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ANALYTICAL REPORT

Job Number: 180-97854-1

Job Description: fYNOP

For:
Groundwater Sciences Corporation
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Attention: Christopher O'Neil

Approved for release.
Carrie L Gamber
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11/8/2019 3:18 PM

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11/08/2019

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^c	CCV Recovery is outside acceptance limits.
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)

CASE NARRATIVE

Client: Groundwater Sciences Corporation

Project: fYNOP

Report Number: 180-97854-1

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.

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.

RECEIPT

The samples were received on 10/26/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

The Chain-of-Custody (COC) was incomplete as received as it was not relinquished after courier pickup.

NOTE: The Trip Blank analyzed with these samples was also associated to jobs 180-97850, 180-97851 and 180-97853.

VOLATILES

Internal standard (ISTD) response for 1,4-Dichlorobenzene-d4 for the following samples were outside acceptance criteria: HD-COD-SW-7-0/1-0 (180-97854-2), HD-COD-SW-8-0/1-0 (180-97854-3), HD-COD-SW-13-0/1-0 (180-97854-5), HD-COD-SW-15-0/1-0 (180-97854-6), HD-COD-SW-16-0/1-0 (180-97854-7) and HD-COD-SW-26-0/1-0 (180-97854-9). This ISTD does not correspond to any of the requested target compounds; therefore, the data have been reported.

The following samples were diluted to bring the concentration of target analytes within the calibration range: (180-97794-C-10), (180-97794-C-10 MS) and (180-97794-C-10 MSD). Elevated reporting limits (RLs) are provided.

The continuing calibration verification (CCV) analyzed in 180-297240 was outside the method criteria high for the following analyte: Carbon tetrachloride. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

The continuing calibration verification (CCV) analyzed in batch 180-297107 was outside the method criteria low for the following analytes: 2-Butanone, 4-Methyl-2-pentanone, 1,3-Dichlorobenzene, Chloromethane, trans-1,3-Dichloropropene, 1,2-Dichlorobenzene 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

The continuing calibration verification (CCV) analyzed in 180-296913 was outside the method criteria high for the following analytes: 1,2,3-Trichlorobenzene, Chloroethane, Dichloro-difluoromethane and Trichlorofluoromethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

Detection Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-97854-1

Client Sample ID: HD-COD-SW-6-0/1-0 — Lab Sample ID: 180-97854-1

No Detections.

Client Sample ID: HD-COD-SW-7-0/1-0 — Lab Sample ID: 180-97854-2

No Detections.

Client Sample ID: HD-COD-SW-8-0/1-0 — Lab Sample ID: 180-97854-3

No Detections.

Client Sample ID: HD-COD-SW-9-0/1-0 — Lab Sample ID: 180-97854-4

No Detections.

Client Sample ID: HD-COD-SW-13-0/1-0 — Lab Sample ID: 180-97854-5

No Detections.

Client Sample ID: HD-COD-SW-15-0/1-0 — Lab Sample ID: 180-97854-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.97	J	1.0	0.71	ug/L	1		EPA 8260C	Total/NA
Trichloroethene	1.3		1.0	0.69	ug/L	1		EPA 8260C	Total/NA
Tetrachloroethene	2.6		1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-16-0/1-0 — Lab Sample ID: 180-97854-7

No Detections.

Client Sample ID: HD-COD-SW-17-0/1-0 — Lab Sample ID: 180-97854-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.3		1.0	0.71	ug/L	1		EPA 8260C	Total/NA
Trichloroethene	1.6		1.0	0.69	ug/L	1		EPA 8260C	Total/NA
Tetrachloroethene	3.1		1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-26-0/1-0 — Lab Sample ID: 180-97854-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.98	J	1.0	0.60	ug/L	1		EPA 8260C	Total/NA
Tetrachloroethene	4.2		1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-27-0/1-0 — Lab Sample ID: 180-97854-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.2		1.0	0.60	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-28-0/1-0 — Lab Sample ID: 180-97854-11

No Detections.

Client Sample ID: HD-COD-SW-29-0/1-0 — Lab Sample ID: 180-97854-12

No Detections.

Client Sample ID: HD-QC11-0/1-2 — Lab Sample ID: 180-97854-13

No Detections.

This Detection Summary does not include radiochemical test results.

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

Client Sample ID: HD-COD-SW-6-0/1-0
Date Collected: 10/24/19 13:15
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			11/06/19 12:20	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/06/19 12:20	1
Bromomethane	ND		1.0	0.89	ug/L			11/06/19 12:20	1
Chloroethane	ND		1.0	0.90	ug/L			11/06/19 12:20	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/06/19 12:20	1
Acetone	ND		5.0	3.4	ug/L			11/06/19 12:20	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/06/19 12:20	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/06/19 12:20	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/06/19 12:20	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/06/19 12:20	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/06/19 12:20	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/06/19 12:20	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/06/19 12:20	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			11/06/19 12:20	1
Chloroform	ND		1.0	0.60	ug/L			11/06/19 12:20	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/06/19 12:20	1
Carbon tetrachloride	ND	^c	1.0	0.88	ug/L			11/06/19 12:20	1
Benzene	ND		1.0	0.60	ug/L			11/06/19 12:20	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/06/19 12:20	1
Trichloroethene	ND		1.0	0.69	ug/L			11/06/19 12:20	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/06/19 12:20	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/06/19 12:20	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/06/19 12:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			11/06/19 12:20	1
Toluene	ND		1.0	0.46	ug/L			11/06/19 12:20	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			11/06/19 12:20	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/06/19 12:20	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/06/19 12:20	1
2-Hexanone	ND		5.0	3.3	ug/L			11/06/19 12:20	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/06/19 12:20	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/06/19 12:20	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/06/19 12:20	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/06/19 12:20	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/06/19 12:20	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/06/19 12:20	1
Styrene	ND		1.0	0.47	ug/L			11/06/19 12:20	1
Bromoform	ND		1.0	0.98	ug/L			11/06/19 12:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/06/19 12:20	1
Acrylonitrile	ND		20	7.8	ug/L			11/06/19 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 150*		*11/06/19 12:20*	*1*
Toluene-d8 (Surr)	*90*		*78 - 128*		*11/06/19 12:20*	*1*
4-Bromofluorobenzene (Surr)	*82*		*64 - 123*		*11/06/19 12:20*	*1*
Dibromofluoromethane (Surr)	*120*		*75 - 147*		*11/06/19 12:20*	*1*

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

Client Sample ID: HD-COD-SW-7-0/1-0
Date Collected: 10/24/19 14:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 18:11	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 18:11	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 18:11	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 18:11	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 18:11	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 18:11	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 18:11	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 18:11	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 18:11	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 18:11	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 18:11	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 18:11	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 18:11	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 18:11	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 18:11	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 18:11	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 18:11	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 18:11	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 18:11	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 18:11	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 18:11	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 18:11	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 18:11	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 18:11	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 18:11	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 18:11	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 18:11	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 18:11	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 18:11	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 18:11	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 18:11	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 18:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 18:11	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 18:11	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 18:11	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 18:11	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 18:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 18:11	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 150*		*11/05/19 18:11*	*1*
Toluene-d8 (Surr)	*86*		*78 - 128*		*11/05/19 18:11*	*1*
4-Bromofluorobenzene (Surr)	*70*		*64 - 123*		*11/05/19 18:11*	*1*
Dibromofluoromethane (Surr)	*124*		*75 - 147*		*11/05/19 18:11*	*1*

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

Client Sample ID: HD-COD-SW-8-0/1-0
Date Collected: 10/24/19 12:05
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 18:36	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 18:36	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 18:36	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 18:36	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 18:36	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 18:36	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 18:36	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 18:36	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 18:36	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 18:36	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 18:36	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 18:36	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 18:36	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 18:36	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 18:36	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 18:36	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 18:36	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 18:36	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 18:36	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 18:36	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 18:36	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 18:36	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 18:36	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 18:36	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 18:36	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 18:36	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 18:36	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 18:36	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 18:36	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 18:36	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 18:36	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 18:36	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 18:36	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 18:36	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 18:36	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 18:36	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 18:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 18:36	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 150*		*11/05/19 18:36*	*1*
Toluene-d8 (Surr)	*88*		*78 - 128*		*11/05/19 18:36*	*1*
4-Bromofluorobenzene (Surr)	*75*		*64 - 123*		*11/05/19 18:36*	*1*
Dibromofluoromethane (Surr)	*125*		*75 - 147*		*11/05/19 18:36*	*1*

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

Client Sample ID: HD-COD-SW-9-0/1-0
Date Collected: 10/24/19 14:45
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 19:00	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 19:00	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 19:00	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 19:00	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 19:00	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 19:00	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 19:00	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 19:00	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 19:00	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 19:00	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 19:00	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 19:00	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 19:00	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 19:00	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 19:00	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 19:00	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 19:00	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 19:00	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 19:00	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 19:00	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 19:00	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 19:00	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 19:00	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 19:00	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 19:00	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 19:00	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 19:00	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 19:00	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 19:00	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 19:00	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 19:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 19:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 19:00	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 19:00	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 19:00	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 19:00	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 19:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 19:00	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*70 - 150*		*11/05/19 19:00*	*1*
Toluene-d8 (Surr)	*85*		*78 - 128*		*11/05/19 19:00*	*1*
4-Bromofluorobenzene (Surr)	*78*		*64 - 123*		*11/05/19 19:00*	*1*
Dibromofluoromethane (Surr)	*125*		*75 - 147*		*11/05/19 19:00*	*1*

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

Client Sample ID: HD-COD-SW-13-0/1-0
Date Collected: 10/24/19 12:25
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 19:24	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 19:24	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 19:24	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 19:24	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 19:24	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 19:24	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 19:24	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 19:24	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 19:24	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 19:24	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 19:24	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 19:24	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 19:24	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 19:24	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 19:24	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 19:24	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 19:24	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 19:24	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 19:24	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 19:24	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 19:24	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 19:24	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 19:24	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 19:24	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 19:24	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 19:24	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 19:24	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 19:24	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 19:24	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 19:24	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 19:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 19:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 19:24	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 19:24	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 19:24	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 19:24	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 19:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 19:24	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 150*		*11/05/19 19:24*	*1*
Toluene-d8 (Surr)	*86*		*78 - 128*		*11/05/19 19:24*	*1*
4-Bromofluorobenzene (Surr)	*73*		*64 - 123*		*11/05/19 19:24*	*1*
Dibromofluoromethane (Surr)	*127*		*75 - 147*		*11/05/19 19:24*	*1*

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

Client Sample ID: HD-COD-SW-15-0/1-0
Date Collected: 10/24/19 14:20
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 19:48	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 19:48	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 19:48	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 19:48	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 19:48	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 19:48	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 19:48	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 19:48	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 19:48	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 19:48	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 19:48	1
cis-1,2-Dichloroethene	**0.97**	**J**	1.0	0.71	ug/L			11/05/19 19:48	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 19:48	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 19:48	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 19:48	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 19:48	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 19:48	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 19:48	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 19:48	1
Trichloroethene	**1.3**		1.0	0.69	ug/L			11/05/19 19:48	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 19:48	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 19:48	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 19:48	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 19:48	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 19:48	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 19:48	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 19:48	1
Tetrachloroethene	**2.6**		1.0	0.47	ug/L			11/05/19 19:48	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 19:48	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 19:48	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 19:48	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 19:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 19:48	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 19:48	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 19:48	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 19:48	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 19:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 19:48	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 150*		*11/05/19 19:48*	*1*
Toluene-d8 (Surr)	*85*		*78 - 128*		*11/05/19 19:48*	*1*
4-Bromofluorobenzene (Surr)	*68*		*64 - 123*		*11/05/19 19:48*	*1*
Dibromofluoromethane (Surr)	*127*		*75 - 147*		*11/05/19 19:48*	*1*

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

Client Sample ID: HD-COD-SW-16-0/1-0
Date Collected: 10/24/19 12:45
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 20:12	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 20:12	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 20:12	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 20:12	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 20:12	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 20:12	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 20:12	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 20:12	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 20:12	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 20:12	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 20:12	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 20:12	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 20:12	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 20:12	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 20:12	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 20:12	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 20:12	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 20:12	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 20:12	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 20:12	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 20:12	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 20:12	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 20:12	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 20:12	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 20:12	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 20:12	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 20:12	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 20:12	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 20:12	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 20:12	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 20:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 20:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 20:12	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 20:12	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 20:12	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 20:12	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 20:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 20:12	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*70 - 150*		*11/05/19 20:12*	*1*
Toluene-d8 (Surr)	*88*		*78 - 128*		*11/05/19 20:12*	*1*
4-Bromofluorobenzene (Surr)	*67*		*64 - 123*		*11/05/19 20:12*	*1*
Dibromofluoromethane (Surr)	*127*		*75 - 147*		*11/05/19 20:12*	*1*

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

Client Sample ID: HD-COD-SW-17-0/1-0
Date Collected: 10/24/19 13:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 20:36	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 20:36	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 20:36	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 20:36	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 20:36	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 20:36	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 20:36	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 20:36	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 20:36	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 20:36	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 20:36	1
cis-1,2-Dichloroethene	**1.3**		1.0	0.71	ug/L			11/05/19 20:36	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 20:36	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 20:36	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 20:36	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 20:36	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 20:36	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 20:36	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 20:36	1
Trichloroethene	**1.6**		1.0	0.69	ug/L			11/05/19 20:36	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 20:36	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 20:36	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 20:36	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 20:36	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 20:36	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 20:36	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 20:36	1
Tetrachloroethene	**3.1**		1.0	0.47	ug/L			11/05/19 20:36	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 20:36	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 20:36	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 20:36	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 20:36	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 20:36	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 20:36	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 20:36	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 20:36	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 20:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 20:36	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 150*		*11/05/19 20:36*	*1*
Toluene-d8 (Surr)	*84*		*78 - 128*		*11/05/19 20:36*	*1*
4-Bromofluorobenzene (Surr)	*76*		*64 - 123*		*11/05/19 20:36*	*1*
Dibromofluoromethane (Surr)	*128*		*75 - 147*		*11/05/19 20:36*	*1*

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

Client Sample ID: HD-COD-SW-26-0/1-0
Date Collected: 10/24/19 13:40
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 21:00	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 21:00	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 21:00	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 21:00	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 21:00	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 21:00	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 21:00	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 21:00	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 21:00	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 21:00	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 21:00	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 21:00	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 21:00	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 21:00	1
Chloroform	**0.98**	**J**	1.0	0.60	ug/L			11/05/19 21:00	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 21:00	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 21:00	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 21:00	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 21:00	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 21:00	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 21:00	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 21:00	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 21:00	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 21:00	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 21:00	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 21:00	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 21:00	1
Tetrachloroethene	**4.2**		1.0	0.47	ug/L			11/05/19 21:00	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 21:00	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 21:00	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 21:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 21:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 21:00	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 21:00	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 21:00	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 21:00	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 21:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 21:00	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 150*		*11/05/19 21:00*	*1*
Toluene-d8 (Surr)	*83*		*78 - 128*		*11/05/19 21:00*	*1*
4-Bromofluorobenzene (Surr)	*70*		*64 - 123*		*11/05/19 21:00*	*1*
Dibromofluoromethane (Surr)	*134*		*75 - 147*		*11/05/19 21:00*	*1*

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

Client Sample ID: HD-COD-SW-27-0/1-0
Date Collected: 10/24/19 14:15
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 21:25	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 21:25	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 21:25	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 21:25	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 21:25	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 21:25	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 21:25	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 21:25	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 21:25	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 21:25	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 21:25	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 21:25	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 21:25	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 21:25	1
Chloroform	**1.2**		1.0	0.60	ug/L			11/05/19 21:25	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 21:25	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 21:25	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 21:25	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 21:25	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 21:25	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 21:25	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 21:25	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 21:25	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 21:25	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 21:25	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 21:25	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 21:25	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 21:25	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 21:25	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 21:25	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 21:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 21:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 21:25	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 21:25	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 21:25	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 21:25	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 21:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 21:25	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 150*		*11/05/19 21:25*	*1*
Toluene-d8 (Surr)	*84*		*78 - 128*		*11/05/19 21:25*	*1*
4-Bromofluorobenzene (Surr)	*74*		*64 - 123*		*11/05/19 21:25*	*1*
Dibromofluoromethane (Surr)	*137*		*75 - 147*		*11/05/19 21:25*	*1*

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

Client Sample ID: HD-COD-SW-28-0/1-0
Date Collected: 10/24/19 15:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 21:49	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 21:49	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 21:49	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 21:49	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 21:49	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 21:49	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 21:49	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 21:49	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 21:49	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 21:49	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 21:49	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 21:49	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 21:49	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 21:49	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 21:49	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 21:49	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 21:49	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 21:49	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 21:49	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 21:49	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 21:49	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 21:49	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 21:49	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 21:49	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 21:49	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 21:49	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 21:49	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 21:49	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 21:49	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 21:49	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 21:49	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 21:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 21:49	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 21:49	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 21:49	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 21:49	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 21:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 21:49	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*70 - 150*		*11/05/19 21:49*	*1*
Toluene-d8 (Surr)	*90*		*78 - 128*		*11/05/19 21:49*	*1*
4-Bromofluorobenzene (Surr)	*82*		*64 - 123*		*11/05/19 21:49*	*1*
Dibromofluoromethane (Surr)	*130*		*75 - 147*		*11/05/19 21:49*	*1*

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

Client Sample ID: HD-COD-SW-29-0/1-0
Date Collected: 10/24/19 11:55
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	^c	1.0	0.90	ug/L			11/05/19 22:14	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 22:14	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 22:14	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 22:14	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 22:14	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 22:14	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 22:14	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 22:14	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 22:14	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 22:14	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 22:14	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 22:14	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 22:14	1
2-Butanone (MEK)	ND	^c	5.0	2.6	ug/L			11/05/19 22:14	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 22:14	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 22:14	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 22:14	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 22:14	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 22:14	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 22:14	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 22:14	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 22:14	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 22:14	1
4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1	ug/L			11/05/19 22:14	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 22:14	1
trans-1,3-Dichloropropene	ND	^c	1.0	0.58	ug/L			11/05/19 22:14	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 22:14	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 22:14	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 22:14	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 22:14	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 22:14	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 22:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 22:14	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 22:14	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 22:14	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 22:14	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 22:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 22:14	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 150*		*11/05/19 22:14*	*1*
Toluene-d8 (Surr)	*90*		*78 - 128*		*11/05/19 22:14*	*1*
4-Bromofluorobenzene (Surr)	*76*		*64 - 123*		*11/05/19 22:14*	*1*
Dibromofluoromethane (Surr)	*130*		*75 - 147*		*11/05/19 22:14*	*1*

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

Client Sample ID: HD-QC11-0/1-2
Date Collected: 10/24/19 00:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			11/02/19 19:46	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/02/19 19:46	1
Bromomethane	ND		1.0	0.89	ug/L			11/02/19 19:46	1
Chloroethane	ND	^c	1.0	0.90	ug/L			11/02/19 19:46	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/02/19 19:46	1
Acetone	ND		5.0	3.4	ug/L			11/02/19 19:46	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/02/19 19:46	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/02/19 19:46	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/02/19 19:46	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/02/19 19:46	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/02/19 19:46	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/02/19 19:46	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/02/19 19:46	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			11/02/19 19:46	1
Chloroform	ND		1.0	0.60	ug/L			11/02/19 19:46	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/02/19 19:46	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/02/19 19:46	1
Benzene	ND		1.0	0.60	ug/L			11/02/19 19:46	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/02/19 19:46	1
Trichloroethene	ND		1.0	0.69	ug/L			11/02/19 19:46	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/02/19 19:46	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/02/19 19:46	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/02/19 19:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			11/02/19 19:46	1
Toluene	ND		1.0	0.46	ug/L			11/02/19 19:46	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			11/02/19 19:46	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/02/19 19:46	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/02/19 19:46	1
2-Hexanone	ND		5.0	3.3	ug/L			11/02/19 19:46	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/02/19 19:46	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/02/19 19:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/02/19 19:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/02/19 19:46	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/02/19 19:46	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/02/19 19:46	1
Styrene	ND		1.0	0.47	ug/L			11/02/19 19:46	1
Bromoform	ND		1.0	0.98	ug/L			11/02/19 19:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/02/19 19:46	1
Acrylonitrile	ND		20	7.8	ug/L			11/02/19 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*128*		*70 - 150*		*11/02/19 19:46*	*1*
Toluene-d8 (Surr)	*86*		*78 - 128*		*11/02/19 19:46*	*1*
4-Bromofluorobenzene (Surr)	*78*		*64 - 123*		*11/02/19 19:46*	*1*
Dibromofluoromethane (Surr)	*122*		*75 - 147*		*11/02/19 19:46*	*1*

Default Detection Limits

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-97854-1

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

Analyte	RL	MDL	Units
1,1,1,2-Tetrachloroethane	1.0	0.57	ug/L
1,1,1-Trichloroethane	1.0	0.60	ug/L
1,1,2,2-Tetrachloroethane	1.0	0.60	ug/L
1,1,2-Trichloroethane	1.0	0.45	ug/L
1,1-Dichloroethane	1.0	0.63	ug/L
1,1-Dichloroethene	1.0	0.55	ug/L
1,2-Dibromoethane (EDB)	1.0	0.50	ug/L
1,2-Dichloroethane	1.0	0.57	ug/L
1,2-Dichloropropane	1.0	0.66	ug/L
2-Butanone (MEK)	5.0	2.6	ug/L
2-Hexanone	5.0	3.3	ug/L
4-Methyl-2-pentanone (MIBK)	5.0	3.1	ug/L
Acetone	5.0	3.4	ug/L
Acrylonitrile	20	7.8	ug/L
Benzene	1.0	0.60	ug/L
Bromochloromethane	1.0	0.63	ug/L
Bromodichloromethane	1.0	0.64	ug/L
Bromoform	1.0	0.98	ug/L
Bromomethane	1.0	0.89	ug/L
Carbon disulfide	1.0	0.88	ug/L
Carbon tetrachloride	1.0	0.88	ug/L
Chlorobenzene	1.0	0.50	ug/L
Chloroethane	1.0	0.90	ug/L
Chloroform	1.0	0.60	ug/L
Chloromethane	1.0	0.90	ug/L
cis-1,2-Dichloroethene	1.0	0.71	ug/L
cis-1,3-Dichloropropene	1.0	0.59	ug/L
Dibromochloromethane	1.0	0.84	ug/L
Ethylbenzene	1.0	0.51	ug/L
Methyl tert-butyl ether	1.0	0.59	ug/L
Methylene Chloride	1.0	0.89	ug/L
Styrene	1.0	0.47	ug/L
Tetrachloroethene	1.0	0.47	ug/L
Toluene	1.0	0.46	ug/L
trans-1,2-Dichloroethene	1.0	0.67	ug/L
trans-1,3-Dichloropropene	1.0	0.58	ug/L
Trichloroethene	1.0	0.69	ug/L
Vinyl chloride	1.0	0.88	ug/L
Xylenes, Total	2.0	0.89	ug/L

Surrogate Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-97854-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(70-150)	(78-128)	(64-123)	(75-147)
180-97854-1	HD-COD-SW-6-0/1-0	117	90	82	120
180-97854-2	HD-COD-SW-7-0/1-0	113	86	70	124
180-97854-3	HD-COD-SW-8-0/1-0	123	88	75	125
180-97854-4	HD-COD-SW-9-0/1-0	122	85	78	125
180-97854-5	HD-COD-SW-13-0/1-0	119	86	73	127
180-97854-6	HD-COD-SW-15-0/1-0	120	85	68	127
180-97854-7	HD-COD-SW-16-0/1-0	124	88	67	127
180-97854-8	HD-COD-SW-17-0/1-0	116	84	76	128
180-97854-9	HD-COD-SW-26-0/1-0	123	83	70	134
180-97854-10	HD-COD-SW-27-0/1-0	118	84	74	137
180-97854-11	HD-COD-SW-28-0/1-0	125	90	82	130
180-97854-12	HD-COD-SW-29-0/1-0	114	90	76	130
180-97854-13	HD-QC11-0/1-2	128	86	78	122
LCS 180-296913/4	Lab Control Sample	100	106	97	101
LCS 180-297107/4	Lab Control Sample	98	100	98	105
LCS 180-297240/4	Lab Control Sample	100	96	97	110
MB 180-296913/6	Method Blank	113	91	86	110
MB 180-297107/6	Method Blank	109	83	78	109
MB 180-297240/6	Method Blank	111	92	75	116

Surrogate Legend

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

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-97854-1

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

Lab Sample ID: MB 180-296913/6
Matrix: Water
Analysis Batch: 296913

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			11/02/19 11:32	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/02/19 11:32	1
Bromomethane	ND		1.0	0.89	ug/L			11/02/19 11:32	1
Chloroethane	ND		1.0	0.90	ug/L			11/02/19 11:32	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/02/19 11:32	1
Acetone	ND		5.0	3.4	ug/L			11/02/19 11:32	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/02/19 11:32	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/02/19 11:32	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/02/19 11:32	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/02/19 11:32	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/02/19 11:32	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/02/19 11:32	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/02/19 11:32	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			11/02/19 11:32	1
Chloroform	ND		1.0	0.60	ug/L			11/02/19 11:32	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/02/19 11:32	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/02/19 11:32	1
Benzene	ND		1.0	0.60	ug/L			11/02/19 11:32	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/02/19 11:32	1
Trichloroethene	ND		1.0	0.69	ug/L			11/02/19 11:32	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/02/19 11:32	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/02/19 11:32	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/02/19 11:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			11/02/19 11:32	1
Toluene	ND		1.0	0.46	ug/L			11/02/19 11:32	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			11/02/19 11:32	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/02/19 11:32	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/02/19 11:32	1
2-Hexanone	ND		5.0	3.3	ug/L			11/02/19 11:32	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/02/19 11:32	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/02/19 11:32	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/02/19 11:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/02/19 11:32	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/02/19 11:32	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/02/19 11:32	1
Styrene	ND		1.0	0.47	ug/L			11/02/19 11:32	1
Bromoform	ND		1.0	0.98	ug/L			11/02/19 11:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/02/19 11:32	1
Acrylonitrile	ND		20	7.8	ug/L			11/02/19 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 150*		*11/02/19 11:32*	*1*
Toluene-d8 (Surr)	*91*		*78 - 128*		*11/02/19 11:32*	*1*
4-Bromofluorobenzene (Surr)	*86*		*64 - 123*		*11/02/19 11:32*	*1*
Dibromofluoromethane (Surr)	*110*		*75 - 147*		*11/02/19 11:32*	*1*

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-296913/4
Matrix: Water
Analysis Batch: 296913

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	10.1		ug/L		101	37 - 150
Vinyl chloride	10.0	10.1		ug/L		101	50 - 150
Bromomethane	10.0	10.9		ug/L		109	35 - 150
Chloroethane	10.0	10.5		ug/L		105	52 - 150
1,1-Dichloroethene	10.0	10.8		ug/L		108	79 - 132
Acetone	20.0	25.5		ug/L		128	37 - 150
Carbon disulfide	10.0	10.4		ug/L		104	66 - 134
Methylene Chloride	10.0	8.83		ug/L		88	72 - 131
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	81 - 126
Methyl tert-butyl ether	10.0	10.0		ug/L		100	65 - 125
1,1-Dichloroethane	10.0	10.4		ug/L		104	70 - 127
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	79 - 119
Bromochloromethane	10.0	10.2		ug/L		102	74 - 124
2-Butanone (MEK)	20.0	25.2		ug/L		126	35 - 150
Chloroform	10.0	11.2		ug/L		112	75 - 126
1,1,1-Trichloroethane	10.0	11.6		ug/L		116	63 - 142
Carbon tetrachloride	10.0	11.4		ug/L		114	55 - 150
Benzene	10.0	10.5		ug/L		105	72 - 127
1,2-Dichloroethane	10.0	10.8		ug/L		108	60 - 138
Trichloroethene	10.0	10.6		ug/L		106	81 - 121
1,2-Dichloropropane	10.0	10.2		ug/L		102	67 - 124
Bromodichloromethane	10.0	11.3		ug/L		113	67 - 131
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	69 - 122
4-Methyl-2-pentanone (MIBK)	20.0	20.2		ug/L		101	19 - 150
Toluene	10.0	11.2		ug/L		112	73 - 123
trans-1,3-Dichloropropene	10.0	10.3		ug/L		103	61 - 122
1,1,2-Trichloroethane	10.0	10.9		ug/L		109	72 - 120
Tetrachloroethene	10.0	11.0		ug/L		110	69 - 134
2-Hexanone	20.0	26.4		ug/L		132	24 - 150
Dibromochloromethane	10.0	10.5		ug/L		105	59 - 134
1,2-Dibromoethane (EDB)	10.0	10.8		ug/L		108	65 - 129
Chlorobenzene	10.0	10.8		ug/L		108	76 - 119
1,1,1,2-Tetrachloroethane	10.0	11.5		ug/L		115	65 - 132
Ethylbenzene	10.0	10.9		ug/L		109	76 - 118
Xylenes, Total	20.0	21.1		ug/L		106	76 - 116
Styrene	10.0	10.7		ug/L		107	74 - 118
Bromoform	10.0	9.98		ug/L		100	50 - 146
1,1,2,2-Tetrachloroethane	10.0	9.40		ug/L		94	57 - 135
Acrylonitrile	100	97.0		ug/L		97	43 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 150*
Toluene-d8 (Surr)	*106*		*78 - 128*
4-Bromofluorobenzene (Surr)	*97*		*64 - 123*
Dibromofluoromethane (Surr)	*101*		*75 - 147*

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 180-297107/6
Matrix: Water
Analysis Batch: 297107

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			11/05/19 14:21	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/05/19 14:21	1
Bromomethane	ND		1.0	0.89	ug/L			11/05/19 14:21	1
Chloroethane	ND		1.0	0.90	ug/L			11/05/19 14:21	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/05/19 14:21	1
Acetone	ND		5.0	3.4	ug/L			11/05/19 14:21	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/05/19 14:21	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/05/19 14:21	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/05/19 14:21	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/05/19 14:21	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/05/19 14:21	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/05/19 14:21	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/05/19 14:21	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			11/05/19 14:21	1
Chloroform	ND		1.0	0.60	ug/L			11/05/19 14:21	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/05/19 14:21	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/05/19 14:21	1
Benzene	ND		1.0	0.60	ug/L			11/05/19 14:21	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/05/19 14:21	1
Trichloroethene	ND		1.0	0.69	ug/L			11/05/19 14:21	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/05/19 14:21	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/05/19 14:21	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/05/19 14:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			11/05/19 14:21	1
Toluene	ND		1.0	0.46	ug/L			11/05/19 14:21	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			11/05/19 14:21	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/05/19 14:21	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/05/19 14:21	1
2-Hexanone	ND		5.0	3.3	ug/L			11/05/19 14:21	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/05/19 14:21	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/05/19 14:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/05/19 14:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/05/19 14:21	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/05/19 14:21	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/05/19 14:21	1
Styrene	ND		1.0	0.47	ug/L			11/05/19 14:21	1
Bromoform	ND		1.0	0.98	ug/L			11/05/19 14:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/05/19 14:21	1
Acrylonitrile	ND		20	7.8	ug/L			11/05/19 14:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 150*		*11/05/19 14:21*	*1*
Toluene-d8 (Surr)	*83*		*78 - 128*		*11/05/19 14:21*	*1*
4-Bromofluorobenzene (Surr)	*78*		*64 - 123*		*11/05/19 14:21*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 147*		*11/05/19 14:21*	*1*

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-297107/4
Matrix: Water
Analysis Batch: 297107

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	7.96		ug/L		80	37 - 150
Vinyl chloride	10.0	8.13		ug/L		81	50 - 150
Bromomethane	10.0	9.80		ug/L		98	35 - 150
Chloroethane	10.0	9.45		ug/L		94	52 - 150
1,1-Dichloroethene	10.0	10.5		ug/L		105	79 - 132
Acetone	20.0	19.4		ug/L		97	37 - 150
Carbon disulfide	10.0	10.1		ug/L		101	66 - 134
Methylene Chloride	10.0	8.50		ug/L		85	72 - 131
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	81 - 126
Methyl tert-butyl ether	10.0	8.97		ug/L		90	65 - 125
1,1-Dichloroethane	10.0	9.37		ug/L		94	70 - 127
cis-1,2-Dichloroethene	10.0	9.74		ug/L		97	79 - 119
Bromochloromethane	10.0	9.89		ug/L		99	74 - 124
2-Butanone (MEK)	20.0	18.3		ug/L		92	35 - 150
Chloroform	10.0	10.1		ug/L		101	75 - 126
1,1,1-Trichloroethane	10.0	11.2		ug/L		112	63 - 142
Carbon tetrachloride	10.0	11.5		ug/L		115	55 - 150
Benzene	10.0	9.44		ug/L		94	72 - 127
1,2-Dichloroethane	10.0	10.3		ug/L		103	60 - 138
Trichloroethene	10.0	10.5		ug/L		105	81 - 121
1,2-Dichloropropane	10.0	8.79		ug/L		88	67 - 124
Bromodichloromethane	10.0	10.3		ug/L		103	67 - 131
cis-1,3-Dichloropropene	10.0	9.78		ug/L		98	69 - 122
4-Methyl-2-pentanone (MIBK)	20.0	14.8		ug/L		74	19 - 150
Toluene	10.0	9.32		ug/L		93	73 - 123
trans-1,3-Dichloropropene	10.0	8.20		ug/L		82	61 - 122
1,1,2-Trichloroethane	10.0	8.92		ug/L		89	72 - 120
Tetrachloroethene	10.0	10.1		ug/L		101	69 - 134
2-Hexanone	20.0	16.6		ug/L		83	24 - 150
Dibromochloromethane	10.0	9.86		ug/L		99	59 - 134
1,2-Dibromoethane (EDB)	10.0	9.06		ug/L		91	65 - 129
Chlorobenzene	10.0	9.15		ug/L		92	76 - 119
1,1,1,2-Tetrachloroethane	10.0	9.70		ug/L		97	65 - 132
Ethylbenzene	10.0	9.25		ug/L		92	76 - 118
Xylenes, Total	20.0	17.8		ug/L		89	76 - 116
Styrene	10.0	8.86		ug/L		89	74 - 118
Bromoform	10.0	9.71		ug/L		97	50 - 146
1,1,2,2-Tetrachloroethane	10.0	7.85		ug/L		78	57 - 135
Acrylonitrile	100	84.9		ug/L		85	43 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 150*
Toluene-d8 (Surr)	*100*		*78 - 128*
4-Bromofluorobenzene (Surr)	*98*		*64 - 123*
Dibromofluoromethane (Surr)	*105*		*75 - 147*

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 180-297240/6
Matrix: Water
Analysis Batch: 297240

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			11/06/19 11:31	1
Vinyl chloride	ND		1.0	0.88	ug/L			11/06/19 11:31	1
Bromomethane	ND		1.0	0.89	ug/L			11/06/19 11:31	1
Chloroethane	ND		1.0	0.90	ug/L			11/06/19 11:31	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			11/06/19 11:31	1
Acetone	ND		5.0	3.4	ug/L			11/06/19 11:31	1
Carbon disulfide	ND		1.0	0.88	ug/L			11/06/19 11:31	1
Methylene Chloride	ND		1.0	0.89	ug/L			11/06/19 11:31	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			11/06/19 11:31	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			11/06/19 11:31	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			11/06/19 11:31	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			11/06/19 11:31	1
Bromochloromethane	ND		1.0	0.63	ug/L			11/06/19 11:31	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			11/06/19 11:31	1
Chloroform	ND		1.0	0.60	ug/L			11/06/19 11:31	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			11/06/19 11:31	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			11/06/19 11:31	1
Benzene	ND		1.0	0.60	ug/L			11/06/19 11:31	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			11/06/19 11:31	1
Trichloroethene	ND		1.0	0.69	ug/L			11/06/19 11:31	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			11/06/19 11:31	1
Bromodichloromethane	ND		1.0	0.64	ug/L			11/06/19 11:31	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			11/06/19 11:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			11/06/19 11:31	1
Toluene	ND		1.0	0.46	ug/L			11/06/19 11:31	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			11/06/19 11:31	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			11/06/19 11:31	1
Tetrachloroethene	ND		1.0	0.47	ug/L			11/06/19 11:31	1
2-Hexanone	ND		5.0	3.3	ug/L			11/06/19 11:31	1
Dibromochloromethane	ND		1.0	0.84	ug/L			11/06/19 11:31	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			11/06/19 11:31	1
Chlorobenzene	ND		1.0	0.50	ug/L			11/06/19 11:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			11/06/19 11:31	1
Ethylbenzene	ND		1.0	0.51	ug/L			11/06/19 11:31	1
Xylenes, Total	ND		2.0	0.89	ug/L			11/06/19 11:31	1
Styrene	ND		1.0	0.47	ug/L			11/06/19 11:31	1
Bromoform	ND		1.0	0.98	ug/L			11/06/19 11:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			11/06/19 11:31	1
Acrylonitrile	ND		20	7.8	ug/L			11/06/19 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 150*		*11/06/19 11:31*	*1*
Toluene-d8 (Surr)	*92*		*78 - 128*		*11/06/19 11:31*	*1*
4-Bromofluorobenzene (Surr)	*75*		*64 - 123*		*11/06/19 11:31*	*1*
Dibromofluoromethane (Surr)	*116*		*75 - 147*		*11/06/19 11:31*	*1*

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-297240/4
Matrix: Water
Analysis Batch: 297240

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	8.98		ug/L		90	37 - 150
Vinyl chloride	10.0	9.17		ug/L		92	50 - 150
Bromomethane	10.0	10.4		ug/L		104	35 - 150
Chloroethane	10.0	9.84		ug/L		98	52 - 150
1,1-Dichloroethene	10.0	11.2		ug/L		112	79 - 132
Acetone	20.0	22.3		ug/L		112	37 - 150
Carbon disulfide	10.0	10.7		ug/L		107	66 - 134
Methylene Chloride	10.0	9.52		ug/L		95	72 - 131
trans-1,2-Dichloroethene	10.0	11.1		ug/L		111	81 - 126
Methyl tert-butyl ether	10.0	9.44		ug/L		94	65 - 125
1,1-Dichloroethane	10.0	9.70		ug/L		97	70 - 127
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	79 - 119
Bromochloromethane	10.0	10.8		ug/L		108	74 - 124
2-Butanone (MEK)	20.0	20.6		ug/L		103	35 - 150
Chloroform	10.0	10.5		ug/L		105	75 - 126
1,1,1-Trichloroethane	10.0	12.2		ug/L		122	63 - 142
Carbon tetrachloride	10.0	12.4		ug/L		124	55 - 150
Benzene	10.0	10.0		ug/L		100	72 - 127
1,2-Dichloroethane	10.0	9.89		ug/L		99	60 - 138
Trichloroethene	10.0	11.0		ug/L		110	81 - 121
1,2-Dichloropropane	10.0	9.50		ug/L		95	67 - 124
Bromodichloromethane	10.0	10.7		ug/L		107	67 - 131
cis-1,3-Dichloropropene	10.0	9.93		ug/L		99	69 - 122
4-Methyl-2-pentanone (MIBK)	20.0	16.1		ug/L		80	19 - 150
Toluene	10.0	9.51		ug/L		95	73 - 123
trans-1,3-Dichloropropene	10.0	8.04		ug/L		80	61 - 122
1,1,2-Trichloroethane	10.0	8.74		ug/L		87	72 - 120
Tetrachloroethene	10.0	11.0		ug/L		110	69 - 134
2-Hexanone	20.0	19.1		ug/L		95	24 - 150
Dibromochloromethane	10.0	9.52		ug/L		95	59 - 134
1,2-Dibromoethane (EDB)	10.0	9.00		ug/L		90	65 - 129
Chlorobenzene	10.0	9.27		ug/L		93	76 - 119
1,1,1,2-Tetrachloroethane	10.0	9.64		ug/L		96	65 - 132
Ethylbenzene	10.0	9.22		ug/L		92	76 - 118
Xylenes, Total	20.0	18.5		ug/L		93	76 - 116
Styrene	10.0	8.85		ug/L		89	74 - 118
Bromoform	10.0	9.79		ug/L		98	50 - 146
1,1,2,2-Tetrachloroethane	10.0	7.95		ug/L		80	57 - 135
Acrylonitrile	100	85.6		ug/L		86	43 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 150*
Toluene-d8 (Surr)	*96*		*78 - 128*
4-Bromofluorobenzene (Surr)	*97*		*64 - 123*
Dibromofluoromethane (Surr)	*110*		*75 - 147*

QC Association Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-97854-1

GC/MS VOA

Analysis Batch: 296913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97854-13	HD-QC11-0/1-2	Total/NA	Water	EPA 8260C	
MB 180-296913/6	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-296913/4	Lab Control Sample	Total/NA	Water	EPA 8260C	

Analysis Batch: 297107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97854-2	HD-COD-SW-7-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-3	HD-COD-SW-8-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-4	HD-COD-SW-9-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-5	HD-COD-SW-13-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-6	HD-COD-SW-15-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-7	HD-COD-SW-16-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-8	HD-COD-SW-17-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-9	HD-COD-SW-26-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-10	HD-COD-SW-27-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-11	HD-COD-SW-28-0/1-0	Total/NA	Water	EPA 8260C	
180-97854-12	HD-COD-SW-29-0/1-0	Total/NA	Water	EPA 8260C	
MB 180-297107/6	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-297107/4	Lab Control Sample	Total/NA	Water	EPA 8260C	

Analysis Batch: 297240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97854-1	HD-COD-SW-6-0/1-0	Total/NA	Water	EPA 8260C	
MB 180-297240/6	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-297240/4	Lab Control Sample	Total/NA	Water	EPA 8260C	

Client Sample ID: HD-COD-SW-6-0/1-0
Lab Sample ID: 180-97854-1
Date Collected: 10/24/19 13:15
Matrix: Water
Date Received: 10/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297240	11/06/19 12:20	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-7-0/1-0
Lab Sample ID: 180-97854-2
Date Collected: 10/24/19 14:00
Matrix: Water
Date Received: 10/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 18:11	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-8-0/1-0
Lab Sample ID: 180-97854-3
Date Collected: 10/24/19 12:05
Matrix: Water
Date Received: 10/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 18:36	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-9-0/1-0
Lab Sample ID: 180-97854-4
Date Collected: 10/24/19 14:45
Matrix: Water
Date Received: 10/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 19:00	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-13-0/1-0
Lab Sample ID: 180-97854-5
Date Collected: 10/24/19 12:25
Matrix: Water
Date Received: 10/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 19:24	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-15-0/1-0
Lab Sample ID: 180-97854-6
Date Collected: 10/24/19 14:20
Matrix: Water
Date Received: 10/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 19:48	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-16-0/1-0
Date Collected: 10/24/19 12:45
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 20:12	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-17-0/1-0
Date Collected: 10/24/19 13:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 20:36	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-26-0/1-0
Date Collected: 10/24/19 13:40
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 21:00	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-27-0/1-0
Date Collected: 10/24/19 14:15
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 21:25	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-28-0/1-0
Date Collected: 10/24/19 15:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 21:49	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-COD-SW-29-0/1-0
Date Collected: 10/24/19 11:55
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	297107	11/05/19 22:14	HRB	TAL PIT
	Instrument ID: CHHP5									

Client Sample ID: HD-QC11-0/1-2

Date Collected: 10/24/19 00:00
Date Received: 10/26/19 09:00

Lab Sample ID: 180-97854-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	296913	11/02/19 19:46	HRB	TAL PIT
	Instrument ID: CHHP5									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Analysis

HRB = Hannah Bowie

Accreditation/Certification Summary

Client: Groundwater Sciences Corporation
Job ID: 180-97854-1
Project/Site: fYNOP

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	02-00416	04-30-20

Method Summary

Client: Groundwater Sciences Corporation
Job ID: 180-97854-1
Project/Site: fYNOP

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL PIT
5030C	Purge and Trap	SW846	TAL PIT

Protocol References:

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Sample Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-97854-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-97854-1	HD-COD-SW-6-0/1-0	Water	10/24/19 13:15	10/26/19 09:00	
180-97854-2	HD-COD-SW-7-0/1-0	Water	10/24/19 14:00	10/26/19 09:00	
180-97854-3	HD-COD-SW-8-0/1-0	Water	10/24/19 12:05	10/26/19 09:00	
180-97854-4	HD-COD-SW-9-0/1-0	Water	10/24/19 14:45	10/26/19 09:00	
180-97854-5	HD-COD-SW-13-0/1-0	Water	10/24/19 12:25	10/26/19 09:00	
180-97854-6	HD-COD-SW-15-0/1-0	Water	10/24/19 14:20	10/26/19 09:00	
180-97854-7	HD-COD-SW-16-0/1-0	Water	10/24/19 12:45	10/26/19 09:00	
180-97854-8	HD-COD-SW-17-0/1-0	Water	10/24/19 13:00	10/26/19 09:00	
180-97854-9	HD-COD-SW-26-0/1-0	Water	10/24/19 13:40	10/26/19 09:00	
180-97854-10	HD-COD-SW-27-0/1-0	Water	10/24/19 14:15	10/26/19 09:00	
180-97854-11	HD-COD-SW-28-0/1-0	Water	10/24/19 15:00	10/26/19 09:00	
180-97854-12	HD-COD-SW-29-0/1-0	Water	10/24/19 11:55	10/26/19 09:00	
180-97854-13	HD-QC11-0/1-2	Water	10/24/19 00:00	10/26/19 09:00	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 294706

Lab Sample ID: IC 180-294706/19 Client Sample ID:

Date Analyzed: 10/12/19 20:06 Lab File ID: 5101216.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methylene Chloride	4.39	Peak assignment corrected	bowieh	10/15/19 08:37
Vinyl acetate	5.49	Poor chromatography	bowieh	10/15/19 08:37
1,1,1-Trichloroethane	6.76	Poor chromatography	bowieh	10/15/19 08:37

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 296913

Lab Sample ID: CCVIS 180-296913/2 Client Sample ID:

Date Analyzed: 11/02/19 10:08 Lab File ID: 5110202.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.69	Poor chromatography	bowieh	11/02/19 10:29

Lab Sample ID: LCS 180-296913/4 Client Sample ID:

Date Analyzed: 11/02/19 10:32 Lab File ID: 5110204.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.43	Incomplete Integration	liunanonchaic	11/07/19 08:26

Lab Sample ID: MB 180-296913/6 Client Sample ID:

Date Analyzed: 11/02/19 11:32 Lab File ID: 5110206.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.87	Peak assignment corrected	bowieh	11/02/19 11:55
Chloroform	6.61	Poor chromatography	bowieh	11/05/19 10:53
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/05/19 10:54
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/05/19 10:54
Acetone		Invalid Compound ID	bowieh	11/05/19 10:53
Benzene		Invalid Compound ID	bowieh	11/05/19 10:53
Methyl tert-butyl ether		Invalid Compound ID	bowieh	11/05/19 10:53

Lab Sample ID: 180-97854-13 Client Sample ID: HD-QC11-0/1-2

Date Analyzed: 11/02/19 19:46 Lab File ID: 5110225.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.86	Peak assignment corrected	bowieh	11/05/19 11:33
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/05/19 11:34
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/05/19 11:34

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297107

Lab Sample ID: MB 180-297107/6 Client Sample ID:

Date Analyzed: 11/05/19 14:21 Lab File ID: 5110506.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.87	Peak assignment corrected	bowieh	11/06/19 09:46
Methylene Chloride	4.43	Peak assignment corrected	bowieh	11/06/19 09:46
2-Hexanone		Invalid Compound ID	bowieh	11/06/19 09:47
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 09:47
Acetone		Invalid Compound ID	bowieh	11/06/19 09:46
Chlorobenzene		Invalid Compound ID	bowieh	11/06/19 09:47

Lab Sample ID: 180-97854-2 Client Sample ID: HD-COD-SW-7-0/1-0

Date Analyzed: 11/05/19 18:11 Lab File ID: 5110515.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 09:58
Benzene		Invalid Compound ID	bowieh	11/06/19 09:58
Bromomethane		Invalid Compound ID	bowieh	11/06/19 09:57
Carbon disulfide		Invalid Compound ID	bowieh	11/06/19 09:58
Tetrachloroethene		Invalid Compound ID	bowieh	11/06/19 09:58

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297107

Lab Sample ID: 180-97854-3 Client Sample ID: HD-COD-SW-8-0/1-0

Date Analyzed: 11/05/19 18:36 Lab File ID: 5110516.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:00
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:00
Acetone		Invalid Compound ID	bowieh	11/06/19 10:00
Benzene		Invalid Compound ID	bowieh	11/06/19 10:00
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:00
Carbon disulfide		Invalid Compound ID	bowieh	11/06/19 10:00
Chloroethane		Invalid Compound ID	bowieh	11/06/19 10:00
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:00
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:01

Lab Sample ID: 180-97854-4 Client Sample ID: HD-COD-SW-9-0/1-0

Date Analyzed: 11/05/19 19:00 Lab File ID: 5110517.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloroform	6.60	Incomplete Integration	bowieh	11/06/19 10:11
Tetrachloroethene	9.71	Invalid Compound ID	bowieh	11/06/19 10:11
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:11
Benzene		Invalid Compound ID	bowieh	11/06/19 10:11
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:08
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:07
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/06/19 10:10
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:11
Toluene		Invalid Compound ID	bowieh	11/06/19 10:11

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297107

Lab Sample ID: 180-97854-5 Client Sample ID: HD-COD-SW-13-0/1-0

Date Analyzed: 11/05/19 19:24 Lab File ID: 5110518.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.89	Peak assignment corrected	bowieh	11/06/19 10:12
2-Hexanone		Invalid Compound ID	bowieh	11/06/19 10:12
Benzene		Invalid Compound ID	bowieh	11/06/19 10:12
Chloroform		Invalid Compound ID	bowieh	11/06/19 10:12
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:11
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/06/19 10:12
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:12
Tetrachloroethene		Invalid Compound ID	bowieh	11/06/19 10:12

Lab Sample ID: 180-97854-6 Client Sample ID: HD-COD-SW-15-0/1-0

Date Analyzed: 11/05/19 19:48 Lab File ID: 5110519.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.72	Poor chromatography	bowieh	11/06/19 10:13
1,1,1-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:13
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:13
2-Hexanone		Invalid Compound ID	bowieh	11/06/19 10:13
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:13
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:12
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:12

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297107

Lab Sample ID: 180-97854-7 Client Sample ID: HD-COD-SW-16-0/1-0

Date Analyzed: 11/05/19 20:12 Lab File ID: 5110520.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:14
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:14
Chloroethane		Invalid Compound ID	bowieh	11/06/19 10:13
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:14

Lab Sample ID: 180-97854-8 Client Sample ID: HD-COD-SW-17-0/1-0

Date Analyzed: 11/05/19 20:36 Lab File ID: 5110521.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:14
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:14
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:14
Acetone		Invalid Compound ID	bowieh	11/06/19 10:14
Benzene		Invalid Compound ID	bowieh	11/06/19 10:14
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:14
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:14
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:14

Lab Sample ID: 180-97854-9 Client Sample ID: HD-COD-SW-26-0/1-0

Date Analyzed: 11/05/19 21:00 Lab File ID: 5110522.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.69	Peak assignment corrected	bowieh	11/06/19 10:15
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:16
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:15
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:15
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/06/19 10:15

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297107

Lab Sample ID: 180-97854-10 Client Sample ID: HD-COD-SW-27-0/1-0

Date Analyzed: 11/05/19 21:25 Lab File ID: 5110523.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromodichloromethane	8.46	Peak assignment corrected	bowieh	11/06/19 10:18
2-Hexanone		Invalid Compound ID	bowieh	11/06/19 10:18
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:18
Benzene		Invalid Compound ID	bowieh	11/06/19 10:17
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:16
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/06/19 10:17
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:18
Tetrachloroethene		Invalid Compound ID	bowieh	11/06/19 10:18

Lab Sample ID: 180-97854-11 Client Sample ID: HD-COD-SW-28-0/1-0

Date Analyzed: 11/05/19 21:49 Lab File ID: 5110524.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloroform	6.62	Poor chromatography	bowieh	11/06/19 10:19
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/06/19 10:20
2-Hexanone		Invalid Compound ID	bowieh	11/06/19 10:20
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:19
Benzene		Invalid Compound ID	bowieh	11/06/19 10:19
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:19
Chloromethane		Invalid Compound ID	bowieh	11/06/19 10:19
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/06/19 10:19
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:20
Trichloroethene		Invalid Compound ID	bowieh	11/06/19 10:19

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297107

Lab Sample ID: 180-97854-12 Client Sample ID: HD-COD-SW-29-0/1-0

Date Analyzed: 11/05/19 22:14 Lab File ID: 5110525.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Hexanone		Invalid Compound ID	bowieh	11/06/19 10:20
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/06/19 10:20
Benzene		Invalid Compound ID	bowieh	11/06/19 10:20
Bromomethane		Invalid Compound ID	bowieh	11/06/19 10:20
Carbon disulfide		Invalid Compound ID	bowieh	11/06/19 10:20
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/06/19 10:20
Ethylbenzene		Invalid Compound ID	bowieh	11/06/19 10:20
Trichloroethene		Invalid Compound ID	bowieh	11/06/19 10:20

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Analysis Batch Number: 297240

Lab Sample ID: CCVIS 180-297240/3 Client Sample ID:

Date Analyzed: 11/06/19 10:08 Lab File ID: 5110603.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.43	Incomplete Integration	bowieh	11/06/19 10:28
Trichlorofluoromethane	2.88	Split Peak	bowieh	11/06/19 10:29

Lab Sample ID: MB 180-297240/6 Client Sample ID:

Date Analyzed: 11/06/19 11:31 Lab File ID: 5110606.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.88	Peak assignment corrected	bowieh	11/07/19 09:09
Methylene Chloride	4.42	Peak assignment corrected	bowieh	11/07/19 09:09
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	11/07/19 09:10
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/07/19 09:10
Chlorobenzene		Invalid Compound ID	bowieh	11/07/19 09:10

Lab Sample ID: 180-97854-1 Client Sample ID: HD-COD-SW-6-0/1-0

Date Analyzed: 11/06/19 12:20 Lab File ID: 5110607.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Hexanone		Invalid Compound ID	bowieh	11/07/19 09:11
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	11/07/19 09:11
Benzene		Invalid Compound ID	bowieh	11/07/19 09:11
Bromomethane		Invalid Compound ID	bowieh	11/07/19 09:11
Chloromethane		Invalid Compound ID	bowieh	11/07/19 09:10
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	11/07/19 09:11
Ethylbenzene		Invalid Compound ID	bowieh	11/07/19 09:11
Methylene Chloride		Invalid Compound ID	bowieh	11/06/19 12:41

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VOA8260INT_00100	11/07/19	10/07/19	Methanol, Lot 3167192	10 mL	VOA8260INTRES_00164	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00164	01/31/24		Restek, Lot A0145169		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260SURR_00100	11/07/19	10/07/19	Methanol, Lot 3167192	100 mL	VOA8260SURRES_00161	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00161	11/30/23		Restek, Lot A0143613		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260VOA2ND_00376	11/06/19	10/30/19	Methanol, Lot 3167194	10 mL	VOA8260GAS2ND_00284	0.1 mL	Bromomethane	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOA2ND_00373	1 mL	1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dibromoethane (EDB)	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromochloromethane	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Dibromochloromethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylene Chloride	25 ug/mL
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS2ND_00284	04/30/22		Restek, Lot A0148330		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOA2ND_00373	11/06/19	10/06/19	Methanol, Lot 3167192	10 mL	VOA8260MEGA2_00089	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2-Dibromoethane (EDB)	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromochloromethane	250 ug/mL
							Bromodichloromethane	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Dibromochloromethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260MEGA2_00089	06/30/21		Restek, Lot A0144202		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane (EDB)	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOA8260VOAPRI_00375	10/15/19	10/08/19	Methanol, Lot 3167194	10 mL	VOA8260GAS1ST_00278	0.1 mL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Dichlorofluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00374	1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane (EDB)	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromochloromethane	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromochloromethane	25 ug/mL
							Dibromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	50 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
.VOA8260GAS1ST_00278	03/31/21		Restek, Lot A0146651		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00374	11/08/19	10/08/19	Methanol, Lot 3167194	10 mL	VOA8260KET1ST_00133	0.2 mL	2-Butanone (MEK)	250 ug/mL
							2-Hexanone	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA1_00089	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,1-Dichloropropene	250 ug/mL
							1,2,3-Trichlorobenzene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2,4-Trichlorobenzene	250 ug/mL
							1,2,4-Trimethylbenzene	250 ug/mL
							1,2-Dibromo-3-Chloropropane	250 ug/mL
							1,2-Dibromoethane (EDB)	250 ug/mL
							1,2-Dichlorobenzene	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,3,5-Trimethylbenzene	250 ug/mL
							1,3-Dichlorobenzene	250 ug/mL
							1,3-Dichloropropane	250 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							2,2-Dichloropropane	250 ug/mL
							2-Chlorotoluene	250 ug/mL
							2-Methyl-2-propanol	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Chloro-1-propene	250 ug/mL
							4-Chlorotoluene	250 ug/mL
							4-Isopropyltoluene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromobenzene	250 ug/mL
							Bromochloromethane	250 ug/mL
							Bromodichloromethane	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Cyclohexane	250 ug/mL
							Dibromochloromethane	250 ug/mL
							Dibromomethane	250 ug/mL
							Ethyl ether	250 ug/mL
							Ethyl methacrylate	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Hexane	250 ug/mL
							Iodomethane	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Isopropylbenzene	250 ug/mL
							m-Xylene & p-Xylene	250 ug/mL
							Methyl acetate	500 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylcyclohexane	250 ug/mL
							Methylene Chloride	250 ug/mL
							n-Butylbenzene	250 ug/mL
							n-Heptane	250 ug/mL
							N-Propylbenzene	250 ug/mL
							Naphthalene	250 ug/mL
							o-Xylene	250 ug/mL
							sec-Butylbenzene	250 ug/mL
							Styrene	250 ug/mL
							tert-Butylbenzene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Tetrahydrofuran	500 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							trans-1,4-Dichloro-2-butene	250 ug/mL
							Trichloroethene	250 ug/mL
..VOA8260KET1ST_00133	12/31/21		Restek, Lot A0143988		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA1_00089	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane (EDB)	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
VOA8260VOAPRI_00377	11/02/19	10/26/19	Methanol, Lot 3167192	10 mL	VOA8260GAS1ST_00280	0.1 mL	Bromomethane	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00374	1 mL	1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dibromoethane (EDB)	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromochloromethane	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Dibromochloromethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylene Chloride	25 ug/mL
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS1ST_00280	03/31/21		Restek, Lot A0146651		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00374	11/08/19	10/08/19	Methanol, Lot 3167194	10 mL	VOA8260MEGA1_00089	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2-Dibromoethane (EDB)	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromochloromethane	250 ug/mL
							Bromodichloromethane	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Dibromochloromethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Xylenes, Total	500 ug/mL
..VOA8260MEGA1_00089	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane (EDB)	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOAACRPRI_00021	10/20/19	09/20/19	Methanol, Lot 3167194	100 mL	VOAACRORES_00148	125 uL	Acrolein	25 ug/mL
.VOAACRORES_00148	10/31/19		Restek, Lot A0147676		(Purchased Reagent)		Acrolein	20000 ug/mL
VOABFB25_00118							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFB50_00119	5 mL	BFB	25 ug/mL
.VOABFB50_00119	10/13/19	09/13/19	Methanol, Lot 3167189	50 mL	VOABFBRES_00081	1 mL	BFB	50 ug/mL
..VOABFBRES_00081	11/30/23		Restek, Lot A0142868		(Purchased Reagent)		BFB	2500 ug/mL
VOABFB25_00119							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Total BTEX	
							Xylenes, Total	
					VOABFB50_00120	5 mL	BFB	25 ug/mL
.VOABFB50_00120	11/14/19	10/14/19	Methanol, Lot 3167189	50 mL	VOABFBRES_00088	1 mL	BFB	50 ug/mL
..VOABFBRES_00088	04/30/24	Restek, Lot A0147670			(Purchased Reagent)		BFB	2500 ug/mL
VOAVAPRI_00028	11/04/19	10/04/19	Methanol, Lot 3167194	10 mL	VOA8260VARES_00122	50 uL	Vinyl acetate	25 ug/mL
.VOA8260VARES_00122	02/29/20	Restek, Lot A0152359			(Purchased Reagent)		Vinyl acetate	5000 ug/mL
voaWI/SHP5_00014	11/16/19	10/16/19	Methanol, Lot 3167194	25 mL	VOA8260INTSUR_00019	1 mL	1,4-Dichlorobenzene-d4	10 ug/mL
							Chlorobenzene-d5	10 ug/mL
							Fluorobenzene (IS)	10 ug/mL
							TBA-d9 (IS)	200 ug/mL
.VOA8260INTSUR_00019	01/31/22	Restek, Lot A0124021			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
voaWI/SHP5_00014	11/16/19	10/16/19	Methanol, Lot 3167194	25 mL	VOA8260INTSUR_00019	1 mL	1,2-Dichloroethane-d4 (Surr)	10 ug/mL
							4-Bromofluorobenzene (Surr)	10 ug/mL
							Dibromofluoromethane (Surr)	10 ug/mL
							Toluene-d8 (Surr)	10 ug/mL
.VOA8260INTSUR_00019	01/31/22	Restek, Lot A0124021			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
voaWKetmix1st_00019	11/08/19	10/08/19	Methanol, Lot 3167194	50 mL	VOA8260KET1ST_00133	0.1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
.VOA8260KET1ST_00133	12/31/21	Restek, Lot A0143988			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL

Reagent

VOA8260GAS1ST_00278

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0146651

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,500.2 µg/mL	+/- 19.5056 µg/mL +/- 140.7858 µg/mL +/- 144.0522 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBJ6334) **Purity** 99%	2,501.5 µg/mL	+/- 20.4136 µg/mL +/- 140.9867 µg/mL +/- 144.2520 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00012557) **Purity** 99%	2,502.6 µg/mL	+/- 19.3699 µg/mL +/- 140.9018 µg/mL +/- 144.1719 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBK2299) **Purity** 99%	2,502.4 µg/mL	+/- 21.0409 µg/mL +/- 141.1253 µg/mL +/- 144.3895 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,501.9 µg/mL	+/- 18.1039 µg/mL +/- 140.6930 µg/mL +/- 143.9660 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	2,498.4 µg/mL	+/- 18.1959 µg/mL +/- 140.5102 µg/mL +/- 143.7782 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 7978700) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,505.7	µg/mL	+/-	19.3191	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	141.0656	µg/mL	Unstressed
	Purity 99%				+/-	144.3399	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

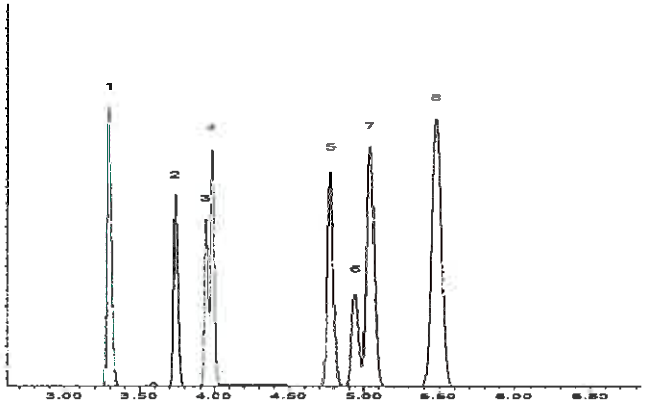
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 05-Mar-2019 **Balance:** B707717271

John Lidgett - AD Chemist

Date Passed: 12-Mar-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0146651

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,500.2 µg/mL	+/- 19.5056 µg/mL +/- 140.7858 µg/mL +/- 144.0522 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBJ6334) **Purity** 99%	2,501.5 µg/mL	+/- 20.4136 µg/mL +/- 140.9867 µg/mL +/- 144.2520 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00012557) **Purity** 99%	2,502.6 µg/mL	+/- 19.3699 µg/mL +/- 140.9018 µg/mL +/- 144.1719 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBK2299) **Purity** 99%	2,502.4 µg/mL	+/- 21.0409 µg/mL +/- 141.1253 µg/mL +/- 144.3895 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,501.9 µg/mL	+/- 18.1039 µg/mL +/- 140.6930 µg/mL +/- 143.9660 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	2,498.4 µg/mL	+/- 18.1959 µg/mL +/- 140.5102 µg/mL +/- 143.7782 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 7978700) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,505.7	µg/mL	+/-	19.3191	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	141.0656	µg/mL	Unstressed
	Purity 99%				+/-	144.3399	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

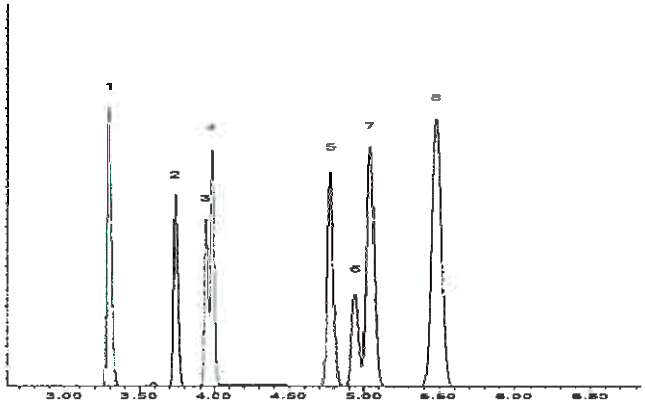
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 05-Mar-2019 **Balance:** B707717271

John Lidgett - AD Chemist

Date Passed: 12-Mar-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0148330

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8.SEC (Lot 25587) **Purity** 99%	2,513.2 µg/mL	+/- 19.3767 µg/mL +/- 141.4861 µg/mL +/- 144.7702 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3.SEC (Lot 18343) **Purity** 99%	2,505.2 µg/mL	+/- 20.4180 µg/mL +/- 141.1888 µg/mL +/- 144.4589 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4.SEC (Lot MKBK6872V) **Purity** 99%	2,524.8 µg/mL	+/- 17.9317 µg/mL +/- 141.9344 µg/mL +/- 145.2382 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0.SEC (Lot 24033) **Purity** 99%	2,521.5 µg/mL	+/- 17.6825 µg/mL +/- 141.7249 µg/mL +/- 145.0252 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9.SEC (Lot Q119-46) **Purity** 99%	2,505.9 µg/mL	+/- 24.7917 µg/mL +/- 141.9274 µg/mL +/- 145.1827 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3.SEC (Lot 00004202) **Purity** 99%	2,507.1 µg/mL	+/- 24.1112 µg/mL +/- 141.8739 µg/mL +/- 145.1334 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 * (Lot 7978700) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,507.2	µg/mL	+/-	21.4957	µg/mL	Gravimetric
	CAS # 75-69-4.SEC	(Lot 253600)			+/-	141.4611	µg/mL	Unstressed
	Purity 99%				+/-	144.7303	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

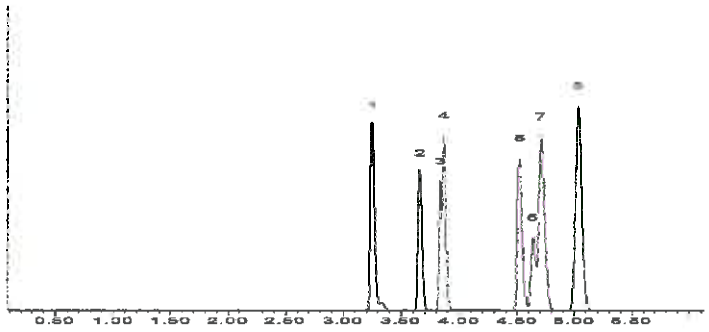
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 18-Apr-2019 **Balance:** 1128342314

Peng-Yer Lo - QC Analyst

Date Passed: 30-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0145169

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 **Purity** 98%	(Lot CD-107)	5,044.0 µg/mL	+/- 29.3246 µg/mL +/- 107.9918 µg/mL +/- 111.1314 µg/mL		Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 **Purity** 99%	(Lot M-276)	1,254.2 µg/mL	+/- 7.2922 µg/mL +/- 26.8533 µg/mL +/- 27.6340 µg/mL		Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 **Purity** 99%	(Lot BCBK8171V)	252.1 µg/mL	+/- 1.4689 µg/mL +/- 5.3977 µg/mL +/- 5.5545 µg/mL		Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 **Purity** 99%	(Lot I-19942)	5,027.8 µg/mL	+/- 29.2304 µg/mL +/- 107.6448 µg/mL +/- 110.7743 µg/mL		Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 **Purity** 99%	(Lot PR-23926)	250.6 µg/mL	+/- 1.4603 µg/mL +/- 5.3661 µg/mL +/- 5.5220 µg/mL		Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3871 µg/mL +/- 5.5436 µg/mL		Gravimetric Unstressed Stressed

Reagent

VOA8260INTSUR_00019

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570812 **Lot No.:** A0124021

Description : 8260 IS/Surrogate Mix (2016)

8260 IS/Surrogate Mix (2016) 250-5000 µg/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 **Purity** 99%	(Lot I-201)	5,000.4	µg/mL	+/- 29.0728 +/- 107.0592 +/- 110.1716	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99%	(Lot 0012016)	250.4	µg/mL	+/- 1.4592 +/- 5.3620 +/- 5.5178	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 98%	(Lot PR-25433)	250.4	µg/mL	+/- 1.4592 +/- 5.3618 +/- 5.5176	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 **Purity** 99%	(Lot I-19942)	5,000.1	µg/mL	+/- 29.0710 +/- 107.0527 +/- 110.1649	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Fluorobenzene **CAS #** 462-06-6 **Purity** 99%	(Lot BCBK8171V)	250.5	µg/mL	+/- 1.4598 +/- 5.3641 +/- 5.5200	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-27311)	250.1	µg/mL	+/- 1.4575 +/- 5.3556 +/- 5.5112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Chlorobenzene-d5 **CAS #** 3114-55-4 **Purity** 99%	(Lot PR-23926)	250.3	µg/mL	+/- 1.4586 +/- 5.3599 +/- 5.5156	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	1-Bromo-4-fluorobenzene (BFB)		250.7	µg/mL	+/- 1.4610	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KOV)			+/- 5.3684	µg/mL	Unstressed
	Purity 99%				+/- 5.5244	µg/mL	Stressed
9	1,4-Dichlorobenzene-d4		250.6	µg/mL	+/- 1.4604	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/- 5.3663	µg/mL	Unstressed
	Purity 99%				+/- 5.5222	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

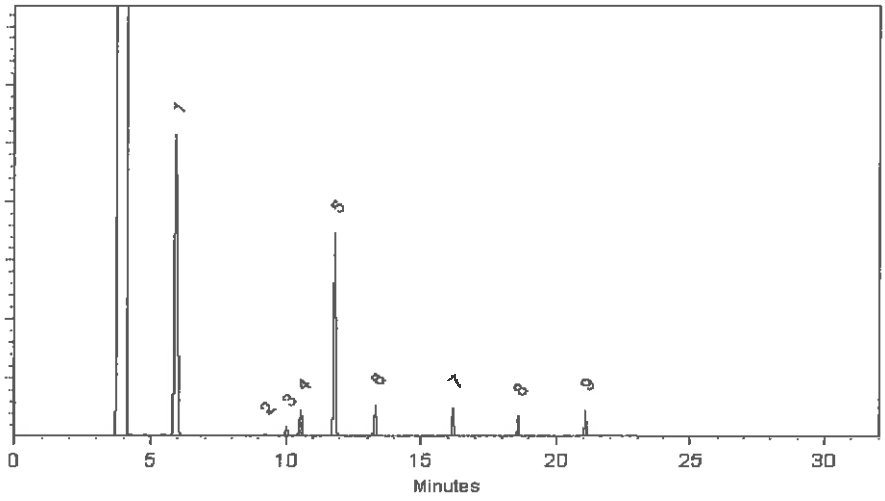
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 06-Jan-2017 **Balance:** 1127510105

Jennifer J Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 09-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

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ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0143988

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBJ7699)	12,500.5 µg/mL	+/- 72.6790 µg/mL +/- 754.2106 µg/mL +/- 756.0012 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,501.0 µg/mL	+/- 72.6819 µg/mL +/- 754.2407 µg/mL +/- 756.0314 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBH8930)	12,501.5 µg/mL	+/- 72.6848 µg/mL +/- 754.2709 µg/mL +/- 756.0617 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKCD9048)	12,501.8 µg/mL	+/- 72.6863 µg/mL +/- 754.2860 µg/mL +/- 756.0768 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

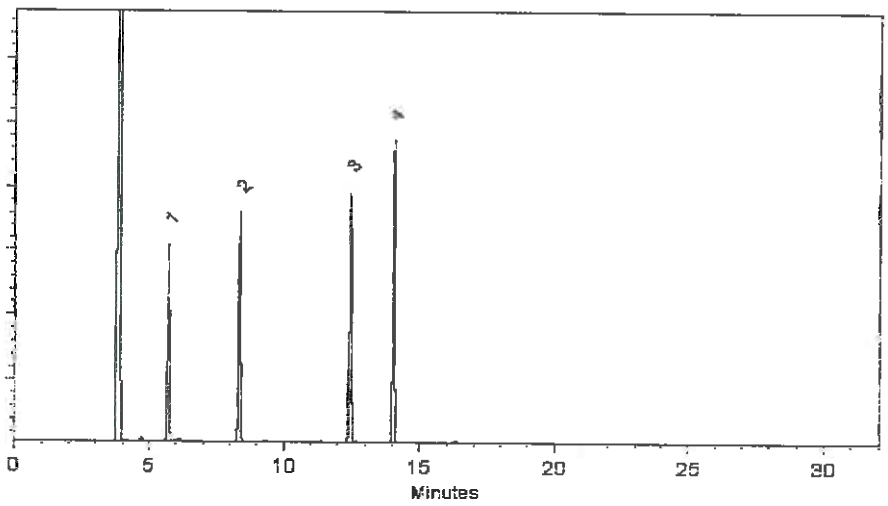
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

P. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260MEGA1_00089

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0143774

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7 (Lot SHBJ5713) **Purity** 99%	2,500.6 µg/mL	+/- 14.5388 µg/mL +/- 150.8738 µg/mL +/- 151.2320 µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot 00009482) **Purity** 99%	2,501.6 µg/mL	+/- 14.5447 µg/mL +/- 150.9341 µg/mL +/- 151.2925 µg/mL	Gravimetric Unstressed Stressed
3	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBG8609V) **Purity** 99%	2,501.9 µg/mL	+/- 14.5461 µg/mL +/- 150.9492 µg/mL +/- 151.3076 µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0 (Lot SHBJ9404) **Purity** 99%	25,008.1 µg/mL	+/- 145.3918 µg/mL +/- 1,508.8503 µg/mL +/- 1,512.4325 µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9 (Lot SHBG4345V) **Purity** 99%	5,000.8 µg/mL	+/- 29.0748 µg/mL +/- 301.7174 µg/mL +/- 302.4337 µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4 (Lot SHBH4362V) **Purity** 99%	2,500.6 µg/mL	+/- 14.5388 µg/mL +/- 150.8738 µg/mL +/- 151.2320 µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1 (Lot WXBB7852V) **Purity** 99%	2,502.0 µg/mL	+/- 14.5468 µg/mL +/- 150.9567 µg/mL +/- 151.3151 µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2 **Purity** 99%	(Lot SHBK5095)	2,500.8	µg/mL	+/- 14.5396 +/- 150.8813 +/- 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Carbon disulfide **CAS #** 75-15-0 **Purity** 99%	(Lot U22D706)	2,501.1	µg/mL	+/- 14.5418 +/- 150.9040 +/- 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Acrylonitrile **CAS #** 107-13-1 **Purity** 99%	(Lot R15D047)	25,010.4	µg/mL	+/- 145.4049 +/- 1,508.9860 +/- 1,512.5686	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 **Purity** 99%	(Lot SHBH9526)	2,500.3	µg/mL	+/- 14.5367 +/- 150.8512 +/- 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2 **Purity** 99%	(Lot MKBX5945V)	2,501.3	µg/mL	+/- 14.5425 +/- 150.9115 +/- 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Hexane (C6) **CAS #** 110-54-3 **Purity** 99%	(Lot SHBH8106)	2,500.8	µg/mL	+/- 14.5396 +/- 150.8813 +/- 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3 **Purity** 99%	(Lot 462600)	2,500.4	µg/mL	+/- 14.5374 +/- 150.8587 +/- 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7 **Purity** 99%	(Lot BCBT5124)	2,500.9	µg/mL	+/- 14.5403 +/- 150.8889 +/- 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5 **Purity** 99%	(Lot MKBH9850V)	2,500.3	µg/mL	+/- 14.5367 +/- 150.8512 +/- 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1 **Purity** 99%	(Lot SHBK0551)	62,500.9	µg/mL	+/- 363.3665 +/- 3,770.9529 +/- 3,779.9058	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	chloroform **CAS #** 67-66-3 **Purity** 99%	(Lot SHBJ9076)	2,500.5	µg/mL	+/- 14.5381 +/- 150.8662 +/- 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Bromochloromethane **CAS #** 74-97-5 **Purity** 98%	(Lot 00008541)	2,500.6	µg/mL	+/- 14.5387 +/- 150.8718 +/- 151.2300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Tetrahydrofuran **CAS #** 109-99-9 **Purity** 99%	(Lot SHBJ6179)	5,000.6	µg/mL	+/- 29.0741 +/- 301.7099 +/- 302.4262	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	1,1,1-trichloroethane **CAS #** 71-55-6 **Purity** 99%	(Lot B15W12061)	2,500.8	µg/mL	+/- 14.5396 +/- 150.8813 +/- 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Cyclohexane **CAS #** 110-82-7 **Purity** 99%	(Lot MKCC9660)	2,500.9	µg/mL	+/- 14.5403 +/- 150.8889 +/- 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6 **Purity** 99%	(Lot 180531JLM)	2,500.6	µg/mL	+/- 14.5388 +/- 150.8738 +/- 151.2320	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBJ2110)	2,501.1 µg/mL	+/- 14.5418 +/- 150.9040 +/- 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBJ2424)	2,501.6 µg/mL	+/- 14.5447 +/- 150.9341 +/- 151.2925	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBJ0707)	2,501.3 µg/mL	+/- 14.5425 +/- 150.9115 +/- 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBJ5344)	2,500.9 µg/mL	+/- 14.5403 +/- 150.8889 +/- 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2,500.5 µg/mL	+/- 14.5381 +/- 150.8662 +/- 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 99%	(Lot SHBJ0457)	2,501.6 µg/mL	+/- 14.5447 +/- 150.9341 +/- 151.2925	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot BCBR0882V)	2,500.5 µg/mL	+/- 14.5381 +/- 150.8662 +/- 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	50,001.1 µg/mL	+/- 290.6957 +/- 3,016.7880 +/- 3,023.9503	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 99%	(Lot 10201030)	2,502.0 µg/mL	+/- 14.5468 +/- 150.9567 +/- 151.3151	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 25076)	2,501.4 µg/mL	+/- 14.5432 +/- 150.9190 +/- 151.2773	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBJ5659)	2,500.1 µg/mL	+/- 14.5359 +/- 150.8436 +/- 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot 69796APV)	2,502.8 µg/mL	+/- 14.5512 +/- 151.0020 +/- 151.3605	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 98%	(Lot C797620)	2,500.6 µg/mL	+/- 14.5387 +/- 150.8718 +/- 151.2300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,500.4 µg/mL	+/- 14.5374 +/- 150.8587 +/- 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2,500.9 µg/mL	+/- 14.5403 +/- 150.8889 +/- 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBH9691)	2,501.0 µg/mL	+/- 14.5410 +/- 150.8964 +/- 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKCC0877)	2,502.4	µg/mL	+/- 14.5493 +/- 150.9827 +/- 151.3411	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,500.4	µg/mL	+/- 14.5374 +/- 150.8587 +/- 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBH4459V)	2,501.1	µg/mL	+/- 14.5418 +/- 150.9040 +/- 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBJ2338)	1,251.5	µg/mL	+/- 7.2763 +/- 75.5085 +/- 75.6878	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	1,250.1	µg/mL	+/- 7.2683 +/- 75.4256 +/- 75.6047	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	2,500.0	µg/mL	+/- 14.5352 +/- 150.8361 +/- 151.1942	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	2,500.0	µg/mL	+/- 14.5352 +/- 150.8361 +/- 151.1942	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH7231)	2,500.8	µg/mL	+/- 14.5396 +/- 150.8813 +/- 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKCC9766)	2,500.0	µg/mL	+/- 14.5352 +/- 150.8361 +/- 151.1942	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	2,500.1	µg/mL	+/- 14.5359 +/- 150.8436 +/- 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBG3138V)	2,501.0	µg/mL	+/- 14.5410 +/- 150.8964 +/- 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	bromodichloromethane **CAS #** 75-27-4 **Purity** 99%	(Lot MKCF8470)	2,501.6	µg/mL	+/- 14.5447 +/- 150.9341 +/- 151.2925	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	2,500.5	µg/mL	+/- 14.5381 +/- 150.8662 +/- 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	2,501.3	µg/mL	+/- 14.5425 +/- 150.9115 +/- 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	trans-1,4-dichloro-2-butene **CAS #** 110-57-6 **Purity** 94%	(Lot MKBX7788V)	2,500.0	µg/mL	+/- 14.5355 +/- 150.8389 +/- 151.1971	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot WXBC3346V)	2,500.0	µg/mL	+/- 14.5352 +/- 150.8361 +/- 151.1942	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Bromobenzene **CAS #** 108-86-1 **Purity** 99%	(Lot WXBC5147V)	2,500.1	µg/mL	+/- 14.5359 +/- 150.8436 +/- 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	1,3,5-Trimethylbenzene **CAS #** 108-67-8 **Purity** 99%	(Lot BCBS7648V)	2,500.5	µg/mL	+/- 14.5381 +/- 150.8662 +/- 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Chlorotoluene **CAS #** 95-49-8 **Purity** 99%	(Lot MKBW5554V)	2,500.1	µg/mL	+/- 14.5359 +/- 150.8436 +/- 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4-Chlorotoluene **CAS #** 106-43-4 **Purity** 99%	(Lot MKBL7753V)	2,500.9	µg/mL	+/- 14.5403 +/- 150.8889 +/- 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	tert-Butylbenzene **CAS #** 98-06-6 **Purity** 99%	(Lot STBD6954V)	2,500.1	µg/mL	+/- 14.5359 +/- 150.8436 +/- 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	1,2,4-Trimethylbenzene **CAS #** 95-63-6 **Purity** 97%	(Lot MKBH5027V)	2,499.9	µg/mL	+/- 14.5348 +/- 150.8320 +/- 151.1901	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	sec-Butylbenzene **CAS #** 135-98-8 **Purity** 99%	(Lot MKBR9260V)	2,501.1	µg/mL	+/- 14.5418 +/- 150.9040 +/- 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	p-Isopropyltoluene (p-Cymene) **CAS #** 99-87-6 **Purity** 99%	(Lot MKBV3556V)	2,501.1	µg/mL	+/- 14.5418 +/- 150.9040 +/- 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBQ7100V)	2,501.4	µg/mL	+/- 14.5432 +/- 150.9190 +/- 151.2773	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	2,501.5	µg/mL	+/- 14.5439 +/- 150.9266 +/- 151.2849	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	n-Butylbenzene **CAS #** 104-51-8 **Purity** 99%	(Lot 09804AE)	2,501.0	µg/mL	+/- 14.5410 +/- 150.8964 +/- 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot SHBG3111V)	2,502.9	µg/mL	+/- 14.5519 +/- 151.0095 +/- 151.3681	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	2,502.0	µg/mL	+/- 14.5468 +/- 150.9567 +/- 151.3151	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 99%	(Lot SHBJ9215)	2,502.1	µg/mL	+/- 14.5476 +/- 150.9643 +/- 151.3227	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	2,501.5	µg/mL	+/- 14.5439 +/- 150.9266 +/- 151.2849	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBZ8680V)	2,502.8	µg/mL	+/- 14.5512 +/- 151.0020 +/- 151.3605	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBX7627V)	2,502.5 µg/mL	+/- 14.5498 +/- 150.9869 +/- 151.3454	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

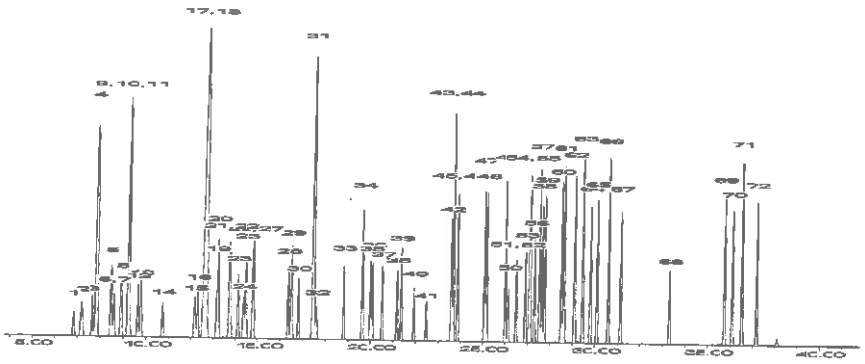
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 05-Dec-2018 **Balance:** B251644995

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260MEGA2_00089

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.SEC **Lot No.:** A0144202

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7.SEC (Lot F23X068) **Purity** 98%	2,517.0 µg/mL	+/- 14.6339 µg/mL +/- 151.8598 µg/mL +/- 152.2203 µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1.SEC (Lot 18342) **Purity** 99%	2,506.7 µg/mL	+/- 14.5740 µg/mL +/- 151.2383 µg/mL +/- 151.5974 µg/mL	Gravimetric Unstressed Stressed
3	1,1-Dichloroethene **CAS #** 75-35-4.SEC (Lot 7692300) **Purity** 99%	2,503.3 µg/mL	+/- 14.5546 µg/mL +/- 151.0372 µg/mL +/- 151.3958 µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0.SEC (Lot XYXDO) **Purity** 98%	25,000.8 µg/mL	+/- 145.3491 µg/mL +/- 1,508.4071 µg/mL +/- 1,511.9883 µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9.SEC (Lot UCNEL) **Purity** 99%	5,002.3 µg/mL	+/- 29.0840 µg/mL +/- 301.8129 µg/mL +/- 302.5295 µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4.SEC (Lot Y25A027) **Purity** 99%	2,503.5 µg/mL	+/- 14.5556 µg/mL +/- 151.0472 µg/mL +/- 151.4059 µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1.SEC (Lot H3HGC) **Purity** 99%	2,511.7 µg/mL	+/- 14.6030 µg/mL +/- 151.5400 µg/mL +/- 151.8998 µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane)		2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
	CAS # 75-09-2.SEC	(Lot FGM02)			+/-	151.2383	µg/mL	Unstressed
	Purity 99%				+/-	151.5974	µg/mL	Stressed
9	Carbon disulfide		2,500.7	µg/mL	+/-	14.5391	µg/mL	Gravimetric
	CAS # 75-15-0.SEC	(Lot MKBL1376V)			+/-	150.8763	µg/mL	Unstressed
	Purity 99%				+/-	151.2345	µg/mL	Stressed
10	Acrylonitrile		25,001.2	µg/mL	+/-	145.3513	µg/mL	Gravimetric
	CAS # 107-13-1.SEC	(Lot UERIL)			+/-	1,508.4304	µg/mL	Unstressed
	Purity 99%				+/-	1,512.0117	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 1634-04-4.SEC	(Lot ZHKYA)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
12	cis-1,2-Dichloroethene		2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS # 156-59-2.SEC	(Lot HGC01-BLKT)			+/-	150.9137	µg/mL	Unstressed
	Purity 98%				+/-	151.2720	µg/mL	Stressed
13	n-Hexane (C6)		2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS # 110-54-3.SEC	(Lot K24W001)			+/-	151.0320	µg/mL	Unstressed
	Purity 97%				+/-	151.3905	µg/mL	Stressed
14	1,1-Dichloroethane		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 75-34-3.SEC	(Lot 5379000)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
15	2,2-Dichloropropane		2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS # 594-20-7.SEC	(Lot I7E8E)			+/-	151.0320	µg/mL	Unstressed
	Purity 98%				+/-	151.3905	µg/mL	Stressed
16	trans-1,2-Dichloroethene		2,501.0	µg/mL	+/-	14.5409	µg/mL	Gravimetric
	CAS # 156-60-5.SEC	(Lot TS5UB)			+/-	150.8954	µg/mL	Unstressed
	Purity 97%				+/-	151.2537	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)		62,508.3	µg/mL	+/-	363.4098	µg/mL	Gravimetric
	CAS # 78-83-1.SEC	(Lot PH2XK)			+/-	3,771.4029	µg/mL	Unstressed
	Purity 99%				+/-	3,780.3569	µg/mL	Stressed
18	Chloroform		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 67-66-3.SEC	(Lot 1297547)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane		2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS # 74-97-5.SEC	(Lot 5670200)			+/-	151.2584	µg/mL	Unstressed
	Purity 99%				+/-	151.6175	µg/mL	Stressed
20	Tetrahydrofuran		5,006.7	µg/mL	+/-	29.1092	µg/mL	Gravimetric
	CAS # 109-99-9.SEC	(Lot 8DAOJ)			+/-	302.0744	µg/mL	Unstressed
	Purity 99%				+/-	302.7916	µg/mL	Stressed
21	1,1,1-Trichloroethane		2,507.7	µg/mL	+/-	14.5798	µg/mL	Gravimetric
	CAS # 71-55-6.SEC	(Lot 7998000)			+/-	151.2986	µg/mL	Unstressed
	Purity 99%				+/-	151.6579	µg/mL	Stressed
22	Cyclohexane		2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS # 110-82-7.SEC	(Lot YADRA)			+/-	151.3188	µg/mL	Unstressed
	Purity 99%				+/-	151.6780	µg/mL	Stressed
23	1,1-Dichloropropene		2,502.4	µg/mL	+/-	14.5492	µg/mL	Gravimetric
	CAS # 563-58-6.SEC	(Lot 5221100)			+/-	150.9809	µg/mL	Unstressed
	Purity 96%				+/-	151.3393	µg/mL	Stressed

24	Carbon tetrachloride		2,510.3	µg/mL	+/-	14.5953	µg/mL	Gravimetric
	CAS # 56-23-5.SEC	(Lot 11466)			+/-	151.4595	µg/mL	Unstressed
	Purity 99%				+/-	151.8191	µg/mL	Stressed
25	n-Heptane (C7)		2,511.8	µg/mL	+/-	14.6040	µg/mL	Gravimetric
	CAS # 142-82-5.SEC	(Lot TFHUC)			+/-	151.5500	µg/mL	Unstressed
	Purity 99%				+/-	151.9098	µg/mL	Stressed
26	1,2-Dichloroethane		2,501.3	µg/mL	+/-	14.5430	µg/mL	Gravimetric
	CAS # 107-06-2.SEC	(Lot FO6PK)			+/-	150.9165	µg/mL	Unstressed
	Purity 99%				+/-	151.2748	µg/mL	Stressed
27	Benzene		2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
	CAS # 71-43-2.SEC	(Lot B28Y008)			+/-	151.1277	µg/mL	Unstressed
	Purity 99%				+/-	151.4865	µg/mL	Stressed
28	Trichloroethene		2,508.7	µg/mL	+/-	14.5856	µg/mL	Gravimetric
	CAS # 79-01-6.SEC	(Lot H04X050)			+/-	151.3590	µg/mL	Unstressed
	Purity 99%				+/-	151.7183	µg/mL	Stressed
29	Methylcyclohexane		2,504.5	µg/mL	+/-	14.5614	µg/mL	Gravimetric
	CAS # 108-87-2.SEC	(Lot Q02QG)			+/-	151.1076	µg/mL	Unstressed
	Purity 99%				+/-	151.4663	µg/mL	Stressed
30	1,2-Dichloropropane		2,504.0	µg/mL	+/-	14.5585	µg/mL	Gravimetric
	CAS # 78-87-5.SEC	(Lot ERRBI-RH)			+/-	151.0774	µg/mL	Unstressed
	Purity 99%				+/-	151.4361	µg/mL	Stressed
31	1,4-Dioxane		50,008.0	µg/mL	+/-	290.7356	µg/mL	Gravimetric
	CAS # 123-91-1.SEC	(Lot YVP2C)			+/-	3,017.2028	µg/mL	Unstressed
	Purity 99%				+/-	3,024.3661	µg/mL	Stressed
32	Dibromomethane		2,509.5	µg/mL	+/-	14.5904	µg/mL	Gravimetric
	CAS # 74-95-3.SEC	(Lot FGI01-OICH)			+/-	151.4093	µg/mL	Unstressed
	Purity 99%				+/-	151.7687	µg/mL	Stressed
33	cis-1,3-Dichloropropene		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 10061-01-5.SEC	(Lot 487OA)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
34	Toluene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 108-88-3.SEC	(Lot YND2B-BD)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
35	Ethyl methacrylate		2,508.8	µg/mL	+/-	14.5866	µg/mL	Gravimetric
	CAS # 97-63-2.SEC	(Lot MLWYK-LS)			+/-	151.3690	µg/mL	Unstressed
	Purity 99%				+/-	151.7284	µg/mL	Stressed
36	trans-1,3-Dichloropropene		2,502.9	µg/mL	+/-	14.5520	µg/mL	Gravimetric
	CAS # 10061-02-6.SEC	(Lot ZDMSL)			+/-	151.0098	µg/mL	Unstressed
	Purity 96%				+/-	151.3684	µg/mL	Stressed
37	1,1,2-Trichloroethane		2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
	CAS # 79-00-5.SEC	(Lot 7871500)			+/-	150.9869	µg/mL	Unstressed
	Purity 99%				+/-	151.3454	µg/mL	Stressed
38	1,3-Dichloropropane		2,502.7	µg/mL	+/-	14.5507	µg/mL	Gravimetric
	CAS # 142-28-9.SEC	(Lot AGN01-EFPC)			+/-	150.9970	µg/mL	Unstressed
	Purity 99%				+/-	151.3555	µg/mL	Stressed
39	Tetrachloroethene		2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS # 127-18-4.SEC	(Lot F09W014)			+/-	151.1378	µg/mL	Unstressed
	Purity 99%				+/-	151.4966	µg/mL	Stressed

40	Dibromochloromethane		2,502.4	µg/mL	+/-	14.5494	µg/mL	Gravimetric
	CAS # 124-48-1.SEC	(Lot 10206360)			+/-	150.9832	µg/mL	Unstressed
	Purity 97%				+/-	151.3417	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)		2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
	CAS # 106-93-4.SEC	(Lot 3505900)			+/-	151.0372	µg/mL	Unstressed
	Purity 99%				+/-	151.3958	µg/mL	Stressed
42	Chlorobenzene		2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
	CAS # 108-90-7.SEC	(Lot 1161936)			+/-	151.1277	µg/mL	Unstressed
	Purity 99%				+/-	151.4865	µg/mL	Stressed
43	m-Xylene		1,251.7	µg/mL	+/-	7.2941	µg/mL	Gravimetric
	CAS # 108-38-3.SEC	(Lot OUKMG-GB)			+/-	75.5202	µg/mL	Unstressed
	Purity 99%				+/-	75.6995	µg/mL	Stressed
44	p-Xylene		1,253.7	µg/mL	+/-	7.3058	µg/mL	Gravimetric
	CAS # 106-42-3.SEC	(Lot GM01)			+/-	75.6409	µg/mL	Unstressed
	Purity 99%				+/-	75.8205	µg/mL	Stressed
45	Ethylbenzene		2,503.5	µg/mL	+/-	14.5556	µg/mL	Gravimetric
	CAS # 100-41-4.SEC	(Lot PI4SE)			+/-	151.0472	µg/mL	Unstressed
	Purity 99%				+/-	151.4059	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane		2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
	CAS # 630-20-6.SEC	(Lot GC01)			+/-	151.2383	µg/mL	Unstressed
	Purity 99%				+/-	151.5974	µg/mL	Stressed
47	o-Xylene		2,504.2	µg/mL	+/-	14.5594	µg/mL	Gravimetric
	CAS # 95-47-6.SEC	(Lot FGL01)			+/-	151.0875	µg/mL	Unstressed
	Purity 99%				+/-	151.4462	µg/mL	Stressed
48	Styrene		2,507.2	µg/mL	+/-	14.5769	µg/mL	Gravimetric
	CAS # 100-42-5.SEC	(Lot OFIOL-IA)			+/-	151.2685	µg/mL	Unstressed
	Purity 99%				+/-	151.6276	µg/mL	Stressed
49	Isopropylbenzene (cumene)		2,505.2	µg/mL	+/-	14.5653	µg/mL	Gravimetric
	CAS # 98-82-8.SEC	(Lot 2PHXG-IH)			+/-	151.1478	µg/mL	Unstressed
	Purity 99%				+/-	151.5067	µg/mL	Stressed
50	Bromoform		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 75-25-2.SEC	(Lot 5461400)			+/-	150.8661	µg/mL	Unstressed
	Purity 97%				+/-	151.2243	µg/mL	Stressed
51	Bromodichloromethane		2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS # 75-27-4.SEC	(Lot 13780)			+/-	150.9137	µg/mL	Unstressed
	Purity 98%				+/-	151.2720	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 79-34-5.SEC	(Lot CFA4D-AQ)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
53	1,2,3-Trichloropropane		2,505.7	µg/mL	+/-	14.5682	µg/mL	Gravimetric
	CAS # 96-18-4.SEC	(Lot GUHZN)			+/-	151.1780	µg/mL	Unstressed
	Purity 99%				+/-	151.5369	µg/mL	Stressed
54	trans-1,4-Dichloro-2-butene		2,514.2	µg/mL	+/-	14.6177	µg/mL	Gravimetric
	CAS # 110-57-6.SEC	(Lot 100700-3)			+/-	151.6922	µg/mL	Unstressed
	Purity 98%				+/-	152.0524	µg/mL	Stressed
55	n-Propylbenzene		2,503.7	µg/mL	+/-	14.5565	µg/mL	Gravimetric
	CAS # 103-65-1.SEC	(Lot T2HFC)			+/-	151.0573	µg/mL	Unstressed
	Purity 99%				+/-	151.4159	µg/mL	Stressed

56	Bromobenzene **CAS #** 108-86-1.SEC **Purity** 99%	(Lot 2FUHG-EM)	2,506.2	µg/mL	+/- +/- +/-	14.5711 151.2081 151.5671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	1,3,5-Trimethylbenzene **CAS #** 108-67-8.SEC **Purity** 99%	(Lot FGH02-CMLN)	2,510.0	µg/mL	+/- +/- +/-	14.5934 151.4394 151.7990	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Chlorotoluene **CAS #** 95-49-8.SEC **Purity** 99%	(Lot SW8QG-AO)	2,504.7	µg/mL	+/- +/- +/-	14.5623 151.1176 151.4764	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4-Chlorotoluene **CAS #** 106-43-4.SEC **Purity** 99%	(Lot P4XHJ-AO)	2,509.2	µg/mL	+/- +/- +/-	14.5885 151.3891 151.7486	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	tert-Butylbenzene **CAS #** 98-06-6.SEC **Purity** 99%	(Lot D6OHC)	2,505.8	µg/mL	+/- +/- +/-	14.5691 151.1880 151.5470	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	1,2,4-Trimethylbenzene **CAS #** 95-63-6.SEC **Purity** 99%	(Lot JMIYD)	2,508.7	µg/mL	+/- +/- +/-	14.5856 151.3590 151.7183	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	sec-Butylbenzene **CAS #** 135-98-8.SEC **Purity** 99%	(Lot OGN01-IMA)	2,504.7	µg/mL	+/- +/- +/-	14.5623 151.1176 151.4764	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	4-Isopropyltoluene (p-cymene) **CAS #** 99-87-6.SEC **Purity** 99%	(Lot 6628200)	2,500.3	µg/mL	+/- +/- +/-	14.5372 150.8562 151.2143	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	1,3-Dichlorobenzene **CAS #** 541-73-1.SEC **Purity** 99%	(Lot FMDFD)	2,506.3	µg/mL	+/- +/- +/-	14.5720 151.2182 151.5772	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	1,4-Dichlorobenzene **CAS #** 106-46-7.SEC **Purity** 99%	(Lot 4Y5DC)	2,509.8	µg/mL	+/- +/- +/-	14.5924 151.4294 151.7889	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	n-Butylbenzene **CAS #** 104-51-8.SEC **Purity** 99%	(Lot MMPGA)	2,513.7	µg/mL	+/- +/- +/-	14.6147 151.6607 152.0207	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	1,2-Dichlorobenzene **CAS #** 95-50-1.SEC **Purity** 99%	(Lot R6QDM)	2,501.8	µg/mL	+/- +/- +/-	14.5459 150.9467 151.3051	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8.SEC **Purity** 98%	(Lot LC00408V)	2,508.5	µg/mL	+/- +/- +/-	14.5845 151.3473 151.7066	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	1,2,4-Trichlorobenzene **CAS #** 120-82-1.SEC **Purity** 99%	(Lot 3LYYC)	2,503.3	µg/mL	+/- +/- +/-	14.5546 151.0372 151.3958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Hexachlorobutadiene **CAS #** 87-68-3.SEC **Purity** 97%	(Lot 5526800)	2,504.4	µg/mL	+/- +/- +/-	14.5607 151.1002 151.4590	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Naphthalene **CAS #** 91-20-3.SEC **Purity** 99%	(Lot 4KW3H-OO)	2,503.3	µg/mL	+/- +/- +/-	14.5546 151.0372 151.3958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

72	1,2,3-Trichlorobenzene		2,512.2	µg/mL	+/-	14.6063	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)			+/-	151.5740	µg/mL	Unstressed
	Purity 98%				+/-	151.9338	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

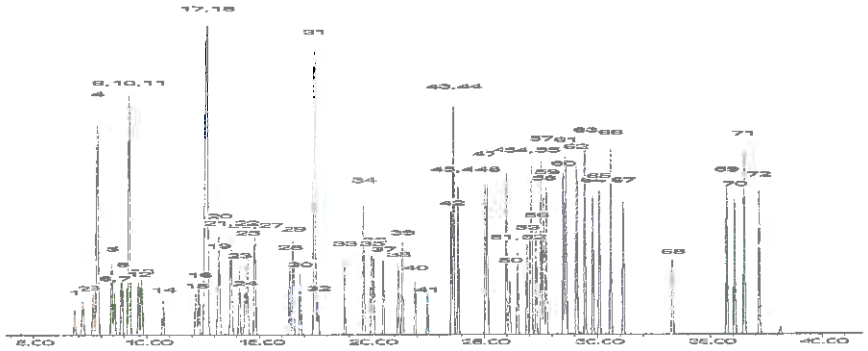
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 17-Dec-2018 **Balance:** 1127510105

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260SURRES_00161

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0143613

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99%	(Lot 0012017)	2,506.4	µg/mL	+/- 14.5724 +/- 140.5314 +/- 143.8196	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 99%	(Lot PR-29377)	2,503.8	µg/mL	+/- 14.5570 +/- 140.3828 +/- 143.6676	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-27311)	2,512.2	µg/mL	+/- 14.6059 +/- 140.8538 +/- 144.1496	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 **Purity** 99%	(Lot 20401KO)	2,501.8	µg/mL	+/- 14.5457 +/- 140.2734 +/- 143.5557	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOA8260VARES_00122

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0152359

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Vinyl acetate	5,041.0 µg/mL	+/- 29.5162	µg/mL	Gravimetric
	CAS # 108-05-4 (Lot STBD7333V)		+/- 304.1659	µg/mL	Unstressed
	Purity 99%		+/- 304.8880	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

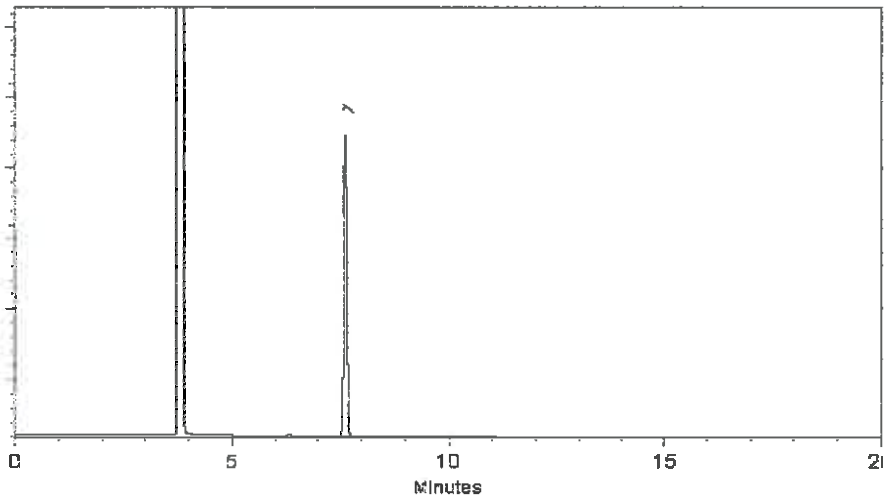
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician **Date Mixed:** 28-Aug-2019 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 29-Aug-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOAACRORES_00148

RESTEK®
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Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

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Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0147676

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2019 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acrolein	19,822.0 µg/mL	+/- 116.0622	µg/mL	Gravimetric
	CAS # 107-02-8 (Lot 0012014-D0218)		+/- 635.5556	µg/mL	Unstressed
	Purity 99%		+/- 738.7639	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOABFBRES_00081

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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0142868

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,510.0 µg/mL	+/- 14.7301	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 140.7475	µg/mL	Unstressed
	Purity 99%		+/- 144.0401	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOABFBRES_00088

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0147670

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,511.0 µg/mL	+/- 14.7360	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 140.8035	µg/mL	Unstressed
	Purity 99%		+/- 144.0975	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

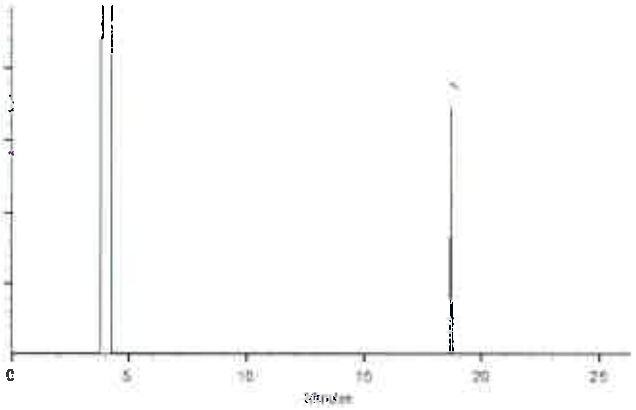
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician **Date Mixed:** 01-Apr-2019 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM QC **Date Passed:** 04-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Method 8260C Low Level

Volatile Organic Compounds (GC/MS) by Method 8260C Low Level

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-624 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
HD-COD-SW-6-0/1-0	180-97854-1	120	117	90	82
HD-COD-SW-7-0/1-0	180-97854-2	124	113	86	70
HD-COD-SW-8-0/1-0	180-97854-3	125	123	88	75
HD-COD-SW-9-0/1-0	180-97854-4	125	122	85	78
HD-COD-SW-13-0/1-0	180-97854-5	127	119	86	73
HD-COD-SW-15-0/1-0	180-97854-6	127	120	85	68
HD-COD-SW-16-0/1-0	180-97854-7	127	124	88	67
HD-COD-SW-17-0/1-0	180-97854-8	128	116	84	76
HD-COD-SW-26-0/1-0	180-97854-9	134	123	83	70
HD-COD-SW-27-0/1-0	180-97854-10	137	118	84	74
HD-COD-SW-28-0/1-0	180-97854-11	130	125	90	82
HD-COD-SW-29-0/1-0	180-97854-12	130	114	90	76
HD-QC11-0/1-2	180-97854-13	122	128	86	78
	MB 180-296913/6	110	113	91	86
	MB 180-297107/6	109	109	83	78
	MB 180-297240/6	116	111	92	75
	LCS 180-296913/4	101	100	106	97
	LCS 180-297107/4	105	98	100	98
	LCS 180-297240/4	110	100	96	97

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-147
DCA = 1,2-Dichloroethane-d4 (Surr)	70-150
TOL = Toluene-d8 (Surr)	78-128
BFB = 4-Bromofluorobenzene (Surr)	64-123

Column to be used to flag recovery values

FORM II EPA 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 5110204.D

Lab ID: LCS 180-296913/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	10.1	101	37-150	
Vinyl chloride	10.0	10.1	101	50-150	
Bromomethane	10.0	10.9	109	35-150	
Chloroethane	10.0	10.5	105	52-150	
1,1-Dichloroethene	10.0	10.8	108	79-132	
Acetone	20.0	25.5	128	37-150	
Carbon disulfide	10.0	10.4	104	66-134	
Methylene Chloride	10.0	8.83	88	72-131	
trans-1,2-Dichloroethene	10.0	10.8	108	81-126	
Methyl tert-butyl ether	10.0	10.0	100	65-125	
1,1-Dichloroethane	10.0	10.4	104	70-127	
cis-1,2-Dichloroethene	10.0	10.6	106	79-119	
Bromochloromethane	10.0	10.2	102	74-124	
2-Butanone (MEK)	20.0	25.2	126	35-150	
Chloroform	10.0	11.2	112	75-126	
1,1,1-Trichloroethane	10.0	11.6	116	63-142	
Carbon tetrachloride	10.0	11.4	114	55-150	
Benzene	10.0	10.5	105	72-127	
1,2-Dichloroethane	10.0	10.8	108	60-138	
Trichloroethene	10.0	10.6	106	81-121	
1,2-Dichloropropane	10.0	10.2	102	67-124	
Bromodichloromethane	10.0	11.3	113	67-131	
cis-1,3-Dichloropropene	10.0	10.9	109	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	20.2	101	19-150	
Toluene	10.0	11.2	112	73-123	
trans-1,3-Dichloropropene	10.0	10.3	103	61-122	
1,1,2-Trichloroethane	10.0	10.9	109	72-120	
Tetrachloroethene	10.0	11.0	110	69-134	
2-Hexanone	20.0	26.4	132	24-150	
Dibromochloromethane	10.0	10.5	105	59-134	
1,2-Dibromoethane (EDB)	10.0	10.8	108	65-129	
Chlorobenzene	10.0	10.8	108	76-119	
1,1,1,2-Tetrachloroethane	10.0	11.5	115	65-132	
Ethylbenzene	10.0	10.9	109	76-118	
Xylenes, Total	20.0	21.1	106	76-116	
Styrene	10.0	10.7	107	74-118	
Bromoform	10.0	9.98	100	50-146	
1,1,2,2-Tetrachloroethane	10.0	9.40	94	57-135	
Acrylonitrile	100	97.0	97	43-149	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 5110504.D

Lab ID: LCS 180-297107/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	7.96	80	37-150	
Vinyl chloride	10.0	8.13	81	50-150	
Bromomethane	10.0	9.80	98	35-150	
Chloroethane	10.0	9.45	94	52-150	
1,1-Dichloroethene	10.0	10.5	105	79-132	
Acetone	20.0	19.4	97	37-150	
Carbon disulfide	10.0	10.1	101	66-134	
Methylene Chloride	10.0	8.50	85	72-131	
trans-1,2-Dichloroethene	10.0	10.8	108	81-126	
Methyl tert-butyl ether	10.0	8.97	90	65-125	
1,1-Dichloroethane	10.0	9.37	94	70-127	
cis-1,2-Dichloroethene	10.0	9.74	97	79-119	
Bromochloromethane	10.0	9.89	99	74-124	
2-Butanone (MEK)	20.0	18.3	92	35-150	
Chloroform	10.0	10.1	101	75-126	
1,1,1-Trichloroethane	10.0	11.2	112	63-142	
Carbon tetrachloride	10.0	11.5	115	55-150	
Benzene	10.0	9.44	94	72-127	
1,2-Dichloroethane	10.0	10.3	103	60-138	
Trichloroethene	10.0	10.5	105	81-121	
1,2-Dichloropropane	10.0	8.79	88	67-124	
Bromodichloromethane	10.0	10.3	103	67-131	
cis-1,3-Dichloropropene	10.0	9.78	98	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	14.8	74	19-150	
Toluene	10.0	9.32	93	73-123	
trans-1,3-Dichloropropene	10.0	8.20	82	61-122	
1,1,2-Trichloroethane	10.0	8.92	89	72-120	
Tetrachloroethene	10.0	10.1	101	69-134	
2-Hexanone	20.0	16.6	83	24-150	
Dibromochloromethane	10.0	9.86	99	59-134	
1,2-Dibromoethane (EDB)	10.0	9.06	91	65-129	
Chlorobenzene	10.0	9.15	92	76-119	
1,1,1,2-Tetrachloroethane	10.0	9.70	97	65-132	
Ethylbenzene	10.0	9.25	92	76-118	
Xylenes, Total	20.0	17.8	89	76-116	
Styrene	10.0	8.86	89	74-118	
Bromoform	10.0	9.71	97	50-146	
1,1,2,2-Tetrachloroethane	10.0	7.85	78	57-135	
Acrylonitrile	100	84.9	85	43-149	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 5110604.D

Lab ID: LCS 180-297240/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	8.98	90	37-150	
Vinyl chloride	10.0	9.17	92	50-150	
Bromomethane	10.0	10.4	104	35-150	
Chloroethane	10.0	9.84	98	52-150	
1,1-Dichloroethene	10.0	11.2	112	79-132	
Acetone	20.0	22.3	112	37-150	
Carbon disulfide	10.0	10.7	107	66-134	
Methylene Chloride	10.0	9.52	95	72-131	
trans-1,2-Dichloroethene	10.0	11.1	111	81-126	
Methyl tert-butyl ether	10.0	9.44	94	65-125	
1,1-Dichloroethane	10.0	9.70	97	70-127	
cis-1,2-Dichloroethene	10.0	10.4	104	79-119	
Bromochloromethane	10.0	10.8	108	74-124	
2-Butanone (MEK)	20.0	20.6	103	35-150	
Chloroform	10.0	10.5	105	75-126	
1,1,1-Trichloroethane	10.0	12.2	122	63-142	
Carbon tetrachloride	10.0	12.4	124	55-150	
Benzene	10.0	10.0	100	72-127	
1,2-Dichloroethane	10.0	9.89	99	60-138	
Trichloroethene	10.0	11.0	110	81-121	
1,2-Dichloropropane	10.0	9.50	95	67-124	
Bromodichloromethane	10.0	10.7	107	67-131	
cis-1,3-Dichloropropene	10.0	9.93	99	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	16.1	80	19-150	
Toluene	10.0	9.51	95	73-123	
trans-1,3-Dichloropropene	10.0	8.04	80	61-122	
1,1,2-Trichloroethane	10.0	8.74	87	72-120	
Tetrachloroethene	10.0	11.0	110	69-134	
2-Hexanone	20.0	19.1	95	24-150	
Dibromochloromethane	10.0	9.52	95	59-134	
1,2-Dibromoethane (EDB)	10.0	9.00	90	65-129	
Chlorobenzene	10.0	9.27	93	76-119	
1,1,1,2-Tetrachloroethane	10.0	9.64	96	65-132	
Ethylbenzene	10.0	9.22	92	76-118	
Xylenes, Total	20.0	18.5	93	76-116	
Styrene	10.0	8.85	89	74-118	
Bromoform	10.0	9.79	98	50-146	
1,1,2,2-Tetrachloroethane	10.0	7.95	80	57-135	
Acrylonitrile	100	85.6	86	43-149	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5110206.D Lab Sample ID: MB 180-296913/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHHP5 Date Analyzed: 11/02/2019 11:32

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

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-296913/4	5110204.D	11/02/2019 10:32
HD-QC11-0/1-2	180-97854-13	5110225.D	11/02/2019 19:46

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5110506.D Lab Sample ID: MB 180-297107/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHHP5 Date Analyzed: 11/05/2019 14:21

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

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-297107/4	5110504.D	11/05/2019 13:20
HD-COD-SW-7-0/1-0	180-97854-2	5110515.D	11/05/2019 18:11
HD-COD-SW-8-0/1-0	180-97854-3	5110516.D	11/05/2019 18:36
HD-COD-SW-9-0/1-0	180-97854-4	5110517.D	11/05/2019 19:00
HD-COD-SW-13-0/1-0	180-97854-5	5110518.D	11/05/2019 19:24
HD-COD-SW-15-0/1-0	180-97854-6	5110519.D	11/05/2019 19:48
HD-COD-SW-16-0/1-0	180-97854-7	5110520.D	11/05/2019 20:12
HD-COD-SW-17-0/1-0	180-97854-8	5110521.D	11/05/2019 20:36
HD-COD-SW-26-0/1-0	180-97854-9	5110522.D	11/05/2019 21:00
HD-COD-SW-27-0/1-0	180-97854-10	5110523.D	11/05/2019 21:25
HD-COD-SW-28-0/1-0	180-97854-11	5110524.D	11/05/2019 21:49
HD-COD-SW-29-0/1-0	180-97854-12	5110525.D	11/05/2019 22:14

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5110606.D Lab Sample ID: MB 180-297240/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHHP5 Date Analyzed: 11/06/2019 11:31

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

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-297240/4	5110604.D	11/06/2019 10:32
HD-COD-SW-6-0/1-0	180-97854-1	5110607.D	11/06/2019 12:20

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5101201D.D BFB Injection Date: 10/12/2019

Instrument ID: CHHP5 BFB Injection Time: 13:56

Analysis Batch No.: 294706

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.5	
75	30.0 - 60.0 % of mass 95	51.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.4	(0.4) 1
174	50.0 - 120.00 % of mass 95	96.9	
175	5.0 - 9.0 % of mass 174	6.5	(6.7) 1
176	95.0 - 101.0 % of mass 174	93.3	(96.3) 1
177	5.0 - 9.0 % of mass 176	6.9	(7.4) 2

1-Value is % mass 174 2-Value is % mass 176

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-294706/5	5101205.D	10/12/2019	15:41
	ICIS 180-294706/6	5101206.D	10/12/2019	16:05
	IC 180-294706/7	5101207.D	10/12/2019	16:29
	IC 180-294706/8	5101208.D	10/12/2019	16:54
	IC 180-294706/9	5101209.D	10/12/2019	17:18
	IC 180-294706/10	5101210.D	10/12/2019	17:42
	IC 180-294706/11	5101211.D	10/12/2019	18:07
	IC 180-294706/19	5101216.D	10/12/2019	20:06

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5110201.D BFB Injection Date: 11/02/2019

Instrument ID: CHHP5 BFB Injection Time: 09:35

Analysis Batch No.: 296913

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.4	
75	30.0 - 60.0 % of mass 95	55.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.3	
173	Less than 2.0 % of mass 174	0.8	(0.8) 1
174	50.0 - 120.00 % of mass 95	96.3	
175	5.0 - 9.0 % of mass 174	8.0	(8.3) 1
176	95.0 - 101.0 % of mass 174	92.1	(95.6) 1
177	5.0 - 9.0 % of mass 176	6.4	(6.9) 2

1-Value is % mass 174 2-Value is % mass 176

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-296913/2	5110202.D	11/02/2019	10:08
	LCS 180-296913/4	5110204.D	11/02/2019	10:32
	MB 180-296913/6	5110206.D	11/02/2019	11:32
HD-QC11-0/1-2	180-97854-13	5110225.D	11/02/2019	19:46

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5110501E.D BFB Injection Date: 11/05/2019

Instrument ID: CHHP5 BFB Injection Time: 12:09

Analysis Batch No.: 297107

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.1	
75	30.0 - 60.0 % of mass 95	48.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.8	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	108.3	
175	5.0 - 9.0 % of mass 174	8.2	(7.6) 1
176	95.0 - 101.0 % of mass 174	105.7	(97.6) 1
177	5.0 - 9.0 % of mass 176	5.7	(5.4) 2

1-Value is % mass 174 2-Value is % mass 176

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-297107/2	5110502.D	11/05/2019	12:46
	LCS 180-297107/4	5110504.D	11/05/2019	13:20
	MB 180-297107/6	5110506.D	11/05/2019	14:21
HD-COD-SW-7-0/1-0	180-97854-2	5110515.D	11/05/2019	18:11
HD-COD-SW-8-0/1-0	180-97854-3	5110516.D	11/05/2019	18:36
HD-COD-SW-9-0/1-0	180-97854-4	5110517.D	11/05/2019	19:00
HD-COD-SW-13-0/1-0	180-97854-5	5110518.D	11/05/2019	19:24
HD-COD-SW-15-0/1-0	180-97854-6	5110519.D	11/05/2019	19:48
HD-COD-SW-16-0/1-0	180-97854-7	5110520.D	11/05/2019	20:12
HD-COD-SW-17-0/1-0	180-97854-8	5110521.D	11/05/2019	20:36
HD-COD-SW-26-0/1-0	180-97854-9	5110522.D	11/05/2019	21:00
HD-COD-SW-27-0/1-0	180-97854-10	5110523.D	11/05/2019	21:25
HD-COD-SW-28-0/1-0	180-97854-11	5110524.D	11/05/2019	21:49
HD-COD-SW-29-0/1-0	180-97854-12	5110525.D	11/05/2019	22:14

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab File ID: 5110601.D BFB Injection Date: 11/06/2019

Instrument ID: CHHP5 BFB Injection Time: 09:07

Analysis Batch No.: 297240

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.7	
75	30.0 - 60.0 % of mass 95	42.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	5.6	
173	Less than 2.0 % of mass 174	0.9	(0.8) 1
174	50.0 - 120.00 % of mass 95	107.8	
175	5.0 - 9.0 % of mass 174	9.2	(8.5) 1
176	95.0 - 101.0 % of mass 174	103.1	(95.6) 1
177	5.0 - 9.0 % of mass 176	7.3	(7.1) 2

1-Value is % mass 174 2-Value is % mass 176

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-297240/3	5110603.D	11/06/2019	10:08
	LCS 180-297240/4	5110604.D	11/06/2019	10:32
	MB 180-297240/6	5110606.D	11/06/2019	11:31
HD-COD-SW-6-0/1-0	180-97854-1	5110607.D	11/06/2019	12:20

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Sample No.: CCVIS 180-296913/2 Date Analyzed: 11/02/2019 10:08

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 5110202.D Heated Purge: (Y/N) N

Calibration ID: 41742

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		134748	4.54	305827	7.50	76174	10.59
UPPER LIMIT		269496	5.04	611654	8.00	152348	11.09
LOWER LIMIT		67374	4.04	152914	7.00	38087	10.09
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-296913/4		139253	4.54	308283	7.50	74583	10.58
MB 180-296913/6		129113	4.53	267377	7.50	72220	10.58
180-97854-13	HD-QC11-0/1-2	116366	4.54	220372	7.50	63715	10.59

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Sample No.: CCVIS 180-296913/2 Date Analyzed: 11/02/2019 10:08

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 5110202.D Heated Purge: (Y/N) N

Calibration ID: 41742

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		152118	12.92				
UPPER LIMIT		304236	13.42				
LOWER LIMIT		76059	12.42				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-296913/4		124410	12.92				
MB 180-296913/6		110231	12.92				
180-97854-13	HD-QC11-0/1-2	95926	12.92				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Sample No.: CCVIS 180-297107/2 Date Analyzed: 11/05/2019 12:46

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 5110502.D Heated Purge: (Y/N) N

Calibration ID: 41742

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		141764	4.55	304600	7.51	80404	10.59
UPPER LIMIT		283528	5.05	609200	8.01	160808	11.09
LOWER LIMIT		70882	4.05	152300	7.01	40202	10.09
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-297107/4		130223	4.55	301838	7.50	81341	10.59
MB 180-297107/6		122687	4.54	259247	7.51	72323	10.59
180-97854-2	HD-COD-SW-7-0/1-0	111827	4.55	227166	7.50	63130	10.59
180-97854-3	HD-COD-SW-8-0/1-0	114942	4.53	219732	7.51	59039	10.59
180-97854-4	HD-COD-SW-9-0/1-0	124012	4.54	230256	7.50	67977	10.59
180-97854-5	HD-COD-SW-13-0/1-0	108812	4.54	231419	7.50	67873	10.59
180-97854-6	HD-COD-SW-15-0/1-0	115638	4.54	220825	7.51	63469	10.58
180-97854-7	HD-COD-SW-16-0/1-0	111138	4.54	220189	7.50	60799	10.59
180-97854-8	HD-COD-SW-17-0/1-0	111155	4.54	220727	7.51	65094	10.59
180-97854-9	HD-COD-SW-26-0/1-0	110693	4.54	218121	7.50	63686	10.59
180-97854-10	HD-COD-SW-27-0/1-0	119016	4.54	216142	7.51	63605	10.59
180-97854-11	HD-COD-SW-28-0/1-0	107589	4.55	212670	7.50	62040	10.59
180-97854-12	HD-COD-SW-29-0/1-0	114511	4.53	219611	7.50	59932	10.58

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Sample No.: CCVIS 180-297107/2 Date Analyzed: 11/05/2019 12:46

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 5110502.D Heated Purge: (Y/N) N

Calibration ID: 41742

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		163398	12.92				
UPPER LIMIT		326796	13.42				
LOWER LIMIT		81699	12.42				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-297107/4		142530	12.92				
MB 180-297107/6		120050	12.93				
180-97854-2	HD-COD-SW-7-0/1-0	81188*	12.92				
180-97854-3	HD-COD-SW-8-0/1-0	79902*	12.92				
180-97854-4	HD-COD-SW-9-0/1-0	109255	12.92				
180-97854-5	HD-COD-SW-13-0/1-0	80059*	12.92				
180-97854-6	HD-COD-SW-15-0/1-0	76114*	12.93				
180-97854-7	HD-COD-SW-16-0/1-0	73979*	12.92				
180-97854-8	HD-COD-SW-17-0/1-0	97210	12.92				
180-97854-9	HD-COD-SW-26-0/1-0	75473*	12.92				
180-97854-10	HD-COD-SW-27-0/1-0	102349	12.93				
180-97854-11	HD-COD-SW-28-0/1-0	106961	12.92				
180-97854-12	HD-COD-SW-29-0/1-0	87472	12.92				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Sample No.: CCVIS 180-297240/3 Date Analyzed: 11/06/2019 10:08

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 5110603.D Heated Purge: (Y/N) N

Calibration ID: 41742

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		121813	4.54	294967	7.50	76787	10.59
UPPER LIMIT		243626	5.04	589934	8.00	153574	11.09
LOWER LIMIT		60907	4.04	147484	7.00	38394	10.09
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-297240/4		140574	4.54	303650	7.50	82951	10.59
MB 180-297240/6		134650	4.53	258548	7.50	68325	10.59
180-97854-1	HD-COD-SW-6-0/1-0	132619	4.53	249860	7.50	70165	10.59

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Sample No.: CCVIS 180-297240/3 Date Analyzed: 11/06/2019 10:08

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 5110603.D Heated Purge: (Y/N) N

Calibration ID: 41742

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		132493	12.92				
UPPER LIMIT		264986	13.42				
LOWER LIMIT		66247	12.42				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-297240/4		160824	12.92				
MB 180-297240/6		87632	12.92				
180-97854-1	HD-COD-SW-6-0/1-0	119750	12.92				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-6-0/1-0 Lab Sample ID: 180-97854-1

Matrix: Water Lab File ID: 5110607.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 13:15

Sample wt/vol: 5(mL) Date Analyzed: 11/06/2019 12:20

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.: 297240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND		1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND		5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND	^c	1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-6-0/1-0 Lab Sample ID: 180-97854-1

Matrix: Water Lab File ID: 5110607.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 13:15

Sample wt/vol: 5(mL) Date Analyzed: 11/06/2019 12:20

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.: 297240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	117		70-150
2037-26-5	Toluene-d8 (Surr)	90		78-128
460-00-4	4-Bromofluorobenzene (Surr)	82		64-123
1868-53-7	Dibromofluoromethane (Surr)	120		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D
Lims ID: 180-97854-C-1
Client ID: HD-COD-SW-6-0/1-0
Sample Type: Client
Inject. Date: 06-Nov-2019 12:20:30 ALS Bottle#: 1 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-007
Misc. Info.: 180-97854-C-1
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:11:30 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:11:30

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.526	4.538	-0.012	0	132619	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.500	0.001	99	249860	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	83	70165	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	93	119750	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.001	94	74614	60.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	99247	58.5	
$ 7 Toluene-d8 (Surr)	98	9.138	9.137	0.001	94	251525	44.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.766	11.759	0.007	95	84985	40.8	
12 Chloromethane	50		1.916				ND	U
13 Vinyl chloride	62		2.037				ND	
15 Bromomethane	94		2.427				ND	U
16 Chloroethane	64		2.561				ND	
22 1,1-Dichloroethene	96		3.583				ND	
24 Acetone	43	3.687	3.692	-0.005	67	5367	9.01	
26 Carbon disulfide	76	3.875	3.875	0.000	62	6344	1.82	
31 Methylene Chloride	84		4.410				ND	U
33 Acrylonitrile	53		4.793				ND	
34 trans-1,2-Dichloroethene	96		4.818				ND	
35 Methyl tert-butyl ether	73		4.842				ND	
37 1,1-Dichloroethane	63		5.444				ND	
45 cis-1,2-Dichloroethene	96		6.186				ND	U
46 2-Butanone (MEK)	43		6.198				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.607	6.600	0.007	14	739	0.2783	
53 1,1,1-Trichloroethane	97		6.764				ND	
56 Carbon tetrachloride	117		6.935				ND	
58 Benzene	78		7.160				ND	U
59 1,2-Dichloroethane	62		7.239				ND	
64 Trichloroethene	130		7.884				ND	
67 1,2-Dichloropropane	63		8.151				ND	
71 Dichlorobromomethane	83		8.431				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.875				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.027				ND	U
76 Toluene	91		9.204				ND	
77 trans-1,3-Dichloropropene	75		9.447				ND	
79 1,1,2-Trichloroethane	97		9.636				ND	
80 Tetrachloroethene	164		9.715				ND	
82 2-Hexanone	43		9.861				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.128				ND	
87 Chlorobenzene	112		10.615				ND	
89 1,1,1,2-Tetrachloroethane	131		10.706				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.840				ND	
92 o-Xylene	106		11.223				ND	
93 Styrene	104		11.242				ND	
94 Bromoform	173		11.418				ND	
99 1,1,2,2-Tetrachloroethane	83		11.899				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

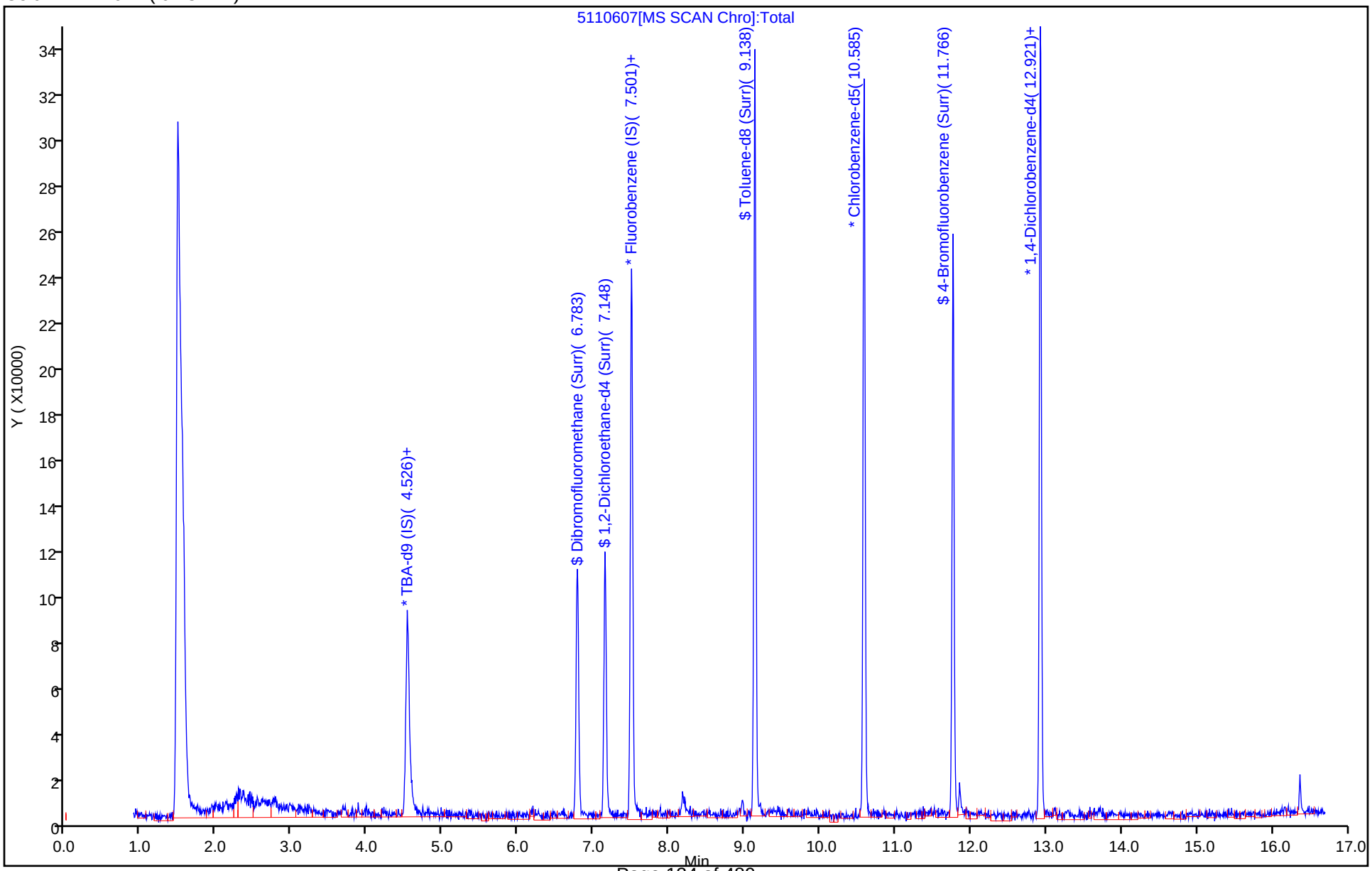
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 07-Nov-2019 09:11:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1	Worklist Smp#:	7
Client ID:	HD-COD-SW-6-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D
Lims ID: 180-97854-C-1
Client ID: HD-COD-SW-6-0/1-0
Sample Type: Client
Inject. Date: 06-Nov-2019 12:20:30 ALS Bottle#: 1 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-007
Misc. Info.: 180-97854-C-1
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:11:30 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:11:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	60.1	120.15
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	58.5	116.99
$ 7 Toluene-d8 (Surr)	50.0	44.8	89.58
$ 8 4-Bromofluorobenzene (Surr)	50.0	40.8	81.60

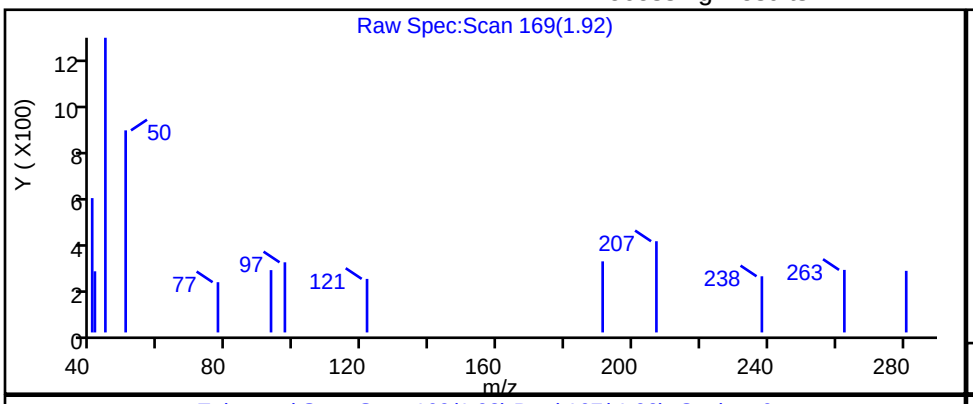
User Disabled Compound Report

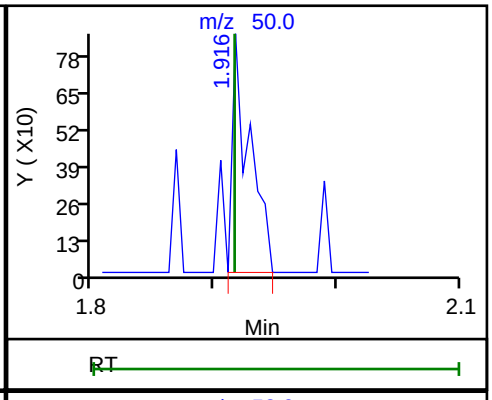
Eurofins TestAmerica, Pittsburgh

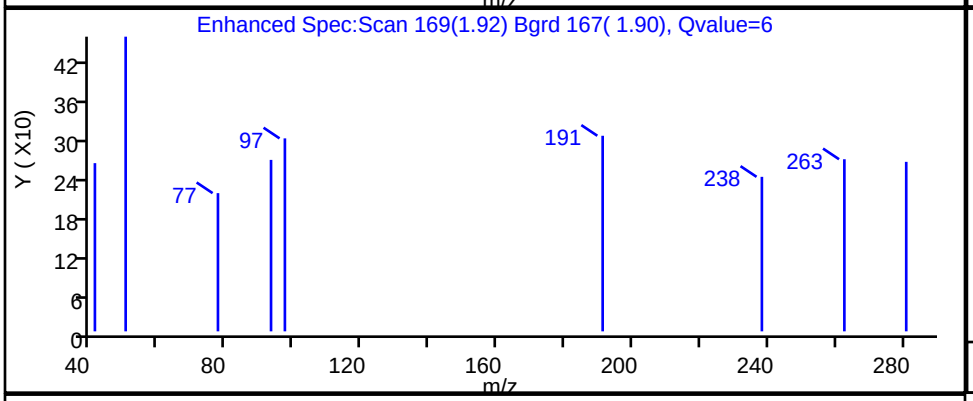
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

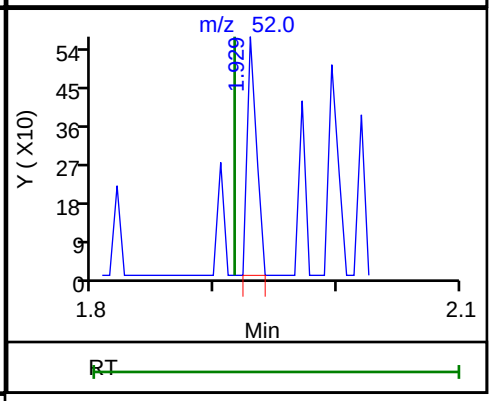
12 Chloromethane, CAS: 74-87-3

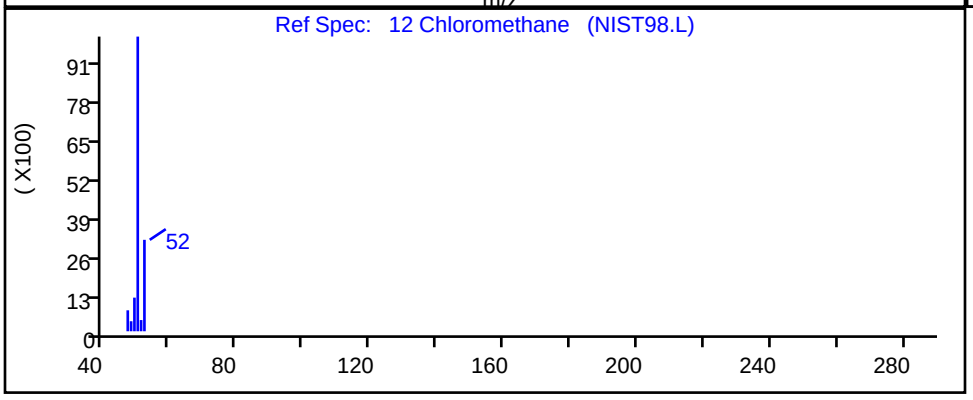
Processing Results











RT	Mass	Response	Amount
1.92	50.00	830	0.457101
1.93	52.00	299	

Reviewer: bowieh, 07-Nov-2019 09:10:59

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

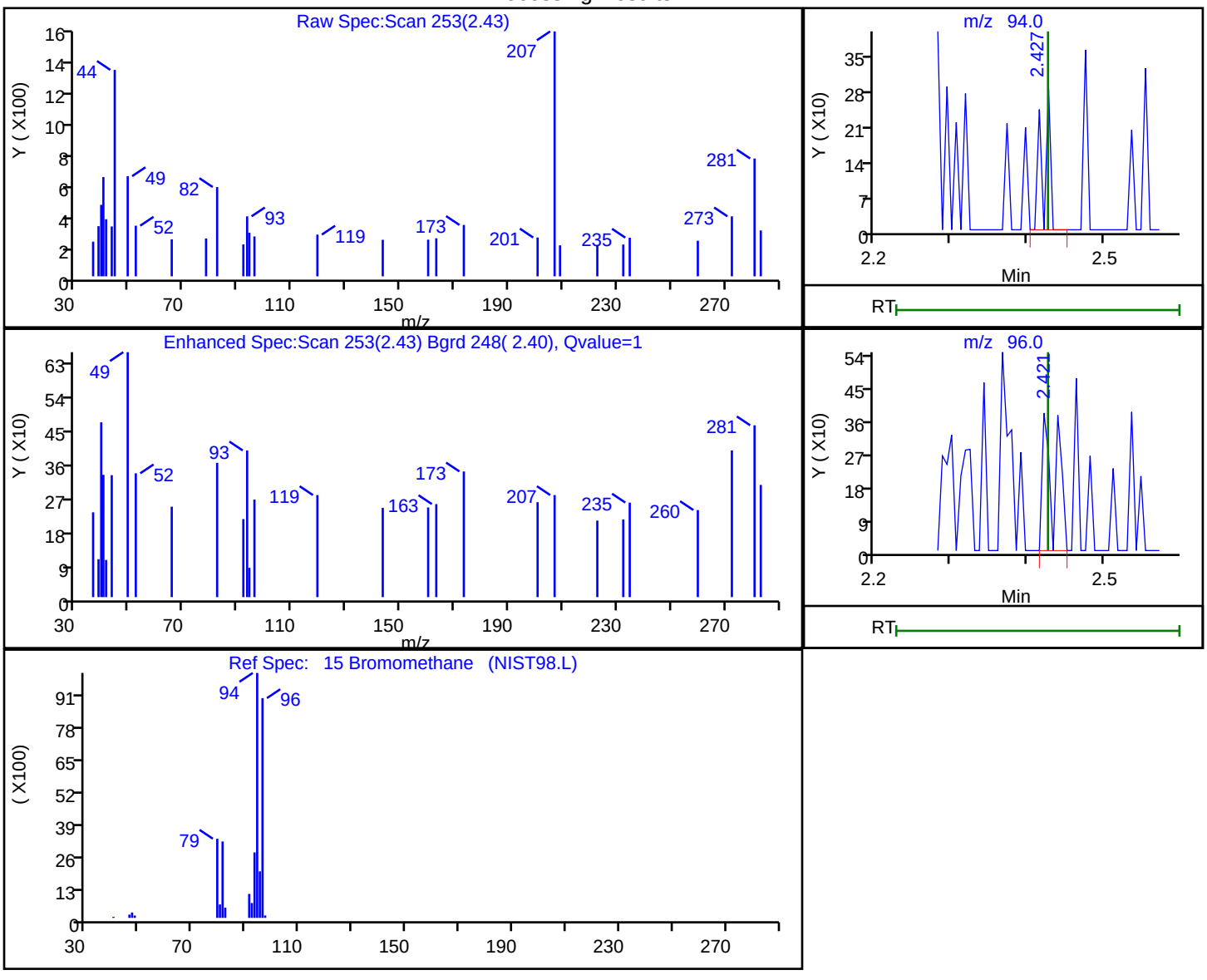
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.43	94.00	192	0.166086
2.42	96.00	443	

