

ANALYTICAL REPORT

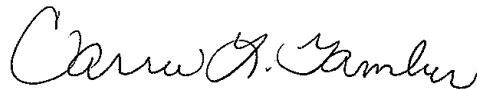
Job Number: 180-99101-1

Job Description: fYNOP

For:

Groundwater Sciences Corporation
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Attention: Christopher O'Neil



Approved for release.
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1/7/2020 9:42 AM

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Definitions/Glossary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-99101-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^c	CCV Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: 180-99101-1 REVISED

NOTE: This report has been revised to update the sample ID for sample HD-QC1-0/1-1 (180-99101-13).

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 11/22/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.6 C.

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 (180-99101-2), HD-COD-SW-13-0/1-0 (180-99101-5), HD-COD-SW-15-0/1-0 (180-99101-6), HD-COD-SW-16-0/1-0 (180-99101-7), HD-COD-SW-17-0/1-0 (180-99101-8), HD-COD-SW-26-0/1-0 (180-99101-9), HD-COD-SW-27-0/1-0 (180-99101-10), HD-COD-SW-28-0/1-0 (180-99101-11) and HD-QC1-0/1-1 (180-99101-13). This ISTD does not correspond to any of the requested target compounds; therefore, the data have been reported.

Reanalysis of the following samples were performed outside of the analytical holding time due to quality control failures associated with the initial analysis within holding time : HD-COD-SW-13-0/1-0 (180-99101-5), HD-COD-SW-16-0/1-0 (180-99101-7), HD-COD-SW-26-0/1-0 (180-99101-9), HD-COD-SW-27-0/1-0 (180-99101-10) and HD-QC1-0/1-1 (180-99101-13). Both sets of results were reported.

The following sample was analyzed outside of the method 12-hour tune period to meet analytical holding time: HD-QC1-0/1-1 (180-99101-13). The affected sample was reanalyzed outside of holding time within a valid tune period.

Surrogate recovery for the following samples were outside control limits: HD-COD-SW-13-0/1-0 (180-99101-5), HD-COD-SW-16-0/1-0 (180-99101-7), HD-COD-SW-26-0/1-0 (180-99101-9), HD-COD-SW-27-0/1-0 (180-99101-10) and HD-QC1-0/1-1 (180-99101-13). Evidence of matrix interferences is not obvious. The affected samples were reanalyzed outside of holding time to confirm results.

Surrogate recovery for the following samples were outside control limits: HD-COD-SW-26-0/1-0 (180-99101-9) and HD-QC1-0/1-1 (180-99101-13). Re-extraction and/or re-analysis was performed with concurring results. Both sets of data have been reported.

The continuing calibration verification (CCV) analyzed in 180-301313 was outside the method criteria high for the following analytes: 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Chloroethane, Dichloro-difluoromethane, 1,1,2-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, Hexachlorobutadiene, Vinyl chloride 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: 180-99101-1

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

Lab Sample ID: 180-99101-1

No Detections.

Client Sample ID: HD-COD-SW-7-0/1-0

Lab Sample ID: 180-99101-2

No Detections.

Client Sample ID: HD-COD-SW-8-0/1-0

Lab Sample ID: 180-99101-3

No Detections.

Client Sample ID: HD-COD-SW-9-0/1-0

Lab Sample ID: 180-99101-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.90	J	1.0	0.46	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-13-0/1-0

Lab Sample ID: 180-99101-5

No Detections.

Client Sample ID: HD-COD-SW-15-0/1-0

Lab Sample ID: 180-99101-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.86	J	1.0	0.71	ug/L	1		EPA 8260C	Total/NA
Trichloroethene	0.99	J	1.0	0.69	ug/L	1		EPA 8260C	Total/NA
Tetrachloroethene	2.7		1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-16-0/1-0

Lab Sample ID: 180-99101-7

No Detections.

Client Sample ID: HD-COD-SW-17-0/1-0

Lab Sample ID: 180-99101-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0		1.0	0.71	ug/L	1		EPA 8260C	Total/NA
Trichloroethene	1.5		1.0	0.69	ug/L	1		EPA 8260C	Total/NA
Tetrachloroethene	3.8		1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-26-0/1-0

Lab Sample ID: 180-99101-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	4.7		1.0	0.47	ug/L	1		EPA 8260C	Total/NA
Tetrachloroethene - RA	4.2	H	1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-27-0/1-0

Lab Sample ID: 180-99101-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene - RA	0.47	J H	1.0	0.47	ug/L	1		EPA 8260C	Total/NA

Client Sample ID: HD-COD-SW-28-0/1-0

Lab Sample ID: 180-99101-11

No Detections.

Client Sample ID: HD-COD-SW-29-0/1-0

Lab Sample ID: 180-99101-12

No Detections.

Client Sample ID: HD-QC1-0/1-1

Lab Sample ID: 180-99101-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	4.7		1.0	0.47	ug/L	1		EPA 8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pittsburgh

Detection Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-99101-1

Client Sample ID: HD-QC1-0/1-1 (Continued)

Lab Sample ID: 180-99101-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene - RA	4.1	H	1.0	0.47	ug/L	1		EPA 8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

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

Date Collected: 11/21/19 12:55

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 13:55	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 13:55	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 13:55	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 13:55	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 13:55	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 13:55	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 13:55	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 13:55	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 13:55	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 13:55	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 13:55	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 13:55	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 13:55	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 13:55	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 13:55	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 13:55	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 13:55	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 13:55	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 13:55	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 13:55	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 13:55	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 13:55	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 13:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 13:55	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 13:55	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 13:55	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 13:55	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 13:55	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 13:55	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 13:55	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 13:55	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 13:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 13:55	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 13:55	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 13:55	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 13:55	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 13:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 13:55	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 13:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 150		12/05/19 13:55	1
Toluene-d8 (Surr)	90		78 - 128		12/05/19 13:55	1
4-Bromofluorobenzene (Surr)	70		64 - 123		12/05/19 13:55	1
Dibromofluoromethane (Surr)	115		75 - 147		12/05/19 13:55	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-7-0/1-0

Date Collected: 11/21/19 13:50

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 14:19	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 14:19	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 14:19	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 14:19	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 14:19	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 14:19	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 14:19	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 14:19	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 14:19	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 14:19	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 14:19	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 14:19	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 14:19	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 14:19	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 14:19	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 14:19	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 14:19	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 14:19	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 14:19	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 14:19	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 14:19	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 14:19	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 14:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 14:19	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 14:19	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 14:19	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 14:19	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 14:19	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 14:19	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 14:19	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 14:19	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 14:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 14:19	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 14:19	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 14:19	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 14:19	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 14:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 14:19	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 14:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 150		12/05/19 14:19	1
Toluene-d8 (Surr)	86		78 - 128		12/05/19 14:19	1
4-Bromofluorobenzene (Surr)	65		64 - 123		12/05/19 14:19	1
Dibromofluoromethane (Surr)	114		75 - 147		12/05/19 14:19	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-8-0/1-0

Date Collected: 11/21/19 11:25

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 14:44	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 14:44	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 14:44	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 14:44	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 14:44	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 14:44	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 14:44	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 14:44	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 14:44	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 14:44	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 14:44	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 14:44	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 14:44	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 14:44	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 14:44	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 14:44	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 14:44	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 14:44	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 14:44	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 14:44	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 14:44	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 14:44	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 14:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 14:44	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 14:44	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 14:44	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 14:44	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 14:44	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 14:44	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 14:44	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 14:44	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 14:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 14:44	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 14:44	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 14:44	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 14:44	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 14:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 14:44	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 150		12/05/19 14:44	1
Toluene-d8 (Surr)	88		78 - 128		12/05/19 14:44	1
4-Bromofluorobenzene (Surr)	66		64 - 123		12/05/19 14:44	1
Dibromofluoromethane (Surr)	114		75 - 147		12/05/19 14:44	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-9-0/1-0

Date Collected: 11/21/19 14:40

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 15:08	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 15:08	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 15:08	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 15:08	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 15:08	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 15:08	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 15:08	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 15:08	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 15:08	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 15:08	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 15:08	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 15:08	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 15:08	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 15:08	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 15:08	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 15:08	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 15:08	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 15:08	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 15:08	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 15:08	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 15:08	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 15:08	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 15:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 15:08	1
Toluene	0.90	J	1.0	0.46	ug/L			12/05/19 15:08	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 15:08	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 15:08	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 15:08	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 15:08	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 15:08	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 15:08	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 15:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 15:08	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 15:08	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 15:08	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 15:08	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 15:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 15:08	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 150		12/05/19 15:08	1
Toluene-d8 (Surr)	84		78 - 128		12/05/19 15:08	1
4-Bromofluorobenzene (Surr)	67		64 - 123		12/05/19 15:08	1
Dibromofluoromethane (Surr)	111		75 - 147		12/05/19 15:08	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-13-0/1-0

Date Collected: 11/21/19 11:45

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 15:32	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 15:32	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 15:32	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 15:32	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 15:32	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 15:32	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 15:32	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 15:32	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 15:32	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 15:32	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 15:32	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 15:32	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 15:32	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 15:32	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 15:32	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 15:32	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 15:32	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 15:32	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 15:32	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 15:32	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 15:32	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 15:32	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 15:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 15:32	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 15:32	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 15:32	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 15:32	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 15:32	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 15:32	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 15:32	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 15:32	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 15:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 15:32	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 15:32	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 15:32	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 15:32	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 15:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 15:32	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 150		12/05/19 15:32	1
Toluene-d8 (Surr)	88		78 - 128		12/05/19 15:32	1
4-Bromofluorobenzene (Surr)	62	X	64 - 123		12/05/19 15:32	1
Dibromofluoromethane (Surr)	113		75 - 147		12/05/19 15:32	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-15-0/1-0

Date Collected: 11/21/19 14:10

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 15:57	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 15:57	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 15:57	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 15:57	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 15:57	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 15:57	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 15:57	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 15:57	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 15:57	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 15:57	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 15:57	1
cis-1,2-Dichloroethene	0.86	J	1.0	0.71	ug/L			12/05/19 15:57	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 15:57	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 15:57	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 15:57	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 15:57	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 15:57	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 15:57	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 15:57	1
Trichloroethene	0.99	J	1.0	0.69	ug/L			12/05/19 15:57	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 15:57	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 15:57	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 15:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 15:57	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 15:57	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 15:57	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 15:57	1
Tetrachloroethene	2.7		1.0	0.47	ug/L			12/05/19 15:57	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 15:57	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 15:57	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 15:57	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 15:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 15:57	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 15:57	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 15:57	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 15:57	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 15:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 15:57	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	107		70 - 150		12/05/19 15:57	1
<i>Toluene-d8 (Surr)</i>	89		78 - 128		12/05/19 15:57	1
<i>4-Bromofluorobenzene (Surr)</i>	64		64 - 123		12/05/19 15:57	1
<i>Dibromofluoromethane (Surr)</i>	116		75 - 147		12/05/19 15:57	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-16-0/1-0

Date Collected: 11/21/19 12:05

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 16:21	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 16:21	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 16:21	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 16:21	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 16:21	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 16:21	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 16:21	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 16:21	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 16:21	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 16:21	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 16:21	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 16:21	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 16:21	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 16:21	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 16:21	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 16:21	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 16:21	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 16:21	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 16:21	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 16:21	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 16:21	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 16:21	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 16:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 16:21	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 16:21	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 16:21	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 16:21	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 16:21	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 16:21	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 16:21	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 16:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 16:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 16:21	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 16:21	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 16:21	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 16:21	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 16:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 16:21	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 150		12/05/19 16:21	1
Toluene-d8 (Surr)	90		78 - 128		12/05/19 16:21	1
4-Bromofluorobenzene (Surr)	63	X	64 - 123		12/05/19 16:21	1
Dibromofluoromethane (Surr)	111		75 - 147		12/05/19 16:21	1

Client Sample Results

Client: Groundwater Sciences Corporation
Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-17-0/1-0

Date Collected: 11/21/19 12:25

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 16:46	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 16:46	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 16:46	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 16:46	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 16:46	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 16:46	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 16:46	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 16:46	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 16:46	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 16:46	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 16:46	1
cis-1,2-Dichloroethene	1.0		1.0	0.71	ug/L			12/05/19 16:46	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 16:46	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 16:46	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 16:46	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 16:46	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 16:46	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 16:46	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 16:46	1
Trichloroethene	1.5		1.0	0.69	ug/L			12/05/19 16:46	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 16:46	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 16:46	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 16:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 16:46	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 16:46	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 16:46	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 16:46	1
Tetrachloroethene	3.8		1.0	0.47	ug/L			12/05/19 16:46	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 16:46	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 16:46	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 16:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 16:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 16:46	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 16:46	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 16:46	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 16:46	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 16:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 16:46	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 150		12/05/19 16:46	1
Toluene-d8 (Surr)	91		78 - 128		12/05/19 16:46	1
4-Bromofluorobenzene (Surr)	68		64 - 123		12/05/19 16:46	1
Dibromofluoromethane (Surr)	119		75 - 147		12/05/19 16:46	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-26-0/1-0

Date Collected: 11/21/19 13:30

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 17:10	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 17:10	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 17:10	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 17:10	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 17:10	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 17:10	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 17:10	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 17:10	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 17:10	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 17:10	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 17:10	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 17:10	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 17:10	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 17:10	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 17:10	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 17:10	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 17:10	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 17:10	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 17:10	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 17:10	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 17:10	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 17:10	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 17:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 17:10	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 17:10	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 17:10	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 17:10	1
Tetrachloroethene	4.7		1.0	0.47	ug/L			12/05/19 17:10	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 17:10	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 17:10	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 17:10	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 17:10	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 17:10	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 17:10	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 17:10	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 17:10	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 17:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 17:10	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 150		12/05/19 17:10	1
Toluene-d8 (Surr)	88		78 - 128		12/05/19 17:10	1
4-Bromofluorobenzene (Surr)	62	X	64 - 123		12/05/19 17:10	1
Dibromofluoromethane (Surr)	110		75 - 147		12/05/19 17:10	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-27-0/1-0

Date Collected: 11/21/19 14:00

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 17:34	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 17:34	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 17:34	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 17:34	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 17:34	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 17:34	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 17:34	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 17:34	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 17:34	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 17:34	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 17:34	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 17:34	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 17:34	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 17:34	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 17:34	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 17:34	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 17:34	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 17:34	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 17:34	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 17:34	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 17:34	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 17:34	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 17:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 17:34	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 17:34	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 17:34	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 17:34	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 17:34	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 17:34	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 17:34	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 17:34	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 17:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 17:34	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 17:34	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 17:34	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 17:34	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 17:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 17:34	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 17:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 150		12/05/19 17:34	1
Toluene-d8 (Surr)	86		78 - 128		12/05/19 17:34	1
4-Bromofluorobenzene (Surr)	63	X	64 - 123		12/05/19 17:34	1
Dibromofluoromethane (Surr)	115		75 - 147		12/05/19 17:34	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-28-0/1-0
Date Collected: 11/21/19 14:55
Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 17:58	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 17:58	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 17:58	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 17:58	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 17:58	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 17:58	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 17:58	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 17:58	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 17:58	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 17:58	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 17:58	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 17:58	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 17:58	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 17:58	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 17:58	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 17:58	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 17:58	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 17:58	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 17:58	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 17:58	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 17:58	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 17:58	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 17:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 17:58	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 17:58	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 17:58	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 17:58	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 17:58	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 17:58	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 17:58	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 17:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 17:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 17:58	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 17:58	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 17:58	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 17:58	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 17:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 17:58	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	110		70 - 150		12/05/19 17:58	1
<i>Toluene-d8 (Surr)</i>	88		78 - 128		12/05/19 17:58	1
<i>4-Bromofluorobenzene (Surr)</i>	65		64 - 123		12/05/19 17:58	1
<i>Dibromofluoromethane (Surr)</i>	111		75 - 147		12/05/19 17:58	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-29-0/1-0

Date Collected: 11/21/19 10:55

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-12

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 18:23	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 18:23	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 18:23	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 18:23	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 18:23	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 18:23	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 18:23	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 18:23	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 18:23	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 18:23	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 18:23	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 18:23	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 18:23	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 18:23	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 18:23	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 18:23	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 18:23	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 18:23	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 18:23	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 18:23	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 18:23	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 18:23	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 18:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 18:23	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 18:23	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 18:23	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 18:23	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 18:23	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 18:23	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 18:23	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 18:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 18:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 18:23	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 18:23	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 18:23	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 18:23	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 18:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 18:23	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 150		12/05/19 18:23	1
Toluene-d8 (Surr)	90		78 - 128		12/05/19 18:23	1
4-Bromofluorobenzene (Surr)	67		64 - 123		12/05/19 18:23	1
Dibromofluoromethane (Surr)	118		75 - 147		12/05/19 18:23	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-QC1-0/1-1

Date Collected: 11/21/19 12:00

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-13

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.90	ug/L			12/05/19 22:27	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 22:27	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 22:27	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 22:27	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 22:27	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 22:27	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 22:27	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 22:27	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 22:27	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 22:27	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 22:27	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 22:27	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 22:27	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 22:27	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 22:27	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 22:27	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 22:27	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 22:27	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 22:27	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 22:27	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 22:27	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 22:27	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 22:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 22:27	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 22:27	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 22:27	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 22:27	1
Tetrachloroethene	4.7		1.0	0.47	ug/L			12/05/19 22:27	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 22:27	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 22:27	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 22:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 22:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 22:27	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 22:27	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 22:27	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 22:27	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 22:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 22:27	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 22:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 150		12/05/19 22:27	1
Toluene-d8 (Surr)	89		78 - 128		12/05/19 22:27	1
4-Bromofluorobenzene (Surr)	61	X	64 - 123		12/05/19 22:27	1
Dibromofluoromethane (Surr)	110		75 - 147		12/05/19 22:27	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-13-0/1-0

Date Collected: 11/21/19 11:45

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	H	1.0	0.90	ug/L			12/13/19 19:47	1
Vinyl chloride	ND	H ^c	1.0	0.88	ug/L			12/13/19 19:47	1
Bromomethane	ND	H	1.0	0.89	ug/L			12/13/19 19:47	1
Chloroethane	ND	H ^c	1.0	0.90	ug/L			12/13/19 19:47	1
1,1-Dichloroethene	ND	H	1.0	0.55	ug/L			12/13/19 19:47	1
Acetone	ND	H	5.0	3.4	ug/L			12/13/19 19:47	1
Carbon disulfide	ND	H	1.0	0.88	ug/L			12/13/19 19:47	1
Methylene Chloride	ND	H	1.0	0.89	ug/L			12/13/19 19:47	1
trans-1,2-Dichloroethene	ND	H	1.0	0.67	ug/L			12/13/19 19:47	1
Methyl tert-butyl ether	ND	H	1.0	0.59	ug/L			12/13/19 19:47	1
1,1-Dichloroethane	ND	H	1.0	0.63	ug/L			12/13/19 19:47	1
cis-1,2-Dichloroethene	ND	H	1.0	0.71	ug/L			12/13/19 19:47	1
Bromochloromethane	ND	H	1.0	0.63	ug/L			12/13/19 19:47	1
2-Butanone (MEK)	ND	H	5.0	2.6	ug/L			12/13/19 19:47	1
Chloroform	ND	H	1.0	0.60	ug/L			12/13/19 19:47	1
1,1,1-Trichloroethane	ND	H	1.0	0.60	ug/L			12/13/19 19:47	1
Carbon tetrachloride	ND	H	1.0	0.88	ug/L			12/13/19 19:47	1
Benzene	ND	H	1.0	0.60	ug/L			12/13/19 19:47	1
1,2-Dichloroethane	ND	H	1.0	0.57	ug/L			12/13/19 19:47	1
Trichloroethene	ND	H	1.0	0.69	ug/L			12/13/19 19:47	1
1,2-Dichloropropane	ND	H	1.0	0.66	ug/L			12/13/19 19:47	1
Bromodichloromethane	ND	H	1.0	0.64	ug/L			12/13/19 19:47	1
cis-1,3-Dichloropropene	ND	H	1.0	0.59	ug/L			12/13/19 19:47	1
4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1	ug/L			12/13/19 19:47	1
Toluene	ND	H	1.0	0.46	ug/L			12/13/19 19:47	1
trans-1,3-Dichloropropene	ND	H	1.0	0.58	ug/L			12/13/19 19:47	1
1,1,2-Trichloroethane	ND	H ^c	1.0	0.45	ug/L			12/13/19 19:47	1
Tetrachloroethene	ND	H	1.0	0.47	ug/L			12/13/19 19:47	1
2-Hexanone	ND	H	5.0	3.3	ug/L			12/13/19 19:47	1
Dibromochloromethane	ND	H	1.0	0.84	ug/L			12/13/19 19:47	1
1,2-Dibromoethane (EDB)	ND	H	1.0	0.50	ug/L			12/13/19 19:47	1
Chlorobenzene	ND	H	1.0	0.50	ug/L			12/13/19 19:47	1
1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57	ug/L			12/13/19 19:47	1
Ethylbenzene	ND	H	1.0	0.51	ug/L			12/13/19 19:47	1
Xylenes, Total	ND	H	2.0	0.89	ug/L			12/13/19 19:47	1
Styrene	ND	H	1.0	0.47	ug/L			12/13/19 19:47	1
Bromoform	ND	H	1.0	0.98	ug/L			12/13/19 19:47	1
1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60	ug/L			12/13/19 19:47	1
Acrylonitrile	ND	H	20	7.8	ug/L			12/13/19 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 150		12/13/19 19:47	1
Toluene-d8 (Surr)	84		78 - 128		12/13/19 19:47	1
4-Bromofluorobenzene (Surr)	87		64 - 123		12/13/19 19:47	1
Dibromofluoromethane (Surr)	124		75 - 147		12/13/19 19:47	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-16-0/1-0

