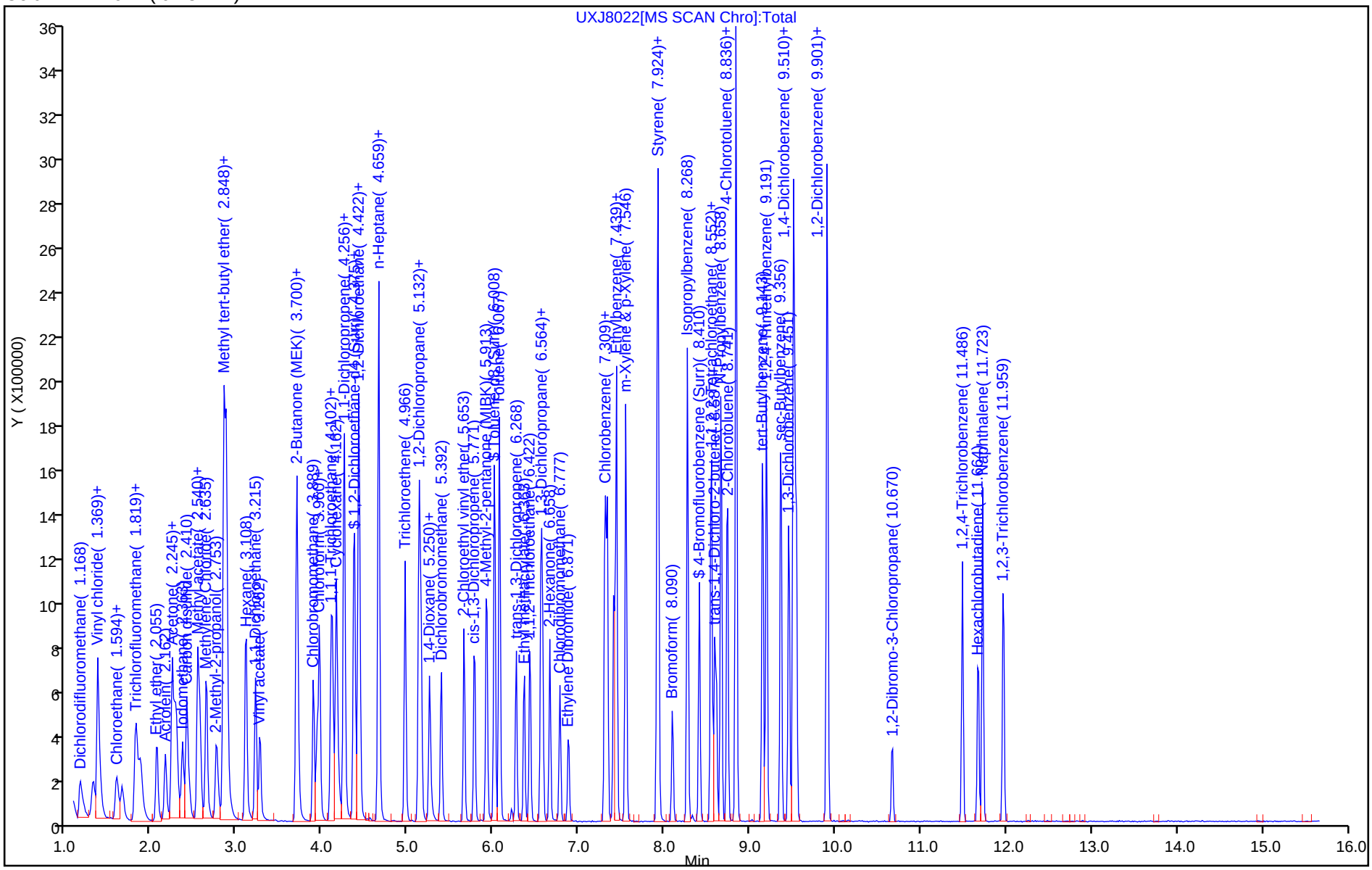
Report Date: 08-Feb-2019 09:14:38 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8022.D

Injection Date:	07-Feb-2019 13:31:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	STD8260 L5			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8023.D
Lims ID: STD8260 L4
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 07-Feb-2019 13:53:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-004
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub78

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:14:43 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 07:55:40

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	99	1172070	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	77	751566	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	92	416048	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.103	4.103	0.000	93	141317	10.0	10.3	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	74	163525	10.0	9.88	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	81	459092	10.0	10.3	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	86	146668	10.0	10.3	
9 Dichlorodifluoromethane	85	1.168	1.168	0.000	96	166318	10.0	9.57	
10 Chloromethane	50	1.310	1.310	0.000	69	127316	10.0	8.92	
13 Butadiene	54	1.369	1.369	0.000	92	116135	10.0	8.72	
12 Vinyl chloride	62	1.393	1.393	0.000	81	144260	10.0	9.30	
15 Bromomethane	94	1.606	1.606	0.000	84	101367	10.0	9.89	
16 Chloroethane	64	1.665	1.665	0.000	85	83470	10.0	10.2	
17 Dichlorofluoromethane	67	1.807	1.807	0.000	95	200231	10.0	9.72	
18 Trichlorofluoromethane	101	1.831	1.831	0.000	86	201892	10.0	9.26	
19 Ethyl ether	59	2.067	2.067	0.000	85	111089	10.0	10.2	
20 Acrolein	56	2.162	2.162	0.000	88	139233	50.0	49.7	
21 1,1-Dichloroethene	96	2.245	2.245	0.000	93	136302	10.0	10.1	
22 1,1,2-Trichloro-1,2,2-trif	151	2.280	2.280	0.000	84	120721	10.0	10.7	
23 Acetone	43	2.292	2.292	0.000	94	110371	20.0	17.6	
25 Iodomethane	142	2.363	2.363	0.000	95	246503	10.0	10.3	
26 Carbon disulfide	76	2.411	2.411	0.000	98	424295	10.0	9.61	
28 3-Chloro-1-propene	76	2.541	2.541	0.000	79	98437	10.0	9.91	
29 Methyl acetate	43	2.564	2.564	0.000	97	266658	20.0	19.9	
30 Methylene Chloride	84	2.647	2.647	0.000	79	159040	10.0	10.3	
31 2-Methyl-2-propanol	59	2.754	2.754	0.000	88	212100	100.0	93.5	
32 Acrylonitrile	53	2.848	2.848	0.000	100	686402	100.0	97.9	
34 trans-1,2-Dichloroethene	96	2.872	2.872	0.000	92	157177	10.0	9.81	
33 Methyl tert-butyl ether	73	2.884	2.884	0.000	89	363372	10.0	10.2	
35 Hexane	86	3.109	3.109	0.000	90	39284	10.0	10.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 1,1-Dichloroethane	63	3.215	3.215	0.000	96	264327	10.0	10.1	
37 Vinyl acetate	43	3.274	3.274	0.000	95	244809	10.0	9.92	
41 cis-1,2-Dichloroethene	96	3.700	3.700	0.000	81	171580	10.0	10.3	
43 2,2-Dichloropropane	97	3.700	3.700	0.000	60	37577	10.0	9.71	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	98	147163	20.0	18.6	
47 Chlorobromomethane	128	3.890	3.890	0.000	72	83844	10.0	9.82	
48 Tetrahydrofuran	42	3.937	3.937	0.000	84	100847	20.0	19.0	
49 Chloroform	83	3.961	3.961	0.000	93	263272	10.0	10.4	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	56	221456	10.0	10.0	
51 Cyclohexane	56	4.162	4.162	0.000	87	221283	10.0	10.8	
53 Carbon tetrachloride	117	4.256	4.256	0.000	80	207777	10.0	9.93	
52 1,1-Dichloropropene	75	4.256	4.256	0.000	93	213777	10.0	10.6	
54 Isobutyl alcohol	41	4.363	4.363	0.000	91	178315	250.0	241.4	
55 Benzene	78	4.422	4.422	0.000	90	590944	10.0	10.1	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	74	208883	10.0	10.2	
58 n-Heptane	100	4.659	4.659	0.000	44	33582	10.0	9.94	
60 Trichloroethene	130	4.966	4.966	0.000	90	168836	10.0	9.68	
62 Methylcyclohexane	83	5.132	5.132	0.000	87	232379	10.0	10.2	
63 1,2-Dichloropropane	63	5.156	5.156	0.000	91	127764	10.0	10.4	
65 Dibromomethane	93	5.250	5.250	0.000	82	86362	10.0	10.0	
66 1,4-Dioxane	88	5.274	5.274	0.000	91	33357	200.0	169.0	
67 Dichlorobromomethane	83	5.392	5.392	0.000	98	184018	10.0	9.81	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	90	138767	20.0	18.4	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	86	193425	10.0	9.93	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	91	281355	20.0	19.9	
72 Toluene	91	6.067	6.067	0.000	91	543872	10.0	10.0	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	90	167511	10.0	9.48	
74 Ethyl methacrylate	69	6.363	6.363	0.000	84	149850	10.0	10.2	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	89	110808	10.0	9.72	
76 Tetrachloroethene	164	6.552	6.552	0.000	97	122571	10.0	10.1	
77 1,3-Dichloropropane	76	6.576	6.576	0.000	87	181024	10.0	9.92	
78 2-Hexanone	43	6.659	6.659	0.000	94	191478	20.0	19.7	
80 Chlorodibromomethane	129	6.777	6.777	0.000	89	135325	10.0	10.2	
82 Ethylene Dibromide	107	6.872	6.872	0.000	59	115065	10.0	9.80	
84 Chlorobenzene	112	7.333	7.333	0.000	97	354543	10.0	9.75	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	94	137694	10.0	9.87	
86 Ethylbenzene	106	7.439	7.439	0.000	98	177149	10.0	9.70	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	97	225000	10.0	10.6	
88 o-Xylene	106	7.913	7.913	0.000	96	221095	10.0	10.7	
89 Styrene	104	7.925	7.925	0.000	91	366782	10.0	10.6	
90 Bromoform	173	8.090	8.090	0.000	95	107418	10.0	10.2	
91 Isopropylbenzene	105	8.268	8.268	0.000	95	554538	10.0	10.5	
95 Bromobenzene	156	8.540	8.540	0.000	81	149296	10.0	9.58	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	96	163051	10.0	9.66	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	53	56270	10.0	9.61	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	80	49221	10.0	9.14	
98 N-Propylbenzene	120	8.658	8.658	0.000	92	163725	10.0	10.4	
99 2-Chlorotoluene	126	8.741	8.741	0.000	95	146693	10.0	10.4	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	88	453276	10.0	10.5	
101 4-Chlorotoluene	126	8.848	8.848	0.000	93	146255	10.0	10.1	
102 tert-Butylbenzene	119	9.155	9.155	0.000	91	369118	10.0	10.0	a
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	70	456294	10.0	10.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 sec-Butylbenzene	105	9.356	9.356	0.000	89	517546	10.0	9.88	
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	78	281323	10.0	9.92	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	93	481868	10.0	10.4	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	96	287252	10.0	9.44	
111 n-Butylbenzene	91	9.901	9.901	0.000	96	374733	10.0	9.91	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	85	255531	10.0	9.64	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	81	50852	10.0	10.1	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	93	153092	10.0	9.18	
117 Hexachlorobutadiene	225	11.676	11.676	0.000	80	73104	10.0	9.49	
118 Naphthalene	128	11.723	11.723	0.000	96	403718	10.0	9.09	
119 1,2,3-Trichlorobenzene	180	11.960	11.960	0.000	92	146668	10.0	9.37	
S 133 Trihalomethanes, Total	1				0		40.0	40.6	
S 159 Total BTEX	1				0		50.0	51.1	
S 132 Xylenes, Total	106				0		20.0	21.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VMRGAS_00281	Amount Added:	8.00	Units: uL
vm50ss_stk_00079	Amount Added:	8.00	Units: uL
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL
VMRPRIMW_00320	Amount Added:	8.00	Units: uL
VMAROLISTDW_00283	Amount Added:	8.00	Units: uL