Reviewer: bowieh, 07-Nov-2019 09:11:00

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

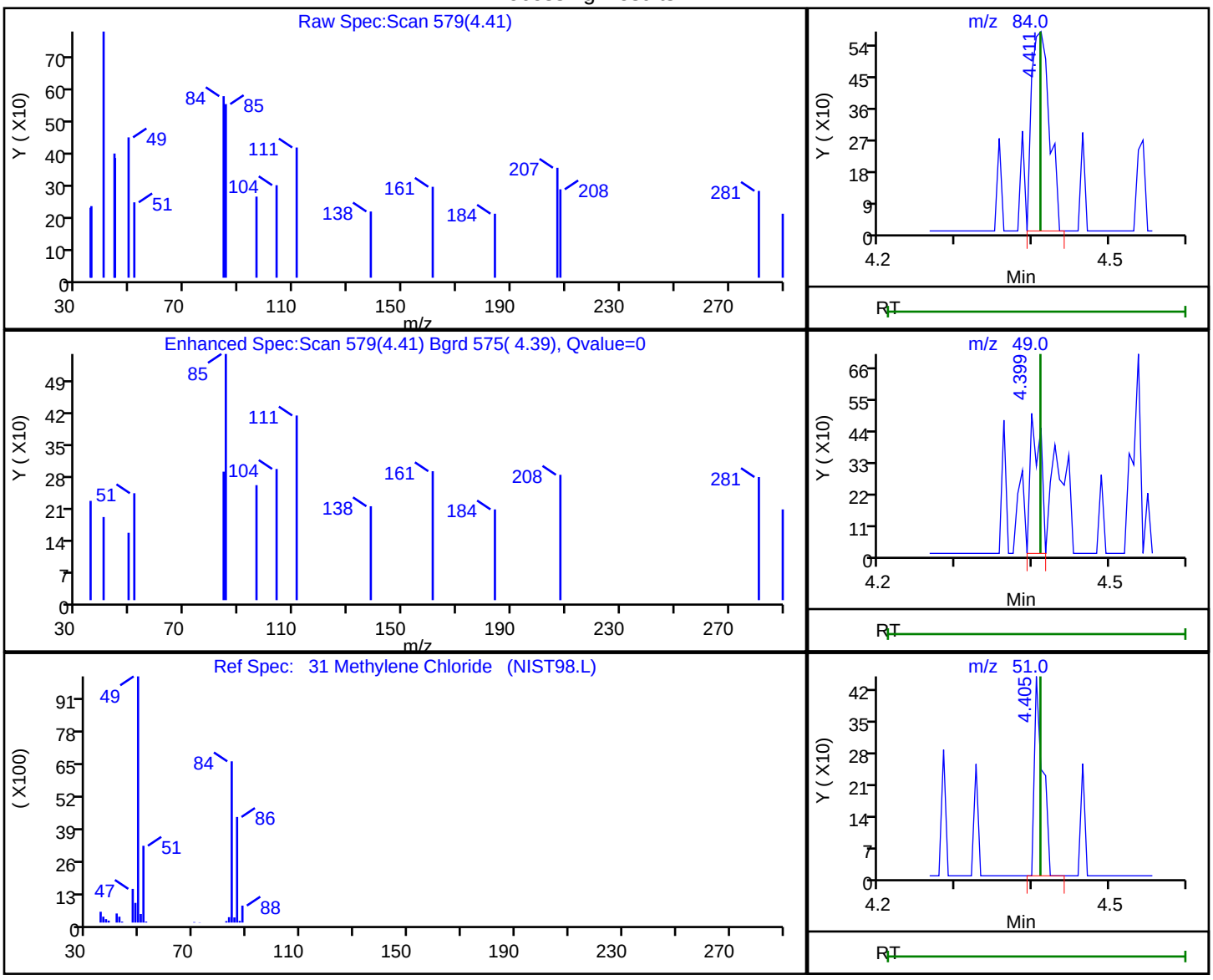
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

31 Methylene Chloride, CAS: 75-09-2

Processing Results



RT	Mass	Response	Amount
4.41	84.00	931	-9.688743
4.40	49.00	455	
4.40	51.00	331	

Reviewer: bowieh, 06-Nov-2019 12:41:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

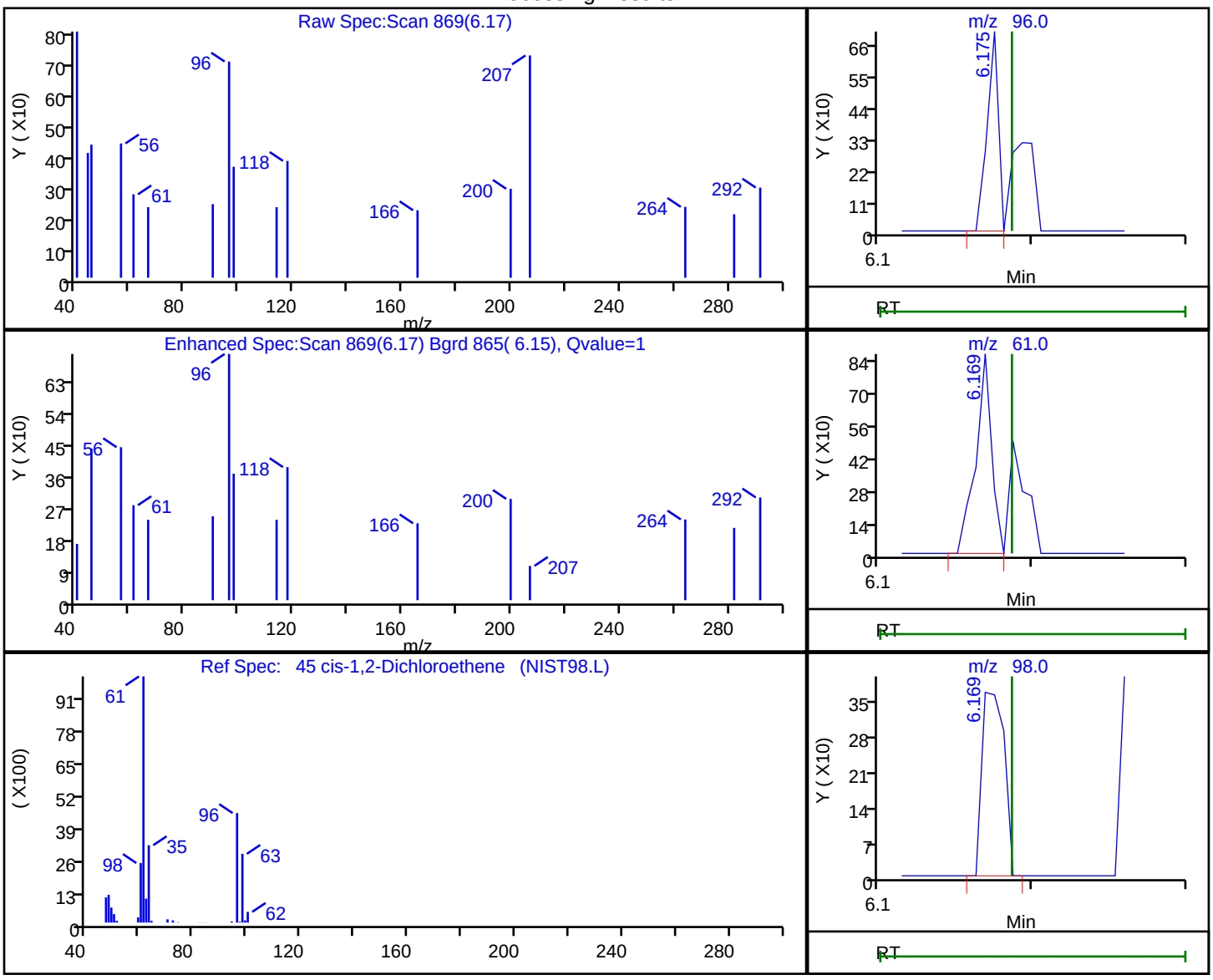
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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

Processing Results



RT	Mass	Response	Amount
6.17	96.00	360	0.233305
6.17	61.00	624	
6.17	98.00	372	

Reviewer: bowieh, 07-Nov-2019 09:11:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

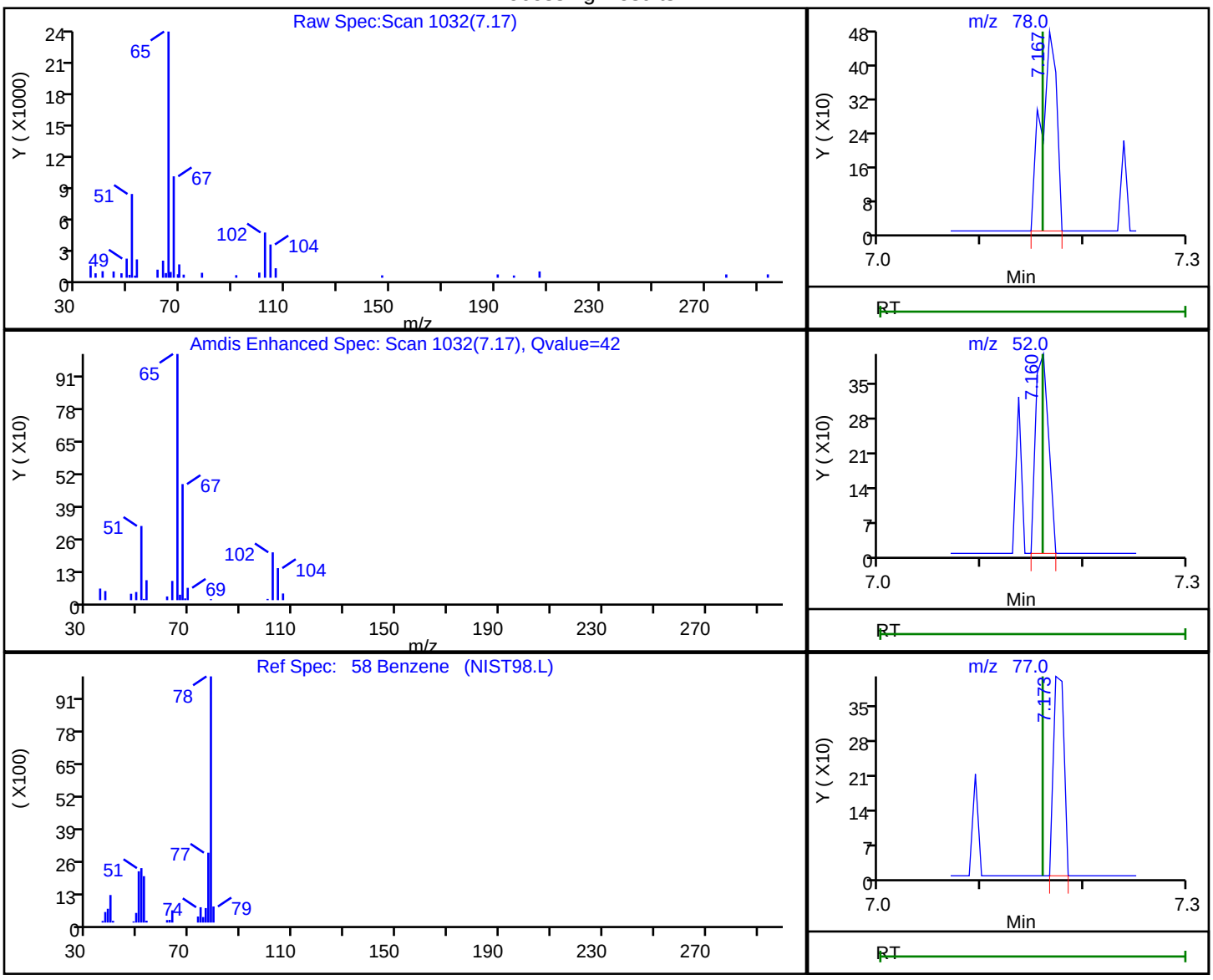
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.17	78.00	500	0.084439
7.16	52.00	356	
7.17	77.00	290	

Reviewer: bowieh, 07-Nov-2019 09:11:18

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

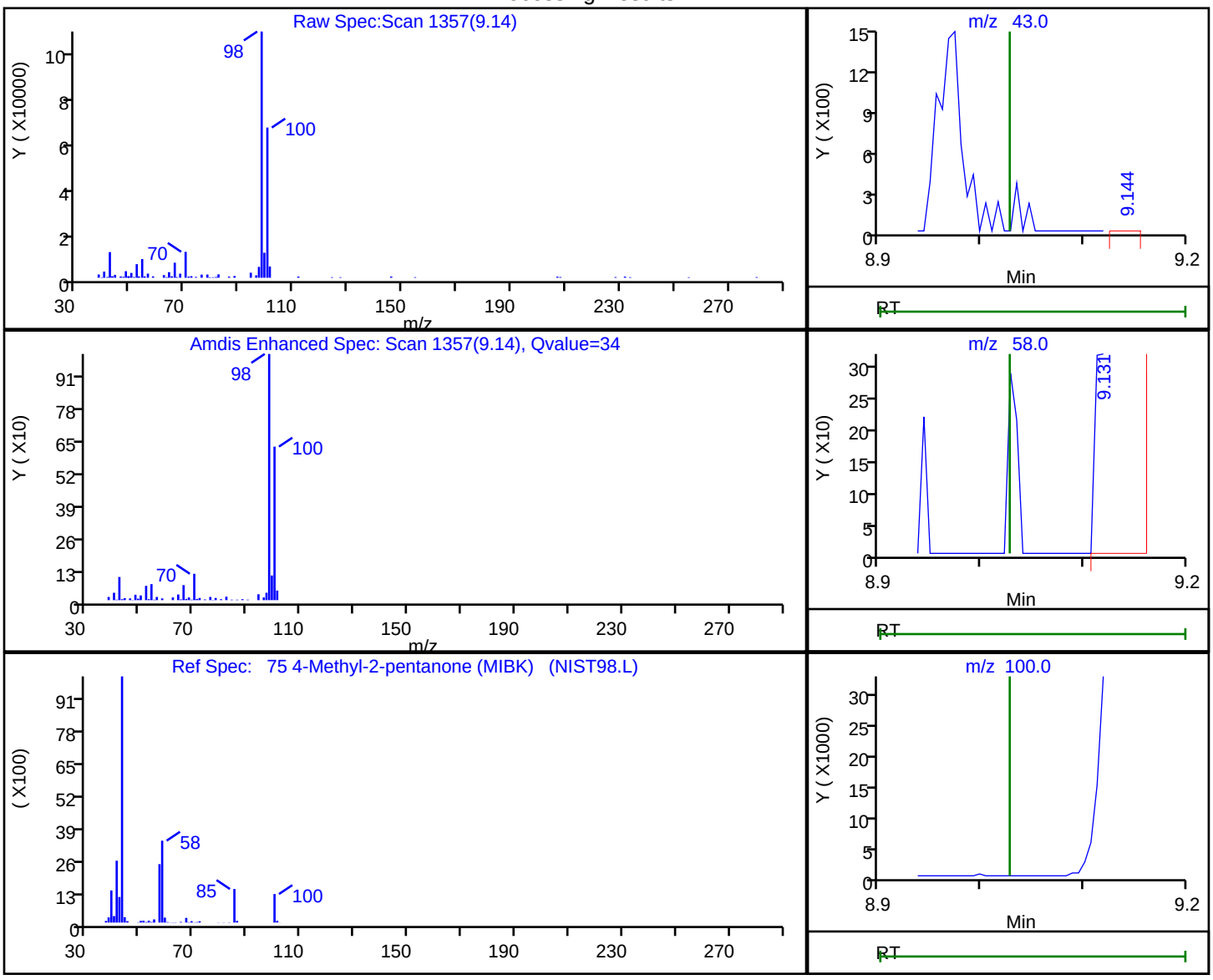
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.14	43.00	785	0.561521
9.13	58.00	1733	
9.14	100.00	162733	

Reviewer: bowieh, 07-Nov-2019 09:11:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

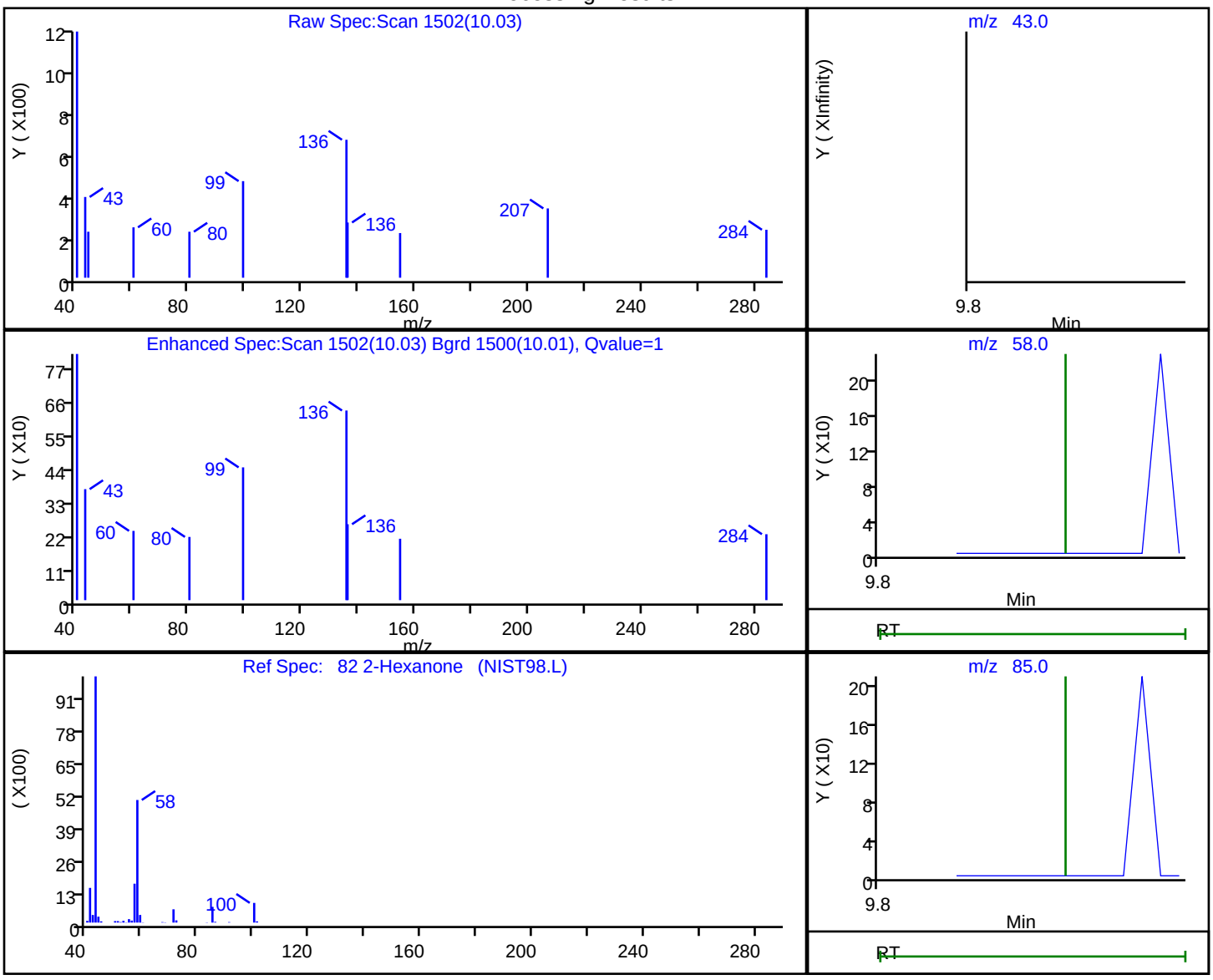
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.03	43.00	134	0.141334
9.86	58.00	0	
9.86	85.00	0	

Reviewer: bowieh, 07-Nov-2019 09:11:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

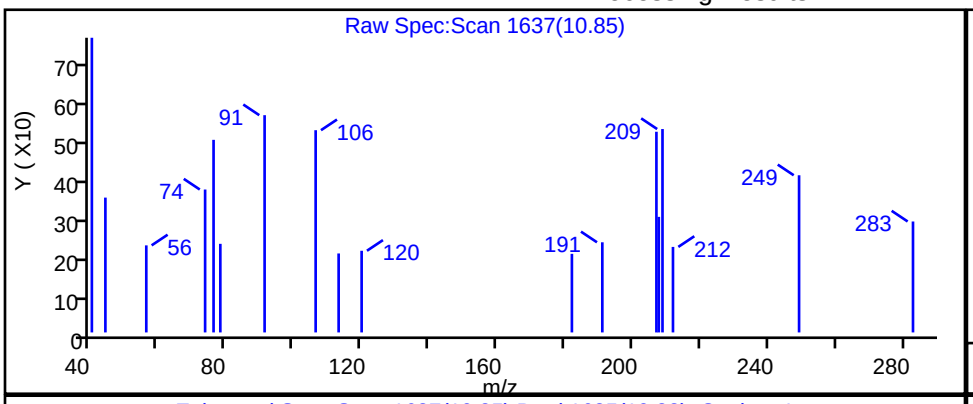
User Disabled Compound Report

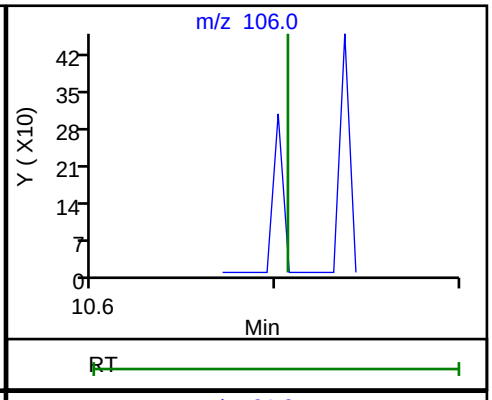
Eurofins TestAmerica, Pittsburgh

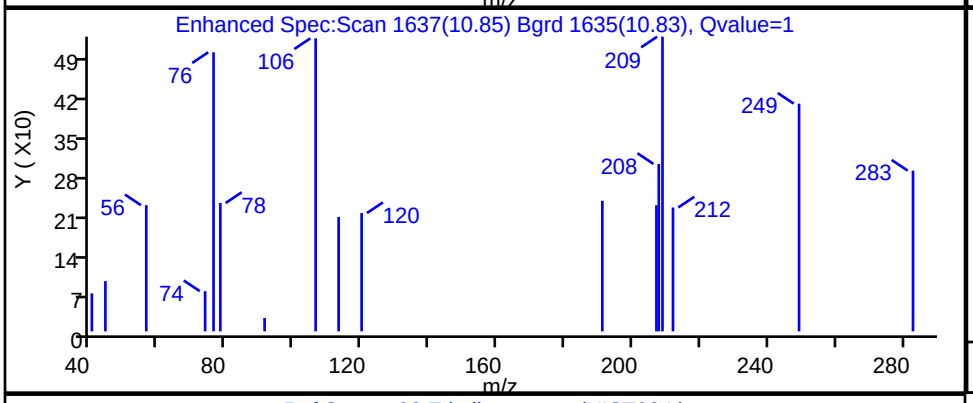
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110607.D				
Injection Date:	06-Nov-2019 12:20:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-C-1	Lab Sample ID:	180-97854-1		
Client ID:	HD-COD-SW-6-0/1-0				
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

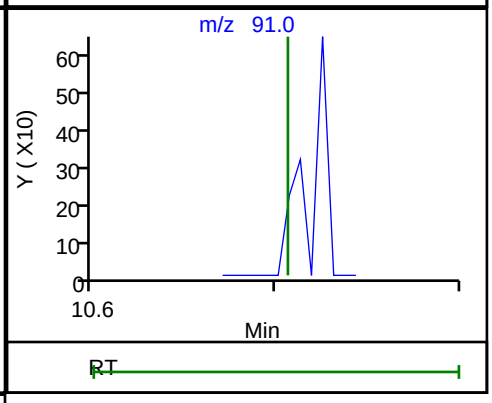
90 Ethylbenzene, CAS: 100-41-4

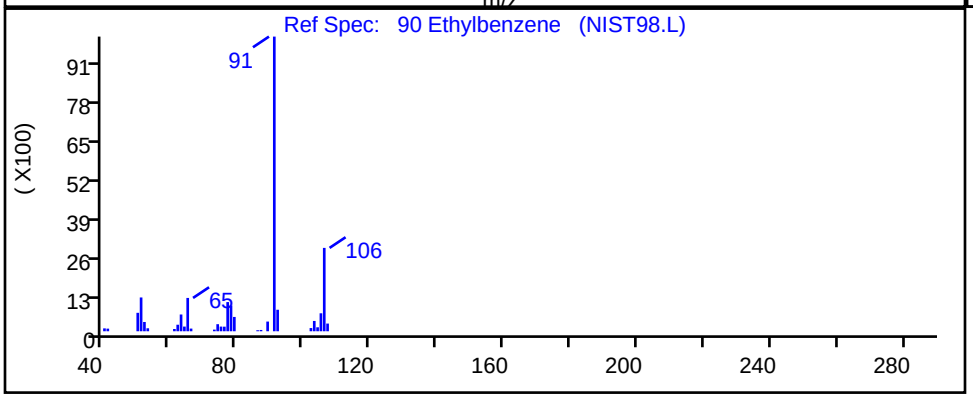
Processing Results











RT	Mass	Response	Amount
10.85	106.00	191	0.077120
10.85	91.00	485	

Reviewer: bowieh, 07-Nov-2019 09:11:25

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-7-0/1-0 Lab Sample ID: 180-97854-2

Matrix: Water Lab File ID: 5110515.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:00

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 18:11

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-7-0/1-0 Lab Sample ID: 180-97854-2

Matrix: Water Lab File ID: 5110515.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:00

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 18:11

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	113		70-150
2037-26-5	Toluene-d8 (Surr)	86		78-128
460-00-4	4-Bromofluorobenzene (Surr)	70		64-123
1868-53-7	Dibromofluoromethane (Surr)	124		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D
Lims ID: 180-97854-A-2
Client ID: HD-COD-SW-7-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 18:11:30 ALS Bottle#: 9 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-015
Misc. Info.: 180-97854-A-2
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:58:31 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:58:31

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.545	4.552	-0.008	0	111827	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.508	-0.007	99	227166	50.0	
* 3 Chlorobenzene-d5	119	10.591	10.587	0.004	85	63130	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.923	-0.002	92	81188	50.0	s
$ 5 Dibromofluoromethane (Surr	113	6.777	6.785	-0.008	93	70182	62.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.154	7.150	0.004	0	86904	56.3	
$ 7 Toluene-d8 (Surr)	98	9.138	9.139	-0.001	94	217264	43.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.766	11.767	-0.001	94	65895	35.2	
12 Chloromethane	50		1.918				ND	
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.693	3.688	0.005	74	5536	10.2	
26 Carbon disulfide	76		3.871				ND	Ua
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96	6.175	6.182	-0.007	26	2757	1.97	
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.619	6.602	0.017	1	952	0.3944	
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130	7.884	7.886	-0.002	17	720	0.4890	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	
80 Tetrachloroethene	164		9.717				ND	U
82 2-Hexanone	43		9.863				ND	
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
Review Flags
U - Marked Undetected
a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

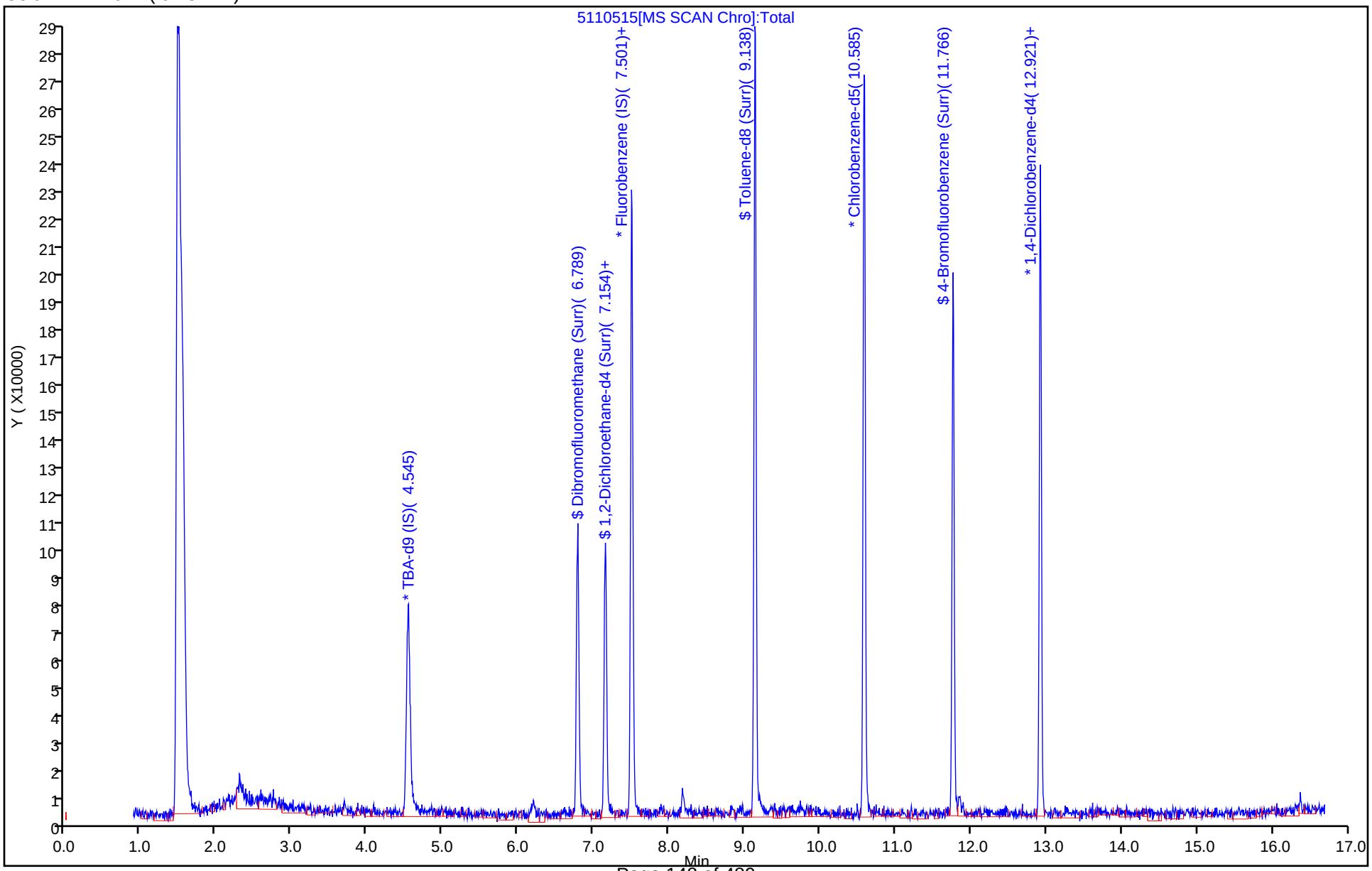
Report Date: 06-Nov-2019 09:58:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D

Injection Date:	05-Nov-2019 18:11:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-A-2	Lab Sample ID:	180-97854-2	Worklist Smp#:	15
Client ID:	HD-COD-SW-7-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D
Lims ID: 180-97854-A-2
Client ID: HD-COD-SW-7-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 18:11:30 ALS Bottle#: 9 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-015
Misc. Info.: 180-97854-A-2
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:58:31 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:58:31

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	62.2	124.31
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	56.3	112.67
$ 7 Toluene-d8 (Surr)	50.0	43.0	86.00
$ 8 4-Bromofluorobenzene (Surr)	50.0	35.2	70.32

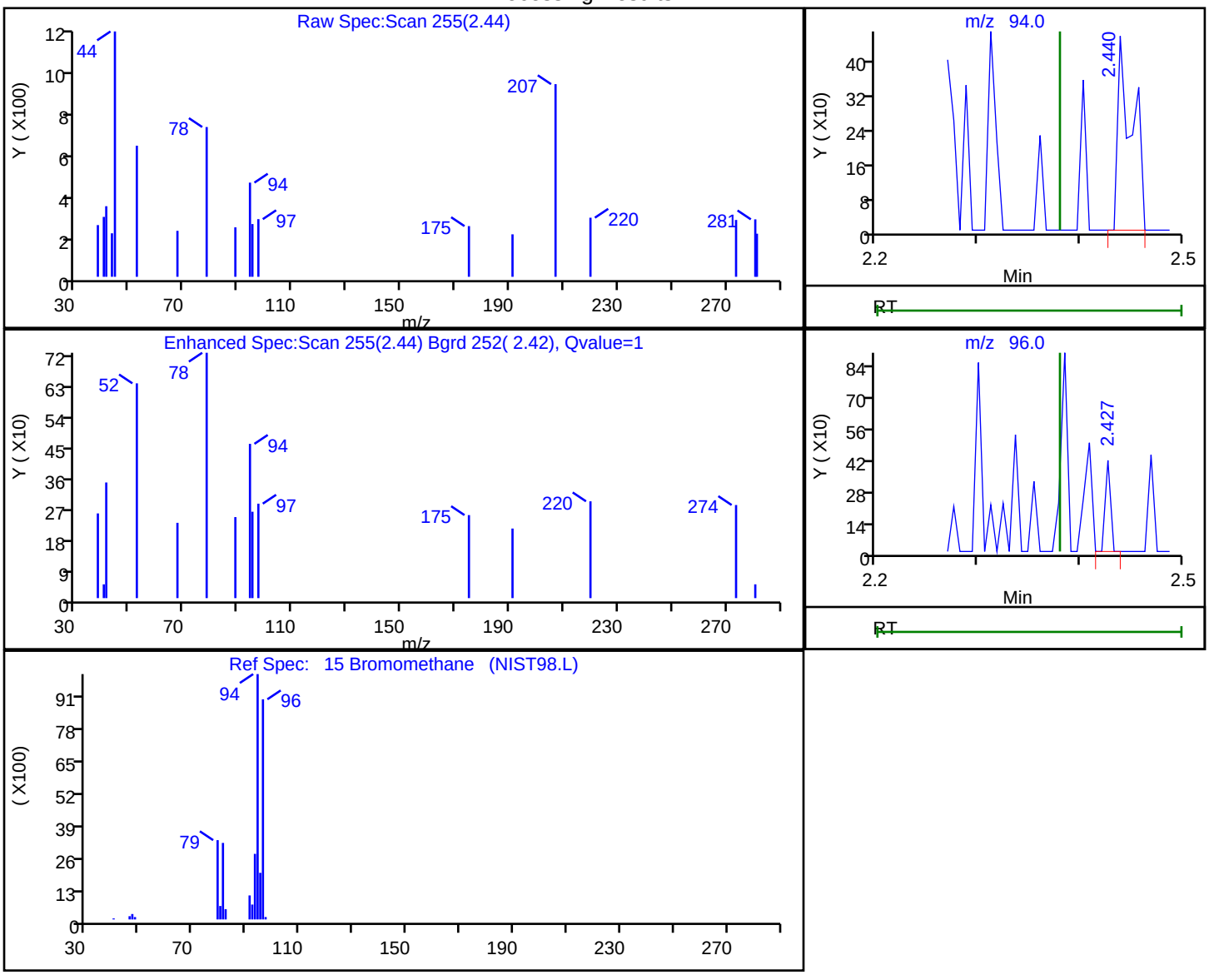
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D				
Injection Date:	05-Nov-2019 18:11:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-2	Lab Sample ID:	180-97854-2		
Client ID:	HD-COD-SW-7-0/1-0				
Operator ID:	433269	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.44	94.00	452	0.430055
2.43	96.00	149	

Reviewer: bowieh, 06-Nov-2019 09:57:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

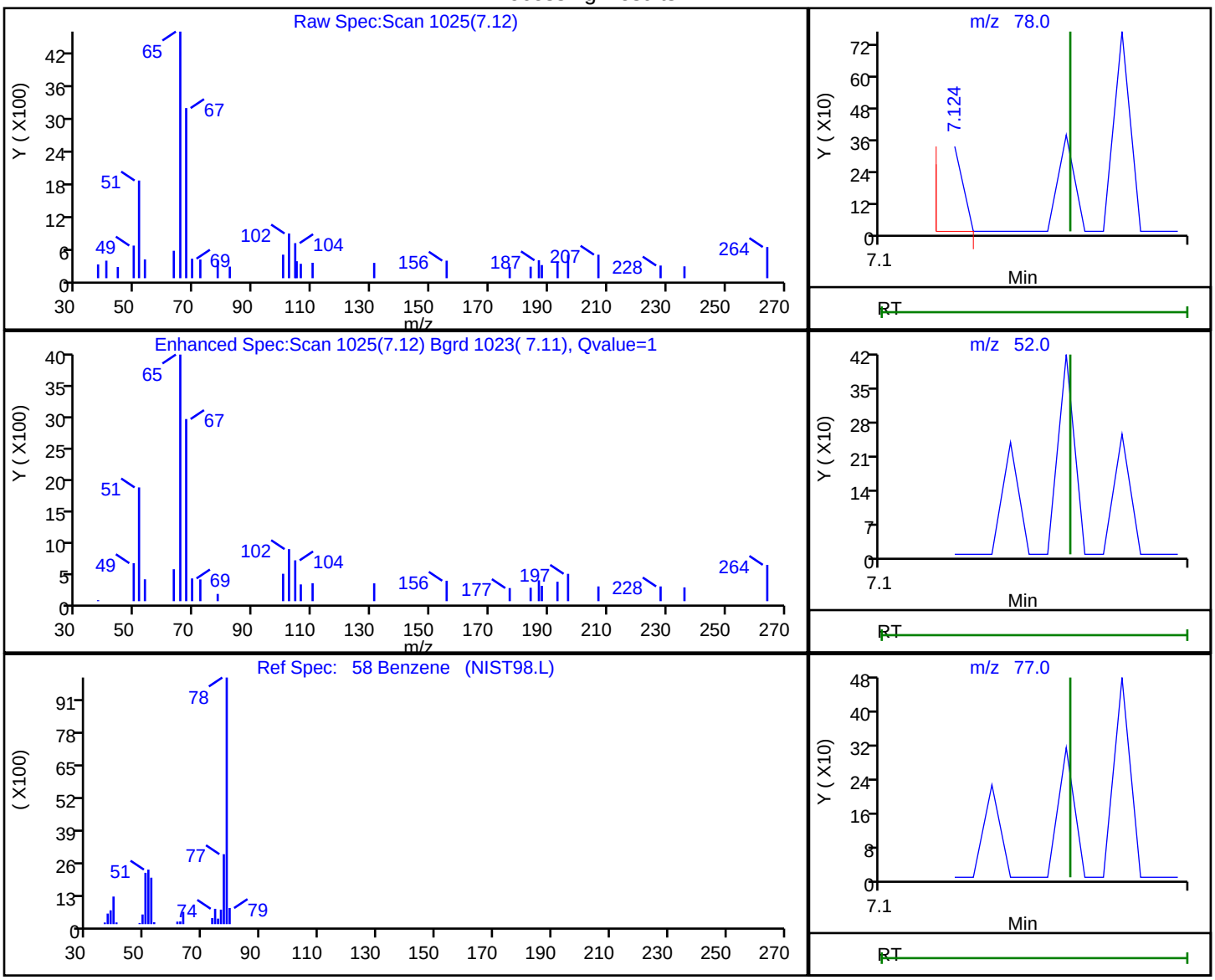
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D				
Injection Date:	05-Nov-2019 18:11:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-2	Lab Sample ID:	180-97854-2		
Client ID:	HD-COD-SW-7-0/1-0				
Operator ID:	433269	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.12	78.00	119	0.022104
7.16	52.00	0	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 09:58:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

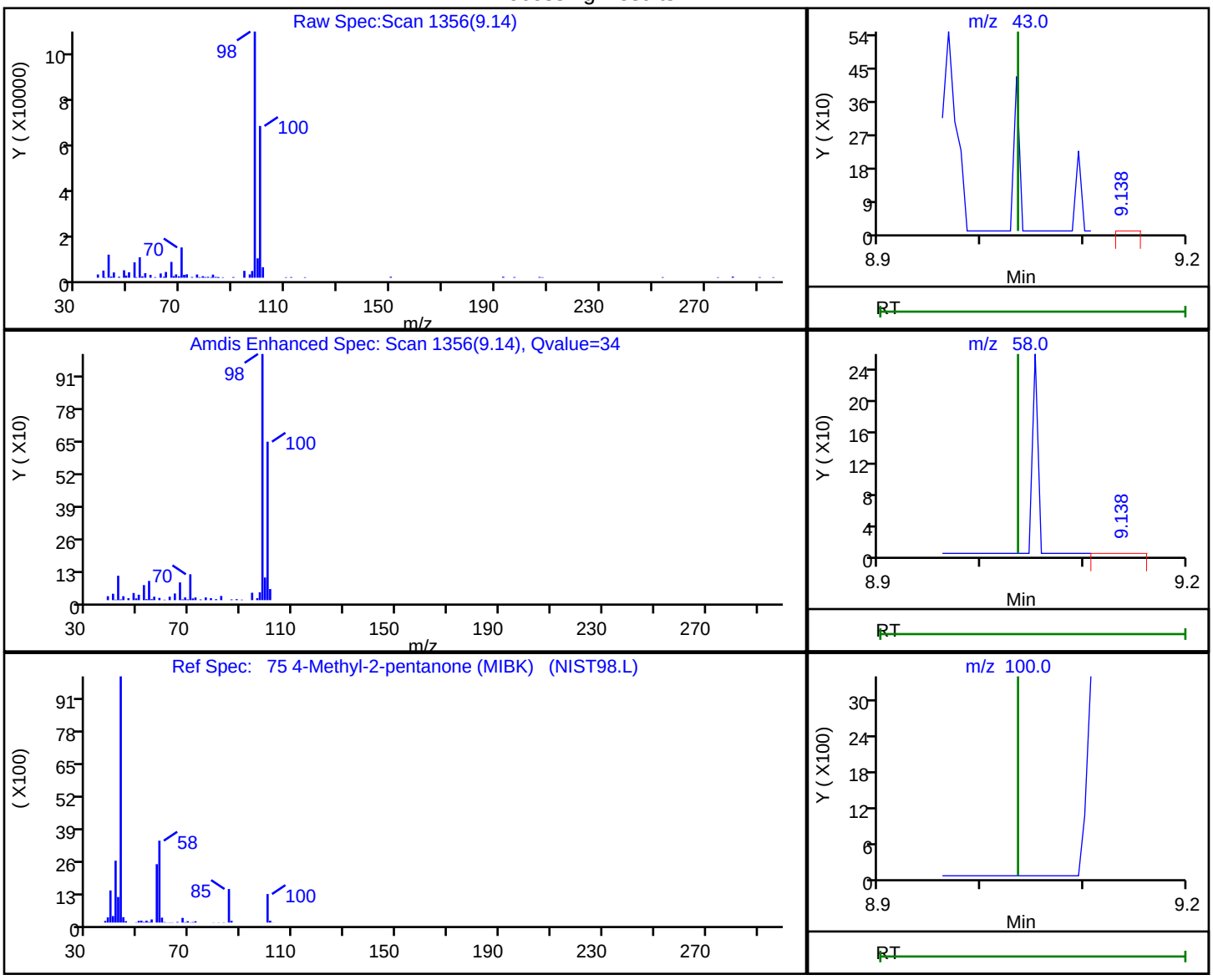
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D				
Injection Date:	05-Nov-2019 18:11:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-2	Lab Sample ID:	180-97854-2		
Client ID:	HD-COD-SW-7-0/1-0				
Operator ID:	433269	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.14	43.00	443	0.352196
9.14	58.00	2062	
9.14	100.00	138508	

Reviewer: bowieh, 06-Nov-2019 09:58:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

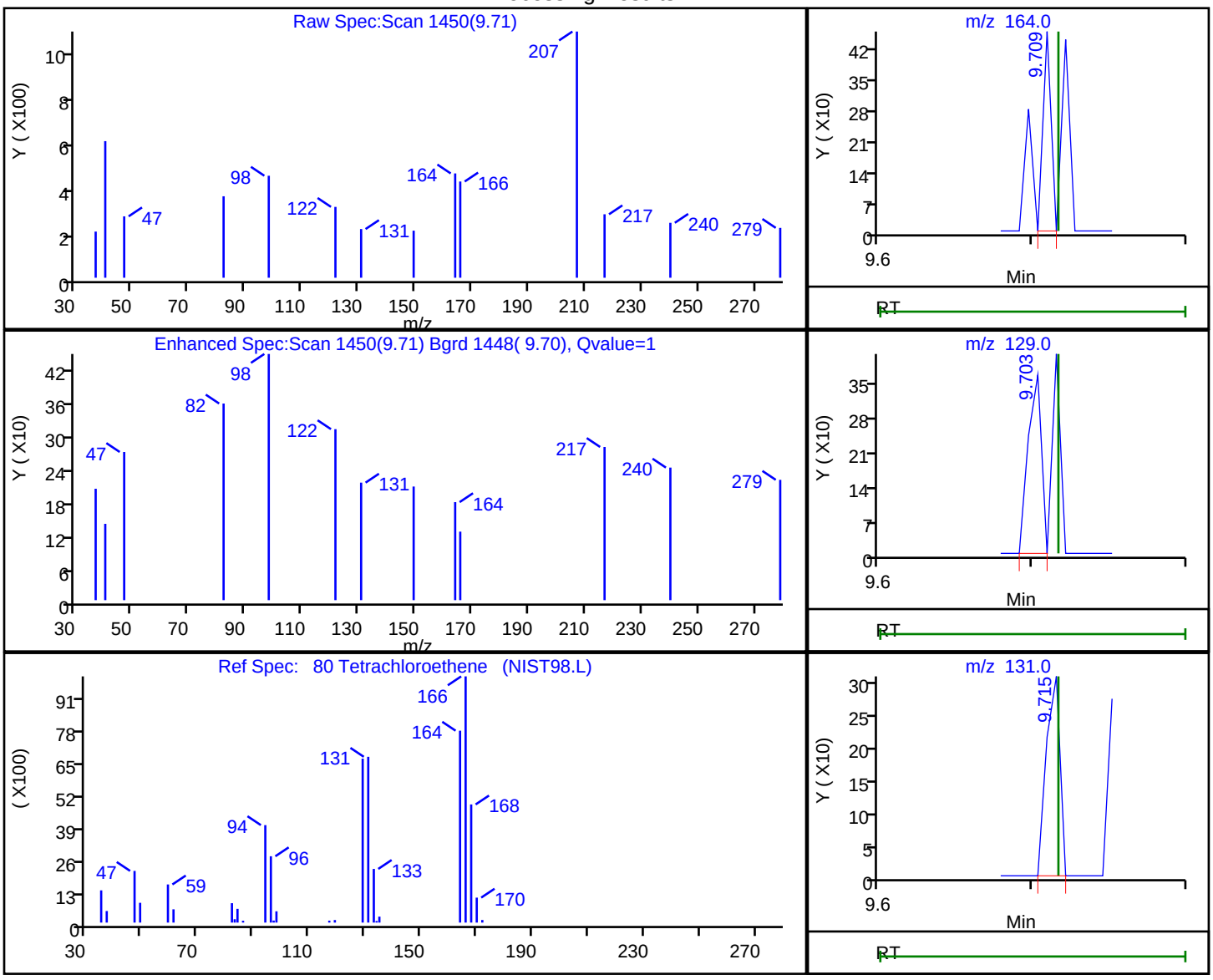
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110515.D				
Injection Date:	05-Nov-2019 18:11:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-2	Lab Sample ID:	180-97854-2		
Client ID:	HD-COD-SW-7-0/1-0				
Operator ID:	433269	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4

Processing Results



RT	Mass	Response	Amount
9.71	164.00	165	0.108112
9.70	129.00	222	
9.72	131.00	188	

Reviewer: bowieh, 06-Nov-2019 09:58:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-8-0/1-0 Lab Sample ID: 180-97854-3

Matrix: Water Lab File ID: 5110516.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 12:05

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 18:36

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-8-0/1-0 Lab Sample ID: 180-97854-3

Matrix: Water Lab File ID: 5110516.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 12:05

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 18:36

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	123		70-150
2037-26-5	Toluene-d8 (Surr)	88		78-128
460-00-4	4-Bromofluorobenzene (Surr)	75		64-123
1868-53-7	Dibromofluoromethane (Surr)	125		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D
Lims ID: 180-97854-B-3
Client ID: HD-COD-SW-8-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 18:36:30 ALS Bottle#: 10 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-016
Misc. Info.: 180-97854-B-3
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:01:35 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:01:35

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
*	1 TBA-d9 (IS)	65	4.531	4.552	-0.021	0	114942	1000.0	
*	2 Fluorobenzene (IS)	96	7.506	7.508	-0.002	99	219732	50.0	
*	3 Chlorobenzene-d5	119	10.590	10.587	0.003	85	59039	50.0	
*	4 1,4-Dichlorobenzene-d4	152	12.920	12.923	-0.003	92	79902	50.0	s
$	5 Dibromofluoromethane (Surr	113	6.788	6.785	0.003	93	68031	62.3	
$	6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.150	-0.003	0	91704	61.5	
$	7 Toluene-d8 (Surr)	98	9.136	9.139	-0.003	94	207490	43.9	
$	8 4-Bromofluorobenzene (Surr	95	11.764	11.767	-0.003	95	65438	37.3	
	12 Chloromethane	50		1.918				ND	U
	13 Vinyl chloride	62		2.033				ND	
	15 Bromomethane	94		2.380				ND	U
	16 Chloroethane	64		2.538				ND	U
	22 1,1-Dichloroethene	96		3.579				ND	
	24 Acetone	43		3.688				ND	U
	26 Carbon disulfide	76		3.871				ND	U
	31 Methylene Chloride	84		4.406				ND	
	33 Acrylonitrile	53		4.795				ND	
	34 trans-1,2-Dichloroethene	96		4.813				ND	
	35 Methyl tert-butyl ether	73		4.832				ND	
	37 1,1-Dichloroethane	63		5.446				ND	
	45 cis-1,2-Dichloroethene	96	6.186	6.182	0.004	11	1961	1.45	
	46 2-Butanone (MEK)	43		6.201				ND	
	49 Chlorobromomethane	128		6.468				ND	
	52 Chloroform	83	6.605	6.602	0.003	1	402	0.1722	
	53 1,1,1-Trichloroethane	97		6.766				ND	
	56 Carbon tetrachloride	117		6.937				ND	
	58 Benzene	78		7.162				ND	U
	59 1,2-Dichloroethane	62		7.241				ND	
	64 Trichloroethene	130	7.889	7.886	0.003	13	769	0.5399	
	67 1,2-Dichloropropane	63		8.159				ND	
	71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	U
80 Tetrachloroethene	164		9.717				ND	
82 2-Hexanone	43		9.863				ND	
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

U - Marked Undetected

Reagents:

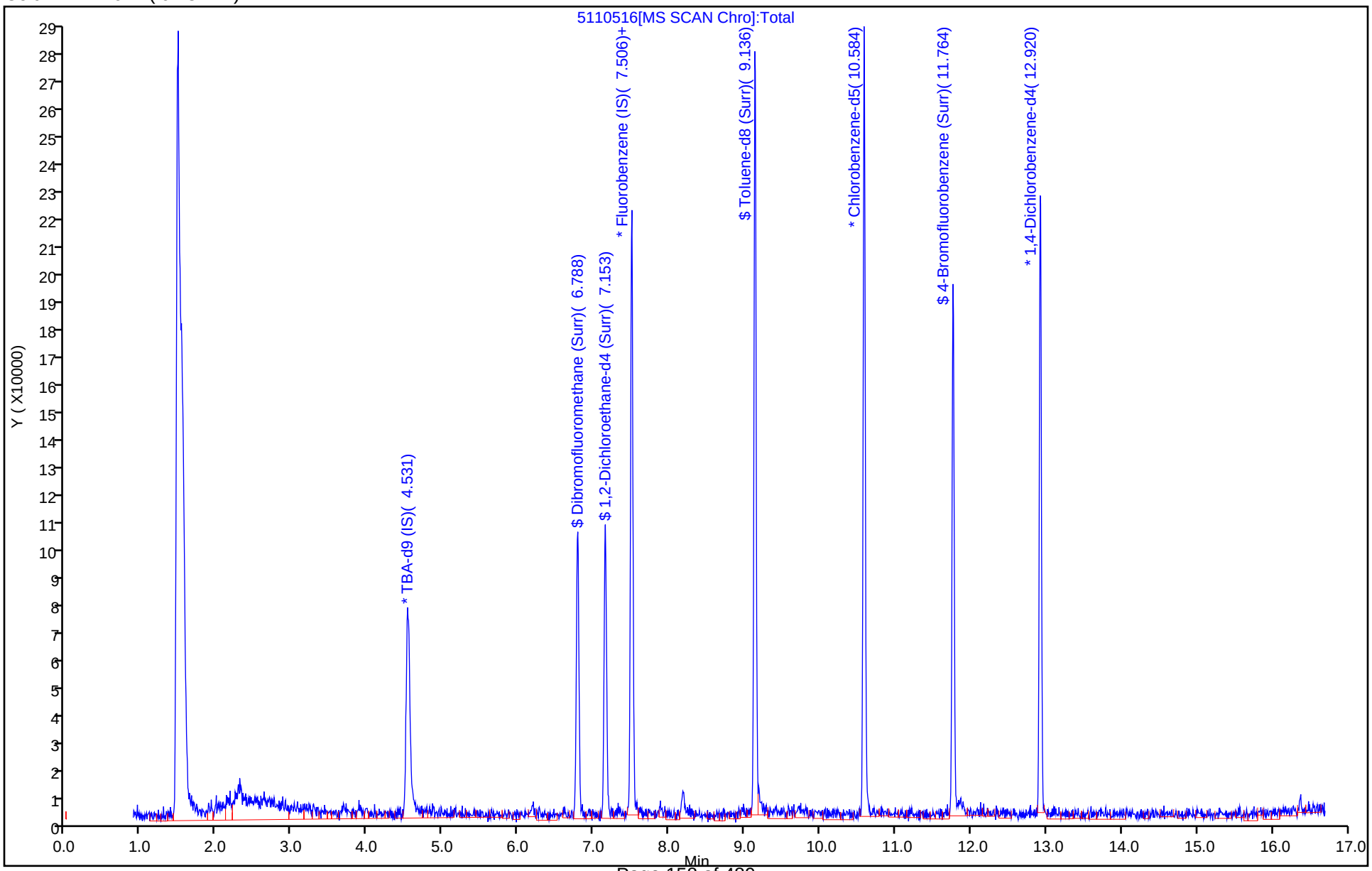
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 06-Nov-2019 10:01:36 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3	Worklist Smp#:	16
Client ID:	HD-COD-SW-8-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D
Lims ID: 180-97854-B-3
Client ID: HD-COD-SW-8-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 18:36:30 ALS Bottle#: 10 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-016
Misc. Info.: 180-97854-B-3
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:01:35 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:01:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	62.3	124.57
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	61.5	122.92
$ 7 Toluene-d8 (Surr)	50.0	43.9	87.82
$ 8 4-Bromofluorobenzene (Surr)	50.0	37.3	74.67

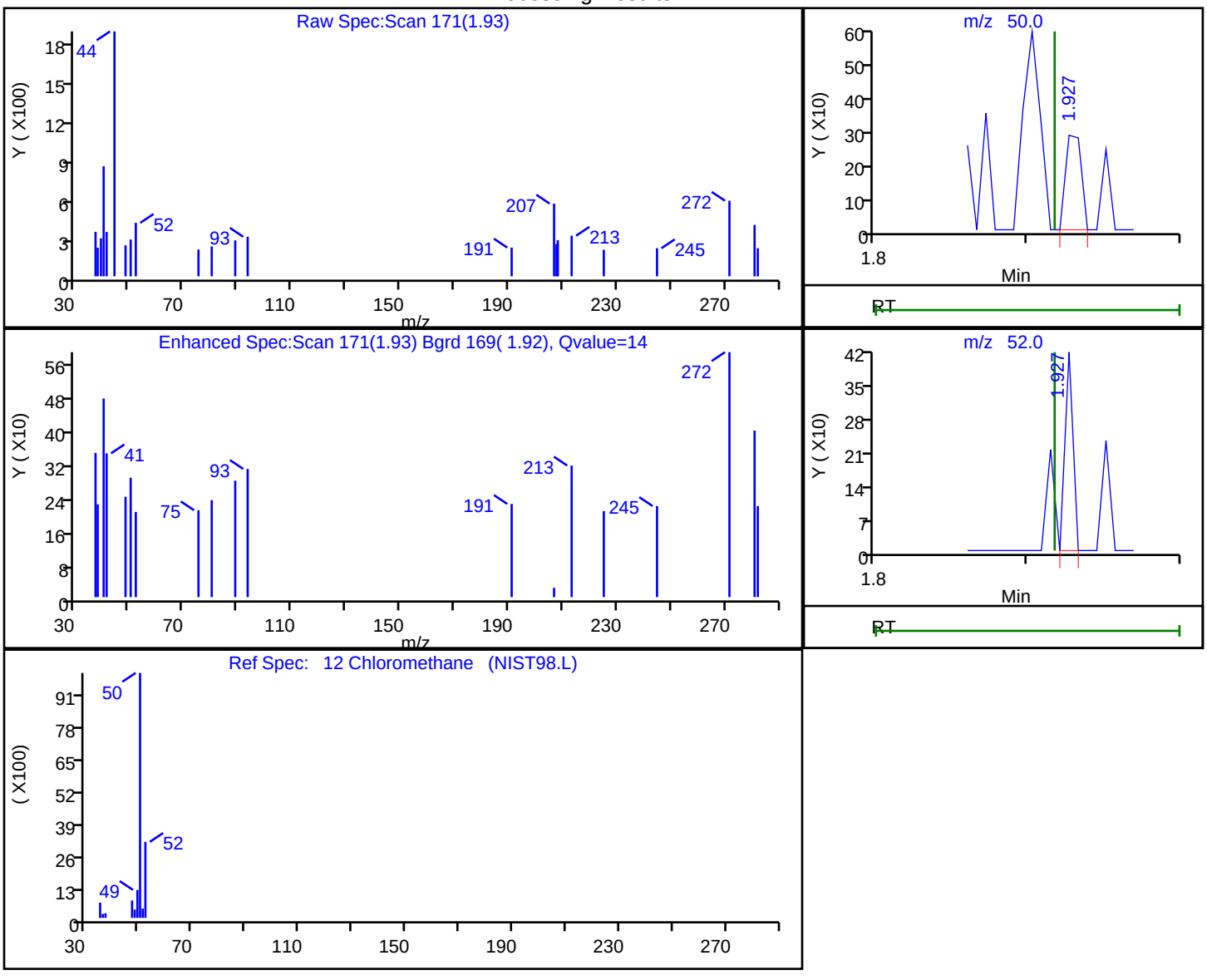
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3		
Client ID:	HD-COD-SW-8-0/1-0				
Operator ID:	433269	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.93	50.00	204	0.127752
1.93	52.00	150	

Reviewer: bowieh, 06-Nov-2019 10:00:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

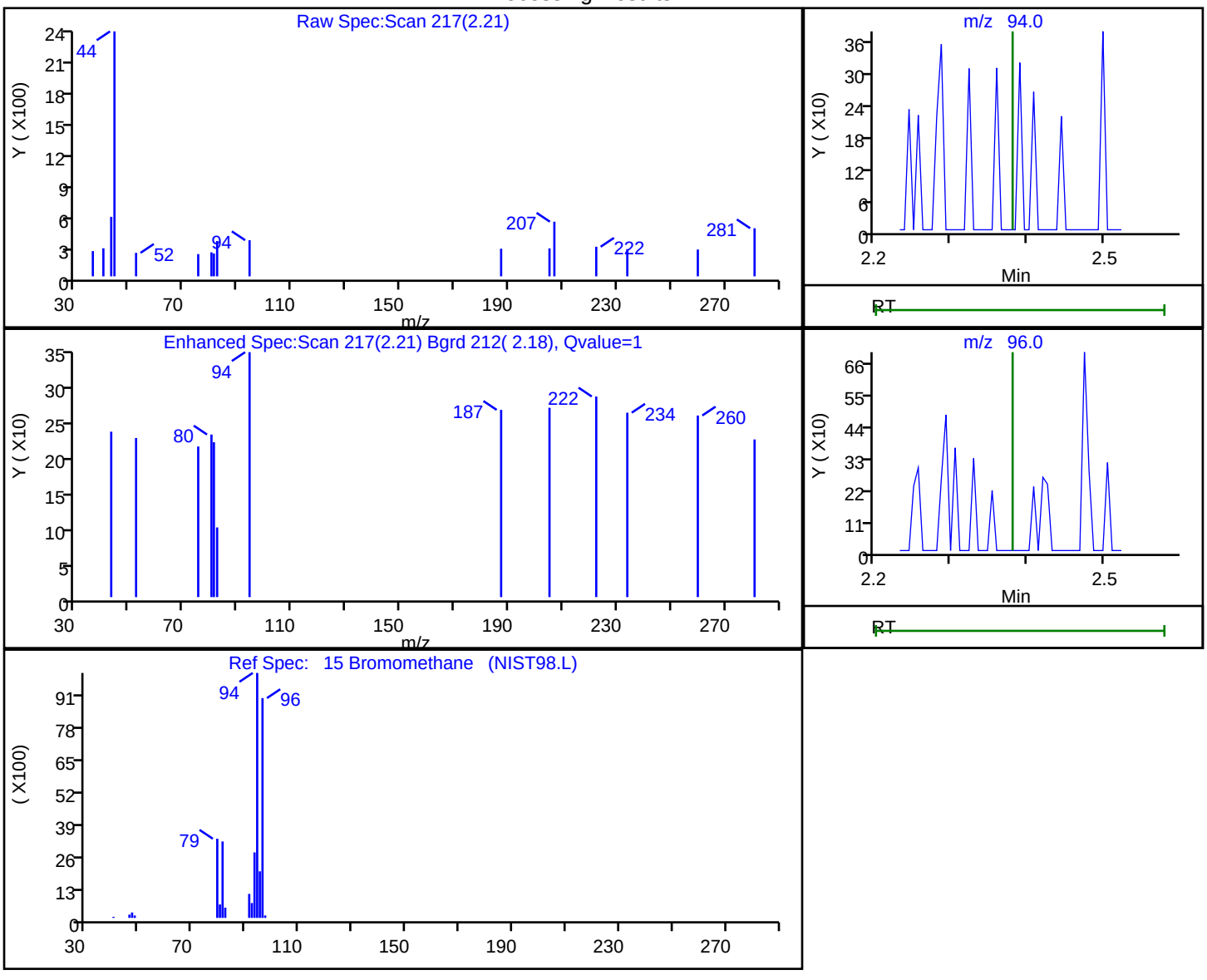
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3		
Client ID:	HD-COD-SW-8-0/1-0				
Operator ID:	433269	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.21	94.00	201	0.197712
2.20	96.00	391	

Reviewer: bowieh, 06-Nov-2019 10:00:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

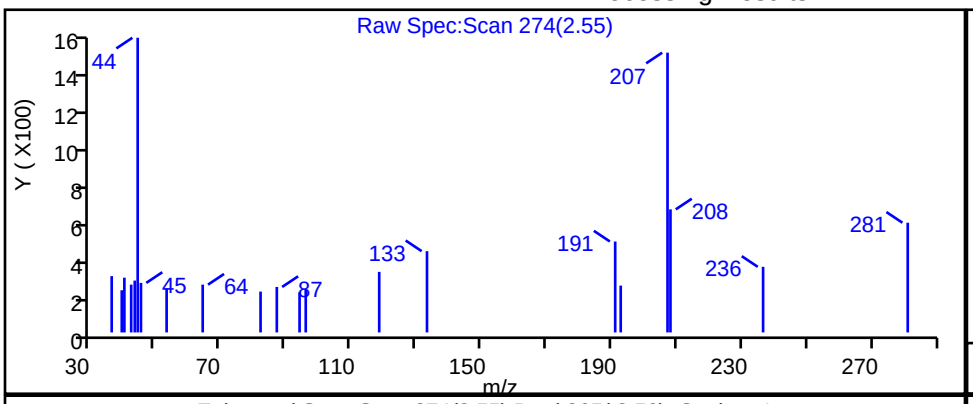
User Disabled Compound Report

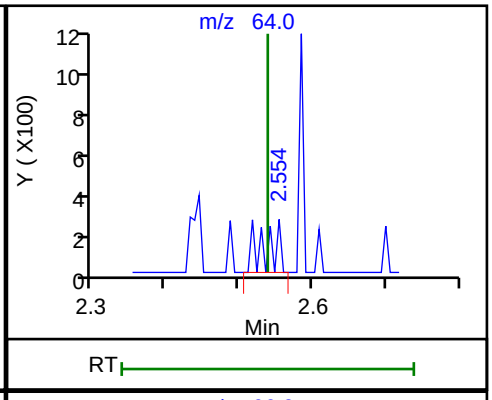
Eurofins TestAmerica, Pittsburgh

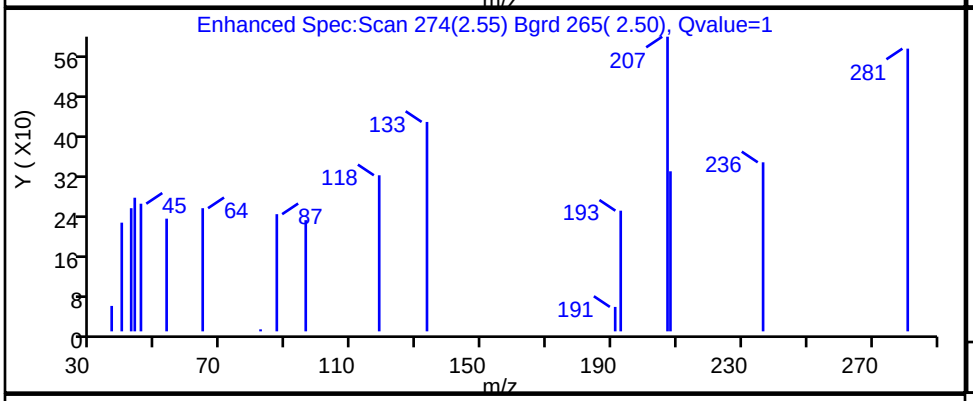
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3		
Client ID:	HD-COD-SW-8-0/1-0				
Operator ID:	433269	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

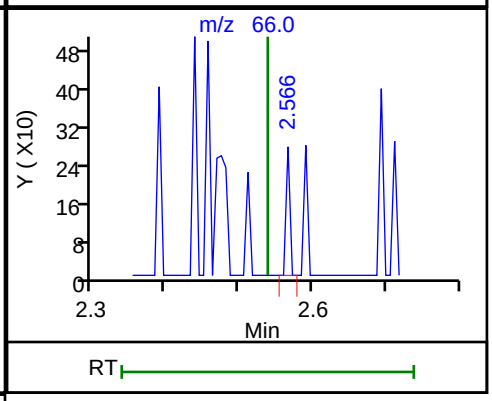
16 Chloroethane, CAS: 75-00-3

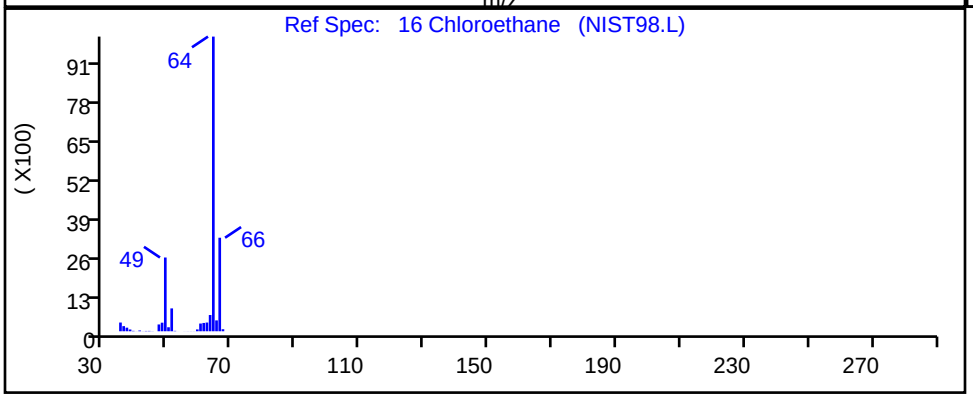
Processing Results











RT	Mass	Response	Amount
2.55	64.00	335	0.335366
2.57	66.00	99	

Reviewer: bowieh, 06-Nov-2019 10:00:22

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

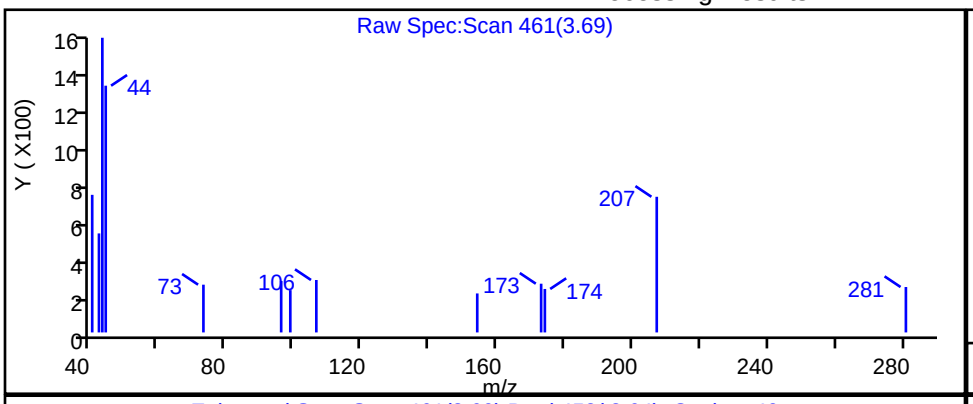
User Disabled Compound Report

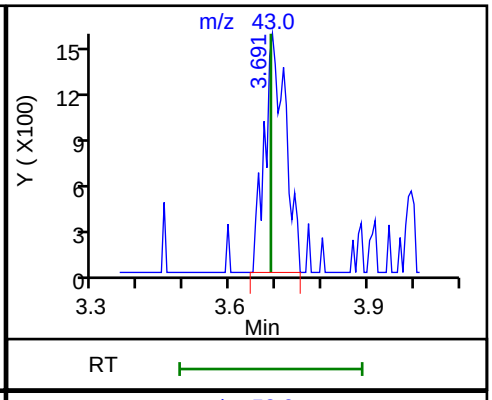
Eurofins TestAmerica, Pittsburgh

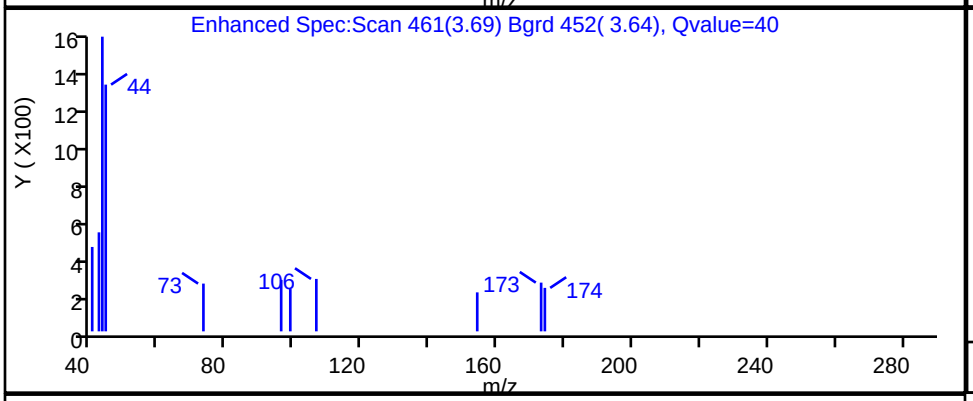
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D		
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3
Client ID:	HD-COD-SW-8-0/1-0		
Operator ID:	433269	ALS Bottle#:	10 Worklist Smp#: 16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

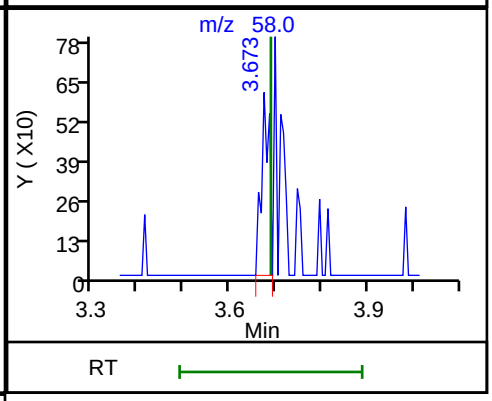
24 Acetone, CAS: 67-64-1

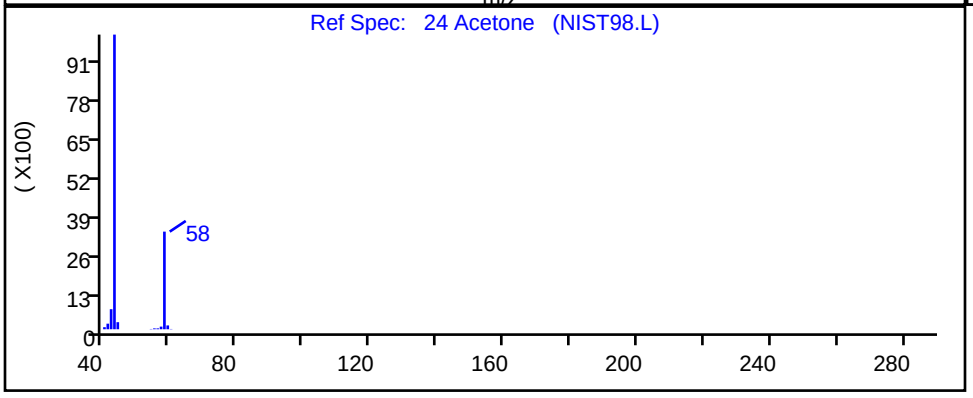
Processing Results











RT	Mass	Response	Amount
3.69	43.00	4840	9.235296
3.67	58.00	736	

Reviewer: bowieh, 06-Nov-2019 10:00:26

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

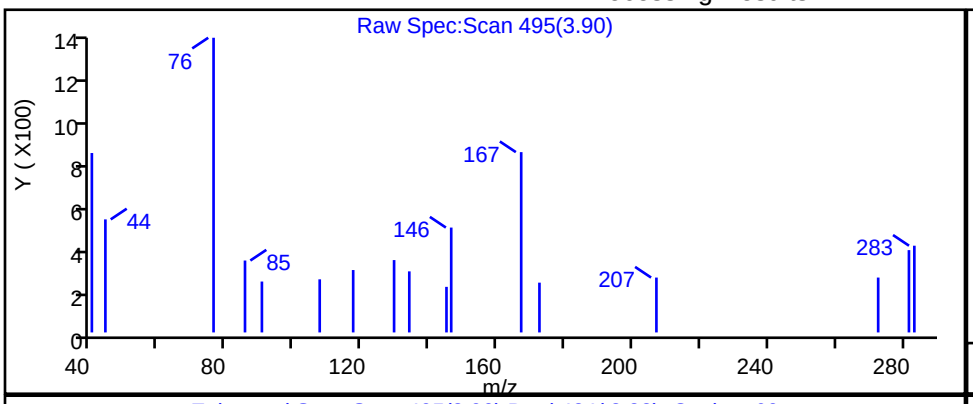
User Disabled Compound Report

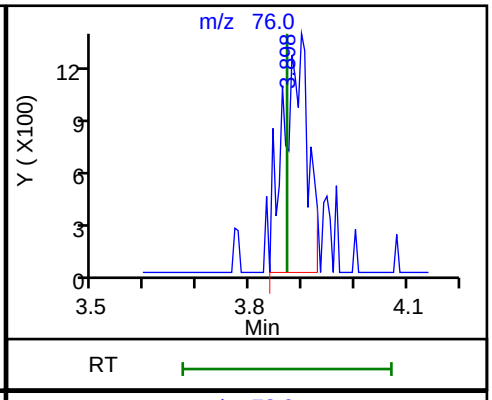
Eurofins TestAmerica, Pittsburgh

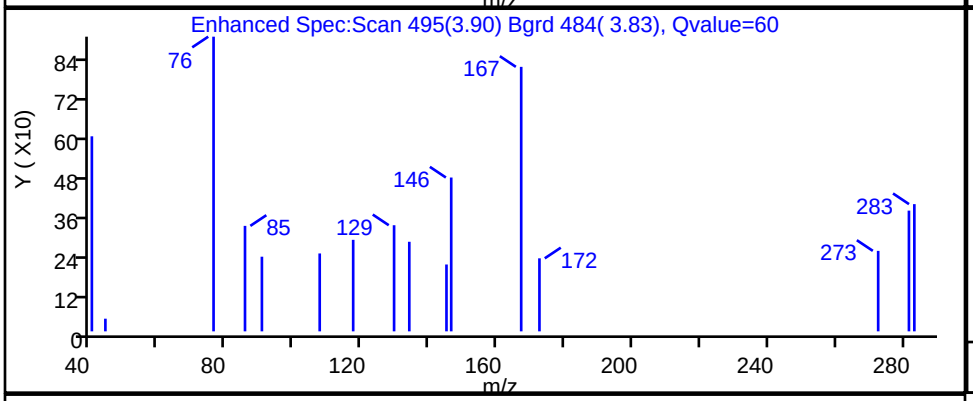
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3		
Client ID:	HD-COD-SW-8-0/1-0				
Operator ID:	433269	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

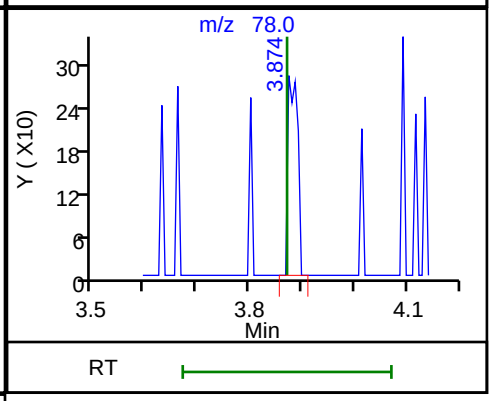
26 Carbon disulfide, CAS: 75-15-0

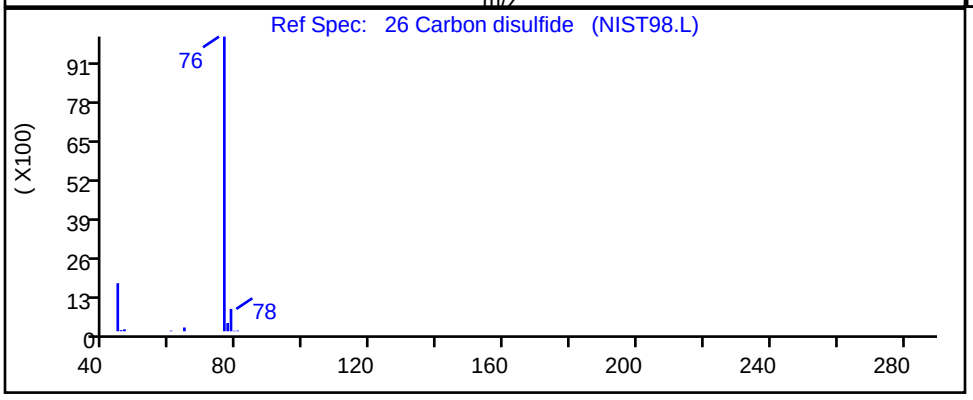
Processing Results











RT	Mass	Response	Amount
3.90	76.00	4301	1.406622
3.87	78.00	366	

Reviewer: bowieh, 06-Nov-2019 10:00:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

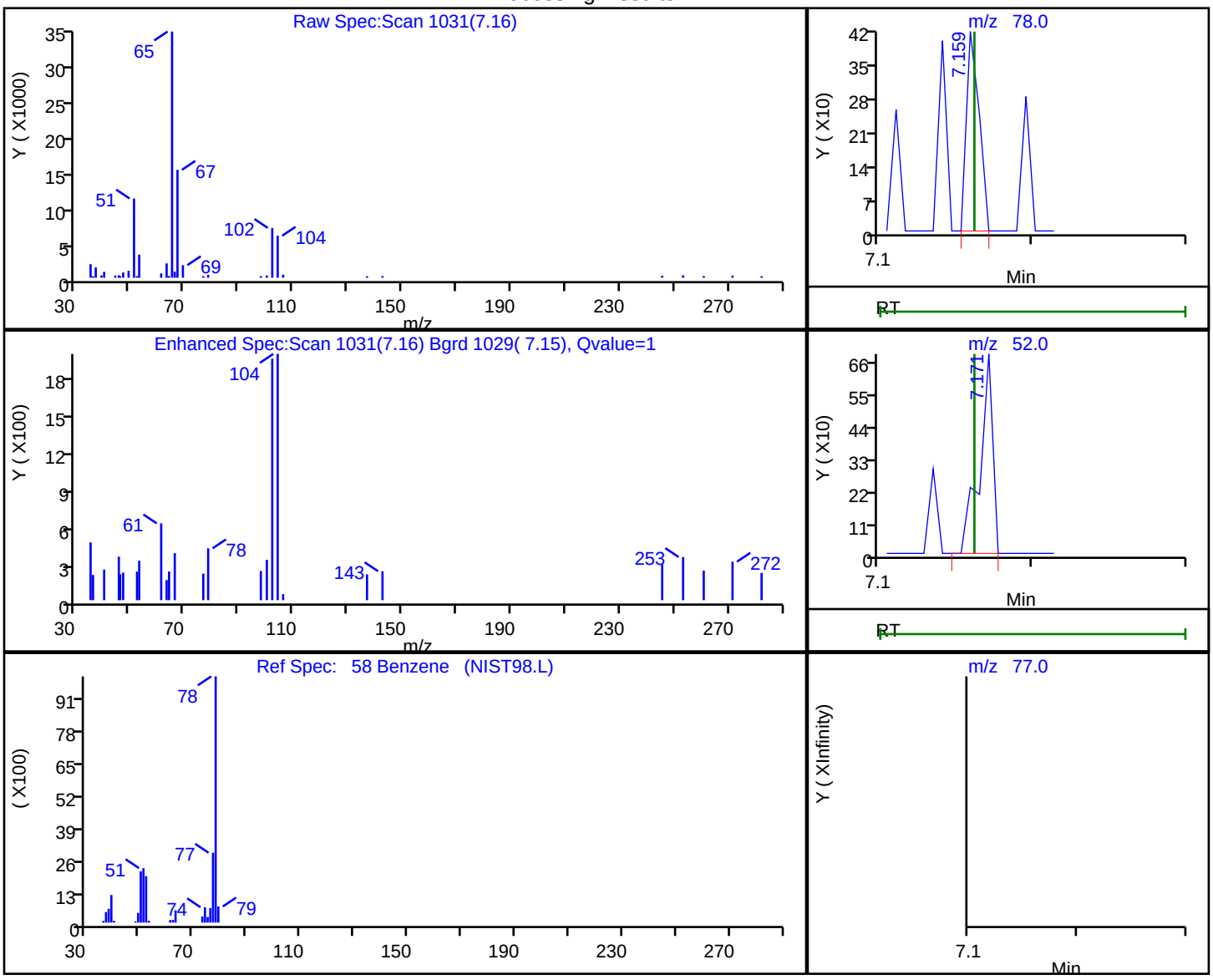
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D		
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3
Client ID:	HD-COD-SW-8-0/1-0		
Operator ID:	433269	ALS Bottle#:	10 Worklist Smp#: 16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.16	78.00	238	0.045704
7.17	52.00	410	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:00:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

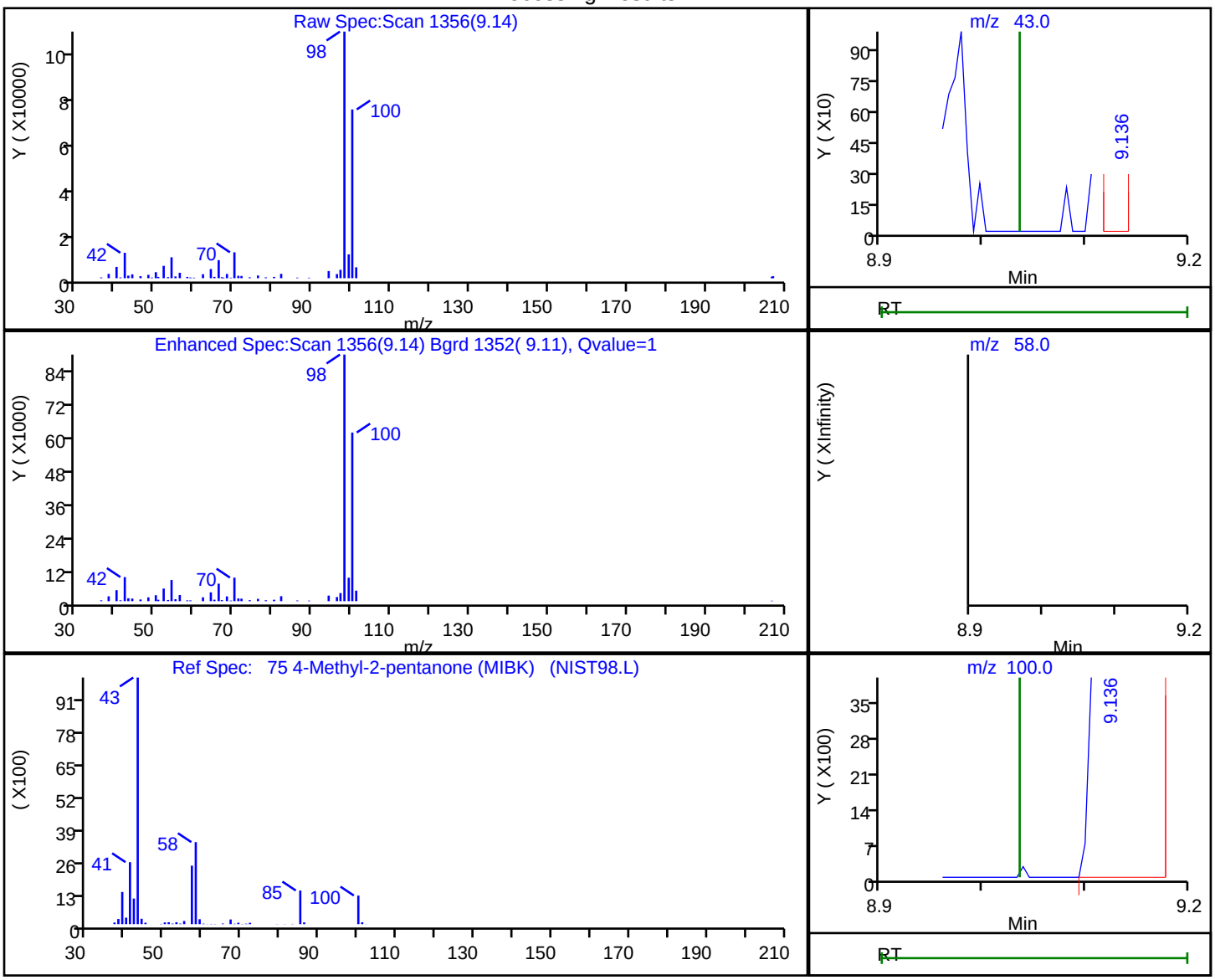
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3		
Client ID:	HD-COD-SW-8-0/1-0				
Operator ID:	433269	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.14	43.00	759	0.645238
9.12	58.00	543	
9.14	100.00	136993	

Reviewer: bowieh, 06-Nov-2019 10:00:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

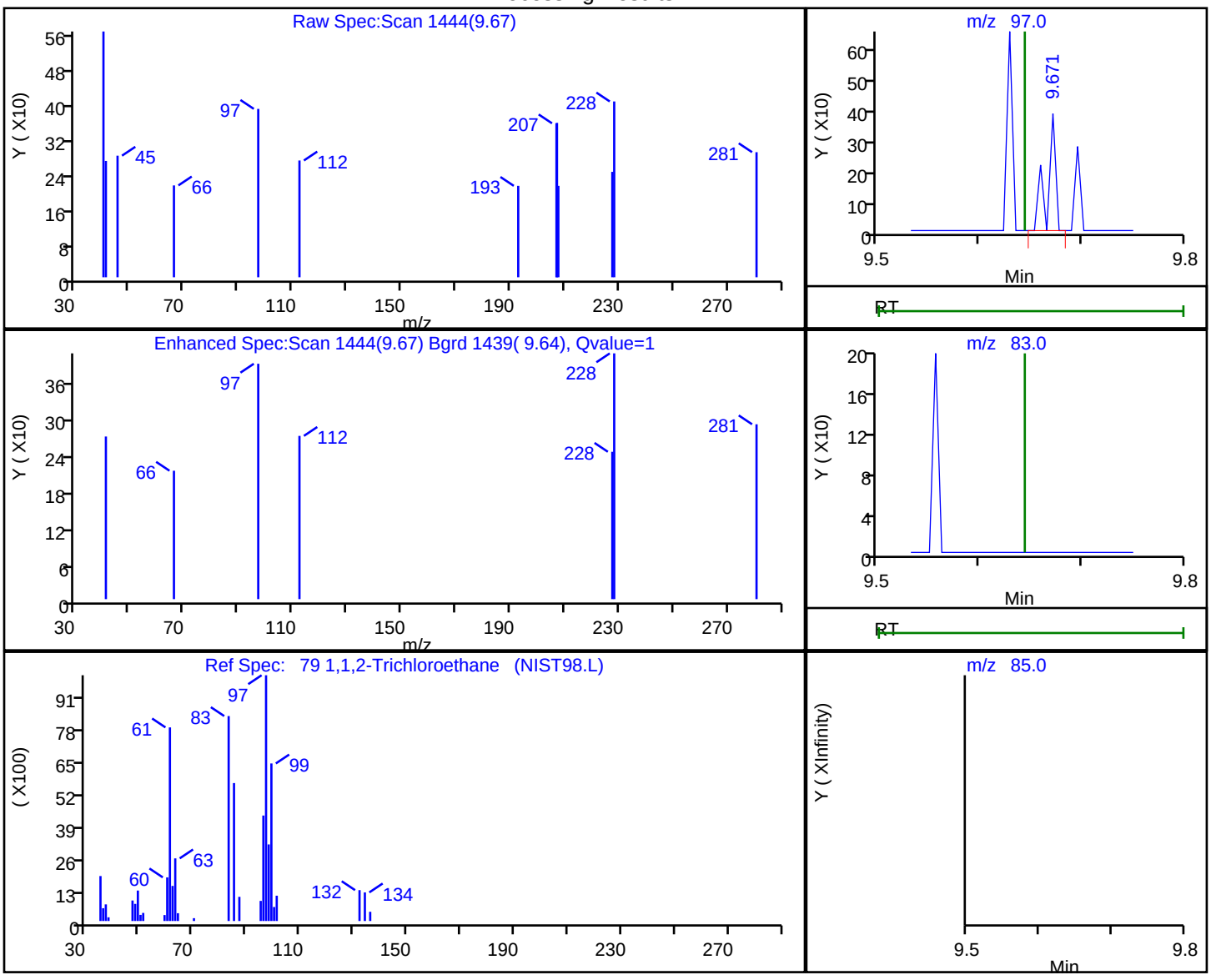
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D		
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3
Client ID:	HD-COD-SW-8-0/1-0		
Operator ID:	433269	ALS Bottle#:	10 Worklist Smp#: 16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.67	97.00	219	0.175632
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:00:59

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

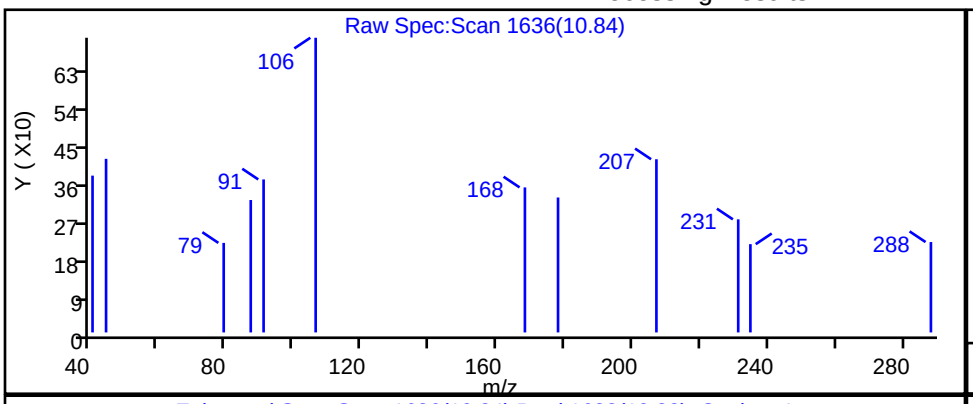
User Disabled Compound Report

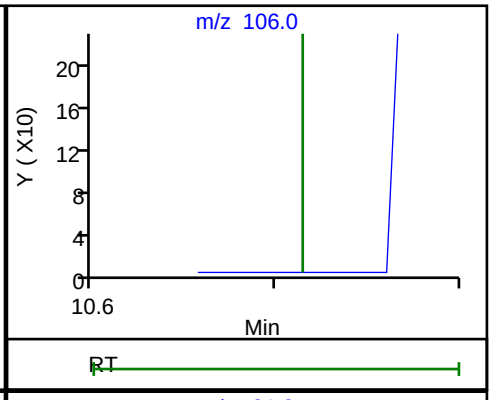
Eurofins TestAmerica, Pittsburgh

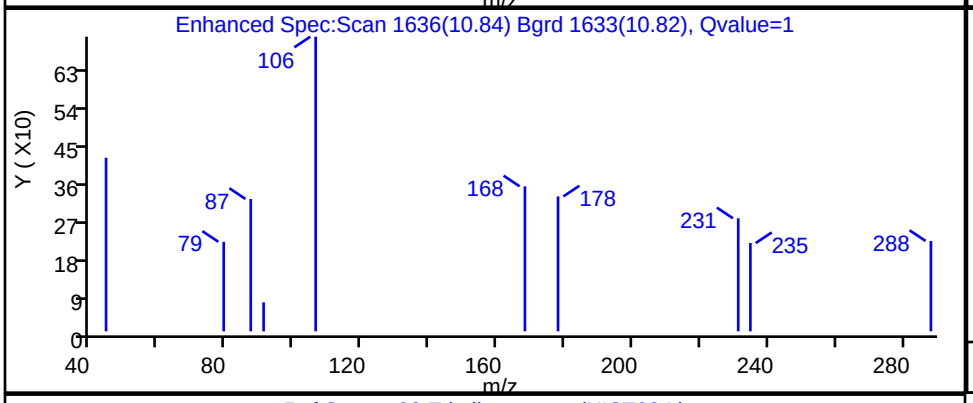
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110516.D				
Injection Date:	05-Nov-2019 18:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-3	Lab Sample ID:	180-97854-3		
Client ID:	HD-COD-SW-8-0/1-0				
Operator ID:	433269	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

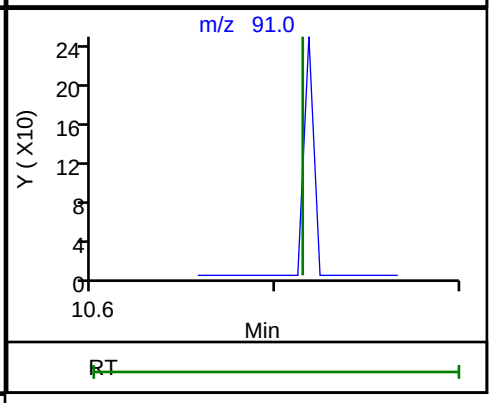
90 Ethylbenzene, CAS: 100-41-4

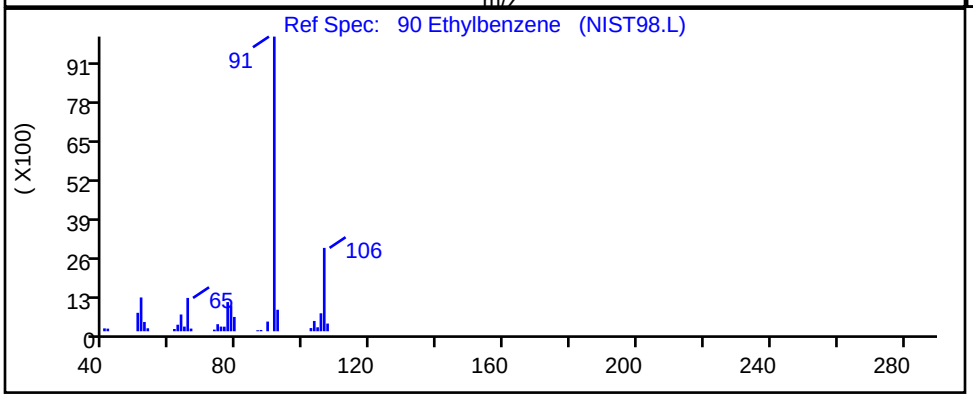
Processing Results











RT	Mass	Response	Amount
10.84	106.00	429	0.205862
10.85	91.00	439	

Reviewer: bowieh, 06-Nov-2019 10:01:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-9-0/1-0 Lab Sample ID: 180-97854-4

Matrix: Water Lab File ID: 5110517.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:45

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 19:00

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-9-0/1-0 Lab Sample ID: 180-97854-4

Matrix: Water Lab File ID: 5110517.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:45

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 19:00

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	122		70-150
2037-26-5	Toluene-d8 (Surr)	85		78-128
460-00-4	4-Bromofluorobenzene (Surr)	78		64-123
1868-53-7	Dibromofluoromethane (Surr)	125		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D
Lims ID: 180-97854-D-4
Client ID: HD-COD-SW-9-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 19:00:30 ALS Bottle#: 11 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-017
Misc. Info.: 180-97854-D-4
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:11:42 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:11:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.541	4.552	-0.011	0	124012	1000.0	
* 2 Fluorobenzene (IS)	96	7.504	7.508	-0.004	99	230256	50.0	
* 3 Chlorobenzene-d5	119	10.588	10.587	0.001	84	67977	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.924	12.923	0.001	93	109255	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.786	6.785	0.001	95	71534	62.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.151	7.150	0.001	0	95515	61.1	
$ 7 Toluene-d8 (Surr)	98	9.140	9.139	0.001	94	230592	42.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.768	11.767	0.001	96	78950	39.1	
12 Chloromethane	50		1.918				ND	U
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.702	3.688	0.014	79	8937	16.3	
26 Carbon disulfide	76		3.871				ND	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96		6.182				ND	U
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.603	6.602	0.001	28	1726	0.7055	M
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130		7.886				ND	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	U
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	
80 Tetrachloroethene	164	9.706	9.717	-0.011	25	1074	0.6535	
82 2-Hexanone	43		9.863				ND	
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

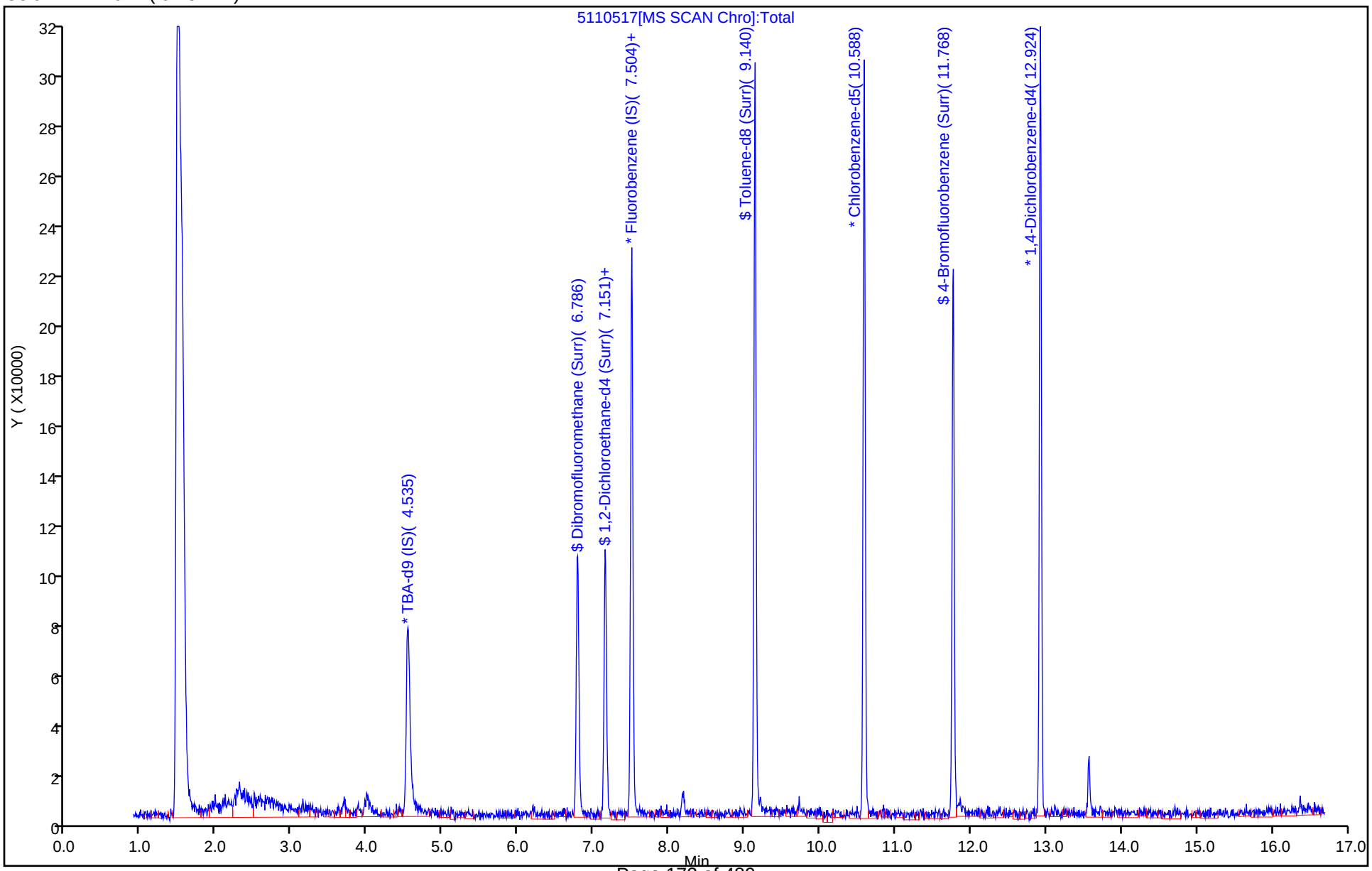
Report Date: 06-Nov-2019 10:11:42 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D

Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4	Worklist Smp#:	17
Client ID:	HD-COD-SW-9-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Lims ID:	180-97854-D-4				
Client ID:	HD-COD-SW-9-0/1-0				
Sample Type:	Client				
Inject. Date:	05-Nov-2019 19:00:30	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029401-017				
Misc. Info.:	180-97854-D-4				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	06-Nov-2019 10:11:42	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0337				

First Level Reviewer: bowieh Date: 06-Nov-2019 10:11:42

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	62.5	125.00
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	61.1	122.17
$ 7 Toluene-d8 (Surr)	50.0	42.4	84.77
$ 8 4-Bromofluorobenzene (Surr)	50.0	39.1	78.25

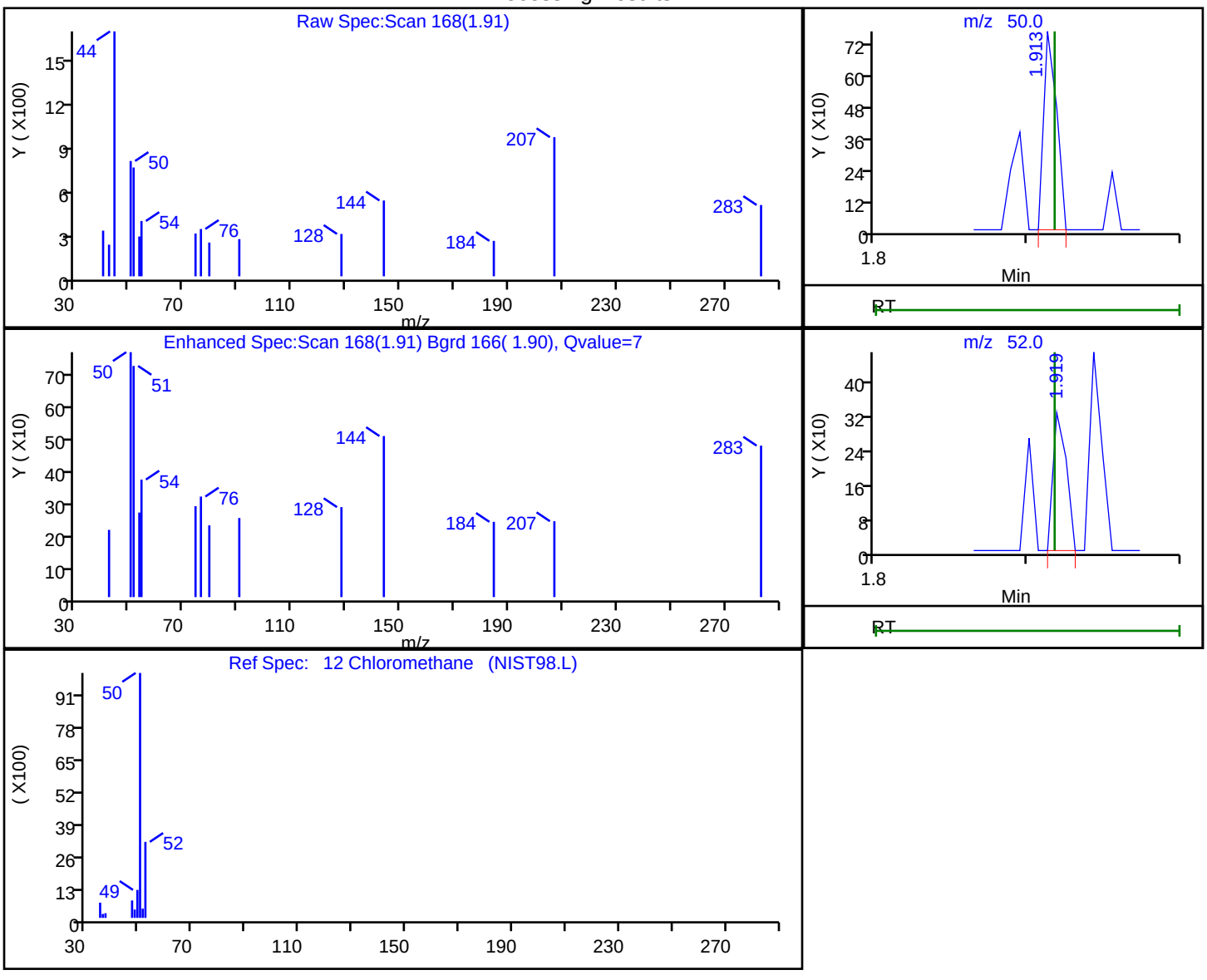
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.91	50.00	451	0.269523
1.92	52.00	195	

Reviewer: bowieh, 06-Nov-2019 10:07:59

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

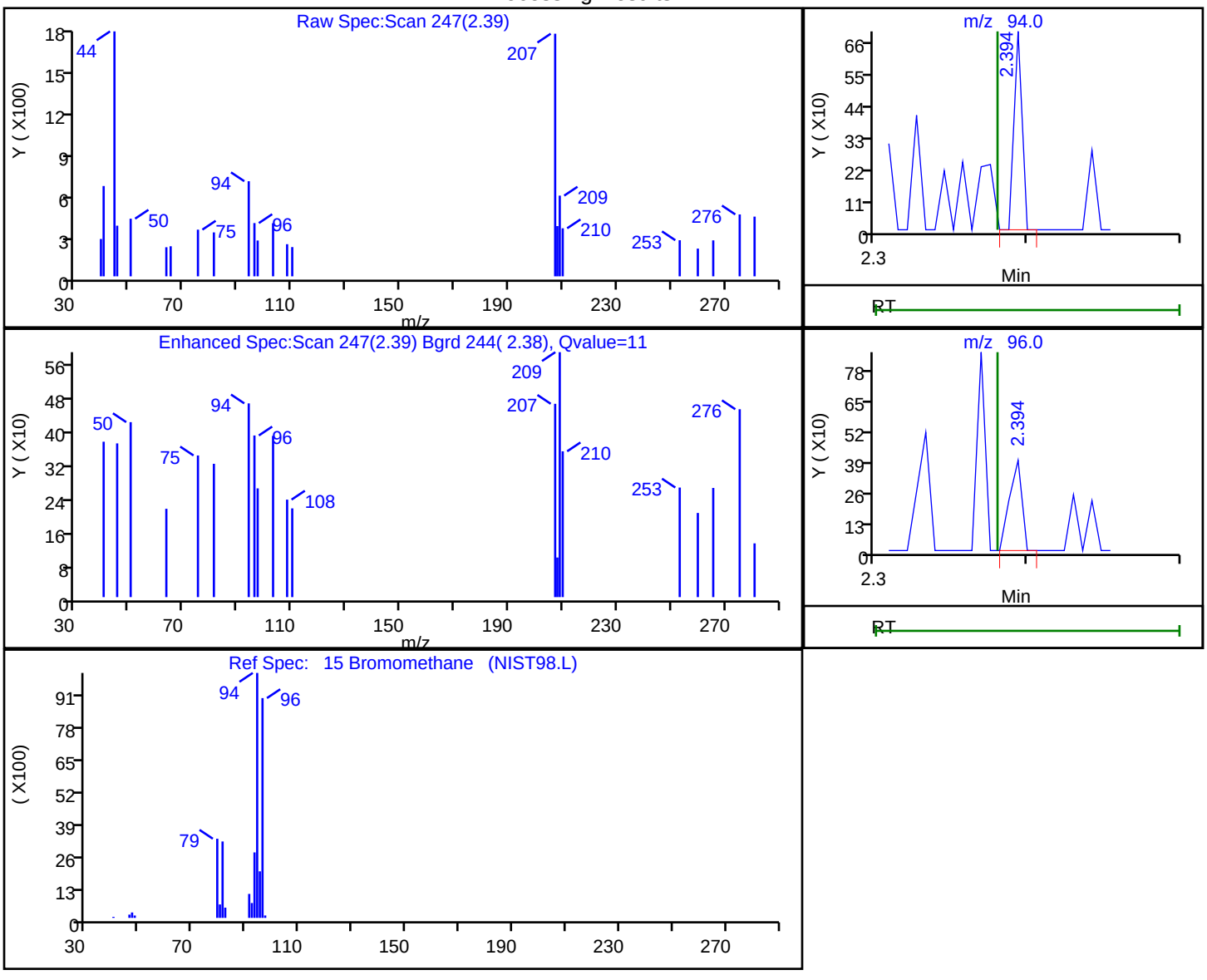
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.39	94.00	253	0.237487
2.39	96.00	220	

Reviewer: bowieh, 06-Nov-2019 10:08:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

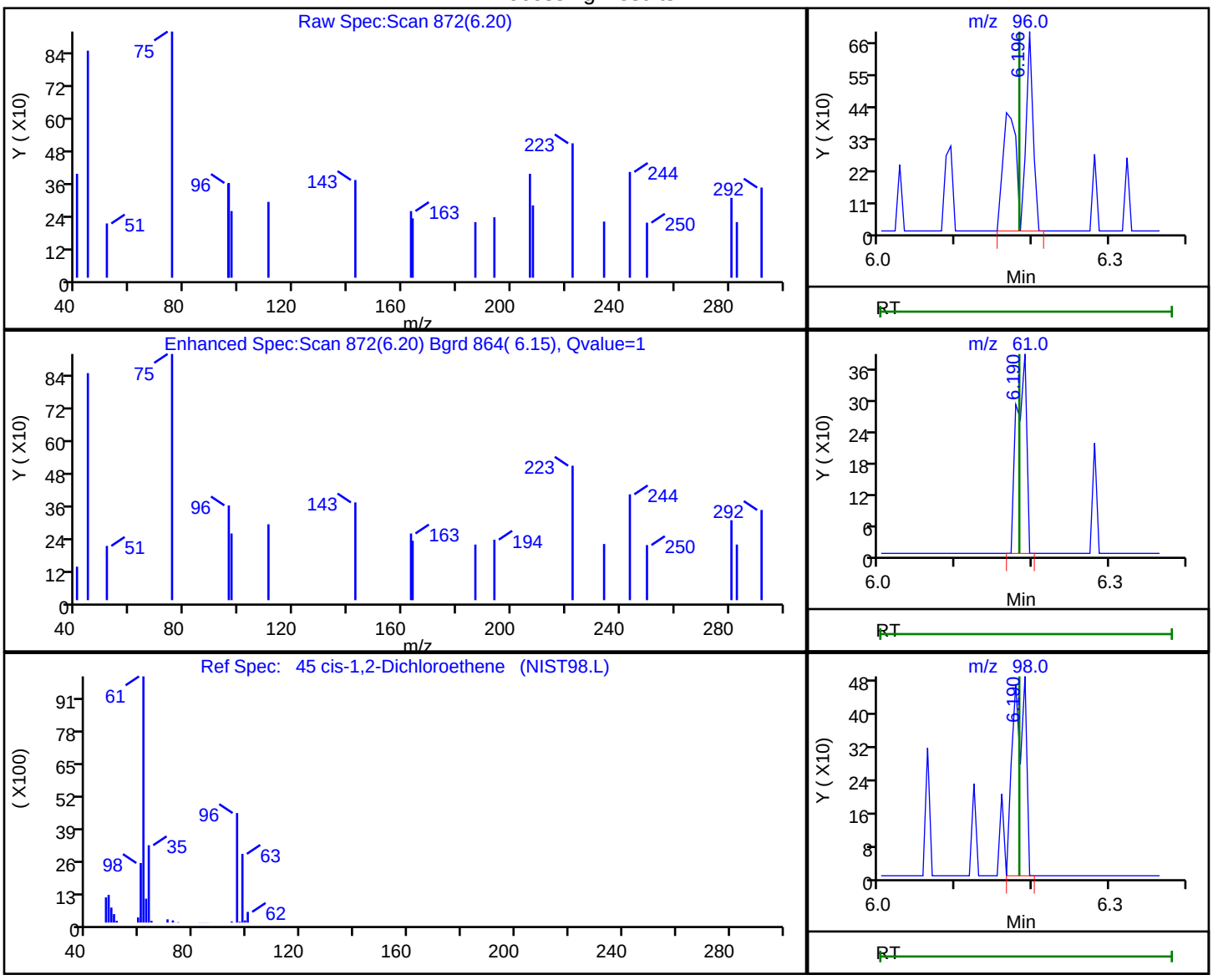
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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

Processing Results



RT	Mass	Response	Amount
6.20	96.00	934	0.656830
6.19	61.00	338	
6.19	98.00	550	

Reviewer: bowieh, 06-Nov-2019 10:10:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

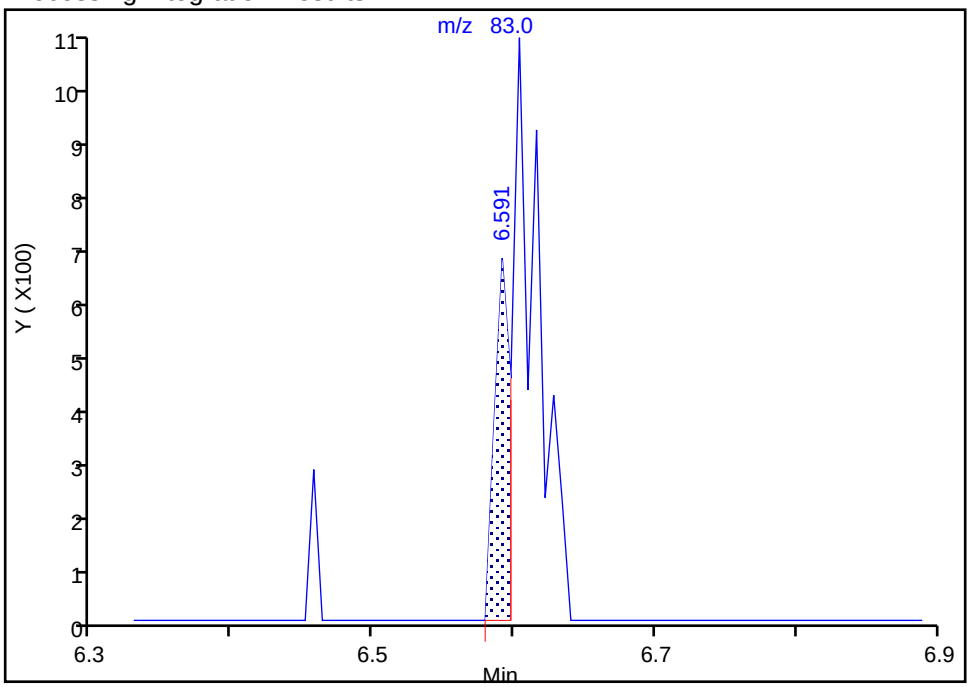
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

52 Chloroform, CAS: 67-66-3

Signal: 1

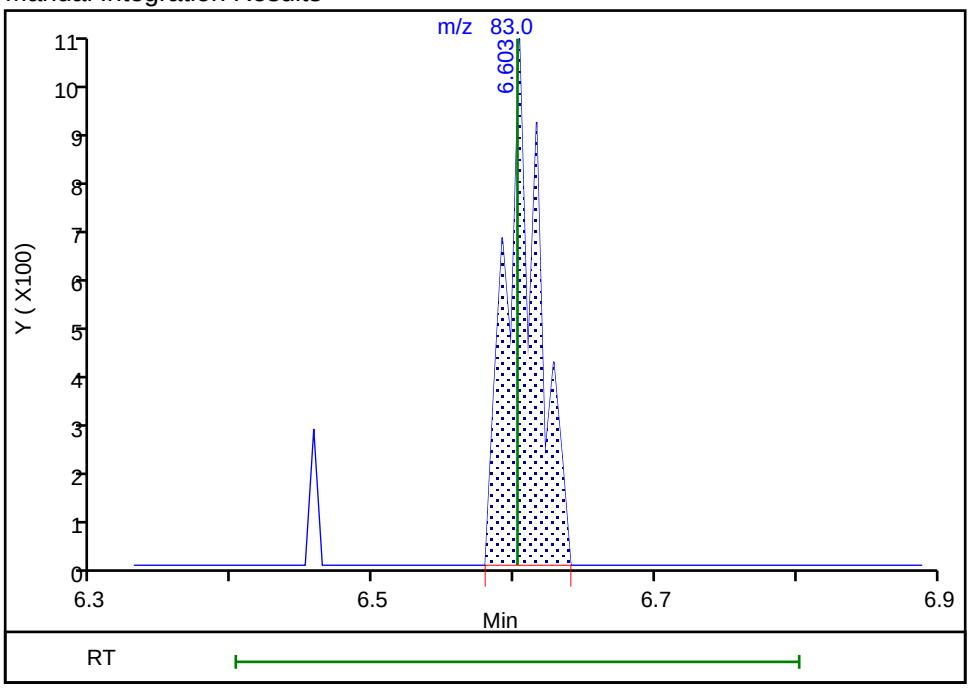
Processing Integration Results

RT: 6.59
Area: 535
Amount: 0.218666
Amount Units: ng



Manual Integration Results

RT: 6.60
Area: 1726
Amount: 0.705453
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:11:12

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

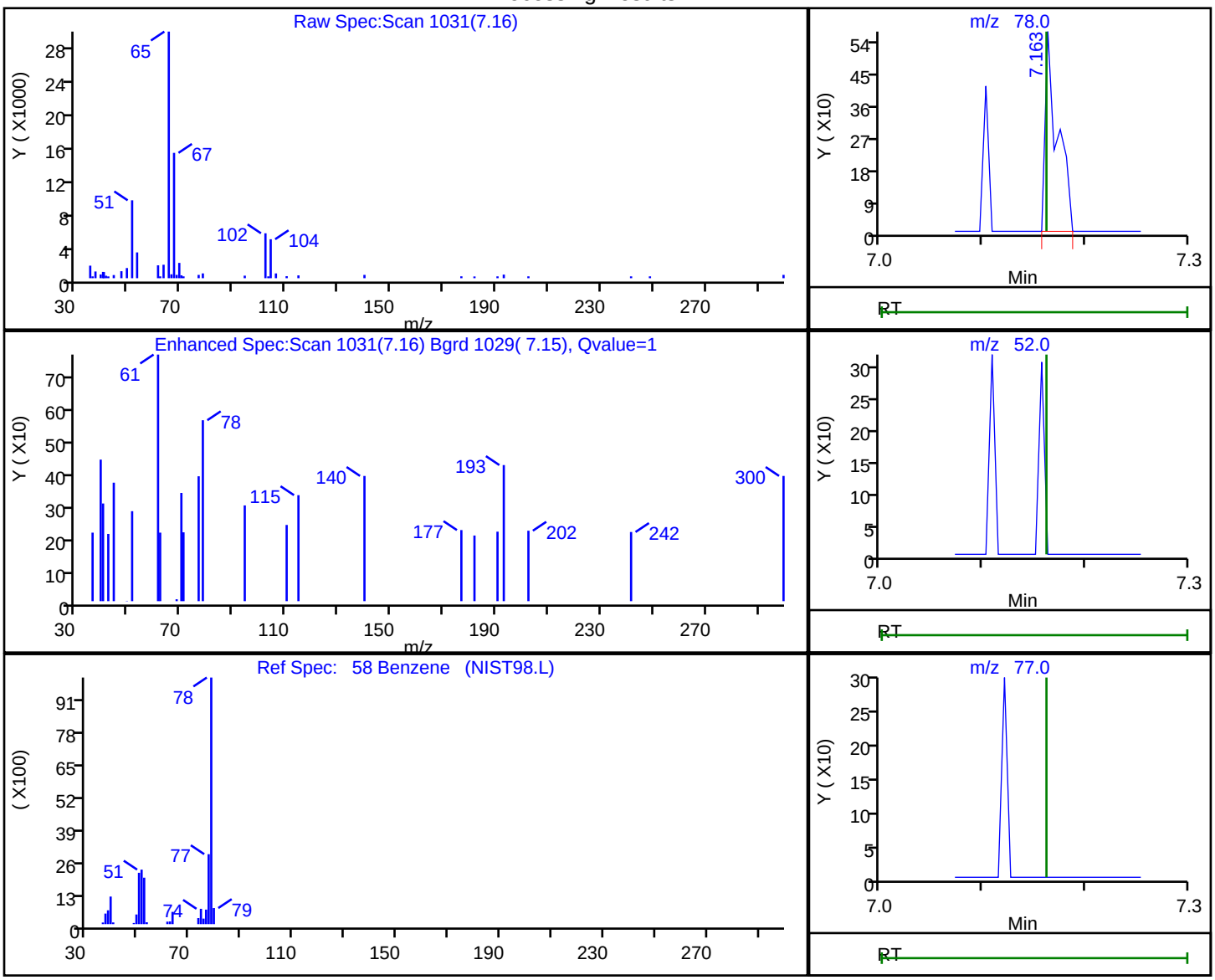
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.16	78.00	472	0.086497
7.16	52.00	0	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:11:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

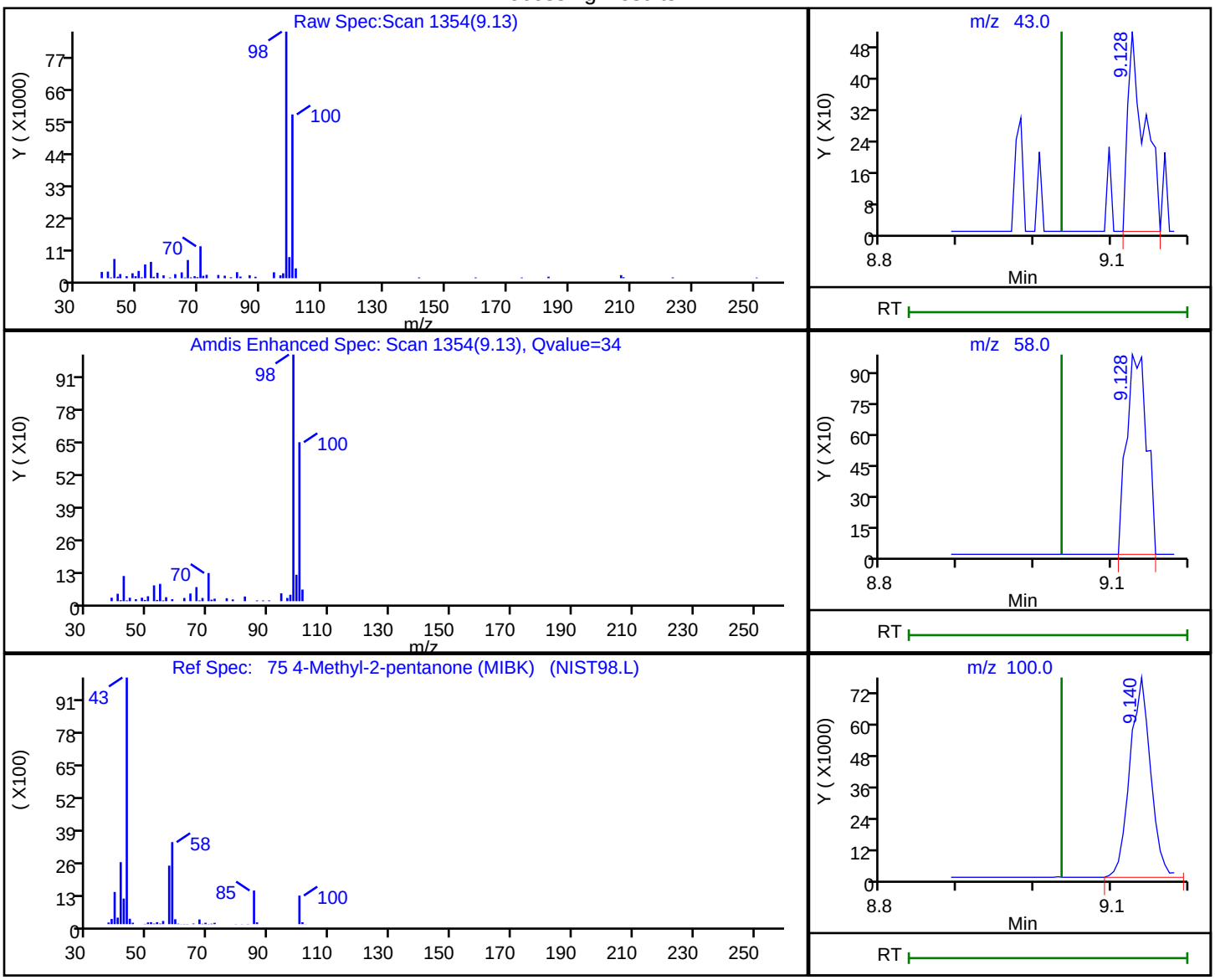
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.13	43.00	786	0.580333
9.13	58.00	1809	
9.14	100.00	144994	

Reviewer: bowieh, 06-Nov-2019 10:11:27

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

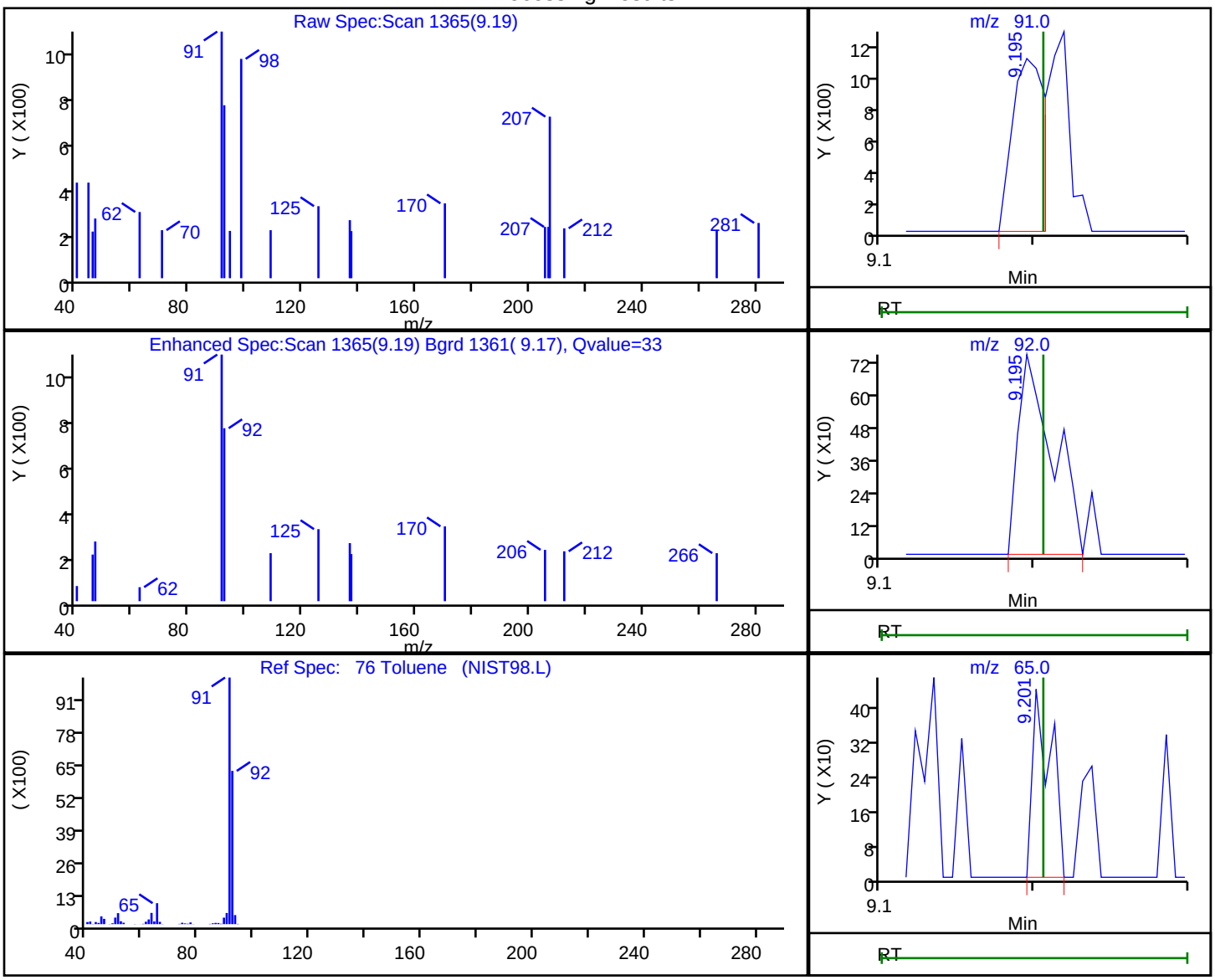
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 Toluene, CAS: 108-88-3

Processing Results



RT	Mass	Response	Amount
9.19	91.00	1552	0.225580
9.19	92.00	1167	
9.20	65.00	366	

Reviewer: bowieh, 06-Nov-2019 10:11:31

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

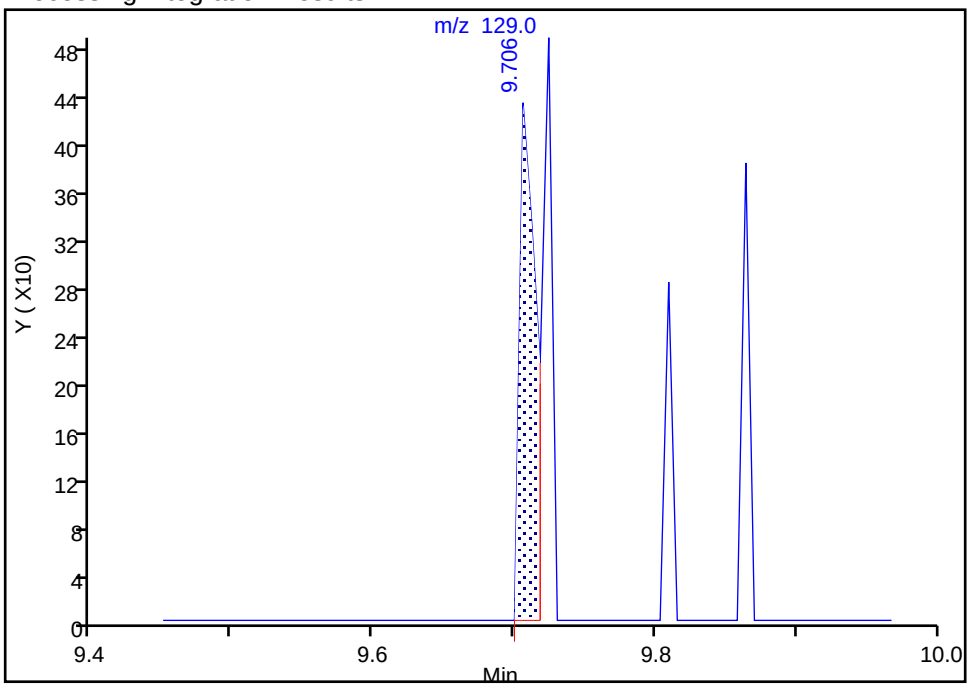
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D		
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4
Client ID:	HD-COD-SW-9-0/1-0		
Operator ID:	433269	ALS Bottle#:	11 Worklist Smp#: 17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

80 Tetrachloroethene, CAS: 127-18-4

Signal: 2

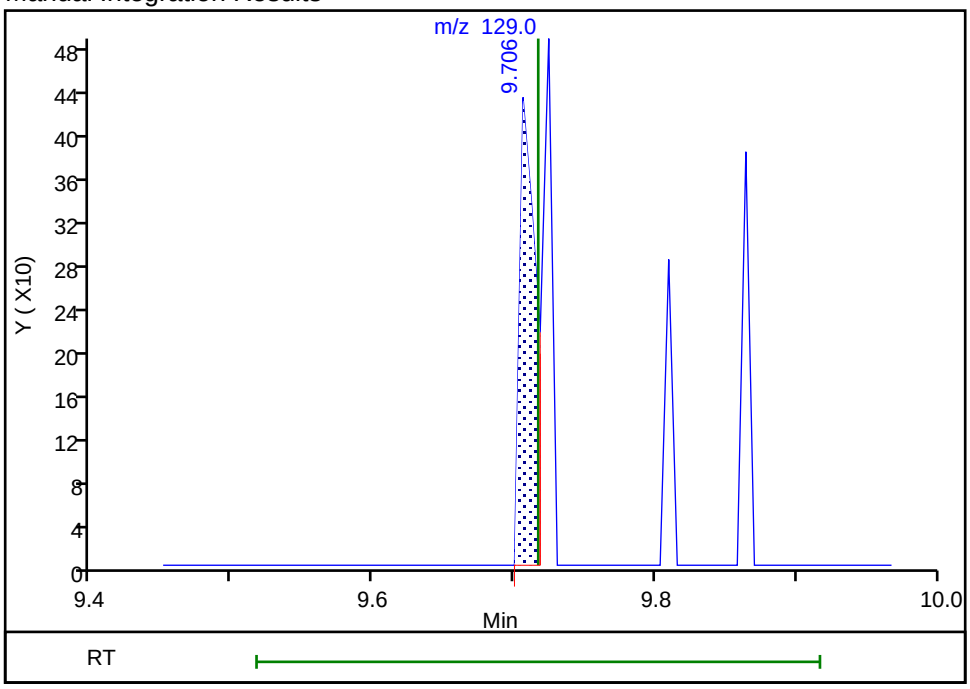
Processing Integration Results

RT: 9.71
Area: 357
Amount: 0.653535
Amount Units: ng



Manual Integration Results

RT: 9.71
Area: 357
Amount: 0.653535
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:11:32
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

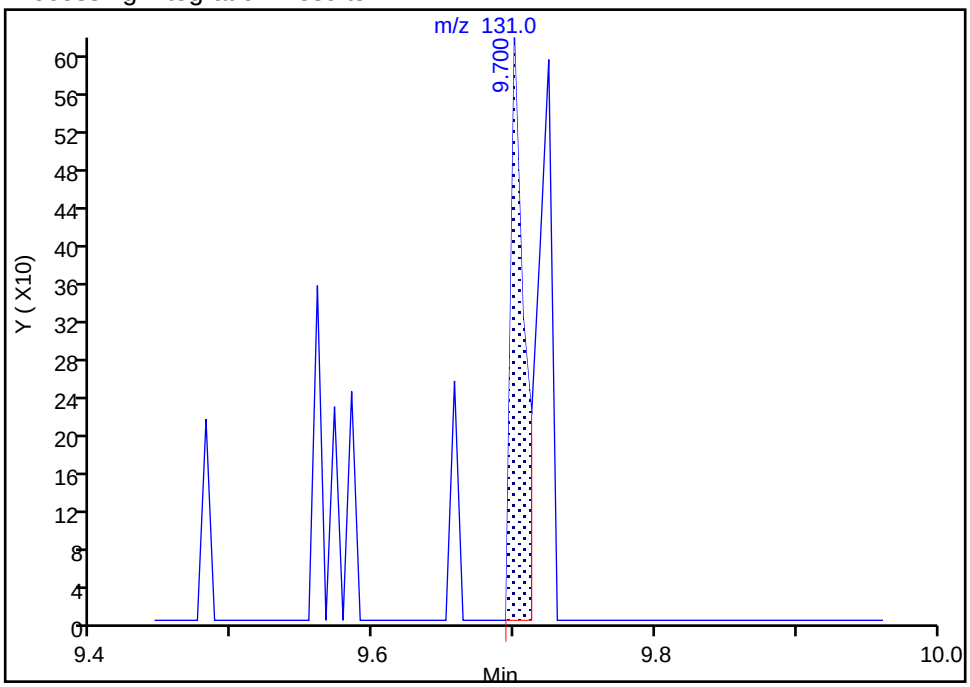
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4

Signal: 3

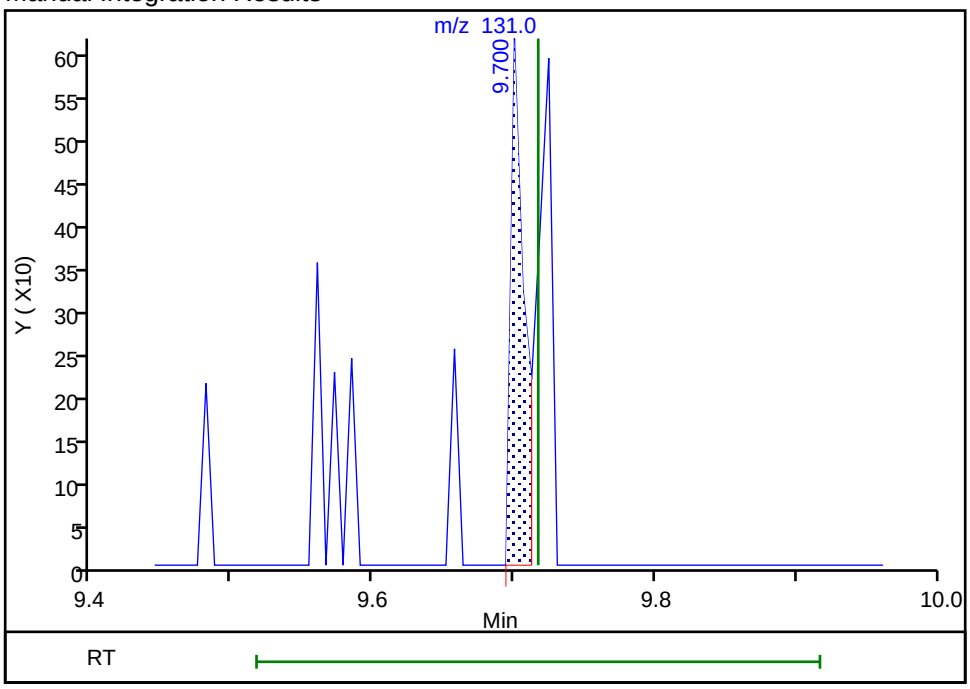
Processing Integration Results

RT: 9.70
Area: 419
Amount: 0.653535
Amount Units: ng



Manual Integration Results

RT: 9.70
Area: 419
Amount: 0.653535
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:11:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

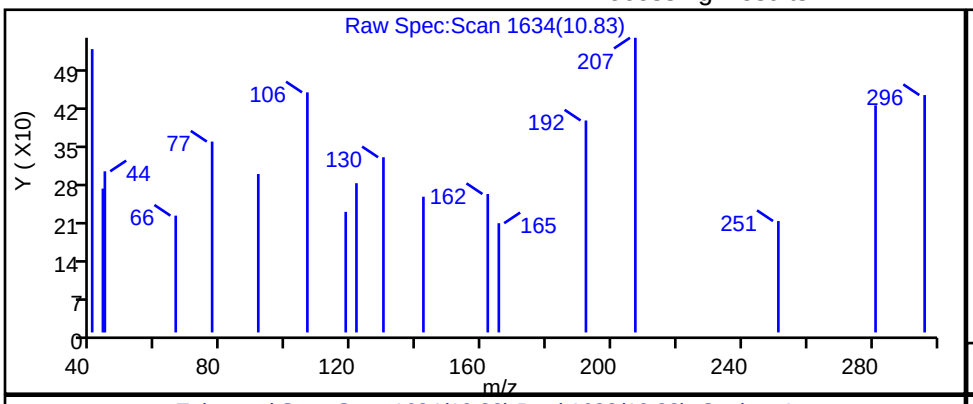
User Disabled Compound Report

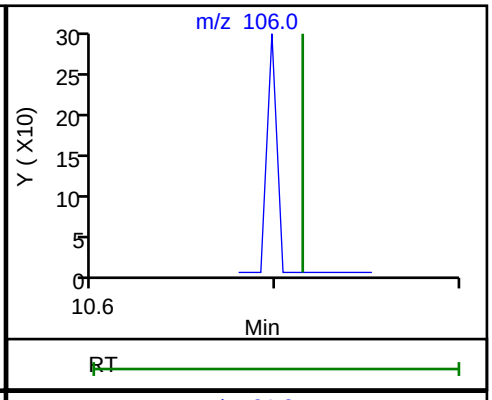
Eurofins TestAmerica, Pittsburgh

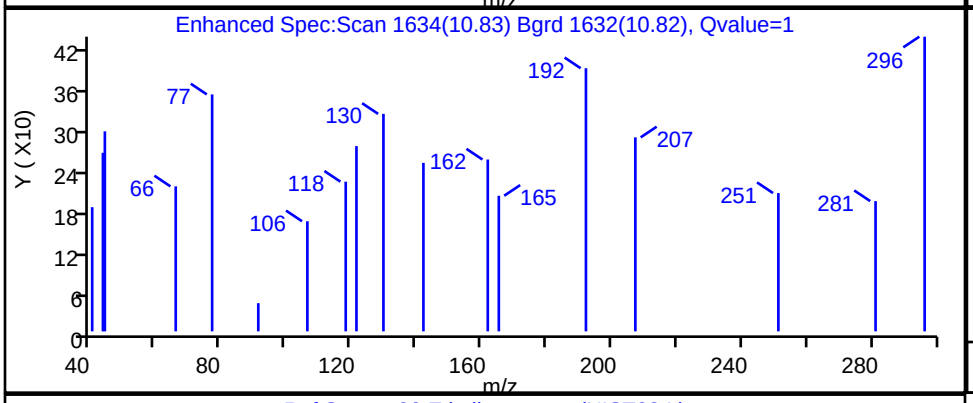
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110517.D				
Injection Date:	05-Nov-2019 19:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-D-4	Lab Sample ID:	180-97854-4		
Client ID:	HD-COD-SW-9-0/1-0				
Operator ID:	433269	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