Date Collected: 11/21/19 12:05

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	H	1.0	0.90	ug/L			12/13/19 20:12	1
Vinyl chloride	ND	H ^c	1.0	0.88	ug/L			12/13/19 20:12	1
Bromomethane	ND	H	1.0	0.89	ug/L			12/13/19 20:12	1
Chloroethane	ND	H ^c	1.0	0.90	ug/L			12/13/19 20:12	1
1,1-Dichloroethene	ND	H	1.0	0.55	ug/L			12/13/19 20:12	1
Acetone	ND	H	5.0	3.4	ug/L			12/13/19 20:12	1
Carbon disulfide	ND	H	1.0	0.88	ug/L			12/13/19 20:12	1
Methylene Chloride	ND	H	1.0	0.89	ug/L			12/13/19 20:12	1
trans-1,2-Dichloroethene	ND	H	1.0	0.67	ug/L			12/13/19 20:12	1
Methyl tert-butyl ether	ND	H	1.0	0.59	ug/L			12/13/19 20:12	1
1,1-Dichloroethane	ND	H	1.0	0.63	ug/L			12/13/19 20:12	1
cis-1,2-Dichloroethene	ND	H	1.0	0.71	ug/L			12/13/19 20:12	1
Bromochloromethane	ND	H	1.0	0.63	ug/L			12/13/19 20:12	1
2-Butanone (MEK)	ND	H	5.0	2.6	ug/L			12/13/19 20:12	1
Chloroform	ND	H	1.0	0.60	ug/L			12/13/19 20:12	1
1,1,1-Trichloroethane	ND	H	1.0	0.60	ug/L			12/13/19 20:12	1
Carbon tetrachloride	ND	H	1.0	0.88	ug/L			12/13/19 20:12	1
Benzene	ND	H	1.0	0.60	ug/L			12/13/19 20:12	1
1,2-Dichloroethane	ND	H	1.0	0.57	ug/L			12/13/19 20:12	1
Trichloroethene	ND	H	1.0	0.69	ug/L			12/13/19 20:12	1
1,2-Dichloropropane	ND	H	1.0	0.66	ug/L			12/13/19 20:12	1
Bromodichloromethane	ND	H	1.0	0.64	ug/L			12/13/19 20:12	1
cis-1,3-Dichloropropene	ND	H	1.0	0.59	ug/L			12/13/19 20:12	1
4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1	ug/L			12/13/19 20:12	1
Toluene	ND	H	1.0	0.46	ug/L			12/13/19 20:12	1
trans-1,3-Dichloropropene	ND	H	1.0	0.58	ug/L			12/13/19 20:12	1
1,1,2-Trichloroethane	ND	H ^c	1.0	0.45	ug/L			12/13/19 20:12	1
Tetrachloroethene	ND	H	1.0	0.47	ug/L			12/13/19 20:12	1
2-Hexanone	ND	H	5.0	3.3	ug/L			12/13/19 20:12	1
Dibromochloromethane	ND	H	1.0	0.84	ug/L			12/13/19 20:12	1
1,2-Dibromoethane (EDB)	ND	H	1.0	0.50	ug/L			12/13/19 20:12	1
Chlorobenzene	ND	H	1.0	0.50	ug/L			12/13/19 20:12	1
1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57	ug/L			12/13/19 20:12	1
Ethylbenzene	ND	H	1.0	0.51	ug/L			12/13/19 20:12	1
Xylenes, Total	ND	H	2.0	0.89	ug/L			12/13/19 20:12	1
Styrene	ND	H	1.0	0.47	ug/L			12/13/19 20:12	1
Bromoform	ND	H	1.0	0.98	ug/L			12/13/19 20:12	1
1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60	ug/L			12/13/19 20:12	1
Acrylonitrile	ND	H	20	7.8	ug/L			12/13/19 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 150		12/13/19 20:12	1
Toluene-d8 (Surr)	80		78 - 128		12/13/19 20:12	1
4-Bromofluorobenzene (Surr)	93		64 - 123		12/13/19 20:12	1
Dibromofluoromethane (Surr)	115		75 - 147		12/13/19 20:12	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-26-0/1-0

Date Collected: 11/21/19 13:30

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	H	1.0	0.90	ug/L			12/13/19 20:36	1
Vinyl chloride	ND	H ^c	1.0	0.88	ug/L			12/13/19 20:36	1
Bromomethane	ND	H	1.0	0.89	ug/L			12/13/19 20:36	1
Chloroethane	ND	H ^c	1.0	0.90	ug/L			12/13/19 20:36	1
1,1-Dichloroethene	ND	H	1.0	0.55	ug/L			12/13/19 20:36	1
Acetone	ND	H	5.0	3.4	ug/L			12/13/19 20:36	1
Carbon disulfide	ND	H	1.0	0.88	ug/L			12/13/19 20:36	1
Methylene Chloride	ND	H	1.0	0.89	ug/L			12/13/19 20:36	1
trans-1,2-Dichloroethene	ND	H	1.0	0.67	ug/L			12/13/19 20:36	1
Methyl tert-butyl ether	ND	H	1.0	0.59	ug/L			12/13/19 20:36	1
1,1-Dichloroethane	ND	H	1.0	0.63	ug/L			12/13/19 20:36	1
cis-1,2-Dichloroethene	ND	H	1.0	0.71	ug/L			12/13/19 20:36	1
Bromochloromethane	ND	H	1.0	0.63	ug/L			12/13/19 20:36	1
2-Butanone (MEK)	ND	H	5.0	2.6	ug/L			12/13/19 20:36	1
Chloroform	ND	H	1.0	0.60	ug/L			12/13/19 20:36	1
1,1,1-Trichloroethane	ND	H	1.0	0.60	ug/L			12/13/19 20:36	1
Carbon tetrachloride	ND	H	1.0	0.88	ug/L			12/13/19 20:36	1
Benzene	ND	H	1.0	0.60	ug/L			12/13/19 20:36	1
1,2-Dichloroethane	ND	H	1.0	0.57	ug/L			12/13/19 20:36	1
Trichloroethene	ND	H	1.0	0.69	ug/L			12/13/19 20:36	1
1,2-Dichloropropane	ND	H	1.0	0.66	ug/L			12/13/19 20:36	1
Bromodichloromethane	ND	H	1.0	0.64	ug/L			12/13/19 20:36	1
cis-1,3-Dichloropropene	ND	H	1.0	0.59	ug/L			12/13/19 20:36	1
4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1	ug/L			12/13/19 20:36	1
Toluene	ND	H	1.0	0.46	ug/L			12/13/19 20:36	1
trans-1,3-Dichloropropene	ND	H	1.0	0.58	ug/L			12/13/19 20:36	1
1,1,2-Trichloroethane	ND	H ^c	1.0	0.45	ug/L			12/13/19 20:36	1
Tetrachloroethene	4.2	H	1.0	0.47	ug/L			12/13/19 20:36	1
2-Hexanone	ND	H	5.0	3.3	ug/L			12/13/19 20:36	1
Dibromochloromethane	ND	H	1.0	0.84	ug/L			12/13/19 20:36	1
1,2-Dibromoethane (EDB)	ND	H	1.0	0.50	ug/L			12/13/19 20:36	1
Chlorobenzene	ND	H	1.0	0.50	ug/L			12/13/19 20:36	1
1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57	ug/L			12/13/19 20:36	1
Ethylbenzene	ND	H	1.0	0.51	ug/L			12/13/19 20:36	1
Xylenes, Total	ND	H	2.0	0.89	ug/L			12/13/19 20:36	1
Styrene	ND	H	1.0	0.47	ug/L			12/13/19 20:36	1
Bromoform	ND	H	1.0	0.98	ug/L			12/13/19 20:36	1
1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60	ug/L			12/13/19 20:36	1
Acrylonitrile	ND	H	20	7.8	ug/L			12/13/19 20:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 150		12/13/19 20:36	1
Toluene-d8 (Surr)	75	X	78 - 128		12/13/19 20:36	1
4-Bromofluorobenzene (Surr)	88		64 - 123		12/13/19 20:36	1
Dibromofluoromethane (Surr)	117		75 - 147		12/13/19 20:36	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-COD-SW-27-0/1-0

Date Collected: 11/21/19 14:00

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	H	1.0	0.90	ug/L			12/13/19 21:01	1
Vinyl chloride	ND	H ^c	1.0	0.88	ug/L			12/13/19 21:01	1
Bromomethane	ND	H	1.0	0.89	ug/L			12/13/19 21:01	1
Chloroethane	ND	H ^c	1.0	0.90	ug/L			12/13/19 21:01	1
1,1-Dichloroethene	ND	H	1.0	0.55	ug/L			12/13/19 21:01	1
Acetone	ND	H	5.0	3.4	ug/L			12/13/19 21:01	1
Carbon disulfide	ND	H	1.0	0.88	ug/L			12/13/19 21:01	1
Methylene Chloride	ND	H	1.0	0.89	ug/L			12/13/19 21:01	1
trans-1,2-Dichloroethene	ND	H	1.0	0.67	ug/L			12/13/19 21:01	1
Methyl tert-butyl ether	ND	H	1.0	0.59	ug/L			12/13/19 21:01	1
1,1-Dichloroethane	ND	H	1.0	0.63	ug/L			12/13/19 21:01	1
cis-1,2-Dichloroethene	ND	H	1.0	0.71	ug/L			12/13/19 21:01	1
Bromochloromethane	ND	H	1.0	0.63	ug/L			12/13/19 21:01	1
2-Butanone (MEK)	ND	H	5.0	2.6	ug/L			12/13/19 21:01	1
Chloroform	ND	H	1.0	0.60	ug/L			12/13/19 21:01	1
1,1,1-Trichloroethane	ND	H	1.0	0.60	ug/L			12/13/19 21:01	1
Carbon tetrachloride	ND	H	1.0	0.88	ug/L			12/13/19 21:01	1
Benzene	ND	H	1.0	0.60	ug/L			12/13/19 21:01	1
1,2-Dichloroethane	ND	H	1.0	0.57	ug/L			12/13/19 21:01	1
Trichloroethene	ND	H	1.0	0.69	ug/L			12/13/19 21:01	1
1,2-Dichloropropane	ND	H	1.0	0.66	ug/L			12/13/19 21:01	1
Bromodichloromethane	ND	H	1.0	0.64	ug/L			12/13/19 21:01	1
cis-1,3-Dichloropropene	ND	H	1.0	0.59	ug/L			12/13/19 21:01	1
4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1	ug/L			12/13/19 21:01	1
Toluene	ND	H	1.0	0.46	ug/L			12/13/19 21:01	1
trans-1,3-Dichloropropene	ND	H	1.0	0.58	ug/L			12/13/19 21:01	1
1,1,2-Trichloroethane	ND	H ^c	1.0	0.45	ug/L			12/13/19 21:01	1
Tetrachloroethene	0.47	J H	1.0	0.47	ug/L			12/13/19 21:01	1
2-Hexanone	ND	H	5.0	3.3	ug/L			12/13/19 21:01	1
Dibromochloromethane	ND	H	1.0	0.84	ug/L			12/13/19 21:01	1
1,2-Dibromoethane (EDB)	ND	H	1.0	0.50	ug/L			12/13/19 21:01	1
Chlorobenzene	ND	H	1.0	0.50	ug/L			12/13/19 21:01	1
1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57	ug/L			12/13/19 21:01	1
Ethylbenzene	ND	H	1.0	0.51	ug/L			12/13/19 21:01	1
Xylenes, Total	ND	H	2.0	0.89	ug/L			12/13/19 21:01	1
Styrene	ND	H	1.0	0.47	ug/L			12/13/19 21:01	1
Bromoform	ND	H	1.0	0.98	ug/L			12/13/19 21:01	1
1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60	ug/L			12/13/19 21:01	1
Acrylonitrile	ND	H	20	7.8	ug/L			12/13/19 21:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		70 - 150		12/13/19 21:01	1
Toluene-d8 (Surr)	84		78 - 128		12/13/19 21:01	1
4-Bromofluorobenzene (Surr)	85		64 - 123		12/13/19 21:01	1
Dibromofluoromethane (Surr)	117		75 - 147		12/13/19 21:01	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Client Sample ID: HD-QC1-0/1-1

Date Collected: 11/21/19 12:00

Date Received: 11/22/19 09:00

Lab Sample ID: 180-99101-13

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND	H	1.0	0.90	ug/L			12/13/19 21:25	1
Vinyl chloride	ND	H ^c	1.0	0.88	ug/L			12/13/19 21:25	1
Bromomethane	ND	H	1.0	0.89	ug/L			12/13/19 21:25	1
Chloroethane	ND	H ^c	1.0	0.90	ug/L			12/13/19 21:25	1
1,1-Dichloroethene	ND	H	1.0	0.55	ug/L			12/13/19 21:25	1
Acetone	ND	H	5.0	3.4	ug/L			12/13/19 21:25	1
Carbon disulfide	ND	H	1.0	0.88	ug/L			12/13/19 21:25	1
Methylene Chloride	ND	H	1.0	0.89	ug/L			12/13/19 21:25	1
trans-1,2-Dichloroethene	ND	H	1.0	0.67	ug/L			12/13/19 21:25	1
Methyl tert-butyl ether	ND	H	1.0	0.59	ug/L			12/13/19 21:25	1
1,1-Dichloroethane	ND	H	1.0	0.63	ug/L			12/13/19 21:25	1
cis-1,2-Dichloroethene	ND	H	1.0	0.71	ug/L			12/13/19 21:25	1
Bromochloromethane	ND	H	1.0	0.63	ug/L			12/13/19 21:25	1
2-Butanone (MEK)	ND	H	5.0	2.6	ug/L			12/13/19 21:25	1
Chloroform	ND	H	1.0	0.60	ug/L			12/13/19 21:25	1
1,1,1-Trichloroethane	ND	H	1.0	0.60	ug/L			12/13/19 21:25	1
Carbon tetrachloride	ND	H	1.0	0.88	ug/L			12/13/19 21:25	1
Benzene	ND	H	1.0	0.60	ug/L			12/13/19 21:25	1
1,2-Dichloroethane	ND	H	1.0	0.57	ug/L			12/13/19 21:25	1
Trichloroethene	ND	H	1.0	0.69	ug/L			12/13/19 21:25	1
1,2-Dichloropropane	ND	H	1.0	0.66	ug/L			12/13/19 21:25	1
Bromodichloromethane	ND	H	1.0	0.64	ug/L			12/13/19 21:25	1
cis-1,3-Dichloropropene	ND	H	1.0	0.59	ug/L			12/13/19 21:25	1
4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1	ug/L			12/13/19 21:25	1
Toluene	ND	H	1.0	0.46	ug/L			12/13/19 21:25	1
trans-1,3-Dichloropropene	ND	H	1.0	0.58	ug/L			12/13/19 21:25	1
1,1,2-Trichloroethane	ND	H ^c	1.0	0.45	ug/L			12/13/19 21:25	1
Tetrachloroethene	4.1	H	1.0	0.47	ug/L			12/13/19 21:25	1
2-Hexanone	ND	H	5.0	3.3	ug/L			12/13/19 21:25	1
Dibromochloromethane	ND	H	1.0	0.84	ug/L			12/13/19 21:25	1
1,2-Dibromoethane (EDB)	ND	H	1.0	0.50	ug/L			12/13/19 21:25	1
Chlorobenzene	ND	H	1.0	0.50	ug/L			12/13/19 21:25	1
1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57	ug/L			12/13/19 21:25	1
Ethylbenzene	ND	H	1.0	0.51	ug/L			12/13/19 21:25	1
Xylenes, Total	ND	H	2.0	0.89	ug/L			12/13/19 21:25	1
Styrene	ND	H	1.0	0.47	ug/L			12/13/19 21:25	1
Bromoform	ND	H	1.0	0.98	ug/L			12/13/19 21:25	1
1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60	ug/L			12/13/19 21:25	1
Acrylonitrile	ND	H	20	7.8	ug/L			12/13/19 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		70 - 150		12/13/19 21:25	1
Toluene-d8 (Surr)	76	X	78 - 128		12/13/19 21:25	1
4-Bromofluorobenzene (Surr)	93		64 - 123		12/13/19 21:25	1
Dibromofluoromethane (Surr)	116		75 - 147		12/13/19 21:25	1

Default Detection Limits

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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: 180-99101-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-150)	TOL (78-128)	BFB (64-123)	DBFM (75-147)
180-99101-1	HD-COD-SW-6-0/1-0	109	90	70	115
180-99101-1 MS	HD-COD-SW-6-0/1-0	93	94	88	97
180-99101-1 MSD	HD-COD-SW-6-0/1-0	91	92	89	95
180-99101-2	HD-COD-SW-7-0/1-0	103	86	65	114
180-99101-3	HD-COD-SW-8-0/1-0	108	88	66	114
180-99101-4	HD-COD-SW-9-0/1-0	108	84	67	111
180-99101-5	HD-COD-SW-13-0/1-0	108	88	62 X	113
180-99101-5 - RA	HD-COD-SW-13-0/1-0	112	84	87	124
180-99101-6	HD-COD-SW-15-0/1-0	107	89	64	116
180-99101-7	HD-COD-SW-16-0/1-0	110	90	63 X	111
180-99101-7 - RA	HD-COD-SW-16-0/1-0	116	80	93	115
180-99101-8	HD-COD-SW-17-0/1-0	107	91	68	119
180-99101-9	HD-COD-SW-26-0/1-0	108	88	62 X	110
180-99101-9 - RA	HD-COD-SW-26-0/1-0	114	75 X	88	117
180-99101-10	HD-COD-SW-27-0/1-0	108	86	63 X	115
180-99101-10 - RA	HD-COD-SW-27-0/1-0	121	84	85	117
180-99101-11	HD-COD-SW-28-0/1-0	110	88	65	111
180-99101-12	HD-COD-SW-29-0/1-0	109	90	67	118
180-99101-13	HD-QC1-0/1-1	106	89	61 X	110
180-99101-13 - RA	HD-QC1-0/1-1	118	76 X	93	116
LCS 180-300399/5	Lab Control Sample	90	99	96	91
LCS 180-301313/5	Lab Control Sample	105	94	84	98
MB 180-300399/7	Method Blank	103	86	72	109
MB 180-301313/7	Method Blank	124	82	84	119

Surrogate Legend

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

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: MB 180-300399/7
Matrix: Water
Analysis Batch: 300399

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			12/05/19 11:56	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/05/19 11:56	1
Bromomethane	ND		1.0	0.89	ug/L			12/05/19 11:56	1
Chloroethane	ND		1.0	0.90	ug/L			12/05/19 11:56	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/05/19 11:56	1
Acetone	ND		5.0	3.4	ug/L			12/05/19 11:56	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/05/19 11:56	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/05/19 11:56	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/05/19 11:56	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/05/19 11:56	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/05/19 11:56	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/05/19 11:56	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/05/19 11:56	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/05/19 11:56	1
Chloroform	ND		1.0	0.60	ug/L			12/05/19 11:56	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/05/19 11:56	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/05/19 11:56	1
Benzene	ND		1.0	0.60	ug/L			12/05/19 11:56	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/05/19 11:56	1
Trichloroethene	ND		1.0	0.69	ug/L			12/05/19 11:56	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/05/19 11:56	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/05/19 11:56	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/05/19 11:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/05/19 11:56	1
Toluene	ND		1.0	0.46	ug/L			12/05/19 11:56	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/05/19 11:56	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/05/19 11:56	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/05/19 11:56	1
2-Hexanone	ND		5.0	3.3	ug/L			12/05/19 11:56	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/05/19 11:56	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/05/19 11:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/05/19 11:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/05/19 11:56	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/05/19 11:56	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/05/19 11:56	1
Styrene	ND		1.0	0.47	ug/L			12/05/19 11:56	1
Bromoform	ND		1.0	0.98	ug/L			12/05/19 11:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/05/19 11:56	1
Acrylonitrile	ND		20	7.8	ug/L			12/05/19 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 150		12/05/19 11:56	1
Toluene-d8 (Surr)	86		78 - 128		12/05/19 11:56	1
4-Bromofluorobenzene (Surr)	72		64 - 123		12/05/19 11:56	1
Dibromofluoromethane (Surr)	109		75 - 147		12/05/19 11:56	1

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: LCS 180-300399/5
Matrix: Water
Analysis Batch: 300399

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	10.5		ug/L		105	37 - 150
Vinyl chloride	10.0	9.26		ug/L		93	50 - 150
Bromomethane	10.0	10.6		ug/L		106	35 - 150
Chloroethane	10.0	10.8		ug/L		108	52 - 150
1,1-Dichloroethene	10.0	9.94		ug/L		99	79 - 132
Acetone	20.0	17.8		ug/L		89	37 - 150
Carbon disulfide	10.0	9.51		ug/L		95	66 - 134
Methylene Chloride	10.0	11.2		ug/L		112	72 - 131
trans-1,2-Dichloroethene	10.0	9.75		ug/L		97	81 - 126
Methyl tert-butyl ether	10.0	8.49		ug/L		85	65 - 125
1,1-Dichloroethane	10.0	9.89		ug/L		99	70 - 127
cis-1,2-Dichloroethene	10.0	9.56		ug/L		96	79 - 119
Bromochloromethane	10.0	9.97		ug/L		100	74 - 124
2-Butanone (MEK)	20.0	17.1		ug/L		85	35 - 150
Chloroform	10.0	9.56		ug/L		96	75 - 126
1,1,1-Trichloroethane	10.0	8.85		ug/L		89	63 - 142
Carbon tetrachloride	10.0	8.53		ug/L		85	55 - 150
Benzene	10.0	10.0		ug/L		100	72 - 127
1,2-Dichloroethane	10.0	9.25		ug/L		93	60 - 138
Trichloroethene	10.0	9.33		ug/L		93	81 - 121
1,2-Dichloropropane	10.0	9.96		ug/L		100	67 - 124
Bromodichloromethane	10.0	9.37		ug/L		94	67 - 131
cis-1,3-Dichloropropene	10.0	9.36		ug/L		94	69 - 122
4-Methyl-2-pentanone (MIBK)	20.0	18.5		ug/L		93	19 - 150
Toluene	10.0	10.3		ug/L		103	73 - 123
trans-1,3-Dichloropropene	10.0	9.01		ug/L		90	61 - 122
1,1,2-Trichloroethane	10.0	10.6		ug/L		106	72 - 120
Tetrachloroethene	10.0	10.1		ug/L		101	69 - 134
2-Hexanone	20.0	17.4		ug/L		87	24 - 150
Dibromochloromethane	10.0	9.98		ug/L		100	59 - 134
1,2-Dibromoethane (EDB)	10.0	9.96		ug/L		100	65 - 129
Chlorobenzene	10.0	10.2		ug/L		102	76 - 119
1,1,1,2-Tetrachloroethane	10.0	10.3		ug/L		103	65 - 132
Ethylbenzene	10.0	9.61		ug/L		96	76 - 118
Xylenes, Total	20.0	19.4		ug/L		97	76 - 116
Styrene	10.0	10.2		ug/L		102	74 - 118
Bromoform	10.0	9.79		ug/L		98	50 - 146
1,1,2,2-Tetrachloroethane	10.0	11.2		ug/L		112	57 - 135
Acrylonitrile	100	103		ug/L		103	43 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		70 - 150
Toluene-d8 (Surr)	99		78 - 128
4-Bromofluorobenzene (Surr)	96		64 - 123
Dibromofluoromethane (Surr)	91		75 - 147