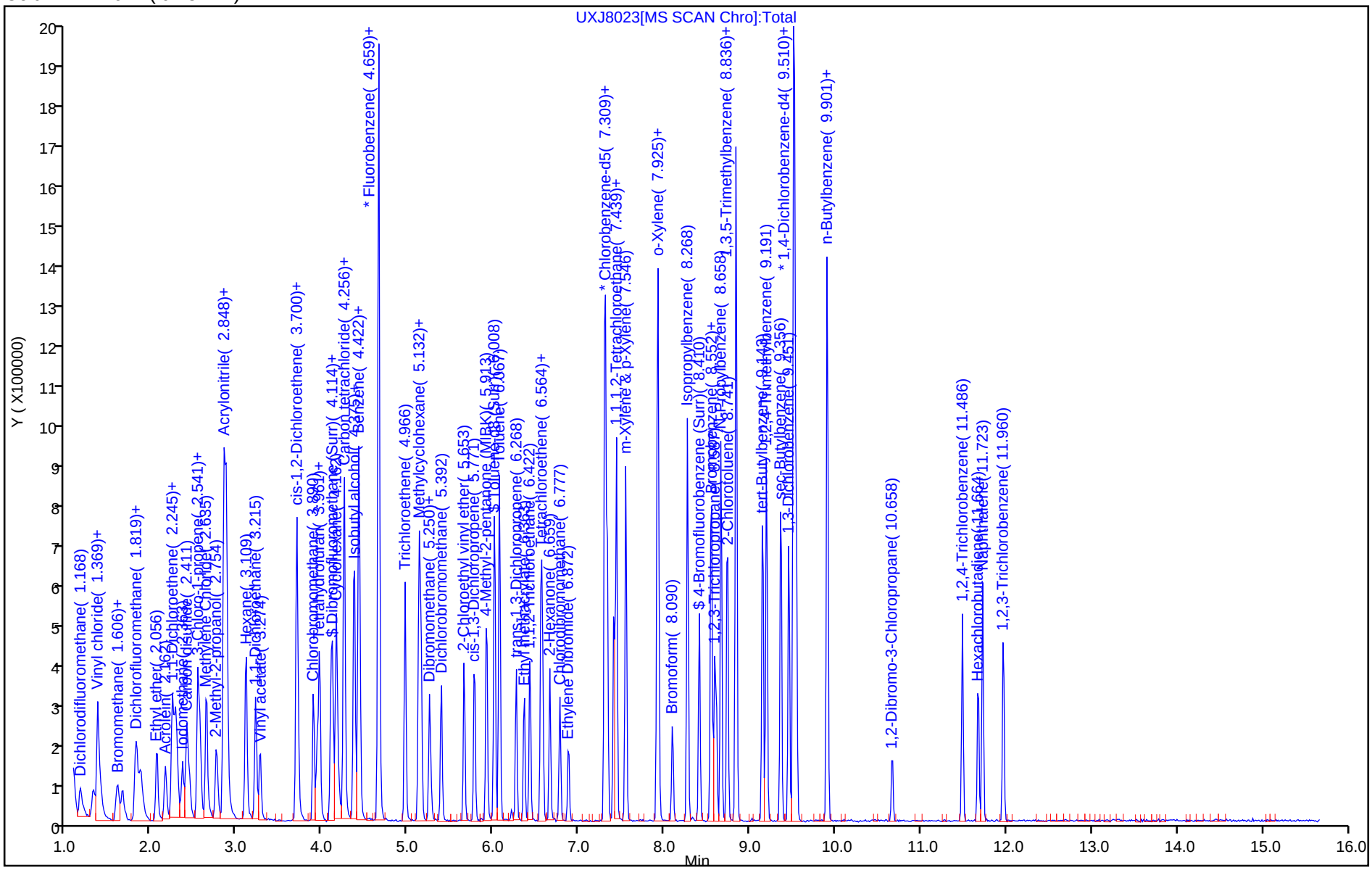
Report Date: 08-Feb-2019 09:14:44 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8023.D

Injection Date:	07-Feb-2019 13:53:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	STD8260 L4			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Canton

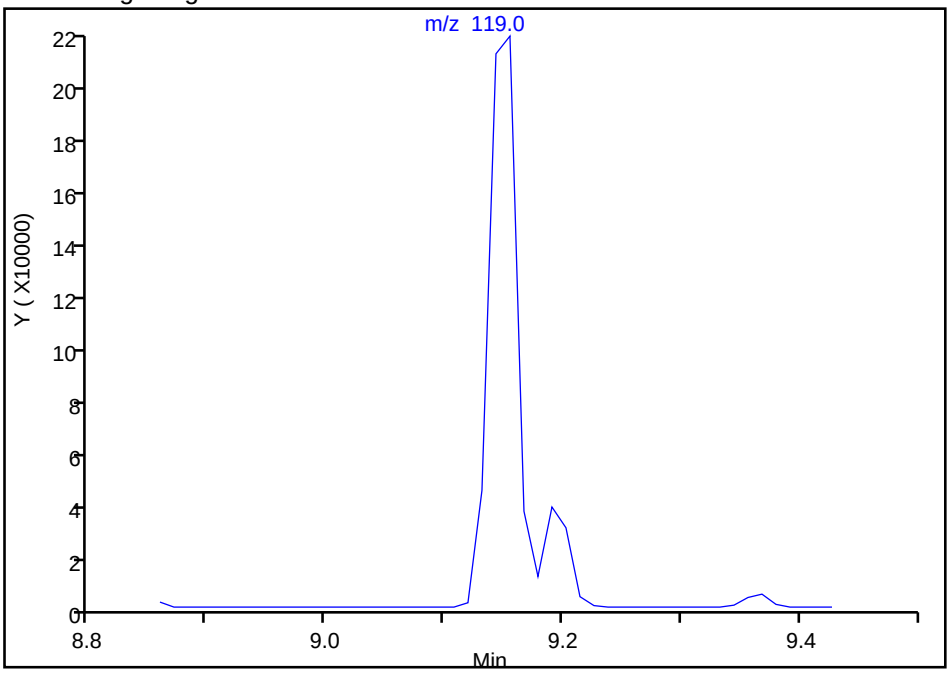
Data File:	\\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8023.D				
Injection Date:	07-Feb-2019 13:53:30	Instrument ID:	A3UX11		
Lims ID:	STD8260 L4				
Client ID:					
Operator ID:	43582	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260_11	Limit Group:	MSV 8260B ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

102 tert-Butylbenzene, CAS: 98-06-6

Signal: 1

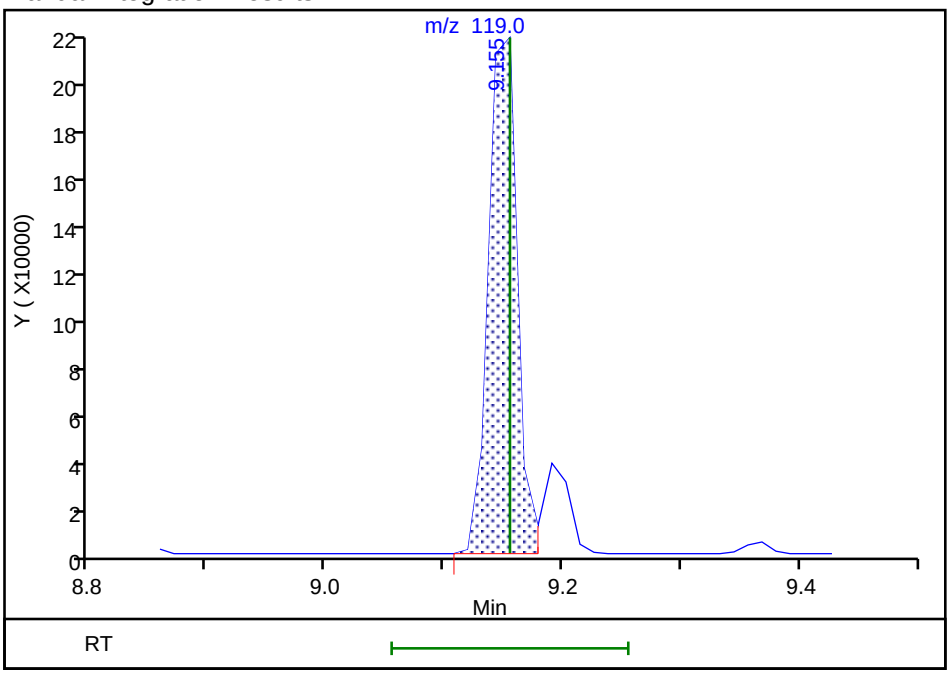
Not Detected
Expected RT: 9.16

Processing Integration Results



Manual Integration Results

RT: 9.16
Area: 369118
Amount: 10.032482
Amount Units: ug/l



Reviewer: evansle, 08-Feb-2019 08:24:18
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8024.D
Lims ID: STD8260 L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 07-Feb-2019 14:15:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-005
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub78

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:14:48 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:27:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	99	1155721	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.297	7.309	-0.012	83	792526	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	92	427773	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	94	68214	5.00	5.06	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	97	85806	5.00	5.26	
$ 6 Toluene-d8 (Surr)	98	6.007	6.008	-0.001	91	231027	5.00	4.91	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	88	79386	5.00	5.28	
9 Dichlorodifluoromethane	85	1.156	1.168	-0.012	98	91261	5.00	5.33	
10 Chloromethane	50	1.298	1.310	-0.012	99	74271	5.00	5.27	
13 Butadiene	54	1.357	1.369	-0.012	95	67238	5.00	5.12	
12 Vinyl chloride	62	1.381	1.393	-0.012	98	79953	5.00	5.23	
15 Bromomethane	94	1.582	1.606	-0.024	88	54178	5.00	5.36	
16 Chloroethane	64	1.641	1.665	-0.024	99	42315	5.00	5.25	
17 Dichlorofluoromethane	67	1.807	1.807	0.000	99	106239	5.00	5.23	
18 Trichlorofluoromethane	101	1.854	1.831	0.023	90	116801	5.00	5.43	
19 Ethyl ether	59	2.055	2.067	-0.012	87	53290	5.00	4.96	
20 Acrolein	56	2.162	2.162	0.000	99	76307	25.0	27.6	
21 1,1-Dichloroethene	96	2.233	2.245	-0.012	98	68669	5.00	5.17	
22 1,1,2-Trichloro-1,2,2-trif	151	2.268	2.280	-0.012	88	58077	5.00	5.21	
23 Acetone	43	2.280	2.292	-0.012	98	61588	10.0	9.94	
25 Iodomethane	142	2.351	2.363	-0.012	97	118663	5.00	5.03	
26 Carbon disulfide	76	2.410	2.411	0.000	99	207524	5.00	4.77	
28 3-Chloro-1-propene	76	2.540	2.541	-0.001	89	48182	5.00	4.92	
29 Methyl acetate	43	2.564	2.564	0.000	97	142070	10.0	10.7	
30 Methylene Chloride	84	2.635	2.647	-0.012	89	85471	5.00	5.03	
31 2-Methyl-2-propanol	59	2.753	2.754	-0.001	94	108992	50.0	48.7	
32 Acrylonitrile	53	2.836	2.848	-0.012	98	360130	50.0	52.1	
34 trans-1,2-Dichloroethene	96	2.872	2.872	0.000	97	78810	5.00	4.99	
33 Methyl tert-butyl ether	73	2.872	2.884	-0.012	96	179324	5.00	5.08	
35 Hexane	86	3.097	3.109	-0.012	92	18570	5.00	5.24	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 1,1-Dichloroethane	63	3.215	3.215	0.000	96	123928	5.00	4.79	
37 Vinyl acetate	43	3.262	3.274	-0.012	98	122657	5.00	5.04	
43 2,2-Dichloropropane	97	3.688	3.700	-0.012	62	18470	5.00	4.84	
41 cis-1,2-Dichloroethene	96	3.700	3.700	0.000	82	79034	5.00	4.81	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	99	89550	10.0	11.5	
47 Chlorobromomethane	128	3.889	3.890	-0.001	91	41697	5.00	4.95	
48 Tetrahydrofuran	42	3.937	3.937	0.000	86	54325	10.0	10.4	
49 Chloroform	83	3.960	3.961	-0.001	94	130678	5.00	5.21	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	99	103539	5.00	4.75	
51 Cyclohexane	56	4.162	4.162	0.000	87	102175	5.00	5.04	
52 1,1-Dichloropropene	75	4.244	4.256	-0.012	94	95002	5.00	4.76	
53 Carbon tetrachloride	117	4.256	4.256	0.000	97	104922	5.00	5.08	
54 Isobutyl alcohol	41	4.363	4.363	0.000	92	100691	125.0	129.3	
55 Benzene	78	4.422	4.422	0.000	95	283539	5.00	4.90	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	98	99528	5.00	4.95	
58 n-Heptane	100	4.659	4.659	0.000	40	19161	5.00	5.82	
60 Trichloroethene	130	4.966	4.966	0.000	97	85827	5.00	4.99	
62 Methylcyclohexane	83	5.132	5.132	0.000	88	106738	5.00	4.75	
63 1,2-Dichloropropane	63	5.156	5.156	0.000	95	60714	5.00	5.00	
65 Dibromomethane	93	5.250	5.250	0.000	91	42824	5.00	5.02	
66 1,4-Dioxane	88	5.274	5.274	0.000	87	20834	100.0	111.1	
67 Dichlorobromomethane	83	5.380	5.392	-0.012	99	95815	5.00	5.18	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	-0.001	92	82558	10.0	11.1	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	96	99988	5.00	5.21	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	95	153307	10.0	11.0	
72 Toluene	91	6.067	6.067	0.000	99	290746	5.00	5.08	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	91	94776	5.00	5.09	
74 Ethyl methacrylate	69	6.362	6.363	-0.001	86	78145	5.00	5.04	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	90	60454	5.00	5.03	
76 Tetrachloroethene	164	6.552	6.552	0.000	98	67708	5.00	5.29	
77 1,3-Dichloropropane	76	6.575	6.576	-0.001	90	98029	5.00	5.09	
78 2-Hexanone	43	6.658	6.659	-0.001	93	109052	10.0	10.6	
80 Chlorodibromomethane	129	6.777	6.777	0.000	88	73418	5.00	5.26	
82 Ethylene Dibromide	107	6.871	6.872	-0.001	97	60552	5.00	4.89	
84 Chlorobenzene	112	7.333	7.333	0.000	98	189707	5.00	4.95	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	95	68426	5.00	4.65	
86 Ethylbenzene	106	7.439	7.439	0.000	97	99260	5.00	5.16	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	95	114642	5.00	5.11	
88 o-Xylene	106	7.913	7.913	0.000	96	105654	5.00	4.86	
89 Styrene	104	7.924	7.925	-0.001	93	184963	5.00	5.05	
90 Bromoform	173	8.090	8.090	0.000	96	58743	5.00	5.29	
91 Isopropylbenzene	105	8.268	8.268	0.000	95	276000	5.00	4.94	
95 Bromobenzene	156	8.540	8.540	0.000	94	77365	5.00	4.83	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	94	87302	5.00	5.03	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	85	30733	5.00	5.10	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	80	31177	5.00	5.63	
98 N-Propylbenzene	120	8.658	8.658	0.000	98	79799	5.00	4.91	
99 2-Chlorotoluene	126	8.741	8.741	0.000	98	73878	5.00	5.08	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	94	218959	5.00	4.95	
101 4-Chlorotoluene	126	8.847	8.848	-0.001	97	78564	5.00	5.27	
102 tert-Butylbenzene	119	9.143	9.155	-0.012	90	193232	5.00	5.11	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	96	220805	5.00	4.95	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 sec-Butylbenzene	105	9.356	9.356	0.000	94	261531	5.00	4.86	
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	97	143622	5.00	4.93	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	97	231439	5.00	4.85	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	95	149185	5.00	4.77	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	96	130837	5.00	4.80	
111 n-Butylbenzene	91	9.901	9.901	0.000	97	183328	5.00	4.71	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	91	26261	5.00	4.92	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	92	81516	5.00	4.75	
117 Hexachlorobutadiene	225	11.675	11.676	-0.001	93	37204	5.00	4.70	
118 Naphthalene	128	11.723	11.723	0.000	96	194010	5.00	4.25	
119 1,2,3-Trichlorobenzene	180	11.959	11.960	-0.001	96	75944	5.00	4.72	
S 159 Total BTEX	1				0		25.0	25.1	
S 133 Trihalomethanes, Total	1				0		20.0	20.9	
S 130 1,2-Dichloroethene, Total	96				0			9.80	
S 131 1,3-Dichloropropene, Total	75				0			10.3	
S 132 Xylenes, Total	106				0		10.0	9.97	