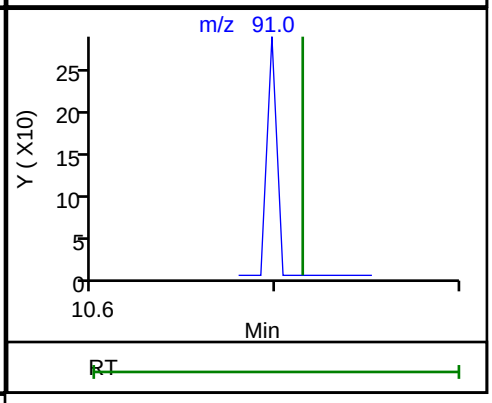
90 Ethylbenzene, CAS: 100-41-4

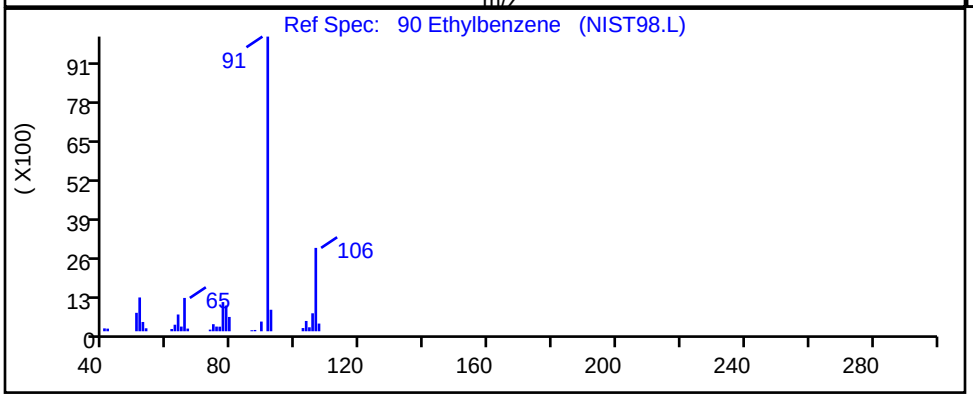
Processing Results











RT	Mass	Response	Amount
10.83	106.00	162	0.067517
10.84	91.00	862	

Reviewer: bowieh, 06-Nov-2019 10:11:36

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-13-0/1-0 Lab Sample ID: 180-97854-5

Matrix: Water Lab File ID: 5110518.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 12:25

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 19:24

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-13-0/1-0 Lab Sample ID: 180-97854-5

Matrix: Water Lab File ID: 5110518.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 12:25

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 19:24

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	119		70-150
2037-26-5	Toluene-d8 (Surr)	86		78-128
460-00-4	4-Bromofluorobenzene (Surr)	73		64-123
1868-53-7	Dibromofluoromethane (Surr)	127		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D
Lims ID: 180-97854-B-5
Client ID: HD-COD-SW-13-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 19:24:30 ALS Bottle#: 12 Worklist Smp#: 18
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-018
Misc. Info.: 180-97854-B-5
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:12:28 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:12:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.552	-0.014	0	108812	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.508	-0.007	99	231419	50.0	
* 3 Chlorobenzene-d5	119	10.591	10.587	0.004	84	67873	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.923	-0.002	93	80059	50.0	s
$ 5 Dibromofluoromethane (Surr	113	6.783	6.785	-0.002	93	73089	63.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.154	7.150	0.004	0	93329	59.4	
$ 7 Toluene-d8 (Surr)	98	9.143	9.139	0.004	94	232832	42.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.767	-0.008	95	73245	36.4	
12 Chloromethane	50		1.918				ND	U
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.692	3.688	0.004	79	6385	11.6	
26 Carbon disulfide	76	3.887	3.871	0.016	42	4473	1.39	a
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96		6.182				ND	U
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83		6.602				ND	U
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130	7.890	7.886	0.004	1	994	0.6626	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	
80 Tetrachloroethene	164		9.717				ND	U
82 2-Hexanone	43		9.863				ND	U
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
Review Flags
U - Marked Undetected
a - User Assigned ID

Reagents:

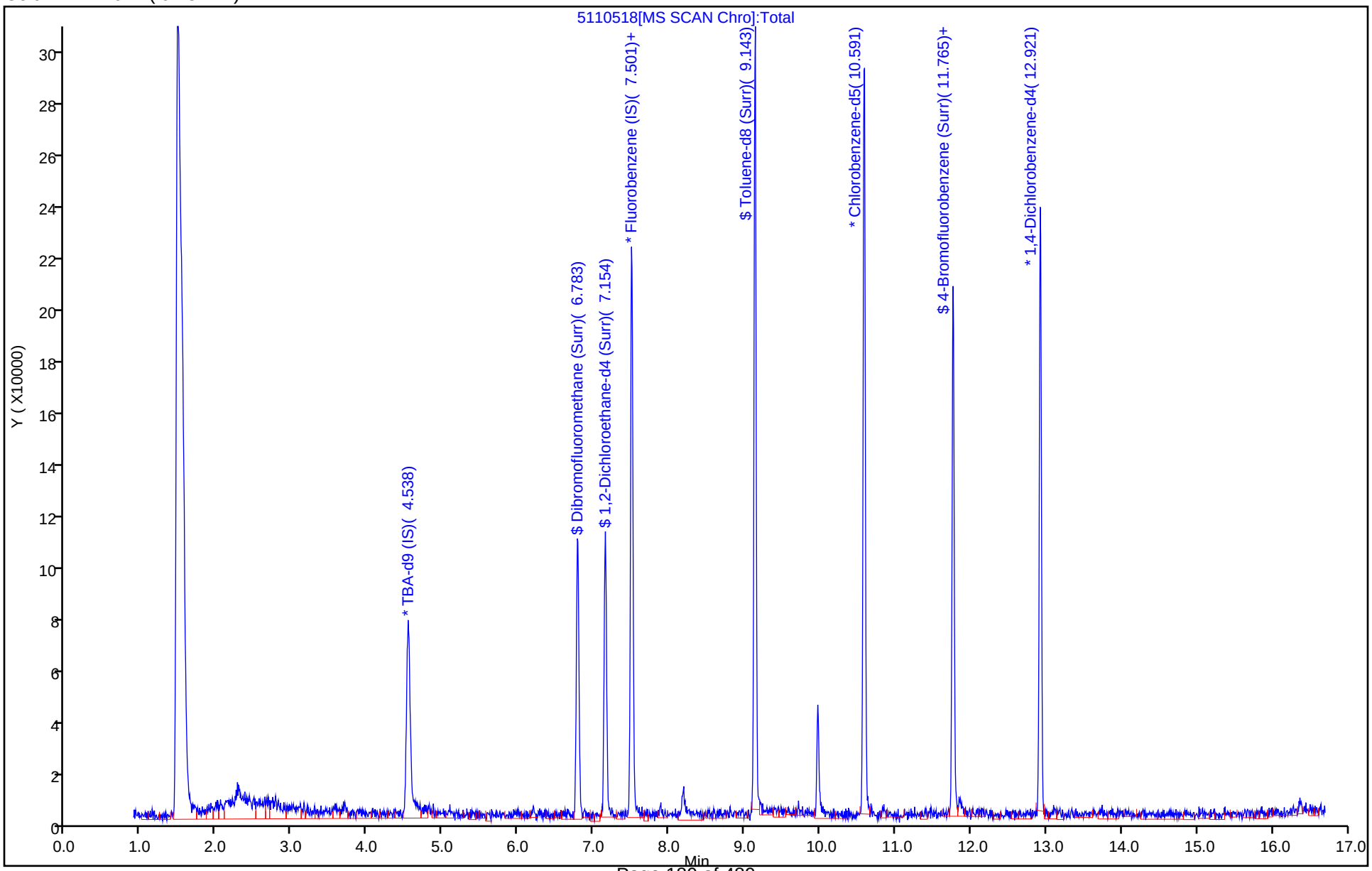
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 06-Nov-2019 10:12:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5	Worklist Smp#:	18
Client ID:	HD-COD-SW-13-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D
Lims ID: 180-97854-B-5
Client ID: HD-COD-SW-13-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 19:24:30 ALS Bottle#: 12 Worklist Smp#: 18
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-018
Misc. Info.: 180-97854-B-5
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:12:28 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:12:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	63.5	127.08
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	59.4	118.78
$ 7 Toluene-d8 (Surr)	50.0	42.9	85.72
$ 8 4-Bromofluorobenzene (Surr)	50.0	36.4	72.70

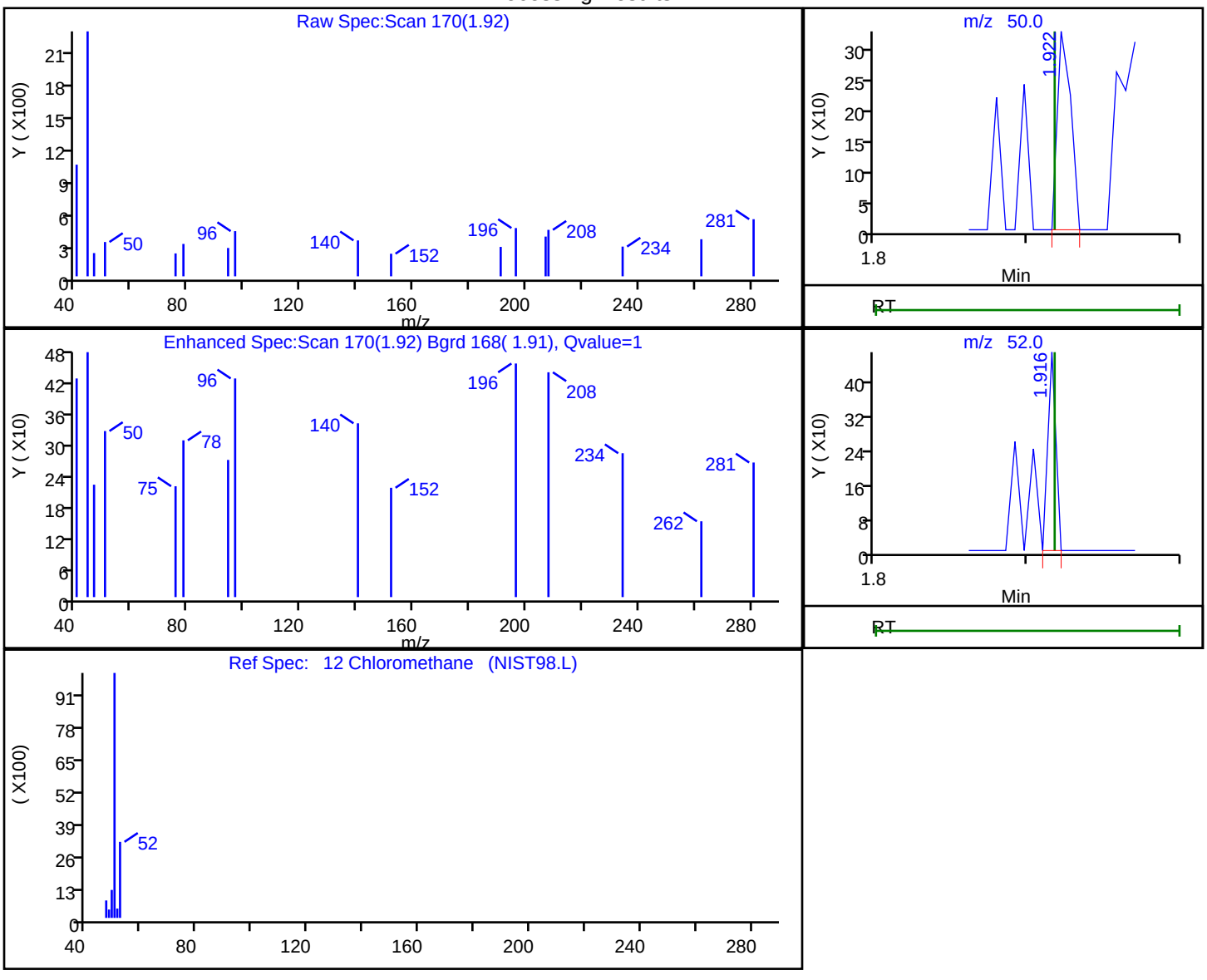
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.92	50.00	197	0.117138
1.92	52.00	172	

Reviewer: bowieh, 06-Nov-2019 10:11:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

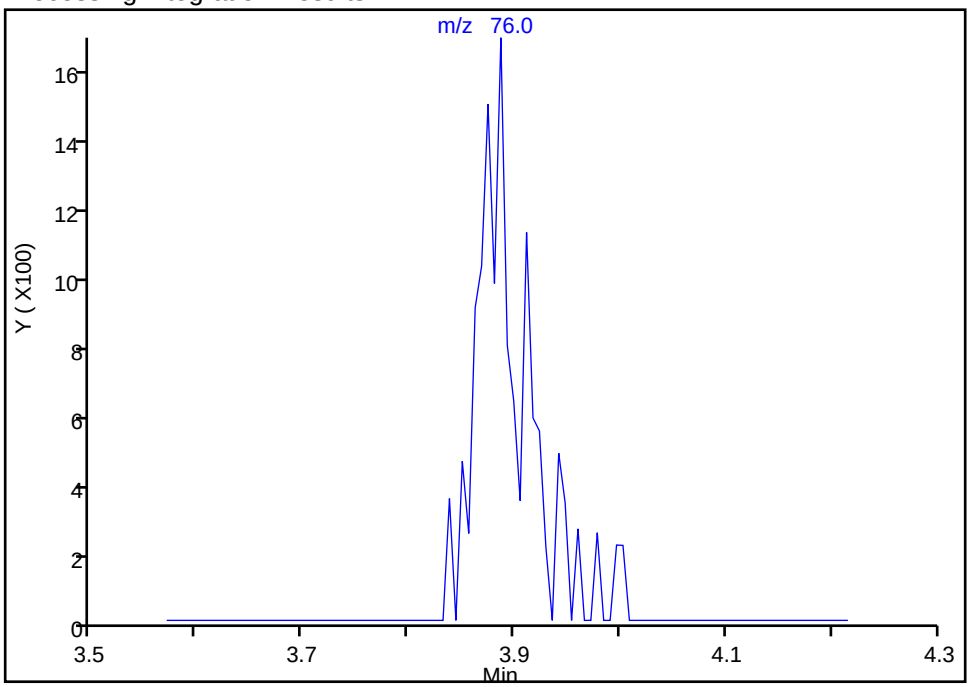
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

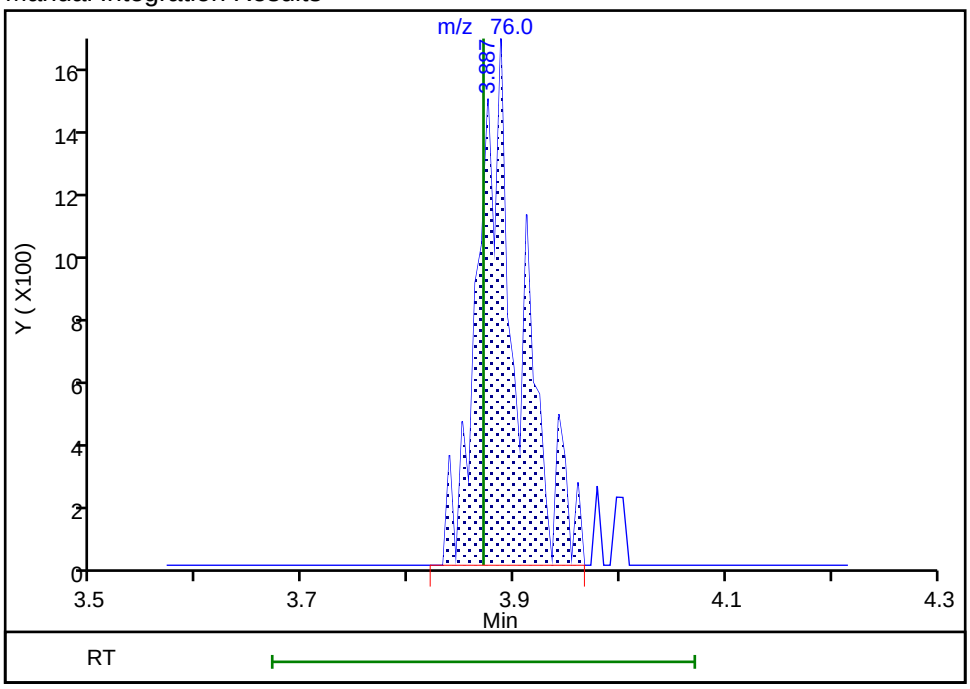
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.89
Area: 4473
Amount: 1.388997
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:12:03
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

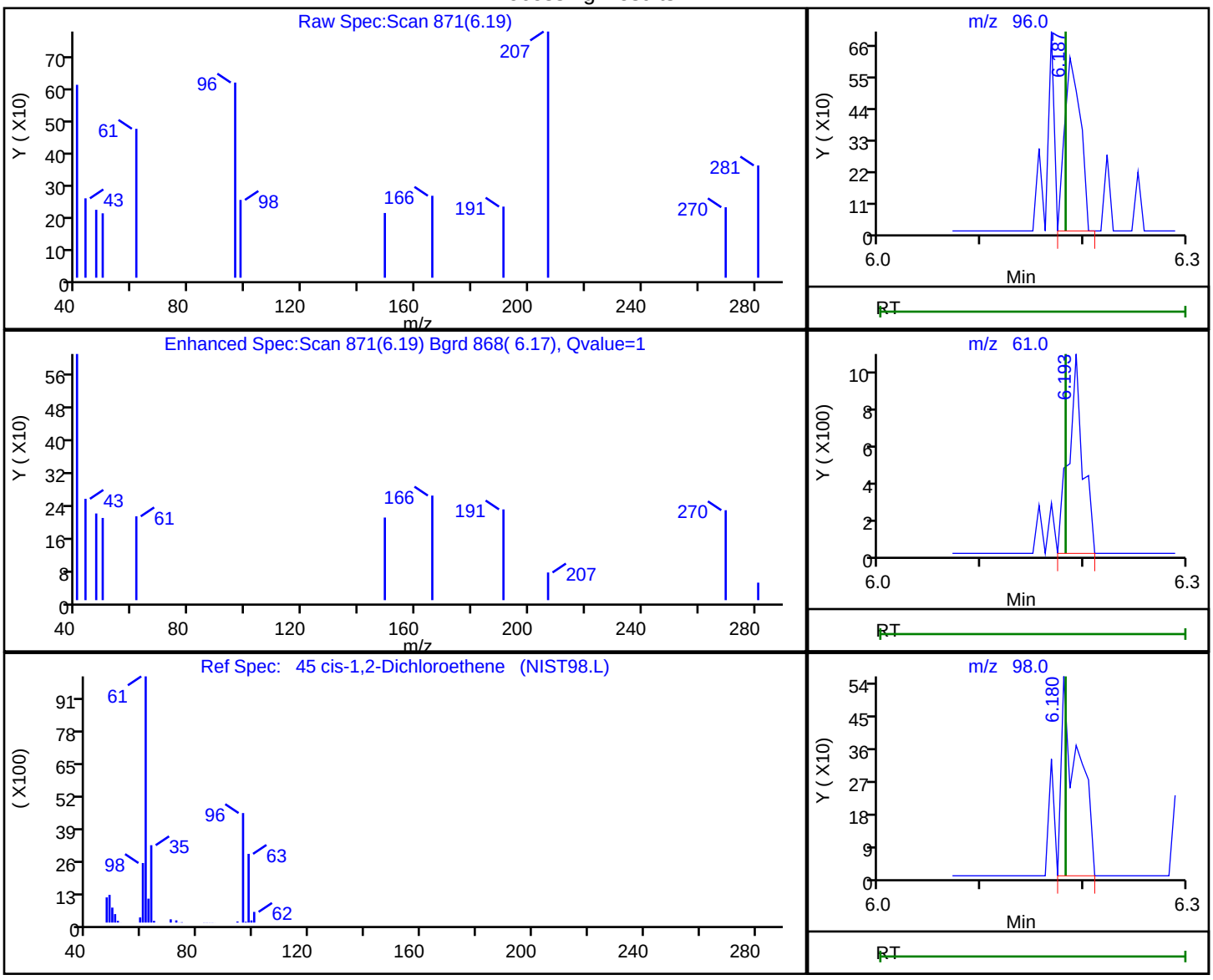
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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

Processing Results



RT	Mass	Response	Amount
6.19	96.00	657	0.459710
6.19	61.00	1000	
6.18	98.00	635	

Reviewer: bowieh, 06-Nov-2019 10:12:07

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

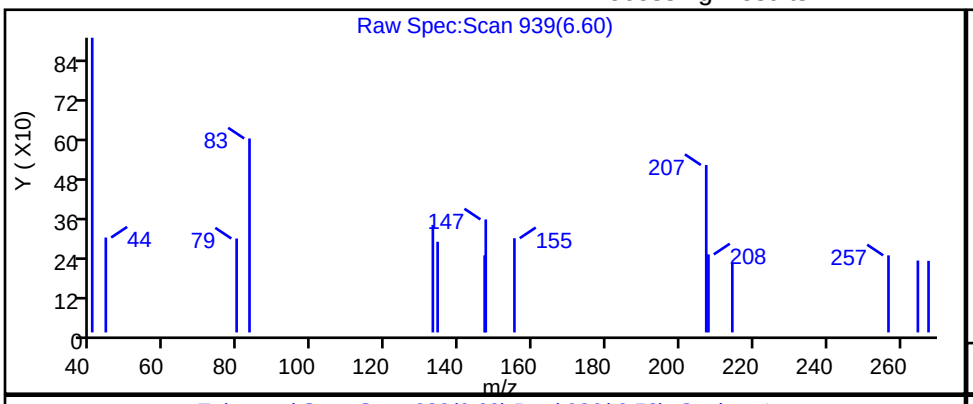
User Disabled Compound Report

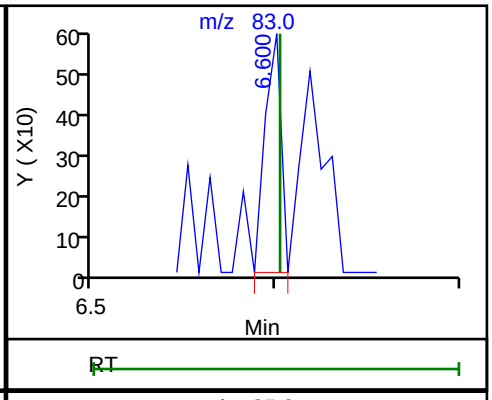
Eurofins TestAmerica, Pittsburgh

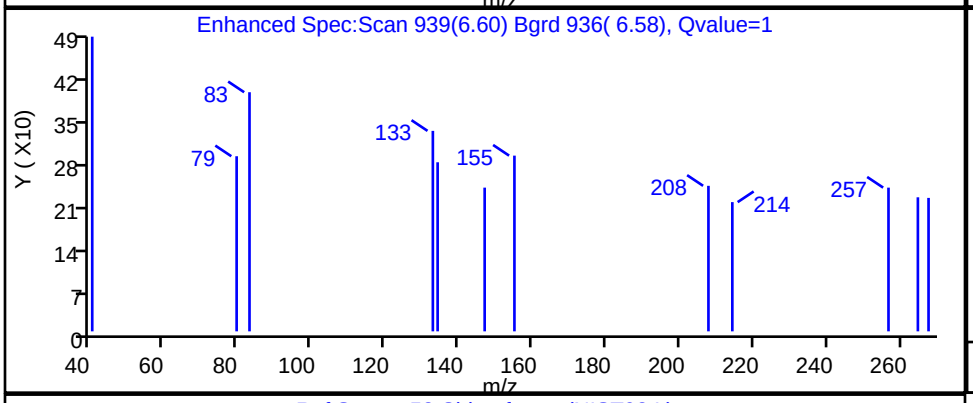
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

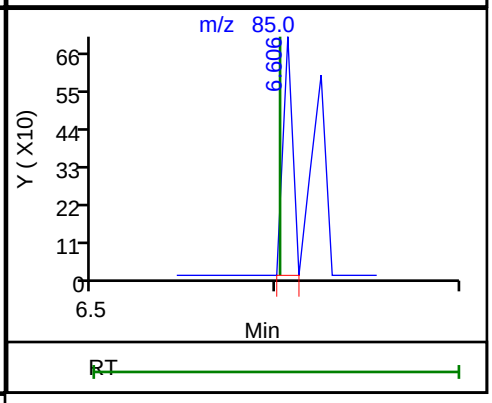
52 Chloroform, CAS: 67-66-3

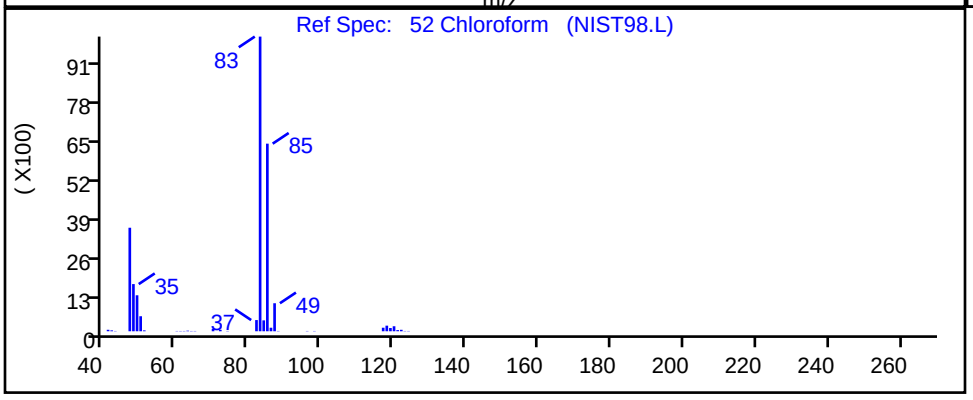
Processing Results











RT	Mass	Response	Amount
6.60	83.00	364	0.148027
6.61	85.00	256	

Reviewer: bowieh, 06-Nov-2019 10:12:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

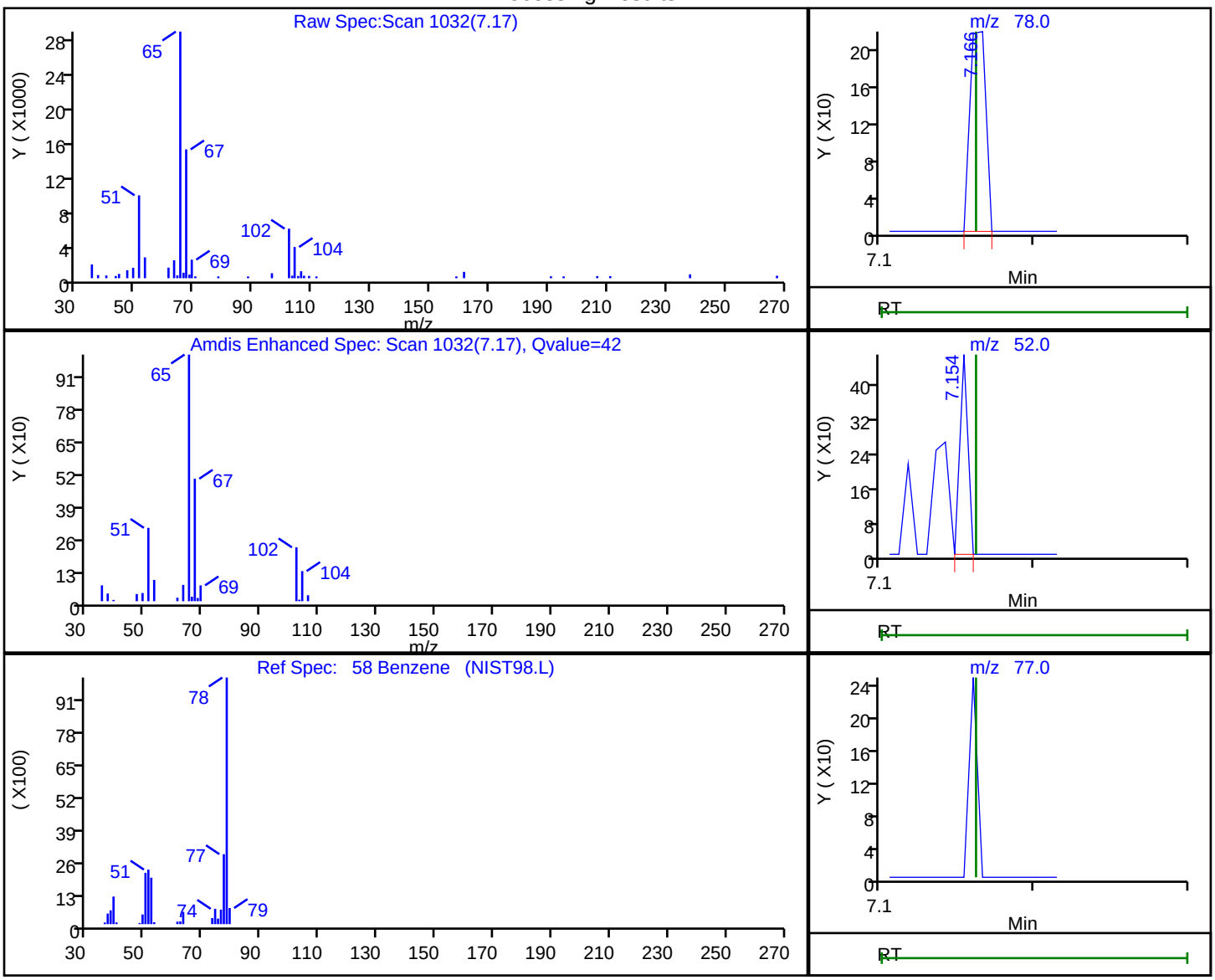
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.17	78.00	153	0.027897
7.15	52.00	170	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:12:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

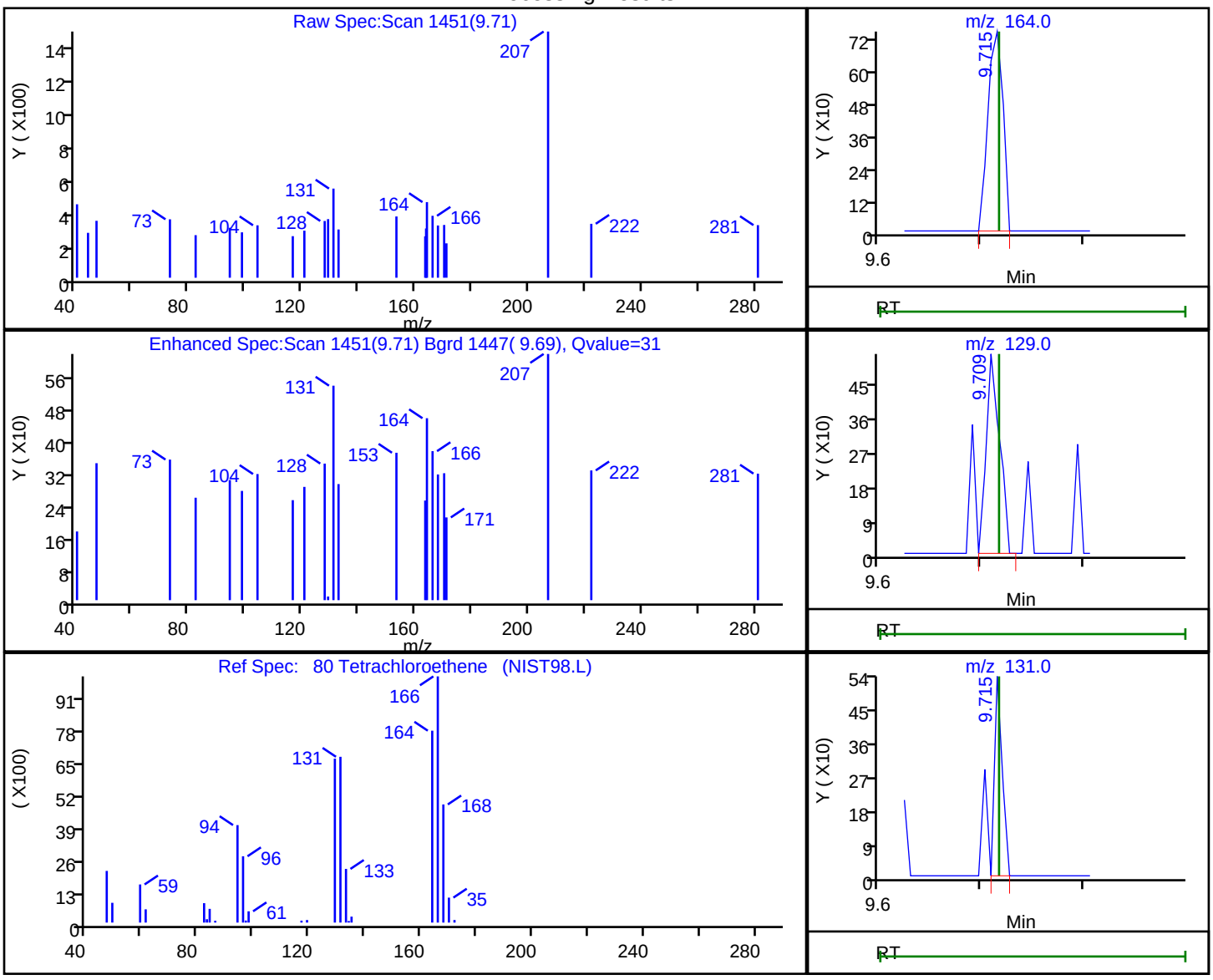
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4

Processing Results



RT	Mass	Response	Amount
9.71	164.00	768	0.468048
9.71	129.00	482	
9.71	131.00	280	

Reviewer: bowieh, 06-Nov-2019 10:12:18

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

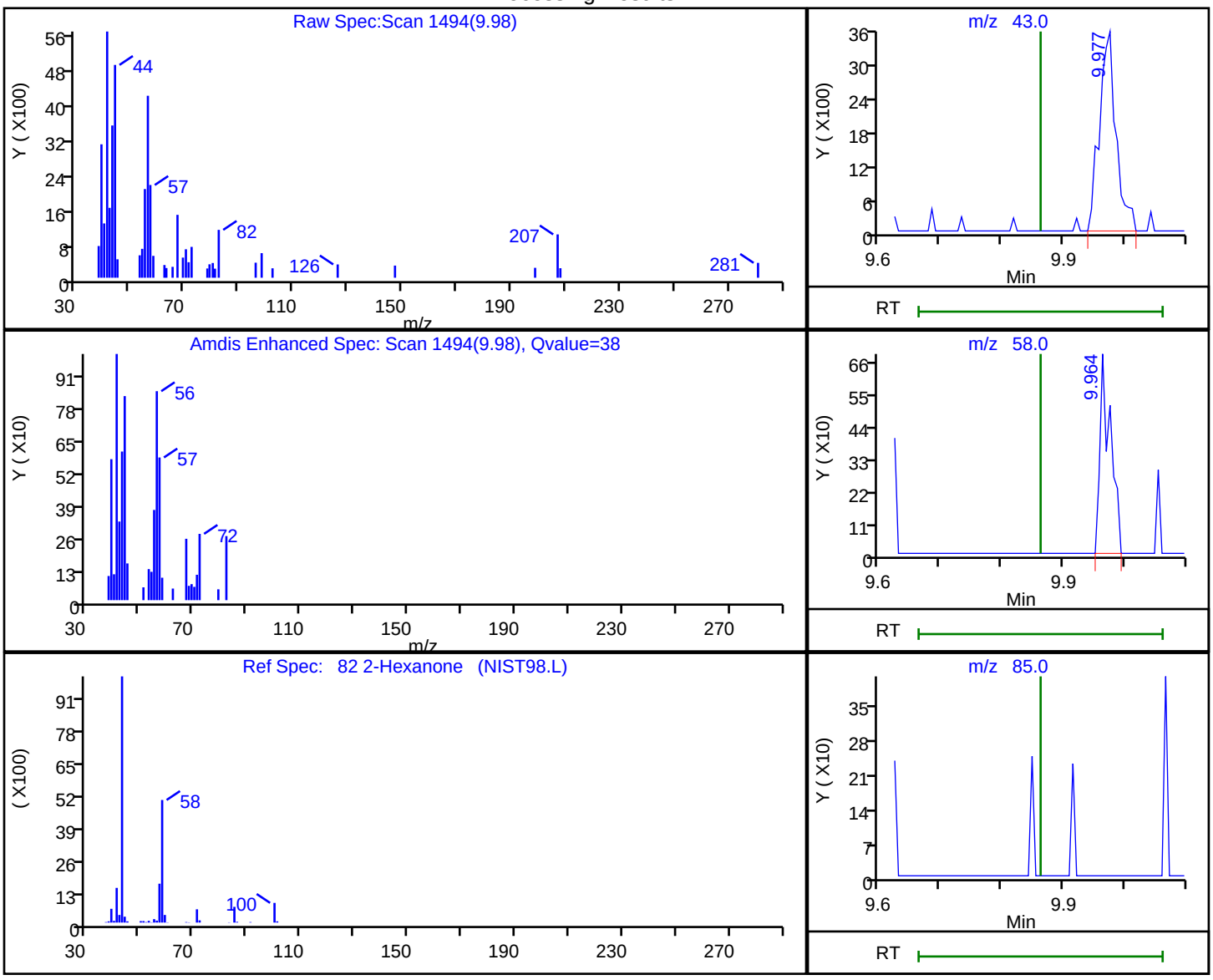
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
9.98	43.00	6675	7.278072
9.96	58.00	827	
9.86	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:12:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

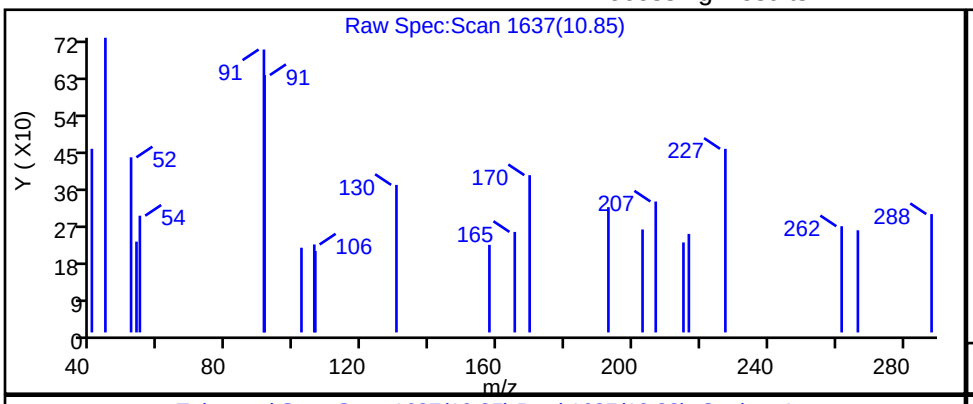
User Disabled Compound Report

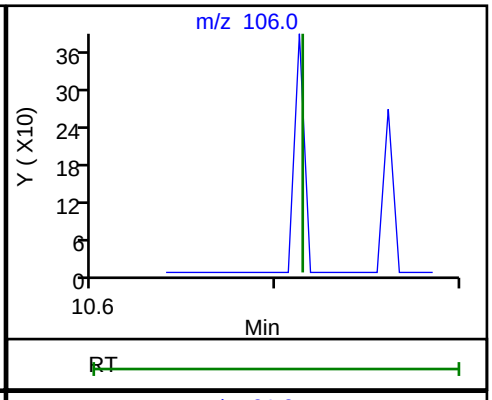
Eurofins TestAmerica, Pittsburgh

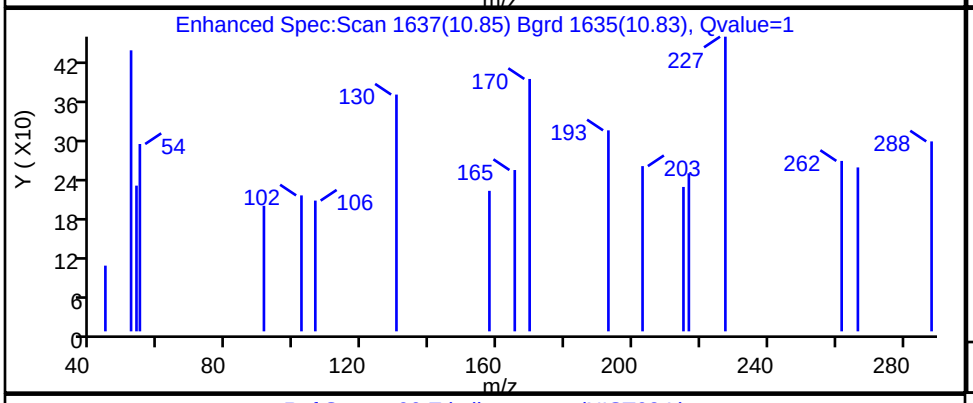
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110518.D				
Injection Date:	05-Nov-2019 19:24:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-5	Lab Sample ID:	180-97854-5		
Client ID:	HD-COD-SW-13-0/1-0				
Operator ID:	433269	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

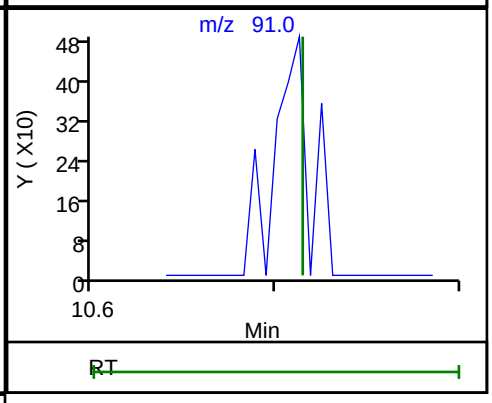
90 Ethylbenzene, CAS: 100-41-4

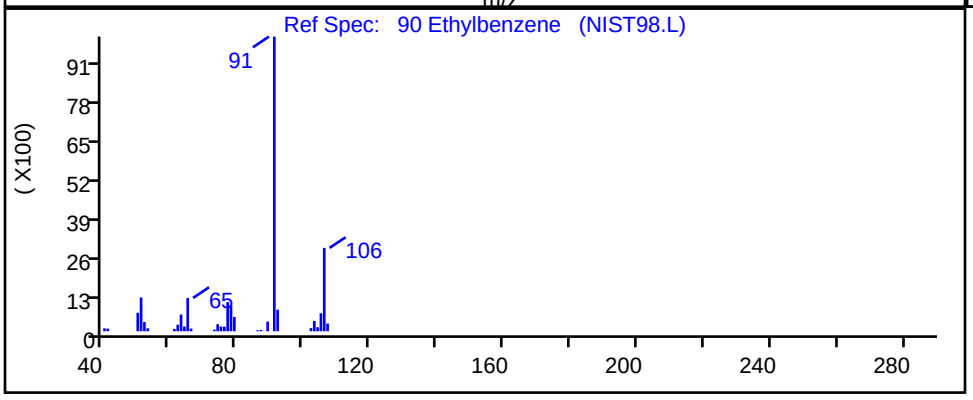
Processing Results











RT	Mass	Response	Amount
10.85	106.00	352	0.146927
10.85	91.00	665	

Reviewer: bowieh, 06-Nov-2019 10:12:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-15-0/1-0 Lab Sample ID: 180-97854-6

Matrix: Water Lab File ID: 5110519.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:20

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 19:48

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	0.97	J	1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	1.3		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	2.6		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-15-0/1-0 Lab Sample ID: 180-97854-6

Matrix: Water Lab File ID: 5110519.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:20

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 19:48

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	120		70-150
2037-26-5	Toluene-d8 (Surr)	85		78-128
460-00-4	4-Bromofluorobenzene (Surr)	68		64-123
1868-53-7	Dibromofluoromethane (Surr)	127		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D
Lims ID: 180-97854-B-6
Client ID: HD-COD-SW-15-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 19:48:30 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-019
Misc. Info.: 180-97854-B-6
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:13:27 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:13:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.536	4.552	-0.016	0	115638	1000.0	
* 2 Fluorobenzene (IS)	96	7.505	7.508	-0.003	99	220825	50.0	
* 3 Chlorobenzene-d5	119	10.583	10.587	-0.004	84	63469	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.925	12.923	0.002	94	76114	50.0	s
$ 5 Dibromofluoromethane (Surr	113	6.781	6.785	-0.004	94	69615	63.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.152	7.150	0.002	0	89815	59.9	
$ 7 Toluene-d8 (Surr)	98	9.142	9.139	0.003	93	215607	42.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.770	11.767	0.003	94	64129	34.0	
12 Chloromethane	50		1.918				ND	U
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.721	3.688	0.033	36	2962	5.62	M
26 Carbon disulfide	76		3.871				ND	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96	6.191	6.182	0.009	75	6611	4.85	
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.611	6.602	0.009	26	4048	1.73	
53 1,1,1-Trichloroethane	97		6.766				ND	U
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130	7.888	7.886	0.002	93	9619	6.72	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	U
80 Tetrachloroethene	164	9.713	9.717	-0.004	94	19830	12.9	
82 2-Hexanone	43		9.863				ND	U
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

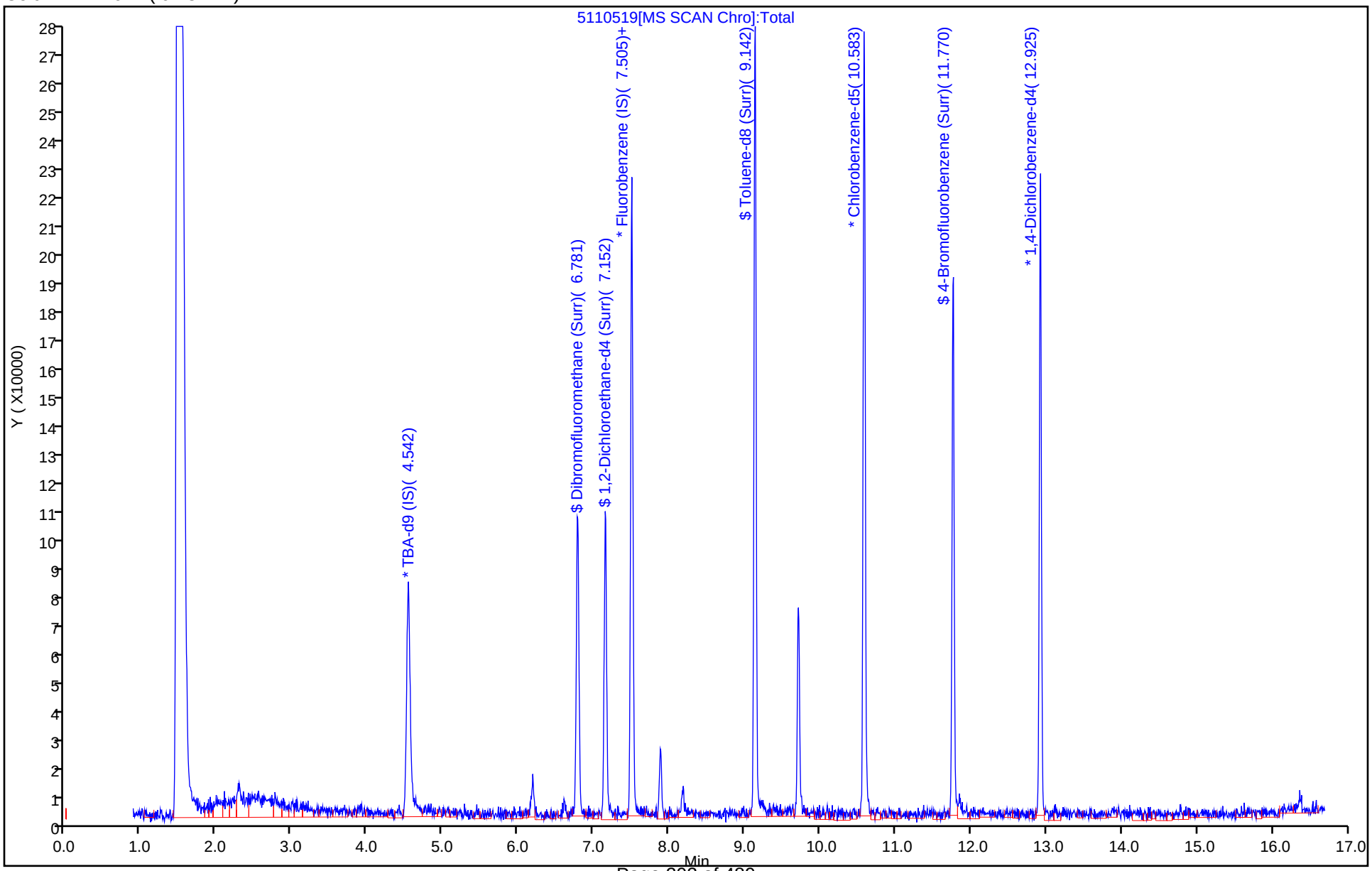
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 06-Nov-2019 10:13:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6	Worklist Smp#:	19
Client ID:	HD-COD-SW-15-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D
Lims ID: 180-97854-B-6
Client ID: HD-COD-SW-15-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 19:48:30 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-019
Misc. Info.: 180-97854-B-6
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:13:27 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:13:27

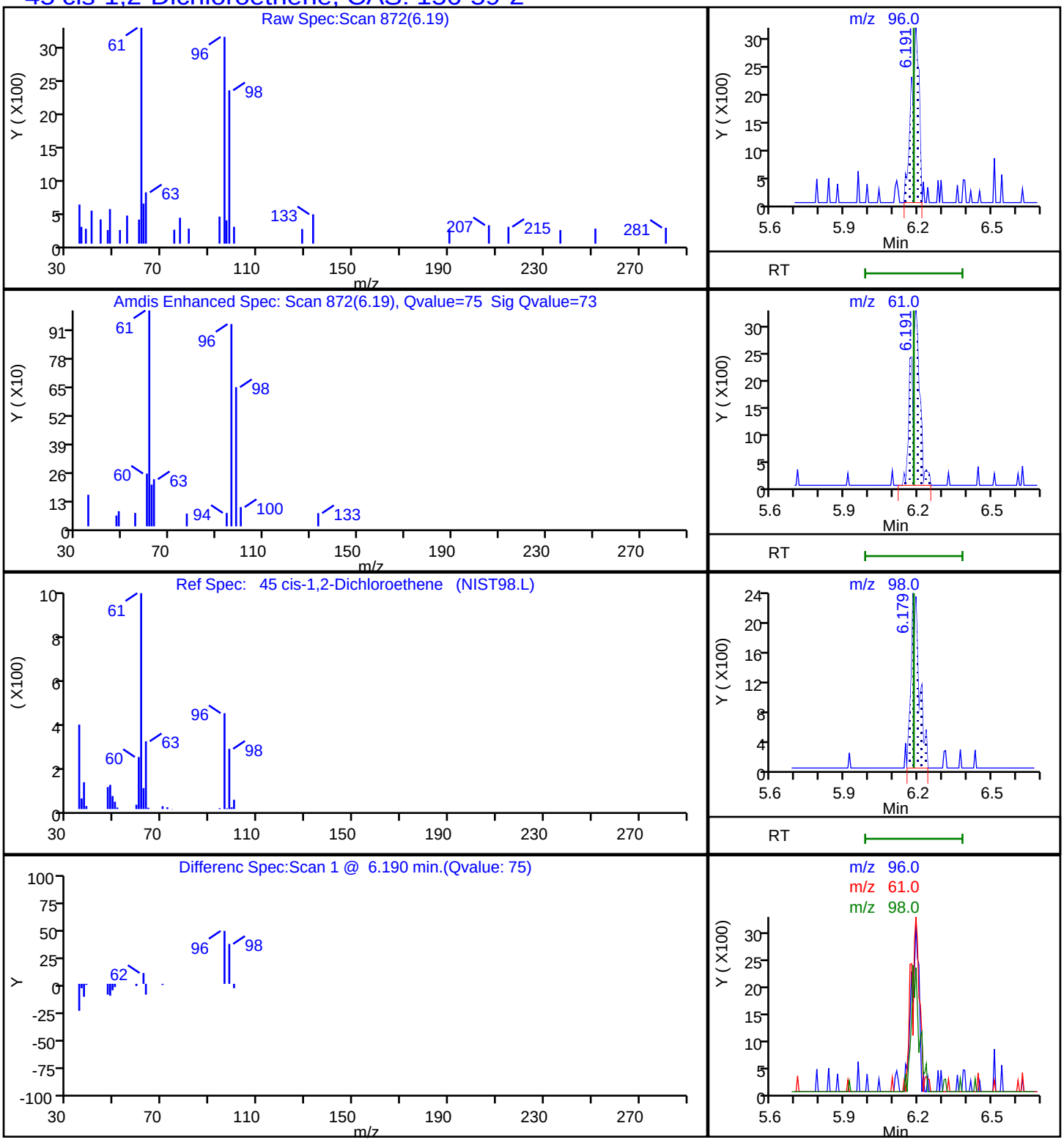
Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	63.4	126.84
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	59.9	119.79
$ 7 Toluene-d8 (Surr)	50.0	42.4	84.89
$ 8 4-Bromofluorobenzene (Surr)	50.0	34.0	68.07

Report Date: 06-Nov-2019 10:13:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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



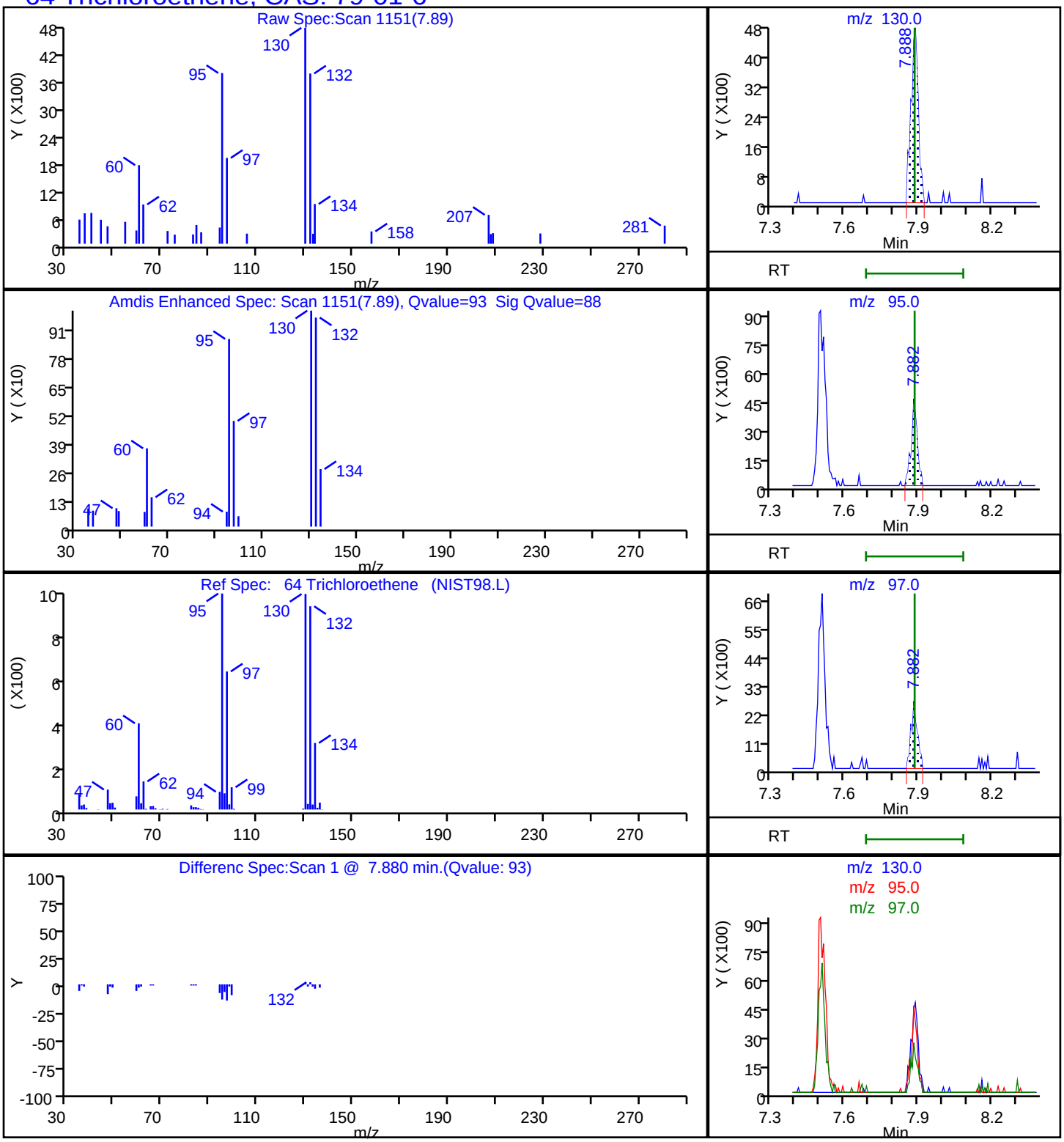
Report Date: 06-Nov-2019 10:13:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D

Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 Trichloroethene, CAS: 79-01-6



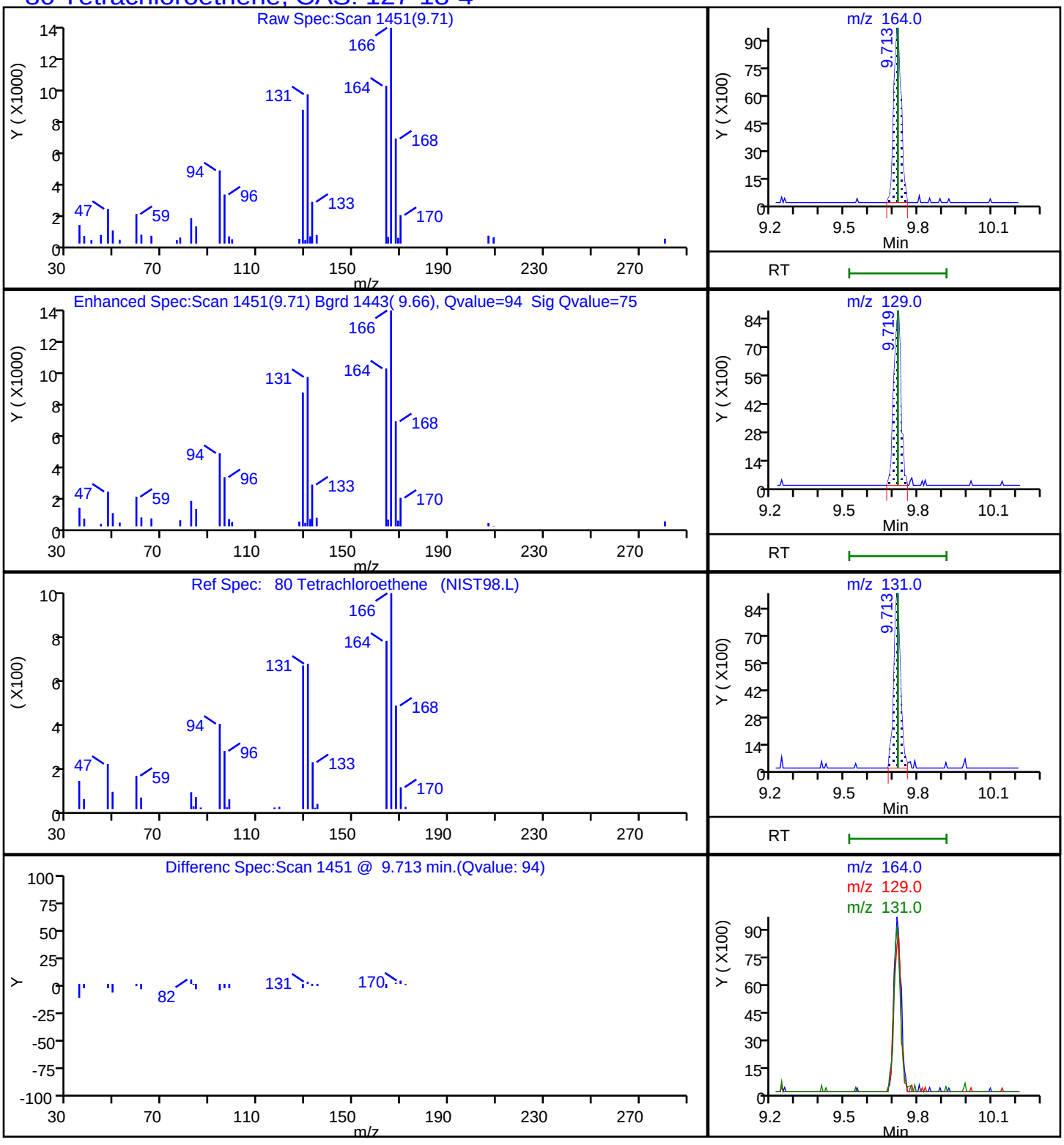
Report Date: 06-Nov-2019 10:13:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D

Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4



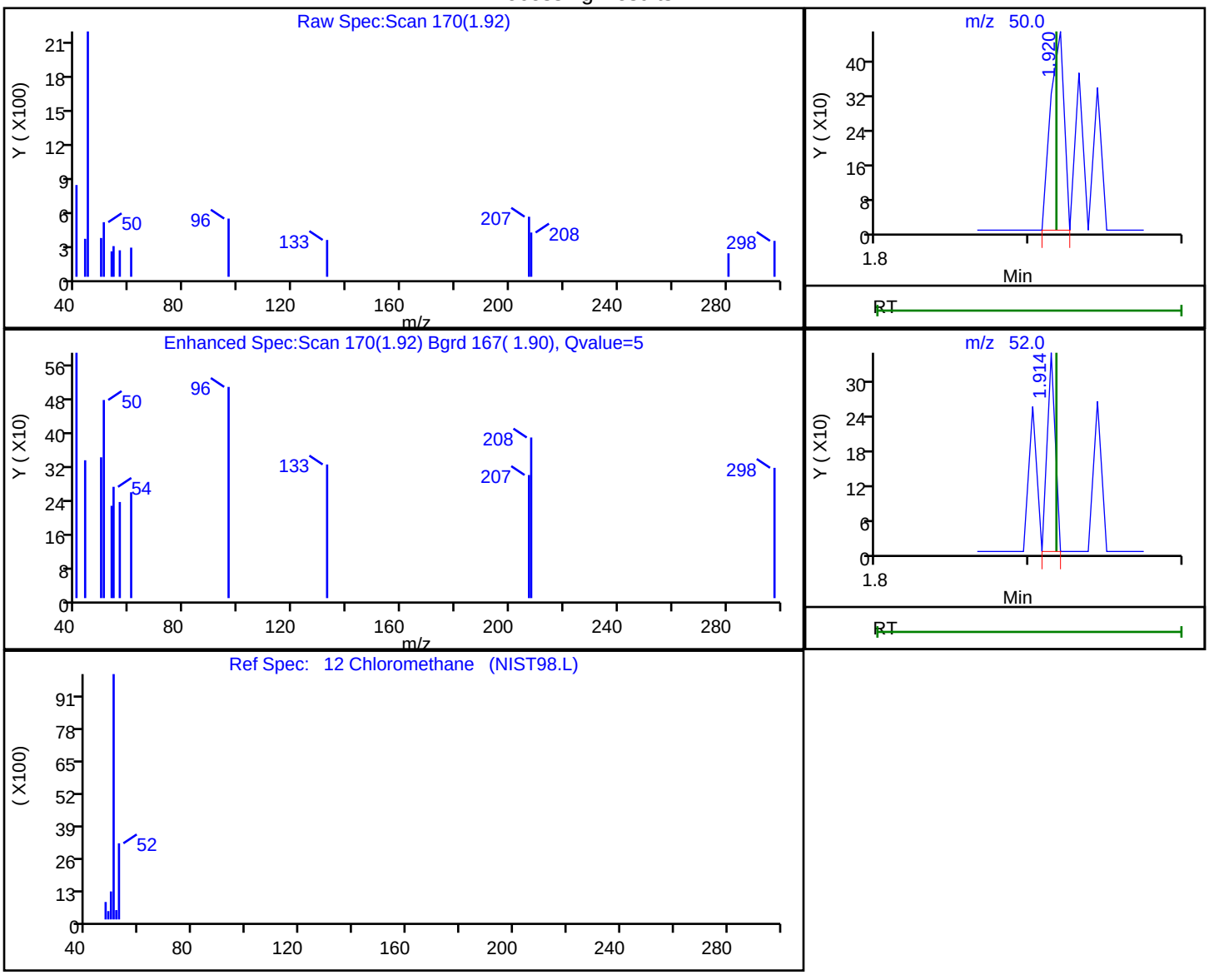
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.92	50.00	289	0.180086
1.91	52.00	126	

Reviewer: bowieh, 06-Nov-2019 10:12:47

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

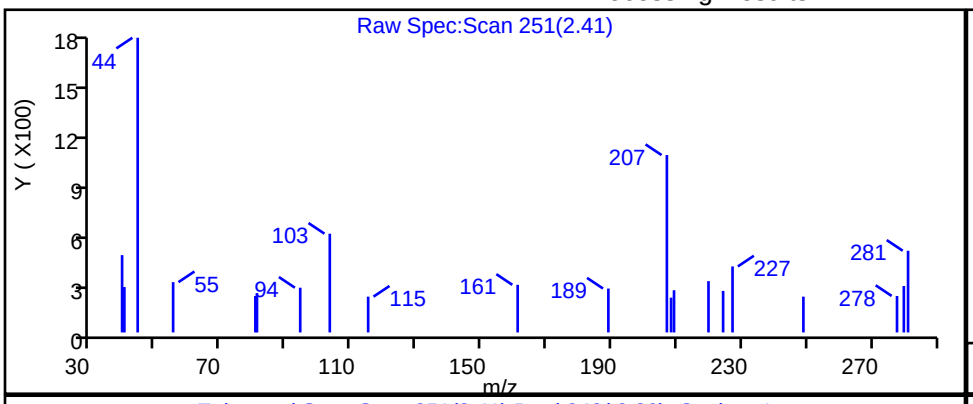
User Disabled Compound Report

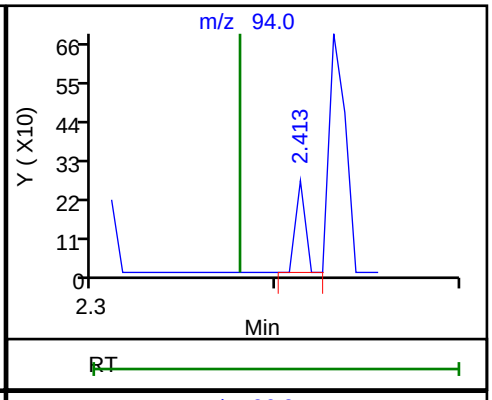
Eurofins TestAmerica, Pittsburgh

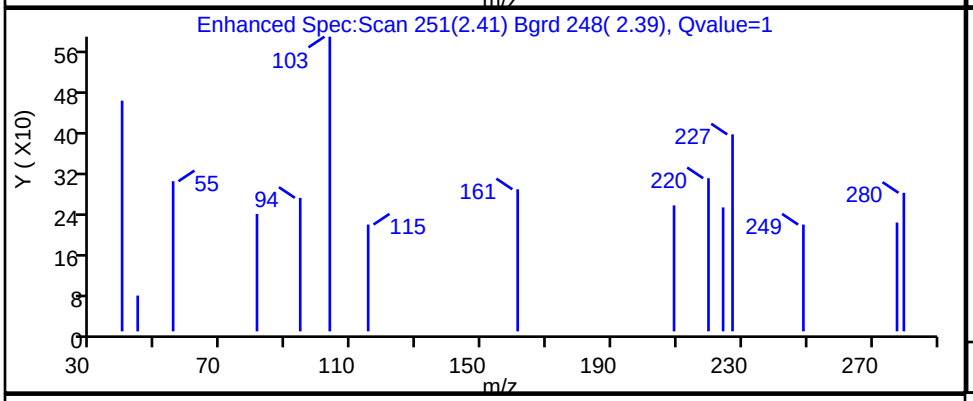
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

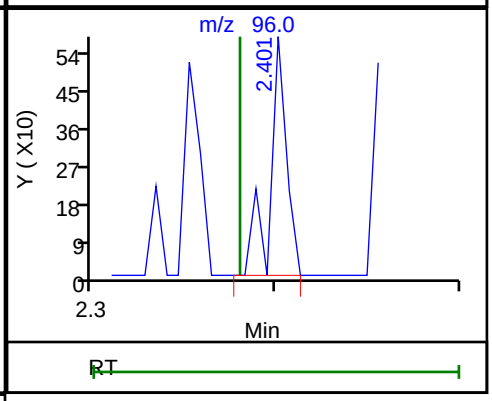
15 Bromomethane, CAS: 74-83-9

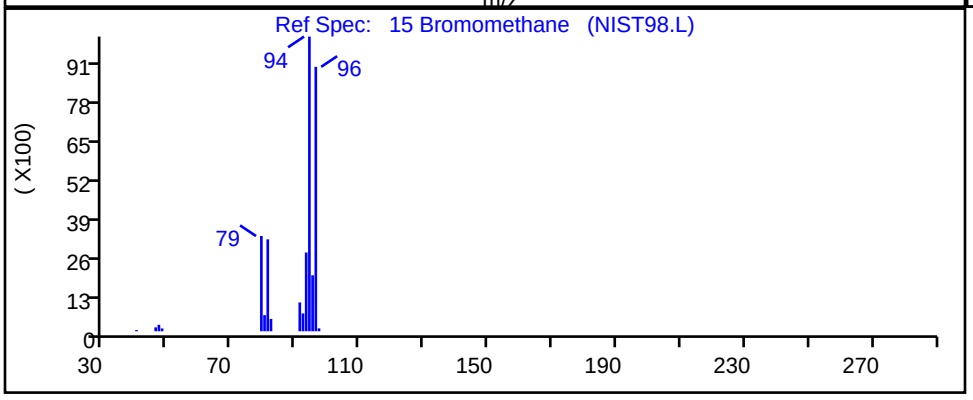
Processing Results











RT	Mass	Response	Amount
2.41	94.00	97	0.094941
2.40	96.00	361	

Reviewer: bowieh, 06-Nov-2019 10:12:49

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

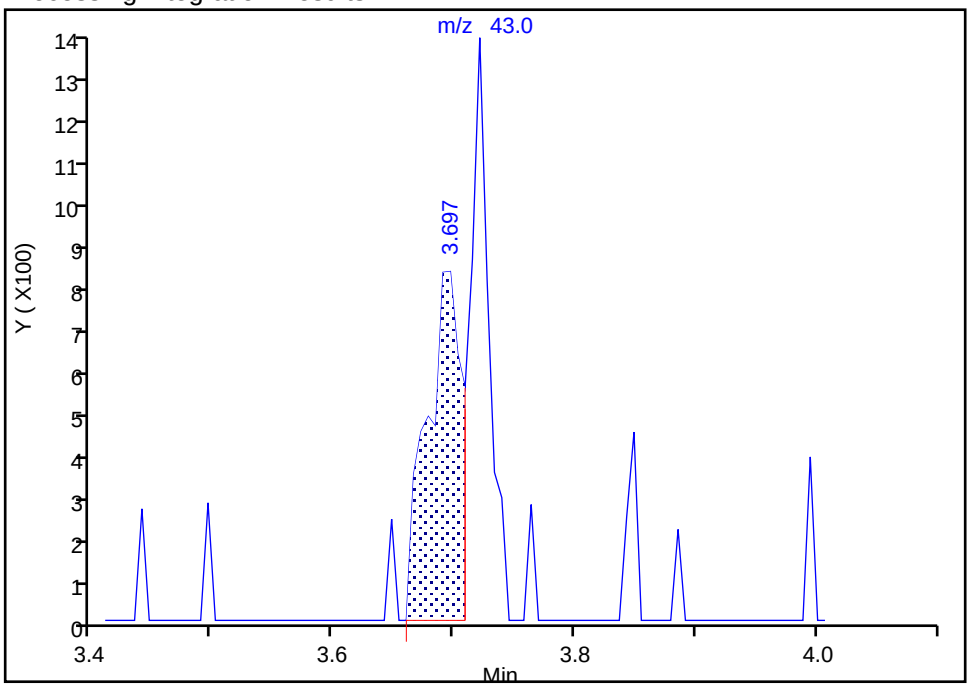
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

24 Acetone, CAS: 67-64-1

Signal: 1

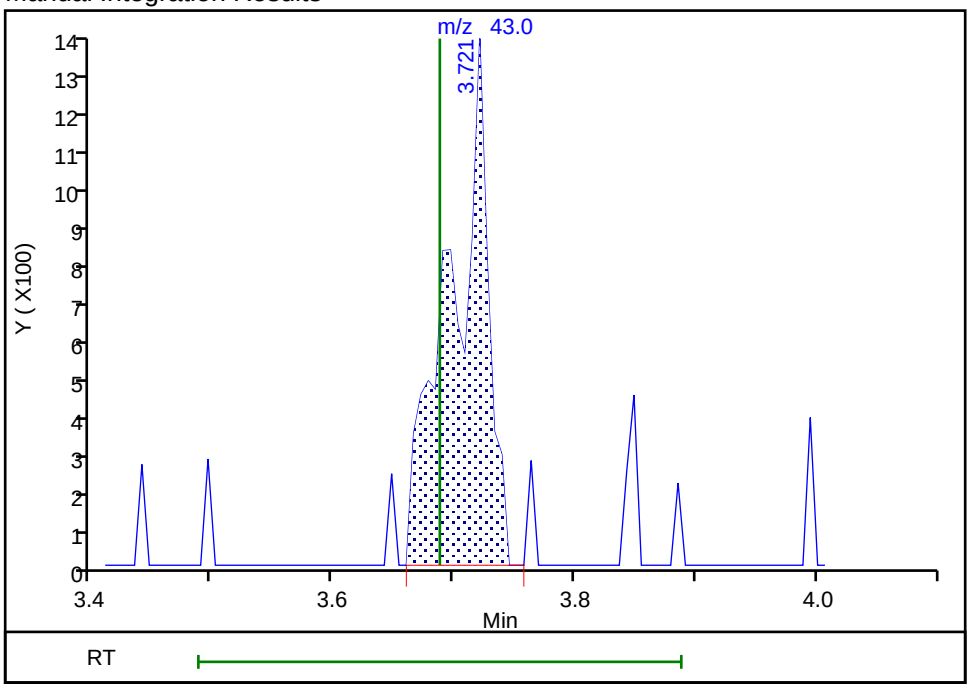
Processing Integration Results

RT: 3.70
Area: 1640
Amount: 3.113826
Amount Units: ng



Manual Integration Results

RT: 3.72
Area: 2962
Amount: 5.623874
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:13:01
Audit Action: Manually Integrated Audit Reason: Poor chromatography

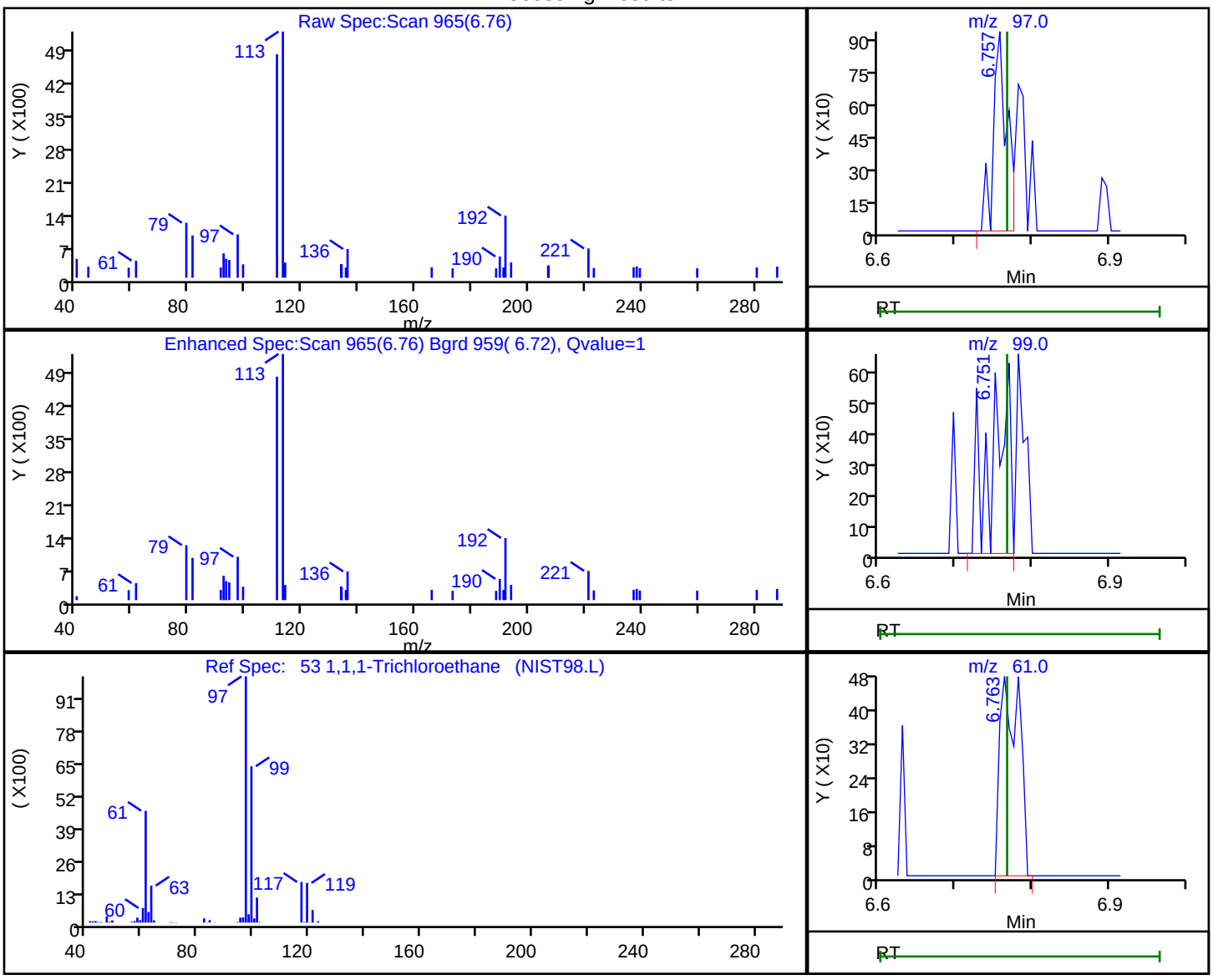
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

53 1,1,1-Trichloroethane, CAS: 71-55-6

Processing Results



RT	Mass	Response	Amount
6.76	97.00	1166	0.607145
6.75	99.00	1021	
6.76	61.00	817	

Reviewer: bowieh, 06-Nov-2019 10:13:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

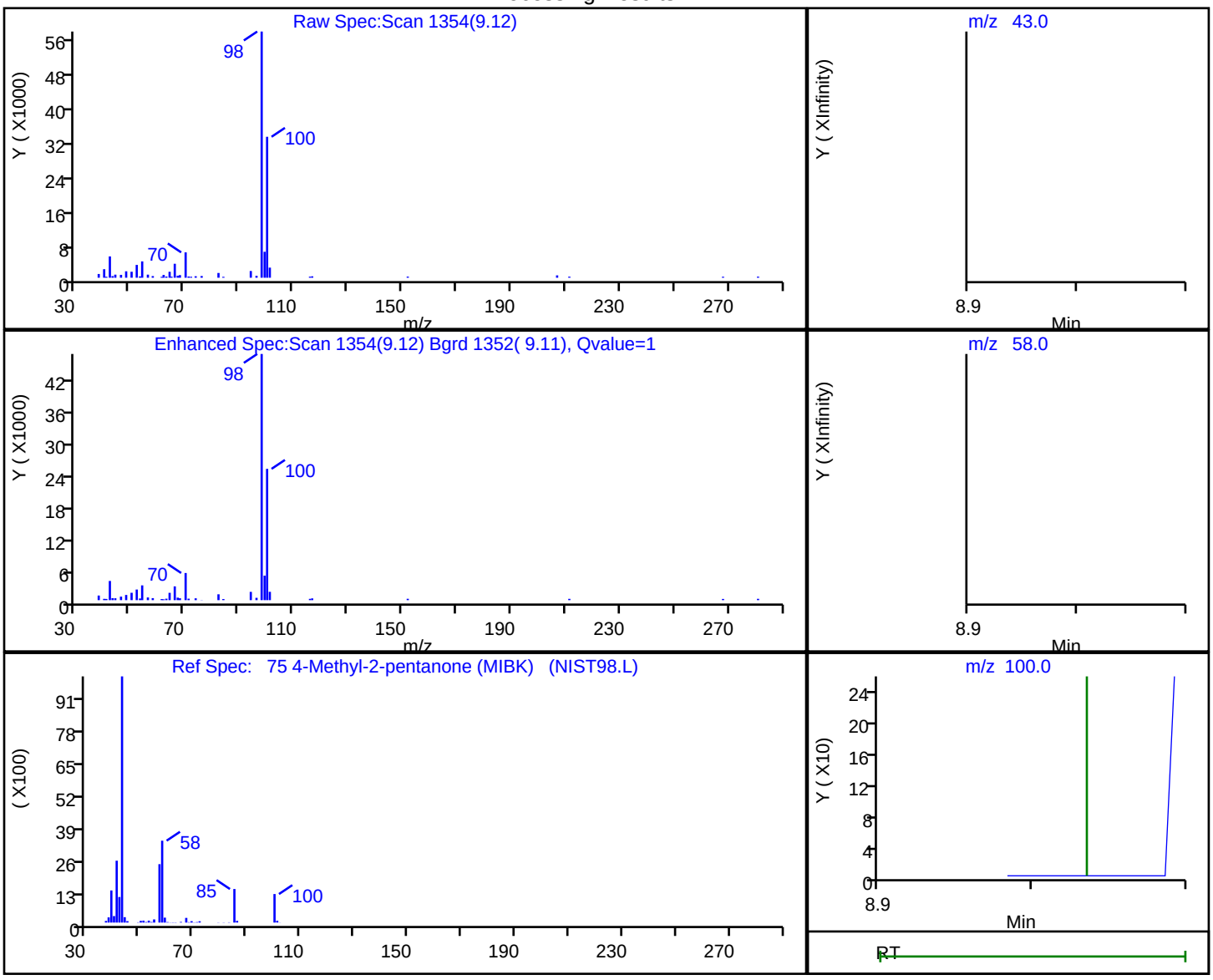
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.12	43.00	390	0.308404
9.13	58.00	768	
9.14	100.00	140194	

Reviewer: bowieh, 06-Nov-2019 10:13:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

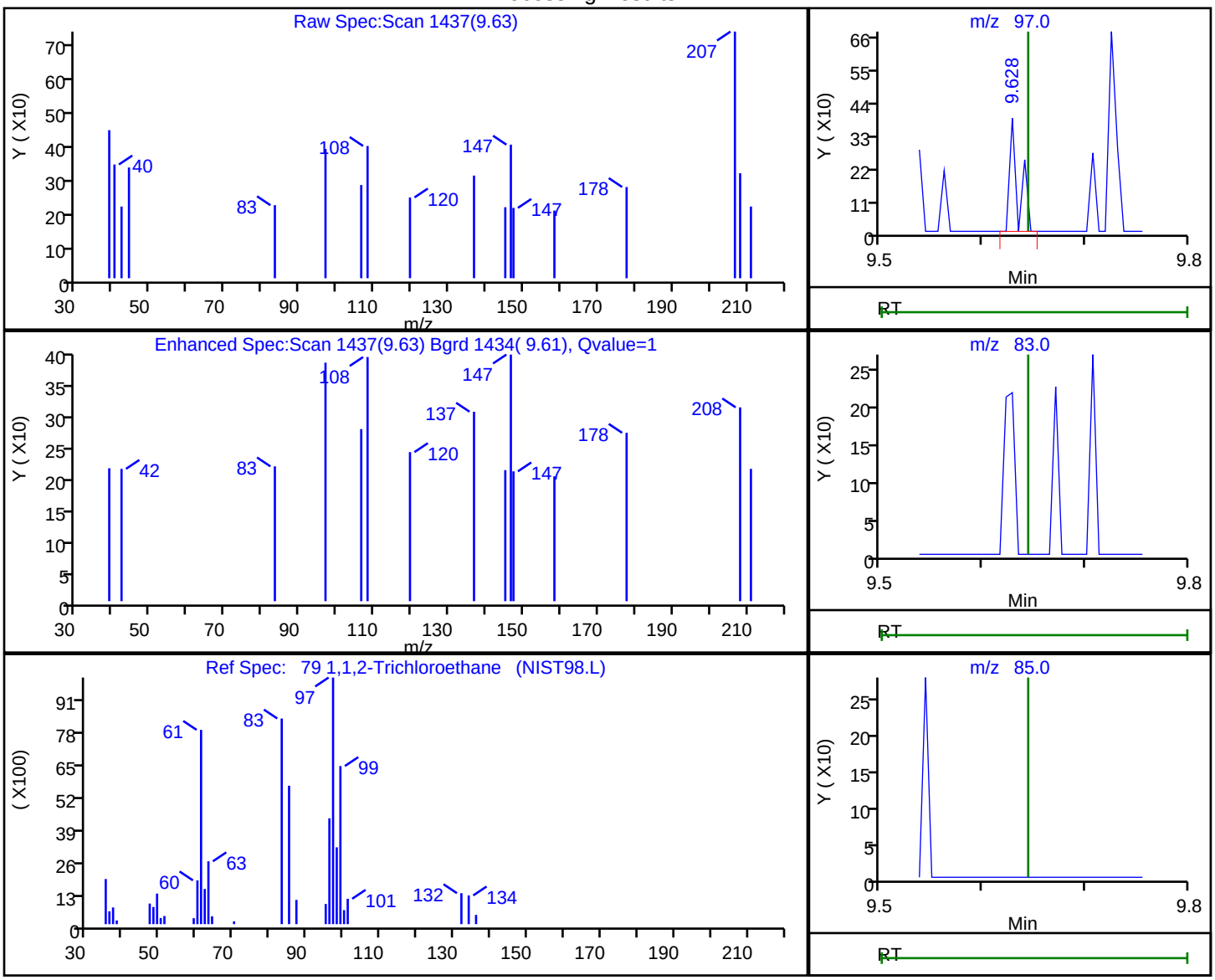
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.63	97.00	229	0.170833
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:13:18

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

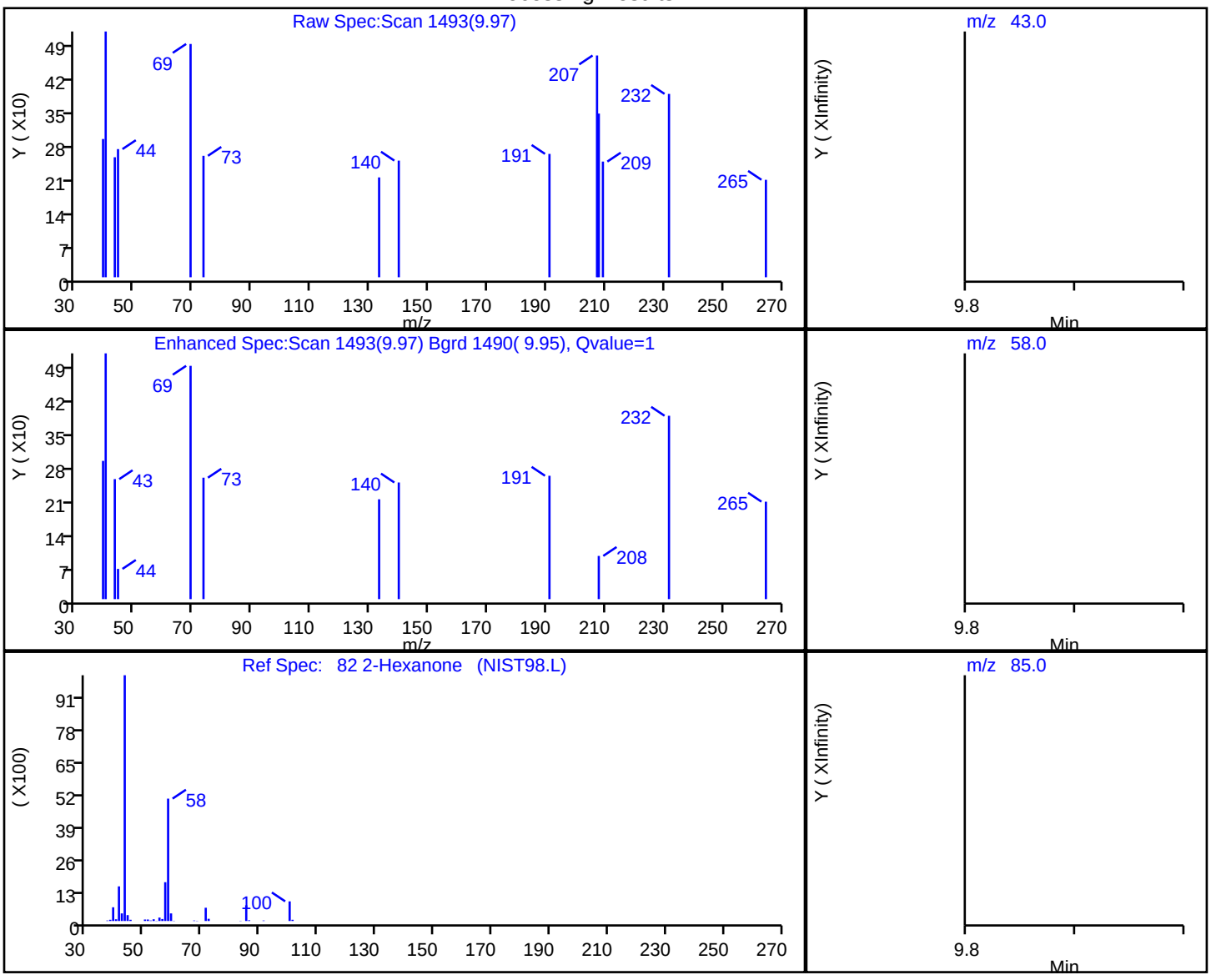
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110519.D				
Injection Date:	05-Nov-2019 19:48:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-6	Lab Sample ID:	180-97854-6		
Client ID:	HD-COD-SW-15-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
9.97	43.00	177	0.206383
9.86	58.00	0	
9.86	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:13:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-16-0/1-0 Lab Sample ID: 180-97854-7

Matrix: Water Lab File ID: 5110520.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 12:45

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 20:12

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-16-0/1-0 Lab Sample ID: 180-97854-7

Matrix: Water Lab File ID: 5110520.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 12:45

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 20:12

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	124		70-150
2037-26-5	Toluene-d8 (Surr)	88		78-128
460-00-4	4-Bromofluorobenzene (Surr)	67		64-123
1868-53-7	Dibromofluoromethane (Surr)	127		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D
Lims ID: 180-97854-B-7
Client ID: HD-COD-SW-16-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 20:12:30 ALS Bottle#: 14 Worklist Smp#: 20
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-020
Misc. Info.: 180-97854-B-7
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:14:18 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:14:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.552	-0.014	0	111138	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.508	-0.007	99	220189	50.0	
* 3 Chlorobenzene-d5	119	10.591	10.587	0.004	84	60799	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.923	-0.002	92	73979	50.0	s
$ 5 Dibromofluoromethane (Surr	113	6.789	6.785	0.004	94	69650	63.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.150	-0.002	0	93063	62.2	
$ 7 Toluene-d8 (Surr)	98	9.137	9.139	-0.002	93	213521	43.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.767	-0.002	94	60745	33.7	
12 Chloromethane	50		1.918				ND	
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	
16 Chloroethane	64		2.538				ND	U
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.692	3.688	0.004	72	4280	8.15	
26 Carbon disulfide	76	3.881	3.871	0.010	59	4660	1.52	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96	6.205	6.182	0.023	1	1437	1.06	
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.618	6.602	0.016	1	1037	0.4432	
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130	7.890	7.886	0.004	9	590	0.4134	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	U
80 Tetrachloroethene	164		9.717				ND	
82 2-Hexanone	43		9.863				ND	
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

U - Marked Undetected

Reagents:

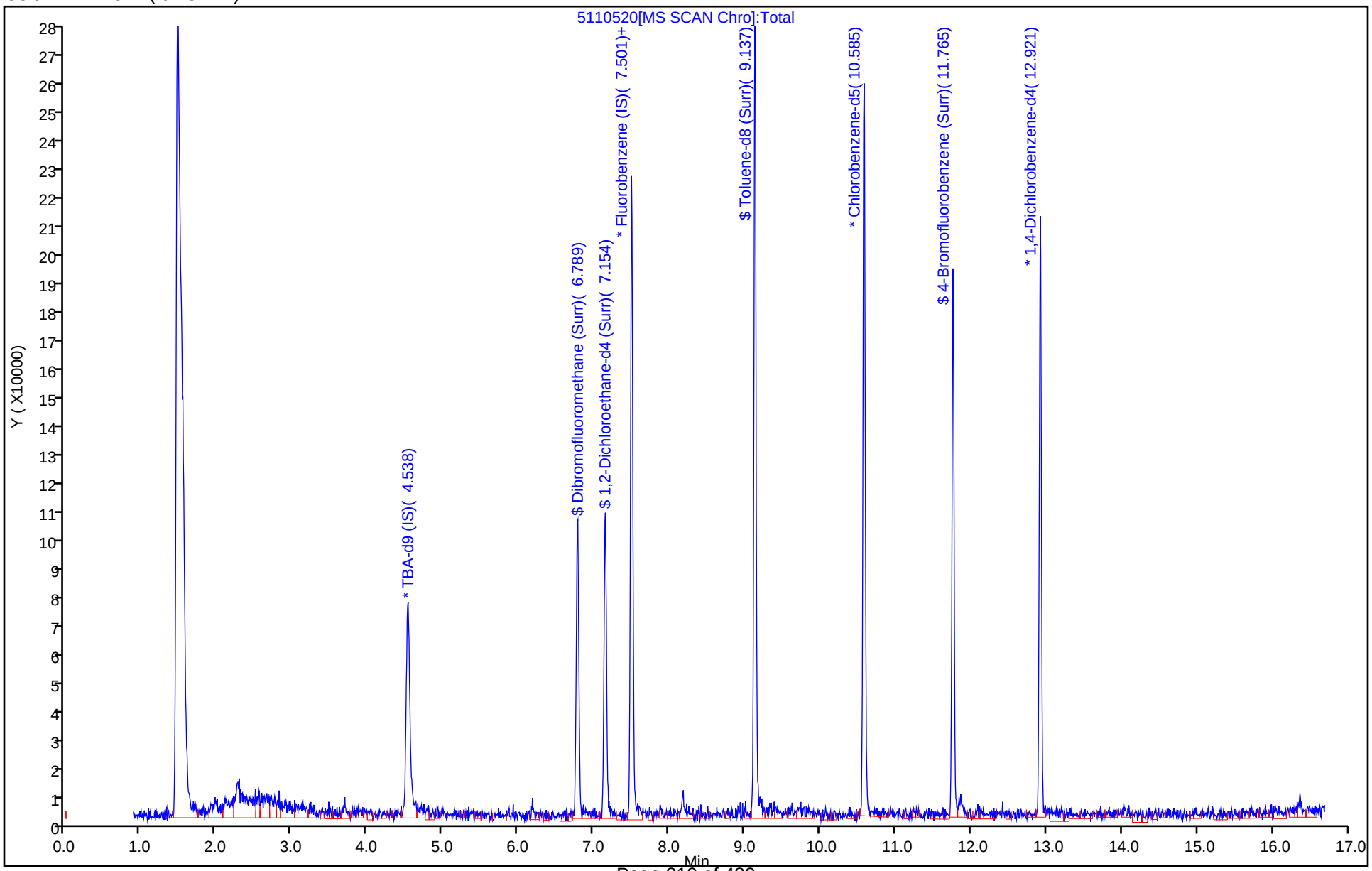
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 06-Nov-2019 10:14:18 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D				
Injection Date:	05-Nov-2019 20:12:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-7	Lab Sample ID:	180-97854-7	Worklist Smp#:	20
Client ID:	HD-COD-SW-16-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D
Lims ID: 180-97854-B-7
Client ID: HD-COD-SW-16-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 20:12:30 ALS Bottle#: 14 Worklist Smp#: 20
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-020
Misc. Info.: 180-97854-B-7
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:14:18 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:14:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	63.6	127.27
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	62.2	124.48
$ 7 Toluene-d8 (Surr)	50.0	43.9	87.76
$ 8 4-Bromofluorobenzene (Surr)	50.0	33.7	67.31

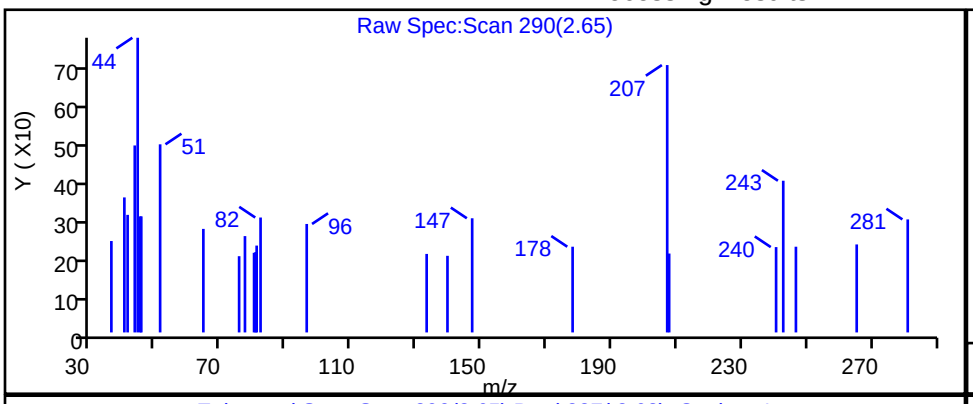
User Disabled Compound Report

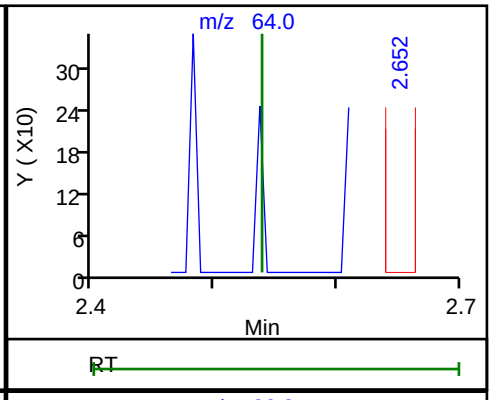
Eurofins TestAmerica, Pittsburgh

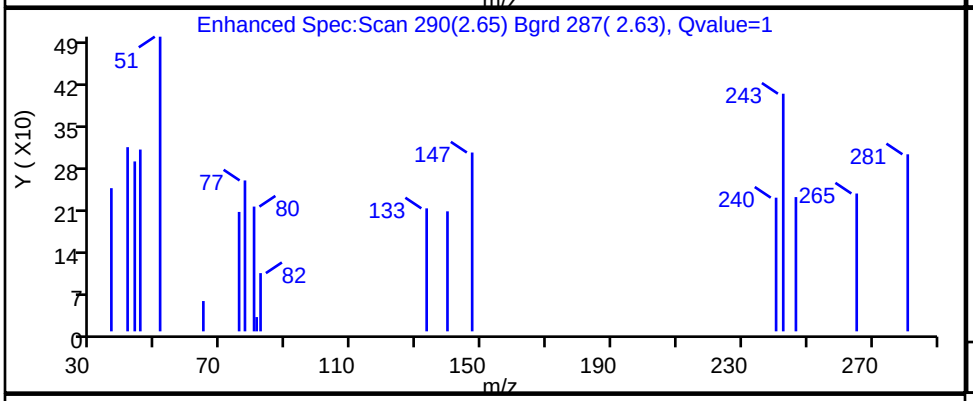
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D				
Injection Date:	05-Nov-2019 20:12:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-7	Lab Sample ID:	180-97854-7		
Client ID:	HD-COD-SW-16-0/1-0				
Operator ID:	433269	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

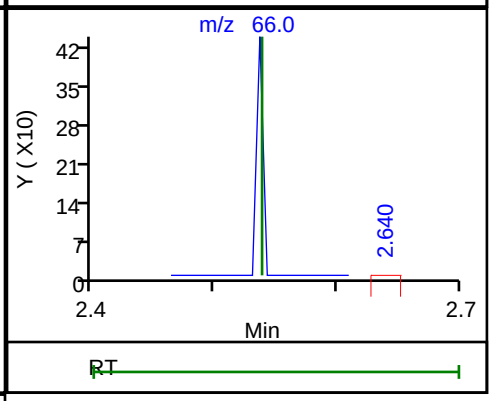
16 Chloroethane, CAS: 75-00-3

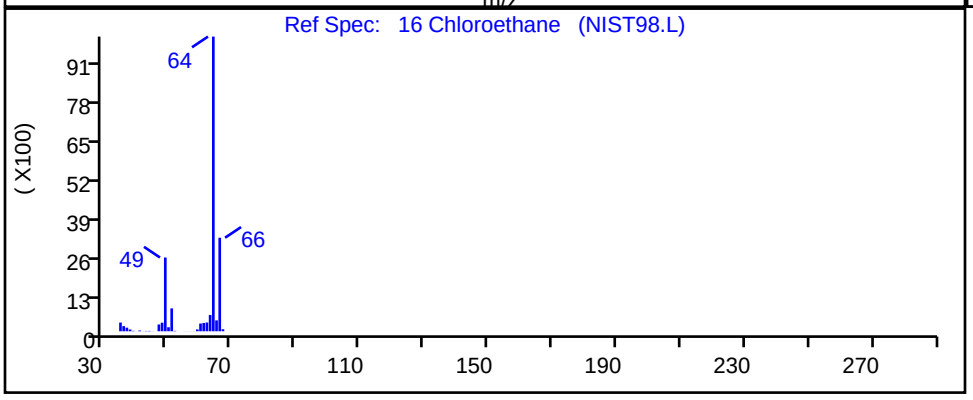
Processing Results











RT	Mass	Response	Amount
2.65	64.00	183	0.182820
2.64	66.00	253	

Reviewer: bowieh, 06-Nov-2019 10:13:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

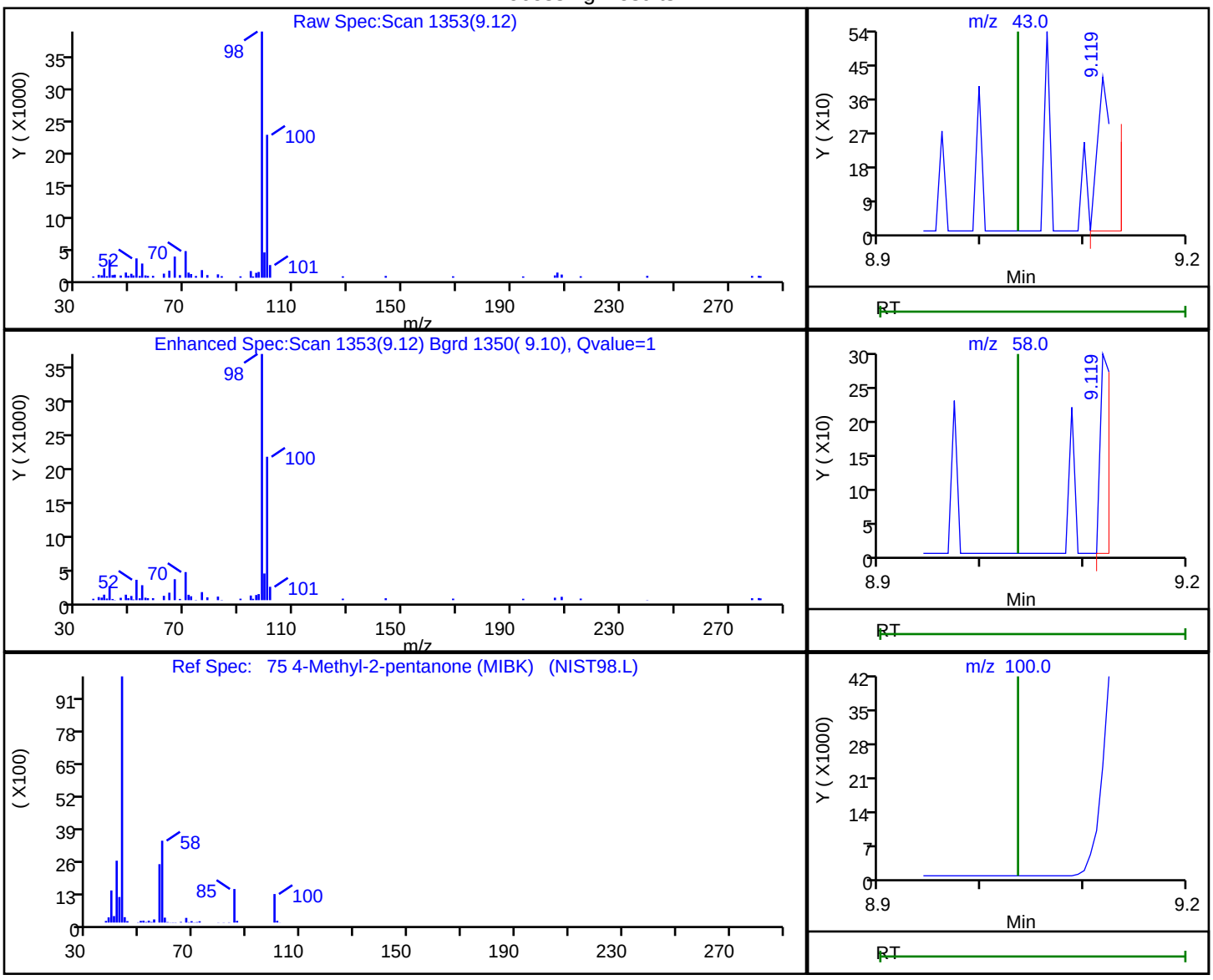
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D				
Injection Date:	05-Nov-2019 20:12:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-7	Lab Sample ID:	180-97854-7		
Client ID:	HD-COD-SW-16-0/1-0				
Operator ID:	433269	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.12	43.00	609	0.502734
9.12	58.00	208	
9.04	100.00	0	

Reviewer: bowieh, 06-Nov-2019 10:14:08

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

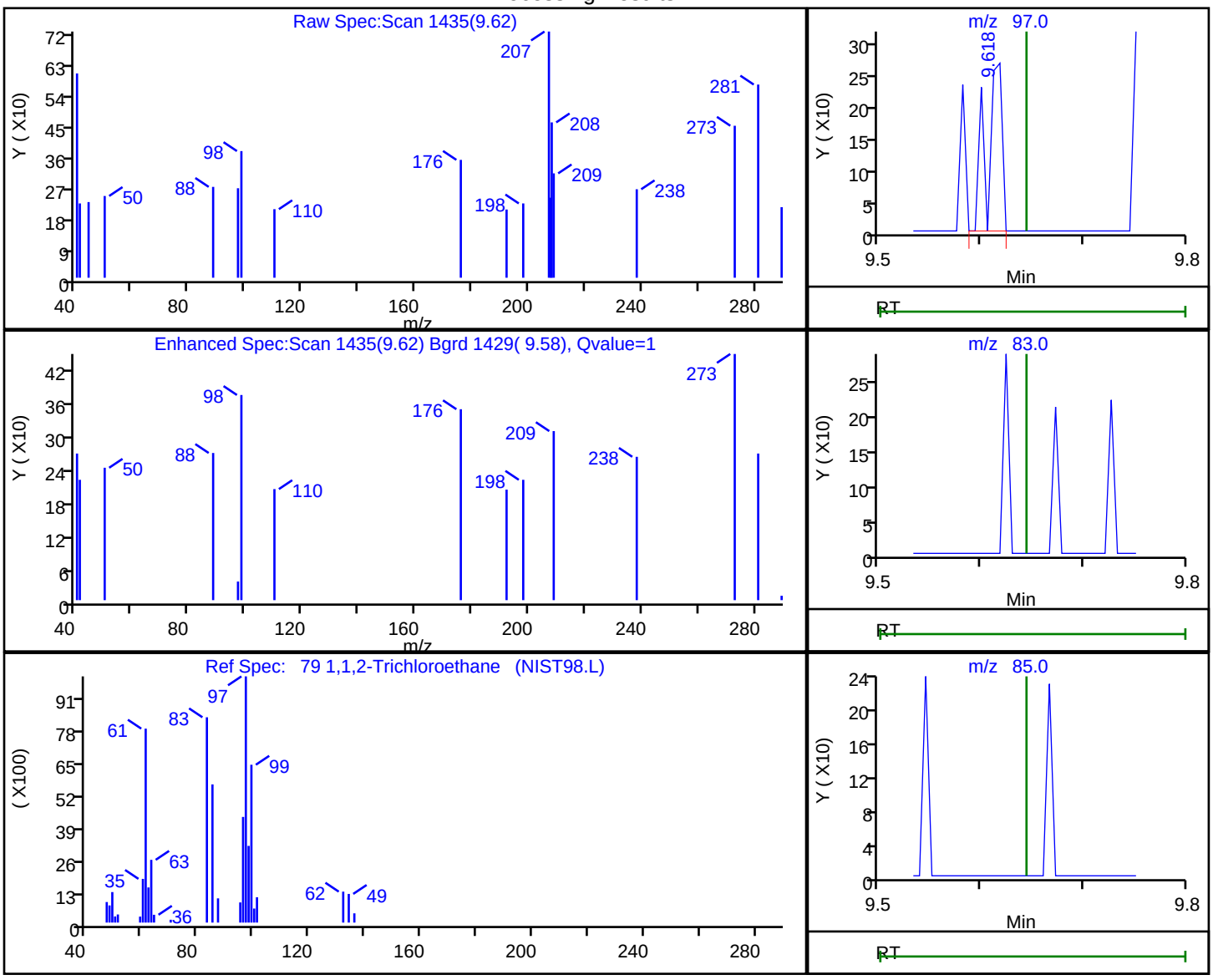
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D				
Injection Date:	05-Nov-2019 20:12:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-7	Lab Sample ID:	180-97854-7		
Client ID:	HD-COD-SW-16-0/1-0				
Operator ID:	433269	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.62	97.00	272	0.211821
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:14:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

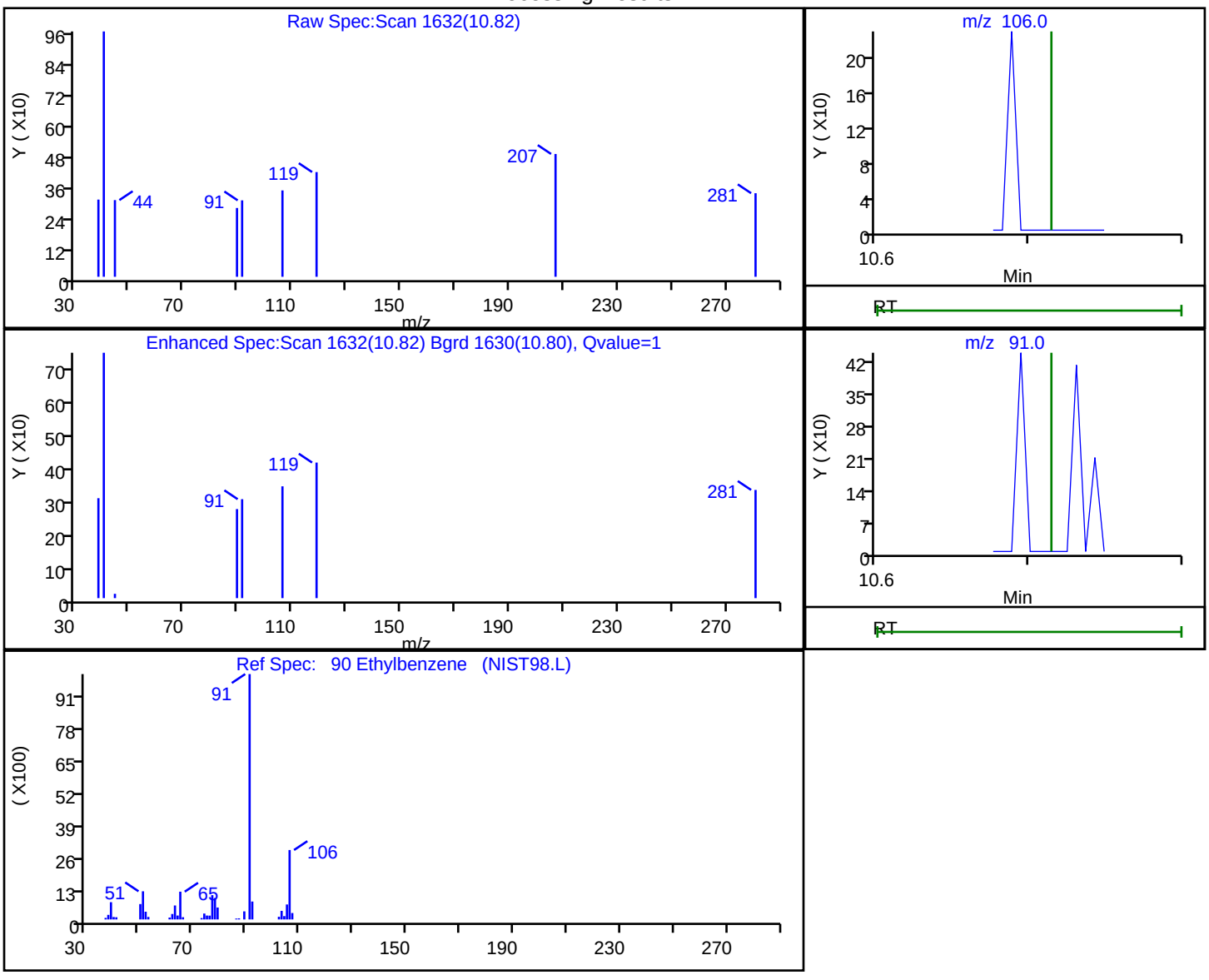
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110520.D				
Injection Date:	05-Nov-2019 20:12:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-7	Lab Sample ID:	180-97854-7		
Client ID:	HD-COD-SW-16-0/1-0				
Operator ID:	433269	ALS Bottle#:	14	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

90 Ethylbenzene, CAS: 100-41-4

Processing Results



RT	Mass	Response	Amount
10.82	106.00	124	0.057781
10.81	91.00	230	

Reviewer: bowieh, 06-Nov-2019 10:14:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-17-0/1-0 Lab Sample ID: 180-97854-8

Matrix: Water Lab File ID: 5110521.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 13:00

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 20:36

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	1.3		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	1.6		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	3.1		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-17-0/1-0 Lab Sample ID: 180-97854-8

Matrix: Water Lab File ID: 5110521.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 13:00

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 20:36

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	116		70-150
2037-26-5	Toluene-d8 (Surr)	84		78-128
460-00-4	4-Bromofluorobenzene (Surr)	76		64-123
1868-53-7	Dibromofluoromethane (Surr)	128		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D
Lims ID: 180-97854-A-8
Client ID: HD-COD-SW-17-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 20:36:30 ALS Bottle#: 15 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-021
Misc. Info.: 180-97854-A-8
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:15:03 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:15:03

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.544	4.552	-0.008	0	111155	1000.0	
* 2 Fluorobenzene (IS)	96	7.506	7.508	-0.002	99	220727	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.587	-0.002	84	65094	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.923	-0.002	92	97210	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.788	6.785	0.003	94	70218	64.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.153	7.150	0.003	0	86770	57.9	
$ 7 Toluene-d8 (Surr)	98	9.143	9.139	0.004	94	217575	41.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.767	-0.002	97	73582	38.1	
12 Chloromethane	50		1.918				ND	U
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43		3.688				ND	U
26 Carbon disulfide	76		3.871				ND	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96	6.186	6.182	0.004	76	8590	6.30	
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.606	6.602	0.004	17	3452	1.47	
53 1,1,1-Trichloroethane	97		6.766				ND	U
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130	7.884	7.886	-0.002	94	11681	8.16	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	U
80 Tetrachloroethene	164	9.715	9.717	-0.002	92	24137	15.3	
82 2-Hexanone	43		9.863				ND	
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

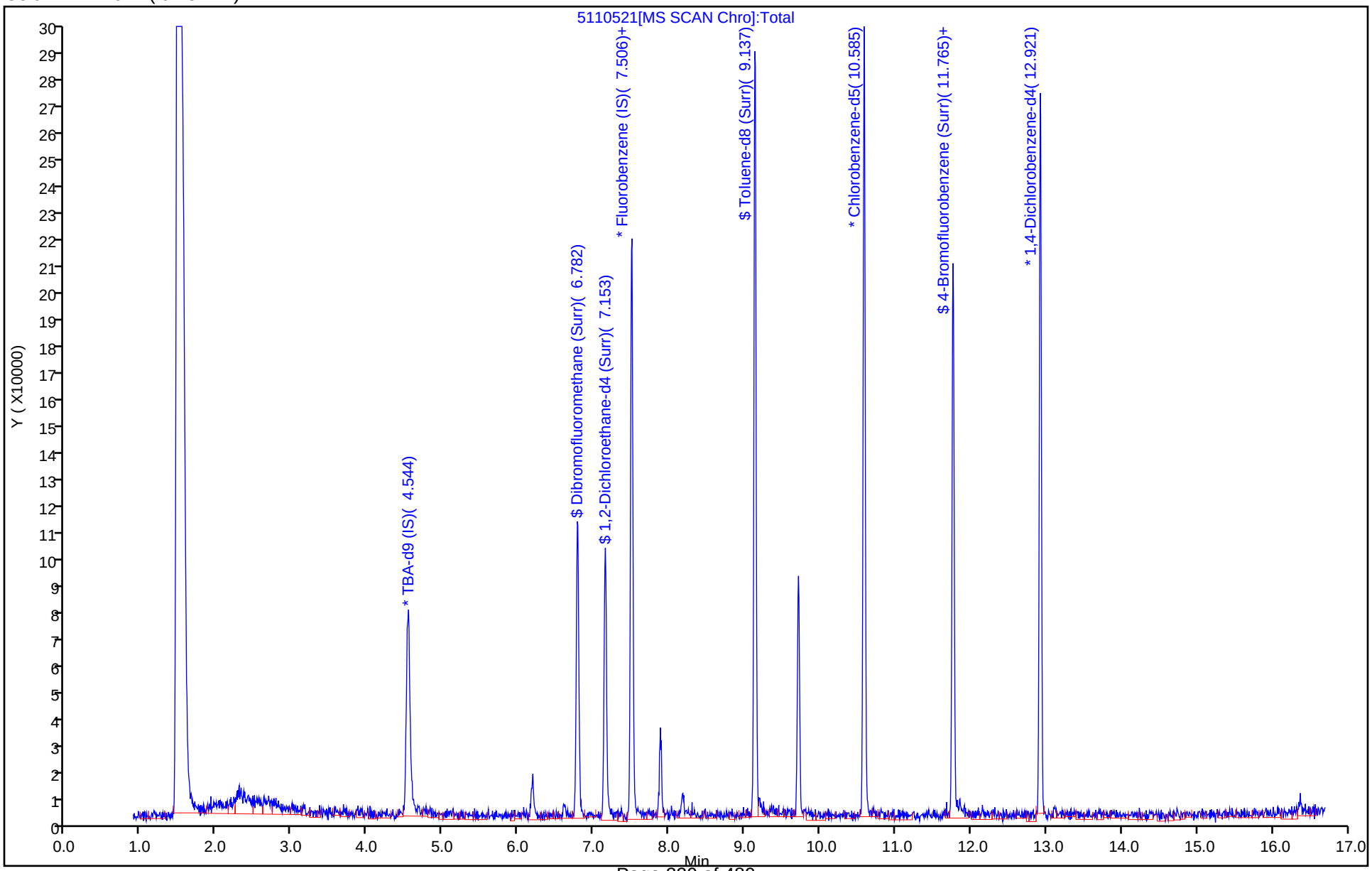
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 06-Nov-2019 10:15:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8	Worklist Smp#:	21
Client ID:	HD-COD-SW-17-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D
Lims ID: 180-97854-A-8
Client ID: HD-COD-SW-17-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 20:36:30 ALS Bottle#: 15 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-021
Misc. Info.: 180-97854-A-8
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:15:03 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:15:03

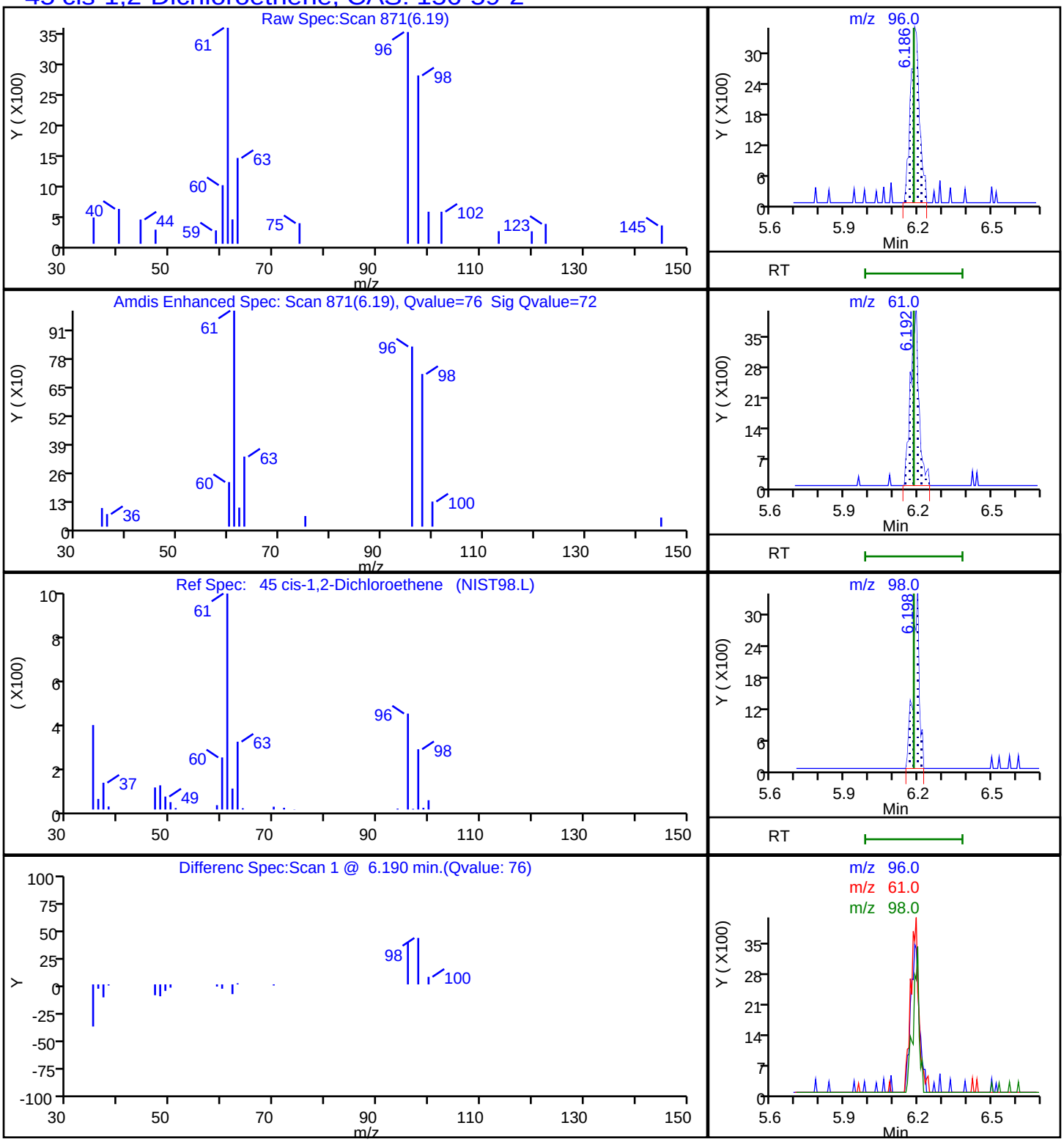
Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	64.0	128.00
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	57.9	115.78
$ 7 Toluene-d8 (Surr)	50.0	41.8	83.52
$ 8 4-Bromofluorobenzene (Surr)	50.0	38.1	76.16

Report Date: 06-Nov-2019 10:15:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D		
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8
Client ID:	HD-COD-SW-17-0/1-0		
Operator ID:	433269	ALS Bottle#:	15 Worklist Smp#: 21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

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

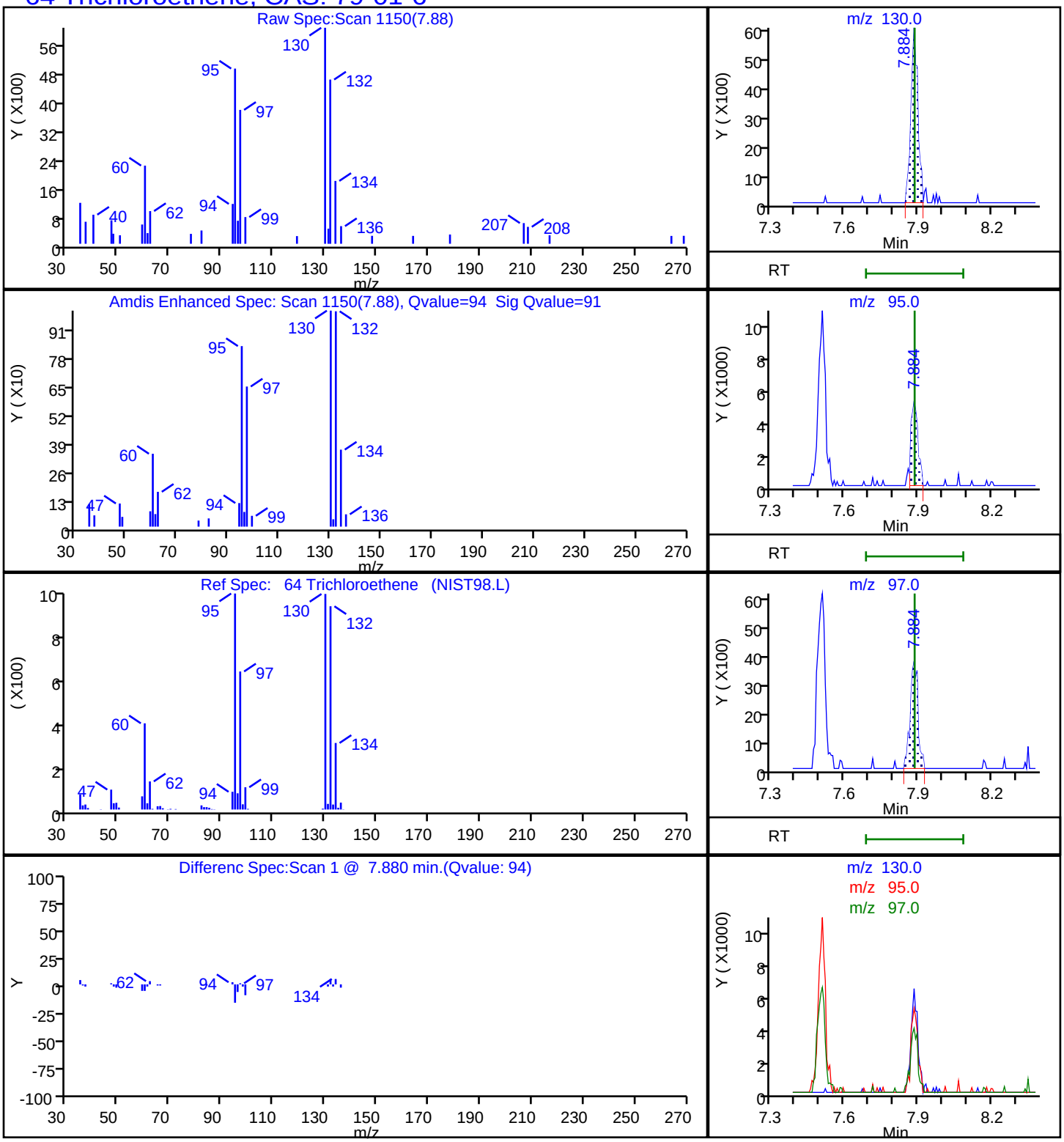


Report Date: 06-Nov-2019 10:15:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D		
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8
Client ID:	HD-COD-SW-17-0/1-0		
Operator ID:	433269	ALS Bottle#:	15 Worklist Smp#: 21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

64 Trichloroethene, CAS: 79-01-6

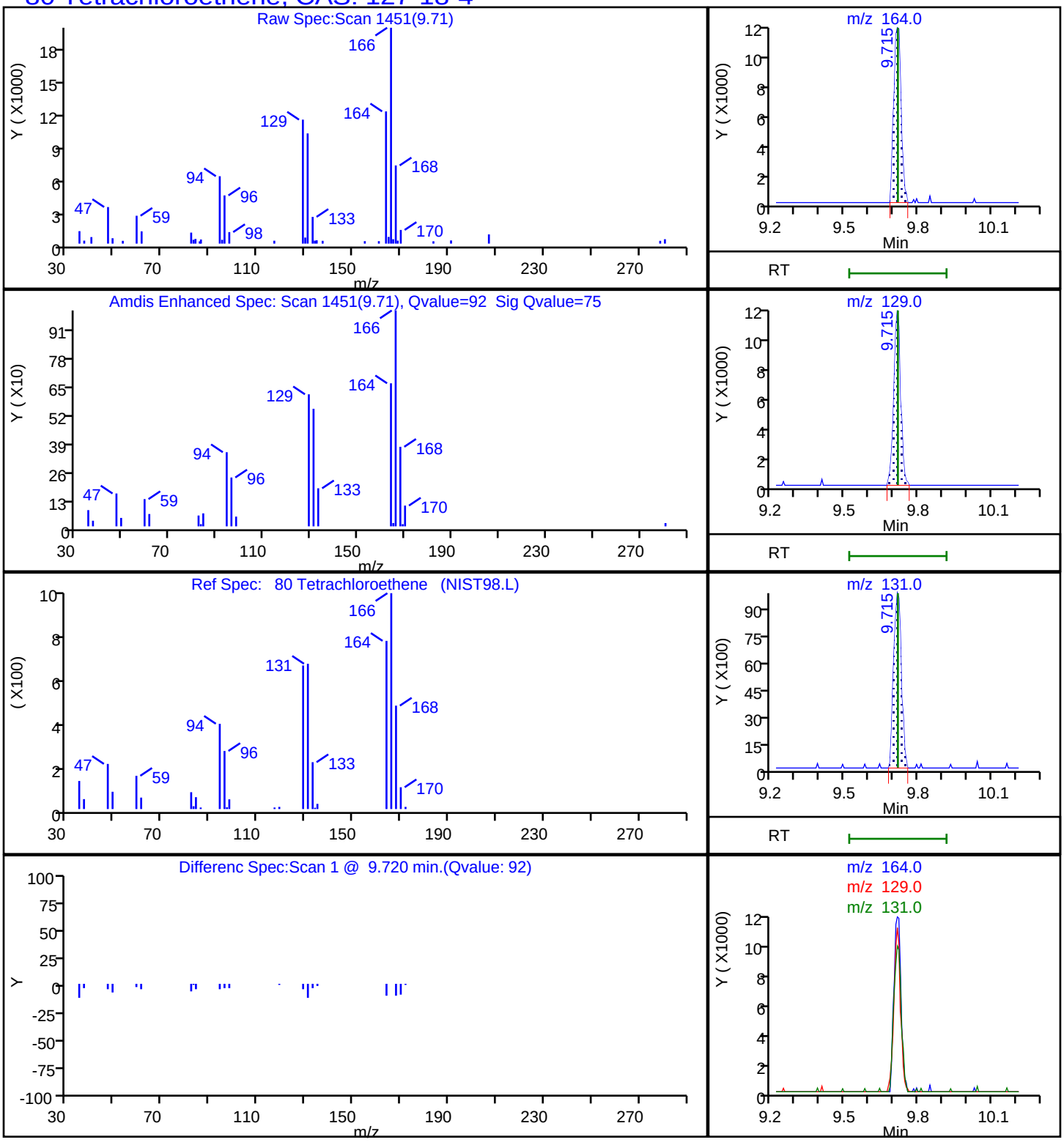


Report Date: 06-Nov-2019 10:15:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4



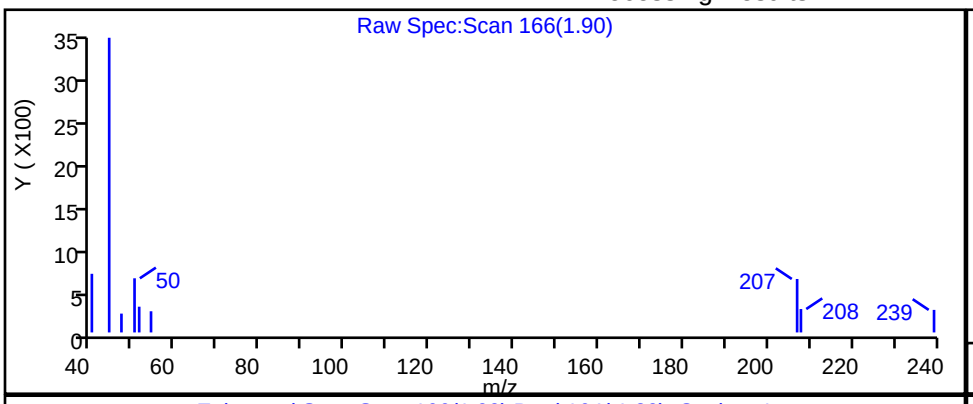
User Disabled Compound Report

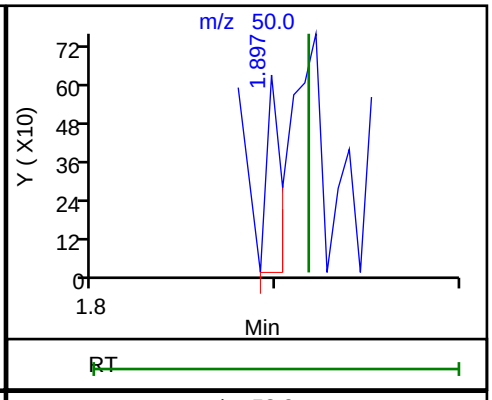
Eurofins TestAmerica, Pittsburgh

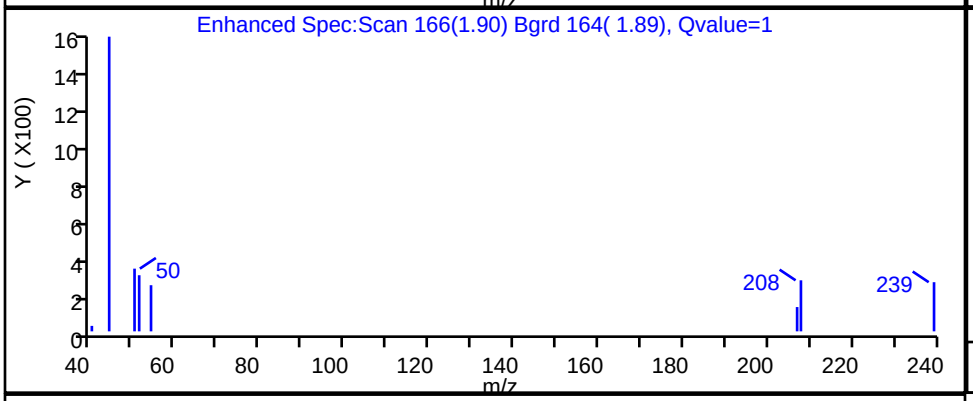
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

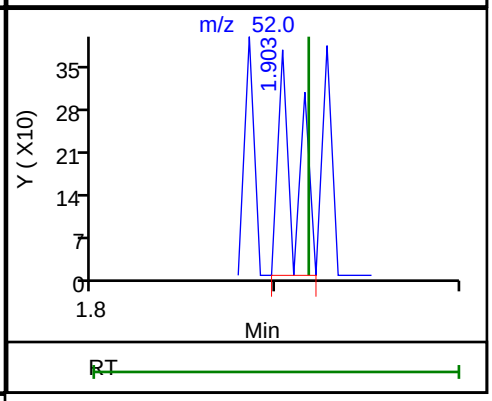
12 Chloromethane, CAS: 74-87-3

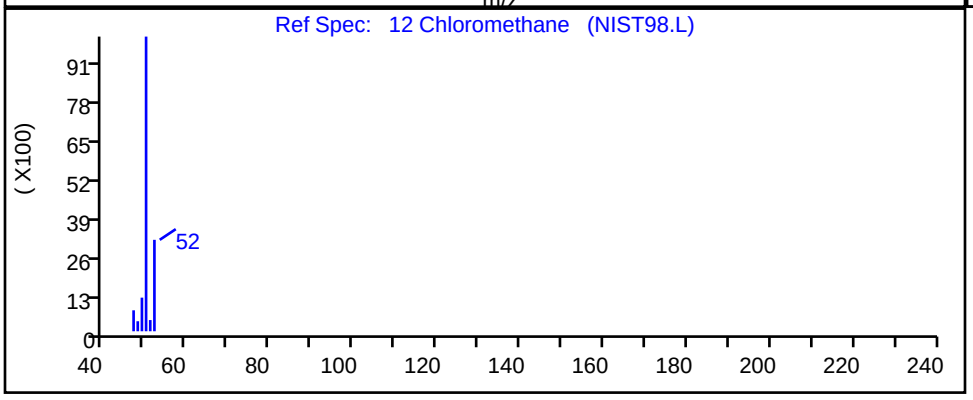
Processing Results











RT	Mass	Response	Amount
1.90	50.00	327	0.203856
1.90	52.00	250	

Reviewer: bowieh, 06-Nov-2019 10:14:35

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

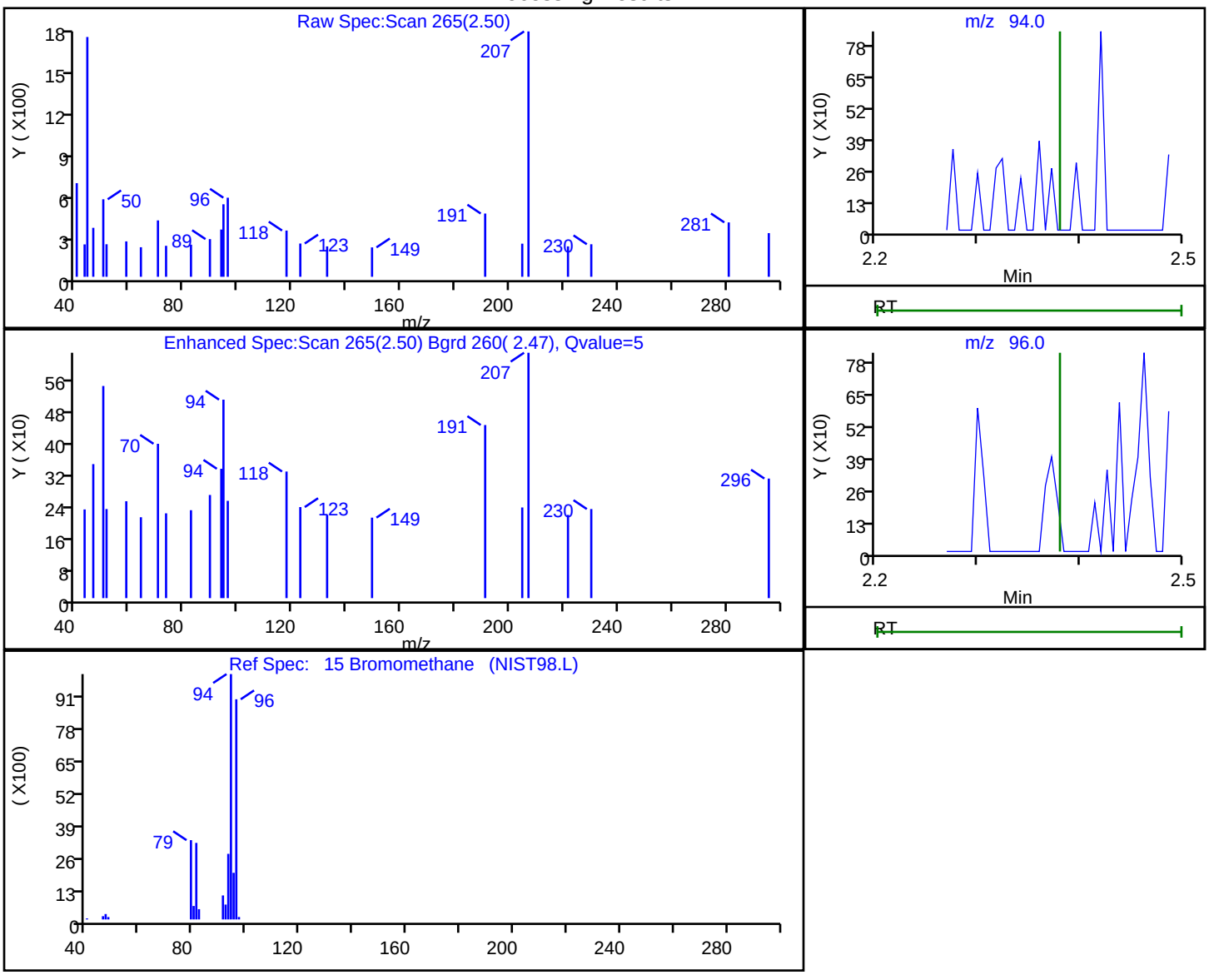
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.50	94.00	302	0.295720
2.49	96.00	543	

Reviewer: bowieh, 06-Nov-2019 10:14:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