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: 180-99101-1 MS

Matrix: Water

Analysis Batch: 300399

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

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Chloromethane	ND		10.0	11.1		ug/L		111	37 - 150
Vinyl chloride	ND		10.0	9.96		ug/L		100	50 - 150
Bromomethane	ND		10.0	8.79		ug/L		88	35 - 150
Chloroethane	ND		10.0	11.4		ug/L		114	52 - 150
1,1-Dichloroethene	ND		10.0	9.93		ug/L		99	79 - 132
Acetone	ND		20.0	16.8		ug/L		84	37 - 150
Carbon disulfide	ND		10.0	9.85		ug/L		99	66 - 134
Methylene Chloride	ND		10.0	10.8		ug/L		108	72 - 131
trans-1,2-Dichloroethene	ND		10.0	9.90		ug/L		99	81 - 126
Methyl tert-butyl ether	ND		10.0	8.67		ug/L		87	65 - 125
1,1-Dichloroethane	ND		10.0	10.1		ug/L		101	70 - 127
cis-1,2-Dichloroethene	ND		10.0	10.0		ug/L		100	79 - 119
Bromochloromethane	ND		10.0	10.6		ug/L		106	74 - 124
2-Butanone (MEK)	ND		20.0	15.5		ug/L		77	35 - 150
Chloroform	ND		10.0	9.45		ug/L		95	75 - 126
1,1,1-Trichloroethane	ND		10.0	9.41		ug/L		94	63 - 142
Carbon tetrachloride	ND		10.0	9.55		ug/L		95	55 - 150
Benzene	ND		10.0	10.2		ug/L		102	72 - 127
1,2-Dichloroethane	ND		10.0	9.61		ug/L		96	60 - 138
Trichloroethene	ND		10.0	9.35		ug/L		93	81 - 121
1,2-Dichloropropane	ND		10.0	9.83		ug/L		98	67 - 124
Bromodichloromethane	ND		10.0	9.75		ug/L		97	67 - 131
cis-1,3-Dichloropropene	ND		10.0	8.06		ug/L		81	69 - 122
4-Methyl-2-pentanone (MIBK)	ND		20.0	15.9		ug/L		79	19 - 150
Toluene	ND		10.0	9.91		ug/L		99	73 - 123
trans-1,3-Dichloropropene	ND		10.0	8.45		ug/L		84	61 - 122
1,1,2-Trichloroethane	ND		10.0	9.95		ug/L		100	72 - 120
Tetrachloroethene	ND		10.0	9.86		ug/L		99	69 - 134
2-Hexanone	ND		20.0	15.2		ug/L		76	24 - 150
Dibromochloromethane	ND		10.0	9.06		ug/L		91	59 - 134
1,2-Dibromoethane (EDB)	ND		10.0	9.27		ug/L		93	65 - 129
Chlorobenzene	ND		10.0	9.57		ug/L		96	76 - 119
1,1,1,2-Tetrachloroethane	ND		10.0	10.2		ug/L		102	65 - 132
Ethylbenzene	ND		10.0	9.33		ug/L		93	76 - 118
Xylenes, Total	ND		20.0	18.4		ug/L		92	76 - 116
Styrene	ND		10.0	9.77		ug/L		98	74 - 118
Bromoform	ND		10.0	8.87		ug/L		89	50 - 146
1,1,2,2-Tetrachloroethane	ND		10.0	10.6		ug/L		106	57 - 135
Acrylonitrile	ND		100	104		ug/L		104	43 - 149

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		70 - 150
Toluene-d8 (Surr)	94		78 - 128
4-Bromofluorobenzene (Surr)	88		64 - 123
Dibromofluoromethane (Surr)	97		75 - 147

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: 180-99101-1 MSD

Matrix: Water

Analysis Batch: 300399

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

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Chloromethane	ND		10.0	11.1		ug/L		111	37 - 150	1	35
Vinyl chloride	ND		10.0	10.3		ug/L		103	50 - 150	4	31
Bromomethane	ND		10.0	9.18		ug/L		92	35 - 150	4	35
Chloroethane	ND		10.0	12.2		ug/L		122	52 - 150	6	31
1,1-Dichloroethene	ND		10.0	9.45		ug/L		95	79 - 132	5	29
Acetone	ND		20.0	15.9		ug/L		80	37 - 150	6	35
Carbon disulfide	ND		10.0	9.84		ug/L		98	66 - 134	0	31
Methylene Chloride	ND		10.0	11.4		ug/L		114	72 - 131	6	29
trans-1,2-Dichloroethene	ND		10.0	10.1		ug/L		101	81 - 126	2	27
Methyl tert-butyl ether	ND		10.0	9.13		ug/L		91	65 - 125	5	28
1,1-Dichloroethane	ND		10.0	10.0		ug/L		100	70 - 127	1	27
cis-1,2-Dichloroethene	ND		10.0	10.1		ug/L		101	79 - 119	1	28
Bromochloromethane	ND		10.0	10.6		ug/L		106	74 - 124	0	27
2-Butanone (MEK)	ND		20.0	15.9		ug/L		80	35 - 150	3	34
Chloroform	ND		10.0	9.78		ug/L		98	75 - 126	3	26
1,1,1-Trichloroethane	ND		10.0	9.25		ug/L		93	63 - 142	2	28
Carbon tetrachloride	ND		10.0	8.67		ug/L		87	55 - 150	10	29
Benzene	ND		10.0	10.2		ug/L		102	72 - 127	1	27
1,2-Dichloroethane	ND		10.0	9.77		ug/L		98	60 - 138	2	26
Trichloroethene	ND		10.0	9.71		ug/L		97	81 - 121	4	28
1,2-Dichloropropane	ND		10.0	10.5		ug/L		105	67 - 124	7	27
Bromodichloromethane	ND		10.0	9.69		ug/L		97	67 - 131	1	28
cis-1,3-Dichloropropene	ND		10.0	8.55		ug/L		86	69 - 122	6	29
4-Methyl-2-pentanone (MIBK)	ND		20.0	16.7		ug/L		84	19 - 150	5	33
Toluene	ND		10.0	9.74		ug/L		97	73 - 123	2	31
trans-1,3-Dichloropropene	ND		10.0	8.40		ug/L		84	61 - 122	1	30
1,1,2-Trichloroethane	ND		10.0	10.5		ug/L		105	72 - 120	5	27
Tetrachloroethene	ND		10.0	9.13		ug/L		91	69 - 134	8	27
2-Hexanone	ND		20.0	15.4		ug/L		77	24 - 150	2	32
Dibromochloromethane	ND		10.0	9.29		ug/L		93	59 - 134	3	28
1,2-Dibromoethane (EDB)	ND		10.0	9.58		ug/L		96	65 - 129	3	27
Chlorobenzene	ND		10.0	9.75		ug/L		97	76 - 119	2	25
1,1,1,2-Tetrachloroethane	ND		10.0	9.85		ug/L		98	65 - 132	3	28
Ethylbenzene	ND		10.0	9.00		ug/L		90	76 - 118	4	27
Xylenes, Total	ND		20.0	18.4		ug/L		92	76 - 116	0	27
Styrene	ND		10.0	9.76		ug/L		98	74 - 118	0	27
Bromoform	ND		10.0	9.05		ug/L		90	50 - 146	2	30
1,1,2,2-Tetrachloroethane	ND		10.0	10.4		ug/L		104	57 - 135	2	29
Acrylonitrile	ND		100	107		ug/L		107	43 - 149	3	34

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		70 - 150
Toluene-d8 (Surr)	92		78 - 128
4-Bromofluorobenzene (Surr)	89		64 - 123
Dibromofluoromethane (Surr)	95		75 - 147

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: MB 180-301313/7
Matrix: Water
Analysis Batch: 301313

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			12/13/19 13:01	1
Vinyl chloride	ND		1.0	0.88	ug/L			12/13/19 13:01	1
Bromomethane	ND		1.0	0.89	ug/L			12/13/19 13:01	1
Chloroethane	ND		1.0	0.90	ug/L			12/13/19 13:01	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			12/13/19 13:01	1
Acetone	ND		5.0	3.4	ug/L			12/13/19 13:01	1
Carbon disulfide	ND		1.0	0.88	ug/L			12/13/19 13:01	1
Methylene Chloride	ND		1.0	0.89	ug/L			12/13/19 13:01	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			12/13/19 13:01	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			12/13/19 13:01	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			12/13/19 13:01	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			12/13/19 13:01	1
Bromochloromethane	ND		1.0	0.63	ug/L			12/13/19 13:01	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			12/13/19 13:01	1
Chloroform	ND		1.0	0.60	ug/L			12/13/19 13:01	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			12/13/19 13:01	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			12/13/19 13:01	1
Benzene	ND		1.0	0.60	ug/L			12/13/19 13:01	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			12/13/19 13:01	1
Trichloroethene	ND		1.0	0.69	ug/L			12/13/19 13:01	1
1,2-Dichloropropane	ND		1.0	0.66	ug/L			12/13/19 13:01	1
Bromodichloromethane	ND		1.0	0.64	ug/L			12/13/19 13:01	1
cis-1,3-Dichloropropene	ND		1.0	0.59	ug/L			12/13/19 13:01	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	3.1	ug/L			12/13/19 13:01	1
Toluene	ND		1.0	0.46	ug/L			12/13/19 13:01	1
trans-1,3-Dichloropropene	ND		1.0	0.58	ug/L			12/13/19 13:01	1
1,1,2-Trichloroethane	ND		1.0	0.45	ug/L			12/13/19 13:01	1
Tetrachloroethene	ND		1.0	0.47	ug/L			12/13/19 13:01	1
2-Hexanone	ND		5.0	3.3	ug/L			12/13/19 13:01	1
Dibromochloromethane	ND		1.0	0.84	ug/L			12/13/19 13:01	1
1,2-Dibromoethane (EDB)	ND		1.0	0.50	ug/L			12/13/19 13:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			12/13/19 13:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.57	ug/L			12/13/19 13:01	1
Ethylbenzene	ND		1.0	0.51	ug/L			12/13/19 13:01	1
Xylenes, Total	ND		2.0	0.89	ug/L			12/13/19 13:01	1
Styrene	ND		1.0	0.47	ug/L			12/13/19 13:01	1
Bromoform	ND		1.0	0.98	ug/L			12/13/19 13:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			12/13/19 13:01	1
Acrylonitrile	ND		20	7.8	ug/L			12/13/19 13:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		70 - 150		12/13/19 13:01	1
Toluene-d8 (Surr)	82		78 - 128		12/13/19 13:01	1
4-Bromofluorobenzene (Surr)	84		64 - 123		12/13/19 13:01	1
Dibromofluoromethane (Surr)	119		75 - 147		12/13/19 13:01	1

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: LCS 180-301313/5

Matrix: Water

Analysis Batch: 301313

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	10.4		ug/L		104	37 - 150
Vinyl chloride	10.0	12.1		ug/L		121	50 - 150
Bromomethane	10.0	7.70		ug/L		77	35 - 150
Chloroethane	10.0	13.2		ug/L		132	52 - 150
1,1-Dichloroethene	10.0	9.73		ug/L		97	79 - 132
Acetone	20.0	23.2		ug/L		116	37 - 150
Carbon disulfide	10.0	10.7		ug/L		107	66 - 134
Methylene Chloride	10.0	12.0		ug/L		120	72 - 131
trans-1,2-Dichloroethene	10.0	9.96		ug/L		100	81 - 126
Methyl tert-butyl ether	10.0	9.79		ug/L		98	65 - 125
1,1-Dichloroethane	10.0	10.3		ug/L		103	70 - 127
cis-1,2-Dichloroethene	10.0	9.19		ug/L		92	79 - 119
Bromochloromethane	10.0	10.7		ug/L		107	74 - 124
2-Butanone (MEK)	20.0	23.1		ug/L		115	35 - 150
Chloroform	10.0	10.2		ug/L		102	75 - 126
1,1,1-Trichloroethane	10.0	10.0		ug/L		100	63 - 142
Carbon tetrachloride	10.0	9.43		ug/L		94	55 - 150
Benzene	10.0	9.88		ug/L		99	72 - 127
1,2-Dichloroethane	10.0	9.97		ug/L		100	60 - 138
Trichloroethene	10.0	9.29		ug/L		93	81 - 121
1,2-Dichloropropane	10.0	10.0		ug/L		100	67 - 124
Bromodichloromethane	10.0	10.4		ug/L		104	67 - 131
cis-1,3-Dichloropropene	10.0	9.28		ug/L		93	69 - 122
4-Methyl-2-pentanone (MIBK)	20.0	17.8		ug/L		89	19 - 150
Toluene	10.0	9.93		ug/L		99	73 - 123
trans-1,3-Dichloropropene	10.0	8.88		ug/L		89	61 - 122
1,1,2-Trichloroethane	10.0	10.9		ug/L		109	72 - 120
Tetrachloroethene	10.0	9.52		ug/L		95	69 - 134
2-Hexanone	20.0	21.0		ug/L		105	24 - 150
Dibromochloromethane	10.0	10.1		ug/L		101	59 - 134
1,2-Dibromoethane (EDB)	10.0	10.0		ug/L		100	65 - 129
Chlorobenzene	10.0	9.06		ug/L		91	76 - 119
1,1,1,2-Tetrachloroethane	10.0	9.61		ug/L		96	65 - 132
Ethylbenzene	10.0	8.13		ug/L		81	76 - 118
Xylenes, Total	20.0	16.7		ug/L		83	76 - 116
Styrene	10.0	8.60		ug/L		86	74 - 118
Bromoform	10.0	9.16		ug/L		92	50 - 146
1,1,2,2-Tetrachloroethane	10.0	10.3		ug/L		103	57 - 135
Acrylonitrile	100	93.9		ug/L		94	43 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>1,2-Dichloroethane-d4 (Surr)</i>	105		70 - 150
<i>Toluene-d8 (Surr)</i>	94		78 - 128
<i>4-Bromofluorobenzene (Surr)</i>	84		64 - 123
<i>Dibromofluoromethane (Surr)</i>	98		75 - 147

QC Association Summary

Client: Groundwater Sciences Corporation
Project/Site: FYNOP

Job ID: 180-99101-1

GC/MS VOA

Analysis Batch: 300399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-99101-1	HD-COD-SW-6-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-2	HD-COD-SW-7-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-3	HD-COD-SW-8-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-4	HD-COD-SW-9-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-5	HD-COD-SW-13-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-6	HD-COD-SW-15-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-7	HD-COD-SW-16-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-8	HD-COD-SW-17-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-9	HD-COD-SW-26-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-10	HD-COD-SW-27-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-11	HD-COD-SW-28-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-12	HD-COD-SW-29-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-13	HD-QC1-0/1-1	Total/NA	Water	EPA 8260C	
MB 180-300399/7	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-300399/5	Lab Control Sample	Total/NA	Water	EPA 8260C	
180-99101-1 MS	HD-COD-SW-6-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-1 MSD	HD-COD-SW-6-0/1-0	Total/NA	Water	EPA 8260C	

Analysis Batch: 301313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-99101-5 - RA	HD-COD-SW-13-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-7 - RA	HD-COD-SW-16-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-9 - RA	HD-COD-SW-26-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-10 - RA	HD-COD-SW-27-0/1-0	Total/NA	Water	EPA 8260C	
180-99101-13 - RA	HD-QC1-0/1-1	Total/NA	Water	EPA 8260C	
MB 180-301313/7	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-301313/5	Lab Control Sample	Total/NA	Water	EPA 8260C	

Lab Chronicle

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP

Job ID: 180-99101-1

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

Lab Sample ID: 180-99101-1

Date Collected: 11/21/19 12:55

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 13:55	HRB	TAL PIT
Instrument ID: CHHP5										

Client Sample ID: HD-COD-SW-7-0/1-0

Lab Sample ID: 180-99101-2

Date Collected: 11/21/19 13:50

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 14:19	HRB	TAL PIT
Instrument ID: CHHP5										

Client Sample ID: HD-COD-SW-8-0/1-0

Lab Sample ID: 180-99101-3

Date Collected: 11/21/19 11:25

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 14:44	HRB	TAL PIT
Instrument ID: CHHP5										

Client Sample ID: HD-COD-SW-9-0/1-0

Lab Sample ID: 180-99101-4

Date Collected: 11/21/19 14:40

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 15:08	HRB	TAL PIT
Instrument ID: CHHP5										

Client Sample ID: HD-COD-SW-13-0/1-0

Lab Sample ID: 180-99101-5

Date Collected: 11/21/19 11:45

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 15:32	HRB	TAL PIT
Instrument ID: CHHP5										
Total/NA	Analysis	EPA 8260C	RA	1	5 mL	5 mL	301313	12/13/19 19:47	HRB	TAL PIT
Instrument ID: CHHP5										

Client Sample ID: HD-COD-SW-15-0/1-0

Lab Sample ID: 180-99101-6

Date Collected: 11/21/19 14:10

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 15:57	HRB	TAL PIT
Instrument ID: CHHP5										

Lab Chronicle

Client: Groundwater Sciences Corporation
 Project/Site: FYNOP

Job ID: 180-99101-1

Client Sample ID: HD-COD-SW-16-0/1-0

Lab Sample ID: 180-99101-7

Date Collected: 11/21/19 12:05

Matrix: Water

Date Received: 11/22/19 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 Instrument ID: CHHP5		1	5 mL	5 mL	300399	12/05/19 16:21	HRB	TAL PIT
Total/NA	Analysis	EPA 8260C Instrument ID: CHHP5	RA	1	5 mL	5 mL	301313	12/13/19 20:12	HRB	TAL PIT

Client Sample ID: HD-COD-SW-17-0/1-0

Lab Sample ID: 180-99101-8

Date Collected: 11/21/19 12:25

Matrix: Water

Date Received: 11/22/19 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 Instrument ID: CHHP5		1	5 mL	5 mL	300399	12/05/19 16:46	HRB	TAL PIT

Client Sample ID: HD-COD-SW-26-0/1-0

Lab Sample ID: 180-99101-9

Date Collected: 11/21/19 13:30

Matrix: Water

Date Received: 11/22/19 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 Instrument ID: CHHP5		1	5 mL	5 mL	300399	12/05/19 17:10	HRB	TAL PIT
Total/NA	Analysis	EPA 8260C Instrument ID: CHHP5	RA	1	5 mL	5 mL	301313	12/13/19 20:36	HRB	TAL PIT

Client Sample ID: HD-COD-SW-27-0/1-0

Lab Sample ID: 180-99101-10

Date Collected: 11/21/19 14:00

Matrix: Water

Date Received: 11/22/19 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 Instrument ID: CHHP5		1	5 mL	5 mL	300399	12/05/19 17:34	HRB	TAL PIT
Total/NA	Analysis	EPA 8260C Instrument ID: CHHP5	RA	1	5 mL	5 mL	301313	12/13/19 21:01	HRB	TAL PIT

Client Sample ID: HD-COD-SW-28-0/1-0

Lab Sample ID: 180-99101-11

Date Collected: 11/21/19 14:55

Matrix: Water

Date Received: 11/22/19 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 Instrument ID: CHHP5		1	5 mL	5 mL	300399	12/05/19 17:58	HRB	TAL PIT

Lab Chronicle

Client: Groundwater Sciences Corporation
Project/Site: FYNOP

Job ID: 180-99101-1

Client Sample ID: HD-COD-SW-29-0/1-0

Lab Sample ID: 180-99101-12

Date Collected: 11/21/19 10:55

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 18:23	HRB	TAL PIT
Instrument ID: CHHP5										

Client Sample ID: HD-QC1-0/1-1

Lab Sample ID: 180-99101-13

Date Collected: 11/21/19 12:00

Matrix: Water

Date Received: 11/22/19 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	300399	12/05/19 22:27	HRB	TAL PIT
Instrument ID: CHHP5										
Total/NA	Analysis	EPA 8260C	RA	1	5 mL	5 mL	301313	12/13/19 21:25	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
Project/Site: fYNOP

Job ID: 180-99101-1

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
Project/Site: fYNOP

Job ID: 180-99101-1

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: 180-99101-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-99101-1	HD-COD-SW-6-0/1-0	Water	11/21/19 12:55	11/22/19 09:00	
180-99101-2	HD-COD-SW-7-0/1-0	Water	11/21/19 13:50	11/22/19 09:00	
180-99101-3	HD-COD-SW-8-0/1-0	Water	11/21/19 11:25	11/22/19 09:00	
180-99101-4	HD-COD-SW-9-0/1-0	Water	11/21/19 14:40	11/22/19 09:00	
180-99101-5	HD-COD-SW-13-0/1-0	Water	11/21/19 11:45	11/22/19 09:00	
180-99101-6	HD-COD-SW-15-0/1-0	Water	11/21/19 14:10	11/22/19 09:00	
180-99101-7	HD-COD-SW-16-0/1-0	Water	11/21/19 12:05	11/22/19 09:00	
180-99101-8	HD-COD-SW-17-0/1-0	Water	11/21/19 12:25	11/22/19 09:00	
180-99101-9	HD-COD-SW-26-0/1-0	Water	11/21/19 13:30	11/22/19 09:00	
180-99101-10	HD-COD-SW-27-0/1-0	Water	11/21/19 14:00	11/22/19 09:00	
180-99101-11	HD-COD-SW-28-0/1-0	Water	11/21/19 14:55	11/22/19 09:00	
180-99101-12	HD-COD-SW-29-0/1-0	Water	11/21/19 10:55	11/22/19 09:00	
180-99101-13	HD-QC1-0/1-1	Water	11/21/19 12:00	11/22/19 09:00	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 299818Lab Sample ID: IC 180-299818/4 Client Sample ID: _____Date Analyzed: 11/29/19 11:46 Lab File ID: 5112904.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,3-Butadiene	2.06	Poor chromatography	bowieh	11/29/19 13:42
1,1-Dichloroethene	3.57	Poor chromatography	bowieh	11/29/19 13:41
Acetone	3.69	Poor chromatography	bowieh	11/29/19 13:41
Methyl acetate	4.22	Poor chromatography	bowieh	11/29/19 13:41
2,2-Dichloropropane	6.17	Poor chromatography	bowieh	11/29/19 13:41
1,2-Dichloroethane-d4 (Surr)	7.16	Poor chromatography	bowieh	11/29/19 13:42
1,4-Dioxane	8.25	Peak assignment corrected	bowieh	11/29/19 12:28
trans-1,4-Dichloro-2-butene	11.94	Poor chromatography	bowieh	11/29/19 13:41