Reagents:

VMRGAS_00281	Amount Added:	4.00	Units: uL	
vm50ss_stk_00079	Amount Added:	4.00	Units: uL	
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL	
VMRPRIMW_00320	Amount Added:	4.00	Units: uL	
VMAROLISTDW_00283	Amount Added:	4.00	Units: uL	

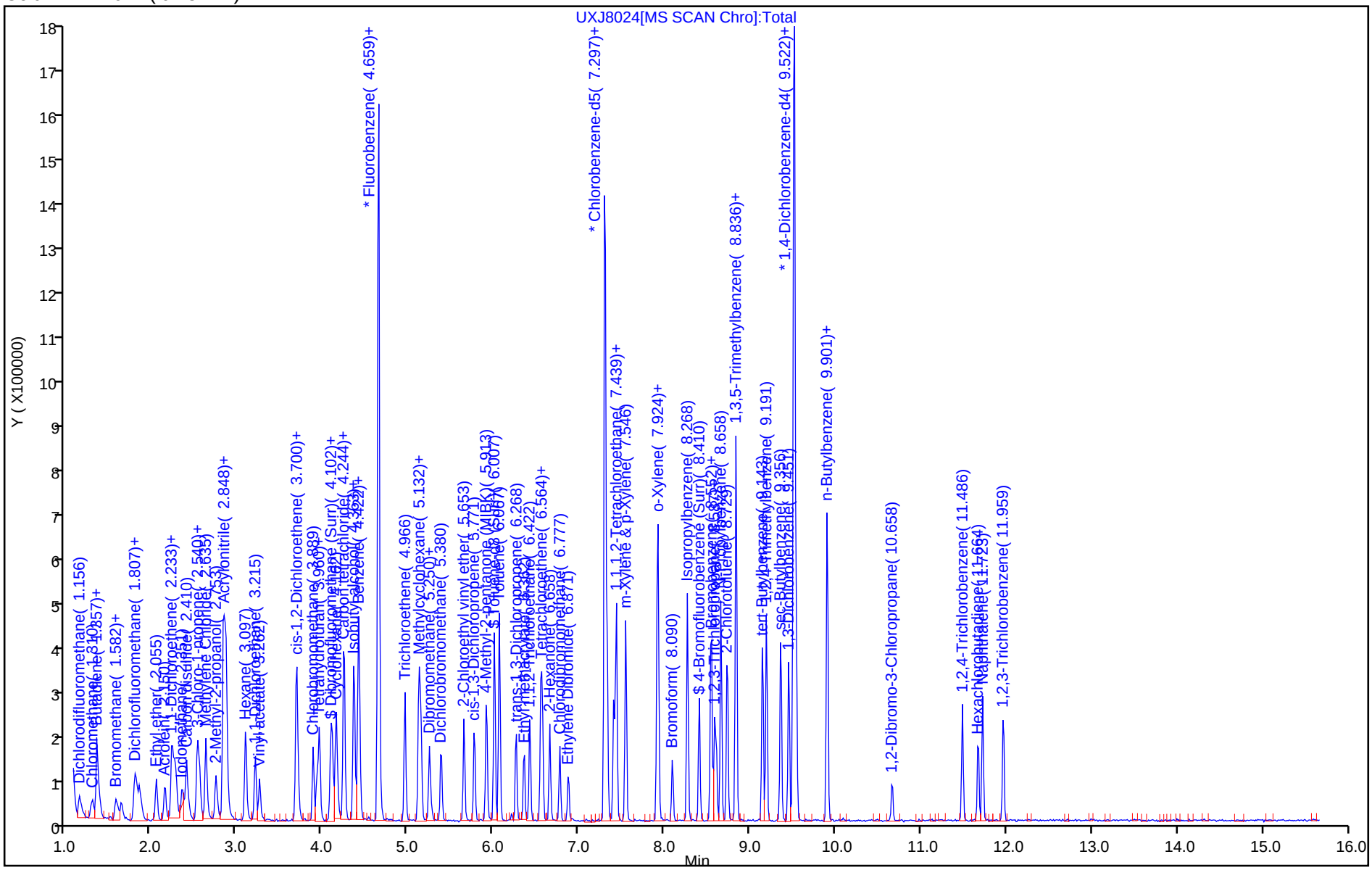
Report Date: 08-Feb-2019 09:14:49 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8024.D

Injection Date:	07-Feb-2019 14:15:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	STD8260 L3			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8025.D
Lims ID: STD8260 L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Feb-2019 14:38:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-006
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub78

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:14:54 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:07:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	99	1095260	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	83	757263	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	93	405932	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	97	24605	2.00	1.93	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	81	33449	2.00	2.16	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	93	82074	2.00	1.83	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	86	28481	2.00	1.98	
9 Dichlorodifluoromethane	85	1.156	1.168	-0.012	94	33811	2.00	2.08	
10 Chloromethane	50	1.298	1.310	-0.012	99	29438	2.00	2.21	
13 Butadiene	54	1.357	1.369	-0.012	96	27131	2.00	2.18	
12 Vinyl chloride	62	1.381	1.393	-0.012	39	29665	2.00	2.05	
15 Bromomethane	94	1.582	1.606	-0.024	87	20704	2.00	2.16	
16 Chloroethane	64	1.641	1.665	-0.024	96	16382	2.00	2.14	
17 Dichlorofluoromethane	67	1.795	1.807	-0.012	97	41103	2.00	2.14	
18 Trichlorofluoromethane	101	1.819	1.831	-0.012	82	40004	2.00	1.96	
19 Ethyl ether	59	2.056	2.067	-0.011	86	20099	2.00	1.97	
20 Acrolein	56	2.150	2.162	-0.012	97	26117	10.0	9.98	
21 1,1-Dichloroethene	96	2.233	2.245	-0.012	96	25640	2.00	2.04	
22 1,1,2-Trichloro-1,2,2-trif	151	2.268	2.280	-0.012	89	21536	2.00	2.04	
23 Acetone	43	2.280	2.292	-0.012	97	27192	4.00	4.63	
25 Iodomethane	142	2.351	2.363	-0.012	97	44542	2.00	1.99	
26 Carbon disulfide	76	2.410	2.411	0.000	99	91902	2.00	2.23	
28 3-Chloro-1-propene	76	2.529	2.541	-0.012	89	18405	2.00	1.98	
29 Methyl acetate	43	2.552	2.564	-0.012	96	48220	4.00	3.84	
30 Methylene Chloride	84	2.635	2.647	-0.012	90	42445	2.00	2.04	
31 2-Methyl-2-propanol	59	2.754	2.754	0.000	96	42922	20.0	20.2	
32 Acrylonitrile	53	2.836	2.848	-0.012	96	133260	20.0	20.3	
34 trans-1,2-Dichloroethene	96	2.860	2.872	-0.012	96	30791	2.00	2.06	
33 Methyl tert-butyl ether	73	2.872	2.884	-0.012	93	69489	2.00	2.08	
35 Hexane	86	3.097	3.109	-0.012	84	3932	2.00	1.70	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 1,1-Dichloroethane	63	3.215	3.215	0.000	96	51015	2.00	2.08	
37 Vinyl acetate	43	3.262	3.274	-0.012	96	45507	2.00	1.97	
41 cis-1,2-Dichloroethene	96	3.688	3.700	-0.012	80	33131	2.00	2.13	
43 2,2-Dichloropropane	97	3.688	3.700	-0.012	60	7740	2.00	2.14	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	99	31612	4.00	4.27	
47 Chlorobromomethane	128	3.890	3.890	0.000	89	17457	2.00	2.19	
48 Tetrahydrofuran	42	3.925	3.937	-0.012	77	19047	4.00	3.84	
49 Chloroform	83	3.961	3.961	0.000	93	48908	2.00	2.06	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	97	42875	2.00	2.07	
51 Cyclohexane	56	4.162	4.162	0.000	89	36529	2.00	1.90	
53 Carbon tetrachloride	117	4.245	4.256	-0.011	95	38755	2.00	1.98	
52 1,1-Dichloropropene	75	4.245	4.256	-0.011	91	36750	2.00	1.94	
54 Isobutyl alcohol	41	4.363	4.363	0.000	90	35587	50.0	47.8	
55 Benzene	78	4.422	4.422	0.000	94	114875	2.00	2.10	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	98	39111	2.00	2.05	
58 n-Heptane	100	4.647	4.659	-0.012	33	4317	2.00	1.50	
60 Trichloroethene	130	4.966	4.966	0.000	89	34086	2.00	2.09	
62 Methylcyclohexane	83	5.132	5.132	0.000	86	43436	2.00	2.04	
63 1,2-Dichloropropane	63	5.156	5.156	0.000	94	24147	2.00	2.10	
65 Dibromomethane	93	5.250	5.250	0.000	89	16623	2.00	2.06	
66 1,4-Dioxane	88	5.274	5.274	0.000	45	5017	40.0	36.4	
67 Dichlorobromomethane	83	5.381	5.392	-0.011	99	35418	2.00	2.02	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	92	28161	4.00	3.99	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	96	35784	2.00	1.97	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	94	48587	4.00	3.68	
72 Toluene	91	6.067	6.067	0.000	96	103151	2.00	1.89	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	91	36666	2.00	2.06	
74 Ethyl methacrylate	69	6.351	6.363	-0.012	87	28459	2.00	1.92	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	84	22922	2.00	2.00	
76 Tetrachloroethene	164	6.552	6.552	0.000	95	23718	2.00	1.94	
77 1,3-Dichloropropane	76	6.576	6.576	0.000	90	36153	2.00	1.97	
78 2-Hexanone	43	6.659	6.659	-0.001	98	40322	4.00	4.11	
80 Chlorodibromomethane	129	6.777	6.777	0.000	85	28493	2.00	2.14	
82 Ethylene Dibromide	107	6.871	6.872	-0.001	95	21792	2.00	1.84	
84 Chlorobenzene	112	7.333	7.333	0.000	93	71386	2.00	1.95	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	94	27415	2.00	1.95	
86 Ethylbenzene	106	7.439	7.439	0.000	99	33590	2.00	1.83	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	98	37781	2.00	1.76	
88 o-Xylene	106	7.913	7.913	0.000	96	38511	2.00	1.86	
89 Styrene	104	7.925	7.925	0.000	93	62454	2.00	1.78	
90 Bromoform	173	8.090	8.090	0.000	95	21407	2.00	2.02	
91 Isopropylbenzene	105	8.268	8.268	0.000	95	93008	2.00	1.74	
95 Bromobenzene	156	8.540	8.540	0.000	91	30472	2.00	2.00	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	92	32123	2.00	1.95	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	84	12345	2.00	2.16	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	67	10685	2.00	2.03	
98 N-Propylbenzene	120	8.658	8.658	0.000	99	26311	2.00	1.71	
99 2-Chlorotoluene	126	8.741	8.741	0.000	97	24540	2.00	1.78	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	97	71649	2.00	1.71	
101 4-Chlorotoluene	126	8.836	8.848	-0.012	98	25871	2.00	1.83	
102 tert-Butylbenzene	119	9.143	9.155	-0.012	90	59904	2.00	1.67	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	92	72413	2.00	1.71	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 sec-Butylbenzene	105	9.356	9.356	0.000	93	92291	2.00	1.81	
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	96	54925	2.00	1.99	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	96	80813	2.00	1.79	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	93	61678	2.00	2.08	
111 n-Butylbenzene	91	9.901	9.901	0.000	97	64537	2.00	1.75	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	95	52725	2.00	2.04	
114 1,2-Dibromo-3-Chloropropan	157	10.658	10.670	-0.012	83	9092	2.00	1.61	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	90	31765	2.00	1.95	
117 Hexachlorobutadiene	225	11.676	11.676	0.000	95	16252	2.00	2.16	
118 Naphthalene	128	11.723	11.723	0.000	95	79647	2.00	1.84	
119 1,2,3-Trichlorobenzene	180	11.971	11.960	0.011	90	28542	2.00	1.87	
S 133 Trihalomethanes, Total	1				0		8.00	8.23	
S 159 Total BTEX	1				0		10.0	9.42	
S 130 1,2-Dichloroethene, Total	96				0			4.18	
S 131 1,3-Dichloropropene, Total	75				0			4.03	
S 132 Xylenes, Total	106				0		4.00	3.62	