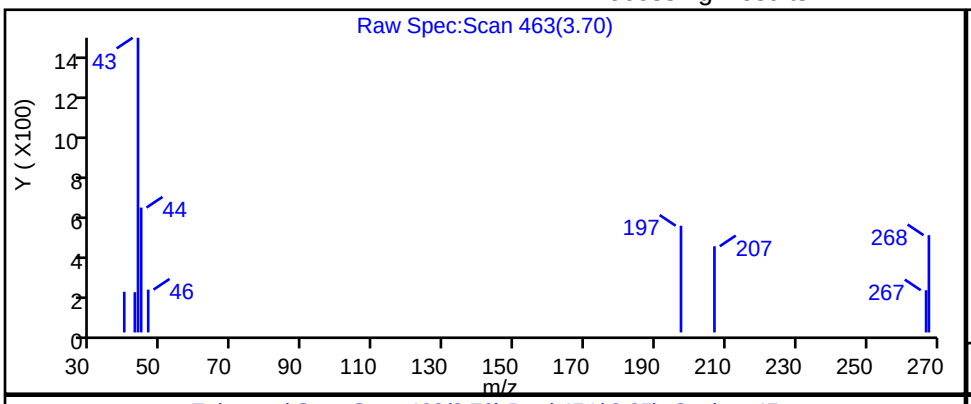
User Disabled Compound Report

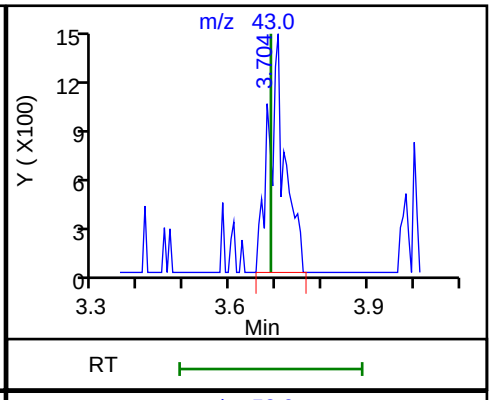
Eurofins TestAmerica, Pittsburgh

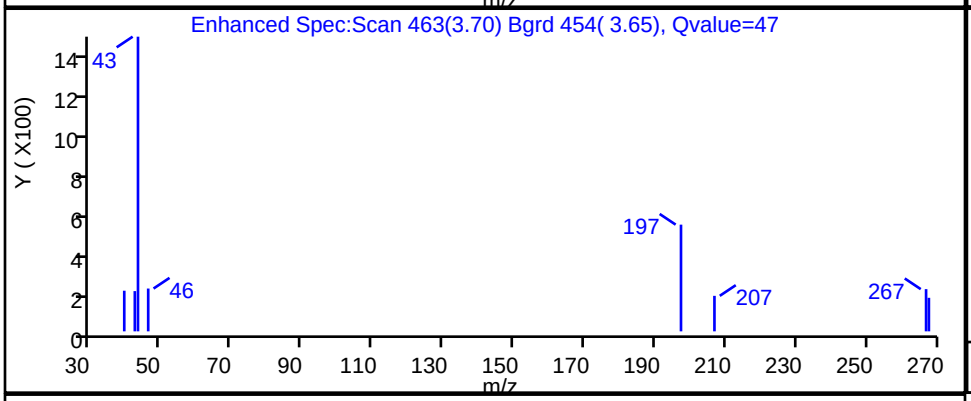
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D		
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8
Client ID:	HD-COD-SW-17-0/1-0		
Operator ID:	433269	ALS Bottle#:	15 Worklist Smp#: 21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

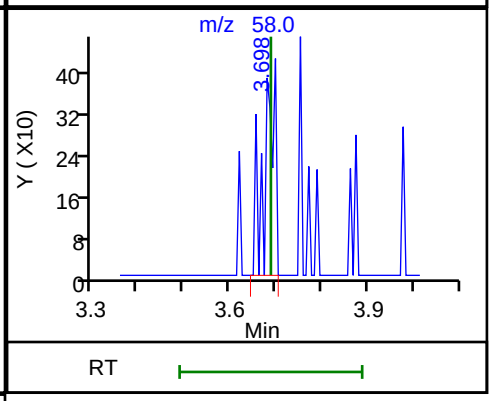
24 Acetone, CAS: 67-64-1

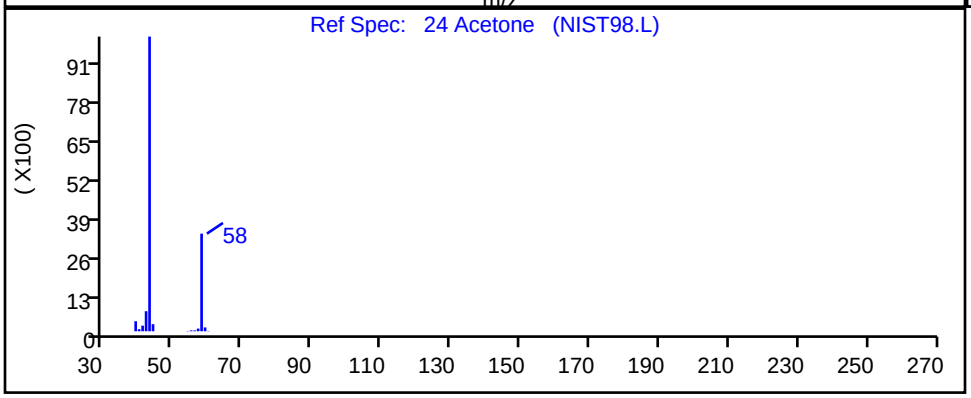
Processing Results











RT	Mass	Response	Amount
3.70	43.00	3648	6.929440
3.70	58.00	698	

Reviewer: bowieh, 06-Nov-2019 10:14:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

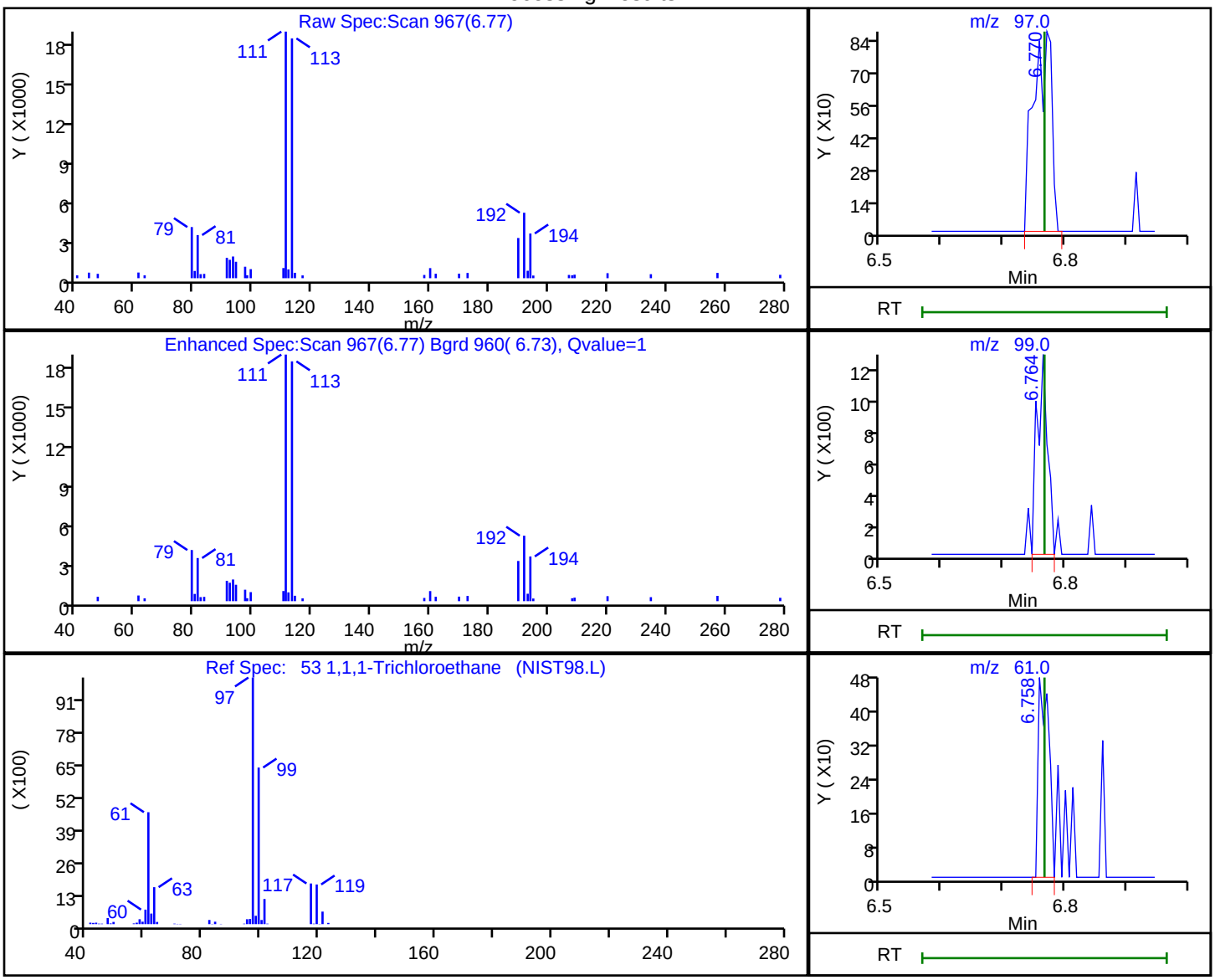
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

53 1,1,1-Trichloroethane, CAS: 71-55-6

Processing Results



RT	Mass	Response	Amount
6.77	97.00	1805	0.940294
6.76	99.00	1494	
6.76	61.00	563	

Reviewer: bowieh, 06-Nov-2019 10:14:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

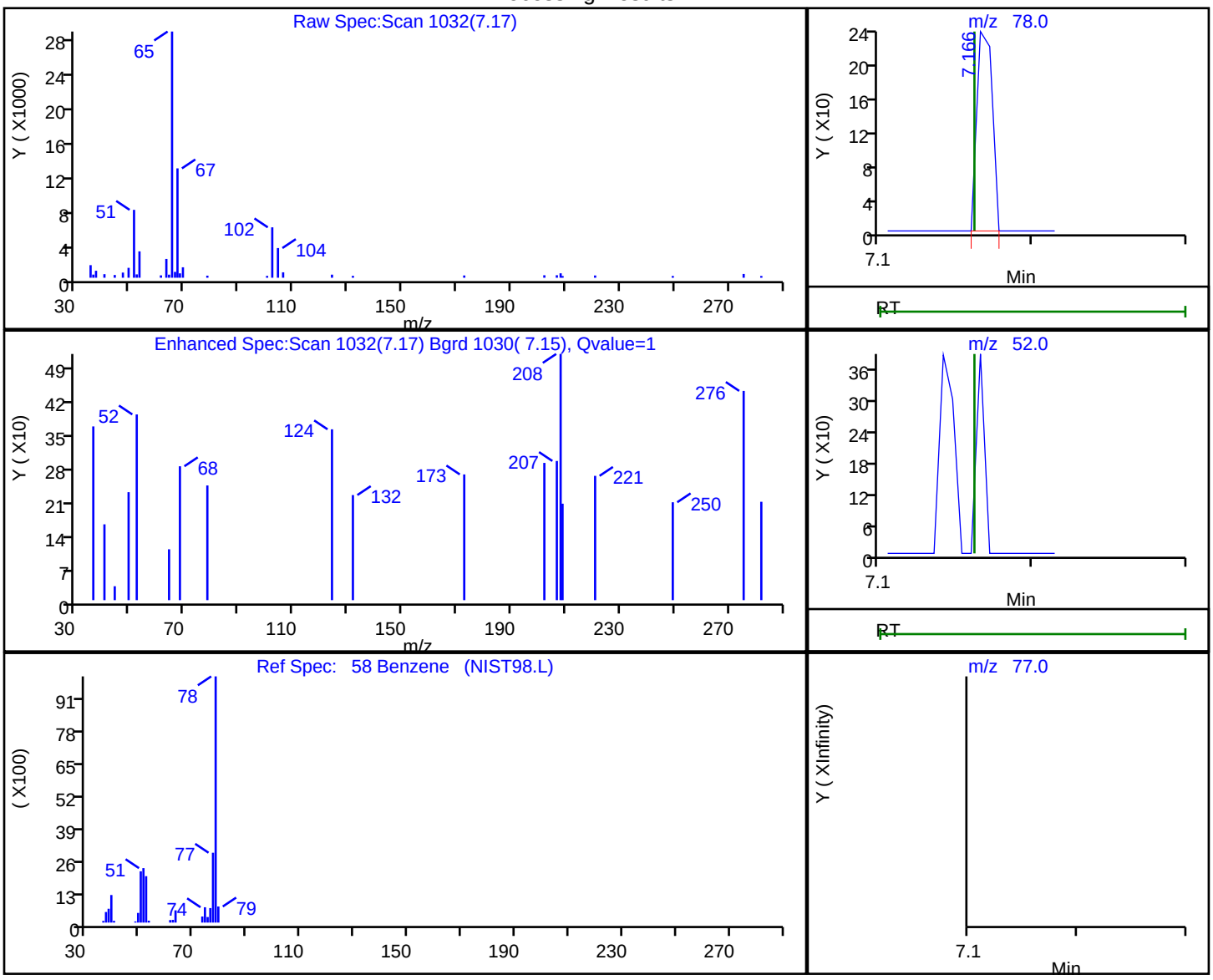
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.17	78.00	168	0.032116
7.16	52.00	0	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:14:50

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

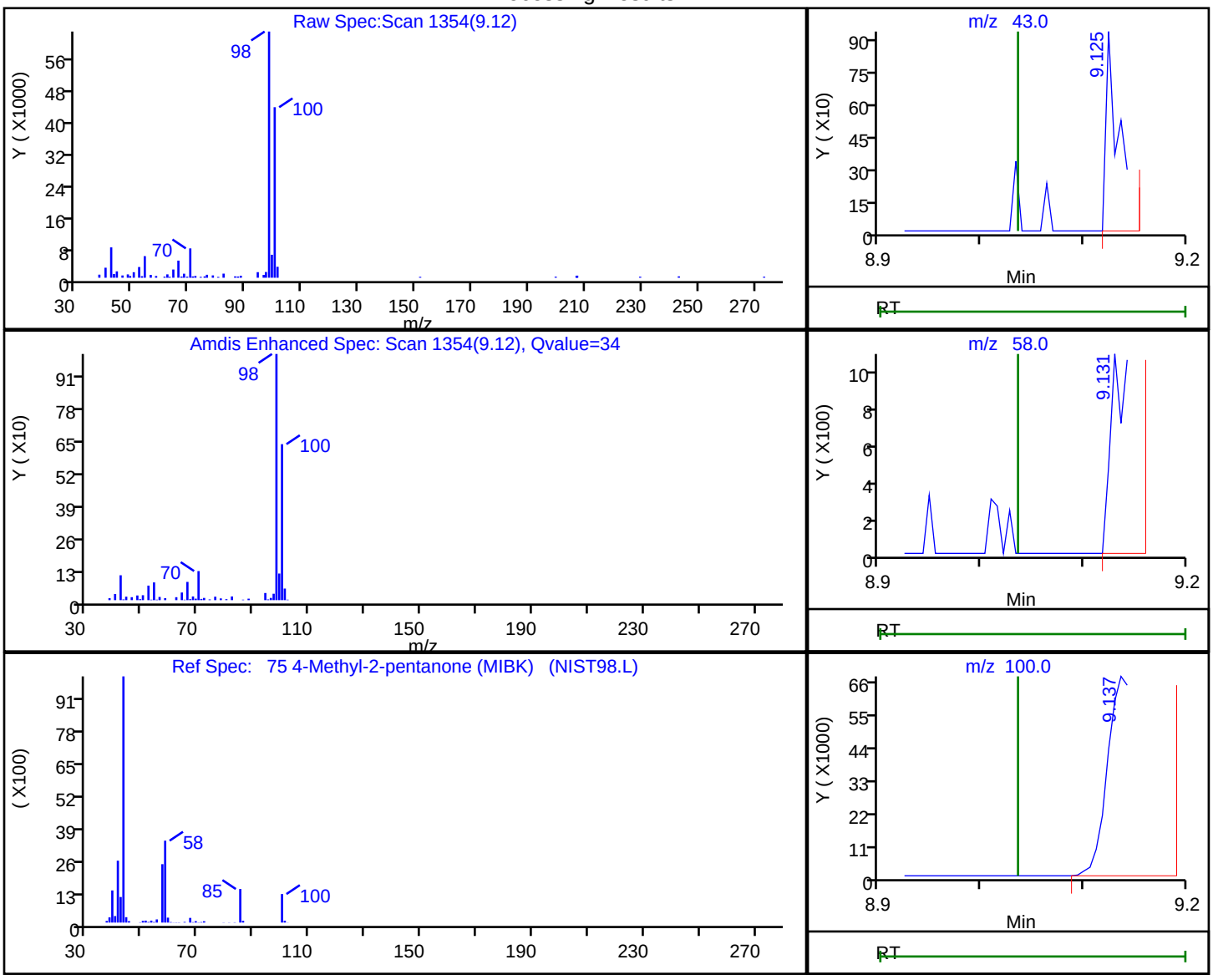
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.12	43.00	844	0.650756
9.13	58.00	1485	
9.14	100.00	138135	

Reviewer: bowieh, 06-Nov-2019 10:14:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

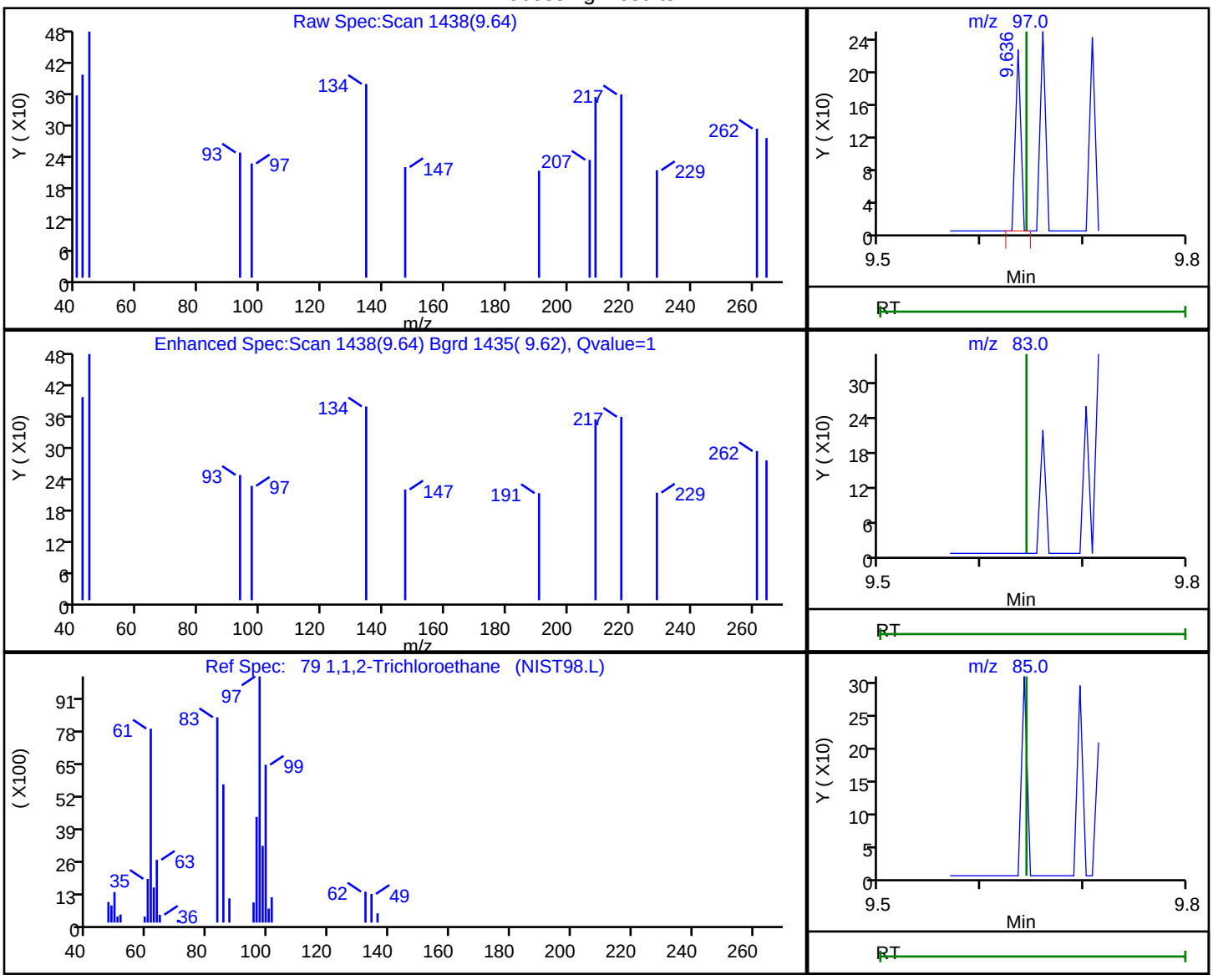
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.64	97.00	80	0.058190
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:14:54

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

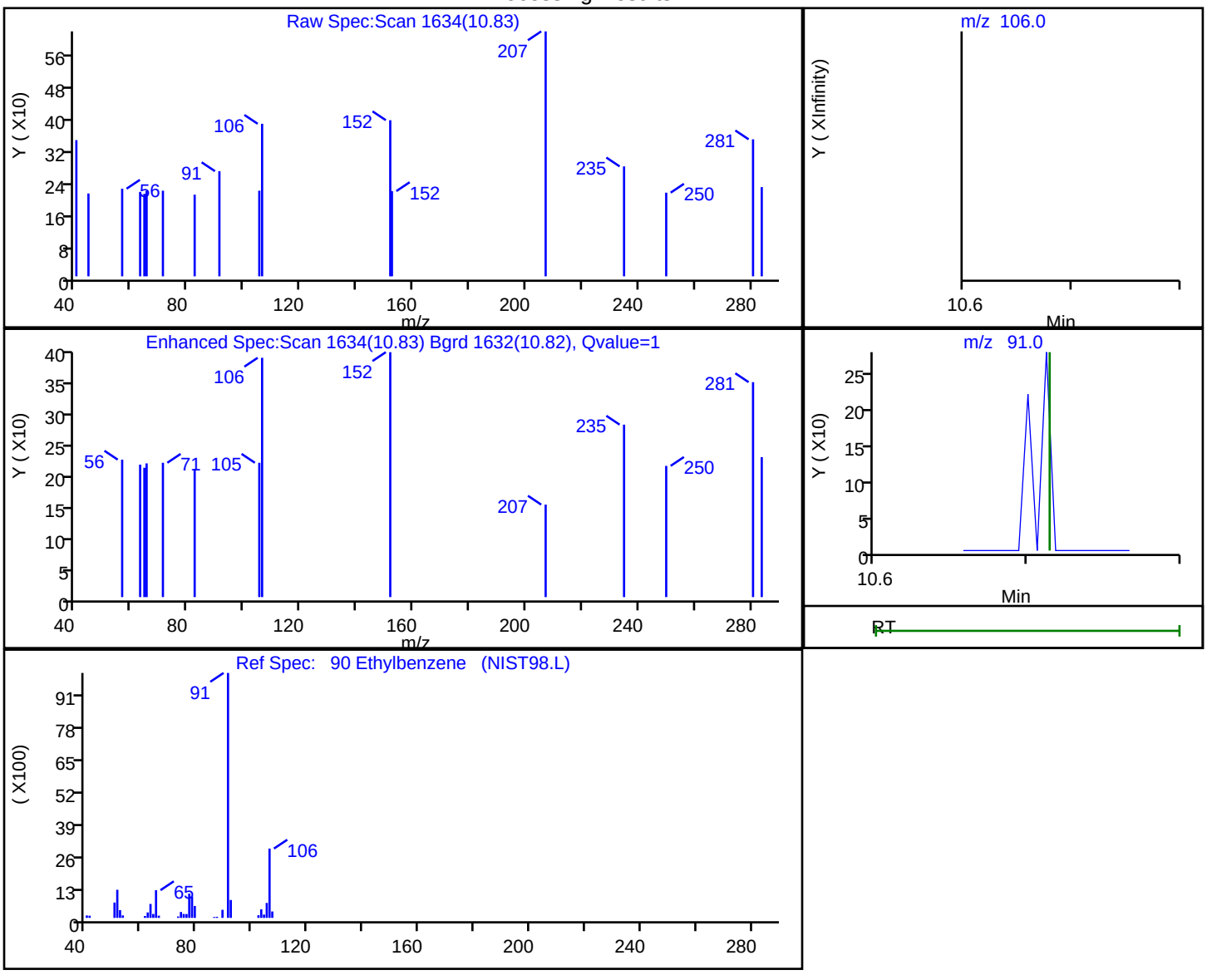
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110521.D				
Injection Date:	05-Nov-2019 20:36:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-8	Lab Sample ID:	180-97854-8		
Client ID:	HD-COD-SW-17-0/1-0				
Operator ID:	433269	ALS Bottle#:	15	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

90 Ethylbenzene, CAS: 100-41-4

Processing Results



RT	Mass	Response	Amount
10.83	106.00	277	0.120558
10.84	91.00	391	

Reviewer: bowieh, 06-Nov-2019 10:14:57

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-26-0/1-0 Lab Sample ID: 180-97854-9

Matrix: Water Lab File ID: 5110522.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 13:40

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 21:00

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	0.98	J	1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	4.2		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-26-0/1-0 Lab Sample ID: 180-97854-9

Matrix: Water Lab File ID: 5110522.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 13:40

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 21:00

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	123		70-150
2037-26-5	Toluene-d8 (Surr)	83		78-128
460-00-4	4-Bromofluorobenzene (Surr)	70		64-123
1868-53-7	Dibromofluoromethane (Surr)	134		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D
Lims ID: 180-97854-B-9
Client ID: HD-COD-SW-26-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 21:00:30 ALS Bottle#: 16 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-022
Misc. Info.: 180-97854-B-9
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:16:12 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:16:12

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.539	4.552	-0.013	0	110693	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.508	-0.007	99	218121	50.0	
* 3 Chlorobenzene-d5	119	10.586	10.587	-0.001	84	63686	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.922	12.923	-0.001	94	75473	50.0	s
$ 5 Dibromofluoromethane (Surr	113	6.784	6.785	-0.001	95	72478	66.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.149	7.150	-0.001	0	91013	61.4	
$ 7 Toluene-d8 (Surr)	98	9.138	9.139	-0.001	93	211738	41.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.760	11.767	-0.007	94	65804	34.8	
12 Chloromethane	50		1.918				ND	U
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.687	3.688	-0.001	65	2673	5.14	a
26 Carbon disulfide	76		3.871				ND	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96		6.182				ND	U
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.613	6.602	0.011	92	11379	4.91	
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130	7.885	7.886	-0.001	27	1378	0.9746	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	
80 Tetrachloroethene	164	9.722	9.717	0.005	95	32452	21.1	
82 2-Hexanone	43		9.863				ND	
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
Review Flags
U - Marked Undetected
a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

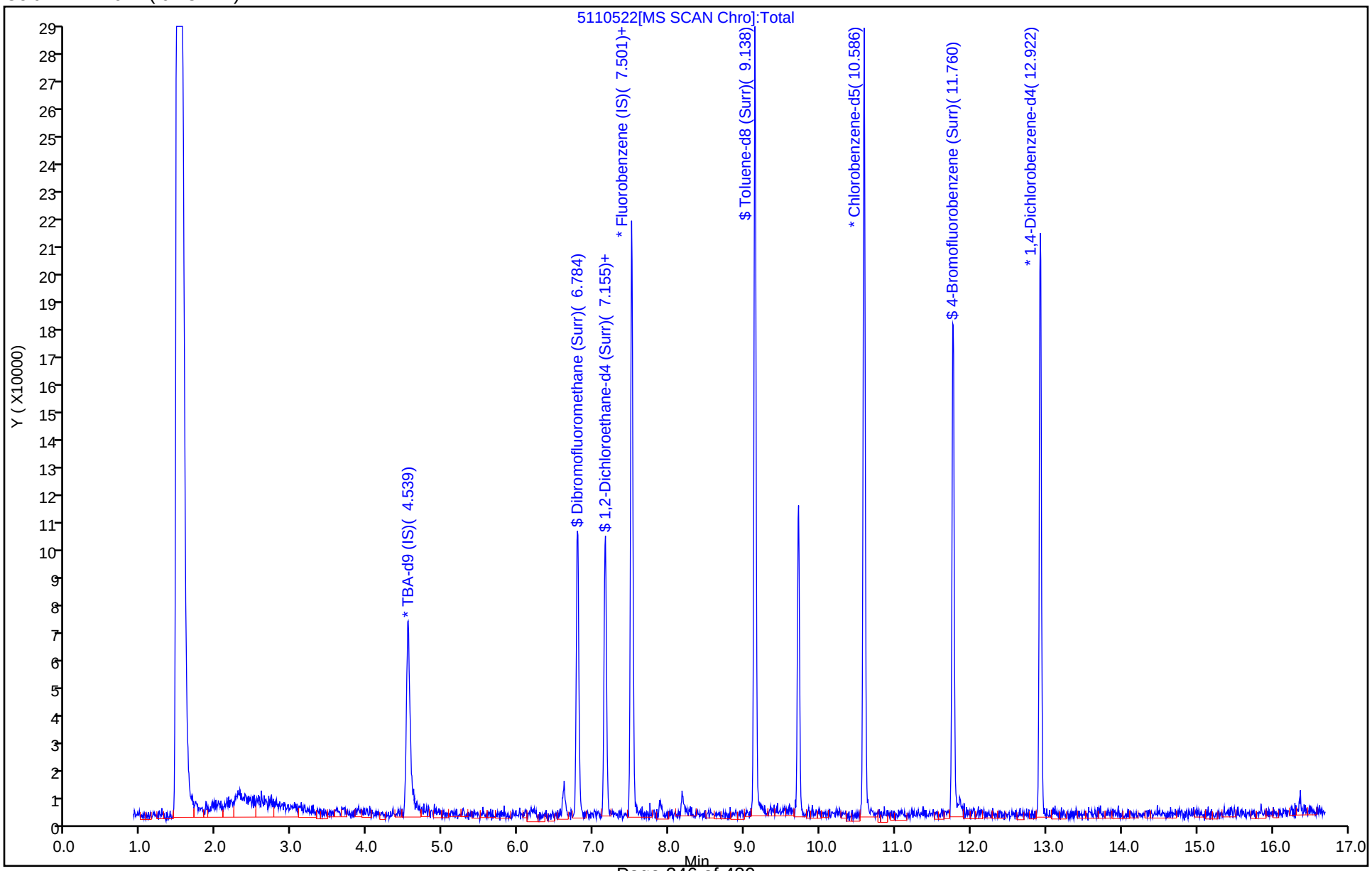
Report Date: 06-Nov-2019 10:16:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D

Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9	Worklist Smp#:	22
Client ID:	HD-COD-SW-26-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D
Lims ID: 180-97854-B-9
Client ID: HD-COD-SW-26-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 21:00:30 ALS Bottle#: 16 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-022
Misc. Info.: 180-97854-B-9
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:16:12 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:16:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	66.8	133.70
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	61.4	122.89
$ 7 Toluene-d8 (Surr)	50.0	41.5	83.08
$ 8 4-Bromofluorobenzene (Surr)	50.0	34.8	69.61

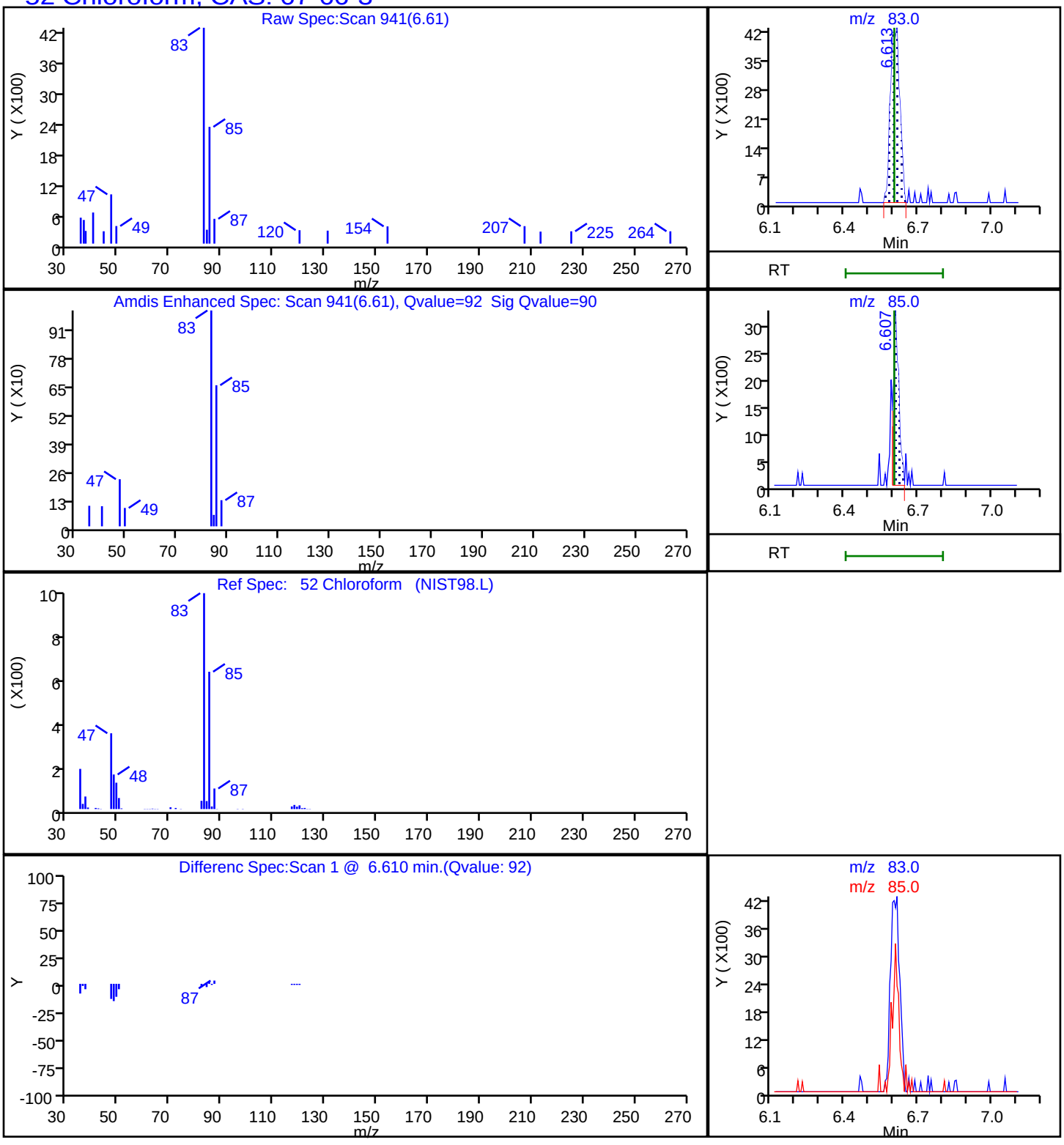
Report Date: 06-Nov-2019 10:16:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D

Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

52 Chloroform, CAS: 67-66-3

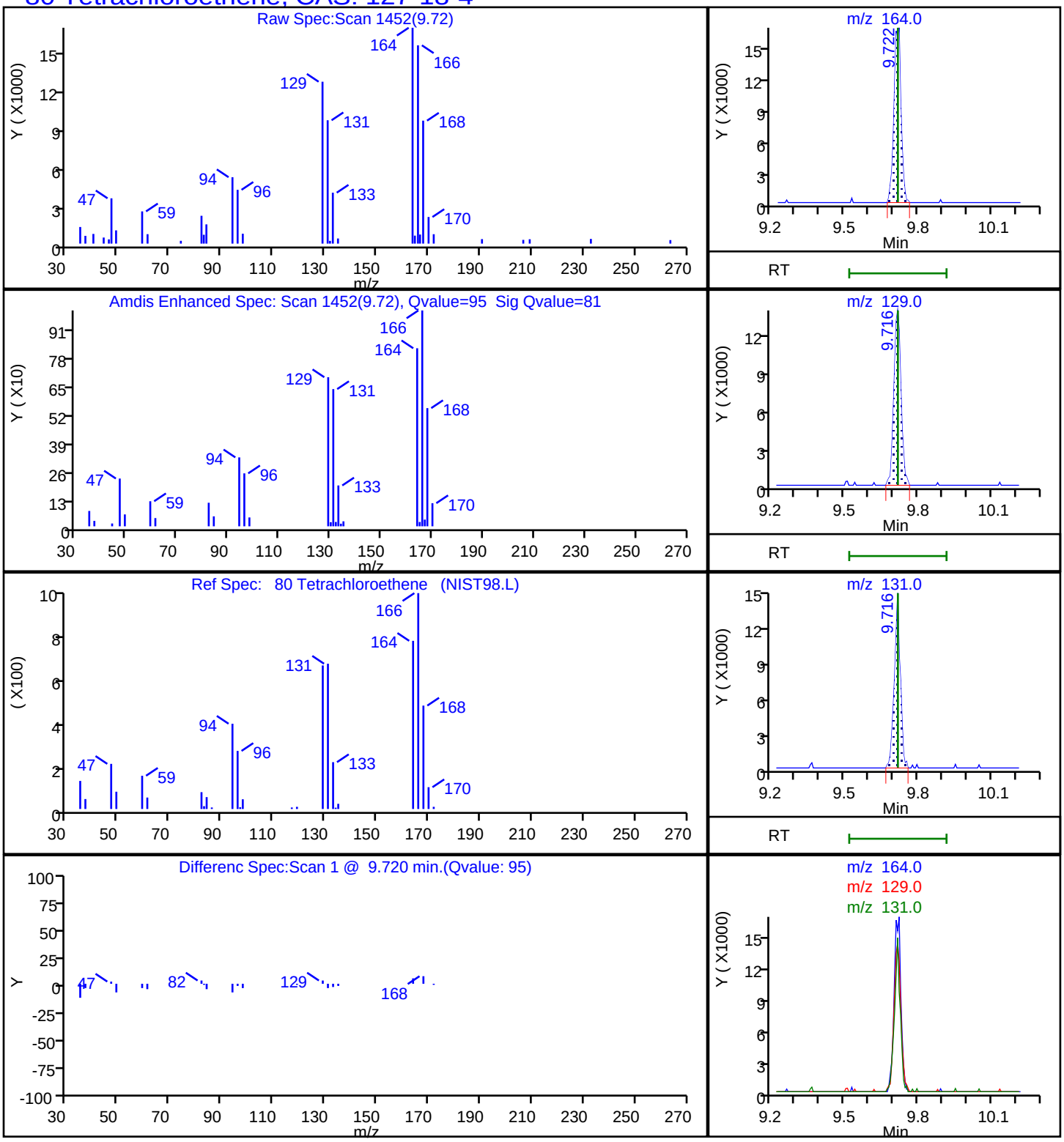


Report Date: 06-Nov-2019 10:16:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D		
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9
Client ID:	HD-COD-SW-26-0/1-0		
Operator ID:	433269	ALS Bottle#:	16 Worklist Smp#: 22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

80 Tetrachloroethene, CAS: 127-18-4



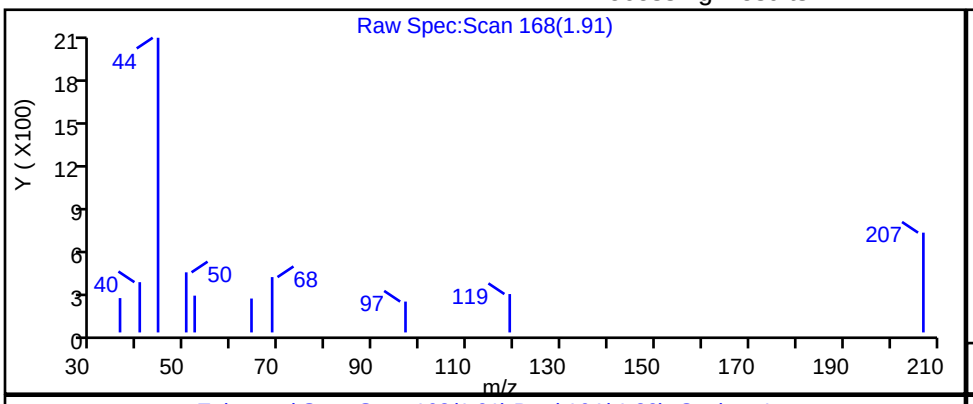
User Disabled Compound Report

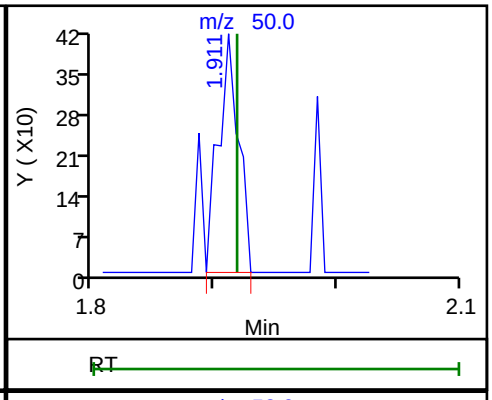
Eurofins TestAmerica, Pittsburgh

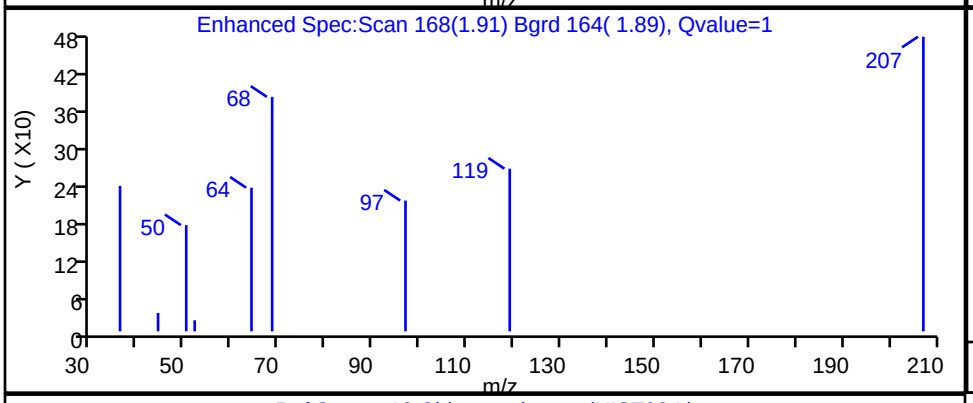
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D				
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

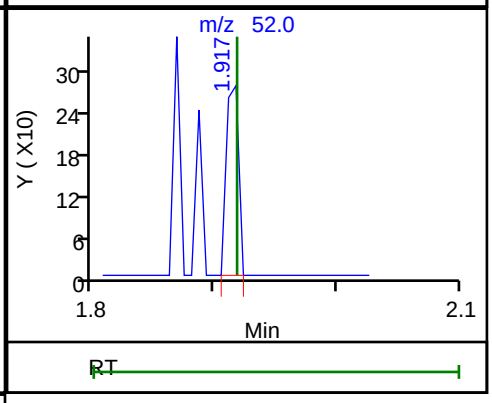
12 Chloromethane, CAS: 74-87-3

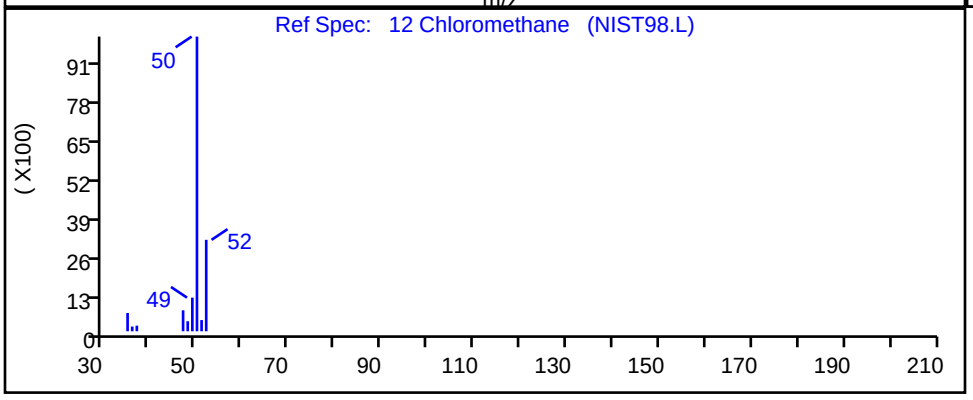
Processing Results











RT	Mass	Response	Amount
1.91	50.00	475	0.299658
1.92	52.00	192	

Reviewer: bowieh, 06-Nov-2019 10:15:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

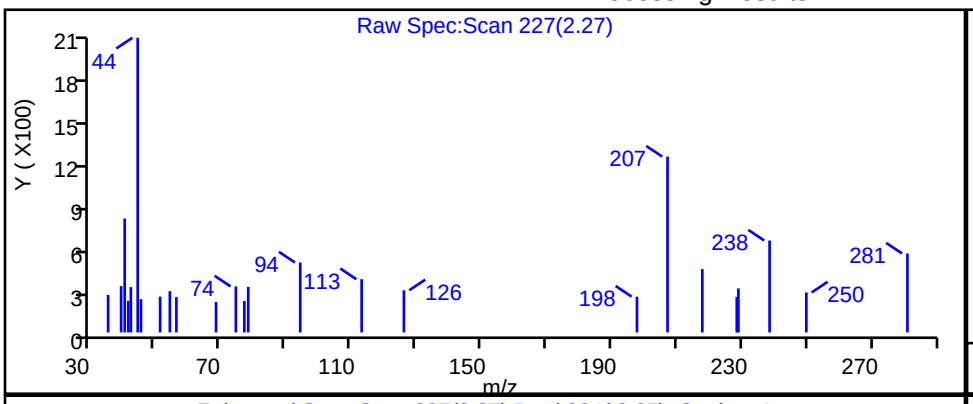
User Disabled Compound Report

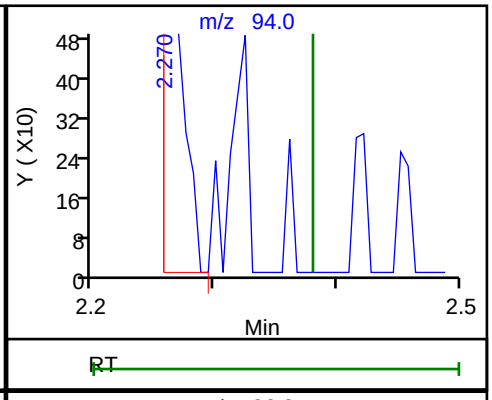
Eurofins TestAmerica, Pittsburgh

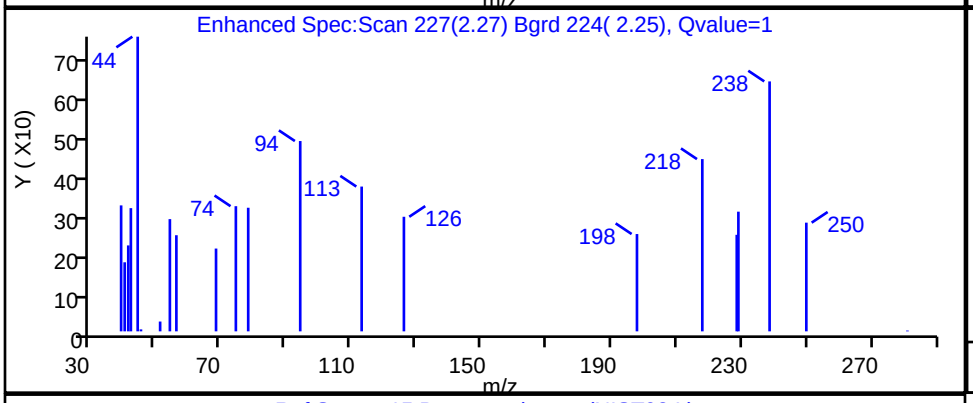
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D				
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

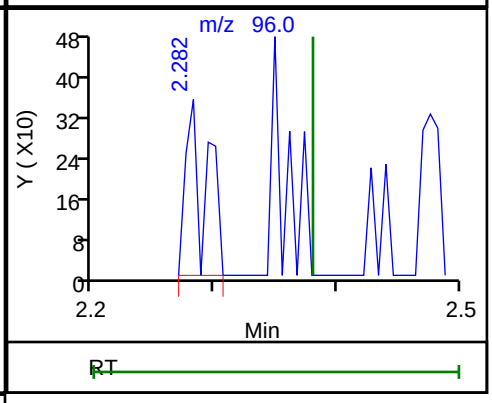
15 Bromomethane, CAS: 74-83-9

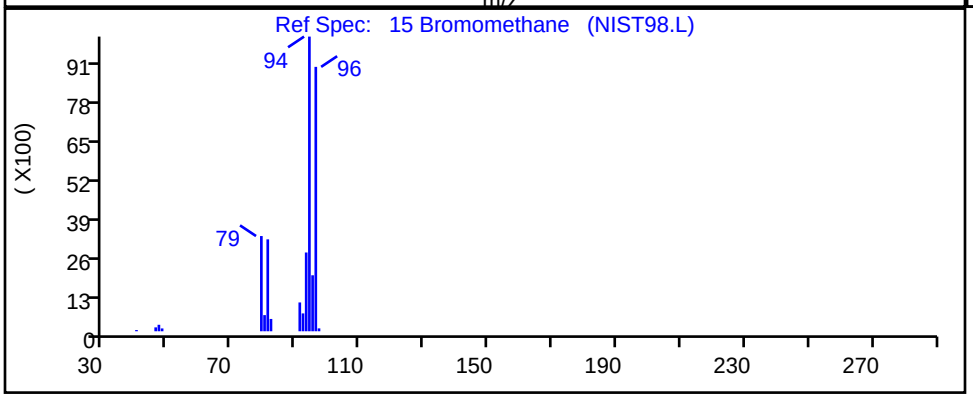
Processing Results











RT	Mass	Response	Amount
2.27	94.00	354	0.350780
2.28	96.00	407	

Reviewer: bowieh, 06-Nov-2019 10:15:22

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

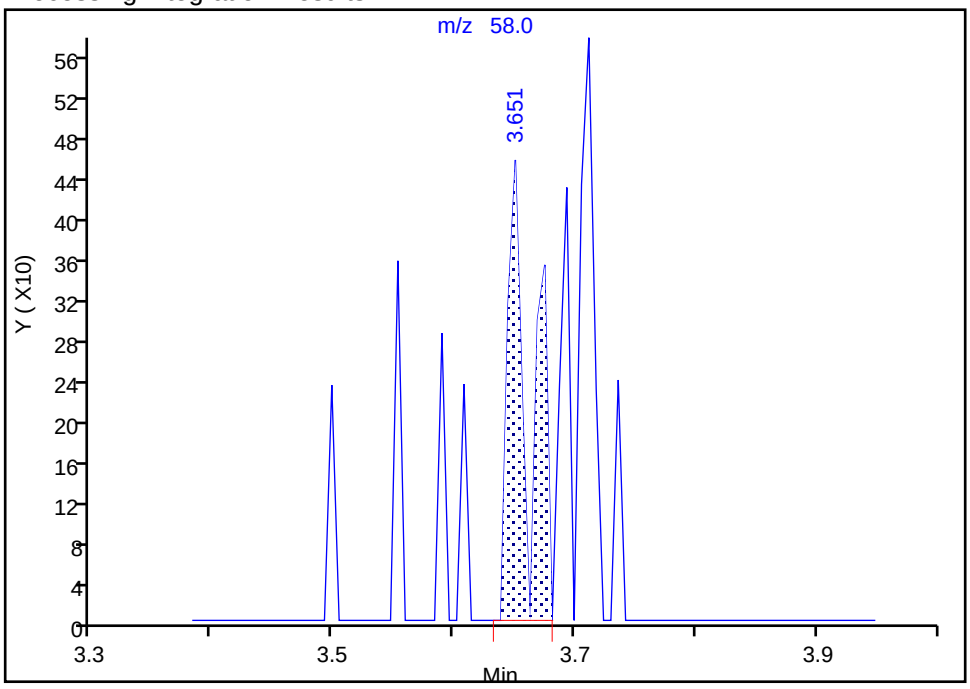
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D				
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

24 Acetone, CAS: 67-64-1

Signal: 2

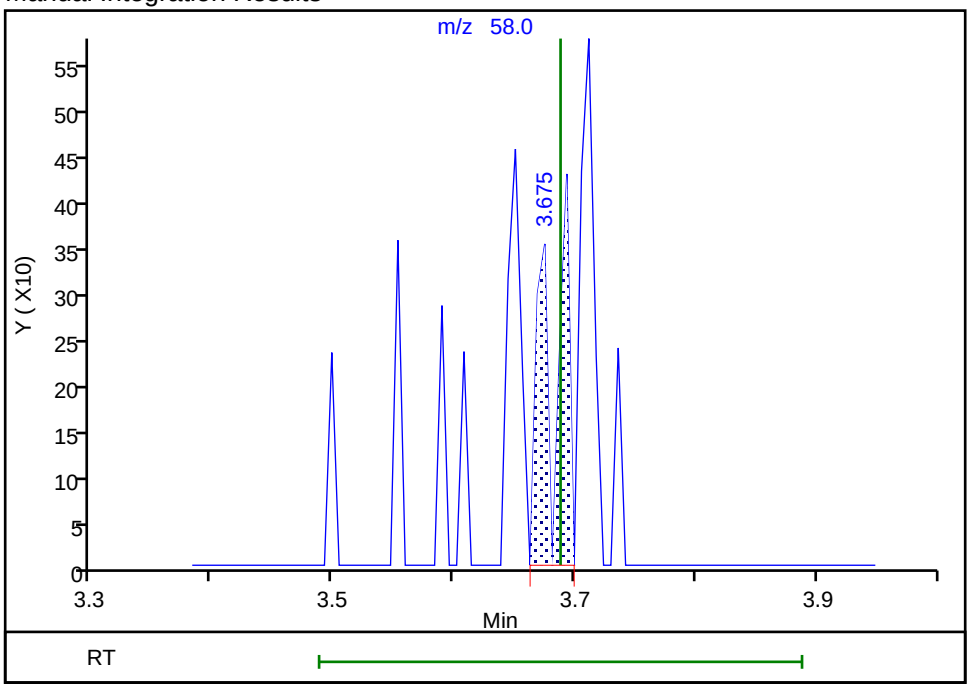
Processing Integration Results

RT: 3.65
Area: 589
Amount: 0.732363
Amount Units: ng



Manual Integration Results

RT: 3.67
Area: 475
Amount: 5.138073
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:15:23
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

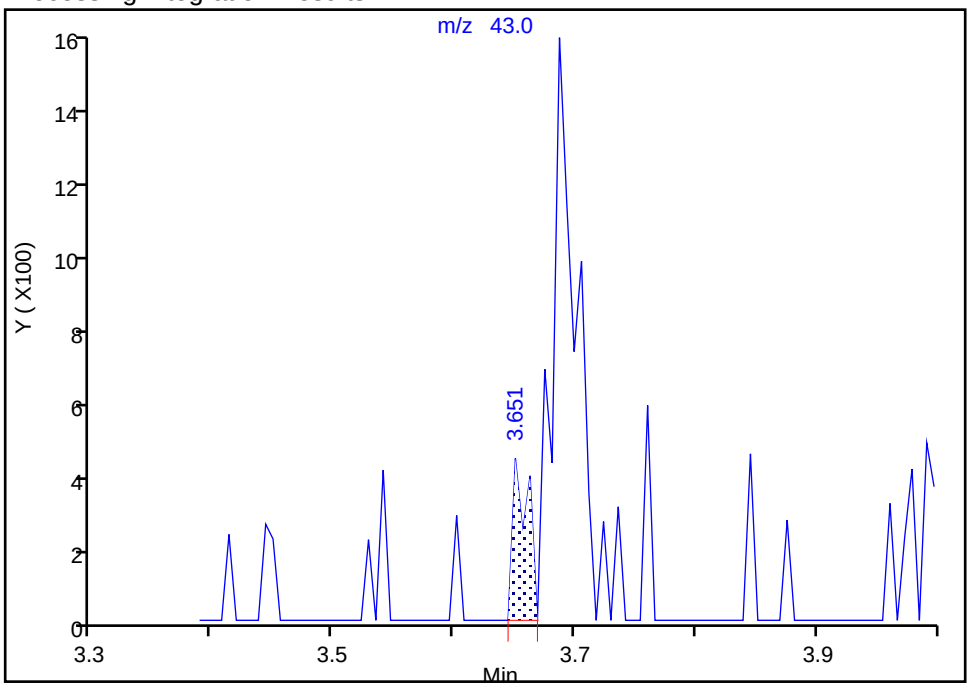
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D				
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

24 Acetone, CAS: 67-64-1

Signal: 1

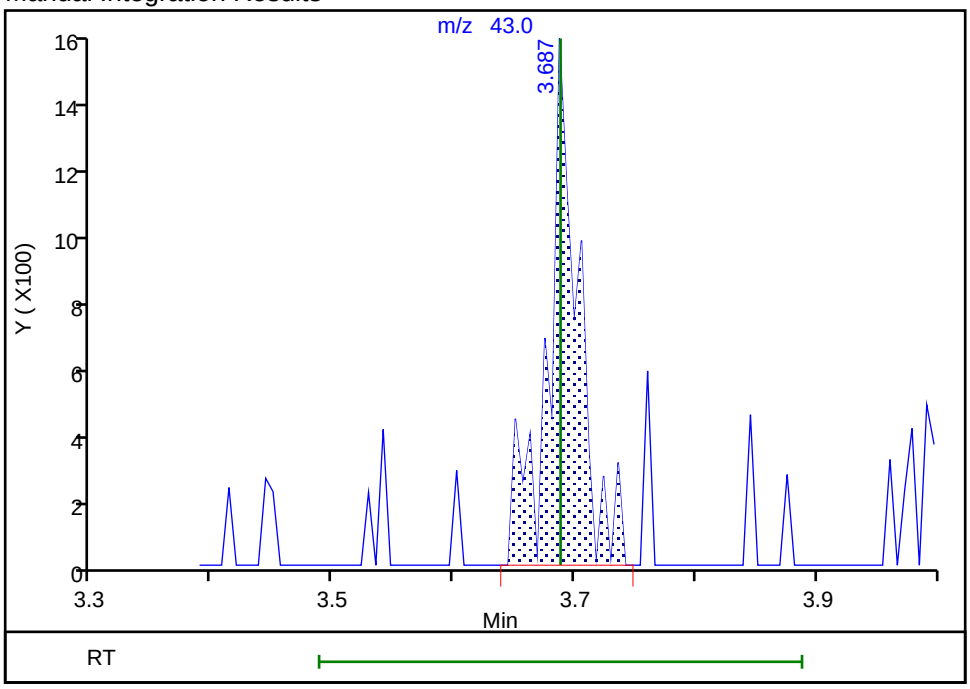
Processing Integration Results

RT: 3.65
Area: 381
Amount: 0.732363
Amount Units: ng



Manual Integration Results

RT: 3.69
Area: 2673
Amount: 5.138073
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:15:27

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

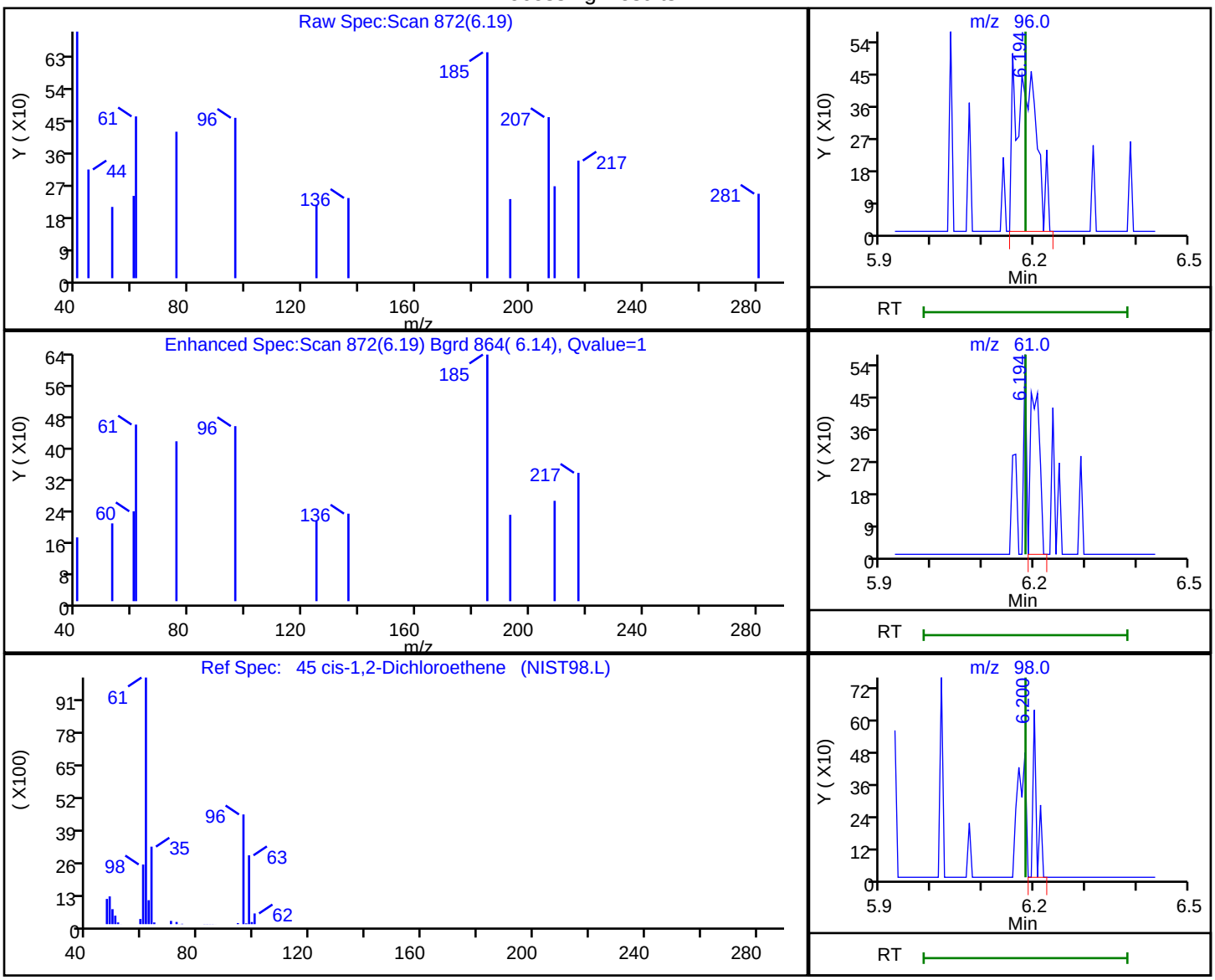
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D				
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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

Processing Results



RT	Mass	Response	Amount
6.19	96.00	1340	0.994775
6.19	61.00	571	
6.20	98.00	329	

Reviewer: bowieh, 06-Nov-2019 10:15:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

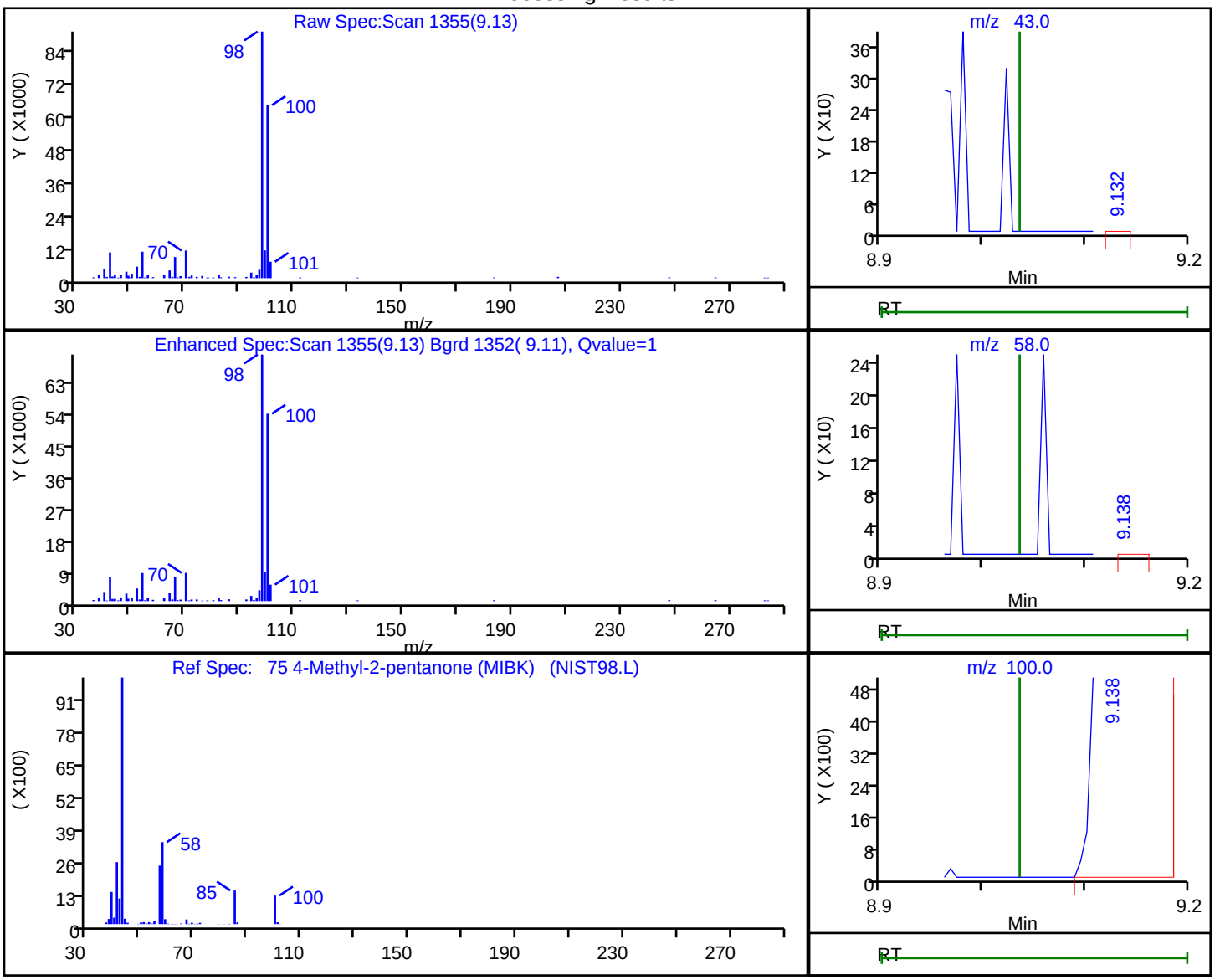
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110522.D				
Injection Date:	05-Nov-2019 21:00:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-9	Lab Sample ID:	180-97854-9		
Client ID:	HD-COD-SW-26-0/1-0				
Operator ID:	433269	ALS Bottle#:	16	Worklist Smp#:	22
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.13	43.00	465	0.366459
9.14	58.00	1073	
9.14	100.00	140210	

Reviewer: bowieh, 06-Nov-2019 10:16:01

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-27-0/1-0 Lab Sample ID: 180-97854-10

Matrix: Water Lab File ID: 5110523.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:15

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 21:25

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	1.2		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-27-0/1-0 Lab Sample ID: 180-97854-10

Matrix: Water Lab File ID: 5110523.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 14:15

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 21:25

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	118		70-150
2037-26-5	Toluene-d8 (Surr)	84		78-128
460-00-4	4-Bromofluorobenzene (Surr)	74		64-123
1868-53-7	Dibromofluoromethane (Surr)	137		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D
Lims ID: 180-97854-A-10
Client ID: HD-COD-SW-27-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 21:25:30 ALS Bottle#: 17 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-023
Misc. Info.: 180-97854-A-10
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:18:37 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:18:37

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.544	4.552	-0.008	0	119016	1000.0	
* 2 Fluorobenzene (IS)	96	7.507	7.508	-0.001	99	216142	50.0	
* 3 Chlorobenzene-d5	119	10.591	10.587	0.004	85	63605	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.927	12.923	0.004	93	102349	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.785	-0.002	94	73432	68.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.150	-0.002	0	86617	59.0	
$ 7 Toluene-d8 (Surr)	98	9.137	9.139	-0.002	94	213772	42.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.767	-0.002	95	70251	37.2	
12 Chloromethane	50		1.918				ND	
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.692	3.688	0.004	75	7400	14.4	
26 Carbon disulfide	76		3.871				ND	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96		6.182				ND	U
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.600	6.602	-0.002	93	14213	6.19	
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130		7.886				ND	
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83	8.456	8.433	0.023	1	1855	1.21	a

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	
80 Tetrachloroethene	164		9.717				ND	U
82 2-Hexanone	43		9.863				ND	U
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

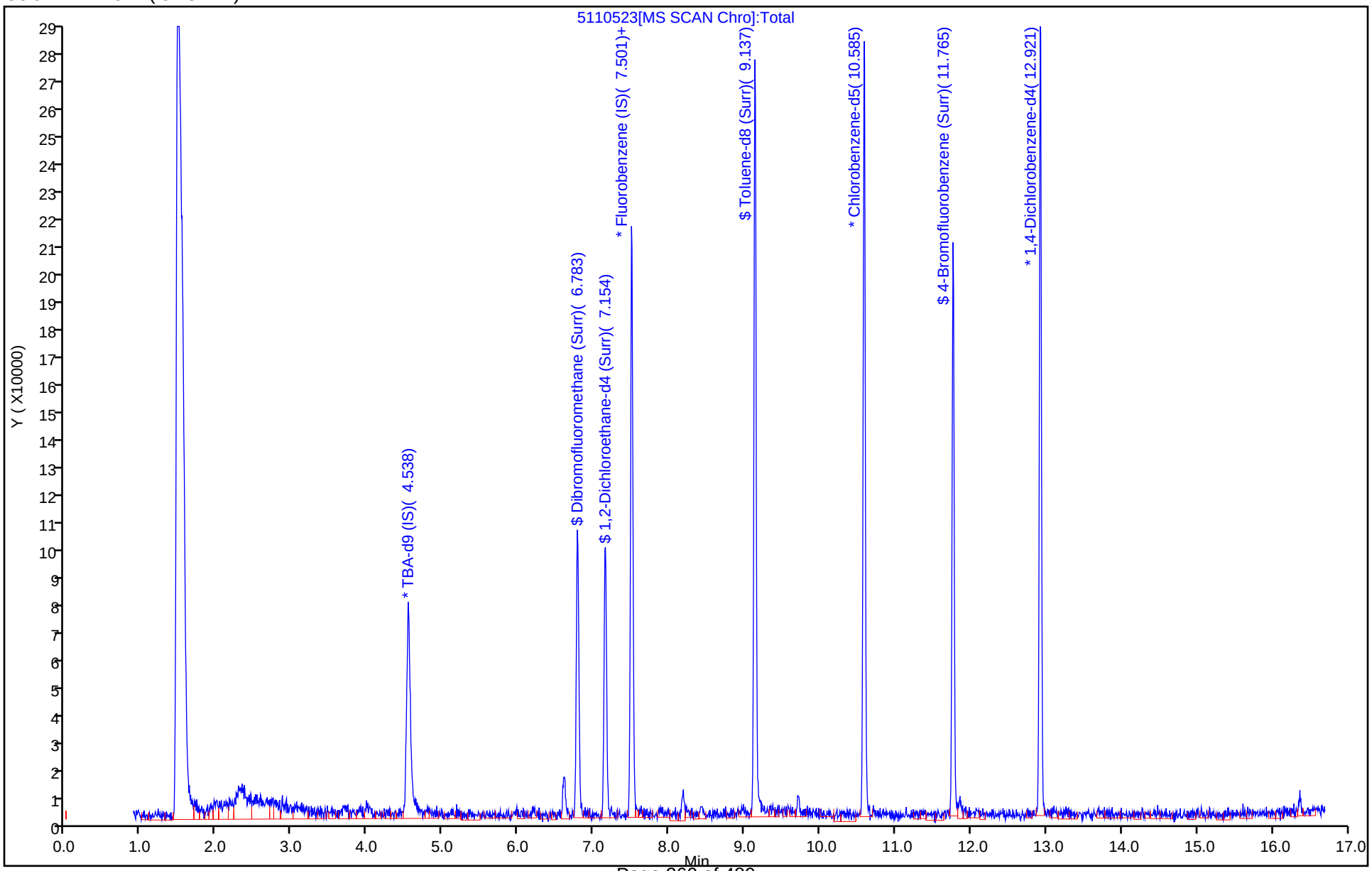
Report Date: 06-Nov-2019 10:18:38 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D

Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10	Worklist Smp#:	23
Client ID:	HD-COD-SW-27-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D
Lims ID: 180-97854-A-10
Client ID: HD-COD-SW-27-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 21:25:30 ALS Bottle#: 17 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-023
Misc. Info.: 180-97854-A-10
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:18:37 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:18:37

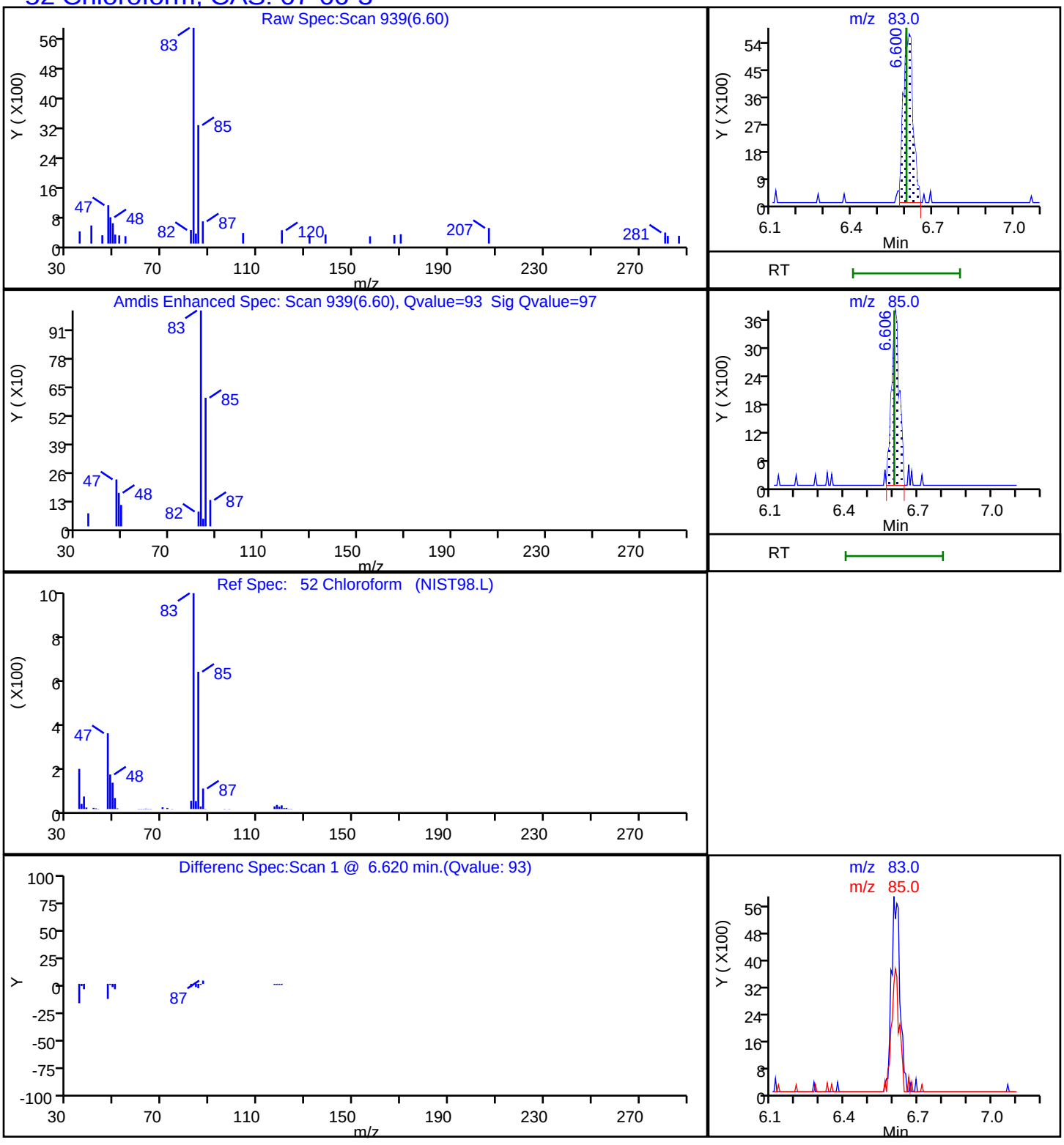
Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	68.3	136.70
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	59.0	118.03
$ 7 Toluene-d8 (Surr)	50.0	42.0	83.99
$ 8 4-Bromofluorobenzene (Surr)	50.0	37.2	74.41

Report Date: 06-Nov-2019 10:18:38 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

52 Chloroform, CAS: 67-66-3



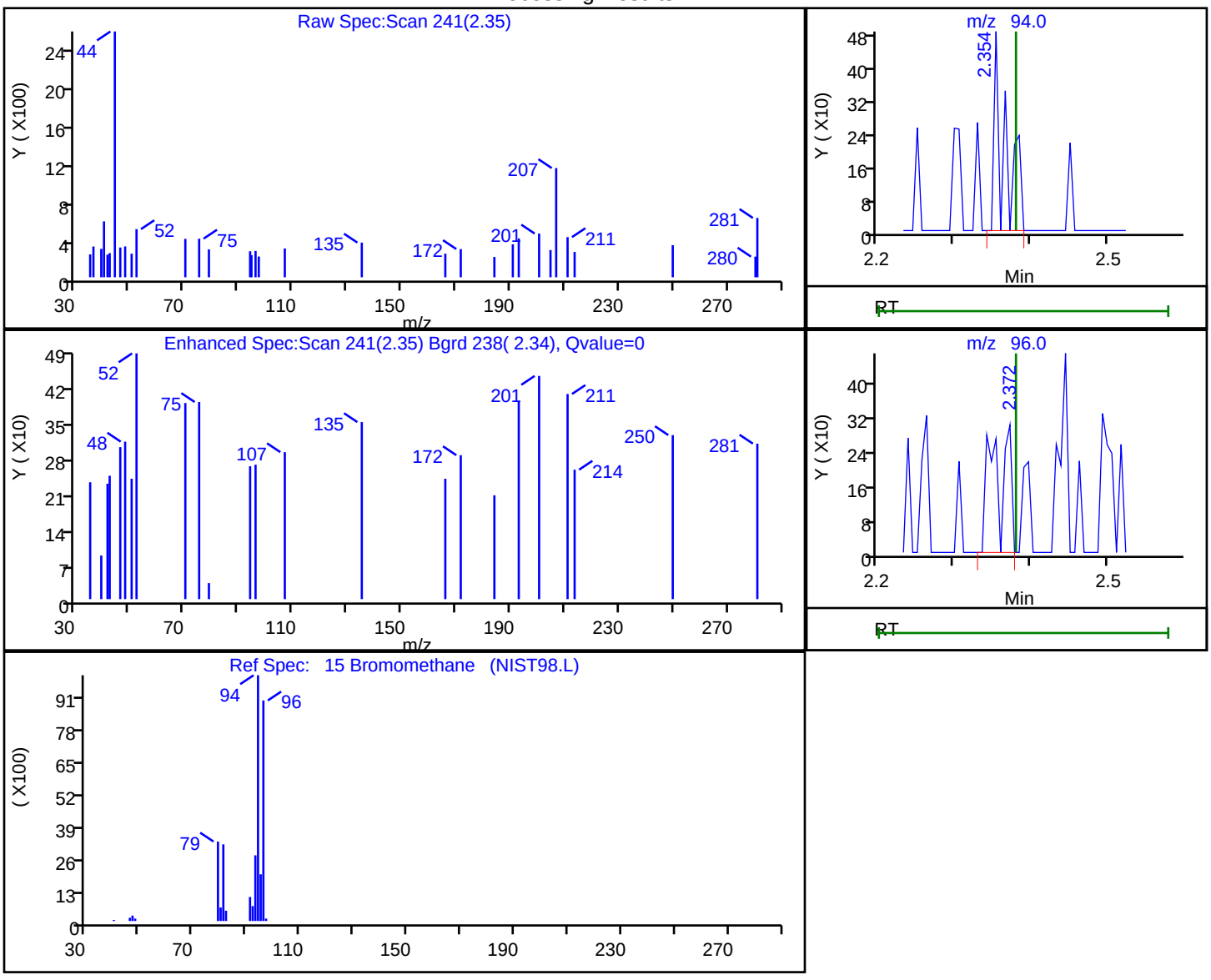
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.35	94.00	467	0.466990
2.37	96.00	477	

Reviewer: bowieh, 06-Nov-2019 10:16:22

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

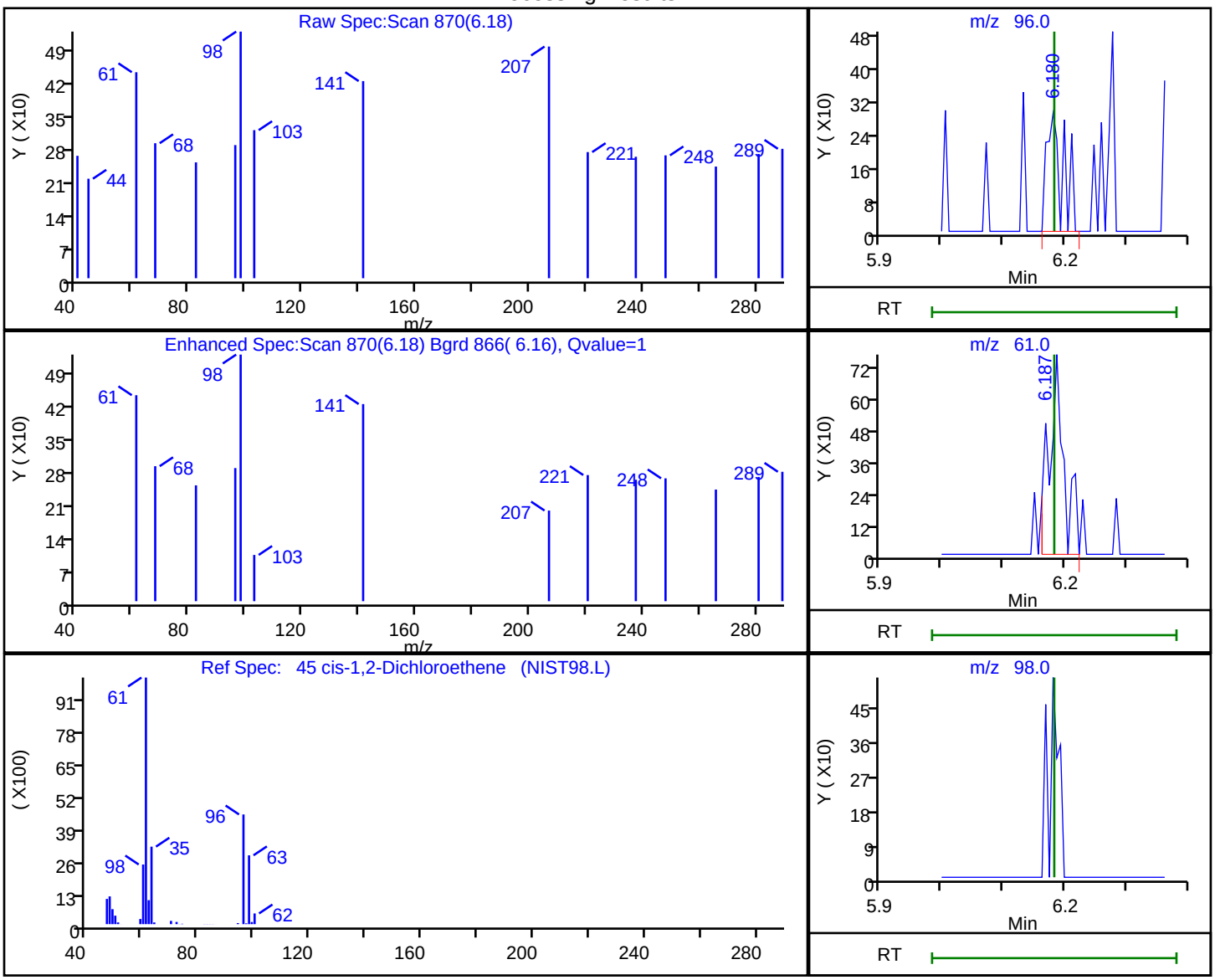
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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

Processing Results



RT	Mass	Response	Amount
6.18	96.00	527	0.394811
6.19	61.00	1308	
6.18	98.00	0	

Reviewer: bowieh, 06-Nov-2019 10:17:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

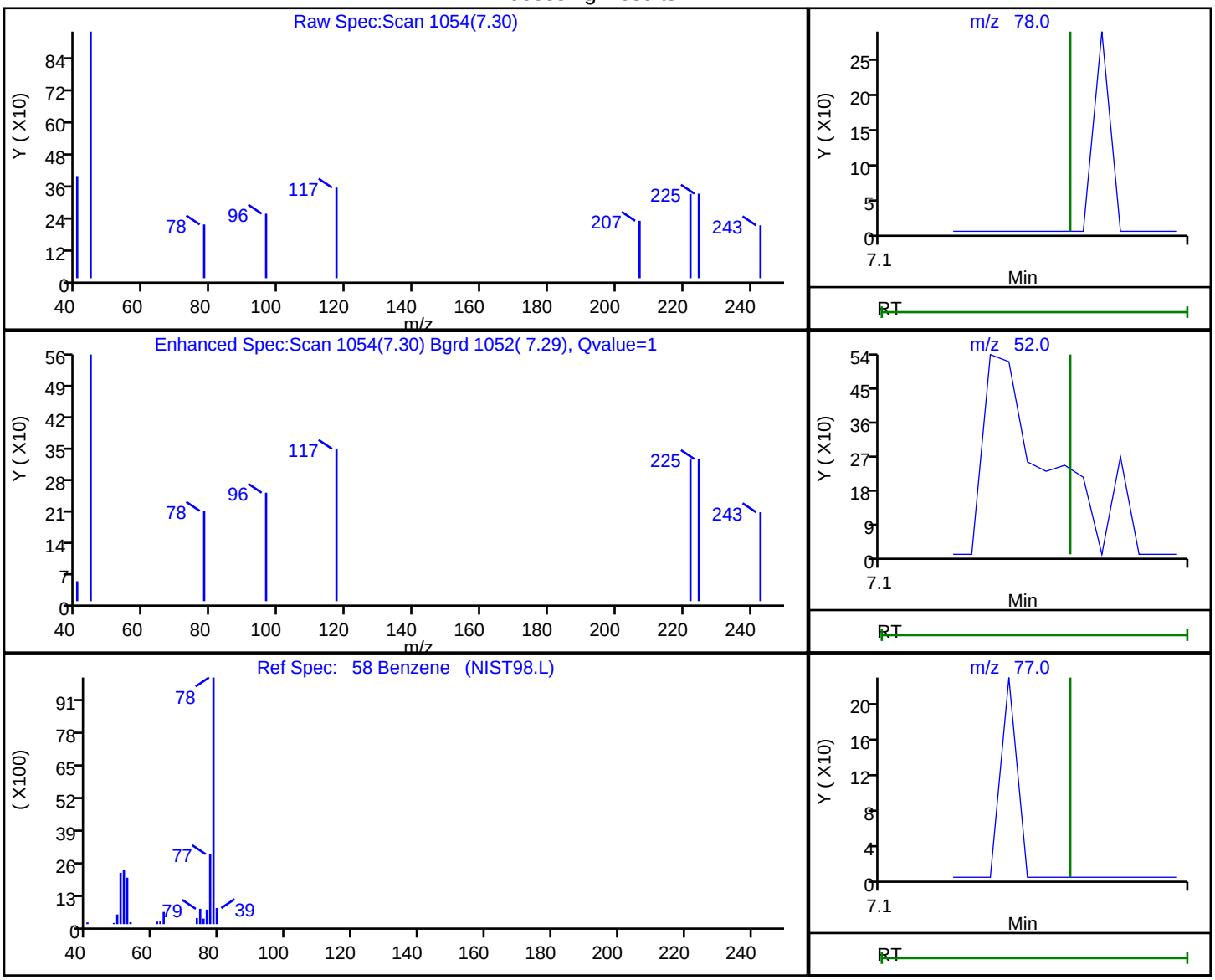
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.30	78.00	74	0.014446
7.16	52.00	0	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:17:28

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

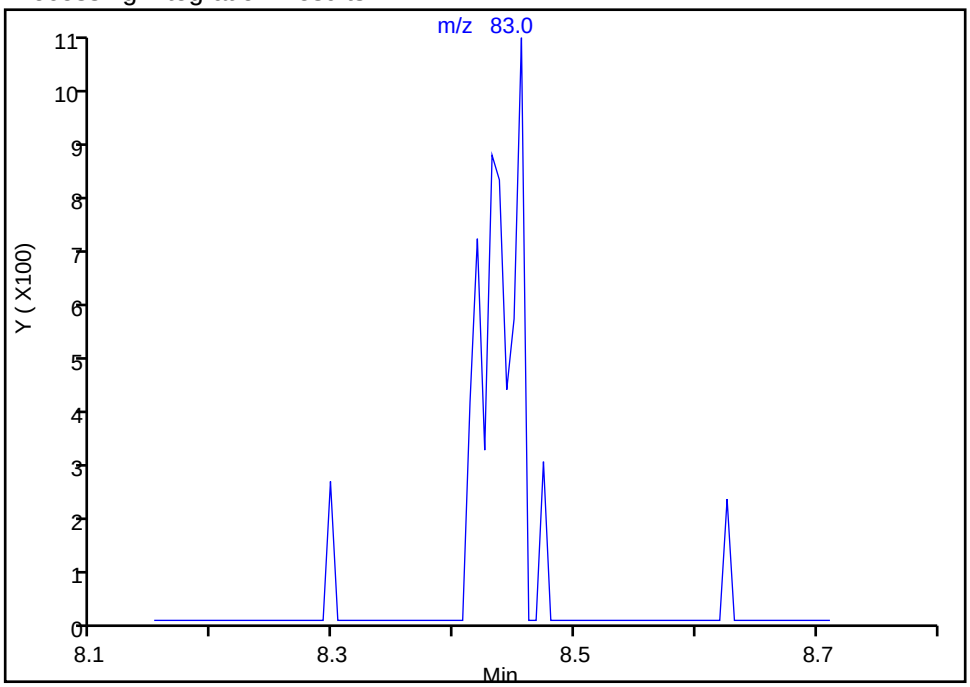
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

71 Dichlorobromomethane, CAS: 75-27-4

Signal: 1

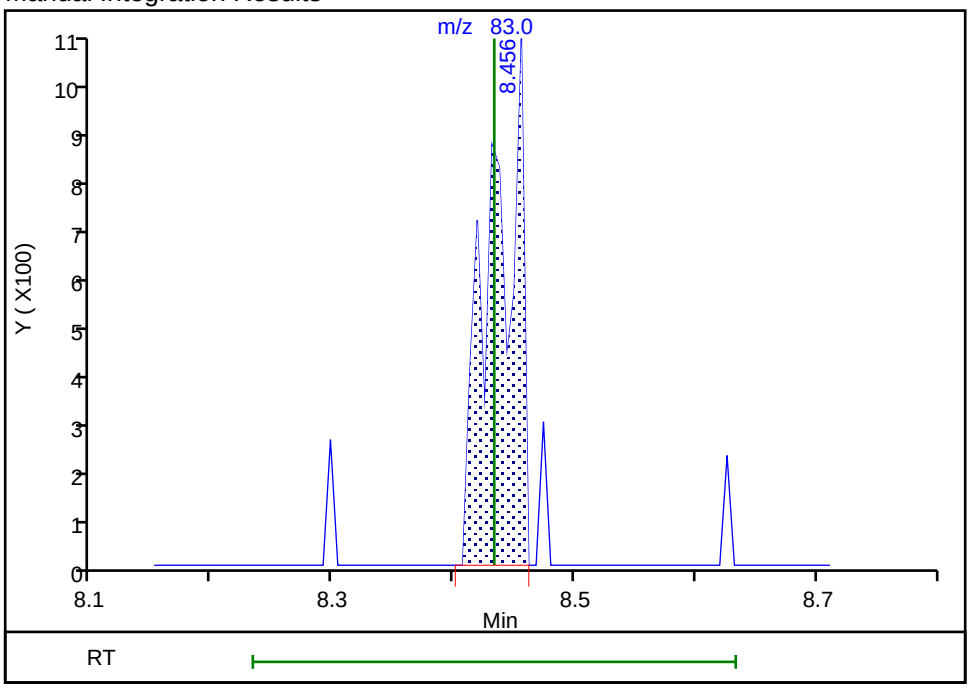
Not Detected
Expected RT: 8.43

Processing Integration Results



Manual Integration Results

RT: 8.46
Area: 1855
Amount: 1.213185
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:18:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

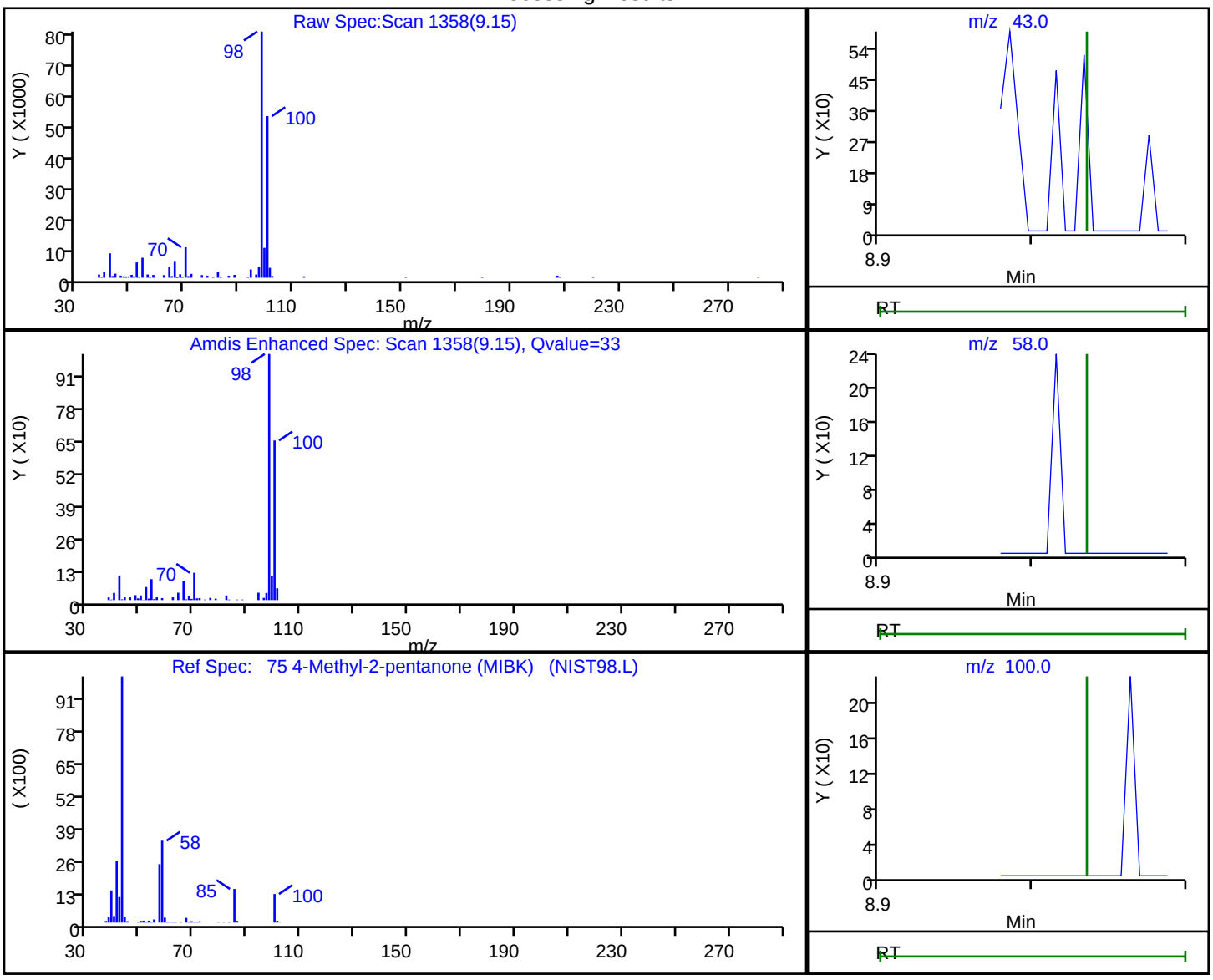
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.15	43.00	409	0.322737
9.14	58.00	1468	
9.14	100.00	142989	

Reviewer: bowieh, 06-Nov-2019 10:18:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

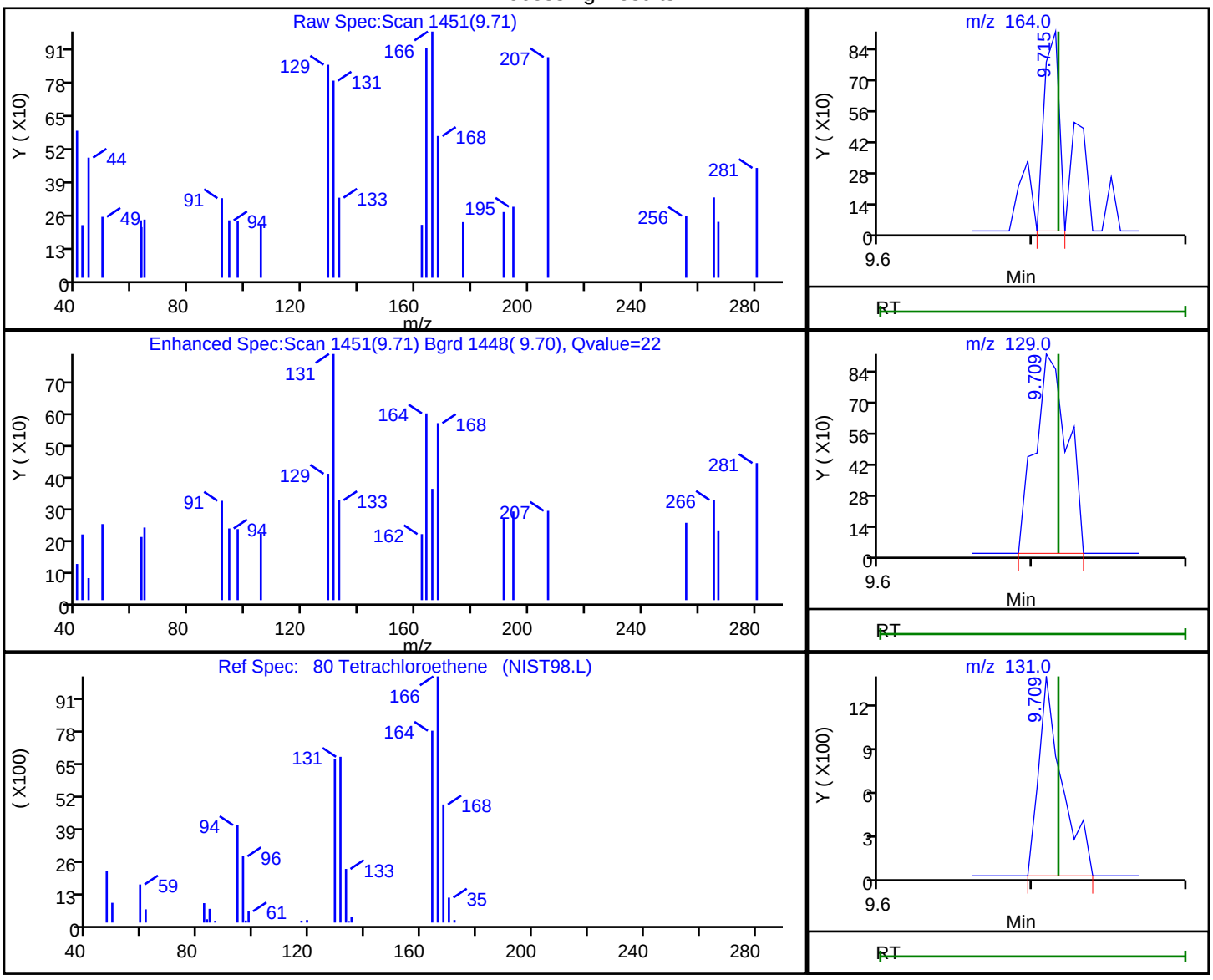
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

80 Tetrachloroethene, CAS: 127-18-4

Processing Results



RT	Mass	Response	Amount
9.71	164.00	616	0.400605
9.71	129.00	1356	
9.71	131.00	1386	

Reviewer: bowieh, 06-Nov-2019 10:18:27

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

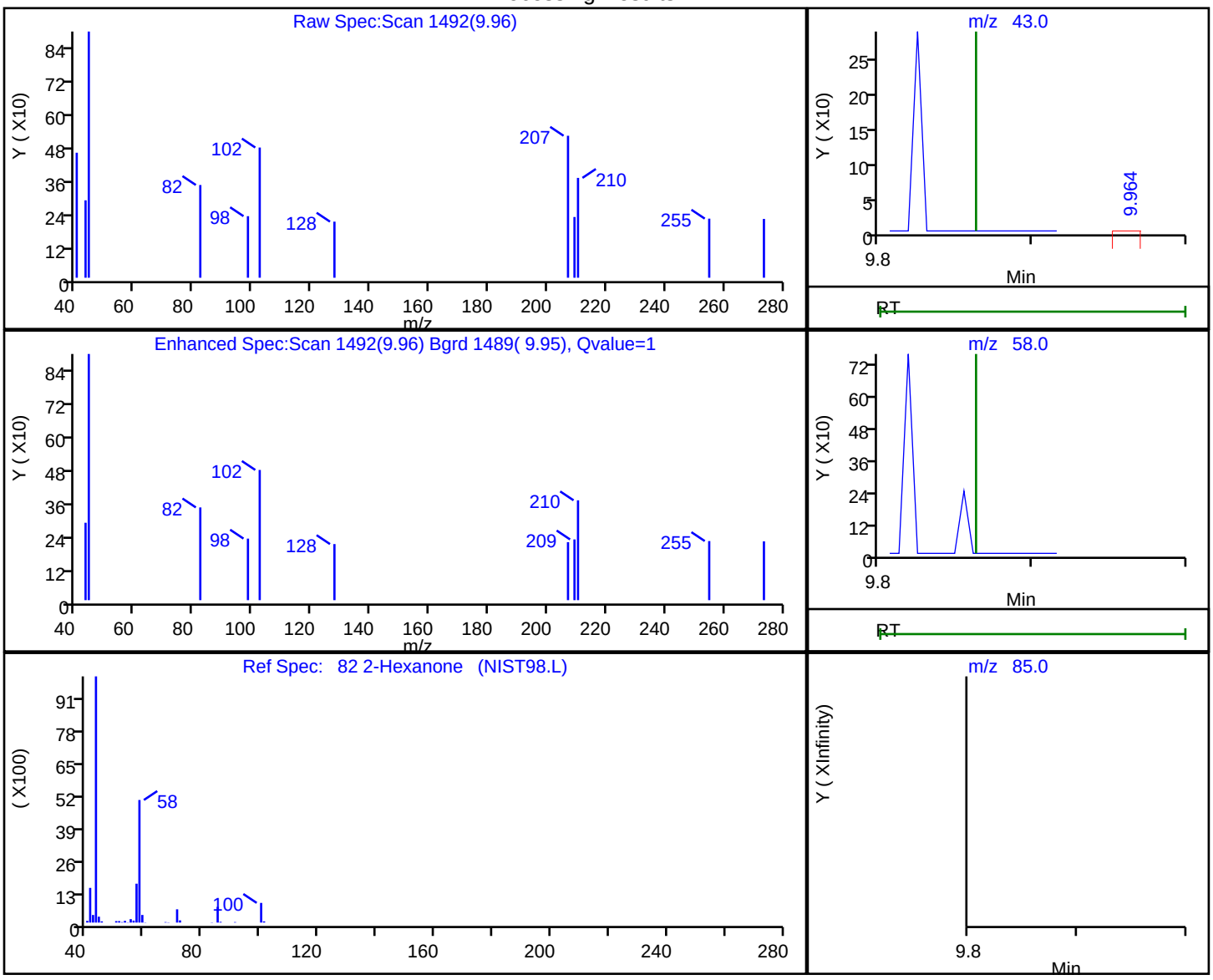
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
9.96	43.00	182	0.211759
9.86	58.00	0	
9.86	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:18:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

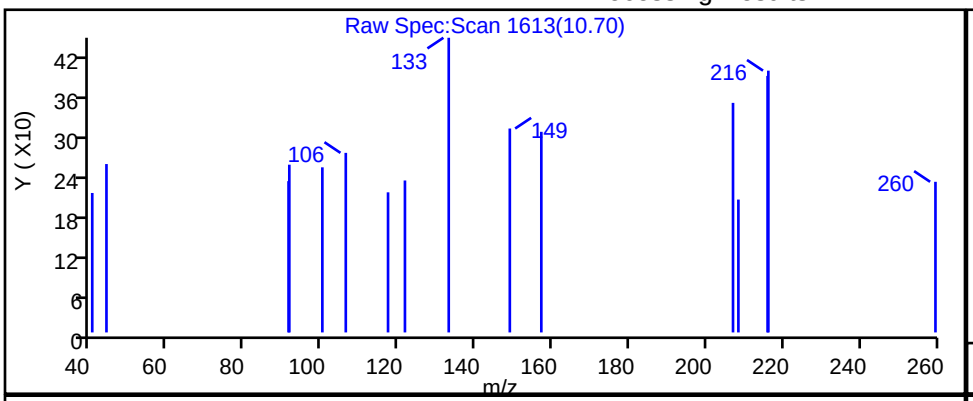
User Disabled Compound Report

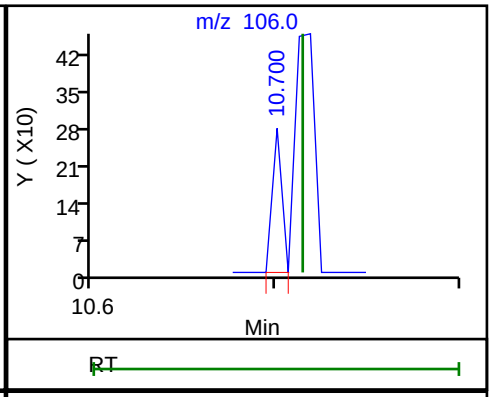
Eurofins TestAmerica, Pittsburgh

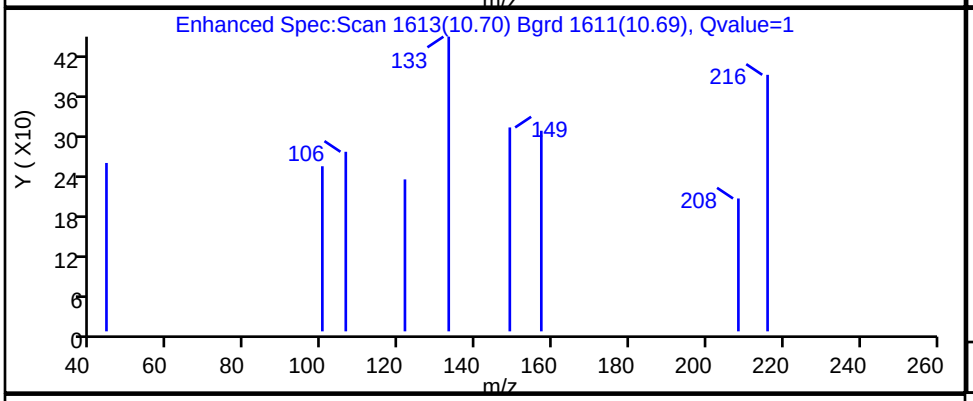
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110523.D				
Injection Date:	05-Nov-2019 21:25:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-10	Lab Sample ID:	180-97854-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	17	Worklist Smp#:	23
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

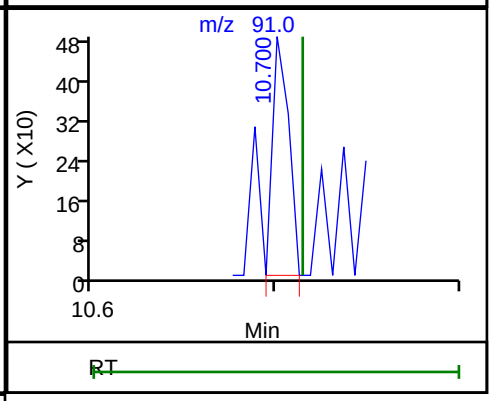
90 Ethylbenzene, CAS: 100-41-4

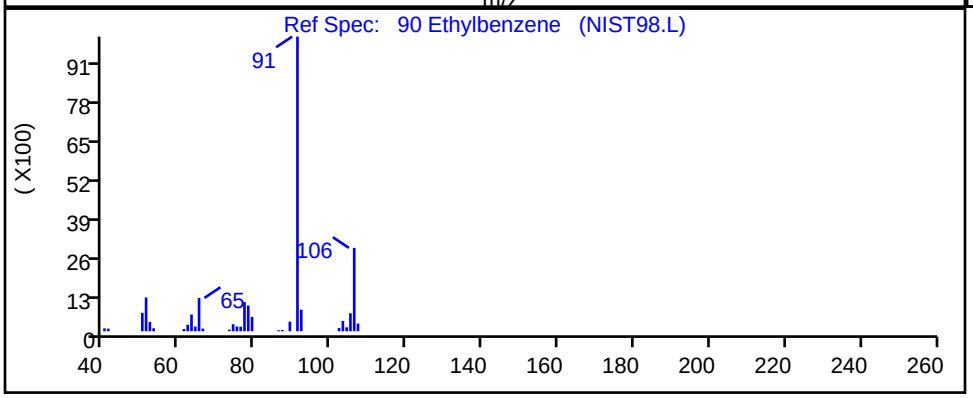
Processing Results











RT	Mass	Response	Amount
10.70	106.00	100	0.044542
10.70	91.00	297	

Reviewer: bowieh, 06-Nov-2019 10:18:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-28-0/1-0 Lab Sample ID: 180-97854-11

Matrix: Water Lab File ID: 5110524.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 15:00

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 21:49

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-28-0/1-0 Lab Sample ID: 180-97854-11

Matrix: Water Lab File ID: 5110524.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 15:00

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 21:49

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	125		70-150
2037-26-5	Toluene-d8 (Surr)	90		78-128
460-00-4	4-Bromofluorobenzene (Surr)	82		64-123
1868-53-7	Dibromofluoromethane (Surr)	130		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D
Lims ID: 180-97854-B-11
Client ID: HD-COD-SW-28-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 21:49:30 ALS Bottle#: 18 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-024
Misc. Info.: 180-97854-B-11
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:20:09 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:20:09

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.547	4.552	-0.005	0	107589	1000.0	
* 2 Fluorobenzene (IS)	96	7.503	7.508	-0.005	99	212670	50.0	
* 3 Chlorobenzene-d5	119	10.587	10.587	0.000	85	62040	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.924	12.923	0.001	93	106961	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.779	6.785	-0.006	94	68927	65.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.150	0.000	0	90359	62.6	
$ 7 Toluene-d8 (Surr)	98	9.140	9.139	0.001	93	222604	44.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.762	11.767	-0.005	95	75818	41.2	
12 Chloromethane	50		1.918				ND	U
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.689	3.688	0.001	63	7937	15.6	
26 Carbon disulfide	76		3.871				ND	
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96		6.182				ND	U
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83	6.615	6.602	0.013	23	1747	0.7731	M
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130		7.886				ND	U
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91	9.207	9.206	0.001	45	2296	0.3657	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	U
80 Tetrachloroethene	164		9.717				ND	
82 2-Hexanone	43		9.863				ND	U
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

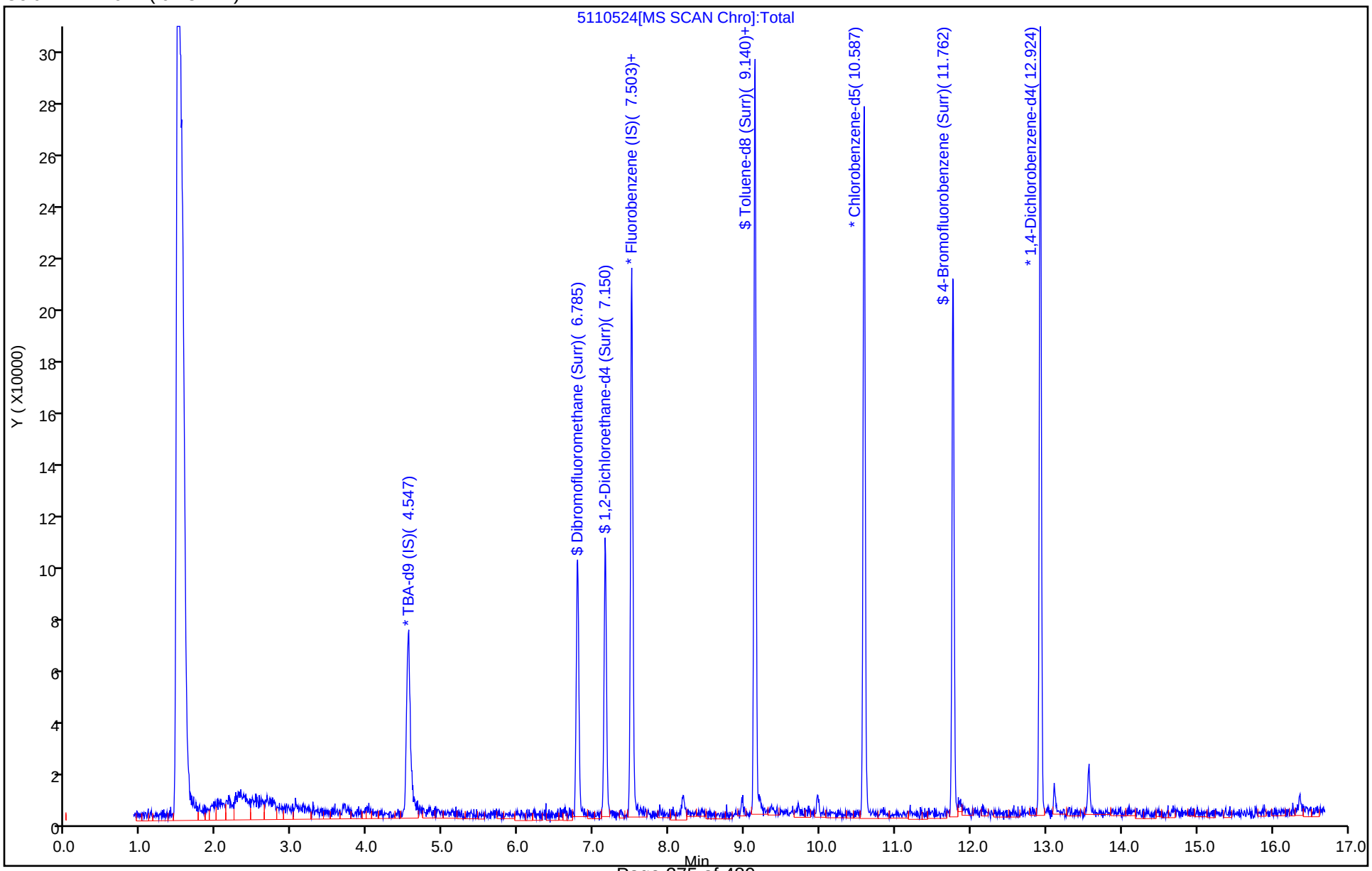
voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 06-Nov-2019 10:20:10 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11	Worklist Smp#:	24
Client ID:	HD-COD-SW-28-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D
Lims ID: 180-97854-B-11
Client ID: HD-COD-SW-28-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 21:49:30 ALS Bottle#: 18 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-024
Misc. Info.: 180-97854-B-11
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:20:09 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:20:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	65.2	130.40
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	62.6	125.14
$ 7 Toluene-d8 (Surr)	50.0	44.8	89.66
$ 8 4-Bromofluorobenzene (Surr)	50.0	41.2	82.33

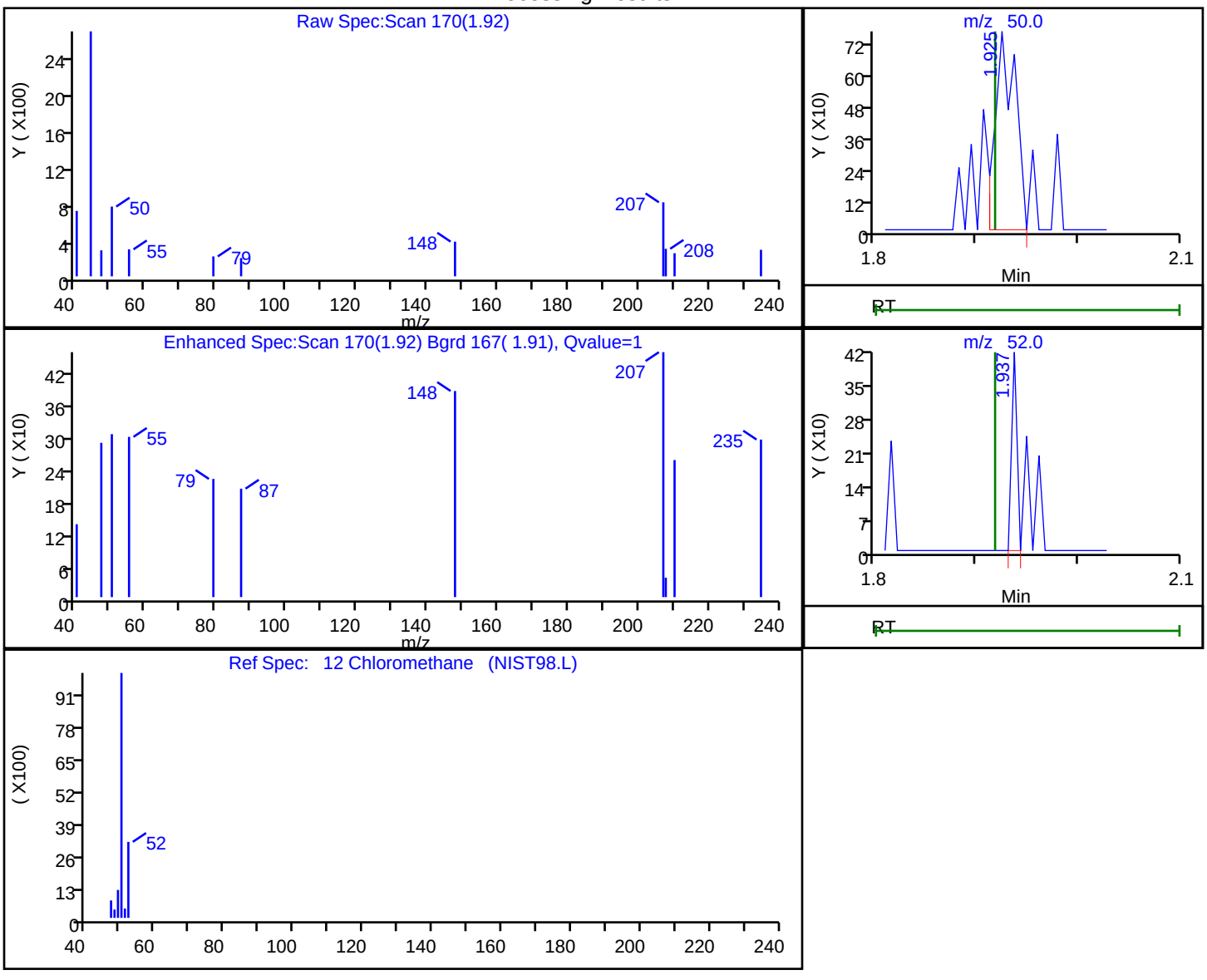
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.92	50.00	1057	0.683910
1.94	52.00	153	

Reviewer: bowieh, 06-Nov-2019 10:19:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

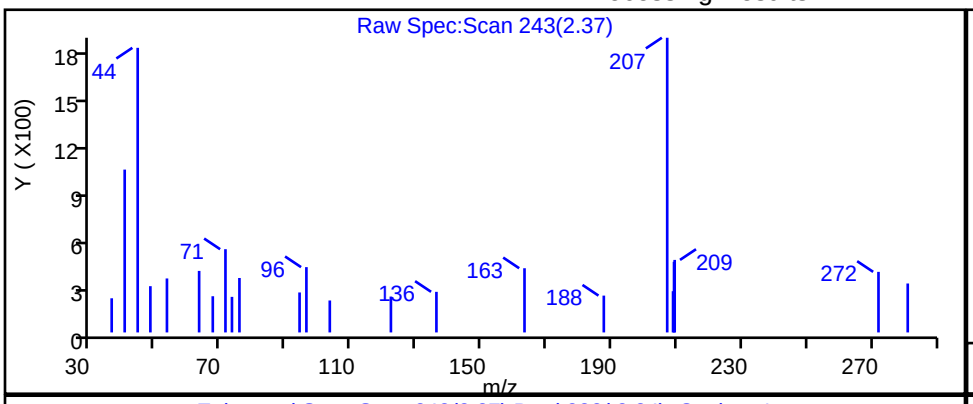
User Disabled Compound Report

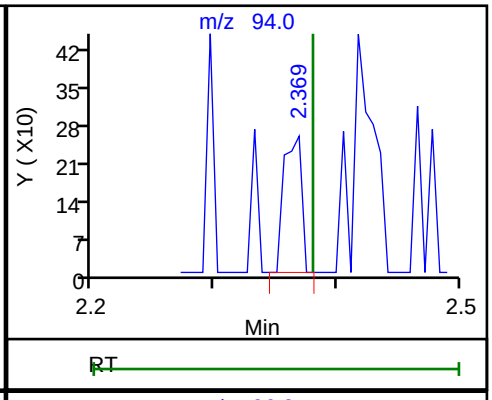
Eurofins TestAmerica, Pittsburgh

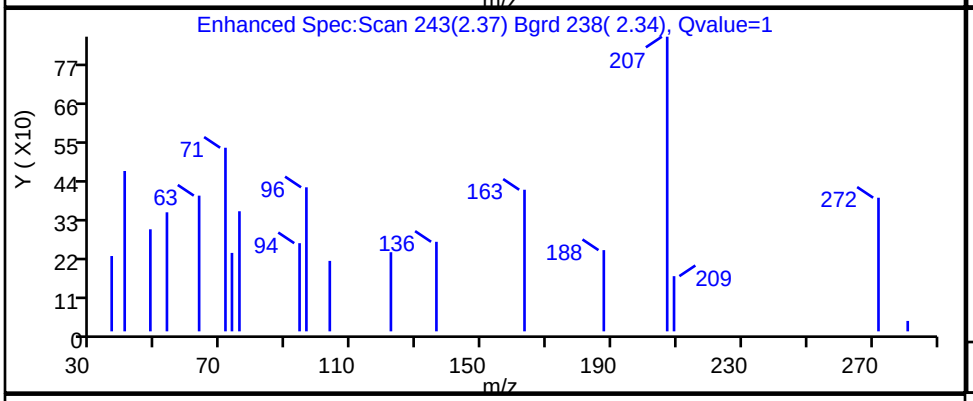
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

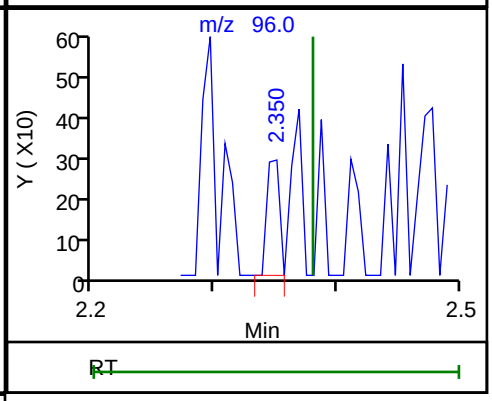
15 Bromomethane, CAS: 74-83-9

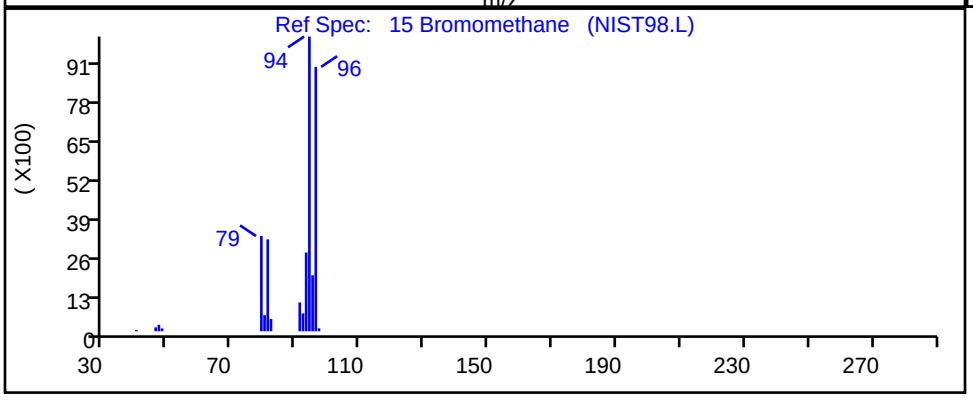
Processing Results











RT	Mass	Response	Amount
2.37	94.00	255	0.259157
2.35	96.00	208	

Reviewer: bowieh, 06-Nov-2019 10:19:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

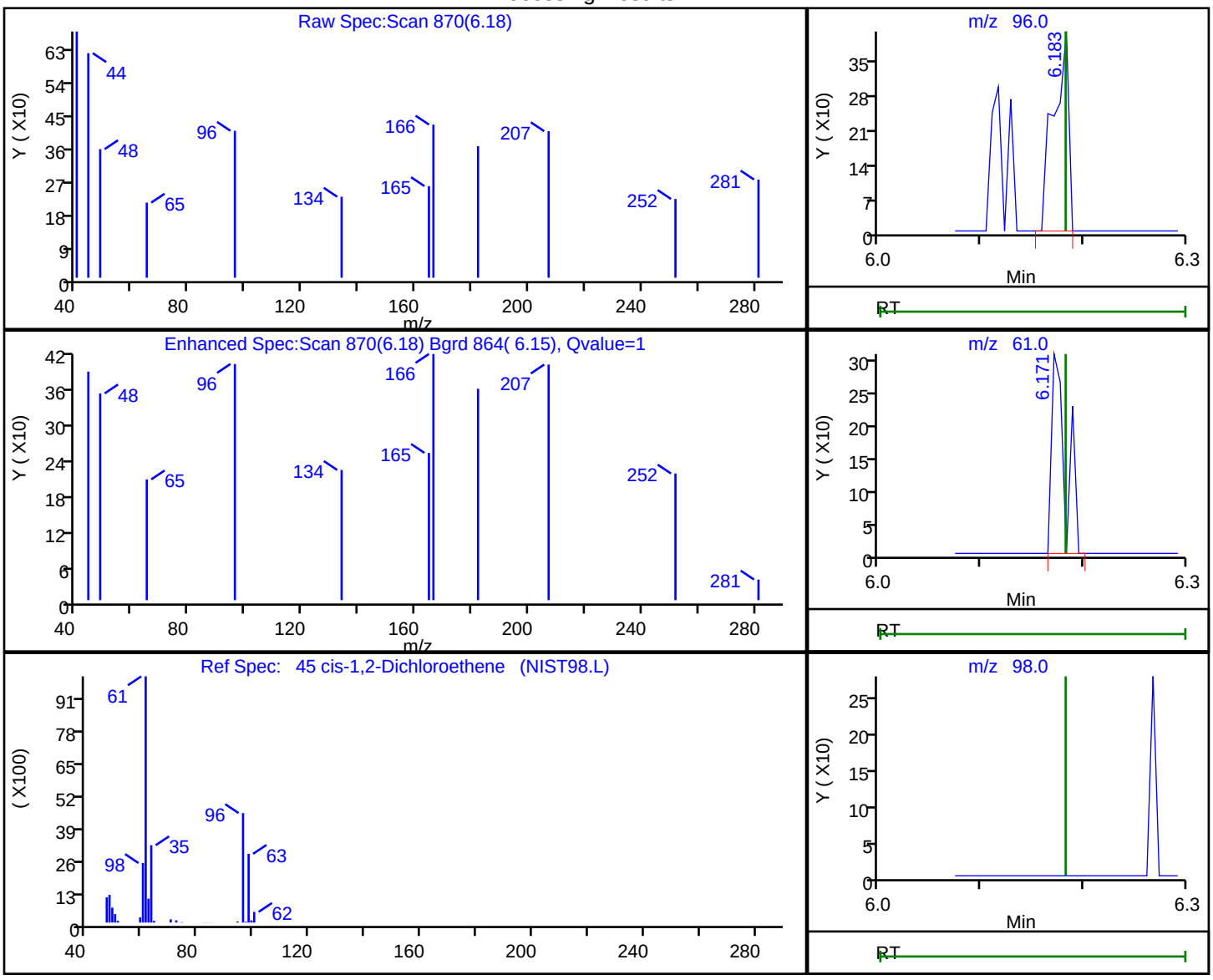
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

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

Processing Results



RT	Mass	Response	Amount
6.18	96.00	411	0.312934
6.17	61.00	293	
6.18	98.00	0	

Reviewer: bowieh, 06-Nov-2019 10:19:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

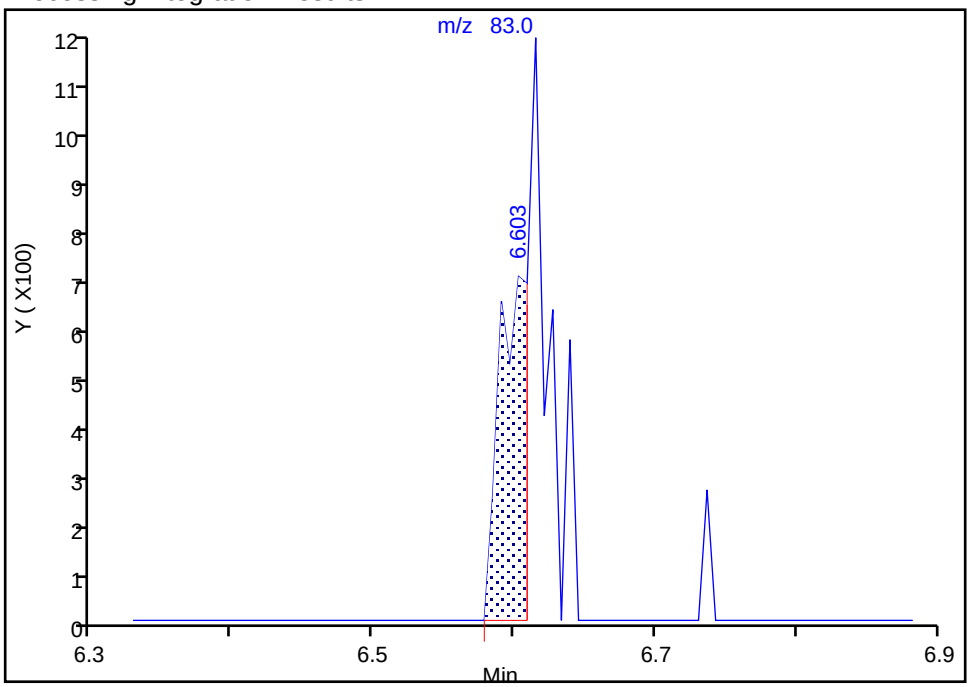
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D		
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11
Client ID:	HD-COD-SW-28-0/1-0		
Operator ID:	433269	ALS Bottle#:	18 Worklist Smp#: 24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

52 Chloroform, CAS: 67-66-3

Signal: 1

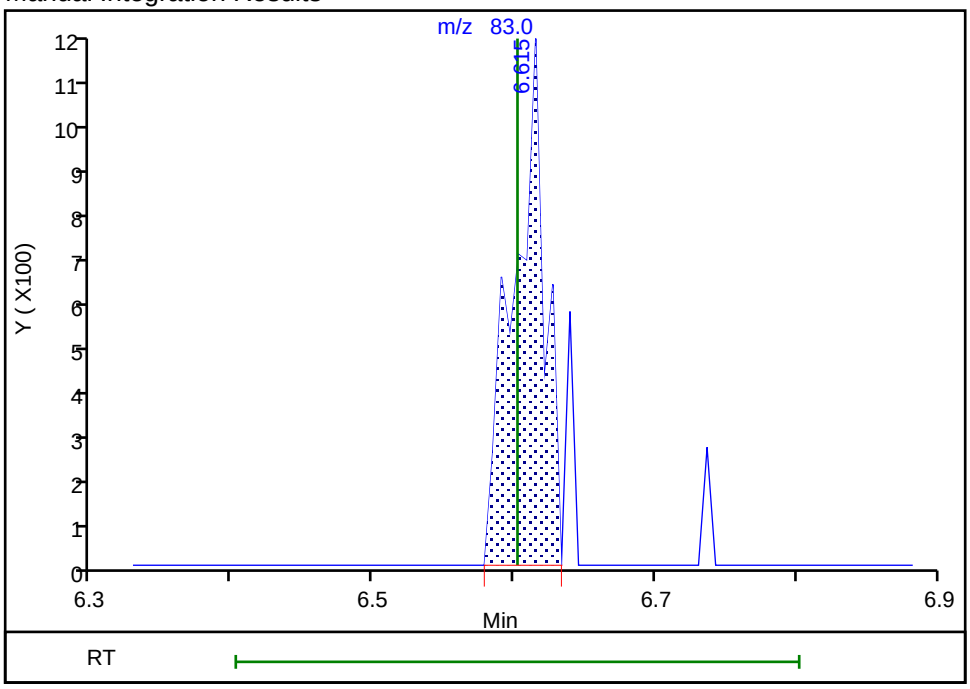
Processing Integration Results

RT: 6.60
Area: 973
Amount: 0.430571
Amount Units: ng



Manual Integration Results

RT: 6.61
Area: 1747
Amount: 0.773081
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:19:49
Audit Action: Manually Integrated Audit Reason: Poor chromatography

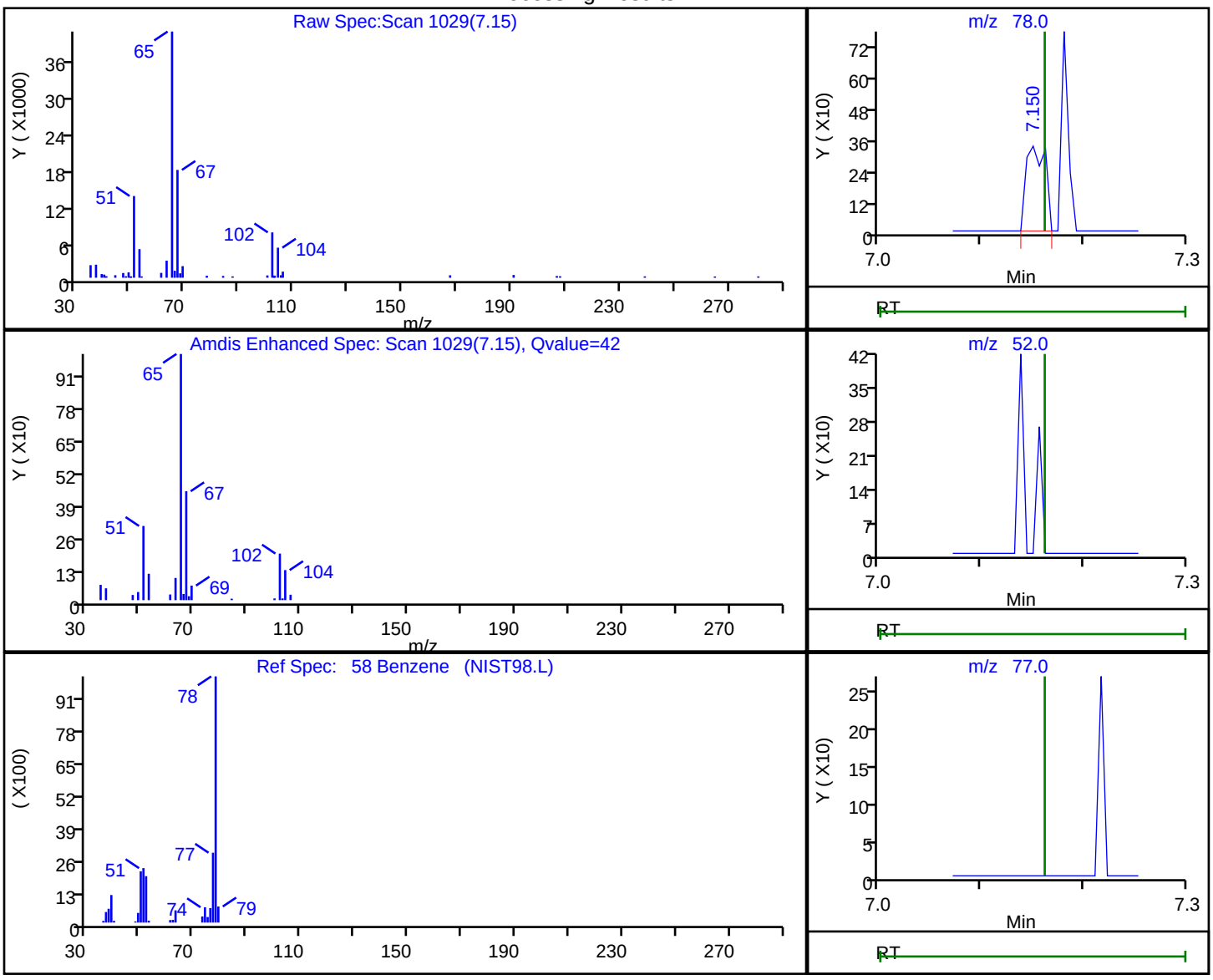
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.15	78.00	434	0.086110
7.16	52.00	0	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:19:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

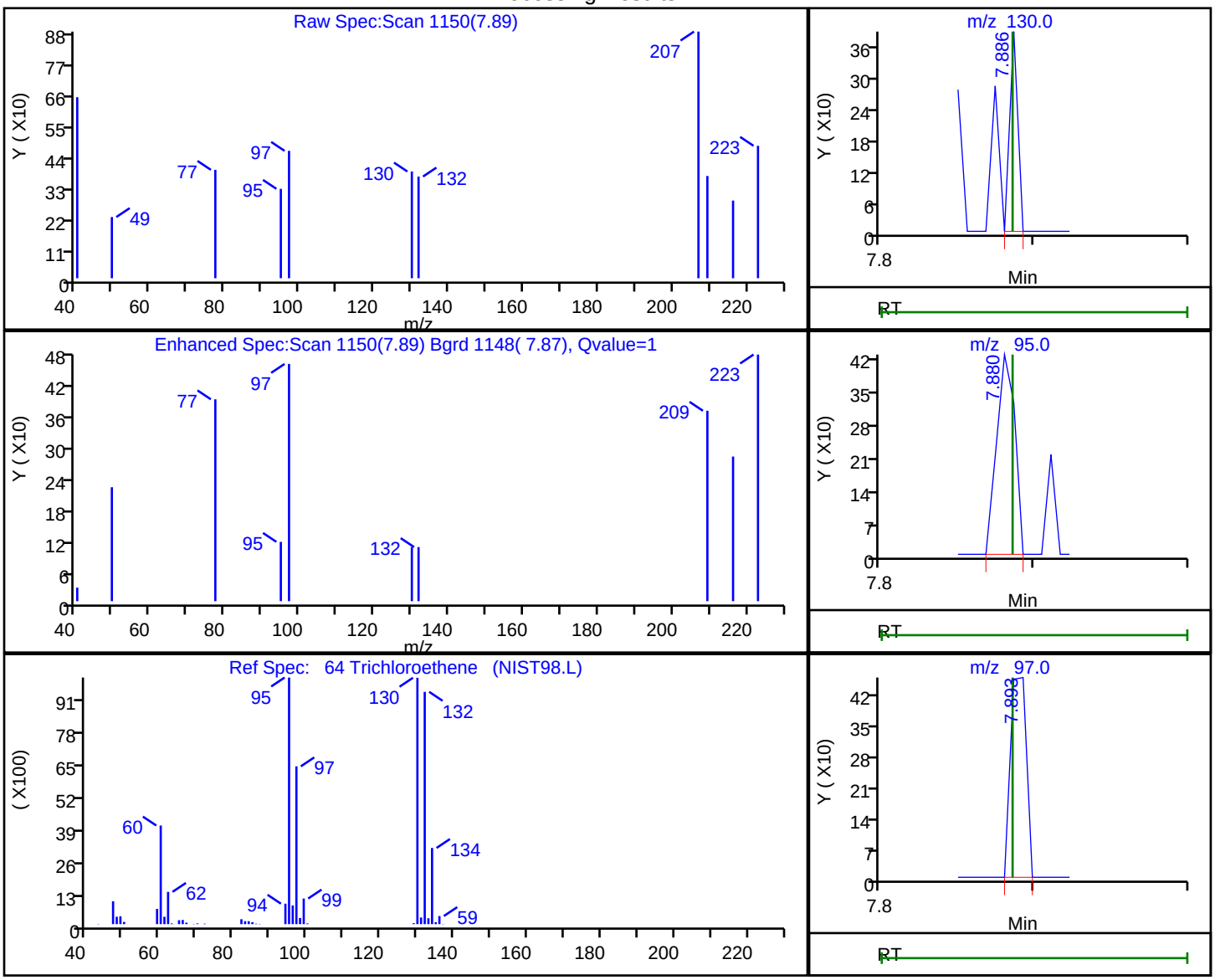
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 Trichloroethene, CAS: 79-01-6

Processing Results



RT	Mass	Response	Amount
7.89	130.00	139	0.100830
7.88	95.00	346	
7.89	97.00	334	

Reviewer: bowieh, 06-Nov-2019 10:19:54

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

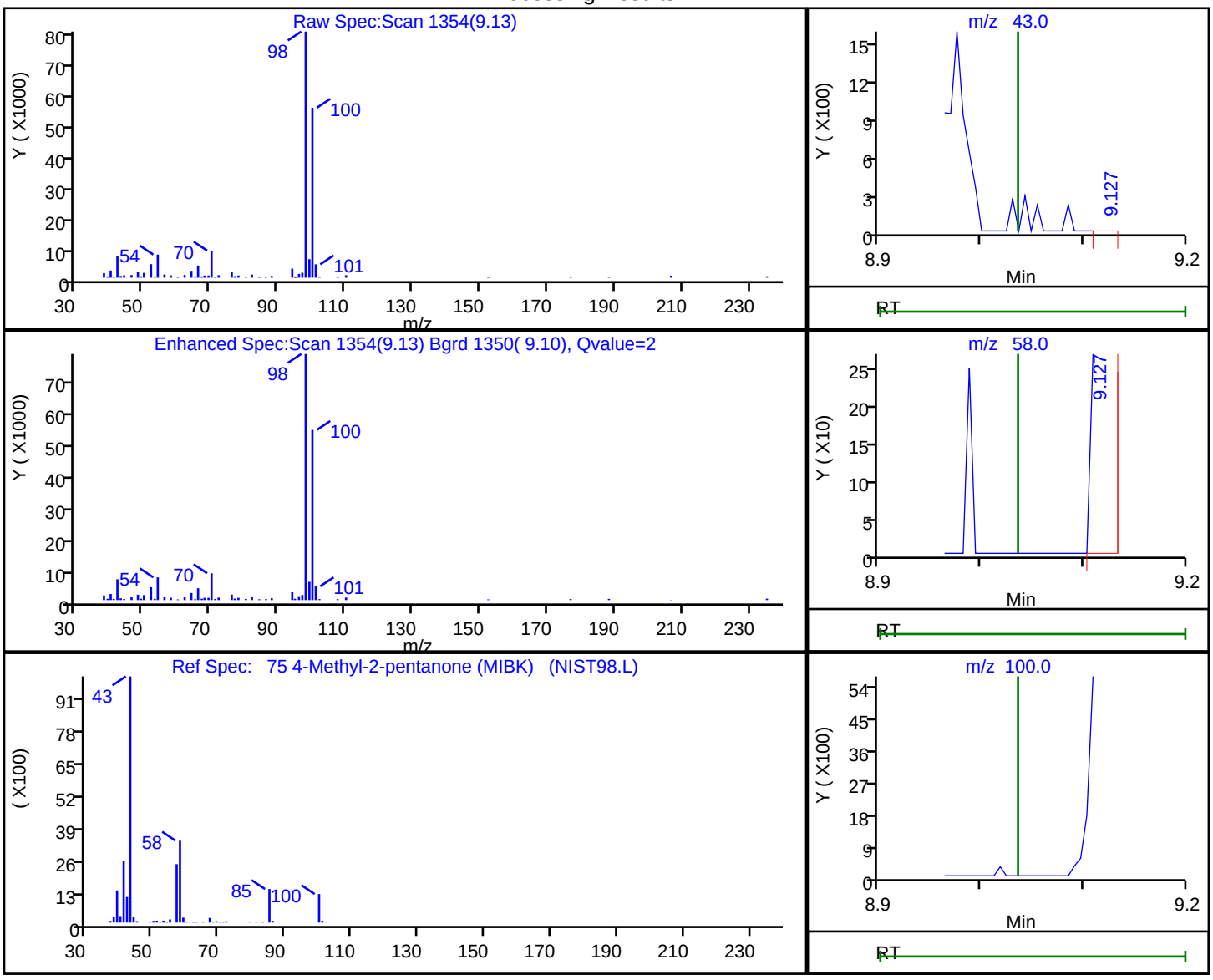
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.13	43.00	726	0.587330
9.13	58.00	892	
9.04	100.00	0	