Lab Sample ID: IC 180-299818/5 Client Sample ID: _____Date Analyzed: 11/29/19 12:10 Lab File ID: 5112905.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.39	Split Peak	bowieh	11/29/19 13:39
1,4-Dioxane	8.25	Split Peak	bowieh	11/29/19 13:39

Lab Sample ID: IC 180-299818/7 Client Sample ID: _____Date Analyzed: 11/29/19 12:58 Lab File ID: 5112907.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.38	Split Peak	bowieh	11/29/19 13:51

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: MB 180-300399/7 Client Sample ID: _____Date Analyzed: 12/05/19 11:56 Lab File ID: 5120507.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methylene Chloride	4.42	Peak assignment corrected	bowieh	12/06/19 10:00
Chloroform	6.60	Poor chromatography	bowieh	12/06/19 10:00
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:01
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:01
Acetone		Invalid Compound ID	bowieh	12/06/19 09:59
Acrylonitrile		Invalid Compound ID	bowieh	12/06/19 10:00
Bromomethane		Invalid Compound ID	bowieh	12/06/19 09:59
Carbon disulfide		Invalid Compound ID	bowieh	12/06/19 10:00
Chloromethane		Invalid Compound ID	bowieh	12/06/19 09:59
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	12/06/19 10:00

Lab Sample ID: 180-99101-1 Client Sample ID: HD-COD-SW-6-0/1-0Date Analyzed: 12/05/19 13:55 Lab File ID: 5120511.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	12/06/19 10:06
cis-1,2-Dichloroethene	6.18	Peak assignment corrected	bowieh	12/06/19 10:06
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/06/19 10:06
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/06/19 10:07
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:07
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:07
Benzene		Invalid Compound ID	bowieh	12/06/19 10:06
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:06
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:07
Tetrachloroethene		Invalid Compound ID	bowieh	12/06/19 10:07

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: 180-99101-2 Client Sample ID: HD-COD-SW-7-0/1-0Date Analyzed: 12/05/19 14:19 Lab File ID: 5120512.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	12/06/19 10:10
Trichloroethene	7.89	Poor chromatography	bowieh	12/06/19 10:12
1,1,2,2-Tetrachloroethane		Invalid Compound ID	bowieh	12/06/19 10:13
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/06/19 10:12
2-Butanone (MEK)		Invalid Compound ID	bowieh	12/06/19 10:12
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:12
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:12
Benzene		Invalid Compound ID	bowieh	12/06/19 10:12
Chloroform		Invalid Compound ID	bowieh	12/06/19 10:12
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:09
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	12/06/19 10:12
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:12
Tetrachloroethene		Invalid Compound ID	bowieh	12/06/19 10:12
m-Xylene & p-Xylene	10.84	Invalid Compound ID	bowieh	12/06/19 10:12

Lab Sample ID: 180-99101-3 Client Sample ID: HD-COD-SW-8-0/1-0Date Analyzed: 12/05/19 14:44 Lab File ID: 5120513.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	12/06/19 10:14
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/06/19 10:13
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:14
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:13
Benzene		Invalid Compound ID	bowieh	12/06/19 10:13
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:13
Chloroform		Invalid Compound ID	bowieh	12/06/19 10:13
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:14

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: 180-99101-4 Client Sample ID: HD-COD-SW-9-0/1-0Date Analyzed: 12/05/19 15:08 Lab File ID: 5120514.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	12/06/19 10:15
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/06/19 10:15
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/06/19 10:15
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:15
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:15
Benzene		Invalid Compound ID	bowieh	12/06/19 10:15
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:15
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:15
Styrene		Invalid Compound ID	bowieh	12/06/19 10:15
Trichloroethene		Invalid Compound ID	bowieh	12/06/19 10:15

Lab Sample ID: 180-99101-5 Client Sample ID: HD-COD-SW-13-0/1-0Date Analyzed: 12/05/19 15:32 Lab File ID: 5120515.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.67	Poor chromatography	bowieh	12/06/19 10:39
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/06/19 10:40
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/06/19 10:40
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:40
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:40
Benzene		Invalid Compound ID	bowieh	12/06/19 10:39
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:39
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:40

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: 180-99101-6 Client Sample ID: HD-COD-SW-15-0/1-0Date Analyzed: 12/05/19 15:57 Lab File ID: 5120516.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2,2-Tetrachloroethane		Invalid Compound ID	bowieh	12/06/19 10:41
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/06/19 10:41
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:41
Benzene		Invalid Compound ID	bowieh	12/06/19 10:40
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:40
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:41

Lab Sample ID: 180-99101-7 Client Sample ID: HD-COD-SW-16-0/1-0Date Analyzed: 12/05/19 16:21 Lab File ID: 5120517.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.69	Invalid Compound ID	bowieh	12/06/19 10:42
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/06/19 10:42
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:42
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:42
Benzene		Invalid Compound ID	bowieh	12/06/19 10:42
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:42
Chloroethane		Invalid Compound ID	bowieh	12/06/19 10:42
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:44
m-Xylene & p-Xylene		Invalid Compound ID	bowieh	12/06/19 10:42

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: 180-99101-8 Client Sample ID: HD-COD-SW-17-0/1-0Date Analyzed: 12/05/19 16:46 Lab File ID: 5120518.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	12/06/19 10:45
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/06/19 10:45
2-Butanone (MEK)		Invalid Compound ID	bowieh	12/06/19 10:44
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:45
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:45
Benzene		Invalid Compound ID	bowieh	12/06/19 10:45
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:44
Carbon disulfide		Invalid Compound ID	bowieh	12/06/19 10:44
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:44
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:45
Vinyl chloride		Invalid Compound ID	bowieh	12/06/19 10:44

Lab Sample ID: 180-99101-9 Client Sample ID: HD-COD-SW-26-0/1-0Date Analyzed: 12/05/19 17:10 Lab File ID: 5120519.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	12/06/19 10:45
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/06/19 10:46
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:46
Benzene		Invalid Compound ID	bowieh	12/06/19 10:45
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:45
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:45
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:46

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: 180-99101-10 Client Sample ID: HD-COD-SW-27-0/1-0Date Analyzed: 12/05/19 17:34 Lab File ID: 5120520.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	12/06/19 10:46
2-Butanone (MEK)		Invalid Compound ID	bowieh	12/06/19 10:46
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:47
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:46
Benzene		Invalid Compound ID	bowieh	12/06/19 10:46
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:46
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:46
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:47

Lab Sample ID: 180-99101-11 Client Sample ID: HD-COD-SW-28-0/1-0Date Analyzed: 12/05/19 17:58 Lab File ID: 5120521.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
cis-1,2-Dichloroethene	6.17	Peak assignment corrected	bowieh	12/06/19 10:47
Chloroform	6.61	Poor chromatography	bowieh	12/06/19 10:47
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/06/19 10:48
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:48
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:48
Benzene		Invalid Compound ID	bowieh	12/06/19 10:48
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:47
Chloroethane		Invalid Compound ID	bowieh	12/06/19 10:47
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:47
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:48

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 300399Lab Sample ID: 180-99101-12 Client Sample ID: HD-COD-SW-29-0/1-0Date Analyzed: 12/05/19 18:23 Lab File ID: 5120522.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	12/06/19 10:48
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/06/19 10:49
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/06/19 10:49
2-Butanone (MEK)		Invalid Compound ID	bowieh	12/06/19 10:49
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:49
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:49
Benzene		Invalid Compound ID	bowieh	12/06/19 10:49
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:48
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	12/06/19 10:49
m-Xylene & p-Xylene		Invalid Compound ID	bowieh	12/06/19 10:49
Vinyl chloride		Invalid Compound ID	bowieh	12/06/19 10:48

Lab Sample ID: 180-99101-13 Client Sample ID: HD-QC1-0/1-1Date Analyzed: 12/05/19 22:27 Lab File ID: 5120532.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/06/19 10:56
2-Hexanone		Invalid Compound ID	bowieh	12/06/19 10:57
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/06/19 10:56
Bromomethane		Invalid Compound ID	bowieh	12/06/19 10:56
Chloromethane		Invalid Compound ID	bowieh	12/06/19 10:56
Ethylbenzene		Invalid Compound ID	bowieh	12/06/19 10:57

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 301313Lab Sample ID: MB 180-301313/7 Client Sample ID: _____Date Analyzed: 12/13/19 13:01 Lab File ID: 5121307.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloroform	6.50	Poor chromatography	bowieh	12/14/19 11:32
1,1,1,2-Tetrachloroethane		Invalid Compound ID	bowieh	12/14/19 11:33
1,1,2,2-Tetrachloroethane		Invalid Compound ID	bowieh	12/14/19 11:35
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/14/19 11:33
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/14/19 11:32
2-Hexanone		Invalid Compound ID	bowieh	12/14/19 11:33
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/14/19 11:33
Benzene		Invalid Compound ID	bowieh	12/14/19 11:32
Chloroethane		Invalid Compound ID	bowieh	12/14/19 11:29
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	12/14/19 11:32
Ethylbenzene		Invalid Compound ID	bowieh	12/14/19 11:34
Methyl tert-butyl ether		Invalid Compound ID	bowieh	12/14/19 11:32
Tetrachloroethene		Invalid Compound ID	bowieh	12/14/19 11:33

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 301313Lab Sample ID: 180-99101-5 RA Client Sample ID: HD-COD-SW-13-0/1-0 RADate Analyzed: 12/13/19 19:47 Lab File ID: 5121323.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.78	Poor chromatography	bowieh	12/14/19 12:13
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/14/19 12:14
1,1-Dichloroethane		Invalid Compound ID	bowieh	12/14/19 12:13
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/14/19 12:14
2-Butanone (MEK)		Invalid Compound ID	bowieh	12/14/19 12:14
2-Hexanone		Invalid Compound ID	bowieh	12/14/19 12:14
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/14/19 12:14
Benzene		Invalid Compound ID	bowieh	12/14/19 12:14
Bromomethane		Invalid Compound ID	bowieh	12/14/19 12:13
Chloroethane		Invalid Compound ID	bowieh	12/14/19 12:13
Chloroform		Invalid Compound ID	bowieh	12/14/19 12:14
Chloromethane		Invalid Compound ID	bowieh	12/14/19 12:13
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	12/14/19 12:14
Dibromochloromethane		Invalid Compound ID	bowieh	12/14/19 12:14
Ethylbenzene		Invalid Compound ID	bowieh	12/14/19 12:14
Methyl tert-butyl ether		Invalid Compound ID	bowieh	12/14/19 12:13
o-Xylene		Invalid Compound ID	bowieh	12/14/19 12:14
Trichloroethene		Invalid Compound ID	bowieh	12/14/19 12:14

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 301313Lab Sample ID: 180-99101-7 RA Client Sample ID: HD-COD-SW-16-0/1-0 RADate Analyzed: 12/13/19 20:12 Lab File ID: 5121324.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.77	Peak assignment corrected	bowieh	12/14/19 12:14
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/14/19 12:15
1,2-Dibromoethane (EDB)		Invalid Compound ID	bowieh	12/14/19 12:15
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/14/19 12:14
2-Hexanone		Invalid Compound ID	bowieh	12/14/19 12:15
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/14/19 12:14
Benzene		Invalid Compound ID	bowieh	12/14/19 12:14
Bromomethane		Invalid Compound ID	bowieh	12/14/19 12:14
Chloroform		Invalid Compound ID	bowieh	12/14/19 12:14
Chloromethane		Invalid Compound ID	bowieh	12/14/19 12:14
cis-1,2-Dichloroethene		Invalid Compound ID	bowieh	12/14/19 12:14
Ethylbenzene		Invalid Compound ID	bowieh	12/14/19 12:15
Styrene		Invalid Compound ID	bowieh	12/14/19 12:15
Tetrachloroethene		Invalid Compound ID	bowieh	12/14/19 12:15
Trichloroethene		Invalid Compound ID	bowieh	12/14/19 12:14

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 301313Lab Sample ID: 180-99101-9 RA Client Sample ID: HD-COD-SW-26-0/1-0 RADate Analyzed: 12/13/19 20:36 Lab File ID: 5121325.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	12/14/19 12:16
1,1-Dichloroethane		Invalid Compound ID	bowieh	12/14/19 12:15
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/14/19 12:16
2-Hexanone		Invalid Compound ID	bowieh	12/14/19 12:16
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/14/19 12:16
Acetone		Invalid Compound ID	bowieh	12/14/19 12:15
Benzene		Invalid Compound ID	bowieh	12/14/19 12:15
Bromodichloromethane		Invalid Compound ID	bowieh	12/14/19 12:16
Bromomethane		Invalid Compound ID	bowieh	12/14/19 12:15
Chloroethane		Invalid Compound ID	bowieh	12/14/19 12:15
Chloromethane		Invalid Compound ID	bowieh	12/14/19 12:15
Ethylbenzene		Invalid Compound ID	bowieh	12/14/19 12:16
Trichloroethene		Invalid Compound ID	bowieh	12/14/19 12:16

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 301313Lab Sample ID: 180-99101-10 RA Client Sample ID: HD-COD-SW-27-0/1-0 RADate Analyzed: 12/13/19 21:01 Lab File ID: 5121326.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.78	Peak assignment corrected	bowieh	12/14/19 12:16
Trichloroethene	7.77	Peak assignment corrected	bowieh	12/14/19 12:17
Toluene	9.11	Poor chromatography	bowieh	12/14/19 12:17
1,1,2,2-Tetrachloroethane		Invalid Compound ID	bowieh	12/14/19 12:17
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/14/19 12:17
2-Hexanone		Invalid Compound ID	bowieh	12/14/19 12:17
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	bowieh	12/14/19 12:17
Benzene		Invalid Compound ID	bowieh	12/14/19 12:17
Bromomethane		Invalid Compound ID	bowieh	12/14/19 12:16
Chloromethane		Invalid Compound ID	bowieh	12/14/19 12:16
Dibromochloromethane		Invalid Compound ID	bowieh	12/14/19 12:17
Ethylbenzene		Invalid Compound ID	bowieh	12/14/19 12:17
Methyl tert-butyl ether		Invalid Compound ID	bowieh	12/14/19 12:16
o-Xylene		Invalid Compound ID	bowieh	12/14/19 12:17

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Analysis Batch Number: 301313

Lab Sample ID: 180-99101-13 RA Client Sample ID: HD-QC1-0/1-1 RA

Date Analyzed: 12/13/19 21:25 Lab File ID: 5121327.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	12/14/19 12:18
1,1,2-Trichloroethane		Invalid Compound ID	bowieh	12/14/19 12:18
1,2-Dichloroethane		Invalid Compound ID	bowieh	12/14/19 12:18
1,2-Dichloropropane		Invalid Compound ID	bowieh	12/14/19 12:18
2-Butanone (MEK)		Invalid Compound ID	bowieh	12/14/19 12:17
2-Hexanone		Invalid Compound ID	bowieh	12/14/19 12:18
Benzene		Invalid Compound ID	bowieh	12/14/19 12:18
Bromomethane		Invalid Compound ID	bowieh	12/14/19 12:17
Chloroethane		Invalid Compound ID	bowieh	12/14/19 12:17
Chloromethane		Invalid Compound ID	bowieh	12/14/19 12:17
Ethylbenzene		Invalid Compound ID	bowieh	12/14/19 12:18
Methyl tert-butyl ether		Invalid Compound ID	bowieh	12/14/19 12:17

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration		
					Reagent ID	Volume Added				
VOA8260INT_00101	12/08/19	11/08/19	Methanol, Lot 3167192	10 mL	VOA8260INTRES_00165	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_00165	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_00101	12/07/19	11/07/19	Methanol, Lot 3167192	100 mL	VOA8260SURRES_00159	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_00159	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		
VOA8260VOAPRI_00382	12/06/19	11/29/19	Methanol, Lot 3167194	10 mL	VOA8260GAS1ST_00283	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_00378	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				
					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									

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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_00283	03/31/22		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_00378	12/06/19	11/06/19	Methanol, Lot 3167194	10 mL	VOA8260KET1ST_00134	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_00091	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
							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

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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_00134	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
..VOA8260MEGA1_00091	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

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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_00382	12/06/19	11/29/19	Methanol, Lot 3167194	10 mL	VOA8260VOAPRI_00378	1 mL	Xylenes, Total	50 ug/mL
.VOA8260VOAPRI_00378	12/06/19	11/06/19	Methanol, Lot 3167194	10 mL	VOA8260MEGA1_00091	1 mL	Xylenes, Total	500 ug/mL
.VOA8260MEGA1_00091	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		Xylenes, Total	5000 ug/mL
VOA8260VOAPRI_00383	12/14/19	12/07/19	Methanol, Lot 3167192	10 mL	VOA8260GAS1ST_00281	0.1 mL	Bromomethane	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOA_00003	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

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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_00281	03/31/22		Restek, Lot A0146651			(Purchased Reagent)	Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOA_00003	01/06/20	12/06/19	Methanol, Lot 3167189	10 mL	VOA8260MEGA1_00095	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
..VOA8260MEGA1_00095	06/30/21		Restek, Lot A0143774			(Purchased Reagent)	1,1,1,2-Tetrachloroethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							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	2500 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 00023	12/29/19	11/29/19	Methanol, Lot 3167194	100 mL	VOAACRORES_00151	125 uL	Acrolein	25 ug/mL
.VOAACRORES_00151	03/31/20		Restek, Lot A0153030		(Purchased Reagent)		Acrolein	20000 ug/mL
VOABFB25_00120							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFB50 00121	5 mL	BFB	25 ug/mL
.VOABFB50 00121	12/15/19	11/15/19	Methanol, Lot 3167192	50 mL	VOABFBRES 00087	1 mL	BFB	50 ug/mL
.VOABFBRES 00087	04/30/24		Restek, Lot A0147670		(Purchased Reagent)		BFB	2500 ug/mL
VOAVAPRI 00029	12/11/19	11/11/19	Methanol, Lot 3167189	10 mL	VOA8260VARES_00123	50 uL	Vinyl acetate	25 ug/mL
.VOA8260VARES_00123	02/29/20		Restek, Lot A0152359		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
voaWI/SHP5_00015	12/16/19	11/16/19	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

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.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_00015	12/16/19	11/16/19	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_00020	12/06/19	11/06/19	Methanol, Lot 3167194	50 mL	VOA8260KET1ST_00134	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_00134	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
voaWKetmix1st_00021	01/06/20	12/06/19	Methanol, Lot 3167194	50 mL	VOA8260KET1ST_00135	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_00135	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_00281



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis



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

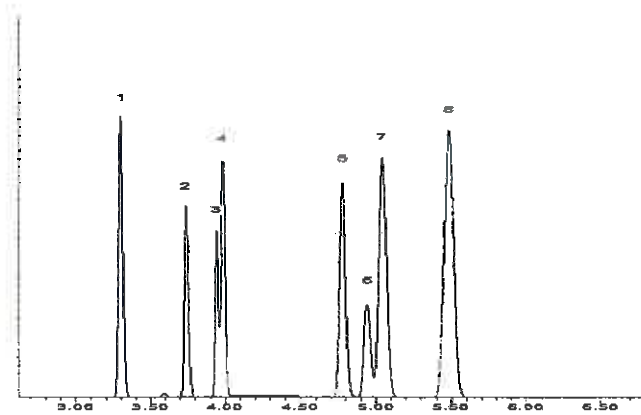
Carrier Gas:
helium-constant pressure 30 psi

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

Inj. Temp:
230°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 Suckal
Tom Suckal - Mix Technician

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

John Lidgett
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:

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

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

VOA8260GAS1ST_00283



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis



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

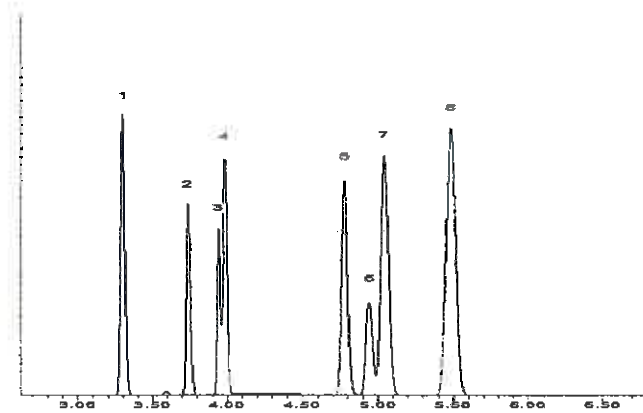
Carrier Gas:
helium-constant pressure 30 psi

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

Inj. Temp:
230°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 Suckal
Tom Suckal - Mix Technician

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

John Lidgett
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:

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

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

VOA8260INTRES_00165



CERTIFIED REFERENCE MATERIAL

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

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Certificate of Analysis



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 Gravimetric
			+/-	107.9918	µg/mL Unstressed
			+/-	111.1314	µg/mL Stressed
2	2-Butanone-d5 CAS # 24313-50-6 Purity 99% (Lot M-276)	1,254.2 µg/mL	+/-	7.2922	µg/mL Gravimetric
			+/-	26.8533	µg/mL Unstressed
			+/-	27.6340	µg/mL Stressed
3	Fluorobenzene CAS # 462-06-6 Purity 99% (Lot BCBK8171V)	252.1 µg/mL	+/-	1.4689	µg/mL Gravimetric
			+/-	5.3977	µg/mL Unstressed
			+/-	5.5545	µg/mL Stressed
4	1,4-Dioxane-d8 CAS # 17647-74-4 Purity 99% (Lot I-19942)	5,027.8 µg/mL	+/-	29.2304	µg/mL Gravimetric
			+/-	107.6448	µg/mL Unstressed
			+/-	110.7743	µg/mL Stressed
5	Chlorobenzene-d5 CAS # 3114-55-4 Purity 99% (Lot PR-23926)	250.6 µg/mL	+/-	1.4603	µg/mL Gravimetric
			+/-	5.3661	µg/mL Unstressed
			+/-	5.5220	µg/mL Stressed
6	1,4-Dichlorobenzene-d4 CAS # 3855-82-1 Purity 99% (Lot PR-18488)	251.6 µg/mL	+/-	1.4660	µg/mL Gravimetric
			+/-	5.3871	µg/mL Unstressed
			+/-	5.5436	µg/mL Stressed