Reagents:

VMRGAS_00281	Amount Added:	1.60	Units: uL
vm50ss_stk_00079	Amount Added:	1.60	Units: uL
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL
VMRPRIMW_00320	Amount Added:	1.60	Units: uL
VMAROLISTDW_00283	Amount Added:	1.60	Units: uL

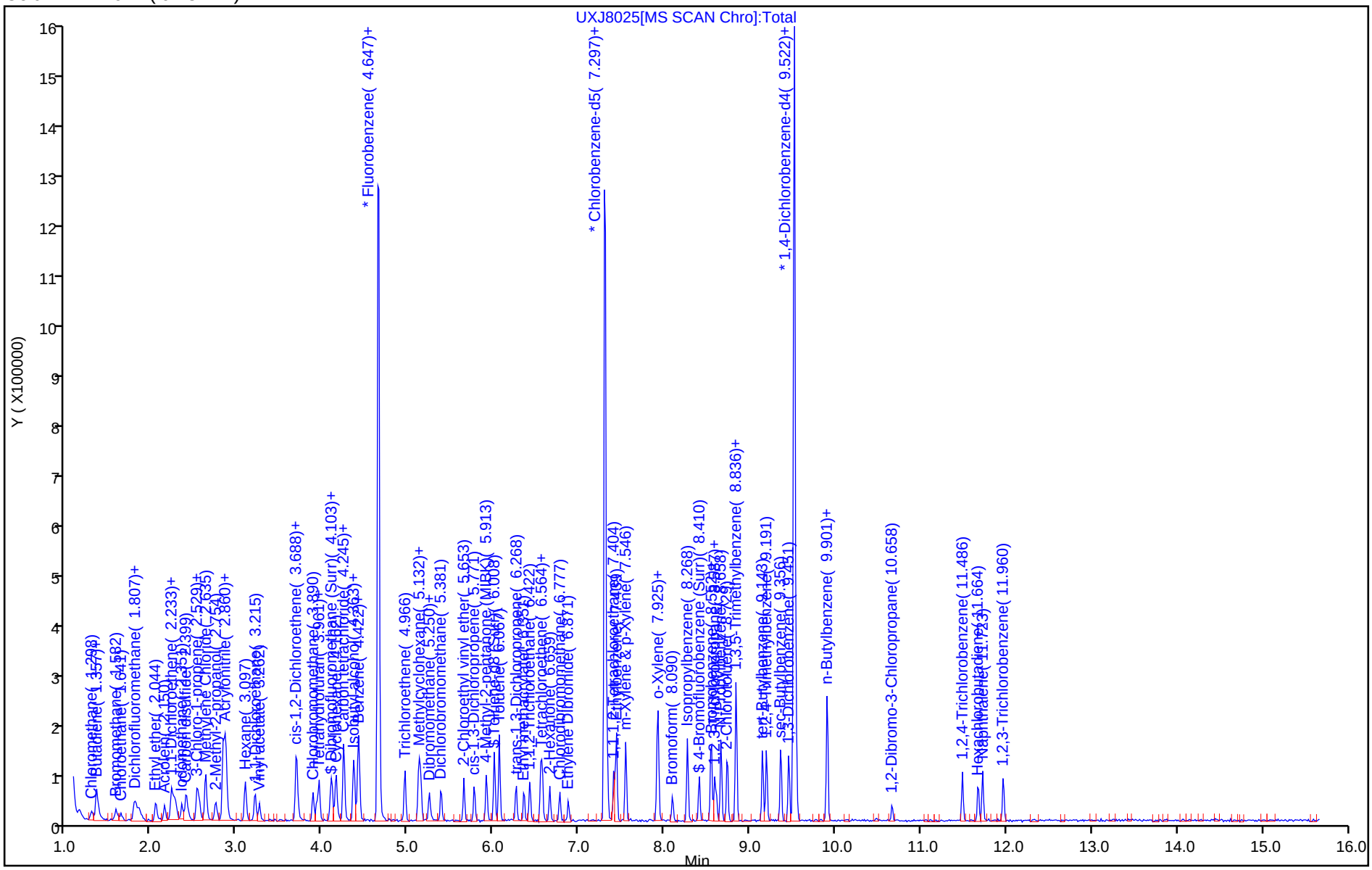
Report Date: 08-Feb-2019 09:14:55 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8025.D

Injection Date:	07-Feb-2019 14:38:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	STD8260 L2			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8026.D
Lims ID: STD8260 L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Feb-2019 15:00:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084305-007
Misc. Info.: J90207A-IC,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11
Sublist: chrom-8260_11*sub78

Method: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Feb-2019 09:15:00 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: evansle Date: 08-Feb-2019 08:08:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.659	0.000	99	1116865	20.0	20.0	
* 2 Chlorobenzene-d5	117	7.309	7.309	0.000	83	702853	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	92	374248	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.103	-0.012	94	13778	1.00	1.06	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.375	0.000	96	16708	1.00	1.06	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	92	41706	1.00	1.00	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	89	13244	1.00	0.99	
9 Dichlorodifluoromethane	85	1.168	1.168	0.000	94	14302	1.00	0.8637	
10 Chloromethane	50	1.322	1.310	0.012	1	14735	1.00	1.08	a
13 Butadiene	54	1.369	1.369	0.000	92	12457	1.00	0.9813	
12 Vinyl chloride	62	1.393	1.393	0.000	93	15085	1.00	1.02	
15 Bromomethane	94	1.594	1.606	-0.012	85	9111	1.00	0.9329	
16 Chloroethane	64	1.653	1.665	-0.012	39	6225	1.00	0.7992	
17 Dichlorofluoromethane	67	1.807	1.807	0.000	95	20171	1.00	1.03	
18 Trichlorofluoromethane	101	1.854	1.831	0.023	84	20689	1.00	1.00	
19 Ethyl ether	59	2.055	2.067	-0.012	81	10777	1.00	1.04	
20 Acrolein	56	2.150	2.162	-0.012	98	12263	5.00	4.60	
21 1,1-Dichloroethene	96	2.245	2.245	0.000	94	12563	1.00	0.9793	
22 1,1,2-Trichloro-1,2,2-trif	151	2.280	2.280	0.000	63	10111	1.00	0.9383	
23 Acetone	43	2.280	2.292	-0.012	98	13879	2.00	2.32	
25 Iodomethane	142	2.351	2.363	-0.012	99	22823	1.00	1.00	
26 Carbon disulfide	76	2.410	2.411	0.000	98	46298	1.00	1.10	
28 3-Chloro-1-propene	76	2.541	2.541	0.000	88	10125	1.00	1.07	
29 Methyl acetate	43	2.564	2.564	0.000	97	25546	2.00	2.00	
30 Methylene Chloride	84	2.635	2.647	-0.012	93	28456	1.00	0.9073	
31 2-Methyl-2-propanol	59	2.754	2.754	0.000	95	24619	10.0	11.4	
32 Acrylonitrile	53	2.836	2.848	-0.012	97	64753	10.0	9.69	
34 trans-1,2-Dichloroethene	96	2.872	2.872	0.000	97	15989	1.00	1.05	
33 Methyl tert-butyl ether	73	2.872	2.884	-0.012	94	33845	1.00	0.99	
35 Hexane	86	3.097	3.109	-0.012	83	1522	1.00	1.07	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 1,1-Dichloroethane	63	3.215	3.215	0.000	95	26535	1.00	1.06	
37 Vinyl acetate	43	3.262	3.274	-0.012	95	21348	1.00	0.9075	
43 2,2-Dichloropropane	97	3.688	3.700	-0.012	54	4143	1.00	1.12	
41 cis-1,2-Dichloroethene	96	3.700	3.700	0.000	83	15518	1.00	0.9767	
42 2-Butanone (MEK)	43	3.712	3.712	0.000	69	12784	2.00	1.69	
47 Chlorobromomethane	128	3.901	3.890	0.011	94	8562	1.00	1.05	
48 Tetrahydrofuran	42	3.937	3.937	0.000	84	10465	2.00	2.07	
49 Chloroform	83	3.960	3.961	-0.001	96	23384	1.00	0.9654	
50 1,1,1-Trichloroethane	97	4.114	4.114	0.000	96	23404	1.00	1.11	
51 Cyclohexane	56	4.162	4.162	0.000	85	16522	1.00	0.8432	
52 1,1-Dichloropropene	75	4.244	4.256	-0.012	93	19040	1.00	0.9865	
53 Carbon tetrachloride	117	4.244	4.256	-0.012	96	21059	1.00	1.06	
54 Isobutyl alcohol	41	4.375	4.363	0.012	83	17638	25.0	25.5	
55 Benzene	78	4.422	4.422	0.000	94	56029	1.00	1.00	
56 1,2-Dichloroethane	62	4.434	4.434	0.000	95	20305	1.00	1.04	
58 n-Heptane	100	4.659	4.659	0.000	37	2973	1.00	1.07	
60 Trichloroethene	130	4.966	4.966	0.000	93	18033	1.00	1.08	
62 Methylcyclohexane	83	5.132	5.132	0.000	86	19643	1.00	0.9055	
63 1,2-Dichloropropane	63	5.156	5.156	0.000	91	11053	1.00	0.9425	
65 Dibromomethane	93	5.250	5.250	0.000	87	8259	1.00	1.00	
66 1,4-Dioxane	88	5.274	5.274	0.000	23	2371	20.0	22.7	
67 Dichlorobromomethane	83	5.392	5.392	0.000	96	18968	1.00	1.06	
69 2-Chloroethyl vinyl ether	63	5.653	5.653	0.000	94	11930	2.00	1.66	
70 cis-1,3-Dichloropropene	75	5.771	5.771	0.000	94	17074	1.00	0.9202	
71 4-Methyl-2-pentanone (MIBK	43	5.913	5.913	0.000	93	23723	2.00	1.76	
72 Toluene	91	6.067	6.067	0.000	98	50368	1.00	0.99	
73 trans-1,3-Dichloropropene	75	6.268	6.268	0.000	94	17032	1.00	1.03	
74 Ethyl methacrylate	69	6.363	6.363	0.000	86	12213	1.00	0.8877	
75 1,1,2-Trichloroethane	97	6.422	6.422	0.000	84	12734	1.00	1.19	
76 Tetrachloroethene	164	6.552	6.552	0.000	97	11477	1.00	1.01	
77 1,3-Dichloropropane	76	6.576	6.576	0.000	90	17776	1.00	1.04	
78 2-Hexanone	43	6.658	6.659	-0.001	96	15753	2.00	1.73	
80 Chlorodibromomethane	129	6.777	6.777	0.000	93	10939	1.00	0.8840	
82 Ethylene Dibromide	107	6.871	6.872	-0.001	94	12725	1.00	1.16	a
84 Chlorobenzene	112	7.333	7.333	0.000	97	38544	1.00	1.13	
85 1,1,1,2-Tetrachloroethane	131	7.404	7.404	0.000	93	15538	1.00	1.19	
86 Ethylbenzene	106	7.439	7.439	0.000	96	17672	1.00	1.03	
87 m-Xylene & p-Xylene	106	7.546	7.546	0.000	98	17633	1.00	0.8856	
88 o-Xylene	106	7.913	7.913	0.000	95	17027	1.00	0.8837	
89 Styrene	104	7.924	7.925	-0.001	91	27201	1.00	0.8376	
90 Bromoform	173	8.090	8.090	0.000	95	9430	1.00	0.9571	
91 Isopropylbenzene	105	8.268	8.268	0.000	94	45741	1.00	0.9228	
95 Bromobenzene	156	8.552	8.540	0.012	85	14505	1.00	1.03	
94 1,1,2,2-Tetrachloroethane	83	8.552	8.552	0.000	93	15997	1.00	1.05	
96 1,2,3-Trichloropropane	110	8.587	8.587	0.000	82	5144	1.00	0.9763	
97 trans-1,4-Dichloro-2-buten	53	8.611	8.611	0.000	67	4646	1.00	0.9595	
98 N-Propylbenzene	120	8.658	8.658	0.000	98	12737	1.00	0.8965	
99 2-Chlorotoluene	126	8.729	8.741	-0.012	97	11634	1.00	0.9136	
100 1,3,5-Trimethylbenzene	105	8.836	8.836	0.000	89	34175	1.00	0.8833	
101 4-Chlorotoluene	126	8.847	8.848	-0.001	97	11598	1.00	0.8892	
102 tert-Butylbenzene	119	9.143	9.155	-0.012	89	28431	1.00	0.8591	
104 1,2,4-Trimethylbenzene	105	9.191	9.191	0.000	95	33988	1.00	0.8707	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 sec-Butylbenzene	105	9.356	9.356	0.000	93	41813	1.00	0.8872	
106 1,3-Dichlorobenzene	146	9.451	9.451	0.000	96	25676	1.00	1.01	
107 4-Isopropyltoluene	119	9.510	9.510	0.000	95	35416	1.00	0.8491	
108 1,4-Dichlorobenzene	146	9.546	9.546	0.000	92	32006	1.00	1.17	
112 1,2-Dichlorobenzene	146	9.901	9.901	0.000	88	23761	1.00	1.00	
111 n-Butylbenzene	91	9.901	9.901	0.000	95	33386	1.00	0.9814	
114 1,2-Dibromo-3-Chloropropan	157	10.670	10.670	0.000	90	6487	1.00	1.18	
116 1,2,4-Trichlorobenzene	180	11.486	11.486	0.000	92	15913	1.00	1.06	
117 Hexachlorobutadiene	225	11.676	11.676	0.000	92	8045	1.00	1.16	
118 Naphthalene	128	11.723	11.723	0.000	96	38023	1.00	0.9522	
119 1,2,3-Trichlorobenzene	180	11.971	11.960	0.011	92	14666	1.00	1.04	
S 159 Total BTEX	1				0		5.00	4.80	
S 133 Trihalomethanes, Total	1				0		4.00	3.87	
S 130 1,2-Dichloroethene, Total	96				0			2.02	
S 131 1,3-Dichloropropene, Total	75				0			1.95	
S 132 Xylenes, Total	106				0		2.00	1.77	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VMRGAS_00281	Amount Added:	0.80	Units: uL
vm50ss_stk_00079	Amount Added:	0.80	Units: uL
vm50is_stk_A_00002	Amount Added:	2.00	Units: uL
VMRPRIMW_00320	Amount Added:	0.80	Units: uL
VMAROLISTDW_00283	Amount Added:	0.80	Units: uL