Reviewer: bowieh, 06-Nov-2019 10:19:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

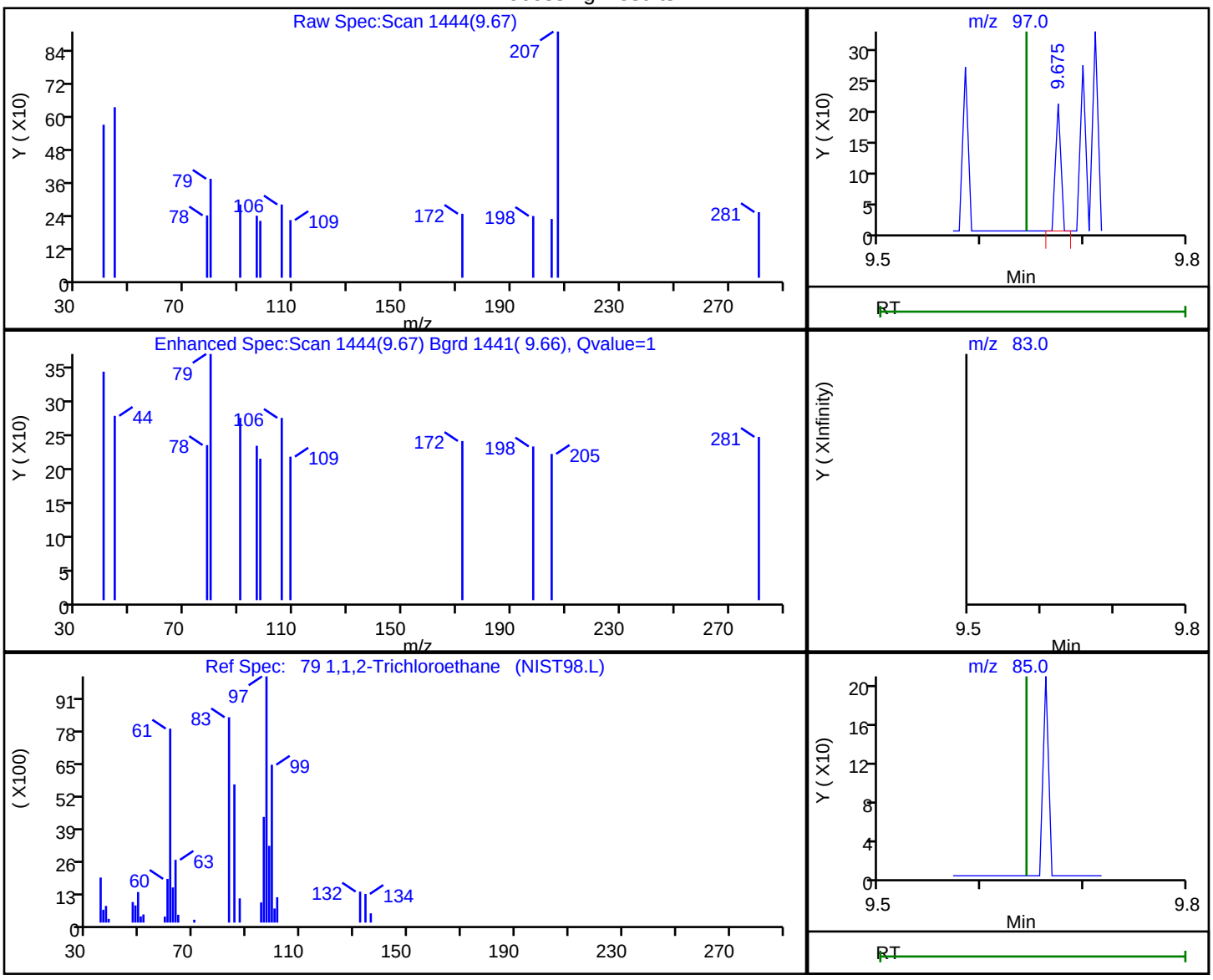
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.67	97.00	76	0.058002
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:20:00

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

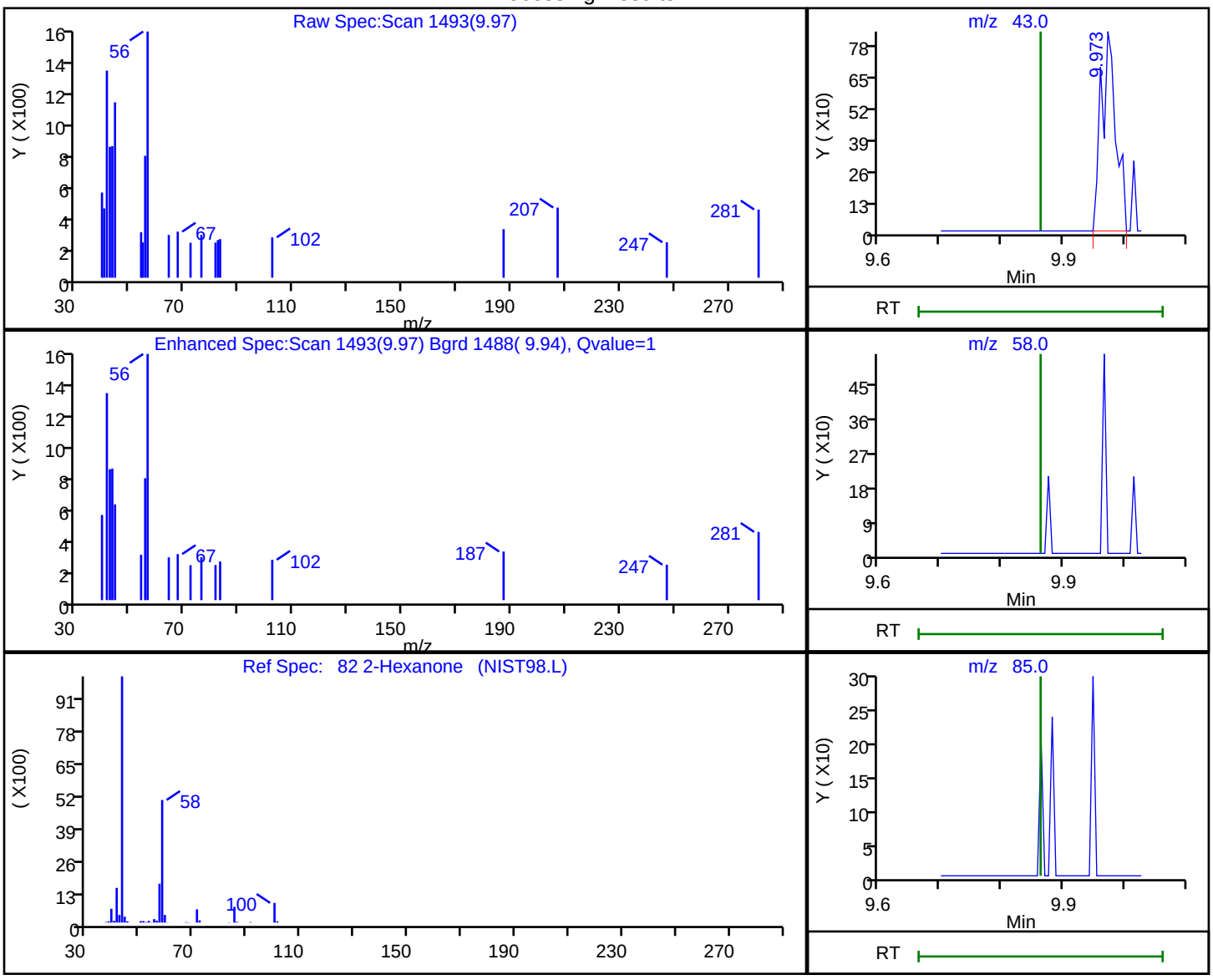
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
9.97	43.00	1385	1.652114
9.86	58.00	0	
9.86	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:20:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

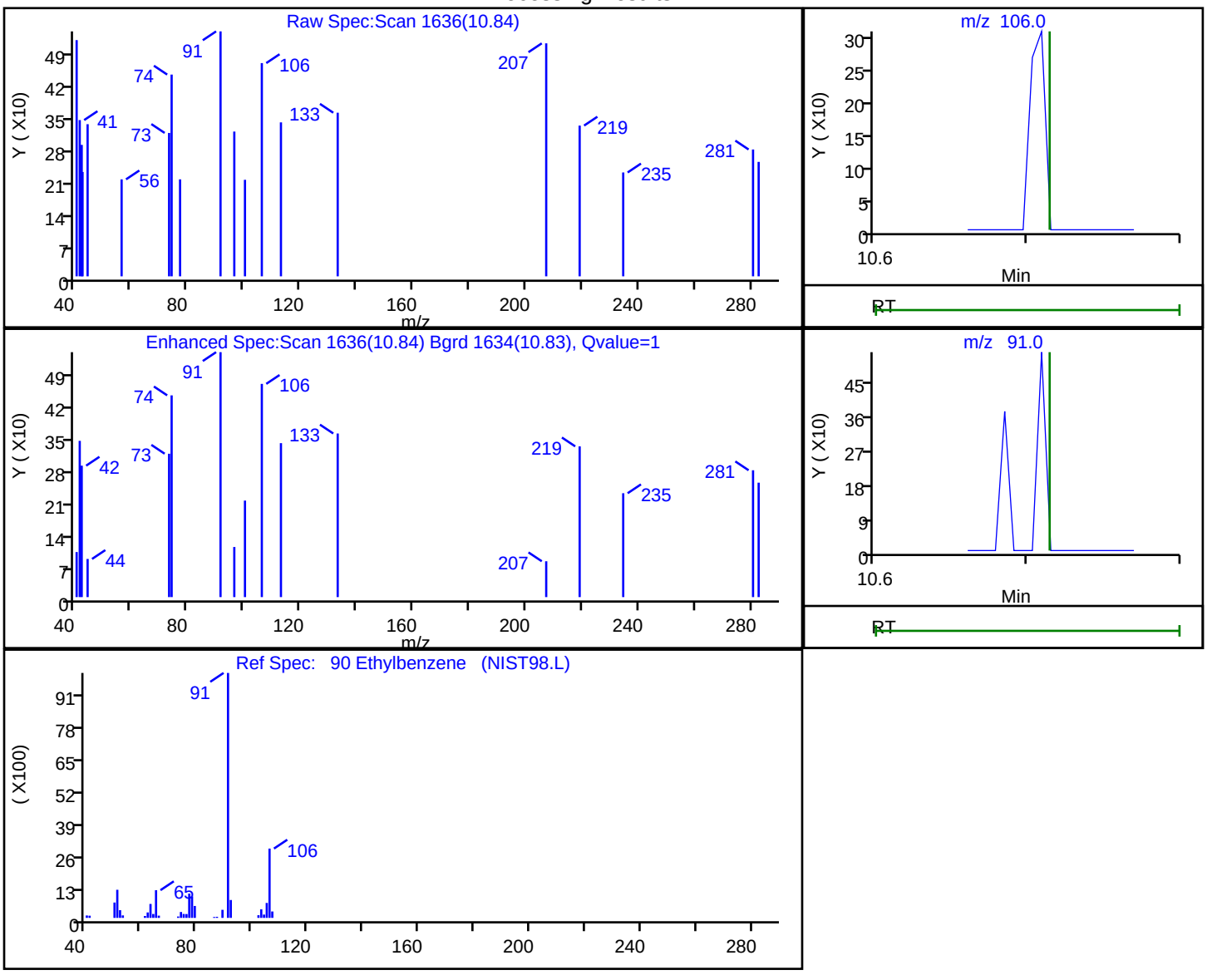
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110524.D				
Injection Date:	05-Nov-2019 21:49:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-11	Lab Sample ID:	180-97854-11		
Client ID:	HD-COD-SW-28-0/1-0				
Operator ID:	433269	ALS Bottle#:	18	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

90 Ethylbenzene, CAS: 100-41-4

Processing Results



RT	Mass	Response	Amount
10.84	106.00	296	0.135169
10.84	91.00	348	

Reviewer: bowieh, 06-Nov-2019 10:20:04

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-29-0/1-0 Lab Sample ID: 180-97854-12

Matrix: Water Lab File ID: 5110525.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 11:55

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 22:14

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	^c	1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND	^c	5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	^c	5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	^c	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-COD-SW-29-0/1-0 Lab Sample ID: 180-97854-12

Matrix: Water Lab File ID: 5110525.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 11:55

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 22:14

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	114		70-150
2037-26-5	Toluene-d8 (Surr)	90		78-128
460-00-4	4-Bromofluorobenzene (Surr)	76		64-123
1868-53-7	Dibromofluoromethane (Surr)	130		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D
Lims ID: 180-97854-A-12
Client ID: HD-COD-SW-29-0/1-0
Sample Type: Client
Inject. Date: 05-Nov-2019 22:14:30 ALS Bottle#: 19 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-025
Misc. Info.: 180-97854-A-12
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 10:20:57 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 10:20:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.532	4.552	-0.020	0	114511	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.508	-0.008	99	219611	50.0	
* 3 Chlorobenzene-d5	119	10.578	10.587	-0.009	85	59932	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.923	-0.002	92	87472	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.782	6.785	-0.003	94	70925	65.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.150	-0.003	0	85340	57.2	
$ 7 Toluene-d8 (Surr)	98	9.137	9.139	-0.002	94	214853	44.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.767	-0.002	94	67529	38.0	
12 Chloromethane	50		1.918				ND	
13 Vinyl chloride	62		2.033				ND	
15 Bromomethane	94		2.380				ND	U
16 Chloroethane	64		2.538				ND	
22 1,1-Dichloroethene	96		3.579				ND	
24 Acetone	43	3.668	3.688	-0.020	58	6064	11.6	
26 Carbon disulfide	76		3.871				ND	Ua
31 Methylene Chloride	84		4.406				ND	
33 Acrylonitrile	53		4.795				ND	
34 trans-1,2-Dichloroethene	96		4.813				ND	
35 Methyl tert-butyl ether	73		4.832				ND	
37 1,1-Dichloroethane	63		5.446				ND	
45 cis-1,2-Dichloroethene	96		6.182				ND	U
46 2-Butanone (MEK)	43		6.201				ND	
49 Chlorobromomethane	128		6.468				ND	
52 Chloroform	83		6.602				ND	
53 1,1,1-Trichloroethane	97		6.766				ND	
56 Carbon tetrachloride	117		6.937				ND	
58 Benzene	78		7.162				ND	U
59 1,2-Dichloroethane	62		7.241				ND	
64 Trichloroethene	130		7.886				ND	U
67 1,2-Dichloropropane	63		8.159				ND	
71 Dichlorobromomethane	83		8.433				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.877				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035				ND	U
76 Toluene	91		9.206				ND	
77 trans-1,3-Dichloropropene	75		9.449				ND	
79 1,1,2-Trichloroethane	97		9.644				ND	
80 Tetrachloroethene	164		9.717				ND	
82 2-Hexanone	43		9.863				ND	U
84 Chlorodibromomethane	129		10.015				ND	
85 Ethylene Dibromide	107		10.130				ND	
87 Chlorobenzene	112		10.617				ND	
89 1,1,1,2-Tetrachloroethane	131		10.702				ND	
90 Ethylbenzene	106		10.714				ND	U
91 m-Xylene & p-Xylene	106		10.842				ND	
92 o-Xylene	106		11.225				ND	
93 Styrene	104		11.244				ND	
94 Bromoform	173		11.426				ND	
99 1,1,2,2-Tetrachloroethane	83		11.901				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

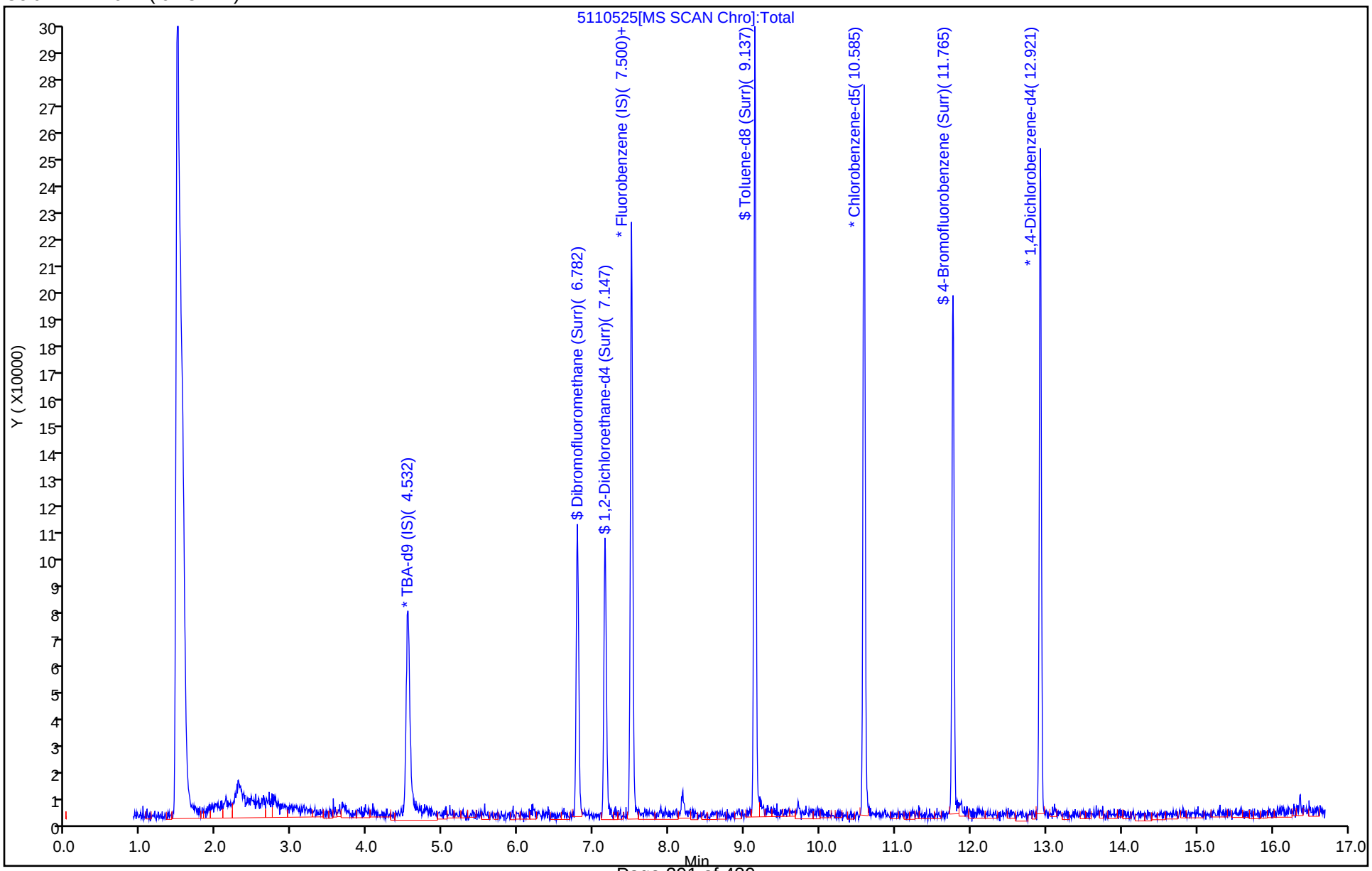
Report Date: 06-Nov-2019 10:20:58 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D

Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12	Worklist Smp#:	25
Client ID:	HD-COD-SW-29-0/1-0				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Lims ID:	180-97854-A-12				
Client ID:	HD-COD-SW-29-0/1-0				
Sample Type:	Client				
Inject. Date:	05-Nov-2019 22:14:30	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029401-025				
Misc. Info.:	180-97854-A-12				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	06-Nov-2019 10:20:57	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0337				

First Level Reviewer: bowieh Date: 06-Nov-2019 10:20:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	65.0	129.94
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	57.2	114.45
$ 7 Toluene-d8 (Surr)	50.0	44.8	89.58
$ 8 4-Bromofluorobenzene (Surr)	50.0	38.0	75.91

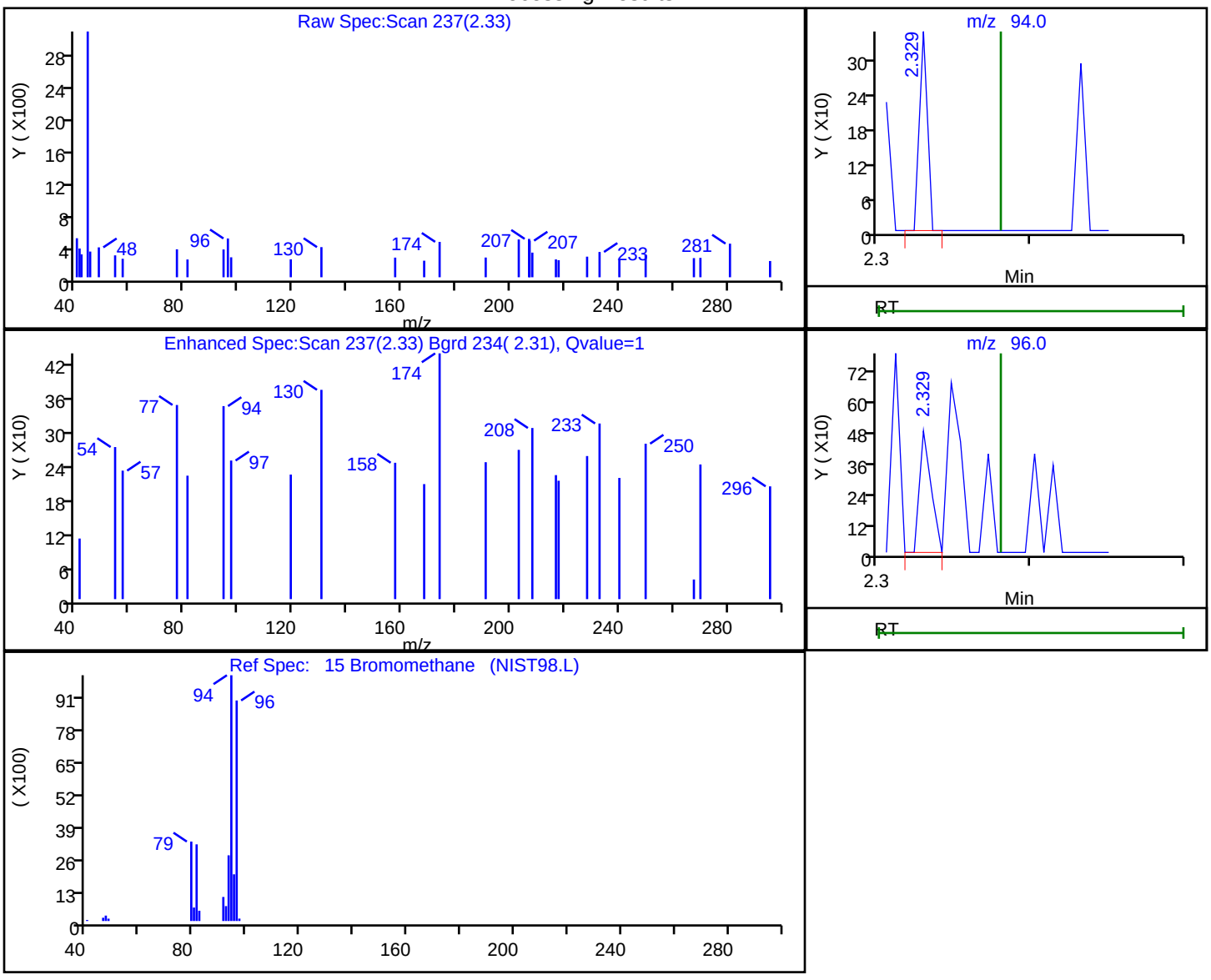
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12		
Client ID:	HD-COD-SW-29-0/1-0				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.33	94.00	126	0.124007
2.33	96.00	254	

Reviewer: bowieh, 06-Nov-2019 10:20:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

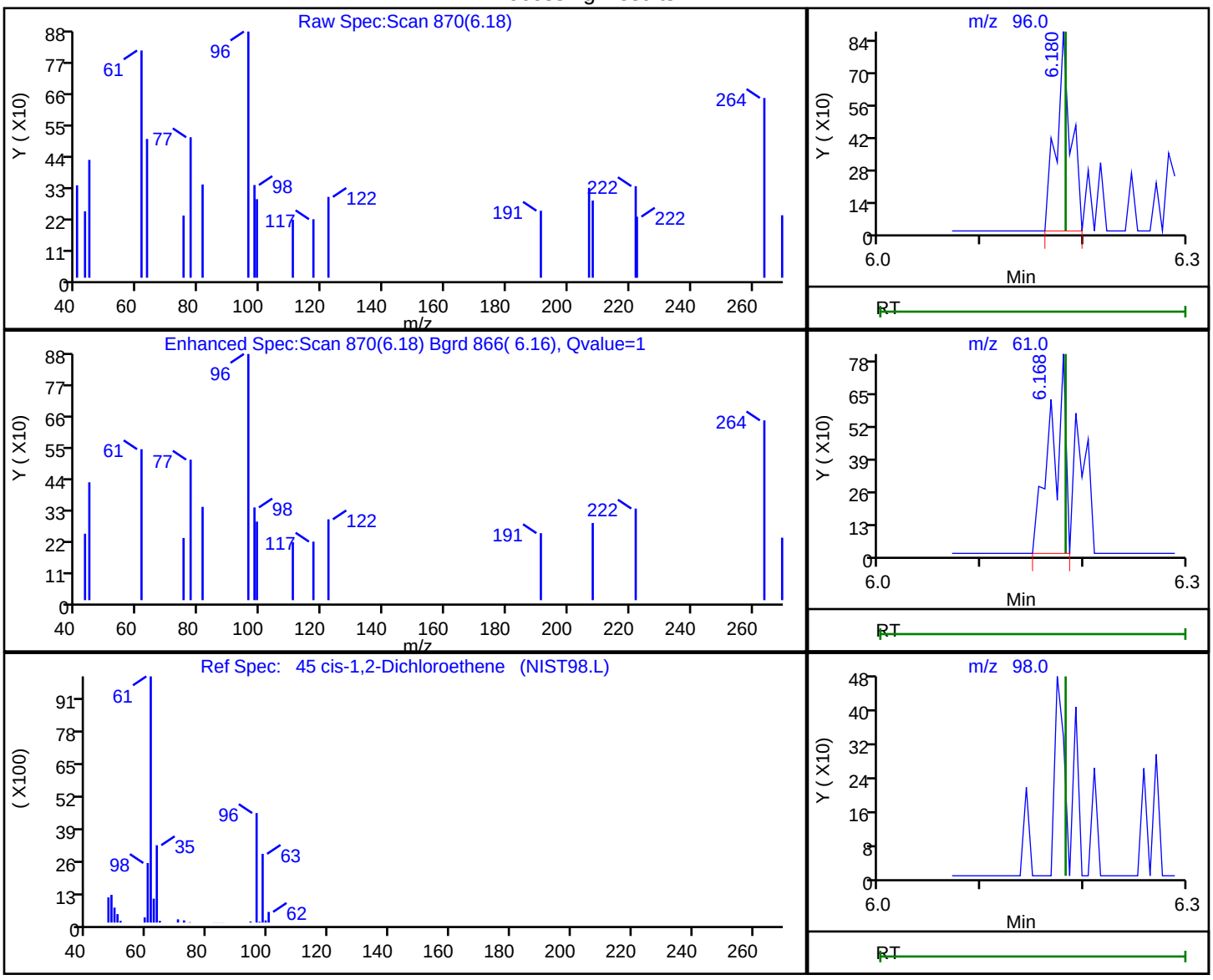
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D		
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12
Client ID:	HD-COD-SW-29-0/1-0		
Operator ID:	433269	ALS Bottle#:	19 Worklist Smp#: 25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

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

Processing Results



RT	Mass	Response	Amount
6.18	96.00	866	0.638530
6.17	61.00	792	
6.18	98.00	0	

Reviewer: bowieh, 06-Nov-2019 10:20:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

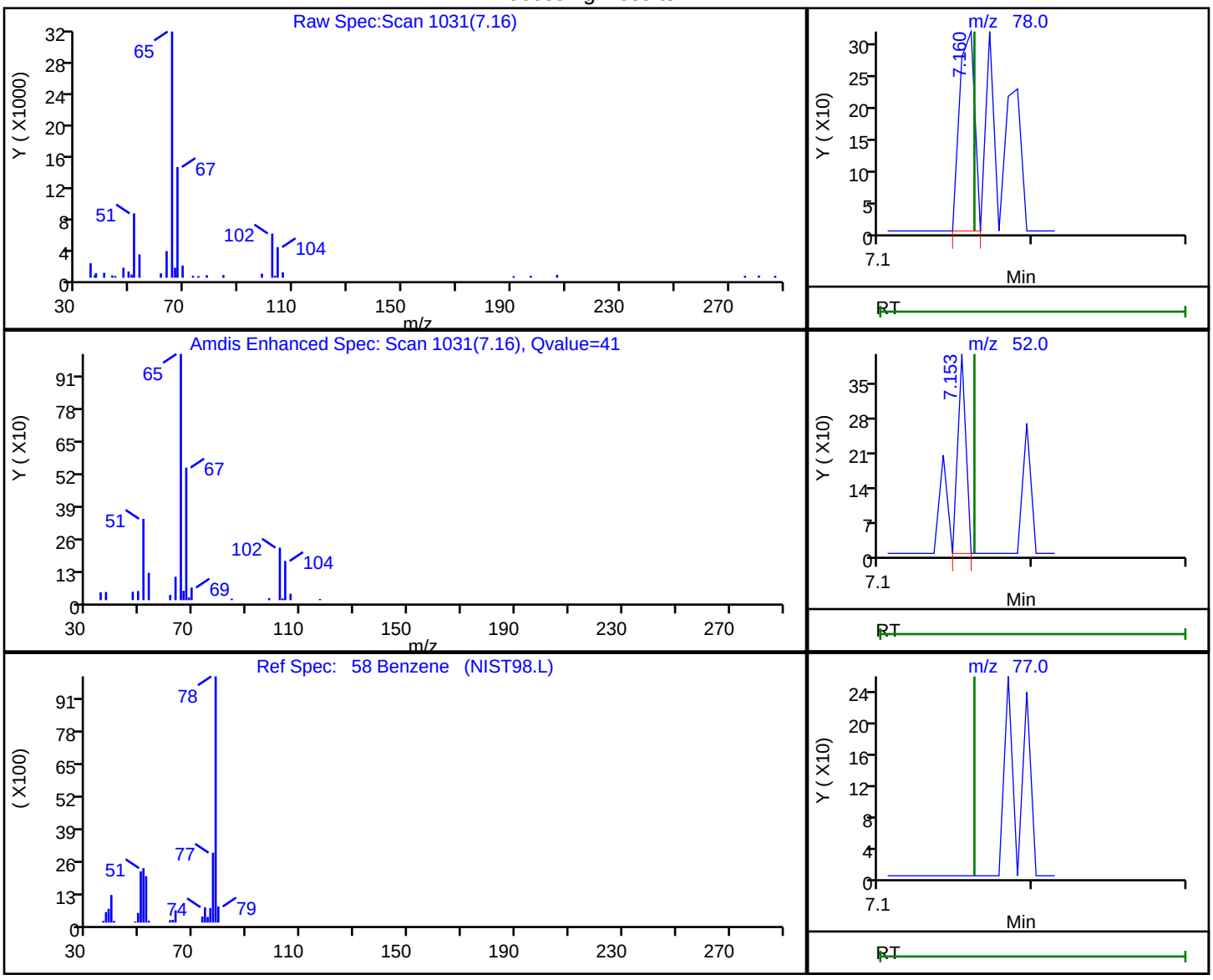
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12		
Client ID:	HD-COD-SW-29-0/1-0				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.16	78.00	219	0.042078
7.15	52.00	149	
7.16	77.00	0	

Reviewer: bowieh, 06-Nov-2019 10:20:42

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

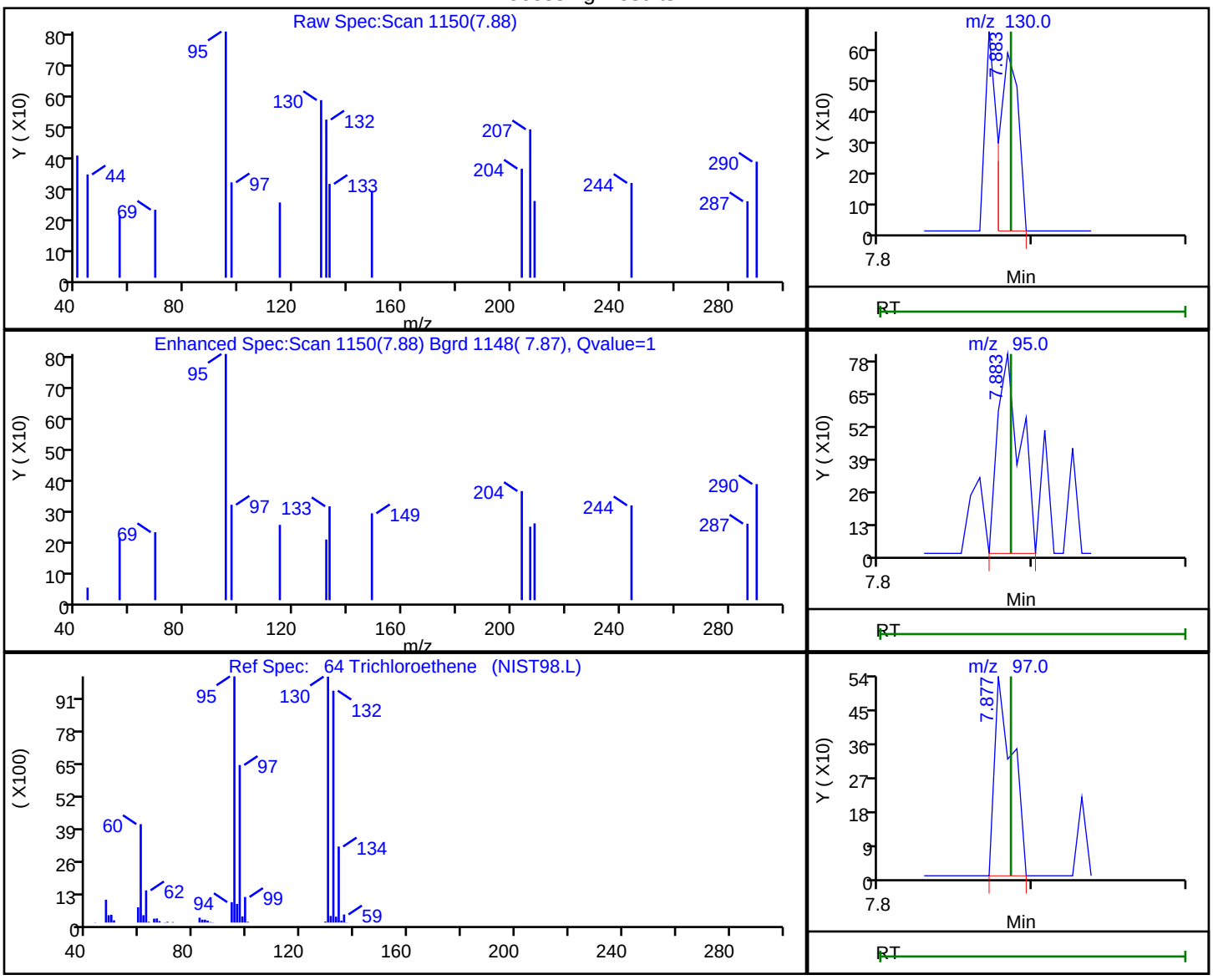
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12		
Client ID:	HD-COD-SW-29-0/1-0				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 Trichloroethene, CAS: 79-01-6

Processing Results



RT	Mass	Response	Amount
7.88	130.00	490	0.344211
7.88	95.00	837	
7.88	97.00	434	

Reviewer: bowieh, 06-Nov-2019 10:20:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

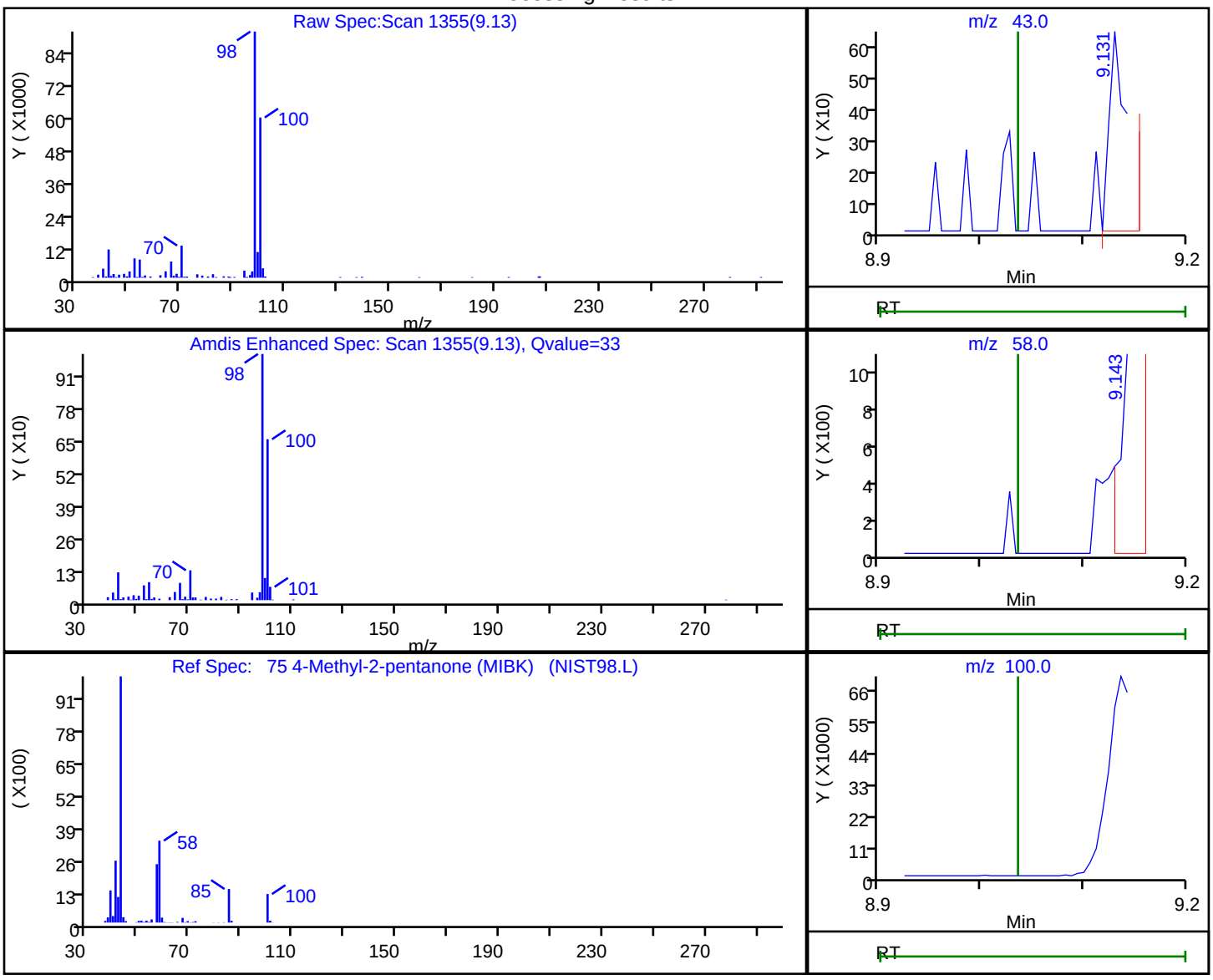
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12		
Client ID:	HD-COD-SW-29-0/1-0				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.13	43.00	741	0.620550
9.14	58.00	1201	
9.14	100.00	136794	

Reviewer: bowieh, 06-Nov-2019 10:20:47

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

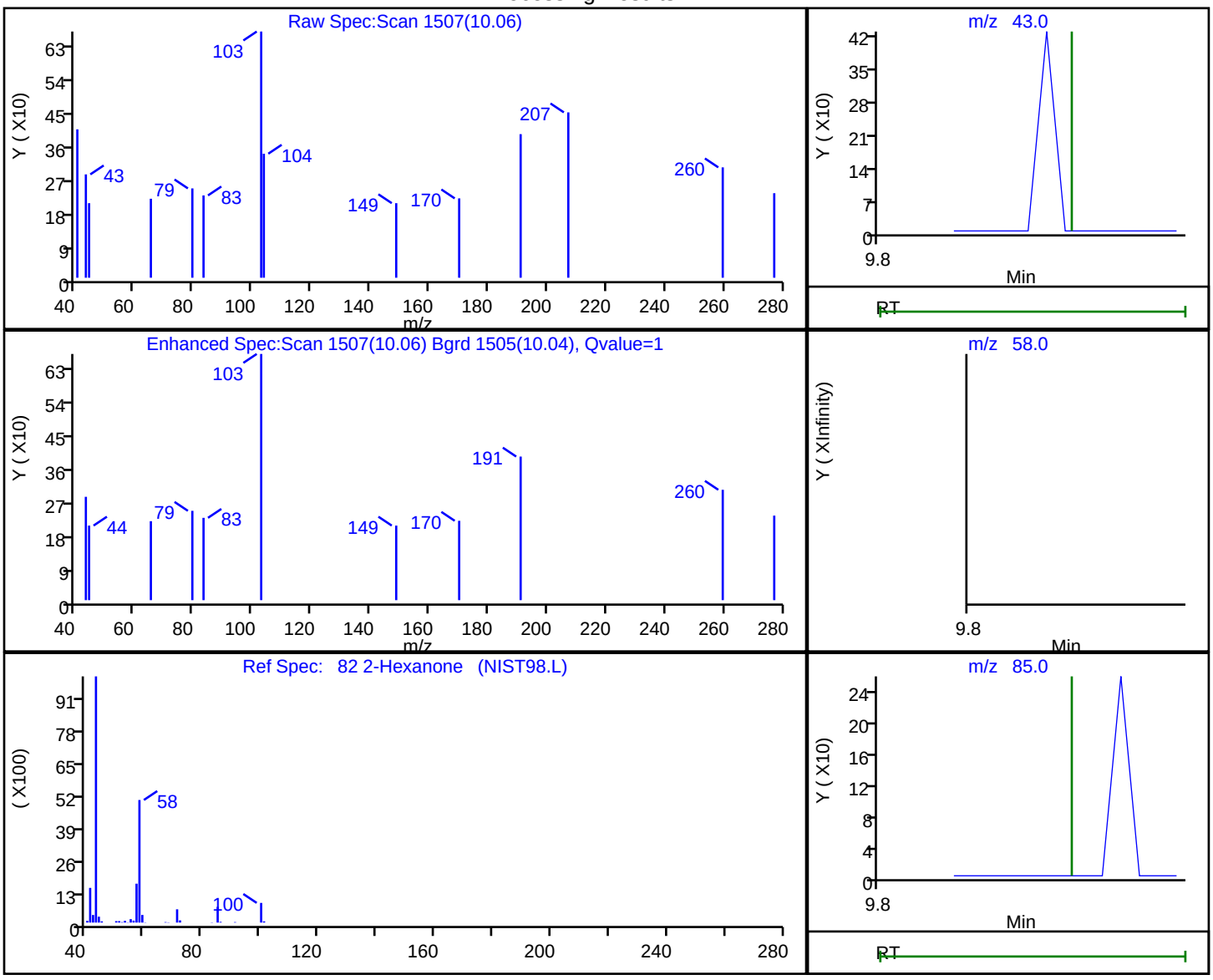
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12		
Client ID:	HD-COD-SW-29-0/1-0				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.06	43.00	102	0.125952
9.86	58.00	0	
9.86	85.00	0	

Reviewer: bowieh, 06-Nov-2019 10:20:49

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

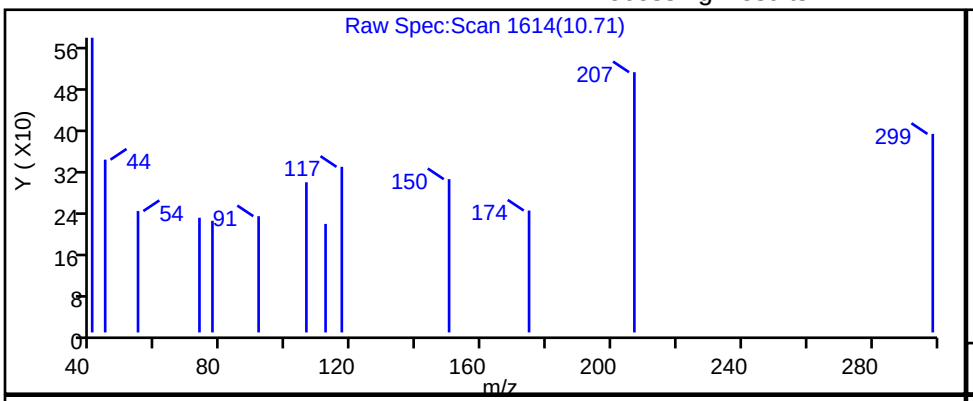
User Disabled Compound Report

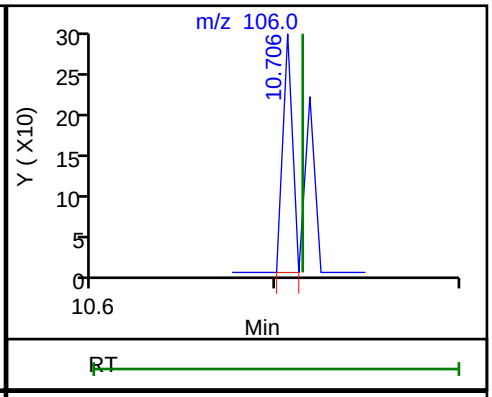
Eurofins TestAmerica, Pittsburgh

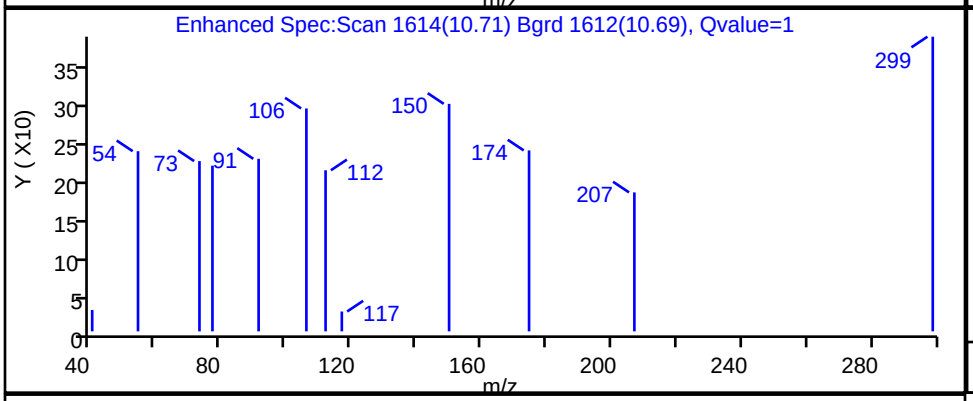
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110525.D				
Injection Date:	05-Nov-2019 22:14:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-A-12	Lab Sample ID:	180-97854-12		
Client ID:	HD-COD-SW-29-0/1-0				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

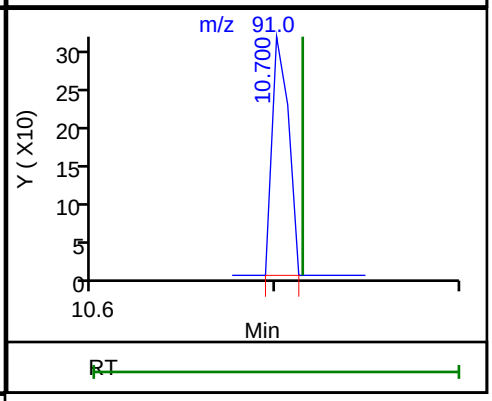
90 Ethylbenzene, CAS: 100-41-4

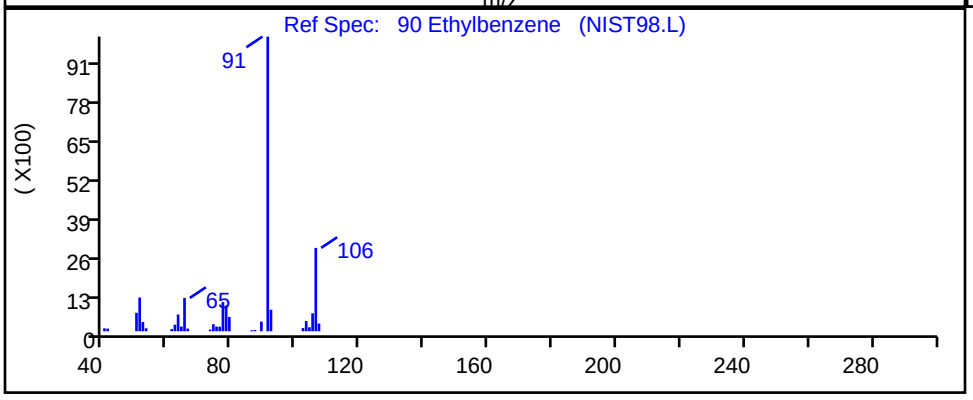
Processing Results











RT	Mass	Response	Amount
10.71	106.00	107	0.050580
10.70	91.00	198	

Reviewer: bowieh, 06-Nov-2019 10:20:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-QC11-0/1-2 Lab Sample ID: 180-97854-13

Matrix: Water Lab File ID: 5110225.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 11/02/2019 19:46

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.: 296913 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND		1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND	^c	1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND		5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: HD-QC11-0/1-2 Lab Sample ID: 180-97854-13

Matrix: Water Lab File ID: 5110225.D

Analysis Method: EPA 8260C Date Collected: 10/24/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 11/02/2019 19:46

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.: 296913 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	128		70-150
2037-26-5	Toluene-d8 (Surr)	86		78-128
460-00-4	4-Bromofluorobenzene (Surr)	78		64-123
1868-53-7	Dibromofluoromethane (Surr)	122		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110225.D
Lims ID: 180-97854-B-13
Client ID: HD-QC11-0/1-2
Sample Type: Client
Inject. Date: 02-Nov-2019 19:46:30 ALS Bottle#: 19 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-025
Misc. Info.: 180-97854-B-13
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 05-Nov-2019 11:34:13 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

First Level Reviewer: bowieh Date: 05-Nov-2019 11:34:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.544	-0.006	0	116366	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.501	-0.001	98	220372	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	63715	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	95	95926	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.789	6.783	0.006	94	66792	61.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	95886	64.1	
$ 7 Toluene-d8 (Surr)	98	9.137	9.131	0.006	94	220320	43.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.006	92	74191	39.2	
12 Chloromethane	50		1.910				ND	
13 Vinyl chloride	62		2.032				ND	
15 Bromomethane	94		2.372				ND	
16 Chloroethane	64		2.530				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.698	3.686	0.012	63	2517	4.79	
26 Carbon disulfide	76	3.862	3.869	-0.007	94	9787	3.19	a
31 Methylene Chloride	84		4.404				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.806				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.432				ND	
45 cis-1,2-Dichloroethene	96		6.174				ND	
46 2-Butanone (MEK)	43		6.193				ND	
49 Chlorobromomethane	128		6.454				ND	
52 Chloroform	83		6.600				ND	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.929				ND	
58 Benzene	78		7.160				ND	
59 1,2-Dichloroethane	62		7.227				ND	
64 Trichloroethene	130		7.884				ND	
67 1,2-Dichloropropane	63		8.152				ND	
71 Dichlorobromomethane	83		8.431				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.875				ND	
75 4-Methyl-2-pentanone (MIBK	43		9.028				ND	U
76 Toluene	91		9.204				ND	
77 trans-1,3-Dichloropropene	75		9.447				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164		9.709				ND	
82 2-Hexanone	43		9.861				ND	
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.129				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.707				ND	
90 Ethylbenzene	106		10.713				ND	
91 m-Xylene & p-Xylene	106		10.840				ND	
92 o-Xylene	106		11.224				ND	
93 Styrene	104		11.242				ND	
94 Bromoform	173		11.424				ND	
99 1,1,2,2-Tetrachloroethane	83		11.899				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

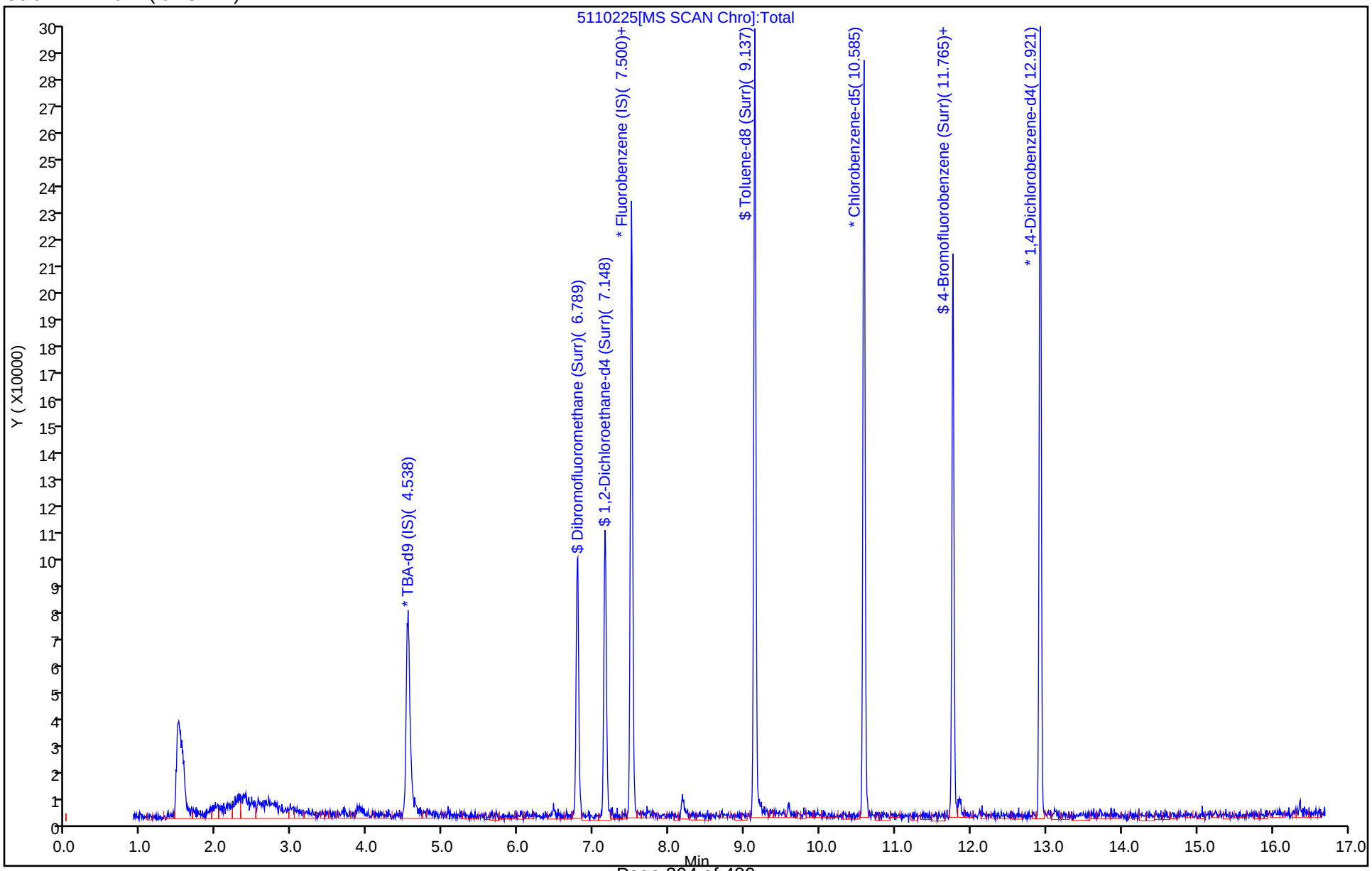
Report Date: 05-Nov-2019 11:34:14 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110225.D

Injection Date:	02-Nov-2019 19:46:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	180-97854-B-13	Lab Sample ID:	180-97854-13	Worklist Smp#:	25
Client ID:	HD-QC11-0/1-2				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110225.D
Lims ID: 180-97854-B-13
Client ID: HD-QC11-0/1-2
Sample Type: Client
Inject. Date: 02-Nov-2019 19:46:30 ALS Bottle#: 19 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-025
Misc. Info.: 180-97854-B-13
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 05-Nov-2019 11:34:13 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

First Level Reviewer: bowieh Date: 05-Nov-2019 11:34:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	61.0	121.95
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	64.1	128.15
$ 7 Toluene-d8 (Surr)	50.0	43.2	86.41
$ 8 4-Bromofluorobenzene (Surr)	50.0	39.2	78.45

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

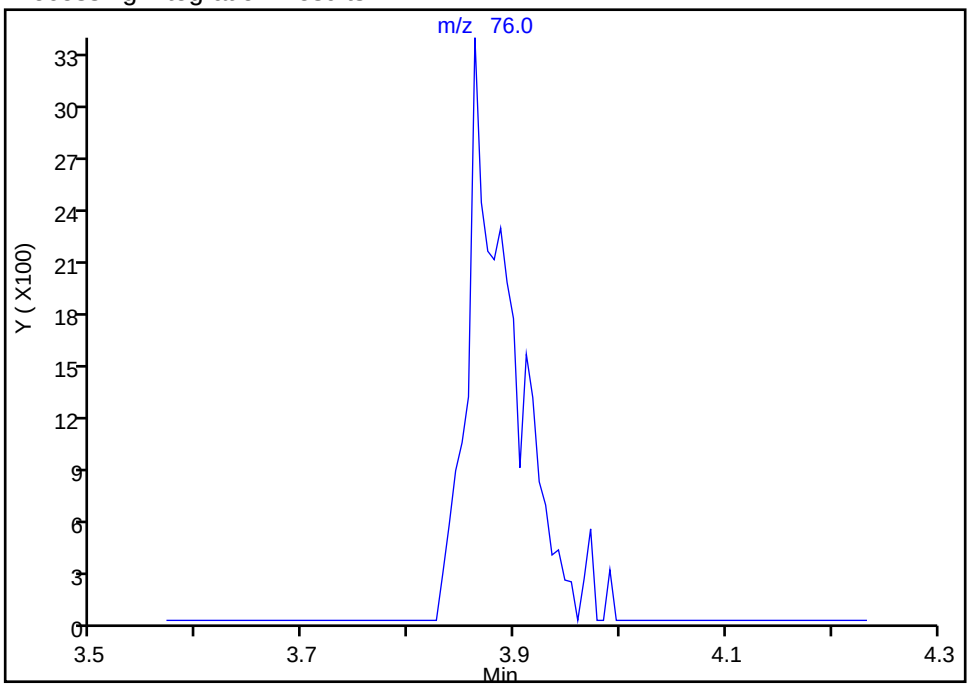
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110225.D		
Injection Date:	02-Nov-2019 19:46:30	Instrument ID:	CHHP5
Lims ID:	180-97854-B-13	Lab Sample ID:	180-97854-13
Client ID:	HD-QC11-0/1-2		
Operator ID:	433269	ALS Bottle#:	19 Worklist Smp#: 25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL
Column:	DB-624 (0.18 mm)	Detector	MS SCAN

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

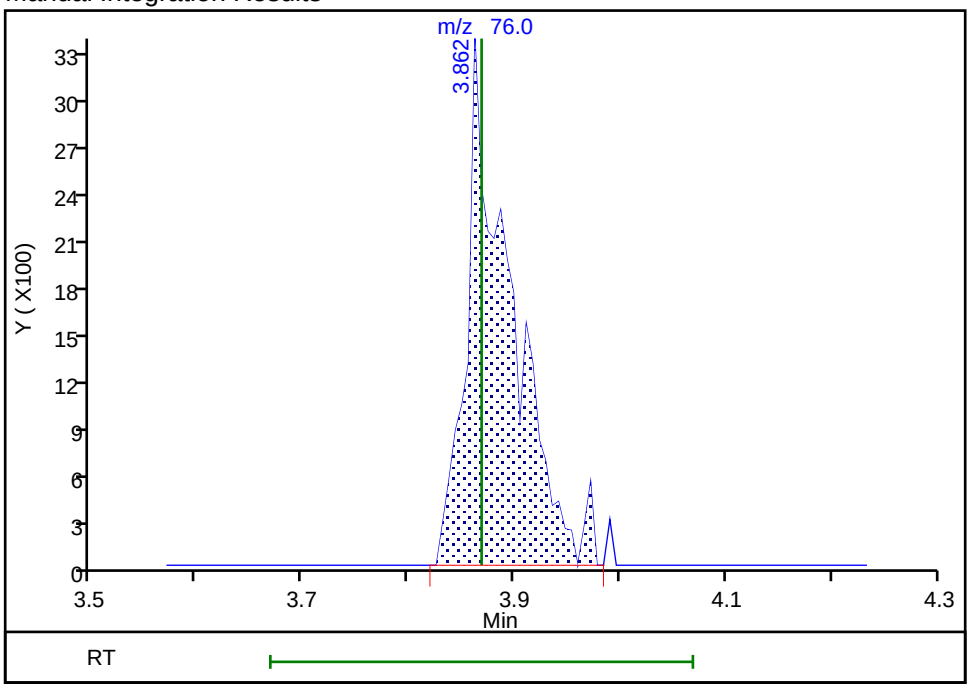
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.86
Area: 9787
Amount: 3.191497
Amount Units: ng



Reviewer: bowieh, 05-Nov-2019 11:33:55
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

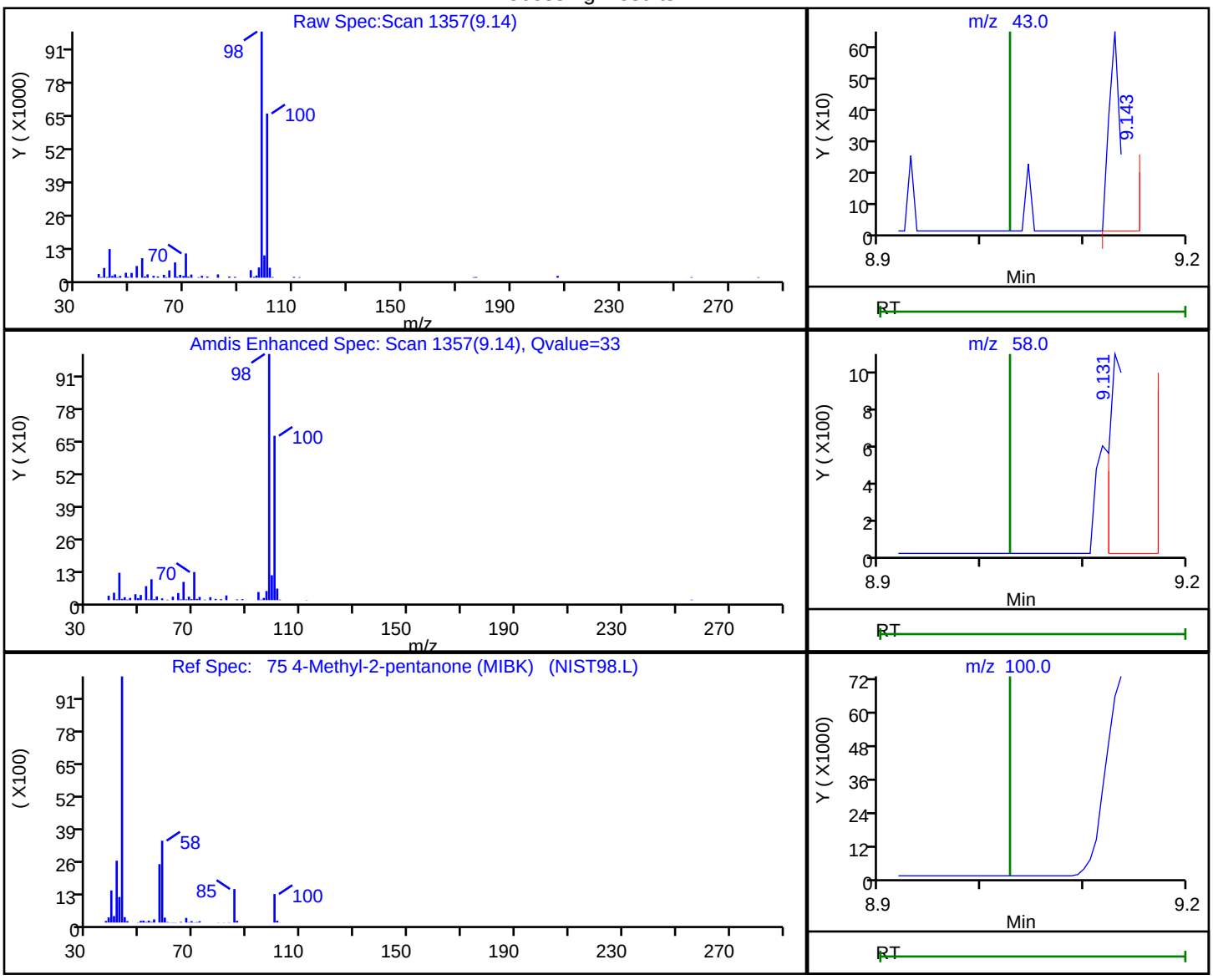
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110225.D				
Injection Date:	02-Nov-2019 19:46:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-13	Lab Sample ID:	180-97854-13		
Client ID:	HD-QC11-0/1-2				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.14	43.00	796	0.627030
9.13	58.00	1808	
9.14	100.00	145922	

Reviewer: bowieh, 05-Nov-2019 11:34:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

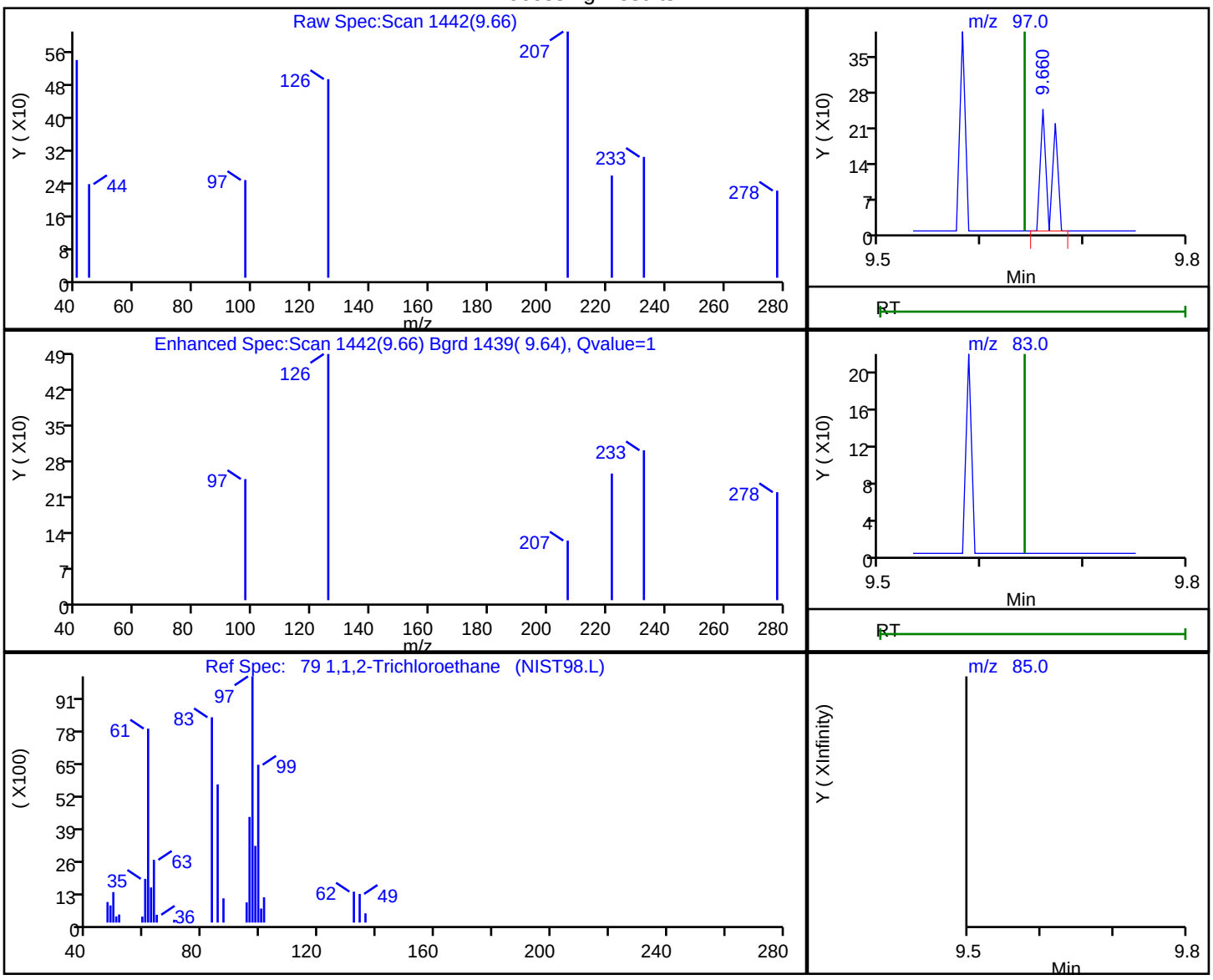
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110225.D				
Injection Date:	02-Nov-2019 19:46:30	Instrument ID:	CHHP5		
Lims ID:	180-97854-B-13	Lab Sample ID:	180-97854-13		
Client ID:	HD-QC11-0/1-2				
Operator ID:	433269	ALS Bottle#:	19	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.66	97.00	165	0.122614
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 05-Nov-2019 11:34:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-294706/19	5101216.D
Level 2	IC 180-294706/5	5101205.D
Level 3	ICIS 180-294706/6	5101206.D
Level 4	IC 180-294706/7	5101207.D
Level 5	IC 180-294706/8	5101208.D
Level 6	IC 180-294706/9	5101209.D
Level 7	IC 180-294706/10	5101210.D
Level 8	IC 180-294706/11	5101211.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 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3885 0.4258	0.4278 0.3816	0.3782 0.3995	0.3896	0.3989	Ave		0.3987			0.1000	4.7		20.0			
Chloromethane	0.3728 0.3709	0.4009 0.3543	0.3468 0.3607	0.3394	0.3612	Ave		0.3634			0.1000	5.2		20.0			
Vinyl chloride	0.3745 0.3871	0.3891 0.3565	0.3487 0.3687	0.3492	0.3649	Ave		0.3673			0.1000	4.3		20.0			
1,3-Butadiene	0.3629 0.3748	0.3708 0.3438	0.3417 0.3508	0.3386	0.3525	Ave		0.3545			0.0100	3.8		20.0			
Bromomethane	0.2801 0.2420	0.2659 0.2011	0.2285 0.2014	0.2192	0.2124	Ave		0.2313			0.0500	12.7		20.0			
Chloroethane	0.2373 0.2353	0.2479 0.2171	0.2149 0.2205	0.2222	0.2232	Ave		0.2273			0.0500	5.1		20.0			
Dichlorofluoromethane	0.5786 0.5758	0.6183 0.5429	0.5385 0.5556	0.5397	0.5653	Ave		0.5643			0.0100	4.8		20.0			
Trichlorofluoromethane	0.5744 0.5709	0.5880 0.5097	0.5274 0.5338	0.5207	0.5657	Ave		0.5488			0.1000	5.3		20.0			
Ethyl ether	0.2911 0.2509	0.2781 0.2498	0.2264 0.2553	0.2369	0.2539	Ave		0.2553			0.0100	8.1		20.0			
Acrolein	0.0462 0.0440	0.0446 0.0444	0.0396 0.0396	0.0387	0.0428	Ave		0.0425			0.0100	6.6		20.0			
1,1-Dichloroethene	0.2766 0.2621	0.2499 0.2435	0.2272 0.2472	0.2273	0.2453	Ave		0.2474			0.1000	6.7		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2956 0.3060	0.3139 0.2849	0.2754 0.2876	0.2829	0.2962	Ave		0.2928			0.1000	4.3		20.0			
Acetone	0.1211 0.1162	0.1466 0.1193	0.1162 0.0960	0.1126	0.1260	Ave		0.1193			0.0500	11.9		20.0			
Iodomethane	0.4794 0.4688	0.4525 0.4358	0.4094 0.4441	0.4124	0.4416	Ave		0.4430			0.0100	5.5		20.0			

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: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

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 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.6963 0.7686	0.7059 0.7095	0.6116 0.7310	0.6439	0.6993	Ave		0.6958			0.1000	7.0		20.0			
Allyl chloride	0.1281 0.1637	0.1464 0.1587	0.1317 0.1584	0.1349	0.1484	Ave		0.1463			0.0100	9.2		20.0			
Methyl acetate	0.2504 0.2208	0.2439 0.2232	0.1956 0.2231	0.1999	0.2233	Ave		0.2225			0.1000	8.4		20.0			
Methylene Chloride	0.8780 0.3116	0.4401 0.2988	0.3259 0.3014	0.3087	0.3209	Lin2	2.9716	0.2875			0.1000				0.9960		0.9900
tert-Butyl alcohol	1.2321 1.2366	1.2033 1.0862	1.0658 1.1931	1.1077	1.1773	Ave		1.1628			0.0100	5.8		20.0			
Acrylonitrile	0.1205 0.1150	0.1241 0.1100	0.1024 0.1137	0.1028	0.1123	Ave		0.1126			0.0100	6.8		20.0			
trans-1,2-Dichloroethene	0.2884 0.2957	0.3086 0.2740	0.2669 0.2788	0.2641	0.2794	Ave		0.2820			0.1000	5.3		20.0			
Methyl tert-butyl ether	0.7366 0.7877	0.7500 0.7576	0.6674 0.7779	0.6987	0.7702	Ave		0.7433			0.1000	5.6		20.0			
Hexane	0.4153 0.4814	0.4335 0.4344	0.3752 0.4570	0.4002	0.4364	Ave		0.4292			0.0100	7.6		20.0			
1,1-Dichloroethane	0.5184 0.5108	0.5080 0.4850	0.4505 0.4873	0.4587	0.4811	Ave		0.4875			0.2000	5.0		20.0			
Vinyl acetate	0.3909 0.4839	0.4928 0.5208	0.4127 0.5124	0.4294	0.4557	Ave		0.4623			0.0100	10.3		20.0			
2,2-Dichloropropane	0.0653 0.0732	0.0805 0.0717	0.0655 0.0700	0.0684	0.0717	Ave		0.0708			0.0100	6.9		20.0			
cis-1,2-Dichloroethene	0.3486 0.3203	0.3169 0.3022	0.2810 0.3177	0.2853	0.2981	Ave		0.3088			0.1000	7.1		20.0			
2-Butanone (MEK)	0.1451 0.1356	0.1608 0.1413	0.1290 0.1347	0.1307	0.1379	Ave		0.1394			0.0500	7.3		20.0			
Bromochloromethane	0.1645 0.1649	0.1811 0.1560	0.1415 0.1609	0.1523	0.1609	Ave		0.1603			0.0100	7.1		20.0			
Tetrahydrofuran	0.1007 0.0880	0.0824 0.0847	0.0712 0.0888	0.0766	0.0825	Ave		0.0844			0.0100	10.4		20.0			
Chloroform	0.6975 0.5274	0.5695 0.4938	0.4820 0.4944	0.4757	0.5101	Ave		0.5313			0.2000	13.8		20.0			
1,1,1-Trichloroethane	0.4167 0.4695	0.4529 0.4300	0.4049 0.4439	0.4131	0.4476	Ave		0.4348			0.1000	5.1		20.0			
Cyclohexane	0.4015 0.5896	0.4767 0.5384	0.4555 0.5616	0.4850	0.5308	Ave		0.5049			0.1000	12.2		20.0			
Carbon tetrachloride	0.3648 0.4327	0.4319 0.3965	0.3718 0.4046	0.3823	0.4092	Ave		0.3992			0.1000	6.4		20.0			

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: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

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 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.3704 0.4355	0.4129 0.4024	0.3616 0.4109	0.3818	0.4059	Ave		0.3977			0.0100	6.2		20.0			
Isobutyl alcohol	0.0086 0.0099	0.0111 0.0095	0.0085 0.0096	0.0084	0.0093	Ave		0.0094		*	0.0100	9.6		20.0			
Benzene	1.2120 1.2334	1.2750 1.1624	1.1006 1.1931	1.1064	1.1968	Ave		1.1850			0.5000	5.1		20.0			
1,2-Dichloroethane	0.4886 0.4217	0.4615 0.4002	0.3851 0.4045	0.3844	0.4117	Ave		0.4197			0.1000	8.8		20.0			
n-Heptane	0.3077 0.3977	0.3369 0.3640	0.3135 0.3830	0.3203	0.3554	Ave		0.3473			0.0100	9.6		20.0			
Trichloroethene	0.3389 0.3416	0.3464 0.3204	0.2956 0.3311	0.2978	0.3211	Ave		0.3241			0.2000	5.9		20.0			
Methylcyclohexane	0.3594 0.5884	0.4693 0.5407	0.4397 0.5610	0.4769	0.5285	Ave		0.4955			0.1000	15.0		20.0			
1,2-Dichloropropane	0.3056 0.2831	0.2967 0.2739	0.2611 0.2858	0.2469	0.2809	Ave		0.2792			0.1000	6.7		20.0			
1,4-Dioxane	0.0017 0.0027	0.0025 0.0027	0.0021 0.0027	0.0024	0.0022	Ave		0.0024		*	0.0100	14.3		20.0			
Dibromomethane	0.1843 0.1738	0.1868 0.1678	0.1524 0.1691	0.1533	0.1655	Ave		0.1691			0.0100	7.5		20.0			
Bromodichloromethane	0.3466 0.3779	0.3767 0.3622	0.3212 0.3746	0.3206	0.3501	Ave		0.3537			0.2000	6.6		20.0			
cis-1,3-Dichloropropene	0.3538 0.4517	0.3732 0.4376	0.3440 0.4627	0.3684	0.4128	Ave		0.4005			0.2000	11.6		20.0			
4-Methyl-2-pentanone (MIBK)	0.8952 1.0406	1.0727 1.0292	0.9182 1.0904	0.9010	1.0224	Ave		0.9962			0.1000	7.9		20.0			
Toluene	4.4511 5.4028	5.3512 5.0248	4.8880 5.4071	4.7746	5.1849	Ave		5.0606			0.4000	6.8		20.0			
trans-1,3-Dichloropropene	1.2754 1.7154	1.6111 1.6201	1.4288 1.7878	1.4675	1.6315	Ave		1.5672			0.1000	10.6		20.0			
Ethyl methacrylate	0.9509 1.4428	1.2299 1.3433	1.1249 1.5530	1.1242	1.3436	Lin1	-4.335	1.4256			0.0100				0.9900		0.9900
1,1,2-Trichloroethane	1.1932 1.0482	1.1955 0.9781	0.9688 1.0534	0.9540	1.0571	Ave		1.0560			0.1000	8.9		20.0			
Tetrachloroethene	1.2061 1.2570	1.3288 1.1108	1.1670 1.2349	1.1302	1.2353	Ave		1.2088			0.2000	5.9		20.0			
1,3-Dichloropropane	2.0196 1.8471	2.0251 1.7285	1.6799 1.8722	1.6757	1.7900	Ave		1.8298			0.0100	7.6		20.0			
2-Hexanone	0.5823 0.7156	0.7010 0.6971	0.6058 0.7636	0.6374	0.7022	Ave		0.6756			0.1000	9.1		20.0			

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: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

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 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibromochloromethane	1.1052 1.1654	1.2218 1.1146	1.0069 1.2051	1.0109	1.1326	Ave		1.1203			0.1000	7.1		20.0			
1,2-Dibromoethane (EDB)	0.9727 1.0552	1.1562 1.0038	0.9643 1.0814	0.9114	1.0519	Ave		1.0246			0.1000	7.5		20.0			
Chlorobenzene	3.5676 3.5300	3.7144 3.2800	3.2024 3.5742	3.1411	3.4091	Ave		3.4274			0.5000	5.9		20.0			
1,1,1,2-Tetrachloroethane	1.2060 1.2385	1.3562 1.1530	1.1333 1.2527	1.0931	1.1999	Ave		1.2041			0.0100	6.8		20.0			
Ethylbenzene	1.4821 1.9526	1.7539 1.7924	1.6533 1.9672	1.6572	1.8601	Ave		1.7649			0.1000	9.3		20.0			
m-Xylene & p-Xylene	1.5492 2.4516	2.2225 2.2094	2.0886 2.4574	2.1173	2.2929	Ave		2.1736			0.1000	13.2		20.0			
o-Xylene	1.4718 2.3399	2.0398 2.1799	1.9457 2.3417	1.9670	2.2047	Ave		2.0613			0.3000	13.7		20.0			
Styrene	2.4768 3.9241	3.5868 3.6650	3.3240 4.0385	3.4060	3.7947	Ave		3.5270			0.3000	13.9		20.0			
Bromoform	0.6673 0.8029	0.8314 0.7507	0.6355 0.8294	0.6915	0.7650	Ave		0.7467			0.1000	10.0		20.0			
Isopropylbenzene	3.8925 6.3799	5.2562 5.7437	5.0470 6.3173	5.2230	5.9326	Ave		5.4740			0.1000	14.8		20.0			
1,1,2,2-Tetrachloroethane	1.4058 1.2996	1.5350 1.2644	1.2471 1.3453	1.2300	1.3287	Ave		1.3320			0.3000	7.5		20.0			
Bromobenzene	0.8486 0.8997	0.9088 0.8400	0.7950 0.8884	0.7612	0.8576	Ave		0.8499			0.0100	6.0		20.0			
trans-1,4-Dichloro-2-butene	0.2209 0.2556	0.2527 0.2356	0.2268 0.2592	0.2078	0.2489	Ave		0.2384			0.0100	7.8		20.0			
1,2,3-Trichloropropane	0.3430 0.2621	0.2833 0.2459	0.2516 0.2544	0.2366	0.2705	Ave		0.2684			0.0100	12.5		20.0			
N-Propylbenzene	0.6581 1.0399	0.8707 0.9178	0.8063 0.9959	0.8316	0.9598	Ave		0.8850			0.0100	13.8		20.0			
2-Chlorotoluene	0.6089 0.8439	0.8275 0.7603	0.7240 0.8087	0.6977	0.7889	Ave		0.7575			0.0100	10.3		20.0			
1,3,5-Trimethylbenzene	1.7164 2.9305	2.4484 2.6488	2.3708 2.8791	2.4082	2.7147	Lin2	-5.123	2.7055			0.0100				0.9950		0.9900
4-Chlorotoluene	0.6585 0.9063	0.8435 0.8118	0.7601 0.8702	0.7563	0.8398	Ave		0.8058			0.0100	9.7		20.0			
tert-Butylbenzene	1.4680 2.5326	1.9830 2.2429	1.9040 2.4181	1.9574	2.2746	Lin2	-4.159	2.2525			0.0100				0.9910		0.9900
1,2,4-Trimethylbenzene	1.7121 2.9313	2.5214 2.6536	2.3995 2.8501	2.4158	2.7783	Lin2	-5.191	2.7262			0.0100				0.9960		0.9900

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: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

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 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	2.0520 3.5227	2.8199 3.1152	2.7433 3.3640	2.7987	3.1897	Lin2	-5.857	3.1689			0.0100				0.9930		0.9900
1,3-Dichlorobenzene	1.5760 1.6580	1.6686 1.5274	1.4613 1.6280	1.4380	1.5980	Ave		1.5694			0.6000	5.5		20.0			
4-Isopropyltoluene	1.6490 3.0844	2.4450 2.7470	2.4619 2.9795	2.5056	2.8560	Lin2	-6.086	2.8178			0.0100				0.9940		0.9900
1,4-Dichlorobenzene	1.7657 1.6838	1.7142 1.5459	1.4835 1.6738	1.4563	1.6042	Ave		1.6159			0.5000	6.9		20.0			
n-Butylbenzene	1.5221 2.4259	1.8522 2.1481	1.7888 2.3670	1.9019	2.1909	Lin1	-6.832	2.2791			0.0100				0.9920		0.9900
1,2-Dichlorobenzene	1.5871 1.5243	1.5727 1.4142	1.3507 1.5126	1.3437	1.4904	Ave		1.4745			0.4000	6.4		20.0			
1,2-Dibromo-3-Chloropropane	0.1357 0.1175	0.1309 0.1095	0.1009 0.1159	0.1010	0.1146	Ave		0.1157			0.0500	10.9		20.0			
1,2,4-Trichlorobenzene	0.5208 0.5516	0.4794 0.5332	0.4109 0.5982	0.4278	0.5201	Ave		0.5052			0.2000	12.4		20.0			
Hexachlorobutadiene	0.4078 0.3025	0.3391 0.2841	0.2897 0.2957	0.2699	0.2957	Ave		0.3106			0.0100	14.2		20.0			
Naphthalene	0.7742 1.4092	0.9236 +++++	0.8470 +++++	0.9987	1.2310	Qua	-1.759	0.8233	0.0034503		0.0100				0.9970		0.9900
1,2,3-Trichlorobenzene	0.3608 0.4354	0.3636 0.4429	0.3374 0.4761	0.3658	0.4299	Ave		0.4015			0.0100	12.5		20.0			
Dibromofluoromethane (Surr)	0.2579 0.2446	0.2614 0.2467	0.2501 0.2327	0.2496	0.2452	Ave		0.2485				3.5		20.0			
1,2-Dichloroethane-d4 (Surr)	0.4042 0.3177	0.3745 0.3277	0.3363 0.3037	0.3244	0.3279	Ave		0.3395				9.8		20.0			
Toluene-d8 (Surr)	3.8184 4.0332	3.8760 3.9260	4.1910 4.0394	4.0956	4.0345	Ave		4.0018				3.0		20.0			
4-Bromofluorobenzene (Surr)	1.3401 1.5011	1.5900 1.4826	1.4827 1.4814	1.4782	1.5182	Ave		1.4843				4.7		20.0			

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: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-294706/19	5101216.D
Level 2	IC 180-294706/5	5101205.D
Level 3	ICIS 180-294706/6	5101206.D
Level 4	IC 180-294706/7	5101207.D
Level 5	IC 180-294706/8	5101208.D
Level 6	IC 180-294706/9	5101209.D
Level 7	IC 180-294706/10	5101210.D
Level 8	IC 180-294706/11	5101211.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	12355 581215	76390 582678	140501 835363	221690	302686	5.00 175	25.0 200	50.0 250	75.0	100
Chloromethane	FB	Ave	11856 506306	71582 540892	128833 754113	193093	274114	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl chloride	FB	Ave	11910 528424	69473 544288	129526 770907	198670	276910	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Butadiene	FB	Ave	11542 511608	66207 524913	126955 733473	192682	267450	5.00 175	25.0 200	50.0 250	75.0	100
Bromomethane	FB	Ave	8910 330374	47476 306992	84882 421171	124745	161169	5.00 175	25.0 200	50.0 250	75.0	100
Chloroethane	FB	Ave	7547 321255	44267 331470	79821 461084	126421	169364	5.00 175	25.0 200	50.0 250	75.0	100
Dichlorofluoromethane	FB	Ave	18401 785966	110403 828851	200034 1161740	307081	428973	5.00 175	25.0 200	50.0 250	75.0	100
Trichlorofluoromethane	FB	Ave	18268 779237	104996 778272	195920 1116136	296295	429240	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl ether	FB	Ave	9257 342533	49659 381370	84123 533827	134790	192656	5.00 175	25.0 200	50.0 250	75.0	100
Acrolein	FB	Ave	29415 77206	39779 84779	44186 91154	51359	64887	100 225	125 250	150 275	175	200
1,1-Dichloroethene	FB	Ave	8796 357755	44624 371747	84411 516886	129351	186131	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	9400 417671	56061 434917	102298 601317	160989	224754	5.00 175	25.0 200	50.0 250	75.0	100
Acetone	FB	Ave	19264 317291	52340 364137	86329 401439	128175	191277	25.0 350	50.0 400	100 500	150	200
Iodomethane	FB	Ave	15248 639891	80801 665386	152090 928518	234650	335069	5.00 175	25.0 200	50.0 250	75.0	100
Carbon disulfide	FB	Ave	22147 1049185	126043 1083248	227218 1528562	366364	530633	5.00 175	25.0 200	50.0 250	75.0	100

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Allyl chloride	FB	Ave	4073 223477	26148 242235	48941 331112	76735	112604	5.00 175	25.0 200	50.0 250	75.0	100
Methyl acetate	FB	Ave	15926 602825	87104 681658	145339 932871	227471	338828	10.0 350	50.0 400	100 500	150	200
Methylene Chloride	FB	Lin2	27926 425383	78580 456239	121072 630301	175638	243515	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butyl alcohol	TBAd9	Ave	9461 362289	52094 394515	83266 558664	132196	192320	50.0 1750	250 2000	500 2500	750	1000
Acrylonitrile	FB	Ave	38314 1569611	221576 1679007	380438 2376646	585122	851767	50.0 1750	250 2000	500 2500	750	1000
trans-1,2-Dichloroethene	FB	Ave	9174 403585	55108 418322	99150 583017	150257	211973	5.00 175	25.0 200	50.0 250	75.0	100
Methyl tert-butyl ether	FB	Ave	23427 1075276	133934 1156644	247942 1626614	397576	584420	5.00 175	25.0 200	50.0 250	75.0	100
Hexane	FB	Ave	13208 657107	77412 663299	139389 955452	227726	331171	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloroethane	FB	Ave	16487 697254	90708 740535	167363 1018895	260992	365087	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl acetate	FB	Ave	12433 660517	87993 795102	153324 1071457	244317	345800	5.00 175	25.0 200	50.0 250	75.0	100
2,2-Dichloropropane	FB	Ave	2076 99901	14369 109513	24326 146364	38927	54439	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,2-Dichloroethene	FB	Ave	11088 437273	56591 461417	104402 664297	162347	226192	5.00 175	25.0 200	50.0 250	75.0	100
2-Butanone (MEK)	FB	Ave	23075 370294	57439 431437	95860 563260	148766	209226	25.0 350	50.0 400	100 500	150	200
Bromochloromethane	FB	Ave	5232 225122	32340 238231	52562 336400	86668	122056	5.00 175	25.0 200	50.0 250	75.0	100
Tetrahydrofuran	FB	Ave	6407 240219	29426 258774	52879 371288	87209	125243	10.0 350	50.0 400	100 500	150	200
Chloroform	FB	Ave	22184 719844	101688 753997	179043 1033758	270651	387077	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1-Trichloroethane	FB	Ave	13254 640931	80865 656574	150410 928243	235042	339667	5.00 175	25.0 200	50.0 250	75.0	100
Cyclohexane	FB	Ave	12770 804799	85123 822002	169219 1174304	275972	402784	5.00 175	25.0 200	50.0 250	75.0	100
Carbon tetrachloride	FB	Ave	11603 590661	77132 605409	138126 846054	217534	310474	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloropropene	FB	Ave	11779 594399	73732 614355	134345 859228	217236	308007	5.00 175	25.0 200	50.0 250	75.0	100
Isobutyl alcohol	FB	Ave	6816 338109	49373 362251	78499 500712	119606	177235	125 4375	625 5000	1250 6250	1875	2500

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Benzene	FB	Ave	38548 1683668	227675 1774683	408862 2494576	629525	908094	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloroethane	FB	Ave	15539 575594	82412 610967	143066 845714	218703	312432	5.00 175	25.0 200	50.0 250	75.0	100
n-Heptane	FB	Ave	9786 542902	60163 555703	116450 800887	182267	269645	5.00 175	25.0 200	50.0 250	75.0	100
Trichloroethene	FB	Ave	10780 466258	61850 489132	109801 692286	169444	243679	5.00 175	25.0 200	50.0 250	75.0	100
Methylcyclohexane	FB	Ave	11431 803214	83809 825502	163360 1173097	271334	401012	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloropropane	FB	Ave	9719 386381	52989 418167	97012 597482	140493	213149	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dioxane	FB	Ave	1111 74233	9072 82774	15974 112807	27057	33833	100 3500	500 4000	1000 5000	1500	2000
Dibromomethane	FB	Ave	5863 237226	33364 256149	56619 353651	87212	125589	5.00 175	25.0 200	50.0 250	75.0	100
Bromodichloromethane	FB	Ave	11022 515897	67258 552925	119327 783190	182392	265619	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,3-Dichloropropene	FB	Ave	11251 616557	66633 668145	127797 967456	209621	313227	5.00 175	25.0 200	50.0 250	75.0	100
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	34981 715463	91897 807636	159135 1117846	249195	381467	25.0 350	50.0 400	100 500	150	200
Toluene	CBNZ d5	Ave	34785 1857371	229222 1971574	423559 2771583	660273	967254	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,3-Dichloropropene	CBNZ d5	Ave	9967 589721	69014 635674	123808 916405	202944	304365	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl methacrylate	CBNZ d5	Lin1	7431 496010	52684 527063	97478 796042	155469	250643	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloroethane	CBNZ d5	Ave	9325 360355	51209 383761	83945 539944	131922	197203	5.00 175	25.0 200	50.0 250	75.0	100
Tetrachloroethene	CBNZ d5	Ave	9426 432141	56920 435843	101119 632967	156298	230455	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichloropropane	CBNZ d5	Ave	15783 634978	86749 678222	145569 959675	231732	333930	5.00 175	25.0 200	50.0 250	75.0	100
2-Hexanone	CBNZ d5	Ave	22753 492035	60055 547053	104981 782817	176297	261999	25.0 350	50.0 400	100 500	150	200
Dibromochloromethane	CBNZ d5	Ave	8637 400636	52339 437324	87249 617691	139802	211297	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromoethane (EDB)	CBNZ d5	Ave	7602 362760	49528 393842	83557 554285	126032	196231	5.00 175	25.0 200	50.0 250	75.0	100
Chlorobenzene	CBNZ d5	Ave	27881 1213522	159112 1286971	277491 1832103	434376	635976	5.00 175	25.0 200	50.0 250	75.0	100

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	9425 425768	58095 452419	98206 642131	151167	223852	5.00 175	25.0 200	50.0 250	75.0	100
Ethylbenzene	CBNZ d5	Ave	11583 671275	75132 703281	143261 1008363	229174	347006	5.00 175	25.0 200	50.0 250	75.0	100
m-Xylene & p-Xylene	CBNZ d5	Ave	12107 842788	95205 866885	180979 1259624	292799	427745	5.00 175	25.0 200	50.0 250	75.0	100
o-Xylene	CBNZ d5	Ave	11502 804390	87378 855310	168597 1200328	272012	411287	5.00 175	25.0 200	50.0 250	75.0	100
Styrene	CBNZ d5	Ave	19356 1349017	153645 1438016	288030 2070073	471010	707914	5.00 175	25.0 200	50.0 250	75.0	100
Bromoform	CBNZ d5	Ave	5215 276031	35612 294536	55071 425124	95624	142711	5.00 175	25.0 200	50.0 250	75.0	100
Isopropylbenzene	CBNZ d5	Ave	30420 2193253	225155 2253648	437329 3238141	722284	1106743	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	10986 446787	65752 496123	108060 689577	170094	247868	5.00 175	25.0 200	50.0 250	75.0	100
Bromobenzene	DCBd 4	Ave	10930 547178	73495 592596	126799 831085	197934	291134	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	2845 155446	20439 166190	36176 242460	54044	84504	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichloropropane	DCBd 4	Ave	4418 159391	22911 173455	40128 237984	61508	91824	5.00 175	25.0 200	50.0 250	75.0	100
N-Propylbenzene	DCBd 4	Ave	8476 632465	70417 647513	128603 931640	216217	325821	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorotoluene	DCBd 4	Ave	7843 513252	66924 536386	115480 756576	181412	267823	5.00 175	25.0 200	50.0 250	75.0	100
1,3,5-Trimethylbenzene	DCBd 4	Lin2	22107 1782300	198003 1868768	378148 2693437	626158	921587	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorotoluene	DCBd 4	Ave	8481 551180	68212 572755	121234 814027	196651	285080	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butylbenzene	DCBd 4	Lin2	18908 1540304	160366 1582351	303695 2262131	508961	772151	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trimethylbenzene	DCBd 4	Lin2	22051 1782749	203908 1872147	382724 2666234	628141	943172	5.00 175	25.0 200	50.0 250	75.0	100
sec-Butylbenzene	DCBd 4	Lin2	26429 2142440	228044 2197762	437562 3147035	727698	1082814	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichlorobenzene	DCBd 4	Ave	20298 1008355	134944 1077573	233076 1522973	373904	542467	5.00 175	25.0 200	50.0 250	75.0	100
4-Isopropyltoluene	DCBd 4	Lin2	21239 1875860	197730 1938053	392670 2787333	651504	969553	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dichlorobenzene	DCBd 4	Ave	22742 1024053	138630 1090610	236623 1565824	378654	544570	5.00 175	25.0 200	50.0 250	75.0	100

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Lin1	19604 1475404	149790 1515467	285309 2214295	494517	743739	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichlorobenzene	DCBd 4	Ave	20441 927067	127188 997737	215434 1415045	349385	505968	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	1748 71466	10582 77251	16087 108455	26251	38897	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trichlorobenzene	DCBd 4	Ave	6708 335447	38769 376193	65533 559625	111239	176546	5.00 175	25.0 200	50.0 250	75.0	100
Hexachlorobutadiene	DCBd 4	Ave	5253 183975	27423 200404	46204 276634	70167	100398	5.00 175	25.0 200	50.0 250	75.0	100
Naphthalene	DCBd 4	Qua	9971 857072	74693 +++++	135090 +++++	259670	417882	5.00 175	25.0 +++++	50.0 +++++	75.0	100
1,2,3-Trichlorobenzene	DCBd 4	Ave	4647 264808	29408 312474	53815 445388	95126	145924	5.00 175	25.0 200	50.0 250	75.0	100
Dibromofluoromethane (Surr)	FB	Ave	8202 333901	46679 376711	92926 486475	142038	186074	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloroethane-d4 (Surr)	FB	Ave	12854 433686	66876 500310	124925 634924	184553	248821	5.00 175	25.0 200	50.0 250	75.0	100
Toluene-d8 (Surr)	CBNZ d5	Ave	29841 1386509	166033 1540447	363161 2070527	566377	752653	5.00 175	25.0 200	50.0 250	75.0	100
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	10473 516055	68111 581731	128482 759339	204421	283217	5.00 175	25.0 200	50.0 250	75.0	100

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-294706/19	5101216.D
Level 2	IC 180-294706/5	5101205.D
Level 3	ICIS 180-294706/6	5101206.D
Level 4	IC 180-294706/7	5101207.D
Level 5	IC 180-294706/8	5101208.D
Level 6	IC 180-294706/9	5101209.D
Level 7	IC 180-294706/10	5101210.D
Level 8	IC 180-294706/11	5101211.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	-2.6 -4.3	7.3 0.2	-5.1	-2.3	0.0	6.8	50 30	30 30	30	30	30	30
Chloromethane	2.6 -2.5	10.3 -0.7	-4.6	-6.6	-0.6	2.1	50 30	30 30	30	30	30	30
Vinyl chloride	1.9 -2.9	5.9 0.4	-5.1	-4.9	-0.7	5.4	50 30	30 30	30	30	30	30
1,3-Butadiene	2.4 -3.0	4.6 -1.0	-3.6	-4.5	-0.6	5.7	50 30	30 30	30	30	30	30
Bromomethane	21.1 -13.1	14.9 -12.9	-1.2	-5.2	-8.2	4.6	50 30	30 30	30	30	30	30
Chloroethane	4.4 -4.5	9.1 -3.0	-5.5	-2.3	-1.8	3.5	50 30	30 30	30	30	30	30
Dichlorofluoromethane	2.5 -3.8	9.6 -1.5	-4.6	-4.4	0.2	2.0	50 30	30 30	30	30	30	30
Trichlorofluoromethane	4.7 -7.1	7.1 -2.7	-3.9	-5.1	3.1	4.0	50 30	30 30	30	30	30	30
Ethyl ether	14.0 -2.2	8.9 0.0	-11.3	-7.2	-0.6	-1.7	50 30	30 30	30	30	30	30
Acrolein	8.8 4.5	4.9 -6.7	-6.7	-9.0	0.6	3.5	50 30	30 30	30	30	30	30
1,1-Dichloroethene	11.8 -1.6	1.0 -0.1	-8.2	-8.1	-0.8	5.9	50 30	30 30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.9 -2.7	7.2 -1.8	-6.0	-3.4	1.2	4.5	50 30	30 30	30	30	30	30
Acetone	1.6 0.0	22.9 -19.5	-2.6	-5.6	5.7	-2.5	50 30	30 30	30	30	30	30
Iodomethane	8.2 -1.6	2.1 0.2	-7.6	-6.9	-0.3	5.8	50 30	30 30	30	30	30	30
Carbon disulfide	0.1 2.0	1.4 5.1	-12.1	-7.5	0.5	10.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Allyl chloride	-12.5 8.5	0.1 8.3	-9.9	-7.8	1.4	11.9	50 30	30 30	30	30	30	30
Methyl acetate	12.5 0.3	9.6 0.3	-12.1	-10.2	0.3	-0.8	50 30	30 30	30	30	30	30
Methylene Chloride	-1.3 -1.2	11.7 0.7	-7.3	-6.4	1.3	2.5	50 30	30 30	30	30	30	30
tert-Butyl alcohol	6.0 -6.6	3.5 2.6	-8.3	-4.7	1.2	6.4	50 30	30 30	30	30	30	30
Acrylonitrile	7.0 -2.3	10.2 1.0	-9.0	-8.7	-0.3	2.1	50 30	30 30	30	30	30	30
trans-1,2-Dichloroethene	2.3 -2.8	9.4 -1.1	-5.4	-6.4	-0.9	4.9	50 30	30 30	30	30	30	30
Methyl tert-butyl ether	-0.9 1.9	0.9 4.7	-10.2	-6.0	3.6	6.0	50 30	30 30	30	30	30	30
Hexane	-3.2 1.2	1.0 6.5	-12.6	-6.7	1.7	12.2	50 30	30 30	30	30	30	30
1,1-Dichloroethane	6.3 -0.5	4.2 0.0	-7.6	-5.9	-1.3	4.8	50 30	30 30	30	30	30	30
Vinyl acetate	-15.4 12.6	6.6 10.8	-10.7	-7.1	-1.4	4.7	50 30	30 30	30	30	30	30
2,2-Dichloropropane	-7.8 1.3	13.7 -1.1	-7.5	-3.4	1.4	3.4	50 30	30 30	30	30	30	30
cis-1,2-Dichloroethene	12.9 -2.1	2.6 2.9	-9.0	-7.6	-3.5	3.7	50 30	30 30	30	30	30	30
2-Butanone (MEK)	4.1 1.4	15.4 -3.4	-7.4	-6.2	-1.1	-2.7	50 30	30 30	30	30	30	30
Bromochloromethane	2.6 -2.6	13.0 0.4	-11.7	-5.0	0.4	2.9	50 30	30 30	30	30	30	30
Tetrahydrofuran	19.4 0.4	-2.3 5.2	-15.6	-9.2	-2.2	4.3	50 30	30 30	30	30	30	30
Chloroform	31.3 -7.0	7.2 -6.9	-9.3	-10.5	-4.0	-0.7	50 30	30 30	30	30	30	30
1,1,1-Trichloroethane	-4.2 -1.1	4.1 2.1	-6.9	-5.0	2.9	8.0	50 30	30 30	30	30	30	30
Cyclohexane	-20.5 6.6	-5.6 11.2	-9.8	-3.9	5.1	16.8	50 30	30 30	30	30	30	30
Carbon tetrachloride	-8.6 -0.7	8.2 1.4	-6.9	-4.2	2.5	8.4	50 30	30 30	30	30	30	30
1,1-Dichloropropene	-6.9 1.2	3.8 3.3	-9.1	-4.0	2.1	9.5	50 30	30 30	30	30	30	30
Isobutyl alcohol	-8.3 1.5	18.3 2.4	-9.6	-10.1	-0.1	5.9	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Benzene	2.3 -1.9	7.6 0.7	-7.1	-6.6	1.0	4.1	50 30	30 30	30	30	30	30
1,2-Dichloroethane	16.4 -4.7	10.0 -3.6	-8.2	-8.4	-1.9	0.5	50 30	30 30	30	30	30	30
n-Heptane	-11.4 4.8	-3.0 10.3	-9.7	-7.8	2.3	14.5	50 30	30 30	30	30	30	30
Trichloroethene	4.6 -1.2	6.9 2.2	-8.8	-8.1	-0.9	5.4	50 30	30 30	30	30	30	30
Methylcyclohexane	-27.5 9.1	-5.3 13.2	-11.3	-3.8	6.7	18.8	50 30	30 30	30	30	30	30
1,2-Dichloropropane	9.4 -1.9	6.3 2.3	-6.5	-11.6	0.6	1.4	50 30	30 30	30	30	30	30
1,4-Dioxane	-27.1 13.1	6.0 12.6	-10.3	-0.8	-7.0	13.5	50 30	30 30	30	30	30	30
Dibromomethane	9.0 -0.8	10.5 0.0	-9.9	-9.4	-2.1	2.8	50 30	30 30	30	30	30	30
Bromodichloromethane	-2.0 2.4	6.5 5.9	-9.2	-9.4	-1.0	6.9	50 30	30 30	30	30	30	30
cis-1,3-Dichloropropene	-11.7 9.3	-6.8 15.5	-14.1	-8.0	3.1	12.8	50 30	30 30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	-10.1 3.3	7.7 9.5	-7.8	-9.6	2.6	4.5	50 30	30 30	30	30	30	30
Toluene	-12.0 -0.7	5.7 6.8	-3.4	-5.7	2.5	6.8	50 30	30 30	30	30	30	30
trans-1,3-Dichloropropene	-18.6 3.4	2.8 14.1	-8.8	-6.4	4.1	9.5	50 30	30 30	30	30	30	30
Ethyl methacrylate	27.5 -4.3	-1.6 10.2	-15.0	-17.1	-2.7	2.9	50 30	30 30	30	30	30	30
1,1,2-Trichloroethane	13.0 -7.4	13.2 -0.3	-8.3	-9.7	0.1	-0.7	50 30	30 30	30	30	30	30
Tetrachloroethene	-0.2 -8.1	9.9 2.2	-3.5	-6.5	2.2	4.0	50 30	30 30	30	30	30	30
1,3-Dichloropropane	10.4 -5.5	10.7 2.3	-8.2	-8.4	-2.2	0.9	50 30	30 30	30	30	30	30
2-Hexanone	-13.8 3.2	3.8 13.0	-10.3	-5.7	3.9	5.9	50 30	30 30	30	30	30	30
Dibromochloromethane	-1.4 -0.5	9.1 7.6	-10.1	-9.8	1.1	4.0	50 30	30 30	30	30	30	30
1,2-Dibromoethane (EDB)	-5.1 -2.0	12.8 5.5	-5.9	-11.1	2.7	3.0	50 30	30 30	30	30	30	30
Chlorobenzene	4.1 -4.3	8.4 4.3	-6.6	-8.4	-0.5	3.0	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,1,1,2-Tetrachloroethane	0.2 -4.2	12.6 4.0	-5.9	-9.2	-0.3	2.9	50 30	30 30	30	30	30	30
Ethylbenzene	-16.0 1.6	-0.6 11.5	-6.3	-6.1	5.4	10.6	50 30	30 30	30	30	30	30
m-Xylene & p-Xylene	-28.7 1.6	2.3 13.1	-3.9	-2.6	5.5	12.8	50 30	30 30	30	30	30	30
o-Xylene	-28.6 5.8	-1.0 13.6	-5.6	-4.6	7.0	13.5	50 30	30 30	30	30	30	30
Styrene	-29.8 3.9	1.7 14.5	-5.8	-3.4	7.6	11.3	50 30	30 30	30	30	30	30
Bromoform	-10.6 0.5	11.3 11.1	-14.9	-7.4	2.4	7.5	50 30	30 30	30	30	30	30
Isopropylbenzene	-28.9 4.9	-4.0 15.4	-7.8	-4.6	8.4	16.5	50 30	30 30	30	30	30	30
1,1,2,2-Tetrachloroethane	5.5 -5.1	15.2 1.0	-6.4	-7.7	-0.2	-2.4	50 30	30 30	30	30	30	30
Bromobenzene	-0.2 -1.2	6.9 4.5	-6.5	-10.4	0.9	5.9	50 30	30 30	30	30	30	30
trans-1,4-Dichloro-2-butene	-7.4 -1.2	6.0 8.7	-4.9	-12.8	4.4	7.2	50 30	30 30	30	30	30	30
1,2,3-Trichloropropane	27.8 -8.4	5.5 -5.2	-6.3	-11.9	0.8	-2.4	50 30	30 30	30	30	30	30
N-Propylbenzene	-25.6 3.7	-1.6 12.5	-8.9	-6.0	8.4	17.5	50 30	30 30	30	30	30	30
2-Chlorotoluene	-19.6 0.4	9.2 6.8	-4.4	-7.9	4.1	11.4	50 30	30 30	30	30	30	30
1,3,5-Trimethylbenzene	1.3 -1.1	-1.9 7.2	-8.6	-8.5	2.2	9.4	50 30	30 30	30	30	30	30
4-Chlorotoluene	-18.3 0.7	4.7 8.0	-5.7	-6.1	4.2	12.5	50 30	30 30	30	30	30	30
tert-Butylbenzene	2.1 0.5	-4.6 8.1	-11.8	-10.6	2.8	13.5	50 30	30 30	30	30	30	30
1,2,4-Trimethylbenzene	0.9 -1.7	0.1 5.3	-8.2	-8.8	3.8	8.6	50 30	30 30	30	30	30	30
sec-Butylbenzene	1.7 -0.8	-3.6 6.9	-9.7	-9.2	2.5	12.2	50 30	30 30	30	30	30	30
1,3-Dichlorobenzene	0.4 -2.7	6.3 3.7	-6.9	-8.4	1.8	5.6	50 30	30 30	30	30	30	30
4-Isopropyltoluene	1.7 -1.4	-4.6 6.6	-8.3	-8.2	3.5	10.7	50 30	30 30	30	30	30	30
1,4-Dichlorobenzene	9.3 -4.3	6.1 3.6	-8.2	-9.9	-0.7	4.2	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1 Analy Batch No.: 294706

SDG No.:

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/12/2019 15:41 Calibration End Date: 10/12/2019 20:06 Calibration ID: 41742

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
n-Butylbenzene	26.7 -4.3	-6.7 5.1	-15.5	-12.6	-0.9	8.2	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	7.6 -4.1	6.7 2.6	-8.4	-8.9	1.1	3.4	50 30	30 30	30	30	30	30
1,2-Dibromo-3-Chloropropane	17.3 -5.4	13.1 0.2	-12.9	-12.8	-1.0	1.5	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	3.1 5.5	-5.1 18.4	-18.7	-15.3	2.9	9.2	50 30	30 30	30	30	30	30
Hexachlorobutadiene	31.3 -8.5	9.2 -4.8	-6.7	-13.1	-4.8	-2.6	50 30	30 30	30	30	30	30
Naphthalene	33.0 +++++	8.4 +++++	-9.9	-4.5	5.2	-0.4	50	30	30	30	30	30
1,2,3-Trichlorobenzene	-10.1 10.3	-9.4 18.6	-16.0	-8.9	7.1	8.4	50 30	30 30	30	30	30	30
Dibromofluoromethane (Surr)	3.8 -0.7	5.2 -6.4	0.6	0.4	-1.3	-1.6	50 30	30 30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	19.0 -3.5	10.3 -10.6	-1.0	-4.5	-3.4	-6.4	50 30	30 30	30	30	30	30
Toluene-d8 (Surr)	-4.6 -1.9	-3.1 0.9	4.7	2.3	0.8	0.8	50 30	30 30	30	30	30	30
4-Bromofluorobenzene (Surr)	-9.7 -0.1	7.1 -0.2	-0.1	-0.4	2.3	1.1	50 30	30 30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101205.D
Lims ID: IC VSTD5
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 12-Oct-2019 15:41:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-005
Misc. Info.: IC VSTD5
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:58:29 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 12-Oct-2019 16:10:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.552	4.551	0.001	0	173177	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.496	7.495	0.001	98	357136	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.581	10.585	-0.004	86	85672	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.917	12.915	0.002	93	161741	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.779	6.777	0.002	92	46679	25.0	26.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.148	0.002	0	66876	25.0	27.6	
$ 7 Toluene-d8 (Surr)	98	9.133	9.131	0.002	94	166033	25.0	24.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.761	11.759	0.002	92	68111	25.0	26.8	
11 Dichlorodifluoromethane	85	1.687	1.691	-0.004	99	76390	25.0	26.8	
12 Chloromethane	50	1.912	1.916	-0.004	100	71582	25.0	27.6	
13 Vinyl chloride	62	2.040	2.038	0.002	81	69473	25.0	26.5	
14 Butadiene	39	2.052	2.050	0.002	92	66207	25.0	26.1	
15 Bromomethane	94	2.374	2.379	-0.005	91	47476	25.0	28.7	
16 Chloroethane	64	2.520	2.513	0.007	97	44267	25.0	27.3	
17 Dichlorofluoromethane	67	2.837	2.841	-0.004	97	110403	25.0	27.4	
18 Trichlorofluoromethane	101	2.849	2.847	0.002	98	104996	25.0	26.8	
20 Ethyl ether	59	3.256	3.255	0.001	91	49659	25.0	27.2	
21 Acrolein	56	3.457	3.456	0.001	100	39779	125.0	131.1	
22 1,1-Dichloroethene	96	3.573	3.571	0.002	95	44624	25.0	25.3	
23 1,1,2-Trichloro-1,2,2-trif	101	3.633	3.632	0.001	90	56061	25.0	26.8	
24 Acetone	43	3.682	3.681	0.001	99	52340	50.0	61.4	
25 Iodomethane	142	3.779	3.772	0.007	99	80801	25.0	25.5	
26 Carbon disulfide	76	3.871	3.863	0.008	99	126043	25.0	25.4	
28 3-Chloro-1-propene	76	4.187	4.186	0.001	91	26148	25.0	25.0	
30 Methyl acetate	43	4.211	4.210	0.001	97	87104	50.0	54.8	
31 Methylene Chloride	84	4.400	4.398	0.002	89	78580	25.0	27.9	
32 2-Methyl-2-propanol	59	4.686	4.672	0.014	94	52094	250.0	258.7	
33 Acrylonitrile	53	4.789	4.788	0.001	98	221576	250.0	275.5	
34 trans-1,2-Dichloroethene	96	4.808	4.812	-0.004	98	55108	25.0	27.4	
35 Methyl tert-butyl ether	73	4.820	4.830	-0.010	97	133934	25.0	25.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.221	5.226	-0.005	94	77412	25.0	25.3	
37 1,1-Dichloroethane	63	5.440	5.439	0.001	97	90708	25.0	26.1	
38 Vinyl acetate	43	5.489	5.487	0.002	97	87993	25.0	26.6	
44 2,2-Dichloropropane	97	6.170	6.175	-0.005	60	14369	25.0	28.4	
45 cis-1,2-Dichloroethene	96	6.176	6.181	-0.005	81	56591	25.0	25.7	
46 2-Butanone (MEK)	43	6.195	6.193	0.002	91	57439	50.0	57.7	
49 Chlorobromomethane	128	6.456	6.455	0.001	93	32340	25.0	28.3	
51 Tetrahydrofuran	42	6.468	6.467	0.001	84	29426	50.0	48.8	
52 Chloroform	83	6.602	6.601	0.001	95	101688	25.0	26.8	
53 1,1,1-Trichloroethane	97	6.760	6.759	0.001	98	80865	25.0	26.0	
54 Cyclohexane	56	6.827	6.826	0.001	93	85123	25.0	23.6	
56 Carbon tetrachloride	117	6.925	6.923	0.002	97	77132	25.0	27.0	
55 1,1-Dichloropropene	75	6.943	6.941	0.002	94	73732	25.0	26.0	
57 Isobutyl alcohol	41	7.144	7.142	0.002	83	49373	625.0	739.2	
58 Benzene	78	7.156	7.160	-0.004	97	227675	25.0	26.9	
59 1,2-Dichloroethane	62	7.235	7.227	0.008	98	82412	25.0	27.5	
62 n-Heptane	43	7.509	7.507	0.002	87	60163	25.0	24.3	
64 Trichloroethene	130	7.880	7.878	0.002	95	61850	25.0	26.7	
66 Methylcyclohexane	83	8.111	8.115	-0.004	89	83809	25.0	23.7	
67 1,2-Dichloropropane	63	8.153	8.152	0.001	94	52989	25.0	26.6	
70 1,4-Dioxane	88	8.227	8.231	-0.005	38	9072	500.0	530.0	
68 Dibromomethane	93	8.239	8.237	0.002	91	33364	25.0	27.6	
71 Dichlorobromomethane	83	8.433	8.432	0.001	99	67258	25.0	26.6	
74 cis-1,3-Dichloropropene	75	8.871	8.876	-0.005	93	66633	25.0	23.3	
75 4-Methyl-2-pentanone (MIBK	43	9.030	9.028	0.002	96	91897	50.0	53.8	
76 Toluene	91	9.200	9.198	0.002	98	229222	25.0	26.4	
77 trans-1,3-Dichloropropene	75	9.443	9.448	-0.005	96	69014	25.0	25.7	
78 Ethyl methacrylate	69	9.504	9.502	0.002	90	52684	25.0	24.6	
79 1,1,2-Trichloroethane	97	9.638	9.642	-0.004	91	51209	25.0	28.3	
80 Tetrachloroethene	164	9.711	9.709	0.002	98	56920	25.0	27.5	
81 1,3-Dichloropropane	76	9.796	9.794	0.002	94	86749	25.0	27.7	
82 2-Hexanone	43	9.851	9.855	-0.004	97	60055	50.0	51.9	
84 Chlorodibromomethane	129	10.009	10.007	0.002	87	52339	25.0	27.3	
85 Ethylene Dibromide	107	10.125	10.123	0.002	99	49528	25.0	28.2	
87 Chlorobenzene	112	10.611	10.610	0.001	95	159112	25.0	27.1	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.701	0.001	88	58095	25.0	28.2	
90 Ethylbenzene	106	10.709	10.707	0.002	99	75132	25.0	24.8	
91 m-Xylene & p-Xylene	106	10.842	10.841	0.001	0	95205	25.0	25.6	
92 o-Xylene	106	11.220	11.218	0.002	97	87378	25.0	24.7	
93 Styrene	104	11.238	11.242	-0.004	93	153645	25.0	25.4	
94 Bromoform	173	11.414	11.425	-0.011	97	35612	25.0	27.8	
97 Isopropylbenzene	105	11.585	11.583	0.002	96	225155	25.0	24.0	
100 Bromobenzene	156	11.901	11.899	0.002	92	73495	25.0	26.7	
99 1,1,2,2-Tetrachloroethane	83	11.895	11.899	-0.004	79	65752	25.0	28.8	
102 trans-1,4-Dichloro-2-buten	53	11.931	11.936	-0.005	78	20439	25.0	26.5	
101 1,2,3-Trichloropropane	110	11.950	11.954	-0.004	84	22911	25.0	26.4	
103 N-Propylbenzene	120	11.998	12.003	-0.005	98	70417	25.0	24.6	
104 2-Chlorotoluene	126	12.090	12.094	-0.004	97	66924	25.0	27.3	
106 1,3,5-Trimethylbenzene	105	12.187	12.179	0.008	93	198003	25.0	24.5	
107 4-Chlorotoluene	126	12.217	12.216	0.001	97	68212	25.0	26.2	
108 tert-Butylbenzene	119	12.497	12.502	-0.005	93	160366	25.0	23.9	
110 1,2,4-Trimethylbenzene	105	12.558	12.556	0.002	98	203908	25.0	25.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.722	12.721	0.001	95	228044	25.0	24.1	
113 1,3-Dichlorobenzene	146	12.838	12.842	-0.004	98	134944	25.0	26.6	
114 4-Isopropyltoluene	119	12.874	12.873	0.001	97	197730	25.0	23.9	
115 1,4-Dichlorobenzene	146	12.941	12.940	0.001	94	138630	25.0	26.5	
120 n-Butylbenzene	91	13.282	13.280	0.002	96	149790	25.0	23.3	
121 1,2-Dichlorobenzene	146	13.306	13.305	0.001	98	127188	25.0	26.7	
122 1,2-Dibromo-3-Chloropropan	75	14.091	14.083	0.008	85	10582	25.0	28.3	
126 1,2,4-Trichlorobenzene	180	14.912	14.917	-0.005	92	38769	25.0	23.7	
127 Hexachlorobutadiene	225	15.052	15.057	-0.005	91	27423	25.0	27.3	
128 Naphthalene	128	15.186	15.184	0.002	96	74693	25.0	27.1	
129 1,2,3-Trichlorobenzene	180	15.417	15.416	0.001	95	29408	25.0	22.6	
S 133 Xylenes, Total	106				0		50.0	50.3	
S 154 Total BTEX	106				0		125.0	128.5	
S 134 1,2-Dichloroethene, Total	96				0		50.0	53.0	
S 135 1,3-Dichloropropene, Total	1				0		50.0	49.0	

Reagents:

voaWKetmix1st_00019	Amount Added:	1.00	Units: uL		
VOA8260VOAPRI_00375	Amount Added:	1.00	Units: uL		
VOAACRPRI_00021	Amount Added:	5.00	Units: uL		
VOAVAPRI_00028	Amount Added:	1.00	Units: uL		
VOA8260SURR_00100	Amount Added:	1.00	Units: uL		
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent	

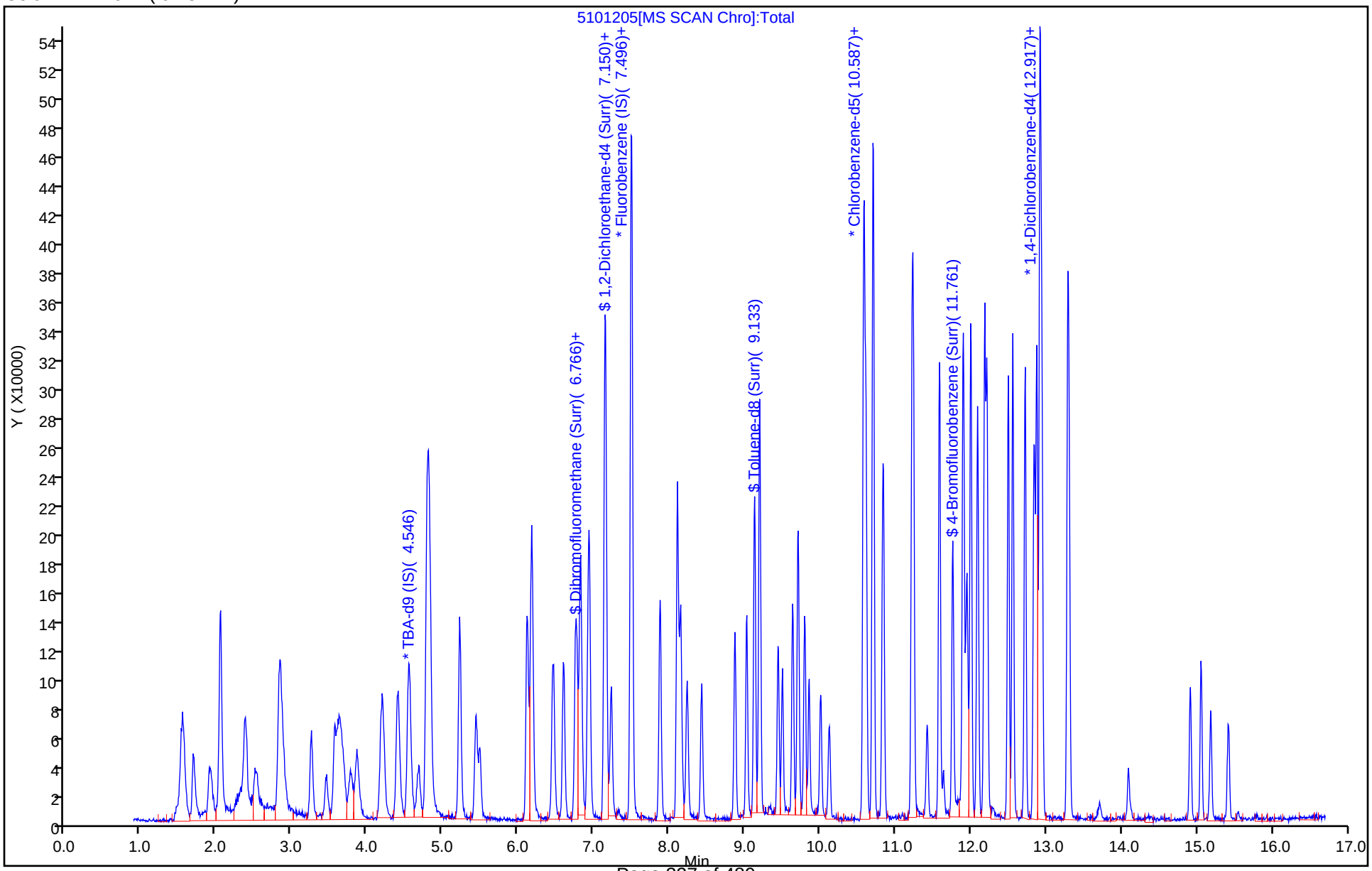
Report Date: 15-Oct-2019 08:58:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101205.D

Injection Date:	12-Oct-2019 15:41:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD5			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101206.D
Lims ID: ICIS VSTD10
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 12-Oct-2019 16:05:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-006
Misc. Info.: ICIS VSTD10
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:58:35 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 12-Oct-2019 16:49:33

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.550	4.550	0.000	0	156253	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.494	7.494	0.000	98	371492	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	86	86652	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	92	159500	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.776	6.776	0.000	95	92926	50.0	50.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.147	0.000	0	124925	50.0	49.5	
$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	94	363161	50.0	52.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	93	128482	50.0	49.9	
11 Dichlorodifluoromethane	85	1.685	1.685	0.000	99	140501	50.0	47.4	
12 Chloromethane	50	1.916	1.916	0.000	100	128833	50.0	47.7	
13 Vinyl chloride	62	2.050	2.050	0.000	72	129526	50.0	47.5	
14 Butadiene	39	2.050	2.050	0.000	94	126955	50.0	48.2	
15 Bromomethane	94	2.384	2.384	0.000	90	84882	50.0	49.4	
16 Chloroethane	64	2.518	2.518	0.000	100	79821	50.0	47.3	
17 Dichlorofluoromethane	67	2.840	2.840	0.000	96	200034	50.0	47.7	
18 Trichlorofluoromethane	101	2.846	2.846	0.000	91	195920	50.0	48.0	
20 Ethyl ether	59	3.254	3.254	0.000	94	84123	50.0	44.3	
21 Acrolein	56	3.461	3.461	0.000	97	44186	150.0	140.0	
22 1,1-Dichloroethene	96	3.570	3.570	0.000	97	84411	50.0	45.9	
23 1,1,2-Trichloro-1,2,2-trif	101	3.643	3.643	0.000	90	102298	50.0	47.0	
24 Acetone	43	3.686	3.686	0.000	100	86329	100.0	97.4	
25 Iodomethane	142	3.777	3.777	0.000	97	152090	50.0	46.2	
26 Carbon disulfide	76	3.856	3.856	0.000	99	227218	50.0	44.0	
28 3-Chloro-1-propene	76	4.185	4.185	0.000	89	48941	50.0	45.0	
30 Methyl acetate	43	4.209	4.209	0.000	97	145339	100.0	87.9	
31 Methylene Chloride	84	4.404	4.404	0.000	93	121072	50.0	46.3	
32 2-Methyl-2-propanol	59	4.672	4.672	0.000	93	83266	500.0	458.3	
33 Acrylonitrile	53	4.781	4.781	0.000	99	380438	500.0	454.8	
34 trans-1,2-Dichloroethene	96	4.805	4.805	0.000	98	99150	50.0	47.3	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	98	247942	50.0	44.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.225	5.225	0.000	92	139389	50.0	43.7	
37 1,1-Dichloroethane	63	5.438	5.438	0.000	97	167363	50.0	46.2	
38 Vinyl acetate	43	5.487	5.487	0.000	97	153324	50.0	44.6	
44 2,2-Dichloropropane	97	6.174	6.174	0.000	61	24326	50.0	46.3	
45 cis-1,2-Dichloroethene	96	6.180	6.180	0.000	84	104402	50.0	45.5	
46 2-Butanone (MEK)	43	6.192	6.192	0.000	99	95860	100.0	92.6	
49 Chlorobromomethane	128	6.460	6.460	0.000	95	52562	50.0	44.1	
51 Tetrahydrofuran	42	6.472	6.472	0.000	83	52879	100.0	84.4	
52 Chloroform	83	6.600	6.600	0.000	94	179043	50.0	45.4	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	98	150410	50.0	46.6	
54 Cyclohexane	56	6.831	6.831	0.000	92	169219	50.0	45.1	
56 Carbon tetrachloride	117	6.922	6.922	0.000	98	138126	50.0	46.6	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	95	134345	50.0	45.5	
57 Isobutyl alcohol	41	7.147	7.147	0.000	80	78499	1250.0	1129.8	
58 Benzene	78	7.160	7.160	0.000	98	408862	50.0	46.4	
59 1,2-Dichloroethane	62	7.227	7.227	0.000	99	143066	50.0	45.9	
62 n-Heptane	43	7.506	7.506	0.000	89	116450	50.0	45.1	
64 Trichloroethene	130	7.877	7.877	0.000	95	109801	50.0	45.6	
66 Methylcyclohexane	83	8.109	8.109	0.000	90	163360	50.0	44.4	
67 1,2-Dichloropropane	63	8.145	8.145	0.000	93	97012	50.0	46.8	
70 1,4-Dioxane	88	8.224	8.224	0.000	39	15974	1000.0	897.2	
68 Dibromomethane	93	8.236	8.236	0.000	90	56619	50.0	45.1	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	119327	50.0	45.4	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	95	127797	50.0	42.9	
75 4-Methyl-2-pentanone (MIBK	43	9.027	9.027	0.000	97	159135	100.0	92.2	
76 Toluene	91	9.204	9.204	0.000	98	423559	50.0	48.3	
77 trans-1,3-Dichloropropene	75	9.447	9.447	0.000	94	123808	50.0	45.6	
78 Ethyl methacrylate	69	9.502	9.502	0.000	87	97478	50.0	42.5	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	93	83945	50.0	45.9	
80 Tetrachloroethene	164	9.709	9.709	0.000	98	101119	50.0	48.3	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	93	145569	50.0	45.9	
82 2-Hexanone	43	9.855	9.855	0.000	95	104981	100.0	89.7	
84 Chlorodibromomethane	129	10.007	10.007	0.000	90	87249	50.0	44.9	
85 Ethylene Dibromide	107	10.122	10.122	0.000	97	83557	50.0	47.1	
87 Chlorobenzene	112	10.609	10.609	0.000	95	277491	50.0	46.7	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.700	0.000	90	98206	50.0	47.1	
90 Ethylbenzene	106	10.706	10.706	0.000	99	143261	50.0	46.8	
91 m-Xylene & p-Xylene	106	10.840	10.840	0.000	0	180979	50.0	48.0	
92 o-Xylene	106	11.223	11.223	0.000	95	168597	50.0	47.2	
93 Styrene	104	11.236	11.236	0.000	94	288030	50.0	47.1	
94 Bromoform	173	11.424	11.424	0.000	99	55071	50.0	42.6	
97 Isopropylbenzene	105	11.582	11.582	0.000	96	437329	50.0	46.1	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	77	108060	50.0	46.8	
100 Bromobenzene	156	11.905	11.905	0.000	92	126799	50.0	46.8	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	84	36176	50.0	47.6	
101 1,2,3-Trichloropropane	110	11.953	11.953	0.000	83	40128	50.0	46.9	
103 N-Propylbenzene	120	12.002	12.002	0.000	99	128603	50.0	45.6	
104 2-Chlorotoluene	126	12.093	12.093	0.000	97	115480	50.0	47.8	
106 1,3,5-Trimethylbenzene	105	12.179	12.179	0.000	95	378148	50.0	45.7	
107 4-Chlorotoluene	126	12.215	12.215	0.000	98	121234	50.0	47.2	
108 tert-Butylbenzene	119	12.495	12.495	0.000	93	303695	50.0	44.1	
110 1,2,4-Trimethylbenzene	105	12.556	12.556	0.000	97	382724	50.0	45.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.720	12.720	0.000	94	437562	50.0	45.1	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	233076	50.0	46.6	
114 4-Isopropyltoluene	119	12.872	12.872	0.000	97	392670	50.0	45.8	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	95	236623	50.0	45.9	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	285309	50.0	42.2	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	98	215434	50.0	45.8	
122 1,2-Dibromo-3-Chloropropan	75	14.095	14.095	0.000	86	16087	50.0	43.6	
126 1,2,4-Trichlorobenzene	180	14.910	14.910	0.000	92	65533	50.0	40.7	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	91	46204	50.0	46.6	
128 Naphthalene	128	15.184	15.184	0.000	97	135090	50.0	45.1	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	95	53815	50.0	42.0	
S 133 Xylenes, Total	106				0		100.0	95.2	
S 154 Total BTEX	106				0		250.0	236.8	
S 134 1,2-Dichloroethene, Total	96				0		100.0	92.8	
S 135 1,3-Dichloropropene, Total	1				0		100.0	88.5	

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL		
VOA8260VOAPRI_00375	Amount Added:	2.00	Units: uL		
VOAACRPRI_00021	Amount Added:	6.00	Units: uL		
VOAVAPRI_00028	Amount Added:	2.00	Units: uL		
VOA8260SURR_00100	Amount Added:	2.00	Units: uL		
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent	

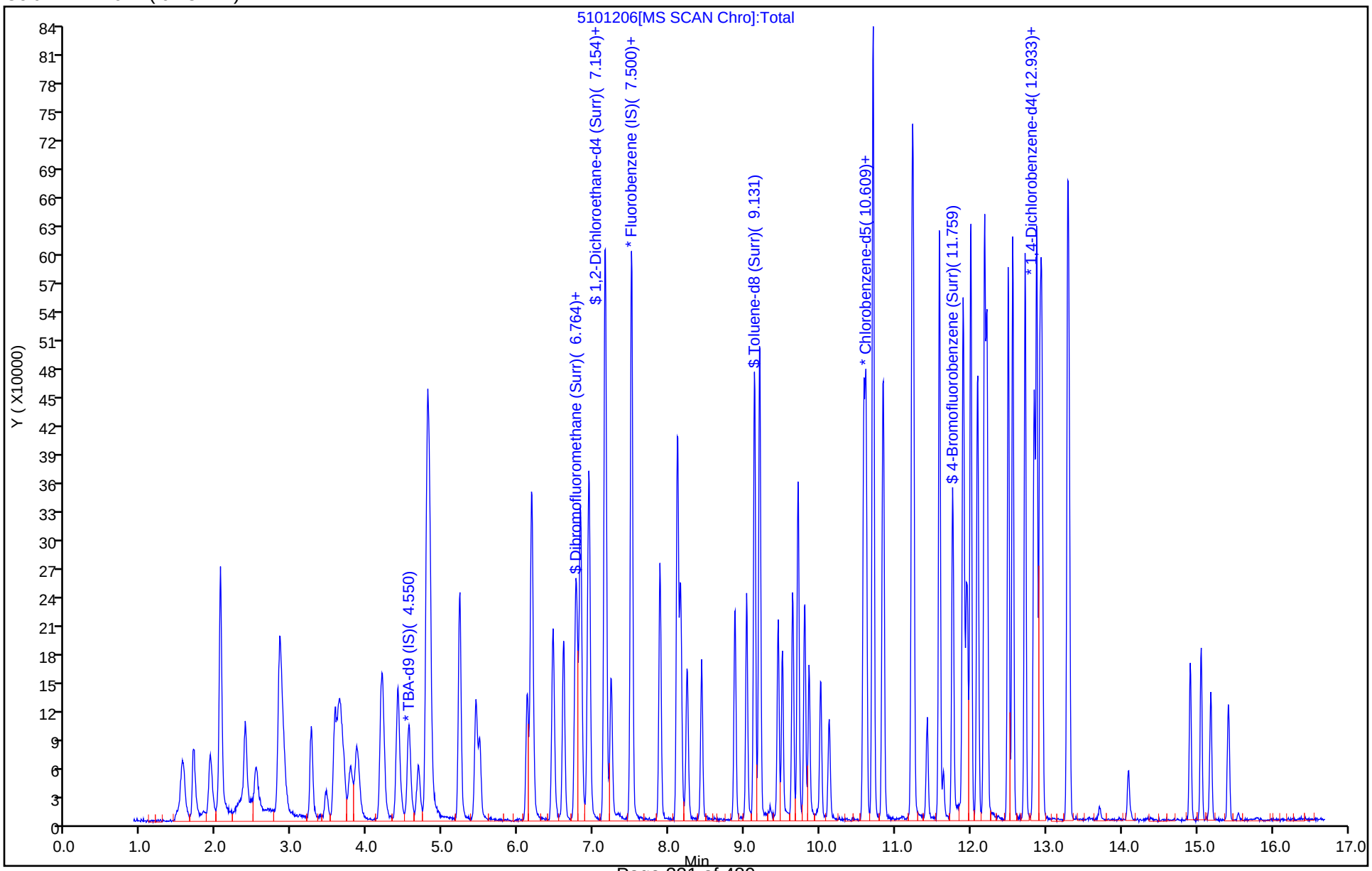
Report Date: 15-Oct-2019 08:58:36 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101206.D

Injection Date:	12-Oct-2019 16:05:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	ICIS VSTD10			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101207.D
Lims ID: IC VSTD15
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 12-Oct-2019 16:29:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-007
Misc. Info.: IC VSTD15
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:58:41 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 12-Oct-2019 16:51:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.551	4.551	0.000	0	159128	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.495	7.495	0.000	99	379327	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	92192	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.915	12.915	0.000	91	173344	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.777	6.777	0.000	95	142038	75.0	75.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	184553	75.0	71.6	
$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	94	566377	75.0	76.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	94	204421	75.0	74.7	
11 Dichlorodifluoromethane	85	1.691	1.691	0.000	99	221690	75.0	73.3	
12 Chloromethane	50	1.916	1.916	0.000	99	193093	75.0	70.0	
13 Vinyl chloride	62	2.038	2.038	0.000	98	198670	75.0	71.3	
14 Butadiene	39	2.050	2.050	0.000	94	192682	75.0	71.6	
15 Bromomethane	94	2.379	2.379	0.000	91	124745	75.0	71.1	
16 Chloroethane	64	2.513	2.513	0.000	100	126421	75.0	73.3	
17 Dichlorofluoromethane	67	2.841	2.841	0.000	98	307081	75.0	71.7	
18 Trichlorofluoromethane	101	2.847	2.847	0.000	82	296295	75.0	71.2	
20 Ethyl ether	59	3.255	3.255	0.000	91	134790	75.0	69.6	
21 Acrolein	56	3.456	3.456	0.000	98	51359	175.0	159.3	
22 1,1-Dichloroethene	96	3.571	3.571	0.000	97	129351	75.0	68.9	
23 1,1,2-Trichloro-1,2,2-trif	101	3.632	3.632	0.000	90	160989	75.0	72.5	
24 Acetone	43	3.681	3.681	0.000	99	128175	150.0	141.7	
25 Iodomethane	142	3.772	3.772	0.000	97	234650	75.0	69.8	
26 Carbon disulfide	76	3.863	3.863	0.000	99	366364	75.0	69.4	
28 3-Chloro-1-propene	76	4.186	4.186	0.000	89	76735	75.0	69.1	
30 Methyl acetate	43	4.210	4.210	0.000	98	227471	150.0	134.7	
31 Methylene Chloride	84	4.398	4.398	0.000	91	175638	75.0	70.2	
32 2-Methyl-2-propanol	59	4.672	4.672	0.000	95	132196	750.0	714.5	
33 Acrylonitrile	53	4.788	4.788	0.000	99	585122	750.0	685.1	
34 trans-1,2-Dichloroethene	96	4.812	4.812	0.000	98	150257	75.0	70.2	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	397576	75.0	70.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.226	5.226	0.000	94	227726	75.0	69.9	
37 1,1-Dichloroethane	63	5.439	5.439	0.000	97	260992	75.0	70.6	
38 Vinyl acetate	43	5.487	5.487	0.000	98	244317	75.0	69.7	
44 2,2-Dichloropropane	97	6.175	6.175	0.000	90	38927	75.0	72.5	
45 cis-1,2-Dichloroethene	96	6.181	6.181	0.000	84	162347	75.0	69.3	
46 2-Butanone (MEK)	43	6.193	6.193	0.000	100	148766	150.0	140.7	
49 Chlorobromomethane	128	6.455	6.455	0.000	92	86668	75.0	71.3	
51 Tetrahydrofuran	42	6.467	6.467	0.000	84	87209	150.0	136.2	
52 Chloroform	83	6.601	6.601	0.000	94	270651	75.0	67.1	
53 1,1,1-Trichloroethane	97	6.759	6.759	0.000	98	235042	75.0	71.2	
54 Cyclohexane	56	6.826	6.826	0.000	92	275972	75.0	72.0	
56 Carbon tetrachloride	117	6.923	6.923	0.000	98	217534	75.0	71.8	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	96	217236	75.0	72.0	
57 Isobutyl alcohol	41	7.142	7.142	0.000	88	119606	1875.0	1685.9	
58 Benzene	78	7.160	7.160	0.000	97	629525	75.0	70.0	
59 1,2-Dichloroethane	62	7.227	7.227	0.000	99	218703	75.0	68.7	
62 n-Heptane	43	7.507	7.507	0.000	89	182267	75.0	69.2	
64 Trichloroethene	130	7.878	7.878	0.000	97	169444	75.0	68.9	
66 Methylcyclohexane	83	8.115	8.115	0.000	89	271334	75.0	72.2	
67 1,2-Dichloropropane	63	8.152	8.152	0.000	93	140493	75.0	66.3	
70 1,4-Dioxane	88	8.231	8.231	0.000	40	27057	1500.0	1488.3	
68 Dibromomethane	93	8.237	8.237	0.000	90	87212	75.0	68.0	
71 Dichlorobromomethane	83	8.432	8.432	0.000	99	182392	75.0	68.0	
74 cis-1,3-Dichloropropene	75	8.876	8.876	0.000	94	209621	75.0	69.0	
75 4-Methyl-2-pentanone (MIBK	43	9.028	9.028	0.000	96	249195	150.0	135.7	
76 Toluene	91	9.198	9.198	0.000	98	660273	75.0	70.8	
77 trans-1,3-Dichloropropene	75	9.448	9.448	0.000	95	202944	75.0	70.2	
78 Ethyl methacrylate	69	9.502	9.502	0.000	91	155469	75.0	62.2	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	92	131922	75.0	67.8	
80 Tetrachloroethene	164	9.709	9.709	0.000	98	156298	75.0	70.1	
81 1,3-Dichloropropane	76	9.794	9.794	0.000	92	231732	75.0	68.7	
82 2-Hexanone	43	9.855	9.855	0.000	97	176297	150.0	141.5	
84 Chlorodibromomethane	129	10.007	10.007	0.000	90	139802	75.0	67.7	
85 Ethylene Dibromide	107	10.123	10.123	0.000	99	126032	75.0	66.7	
87 Chlorobenzene	112	10.610	10.610	0.000	95	434376	75.0	68.7	
89 1,1,1,2-Tetrachloroethane	131	10.701	10.701	0.000	93	151167	75.0	68.1	
90 Ethylbenzene	106	10.707	10.707	0.000	98	229174	75.0	70.4	
91 m-Xylene & p-Xylene	106	10.841	10.841	0.000	0	292799	75.0	73.1	
92 o-Xylene	106	11.218	11.218	0.000	97	272012	75.0	71.6	
93 Styrene	104	11.242	11.242	0.000	94	471010	75.0	72.4	
94 Bromoform	173	11.425	11.425	0.000	97	95624	75.0	69.5	
97 Isopropylbenzene	105	11.583	11.583	0.000	96	722284	75.0	71.6	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	92	170094	75.0	69.3	
100 Bromobenzene	156	11.899	11.899	0.000	91	197934	75.0	67.2	
102 trans-1,4-Dichloro-2-buten	53	11.936	11.936	0.000	71	54044	75.0	65.4	
101 1,2,3-Trichloropropane	110	11.954	11.954	0.000	85	61508	75.0	66.1	
103 N-Propylbenzene	120	12.003	12.003	0.000	99	216217	75.0	70.5	
104 2-Chlorotoluene	126	12.094	12.094	0.000	97	181412	75.0	69.1	
106 1,3,5-Trimethylbenzene	105	12.179	12.179	0.000	95	626158	75.0	68.7	
107 4-Chlorotoluene	126	12.216	12.216	0.000	97	196651	75.0	70.4	
108 tert-Butylbenzene	119	12.502	12.502	0.000	90	508961	75.0	67.0	
110 1,2,4-Trimethylbenzene	105	12.556	12.556	0.000	97	628141	75.0	68.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.721	12.721	0.000	94	727698	75.0	68.1	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	373904	75.0	68.7	
114 4-Isopropyltoluene	119	12.873	12.873	0.000	97	651504	75.0	68.9	
115 1,4-Dichlorobenzene	146	12.940	12.940	0.000	96	378654	75.0	67.6	
120 n-Butylbenzene	91	13.280	13.280	0.000	97	494517	75.0	65.6	
121 1,2-Dichlorobenzene	146	13.305	13.305	0.000	99	349385	75.0	68.3	
122 1,2-Dibromo-3-Chloropropan	75	14.083	14.083	0.000	82	26251	75.0	65.4	
126 1,2,4-Trichlorobenzene	180	14.917	14.917	0.000	94	111239	75.0	63.5	
127 Hexachlorobutadiene	225	15.057	15.057	0.000	88	70167	75.0	65.2	
128 Naphthalene	128	15.184	15.184	0.000	96	259670	75.0	71.6	
129 1,2,3-Trichlorobenzene	180	15.416	15.416	0.000	96	95126	75.0	68.3	
S 133 Xylenes, Total	106				0		150.0	144.6	
S 154 Total BTEX	106				0		375.0	355.8	
S 134 1,2-Dichloroethene, Total	96				0		150.0	139.5	
S 135 1,3-Dichloropropene, Total	1				0		150.0	139.2	