Reagent

VOA8260INTSUR_00019



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
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Fax: (814)353-1309

Certificate of Analysis



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

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

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

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

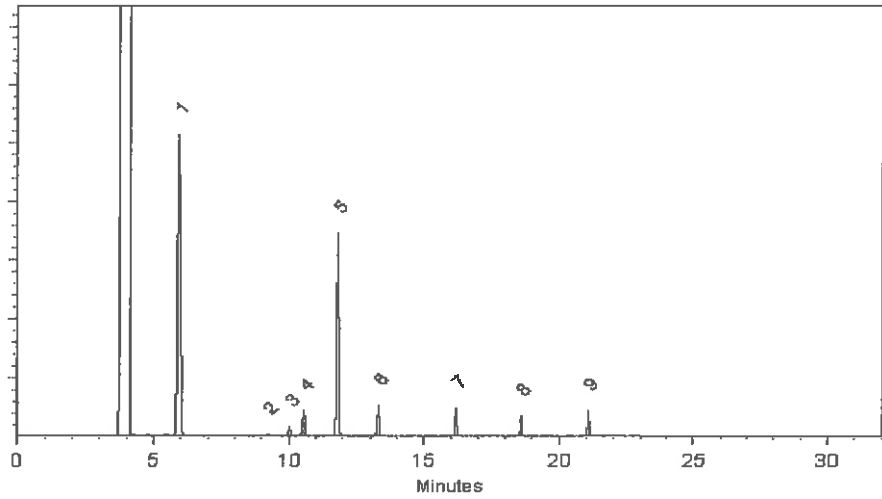
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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 Maje

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

VOA8260KET1ST_00134



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

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



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	12,500.5 µg/mL	+/-	72.6790	µg/mL	Gravimetric
	CAS # 67-64-1 (Lot SHBJ7699)		+/-	754.2106	µg/mL	Unstressed
	Purity 99%		+/-	756.0012	µg/mL	Stressed
2	2-Butanone (MEK)	12,501.0 µg/mL	+/-	72.6819	µg/mL	Gravimetric
	CAS # 78-93-3 (Lot SHBF2461 V)		+/-	754.2407	µg/mL	Unstressed
	Purity 99%		+/-	756.0314	µg/mL	Stressed
3	4-Methyl-2-pentanone (MIBK)	12,501.5 µg/mL	+/-	72.6848	µg/mL	Gravimetric
	CAS # 108-10-1 (Lot SHBH8930)		+/-	754.2709	µg/mL	Unstressed
	Purity 99%		+/-	756.0617	µg/mL	Stressed
4	2-Hexanone	12,501.8 µg/mL	+/-	72.6863	µg/mL	Gravimetric
	CAS # 591-78-6 (Lot MKCD9048)		+/-	754.2860	µg/mL	Unstressed
	Purity 99%		+/-	756.0768	µg/mL	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)

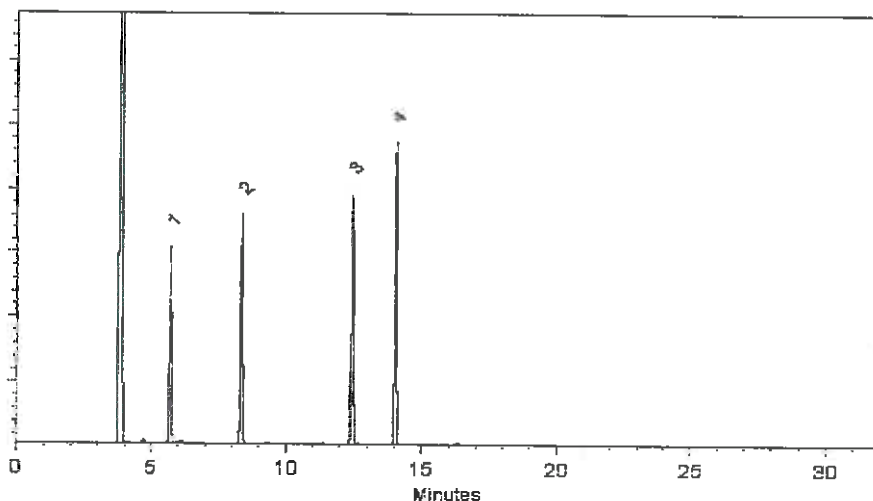
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

F. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 Balance: B251644995

Jennifer 2 Pollino
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:

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

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

VOA8260KET1ST_00135



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

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



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	12,500.5 µg/mL	+/-	72.6790	µg/mL	Gravimetric
	CAS # 67-64-1 (Lot SHBJ7699)		+/-	754.2106	µg/mL	Unstressed
	Purity 99%		+/-	756.0012	µg/mL	Stressed
2	2-Butanone (MEK)	12,501.0 µg/mL	+/-	72.6819	µg/mL	Gravimetric
	CAS # 78-93-3 (Lot SHBF2461 V)		+/-	754.2407	µg/mL	Unstressed
	Purity 99%		+/-	756.0314	µg/mL	Stressed
3	4-Methyl-2-pentanone (MIBK)	12,501.5 µg/mL	+/-	72.6848	µg/mL	Gravimetric
	CAS # 108-10-1 (Lot SHBH8930)		+/-	754.2709	µg/mL	Unstressed
	Purity 99%		+/-	756.0617	µg/mL	Stressed
4	2-Hexanone	12,501.8 µg/mL	+/-	72.6863	µg/mL	Gravimetric
	CAS # 591-78-6 (Lot MKCD9048)		+/-	754.2860	µg/mL	Unstressed
	Purity 99%		+/-	756.0768	µg/mL	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)

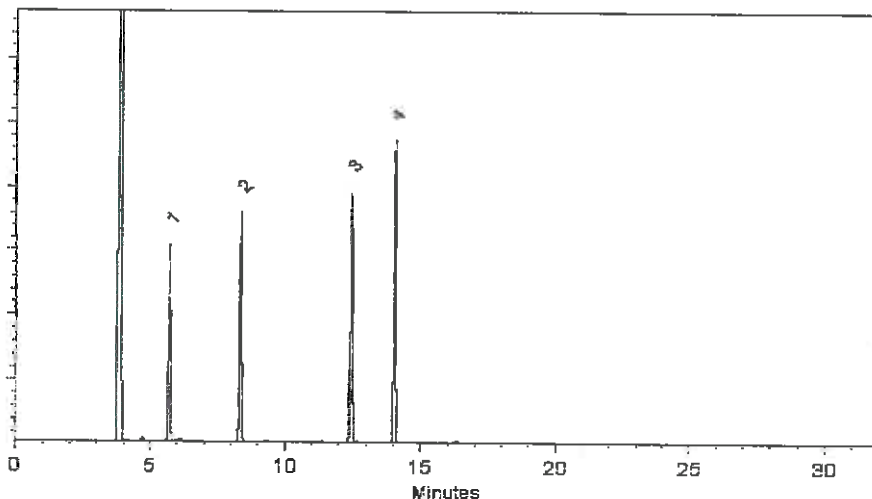
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

F. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 Balance: B251644995

Jennifer J Pollino
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:

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

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_00091

RESTEK CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis



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)	2,500.6 µg/mL (Lot SHBJ5713)	+/-	14.5388	µg/mL	Gravimetric
	CAS # 60-29-7		+/-	150.8738	µg/mL	Unstressed
	Purity 99%		+/-	151.2320	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)	2,501.6 µg/mL (Lot 00009482)	+/-	14.5447	µg/mL	Gravimetric
	CAS # 76-13-1		+/-	150.9341	µg/mL	Unstressed
	Purity 99%		+/-	151.2925	µg/mL	Stressed
3	1,1-dichloroethene	2,501.9 µg/mL (Lot SHBG8609V)	+/-	14.5461	µg/mL	Gravimetric
	CAS # 75-35-4		+/-	150.9492	µg/mL	Unstressed
	Purity 99%		+/-	151.3076	µg/mL	Stressed
4	tert-Butanol (TBA)	25,008.1 µg/mL (Lot SHBJ9404)	+/-	145.3918	µg/mL	Gravimetric
	CAS # 75-65-0		+/-	1,508.8503	µg/mL	Unstressed
	Purity 99%		+/-	1,512.4325	µg/mL	Stressed
5	Methyl acetate	5,000.8 µg/mL (Lot SHBG4345V)	+/-	29.0748	µg/mL	Gravimetric
	CAS # 79-20-9		+/-	301.7174	µg/mL	Unstressed
	Purity 99%		+/-	302.4337	µg/mL	Stressed
6	Iodomethane (methyl iodide)	2,500.6 µg/mL (Lot SHBH4362V)	+/-	14.5388	µg/mL	Gravimetric
	CAS # 74-88-4		+/-	150.8738	µg/mL	Unstressed
	Purity 99%		+/-	151.2320	µg/mL	Stressed
7	Allyl chloride (3-chloropropene)	2,502.0 µg/mL (Lot WXBB7852V)	+/-	14.5468	µg/mL	Gravimetric
	CAS # 107-05-1		+/-	150.9567	µg/mL	Unstressed
	Purity 99%		+/-	151.3151	µg/mL	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	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
25	n-Heptane (C7) CAS # 142-82-5 Purity 99%	(Lot SHBJ2424)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
26	1,2-Dichloroethane CAS # 107-06-2 Purity 99%	(Lot SHBJ0707)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
27	Benzene CAS # 71-43-2 Purity 99%	(Lot SHBJ5344)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
28	Trichloroethene CAS # 79-01-6 Purity 99%	(Lot SHBH1955V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
29	Methylcyclohexane CAS # 108-87-2 Purity 99%	(Lot SHBJ0457)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
30	1,2-Dichloropropane CAS # 78-87-5 Purity 99%	(Lot BCBR0882V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
31	1,4-Dioxane CAS # 123-91-1 Purity 99%	(Lot SHBJ7415)	50,001.1	µg/mL	+/-	290.6957	µg/mL	Gravimetric
					+/-	3,016.7880	µg/mL	Unstressed
					+/-	3,023.9503	µg/mL	Stressed
32	Dibromomethane CAS # 74-95-3 Purity 99%	(Lot 10201030)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
33	cis-1,3-Dichloropropene CAS # 10061-01-5 Purity 99%	(Lot 25076)	2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
					+/-	150.9190	µg/mL	Unstressed
					+/-	151.2773	µg/mL	Stressed
34	Toluene CAS # 108-88-3 Purity 99%	(Lot SHBJ5659)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
35	Ethyl methacrylate CAS # 97-63-2 Purity 99%	(Lot 69796APV)	2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
					+/-	151.0020	µg/mL	Unstressed
					+/-	151.3605	µg/mL	Stressed
36	trans-1,3-Dichloropropene CAS # 10061-02-6 Purity 98%	(Lot C797620)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
37	1,1,2-Trichloroethane CAS # 79-00-5 Purity 99%	(Lot FGB01)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
38	1,3-Dichloropropane CAS # 142-28-9 Purity 99%	(Lot BCBG2162V)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
39	Tetrachloroethene CAS # 127-18-4 Purity 99%	(Lot SHBH9691)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	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		2,502.5 µg/mL	+/-	14.5498	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot MKBX7627V)		+/-	150.9869	µg/mL	Unstressed
	Purity 99%			+/-	151.3454	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:

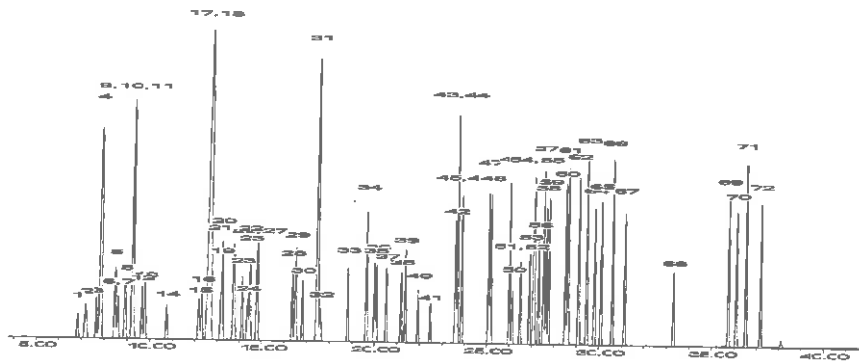
200°C

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.

F. Joseph Tailon
 F. Joseph Tailon - Mix Technician

Date Mixed: 05-Dec-2018

Balance: B251644995

Diane Shaffer
 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

VOA8260MEGA1_00095



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis



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	Lot	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	Method
1	Diethyl ether (ethyl ether)	(Lot SHBI5713)	2,500.6 µg/mL	+/- 14.5388 µg/mL	Gravimetric
	CAS # 60-29-7			+/- 150.8738 µg/mL	Unstressed
	Purity 99%			+/- 151.2320 µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)	(Lot 00009482)	2,501.6 µg/mL	+/- 14.5447 µg/mL	Gravimetric
	CAS # 76-13-1			+/- 150.9341 µg/mL	Unstressed
	Purity 99%			+/- 151.2925 µg/mL	Stressed
3	1,1-dichloroethene	(Lot SHBG8609V)	2,501.9 µg/mL	+/- 14.5461 µg/mL	Gravimetric
	CAS # 75-35-4			+/- 150.9492 µg/mL	Unstressed
	Purity 99%			+/- 151.3076 µg/mL	Stressed
4	tert-Butanol (TBA)	(Lot SHBJ9404)	25,008.1 µg/mL	+/- 145.3918 µg/mL	Gravimetric
	CAS # 75-65-0			+/- 1,508.8503 µg/mL	Unstressed
	Purity 99%			+/- 1,512.4325 µg/mL	Stressed
5	Methyl acetate	(Lot SHBG4345V)	5,000.8 µg/mL	+/- 29.0748 µg/mL	Gravimetric
	CAS # 79-20-9			+/- 301.7174 µg/mL	Unstressed
	Purity 99%			+/- 302.4337 µg/mL	Stressed
6	Iodomethane (methyl iodide)	(Lot SHBH4362V)	2,500.6 µg/mL	+/- 14.5388 µg/mL	Gravimetric
	CAS # 74-88-4			+/- 150.8738 µg/mL	Unstressed
	Purity 99%			+/- 151.2320 µg/mL	Stressed
7	Allyl chloride (3-chloropropene)	(Lot WXBB7852V)	2,502.0 µg/mL	+/- 14.5468 µg/mL	Gravimetric
	CAS # 107-05-1			+/- 150.9567 µg/mL	Unstressed
	Purity 99%			+/- 151.3151 µg/mL	Stressed

8	Methylene chloride (dichloromethane)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 75-09-2 (Lot SHBK5095)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%			+/-	151.2395	µg/mL	Stressed
9	Carbon disulfide	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 75-15-0 (Lot U22D706)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%			+/-	151.2622	µg/mL	Stressed
10	Acrylonitrile	25,010.4	µg/mL	+/-	145.4049	µg/mL	Gravimetric
	CAS # 107-13-1 (Lot R15D047)			+/-	1,508.9360	µg/mL	Unstressed
	Purity 99%			+/-	1,512.5686	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)	2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS # 1634-04-4 (Lot SHBH9526)			+/-	150.8512	µg/mL	Unstressed
	Purity 99%			+/-	151.2093	µg/mL	Stressed
12	cis-1,2-Dichloroethene	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS # 156-59-2 (Lot MKBX5945V)			+/-	150.9115	µg/mL	Unstressed
	Purity 99%			+/-	151.2698	µg/mL	Stressed
13	n-Hexane (C6)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 110-54-3 (Lot SHBH8106)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%			+/-	151.2395	µg/mL	Stressed
14	1,1-Dichloroethane	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS # 75-34-3 (Lot 462600)			+/-	150.8587	µg/mL	Unstressed
	Purity 99%			+/-	151.2169	µg/mL	Stressed
15	2,2-Dichloropropane	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 594-20-7 (Lot BCBT5124)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%			+/-	151.2471	µg/mL	Stressed
16	trans-1,2-Dichloroethene	2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS # 156-60-5 (Lot MKBH9850V)			+/-	150.8512	µg/mL	Unstressed
	Purity 99%			+/-	151.2093	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)	62,500.9	µg/mL	+/-	363.3665	µg/mL	Gravimetric
	CAS # 78-83-1 (Lot SHBK0551)			+/-	3,770.9529	µg/mL	Unstressed
	Purity 99%			+/-	3,779.9058	µg/mL	Stressed
18	chloroform	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 67-66-3 (Lot SHBJ9076)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%			+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
	CAS # 74-97-5 (Lot 00008541)			+/-	150.8718	µg/mL	Unstressed
	Purity 98%			+/-	151.2300	µg/mL	Stressed
20	Tetrahydrofuran	5,000.6	µg/mL	+/-	29.0741	µg/mL	Gravimetric
	CAS # 109-99-9 (Lot SHBJ6179)			+/-	301.7099	µg/mL	Unstressed
	Purity 99%			+/-	302.4262	µg/mL	Stressed
21	1,1,1-trichloroethane	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 71-55-6 (Lot B15W12061)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%			+/-	151.2395	µg/mL	Stressed
22	Cyclohexane	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 110-82-7 (Lot MKCC9660)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%			+/-	151.2471	µg/mL	Stressed
23	1,1-Dichloropropene	2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
	CAS # 563-58-6 (Lot 180531JLM)			+/-	150.8738	µg/mL	Unstressed
	Purity 99%			+/-	151.2320	µg/mL	Stressed

24	carbon tetrachloride CAS # 56-23-5 Purity 99%	(Lot SHBJ2110)	2,501.1 µg/mL	+/-	14.5418 µg/mL 150.9040 µg/mL 151.2622 µg/mL	Gravimetric Unstressed Stressed
25	n-Heptane (C7) CAS # 142-82-5 Purity 99%	(Lot SHBJ2424)	2,501.6 µg/mL	+/-	14.5447 µg/mL 150.9341 µg/mL 151.2925 µg/mL	Gravimetric Unstressed Stressed
26	1,2-Dichloroethane CAS # 107-06-2 Purity 99%	(Lot SHBJ0707)	2,501.3 µg/mL	+/-	14.5425 µg/mL 150.9115 µg/mL 151.2698 µg/mL	Gravimetric Unstressed Stressed
27	Benzene CAS # 71-43-2 Purity 99%	(Lot SHBJ5344)	2,500.9 µg/mL	+/-	14.5403 µg/mL 150.8889 µg/mL 151.2471 µg/mL	Gravimetric Unstressed Stressed
28	Trichloroethene CAS # 79-01-6 Purity 99%	(Lot SHBH1955V)	2,500.5 µg/mL	+/-	14.5381 µg/mL 150.8662 µg/mL 151.2244 µg/mL	Gravimetric Unstressed Stressed
29	Methylcyclohexane CAS # 108-87-2 Purity 99%	(Lot SHBJ0457)	2,501.6 µg/mL	+/-	14.5447 µg/mL 150.9341 µg/mL 151.2925 µg/mL	Gravimetric Unstressed Stressed
30	1,2-Dichloropropane CAS # 78-87-5 Purity 99%	(Lot BCBR0882V)	2,500.5 µg/mL	+/-	14.5381 µg/mL 150.8662 µg/mL 151.2244 µg/mL	Gravimetric Unstressed Stressed
31	1,4-Dioxane CAS # 123-91-1 Purity 99%	(Lot SHBJ7415)	50,001.1 µg/mL	+/-	290.6957 µg/mL 3,016.7880 µg/mL 3,023.9503 µg/mL	Gravimetric Unstressed Stressed
32	Dibromomethane CAS # 74-95-3 Purity 99%	(Lot 10201030)	2,502.0 µg/mL	+/-	14.5468 µg/mL 150.9567 µg/mL 151.3151 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 µg/mL 150.9190 µg/mL 151.2773 µg/mL	Gravimetric Unstressed Stressed
34	Toluene CAS # 108-88-3 Purity 99%	(Lot SHBJ5659)	2,500.1 µg/mL	+/-	14.5359 µg/mL 150.8436 µg/mL 151.2017 µg/mL	Gravimetric Unstressed Stressed
35	Ethyl methacrylate CAS # 97-63-2 Purity 99%	(Lot 69796APV)	2,502.8 µg/mL	+/-	14.5512 µg/mL 151.0020 µg/mL 151.3605 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 µg/mL 150.8718 µg/mL 151.2300 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 µg/mL 150.8587 µg/mL 151.2169 µg/mL	Gravimetric Unstressed Stressed
38	1,3-Dichloropropane CAS # 142-28-9 Purity 99%	(Lot BCBG2162V)	2,500.9 µg/mL	+/-	14.5403 µg/mL 150.8889 µg/mL 151.2471 µg/mL	Gravimetric Unstressed Stressed
39	Tetrachloroethene CAS # 127-18-4 Purity 99%	(Lot SHBH9691)	2,501.0 µg/mL	+/-	14.5410 µg/mL 150.8964 µg/mL 151.2547 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	1,1,1,2-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	µg/mL	Gravimetric
				+/-	150.8436	µg/mL	Unstressed
				+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene CAS # 108-67-8 Purity 99%	(Lot BCBS7648V)	2,500.5 µg/mL	+/-	14.5381	µg/mL	Gravimetric
				+/-	150.8662	µg/mL	Unstressed
				+/-	151.2244	µg/mL	Stressed
58	2-Chlorotoluene CAS # 95-49-8 Purity 99%	(Lot MKBW5554V)	2,500.1 µg/mL	+/-	14.5359	µg/mL	Gravimetric
				+/-	150.8436	µg/mL	Unstressed
				+/-	151.2017	µg/mL	Stressed
59	4-Chlorotoluene CAS # 106-43-4 Purity 99%	(Lot MKBL7753V)	2,500.9 µg/mL	+/-	14.5403	µg/mL	Gravimetric
				+/-	150.8889	µg/mL	Unstressed
				+/-	151.2471	µg/mL	Stressed
60	tert-Butylbenzene CAS # 98-06-6 Purity 99%	(Lot STBD6954V)	2,500.1 µg/mL	+/-	14.5359	µg/mL	Gravimetric
				+/-	150.8436	µg/mL	Unstressed
				+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene CAS # 95-63-6 Purity 97%	(Lot MKBH5027V)	2,499.9 µg/mL	+/-	14.5348	µg/mL	Gravimetric
				+/-	150.8320	µg/mL	Unstressed
				+/-	151.1901	µg/mL	Stressed
62	sec-Butylbenzene CAS # 135-98-8 Purity 99%	(Lot MKBR9260V)	2,501.1 µg/mL	+/-	14.5418	µg/mL	Gravimetric
				+/-	150.9040	µg/mL	Unstressed
				+/-	151.2622	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene) CAS # 99-87-6 Purity 99%	(Lot MKBV3556V)	2,501.1 µg/mL	+/-	14.5418	µg/mL	Gravimetric
				+/-	150.9040	µg/mL	Unstressed
				+/-	151.2622	µg/mL	Stressed
64	1,3-Dichlorobenzene CAS # 541-73-1 Purity 99%	(Lot BCBQ7100V)	2,501.4 µg/mL	+/-	14.5432	µg/mL	Gravimetric
				+/-	150.9190	µg/mL	Unstressed
				+/-	151.2773	µg/mL	Stressed
65	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS4401V)	2,501.5 µg/mL	+/-	14.5439	µg/mL	Gravimetric
				+/-	150.9266	µg/mL	Unstressed
				+/-	151.2849	µg/mL	Stressed
66	n-Butylbenzene CAS # 104-51-8 Purity 99%	(Lot 09804AE)	2,501.0 µg/mL	+/-	14.5410	µg/mL	Gravimetric
				+/-	150.8964	µg/mL	Unstressed
				+/-	151.2547	µg/mL	Stressed
67	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot SHBG3111V)	2,502.9 µg/mL	+/-	14.5519	µg/mL	Gravimetric
				+/-	151.0095	µg/mL	Unstressed
				+/-	151.3681	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane CAS # 96-12-8 Purity 99%	(Lot FBL01)	2,502.0 µg/mL	+/-	14.5468	µg/mL	Gravimetric
				+/-	150.9567	µg/mL	Unstressed
				+/-	151.3151	µg/mL	Stressed
69	1,2,4-Trichlorobenzene CAS # 120-82-1 Purity 99%	(Lot SHBJ9215)	2,502.1 µg/mL	+/-	14.5476	µg/mL	Gravimetric
				+/-	150.9643	µg/mL	Unstressed
				+/-	151.3227	µg/mL	Stressed
70	Hexachlorobutadiene CAS # 87-68-3 Purity 99%	(Lot J31X013)	2,501.5 µg/mL	+/-	14.5439	µg/mL	Gravimetric
				+/-	150.9266	µg/mL	Unstressed
				+/-	151.2849	µg/mL	Stressed
71	Naphthalene CAS # 91-20-3 Purity 99%	(Lot MKBZ8680V)	2,502.8 µg/mL	+/-	14.5512	µg/mL	Gravimetric
				+/-	151.0020	µg/mL	Unstressed
				+/-	151.3605	µg/mL	Stressed