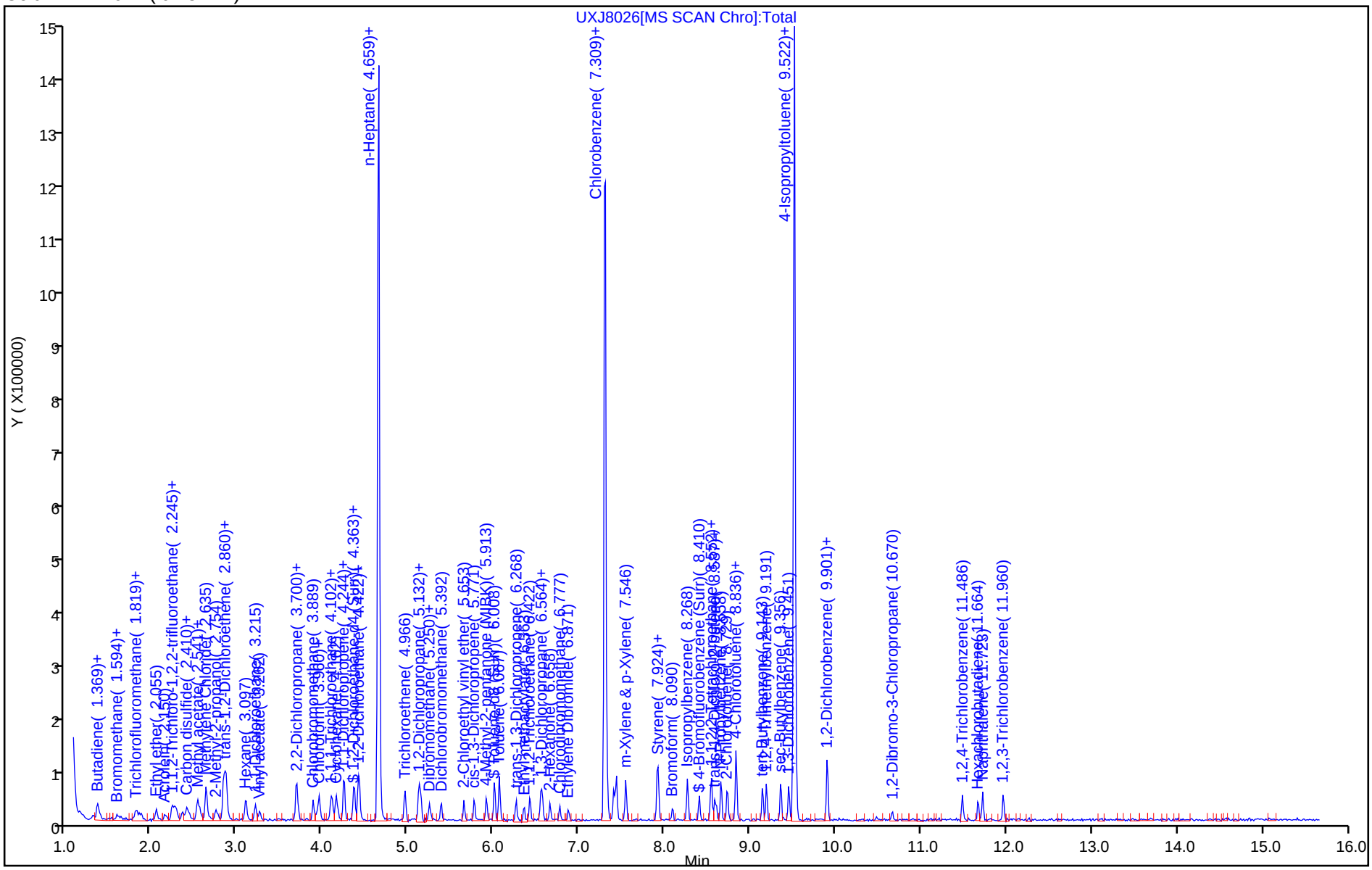
Report Date: 08-Feb-2019 09:15:01 Chrom Revision: 2.3 15-Jan-2019 08:51:34

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8026.D

Injection Date:	07-Feb-2019 15:00:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	STD8260 L1			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Canton

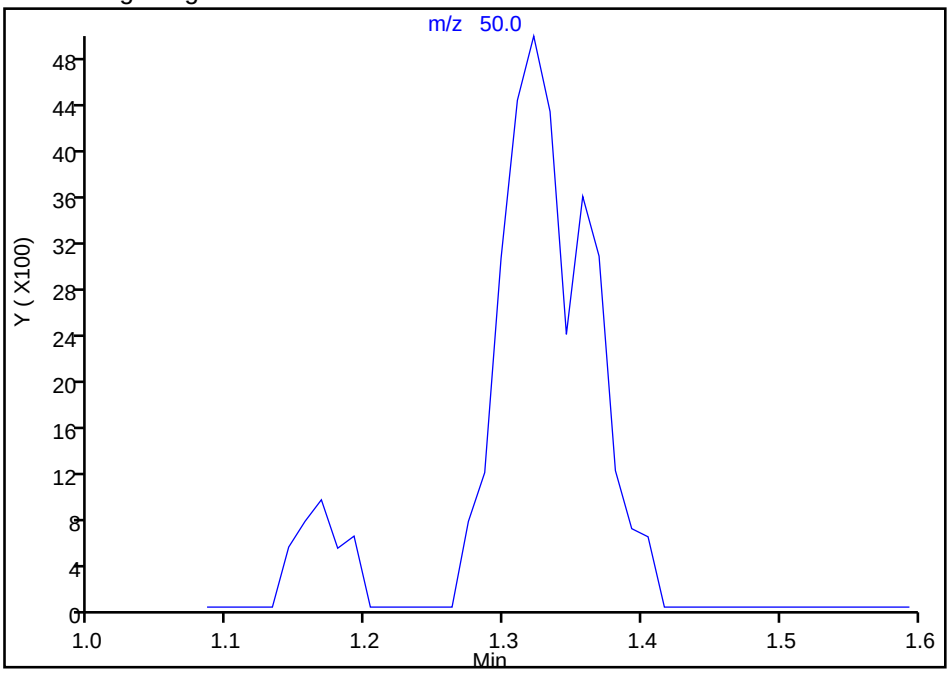
Data File:	\\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8026.D				
Injection Date:	07-Feb-2019 15:00:30	Instrument ID:	A3UX11		
Lims ID:	STD8260 L1				
Client ID:					
Operator ID:	43582	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260_11	Limit Group:	MSV 8260B ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Chloromethane, CAS: 74-87-3

Signal: 1

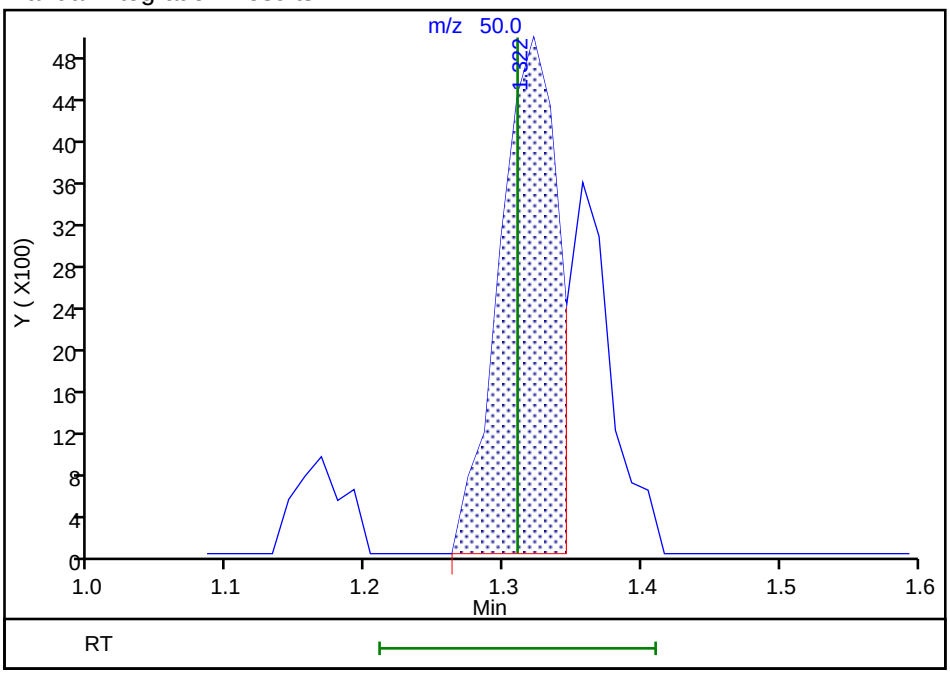
Processing Integration Results

Not Detected
Expected RT: 1.31



Manual Integration Results

RT: 1.32
Area: 14735
Amount: 1.082937
Amount Units: ug/l



Reviewer: evansle, 08-Feb-2019 08:08:26
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Canton