Reagents:

voaWKetmix1st_00019	Amount Added:	3.00	Units: uL		
VOA8260VOAPRI_00375	Amount Added:	3.00	Units: uL		
VOAACRPRI_00021	Amount Added:	7.00	Units: uL		
VOAVAPRI_00028	Amount Added:	3.00	Units: uL		
VOA8260SURR_00100	Amount Added:	3.00	Units: uL		
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent	

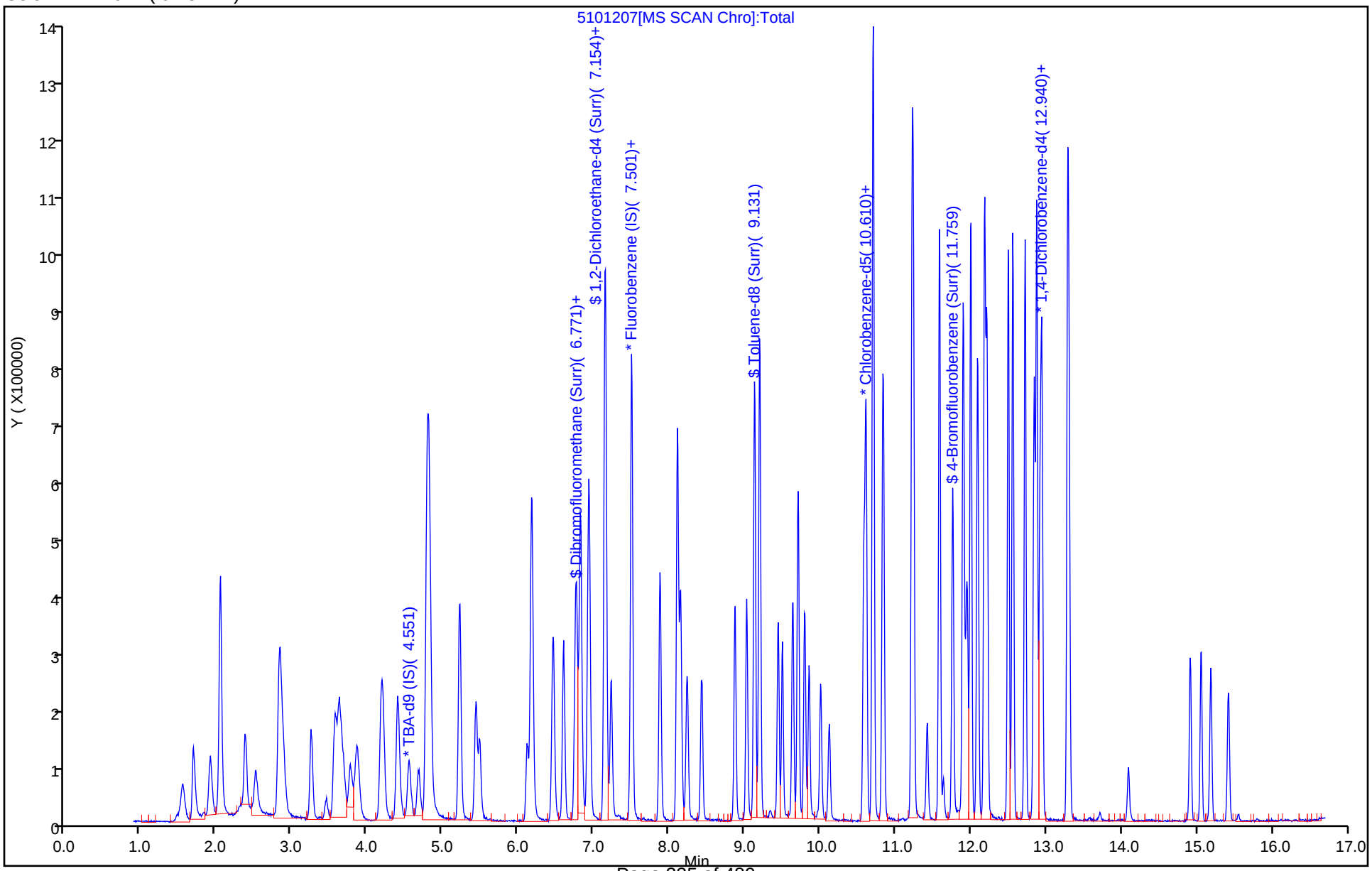
Report Date: 15-Oct-2019 08:58:43 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101207.D

Injection Date:	12-Oct-2019 16:29:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD15			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101208.D
Lims ID: IC VSTD20
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 12-Oct-2019 16:54:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-008
Misc. Info.: IC VSTD20
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:58:48 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 12-Oct-2019 17:44:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.558	4.551	0.007	0	163361	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.496	7.495	0.001	99	379397	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.580	10.585	-0.005	84	93276	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.917	12.915	0.002	90	169737	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.778	6.777	0.001	95	186074	100.0	98.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.143	7.148	-0.005	0	248821	100.0	96.6	
$ 7 Toluene-d8 (Surr)	98	9.133	9.131	0.002	93	752653	100.0	100.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.761	11.759	0.002	94	283217	100.0	102.3	
11 Dichlorodifluoromethane	85	1.686	1.691	-0.005	100	302686	100.0	100.0	
12 Chloromethane	50	1.905	1.916	-0.011	99	274114	100.0	99.4	
13 Vinyl chloride	62	2.033	2.038	-0.005	99	276910	100.0	99.3	
14 Butadiene	39	2.045	2.050	-0.005	95	267450	100.0	99.4	
15 Bromomethane	94	2.374	2.379	-0.005	91	161169	100.0	91.8	
16 Chloroethane	64	2.508	2.513	-0.005	99	169364	100.0	98.2	
17 Dichlorofluoromethane	67	2.824	2.841	-0.017	98	428973	100.0	100.2	
18 Trichlorofluoromethane	101	2.842	2.847	-0.005	97	429240	100.0	103.1	
20 Ethyl ether	59	3.250	3.255	-0.005	90	192656	100.0	99.4	
21 Acrolein	56	3.451	3.456	-0.005	99	64887	200.0	201.2	
22 1,1-Dichloroethene	96	3.560	3.571	-0.011	99	186131	100.0	99.2	
23 1,1,2-Trichloro-1,2,2-trif	101	3.627	3.632	-0.005	94	224754	100.0	101.2	
24 Acetone	43	3.676	3.681	-0.005	100	191277	200.0	211.4	
25 Iodomethane	142	3.779	3.772	0.007	97	335069	100.0	99.7	
26 Carbon disulfide	76	3.858	3.863	-0.005	99	530633	100.0	100.5	
28 3-Chloro-1-propene	76	4.187	4.186	0.001	91	112604	100.0	101.4	
30 Methyl acetate	43	4.211	4.210	0.001	97	338828	200.0	200.7	
31 Methylene Chloride	84	4.394	4.398	-0.004	90	243515	100.0	101.3	
32 2-Methyl-2-propanol	59	4.680	4.672	0.008	94	192320	1000.0	1012.5	
33 Acrylonitrile	53	4.789	4.788	0.001	99	851767	1000.0	997.1	
34 trans-1,2-Dichloroethene	96	4.807	4.812	-0.005	98	211973	100.0	99.1	
35 Methyl tert-butyl ether	73	4.826	4.830	-0.004	97	584420	100.0	103.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.221	5.226	-0.005	93	331171	100.0	101.7	
37 1,1-Dichloroethane	63	5.434	5.439	-0.005	97	365087	100.0	98.7	
38 Vinyl acetate	43	5.489	5.487	0.002	97	345800	100.0	98.6	
44 2,2-Dichloropropane	97	6.170	6.175	-0.005	91	54439	100.0	101.4	
45 cis-1,2-Dichloroethene	96	6.182	6.181	0.001	83	226192	100.0	96.5	
46 2-Butanone (MEK)	43	6.188	6.193	-0.005	99	209226	200.0	197.8	
49 Chlorobromomethane	128	6.456	6.455	0.001	92	122056	100.0	100.4	
51 Tetrahydrofuran	42	6.468	6.467	0.001	85	125243	200.0	195.6	
52 Chloroform	83	6.596	6.601	-0.005	95	387077	100.0	96.0	
53 1,1,1-Trichloroethane	97	6.754	6.759	-0.005	98	339667	100.0	102.9	
54 Cyclohexane	56	6.821	6.826	-0.005	91	402784	100.0	105.1	
56 Carbon tetrachloride	117	6.924	6.923	0.001	98	310474	100.0	102.5	
55 1,1-Dichloropropene	75	6.936	6.941	-0.005	95	308007	100.0	102.1	
57 Isobutyl alcohol	41	7.143	7.142	0.001	90	177235	2500.0	2497.7	
58 Benzene	78	7.155	7.160	-0.005	97	908094	100.0	101.0	
59 1,2-Dichloroethane	62	7.228	7.227	0.001	98	312432	100.0	98.1	
62 n-Heptane	43	7.502	7.507	-0.005	90	269645	100.0	102.3	
64 Trichloroethene	130	7.879	7.878	0.001	97	243679	100.0	99.1	
66 Methylcyclohexane	83	8.111	8.115	-0.004	90	401012	100.0	106.7	
67 1,2-Dichloropropane	63	8.147	8.152	-0.005	93	213149	100.0	100.6	
70 1,4-Dioxane	88	8.226	8.231	-0.005	38	33833	2000.0	1860.6	
68 Dibromomethane	93	8.232	8.237	-0.005	91	125589	100.0	97.9	
71 Dichlorobromomethane	83	8.433	8.432	0.001	99	265619	100.0	99.0	
74 cis-1,3-Dichloropropene	75	8.871	8.876	-0.005	94	313227	100.0	103.1	
75 4-Methyl-2-pentanone (MIBK	43	9.029	9.028	0.001	96	381467	200.0	205.3	
76 Toluene	91	9.200	9.198	0.002	98	967254	100.0	102.5	
77 trans-1,3-Dichloropropene	75	9.443	9.448	-0.005	93	304365	100.0	104.1	
78 Ethyl methacrylate	69	9.504	9.502	0.002	91	250643	100.0	97.3	
79 1,1,2-Trichloroethane	97	9.638	9.642	-0.004	93	197203	100.0	100.1	
80 Tetrachloroethene	164	9.711	9.709	0.002	97	230455	100.0	102.2	
81 1,3-Dichloropropane	76	9.796	9.794	0.002	94	333930	100.0	97.8	
82 2-Hexanone	43	9.850	9.855	-0.005	97	261999	200.0	207.9	
84 Chlorodibromomethane	129	10.009	10.007	0.002	90	211297	100.0	101.1	
85 Ethylene Dibromide	107	10.124	10.123	0.001	98	196231	100.0	102.7	
87 Chlorobenzene	112	10.611	10.610	0.001	95	635976	100.0	99.5	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.701	0.001	95	223852	100.0	99.7	
90 Ethylbenzene	106	10.708	10.707	0.001	98	347006	100.0	105.4	
91 m-Xylene & p-Xylene	106	10.836	10.841	-0.005	0	427745	100.0	105.5	
92 o-Xylene	106	11.219	11.218	0.001	96	411287	100.0	107.0	
93 Styrene	104	11.237	11.242	-0.005	94	707914	100.0	107.6	
94 Bromoform	173	11.420	11.425	-0.005	97	142711	100.0	102.4	
97 Isopropylbenzene	105	11.584	11.583	0.001	96	1106743	100.0	108.4	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.899	0.002	94	247868	100.0	99.8	
100 Bromobenzene	156	11.901	11.899	0.002	91	291134	100.0	100.9	
102 trans-1,4-Dichloro-2-buten	53	11.931	11.936	-0.005	86	84504	100.0	104.4	
101 1,2,3-Trichloropropane	110	11.955	11.954	0.001	86	91824	100.0	100.8	
103 N-Propylbenzene	120	12.004	12.003	0.001	99	325821	100.0	108.4	
104 2-Chlorotoluene	126	12.089	12.094	-0.005	97	267823	100.0	104.1	
106 1,3,5-Trimethylbenzene	105	12.180	12.179	0.001	95	921587	100.0	102.2	
107 4-Chlorotoluene	126	12.211	12.216	-0.005	97	285080	100.0	104.2	
108 tert-Butylbenzene	119	12.497	12.502	-0.005	92	772151	100.0	102.8	
110 1,2,4-Trimethylbenzene	105	12.558	12.556	0.002	97	943172	100.0	103.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.722	12.721	0.001	94	1082814	100.0	102.5	
113 1,3-Dichlorobenzene	146	12.844	12.842	0.002	98	542467	100.0	101.8	
114 4-Isopropyltoluene	119	12.874	12.873	0.001	97	969553	100.0	103.5	
115 1,4-Dichlorobenzene	146	12.941	12.940	0.001	95	544570	100.0	99.3	
120 n-Butylbenzene	91	13.282	13.280	0.002	97	743739	100.0	99.1	
121 1,2-Dichlorobenzene	146	13.300	13.305	-0.005	98	505968	100.0	101.1	
122 1,2-Dibromo-3-Chloropropan	75	14.091	14.083	0.008	88	38897	100.0	99.0	
126 1,2,4-Trichlorobenzene	180	14.912	14.917	-0.005	92	176546	100.0	102.9	
127 Hexachlorobutadiene	225	15.052	15.057	-0.005	93	100398	100.0	95.2	
128 Naphthalene	128	15.180	15.184	-0.004	97	417882	100.0	105.2	
129 1,2,3-Trichlorobenzene	180	15.417	15.416	0.001	96	145924	100.0	107.1	
S 133 Xylenes, Total	106				0		200.0	212.4	
S 154 Total BTEX	106				0		500.0	521.3	
S 134 1,2-Dichloroethene, Total	96				0		200.0	195.6	
S 135 1,3-Dichloropropene, Total	1				0		200.0	207.2	

Reagents:

voaWKetmix1st_00019	Amount Added:	4.00	Units: uL		
VOA8260VOAPRI_00375	Amount Added:	4.00	Units: uL		
VOAACRPRI_00021	Amount Added:	8.00	Units: uL		
VOAVAPRI_00028	Amount Added:	4.00	Units: uL		
VOA8260SURR_00100	Amount Added:	4.00	Units: uL		
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent	

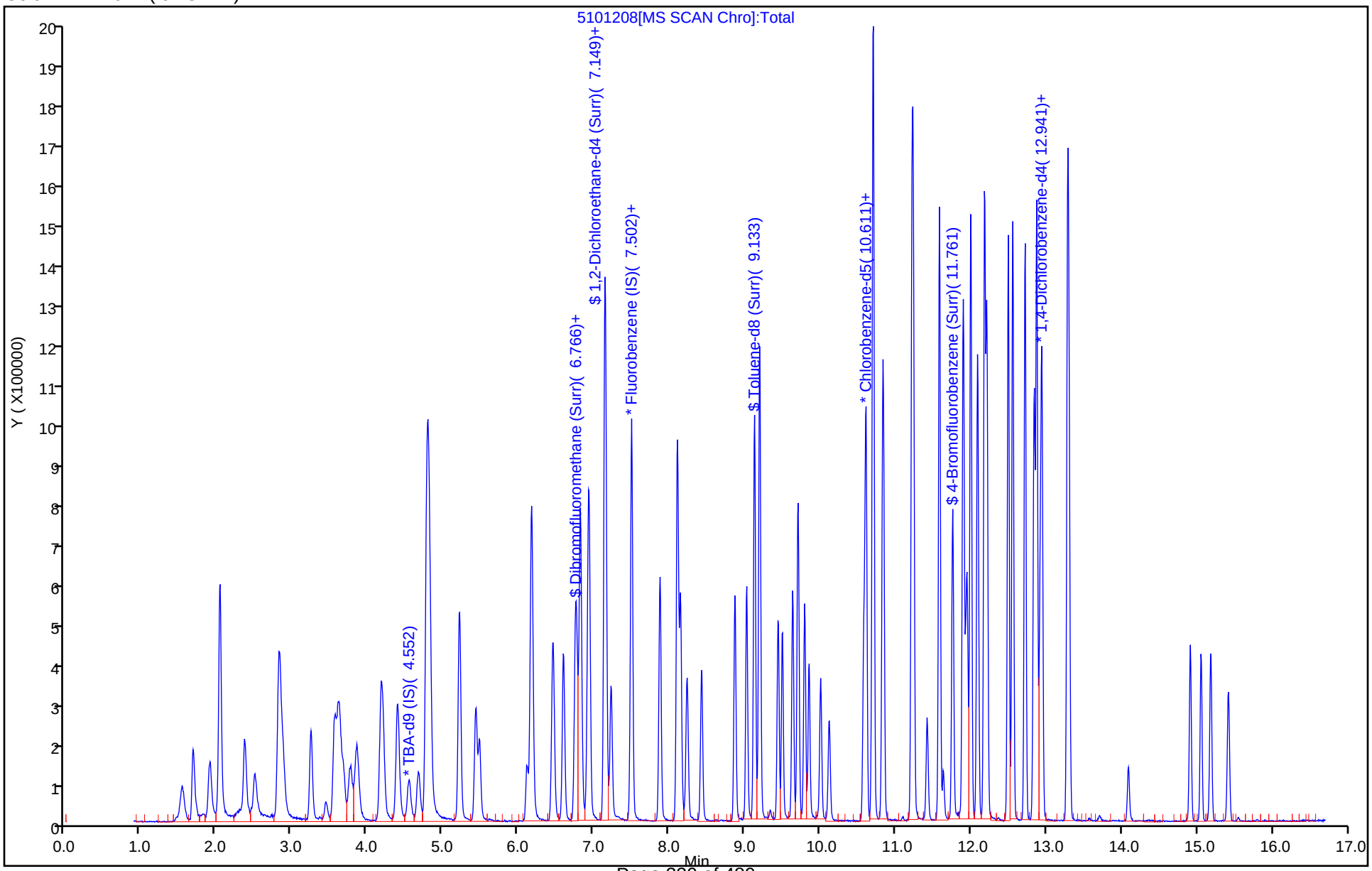
Report Date: 15-Oct-2019 08:58:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101208.D

Injection Date:	12-Oct-2019 16:54:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD20			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101209.D
Lims ID: IC VSTD35
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 12-Oct-2019 17:18:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-009
Misc. Info.: IC VSTD35
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:58:55 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 15-Oct-2019 08:35:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.550	4.551	-0.001	0	167409	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.494	7.495	-0.001	98	390006	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	86	98222	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.915	0.006	90	173766	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.776	6.777	-0.001	95	333901	175.0	172.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	433686	175.0	163.8	
$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	93	1386509	175.0	176.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	94	516055	175.0	177.0	
11 Dichlorodifluoromethane	85	1.690	1.691	-0.001	100	581215	175.0	186.9	
12 Chloromethane	50	1.910	1.916	-0.006	100	506306	175.0	178.6	
13 Vinyl chloride	62	2.037	2.038	-0.001	99	528424	175.0	184.4	
14 Butadiene	39	2.049	2.050	-0.001	93	511608	175.0	185.0	
15 Bromomethane	94	2.372	2.379	-0.007	91	330374	175.0	183.1	
16 Chloroethane	64	2.518	2.513	0.005	100	321255	175.0	181.2	
17 Dichlorofluoromethane	67	2.834	2.841	-0.007	98	785966	175.0	178.6	
18 Trichlorofluoromethane	101	2.846	2.847	-0.001	82	779237	175.0	182.0	
20 Ethyl ether	59	3.260	3.255	0.005	91	342533	175.0	172.0	
21 Acrolein	56	3.449	3.456	-0.007	99	77206	225.0	232.9	
22 1,1-Dichloroethene	96	3.564	3.571	-0.007	99	357755	175.0	185.4	
23 1,1,2-Trichloro-1,2,2-trif	101	3.631	3.632	-0.001	91	417671	175.0	182.9	
24 Acetone	43	3.698	3.681	0.017	100	317291	350.0	341.1	
25 Iodomethane	142	3.771	3.772	-0.001	98	639891	175.0	185.2	
26 Carbon disulfide	76	3.862	3.863	-0.001	99	1049185	175.0	193.3	
28 3-Chloro-1-propene	76	4.185	4.186	-0.001	91	223477	175.0	195.9	
30 Methyl acetate	43	4.215	4.210	0.005	98	602825	350.0	347.3	
31 Methylene Chloride	84	4.404	4.398	0.006	91	425383	175.0	179.4	
32 2-Methyl-2-propanol	59	4.684	4.672	0.012	95	362289	1750.0	1861.2	
33 Acrylonitrile	53	4.787	4.788	-0.001	98	1569611	1750.0	1787.4	
34 trans-1,2-Dichloroethene	96	4.805	4.812	-0.007	99	403585	175.0	183.5	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	1075276	175.0	185.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.225	5.226	-0.001	93	657107	175.0	196.3	
37 1,1-Dichloroethane	63	5.438	5.439	-0.001	97	697254	175.0	183.4	
38 Vinyl acetate	43	5.487	5.487	0.000	97	660517	175.0	183.2	
44 2,2-Dichloropropane	97	6.168	6.175	-0.007	95	99901	175.0	180.9	
45 cis-1,2-Dichloroethene	96	6.180	6.181	-0.001	85	437273	175.0	181.6	
46 2-Butanone (MEK)	43	6.192	6.193	-0.001	100	370294	350.0	340.6	
49 Chlorobromomethane	128	6.454	6.455	-0.001	93	225122	175.0	180.1	
51 Tetrahydrofuran	42	6.472	6.467	0.005	88	240219	350.0	365.0	
52 Chloroform	83	6.600	6.601	-0.001	95	719844	175.0	173.7	
53 1,1,1-Trichloroethane	97	6.758	6.759	-0.001	98	640931	175.0	189.0	
54 Cyclohexane	56	6.825	6.826	-0.001	91	804799	175.0	204.4	
56 Carbon tetrachloride	117	6.922	6.923	-0.001	98	590661	175.0	189.7	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	95	594399	175.0	191.6	
57 Isobutyl alcohol	41	7.141	7.142	-0.001	93	338109	4375.0	4635.2	
58 Benzene	78	7.160	7.160	0.000	97	1683668	175.0	182.2	
59 1,2-Dichloroethane	62	7.233	7.227	0.006	98	575594	175.0	175.8	
62 n-Heptane	43	7.506	7.507	-0.001	90	542902	175.0	200.4	
64 Trichloroethene	130	7.877	7.878	-0.001	96	466258	175.0	184.4	
66 Methylcyclohexane	83	8.115	8.115	0.000	90	803214	175.0	207.8	
67 1,2-Dichloropropane	63	8.151	8.152	-0.001	95	386381	175.0	177.4	
70 1,4-Dioxane	88	8.230	8.231	-0.001	39	74233	3500.0	3971.3	
68 Dibromomethane	93	8.236	8.237	-0.001	91	237226	175.0	179.8	
71 Dichlorobromomethane	83	8.431	8.432	-0.001	100	515897	175.0	187.0	
74 cis-1,3-Dichloropropene	75	8.875	8.876	-0.001	95	616557	175.0	197.4	
75 4-Methyl-2-pentanone (MIBK	43	9.027	9.028	-0.001	96	715463	350.0	365.6	
76 Toluene	91	9.204	9.198	0.006	98	1857371	175.0	186.8	
77 trans-1,3-Dichloropropene	75	9.447	9.448	-0.001	94	589721	175.0	191.5	
78 Ethyl methacrylate	69	9.502	9.502	0.000	90	496010	175.0	180.2	
79 1,1,2-Trichloroethane	97	9.636	9.642	-0.006	93	360355	175.0	173.7	
80 Tetrachloroethene	164	9.709	9.709	-0.001	99	432141	175.0	182.0	
81 1,3-Dichloropropane	76	9.800	9.794	0.006	92	634978	175.0	176.7	
82 2-Hexanone	43	9.855	9.855	-0.001	96	492035	350.0	370.7	
84 Chlorodibromomethane	129	10.007	10.007	0.000	91	400636	175.0	182.0	
85 Ethylene Dibromide	107	10.122	10.123	-0.001	98	362760	175.0	180.2	
87 Chlorobenzene	112	10.609	10.610	-0.001	95	1213522	175.0	180.2	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.701	-0.001	95	425768	175.0	180.0	
90 Ethylbenzene	106	10.706	10.707	-0.001	98	671275	175.0	193.6	
91 m-Xylene & p-Xylene	106	10.834	10.841	-0.007	0	842788	175.0	197.4	
92 o-Xylene	106	11.217	11.218	-0.001	96	804390	175.0	198.6	
93 Styrene	104	11.242	11.242	0.000	95	1349017	175.0	194.7	
94 Bromoform	173	11.424	11.425	-0.001	98	276031	175.0	188.2	
97 Isopropylbenzene	105	11.582	11.583	-0.001	95	2193253	175.0	204.0	
100 Bromobenzene	156	11.905	11.899	0.006	90	547178	175.0	185.3	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	76	446787	175.0	170.8	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.936	-0.001	80	155446	175.0	187.6	
101 1,2,3-Trichloropropane	110	11.953	11.954	-0.001	85	159391	175.0	170.9	
103 N-Propylbenzene	120	12.002	12.003	-0.001	99	632465	175.0	205.6	
104 2-Chlorotoluene	126	12.093	12.094	-0.001	96	513252	175.0	195.0	
106 1,3,5-Trimethylbenzene	105	12.184	12.179	0.005	94	1782300	175.0	191.5	
107 4-Chlorotoluene	126	12.215	12.216	-0.001	97	551180	175.0	196.8	
108 tert-Butylbenzene	119	12.495	12.502	-0.007	93	1540304	175.0	198.6	
110 1,2,4-Trimethylbenzene	105	12.556	12.556	0.000	97	1782749	175.0	190.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.720	12.721	-0.001	94	2142440	175.0	196.4	
113 1,3-Dichlorobenzene	146	12.841	12.842	-0.001	98	1008355	175.0	184.9	
114 4-Isopropyltoluene	119	12.878	12.873	0.005	97	1875860	175.0	193.7	
115 1,4-Dichlorobenzene	146	12.945	12.940	0.005	95	1024053	175.0	182.4	
120 n-Butylbenzene	91	13.280	13.280	0.000	97	1475404	175.0	189.3	
121 1,2-Dichlorobenzene	146	13.304	13.305	-0.001	98	927067	175.0	180.9	
122 1,2-Dibromo-3-Chloropropan	75	14.095	14.083	0.012	87	71466	175.0	177.7	
126 1,2,4-Trichlorobenzene	180	14.910	14.917	-0.007	93	335447	175.0	191.0	
127 Hexachlorobutadiene	225	15.056	15.057	-0.001	93	183975	175.0	170.5	
128 Naphthalene	128	15.184	15.184	0.000	96	857072	175.0	174.3	
129 1,2,3-Trichlorobenzene	180	15.415	15.416	-0.001	95	264808	175.0	189.8	
S 133 Xylenes, Total	106				0		350.0	396.0	
S 154 Total BTEX	106				0		875.0	958.6	
S 134 1,2-Dichloroethene, Total	96				0		350.0	365.0	
S 135 1,3-Dichloropropene, Total	1				0		350.0	388.9	

Reagents:

voaWKetmix1st_00019	Amount Added:	7.00	Units: uL		
VOA8260VOAPRI_00375	Amount Added:	7.00	Units: uL		
VOAACRPRI_00021	Amount Added:	9.00	Units: uL		
VOAVAPRI_00028	Amount Added:	7.00	Units: uL		
VOA8260SURR_00100	Amount Added:	7.00	Units: uL		
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent	

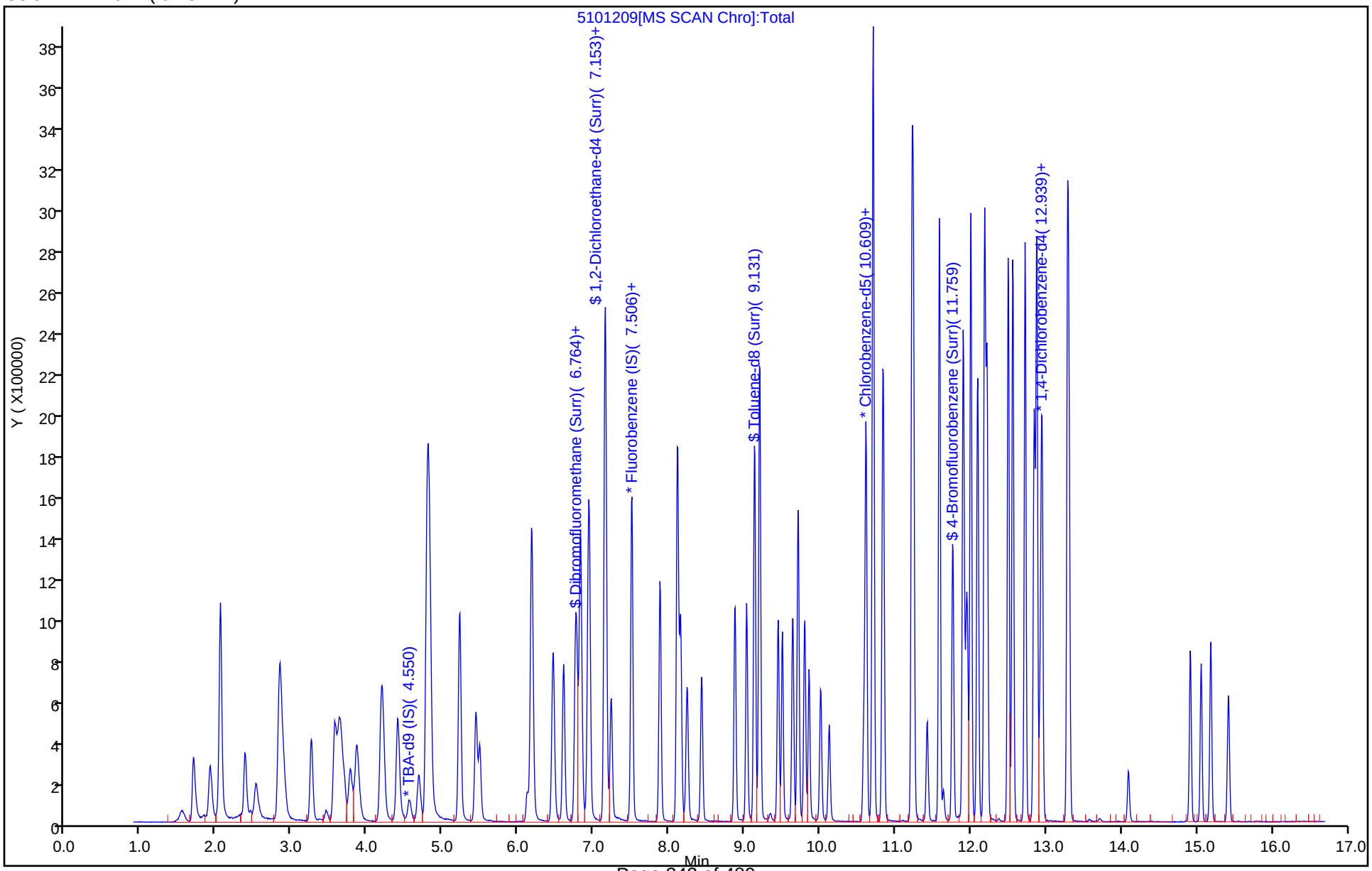
Report Date: 15-Oct-2019 08:58:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101209.D

Injection Date:	12-Oct-2019 17:18:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD35			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101210.D
Lims ID: IC VSTD40
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 12-Oct-2019 17:42:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-010
Misc. Info.: IC VSTD40
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:59:01 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 12-Oct-2019 18:06:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.558	4.551	0.007	0	181603	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.496	7.495	0.001	99	381694	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.580	10.585	-0.005	84	98092	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.916	12.915	0.001	89	176376	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.778	6.777	0.001	93	376711	200.0	198.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.143	7.148	-0.005	0	500310	200.0	193.0	
$ 7 Toluene-d8 (Surr)	98	9.132	9.131	0.001	93	1540447	200.0	196.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.760	11.759	0.001	94	581731	200.0	199.8	
11 Dichlorodifluoromethane	85	1.692	1.691	0.001	100	582678	200.0	191.4	
12 Chloromethane	50	1.905	1.916	-0.011	99	540892	200.0	195.0	
13 Vinyl chloride	62	2.033	2.038	-0.005	99	544288	200.0	194.1	
14 Butadiene	39	2.045	2.050	-0.005	92	524913	200.0	194.0	
15 Bromomethane	94	2.374	2.379	-0.005	91	306992	200.0	173.8	
16 Chloroethane	64	2.514	2.513	0.001	99	331470	200.0	191.0	
17 Dichlorofluoromethane	67	2.830	2.841	-0.011	98	828851	200.0	192.4	
18 Trichlorofluoromethane	101	2.842	2.847	-0.005	91	778272	200.0	185.8	
20 Ethyl ether	59	3.256	3.255	0.001	91	381370	200.0	195.7	
21 Acrolein	56	3.457	3.456	0.001	98	84779	250.0	261.4	
22 1,1-Dichloroethene	96	3.566	3.571	-0.005	98	371747	200.0	196.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.627	3.632	-0.005	90	434917	200.0	194.6	
24 Acetone	43	3.688	3.681	0.007	99	364137	400.0	400.0	
25 Iodomethane	142	3.767	3.772	-0.005	97	665386	200.0	196.8	
26 Carbon disulfide	76	3.858	3.863	-0.005	99	1083248	200.0	203.9	
28 3-Chloro-1-propene	76	4.180	4.186	-0.006	91	242235	200.0	216.9	
30 Methyl acetate	43	4.211	4.210	0.001	98	681658	400.0	401.3	
31 Methylene Chloride	84	4.399	4.398	0.001	92	456239	200.0	197.6	
32 2-Methyl-2-propanol	59	4.679	4.672	0.007	95	394515	2000.0	1868.3	
33 Acrylonitrile	53	4.783	4.788	-0.005	99	1679007	2000.0	1953.6	
34 trans-1,2-Dichloroethene	96	4.807	4.812	-0.005	98	418322	200.0	194.3	
35 Methyl tert-butyl ether	73	4.831	4.830	0.001	97	1156644	200.0	203.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.221	5.226	-0.005	94	663299	200.0	202.5	
37 1,1-Dichloroethane	63	5.434	5.439	-0.005	97	740535	200.0	199.0	
38 Vinyl acetate	43	5.488	5.487	0.001	97	795102	200.0	225.3	
44 2,2-Dichloropropane	97	6.176	6.175	0.001	94	109513	200.0	202.7	
45 cis-1,2-Dichloroethene	96	6.176	6.181	-0.005	84	461417	200.0	195.7	
46 2-Butanone (MEK)	43	6.188	6.193	-0.005	100	431437	400.0	405.4	
49 Chlorobromomethane	128	6.456	6.455	0.001	93	238231	200.0	194.7	
51 Tetrahydrofuran	42	6.468	6.467	0.001	87	258774	400.0	401.8	
52 Chloroform	83	6.602	6.601	0.001	95	753997	200.0	185.9	
53 1,1,1-Trichloroethane	97	6.760	6.759	0.001	98	656574	200.0	197.8	
54 Cyclohexane	56	6.821	6.826	-0.005	91	822002	200.0	213.3	
56 Carbon tetrachloride	117	6.924	6.923	0.001	99	605409	200.0	198.6	
55 1,1-Dichloropropene	75	6.942	6.941	0.001	96	614355	200.0	202.4	
57 Isobutyl alcohol	41	7.143	7.142	0.001	91	362251	5000.0	5074.3	
58 Benzene	78	7.155	7.160	-0.005	97	1774683	200.0	196.2	
59 1,2-Dichloroethane	62	7.228	7.227	0.001	98	610967	200.0	190.7	
62 n-Heptane	43	7.508	7.507	0.001	91	555703	200.0	209.6	
64 Trichloroethene	130	7.879	7.878	0.001	97	489132	200.0	197.7	
66 Methylcyclohexane	83	8.110	8.115	-0.005	88	825502	200.0	218.2	
67 1,2-Dichloropropane	63	8.153	8.152	0.001	93	418167	200.0	196.2	
70 1,4-Dioxane	88	8.226	8.231	-0.005	39	82774	4000.0	4524.7	
68 Dibromomethane	93	8.238	8.237	0.001	91	256149	200.0	198.4	
71 Dichlorobromomethane	83	8.427	8.432	-0.005	99	552925	200.0	204.8	
74 cis-1,3-Dichloropropene	75	8.871	8.876	-0.005	95	668145	200.0	218.5	
75 4-Methyl-2-pentanone (MIBK	43	9.029	9.028	0.001	96	807636	400.0	413.2	
76 Toluene	91	9.199	9.198	0.001	98	1971574	200.0	198.6	
77 trans-1,3-Dichloropropene	75	9.443	9.448	-0.005	95	635674	200.0	206.7	
78 Ethyl methacrylate	69	9.503	9.502	0.001	90	527063	200.0	191.5	
79 1,1,2-Trichloroethane	97	9.637	9.642	-0.005	92	383761	200.0	185.2	
80 Tetrachloroethene	164	9.710	9.709	0.001	98	435843	200.0	183.8	
81 1,3-Dichloropropane	76	9.795	9.794	0.001	92	678222	200.0	188.9	
82 2-Hexanone	43	9.856	9.855	0.001	95	547053	400.0	412.7	
84 Chlorodibromomethane	129	10.008	10.007	0.001	90	437324	200.0	199.0	
85 Ethylene Dibromide	107	10.124	10.123	0.001	98	393842	200.0	195.9	
87 Chlorobenzene	112	10.611	10.610	0.001	95	1286971	200.0	191.4	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.701	0.001	95	452419	200.0	191.5	
90 Ethylbenzene	106	10.708	10.707	0.001	98	703281	200.0	203.1	
91 m-Xylene & p-Xylene	106	10.836	10.841	-0.005	0	866885	200.0	203.3	
92 o-Xylene	106	11.219	11.218	0.001	96	855310	200.0	211.5	
93 Styrene	104	11.243	11.242	0.001	95	1438016	200.0	207.8	
94 Bromoform	173	11.420	11.425	-0.005	98	294536	200.0	201.1	
97 Isopropylbenzene	105	11.584	11.583	0.001	96	2253648	200.0	209.9	
99 1,1,2,2-Tetrachloroethane	83	11.900	11.899	0.001	78	496123	200.0	189.9	
100 Bromobenzene	156	11.900	11.899	0.001	91	592596	200.0	197.7	
102 trans-1,4-Dichloro-2-buten	53	11.937	11.936	0.001	79	166190	200.0	197.6	
101 1,2,3-Trichloropropane	110	11.955	11.954	0.001	84	173455	200.0	183.2	
103 N-Propylbenzene	120	12.004	12.003	0.001	99	647513	200.0	207.4	
104 2-Chlorotoluene	126	12.095	12.094	0.001	97	536386	200.0	200.7	
106 1,3,5-Trimethylbenzene	105	12.180	12.179	0.001	95	1868768	200.0	197.7	
107 4-Chlorotoluene	126	12.217	12.216	0.001	96	572755	200.0	201.5	
108 tert-Butylbenzene	119	12.497	12.502	-0.005	93	1582351	200.0	201.0	
110 1,2,4-Trimethylbenzene	105	12.557	12.556	0.001	97	1872147	200.0	196.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.722	12.721	0.001	94	2197762	200.0	198.5	
113 1,3-Dichlorobenzene	146	12.843	12.842	0.001	98	1077573	200.0	194.6	
114 4-Isopropyltoluene	119	12.874	12.873	0.001	97	1938053	200.0	197.1	
115 1,4-Dichlorobenzene	146	12.947	12.940	0.007	96	1090610	200.0	191.3	
120 n-Butylbenzene	91	13.281	13.280	0.001	97	1515467	200.0	191.5	
121 1,2-Dichlorobenzene	146	13.300	13.305	-0.005	98	997737	200.0	191.8	
122 1,2-Dibromo-3-Chloropropan	75	14.090	14.083	0.007	85	77251	200.0	189.2	
126 1,2,4-Trichlorobenzene	180	14.912	14.917	-0.005	94	376193	200.0	211.1	
127 Hexachlorobutadiene	225	15.052	15.057	-0.005	93	200404	200.0	182.9	
128 Naphthalene	128	15.185	15.184	0.001	96	978501	200.0	189.1	
129 1,2,3-Trichlorobenzene	180	15.417	15.416	0.001	96	312474	200.0	220.6	
S 133 Xylenes, Total	106				0		400.0	414.8	
S 154 Total BTEX	106				0		1000.0	1012.7	
S 134 1,2-Dichloroethene, Total	96				0		400.0	390.1	
S 135 1,3-Dichloropropene, Total	1				0		400.0	425.3	

Reagents:

voaWKetmix1st_00019	Amount Added:	8.00	Units: uL	
VOA8260VOAPRI_00375	Amount Added:	8.00	Units: uL	
VOAACRPRI_00021	Amount Added:	10.00	Units: uL	
VOAVAPRI_00028	Amount Added:	8.00	Units: uL	
VOA8260SURR_00100	Amount Added:	8.00	Units: uL	
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent

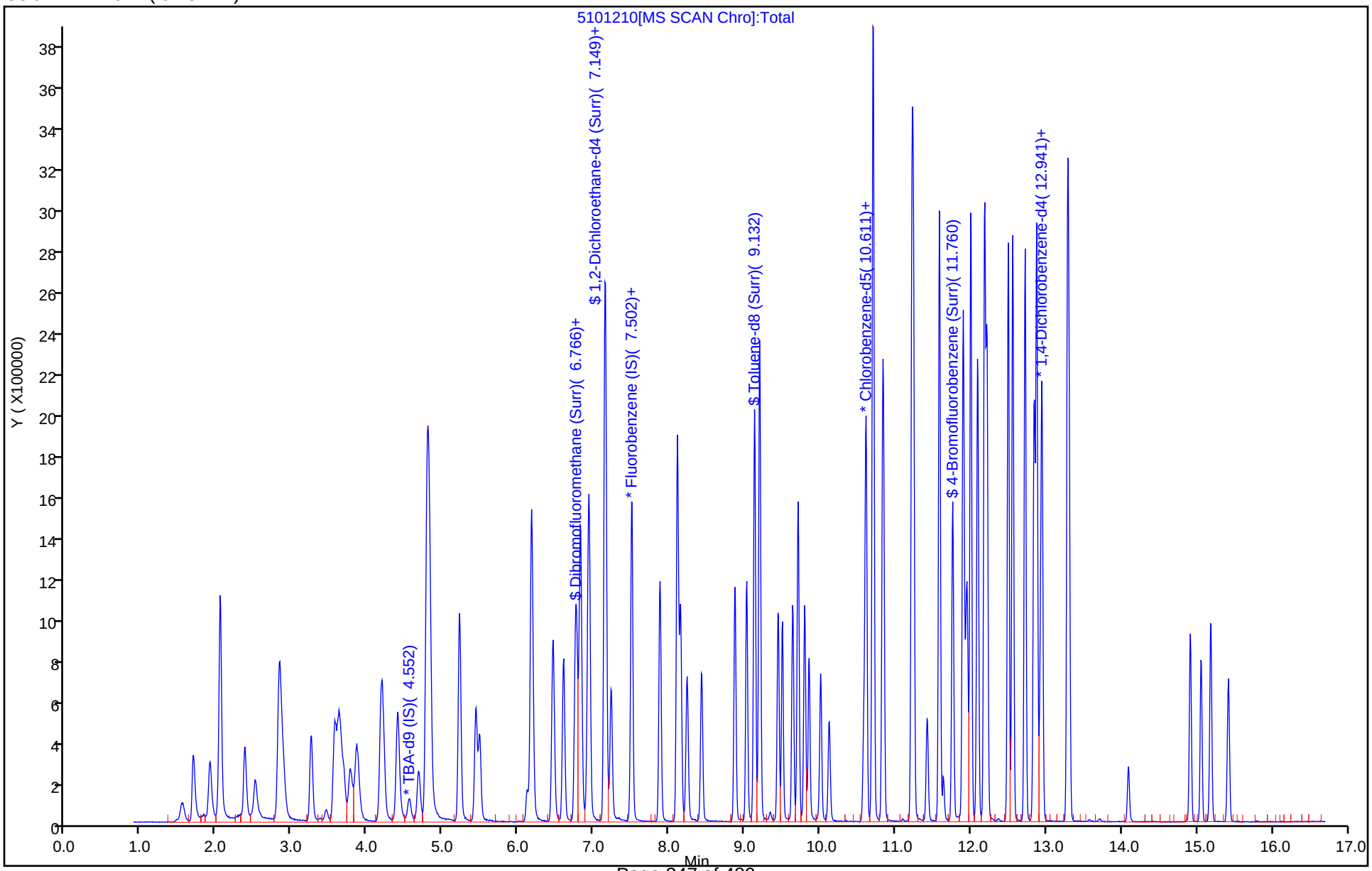
Report Date: 15-Oct-2019 08:59:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101210.D

Injection Date:	12-Oct-2019 17:42:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD40			Worklist Smp#:	10
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101211.D
Lims ID: IC VSTD50
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 12-Oct-2019 18:07:30 ALS Bottle#: 11 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-011
Misc. Info.: IC VSTD50
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:59:09 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 15-Oct-2019 08:36:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.562	4.551	0.011	0	187294	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.495	7.495	0.000	99	418183	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	102517	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.915	12.915	0.000	90	187100	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.777	6.777	0.000	95	486475	250.0	234.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	634924	250.0	223.6	
$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	93	2070527	250.0	252.3	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	95	759339	250.0	249.5	
11 Dichlorodifluoromethane	85	1.691	1.691	0.000	100	835363	250.0	250.5	
12 Chloromethane	50	1.910	1.916	-0.006	99	754113	250.0	248.1	
13 Vinyl chloride	62	2.038	2.038	0.000	98	770907	250.0	250.9	
14 Butadiene	39	2.050	2.050	0.000	94	733473	250.0	247.4	
15 Bromomethane	94	2.372	2.379	-0.007	91	421171	250.0	217.7	
16 Chloroethane	64	2.512	2.513	-0.001	99	461084	250.0	242.5	
17 Dichlorofluoromethane	67	2.829	2.841	-0.012	98	1161740	250.0	246.1	
18 Trichlorofluoromethane	101	2.847	2.847	0.000	98	1116136	250.0	243.2	
20 Ethyl ether	59	3.255	3.255	0.000	90	533827	250.0	250.0	
21 Acrolein	56	3.449	3.456	-0.007	99	91154	275.0	256.5	
22 1,1-Dichloroethene	96	3.559	3.571	-0.012	98	516886	250.0	249.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.626	3.632	-0.006	92	601317	250.0	245.5	
24 Acetone	43	3.686	3.681	0.005	100	401439	500.0	402.5	
25 Iodomethane	142	3.772	3.772	0.000	98	928518	250.0	250.6	
26 Carbon disulfide	76	3.857	3.863	-0.006	99	1528562	250.0	262.7	
28 3-Chloro-1-propene	76	4.179	4.186	-0.007	91	331112	250.0	270.6	
30 Methyl acetate	43	4.210	4.210	0.000	98	932871	500.0	501.3	
31 Methylene Chloride	84	4.404	4.398	0.006	90	630301	250.0	251.8	
32 2-Methyl-2-propanol	59	4.684	4.672	0.012	95	558664	2500.0	2565.3	
33 Acrylonitrile	53	4.788	4.788	0.000	99	2376646	2500.0	2524.0	
34 trans-1,2-Dichloroethene	96	4.806	4.812	-0.006	99	583017	250.0	247.2	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	1626614	250.0	261.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.219	5.226	-0.007	93	955452	250.0	266.2	
37 1,1-Dichloroethane	63	5.439	5.439	-0.001	97	1018895	250.0	249.9	
38 Vinyl acetate	43	5.487	5.487	0.000	97	1071457	250.0	277.1	
44 2,2-Dichloropropane	97	6.175	6.175	0.000	92	146364	250.0	247.2	
45 cis-1,2-Dichloroethene	96	6.175	6.181	-0.006	84	664297	250.0	257.2	
46 2-Butanone (MEK)	43	6.193	6.193	0.000	100	563260	500.0	483.1	
49 Chlorobromomethane	128	6.454	6.455	-0.001	94	336400	250.0	251.0	
51 Tetrahydrofuran	42	6.467	6.467	0.000	86	371288	500.0	526.2	
52 Chloroform	83	6.600	6.601	-0.001	94	1033758	250.0	232.6	
53 1,1,1-Trichloroethane	97	6.759	6.759	0.000	98	928243	250.0	255.2	
54 Cyclohexane	56	6.819	6.826	-0.007	90	1174304	250.0	278.1	
56 Carbon tetrachloride	117	6.923	6.923	0.000	99	846054	250.0	253.4	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	95	859228	250.0	258.3	
57 Isobutyl alcohol	41	7.142	7.142	0.000	92	500712	6250.0	6401.8	
58 Benzene	78	7.154	7.160	-0.006	97	2494576	250.0	251.7	
59 1,2-Dichloroethane	62	7.233	7.227	0.006	98	845714	250.0	240.9	
62 n-Heptane	43	7.507	7.507	0.000	92	800887	250.0	275.7	
64 Trichloroethene	130	7.878	7.878	0.000	96	692286	250.0	255.4	
66 Methylcyclohexane	83	8.109	8.115	-0.006	90	1173097	250.0	283.1	
67 1,2-Dichloropropane	63	8.152	8.152	0.000	93	597482	250.0	255.8	
70 1,4-Dioxane	88	8.231	8.231	0.000	38	112807	5000.0	5628.3	
68 Dibromomethane	93	8.237	8.237	0.000	90	353651	250.0	250.0	
71 Dichlorobromomethane	83	8.432	8.432	0.000	99	783190	250.0	264.7	
74 cis-1,3-Dichloropropene	75	8.870	8.876	-0.006	95	967456	250.0	288.8	
75 4-Methyl-2-pentanone (MIBK	43	9.028	9.028	0.000	96	1117846	500.0	547.3	
76 Toluene	91	9.198	9.198	0.000	98	2771583	250.0	267.1	
77 trans-1,3-Dichloropropene	75	9.448	9.448	0.000	94	916405	250.0	285.2	
78 Ethyl methacrylate	69	9.502	9.502	0.000	90	796042	250.0	275.4	
79 1,1,2-Trichloroethane	97	9.636	9.642	-0.006	91	539944	250.0	249.4	
80 Tetrachloroethene	164	9.709	9.709	0.000	98	632967	250.0	255.4	
81 1,3-Dichloropropane	76	9.800	9.794	0.006	92	959675	250.0	255.8	
82 2-Hexanone	43	9.855	9.855	0.000	96	782817	500.0	565.1	
84 Chlorodibromomethane	129	10.007	10.007	0.000	90	617691	250.0	268.9	
85 Ethylene Dibromide	107	10.123	10.123	0.000	99	554285	250.0	263.8	
87 Chlorobenzene	112	10.609	10.610	-0.001	95	1832103	250.0	260.7	
89 1,1,1,2-Tetrachloroethane	131	10.701	10.701	0.000	93	642131	250.0	260.1	
90 Ethylbenzene	106	10.707	10.707	0.000	98	1008363	250.0	278.7	
91 m-Xylene & p-Xylene	106	10.835	10.841	-0.006	0	1259624	250.0	282.6	
92 o-Xylene	106	11.218	11.218	0.000	96	1200328	250.0	284.0	
93 Styrene	104	11.242	11.242	0.000	95	2070073	250.0	286.3	
94 Bromoform	173	11.425	11.425	0.000	99	425124	250.0	277.7	
97 Isopropylbenzene	105	11.583	11.583	0.000	95	3238141	250.0	288.5	
100 Bromobenzene	156	11.899	11.899	0.000	91	831085	250.0	261.3	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	76	689577	250.0	252.5	
102 trans-1,4-Dichloro-2-buten	53	11.936	11.936	0.000	78	242460	250.0	271.7	
101 1,2,3-Trichloropropane	110	11.954	11.954	0.000	85	237984	250.0	236.9	
103 N-Propylbenzene	120	12.003	12.003	0.000	99	931640	250.0	281.3	
104 2-Chlorotoluene	126	12.094	12.094	0.000	97	756576	250.0	266.9	
106 1,3,5-Trimethylbenzene	105	12.185	12.179	0.006	94	2693437	250.0	267.9	
107 4-Chlorotoluene	126	12.215	12.216	-0.001	97	814027	250.0	270.0	
108 tert-Butylbenzene	119	12.495	12.502	-0.007	92	2262131	250.0	270.2	
110 1,2,4-Trimethylbenzene	105	12.556	12.556	0.000	97	2666234	250.0	263.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.720	12.721	-0.001	94	3147035	250.0	267.2	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	1522973	250.0	259.3	
114 4-Isopropyltoluene	119	12.872	12.873	-0.001	97	2787333	250.0	266.5	
115 1,4-Dichlorobenzene	146	12.946	12.940	0.006	96	1565824	250.0	259.0	
120 n-Butylbenzene	91	13.280	13.280	0.000	97	2214295	250.0	262.6	
121 1,2-Dichlorobenzene	146	13.304	13.305	-0.001	99	1415045	250.0	256.5	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.083	0.006	88	108455	250.0	250.4	
126 1,2,4-Trichlorobenzene	180	14.910	14.917	-0.007	94	559625	250.0	296.0	
127 Hexachlorobutadiene	225	15.056	15.057	-0.001	93	276634	250.0	238.0	
128 Naphthalene	128	15.184	15.184	0.000	97	1451682	250.0	237.3	
129 1,2,3-Trichlorobenzene	180	15.415	15.416	-0.001	95	445388	250.0	296.5	
S 133 Xylenes, Total	106				0		500.0	566.6	
S 154 Total BTEX	106				0		1250.0	1364.1	
S 134 1,2-Dichloroethene, Total	96				0		500.0	504.4	
S 135 1,3-Dichloropropene, Total	1				0		500.0	574.0	

Reagents:

voaWKetmix1st_00019	Amount Added:	10.00	Units: uL	
VOA8260VOAPRI_00375	Amount Added:	10.00	Units: uL	
VOAACRPRI_00021	Amount Added:	11.00	Units: uL	
VOAVAPRI_00028	Amount Added:	10.00	Units: uL	
VOA8260SURR_00100	Amount Added:	10.00	Units: uL	
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent

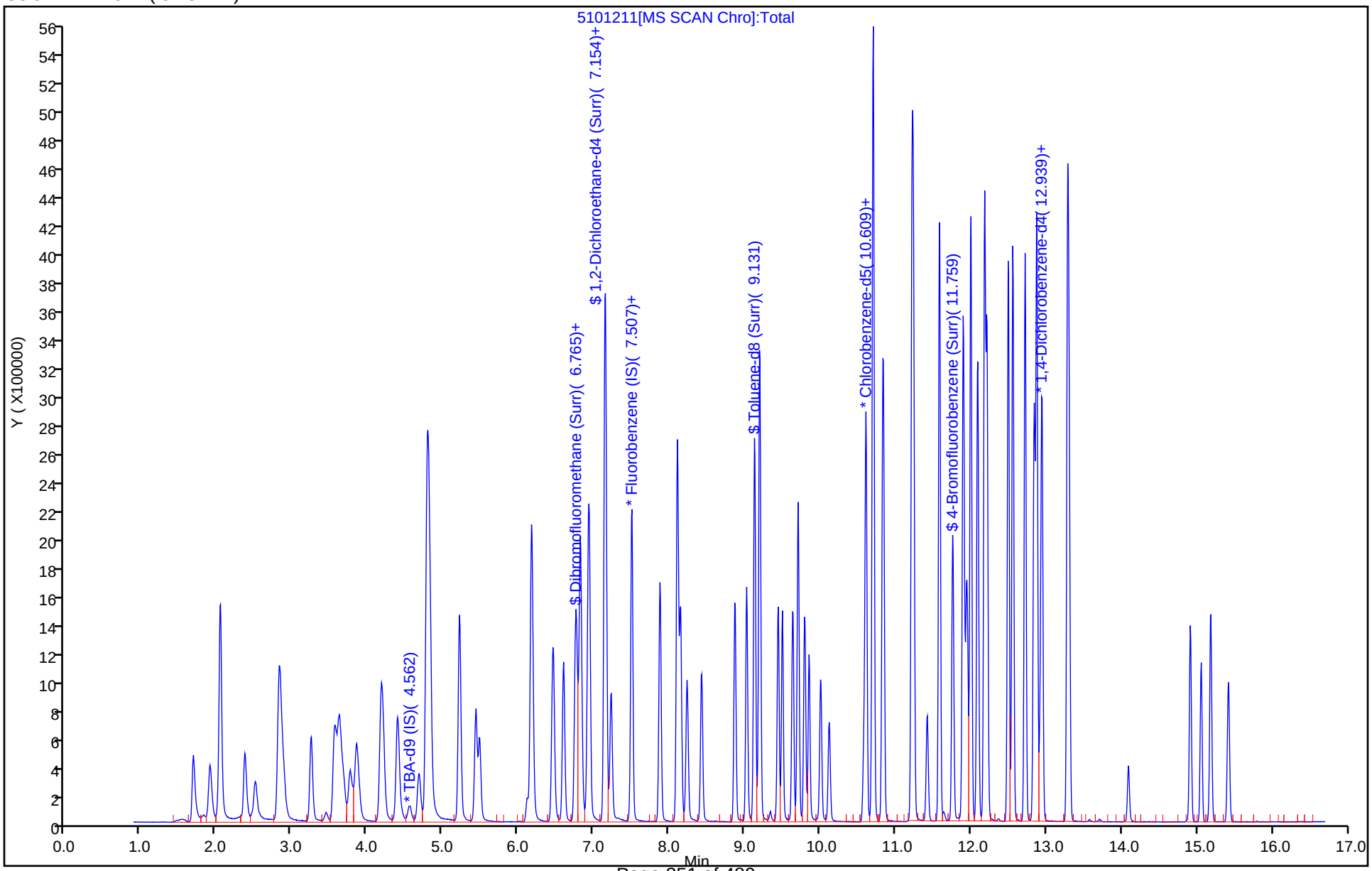
Report Date: 15-Oct-2019 08:59:10 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101211.D

Injection Date:	12-Oct-2019 18:07:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD50			Worklist Smp#:	11
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D
Lims ID: IC VSTD1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 12-Oct-2019 20:06:30 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029087-019
Misc. Info.: IC VSTD1
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub146

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 15-Oct-2019 08:59:17 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: bowieh Date: 15-Oct-2019 08:46:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.543	4.551	-0.008	0	153571	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.495	0.005	99	318048	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	86	78150	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.915	0.005	93	128798	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.776	6.777	-0.001	49	8202	5.00	5.19	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	12854	5.00	5.95	
$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	94	29841	5.00	4.77	
$ 8 4-Bromofluorobenzene (Surr	95	11.758	11.759	-0.001	93	10473	5.00	4.51	
11 Dichlorodifluoromethane	85	1.690	1.691	-0.001	72	12355	5.00	4.87	
12 Chloromethane	50	1.903	1.916	-0.013	98	11856	5.00	5.13	
13 Vinyl chloride	62	2.031	2.038	-0.007	87	11910	5.00	5.10	
14 Butadiene	39	2.049	2.050	-0.001	94	11542	5.00	5.12	
15 Bromomethane	94	2.377	2.379	-0.002	93	8910	5.00	6.06	
16 Chloroethane	64	2.536	2.513	0.023	61	7547	5.00	5.22	
17 Dichlorofluoromethane	67	2.828	2.841	-0.013	95	18401	5.00	5.13	
18 Trichlorofluoromethane	101	2.834	2.847	-0.013	74	18268	5.00	5.23	
20 Ethyl ether	59	3.253	3.255	-0.002	84	9257	5.00	5.70	
21 Acrolein	56	3.448	3.456	-0.008	99	29415	100.0	108.8	
22 1,1-Dichloroethene	96	3.570	3.571	-0.001	94	8796	5.00	5.59	
23 1,1,2-Trichloro-1,2,2-trif	101	3.637	3.632	0.005	49	9400	5.00	5.05	
24 Acetone	43	3.679	3.681	-0.002	100	19264	25.0	25.4	
25 Iodomethane	142	3.777	3.772	0.005	75	15248	5.00	5.41	
26 Carbon disulfide	76	3.868	3.863	0.005	77	22147	5.00	5.00	
28 3-Chloro-1-propene	76	4.178	4.186	-0.008	90	4073	5.00	4.38	
30 Methyl acetate	43	4.209	4.210	-0.001	97	15926	10.0	11.3	
31 Methylene Chloride	84	4.391	4.398	-0.007	93	27926	5.00	4.93	a
32 2-Methyl-2-propanol	59	4.677	4.672	0.005	91	9461	50.0	53.0	
33 Acrylonitrile	53	4.793	4.788	0.005	95	38314	50.0	53.5	
34 trans-1,2-Dichloroethene	96	4.817	4.812	0.005	60	9174	5.00	5.11	
35 Methyl tert-butyl ether	73	4.817	4.830	-0.013	96	23427	5.00	4.95	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.218	5.226	-0.008	94	13208	5.00	4.84	
37 1,1-Dichloroethane	63	5.437	5.439	-0.002	96	16487	5.00	5.32	
38 Vinyl acetate	43	5.492	5.487	0.005	97	12433	5.00	4.23	M
44 2,2-Dichloropropane	97	6.180	6.175	0.005	50	2076	5.00	4.61	
45 cis-1,2-Dichloroethene	96	6.173	6.181	-0.008	78	11088	5.00	5.65	
46 2-Butanone (MEK)	43	6.186	6.193	-0.007	98	23075	25.0	26.0	
49 Chlorobromomethane	128	6.453	6.455	-0.002	94	5232	5.00	5.13	
51 Tetrahydrofuran	42	6.472	6.467	0.005	74	6407	10.0	11.9	
52 Chloroform	83	6.605	6.601	0.004	94	22184	5.00	6.56	
53 1,1,1-Trichloroethane	97	6.764	6.759	0.005	99	13254	5.00	4.79	a
54 Cyclohexane	56	6.824	6.826	-0.002	90	12770	5.00	3.98	
56 Carbon tetrachloride	117	6.928	6.923	0.005	85	11603	5.00	4.57	
55 1,1-Dichloropropene	75	6.946	6.941	0.005	94	11779	5.00	4.66	
57 Isobutyl alcohol	41	7.141	7.142	-0.001	80	6816	125.0	114.6	
58 Benzene	78	7.159	7.160	-0.001	97	38548	5.00	5.11	
59 1,2-Dichloroethane	62	7.232	7.227	0.005	98	15539	5.00	5.82	
62 n-Heptane	43	7.506	7.507	-0.001	38	9786	5.00	4.43	
64 Trichloroethene	130	7.883	7.878	0.005	95	10780	5.00	5.23	
66 Methylcyclohexane	83	8.114	8.115	-0.001	86	11431	5.00	3.63	
67 1,2-Dichloropropane	63	8.151	8.152	-0.001	90	9719	5.00	5.47	
70 1,4-Dioxane	88	8.224	8.231	-0.007	36	1111	100.0	72.9	
68 Dibromomethane	93	8.236	8.237	-0.001	90	5863	5.00	5.45	
71 Dichlorobromomethane	83	8.437	8.432	0.005	94	11022	5.00	4.90	
74 cis-1,3-Dichloropropene	75	8.868	8.876	-0.008	91	11251	5.00	4.42	
75 4-Methyl-2-pentanone (MIBK	43	9.027	9.028	-0.001	98	34981	25.0	22.5	
76 Toluene	91	9.203	9.198	0.005	97	34785	5.00	4.40	
77 trans-1,3-Dichloropropene	75	9.446	9.448	-0.002	96	9967	5.00	4.07	
78 Ethyl methacrylate	69	9.501	9.502	-0.001	89	7431	5.00	6.38	
79 1,1,2-Trichloroethane	97	9.635	9.642	-0.007	91	9325	5.00	5.65	
80 Tetrachloroethene	164	9.708	9.709	-0.001	93	9426	5.00	4.99	
81 1,3-Dichloropropane	76	9.799	9.794	0.005	89	15783	5.00	5.52	
82 2-Hexanone	43	9.854	9.855	-0.001	97	22753	25.0	21.5	
84 Chlorodibromomethane	129	10.006	10.007	-0.001	88	8637	5.00	4.93	
85 Ethylene Dibromide	107	10.122	10.123	-0.001	96	7602	5.00	4.75	
87 Chlorobenzene	112	10.608	10.610	-0.002	94	27881	5.00	5.20	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.701	-0.001	49	9425	5.00	5.01	
90 Ethylbenzene	106	10.706	10.707	-0.001	98	11583	5.00	4.20	
91 m-Xylene & p-Xylene	106	10.833	10.841	-0.008	0	12107	5.00	3.56	
92 o-Xylene	106	11.223	11.218	0.005	95	11502	5.00	3.57	
93 Styrene	104	11.235	11.242	-0.007	92	19356	5.00	3.51	
94 Bromoform	173	11.424	11.425	-0.001	94	5215	5.00	4.47	
97 Isopropylbenzene	105	11.588	11.583	0.005	93	30420	5.00	3.56	
99 1,1,2,2-Tetrachloroethane	83	11.898	11.899	-0.001	82	10986	5.00	5.28	
100 Bromobenzene	156	11.904	11.899	0.005	90	10930	5.00	4.99	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.936	-0.001	8	2845	5.00	4.63	
101 1,2,3-Trichloropropane	110	11.959	11.954	0.005	81	4418	5.00	6.39	
103 N-Propylbenzene	120	11.995	12.003	-0.008	98	8476	5.00	3.72	
104 2-Chlorotoluene	126	12.093	12.094	-0.001	95	7843	5.00	4.02	
106 1,3,5-Trimethylbenzene	105	12.178	12.179	-0.001	94	22107	5.00	5.07	
107 4-Chlorotoluene	126	12.208	12.216	-0.008	98	8481	5.00	4.09	
108 tert-Butylbenzene	119	12.494	12.502	-0.008	94	18908	5.00	5.11	
110 1,2,4-Trimethylbenzene	105	12.561	12.556	0.005	97	22051	5.00	5.04	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.725	12.721	0.004	94	26429	5.00	5.09	
113 1,3-Dichlorobenzene	146	12.841	12.842	-0.001	97	20298	5.00	5.02	
114 4-Isopropyltoluene	119	12.865	12.873	-0.008	95	21239	5.00	5.09	
115 1,4-Dichlorobenzene	146	12.944	12.940	0.004	92	22742	5.00	5.46	
120 n-Butylbenzene	91	13.279	13.280	-0.001	96	19604	5.00	6.34	
121 1,2-Dichlorobenzene	146	13.303	13.305	-0.002	98	20441	5.00	5.38	
122 1,2-Dibromo-3-Chloropropan	75	14.088	14.083	0.005	1	1748	5.00	5.86	
126 1,2,4-Trichlorobenzene	180	14.909	14.917	-0.008	90	6708	5.00	5.15	
127 Hexachlorobutadiene	225	15.055	15.057	-0.002	90	5253	5.00	6.57	
128 Naphthalene	128	15.189	15.184	0.005	96	9971	5.00	6.65	
129 1,2,3-Trichlorobenzene	180	15.408	15.416	-0.008	93	4647	5.00	4.49	
S 133 Xylenes, Total	106				0		10.0	7.13	
S 154 Total BTEX	106				0		25.0	20.8	
S 134 1,2-Dichloroethene, Total	96				0		10.0	10.8	
S 135 1,3-Dichloropropene, Total	1				0		10.0	8.49	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260VOAPRI_00375	Amount Added:	0.20	Units: uL	
voaWKetmix1st_00019	Amount Added:	0.80	Units: uL	
VOA8260SURR_00100	Amount Added:	0.20	Units: uL	
VOAVAPRI_00028	Amount Added:	0.20	Units: uL	
VOAACRPRI_00021	Amount Added:	4.00	Units: uL	
VOA8260INT_00100	Amount Added:	2.00	Units: uL	Run Reagent

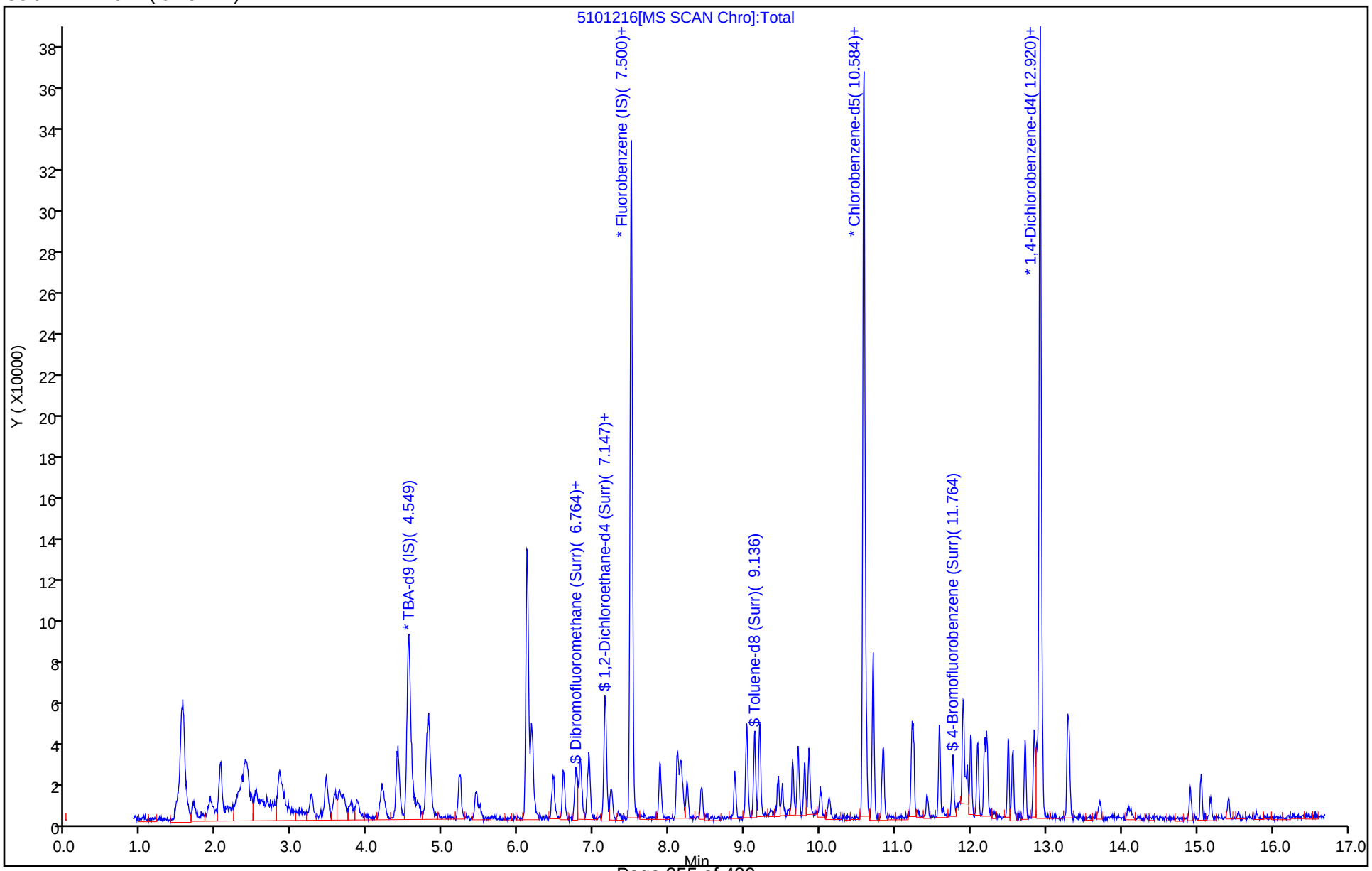
Report Date: 15-Oct-2019 08:59:18 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Injection Date:	12-Oct-2019 20:06:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	IC VSTD1			Worklist Smp#:	19
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh

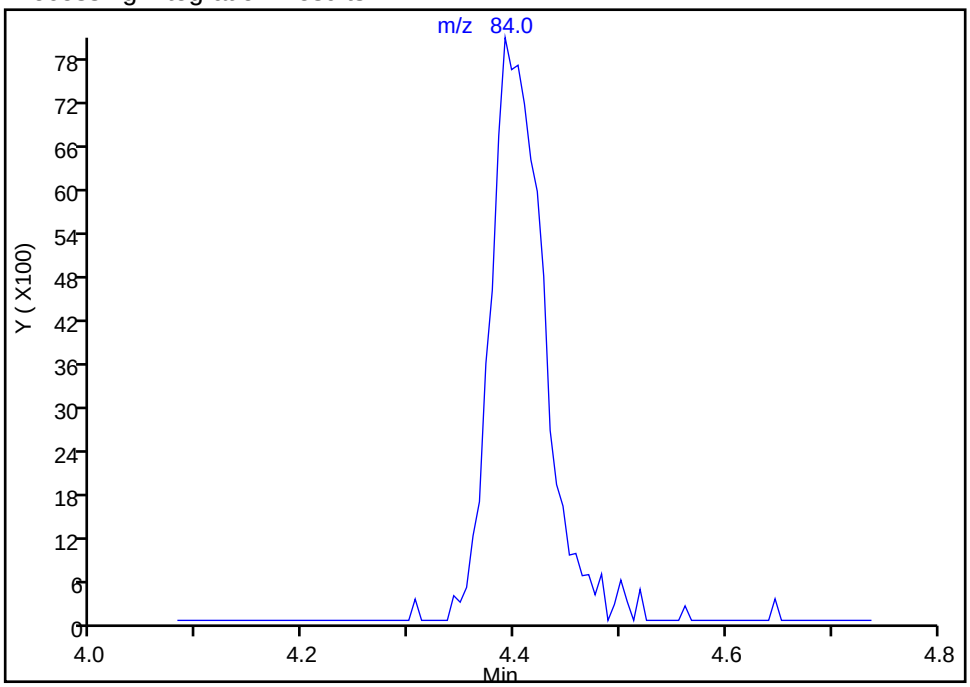
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D
Injection Date: 12-Oct-2019 20:06:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

31 Methylene Chloride, CAS: 75-09-2

Signal: 1

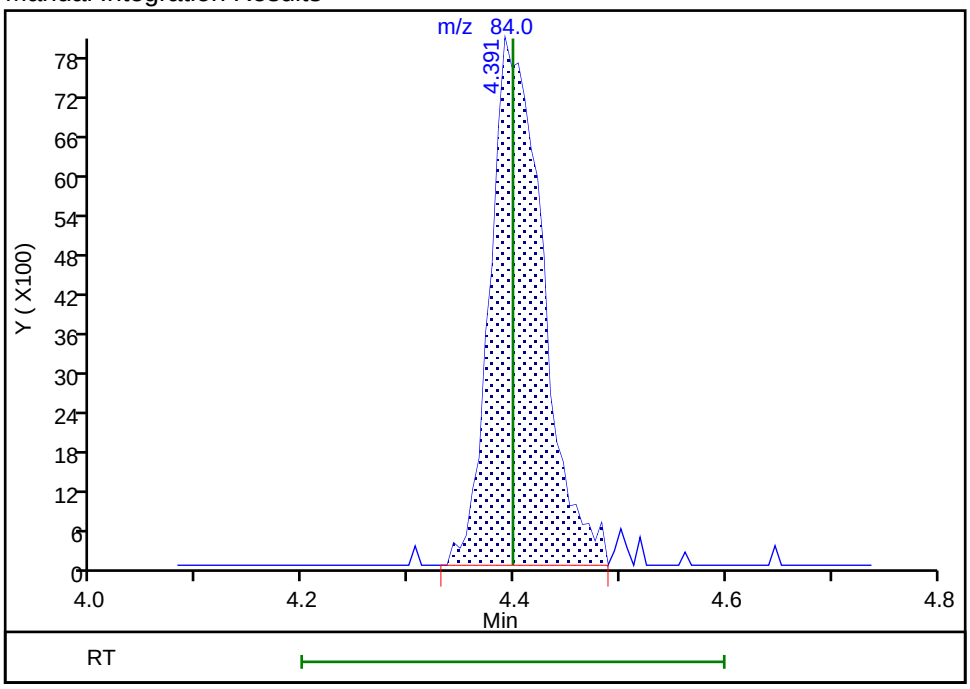
Not Detected
Expected RT: 4.40

Processing Integration Results



Manual Integration Results

RT: 4.39
Area: 27926
Amount: 4.934615
Amount Units: ng



Reviewer: bowieh, 15-Oct-2019 08:37:01
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

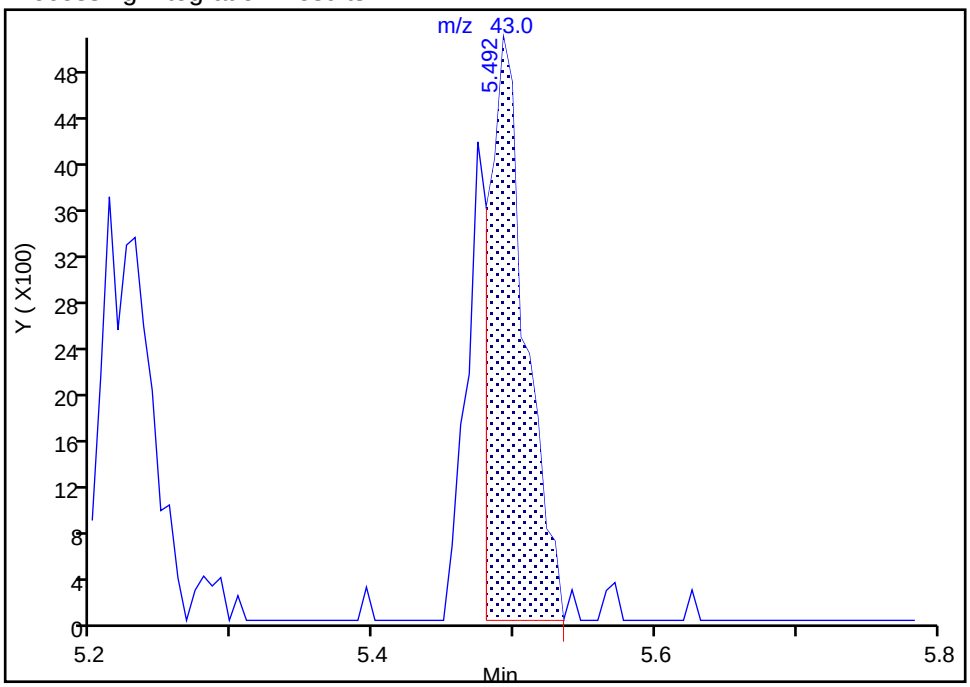
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Injection Date:	12-Oct-2019 20:06:30	Instrument ID:	CHHP5		
Lims ID:	IC VSTD1				
Client ID:					
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

38 Vinyl acetate, CAS: 108-05-4

Signal: 1

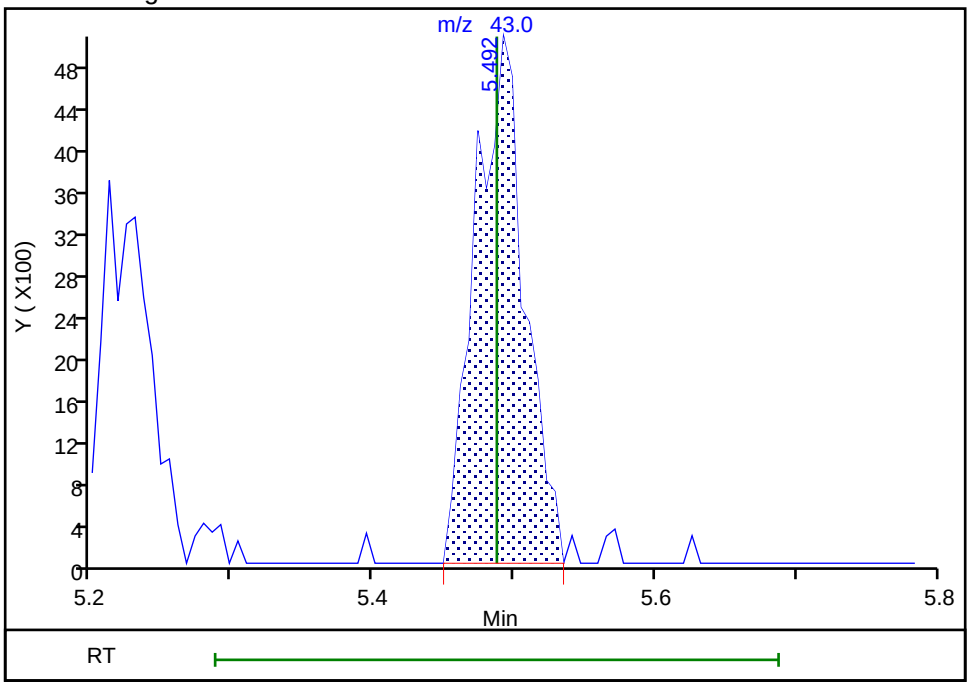
Processing Integration Results

RT: 5.49
Area: 9271
Amount: 4.984558
Amount Units: ng



Manual Integration Results

RT: 5.49
Area: 12433
Amount: 4.227700
Amount Units: ng



Reviewer: bowieh, 15-Oct-2019 08:37:14

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

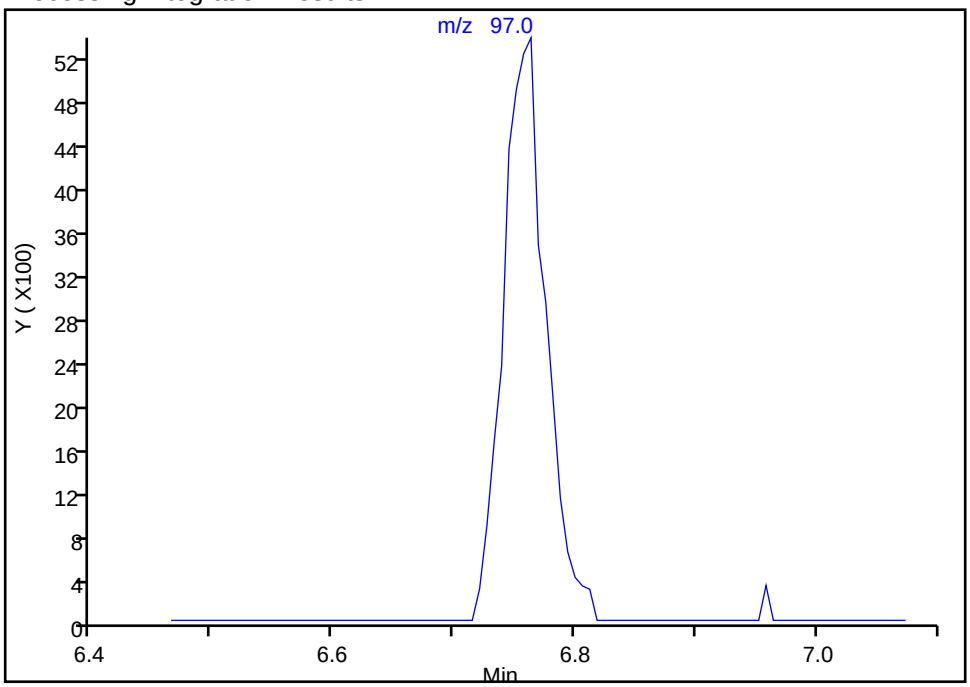
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D
Injection Date: 12-Oct-2019 20:06:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

53 1,1,1-Trichloroethane, CAS: 71-55-6

Signal: 1

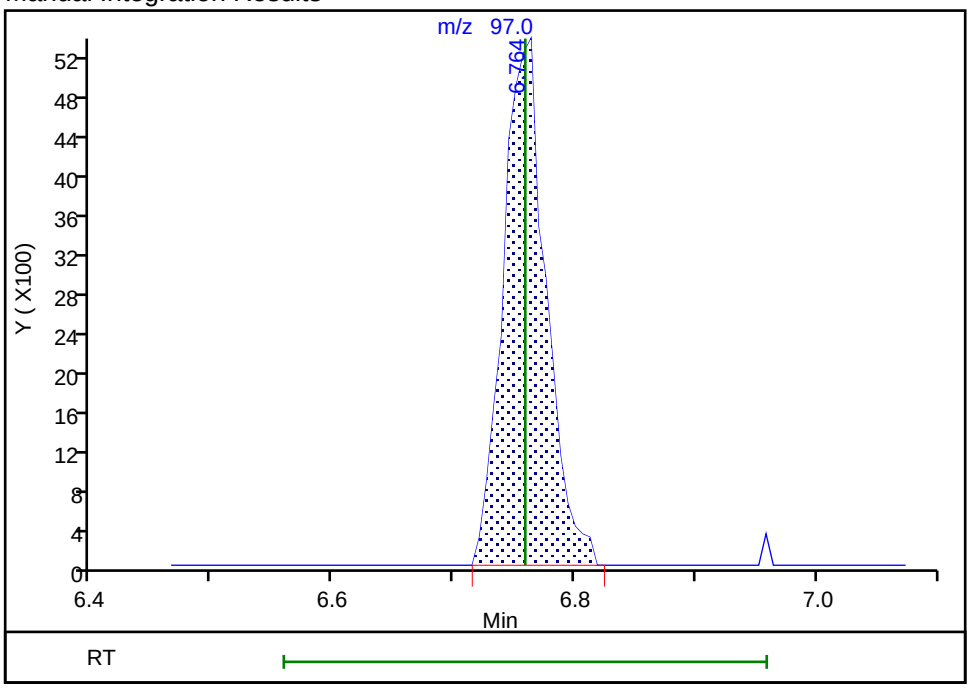
Not Detected
Expected RT: 6.76

Processing Integration Results



Manual Integration Results

RT: 6.76
Area: 13254
Amount: 4.791772
Amount Units: ng



Reviewer: bowieh, 15-Oct-2019 08:37:20
Audit Action: Assigned Compound ID Audit Reason: Poor chromatography

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-296913/2 Calibration Date: 11/02/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 07/25/2019 16:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/25/2019 18:59

Lab File ID: 5110202.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Ave	0.1827	0.1370	0.0100	15.0	20.0	-25.0*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110202.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 02-Nov-2019 10:08:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-002
Misc. Info.: CCVIS
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub145

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 05-Nov-2019 10:50:46 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

First Level Reviewer: bowieh Date: 05-Nov-2019 10:50:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.544	4.544	0.000	0	134748	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.501	0.000	98	305827	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	76174	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	92	152118	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.000	95	77129	50.0	50.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	107616	50.0	51.8	
$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	94	311451	50.0	51.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	95	116724	50.0	51.6	
11 Dichlorodifluoromethane	85	1.685	1.685	0.000	100	154816	50.0	63.5	M
12 Chloromethane	50	1.910	1.910	0.000	99	121370	50.0	54.6	
13 Vinyl chloride	62	2.032	2.032	0.000	97	126212	50.0	56.2	
14 Butadiene	39	2.056	2.056	0.000	96	133421	50.0	61.5	
15 Bromomethane	94	2.372	2.372	0.000	91	83791	50.0	59.2	
16 Chloroethane	64	2.530	2.530	0.000	99	87013	50.0	62.6	
17 Dichlorofluoromethane	67	2.835	2.835	0.000	98	217702	50.0	63.1	
18 Trichlorofluoromethane	101	2.847	2.847	0.000	96	226357	50.0	67.4	
20 Ethyl ether	59	3.248	3.248	0.000	90	66264	50.0	42.4	
21 Acrolein	56	3.455	3.455	0.000	97	36502	150.0	140.4	
22 1,1-Dichloroethene	96	3.571	3.571	0.000	98	80226	50.0	53.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.638	3.638	0.000	90	90363	50.0	50.5	
24 Acetone	43	3.686	3.686	0.000	100	69319	100.0	95.0	
25 Iodomethane	142	3.778	3.778	0.000	98	136826	50.0	50.5	
26 Carbon disulfide	76	3.869	3.869	0.000	99	224844	50.0	52.8	
28 3-Chloro-1-propene	76	4.185	4.185	0.000	89	42848	50.0	47.9	
30 Methyl acetate	43	4.209	4.209	0.000	97	129033	100.0	94.8	
31 Methylene Chloride	84	4.404	4.404	0.000	90	93783	50.0	43.0	
32 2-Methyl-2-propanol	59	4.672	4.672	0.000	95	67674	500.0	431.9	
33 Acrylonitrile	53	4.787	4.787	0.000	98	332317	500.0	482.6	
34 trans-1,2-Dichloroethene	96	4.806	4.806	0.000	97	92689	50.0	53.7	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	216156	50.0	47.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.225	5.225	0.000	93	115854	50.0	44.1	
37 1,1-Dichloroethane	63	5.432	5.432	0.000	97	151386	50.0	50.8	
38 Vinyl acetate	43	5.493	5.493	0.000	97	96829	50.0	34.2	
45 cis-1,2-Dichloroethene	96	6.174	6.174	0.000	84	91559	50.0	48.5	
44 2,2-Dichloropropane	97	6.174	6.174	0.000	87	23501	50.0	54.3	
46 2-Butanone (MEK)	43	6.193	6.193	0.000	96	83003	100.0	97.4	
49 Chlorobromomethane	128	6.454	6.454	0.000	92	51473	50.0	52.5	
51 Tetrahydrofuran	42	6.466	6.466	0.000	82	45412	100.0	88.0	
52 Chloroform	83	6.600	6.600	0.000	94	166925	50.0	51.4	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	98	147457	50.0	55.4	
54 Cyclohexane	56	6.819	6.819	0.000	91	137818	50.0	44.6	
56 Carbon tetrachloride	117	6.929	6.929	0.000	96	136728	50.0	56.0	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	93	117210	50.0	48.2	
57 Isobutyl alcohol	41	7.142	7.142	0.000	83	68496	1250.0	1197.5	
58 Benzene	78	7.160	7.160	0.000	98	365908	50.0	50.5	
59 1,2-Dichloroethane	62	7.227	7.227	0.000	98	132283	50.0	51.5	
62 n-Heptane	43	7.507	7.507	0.000	91	97997	50.0	46.1	
64 Trichloroethene	130	7.884	7.884	0.000	95	107045	50.0	54.0	
66 Methylcyclohexane	83	8.115	8.115	0.000	89	134985	50.0	44.5	
67 1,2-Dichloropropane	63	8.152	8.152	0.000	91	86113	50.0	50.4	
70 1,4-Dioxane	88	8.237	8.237	0.000	34	12471	1000.0	850.8	
68 Dibromomethane	93	8.243	8.243	0.000	88	52985	50.0	51.2	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	116523	50.0	53.9	
73 2-Chloroethyl vinyl ether	63	8.729	8.729	0.000	95	83810	100.0	75.0	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	93	125502	50.0	51.2	
75 4-Methyl-2-pentanone (MIBK	43	9.028	9.028	0.000	97	147076	100.0	96.9	
76 Toluene	91	9.204	9.204	0.000	99	395991	50.0	51.4	
77 trans-1,3-Dichloropropene	75	9.447	9.447	0.000	95	115490	50.0	48.4	
78 Ethyl methacrylate	69	9.502	9.502	0.000	90	89845	50.0	44.4	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	94	80489	50.0	50.0	
80 Tetrachloroethene	164	9.709	9.709	0.000	98	97407	50.0	52.9	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	94	139353	50.0	50.0	
82 2-Hexanone	43	9.861	9.861	0.000	97	110885	100.0	107.7	
84 Chlorodibromomethane	129	10.007	10.007	0.000	89	89510	50.0	52.4	
85 Ethylene Dibromide	107	10.129	10.129	0.000	97	82891	50.0	53.1	
87 Chlorobenzene	112	10.609	10.609	0.000	95	271373	50.0	52.0	
89 1,1,1,2-Tetrachloroethane	131	10.707	10.707	0.000	94	97128	50.0	52.9	
90 Ethylbenzene	106	10.713	10.713	0.000	99	140799	50.0	52.4	
91 m-Xylene & p-Xylene	106	10.840	10.840	0.000	0	172906	50.0	52.2	
92 o-Xylene	106	11.224	11.224	0.000	97	162338	50.0	51.7	
93 Styrene	104	11.242	11.242	0.000	94	282079	50.0	52.5	
94 Bromoform	173	11.424	11.424	0.000	97	58356	50.0	51.3	
97 Isopropylbenzene	105	11.589	11.589	0.000	96	429603	50.0	51.5	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	78	100682	50.0	49.6	
100 Bromobenzene	156	11.905	11.905	0.000	91	121371	50.0	46.9	
102 trans-1,4-Dichloro-2-buten	53	11.942	11.942	0.000	76	27217	50.0	37.5	
101 1,2,3-Trichloropropane	110	11.954	11.954	0.000	83	38560	50.0	47.2	
103 N-Propylbenzene	120	12.002	12.002	0.000	99	126469	50.0	47.0	
104 2-Chlorotoluene	126	12.094	12.094	0.000	97	111844	50.0	48.5	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	95	369330	50.0	46.8	
107 4-Chlorotoluene	126	12.215	12.215	0.000	97	120313	50.0	49.1	
108 tert-Butylbenzene	119	12.501	12.501	0.000	93	304444	50.0	46.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	97	377559	50.0	47.4	
112 sec-Butylbenzene	105	12.726	12.726	0.000	94	425533	50.0	46.0	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	221805	50.0	46.5	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	97	384054	50.0	47.0	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	94	225338	50.0	45.8	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	281849	50.0	43.6	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	97	202999	50.0	45.3	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.089	0.000	81	19289	50.0	54.8	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	94	84306	50.0	54.8	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	94	56753	50.0	60.1	
128 Naphthalene	128	15.184	15.184	0.000	97	187138	50.0	61.2	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	95	77419	50.0	63.4	
S 134 1,2-Dichloroethene, Total	96				0		100.0	102.2	
S 154 Total BTEX	106				0		250.0	258.1	
S 133 Xylenes, Total	106				0		100.0	103.9	
S 135 1,3-Dichloropropene, Total	1				0		100.0	99.6	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOAPRI_00377	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVEPRI_00056	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

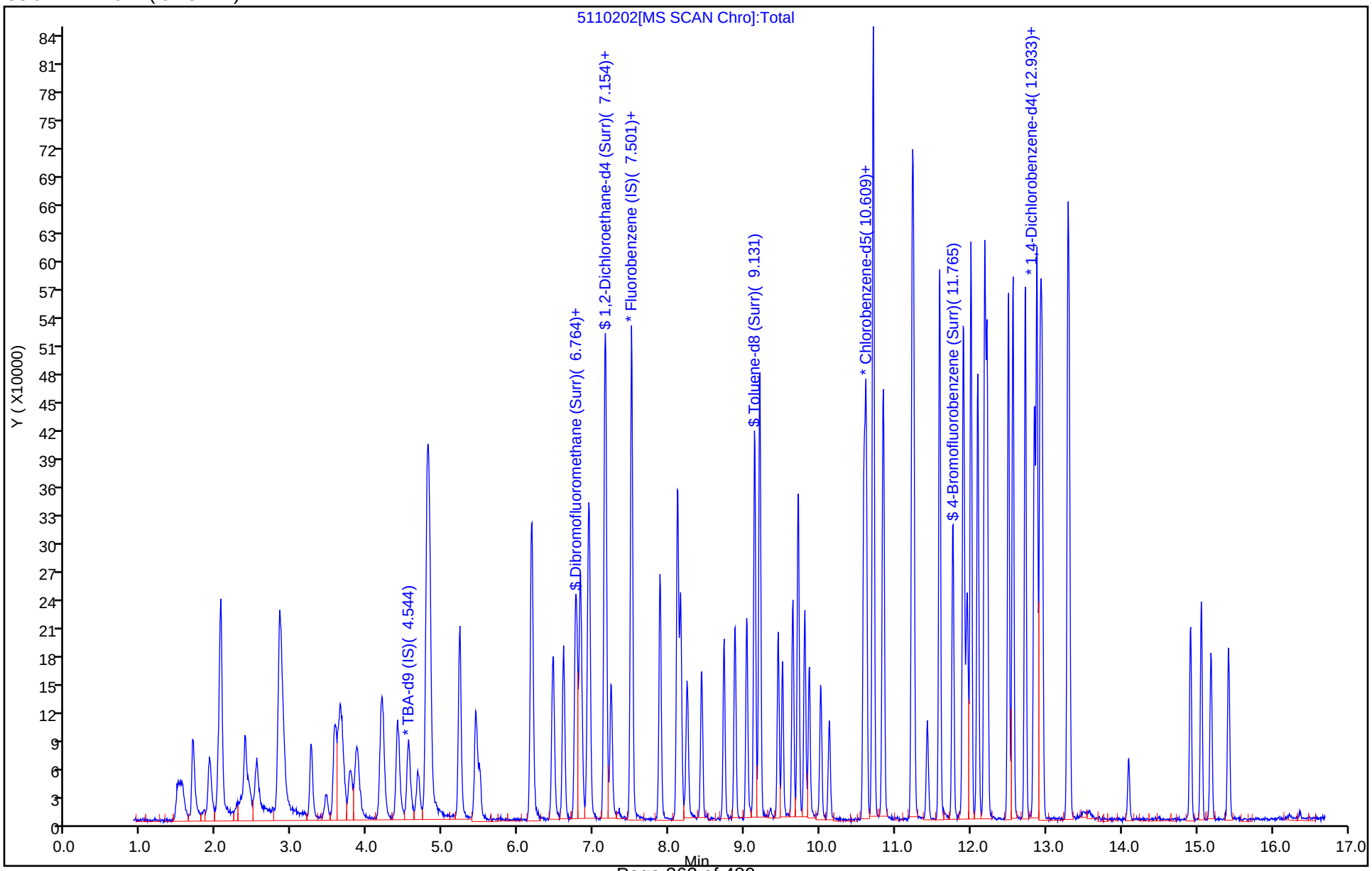
Report Date: 05-Nov-2019 10:50:48 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110202.D

Injection Date:	02-Nov-2019 10:08:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-296913/2 Calibration Date: 11/02/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110202.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3987	0.5062	0.1000	12.7	10.0	27.0*	20.0
Chloromethane	Ave	0.3634	0.3969	0.1000	10.9	10.0	9.2	20.0
Vinyl chloride	Ave	0.3673	0.4127	0.1000	11.2	10.0	12.4	20.0
1,3-Butadiene	Ave	0.3545	0.4363	0.0100	12.3	10.0	23.1*	20.0
Bromomethane	Ave	0.2313	0.2740	0.0500	11.8	10.0	18.4	20.0
Chloroethane	Ave	0.2273	0.2845	0.0500	12.5	10.0	25.2*	20.0
Dichlorofluoromethane	Ave	0.5643	0.7119	0.0100	12.6	10.0	26.1*	20.0
Trichlorofluoromethane	Ave	0.5488	0.7402	0.1000	13.5	10.0	34.9*	20.0
Ethyl ether	Ave	0.2553	0.2167	0.0100	8.49	10.0	-15.1	20.0
Acrolein	Ave	0.0425	0.0398	0.0100	28.1	30.0	-6.4	20.0
1,1-Dichloroethene	Ave	0.2474	0.2623	0.1000	10.6	10.0	6.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2928	0.2955	0.1000	10.1	10.0	0.9	20.0
Acetone	Ave	0.1193	0.1133	0.0500	19.0	20.0	-5.0	20.0
Iodomethane	Ave	0.4430	0.4474	0.0100	10.1	10.0	1.0	20.0
Carbon disulfide	Ave	0.6958	0.7352	0.1000	10.6	10.0	5.7	20.0
Allyl chloride	Ave	0.1463	0.1401	0.0100	9.58	10.0	-4.2	20.0
Methyl acetate	Ave	0.2225	0.2110	0.1000	19.0	20.0	-5.2	20.0
Methylene Chloride	Lin2		0.3067	0.1000	8.60	10.0	-14.0	20.0
tert-Butyl alcohol	Ave	1.163	1.004	0.0100	86.4	100	-13.6	20.0
Acrylonitrile	Ave	0.1126	0.1087	0.0100	96.5	100	-3.5	20.0
trans-1,2-Dichloroethene	Ave	0.2820	0.3031	0.1000	10.7	10.0	7.5	20.0
Methyl tert-butyl ether	Ave	0.7433	0.7068	0.1000	9.51	10.0	-4.9	20.0
Hexane	Ave	0.4292	0.3788	0.0100	8.83	10.0	-11.7	20.0
1,1-Dichloroethane	Ave	0.4875	0.4950	0.2000	10.2	10.0	1.5	20.0
Vinyl acetate	Ave	0.4623	0.3166	0.0100	6.85	10.0	-31.5*	20.0
2,2-Dichloropropane	Ave	0.0708	0.0768	0.0100	10.9	10.0	8.6	20.0
cis-1,2-Dichloroethene	Ave	0.3088	0.2994	0.1000	9.70	10.0	-3.0	20.0
2-Butanone (MEK)	Ave	0.1394	0.1357	0.0500	19.5	20.0	-2.6	20.0
Bromochloromethane	Ave	0.1603	0.1683	0.0100	10.5	10.0	5.0	20.0
Tetrahydrofuran	Ave	0.0844	0.0742	0.0100	17.6	20.0	-12.0	20.0
Chloroform	Ave	0.5313	0.5458	0.2000	10.3	10.0	2.7	20.0
1,1,1-Trichloroethane	Ave	0.4348	0.4822	0.1000	11.1	10.0	10.9	20.0
Cyclohexane	Ave	0.5049	0.4506	0.1000	8.93	10.0	-10.7	20.0
Carbon tetrachloride	Ave	0.3992	0.4471	0.1000	11.2	10.0	12.0	20.0
1,1-Dichloropropene	Ave	0.3977	0.3833	0.0100	9.64	10.0	-3.6	20.0
Isobutyl alcohol	Ave	0.0094	0.0090*	0.0100	239	250	-4.2	20.0
Benzene	Ave	1.185	1.196	0.5000	10.1	10.0	1.0	20.0
1,2-Dichloroethane	Ave	0.4197	0.4325	0.1000	10.3	10.0	3.1	20.0
n-Heptane	Ave	0.3473	0.3204	0.0100	9.23	10.0	-7.7	20.0
Trichloroethene	Ave	0.3241	0.3500	0.2000	10.8	10.0	8.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-296913/2 Calibration Date: 11/02/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110202.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4955	0.4414	0.1000	8.91	10.0	-10.9	20.0
1,2-Dichloropropane	Ave	0.2792	0.2816	0.1000	10.1	10.0	0.8	20.0
1,4-Dioxane	Ave	0.0024	0.0020*	0.0100	170	200	-14.9	20.0
Dibromomethane	Ave	0.1691	0.1733	0.0100	10.2	10.0	2.4	20.0
Bromodichloromethane	Ave	0.3537	0.3810	0.2000	10.8	10.0	7.7	20.0
cis-1,3-Dichloropropene	Ave	0.4005	0.4104	0.2000	10.2	10.0	2.5	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.996	0.9654	0.1000	19.4	20.0	-3.1	20.0
Toluene	Ave	5.061	5.199	0.4000	10.3	10.0	2.7	20.0
trans-1,3-Dichloropropene	Ave	1.567	1.516	0.1000	9.67	10.0	-3.3	20.0
Ethyl methacrylate	Lin1		1.179	0.0100	8.88	10.0	-11.2	20.0
1,1,2-Trichloroethane	Ave	1.056	1.057	0.1000	10.0	10.0	0.0	20.0
Tetrachloroethene	Ave	1.209	1.279	0.2000	10.6	10.0	5.8	20.0
1,3-Dichloropropane	Ave	1.830	1.829	0.0100	10.0	10.0	-0.0	20.0
2-Hexanone	Ave	0.6756	0.7278	0.1000	21.5	20.0	7.7	20.0
Dibromochloromethane	Ave	1.120	1.175	0.1000	10.5	10.0	4.9	20.0
1,2-Dibromoethane (EDB)	Ave	1.025	1.088	0.1000	10.6	10.0	6.2	20.0
Chlorobenzene	Ave	3.427	3.563	0.5000	10.4	10.0	3.9	20.0
1,1,1,2-Tetrachloroethane	Ave	1.204	1.275	0.0100	10.6	10.0	5.9	20.0
Ethylbenzene	Ave	1.765	1.848	0.1000	10.5	10.0	4.7	20.0
m-Xylene & p-Xylene	Ave	2.174	2.270	0.1000	10.4	10.0	4.4	20.0
o-Xylene	Ave	2.061	2.131	0.3000	10.3	10.0	3.4	20.0
Styrene	Ave	3.527	3.703	0.3000	10.5	10.0	5.0	20.0
Bromoform	Ave	0.7467	0.7661	0.1000	10.3	10.0	2.6	20.0
Isopropylbenzene	Ave	5.474	5.640	0.1000	10.3	10.0	3.0	20.0
1,1,2,2-Tetrachloroethane	Ave	1.332	1.322	0.3000	9.92	10.0	-0.8	20.0
Bromobenzene	Ave	0.8499	0.7979	0.0100	9.39	10.0	-6.1	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2384	0.1789	0.0100	7.50	10.0	-25.0*	20.0
1,2,3-Trichloropropane	Ave	0.2684	0.2535	0.0100	9.44	10.0	-5.6	20.0
N-Propylbenzene	Ave	0.8850	0.8314	0.0100	9.39	10.0	-6.1	20.0
2-Chlorotoluene	Ave	0.7575	0.7353	0.0100	9.71	10.0	-2.9	20.0
1,3,5-Trimethylbenzene	Lin2		2.428	0.0100	9.35	10.0	-6.5	20.0
4-Chlorotoluene	Ave	0.8058	0.7909	0.0100	9.82	10.0	-1.8	20.0
tert-Butylbenzene	Lin2		2.001	0.0100	9.25	10.0	-7.5	20.0
1,2,4-Trimethylbenzene	Lin2		2.482	0.0100	9.49	10.0	-5.1	20.0
sec-Butylbenzene	Lin2		2.797	0.0100	9.20	10.0	-8.0	20.0
1,3-Dichlorobenzene	Ave	1.569	1.458	0.6000	9.29	10.0	-7.1	20.0
4-Isopropyltoluene	Lin2		2.525	0.0100	9.39	10.0	-6.1	20.0
1,4-Dichlorobenzene	Ave	1.616	1.481	0.5000	9.17	10.0	-8.3	20.0
n-Butylbenzene	Lin1		1.853	0.0100	8.73	10.0	-12.7	20.0
1,2-Dichlorobenzene	Ave	1.474	1.334	0.4000	9.05	10.0	-9.5	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1157	0.1268	0.0500	11.0	10.0	9.6	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-296913/2 Calibration Date: 11/02/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110202.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	0.5052	0.5542	0.2000	11.0	10.0	9.7	20.0
Hexachlorobutadiene	Ave	0.3106	0.3731	0.0100	12.0	10.0	20.1*	20.0
Naphthalene	Qua		1.230	0.0100	12.2	10.0	22.3*	20.0
1,2,3-Trichlorobenzene	Ave	0.4015	0.5089	0.0100	12.7	10.0	26.8*	20.0
Dibromofluoromethane (Surr)	Ave	0.2485	0.2522		10.1	10.0	1.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3395	0.3519		10.4	10.0	3.6	20.0
Toluene-d8 (Surr)	Ave	4.002	4.089		10.2	10.0	2.2	20.0
4-Bromofluorobenzene (Surr)	Ave	1.484	1.532		10.3	10.0	3.2	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110202.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 02-Nov-2019 10:08:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-002
Misc. Info.: CCVIS
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub145

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 05-Nov-2019 10:50:46 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

First Level Reviewer: bowieh Date: 05-Nov-2019 10:50:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.544	4.544	0.000	0	134748	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.501	0.000	98	305827	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	76174	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	92	152118	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.000	95	77129	50.0	50.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	107616	50.0	51.8	
$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	94	311451	50.0	51.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	95	116724	50.0	51.6	
11 Dichlorodifluoromethane	85	1.685	1.685	0.000	100	154816	50.0	63.5	M
12 Chloromethane	50	1.910	1.910	0.000	99	121370	50.0	54.6	
13 Vinyl chloride	62	2.032	2.032	0.000	97	126212	50.0	56.2	
14 Butadiene	39	2.056	2.056	0.000	96	133421	50.0	61.5	
15 Bromomethane	94	2.372	2.372	0.000	91	83791	50.0	59.2	
16 Chloroethane	64	2.530	2.530	0.000	99	87013	50.0	62.6	
17 Dichlorofluoromethane	67	2.835	2.835	0.000	98	217702	50.0	63.1	
18 Trichlorofluoromethane	101	2.847	2.847	0.000	96	226357	50.0	67.4	
20 Ethyl ether	59	3.248	3.248	0.000	90	66264	50.0	42.4	
21 Acrolein	56	3.455	3.455	0.000	97	36502	150.0	140.4	
22 1,1-Dichloroethene	96	3.571	3.571	0.000	98	80226	50.0	53.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.638	3.638	0.000	90	90363	50.0	50.5	
24 Acetone	43	3.686	3.686	0.000	100	69319	100.0	95.0	
25 Iodomethane	142	3.778	3.778	0.000	98	136826	50.0	50.5	
26 Carbon disulfide	76	3.869	3.869	0.000	99	224844	50.0	52.8	
28 3-Chloro-1-propene	76	4.185	4.185	0.000	89	42848	50.0	47.9	
30 Methyl acetate	43	4.209	4.209	0.000	97	129033	100.0	94.8	
31 Methylene Chloride	84	4.404	4.404	0.000	90	93783	50.0	43.0	
32 2-Methyl-2-propanol	59	4.672	4.672	0.000	95	67674	500.0	431.9	
33 Acrylonitrile	53	4.787	4.787	0.000	98	332317	500.0	482.6	
34 trans-1,2-Dichloroethene	96	4.806	4.806	0.000	97	92689	50.0	53.7	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	216156	50.0	47.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.225	5.225	0.000	93	115854	50.0	44.1	
37 1,1-Dichloroethane	63	5.432	5.432	0.000	97	151386	50.0	50.8	
38 Vinyl acetate	43	5.493	5.493	0.000	97	96829	50.0	34.2	
45 cis-1,2-Dichloroethene	96	6.174	6.174	0.000	84	91559	50.0	48.5	
44 2,2-Dichloropropane	97	6.174	6.174	0.000	87	23501	50.0	54.3	
46 2-Butanone (MEK)	43	6.193	6.193	0.000	96	83003	100.0	97.4	
49 Chlorobromomethane	128	6.454	6.454	0.000	92	51473	50.0	52.5	
51 Tetrahydrofuran	42	6.466	6.466	0.000	82	45412	100.0	88.0	
52 Chloroform	83	6.600	6.600	0.000	94	166925	50.0	51.4	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	98	147457	50.0	55.4	
54 Cyclohexane	56	6.819	6.819	0.000	91	137818	50.0	44.6	
56 Carbon tetrachloride	117	6.929	6.929	0.000	96	136728	50.0	56.0	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	93	117210	50.0	48.2	
57 Isobutyl alcohol	41	7.142	7.142	0.000	83	68496	1250.0	1197.5	
58 Benzene	78	7.160	7.160	0.000	98	365908	50.0	50.5	
59 1,2-Dichloroethane	62	7.227	7.227	0.000	98	132283	50.0	51.5	
62 n-Heptane	43	7.507	7.507	0.000	91	97997	50.0	46.1	
64 Trichloroethene	130	7.884	7.884	0.000	95	107045	50.0	54.0	
66 Methylcyclohexane	83	8.115	8.115	0.000	89	134985	50.0	44.5	
67 1,2-Dichloropropane	63	8.152	8.152	0.000	91	86113	50.0	50.4	
70 1,4-Dioxane	88	8.237	8.237	0.000	34	12471	1000.0	850.8	
68 Dibromomethane	93	8.243	8.243	0.000	88	52985	50.0	51.2	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	116523	50.0	53.9	
73 2-Chloroethyl vinyl ether	63	8.729	8.729	0.000	95	83810	100.0	75.0	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	93	125502	50.0	51.2	
75 4-Methyl-2-pentanone (MIBK	43	9.028	9.028	0.000	97	147076	100.0	96.9	
76 Toluene	91	9.204	9.204	0.000	99	395991	50.0	51.4	
77 trans-1,3-Dichloropropene	75	9.447	9.447	0.000	95	115490	50.0	48.4	
78 Ethyl methacrylate	69	9.502	9.502	0.000	90	89845	50.0	44.4	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	94	80489	50.0	50.0	
80 Tetrachloroethene	164	9.709	9.709	0.000	98	97407	50.0	52.9	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	94	139353	50.0	50.0	
82 2-Hexanone	43	9.861	9.861	0.000	97	110885	100.0	107.7	
84 Chlorodibromomethane	129	10.007	10.007	0.000	89	89510	50.0	52.4	
85 Ethylene Dibromide	107	10.129	10.129	0.000	97	82891	50.0	53.1	
87 Chlorobenzene	112	10.609	10.609	0.000	95	271373	50.0	52.0	
89 1,1,1,2-Tetrachloroethane	131	10.707	10.707	0.000	94	97128	50.0	52.9	
90 Ethylbenzene	106	10.713	10.713	0.000	99	140799	50.0	52.4	
91 m-Xylene & p-Xylene	106	10.840	10.840	0.000	0	172906	50.0	52.2	
92 o-Xylene	106	11.224	11.224	0.000	97	162338	50.0	51.7	
93 Styrene	104	11.242	11.242	0.000	94	282079	50.0	52.5	
94 Bromoform	173	11.424	11.424	0.000	97	58356	50.0	51.3	
97 Isopropylbenzene	105	11.589	11.589	0.000	96	429603	50.0	51.5	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	78	100682	50.0	49.6	
100 Bromobenzene	156	11.905	11.905	0.000	91	121371	50.0	46.9	
102 trans-1,4-Dichloro-2-buten	53	11.942	11.942	0.000	76	27217	50.0	37.5	
101 1,2,3-Trichloropropane	110	11.954	11.954	0.000	83	38560	50.0	47.2	
103 N-Propylbenzene	120	12.002	12.002	0.000	99	126469	50.0	47.0	
104 2-Chlorotoluene	126	12.094	12.094	0.000	97	111844	50.0	48.5	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	95	369330	50.0	46.8	
107 4-Chlorotoluene	126	12.215	12.215	0.000	97	120313	50.0	49.1	
108 tert-Butylbenzene	119	12.501	12.501	0.000	93	304444	50.0	46.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	97	377559	50.0	47.4	
112 sec-Butylbenzene	105	12.726	12.726	0.000	94	425533	50.0	46.0	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	221805	50.0	46.5	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	97	384054	50.0	47.0	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	94	225338	50.0	45.8	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	281849	50.0	43.6	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	97	202999	50.0	45.3	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.089	0.000	81	19289	50.0	54.8	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	94	84306	50.0	54.8	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	94	56753	50.0	60.1	
128 Naphthalene	128	15.184	15.184	0.000	97	187138	50.0	61.2	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	95	77419	50.0	63.4	
S 134 1,2-Dichloroethene, Total	96				0		100.0	102.2	
S 154 Total BTEX	106				0		250.0	258.1	
S 133 Xylenes, Total	106				0		100.0	103.9	
S 135 1,3-Dichloropropene, Total	1				0		100.0	99.6	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOAPRI_00377	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVEPRI_00056	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

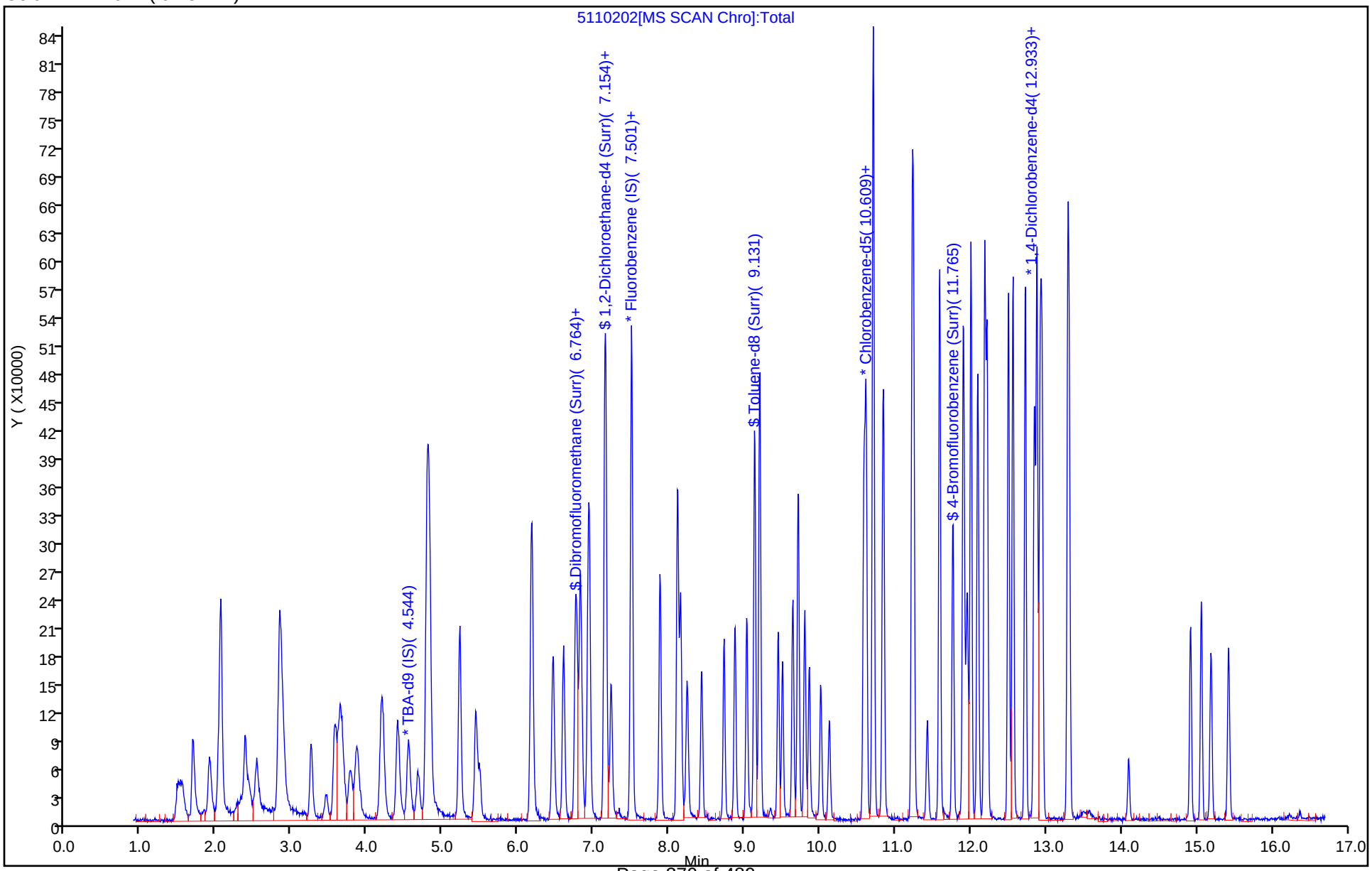
Report Date: 05-Nov-2019 10:50:48 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110202.D

Injection Date:	02-Nov-2019 10:08:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

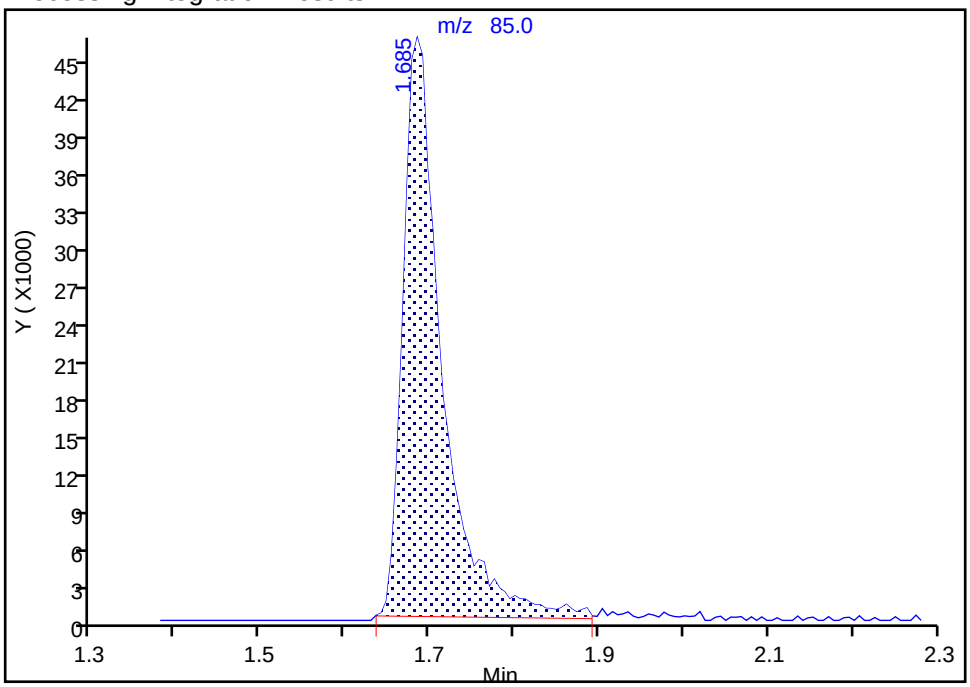
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110202.D
Injection Date: 02-Nov-2019 10:08:30 Instrument ID: CHHP5
Lims ID: CCVIS
Client ID:
Operator ID: 433269 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

11 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

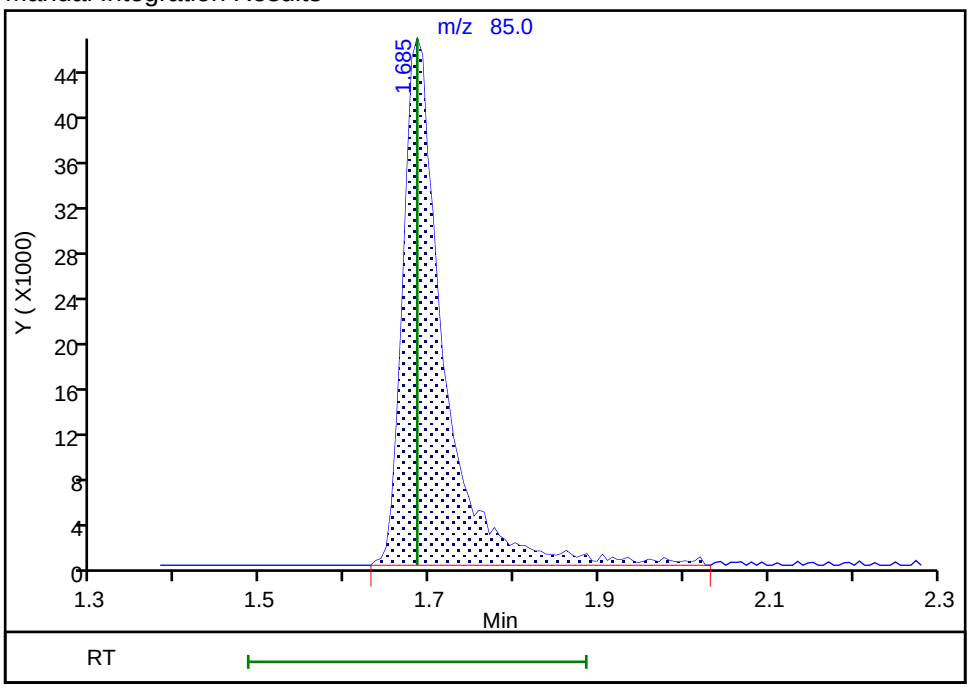
Processing Integration Results

RT: 1.68
Area: 147523
Amount: 60.486935
Amount Units: ng



Manual Integration Results

RT: 1.68
Area: 154816
Amount: 63.477189
Amount Units: ng



Reviewer: bowieh, 02-Nov-2019 10:29:33
Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297107/2 Calibration Date: 11/05/2019 12:46

Instrument ID: CHHP5 Calib Start Date: 07/25/2019 16:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/25/2019 18:59

Lab File ID: 5110502.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Ave	0.1827	0.1314	0.0100	14.4	20.0	-28.1*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110502.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 05-Nov-2019 12:46:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-002
Misc. Info.: CCVIS
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub142

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:31:57 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:31:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.552	4.552	0.000	0	141764	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.508	7.508	0.000	98	304600	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.587	10.587	0.000	84	80404	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.923	12.923	0.000	92	163398	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.785	6.785	0.000	95	84327	50.0	55.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.150	0.000	0	105229	50.0	50.9	
$ 7 Toluene-d8 (Surr)	98	9.139	9.139	0.000	94	307576	50.0	47.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.767	11.767	0.000	96	123035	50.0	51.5	
11 Dichlorodifluoromethane	85	1.693	1.693	0.000	99	118395	50.0	48.7	
12 Chloromethane	50	1.918	1.918	0.000	99	88248	50.0	39.9	
13 Vinyl chloride	62	2.033	2.033	0.000	97	97702	50.0	43.7	
14 Butadiene	39	2.064	2.064	0.000	94	90655	50.0	42.0	
15 Bromomethane	94	2.380	2.380	0.000	92	67478	50.0	47.9	
16 Chloroethane	64	2.538	2.538	0.000	99	62970	50.0	45.5	
17 Dichlorofluoromethane	67	2.855	2.855	0.000	98	160653	50.0	46.7	
18 Trichlorofluoromethane	101	2.867	2.867	0.000	92	178732	50.0	53.5	
20 Ethyl ether	59	3.262	3.262	0.000	87	61156	50.0	39.3	
21 Acrolein	56	3.457	3.457	0.000	97	29722	150.0	114.8	
22 1,1-Dichloroethene	96	3.579	3.579	0.000	98	79914	50.0	53.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.658	3.658	0.000	87	90103	50.0	50.5	
24 Acetone	43	3.688	3.688	0.000	98	62456	100.0	86.0	
25 Iodomethane	142	3.779	3.779	0.000	96	139445	50.0	51.7	
26 Carbon disulfide	76	3.871	3.871	0.000	99	226607	50.0	53.5	
28 3-Chloro-1-propene	76	4.193	4.193	0.000	87	41330	50.0	46.4	
30 Methyl acetate	43	4.223	4.223	0.000	96	110759	100.0	81.7	
31 Methylene Chloride	84	4.406	4.406	0.000	87	95247	50.0	44.0	
32 2-Methyl-2-propanol	59	4.680	4.680	0.000	93	63913	500.0	387.7	
33 Acrylonitrile	53	4.795	4.795	0.000	100	292780	500.0	426.9	
34 trans-1,2-Dichloroethene	96	4.813	4.813	0.000	98	89746	50.0	52.2	
35 Methyl tert-butyl ether	73	4.832	4.832	0.000	96	198695	50.0	43.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.233	5.233	0.000	92	104104	50.0	39.8	
37 1,1-Dichloroethane	63	5.446	5.446	0.000	97	140918	50.0	47.5	
38 Vinyl acetate	43	5.495	5.495	0.000	97	84016	50.0	29.8	
44 2,2-Dichloropropane	97	6.182	6.182	0.000	64	20105	50.0	46.6	
45 cis-1,2-Dichloroethene	96	6.182	6.182	0.000	82	95439	50.0	50.7	
46 2-Butanone (MEK)	43	6.201	6.201	0.000	98	65275	100.0	76.9	
49 Chlorobromomethane	128	6.468	6.468	0.000	85	49963	50.0	51.2	
51 Tetrahydrofuran	42	6.474	6.474	0.000	88	42904	100.0	83.5	
52 Chloroform	83	6.602	6.602	0.000	94	161743	50.0	50.0	
53 1,1,1-Trichloroethane	97	6.766	6.766	0.000	96	155003	50.0	58.5	
54 Cyclohexane	56	6.833	6.833	0.000	89	124972	50.0	40.6	
56 Carbon tetrachloride	117	6.937	6.937	0.000	98	142389	50.0	58.5	
55 1,1-Dichloropropene	75	6.949	6.949	0.000	94	112986	50.0	46.6	
57 Isobutyl alcohol	41	7.156	7.156	0.000	81	58800	1250.0	1032.1	
58 Benzene	78	7.162	7.162	0.000	97	348672	50.0	48.3	
59 1,2-Dichloroethane	62	7.241	7.241	0.000	99	124030	50.0	48.5	
62 n-Heptane	43	7.515	7.515	0.000	89	82658	50.0	39.1	
64 Trichloroethene	130	7.886	7.886	0.000	95	102946	50.0	52.1	
66 Methylcyclohexane	83	8.117	8.117	0.000	90	122242	50.0	40.5	
67 1,2-Dichloropropane	63	8.159	8.159	0.000	91	73125	50.0	43.0	
70 1,4-Dioxane	88	8.232	8.232	0.000	33	9811	1000.0	672.0	
68 Dibromomethane	93	8.238	8.238	0.000	85	49547	50.0	48.1	
71 Dichlorobromomethane	83	8.433	8.433	0.000	99	109512	50.0	50.8	
73 2-Chloroethyl vinyl ether	63	8.731	8.731	0.000	94	80030	100.0	71.9	
74 cis-1,3-Dichloropropene	75	8.877	8.877	0.000	93	117202	50.0	48.0	
75 4-Methyl-2-pentanone (MIBK	43	9.035	9.035	0.000	94	120981	100.0	75.5	
76 Toluene	91	9.206	9.206	0.000	98	390631	50.0	48.0	
77 trans-1,3-Dichloropropene	75	9.449	9.449	0.000	95	99794	50.0	39.6	
78 Ethyl methacrylate	69	9.510	9.510	0.000	87	79980	50.0	37.9	
79 1,1,2-Trichloroethane	97	9.644	9.644	0.000	90	76874	50.0	45.3	
80 Tetrachloroethene	164	9.717	9.717	0.000	96	105606	50.0	54.3	
81 1,3-Dichloropropane	76	9.802	9.802	0.000	90	125987	50.0	42.8	
82 2-Hexanone	43	9.863	9.863	0.000	94	90164	100.0	83.0	
84 Chlorodibromomethane	129	10.015	10.015	0.000	88	87622	50.0	48.6	
85 Ethylene Dibromide	107	10.130	10.130	0.000	95	79808	50.0	48.4	
87 Chlorobenzene	112	10.617	10.617	0.000	96	257254	50.0	46.7	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.702	0.000	91	95067	50.0	49.1	
90 Ethylbenzene	106	10.714	10.714	0.000	98	132831	50.0	46.8	
91 m-Xylene & p-Xylene	106	10.842	10.842	0.000	0	162506	50.0	46.5	
92 o-Xylene	106	11.225	11.225	0.000	96	153067	50.0	46.2	
93 Styrene	104	11.244	11.244	0.000	93	264757	50.0	46.7	
94 Bromoform	173	11.426	11.426	0.000	96	60488	50.0	50.4	
97 Isopropylbenzene	105	11.590	11.590	0.000	95	378913	50.0	43.0	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.901	0.000	81	88770	50.0	41.4	
100 Bromobenzene	156	11.907	11.907	0.000	85	121815	50.0	43.9	
102 trans-1,4-Dichloro-2-buten	53	11.943	11.943	0.000	86	27345	50.0	35.1	
101 1,2,3-Trichloropropane	110	11.962	11.962	0.000	86	37814	50.0	43.1	
103 N-Propylbenzene	120	12.004	12.004	0.000	98	120133	50.0	41.5	
104 2-Chlorotoluene	126	12.095	12.095	0.000	97	102031	50.0	41.2	
106 1,3,5-Trimethylbenzene	105	12.187	12.187	0.000	94	324116	50.0	38.6	
107 4-Chlorotoluene	126	12.223	12.223	0.000	95	105942	50.0	40.2	
108 tert-Butylbenzene	119	12.503	12.503	0.000	92	260729	50.0	37.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 1,2,4-Trimethylbenzene	105	12.564	12.564	0.000	97	334868	50.0	39.5	
112 sec-Butylbenzene	105	12.728	12.728	0.000	94	354053	50.0	36.0	
113 1,3-Dichlorobenzene	146	12.844	12.844	0.000	97	204771	50.0	39.9	
114 4-Isopropyltoluene	119	12.880	12.880	0.000	96	324668	50.0	37.4	
115 1,4-Dichlorobenzene	146	12.947	12.947	0.000	95	213537	50.0	40.4	
120 n-Butylbenzene	91	13.288	13.288	0.000	97	218031	50.0	32.3	
121 1,2-Dichlorobenzene	146	13.306	13.306	0.000	98	180895	50.0	37.5	
122 1,2-Dibromo-3-Chloropropan	75	14.097	14.097	0.000	88	15824	50.0	41.8	
126 1,2,4-Trichlorobenzene	180	14.918	14.918	0.000	91	62869	50.0	38.1	
127 Hexachlorobutadiene	225	15.058	15.058	0.000	91	49816	50.0	49.1	
128 Naphthalene	128	15.186	15.186	0.000	95	121803	50.0	40.5	
129 1,2,3-Trichlorobenzene	180	15.423	15.423	0.000	95	51715	50.0	39.4	
S 133 Xylenes, Total	106				0		100.0	92.7	
S 154 Total BTEX	106				0		250.0	235.8	
S 134 1,2-Dichloroethene, Total	96				0		100.0	103.0	
S 135 1,3-Dichloropropene, Total	1				0		100.0	87.6	

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00376	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVE2ND_00028	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

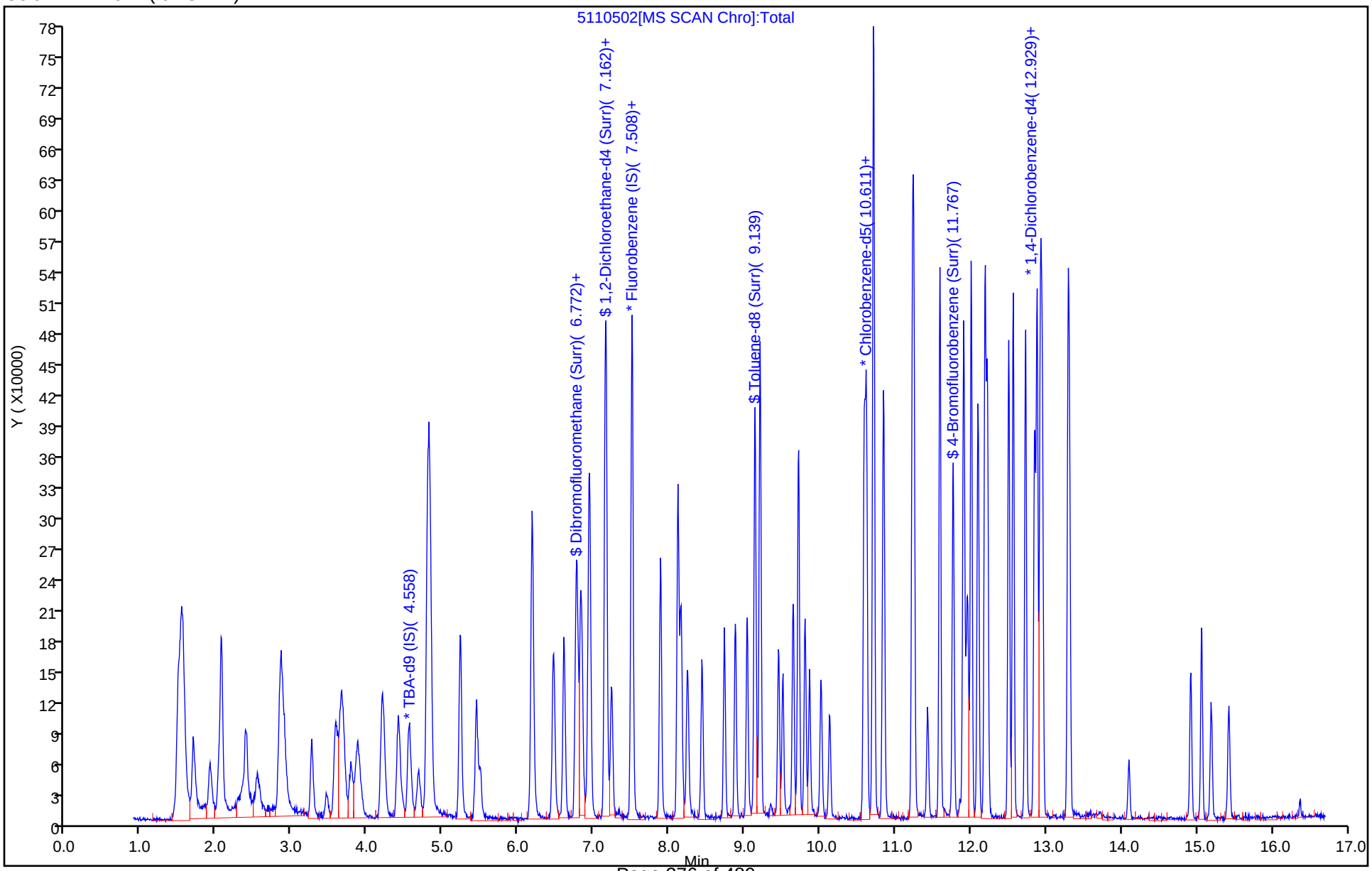
Report Date: 06-Nov-2019 09:31:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110502.D

Injection Date:	05-Nov-2019 12:46:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297107/2 Calibration Date: 11/05/2019 12:46

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110502.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3987	0.3887	0.1000	9.75	10.0	-2.5	20.0
Chloromethane	Ave	0.3634	0.2897	0.1000	7.97	10.0	-20.3*	20.0
Vinyl chloride	Ave	0.3673	0.3208	0.1000	8.73	10.0	-12.7	20.0
1,3-Butadiene	Ave	0.3545	0.2976	0.0100	8.40	10.0	-16.0	20.0
Bromomethane	Ave	0.2313	0.2215	0.0500	9.58	10.0	-4.2	20.0
Chloroethane	Ave	0.2273	0.2067	0.0500	9.09	10.0	-9.1	20.0
Dichlorofluoromethane	Ave	0.5643	0.5274	0.0100	9.35	10.0	-6.5	20.0
Trichlorofluoromethane	Ave	0.5488	0.5868	0.1000	10.7	10.0	6.9	20.0
Ethyl ether	Ave	0.2553	0.2008	0.0100	7.86	10.0	-21.4*	20.0
Acrolein	Ave	0.0425	0.0325	0.0100	23.0	30.0	-23.5*	20.0
1,1-Dichloroethene	Ave	0.2474	0.2624	0.1000	10.6	10.0	6.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2928	0.2958	0.1000	10.1	10.0	1.0	20.0
Acetone	Ave	0.1193	0.1025	0.0500	17.2	20.0	-14.0	20.0
Iodomethane	Ave	0.4430	0.4578	0.0100	10.3	10.0	3.3	20.0
Carbon disulfide	Ave	0.6958	0.7440	0.1000	10.7	10.0	6.9	20.0
Allyl chloride	Ave	0.1463	0.1357	0.0100	9.28	10.0	-7.2	20.0
Methyl acetate	Ave	0.2225	0.1818	0.1000	16.3	20.0	-18.3	20.0
Methylene Chloride	Lin2		0.3127	0.1000	8.81	10.0	-11.9	20.0
tert-Butyl alcohol	Ave	1.163	0.9017	0.0100	77.5	100	-22.5*	20.0
Acrylonitrile	Ave	0.1126	0.0961	0.0100	85.4	100	-14.6	20.0
trans-1,2-Dichloroethene	Ave	0.2820	0.2946	0.1000	10.4	10.0	4.5	20.0
Methyl tert-butyl ether	Ave	0.7433	0.6523	0.1000	8.78	10.0	-12.2	20.0
Hexane	Ave	0.4292	0.3418	0.0100	7.96	10.0	-20.4*	20.0
1,1-Dichloroethane	Ave	0.4875	0.4626	0.2000	9.49	10.0	-5.1	20.0
Vinyl acetate	Ave	0.4623	0.2758	0.0100	5.97	10.0	-40.3*	20.0
2,2-Dichloropropane	Ave	0.0708	0.0660	0.0100	9.32	10.0	-6.8	20.0
cis-1,2-Dichloroethene	Ave	0.3088	0.3133	0.1000	10.1	10.0	1.5	20.0
2-Butanone (MEK)	Ave	0.1394	0.1072	0.0500	15.4	20.0	-23.1*	20.0
Bromochloromethane	Ave	0.1603	0.1640	0.0100	10.2	10.0	2.3	20.0
Tetrahydrofuran	Ave	0.0844	0.0704	0.0100	16.7	20.0	-16.5	20.0
Chloroform	Ave	0.5313	0.5310	0.2000	9.99	10.0	-0.0	20.0
1,1,1-Trichloroethane	Ave	0.4348	0.5089	0.1000	11.7	10.0	17.0	20.0
Cyclohexane	Ave	0.5049	0.4103	0.1000	8.13	10.0	-18.7	20.0
Carbon tetrachloride	Ave	0.3992	0.4675	0.1000	11.7	10.0	17.1	20.0
1,1-Dichloropropene	Ave	0.3977	0.3709	0.0100	9.33	10.0	-6.7	20.0
Isobutyl alcohol	Ave	0.0094	0.0077*	0.0100	206	250	-17.4	20.0
Benzene	Ave	1.185	1.145	0.5000	9.66	10.0	-3.4	20.0
1,2-Dichloroethane	Ave	0.4197	0.4072	0.1000	9.70	10.0	-3.0	20.0
n-Heptane	Ave	0.3473	0.2714	0.0100	7.81	10.0	-21.9*	20.0
Trichloroethene	Ave	0.3241	0.3380	0.2000	10.4	10.0	4.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297107/2 Calibration Date: 11/05/2019 12:46