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

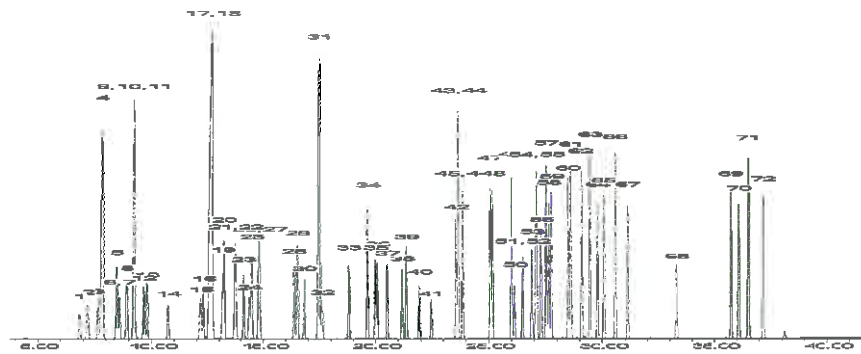
Carrier Gas:
helium-constant pressure 30 psi

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.

F. Joseph Yallon
F. Joseph Yallon - Mix Technician

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

Diane Shaffer
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/ μ ECD, 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:

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

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_00159



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis



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	2,506.4 µg/mL	+/-	14.5724	µg/mL	Gravimetric
	CAS # 1868-53-7 (Lot 0012017)		+/-	140.5314	µg/mL	Unstressed
	Purity 99%		+/-	143.8196	µg/mL	Stressed
2	1,2-Dichloroethane-d4	2,503.8 µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS # 17060-07-0 (Lot PR-29377)		+/-	140.3828	µg/mL	Unstressed
	Purity 99%		+/-	143.6676	µg/mL	Stressed
3	Toluene-d8	2,512.2 µg/mL	+/-	14.6059	µg/mL	Gravimetric
	CAS # 2037-26-5 (Lot PR-27311)		+/-	140.8538	µg/mL	Unstressed
	Purity 99%		+/-	144.1496	µg/mL	Stressed
4	1-Bromo-4-fluorobenzene (BFB)	2,501.8 µg/mL	+/-	14.5457	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401.KO)		+/-	140.2734	µg/mL	Unstressed
	Purity 99%		+/-	143.5557	µg/mL	Stressed

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

Reagent

VOA8260VARES_00123



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis



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 CAS # 108-05-4 Purity 99% (Lot STBD7333V)	5,041.0 µg/mL	+/-	29.5162	µg/mL	Gravimetric
			+/-	304.1659	µg/mL	Unstressed
			+/-	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-S02.2 (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:

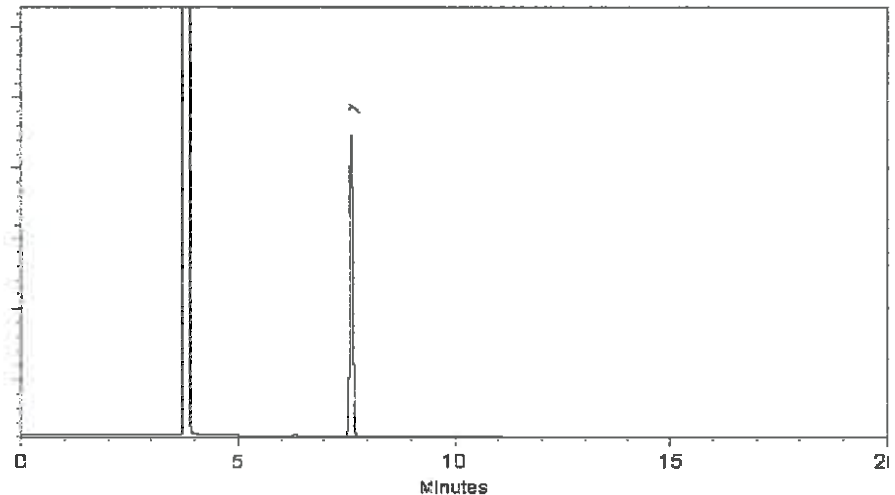
200°C

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 Sućkar - 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:

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

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_00151



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
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Certificate of Analysis



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.:** A0153030

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 : March 31, 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	Acrolein CAS # 107-02-8 Purity 96%	19,750.1 µg/mL	+/- 115.6411	µg/mL	Gravimetric
	(Lot D0022019819)		+/- 633.2497	µg/mL	Unstressed
			+/- 736.0834	µg/mL	Stressed

Solvent: Water
CAS # 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:

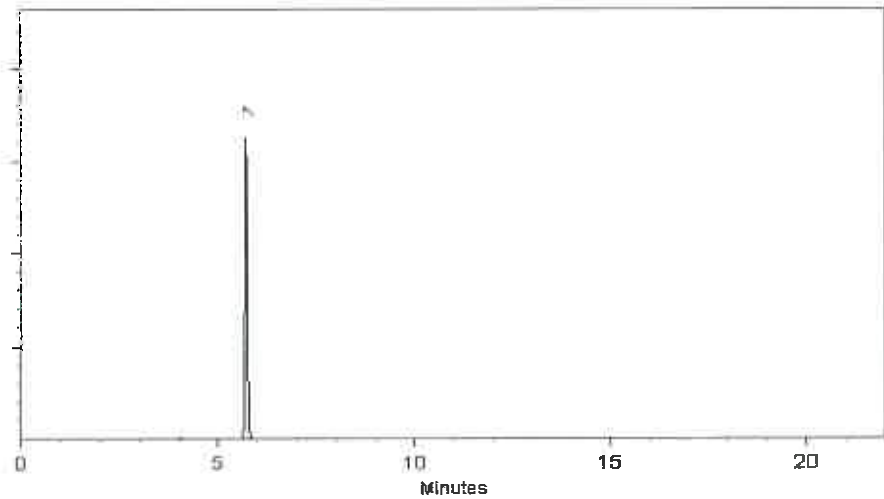
200°C

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.

Joseph Jaglowski
Joseph Jaglowski - Mix Technician

Date Mixed: 18-Sep-2019

Balance: B707717271

Ping-Yun Lin
Ping-Yun Lin - GC Analyst

Date Passed: 20-Sep-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/ μ ECD, 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:

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

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

VOABFBRES_00087



CERTIFIED REFERENCE MATERIAL

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

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Certificate of Analysis



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) CAS # 460-00-4 (Lot 20401KO) Purity 99%	2,511.0 µg/mL	+/- 14.7360	µg/mL	Gravimetric
			+/- 140.8035	µg/mL	Unstressed
			+/- 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)

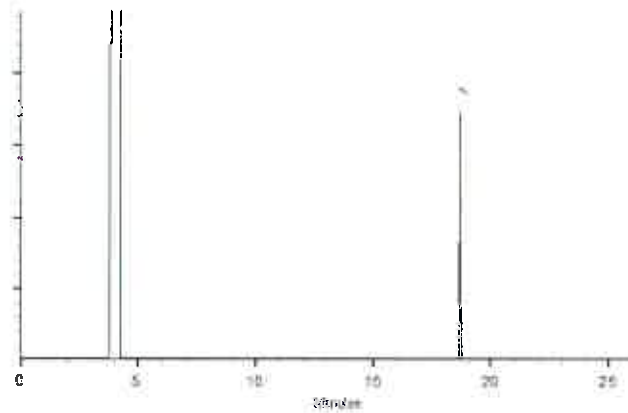
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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

Justin Albertson

Justin Albertson - Operations Tech-ARM GC

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/ μ ECD, 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:

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

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.

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.: 180-99101-1

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	180-99101-1	115	109	90	70
HD-COD-SW-7-0/1-0	180-99101-2	114	103	86	65
HD-COD-SW-8-0/1-0	180-99101-3	114	108	88	66
HD-COD-SW-9-0/1-0	180-99101-4	111	108	84	67
HD-COD-SW-13-0/1-0	180-99101-5	113	108	88	62 X
HD-COD-SW-13-0/1-0 RA	180-99101-5 RA	124	112	84	87
HD-COD-SW-15-0/1-0	180-99101-6	116	107	89	64
HD-COD-SW-16-0/1-0	180-99101-7	111	110	90	63 X
HD-COD-SW-16-0/1-0 RA	180-99101-7 RA	115	116	80	93
HD-COD-SW-17-0/1-0	180-99101-8	119	107	91	68
HD-COD-SW-26-0/1-0	180-99101-9	110	108	88	62 X
HD-COD-SW-26-0/1-0 RA	180-99101-9 RA	117	114	75 X	88
HD-COD-SW-27-0/1-0	180-99101-10	115	108	86	63 X
HD-COD-SW-27-0/1-0 RA	180-99101-10 RA	117	121	84	85
HD-COD-SW-28-0/1-0	180-99101-11	111	110	88	65
HD-COD-SW-29-0/1-0	180-99101-12	118	109	90	67
HD-QC1-0/1-1	180-99101-13	110	106	89	61 X
HD-QC1-0/1-1 RA	180-99101-13 RA	116	118	76 X	93
	MB 180-300399/7	109	103	86	72
	MB 180-301313/7	119	124	82	84
	LCS 180-300399/5	91	90	99	96
	LCS 180-301313/5	98	105	94	84
HD-COD-SW-6-0/1-0 MS	180-99101-1 MS	97	93	94	88
HD-COD-SW-6-0/1-0 MSD	180-99101-1 MSD	95	91	92	89

QC LIMITS

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

75-147
70-150
78-128
64-123

Column to be used to flag recovery values

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Matrix: Water Level: Low Lab File ID: 5120505.D

Lab ID: LCS 180-300399/5 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	10.5	105	37-150	
Vinyl chloride	10.0	9.26	93	50-150	
Bromomethane	10.0	10.6	106	35-150	
Chloroethane	10.0	10.8	108	52-150	
1,1-Dichloroethene	10.0	9.94	99	79-132	
Acetone	20.0	17.8	89	37-150	
Carbon disulfide	10.0	9.51	95	66-134	
Methylene Chloride	10.0	11.2	112	72-131	
trans-1,2-Dichloroethene	10.0	9.75	97	81-126	
Methyl tert-butyl ether	10.0	8.49	85	65-125	
1,1-Dichloroethane	10.0	9.89	99	70-127	
cis-1,2-Dichloroethene	10.0	9.56	96	79-119	
Bromochloromethane	10.0	9.97	100	74-124	
2-Butanone (MEK)	20.0	17.1	85	35-150	
Chloroform	10.0	9.56	96	75-126	
1,1,1-Trichloroethane	10.0	8.85	89	63-142	
Carbon tetrachloride	10.0	8.53	85	55-150	
Benzene	10.0	10.0	100	72-127	
1,2-Dichloroethane	10.0	9.25	93	60-138	
Trichloroethene	10.0	9.33	93	81-121	
1,2-Dichloropropane	10.0	9.96	100	67-124	
Bromodichloromethane	10.0	9.37	94	67-131	
cis-1,3-Dichloropropene	10.0	9.36	94	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	18.5	93	19-150	
Toluene	10.0	10.3	103	73-123	
trans-1,3-Dichloropropene	10.0	9.01	90	61-122	
1,1,2-Trichloroethane	10.0	10.6	106	72-120	
Tetrachloroethene	10.0	10.1	101	69-134	
2-Hexanone	20.0	17.4	87	24-150	
Dibromochloromethane	10.0	9.98	100	59-134	
1,2-Dibromoethane (EDB)	10.0	9.96	100	65-129	
Chlorobenzene	10.0	10.2	102	76-119	
1,1,1,2-Tetrachloroethane	10.0	10.3	103	65-132	
Ethylbenzene	10.0	9.61	96	76-118	
Xylenes, Total	20.0	19.4	97	76-116	
Styrene	10.0	10.2	102	74-118	
Bromoform	10.0	9.79	98	50-146	
1,1,2,2-Tetrachloroethane	10.0	11.2	112	57-135	
Acrylonitrile	100	103	103	43-149	

Column to be used to flag recovery and RPD values

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Matrix: Water Level: Low Lab File ID: 5121305.D

Lab ID: LCS 180-301313/5 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Chloromethane	10.0	10.4	104	37-150	
Vinyl chloride	10.0	12.1	121	50-150	
Bromomethane	10.0	7.70	77	35-150	
Chloroethane	10.0	13.2	132	52-150	
1,1-Dichloroethene	10.0	9.73	97	79-132	
Acetone	20.0	23.2	116	37-150	
Carbon disulfide	10.0	10.7	107	66-134	
Methylene Chloride	10.0	12.0	120	72-131	
trans-1,2-Dichloroethene	10.0	9.96	100	81-126	
Methyl tert-butyl ether	10.0	9.79	98	65-125	
1,1-Dichloroethane	10.0	10.3	103	70-127	
cis-1,2-Dichloroethene	10.0	9.19	92	79-119	
Bromochloromethane	10.0	10.7	107	74-124	
2-Butanone (MEK)	20.0	23.1	115	35-150	
Chloroform	10.0	10.2	102	75-126	
1,1,1-Trichloroethane	10.0	10.0	100	63-142	
Carbon tetrachloride	10.0	9.43	94	55-150	
Benzene	10.0	9.88	99	72-127	
1,2-Dichloroethane	10.0	9.97	100	60-138	
Trichloroethene	10.0	9.29	93	81-121	
1,2-Dichloropropane	10.0	10.0	100	67-124	
Bromodichloromethane	10.0	10.4	104	67-131	
cis-1,3-Dichloropropene	10.0	9.28	93	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	17.8	89	19-150	
Toluene	10.0	9.93	99	73-123	
trans-1,3-Dichloropropene	10.0	8.88	89	61-122	
1,1,2-Trichloroethane	10.0	10.9	109	72-120	
Tetrachloroethene	10.0	9.52	95	69-134	
2-Hexanone	20.0	21.0	105	24-150	
Dibromochloromethane	10.0	10.1	101	59-134	
1,2-Dibromoethane (EDB)	10.0	10.0	100	65-129	
Chlorobenzene	10.0	9.06	91	76-119	
1,1,1,2-Tetrachloroethane	10.0	9.61	96	65-132	
Ethylbenzene	10.0	8.13	81	76-118	
Xylenes, Total	20.0	16.7	83	76-116	
Styrene	10.0	8.60	86	74-118	
Bromoform	10.0	9.16	92	50-146	
1,1,2,2-Tetrachloroethane	10.0	10.3	103	57-135	
Acrylonitrile	100	93.9	94	43-149	

Column to be used to flag recovery and RPD values

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Matrix: Water Level: Low Lab File ID: 5120527.D

Lab ID: 180-99101-1 MS Client ID: HD-COD-SW-6-0/1-0 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Chloromethane	10.0	ND	11.1	111	37-150	
Vinyl chloride	10.0	ND	9.96	100	50-150	
Bromomethane	10.0	ND	8.79	88	35-150	
Chloroethane	10.0	ND	11.4	114	52-150	
1,1-Dichloroethene	10.0	ND	9.93	99	79-132	
Acetone	20.0	ND	16.8	84	37-150	
Carbon disulfide	10.0	ND	9.85	99	66-134	
Methylene Chloride	10.0	ND	10.8	108	72-131	
trans-1,2-Dichloroethene	10.0	ND	9.90	99	81-126	
Methyl tert-butyl ether	10.0	ND	8.67	87	65-125	
1,1-Dichloroethane	10.0	ND	10.1	101	70-127	
cis-1,2-Dichloroethene	10.0	ND	10.0	100	79-119	
Bromochloromethane	10.0	ND	10.6	106	74-124	
2-Butanone (MEK)	20.0	ND	15.5	77	35-150	
Chloroform	10.0	ND	9.45	95	75-126	
1,1,1-Trichloroethane	10.0	ND	9.41	94	63-142	
Carbon tetrachloride	10.0	ND	9.55	95	55-150	
Benzene	10.0	ND	10.2	102	72-127	
1,2-Dichloroethane	10.0	ND	9.61	96	60-138	
Trichloroethene	10.0	ND	9.35	93	81-121	
1,2-Dichloropropane	10.0	ND	9.83	98	67-124	
Bromodichloromethane	10.0	ND	9.75	97	67-131	
cis-1,3-Dichloropropene	10.0	ND	8.06	81	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	ND	15.9	79	19-150	
Toluene	10.0	ND	9.91	99	73-123	
trans-1,3-Dichloropropene	10.0	ND	8.45	84	61-122	
1,1,2-Trichloroethane	10.0	ND	9.95	100	72-120	
Tetrachloroethene	10.0	ND	9.86	99	69-134	
2-Hexanone	20.0	ND	15.2	76	24-150	
Dibromochloromethane	10.0	ND	9.06	91	59-134	
1,2-Dibromoethane (EDB)	10.0	ND	9.27	93	65-129	
Chlorobenzene	10.0	ND	9.57	96	76-119	
1,1,1,2-Tetrachloroethane	10.0	ND	10.2	102	65-132	
Ethylbenzene	10.0	ND	9.33	93	76-118	
Xylenes, Total	20.0	ND	18.4	92	76-116	
Styrene	10.0	ND	9.77	98	74-118	
Bromoform	10.0	ND	8.87	89	50-146	
1,1,2,2-Tetrachloroethane	10.0	ND	10.6	106	57-135	
Acrylonitrile	100	ND	104	104	43-149	

Column to be used to flag recovery and RPD values

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 5120528.D
 Lab ID: 180-99101-1 MSD Client ID: HD-COD-SW-6-0/1-0 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Chloromethane	10.0	11.1	111	1	35	37-150	
Vinyl chloride	10.0	10.3	103	4	31	50-150	
Bromomethane	10.0	9.18	92	4	35	35-150	
Chloroethane	10.0	12.2	122	6	31	52-150	
1,1-Dichloroethene	10.0	9.45	95	5	29	79-132	
Acetone	20.0	15.9	80	6	35	37-150	
Carbon disulfide	10.0	9.84	98	0	31	66-134	
Methylene Chloride	10.0	11.4	114	6	29	72-131	
trans-1,2-Dichloroethene	10.0	10.1	101	2	27	81-126	
Methyl tert-butyl ether	10.0	9.13	91	5	28	65-125	
1,1-Dichloroethane	10.0	10.0	100	1	27	70-127	
cis-1,2-Dichloroethene	10.0	10.1	101	1	28	79-119	
Bromochloromethane	10.0	10.6	106	0	27	74-124	
2-Butanone (MEK)	20.0	15.9	80	3	34	35-150	
Chloroform	10.0	9.78	98	3	26	75-126	
1,1,1-Trichloroethane	10.0	9.25	93	2	28	63-142	
Carbon tetrachloride	10.0	8.67	87	10	29	55-150	
Benzene	10.0	10.2	102	1	27	72-127	
1,2-Dichloroethane	10.0	9.77	98	2	26	60-138	
Trichloroethene	10.0	9.71	97	4	28	81-121	
1,2-Dichloropropane	10.0	10.5	105	7	27	67-124	
Bromodichloromethane	10.0	9.69	97	1	28	67-131	
cis-1,3-Dichloropropene	10.0	8.55	86	6	29	69-122	
4-Methyl-2-pentanone (MIBK)	20.0	16.7	84	5	33	19-150	
Toluene	10.0	9.74	97	2	31	73-123	
trans-1,3-Dichloropropene	10.0	8.40	84	1	30	61-122	
1,1,2-Trichloroethane	10.0	10.5	105	5	27	72-120	
Tetrachloroethene	10.0	9.13	91	8	27	69-134	
2-Hexanone	20.0	15.4	77	2	32	24-150	
Dibromochloromethane	10.0	9.29	93	3	28	59-134	
1,2-Dibromoethane (EDB)	10.0	9.58	96	3	27	65-129	
Chlorobenzene	10.0	9.75	97	2	25	76-119	
1,1,1,2-Tetrachloroethane	10.0	9.85	98	3	28	65-132	
Ethylbenzene	10.0	9.00	90	4	27	76-118	
Xylenes, Total	20.0	18.4	92	0	27	76-116	
Styrene	10.0	9.76	98	0	27	74-118	
Bromoform	10.0	9.05	90	2	30	50-146	
1,1,2,2-Tetrachloroethane	10.0	10.4	104	2	29	57-135	
Acrylonitrile	100	107	107	3	34	43-149	