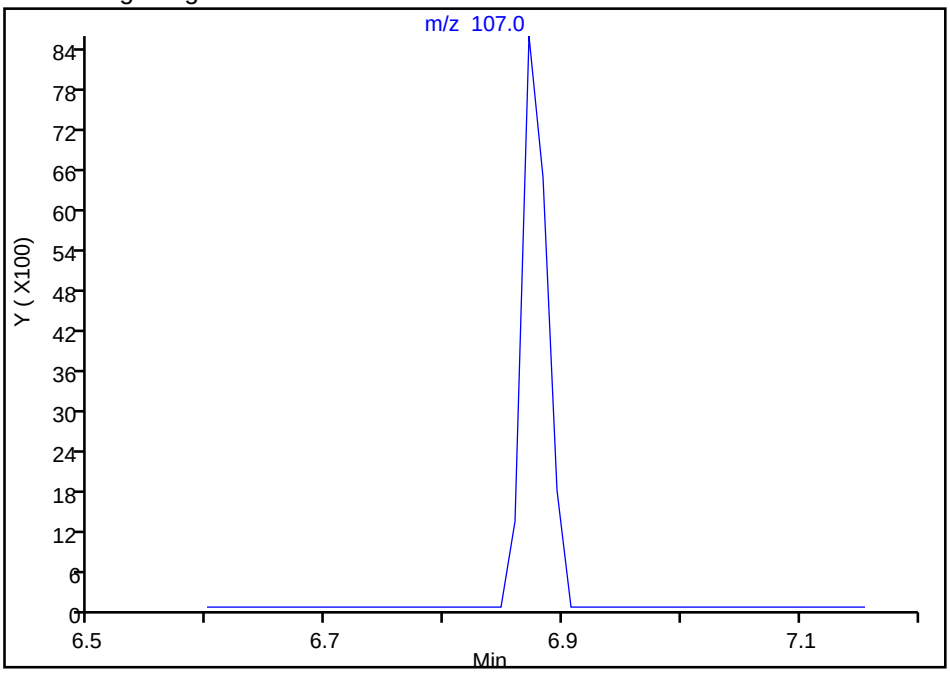
Data File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8026.D
Injection Date: 07-Feb-2019 15:00:30 Instrument ID: A3UX11
Lims ID: STD8260 L1
Client ID:
Operator ID: 43582 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: 8260_11 Limit Group: MSV 8260B ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

82 Ethylene Dibromide, CAS: 106-93-4

Signal: 1

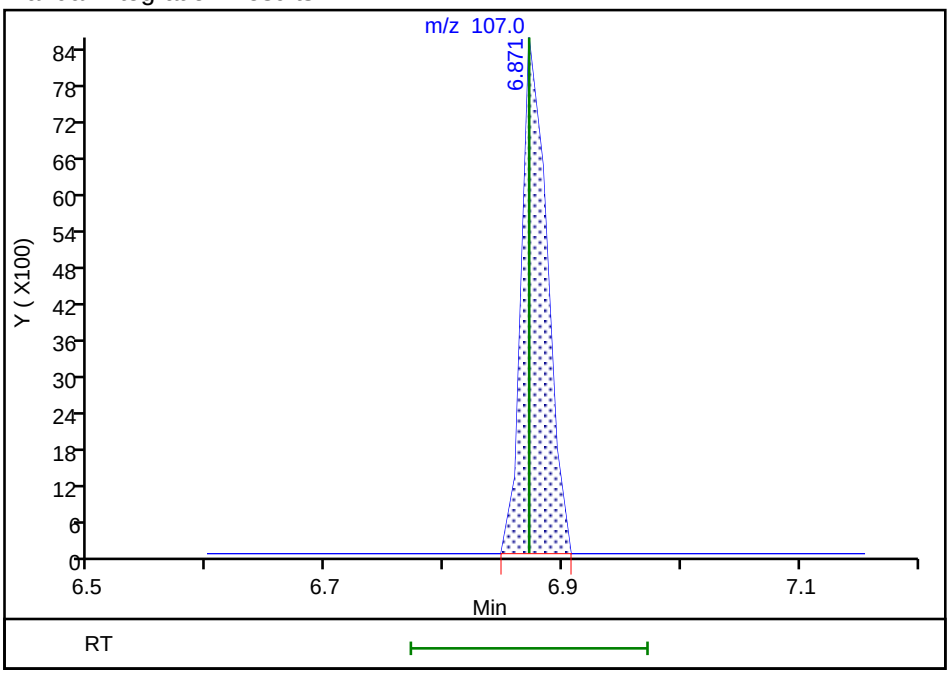
Not Detected
Expected RT: 6.87

Processing Integration Results



Manual Integration Results

RT: 6.87
Area: 12725
Amount: 1.158386
Amount Units: ug/l



Reviewer: evansle, 08-Feb-2019 08:23:09
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-108816-1

SDG No.:

Client Sample ID: SUMP-34940BEACON-01-022819 Lab Sample ID: 240-108816-1

Matrix: Water Lab File ID: UXJ8615.D

Analysis Method: 8260B Date Collected: 02/28/2019 09:35

Sample wt/vol: 5(mL) Date Analyzed: 03/06/2019 19:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 370483 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.19
156-59-2	cis-1,2-Dichloroethene	0.84	J	1.0	0.16
127-18-4	Tetrachloroethene	1.0	U	1.0	0.15
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.19
79-01-6	Trichloroethene	1.0	U	1.0	0.10
75-01-4	Vinyl chloride	1.0	U	1.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		70-121
460-00-4	4-Bromofluorobenzene (Surr)	94		59-120
2037-26-5	Toluene-d8 (Surr)	109		70-123
1868-53-7	Dibromofluoromethane (Surr)	103		75-128

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\UXJ8615.D
Lims ID: 240-108816-E-1
Client ID: SUMP-34940BEACON-01-022819
Sample Type: Client
Inject. Date: 06-Mar-2019 19:17:30 ALS Bottle#: 25 Worklist Smp#: 55
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084948-055
Misc. Info.: J90306A,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11

Method: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 07-Mar-2019 08:40:31 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: evansle Date: 07-Mar-2019 08:36:24

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	4.659	4.647	0.012	99	1416792	20.0	
* 2 Chlorobenzene-d5	117	7.297	7.297	0.000	90	851113	20.0	
* 3 1,4-Dichlorobenzene-d4	152	9.522	9.522	0.000	96	356193	20.0	
$ 4 Dibromofluoromethane (Surr	113	4.091	4.091	0.000	97	341828	20.7	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.375	4.363	0.012	98	449940	22.5	
$ 6 Toluene-d8 (Surr)	98	6.008	6.008	0.000	94	1100545	21.8	
$ 7 4-Bromofluorobenzene (Surr	95	8.410	8.410	0.000	96	304079	18.8	
12 Vinyl chloride	62		1.369				ND	
21 1,1-Dichloroethene	96		2.233				ND	
34 trans-1,2-Dichloroethene	96		2.860				ND	
41 cis-1,2-Dichloroethene	96	3.700	3.688	0.012	82	16943	0.8406	
60 Trichloroethene	130		4.954				ND	
76 Tetrachloroethene	164		6.552				ND	

Reagents:

vm40ml_vials_00009	Amount Added:	0.00	Units:	Run Reagent
vm50ss_stk_00079	Amount Added:	2.00	Units: uL	Run Reagent
VM50IS_00073	Amount Added:	2.00	Units: uL	Run Reagent
vmDist_H2o_00139	Amount Added:	0.00	Units:	Run Reagent

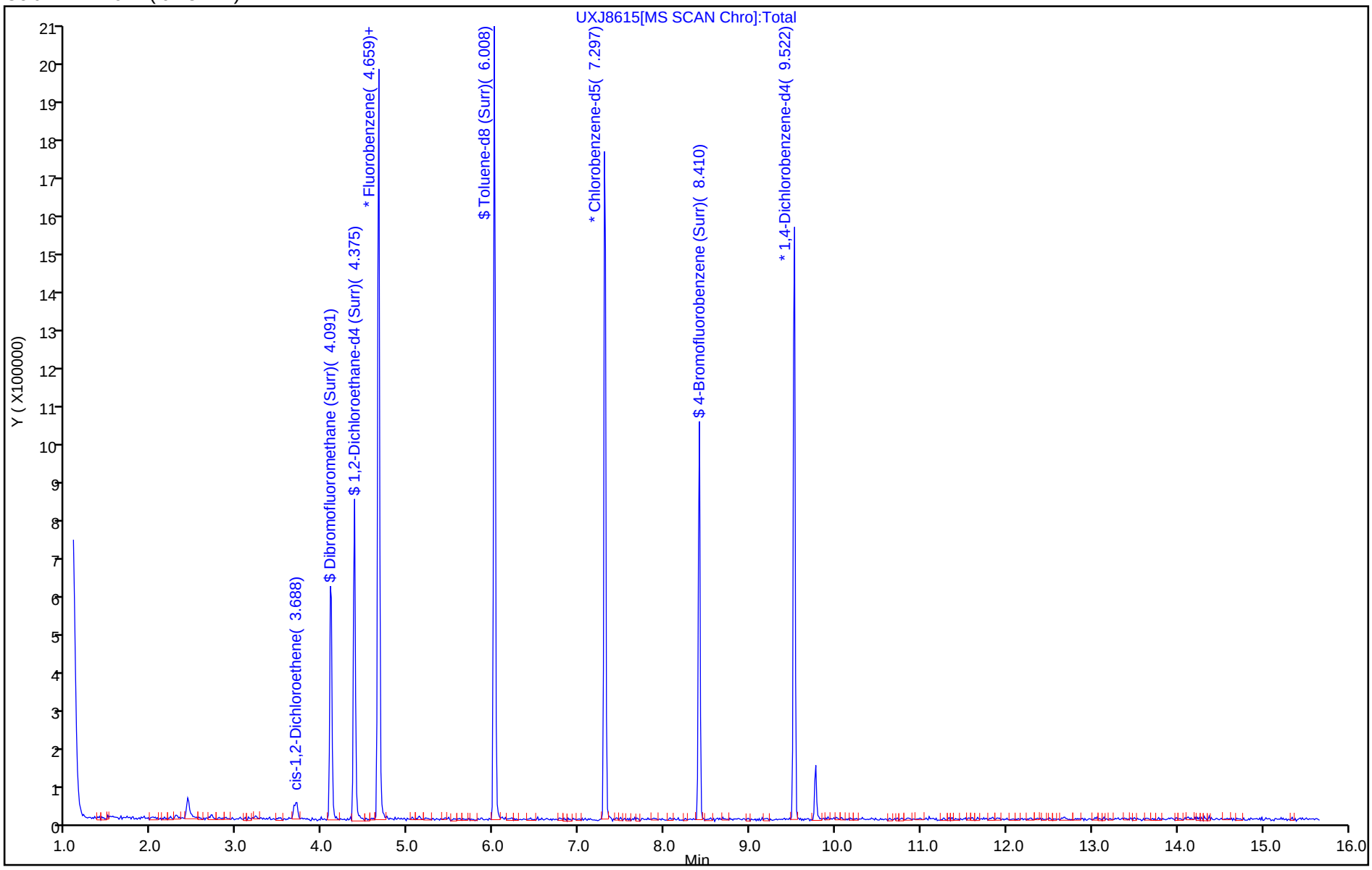
Report Date: 07-Mar-2019 08:40:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\UXJ8615.D

Injection Date:	06-Mar-2019 19:17:30	Instrument ID:	A3UX11	Operator ID:	43582
Lims ID:	240-108816-E-1	Lab Sample ID:	240-108816-1	Worklist Smp#:	55
Client ID:	SUMP-34940BEACON-01-022819				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	8260_11	Limit Group:	MSV 8260B ICAL		

Column: DB-624 (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\UXJ8615.D
Lims ID: 240-108816-E-1
Client ID: SUMP-34940BEACON-01-022819
Sample Type: Client
Inject. Date: 06-Mar-2019 19:17:30 ALS Bottle#: 25 Worklist Smp#: 55
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0084948-055
Misc. Info.: J90306A,8260LLUX11,,43582
Operator ID: 43582 Instrument ID: A3UX11

Method: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\8260_11.m
Limit Group: MSV 8260B ICAL
Last Update: 07-Mar-2019 08:40:31 Calib Date: 07-Feb-2019 20:09:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Canton\ChromData\A3UX11\20190207-84305.b\UXJ8040.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: evansle Date: 07-Mar-2019 08:36:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Dibromofluoromethane (Surr)	20.0	20.7	103.40
$ 5 1,2-Dichloroethane-d4 (Surr)	20.0	22.5	112.47
$ 6 Toluene-d8 (Surr)	20.0	21.8	108.96
$ 7 4-Bromofluorobenzene (Surr)	20.0	18.8	94.13

Report Date: 07-Mar-2019 08:40:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Canton