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110502.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4955	0.4013	0.1000	8.10	10.0	-19.0	20.0
1,2-Dichloropropane	Ave	0.2792	0.2401	0.1000	8.60	10.0	-14.0	20.0
1,4-Dioxane	Ave	0.0024	0.0016*	0.0100	134	200	-32.8*	20.0
Dibromomethane	Ave	0.1691	0.1627	0.0100	9.62	10.0	-3.8	20.0
Bromodichloromethane	Ave	0.3537	0.3595	0.2000	10.2	10.0	1.6	20.0
cis-1,3-Dichloropropene	Ave	0.4005	0.3848	0.2000	9.61	10.0	-3.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.996	0.7523	0.1000	15.1	20.0	-24.5*	20.0
Toluene	Ave	5.061	4.858	0.4000	9.60	10.0	-4.0	20.0
trans-1,3-Dichloropropene	Ave	1.567	1.241	0.1000	7.92	10.0	-20.8*	20.0
Ethyl methacrylate	Lin1		0.9947	0.0100	7.59	10.0	-24.1*	20.0
1,1,2-Trichloroethane	Ave	1.056	0.9561	0.1000	9.05	10.0	-9.5	20.0
Tetrachloroethene	Ave	1.209	1.313	0.2000	10.9	10.0	8.7	20.0
1,3-Dichloropropane	Ave	1.830	1.567	0.0100	8.56	10.0	-14.4	20.0
2-Hexanone	Ave	0.6756	0.5607	0.1000	16.6	20.0	-17.0	20.0
Dibromochloromethane	Ave	1.120	1.090	0.1000	9.73	10.0	-2.7	20.0
1,2-Dibromoethane (EDB)	Ave	1.025	0.9926	0.1000	9.69	10.0	-3.1	20.0
Chlorobenzene	Ave	3.427	3.200	0.5000	9.34	10.0	-6.6	20.0
1,1,1,2-Tetrachloroethane	Ave	1.204	1.182	0.0100	9.82	10.0	-1.8	20.0
Ethylbenzene	Ave	1.765	1.652	0.1000	9.36	10.0	-6.4	20.0
m-Xylene & p-Xylene	Ave	2.174	2.021	0.1000	9.30	10.0	-7.0	20.0
o-Xylene	Ave	2.061	1.904	0.3000	9.24	10.0	-7.6	20.0
Styrene	Ave	3.527	3.293	0.3000	9.34	10.0	-6.6	20.0
Bromoform	Ave	0.7467	0.7523	0.1000	10.1	10.0	0.7	20.0
Isopropylbenzene	Ave	5.474	4.713	0.1000	8.61	10.0	-13.9	20.0
1,1,2,2-Tetrachloroethane	Ave	1.332	1.104	0.3000	8.29	10.0	-17.1	20.0
Bromobenzene	Ave	0.8499	0.7455	0.0100	8.77	10.0	-12.3	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2384	0.1674	0.0100	7.02	10.0	-29.8*	20.0
1,2,3-Trichloropropane	Ave	0.2684	0.2314	0.0100	8.62	10.0	-13.8	20.0
N-Propylbenzene	Ave	0.8850	0.7352	0.0100	8.31	10.0	-16.9	20.0
2-Chlorotoluene	Ave	0.7575	0.6244	0.0100	8.24	10.0	-17.6	20.0
1,3,5-Trimethylbenzene	Lin2		1.984	0.0100	7.71	10.0	-22.9*	20.0
4-Chlorotoluene	Ave	0.8058	0.6484	0.0100	8.05	10.0	-19.5	20.0
tert-Butylbenzene	Lin2		1.596	0.0100	7.45	10.0	-25.5*	20.0
1,2,4-Trimethylbenzene	Lin2		2.049	0.0100	7.90	10.0	-21.0*	20.0
sec-Butylbenzene	Lin2		2.167	0.0100	7.21	10.0	-27.9*	20.0
1,3-Dichlorobenzene	Ave	1.569	1.253	0.6000	7.99	10.0	-20.1*	20.0
4-Isopropyltoluene	Lin2		1.987	0.0100	7.48	10.0	-25.2*	20.0
1,4-Dichlorobenzene	Ave	1.616	1.307	0.5000	8.09	10.0	-19.1	20.0
n-Butylbenzene	Lin1		1.334	0.0100	6.45	10.0	-35.5*	20.0
1,2-Dichlorobenzene	Ave	1.474	1.107	0.4000	7.51	10.0	-24.9*	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1157	0.0968	0.0500	8.37	10.0	-16.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297107/2 Calibration Date: 11/05/2019 12:46

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110502.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	0.5052	0.3848	0.2000	7.62	10.0	-23.8*	20.0
Hexachlorobutadiene	Ave	0.3106	0.3049	0.0100	9.82	10.0	-1.8	20.0
Naphthalene	Qua		0.7454	0.0100	8.10	10.0	-19.0	20.0
1,2,3-Trichlorobenzene	Ave	0.4015	0.3165	0.0100	7.88	10.0	-21.2*	20.0
Dibromofluoromethane (Surr)	Ave	0.2485	0.2769		11.1	10.0	11.4	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3395	0.3455		10.2	10.0	1.7	20.0
Toluene-d8 (Surr)	Ave	4.002	3.825		9.56	10.0	-4.4	20.0
4-Bromofluorobenzene (Surr)	Ave	1.484	1.530		10.3	10.0	3.1	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110502.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 05-Nov-2019 12:46:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-002
Misc. Info.: CCVIS
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub142

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:31:57 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:31:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.552	4.552	0.000	0	141764	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.508	7.508	0.000	98	304600	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.587	10.587	0.000	84	80404	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.923	12.923	0.000	92	163398	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.785	6.785	0.000	95	84327	50.0	55.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.150	0.000	0	105229	50.0	50.9	
$ 7 Toluene-d8 (Surr)	98	9.139	9.139	0.000	94	307576	50.0	47.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.767	11.767	0.000	96	123035	50.0	51.5	
11 Dichlorodifluoromethane	85	1.693	1.693	0.000	99	118395	50.0	48.7	
12 Chloromethane	50	1.918	1.918	0.000	99	88248	50.0	39.9	
13 Vinyl chloride	62	2.033	2.033	0.000	97	97702	50.0	43.7	
14 Butadiene	39	2.064	2.064	0.000	94	90655	50.0	42.0	
15 Bromomethane	94	2.380	2.380	0.000	92	67478	50.0	47.9	
16 Chloroethane	64	2.538	2.538	0.000	99	62970	50.0	45.5	
17 Dichlorofluoromethane	67	2.855	2.855	0.000	98	160653	50.0	46.7	
18 Trichlorofluoromethane	101	2.867	2.867	0.000	92	178732	50.0	53.5	
20 Ethyl ether	59	3.262	3.262	0.000	87	61156	50.0	39.3	
21 Acrolein	56	3.457	3.457	0.000	97	29722	150.0	114.8	
22 1,1-Dichloroethene	96	3.579	3.579	0.000	98	79914	50.0	53.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.658	3.658	0.000	87	90103	50.0	50.5	
24 Acetone	43	3.688	3.688	0.000	98	62456	100.0	86.0	
25 Iodomethane	142	3.779	3.779	0.000	96	139445	50.0	51.7	
26 Carbon disulfide	76	3.871	3.871	0.000	99	226607	50.0	53.5	
28 3-Chloro-1-propene	76	4.193	4.193	0.000	87	41330	50.0	46.4	
30 Methyl acetate	43	4.223	4.223	0.000	96	110759	100.0	81.7	
31 Methylene Chloride	84	4.406	4.406	0.000	87	95247	50.0	44.0	
32 2-Methyl-2-propanol	59	4.680	4.680	0.000	93	63913	500.0	387.7	
33 Acrylonitrile	53	4.795	4.795	0.000	100	292780	500.0	426.9	
34 trans-1,2-Dichloroethene	96	4.813	4.813	0.000	98	89746	50.0	52.2	
35 Methyl tert-butyl ether	73	4.832	4.832	0.000	96	198695	50.0	43.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.233	5.233	0.000	92	104104	50.0	39.8	
37 1,1-Dichloroethane	63	5.446	5.446	0.000	97	140918	50.0	47.5	
38 Vinyl acetate	43	5.495	5.495	0.000	97	84016	50.0	29.8	
44 2,2-Dichloropropane	97	6.182	6.182	0.000	64	20105	50.0	46.6	
45 cis-1,2-Dichloroethene	96	6.182	6.182	0.000	82	95439	50.0	50.7	
46 2-Butanone (MEK)	43	6.201	6.201	0.000	98	65275	100.0	76.9	
49 Chlorobromomethane	128	6.468	6.468	0.000	85	49963	50.0	51.2	
51 Tetrahydrofuran	42	6.474	6.474	0.000	88	42904	100.0	83.5	
52 Chloroform	83	6.602	6.602	0.000	94	161743	50.0	50.0	
53 1,1,1-Trichloroethane	97	6.766	6.766	0.000	96	155003	50.0	58.5	
54 Cyclohexane	56	6.833	6.833	0.000	89	124972	50.0	40.6	
56 Carbon tetrachloride	117	6.937	6.937	0.000	98	142389	50.0	58.5	
55 1,1-Dichloropropene	75	6.949	6.949	0.000	94	112986	50.0	46.6	
57 Isobutyl alcohol	41	7.156	7.156	0.000	81	58800	1250.0	1032.1	
58 Benzene	78	7.162	7.162	0.000	97	348672	50.0	48.3	
59 1,2-Dichloroethane	62	7.241	7.241	0.000	99	124030	50.0	48.5	
62 n-Heptane	43	7.515	7.515	0.000	89	82658	50.0	39.1	
64 Trichloroethene	130	7.886	7.886	0.000	95	102946	50.0	52.1	
66 Methylcyclohexane	83	8.117	8.117	0.000	90	122242	50.0	40.5	
67 1,2-Dichloropropane	63	8.159	8.159	0.000	91	73125	50.0	43.0	
70 1,4-Dioxane	88	8.232	8.232	0.000	33	9811	1000.0	672.0	
68 Dibromomethane	93	8.238	8.238	0.000	85	49547	50.0	48.1	
71 Dichlorobromomethane	83	8.433	8.433	0.000	99	109512	50.0	50.8	
73 2-Chloroethyl vinyl ether	63	8.731	8.731	0.000	94	80030	100.0	71.9	
74 cis-1,3-Dichloropropene	75	8.877	8.877	0.000	93	117202	50.0	48.0	
75 4-Methyl-2-pentanone (MIBK	43	9.035	9.035	0.000	94	120981	100.0	75.5	
76 Toluene	91	9.206	9.206	0.000	98	390631	50.0	48.0	
77 trans-1,3-Dichloropropene	75	9.449	9.449	0.000	95	99794	50.0	39.6	
78 Ethyl methacrylate	69	9.510	9.510	0.000	87	79980	50.0	37.9	
79 1,1,2-Trichloroethane	97	9.644	9.644	0.000	90	76874	50.0	45.3	
80 Tetrachloroethene	164	9.717	9.717	0.000	96	105606	50.0	54.3	
81 1,3-Dichloropropane	76	9.802	9.802	0.000	90	125987	50.0	42.8	
82 2-Hexanone	43	9.863	9.863	0.000	94	90164	100.0	83.0	
84 Chlorodibromomethane	129	10.015	10.015	0.000	88	87622	50.0	48.6	
85 Ethylene Dibromide	107	10.130	10.130	0.000	95	79808	50.0	48.4	
87 Chlorobenzene	112	10.617	10.617	0.000	96	257254	50.0	46.7	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.702	0.000	91	95067	50.0	49.1	
90 Ethylbenzene	106	10.714	10.714	0.000	98	132831	50.0	46.8	
91 m-Xylene & p-Xylene	106	10.842	10.842	0.000	0	162506	50.0	46.5	
92 o-Xylene	106	11.225	11.225	0.000	96	153067	50.0	46.2	
93 Styrene	104	11.244	11.244	0.000	93	264757	50.0	46.7	
94 Bromoform	173	11.426	11.426	0.000	96	60488	50.0	50.4	
97 Isopropylbenzene	105	11.590	11.590	0.000	95	378913	50.0	43.0	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.901	0.000	81	88770	50.0	41.4	
100 Bromobenzene	156	11.907	11.907	0.000	85	121815	50.0	43.9	
102 trans-1,4-Dichloro-2-buten	53	11.943	11.943	0.000	86	27345	50.0	35.1	
101 1,2,3-Trichloropropane	110	11.962	11.962	0.000	86	37814	50.0	43.1	
103 N-Propylbenzene	120	12.004	12.004	0.000	98	120133	50.0	41.5	
104 2-Chlorotoluene	126	12.095	12.095	0.000	97	102031	50.0	41.2	
106 1,3,5-Trimethylbenzene	105	12.187	12.187	0.000	94	324116	50.0	38.6	
107 4-Chlorotoluene	126	12.223	12.223	0.000	95	105942	50.0	40.2	
108 tert-Butylbenzene	119	12.503	12.503	0.000	92	260729	50.0	37.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 1,2,4-Trimethylbenzene	105	12.564	12.564	0.000	97	334868	50.0	39.5	
112 sec-Butylbenzene	105	12.728	12.728	0.000	94	354053	50.0	36.0	
113 1,3-Dichlorobenzene	146	12.844	12.844	0.000	97	204771	50.0	39.9	
114 4-Isopropyltoluene	119	12.880	12.880	0.000	96	324668	50.0	37.4	
115 1,4-Dichlorobenzene	146	12.947	12.947	0.000	95	213537	50.0	40.4	
120 n-Butylbenzene	91	13.288	13.288	0.000	97	218031	50.0	32.3	
121 1,2-Dichlorobenzene	146	13.306	13.306	0.000	98	180895	50.0	37.5	
122 1,2-Dibromo-3-Chloropropan	75	14.097	14.097	0.000	88	15824	50.0	41.8	
126 1,2,4-Trichlorobenzene	180	14.918	14.918	0.000	91	62869	50.0	38.1	
127 Hexachlorobutadiene	225	15.058	15.058	0.000	91	49816	50.0	49.1	
128 Naphthalene	128	15.186	15.186	0.000	95	121803	50.0	40.5	
129 1,2,3-Trichlorobenzene	180	15.423	15.423	0.000	95	51715	50.0	39.4	
S 133 Xylenes, Total	106				0		100.0	92.7	
S 154 Total BTEX	106				0		250.0	235.8	
S 134 1,2-Dichloroethene, Total	96				0		100.0	103.0	
S 135 1,3-Dichloropropene, Total	1				0		100.0	87.6	

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00376	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVE2ND_00028	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

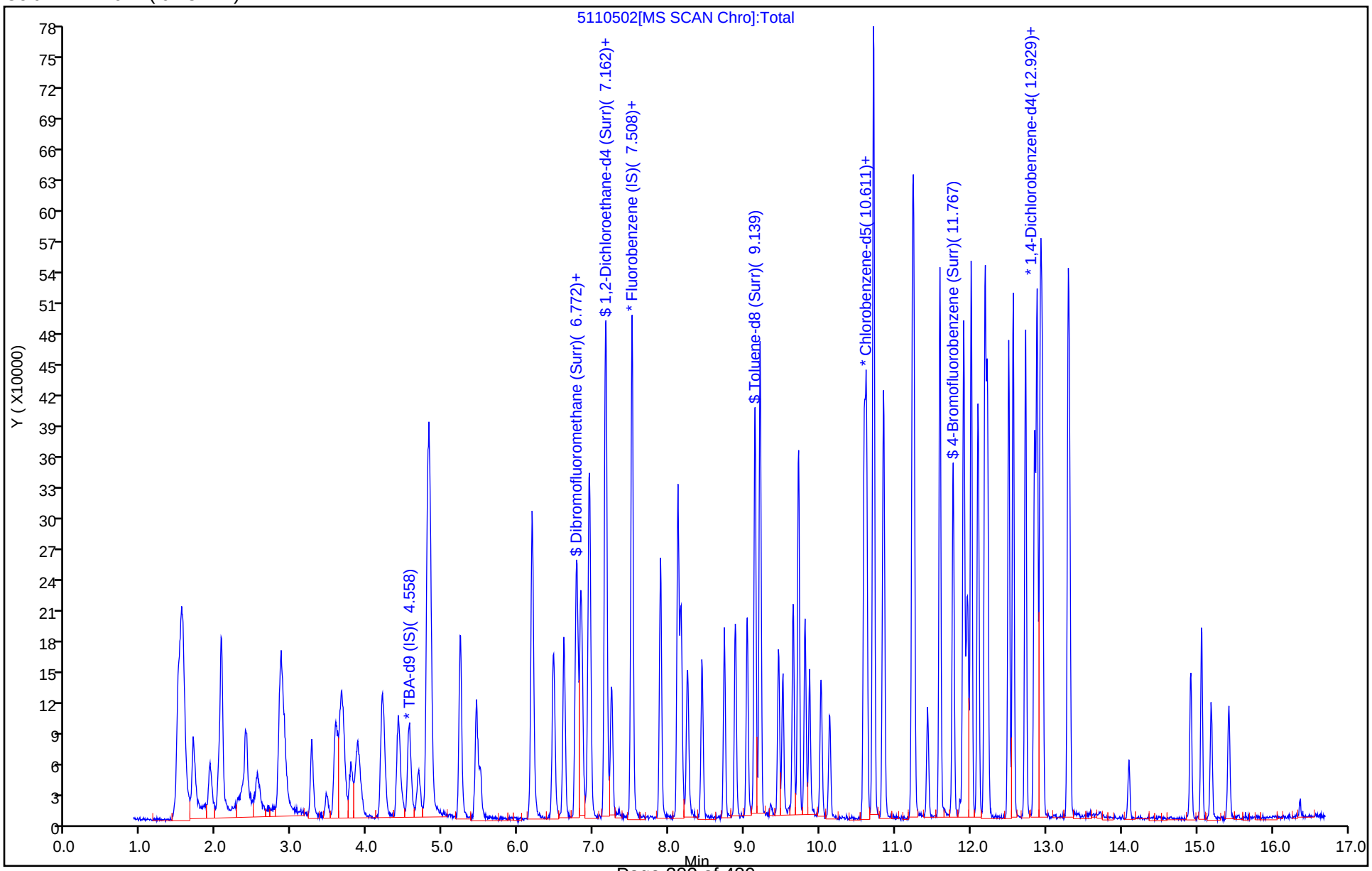
Report Date: 06-Nov-2019 09:31:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110502.D

Injection Date:	05-Nov-2019 12:46:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297240/3 Calibration Date: 11/06/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 07/25/2019 16:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/25/2019 18:59

Lab File ID: 5110603.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Ave	0.1827	0.1354	0.0100	14.8	20.0	-25.9*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110603.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 06-Nov-2019 10:08:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-003
Misc. Info.: CCVIS
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub142

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:07:58 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:07:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.538	0.000	0	121813	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.500	0.000	98	294967	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	83	76787	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	91	132493	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.000	94	76396	50.0	52.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	101816	50.0	50.8	
$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	92	295029	50.0	48.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	97	105662	50.0	46.4	
11 Dichlorodifluoromethane	85	1.697	1.697	0.000	99	123082	50.0	52.3	
12 Chloromethane	50	1.916	1.916	0.000	100	91486	50.0	42.7	
13 Vinyl chloride	62	2.037	2.037	0.000	99	98738	50.0	45.6	
14 Butadiene	39	2.074	2.074	0.000	91	95689	50.0	45.8	
15 Bromomethane	94	2.427	2.427	0.000	90	71174	50.0	52.2	M
16 Chloroethane	64	2.561	2.561	0.000	99	63616	50.0	47.4	
17 Dichlorofluoromethane	67	2.859	2.859	0.000	97	163441	50.0	49.1	
18 Trichlorofluoromethane	101	2.883	2.883	0.000	95	183702	50.0	56.7	M
20 Ethyl ether	59	3.254	3.254	0.000	89	66209	50.0	44.0	
21 Acrolein	56	3.455	3.455	0.000	95	28421	150.0	113.4	
22 1,1-Dichloroethene	96	3.583	3.583	0.000	99	82161	50.0	56.3	
23 1,1,2-Trichloro-1,2,2-trif	101	3.680	3.680	0.000	86	92250	50.0	53.4	
24 Acetone	43	3.692	3.692	0.000	99	76839	100.0	109.2	
25 Iodomethane	142	3.783	3.783	0.000	99	150593	50.0	57.6	
26 Carbon disulfide	76	3.875	3.875	0.000	99	216526	50.0	52.8	
28 3-Chloro-1-propene	76	4.197	4.197	0.000	92	46353	50.0	53.7	
30 Methyl acetate	43	4.215	4.215	0.000	98	117058	100.0	89.2	
31 Methylene Chloride	84	4.410	4.410	0.000	89	91706	50.0	43.7	
32 2-Methyl-2-propanol	59	4.678	4.678	0.000	94	55694	500.0	393.2	
33 Acrylonitrile	53	4.793	4.793	0.000	98	292909	500.0	441.0	
34 trans-1,2-Dichloroethene	96	4.818	4.818	0.000	94	91431	50.0	55.0	
35 Methyl tert-butyl ether	73	4.842	4.842	0.000	98	210838	50.0	48.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.231	5.231	0.000	93	107400	50.0	42.4	
37 1,1-Dichloroethane	63	5.444	5.444	0.000	96	142176	50.0	49.4	
38 Vinyl acetate	43	5.493	5.493	0.000	98	84690	50.0	31.1	
44 2,2-Dichloropropane	97	6.180	6.180	0.000	69	22482	50.0	53.8	
45 cis-1,2-Dichloroethene	96	6.186	6.186	0.000	84	96359	50.0	52.9	
46 2-Butanone (MEK)	43	6.198	6.198	0.000	99	85994	100.0	104.6	
49 Chlorobromomethane	128	6.460	6.460	0.000	84	49031	50.0	51.9	
51 Tetrahydrofuran	42	6.466	6.466	0.000	78	36282	100.0	72.9	
52 Chloroform	83	6.600	6.600	0.000	93	164595	50.0	52.5	
53 1,1,1-Trichloroethane	97	6.764	6.764	0.000	98	150496	50.0	58.7	
54 Cyclohexane	56	6.831	6.831	0.000	86	125041	50.0	42.0	
56 Carbon tetrachloride	117	6.935	6.935	0.000	97	145918	50.0	62.0	
55 1,1-Dichloropropene	75	6.953	6.953	0.000	95	113730	50.0	48.5	
57 Isobutyl alcohol	41	7.154	7.154	0.000	92	58011	1250.0	1051.5	
58 Benzene	78	7.160	7.160	0.000	97	356077	50.0	50.9	
59 1,2-Dichloroethane	62	7.239	7.239	0.000	99	125904	50.0	50.9	
62 n-Heptane	43	7.513	7.513	0.000	87	87983	50.0	42.9	
64 Trichloroethene	130	7.884	7.884	0.000	92	108898	50.0	57.0	
66 Methylcyclohexane	83	8.115	8.115	0.000	87	132732	50.0	45.4	
67 1,2-Dichloropropane	63	8.151	8.151	0.000	92	76757	50.0	46.6	
70 1,4-Dioxane	88	8.236	8.236	0.000	32	10516	1000.0	743.9	
68 Dibromomethane	93	8.243	8.243	0.000	84	53064	50.0	53.2	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	111843	50.0	53.6	
73 2-Chloroethyl vinyl ether	63	8.729	8.729	0.000	97	79885	100.0	74.1	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	95	116473	50.0	49.3	
75 4-Methyl-2-pentanone (MIBK	43	9.027	9.027	0.000	95	124874	100.0	81.6	
76 Toluene	91	9.204	9.204	0.000	99	384980	50.0	49.5	
77 trans-1,3-Dichloropropene	75	9.447	9.447	0.000	92	99268	50.0	41.2	
78 Ethyl methacrylate	69	9.502	9.502	0.000	86	79903	50.0	39.5	
79 1,1,2-Trichloroethane	97	9.636	9.636	0.000	91	80713	50.0	49.8	
80 Tetrachloroethene	164	9.715	9.715	0.000	95	103701	50.0	55.9	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	91	126963	50.0	45.2	
82 2-Hexanone	43	9.861	9.861	0.000	96	105908	100.0	102.1	
84 Chlorodibromomethane	129	10.007	10.007	0.000	88	89217	50.0	51.9	
85 Ethylene Dibromide	107	10.128	10.128	0.000	98	79546	50.0	50.6	
87 Chlorobenzene	112	10.615	10.615	0.000	96	249824	50.0	47.5	
89 1,1,1,2-Tetrachloroethane	131	10.706	10.706	0.000	92	98826	50.0	53.4	
90 Ethylbenzene	106	10.706	10.706	0.000	98	130778	50.0	48.3	
91 m-Xylene & p-Xylene	106	10.840	10.840	0.000	0	159833	50.0	47.9	
92 o-Xylene	106	11.223	11.223	0.000	96	145008	50.0	45.8	
93 Styrene	104	11.242	11.242	0.000	93	251055	50.0	46.3	
94 Bromoform	173	11.418	11.418	0.000	98	57930	50.0	50.5	
97 Isopropylbenzene	105	11.588	11.588	0.000	95	373996	50.0	44.5	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	81	83296	50.0	40.7	
100 Bromobenzene	156	11.911	11.911	0.000	86	111866	50.0	49.7	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	78	20650	50.0	32.7	
101 1,2,3-Trichloropropane	110	11.953	11.953	0.000	82	34231	50.0	48.1	
103 N-Propylbenzene	120	12.002	12.002	0.000	98	110953	50.0	47.3	
104 2-Chlorotoluene	126	12.093	12.093	0.000	97	90416	50.0	45.0	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	94	297810	50.0	43.4	
107 4-Chlorotoluene	126	12.215	12.215	0.000	96	102611	50.0	48.1	
108 tert-Butylbenzene	119	12.501	12.501	0.000	92	232683	50.0	40.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	97	289008	50.0	41.9	
112 sec-Butylbenzene	105	12.726	12.726	0.000	94	318140	50.0	39.7	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	171096	50.0	41.1	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	96	273778	50.0	38.8	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	96	183648	50.0	42.9	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	175009	50.0	32.0	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	99	149319	50.0	38.2	
122 1,2-Dibromo-3-Chloropropan	75	14.095	14.095	0.000	88	11958	50.0	39.0	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	92	37266	50.0	27.8	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	90	32401	50.0	39.4	
128 Naphthalene	128	15.184	15.184	0.000	96	71501	50.0	30.9	
129 1,2,3-Trichlorobenzene	180	15.421	15.421	0.000	91	28625	50.0	26.9	
S 134 1,2-Dichloroethene, Total	96				0		100.0	107.9	
S 154 Total BTEX	106				0		250.0	242.4	
S 133 Xylenes, Total	106				0		100.0	93.7	
S 135 1,3-Dichloropropene, Total	1				0		100.0	90.5	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00376	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVE2ND_00028	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

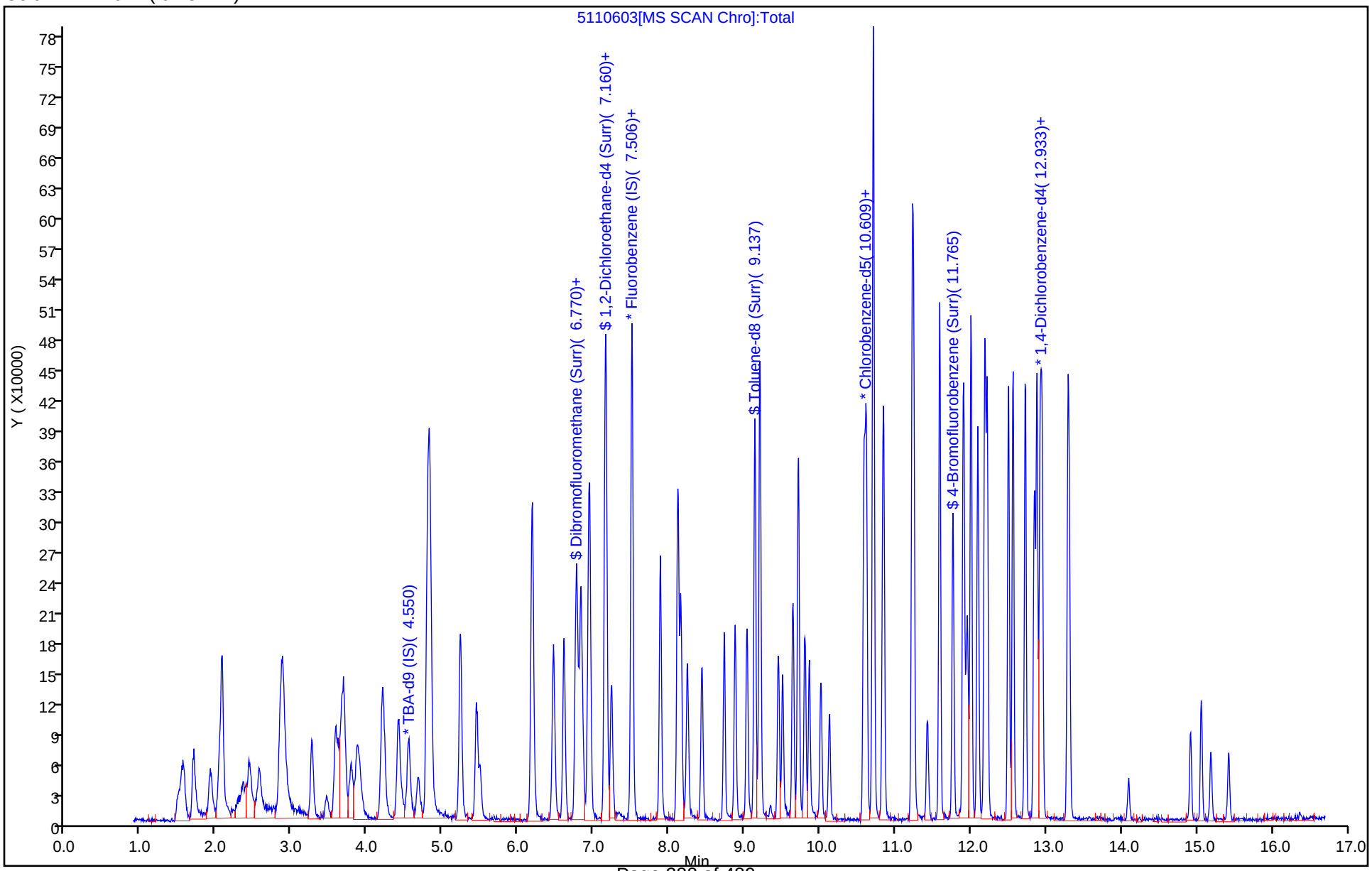
Report Date: 07-Nov-2019 09:07:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110603.D

Injection Date:	06-Nov-2019 10:08:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297240/3 Calibration Date: 11/06/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110603.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3987	0.4173	0.1000	10.5	10.0	4.6	20.0
Chloromethane	Ave	0.3634	0.3102	0.1000	8.54	10.0	-14.6	20.0
Vinyl chloride	Ave	0.3673	0.3347	0.1000	9.11	10.0	-8.9	20.0
1,3-Butadiene	Ave	0.3545	0.3244	0.0100	9.15	10.0	-8.5	20.0
Bromomethane	Ave	0.2313	0.2413	0.0500	10.4	10.0	4.3	20.0
Chloroethane	Ave	0.2273	0.2157	0.0500	9.49	10.0	-5.1	20.0
Dichlorofluoromethane	Ave	0.5643	0.5541	0.0100	9.82	10.0	-1.8	20.0
Trichlorofluoromethane	Ave	0.5488	0.6228	0.1000	11.3	10.0	13.5	20.0
Ethyl ether	Ave	0.2553	0.2245	0.0100	8.79	10.0	-12.1	20.0
Acrolein	Ave	0.0425	0.0321	0.0100	22.7	30.0	-24.4*	20.0
1,1-Dichloroethene	Ave	0.2474	0.2785	0.1000	11.3	10.0	12.6	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2928	0.3128	0.1000	10.7	10.0	6.8	20.0
Acetone	Ave	0.1193	0.1303	0.0500	21.8	20.0	9.2	20.0
Iodomethane	Ave	0.4430	0.5105	0.0100	11.5	10.0	15.2	20.0
Carbon disulfide	Ave	0.6958	0.7341	0.1000	10.6	10.0	5.5	20.0
Allyl chloride	Ave	0.1463	0.1572	0.0100	10.7	10.0	7.4	20.0
Methyl acetate	Ave	0.2225	0.1984	0.1000	17.8	20.0	-10.8	20.0
Methylene Chloride	Lin2		0.3109	0.1000	8.75	10.0	-12.5	20.0
tert-Butyl alcohol	Ave	1.163	0.9144	0.0100	78.6	100	-21.4*	20.0
Acrylonitrile	Ave	0.1126	0.0993	0.0100	88.2	100	-11.8	20.0
trans-1,2-Dichloroethene	Ave	0.2820	0.3100	0.1000	11.0	10.0	9.9	20.0
Methyl tert-butyl ether	Ave	0.7433	0.7148	0.1000	9.62	10.0	-3.8	20.0
Hexane	Ave	0.4292	0.3641	0.0100	8.48	10.0	-15.2	20.0
1,1-Dichloroethane	Ave	0.4875	0.4820	0.2000	9.89	10.0	-1.1	20.0
Vinyl acetate	Ave	0.4623	0.2871	0.0100	6.21	10.0	-37.9*	20.0
2,2-Dichloropropane	Ave	0.0708	0.0762	0.0100	10.8	10.0	7.7	20.0
cis-1,2-Dichloroethene	Ave	0.3088	0.3267	0.1000	10.6	10.0	5.8	20.0
2-Butanone (MEK)	Ave	0.1394	0.1458	0.0500	20.9	20.0	4.6	20.0
Bromochloromethane	Ave	0.1603	0.1662	0.0100	10.4	10.0	3.7	20.0
Tetrahydrofuran	Ave	0.0844	0.0615	0.0100	14.6	20.0	-27.1*	20.0
Chloroform	Ave	0.5313	0.5580	0.2000	10.5	10.0	5.0	20.0
1,1,1-Trichloroethane	Ave	0.4348	0.5102	0.1000	11.7	10.0	17.3	20.0
Cyclohexane	Ave	0.5049	0.4239	0.1000	8.40	10.0	-16.0	20.0
Carbon tetrachloride	Ave	0.3992	0.4947	0.1000	12.4	10.0	23.9*	20.0
1,1-Dichloropropene	Ave	0.3977	0.3856	0.0100	9.70	10.0	-3.0	20.0
Isobutyl alcohol	Ave	0.0094	0.0079*	0.0100	210	250	-15.9	20.0
Benzene	Ave	1.185	1.207	0.5000	10.2	10.0	1.9	20.0
1,2-Dichloroethane	Ave	0.4197	0.4268	0.1000	10.2	10.0	1.7	20.0
n-Heptane	Ave	0.3473	0.2983	0.0100	8.59	10.0	-14.1	20.0
Trichloroethene	Ave	0.3241	0.3692	0.2000	11.4	10.0	13.9	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297240/3 Calibration Date: 11/06/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110603.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4955	0.4500	0.1000	9.08	10.0	-9.2	20.0
1,2-Dichloropropane	Ave	0.2792	0.2602	0.1000	9.32	10.0	-6.8	20.0
1,4-Dioxane	Ave	0.0024	0.0018*	0.0100	149	200	-25.6*	20.0
Dibromomethane	Ave	0.1691	0.1799	0.0100	10.6	10.0	6.4	20.0
Bromodichloromethane	Ave	0.3537	0.3792	0.2000	10.7	10.0	7.2	20.0
cis-1,3-Dichloropropene	Ave	0.4005	0.3949	0.2000	9.86	10.0	-1.4	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.996	0.8131	0.1000	16.3	20.0	-18.4	20.0
Toluene	Ave	5.061	5.014	0.4000	9.91	10.0	-0.9	20.0
trans-1,3-Dichloropropene	Ave	1.567	1.293	0.1000	8.25	10.0	-17.5	20.0
Ethyl methacrylate	Lin1		1.041	0.0100	7.91	10.0	-20.9*	20.0
1,1,2-Trichloroethane	Ave	1.056	1.051	0.1000	9.95	10.0	-0.5	20.0
Tetrachloroethene	Ave	1.209	1.351	0.2000	11.2	10.0	11.7	20.0
1,3-Dichloropropane	Ave	1.830	1.653	0.0100	9.04	10.0	-9.6	20.0
2-Hexanone	Ave	0.6756	0.6896	0.1000	20.4	20.0	2.1	20.0
Dibromochloromethane	Ave	1.120	1.162	0.1000	10.4	10.0	3.7	20.0
1,2-Dibromoethane (EDB)	Ave	1.025	1.036	0.1000	10.1	10.0	1.1	20.0
Chlorobenzene	Ave	3.427	3.253	0.5000	9.49	10.0	-5.1	20.0
1,1,1,2-Tetrachloroethane	Ave	1.204	1.287	0.0100	10.7	10.0	6.9	20.0
Ethylbenzene	Ave	1.765	1.703	0.1000	9.65	10.0	-3.5	20.0
m-Xylene & p-Xylene	Ave	2.174	2.082	0.1000	9.58	10.0	-4.2	20.0
o-Xylene	Ave	2.061	1.888	0.3000	9.16	10.0	-8.4	20.0
Styrene	Ave	3.527	3.270	0.3000	9.27	10.0	-7.3	20.0
Bromoform	Ave	0.7467	0.7544	0.1000	10.1	10.0	1.0	20.0
Isopropylbenzene	Ave	5.474	4.871	0.1000	8.90	10.0	-11.0	20.0
1,1,2,2-Tetrachloroethane	Ave	1.332	1.085	0.3000	8.14	10.0	-18.6	20.0
Bromobenzene	Ave	0.8499	0.8443	0.0100	9.93	10.0	-0.7	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2384	0.1559	0.0100	6.54	10.0	-34.6*	20.0
1,2,3-Trichloropropane	Ave	0.2684	0.2584	0.0100	9.63	10.0	-3.7	20.0
N-Propylbenzene	Ave	0.8850	0.8374	0.0100	9.46	10.0	-5.4	20.0
2-Chlorotoluene	Ave	0.7575	0.6824	0.0100	9.01	10.0	-9.9	20.0
1,3,5-Trimethylbenzene	Lin2		2.248	0.0100	8.69	10.0	-13.1	20.0
4-Chlorotoluene	Ave	0.8058	0.7745	0.0100	9.61	10.0	-3.9	20.0
tert-Butylbenzene	Lin2		1.756	0.0100	8.17	10.0	-18.3	20.0
1,2,4-Trimethylbenzene	Lin2		2.181	0.0100	8.38	10.0	-16.2	20.0
sec-Butylbenzene	Lin2		2.401	0.0100	7.95	10.0	-20.5*	20.0
1,3-Dichlorobenzene	Ave	1.569	1.291	0.6000	8.23	10.0	-17.7	20.0
4-Isopropyltoluene	Lin2		2.066	0.0100	7.77	10.0	-22.3*	20.0
1,4-Dichlorobenzene	Ave	1.616	1.386	0.5000	8.58	10.0	-14.2	20.0
n-Butylbenzene	Lin1		1.321	0.0100	6.40	10.0	-36.0*	20.0
1,2-Dichlorobenzene	Ave	1.474	1.127	0.4000	7.64	10.0	-23.6*	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1157	0.0903	0.0500	7.80	10.0	-22.0*	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Lab Sample ID: CCVIS 180-297240/3 Calibration Date: 11/06/2019 10:08

Instrument ID: CHHP5 Calib Start Date: 10/12/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/12/2019 20:06

Lab File ID: 5110603.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	0.5052	0.2813	0.2000	5.57	10.0	-44.3*	20.0
Hexachlorobutadiene	Ave	0.3106	0.2446	0.0100	7.87	10.0	-21.3*	20.0
Naphthalene	Qua		0.5397	0.0100	6.18	10.0	-38.2*	20.0
1,2,3-Trichlorobenzene	Ave	0.4015	0.2161	0.0100	5.38	10.0	-46.2*	20.0
Dibromofluoromethane (Surr)	Ave	0.2485	0.2590		10.4	10.0	4.2	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3395	0.3452		10.2	10.0	1.7	20.0
Toluene-d8 (Surr)	Ave	4.002	3.842		9.60	10.0	-4.0	20.0
4-Bromofluorobenzene (Surr)	Ave	1.484	1.376		9.27	10.0	-7.3	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110603.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 06-Nov-2019 10:08:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-003
Misc. Info.: CCVIS
Operator ID: 433269 Instrument ID: CHHP5
Sublist: chrom-MSVOA_LL_CHHP5*sub142

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:07:58 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:07:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.538	0.000	0	121813	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.500	0.000	98	294967	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	83	76787	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	91	132493	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.000	94	76396	50.0	52.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	101816	50.0	50.8	
$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	92	295029	50.0	48.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	97	105662	50.0	46.4	
11 Dichlorodifluoromethane	85	1.697	1.697	0.000	99	123082	50.0	52.3	
12 Chloromethane	50	1.916	1.916	0.000	100	91486	50.0	42.7	
13 Vinyl chloride	62	2.037	2.037	0.000	99	98738	50.0	45.6	
14 Butadiene	39	2.074	2.074	0.000	91	95689	50.0	45.8	
15 Bromomethane	94	2.427	2.427	0.000	90	71174	50.0	52.2	M
16 Chloroethane	64	2.561	2.561	0.000	99	63616	50.0	47.4	
17 Dichlorofluoromethane	67	2.859	2.859	0.000	97	163441	50.0	49.1	
18 Trichlorofluoromethane	101	2.883	2.883	0.000	95	183702	50.0	56.7	M
20 Ethyl ether	59	3.254	3.254	0.000	89	66209	50.0	44.0	
21 Acrolein	56	3.455	3.455	0.000	95	28421	150.0	113.4	
22 1,1-Dichloroethene	96	3.583	3.583	0.000	99	82161	50.0	56.3	
23 1,1,2-Trichloro-1,2,2-trif	101	3.680	3.680	0.000	86	92250	50.0	53.4	
24 Acetone	43	3.692	3.692	0.000	99	76839	100.0	109.2	
25 Iodomethane	142	3.783	3.783	0.000	99	150593	50.0	57.6	
26 Carbon disulfide	76	3.875	3.875	0.000	99	216526	50.0	52.8	
28 3-Chloro-1-propene	76	4.197	4.197	0.000	92	46353	50.0	53.7	
30 Methyl acetate	43	4.215	4.215	0.000	98	117058	100.0	89.2	
31 Methylene Chloride	84	4.410	4.410	0.000	89	91706	50.0	43.7	
32 2-Methyl-2-propanol	59	4.678	4.678	0.000	94	55694	500.0	393.2	
33 Acrylonitrile	53	4.793	4.793	0.000	98	292909	500.0	441.0	
34 trans-1,2-Dichloroethene	96	4.818	4.818	0.000	94	91431	50.0	55.0	
35 Methyl tert-butyl ether	73	4.842	4.842	0.000	98	210838	50.0	48.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.231	5.231	0.000	93	107400	50.0	42.4	
37 1,1-Dichloroethane	63	5.444	5.444	0.000	96	142176	50.0	49.4	
38 Vinyl acetate	43	5.493	5.493	0.000	98	84690	50.0	31.1	
44 2,2-Dichloropropane	97	6.180	6.180	0.000	69	22482	50.0	53.8	
45 cis-1,2-Dichloroethene	96	6.186	6.186	0.000	84	96359	50.0	52.9	
46 2-Butanone (MEK)	43	6.198	6.198	0.000	99	85994	100.0	104.6	
49 Chlorobromomethane	128	6.460	6.460	0.000	84	49031	50.0	51.9	
51 Tetrahydrofuran	42	6.466	6.466	0.000	78	36282	100.0	72.9	
52 Chloroform	83	6.600	6.600	0.000	93	164595	50.0	52.5	
53 1,1,1-Trichloroethane	97	6.764	6.764	0.000	98	150496	50.0	58.7	
54 Cyclohexane	56	6.831	6.831	0.000	86	125041	50.0	42.0	
56 Carbon tetrachloride	117	6.935	6.935	0.000	97	145918	50.0	62.0	
55 1,1-Dichloropropene	75	6.953	6.953	0.000	95	113730	50.0	48.5	
57 Isobutyl alcohol	41	7.154	7.154	0.000	92	58011	1250.0	1051.5	
58 Benzene	78	7.160	7.160	0.000	97	356077	50.0	50.9	
59 1,2-Dichloroethane	62	7.239	7.239	0.000	99	125904	50.0	50.9	
62 n-Heptane	43	7.513	7.513	0.000	87	87983	50.0	42.9	
64 Trichloroethene	130	7.884	7.884	0.000	92	108898	50.0	57.0	
66 Methylcyclohexane	83	8.115	8.115	0.000	87	132732	50.0	45.4	
67 1,2-Dichloropropane	63	8.151	8.151	0.000	92	76757	50.0	46.6	
70 1,4-Dioxane	88	8.236	8.236	0.000	32	10516	1000.0	743.9	
68 Dibromomethane	93	8.243	8.243	0.000	84	53064	50.0	53.2	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	111843	50.0	53.6	
73 2-Chloroethyl vinyl ether	63	8.729	8.729	0.000	97	79885	100.0	74.1	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	95	116473	50.0	49.3	
75 4-Methyl-2-pentanone (MIBK	43	9.027	9.027	0.000	95	124874	100.0	81.6	
76 Toluene	91	9.204	9.204	0.000	99	384980	50.0	49.5	
77 trans-1,3-Dichloropropene	75	9.447	9.447	0.000	92	99268	50.0	41.2	
78 Ethyl methacrylate	69	9.502	9.502	0.000	86	79903	50.0	39.5	
79 1,1,2-Trichloroethane	97	9.636	9.636	0.000	91	80713	50.0	49.8	
80 Tetrachloroethene	164	9.715	9.715	0.000	95	103701	50.0	55.9	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	91	126963	50.0	45.2	
82 2-Hexanone	43	9.861	9.861	0.000	96	105908	100.0	102.1	
84 Chlorodibromomethane	129	10.007	10.007	0.000	88	89217	50.0	51.9	
85 Ethylene Dibromide	107	10.128	10.128	0.000	98	79546	50.0	50.6	
87 Chlorobenzene	112	10.615	10.615	0.000	96	249824	50.0	47.5	
89 1,1,1,2-Tetrachloroethane	131	10.706	10.706	0.000	92	98826	50.0	53.4	
90 Ethylbenzene	106	10.706	10.706	0.000	98	130778	50.0	48.3	
91 m-Xylene & p-Xylene	106	10.840	10.840	0.000	0	159833	50.0	47.9	
92 o-Xylene	106	11.223	11.223	0.000	96	145008	50.0	45.8	
93 Styrene	104	11.242	11.242	0.000	93	251055	50.0	46.3	
94 Bromoform	173	11.418	11.418	0.000	98	57930	50.0	50.5	
97 Isopropylbenzene	105	11.588	11.588	0.000	95	373996	50.0	44.5	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	81	83296	50.0	40.7	
100 Bromobenzene	156	11.911	11.911	0.000	86	111866	50.0	49.7	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	78	20650	50.0	32.7	
101 1,2,3-Trichloropropane	110	11.953	11.953	0.000	82	34231	50.0	48.1	
103 N-Propylbenzene	120	12.002	12.002	0.000	98	110953	50.0	47.3	
104 2-Chlorotoluene	126	12.093	12.093	0.000	97	90416	50.0	45.0	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	94	297810	50.0	43.4	
107 4-Chlorotoluene	126	12.215	12.215	0.000	96	102611	50.0	48.1	
108 tert-Butylbenzene	119	12.501	12.501	0.000	92	232683	50.0	40.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	97	289008	50.0	41.9	
112 sec-Butylbenzene	105	12.726	12.726	0.000	94	318140	50.0	39.7	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	171096	50.0	41.1	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	96	273778	50.0	38.8	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	96	183648	50.0	42.9	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	175009	50.0	32.0	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	99	149319	50.0	38.2	
122 1,2-Dibromo-3-Chloropropan	75	14.095	14.095	0.000	88	11958	50.0	39.0	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	92	37266	50.0	27.8	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	90	32401	50.0	39.4	
128 Naphthalene	128	15.184	15.184	0.000	96	71501	50.0	30.9	
129 1,2,3-Trichlorobenzene	180	15.421	15.421	0.000	91	28625	50.0	26.9	
S 134 1,2-Dichloroethene, Total	96				0		100.0	107.9	
S 154 Total BTEX	106				0		250.0	242.4	
S 133 Xylenes, Total	106				0		100.0	93.7	
S 135 1,3-Dichloropropene, Total	1				0		100.0	90.5	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00376	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVE2ND_00028	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

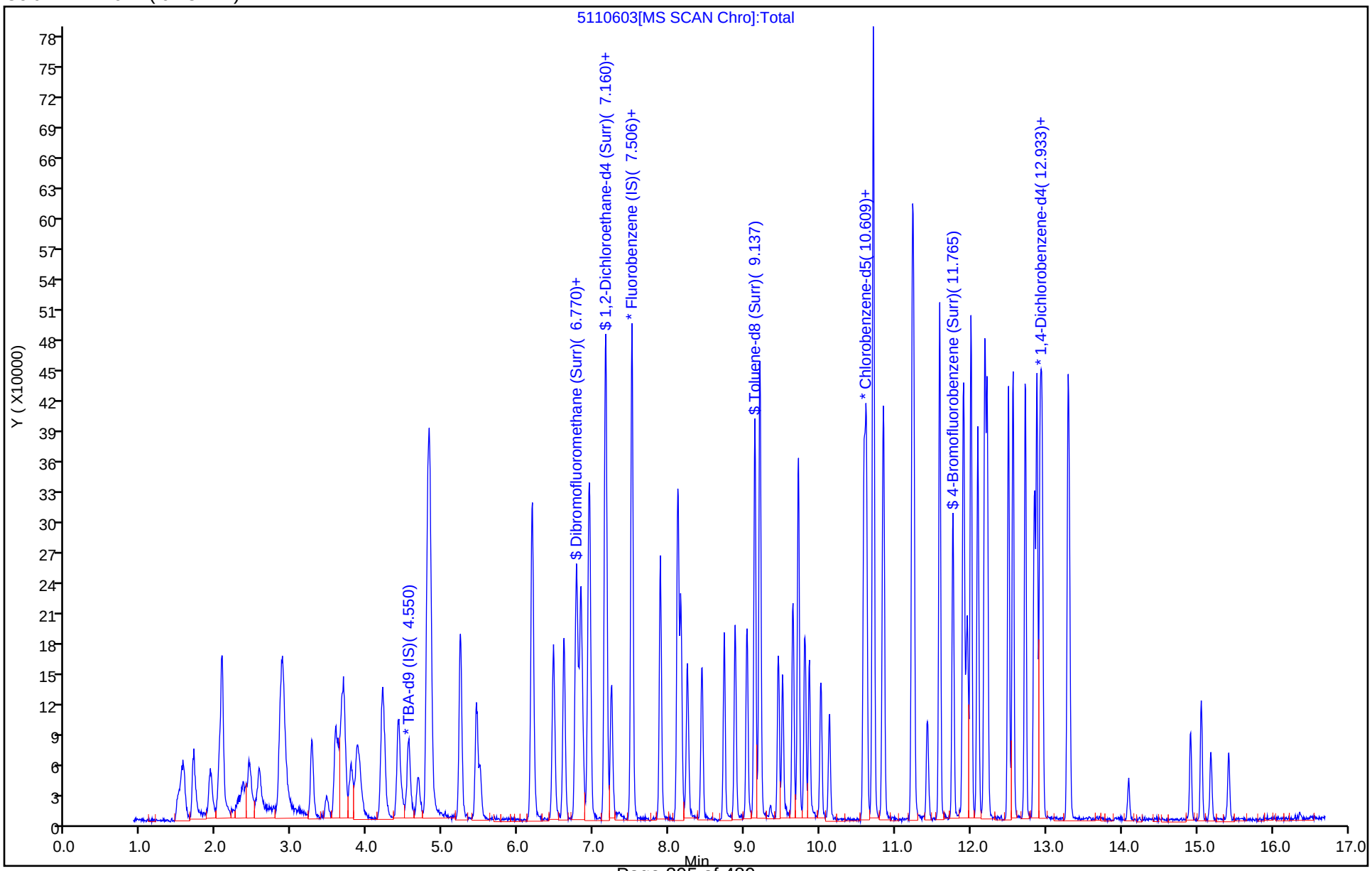
Report Date: 07-Nov-2019 09:07:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110603.D

Injection Date:	06-Nov-2019 10:08:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh

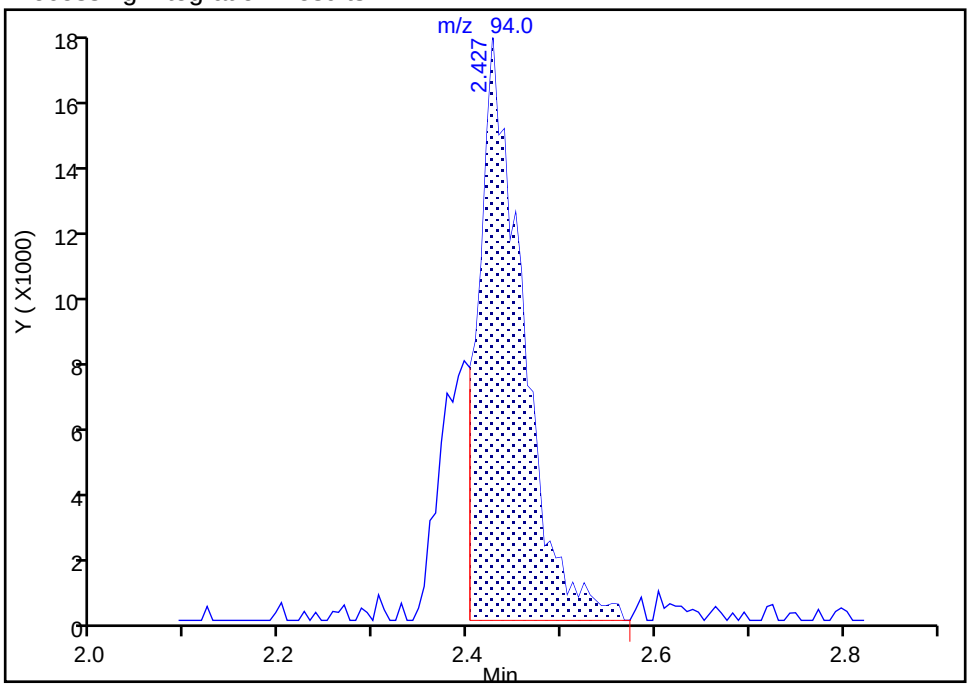
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110603.D
Injection Date: 06-Nov-2019 10:08:30 Instrument ID: CHHP5
Lims ID: CCVIS
Client ID:
Operator ID: 433269 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

15 Bromomethane, CAS: 74-83-9

Signal: 1

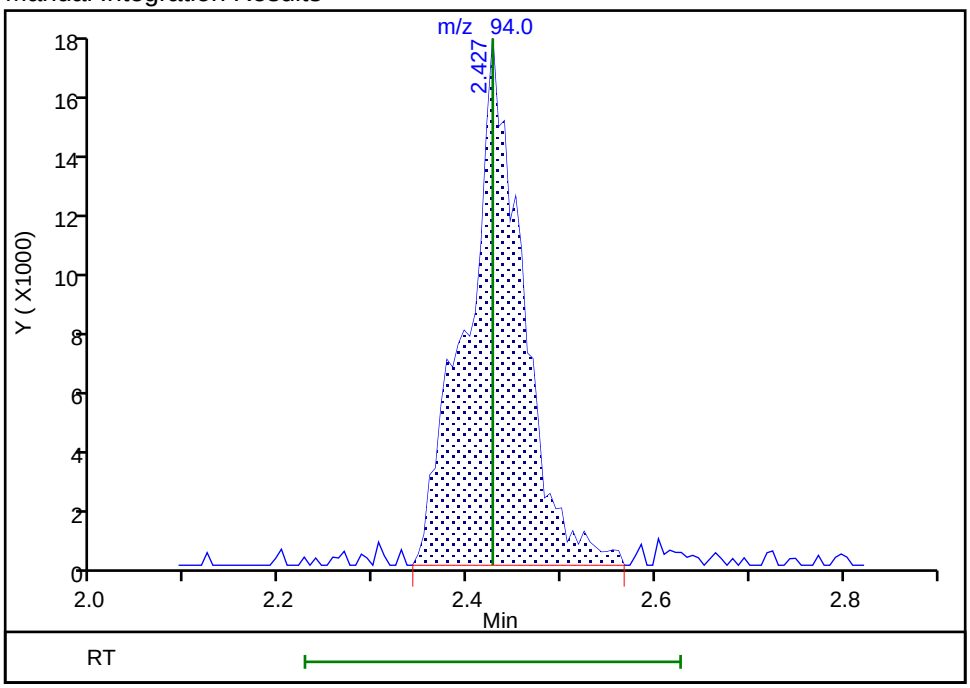
Processing Integration Results

RT: 2.43
Area: 56224
Amount: 41.198150
Amount Units: ng



Manual Integration Results

RT: 2.43
Area: 71174
Amount: 52.152766
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:28:44
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh

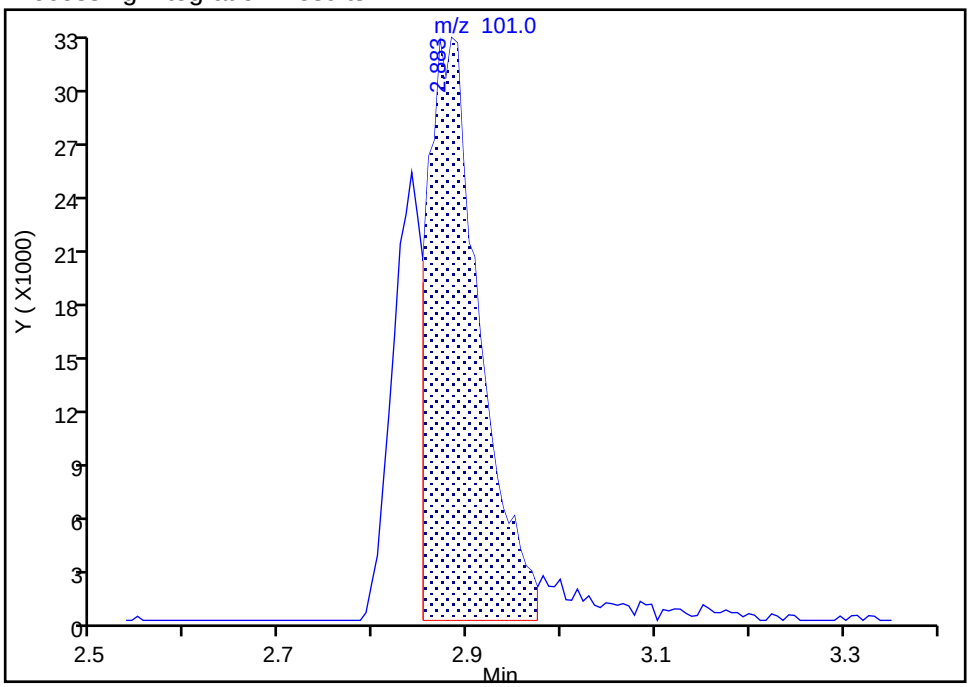
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110603.D
Injection Date: 06-Nov-2019 10:08:30 Instrument ID: CHHP5
Lims ID: CCVIS
Client ID:
Operator ID: 433269 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

18 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

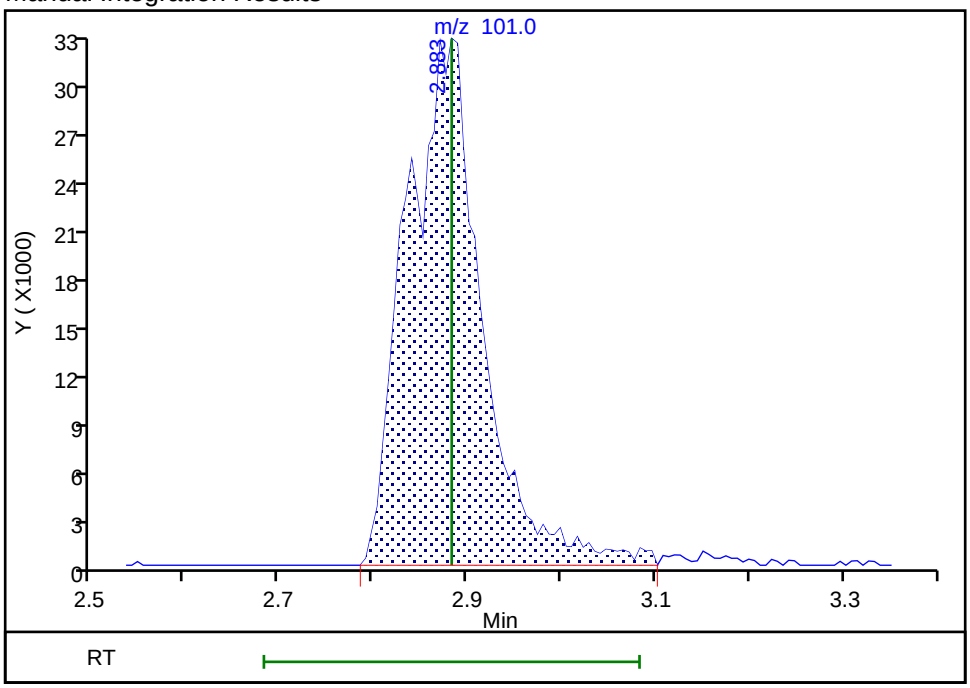
Processing Integration Results

RT: 2.88
Area: 126184
Amount: 38.973355
Amount Units: ng



Manual Integration Results

RT: 2.88
Area: 183702
Amount: 56.738439
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 10:29:05
Audit Action: Manually Integrated Audit Reason: Split Peak

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101201D.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	12-Oct-2019 13:56:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029087-001				
Misc. Info.:	BFB				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	15-Oct-2019 08:59:15	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0330				
First Level Reviewer: bowieh		Date:	12-Oct-2019 14:10:45		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.445	8.445	0.000	0	71484	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

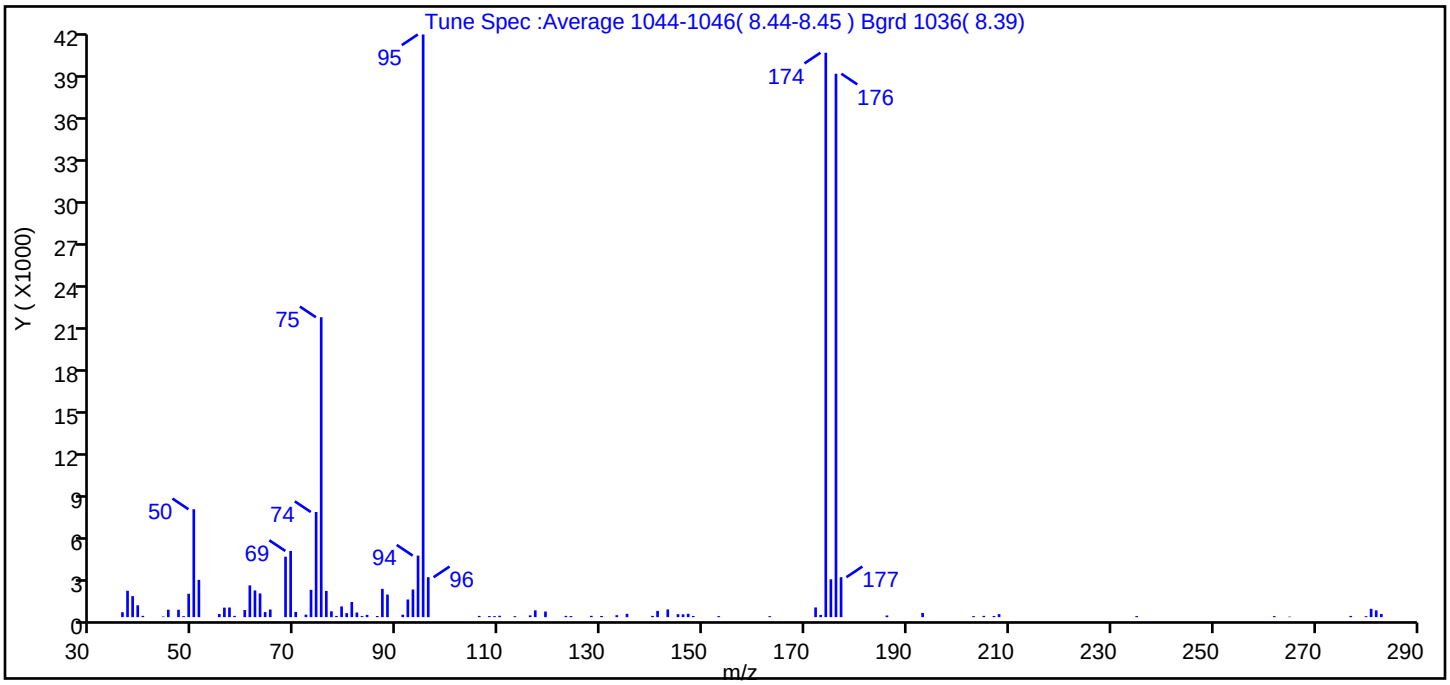
VOABFB25_00118 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101201D.D
Injection Date: 12-Oct-2019 13:56:30 Instrument ID: CHHP5
Lims ID: BFB
Client ID:
Operator ID: 433269 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Tune Method: BFB Method 8260

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	18.5
75	30 to 60% of m/z 95	51.5
96	5 to 9% of m/z 95	6.9
173	Less than 2% of m/z 174	0.4 (0.4)
174	50 to 120% of m/z 95	96.9
175	5 to 9% of m/z 174	6.5 (6.7)
176	Greater than 95% but less than 101% of m/z 174	93.3 (96.3)
177	5 to 9% of m/z 176	6.9 (7.4)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101201D.D\MSVOA_LL_CHHP5.rslt\spectr
Injection Date: 12-Oct-2019 13:56:30
Spectrum: Tune Spec :Average 1044-1046(8.44-8.45) Bgrd 1036(8.39)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 91

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	350	68.00	4288	95.00	41328	153.00	73
37.00	1869	69.00	4694	96.00	2832	163.00	70
38.00	1493	70.00	370	106.00	87	172.00	688
39.00	842	72.00	175	108.00	75	173.00	153
40.00	92	73.00	1937	109.00	71	174.00	40032
44.00	45	74.00	7458	110.00	98	175.00	2685
45.00	526	75.00	21272	113.00	71	176.00	38544
47.00	525	76.00	1858	116.00	124	177.00	2833
48.00	70	77.00	414	117.00	483	186.00	118
49.00	1659	78.00	86	119.00	399	193.00	298
50.00	7653	79.00	761	123.00	91	203.00	74
51.00	2642	80.00	284	124.00	76	205.00	90
55.00	221	81.00	1075	128.00	94	207.00	84
56.00	674	82.00	328	130.00	85	208.00	213
57.00	683	83.00	76	133.00	139	235.00	77
58.00	91	84.00	160	135.00	236	262.00	74
60.00	506	86.00	81	140.00	89	265.00	36
61.00	2254	87.00	2003	141.00	441	277.00	87
62.00	1893	88.00	1602	143.00	546	280.00	69
63.00	1682	91.00	172	145.00	210	281.00	593
64.00	360	92.00	1253	146.00	200	282.00	480
65.00	540	93.00	1960	147.00	238	283.00	225
67.00	1	94.00	4364	148.00	78		

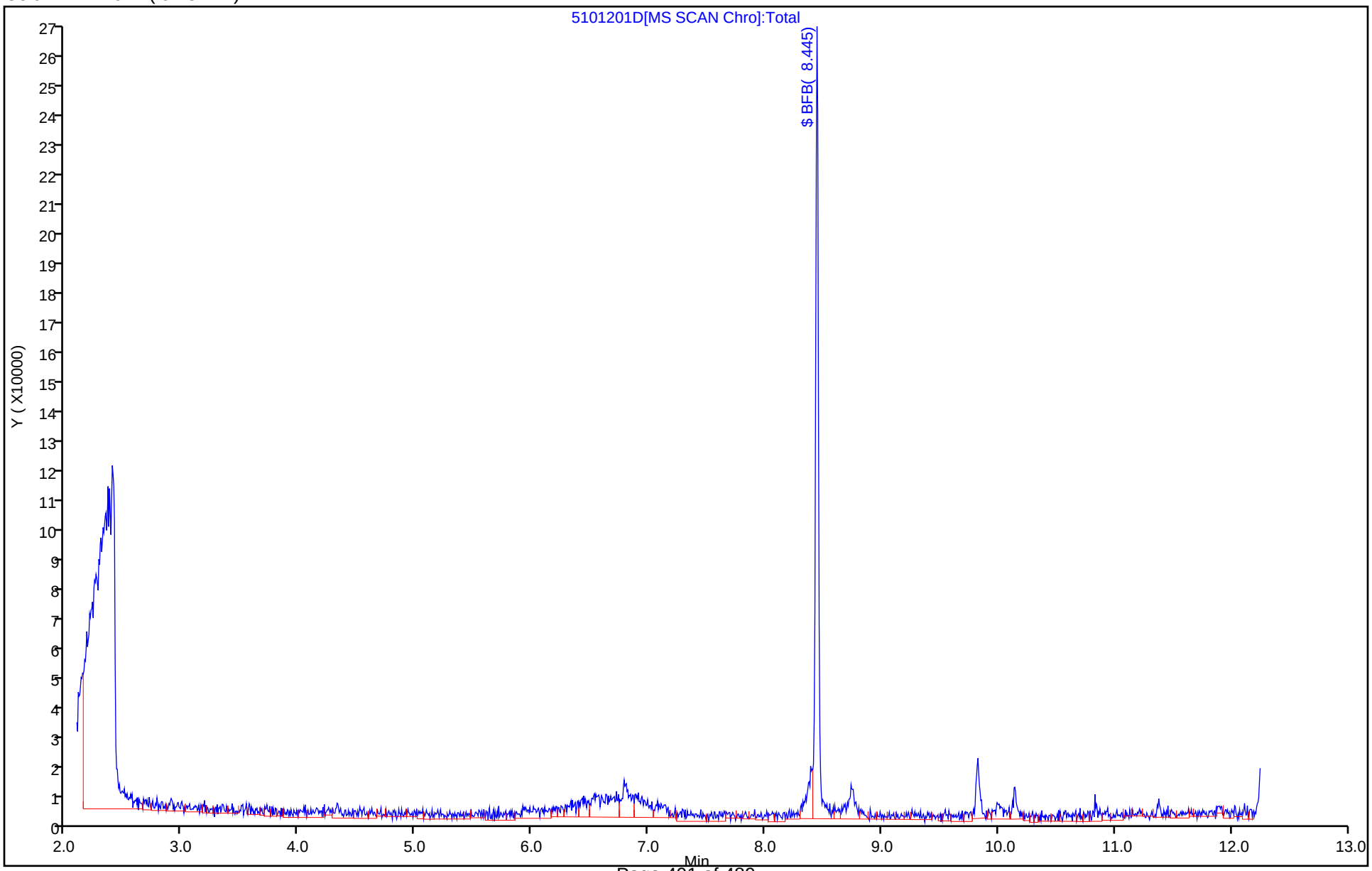
Report Date: 15-Oct-2019 08:59:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101201D.D

Injection Date:	12-Oct-2019 13:56:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110201.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	02-Nov-2019 09:35:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029374-001				
Misc. Info.:	BFB				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	05-Nov-2019 10:50:32	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0309				
First Level Reviewer: bowieh		Date:	05-Nov-2019 10:50:32		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.450	8.450	0.000	0	53761	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

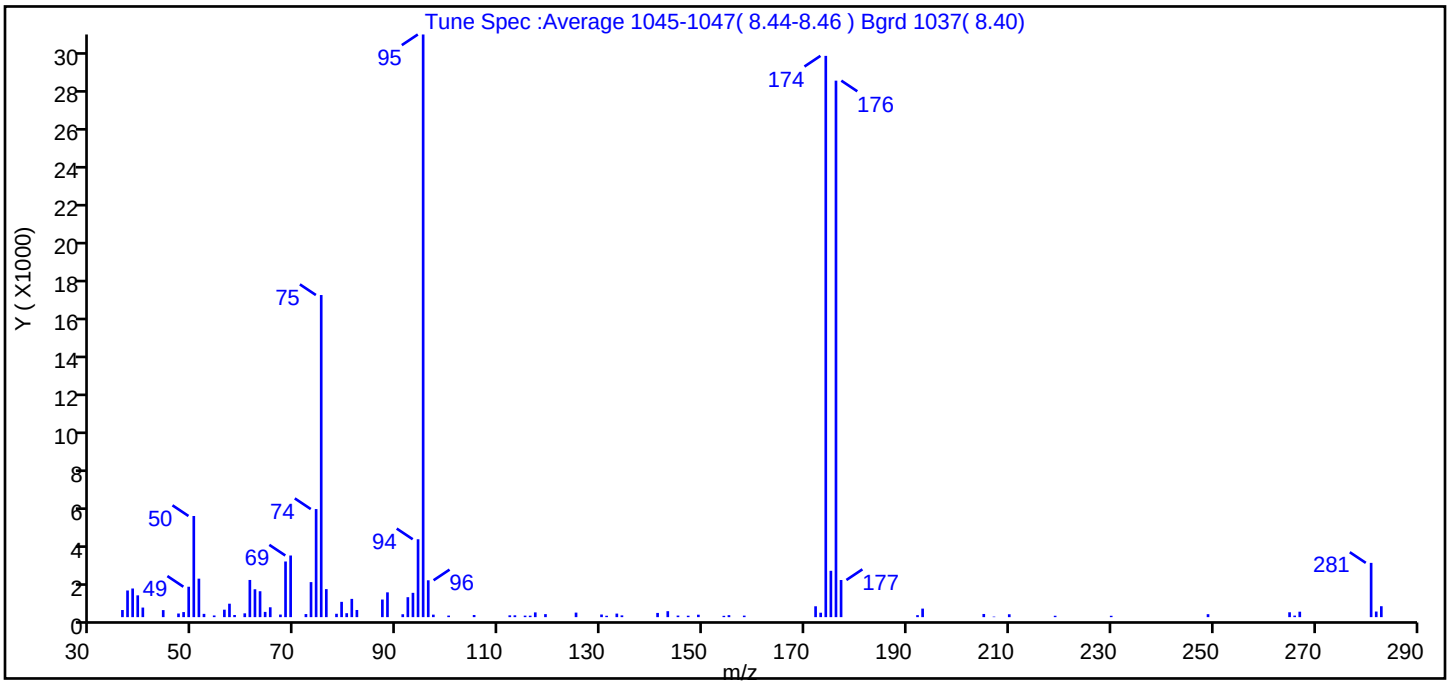
VOABFB25_00119 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110201.D				
Injection Date:	02-Nov-2019 09:35:30	Instrument ID:	CHHP5		
Lims ID:	BFB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	17.4
75	30 to 60% of m/z 95	55.3
96	5 to 9% of m/z 95	6.3
173	Less than 2% of m/z 174	0.8 (0.8)
174	50 to 120% of m/z 95	96.3
175	5 to 9% of m/z 174	8.0 (8.3)
176	Greater than 95% but less than 101% of m/z 174	92.1 (95.6)
177	5 to 9% of m/z 176	6.4 (6.9)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110201.D\MSVOA_LL_CHHP5.rslt\spectra
Injection Date: 02-Nov-2019 09:35:30
Spectrum: Tune Spec :Average 1045-1047(8.44-8.46) Bgrd 1037(8.40)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 85

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	370	67.00	134	100.00	81	173.00	230
37.00	1386	68.00	2893	105.00	111	174.00	29176
38.00	1489	69.00	3204	112.00	94	175.00	2410
39.00	1133	72.00	160	113.00	95	176.00	27888
40.00	498	73.00	1821	115.00	79	177.00	1931
44.00	366	74.00	5618	116.00	76	192.00	104
47.00	189	75.00	16744	117.00	247	193.00	444
48.00	263	76.00	1457	119.00	157	205.00	165
49.00	1581	78.00	176	125.00	236	207.00	27
50.00	5258	79.00	795	130.00	137	210.00	150
51.00	2001	80.00	204	131.00	72	219.00	72
52.00	171	81.00	949	133.00	185	230.00	71
54.00	87	82.00	372	134.00	92	249.00	154
56.00	388	87.00	916	141.00	219	265.00	253
57.00	699	88.00	1289	143.00	310	266.00	80
58.00	111	91.00	151	145.00	82	267.00	283
60.00	198	92.00	1037	147.00	75	281.00	2821
61.00	1933	93.00	1264	149.00	127	282.00	292
62.00	1449	94.00	4049	154.00	69	283.00	568
63.00	1347	95.00	30288	155.00	103		
64.00	273	96.00	1916	158.00	79		
65.00	513	97.00	130	172.00	565		

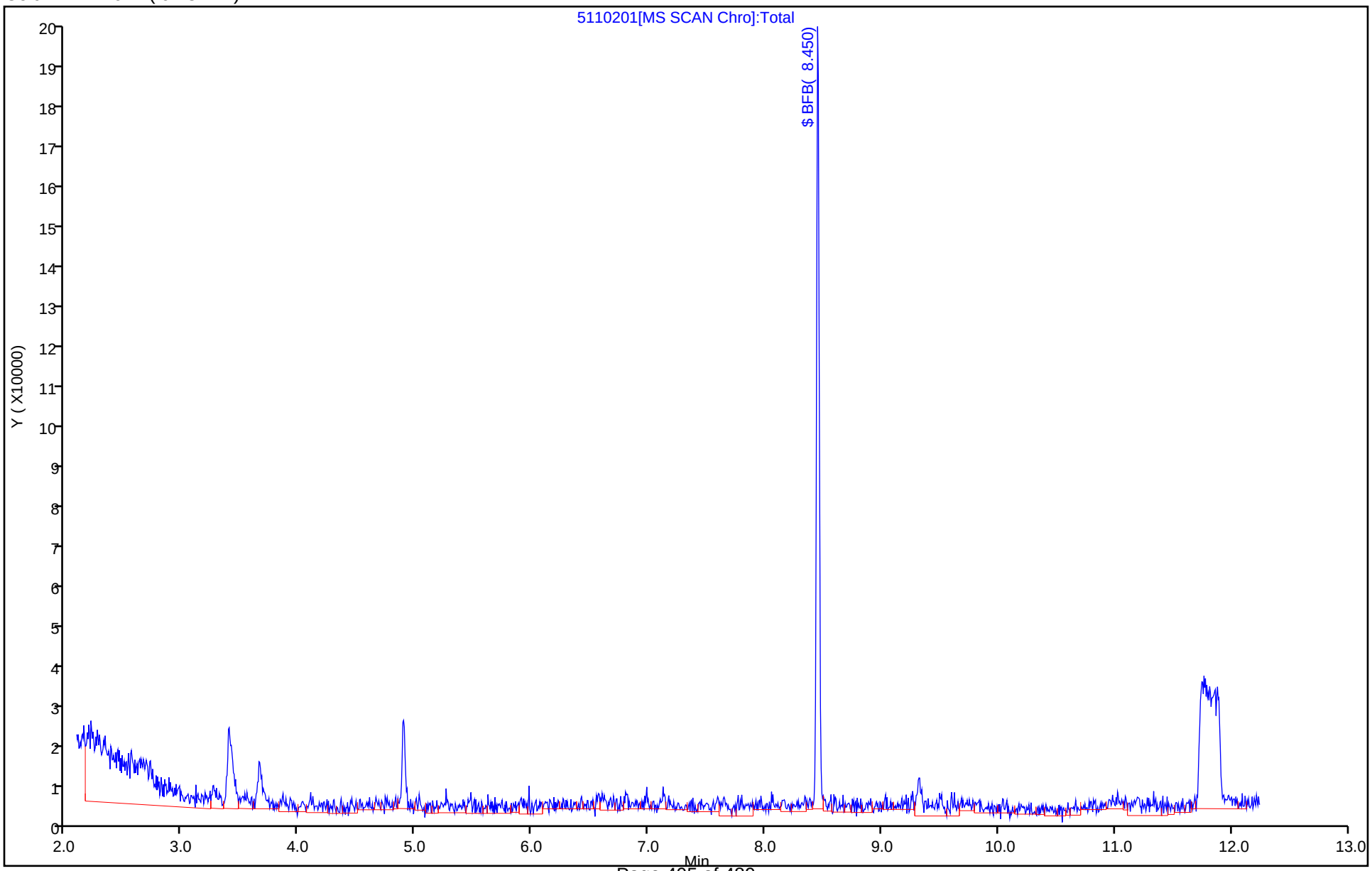
Report Date: 05-Nov-2019 10:50:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110201.D

Injection Date:	02-Nov-2019 09:35:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110501E.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	05-Nov-2019 12:09:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029401-001				
Misc. Info.:	BFB				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	06-Nov-2019 09:31:46	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0337				
First Level Reviewer: bowieh		Date:	06-Nov-2019 09:31:46		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.450	8.450	0.000	0	53708	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

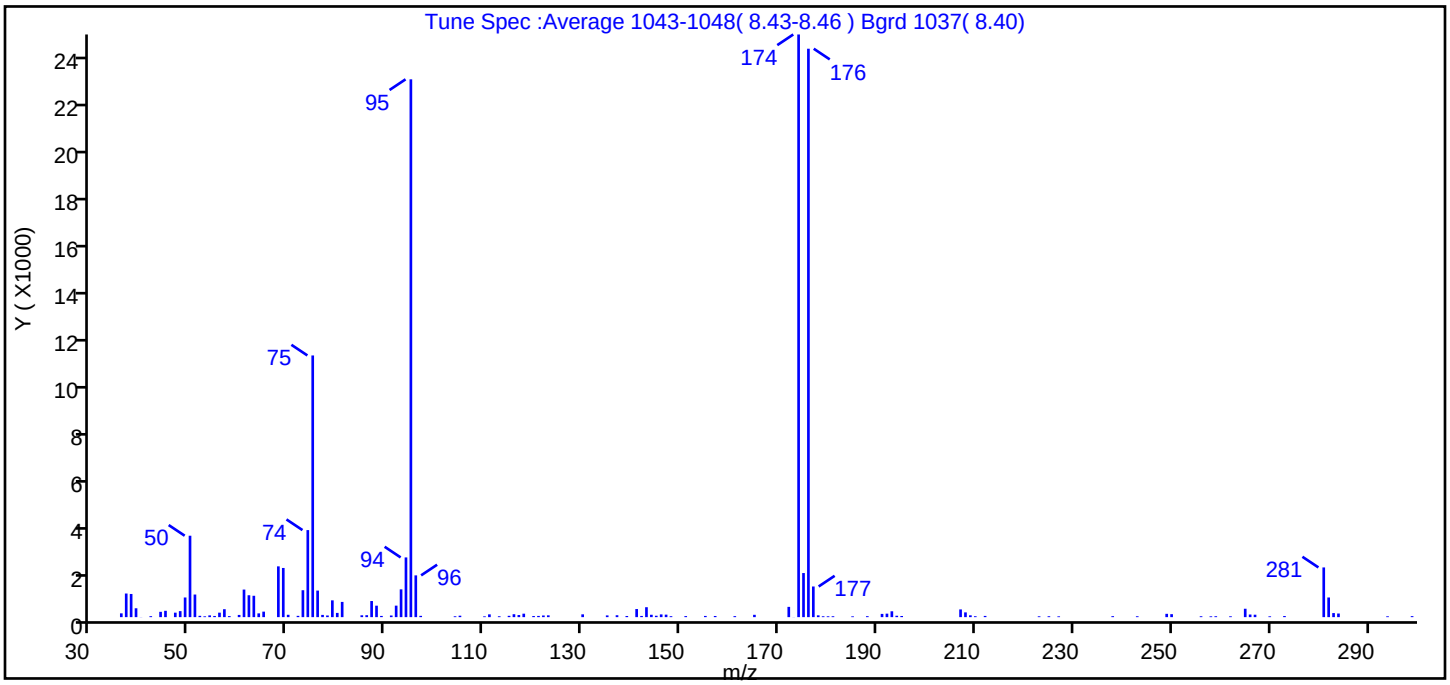
VOABFB25_00119 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110501E.D				
Injection Date:	05-Nov-2019 12:09:30	Instrument ID:	CHHP5		
Lims ID:	BFB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	15.1
75	30 to 60% of m/z 95	48.7
96	5 to 9% of m/z 95	7.8
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	108.3
175	5 to 9% of m/z 174	8.2 (7.6)
176	Greater than 95% but less than 101% of m/z 174	105.7 (97.6)
177	5 to 9% of m/z 176	5.7 (5.4)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110501E.D\MSVOA_LL_CHHP5.rslt\spectr
Injection Date: 05-Nov-2019 12:09:30
Spectrum: Tune Spec :Average 1043-1048(8.43-8.46) Bgrd 1037(8.40)
Base Peak: 174.00
Minimum % Base Peak: 0
Number of Points: 125

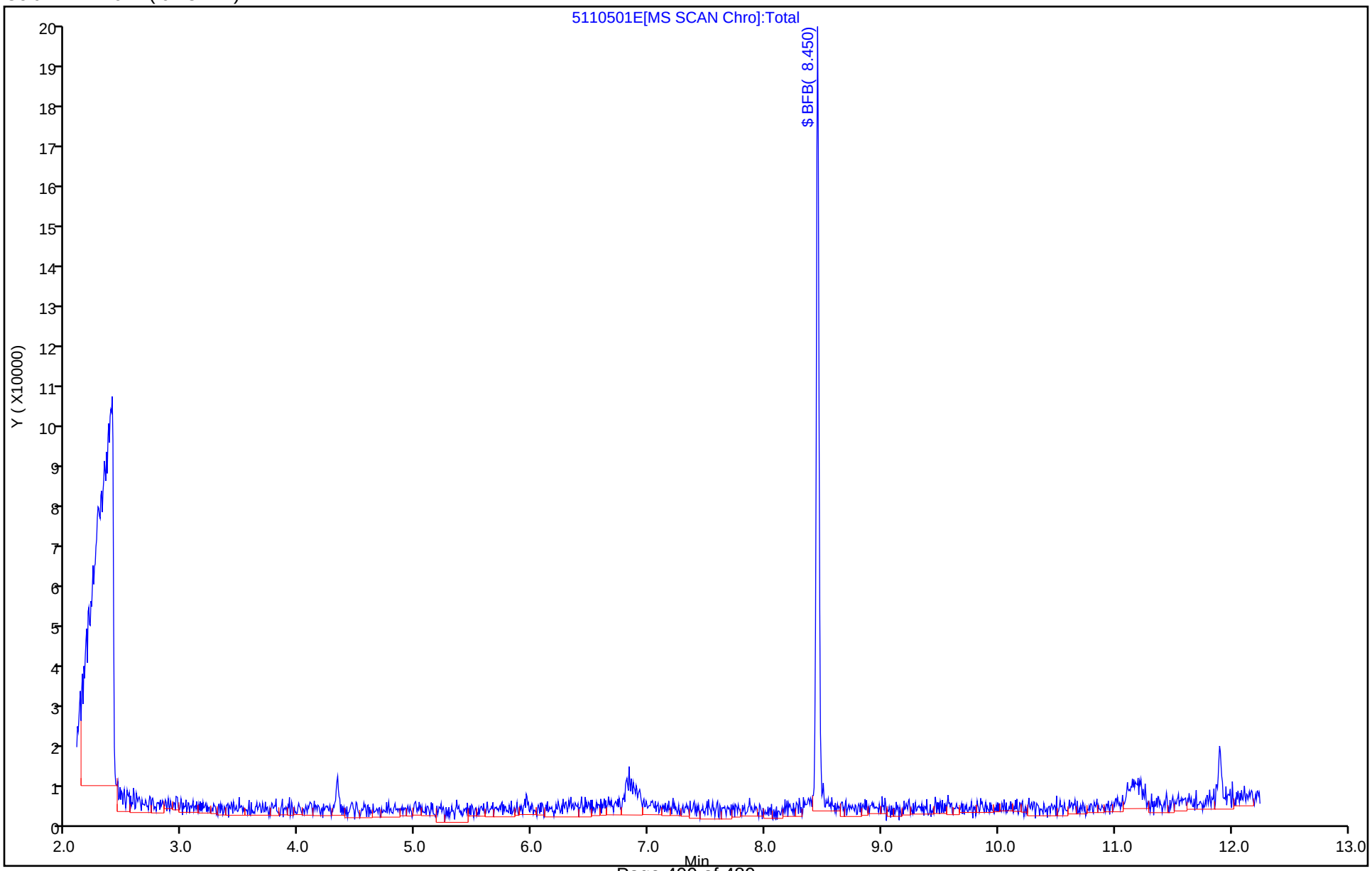
m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	158	75.00	10876	130.00	117	194.00	58
37.00	982	76.00	1104	135.00	72	195.00	48
38.00	963	77.00	93	137.00	79	207.00	321
39.00	369	78.00	69	139.00	48	208.00	198
40.00	5	79.00	698	141.00	337	209.00	76
42.00	40	80.00	176	142.00	50	210.00	38
44.00	221	81.00	633	143.00	413	212.00	51
45.00	263	85.00	77	144.00	99	223.00	35
47.00	186	86.00	81	145.00	58	225.00	37
48.00	250	87.00	670	146.00	114	227.00	33
49.00	817	88.00	476	147.00	104	238.00	41
50.00	3384	89.00	51	148.00	39	243.00	37
51.00	940	91.00	68	151.00	44	249.00	138
52.00	55	92.00	478	155.00	50	250.00	124
53.00	34	93.00	1155	157.00	48	256.00	37
54.00	73	94.00	2482	161.00	42	258.00	34
55.00	49	95.00	22352	165.00	97	259.00	38
56.00	186	96.00	1736	172.00	427	262.00	35
57.00	330	97.00	54	173.00	4	265.00	349
58.00	43	104.00	36	174.00	24216	266.00	109
60.00	92	105.00	60	175.00	1833	267.00	101
61.00	1146	110.00	33	176.00	23624	270.00	34
62.00	910	111.00	116	177.00	1274	273.00	46
63.00	888	113.00	37	178.00	75	281.00	2066
64.00	157	115.00	55	179.00	36	282.00	817
65.00	229	116.00	122	180.00	35	283.00	169
68.00	2111	117.00	87	181.00	37	284.00	151
69.00	2044	118.00	144	185.00	33	294.00	35
70.00	98	120.00	46	188.00	40	299.00	42
72.00	54	121.00	51	191.00	135		
73.00	1119	122.00	69	192.00	145		
74.00	3618	123.00	75	193.00	244		

Report Date: 06-Nov-2019 09:31:46 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110501E.D				
Injection Date:	05-Nov-2019 12:09:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110601.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	06-Nov-2019 09:07:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029414-001				
Misc. Info.:	BFB				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	07-Nov-2019 09:07:48	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0336				
First Level Reviewer: bowieh		Date:	07-Nov-2019 09:07:48		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 10 BFB	95	8.451	8.451	0.000	0	56667	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

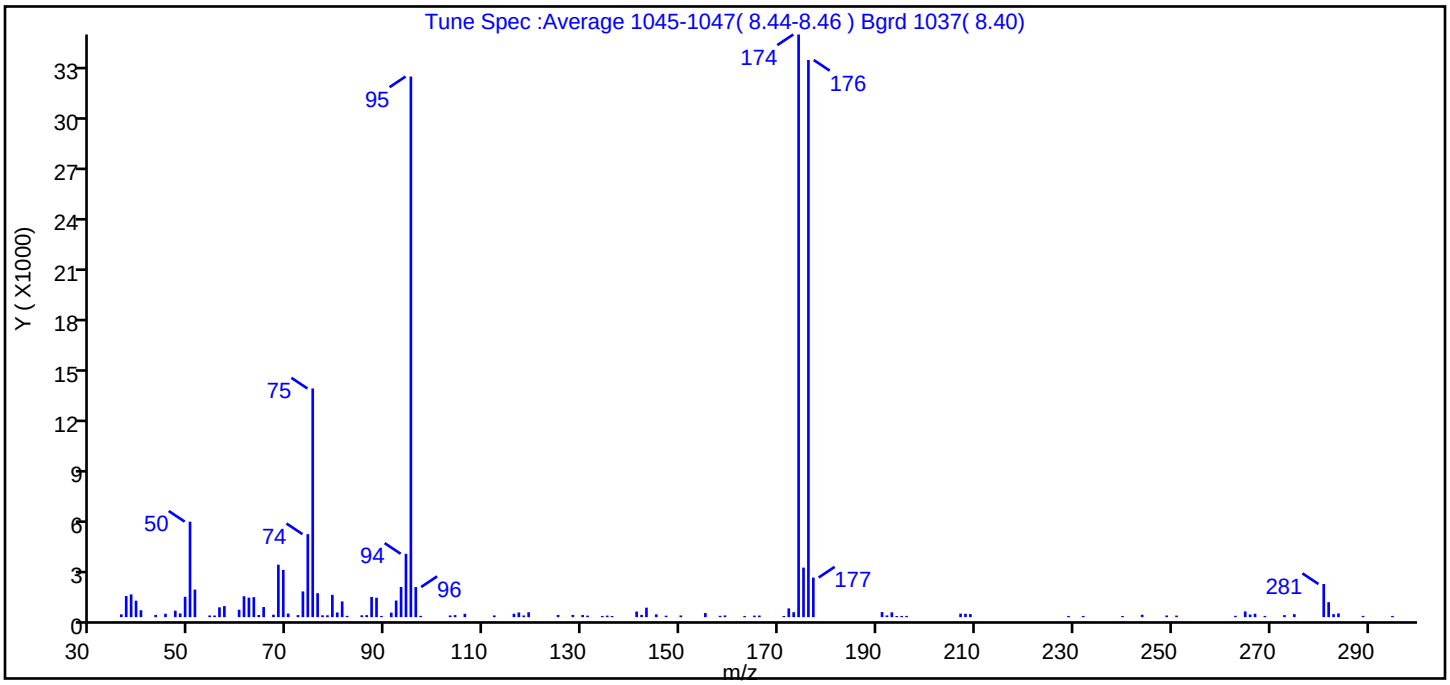
VOABFB25_00119 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110601.D
Injection Date: 06-Nov-2019 09:07:30 Instrument ID: CHHP5
Lims ID: BFB
Client ID:
Operator ID: 433269 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Tune Method: BFB Method 8260

$ 10 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	17.7
75	30 to 60% of m/z 95	42.3
96	5 to 9% of m/z 95	5.6
173	Less than 2% of m/z 174	0.9 (0.8)
174	50 to 120% of m/z 95	107.8
175	5 to 9% of m/z 174	9.2 (8.5)
176	Greater than 95% but less than 101% of m/z 174	103.1 (95.6)
177	5 to 9% of m/z 176	7.3 (7.1)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110601.D\MSVOA_LL_CHHP5.rslt\spectra
Injection Date: 06-Nov-2019 09:07:30
Spectrum: Tune Spec :Average 1045-1047(8.44-8.46) Bgrd 1037(8.40)
Base Peak: 174.00
Minimum % Base Peak: 0
Number of Points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	164	74.00	4863	119.00	286	192.00	101
37.00	1237	75.00	13400	125.00	127	193.00	283
38.00	1333	76.00	1404	128.00	129	194.00	67
39.00	965	77.00	109	130.00	123	195.00	71
40.00	405	78.00	110	131.00	89	196.00	72
43.00	131	79.00	1306	134.00	71	207.00	206
45.00	200	80.00	272	135.00	91	208.00	196
47.00	379	81.00	922	136.00	66	209.00	180
48.00	217	82.00	76	141.00	328	229.00	70
49.00	1193	85.00	108	142.00	132	232.00	71
50.00	5596	86.00	118	143.00	556	240.00	68
51.00	1615	87.00	1186	145.00	164	244.00	141
54.00	99	88.00	1137	147.00	86	249.00	98
55.00	95	89.00	73	150.00	99	251.00	92
56.00	575	91.00	264	155.00	240	263.00	78
57.00	647	92.00	973	158.00	81	265.00	335
60.00	436	93.00	1768	159.00	100	266.00	153
61.00	1227	94.00	3713	163.00	70	267.00	199
62.00	1142	95.00	31680	165.00	89	269.00	73
63.00	1173	96.00	1765	166.00	93	273.00	121
64.00	127	97.00	76	171.00	68	275.00	176
65.00	594	103.00	99	172.00	513	281.00	1941
67.00	143	104.00	120	173.00	288	282.00	877
68.00	3072	106.00	195	174.00	34144	283.00	175
69.00	2768	112.00	102	175.00	2903	284.00	220
70.00	211	116.00	196	176.00	32648	289.00	74
72.00	121	117.00	274	177.00	2321	295.00	71
73.00	1508	118.00	98	191.00	298		

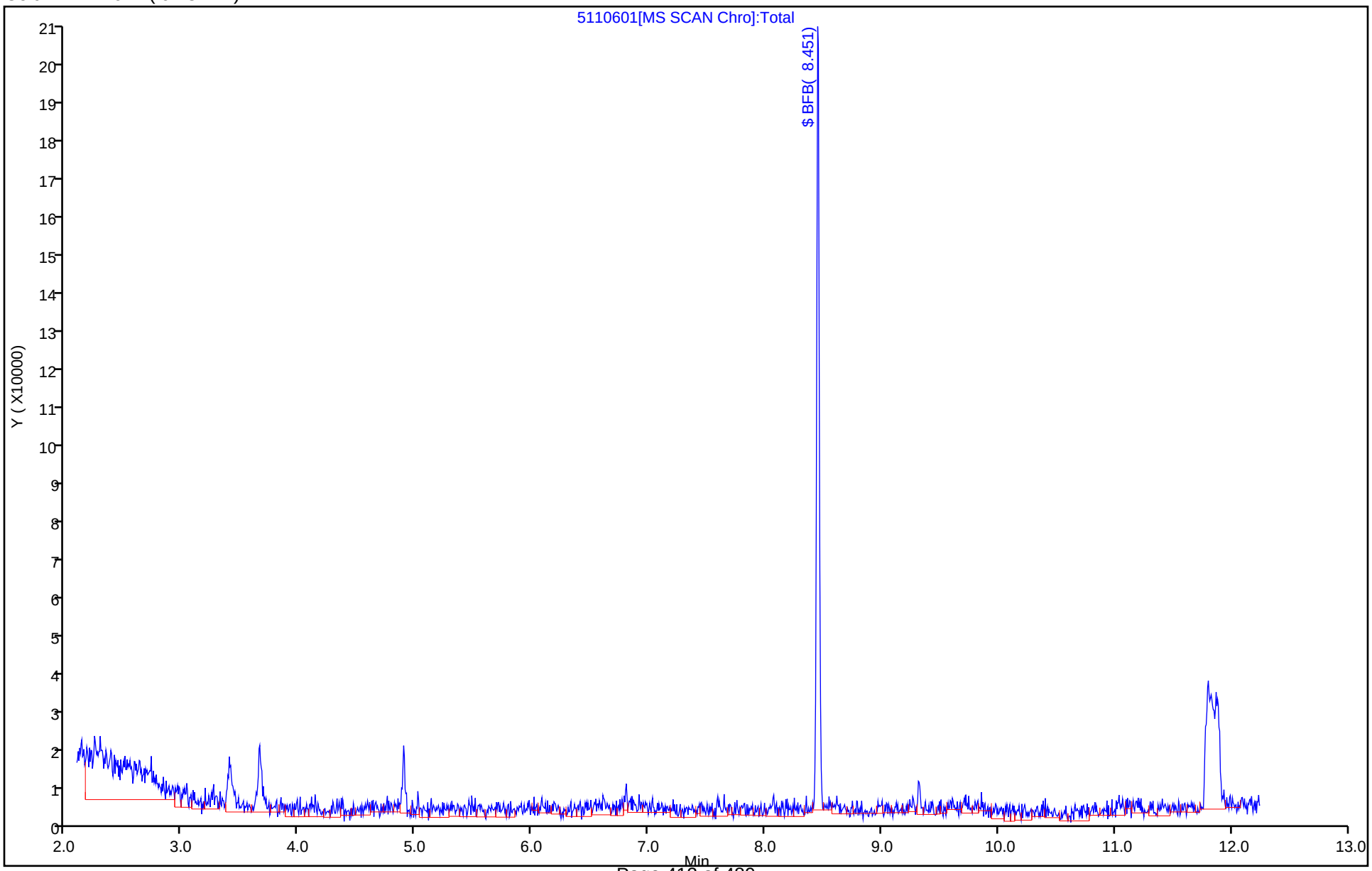
Report Date: 07-Nov-2019 09:07:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110601.D

Injection Date:	06-Nov-2019 09:07:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-296913/6

Matrix: Water Lab File ID: 5110206.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/02/2019 11:32

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.: 296913 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND		1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND		5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-296913/6

Matrix: Water Lab File ID: 5110206.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/02/2019 11:32

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.: 296913 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	113		70-150
2037-26-5	Toluene-d8 (Surr)	91		78-128
460-00-4	4-Bromofluorobenzene (Surr)	86		64-123
1868-53-7	Dibromofluoromethane (Surr)	110		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 02-Nov-2019 11:32:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-006
Misc. Info.: MB
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 05-Nov-2019 10:54:41 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

First Level Reviewer: bowieh Date: 05-Nov-2019 10:54:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.531	4.544	-0.013	0	129113	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.501	-0.001	98	267377	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	85	72220	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	94	110231	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.782	6.783	-0.001	93	73133	50.0	55.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	102149	50.0	56.3	
$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	93	262308	50.0	45.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.764	11.759	0.005	93	92618	50.0	43.2	
11 Dichlorodifluoromethane	85		1.685					ND	
12 Chloromethane	50		1.910					ND	
13 Vinyl chloride	62		2.032					ND	
14 Butadiene	39		2.056					ND	
15 Bromomethane	94		2.372					ND	
16 Chloroethane	64		2.530					ND	
19 Ethanol	45		2.640					ND	
17 Dichlorofluoromethane	67		2.835					ND	
18 Trichlorofluoromethane	101		2.847					ND	
20 Ethyl ether	59		3.248					ND	
21 Acrolein	56		3.455					ND	
22 1,1-Dichloroethene	96		3.571					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.638					ND	
24 Acetone	43		3.686					ND	U
25 Iodomethane	142		3.778					ND	
26 Carbon disulfide	76	3.874	3.869	0.005	75	7983		2.15	a
27 Isopropyl alcohol	45		3.990					ND	U
29 Acetonitrile	41		4.148					ND	U
28 3-Chloro-1-propene	76		4.185					ND	
30 Methyl acetate	43		4.209					ND	
31 Methylene Chloride	84	4.415	4.404	0.011	44	4537		-7.39	
32 2-Methyl-2-propanol	59		4.672					ND	
33 Acrylonitrile	53		4.787					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.806					ND	
35 Methyl tert-butyl ether	73		4.830					ND	U
36 Hexane	57		5.225					ND	
37 1,1-Dichloroethane	63		5.432					ND	
38 Vinyl acetate	43		5.493					ND	
39 2-Chloro-1,3-butadiene	53		5.529					ND	
41 Isopropyl ether	45		5.535					ND	
42 Tert-butyl ethyl ether	59		5.997					ND	
45 cis-1,2-Dichloroethene	96		6.174					ND	
44 2,2-Dichloropropane	97		6.174					ND	
46 2-Butanone (MEK)	43		6.193					ND	
48 Ethyl acetate	43		6.259					ND	
47 Propionitrile	54		6.265					ND	
50 Methacrylonitrile	41		6.441					ND	
49 Chlorobromomethane	128		6.454					ND	
51 Tetrahydrofuran	42		6.466					ND	
52 Chloroform	83	6.605	6.600	0.005	94	7095		2.50	M
53 1,1,1-Trichloroethane	97		6.758					ND	
54 Cyclohexane	56		6.819					ND	
56 Carbon tetrachloride	117		6.929					ND	
55 1,1-Dichloropropene	75		6.941					ND	
57 Isobutyl alcohol	41		7.142					ND	
58 Benzene	78		7.160					ND	U
59 1,2-Dichloroethane	62		7.227					ND	
151 Isooctane	57		7.305					ND	
61 Tert-amyl methyl ether	73	7.494	7.330	0.164	37	3808		0.9038	
62 n-Heptane	43		7.507					ND	U
63 n-Butanol	56		7.841					ND	
64 Trichloroethene	130		7.884					ND	
65 Ethyl acrylate	55		7.999					ND	
66 Methylcyclohexane	83		8.115					ND	
67 1,2-Dichloropropane	63		8.152					ND	
69 Methyl methacrylate	69		8.230					ND	
70 1,4-Dioxane	88		8.237					ND	
68 Dibromomethane	93		8.243					ND	
71 Dichlorobromomethane	83		8.431					ND	
73 2-Chloroethyl vinyl ether	63		8.729					ND	
74 cis-1,3-Dichloropropene	75		8.875					ND	
75 4-Methyl-2-pentanone (MIBK	43		9.028					ND	U
76 Toluene	91		9.204					ND	
77 trans-1,3-Dichloropropene	75		9.447					ND	
78 Ethyl methacrylate	69		9.502					ND	
79 1,1,2-Trichloroethane	97		9.642					ND	U
80 Tetrachloroethene	164		9.709					ND	
81 1,3-Dichloropropane	76		9.800					ND	
82 2-Hexanone	43		9.861					ND	
83 n-Butyl acetate	43		9.970					ND	
84 Chlorodibromomethane	129		10.007					ND	
85 Ethylene Dibromide	107		10.129					ND	
86 3-Chlorobenzotrifluoride	180		10.445					ND	
87 Chlorobenzene	112		10.609					ND	
89 1,1,1,2-Tetrachloroethane	131		10.707					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
90 Ethylbenzene	106		10.713					ND	
88 4-Chlorobenzotrifluoride	180		10.779					ND	
91 m-Xylene & p-Xylene	106		10.840					ND	
92 o-Xylene	106		11.224					ND	
93 Styrene	104		11.242					ND	
94 Bromoform	173		11.424					ND	
96 2-Chlorobenzotrifluoride	180		11.521					ND	
97 Isopropylbenzene	105		11.589					ND	
98 Cyclohexanone	55		11.679					ND	
99 1,1,2,2-Tetrachloroethane	83		11.899					ND	
100 Bromobenzene	156		11.905					ND	
102 trans-1,4-Dichloro-2-buten	53		11.942					ND	
101 1,2,3-Trichloropropane	110		11.954					ND	
103 N-Propylbenzene	120		12.002					ND	
104 2-Chlorotoluene	126		12.094					ND	
106 1,3,5-Trimethylbenzene	105		12.185					ND	
105 3-Chlorotoluene	126		12.212					ND	
107 4-Chlorotoluene	126		12.215					ND	
111 1,2-dichloro-4-(trifluorom	214		12.463					ND	
108 tert-Butylbenzene	119		12.501					ND	
110 1,2,4-Trimethylbenzene	105		12.562					ND	
112 sec-Butylbenzene	105		12.726					ND	
116 2,4-Dichloro-1-(triflourom	214		12.836					ND	
113 1,3-Dichlorobenzene	146		12.842					ND	
118 2,5-Dichlorobenzotrifluori	214		12.878					ND	
114 4-Isopropyltoluene	119		12.878					ND	
115 1,4-Dichlorobenzene	146		12.945					ND	
117 1,2,3-Trimethylbenzene	105		12.969					ND	
119 Benzyl chloride	91		13.060					ND	
120 n-Butylbenzene	91		13.286					ND	
121 1,2-Dichlorobenzene	146		13.304					ND	U
122 1,2-Dibromo-3-Chloropropan	75		14.089					ND	
123 2,4- & 2,5- & 2,6- Dichlor	125		14.125					ND	
124 1,3,5-Trichlorobenzene	180		14.277					ND	
125 2,3- & 3,4- Dichlorotoluen	125		14.557					ND	
126 1,2,4-Trichlorobenzene	180		14.916					ND	
127 Hexachlorobutadiene	225	15.055	15.056	-0.001	1	551		0.8048	
128 Naphthalene	128		15.184					ND	U
129 1,2,3-Trichlorobenzene	180		15.415					ND	
130 2,3,6-Trichlorotoluene	159		16.090					ND	
131 2,4,5-Trichlorotoluene	159		16.090					ND	
S 134 1,2-Dichloroethene, Total	96		1.000					ND	
S 154 Total BTEX	106		1.000					ND	
S 133 Xylenes, Total	106		1.000					ND	
S 135 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

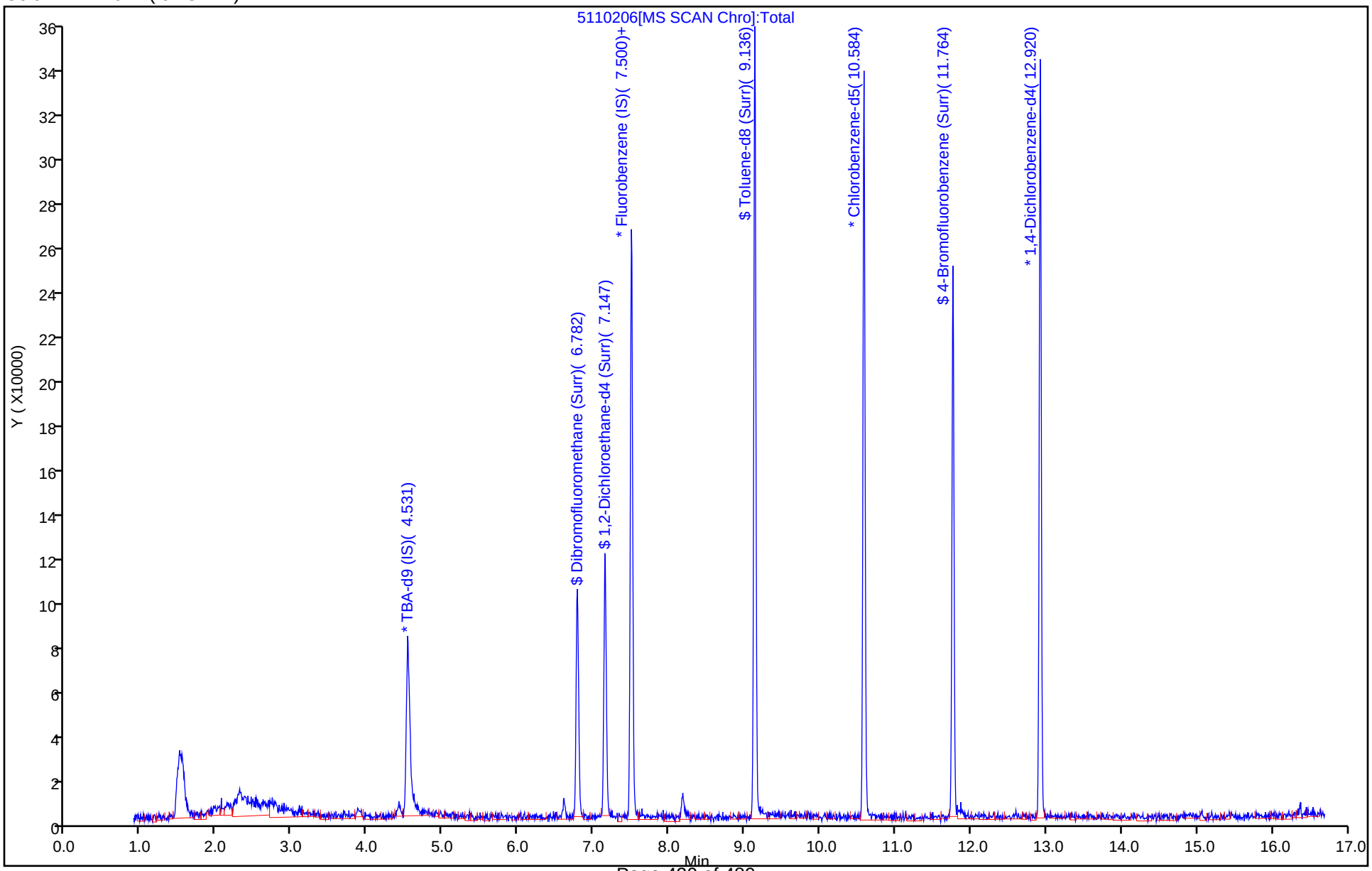
Report Date: 05-Nov-2019 10:54:42 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D

Injection Date:	02-Nov-2019 11:32:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 02-Nov-2019 11:32:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-006
Misc. Info.: MB
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 05-Nov-2019 10:54:41 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

First Level Reviewer: bowieh Date: 05-Nov-2019 10:54:41

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	55.0	110.05
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	56.3	112.52
$ 7 Toluene-d8 (Surr)	50.0	45.4	90.76
$ 8 4-Bromofluorobenzene (Surr)	50.0	43.2	86.40

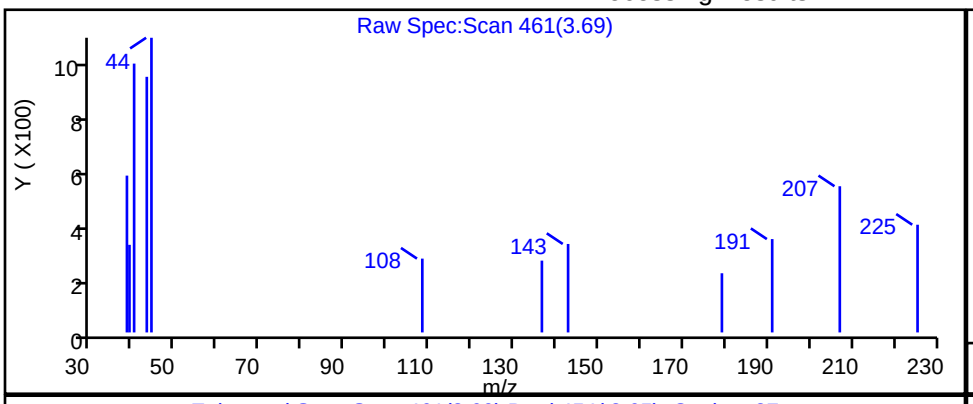
User Disabled Compound Report

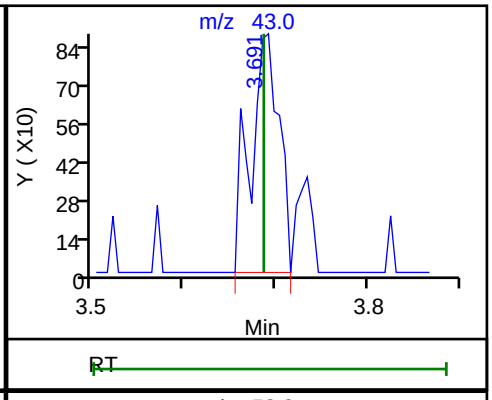
Eurofins TestAmerica, Pittsburgh

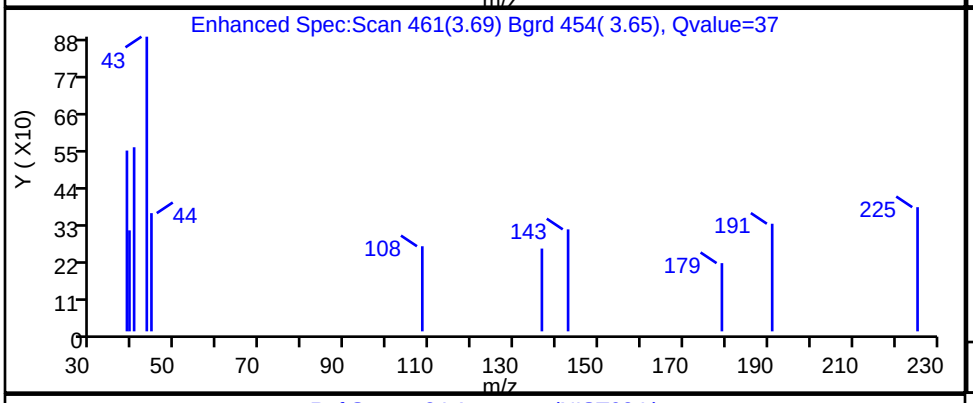
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D				
Injection Date:	02-Nov-2019 11:32:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

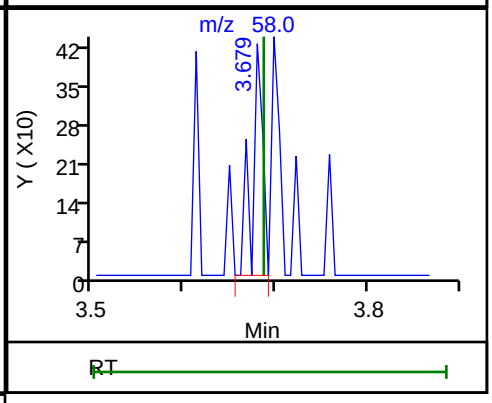
24 Acetone, CAS: 67-64-1

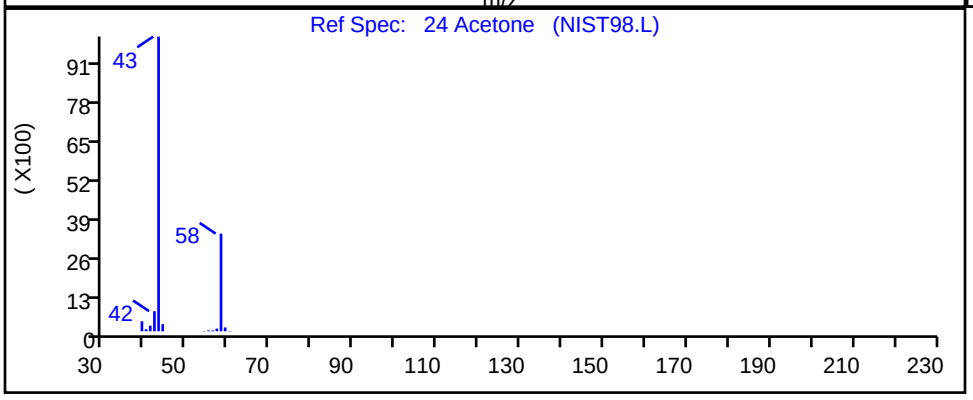
Processing Results











RT	Mass	Response	Amount
3.69	43.00	1936	3.035848
3.68	58.00	341	

Reviewer: bowieh, 05-Nov-2019 10:53:26

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

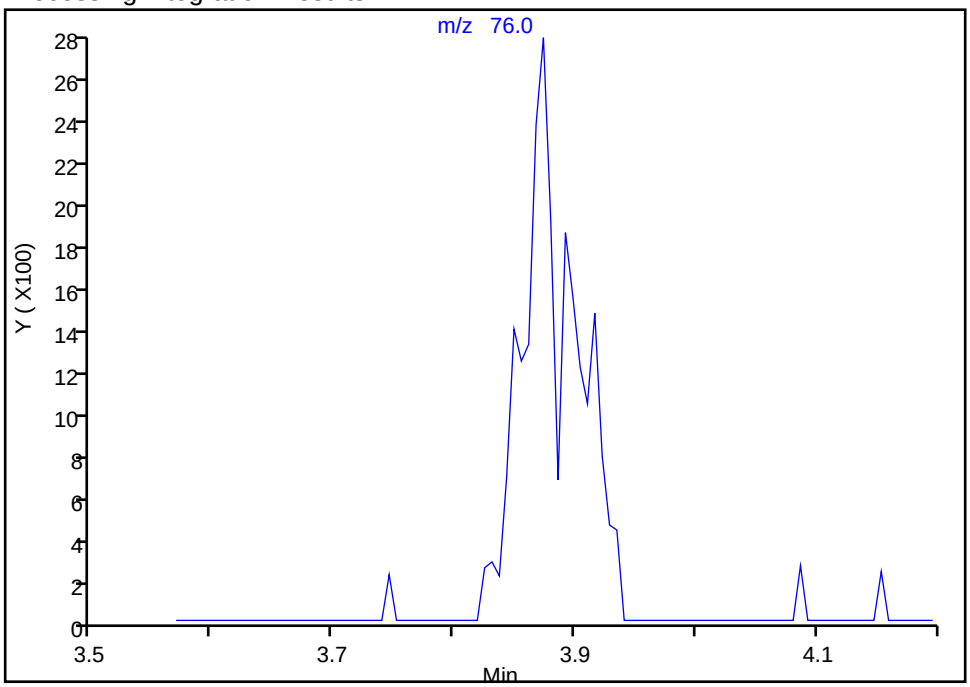
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D
Injection Date: 02-Nov-2019 11:32:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

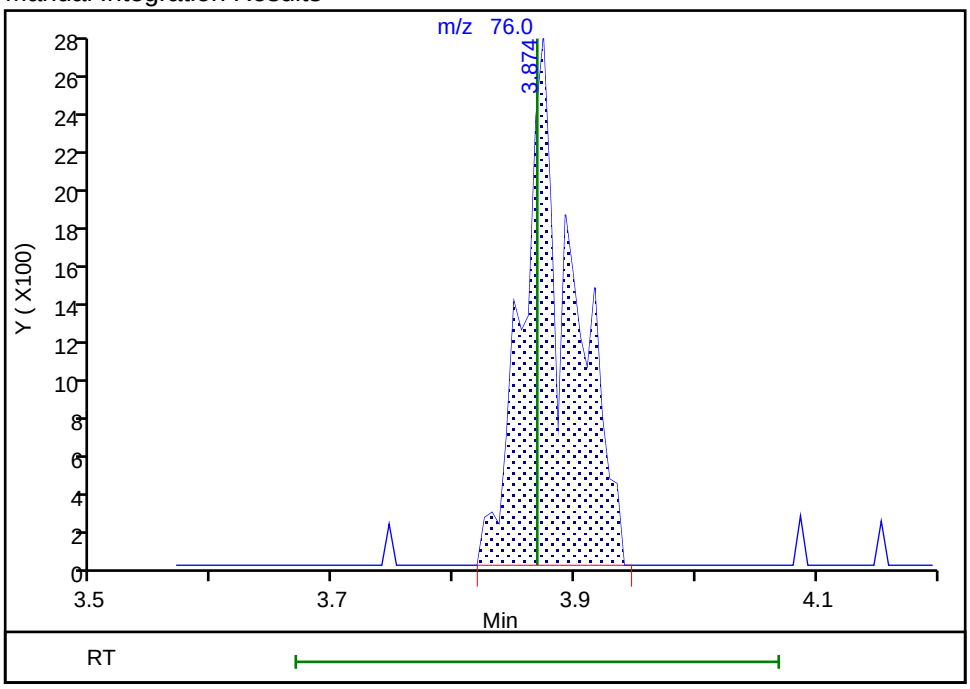
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 7983
Amount: 2.145573
Amount Units: ng



Reviewer: bowieh, 02-Nov-2019 11:55:10
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

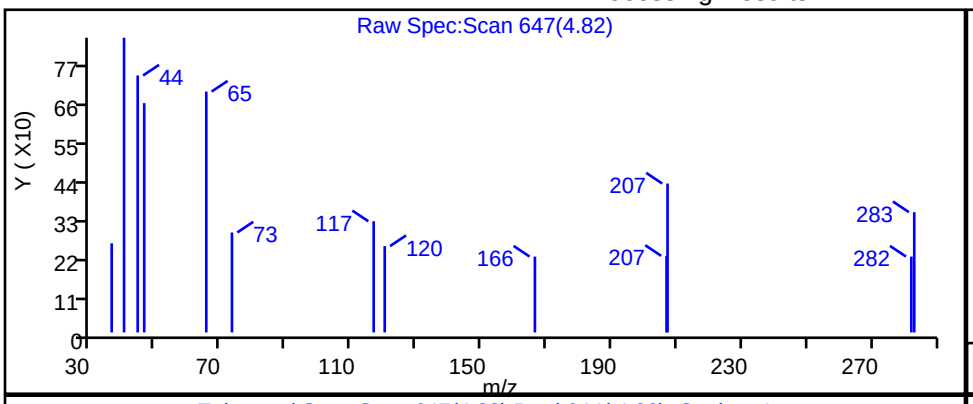
User Disabled Compound Report

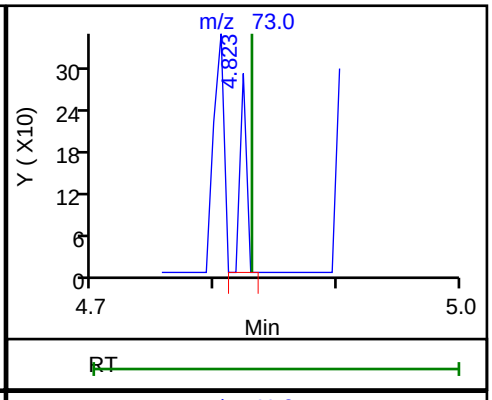
Eurofins TestAmerica, Pittsburgh

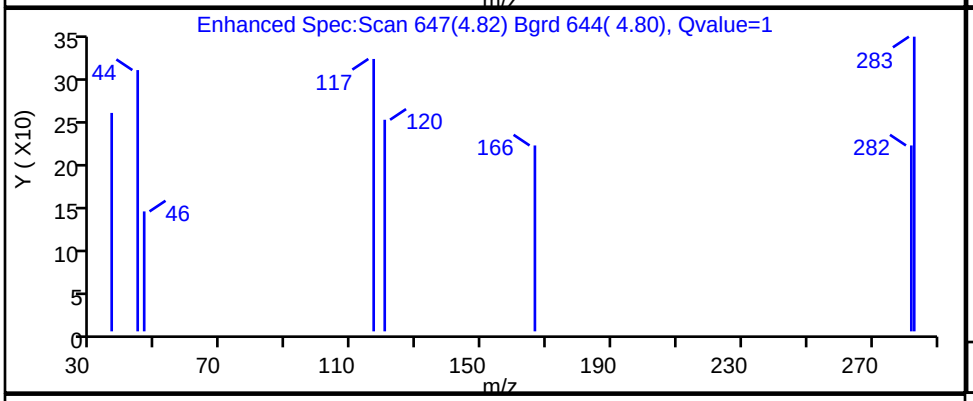
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D				
Injection Date:	02-Nov-2019 11:32:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

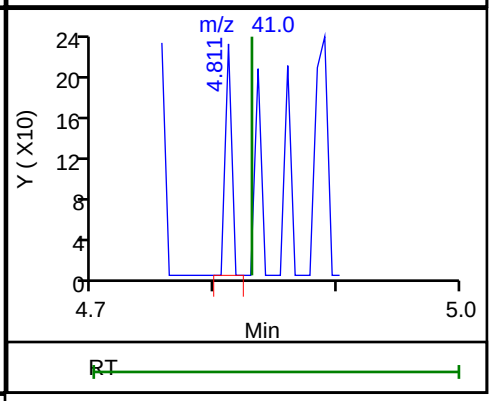
35 Methyl tert-butyl ether, CAS: 1634-04-4

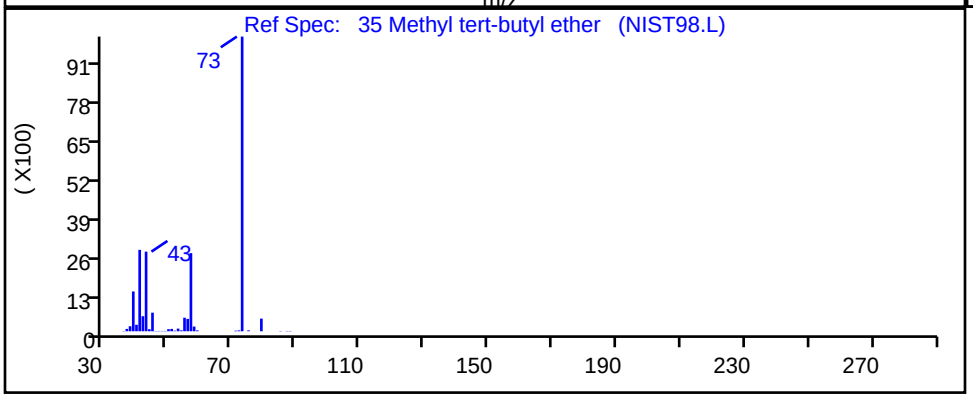
Processing Results











RT	Mass	Response	Amount
4.82	73.00	104	0.026165
4.81	41.00	82	

Reviewer: bowieh, 05-Nov-2019 10:53:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

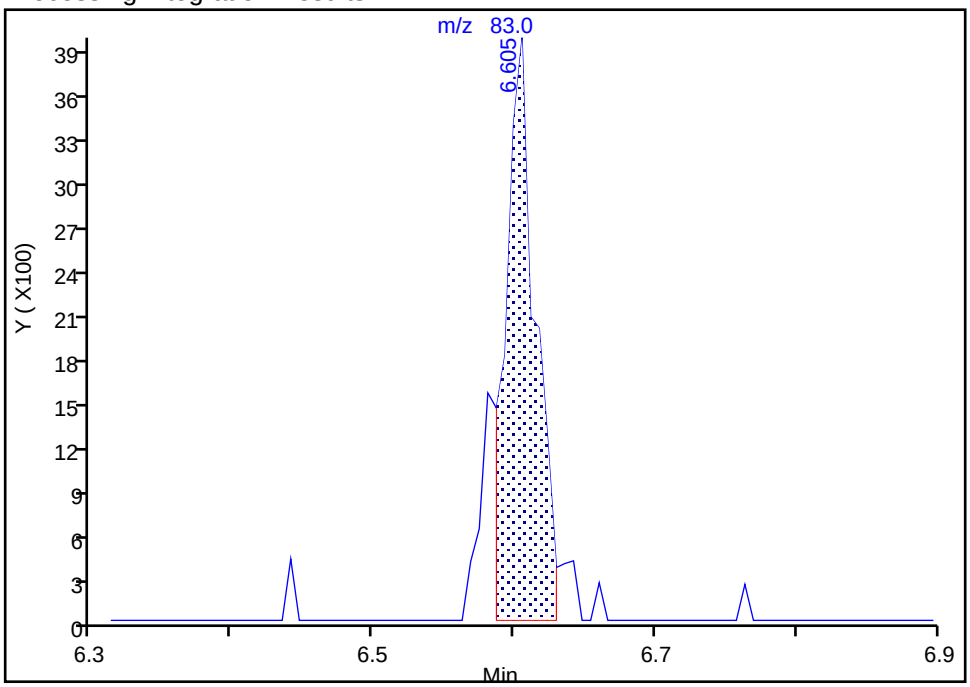
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D
Injection Date: 02-Nov-2019 11:32:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

52 Chloroform, CAS: 67-66-3

Signal: 1

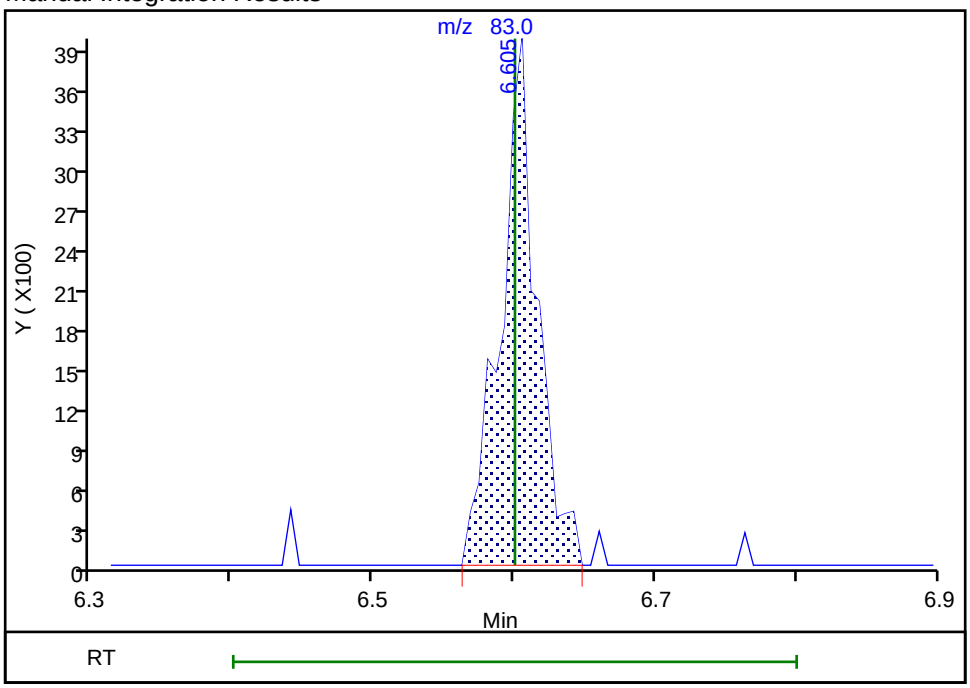
Processing Integration Results

RT: 6.61
Area: 5877
Amount: 2.068569
Amount Units: ng



Manual Integration Results

RT: 6.61
Area: 7095
Amount: 2.497278
Amount Units: ng



Reviewer: bowieh, 05-Nov-2019 10:53:49
Audit Action: Manually Integrated Audit Reason: Poor chromatography

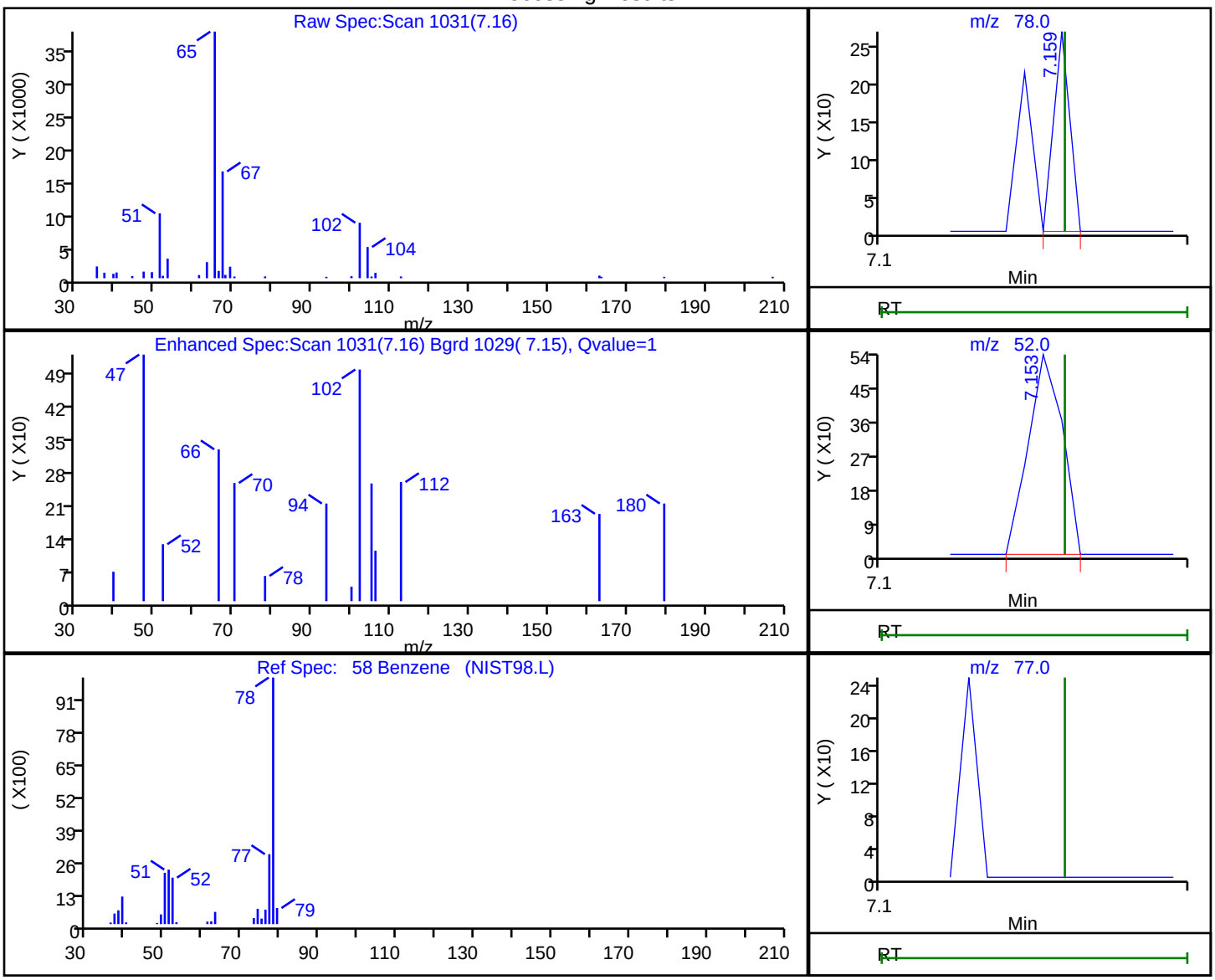
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D				
Injection Date:	02-Nov-2019 11:32:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.16	78.00	97	0.015308
7.15	52.00	412	
7.16	77.00	0	

Reviewer: bowieh, 05-Nov-2019 10:53:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

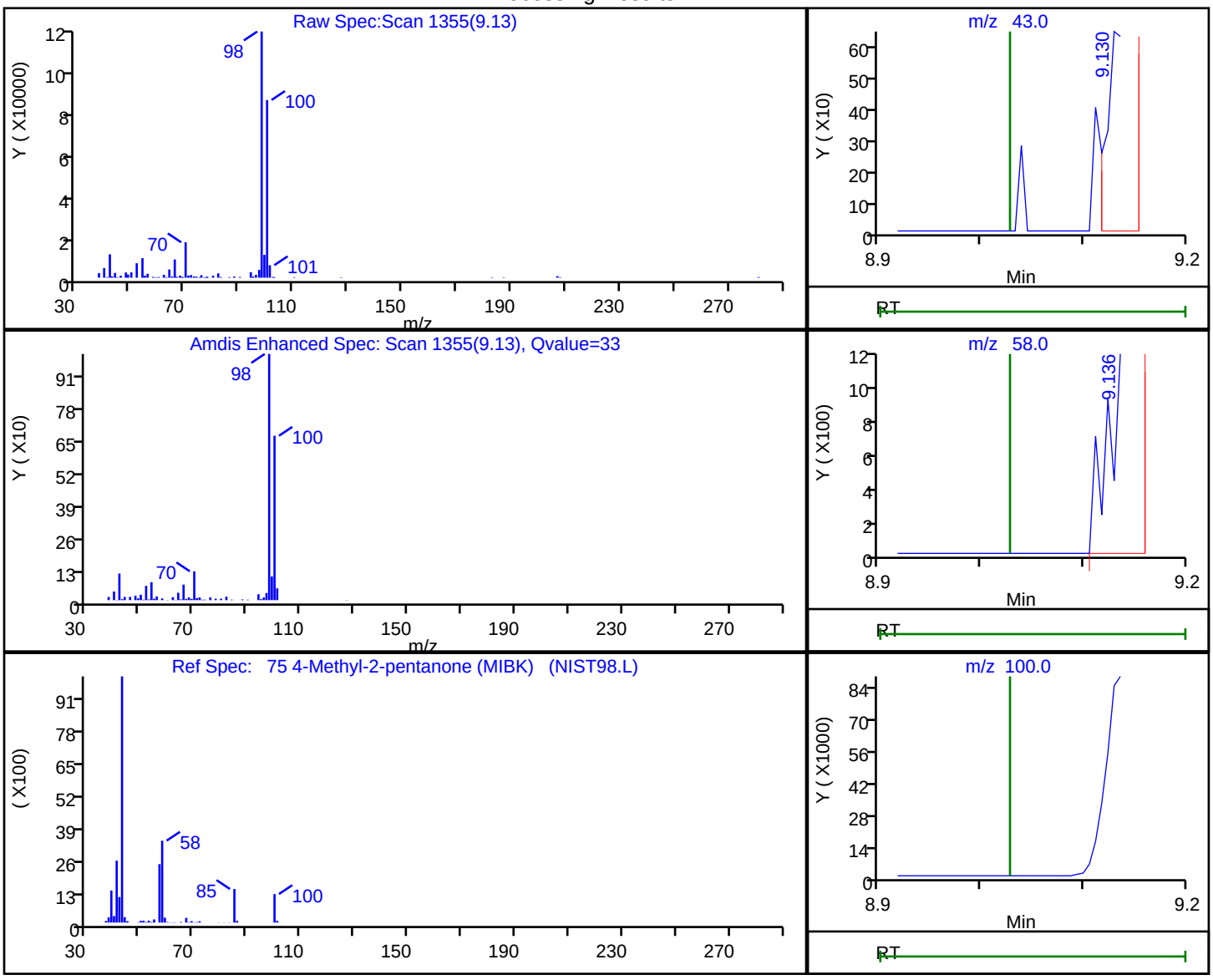
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D				
Injection Date:	02-Nov-2019 11:32:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.13	43.00	930	0.646312
9.14	58.00	1933	
9.14	100.00	174201	