Column to be used to flag recovery and RPD values

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Lab File ID: 5120507.D Lab Sample ID: MB 180-300399/7
 Matrix: Water Heated Purge: (Y/N) N
 Instrument ID: CHHP5 Date Analyzed: 12/05/2019 11:56
 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 180-300399/5	5120505.D	12/05/2019 10:52
HD-COD-SW-6-0/1-0	180-99101-1	5120511.D	12/05/2019 13:55
HD-COD-SW-7-0/1-0	180-99101-2	5120512.D	12/05/2019 14:19
HD-COD-SW-8-0/1-0	180-99101-3	5120513.D	12/05/2019 14:44
HD-COD-SW-9-0/1-0	180-99101-4	5120514.D	12/05/2019 15:08
HD-COD-SW-13-0/1-0	180-99101-5	5120515.D	12/05/2019 15:32
HD-COD-SW-15-0/1-0	180-99101-6	5120516.D	12/05/2019 15:57
HD-COD-SW-16-0/1-0	180-99101-7	5120517.D	12/05/2019 16:21
HD-COD-SW-17-0/1-0	180-99101-8	5120518.D	12/05/2019 16:46
HD-COD-SW-26-0/1-0	180-99101-9	5120519.D	12/05/2019 17:10
HD-COD-SW-27-0/1-0	180-99101-10	5120520.D	12/05/2019 17:34
HD-COD-SW-28-0/1-0	180-99101-11	5120521.D	12/05/2019 17:58
HD-COD-SW-29-0/1-0	180-99101-12	5120522.D	12/05/2019 18:23
HD-COD-SW-6-0/1-0 MS	180-99101-1 MS	5120527.D	12/05/2019 20:25
HD-COD-SW-6-0/1-0 MSD	180-99101-1 MSD	5120528.D	12/05/2019 20:49
HD-QC1-0/1-1	180-99101-13	5120532.D	12/05/2019 22:27

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Lab File ID: 5121307.D Lab Sample ID: MB 180-301313/7
 Matrix: Water Heated Purge: (Y/N) N
 Instrument ID: CHHP5 Date Analyzed: 12/13/2019 13:01
 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 180-301313/5	5121305.D	12/13/2019 12:01
HD-COD-SW-13-0/1-0 RA	180-99101-5 RA	5121323.D	12/13/2019 19:47
HD-COD-SW-16-0/1-0 RA	180-99101-7 RA	5121324.D	12/13/2019 20:12
HD-COD-SW-26-0/1-0 RA	180-99101-9 RA	5121325.D	12/13/2019 20:36
HD-COD-SW-27-0/1-0 RA	180-99101-10 RA	5121326.D	12/13/2019 21:01
HD-QC1-0/1-1 RA	180-99101-13 RA	5121327.D	12/13/2019 21:25

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Lab File ID: 5112901.D BFB Injection Date: 11/29/2019

Instrument ID: CHHP5 BFB Injection Time: 10:22

Analysis Batch No.: 299818

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	48.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.2	
173	Less than 2.0 % of mass 174	0.3	(0.3) 1
174	50.0 - 120.00 % of mass 95	92.7	
175	5.0 - 9.0 % of mass 174	6.6	(7.1) 1
176	95.0 - 101.0 % of mass 174	89.0	(96.0) 1
177	5.0 - 9.0 % of mass 176	7.1	(8.0) 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 180-299818/4	5112904.D	11/29/2019	11:46
	IC 180-299818/5	5112905.D	11/29/2019	12:10
	ICIS 180-299818/6	5112906.D	11/29/2019	12:34
	IC 180-299818/7	5112907.D	11/29/2019	12:58
	IC 180-299818/8	5112908.D	11/29/2019	13:23
	IC 180-299818/9	5112909.D	11/29/2019	13:47
	IC 180-299818/10	5112910.D	11/29/2019	14:12
	IC 180-299818/11	5112911.D	11/29/2019	14:36

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Lab File ID: 5120501.D BFB Injection Date: 12/05/2019

Instrument ID: CHHP5 BFB Injection Time: 09:20

Analysis Batch No.: 300399

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.8	
75	30.0 - 60.0 % of mass 95	47.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	96.6	
175	5.0 - 9.0 % of mass 174	8.2	(8.5) 1
176	95.0 - 101.0 % of mass 174	92.2	(95.4) 1
177	5.0 - 9.0 % of mass 176	5.1	(5.5) 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 180-300399/2	5120502.D	12/05/2019	10:04
	CCV 180-300399/3	5120503.D	12/05/2019	10:28
	LCS 180-300399/5	5120505.D	12/05/2019	10:52
	MB 180-300399/7	5120507.D	12/05/2019	11:56
HD-COD-SW-6-0/1-0	180-99101-1	5120511.D	12/05/2019	13:55
HD-COD-SW-7-0/1-0	180-99101-2	5120512.D	12/05/2019	14:19
HD-COD-SW-8-0/1-0	180-99101-3	5120513.D	12/05/2019	14:44
HD-COD-SW-9-0/1-0	180-99101-4	5120514.D	12/05/2019	15:08
HD-COD-SW-13-0/1-0	180-99101-5	5120515.D	12/05/2019	15:32
HD-COD-SW-15-0/1-0	180-99101-6	5120516.D	12/05/2019	15:57
HD-COD-SW-16-0/1-0	180-99101-7	5120517.D	12/05/2019	16:21
HD-COD-SW-17-0/1-0	180-99101-8	5120518.D	12/05/2019	16:46
HD-COD-SW-26-0/1-0	180-99101-9	5120519.D	12/05/2019	17:10
HD-COD-SW-27-0/1-0	180-99101-10	5120520.D	12/05/2019	17:34
HD-COD-SW-28-0/1-0	180-99101-11	5120521.D	12/05/2019	17:58
HD-COD-SW-29-0/1-0	180-99101-12	5120522.D	12/05/2019	18:23
HD-COD-SW-6-0/1-0 MS	180-99101-1 MS	5120527.D	12/05/2019	20:25
HD-COD-SW-6-0/1-0 MSD	180-99101-1 MSD	5120528.D	12/05/2019	20:49
HD-QC1-0/1-1	180-99101-13	5120532.D	12/05/2019	22:27

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Lab File ID: 5121301C.D BFB Injection Date: 12/13/2019

Instrument ID: CHHP5 BFB Injection Time: 10:38

Analysis Batch No.: 301313

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.9
75	30.0 - 60.0 % of mass 95	49.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.7
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	101.8
175	5.0 - 9.0 % of mass 174	8.4 (8.3) 1
176	95.0 - 101.0 % of mass 174	98.5 (96.7) 1
177	5.0 - 9.0 % of mass 176	8.0 (8.2) 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 180-301313/2	5121302.D	12/13/2019	11:12
	LCS 180-301313/5	5121305.D	12/13/2019	12:01
	MB 180-301313/7	5121307.D	12/13/2019	13:01
HD-COD-SW-13-0/1-0 RA	180-99101-5 RA	5121323.D	12/13/2019	19:47
HD-COD-SW-16-0/1-0 RA	180-99101-7 RA	5121324.D	12/13/2019	20:12
HD-COD-SW-26-0/1-0 RA	180-99101-9 RA	5121325.D	12/13/2019	20:36
HD-COD-SW-27-0/1-0 RA	180-99101-10 RA	5121326.D	12/13/2019	21:01
HD-QC1-0/1-1 RA	180-99101-13 RA	5121327.D	12/13/2019	21:25

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Sample No.: CCVIS 180-300399/2 Date Analyzed: 12/05/2019 10:04
 Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm)
 Lab File ID (Standard): 5120502.D Heated Purge: (Y/N) N
 Calibration ID: 42163

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	231599	4.54	574986	7.49	144546	10.59	
UPPER LIMIT	463198	5.04	1149972	7.99	289092	11.09	
LOWER LIMIT	115800	4.04	287493	6.99	72273	10.09	
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-300399/3		214671	4.53	612811	7.50	149463	10.59
LCS 180-300399/5		239883	4.56	581666	7.50	140363	10.58
MB 180-300399/7		232128	4.53	465577	7.50	121649	10.58
180-99101-1	HD-COD-SW-6-0/1-0	211779	4.53	436961	7.50	111841	10.58
180-99101-2	HD-COD-SW-7-0/1-0	199250	4.53	444016	7.50	117092	10.58
180-99101-3	HD-COD-SW-8-0/1-0	203162	4.54	434958	7.50	117965	10.58
180-99101-4	HD-COD-SW-9-0/1-0	211676	4.54	447992	7.50	119283	10.59
180-99101-5	HD-COD-SW-13-0/1-0	212907	4.53	433233	7.50	113772	10.59
180-99101-6	HD-COD-SW-15-0/1-0	210362	4.54	438767	7.50	112391	10.58
180-99101-7	HD-COD-SW-16-0/1-0	197175	4.53	429364	7.50	107470	10.59
180-99101-8	HD-COD-SW-17-0/1-0	190356	4.54	424258	7.50	104712	10.58
180-99101-9	HD-COD-SW-26-0/1-0	197455	4.54	433931	7.50	109370	10.58
180-99101-10	HD-COD-SW-27-0/1-0	196780	4.53	435823	7.50	112055	10.59
180-99101-11	HD-COD-SW-28-0/1-0	209238	4.54	439061	7.50	114136	10.59
180-99101-12	HD-COD-SW-29-0/1-0	207996	4.54	426304	7.50	111962	10.59
180-99101-1 MS	HD-COD-SW-6-0/1-0 MS	230635	4.55	548099	7.50	138573	10.58
180-99101-1 MSD	HD-COD-SW-6-0/1-0 MSD	229845	4.56	538359	7.50	139511	10.58
180-99101-13	HD-QC1-0/1-1	201421	4.53	445499	7.50	113055	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
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Sample No.: CCVIS 180-300399/2 Date Analyzed: 12/05/2019 10:04
 Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm)
 Lab File ID (Standard): 5120502.D Heated Purge: (Y/N) N
 Calibration ID: 42163

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		277214	12.92				
UPPER LIMIT		554428	13.42				
LOWER LIMIT		138607	12.42				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-300399/3		182883	12.92				
LCS 180-300399/5		283537	12.92				
MB 180-300399/7		168335	12.92				
180-99101-1	HD-COD-SW-6-0/1-0	155031	12.92				
180-99101-2	HD-COD-SW-7-0/1-0	129905*	12.92				
180-99101-3	HD-COD-SW-8-0/1-0	144211	12.92				
180-99101-4	HD-COD-SW-9-0/1-0	144627	12.92				
180-99101-5	HD-COD-SW-13-0/1-0	108572*	12.92				
180-99101-6	HD-COD-SW-15-0/1-0	120409*	12.92				
180-99101-7	HD-COD-SW-16-0/1-0	111620*	12.92				
180-99101-8	HD-COD-SW-17-0/1-0	117453*	12.92				
180-99101-9	HD-COD-SW-26-0/1-0	107928*	12.92				
180-99101-10	HD-COD-SW-27-0/1-0	116447*	12.92				
180-99101-11	HD-COD-SW-28-0/1-0	123841*	12.92				
180-99101-12	HD-COD-SW-29-0/1-0	141721	12.92				
180-99101-1 MS	HD-COD-SW-6-0/1-0 MS	261880	12.92				
180-99101-1 MSD	HD-COD-SW-6-0/1-0 MSD	253684	12.92				
180-99101-13	HD-QC1-0/1-1	113360*	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
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Sample No.: CCVIS 180-301313/2 Date Analyzed: 12/13/2019 11:12
 Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm)
 Lab File ID (Standard): 5121302.D Heated Purge: (Y/N) N
 Calibration ID: 42163

	TBA _d 9		FB		CBN _{Zd} 5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	88921	4.42	500718	7.39	112088	10.48	
UPPER LIMIT	177842	4.92	1001436	7.89	224176	10.98	
LOWER LIMIT	44461	3.92	250359	6.89	56044	9.98	
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-301313/5	116770	4.43	516981	7.39	128967	10.49	
MB 180-301313/7	139377	4.42	430970	7.40	113419	10.48	
180-99101-5 RA	HD-COD-SW-13-0/1-0 RA	100507	4.41	358294	7.40	93727	10.48
180-99101-7 RA	HD-COD-SW-16-0/1-0 RA	162837	4.42	425909	7.40	124170	10.48
180-99101-9 RA	HD-COD-SW-26-0/1-0 RA	166554	4.43	415716	7.40	126504	10.49
180-99101-10 RA	HD-COD-SW-27-0/1-0 RA	93652	4.42	380736	7.40	100940	10.49
180-99101-13 RA	HD-QC1-0/1-1 RA	177333	4.43	398166	7.40	118983	10.49

TBA_d9 = TBA-d9 (IS)

FB = Fluorobenzene (IS)

CBN_{Zd}5 = 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
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Sample No.: CCVIS 180-301313/2 Date Analyzed: 12/13/2019 11:12
 Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm)
 Lab File ID (Standard): 5121302.D Heated Purge: (Y/N) N
 Calibration ID: 42163

	DCBd4		AREA #	RT #	AREA #	RT #
	AREA #	RT #				
12/24 HOUR STD	188560	12.82				
UPPER LIMIT	377120	13.32				
LOWER LIMIT	94280	12.32				
LAB SAMPLE ID	CLIENT SAMPLE ID					
LCS 180-301313/5		212833	12.82			
MB 180-301313/7		162208	12.82			
180-99101-5 RA	HD-COD-SW-13-0/1-0 RA	135340	12.82			
180-99101-7 RA	HD-COD-SW-16-0/1-0 RA	215789	12.82			
180-99101-9 RA	HD-COD-SW-26-0/1-0 RA	206398	12.82			
180-99101-10 RA	HD-COD-SW-27-0/1-0 RA	144563	12.82			
180-99101-13 RA	HD-QC1-0/1-1 RA	207451	12.82			

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 I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 Lab Sample ID: 180-99101-1
 Matrix: Water Lab File ID: 5120511.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 13:55
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 Lab Sample ID: 180-99101-1
 Matrix: Water Lab File ID: 5120511.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 13:55
 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.: 300399 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)	90		78-128
460-00-4	4-Bromofluorobenzene (Surr)	70		64-123
1868-53-7	Dibromofluoromethane (Surr)	115		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Lims ID: 180-99101-B-1
 Client ID: HD-COD-SW-6-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 13:55:30 ALS Bottle#: 4 Worklist Smp#: 11
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-011
 Misc. Info.: 180-99101-b-1
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:07:53 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:07:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.531	4.544	-0.013	0	211779	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	436961	50.0	
* 3 Chlorobenzene-d5	119	10.578	10.585	-0.007	84	111841	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	93	155031	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.782	6.770	0.012	94	126586	57.3	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	155432	54.3	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	93	417083	44.9	
\$ 8 4-Bromofluorobenzene (Surr	95	11.764	11.759	0.005	95	127062	35.1	
11 Dichlorodifluoromethane	85		1.703				ND	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
14 Butadiene	39		2.062				ND	U
15 Bromomethane	94		2.384				ND	
16 Chloroethane	64		2.548				ND	
19 Ethanol	45		2.640				ND	
17 Dichlorofluoromethane	67		2.847				ND	U
18 Trichlorofluoromethane	101		2.865				ND	
20 Ethyl ether	59		3.254				ND	U
21 Acrolein	56		3.449				ND	
22 1,1-Dichloroethene	96		3.571				ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.650				ND	
24 Acetone	43	3.679	3.674	0.005	85	12981	14.5	
25 Iodomethane	142		3.771				ND	
26 Carbon disulfide	76	3.868	3.869	-0.001	35	3601	0.6130	a
27 Isopropyl alcohol	45	3.990	3.990	0.000	93	22673	154.0	
29 Acetonitrile	41		4.148				ND	
28 3-Chloro-1-propene	76		4.191				ND	
30 Methyl acetate	43		4.209				ND	
31 Methylene Chloride	84	4.409	4.398	0.011	35	6804	0.1030	
32 2-Methyl-2-propanol	59		4.666				ND	
33 Acrylonitrile	53		4.787				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
36 Hexane	57		5.219				ND	U
37 1,1-Dichloroethane	63		5.438				ND	
38 Vinyl acetate	43		5.487				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		6.174				ND	U
45 cis-1,2-Dichloroethene	96	6.180	6.174	0.006	6	1364	0.5117	a
46 2-Butanone (MEK)	43		6.186				ND	
48 Ethyl acetate	43		6.259				ND	U
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	6.605	6.600	0.005	3	1755	-3.67	
53 1,1,1-Trichloroethane	97		6.758				ND	
54 Cyclohexane	56		6.819				ND	
56 Carbon tetrachloride	117		6.923				ND	
55 1,1-Dichloropropene	75		6.941				ND	
57 Isobutyl alcohol	41		7.148				ND	U
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	U
151 Isooctane	57		7.305				ND	
61 Tert-amyl methyl ether	73		7.330				ND	U
62 n-Heptane	43		7.507				ND	U
63 n-Butanol	56	7.865	7.841	0.024	26	995	16.7	
64 Trichloroethene	130	7.883	7.878	0.005	22	2321	0.8239	
65 Ethyl acrylate	55		7.999				ND	U
66 Methylcyclohexane	83		8.109				ND	
67 1,2-Dichloropropane	63		8.145				ND	U
69 Methyl methacrylate	69		8.230				ND	
68 Dibromomethane	93		8.230				ND	
70 1,4-Dioxane	88		8.230				ND	
71 Dichlorobromomethane	83		8.431				ND	
73 2-Chloroethyl vinyl ether	63		8.723				ND	
74 cis-1,3-Dichloropropene	75		8.875				ND	
75 4-Methyl-2-pentanone (MIBK)	43		9.027				ND	U
76 Toluene	91	9.203	9.198	0.005	93	8774	0.7992	
77 trans-1,3-Dichloropropene	75		9.441				ND	
78 Ethyl methacrylate	69		9.502				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	
80 Tetrachloroethene	164		9.709				ND	U
81 1,3-Dichloropropane	76		9.794				ND	
82 2-Hexanone	43		9.855				ND	U
83 n-Butyl acetate	43		9.970				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
86 3-Chlorobenzotrifluoride	180		10.445				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
90 Ethylbenzene	106		10.706				ND	U
88 4-Chlorobenzotrifluoride	180		10.779				ND	
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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		11.935				ND	U
101 1,2,3-Trichloropropane	110		11.954				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		12.556				ND	U
112 sec-Butylbenzene	105		12.720				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	
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		14.089				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		15.056				ND	
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 154 Total BTEX	106				0		0.7992	
S 134 1,2-Dichloroethene, Total	96				0		0.5117	
S 133 Xylenes, Total	106		1.000				ND	
S 135 1,3-Dichloropropene, Total	1		0.000				ND	
T 157 Ethanol TIC	45		0.000				ND	
T 156 2-ethoxy-2-methyl butane T	59		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D

Injection Date: 05-Dec-2019 13:55:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-B-1

Lab Sample ID: 180-99101-1

Worklist Smp#: 11

Client ID: HD-COD-SW-6-0/1-0

Purge Vol: 5.000 mL

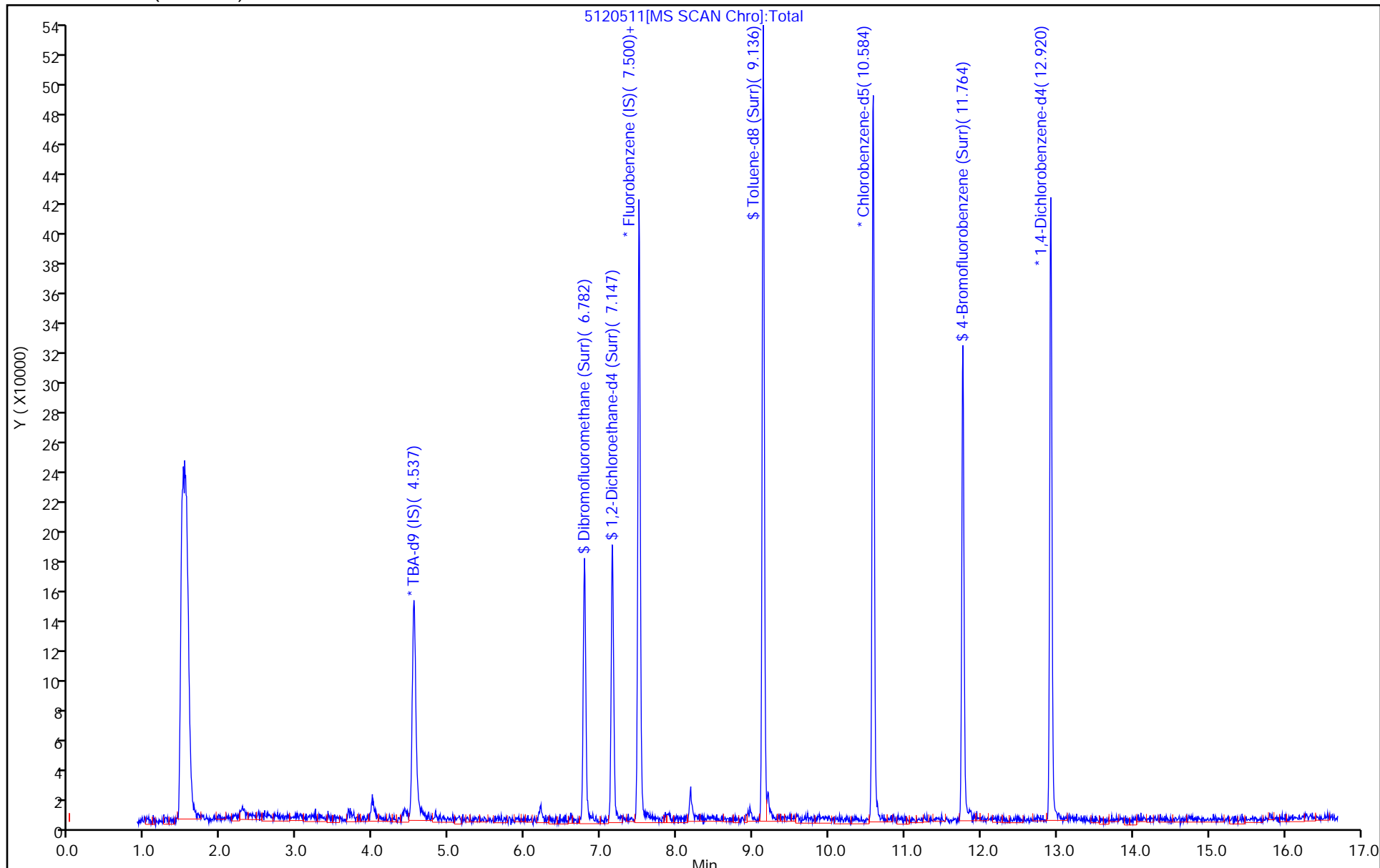
Dil. Factor: 1.0000

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\20191205-29868.b\5120511.D
 Lims ID: 180-99101-B-1
 Client ID: HD-COD-SW-6-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 13:55:30 ALS Bottle#: 4 Worklist Smp#: 11
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-011
 Misc. Info.: 180-99101-b-1
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:07:53 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:07:53