Data File: \\chromna\Canton\ChromData\A3UX11\20190306-84948.b\UXJ8615.D

Injection Date: 06-Mar-2019 19:17:30 Instrument ID: A3UX11

Lims ID: 240-108816-E-1 Lab Sample ID: 240-108816-1

Client ID: SUMP-34940BEACON-01-022819

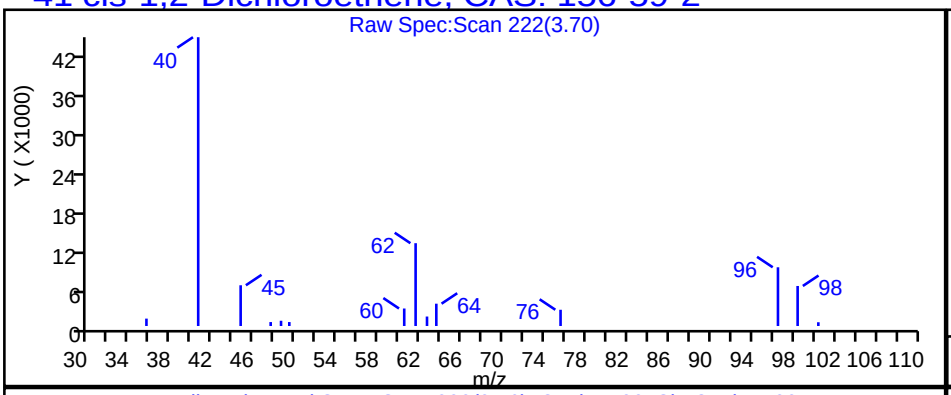
Operator ID: 43582 ALS Bottle#: 25 Worklist Smp#: 55

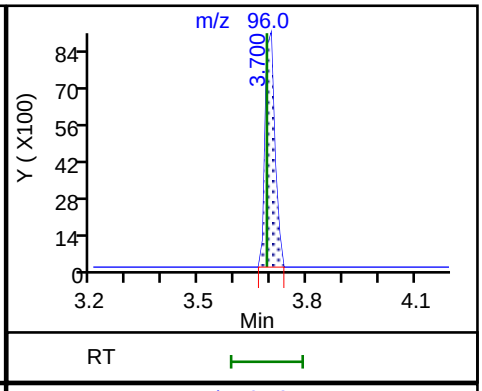
Purge Vol: 5.000 mL Dil. Factor: 1.0000

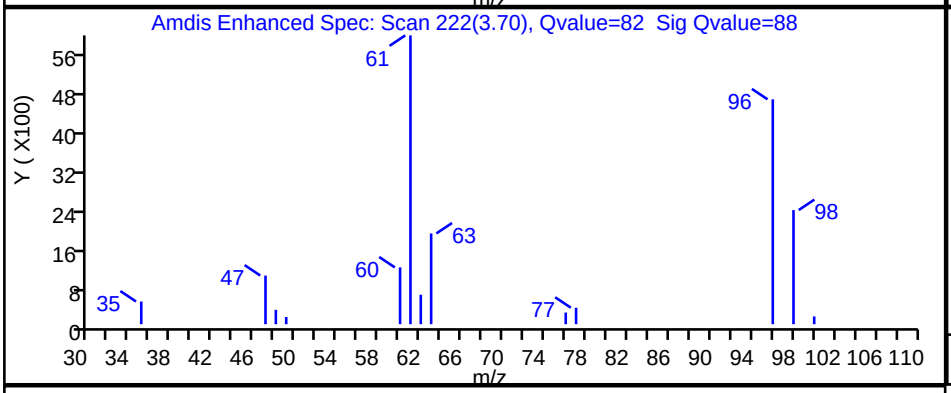
Method: 8260_11 Limit Group: MSV 8260B ICAL

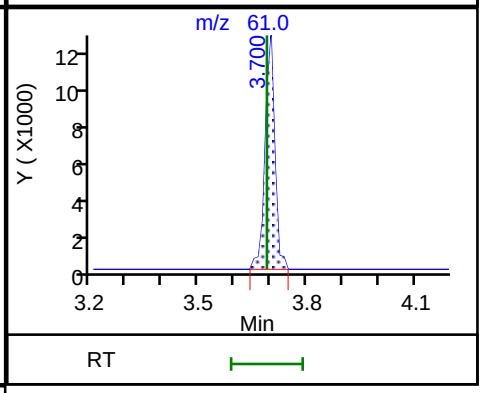
Column: DB-624 (0.18 mm) Detector MS SCAN

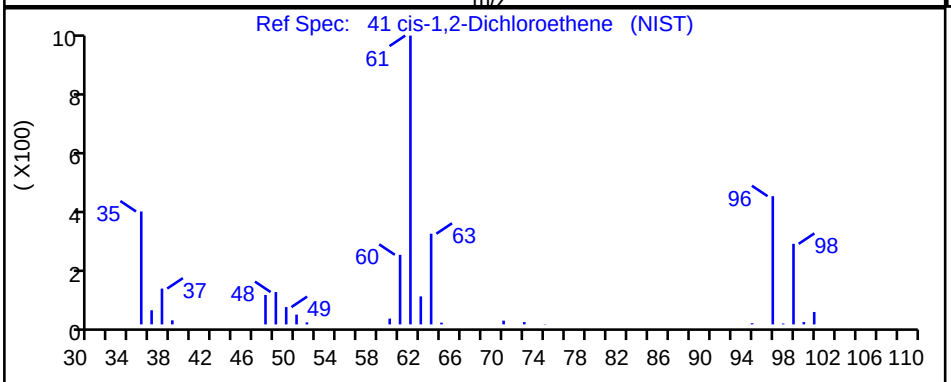
41 cis-1,2-Dichloroethene, CAS: 156-59-2

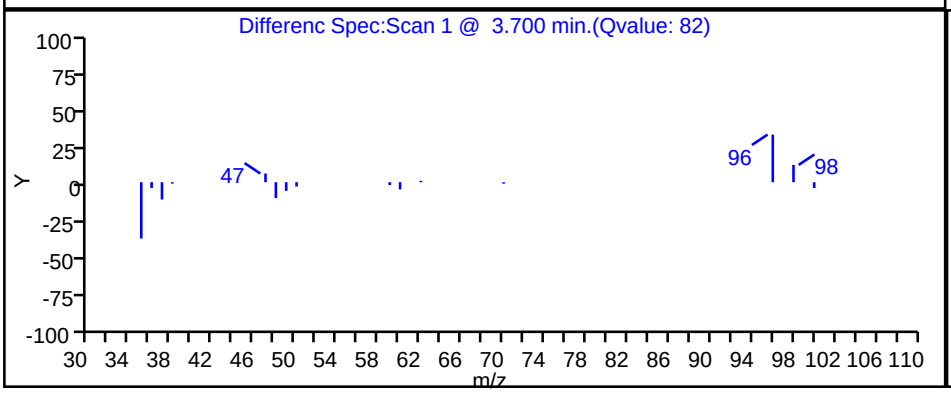


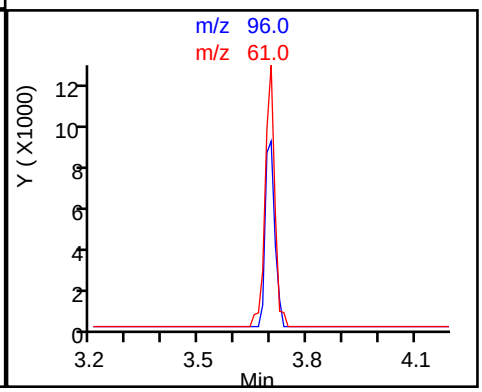












Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(70-121)	(59-120)	(70-123)	(75-128)
240-108816-1	SUMP-34940BEACON-01-0228	112	94	109	103
LCS 240-370483/4	Lab Control Sample	107	110	123	103
MB 240-370483/6	Method Blank	114	99	112	111

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DCA
Lab Sample ID	Client Sample ID	(63-125)
240-108804-B-1 MS	Matrix Spike	83
240-108804-B-1 MSD	Matrix Spike Duplicate	84
240-108816-1	SUMP-34940BEACON-01-0228	84
	19	
LCS 240-370124/4	Lab Control Sample	86
MB 240-370124/5	Method Blank	86

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-370483/6
Matrix: Water
Analysis Batch: 370483

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/06/19 11:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/06/19 11:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/06/19 11:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/06/19 11:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/06/19 11:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/06/19 11:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 121*		*03/06/19 11:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*59 - 120*		*03/06/19 11:39*	*1*
Toluene-d8 (Surr)	*112*		*70 - 123*		*03/06/19 11:39*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 128*		*03/06/19 11:39*	*1*

Lab Sample ID: LCS 240-370483/4
Matrix: Water
Analysis Batch: 370483

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.6		ug/L		106	65 - 139
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	76 - 128
Tetrachloroethene	10.0	7.81		ug/L		78	74 - 130
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	78 - 133
Trichloroethene	10.0	8.44		ug/L		84	76 - 125
Vinyl chloride	10.0	13.5		ug/L		135	58 - 143

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 121*
4-Bromofluorobenzene (Surr)	*110*		*59 - 120*
Toluene-d8 (Surr)	*123*		*70 - 123*
Dibromofluoromethane (Surr)	*103*		*75 - 128*

Lab Sample ID: MRL 240-370483/5
Matrix: Water
Analysis Batch: 370483

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.00100	0.00143		ng/uL		143	10 - 150

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-370124/5
Matrix: Water
Analysis Batch: 370124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/19 13:45	1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-370124/5
Matrix: Water
Analysis Batch: 370124

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		63 - 125		03/04/19 13:45	1

Lab Sample ID: LCS 240-370124/4
Matrix: Water
Analysis Batch: 370124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			10.0	12.1		ug/L		121	59 - 131		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		63 - 125

Lab Sample ID: 240-108804-B-1 MS
Matrix: Water
Analysis Batch: 370124

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	2.0	U	10.0	11.6		ug/L		116	52 - 129		

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		63 - 125

Lab Sample ID: 240-108804-B-1 MSD
Matrix: Water
Analysis Batch: 370124

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.3		ug/L		113	52 - 129	3	13

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		63 - 125

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

GC/MS VOA

Analysis Batch: 370124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-108816-1	SUMP-34940BEACON-01-022819	Total/NA	Water	8260B SIM	
MB 240-370124/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-370124/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-108804-B-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-108804-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 370483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-108816-1	SUMP-34940BEACON-01-022819	Total/NA	Water	8260B	
MB 240-370483/6	Method Blank	Total/NA	Water	8260B	
LCS 240-370483/4	Lab Control Sample	Total/NA	Water	8260B	
MRL 240-370483/5	Lab Control Sample	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Client Sample ID: SUMP-34940BEACON-01-022819
Date Collected: 02/28/19 09:35
Date Received: 03/02/19 09:45

Lab Sample ID: 240-108816-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	370483	03/06/19 19:17	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	370124	03/04/19 19:14	SAM	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

MICHIGAN
190

2.2/C2.0 1.4/C1.2

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: N.Canton — 4101 Shuffel Street NW/ North Canton, OH 44720 / 330-497-9396

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Angela DeGrandis	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis				
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-320-0065	Telephone: 330-497-9396	1 of 1 COCs
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
Phone: 248-994-2240		TAT if different from below ☐ 3 weeks ☐ 2 weeks 5 Day ☑ 1 week ☐ 2 days ☐ 1 day		Walk-in client Lab sampling
Project Name: Ford LTP				
Project Number: MI001454.0003	Method of Shipment/Carrier:			Job/SDG No:
PO # MI001454.0003	Shipping/Tracking No:			

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM				Sample Specific Notes / Special Instructions:
SUMP-34940Beacon-01_022819	2/28/19	0935		X						X					N	G	X	X	X	X	X	X	X				6 containers

240-108816 Chain of Custody

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal By Lab ☐ Archive For ☐ Months

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203631
Level IV Reporting.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Seth Turner	Arcadis	2/28/19/1900	Novi Cold storage	Arcadis	2/28/19/1900
Relinquished by: Caitlin O'Neill	Company: ARCADIS	Date/Time: 03/01/19	Received by: Teri Hall	Company: TA	Date/Time: 3-1-19 1550
Relinquished by: Teri Hall	Company: TA	Date/Time: 3-1-19 1550	Received in Laboratory by:	Company: TA	Date/Time: 3-2-19 945

3/11/2019

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 108816**
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by:

Cooler Received on 3-2-19 Opened on 3-2-19

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 14 Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam (Plastic Bag) None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☑ See Multiple Cooler Form
   IR GUN# IR-8 (CF **-0.2** °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #36 (CF **+0.7**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____ Yes (No)
   -Were the seals on the outside of the cooler(s) signed & dated? Yes No (NA)
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Are these work share samples? Yes (No)
    If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# **HC861525**
13. Were VOAs on the COC? (Yes) No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No (NA)
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes No
16. Was a LL Hg or Me Hg trip blank present? _____ Yes (No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # : ______________

TestAmerica Canton Sample Receipt Multiple Cooler Form				
Cooler Description	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
TA	8	2.2	2.0	wet ice
"	"	1.4	1.2	" "
			☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

March 11, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 108816-1
Sample date: 2019-02-28
Report received by CADENA: 2019-03-11
Initial Data Verification completed by CADENA: 2019-03-11

The following minor QC exceptions or missing information were noted:

> GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

1 Water sample was analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at http://clms.cadenaco.com/index.cfm.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631
Laboratory: TestAmerica-North Canton
Laboratory Submittal: 108816-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401088161	SUMP-34940BEACON-01-022819	2/28/2019	9:35:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
Laboratory: TestAmerica - North Canton
Laboratory Submittal: 108816-1

Sample Name: SUMP-34940BEACON-01-022819
Lab Sample ID: 2401088161
Sample Date: 2/28/2019

Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC					
OSW-8260B					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	0.84	1.0	ug/l	J
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---
OSW-8260BBSim					
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---

ARCADIS Design & Consultancy for natural and built assets

Ford Motor Company – Livonia Transmission Project

DATA REVIEW

Livonia, Michigan

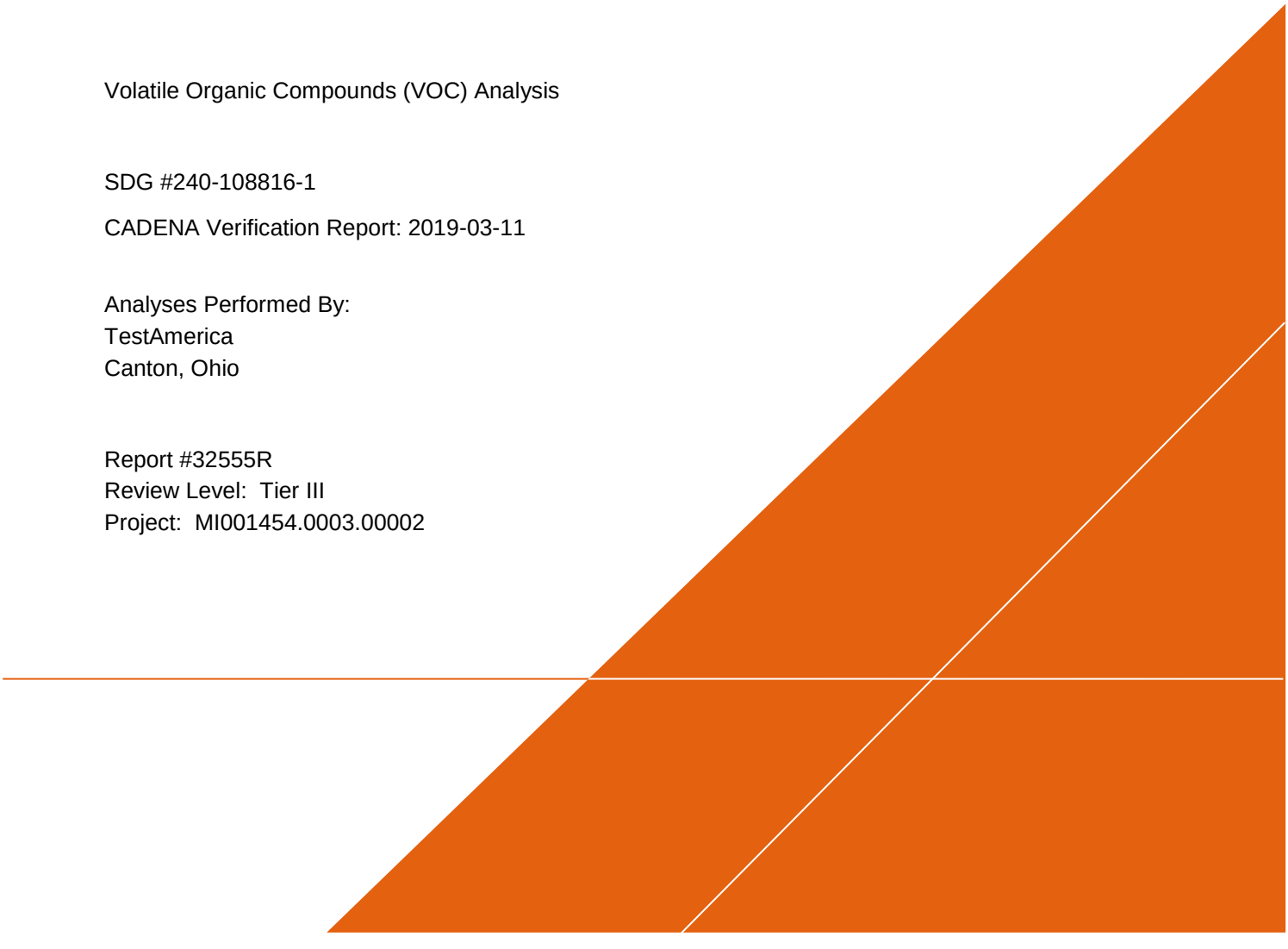
Volatile Organic Compounds (VOC) Analysis

SDG #240-108816-1

CADENA Verification Report: 2019-03-11

Analyses Performed By:
TestAmerica
Canton, Ohio

Report #32555R
Review Level: Tier III
Project: MI001454.0003.00002



SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # 240-108816-1 for samples collected in association with the Ford – Livonia, Michigan site. The review was conducted as a Tier III validation in addition to a verification/Tier II validation review performed by CADENA Inc. and included review of level IV laboratory data package completeness. Only elements of a Tier III validation effort (Tier III includes a detailed review of laboratory raw data to check for errors in calculation, calibration review, internal standard review and compound identification) and omitted deviations from the CADENA verification/Tier II report are documented in this report. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis		
						VOC (Full Scan)	VOC (SIM)	MISC
240-108816-1	SUMP-34940BEACON-01-022819	240-108816-1	Water	2/28/2019		X	X	

DATA REVIEW

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of Quality Assurance or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

DATA REVIEW

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260B and 8260B SIM. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

  UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

  J+ The result is an estimated quantity, but the result may be biased high.

  J- The result is an estimated quantity, but the result may be biased low.

  UB Analyte considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260B	Water	14 days from collection to analysis	Cool to < 6 °C; pH < 2 with HCl

All samples were analyzed within the specified holding time criteria.

2. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (20%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

All compounds associated with the initial calibrations were within the specified control limits.

3.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
SUMP-34380CAPITOL-01-022819	CCV %D	Vinyl chloride	+25.3%
		1,4-Dioxane	+22.4%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 15% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

4. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

5. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All detected compounds met the specified criteria.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: 8260B/8260B-SIM	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times/Preservation		X		X	
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

%RSD Relative standard deviation

%R Percent recovery

RPD Relative percent difference

%D Percent difference

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

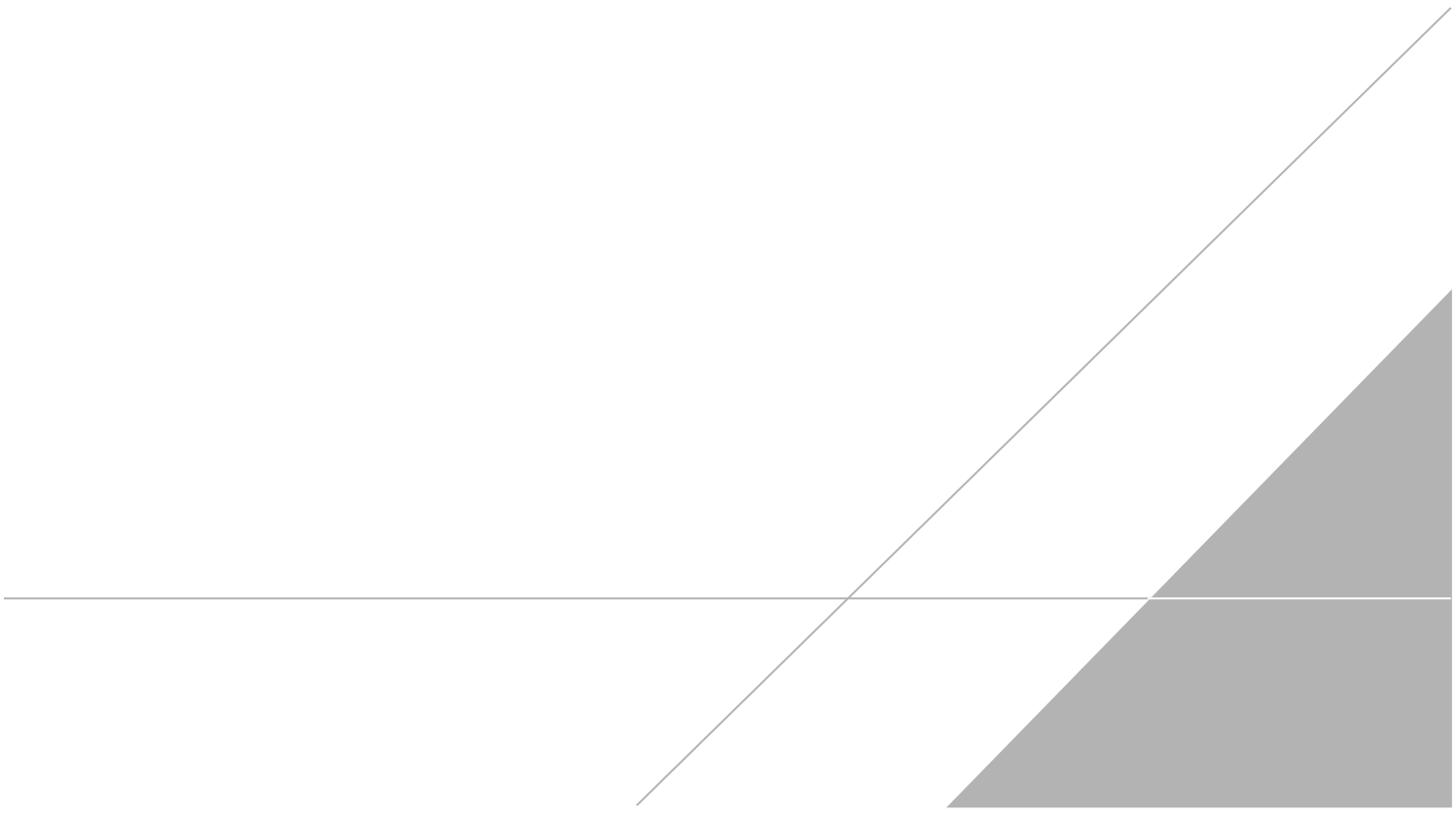
DATE: April 25, 2019

PEER REVIEW: Dennis Capria

DATE: April 26, 2019

CHAIN OF CUSTODY

CORRECTED SAMPLE ANALYSIS DATA SHEETS



MICHIGAN
190

2.2/C2.0 1.4/C1.2

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: N.Canton — 4101 Shuffel Street NW/ North Canton, OH 44720 / 330-497-9396

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Client Project Manager: Kris Hinskey	Site Contact: Angela DeGrandis	Lab Contact: Mike DelMonico	COC No:
Company Name: Arcadis				
Address: 28550 Cabot Drive, Suite 500	Telephone: 248-994-2240	Telephone: 734-320-0065	Telephone: 330-497-9396	1 of 1 COCs
City/State/Zip: Novi, MI, 48377	Email: kristoffer.hinskey@arcadis.com	Analysis Turnaround Time	Analyses	For lab use only
Phone: 248-994-2240		TAT if different from below ☐ 3 weeks ☐ 2 weeks 5 Day ☑ 1 week ☐ 2 days ☐ 1 day		Walk-in client Lab sampling
Project Name: Ford LTP				
Project Number: MI001454.0003	Method of Shipment/Carrier:			Job/SDG No:
PO # MI001454.0003	Shipping/Tracking No:			

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM				Sample Specific Notes / Special Instructions:
SUMP-34940Beacon-01_022819	2/28/19	0935		X						X					N	G	X	X	X	X	X	X	X				6 containers

240-108816 Chain of Custody

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal By Lab ☐ Archive For ☐ Months

Special Instructions/QC Requirements & Comments:

Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203631
Level IV Reporting.

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Seth Turner	Arcadis	2/28/19/1900	Novi Cold storage	Arcadis	2/28/19/1900
Relinquished by: Caitlin O'Neill	Company: ARCADIS	Date/Time: 03/01/19	Received by: Teri Hall	Company: TA	Date/Time: 3-1-19 1550
Relinquished by: Teri Hall	Company: TA	Date/Time: 3-1-19 1550	Received in Laboratory by:	Company: TA	Date/Time: 3-2-19 945

3/11/2019

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

TestAmerica Job ID: 240-108816-1

Client Sample ID: SUMP-34940BEACON-01-022819
Date Collected: 02/28/19 09:35
Date Received: 03/02/19 09:45

Lab Sample ID: 240-108816-1
Matrix: Water

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/04/19 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*63 - 125*		*03/04/19 19:14*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/06/19 19:17	1
cis-1,2-Dichloroethene	**0.84**	**J**	1.0	0.16	ug/L			03/06/19 19:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/06/19 19:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/06/19 19:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/06/19 19:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/06/19 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 121*		*03/06/19 19:17*	*1*
4-Bromofluorobenzene (Surr)	*94*		*59 - 120*		*03/06/19 19:17*	*1*
Toluene-d8 (Surr)	*109*		*70 - 123*		*03/06/19 19:17*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 128*		*03/06/19 19:17*	*1*