Reviewer: bowieh, 05-Nov-2019 10:54:00

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

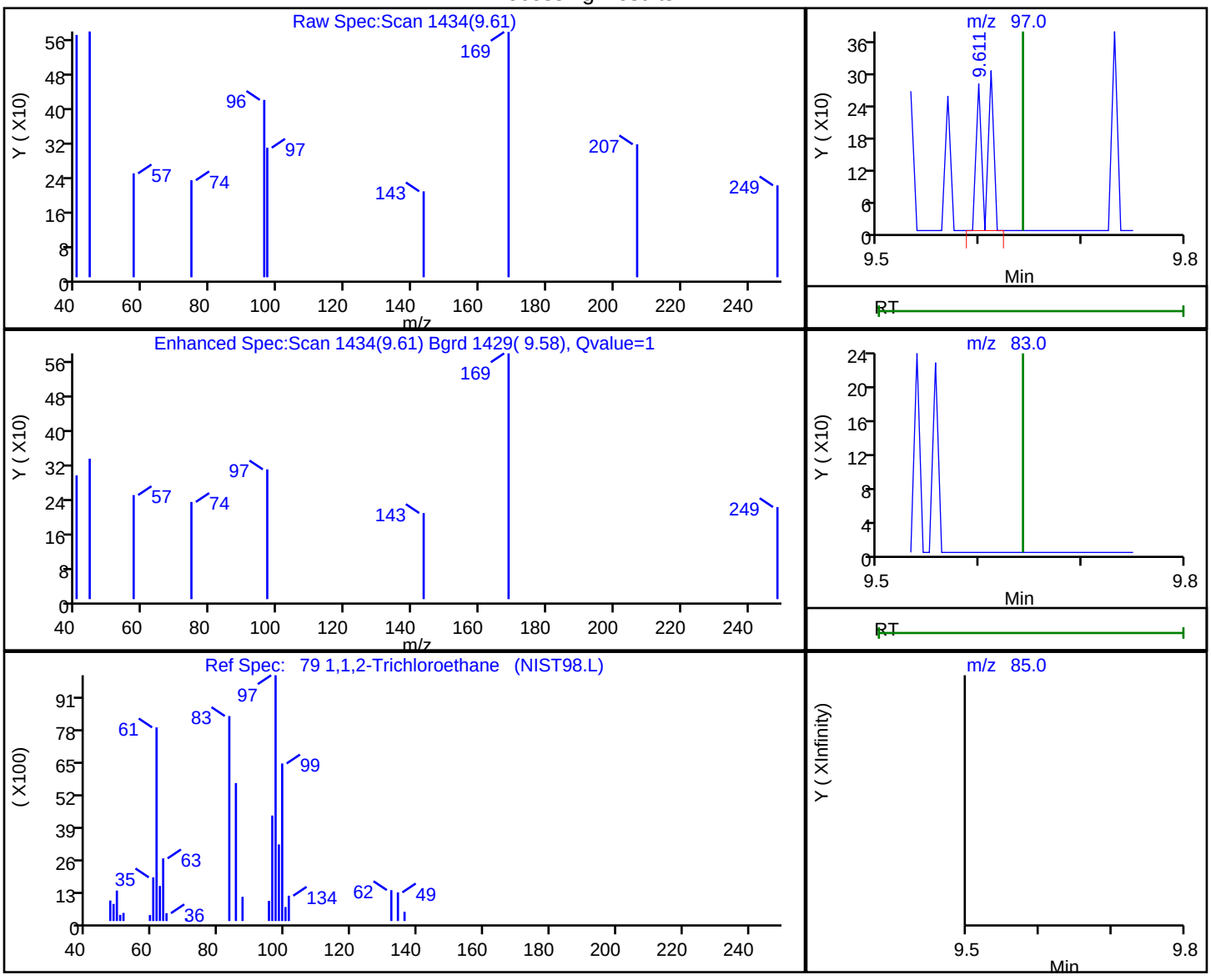
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110206.D				
Injection Date:	02-Nov-2019 11:32:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.61	97.00	212	0.138988
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 05-Nov-2019 10:54:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-297107/6

Matrix: Water Lab File ID: 5110506.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 14:21

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND		1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND		5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-297107/6

Matrix: Water Lab File ID: 5110506.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 14:21

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		70-150
2037-26-5	Toluene-d8 (Surr)	83		78-128
460-00-4	4-Bromofluorobenzene (Surr)	78		64-123
1868-53-7	Dibromofluoromethane (Surr)	109		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2019 14:21:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-006
Misc. Info.: MB
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:47:48 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:47:48

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.552	-0.014	0	122687	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.507	7.508	-0.001	99	259247	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.587	-0.002	84	72323	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.927	12.923	0.004	92	120050	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.785	-0.002	95	70208	50.0	54.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.154	7.150	0.004	0	96187	50.0	54.6	
$ 7 Toluene-d8 (Surr)	98	9.137	9.139	-0.002	93	241617	50.0	41.7	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.767	-0.002	95	84170	50.0	39.2	
11 Dichlorodifluoromethane	85		1.693					ND	
12 Chloromethane	50		1.918					ND	
13 Vinyl chloride	62		2.033					ND	
14 Butadiene	39		2.064					ND	
15 Bromomethane	94		2.380					ND	
16 Chloroethane	64		2.538					ND	
19 Ethanol	45		2.640					ND	
17 Dichlorofluoromethane	67		2.855					ND	
18 Trichlorofluoromethane	101		2.867					ND	
20 Ethyl ether	59		3.262					ND	
21 Acrolein	56		3.457					ND	
22 1,1-Dichloroethene	96		3.579					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.658					ND	
24 Acetone	43		3.688					ND	U
25 Iodomethane	142		3.779					ND	
26 Carbon disulfide	76	3.869	3.871	-0.002	76	7262		2.01	a
27 Isopropyl alcohol	45		3.990					ND	
29 Acetonitrile	41		4.148					ND	
28 3-Chloro-1-propene	76		4.193					ND	
30 Methyl acetate	43		4.223					ND	
31 Methylene Chloride	84	4.429	4.406	0.023	41	5838		-6.42	a
32 2-Methyl-2-propanol	59		4.680					ND	
33 Acrylonitrile	53		4.795					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.813					ND	
35 Methyl tert-butyl ether	73		4.832					ND	
36 Hexane	57		5.233					ND	
37 1,1-Dichloroethane	63		5.446					ND	
38 Vinyl acetate	43		5.495					ND	
39 2-Chloro-1,3-butadiene	53		5.529					ND	
41 Isopropyl ether	45		5.535					ND	
42 Tert-butyl ethyl ether	59		5.997					ND	
44 2,2-Dichloropropane	97		6.182					ND	
45 cis-1,2-Dichloroethene	96		6.182					ND	
46 2-Butanone (MEK)	43		6.201					ND	
48 Ethyl acetate	43		6.259					ND	
47 Propionitrile	54		6.265					ND	
50 Methacrylonitrile	41		6.441					ND	
49 Chlorobromomethane	128		6.468					ND	
51 Tetrahydrofuran	42		6.474					ND	
52 Chloroform	83	6.619	6.602	0.017	81	6017		2.18	
53 1,1,1-Trichloroethane	97		6.766					ND	
54 Cyclohexane	56		6.833					ND	
56 Carbon tetrachloride	117		6.937					ND	
55 1,1-Dichloropropene	75		6.949					ND	
57 Isobutyl alcohol	41		7.156					ND	U
58 Benzene	78		7.162					ND	
59 1,2-Dichloroethane	62		7.241					ND	
151 Isooctane	57		7.305					ND	
61 Tert-amyl methyl ether	73		7.330					ND	U
62 n-Heptane	43		7.515					ND	
63 n-Butanol	56		7.841					ND	
64 Trichloroethene	130		7.886					ND	
65 Ethyl acrylate	55		7.999					ND	
66 Methylcyclohexane	83		8.117					ND	
67 1,2-Dichloropropane	63		8.159					ND	
69 Methyl methacrylate	69		8.230					ND	
70 1,4-Dioxane	88		8.232					ND	
68 Dibromomethane	93		8.238					ND	
71 Dichlorobromomethane	83		8.433					ND	
73 2-Chloroethyl vinyl ether	63		8.731					ND	
74 cis-1,3-Dichloropropene	75		8.877					ND	
75 4-Methyl-2-pentanone (MIBK	43		9.035					ND	U
76 Toluene	91		9.206					ND	
77 trans-1,3-Dichloropropene	75		9.449					ND	
78 Ethyl methacrylate	69		9.510					ND	
79 1,1,2-Trichloroethane	97		9.644					ND	
80 Tetrachloroethene	164		9.717					ND	
81 1,3-Dichloropropane	76		9.802					ND	
82 2-Hexanone	43		9.863					ND	U
83 n-Butyl acetate	43		9.970					ND	
84 Chlorodibromomethane	129		10.015					ND	
85 Ethylene Dibromide	107		10.130					ND	
86 3-Chlorobenzotrifluoride	180		10.445					ND	
87 Chlorobenzene	112		10.617					ND	U
89 1,1,1,2-Tetrachloroethane	131		10.702					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
90 Ethylbenzene	106		10.714					ND	
88 4-Chlorobenzotrifluoride	180		10.779					ND	
91 m-Xylene & p-Xylene	106		10.842					ND	
92 o-Xylene	106		11.225					ND	
93 Styrene	104		11.244					ND	
94 Bromoform	173		11.426					ND	
96 2-Chlorobenzotrifluoride	180		11.521					ND	
97 Isopropylbenzene	105		11.590					ND	
98 Cyclohexanone	55		11.679					ND	
99 1,1,2,2-Tetrachloroethane	83		11.901					ND	
100 Bromobenzene	156		11.907					ND	
102 trans-1,4-Dichloro-2-buten	53		11.943					ND	
101 1,2,3-Trichloropropane	110		11.962					ND	
103 N-Propylbenzene	120		12.004					ND	
104 2-Chlorotoluene	126		12.095					ND	
106 1,3,5-Trimethylbenzene	105		12.187					ND	
105 3-Chlorotoluene	126		12.212					ND	
107 4-Chlorotoluene	126		12.223					ND	
111 1,2-dichloro-4-(trifluorom	214		12.463					ND	
108 tert-Butylbenzene	119		12.503					ND	
110 1,2,4-Trimethylbenzene	105		12.564					ND	
112 sec-Butylbenzene	105		12.728					ND	
116 2,4-Dichloro-1-(triflourom	214		12.836					ND	
113 1,3-Dichlorobenzene	146		12.844					ND	
118 2,5-Dichlorobenzotrifluori	214		12.878					ND	
114 4-Isopropyltoluene	119		12.880					ND	
115 1,4-Dichlorobenzene	146		12.947					ND	U
117 1,2,3-Trimethylbenzene	105		12.969					ND	
119 Benzyl chloride	91		13.060					ND	
120 n-Butylbenzene	91		13.288					ND	
121 1,2-Dichlorobenzene	146		13.306					ND	U
122 1,2-Dibromo-3-Chloropropan	75		14.097					ND	
123 2,4- & 2,5- & 2,6- Dichlor	125		14.125					ND	
124 1,3,5-Trichlorobenzene	180		14.277					ND	
125 2,3- & 3,4- Dichlorotoluen	125		14.557					ND	
126 1,2,4-Trichlorobenzene	180		14.918					ND	
127 Hexachlorobutadiene	225	15.056	15.058	-0.002	1	196		0.2629	
128 Naphthalene	128		15.186					ND	U
129 1,2,3-Trichlorobenzene	180		15.423					ND	
130 2,3,6-Trichlorotoluene	159		16.090					ND	
131 2,4,5-Trichlorotoluene	159		16.090					ND	
S 133 Xylenes, Total	106		1.000					ND	
S 154 Total BTEX	106		1.000					ND	
S 134 1,2-Dichloroethene, Total	96		1.000					ND	
S 135 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

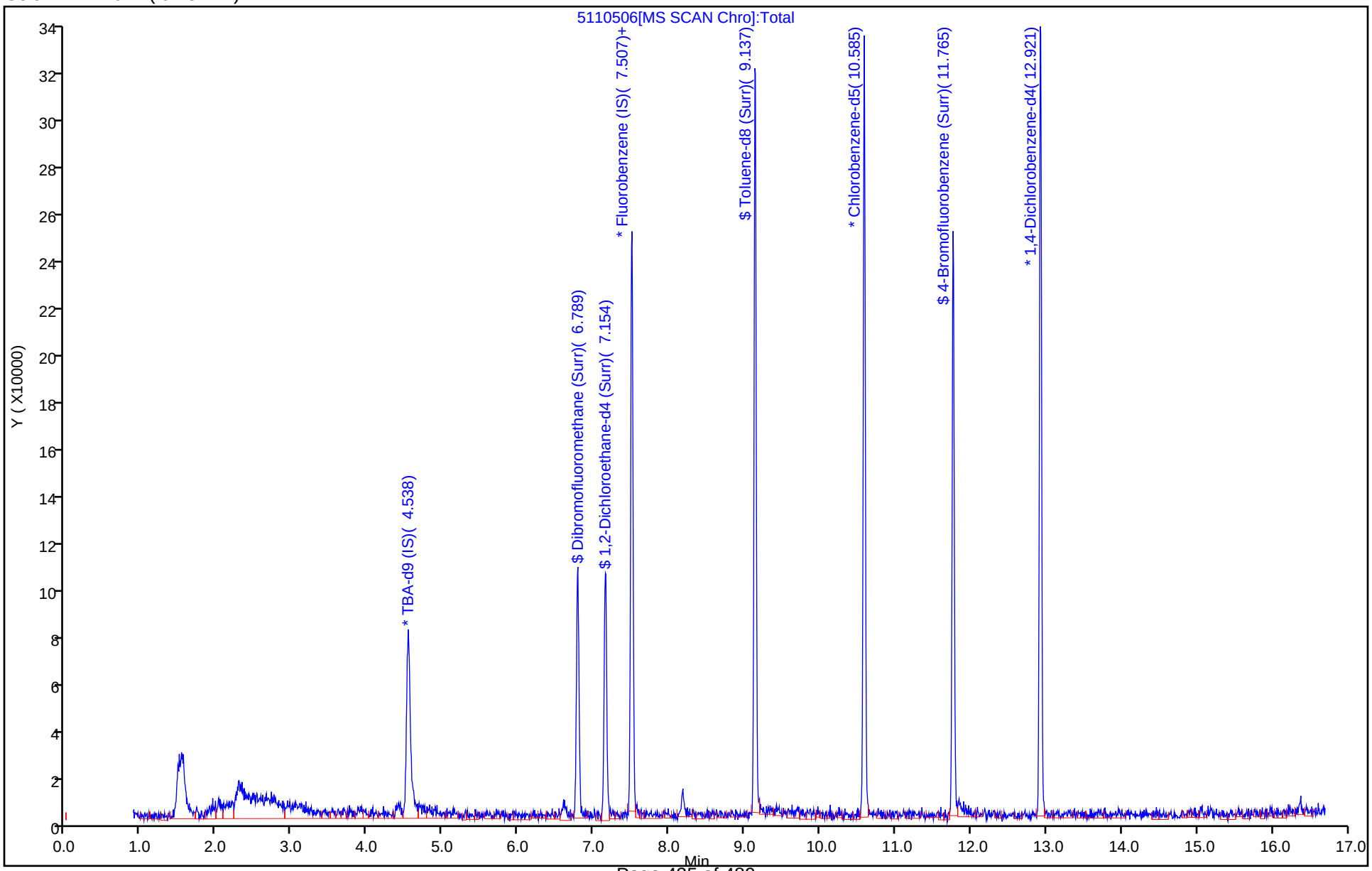
Report Date: 06-Nov-2019 09:47:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D

Injection Date:	05-Nov-2019 14:21:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2019 14:21:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-006
Misc. Info.: MB
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:47:48 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:47:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	54.5	108.96
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.6	109.27
$ 7 Toluene-d8 (Surr)	50.0	41.7	83.48
$ 8 4-Bromofluorobenzene (Surr)	50.0	39.2	78.41

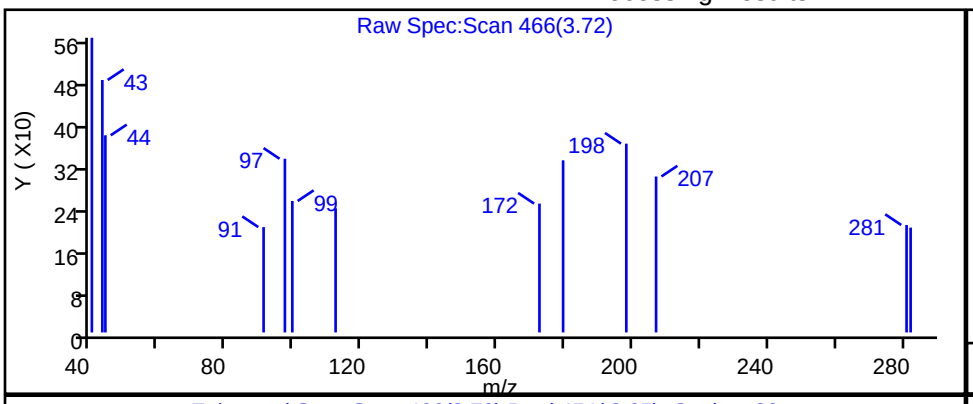
User Disabled Compound Report

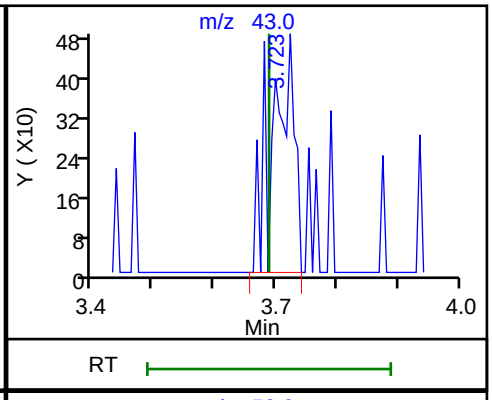
Eurofins TestAmerica, Pittsburgh

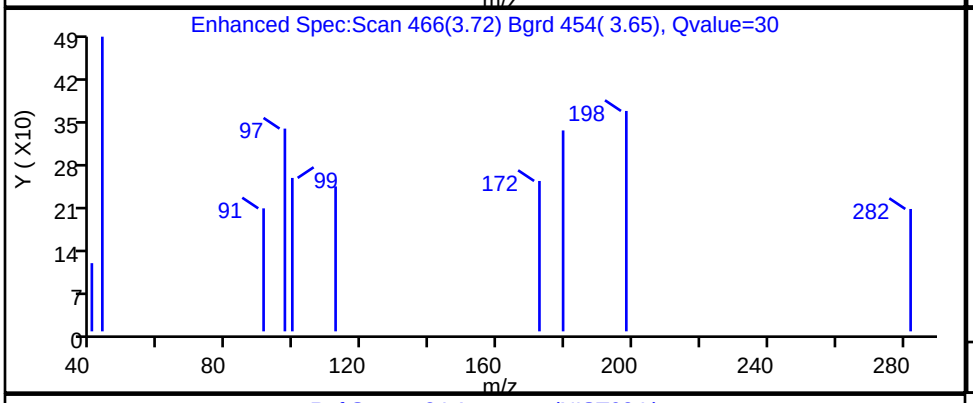
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D
Injection Date: 05-Nov-2019 14:21:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

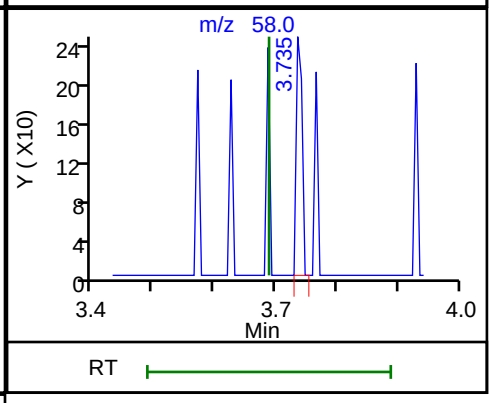
24 Acetone, CAS: 67-64-1

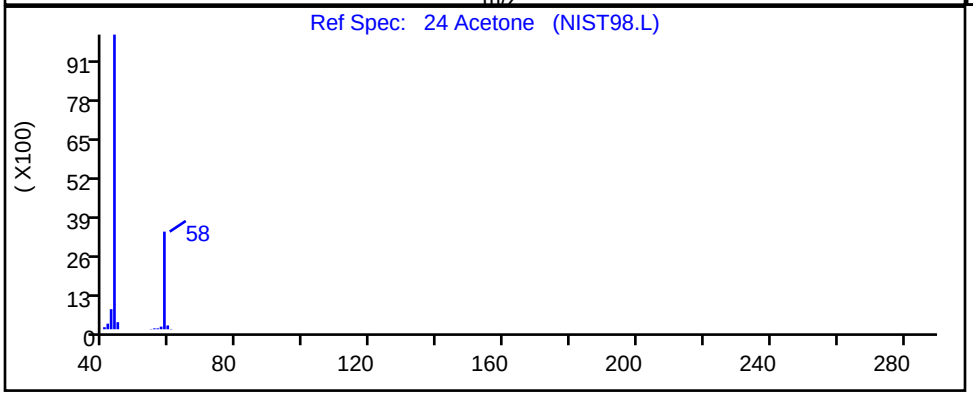
Processing Results











RT	Mass	Response	Amount
3.72	43.00	1211	1.958525
3.74	58.00	162	

Reviewer: bowieh, 06-Nov-2019 09:46:40
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

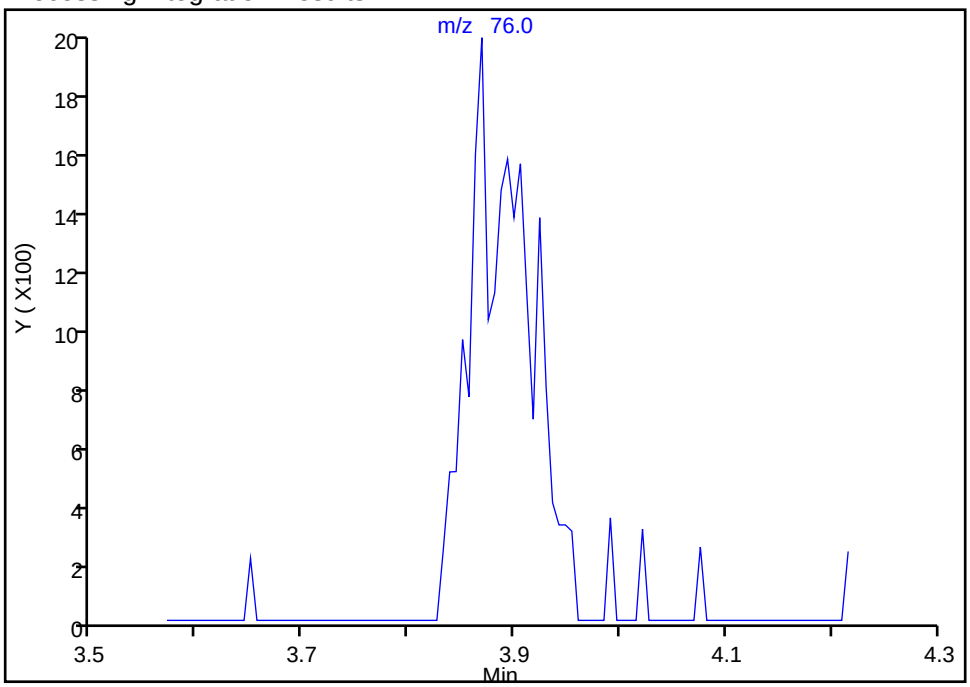
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D
Injection Date: 05-Nov-2019 14:21:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

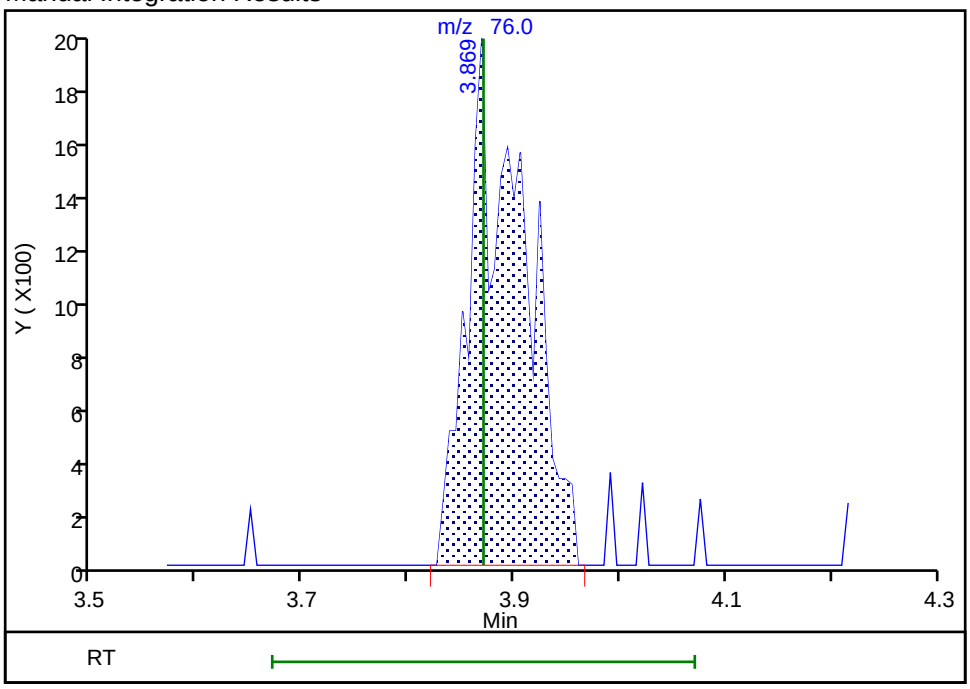
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 7262
Amount: 2.013000
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 09:46:46
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

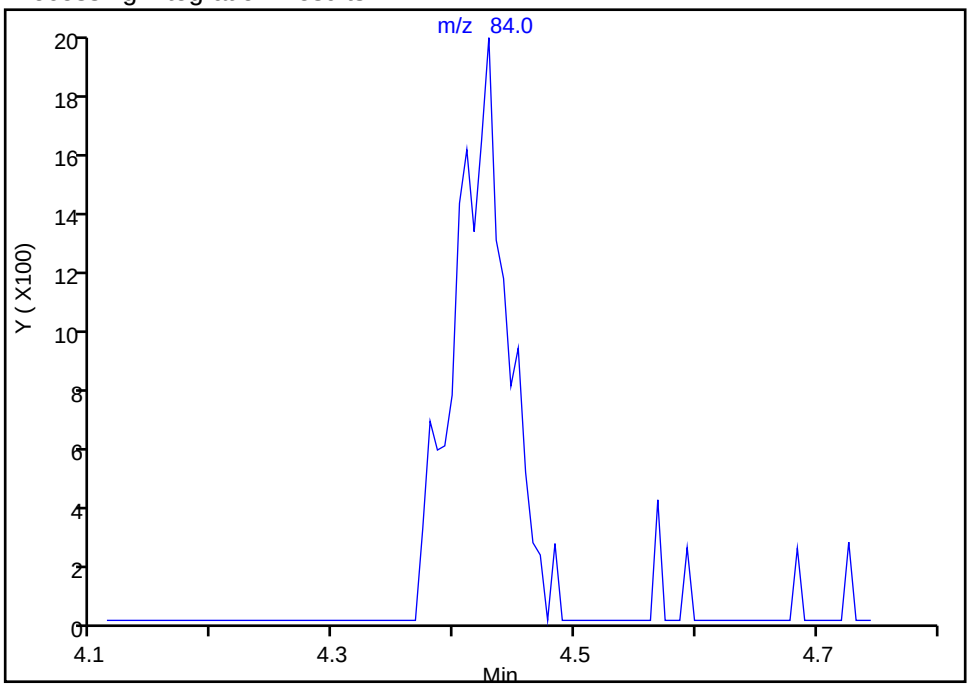
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D
Injection Date: 05-Nov-2019 14:21:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

31 Methylene Chloride, CAS: 75-09-2

Signal: 1

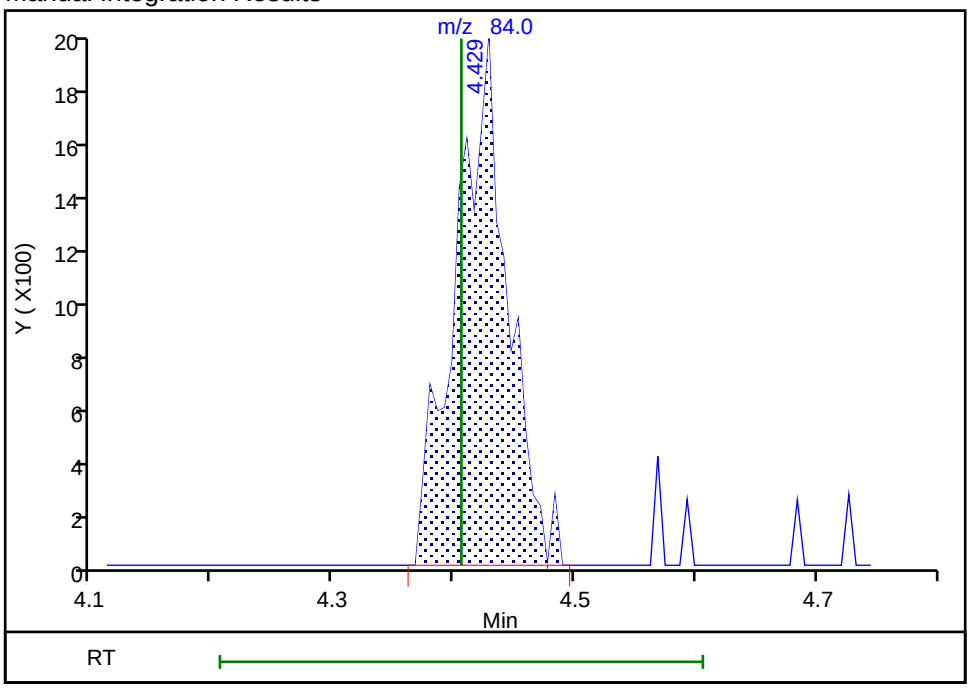
Not Detected
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.43
Area: 5838
Amount: -6.420164
Amount Units: ng



Reviewer: bowieh, 06-Nov-2019 09:46:53
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

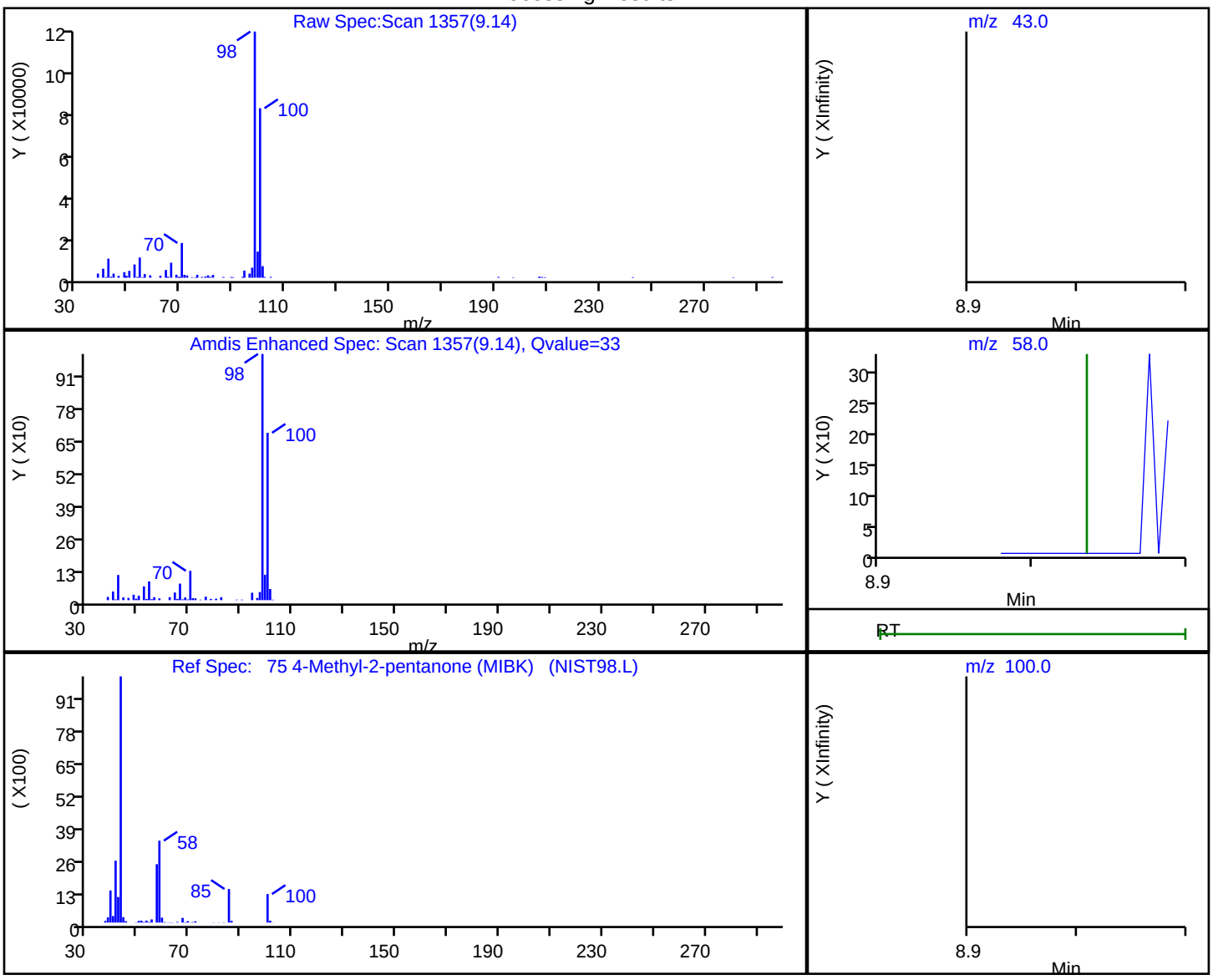
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D				
Injection Date:	05-Nov-2019 14:21:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.14	43.00	277	0.192230
9.14	58.00	1646	
9.14	100.00	158022	

Reviewer: bowieh, 06-Nov-2019 09:47:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

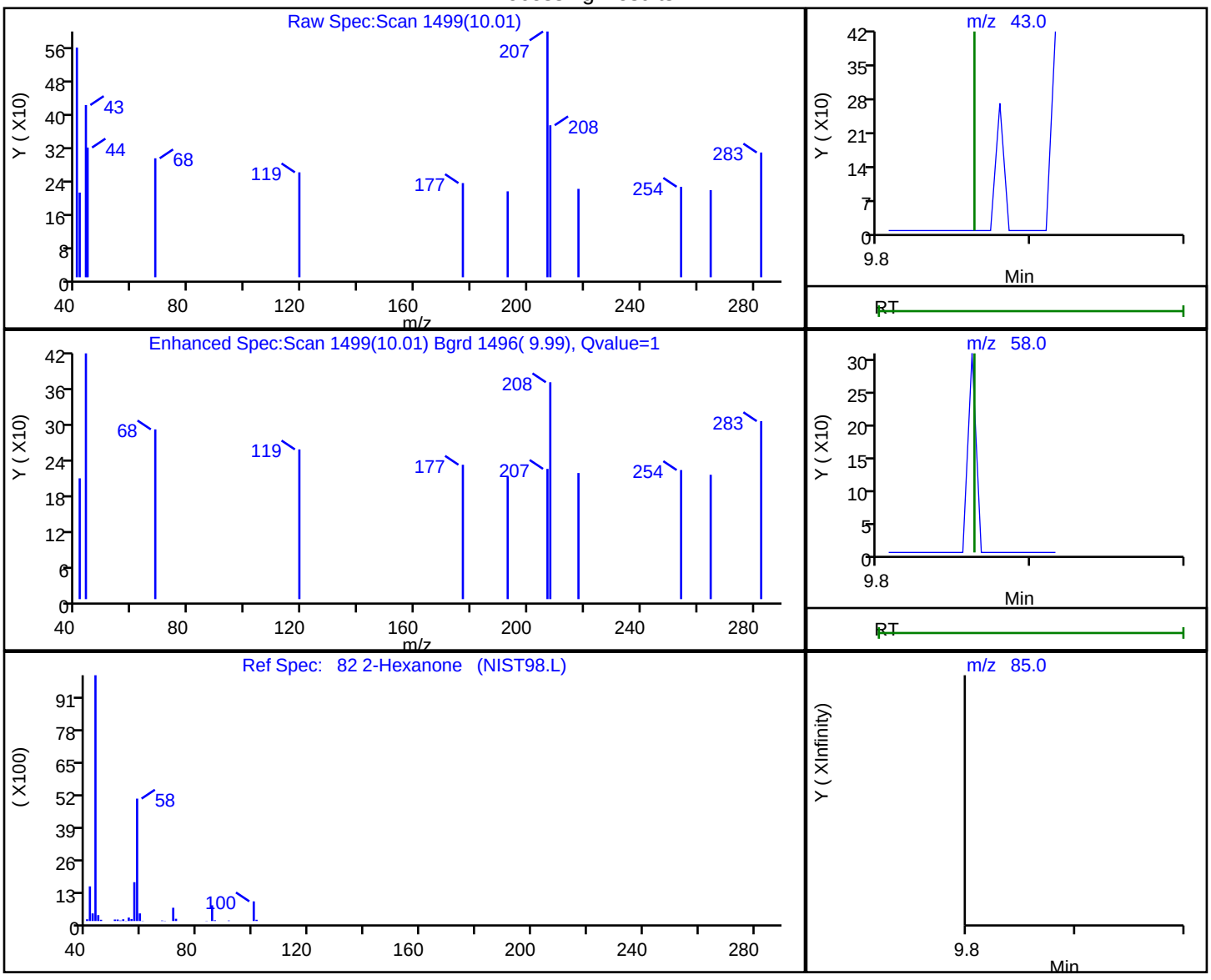
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D
Injection Date: 05-Nov-2019 14:21:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

82 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.01	43.00	235	0.240466
10.01	58.00	170	
9.86	85.00	0	

Reviewer: bowieh, 06-Nov-2019 09:47:15
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

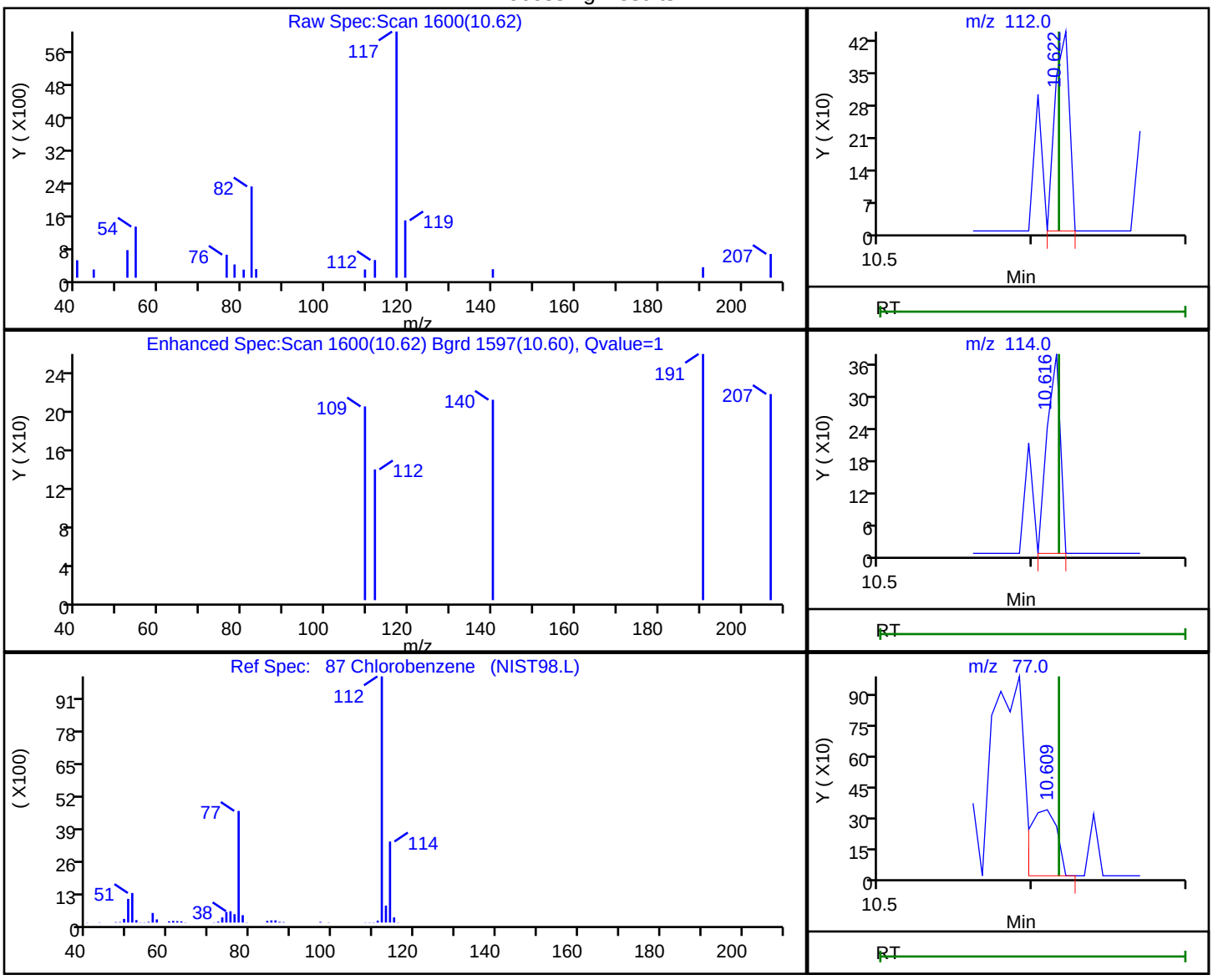
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110506.D				
Injection Date:	05-Nov-2019 14:21:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 Chlorobenzene, CAS: 108-90-7

Processing Results



RT	Mass	Response	Amount
10.62	112.00	283	0.057085
10.62	114.00	225	
10.61	77.00	406	

Reviewer: bowieh, 06-Nov-2019 09:47:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-297240/6

Matrix: Water Lab File ID: 5110606.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/06/2019 11:31

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.: 297240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND		1.0	0.90
75-01-4	Vinyl chloride	ND		1.0	0.88
74-83-9	Bromomethane	ND		1.0	0.89
75-00-3	Chloroethane	ND		1.0	0.90
75-35-4	1,1-Dichloroethene	ND		1.0	0.55
67-64-1	Acetone	ND		5.0	3.4
75-15-0	Carbon disulfide	ND		1.0	0.88
75-09-2	Methylene Chloride	ND		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.59
75-34-3	1,1-Dichloroethane	ND		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.71
74-97-5	Bromochloromethane	ND		1.0	0.63
78-93-3	2-Butanone (MEK)	ND		5.0	2.6
67-66-3	Chloroform	ND		1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.60
56-23-5	Carbon tetrachloride	ND		1.0	0.88
71-43-2	Benzene	ND		1.0	0.60
107-06-2	1,2-Dichloroethane	ND		1.0	0.57
79-01-6	Trichloroethene	ND		1.0	0.69
78-87-5	1,2-Dichloropropane	ND		1.0	0.66
75-27-4	Bromodichloromethane	ND		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1
108-88-3	Toluene	ND		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.45
127-18-4	Tetrachloroethene	ND		1.0	0.47
591-78-6	2-Hexanone	ND		5.0	3.3
124-48-1	Dibromochloromethane	ND		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND		1.0	0.50
108-90-7	Chlorobenzene	ND		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND		1.0	0.57
100-41-4	Ethylbenzene	ND		1.0	0.51
1330-20-7	Xylenes, Total	ND		2.0	0.89
100-42-5	Styrene	ND		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-297240/6

Matrix: Water Lab File ID: 5110606.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/06/2019 11:31

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.: 297240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.60
107-13-1	Acrylonitrile	ND		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		70-150
2037-26-5	Toluene-d8 (Surr)	92		78-128
460-00-4	4-Bromofluorobenzene (Surr)	75		64-123
1868-53-7	Dibromofluoromethane (Surr)	116		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 06-Nov-2019 11:31:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-006
Misc. Info.: MB
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:10:46 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:10:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.532	4.538	-0.006	0	134650	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.500	0.001	99	258548	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	68325	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	93	87632	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.001	94	74639	50.0	58.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	97613	50.0	55.6	
$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	94	250569	50.0	45.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.006	94	76390	50.0	37.7	
11 Dichlorodifluoromethane	85		1.697					ND	
12 Chloromethane	50		1.916					ND	
13 Vinyl chloride	62		2.037					ND	
14 Butadiene	39		2.074					ND	
15 Bromomethane	94		2.427					ND	
16 Chloroethane	64		2.561					ND	
19 Ethanol	45		2.640					ND	
17 Dichlorofluoromethane	67		2.859					ND	
18 Trichlorofluoromethane	101		2.883					ND	
20 Ethyl ether	59		3.254					ND	
21 Acrolein	56		3.455					ND	
22 1,1-Dichloroethene	96		3.583					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.680					ND	
24 Acetone	43		3.692					ND	
25 Iodomethane	142		3.783					ND	U
26 Carbon disulfide	76	3.875	3.875	0.000	58	5337		1.48	a
27 Isopropyl alcohol	45		3.990					ND	
29 Acetonitrile	41		4.148					ND	
28 3-Chloro-1-propene	76		4.197					ND	
30 Methyl acetate	43		4.215					ND	
31 Methylene Chloride	84	4.422	4.410	0.012	48	5458		-6.67	a
32 2-Methyl-2-propanol	59		4.678					ND	
33 Acrylonitrile	53		4.793					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.818					ND	
35 Methyl tert-butyl ether	73		4.842					ND	
36 Hexane	57		5.231					ND	
37 1,1-Dichloroethane	63		5.444					ND	
38 Vinyl acetate	43		5.493					ND	
39 2-Chloro-1,3-butadiene	53		5.529					ND	
41 Isopropyl ether	45		5.535					ND	
42 Tert-butyl ethyl ether	59		5.997					ND	
44 2,2-Dichloropropane	97		6.180					ND	
45 cis-1,2-Dichloroethene	96		6.186					ND	
46 2-Butanone (MEK)	43		6.198					ND	
48 Ethyl acetate	43		6.259					ND	
47 Propionitrile	54		6.265					ND	
50 Methacrylonitrile	41		6.441					ND	
49 Chlorobromomethane	128		6.460					ND	
51 Tetrahydrofuran	42		6.466					ND	
52 Chloroform	83	6.594	6.600	-0.006	26	5762		2.10	
53 1,1,1-Trichloroethane	97		6.764					ND	
54 Cyclohexane	56		6.831					ND	
56 Carbon tetrachloride	117		6.935					ND	
55 1,1-Dichloropropene	75		6.953					ND	
57 Isobutyl alcohol	41		7.154					ND	
58 Benzene	78		7.160					ND	
59 1,2-Dichloroethane	62		7.239					ND	
151 Isooctane	57		7.305					ND	
61 Tert-amyl methyl ether	73		7.330					ND	U
62 n-Heptane	43		7.513					ND	
63 n-Butanol	56		7.841					ND	
64 Trichloroethene	130		7.884					ND	
65 Ethyl acrylate	55		7.999					ND	
66 Methylcyclohexane	83		8.115					ND	
67 1,2-Dichloropropane	63		8.151					ND	
69 Methyl methacrylate	69		8.230					ND	
70 1,4-Dioxane	88		8.236					ND	
68 Dibromomethane	93		8.243					ND	
71 Dichlorobromomethane	83		8.431					ND	
73 2-Chloroethyl vinyl ether	63		8.729					ND	
74 cis-1,3-Dichloropropene	75		8.875					ND	
75 4-Methyl-2-pentanone (MIBK	43		9.027					ND	U
76 Toluene	91		9.204					ND	
77 trans-1,3-Dichloropropene	75		9.447					ND	
78 Ethyl methacrylate	69		9.502					ND	
79 1,1,2-Trichloroethane	97		9.636					ND	U
80 Tetrachloroethene	164		9.715					ND	
81 1,3-Dichloropropane	76		9.800					ND	
82 2-Hexanone	43		9.861					ND	
83 n-Butyl acetate	43		9.970					ND	
84 Chlorodibromomethane	129		10.007					ND	
85 Ethylene Dibromide	107		10.128					ND	
86 3-Chlorobenzotrifluoride	180		10.445					ND	
87 Chlorobenzene	112		10.615					ND	U
89 1,1,1,2-Tetrachloroethane	131		10.706					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
90 Ethylbenzene	106		10.706					ND	
88 4-Chlorobenzotrifluoride	180		10.779					ND	
91 m-Xylene & p-Xylene	106		10.840					ND	
92 o-Xylene	106		11.223					ND	
93 Styrene	104		11.242					ND	
94 Bromoform	173		11.418					ND	
96 2-Chlorobenzotrifluoride	180		11.521					ND	
97 Isopropylbenzene	105		11.588					ND	
98 Cyclohexanone	55		11.679					ND	
99 1,1,2,2-Tetrachloroethane	83		11.899					ND	
100 Bromobenzene	156		11.911					ND	
102 trans-1,4-Dichloro-2-buten	53		11.935					ND	U
101 1,2,3-Trichloropropane	110		11.953					ND	
103 N-Propylbenzene	120		12.002					ND	
104 2-Chlorotoluene	126		12.093					ND	
106 1,3,5-Trimethylbenzene	105		12.185					ND	
105 3-Chlorotoluene	126		12.212					ND	
107 4-Chlorotoluene	126		12.215					ND	
111 1,2-dichloro-4-(trifluorom	214		12.463					ND	
108 tert-Butylbenzene	119		12.501					ND	
110 1,2,4-Trimethylbenzene	105		12.562					ND	
112 sec-Butylbenzene	105		12.726					ND	
116 2,4-Dichloro-1-(triflourom	214		12.836					ND	
113 1,3-Dichlorobenzene	146		12.842					ND	
114 4-Isopropyltoluene	119		12.878					ND	
118 2,5-Dichlorobenzotrifluori	214		12.878					ND	
115 1,4-Dichlorobenzene	146		12.945					ND	U
117 1,2,3-Trimethylbenzene	105		12.969					ND	
119 Benzyl chloride	91		13.060					ND	
120 n-Butylbenzene	91		13.286					ND	
121 1,2-Dichlorobenzene	146		13.304					ND	
122 1,2-Dibromo-3-Chloropropan	75		14.095					ND	
123 2,4- & 2,5- & 2,6- Dichlor	125		14.125					ND	
124 1,3,5-Trichlorobenzene	180		14.277					ND	
125 2,3- & 3,4- Dichlorotoluen	125		14.557					ND	
126 1,2,4-Trichlorobenzene	180		14.916					ND	
127 Hexachlorobutadiene	225		15.056					ND	
128 Naphthalene	128		15.184					ND	U
129 1,2,3-Trichlorobenzene	180		15.421					ND	
130 2,3,6-Trichlorotoluene	159		16.090					ND	
131 2,4,5-Trichlorotoluene	159		16.090					ND	
S 134 1,2-Dichloroethene, Total	96		1.000					ND	
S 154 Total BTEX	106		1.000					ND	
S 133 Xylenes, Total	106		1.000					ND	
S 135 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00014 Amount Added: 5.00 Units: uL Run Reagent

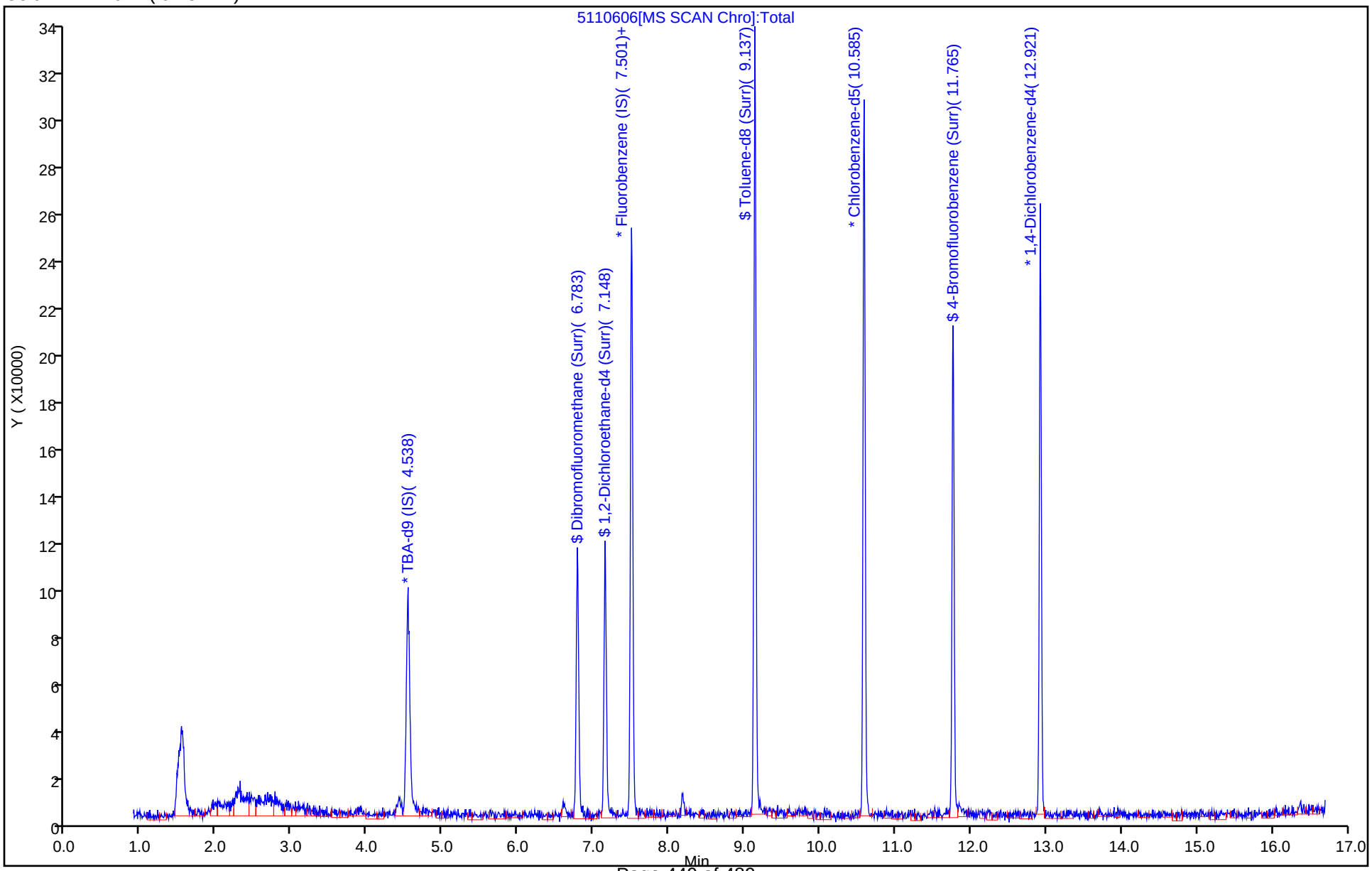
Report Date: 07-Nov-2019 09:10:46 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D

Injection Date:	06-Nov-2019 11:31:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	06-Nov-2019 11:31:30	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	180-0029414-006				
Misc. Info.:	MB				
Operator ID:	433269	Instrument ID:	CHHP5		
Method:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	07-Nov-2019 09:10:46	Calib Date:	12-Oct-2019 20:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0336				

First Level Reviewer: bowieh Date: 07-Nov-2019 09:10:46

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	58.1	116.15
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	55.6	111.19
$ 7 Toluene-d8 (Surr)	50.0	45.8	91.64
$ 8 4-Bromofluorobenzene (Surr)	50.0	37.7	75.32

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

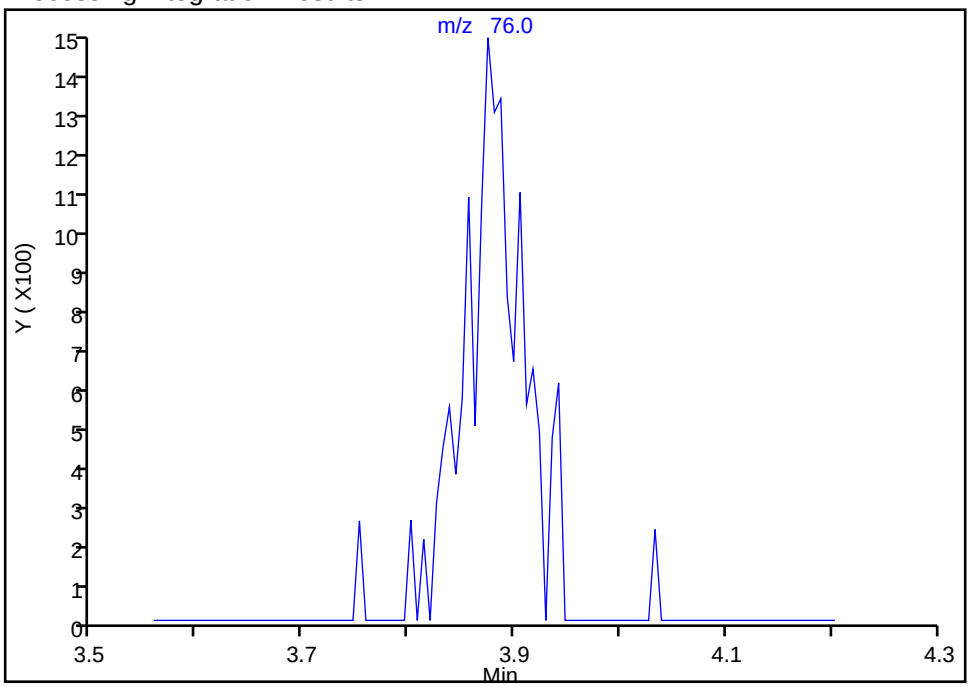
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D
Injection Date: 06-Nov-2019 11:31:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

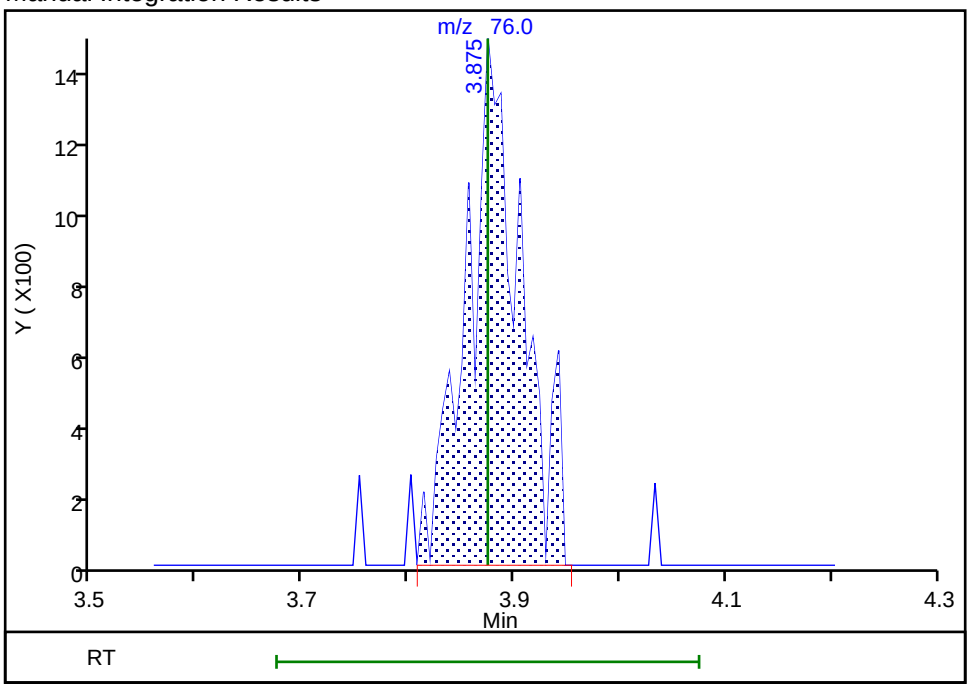
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 5337
Amount: 1.483397
Amount Units: ng



Reviewer: bowieh, 07-Nov-2019 09:09:45
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

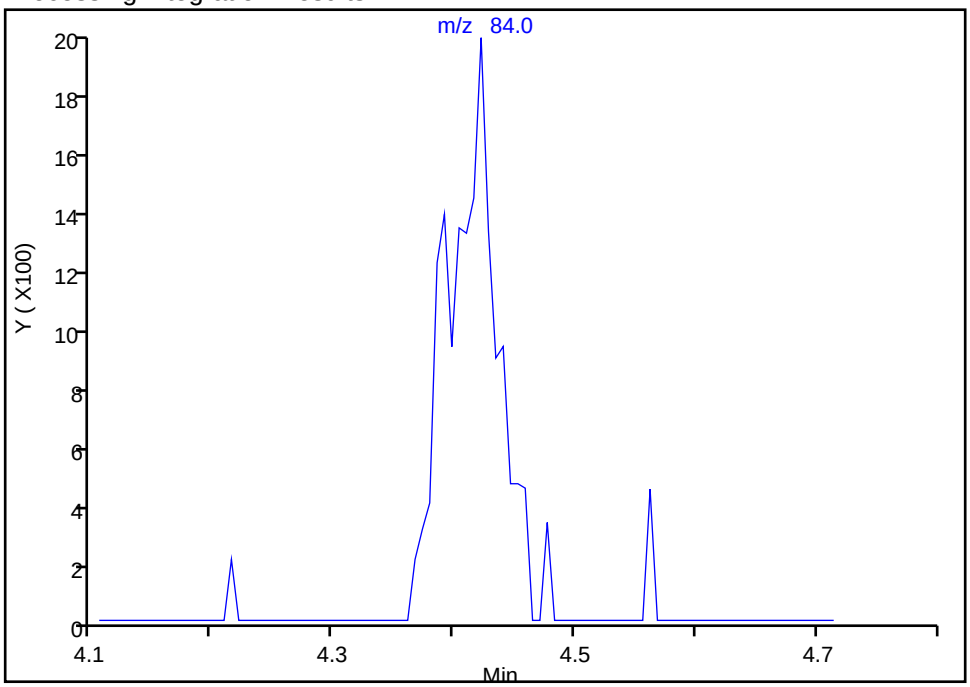
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D
Injection Date: 06-Nov-2019 11:31:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector MS SCAN

31 Methylene Chloride, CAS: 75-09-2

Signal: 1

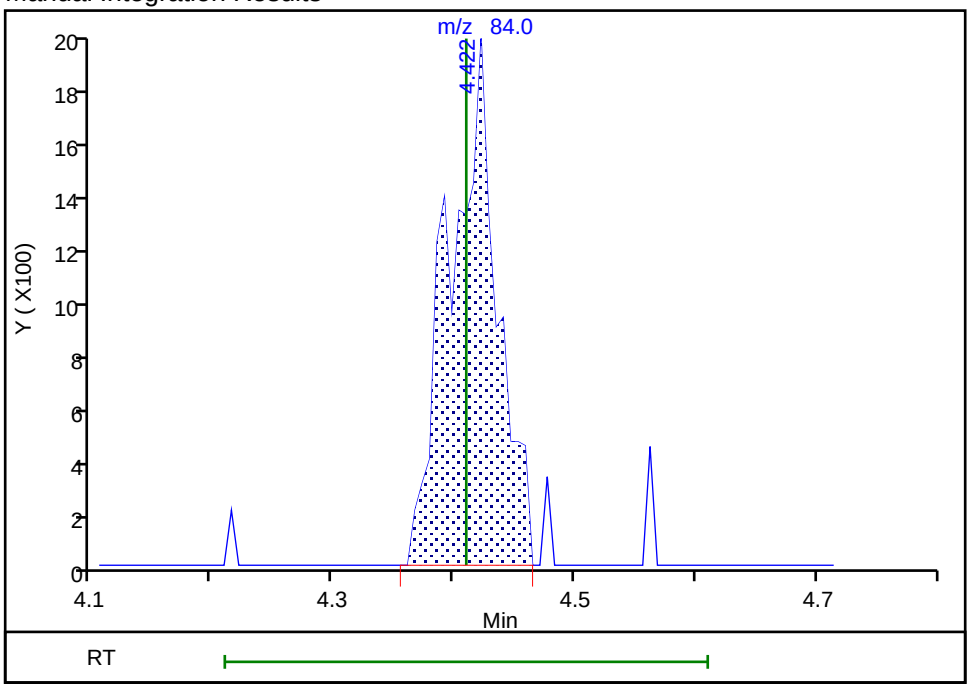
Not Detected
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.42
Area: 5458
Amount: -6.665202
Amount Units: ng



Reviewer: bowieh, 07-Nov-2019 09:09:51
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

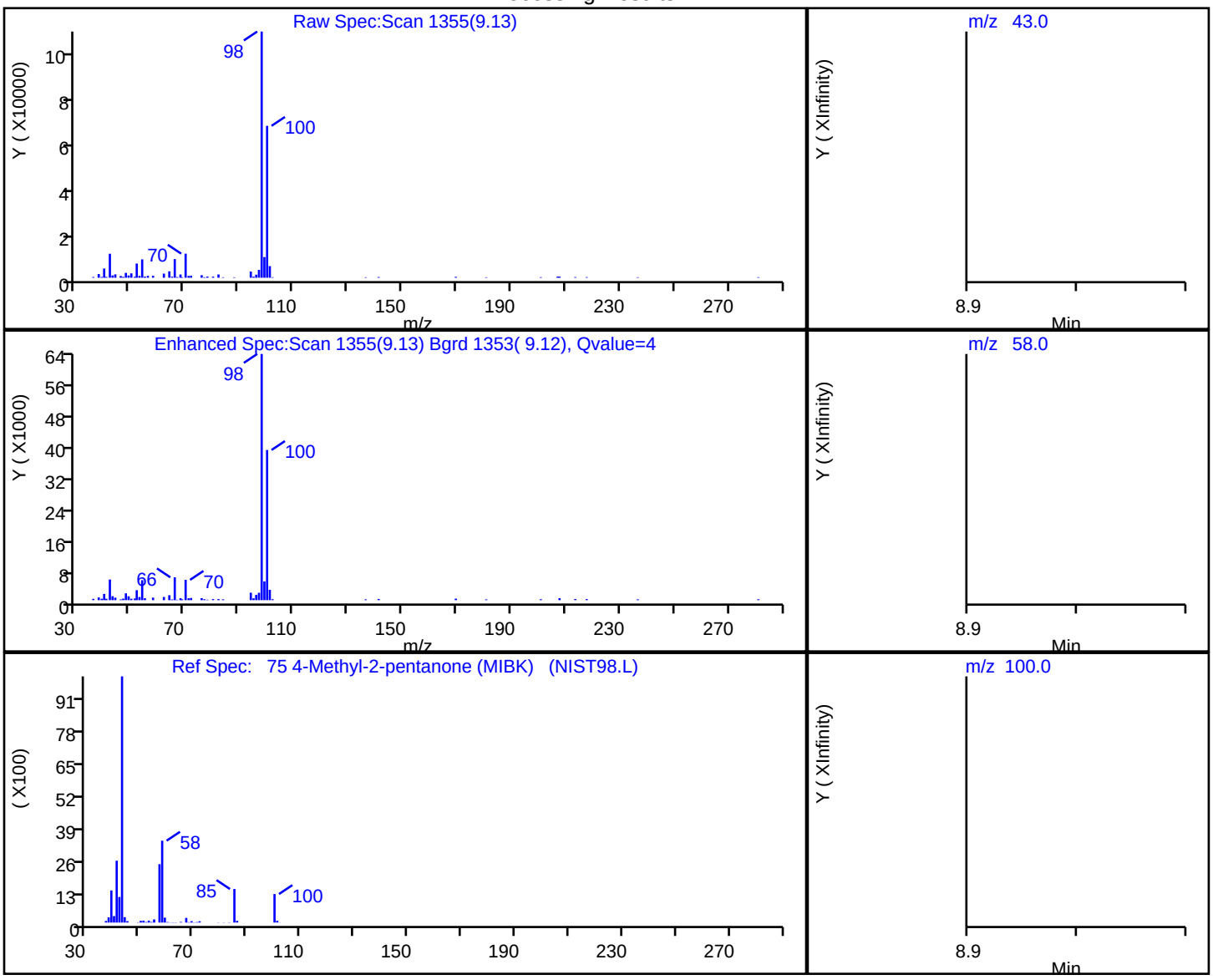
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D				
Injection Date:	06-Nov-2019 11:31:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

75 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.13	43.00	576	0.423116
9.14	58.00	1654	
9.14	100.00	163369	

Reviewer: bowieh, 07-Nov-2019 09:10:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

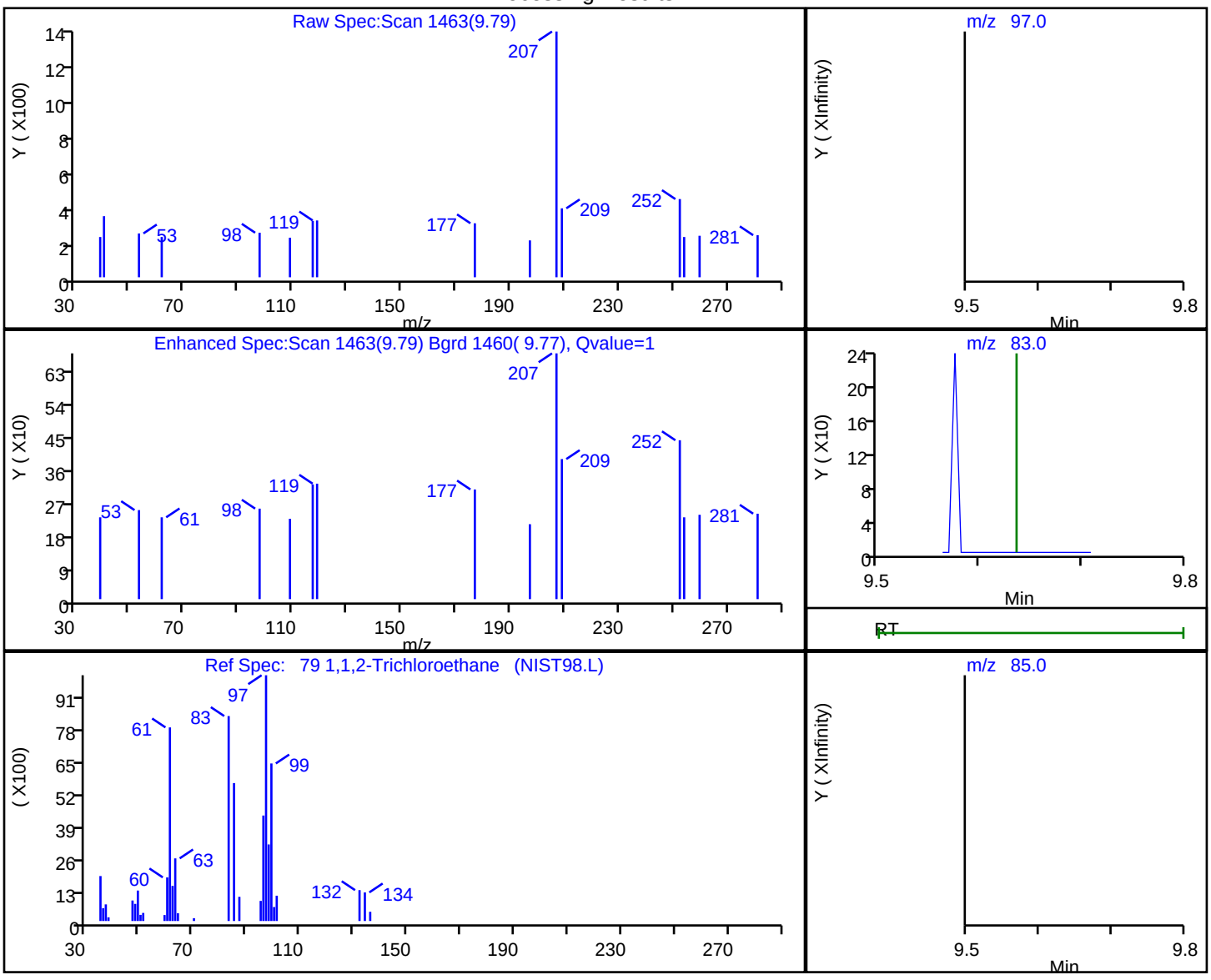
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D				
Injection Date:	06-Nov-2019 11:31:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

79 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results



RT	Mass	Response	Amount
9.79	97.00	91	0.063061
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 07-Nov-2019 09:10:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

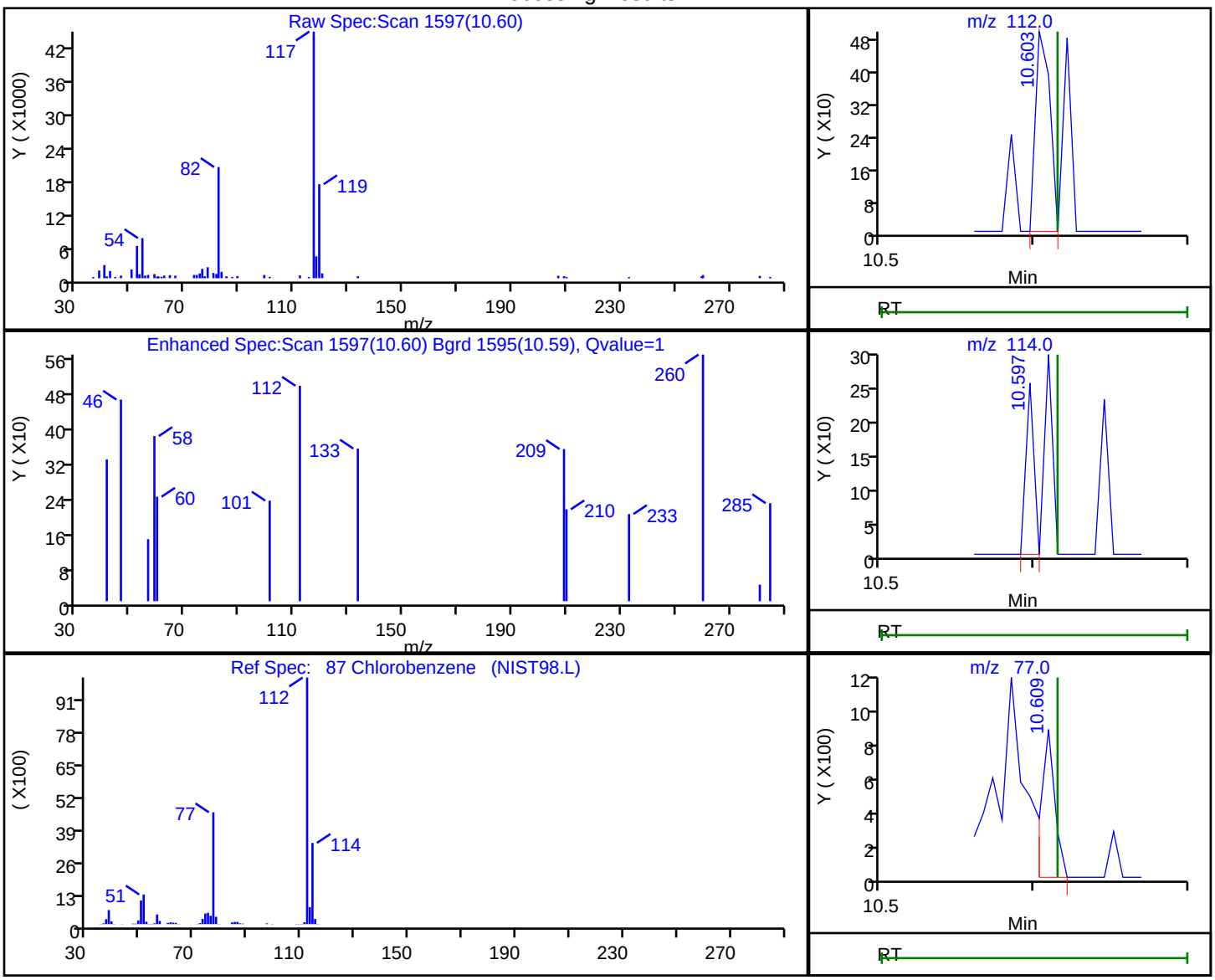
User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110606.D				
Injection Date:	06-Nov-2019 11:31:30	Instrument ID:	CHHP5		
Lims ID:	MB				
Client ID:					
Operator ID:	433269	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 Chlorobenzene, CAS: 108-90-7

Processing Results



RT	Mass	Response	Amount
10.60	112.00	323	0.068966
10.60	114.00	92	
10.61	77.00	518	

Reviewer: bowieh, 07-Nov-2019 09:10:15

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-296913/4

Matrix: Water Lab File ID: 5110204.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/02/2019 10:32

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.: 296913 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	10.1		1.0	0.90
75-01-4	Vinyl chloride	10.1		1.0	0.88
74-83-9	Bromomethane	10.9		1.0	0.89
75-00-3	Chloroethane	10.5		1.0	0.90
75-35-4	1,1-Dichloroethene	10.8		1.0	0.55
67-64-1	Acetone	25.5		5.0	3.4
75-15-0	Carbon disulfide	10.4		1.0	0.88
75-09-2	Methylene Chloride	8.83		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	10.8		1.0	0.67
1634-04-4	Methyl tert-butyl ether	10.0		1.0	0.59
75-34-3	1,1-Dichloroethane	10.4		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	10.6		1.0	0.71
74-97-5	Bromochloromethane	10.2		1.0	0.63
78-93-3	2-Butanone (MEK)	25.2		5.0	2.6
67-66-3	Chloroform	11.2		1.0	0.60
71-55-6	1,1,1-Trichloroethane	11.6		1.0	0.60
56-23-5	Carbon tetrachloride	11.4		1.0	0.88
71-43-2	Benzene	10.5		1.0	0.60
107-06-2	1,2-Dichloroethane	10.8		1.0	0.57
79-01-6	Trichloroethene	10.6		1.0	0.69
78-87-5	1,2-Dichloropropane	10.2		1.0	0.66
75-27-4	Bromodichloromethane	11.3		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	10.9		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	20.2		5.0	3.1
108-88-3	Toluene	11.2		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	10.3		1.0	0.58
79-00-5	1,1,2-Trichloroethane	10.9		1.0	0.45
127-18-4	Tetrachloroethene	11.0		1.0	0.47
591-78-6	2-Hexanone	26.4		5.0	3.3
124-48-1	Dibromochloromethane	10.5		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	10.8		1.0	0.50
108-90-7	Chlorobenzene	10.8		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	11.5		1.0	0.57
100-41-4	Ethylbenzene	10.9		1.0	0.51
1330-20-7	Xylenes, Total	21.1		2.0	0.89
100-42-5	Styrene	10.7		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-296913/4

Matrix: Water Lab File ID: 5110204.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/02/2019 10:32

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.: 296913 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	9.98		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	9.40		1.0	0.60
107-13-1	Acrylonitrile	97.0		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-150
2037-26-5	Toluene-d8 (Surr)	106		78-128
460-00-4	4-Bromofluorobenzene (Surr)	97		64-123
1868-53-7	Dibromofluoromethane (Surr)	101		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110204.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 02-Nov-2019 10:32:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-004
Misc. Info.: LCS
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 08:27:05 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: bowieh Date: 05-Nov-2019 10:51:10

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.543	4.544	-0.001	0	139253	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.501	-0.001	99	308283	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.578	10.585	-0.007	85	74583	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	92	124410	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.782	6.783	-0.001	94	77225	50.0	50.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	104943	50.0	50.1	
$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	94	317060	50.0	53.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.764	11.759	0.005	92	107853	50.0	48.7	
11 Dichlorodifluoromethane	85	1.696	1.685	0.011	99	146337	50.0	59.5	
12 Chloromethane	50	1.909	1.910	-0.001	100	112582	50.0	50.3	
13 Vinyl chloride	62	2.037	2.032	0.005	98	114731	50.0	50.7	
14 Butadiene	39	2.061	2.056	0.005	93	119861	50.0	54.8	
15 Bromomethane	94	2.426	2.372	0.054	92	77793	50.0	54.5	M
16 Chloroethane	64	2.542	2.530	0.012	99	73781	50.0	52.6	
17 Dichlorofluoromethane	67	2.846	2.835	0.011	97	185839	50.0	53.4	
18 Trichlorofluoromethane	101	2.870	2.847	0.023	94	191283	50.0	56.5	
20 Ethyl ether	59	3.259	3.248	0.011	91	70188	50.0	44.6	
21 Acrolein	56	3.460	3.455	0.005	96	37438	150.0	142.9	
22 1,1-Dichloroethene	96	3.582	3.571	0.011	96	82255	50.0	53.9	
23 1,1,2-Trichloro-1,2,2-trif	101	3.649	3.638	0.011	87	92230	50.0	51.1	
24 Acetone	43	3.691	3.686	0.005	98	93818	100.0	127.6	
25 Iodomethane	142	3.776	3.778	-0.002	100	138425	50.0	50.7	
26 Carbon disulfide	76	3.874	3.869	0.005	100	223860	50.0	52.2	
28 3-Chloro-1-propene	76	4.184	4.185	-0.001	89	47239	50.0	52.4	
30 Methyl acetate	43	4.215	4.209	0.005	97	132388	100.0	96.5	
31 Methylene Chloride	84	4.409	4.404	0.005	89	96592	50.0	44.2	
32 2-Methyl-2-propanol	59	4.665	4.672	-0.007	93	69193	500.0	427.3	
33 Acrylonitrile	53	4.792	4.787	0.005	99	336622	500.0	484.9	
34 trans-1,2-Dichloroethene	96	4.811	4.806	0.005	98	93823	50.0	54.0	
35 Methyl tert-butyl ether	73	4.829	4.830	-0.001	98	230173	50.0	50.2	
36 Hexane	57	5.224	5.225	-0.001	94	127769	50.0	48.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.443	5.432	0.011	97	155754	50.0	51.8	
38 Vinyl acetate	43	5.492	5.493	-0.001	98	104403	50.0	36.6	
45 cis-1,2-Dichloroethene	96	6.179	6.174	0.005	85	100773	50.0	52.9	
44 2,2-Dichloropropane	97	6.186	6.174	0.012	71	24580	50.0	56.3	
46 2-Butanone (MEK)	43	6.192	6.193	-0.001	99	108099	100.0	125.8	
49 Chlorobromomethane	128	6.459	6.454	0.005	93	50494	50.0	51.1	
51 Tetrahydrofuran	42	6.471	6.466	0.005	82	47646	100.0	91.6	
52 Chloroform	83	6.599	6.600	-0.001	94	182651	50.0	55.8	
53 1,1,1-Trichloroethane	97	6.763	6.758	0.005	98	155771	50.0	58.1	
54 Cyclohexane	56	6.830	6.819	0.011	89	145740	50.0	46.8	
56 Carbon tetrachloride	117	6.928	6.929	-0.001	98	140114	50.0	56.9	
55 1,1-Dichloropropene	75	6.946	6.941	0.005	94	125658	50.0	51.2	
57 Isobutyl alcohol	41	7.147	7.142	0.005	52	71189	1250.0	1234.7	
58 Benzene	78	7.159	7.160	-0.001	98	383241	50.0	52.5	
59 1,2-Dichloroethane	62	7.232	7.227	0.005	99	140166	50.0	54.2	
62 n-Heptane	43	7.512	7.507	0.005	90	100353	50.0	46.9	
64 Trichloroethene	130	7.883	7.884	-0.001	95	105715	50.0	52.9	
66 Methylcyclohexane	83	8.114	8.115	-0.001	88	145198	50.0	47.5	
67 1,2-Dichloropropane	63	8.151	8.152	-0.002	93	87669	50.0	50.9	
70 1,4-Dioxane	88	8.230	8.237	-0.007	33	12102	1000.0	819.1	
68 Dibromomethane	93	8.242	8.243	-0.001	90	56676	50.0	54.3	
71 Dichlorobromomethane	83	8.430	8.431	-0.001	99	123076	50.0	56.4	
73 2-Chloroethyl vinyl ether	63	8.735	8.729	0.006	94	85032	100.0	75.5	
74 cis-1,3-Dichloropropene	75	8.874	8.875	-0.001	95	135169	50.0	54.7	
75 4-Methyl-2-pentanone (MIBK	43	9.033	9.028	0.005	97	149845	100.0	100.8	
76 Toluene	91	9.203	9.204	-0.001	98	423821	50.0	56.1	
77 trans-1,3-Dichloropropene	75	9.452	9.447	0.005	95	120690	50.0	51.6	
78 Ethyl methacrylate	69	9.501	9.502	-0.001	89	97562	50.0	48.9	
79 1,1,2-Trichloroethane	97	9.641	9.642	-0.001	94	85730	50.0	54.4	
80 Tetrachloroethene	164	9.714	9.709	0.005	97	99388	50.0	55.1	
81 1,3-Dichloropropane	76	9.799	9.800	-0.001	92	141670	50.0	51.9	
82 2-Hexanone	43	9.860	9.861	-0.001	97	132794	100.0	131.8	
84 Chlorodibromomethane	129	10.012	10.007	0.005	88	87903	50.0	52.6	
85 Ethylene Dibromide	107	10.128	10.129	-0.001	98	82247	50.0	53.8	
87 Chlorobenzene	112	10.608	10.609	-0.001	95	274809	50.0	53.8	
89 1,1,1,2-Tetrachloroethane	131	10.699	10.707	-0.008	93	103384	50.0	57.6	
90 Ethylbenzene	106	10.706	10.713	-0.007	98	143222	50.0	54.4	
91 m-Xylene & p-Xylene	106	10.839	10.840	-0.001	0	172579	50.0	53.2	
92 o-Xylene	106	11.223	11.224	-0.001	96	161068	50.0	52.4	
93 Styrene	104	11.241	11.242	-0.001	94	282209	50.0	53.6	
94 Bromoform	173	11.423	11.424	-0.001	98	55560	50.0	49.9	
97 Isopropylbenzene	105	11.588	11.589	-0.001	96	413695	50.0	50.7	
99 1,1,2,2-Tetrachloroethane	83	11.898	11.899	-0.001	76	93379	50.0	47.0	
100 Bromobenzene	156	11.904	11.905	-0.001	90	113698	50.0	53.8	
102 trans-1,4-Dichloro-2-buten	53	11.941	11.942	-0.002	83	25682	50.0	43.3	
101 1,2,3-Trichloropropane	110	11.959	11.954	0.005	84	37235	50.0	55.8	
103 N-Propylbenzene	120	12.001	12.002	-0.001	98	119696	50.0	54.4	
104 2-Chlorotoluene	126	12.093	12.094	-0.001	97	98223	50.0	52.1	
106 1,3,5-Trimethylbenzene	105	12.184	12.185	-0.001	94	321620	50.0	49.7	
107 4-Chlorotoluene	126	12.214	12.215	-0.001	97	109229	50.0	54.5	
108 tert-Butylbenzene	119	12.500	12.501	-0.001	93	262972	50.0	48.8	
110 1,2,4-Trimethylbenzene	105	12.561	12.562	-0.001	97	321997	50.0	49.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.725	12.726	-0.001	94	355636	50.0	47.0	
113 1,3-Dichlorobenzene	146	12.841	12.842	-0.001	98	182450	50.0	46.7	
114 4-Isopropyltoluene	119	12.877	12.878	-0.001	97	302144	50.0	45.3	
115 1,4-Dichlorobenzene	146	12.944	12.945	-0.001	95	195069	50.0	48.5	
120 n-Butylbenzene	91	13.285	13.286	-0.001	97	208398	50.0	39.7	
121 1,2-Dichlorobenzene	146	13.303	13.304	-0.001	98	164929	50.0	45.0	
122 1,2-Dibromo-3-Chloropropan	75	14.094	14.089	0.005	80	15703	50.0	54.5	
126 1,2,4-Trichlorobenzene	180	14.915	14.916	-0.001	93	41056	50.0	32.7	
127 Hexachlorobutadiene	225	15.055	15.056	-0.001	94	29681	50.0	38.4	
128 Naphthalene	128	15.183	15.184	-0.001	97	88403	50.0	38.9	
129 1,2,3-Trichlorobenzene	180	15.420	15.415	0.005	94	33628	50.0	33.7	
S 134 1,2-Dichloroethene, Total	96				0		100.0	106.9	
S 154 Total BTEX	106				0		250.0	268.6	
S 133 Xylenes, Total	106				0		100.0	105.6	
S 135 1,3-Dichloropropene, Total	1				0		100.0	106.4	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL		
VOA8260VOAPRI_00377	Amount Added:	2.00	Units: uL		
VOAACR2ND_00027	Amount Added:	6.00	Units: uL		
VOAVA2ND_00028	Amount Added:	2.00	Units: uL		
VOACEVEPRI_00056	Amount Added:	2.00	Units: uL		
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent	

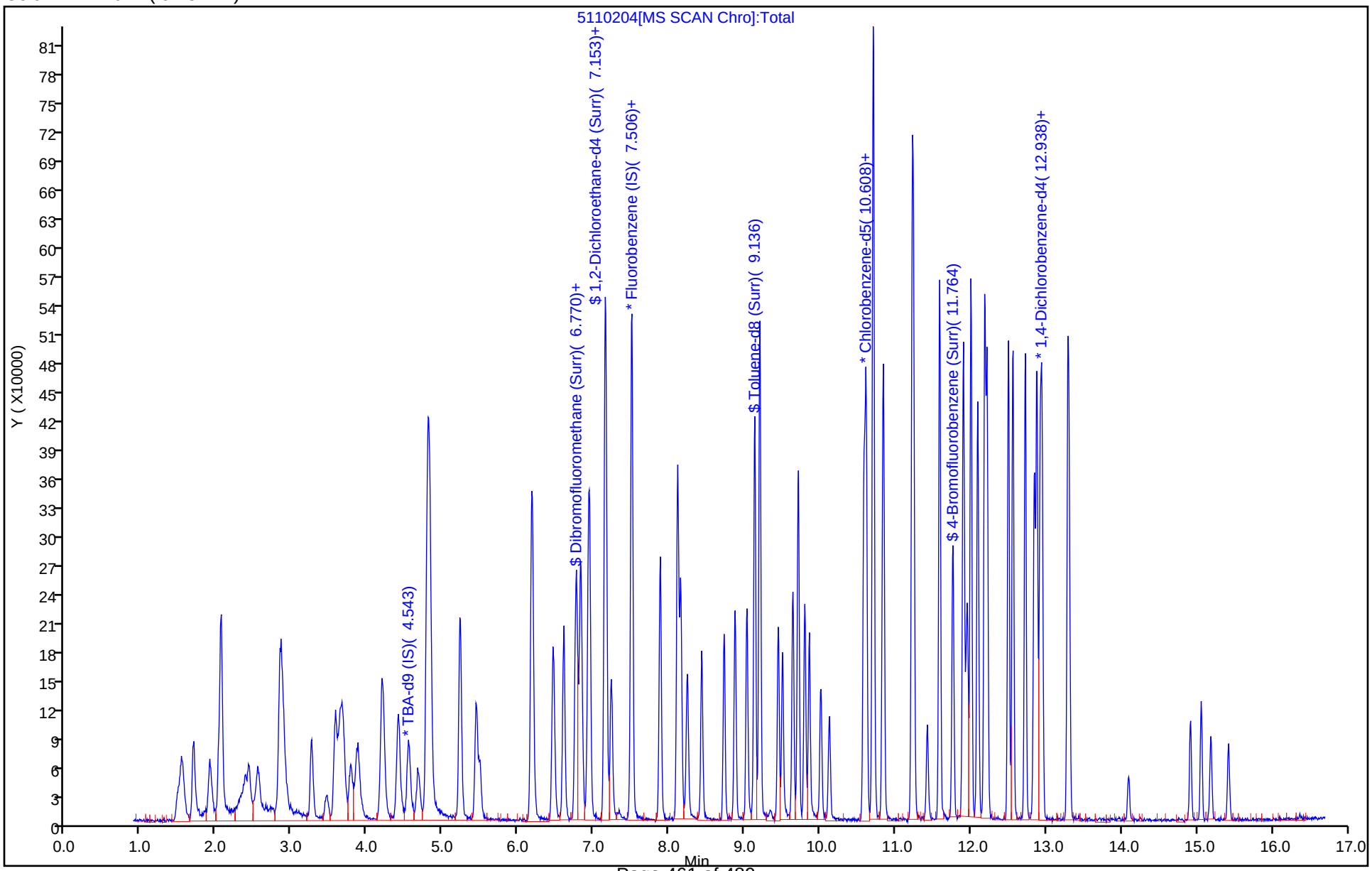
Report Date: 07-Nov-2019 08:27:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110204.D

Injection Date:	02-Nov-2019 10:32:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110204.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 02-Nov-2019 10:32:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029374-004
Misc. Info.: LCS
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 08:27:05 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0302

First Level Reviewer: bowieh Date: 05-Nov-2019 10:51:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	50.4	100.79
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	50.1	100.26
$ 7 Toluene-d8 (Surr)	50.0	53.1	106.23
$ 8 4-Bromofluorobenzene (Surr)	50.0	48.7	97.42

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

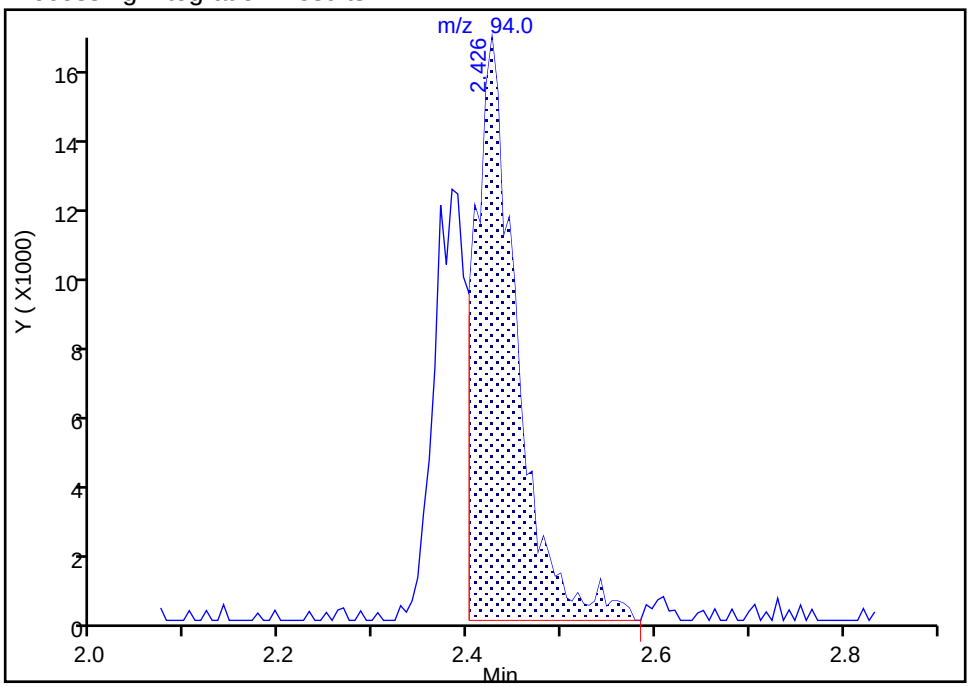
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191102-29374.b\5110204.D				
Injection Date:	02-Nov-2019 10:32:30	Instrument ID:	CHHP5		
Lims ID:	LCS				
Client ID:					
Operator ID:	433269	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Bromomethane, CAS: 74-83-9

Signal: 1

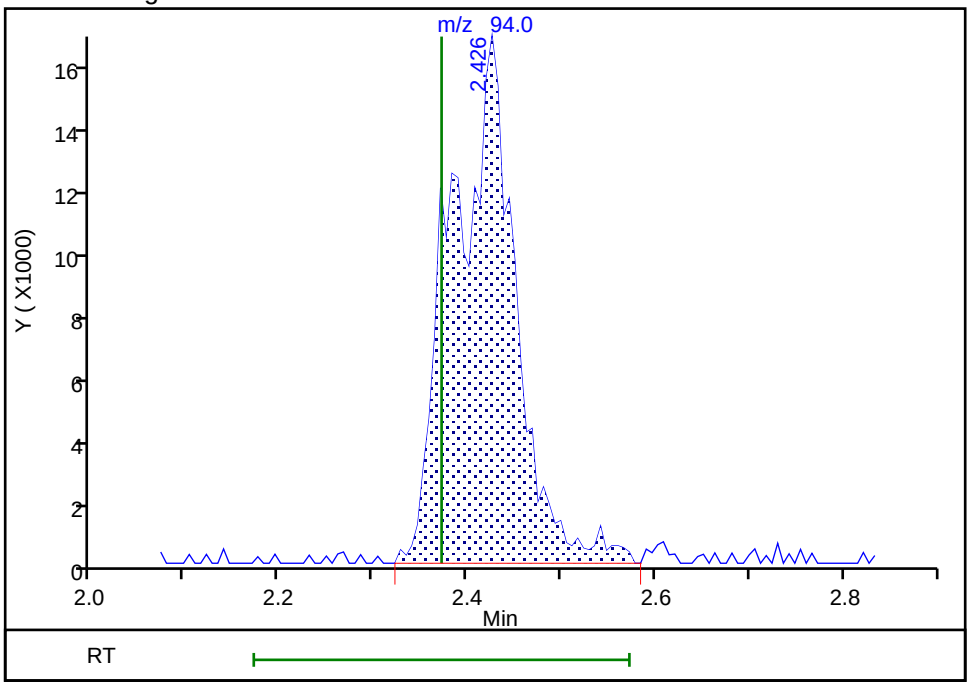
Processing Integration Results

RT: 2.43
Area: 51217
Amount: 35.908227
Amount Units: ng



Manual Integration Results

RT: 2.43
Area: 77793
Amount: 54.540655
Amount Units: ng



Reviewer: liunanonchaic, 07-Nov-2019 08:26:56

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-297107/4

Matrix: Water Lab File ID: 5110504.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 13:20

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	7.96		1.0	0.90
75-01-4	Vinyl chloride	8.13		1.0	0.88
74-83-9	Bromomethane	9.80		1.0	0.89
75-00-3	Chloroethane	9.45		1.0	0.90
75-35-4	1,1-Dichloroethene	10.5		1.0	0.55
67-64-1	Acetone	19.4		5.0	3.4
75-15-0	Carbon disulfide	10.1		1.0	0.88
75-09-2	Methylene Chloride	8.50		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	10.8		1.0	0.67
1634-04-4	Methyl tert-butyl ether	8.97		1.0	0.59
75-34-3	1,1-Dichloroethane	9.37		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	9.74		1.0	0.71
74-97-5	Bromochloromethane	9.89		1.0	0.63
78-93-3	2-Butanone (MEK)	18.3		5.0	2.6
67-66-3	Chloroform	10.1		1.0	0.60
71-55-6	1,1,1-Trichloroethane	11.2		1.0	0.60
56-23-5	Carbon tetrachloride	11.5		1.0	0.88
71-43-2	Benzene	9.44		1.0	0.60
107-06-2	1,2-Dichloroethane	10.3		1.0	0.57
79-01-6	Trichloroethene	10.5		1.0	0.69
78-87-5	1,2-Dichloropropane	8.79		1.0	0.66
75-27-4	Bromodichloromethane	10.3		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	9.78		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	14.8		5.0	3.1
108-88-3	Toluene	9.32		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	8.20		1.0	0.58
79-00-5	1,1,2-Trichloroethane	8.92		1.0	0.45
127-18-4	Tetrachloroethene	10.1		1.0	0.47
591-78-6	2-Hexanone	16.6		5.0	3.3
124-48-1	Dibromochloromethane	9.86		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	9.06		1.0	0.50
108-90-7	Chlorobenzene	9.15		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	9.70		1.0	0.57
100-41-4	Ethylbenzene	9.25		1.0	0.51
1330-20-7	Xylenes, Total	17.8		2.0	0.89
100-42-5	Styrene	8.86		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-297107/4

Matrix: Water Lab File ID: 5110504.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 13:20

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.: 297107 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	9.71		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	7.85		1.0	0.60
107-13-1	Acrylonitrile	84.9		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-150
2037-26-5	Toluene-d8 (Surr)	100		78-128
460-00-4	4-Bromofluorobenzene (Surr)	98		64-123
1868-53-7	Dibromofluoromethane (Surr)	105		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110504.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 05-Nov-2019 13:20:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-004
Misc. Info.: LCS
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:31:57 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:32:16

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
*	1 TBA-d9 (IS)	65	4.546	4.552	-0.006	0	130223	1000.0	1000.0	
*	2 Fluorobenzene (IS)	96	7.503	7.508	-0.005	98	301838	50.0	50.0	
*	3 Chlorobenzene-d5	119	10.587	10.587	0.000	84	81341	50.0	50.0	
*	4 1,4-Dichlorobenzene-d4	152	12.923	12.923	0.000	92	142530	50.0	50.0	
$	5 Dibromofluoromethane (Surr	113	6.785	6.785	0.000	94	78522	50.0	52.3	
$	6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.150	0.000	0	100177	50.0	48.9	
$	7 Toluene-d8 (Surr)	98	9.133	9.139	-0.006	93	324446	50.0	49.8	
$	8 4-Bromofluorobenzene (Surr	95	11.767	11.767	0.000	96	118733	50.0	49.2	
	11 Dichlorodifluoromethane	85	1.693	1.693	0.000	99	115030	50.0	47.8	
	12 Chloromethane	50	1.912	1.918	-0.006	100	87263	50.0	39.8	
	13 Vinyl chloride	62	2.034	2.033	0.001	99	90127	50.0	40.6	
	14 Butadiene	39	2.064	2.064	0.000	91	94505	50.0	44.2	
	15 Bromomethane	94	2.387	2.380	0.007	91	68460	50.0	49.0	
	16 Chloroethane	64	2.551	2.538	0.013	97	64808	50.0	47.2	
	17 Dichlorofluoromethane	67	2.855	2.855	0.000	97	159093	50.0	46.7	
	18 Trichlorofluoromethane	101	2.867	2.867	0.000	89	174392	50.0	52.6	
	20 Ethyl ether	59	3.257	3.262	-0.005	88	64853	50.0	42.1	
	21 Acrolein	56	3.451	3.457	-0.006	99	28799	150.0	112.3	
	22 1,1-Dichloroethene	96	3.573	3.579	-0.006	97	78608	50.0	52.6	
	23 1,1,2-Trichloro-1,2,2-trif	101	3.652	3.658	-0.006	85	88195	50.0	49.9	
	24 Acetone	43	3.689	3.688	0.001	100	69995	100.0	97.2	
	25 Iodomethane	142	3.786	3.779	0.007	98	139095	50.0	52.0	
	26 Carbon disulfide	76	3.871	3.871	0.000	99	213124	50.0	50.7	
	28 3-Chloro-1-propene	76	4.187	4.193	-0.006	91	40316	50.0	45.7	
	30 Methyl acetate	43	4.218	4.223	-0.005	97	107205	100.0	79.8	
	31 Methylene Chloride	84	4.407	4.406	0.000	88	91671	50.0	42.5	
	32 2-Methyl-2-propanol	59	4.674	4.680	-0.006	94	56726	500.0	374.6	
	33 Acrylonitrile	53	4.796	4.795	0.001	98	288566	500.0	424.6	
	34 trans-1,2-Dichloroethene	96	4.820	4.813	0.007	94	91971	50.0	54.0	
	35 Methyl tert-butyl ether	73	4.832	4.832	0.000	96	201265	50.0	44.9	
	36 Hexane	57	5.234	5.233	0.001	93	103342	50.0	39.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.447	5.446	0.001	96	137927	50.0	46.9	
38 Vinyl acetate	43	5.495	5.495	0.000	97	84821	50.0	30.4	
44 2,2-Dichloropropane	97	6.177	6.182	-0.005	67	20814	50.0	48.7	
45 cis-1,2-Dichloroethene	96	6.183	6.182	0.001	83	90777	50.0	48.7	
46 2-Butanone (MEK)	43	6.195	6.201	-0.006	88	77123	100.0	91.6	
49 Chlorobromomethane	128	6.457	6.468	-0.011	86	47839	50.0	49.4	
51 Tetrahydrofuran	42	6.475	6.474	0.001	86	38869	100.0	76.3	
52 Chloroform	83	6.609	6.602	0.007	95	161951	50.0	50.5	
53 1,1,1-Trichloroethane	97	6.761	6.766	-0.005	97	147634	50.0	56.2	
54 Cyclohexane	56	6.834	6.833	0.001	89	121083	50.0	39.7	
56 Carbon tetrachloride	117	6.931	6.937	-0.006	98	138975	50.0	57.7	
55 1,1-Dichloropropene	75	6.949	6.949	0.000	94	105156	50.0	43.8	
57 Isobutyl alcohol	41	7.150	7.156	-0.006	51	61378	1250.0	1087.2	
58 Benzene	78	7.162	7.162	0.000	97	337652	50.0	47.2	
59 1,2-Dichloroethane	62	7.235	7.241	-0.006	98	130180	50.0	51.4	
62 n-Heptane	43	7.509	7.515	-0.006	82	80335	50.0	38.3	
64 Trichloroethene	130	7.886	7.886	0.000	95	102858	50.0	52.6	
66 Methylcyclohexane	83	8.111	8.117	-0.006	89	128006	50.0	42.8	
67 1,2-Dichloropropane	63	8.154	8.159	-0.005	92	74049	50.0	43.9	
70 1,4-Dioxane	88	8.233	8.232	0.001	32	11555	1000.0	798.7	
68 Dibromomethane	93	8.239	8.238	0.001	87	51023	50.0	50.0	
71 Dichlorobromomethane	83	8.434	8.433	0.001	99	109863	50.0	51.5	
73 2-Chloroethyl vinyl ether	63	8.732	8.731	0.001	93	85179	100.0	77.2	
74 cis-1,3-Dichloropropene	75	8.878	8.877	0.001	95	118198	50.0	48.9	
75 4-Methyl-2-pentanone (MIBK	43	9.030	9.035	-0.005	95	119965	100.0	74.0	
76 Toluene	91	9.206	9.206	0.000	98	383836	50.0	46.6	
77 trans-1,3-Dichloropropene	75	9.450	9.449	0.001	92	104565	50.0	41.0	
78 Ethyl methacrylate	69	9.511	9.510	0.001	88	81116	50.0	38.0	
79 1,1,2-Trichloroethane	97	9.638	9.644	-0.006	92	76659	50.0	44.6	
80 Tetrachloroethene	164	9.717	9.717	0.000	95	99591	50.0	50.6	
81 1,3-Dichloropropane	76	9.803	9.802	0.001	89	123104	50.0	41.4	
82 2-Hexanone	43	9.857	9.863	-0.006	95	91117	100.0	82.9	
84 Chlorodibromomethane	129	10.015	10.015	0.000	87	89881	50.0	49.3	
85 Ethylene Dibromide	107	10.125	10.130	-0.005	99	75495	50.0	45.3	
87 Chlorobenzene	112	10.618	10.617	0.001	97	255120	50.0	45.8	
89 1,1,1,2-Tetrachloroethane	131	10.703	10.702	0.001	93	94995	50.0	48.5	
90 Ethylbenzene	106	10.715	10.714	0.001	98	132773	50.0	46.2	
91 m-Xylene & p-Xylene	106	10.843	10.842	0.001	0	163071	50.0	46.1	
92 o-Xylene	106	11.226	11.225	0.001	96	144222	50.0	43.0	
93 Styrene	104	11.244	11.244	0.000	94	254131	50.0	44.3	
94 Bromoform	173	11.427	11.426	0.001	96	58984	50.0	48.6	
97 Isopropylbenzene	105	11.591	11.590	0.001	96	366517	50.0	41.2	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.901	0.000	80	85031	50.0	39.2	
100 Bromobenzene	156	11.907	11.907	0.000	84	120693	50.0	49.8	
102 trans-1,4-Dichloro-2-buten	53	11.944	11.943	0.001	78	21584	50.0	31.8	
101 1,2,3-Trichloropropane	110	11.956	11.962	-0.006	82	33180	50.0	43.4	
103 N-Propylbenzene	120	12.005	12.004	0.001	98	109937	50.0	43.6	
104 2-Chlorotoluene	126	12.096	12.095	0.001	97	94067	50.0	43.6	
106 1,3,5-Trimethylbenzene	105	12.193	12.187	0.006	94	305797	50.0	41.5	
107 4-Chlorotoluene	126	12.218	12.223	-0.005	96	104200	50.0	45.4	
108 tert-Butylbenzene	119	12.504	12.503	0.001	92	245975	50.0	40.2	
110 1,2,4-Trimethylbenzene	105	12.564	12.564	0.000	97	304107	50.0	41.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.729	12.728	0.001	94	325512	50.0	37.9	
113 1,3-Dichlorobenzene	146	12.850	12.844	0.006	97	179699	50.0	40.2	
114 4-Isopropyltoluene	119	12.881	12.880	0.001	97	291026	50.0	38.4	
115 1,4-Dichlorobenzene	146	12.948	12.947	0.001	96	190853	50.0	41.4	
120 n-Butylbenzene	91	13.288	13.288	0.000	96	189926	50.0	32.2	
121 1,2-Dichlorobenzene	146	13.307	13.306	0.001	98	155857	50.0	37.1	
122 1,2-Dibromo-3-Chloropropan	75	14.104	14.097	0.007	90	11840	50.0	35.9	
126 1,2,4-Trichlorobenzene	180	14.913	14.918	-0.005	95	46061	50.0	32.0	
127 Hexachlorobutadiene	225	15.059	15.058	0.001	89	37163	50.0	42.0	
128 Naphthalene	128	15.192	15.186	0.006	95	85019	50.0	33.6	
129 1,2,3-Trichlorobenzene	180	15.424	15.423	0.001	93	38422	50.0	33.6	
S 133 Xylenes, Total	106				0		100.0	89.1	
S 154 Total BTEX	106				0		250.0	229.2	
S 134 1,2-Dichloroethene, Total	96				0		100.0	102.7	
S 135 1,3-Dichloropropene, Total	1				0		100.0	89.9	

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00376	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVE2ND_00028	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

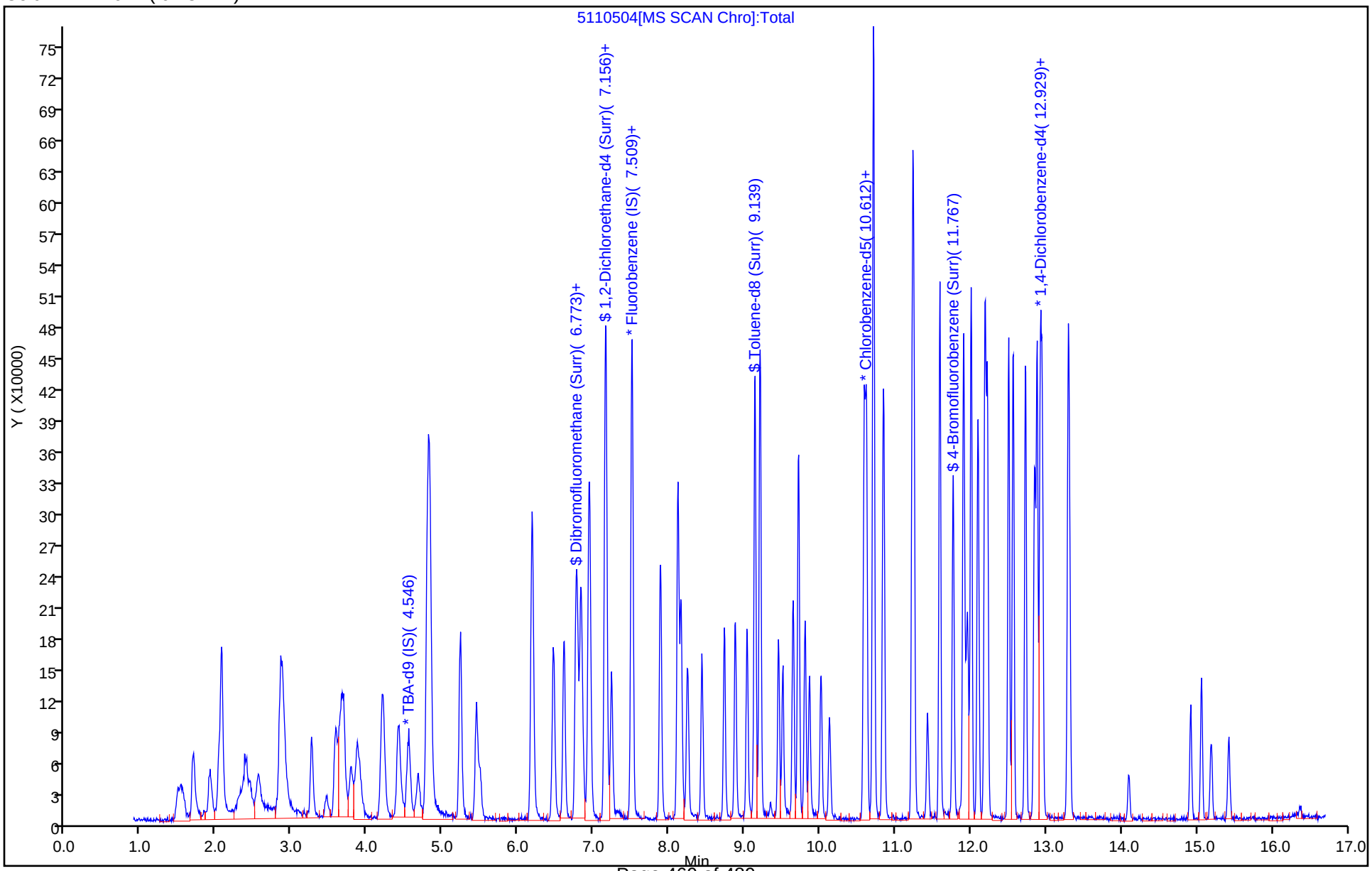
Report Date: 06-Nov-2019 09:32:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110504.D

Injection Date:	05-Nov-2019 13:20:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\5110504.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 05-Nov-2019 13:20:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029401-004
Misc. Info.: LCS
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191105-29401.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 06-Nov-2019 09:31:57 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: bowieh Date: 06-Nov-2019 09:32:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	52.3	104.67
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	48.9	97.75
$ 7 Toluene-d8 (Surr)	50.0	49.8	99.67
$ 8 4-Bromofluorobenzene (Surr)	50.0	49.2	98.34

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-297240/4

Matrix: Water Lab File ID: 5110604.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/06/2019 10:32

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.: 297240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	8.98		1.0	0.90
75-01-4	Vinyl chloride	9.17		1.0	0.88
74-83-9	Bromomethane	10.4		1.0	0.89
75-00-3	Chloroethane	9.84		1.0	0.90
75-35-4	1,1-Dichloroethene	11.2		1.0	0.55
67-64-1	Acetone	22.3		5.0	3.4
75-15-0	Carbon disulfide	10.7		1.0	0.88
75-09-2	Methylene Chloride	9.52		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	11.1		1.0	0.67
1634-04-4	Methyl tert-butyl ether	9.44		1.0	0.59
75-34-3	1,1-Dichloroethane	9.70		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	10.4		1.0	0.71
74-97-5	Bromochloromethane	10.8		1.0	0.63
78-93-3	2-Butanone (MEK)	20.6		5.0	2.6
67-66-3	Chloroform	10.5		1.0	0.60
71-55-6	1,1,1-Trichloroethane	12.2		1.0	0.60
56-23-5	Carbon tetrachloride	12.4		1.0	0.88
71-43-2	Benzene	10.0		1.0	0.60
107-06-2	1,2-Dichloroethane	9.89		1.0	0.57
79-01-6	Trichloroethene	11.0		1.0	0.69
78-87-5	1,2-Dichloropropane	9.50		1.0	0.66
75-27-4	Bromodichloromethane	10.7		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	9.93		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	16.1		5.0	3.1
108-88-3	Toluene	9.51		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	8.04		1.0	0.58
79-00-5	1,1,2-Trichloroethane	8.74		1.0	0.45
127-18-4	Tetrachloroethene	11.0		1.0	0.47
591-78-6	2-Hexanone	19.1		5.0	3.3
124-48-1	Dibromochloromethane	9.52		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	9.00		1.0	0.50
108-90-7	Chlorobenzene	9.27		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	9.64		1.0	0.57
100-41-4	Ethylbenzene	9.22		1.0	0.51
1330-20-7	Xylenes, Total	18.5		2.0	0.89
100-42-5	Styrene	8.85		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-297240/4

Matrix: Water Lab File ID: 5110604.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/06/2019 10:32

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.: 297240 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	9.79		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	7.95		1.0	0.60
107-13-1	Acrylonitrile	85.6		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-150
2037-26-5	Toluene-d8 (Surr)	96		78-128
460-00-4	4-Bromofluorobenzene (Surr)	97		64-123
1868-53-7	Dibromofluoromethane (Surr)	110		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110604.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 06-Nov-2019 10:32:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-004
Misc. Info.: LCS
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:07:58 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:08:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.544	4.538	0.006	0	140574	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.500	0.001	98	303650	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	84	82951	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	91	160824	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.777	6.783	-0.005	93	83302	50.0	55.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	103391	50.0	50.1	
$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	93	317084	50.0	47.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.006	95	118953	50.0	48.3	
11 Dichlorodifluoromethane	85	1.691	1.697	-0.006	98	135288	50.0	55.9	
12 Chloromethane	50	1.904	1.916	-0.012	99	99070	50.0	44.9	
13 Vinyl chloride	62	2.032	2.037	-0.005	99	102275	50.0	45.8	
14 Butadiene	39	2.068	2.074	-0.006	97	100394	50.0	46.6	
15 Bromomethane	94	2.379	2.427	-0.048	88	72801	50.0	51.8	
16 Chloroethane	64	2.549	2.561	-0.012	99	67905	50.0	49.2	
17 Dichlorofluoromethane	67	2.853	2.859	-0.006	98	165240	50.0	48.2	
18 Trichlorofluoromethane	101	2.859	2.883	-0.024	79	186280	50.0	55.9	
20 Ethyl ether	59	3.255	3.254	0.001	90	66143	50.0	42.7	
21 Acrolein	56	3.455	3.455	0.000	99	32185	150.0	124.7	
22 1,1-Dichloroethene	96	3.571	3.583	-0.012	98	83959	50.0	55.9	
23 1,1,2-Trichloro-1,2,2-trif	101	3.668	3.680	-0.012	88	97796	50.0	55.0	
24 Acetone	43	3.693	3.692	0.001	99	80930	100.0	111.7	
25 Iodomethane	142	3.784	3.783	0.001	99	153862	50.0	57.2	
26 Carbon disulfide	76	3.863	3.875	-0.012	99	226195	50.0	53.5	
28 3-Chloro-1-propene	76	4.185	4.197	-0.012	92	43086	50.0	48.5	
30 Methyl acetate	43	4.216	4.215	0.001	98	118751	100.0	87.9	
31 Methylene Chloride	84	4.417	4.410	0.007	87	101115	50.0	47.6	
32 2-Methyl-2-propanol	59	4.678	4.678	0.000	93	63399	500.0	387.9	
33 Acrylonitrile	53	4.794	4.793	0.001	99	292489	500.0	427.8	
34 trans-1,2-Dichloroethene	96	4.812	4.818	-0.006	95	94897	50.0	55.4	
35 Methyl tert-butyl ether	73	4.830	4.842	-0.012	97	213014	50.0	47.2	
36 Hexane	57	5.226	5.231	-0.005	92	112027	50.0	43.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.439	5.444	-0.005	97	143512	50.0	48.5	
38 Vinyl acetate	43	5.493	5.493	0.000	97	83019	50.0	29.6	
44 2,2-Dichloropropane	97	6.175	6.180	-0.005	72	23024	50.0	53.6	
45 cis-1,2-Dichloroethene	96	6.181	6.186	-0.005	84	97214	50.0	51.8	
46 2-Butanone (MEK)	43	6.193	6.198	-0.005	89	87028	100.0	102.8	
49 Chlorobromomethane	128	6.461	6.460	0.001	83	52595	50.0	54.0	
51 Tetrahydrofuran	42	6.479	6.466	0.013	85	36418	100.0	71.1	
52 Chloroform	83	6.607	6.600	0.007	94	169215	50.0	52.4	
53 1,1,1-Trichloroethane	97	6.759	6.764	-0.005	97	161018	50.0	61.0	
54 Cyclohexane	56	6.826	6.831	-0.005	91	129721	50.0	42.3	
56 Carbon tetrachloride	117	6.929	6.935	-0.006	98	150460	50.0	62.1	
55 1,1-Dichloropropene	75	6.941	6.953	-0.012	96	122677	50.0	50.8	
57 Isobutyl alcohol	41	7.142	7.154	-0.012	78	60881	1250.0	1072.0	
58 Benzene	78	7.160	7.160	0.000	98	360920	50.0	50.2	
59 1,2-Dichloroethane	62	7.233	7.239	-0.006	99	126028	50.0	49.4	
62 n-Heptane	43	7.507	7.513	-0.006	87	87284	50.0	41.4	
64 Trichloroethene	130	7.884	7.884	0.000	95	108123	50.0	54.9	
66 Methylcyclohexane	83	8.115	8.115	0.000	88	135711	50.0	45.1	
67 1,2-Dichloropropane	63	8.152	8.151	0.001	91	80523	50.0	47.5	
70 1,4-Dioxane	88	8.237	8.236	0.001	34	9858	1000.0	677.4	
68 Dibromomethane	93	8.243	8.243	0.000	87	54791	50.0	53.3	
71 Dichlorobromomethane	83	8.432	8.431	0.001	100	114410	50.0	53.3	
73 2-Chloroethyl vinyl ether	63	8.736	8.729	0.007	95	81643	100.0	73.6	
74 cis-1,3-Dichloropropene	75	8.870	8.875	-0.005	95	120714	50.0	49.6	
75 4-Methyl-2-pentanone (MIBK	43	9.028	9.027	0.001	96	132957	100.0	80.4	
76 Toluene	91	9.204	9.204	0.000	98	399045	50.0	47.5	
77 trans-1,3-Dichloropropene	75	9.454	9.447	0.007	92	104568	50.0	40.2	
78 Ethyl methacrylate	69	9.502	9.502	0.000	87	80461	50.0	37.1	
79 1,1,2-Trichloroethane	97	9.642	9.636	0.006	94	76549	50.0	43.7	
80 Tetrachloroethene	164	9.715	9.715	0.000	96	109901	50.0	54.8	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	93	118912	50.0	39.2	
82 2-Hexanone	43	9.861	9.861	0.000	95	106789	100.0	95.3	
84 Chlorodibromomethane	129	10.013	10.007	0.006	89	88483	50.0	47.6	
85 Ethylene Dibromide	107	10.123	10.128	-0.005	99	76458	50.0	45.0	
87 Chlorobenzene	112	10.616	10.615	0.001	95	263678	50.0	46.4	
89 1,1,1,2-Tetrachloroethane	131	10.707	10.706	0.001	91	96271	50.0	48.2	
90 Ethylbenzene	106	10.707	10.706	0.001	98	134918	50.0	46.1	
91 m-Xylene & p-Xylene	106	10.847	10.840	0.007	0	167936	50.0	46.6	
92 o-Xylene	106	11.224	11.223	0.001	95	157782	50.0	46.1	
93 Styrene	104	11.242	11.242	0.000	94	259045	50.0	44.3	
94 Bromoform	173	11.431	11.418	0.013	92	60634	50.0	48.9	
97 Isopropylbenzene	105	11.589	11.588	0.001	96	391199	50.0	43.1	
99 1,1,2,2-Tetrachloroethane	83	11.905	11.899	0.006	77	87851	50.0	39.8	
100 Bromobenzene	156	11.905	11.911	-0.006	85	125087	50.0	45.8	
102 trans-1,4-Dichloro-2-buten	53	11.942	11.935	0.007	74	25629	50.0	33.4	
101 1,2,3-Trichloropropane	110	11.960	11.953	0.007	83	34659	50.0	40.1	
103 N-Propylbenzene	120	12.003	12.002	0.001	98	119006	50.0	41.8	
104 2-Chlorotoluene	126	12.100	12.093	0.007	97	106514	50.0	43.7	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	95	328890	50.0	39.7	
107 4-Chlorotoluene	126	12.216	12.215	0.001	97	115046	50.0	44.4	
108 tert-Butylbenzene	119	12.502	12.501	0.001	91	268830	50.0	39.0	
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	97	337053	50.0	40.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.721	12.726	-0.005	94	376341	50.0	38.8	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	97	202196	50.0	40.1	
114 4-Isopropyltoluene	119	12.879	12.878	0.001	96	328166	50.0	38.4	
115 1,4-Dichlorobenzene	146	12.946	12.945	0.001	96	210785	50.0	40.6	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	213702	50.0	32.1	
121 1,2-Dichlorobenzene	146	13.305	13.304	0.001	98	185620	50.0	39.1	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.095	-0.006	80	11784	50.0	31.7	
126 1,2,4-Trichlorobenzene	180	14.911	14.916	-0.005	93	52602	50.0	32.4	
127 Hexachlorobutadiene	225	15.057	15.056	0.001	89	45322	50.0	45.4	
128 Naphthalene	128	15.184	15.184	0.000	96	97019	50.0	33.9	
129 1,2,3-Trichlorobenzene	180	15.422	15.421	0.001	94	40334	50.0	31.2	
S 134 1,2-Dichloroethene, Total	96				0		100.0	107.3	
S 154 Total BTEX	106				0		250.0	236.5	
S 133 Xylenes, Total	106				0		100.0	92.7	
S 135 1,3-Dichloropropene, Total	1				0		100.0	89.8	

Reagents:

voaWKetmix1st_00019	Amount Added:	2.00	Units: uL	
VOA8260VOA2ND_00376	Amount Added:	2.00	Units: uL	
VOAACR2ND_00027	Amount Added:	6.00	Units: uL	
VOAVA2ND_00028	Amount Added:	2.00	Units: uL	
VOACEVE2ND_00028	Amount Added:	2.00	Units: uL	
voaWI/SHP5_00014	Amount Added:	5.00	Units: uL	Run Reagent

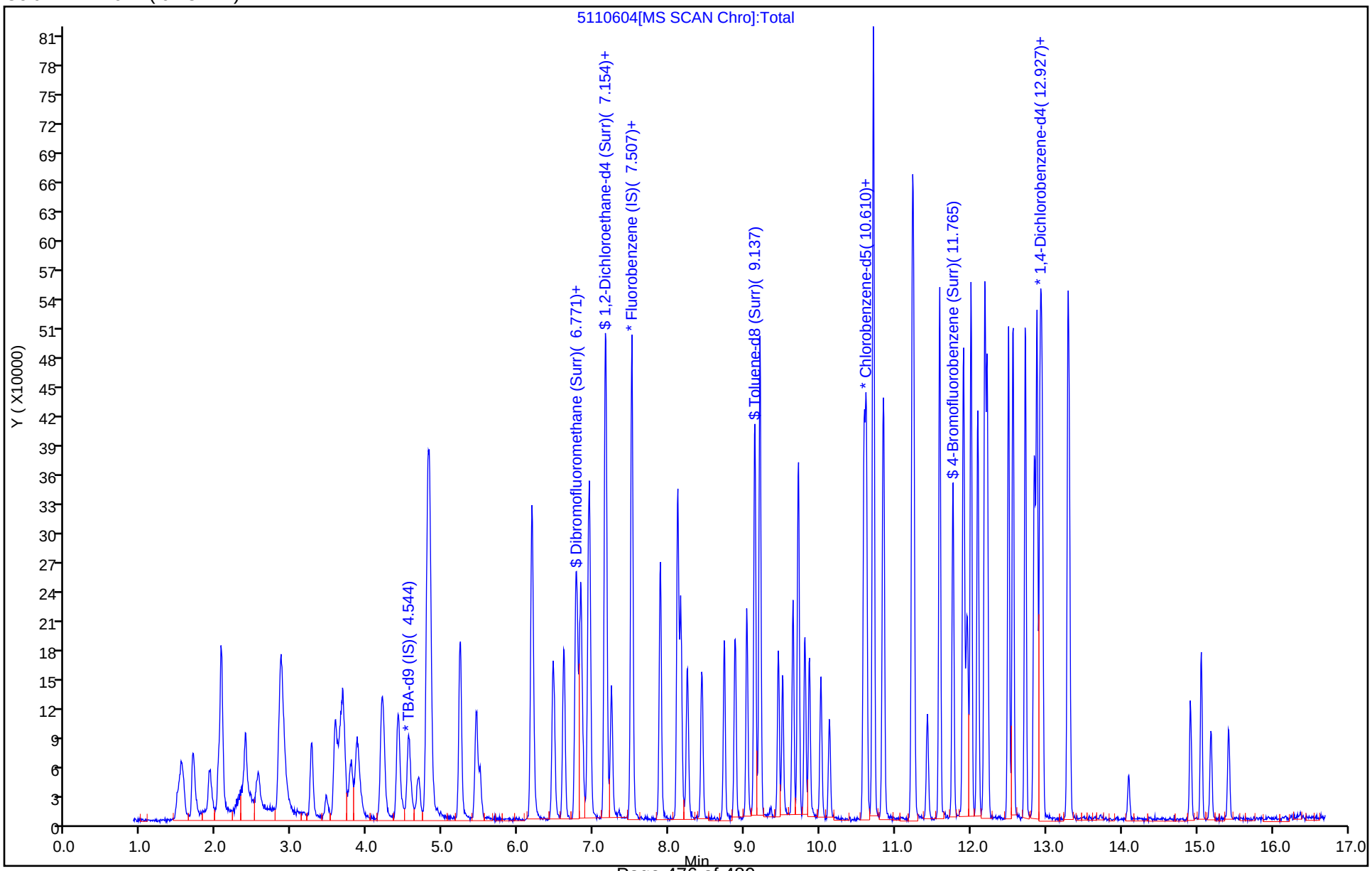
Report Date: 07-Nov-2019 09:08:14 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110604.D

Injection Date:	06-Nov-2019 10:32:30	Instrument ID:	CHHP5	Operator ID:	433269
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\5110604.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 06-Nov-2019 10:32:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029414-004
Misc. Info.: LCS
Operator ID: 433269 Instrument ID: CHHP5

Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191106-29414.b\MSVOA_LL_CHHP5.m
Limit Group: VOA 8260C_D ICAL
Last Update: 07-Nov-2019 09:07:58 Calib Date: 12-Oct-2019 20:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191012-29087.b\5101216.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0336

First Level Reviewer: bowieh Date: 07-Nov-2019 09:08:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	55.2	110.38
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	50.1	100.28
$ 7 Toluene-d8 (Surr)	50.0	47.8	95.52
$ 8 4-Bromofluorobenzene (Surr)	50.0	48.3	96.61

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Start Date: 10/12/2019 13:56

Analysis Batch Number: 294706 End Date: 10/12/2019 21:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-294706/1		10/12/2019 13:56	1	5101201D.D	DB-624 0.18(mm)
IC 180-294706/5		10/12/2019 15:41	1	5101205.D	DB-624 0.18(mm)
ICIS 180-294706/6		10/12/2019 16:05	1	5101206.D	DB-624 0.18(mm)
IC 180-294706/7		10/12/2019 16:29	1	5101207.D	DB-624 0.18(mm)
IC 180-294706/8		10/12/2019 16:54	1	5101208.D	DB-624 0.18(mm)
IC 180-294706/9		10/12/2019 17:18	1	5101209.D	DB-624 0.18(mm)
IC 180-294706/10		10/12/2019 17:42	1	5101210.D	DB-624 0.18(mm)
IC 180-294706/11		10/12/2019 18:07	1	5101211.D	DB-624 0.18(mm)
IC 180-294706/19		10/12/2019 20:06	1	5101216.D	DB-624 0.18(mm)
ICV 180-294706/16		10/12/2019 20:31	1		DB-624 0.18(mm)
ZZZZZ		10/12/2019 21:19	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Start Date: 11/02/2019 09:35

Analysis Batch Number: 296913 End Date: 11/02/2019 20:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-296913/1		11/02/2019 09:35	1	5110201.D	DB-624 0.18(mm)
CCVIS 180-296913/2		11/02/2019 10:08	1	5110202.D	DB-624 0.18(mm)
LCS 180-296913/4		11/02/2019 10:32	1	5110204.D	DB-624 0.18(mm)
ZZZZZ		11/02/2019 11:08	1		DB-624 0.18(mm)
MB 180-296913/6		11/02/2019 11:32	1	5110206.D	DB-624 0.18(mm)
ZZZZZ		11/02/2019 12:11	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 12:35	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 13:00	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 13:24	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 13:48	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 14:12	5		DB-624 0.18(mm)
ZZZZZ		11/02/2019 14:36	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 15:01	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 15:25	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 16:08	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 16:32	10		DB-624 0.18(mm)
ZZZZZ		11/02/2019 16:56	5		DB-624 0.18(mm)
ZZZZZ		11/02/2019 17:20	5		DB-624 0.18(mm)
ZZZZZ		11/02/2019 17:44	10		DB-624 0.18(mm)
ZZZZZ		11/02/2019 18:09	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 18:33	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 18:57	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 19:22	1		DB-624 0.18(mm)
180-97854-13		11/02/2019 19:46	1	5110225.D	DB-624 0.18(mm)
ZZZZZ		11/02/2019 20:11	1		DB-624 0.18(mm)
ZZZZZ		11/02/2019 20:35	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Start Date: 11/05/2019 12:09

Analysis Batch Number: 297107 End Date: 11/05/2019 23:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-297107/1		11/05/2019 12:09	1	5110501E.D	DB-624 0.18(mm)
CCVIS 180-297107/2		11/05/2019 12:46	1	5110502.D	DB-624 0.18(mm)
LCS 180-297107/4		11/05/2019 13:20	1	5110504.D	DB-624 0.18(mm)
ZZZZZ		11/05/2019 13:56	1		DB-624 0.18(mm)
MB 180-297107/6		11/05/2019 14:21	1	5110506.D	DB-624 0.18(mm)
ZZZZZ		11/05/2019 14:56	1		DB-624 0.18(mm)
ZZZZZ		11/05/2019 15:20	1		DB-624 0.18(mm)
ZZZZZ		11/05/2019 15:44	1		DB-624 0.18(mm)
ZZZZZ		11/05/2019 16:09	5		DB-624 0.18(mm)
ZZZZZ		11/05/2019 16:33	5		DB-624 0.18(mm)
ZZZZZ		11/05/2019 16:57	12.5		DB-624 0.18(mm)
ZZZZZ		11/05/2019 17:22	10		DB-624 0.18(mm)
ZZZZZ		11/05/2019 17:46	1		DB-624 0.18(mm)
180-97854-2		11/05/2019 18:11	1	5110515.D	DB-624 0.18(mm)
180-97854-3		11/05/2019 18:36	1	5110516.D	DB-624 0.18(mm)
180-97854-4		11/05/2019 19:00	1	5110517.D	DB-624 0.18(mm)
180-97854-5		11/05/2019 19:24	1	5110518.D	DB-624 0.18(mm)
180-97854-6		11/05/2019 19:48	1	5110519.D	DB-624 0.18(mm)
180-97854-7		11/05/2019 20:12	1	5110520.D	DB-624 0.18(mm)
180-97854-8		11/05/2019 20:36	1	5110521.D	DB-624 0.18(mm)
180-97854-9		11/05/2019 21:00	1	5110522.D	DB-624 0.18(mm)
180-97854-10		11/05/2019 21:25	1	5110523.D	DB-624 0.18(mm)
180-97854-11		11/05/2019 21:49	1	5110524.D	DB-624 0.18(mm)
180-97854-12		11/05/2019 22:14	1	5110525.D	DB-624 0.18(mm)
ZZZZZ		11/05/2019 22:38	500		DB-624 0.18(mm)
ZZZZZ		11/05/2019 23:27	5		DB-624 0.18(mm)
ZZZZZ		11/05/2019 23:51	5		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97854-1

SDG No.:

Instrument ID: CHHP5 Start Date: 11/06/2019 09:07

Analysis Batch Number: 297240 End Date: 11/06/2019 19:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-297240/1		11/06/2019 09:07	1	5110601.D	DB-624 0.18(mm)
CCVIS 180-297240/3		11/06/2019 10:08	1	5110603.D	DB-624 0.18(mm)
LCS 180-297240/4		11/06/2019 10:32	1	5110604.D	DB-624 0.18(mm)
ZZZZZ		11/06/2019 11:07	1		DB-624 0.18(mm)
MB 180-297240/6		11/06/2019 11:31	1	5110606.D	DB-624 0.18(mm)
180-97854-1		11/06/2019 12:20	1	5110607.D	DB-624 0.18(mm)
ZZZZZ		11/06/2019 12:45	1		DB-624 0.18(mm)
ZZZZZ		11/06/2019 15:36	25		DB-624 0.18(mm)
ZZZZZ		11/06/2019 16:00	20		DB-624 0.18(mm)
ZZZZZ		11/06/2019 16:25	12.5		DB-624 0.18(mm)
ZZZZZ		11/06/2019 16:49	1		DB-624 0.18(mm)
ZZZZZ		11/06/2019 17:14	1		DB-624 0.18(mm)
ZZZZZ		11/06/2019 18:26	5		DB-624 0.18(mm)
ZZZZZ		11/06/2019 18:50	2		DB-624 0.18(mm)
ZZZZZ		11/06/2019 19:15	1		DB-624 0.18(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97854-1

SDG No.:

Batch Number: 296913 Batch Start Date: 11/02/19 09:35 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VOA8260VOAPRI 00377	VOAACR2ND 00027	VOABFB25 00119
BFB 180-296913/1		EPA 8260C		5 mL	5 mL				1 uL
CCVIS 180-296913/2		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
LCS 180-296913/4		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
MB 180-296913/6		EPA 8260C		5 mL	5 mL				
180-97854-B-13	HD-QC11-0/1-2	EPA 8260C	T	5 mL	5 mL	<2 SU			

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOACEVEPRI 00056	VOAVA2ND 00028	voaWI/SHP5 00014	voaWKetmix1st 00019		
BFB 180-296913/1		EPA 8260C							
CCVIS 180-296913/2		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
LCS 180-296913/4		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
MB 180-296913/6		EPA 8260C				5 uL			
180-97854-B-13	HD-QC11-0/1-2	EPA 8260C	T			5 uL			

Batch Notes	
Batch Comment	MeOH 3167194
pH Indicator ID	HC991818

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97854-1

SDG No.:

Batch Number: 297107 Batch Start Date: 11/05/19 12:09 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VOA8260VOA2ND 00376	VOAACR2ND 00027	VOABFB25 00119
BFB 180-297107/1		EPA 8260C		5 mL	5 mL				1 uL
CCVIS 180-297107/2		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
LCS 180-297107/4		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
MB 180-297107/6		EPA 8260C		5 mL	5 mL				
180-97854-A-2	HD-COD-SW-7-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-B-3	HD-COD-SW-8-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-D-4	HD-COD-SW-9-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-B-5	HD-COD-SW-13-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-B-6	HD-COD-SW-15-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-B-7	HD-COD-SW-16-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-A-8	HD-COD-SW-17-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-B-9	HD-COD-SW-26-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-A-10	HD-COD-SW-27-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-B-11	HD-COD-SW-28-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-97854-A-12	HD-COD-SW-29-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOACEVE2ND 00028	VOAVA2ND 00028	voaWI/SHP5 00014	voaWKetmix1st 00019	AnalysisComment	
BFB 180-297107/1		EPA 8260C							
CCVIS 180-297107/2		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
LCS 180-297107/4		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
MB 180-297107/6		EPA 8260C				5 uL			
180-97854-A-2	HD-COD-SW-7-0/1-0	EPA 8260C	T			5 uL		HC995364	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97854-1

SDG No.:

Batch Number: 297107 Batch Start Date: 11/05/19 12:09 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOACEVE2ND 00028	VOAVA2ND 00028	voaWI/SHP5 00014	voaWKetmix1st 00019	AnalysisComment	
180-97854-B-3	HD-COD-SW-8-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-D-4	HD-COD-SW-9-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-B-5	HD-COD-SW-13-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-B-6	HD-COD-SW-15-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-B-7	HD-COD-SW-16-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-A-8	HD-COD-SW-17-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-B-9	HD-COD-SW-26-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-A-10	HD-COD-SW-27-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-B-11	HD-COD-SW-28-0/1-0	EPA 8260C	T			5 uL		HC995364	
180-97854-A-12	HD-COD-SW-29-0/1-0	EPA 8260C	T			5 uL		HC995364	

Batch Notes	
Batch Comment	MeOH 3167194
pH Indicator ID	HC991818 and HC995364

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97854-1

SDG No.:

Batch Number: 297240 Batch Start Date: 11/06/19 09:07 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VOA8260VOA2ND 00376	VOAACR2ND 00027	VOABFB25 00119
BFB 180-297240/1		EPA 8260C		5 mL	5 mL				1 uL
CCVIS 180-297240/3		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
LCS 180-297240/4		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
MB 180-297240/6		EPA 8260C		5 mL	5 mL				
180-97854-C-1	HD-COD-SW-6-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOACEVE2ND 00028	VOAVA2ND 00028	voaWI/SHP5 00014	voaWKetmix1st 00019		
BFB 180-297240/1		EPA 8260C							
CCVIS 180-297240/3		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
LCS 180-297240/4		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
MB 180-297240/6		EPA 8260C				5 uL			
180-97854-C-1	HD-COD-SW-6-0/1-0	EPA 8260C	T			5 uL			

Batch Notes	
Batch Comment	MeOH 3167194
pH Indicator ID	HC995364

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238
phone 412.963.7058 fax 412.963.2470

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Chris O'Neil	Site Contact: Casey Littlefield	DateSubmitted: 10/25/19	COC No: 2019102STAP
Groundwater Sciences Corporation	Tel/Fax: 717-901-8176 / (717) 756-1246	Lab Contact: Carrie Gamber	Carrier: FEDEX	1 of 1 COCs
2601 Market Place St. Suite 310	Analysis Turnaround Time			Job No. 10012.42
Harrisburg, PA 17110	Calendar (C) or Work Days (W)			
(717) 901-8180 Phone	TAT if different from Below: Standard			Container No. 1
(717) 657-1611 FAX MONTHLY	■ 2 weeks			SDG No.
Project Name: ~~2019 Comprehensive Sampling~~	☐ 1 week			
Site: fYNOP, York PA	☐ 2 days			
Quote # 18000557	☐ 1 day			

Harrisburg #267

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	METHOD SW-846 VOCs (8260C) MODIFIED APP LIST
HD-~~SW~~COD-SW-6-Ø/1-Ø	10/24/19	1315	VOA	SW	3	X
HD-COD-SW-7-Ø/1-Ø		14ØØ				
HD-COD-SW-8-Ø/1-Ø		12Ø5				
HD-COD-SW-9-Ø/1-Ø		1445				
HD-COD-SW-13-Ø/1-Ø		1225				
HD-COD-SW-~~15~~-Ø/1-Ø		142Ø				
HD-COD-SW-16-Ø/1-Ø		1245				
HD-COD-SW-17-Ø/1-Ø		13ØØ				
HD-COD-SW-26-Ø/1-Ø		134Ø				
HD-COD-SW-27-Ø/1-Ø		1415				
HD-COD-SW-28-Ø/1-Ø		15ØØ				
HD-COD-SW-29-Ø/1-Ø	↓	1155	↓	↓	↓	↓
HD-QC11-Ø/1-2	10/24/19	—	TRIPBLANK		2	X
				Number of Containers		38
				Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Unpreserved 7=Na2S2O3		2
				Field Filter		N

Sample Specific Notes:

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: **CLP Like Deliverables, Project Specific Analyte Lists**

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Casey Littlefield	GSC	10/25/19 1440		ETA	10/25/19 1440
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				TMA	10/26/19 930
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Do Not Lift Using This Tag

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ORIGIN ID:GTYA (717) 461-6245
TESTAMERICA HARRISBURG SC
5020 RITTER RD
SUITES 205/206
MECHANICSBURG, PA 170554837
UNITED STATES US

SHIP DATE: 25OCT19
ACTWGT: 40.00 LB MAN
CAD: 0129689/CAFE3211

BILL RECIPIENT

TO **SAMPLE RECEIVING**
TESTAMERICA PITTSBURGH
301 ALPHA DRIVE
RIDC PARK
PITTSBURGH PA 152382907
(412) 963-7058
INV:
PO:
REF:
DEPT:

FedEx Express

J181118060501uv

TRK# 0201 **4690 5823 1530**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO AGCA

15238
PA-US PIT

Uncorrected temp 2.9 C
Thermometer ID 10
CF 0 Initials JJ
PT-WI-SR-001 effective 11/8/18

Login Sample Receipt Checklist

Client: Groundwater Sciences Corporation

Job Number: 180-97854-1

Login Number: 97854
List Number: 1
Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	relinquished by not signed
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	