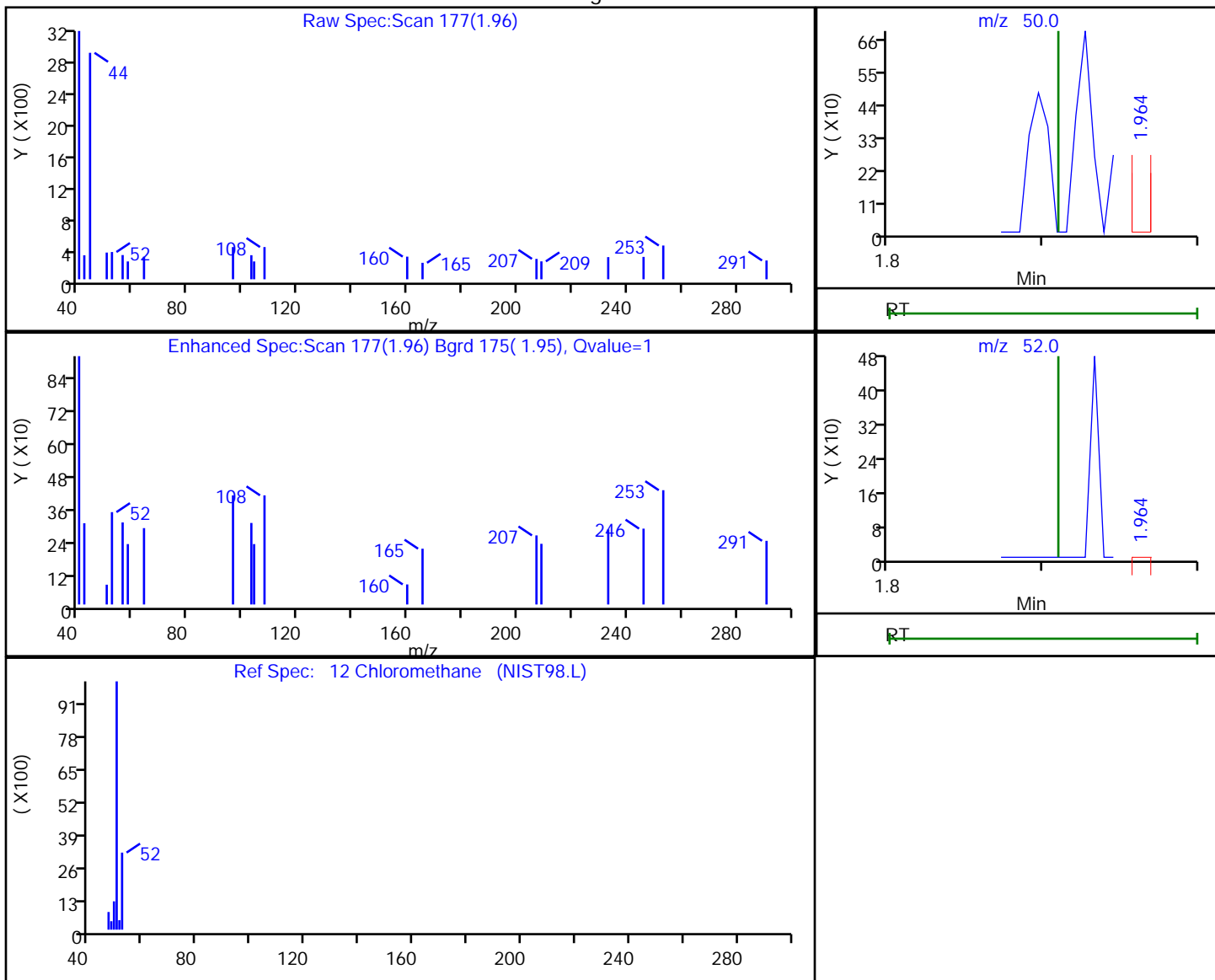
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	57.3	114.56
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.3	108.53
\$ 7 Toluene-d8 (Surr)	50.0	44.9	89.75
\$ 8 4-Bromofluorobenzene (Surr)	50.0	35.1	70.11

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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
1.96	50.00	122	0.060204
1.96	52.00	124	

Reviewer: bowieh, 06-Dec-2019 10:06:17

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

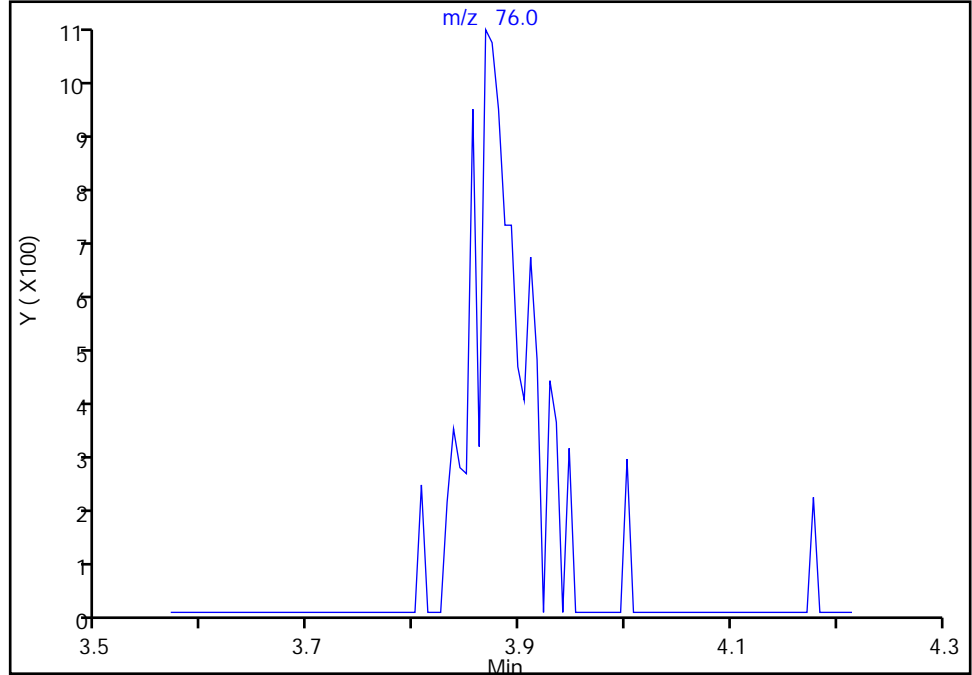
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
Client ID: HD-COD-SW-6-0/1-0
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
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

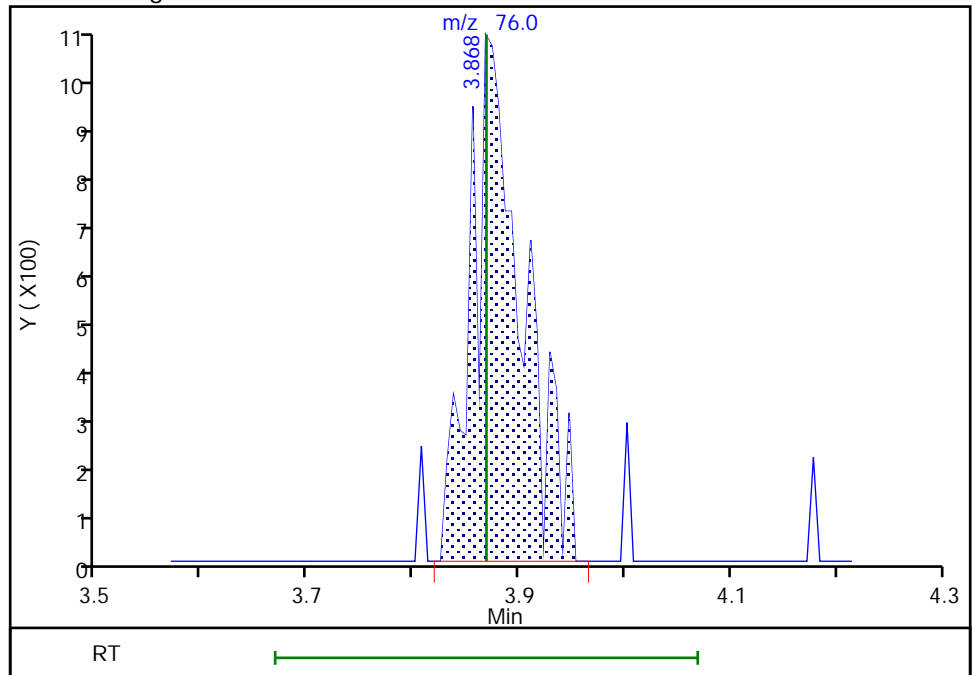
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 3601
Amount: 0.612977
Amount Units: ng



Reviewer: bowieh, 06-Dec-2019 10:06:29
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh

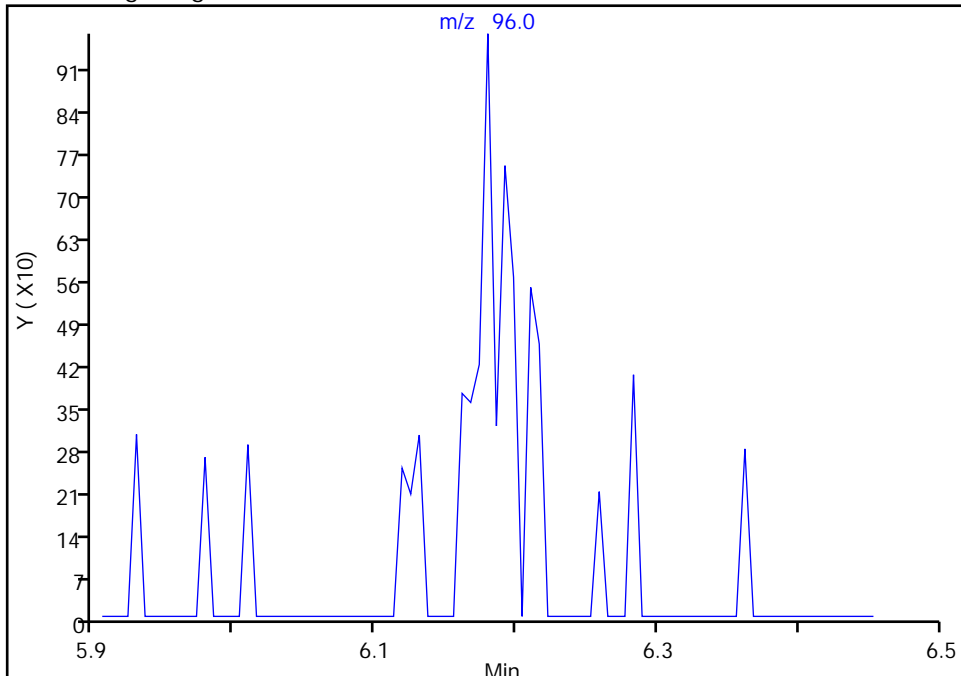
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
Client ID: HD-COD-SW-6-0/1-0
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
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

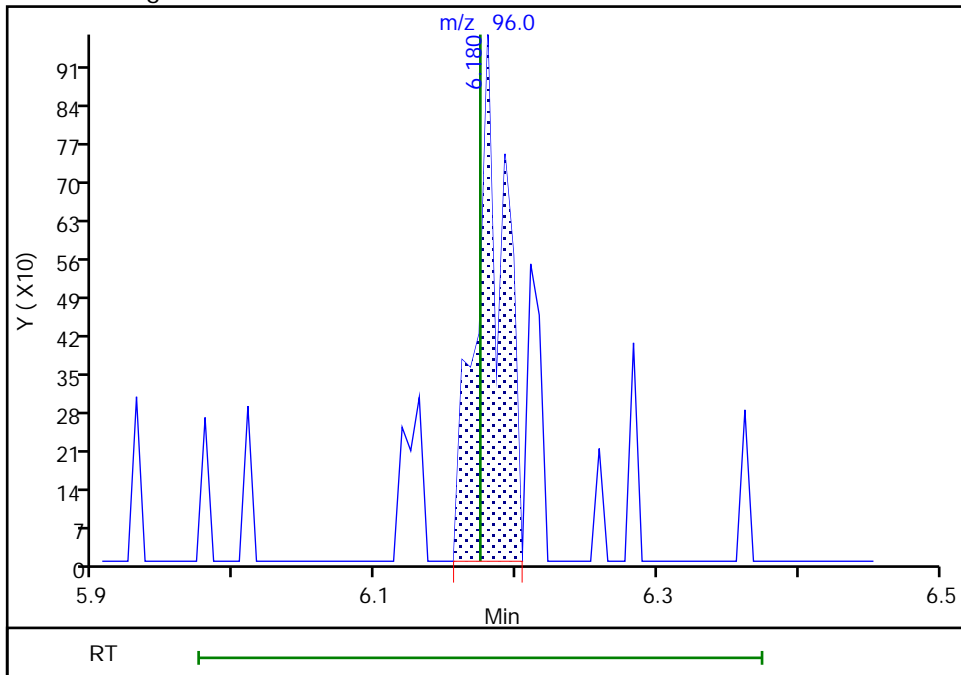
Signal: 1

Not Detected
Expected RT: 6.17

Processing Integration Results



Manual Integration Results



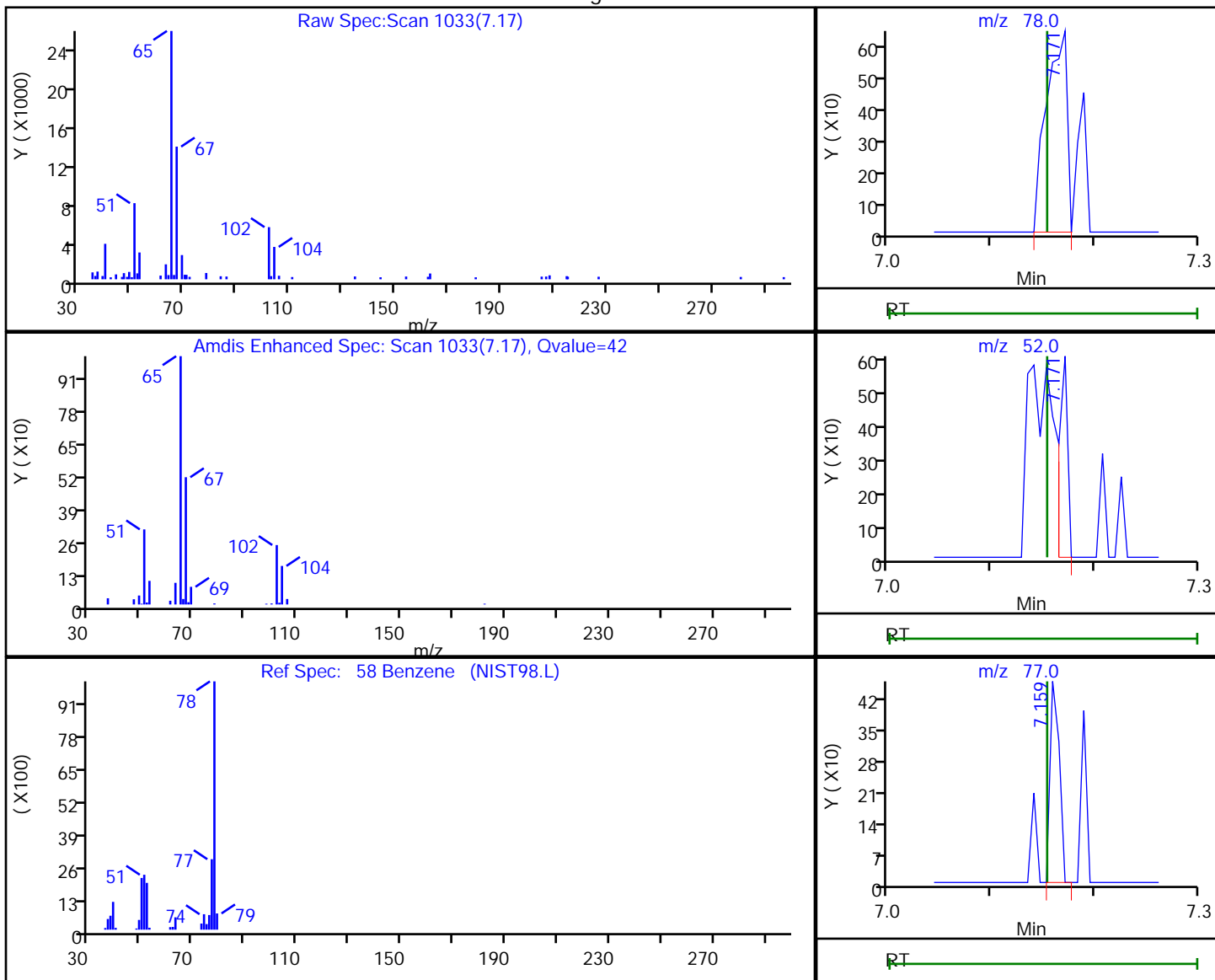
RT: 6.18
Area: 1364
Amount: 0.511674
Amount Units: ng

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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	893	0.090010
7.17	52.00	347	
7.16	77.00	283	

Reviewer: bowieh, 06-Dec-2019 10:06:58

Audit Action: Marked Compound Undetected

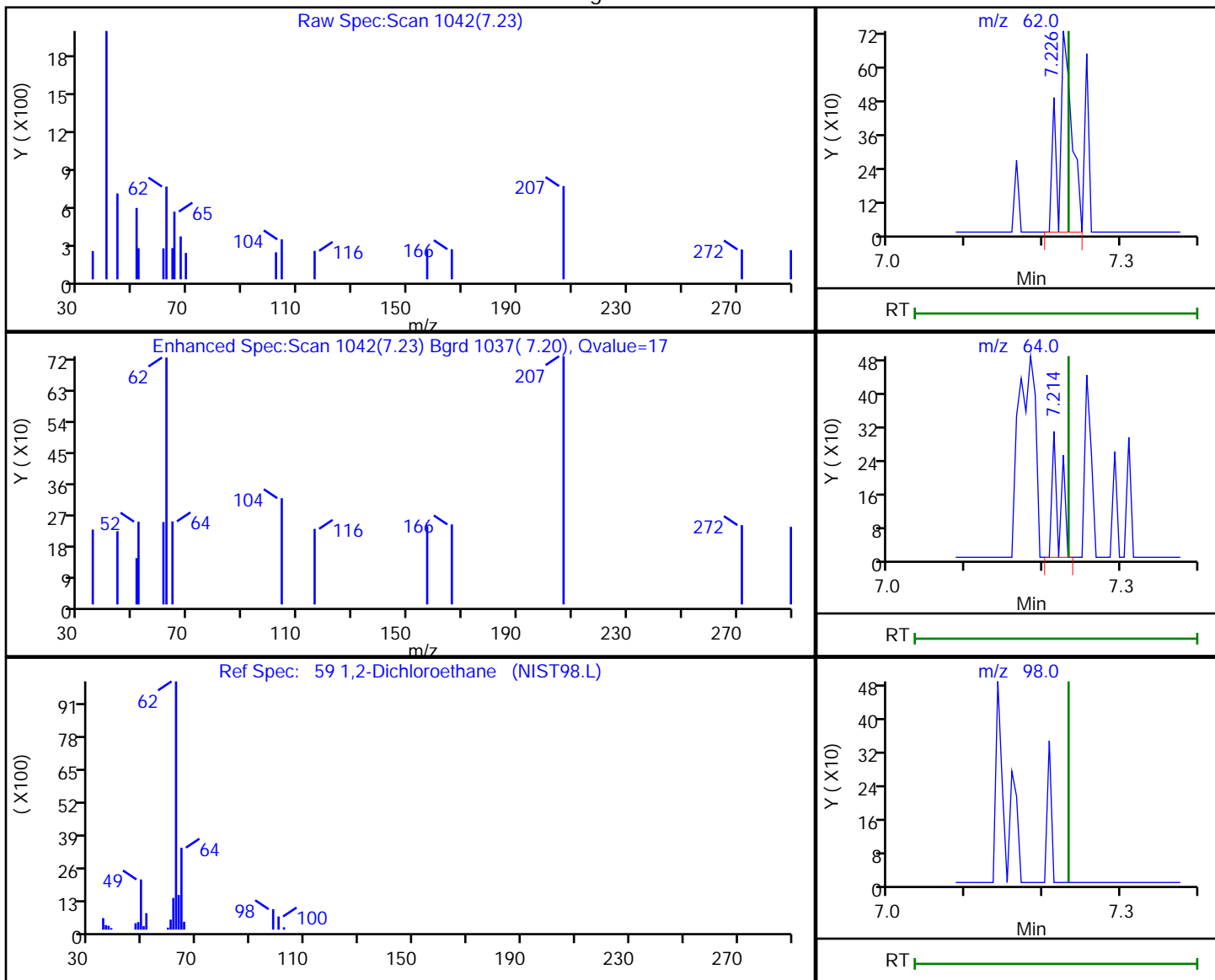
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.23	62.00	852	0.246483
7.21	64.00	199	
7.23	98.00	0	

Reviewer: bowieh, 06-Dec-2019 10:06:59

Audit Action: Marked Compound Undetected

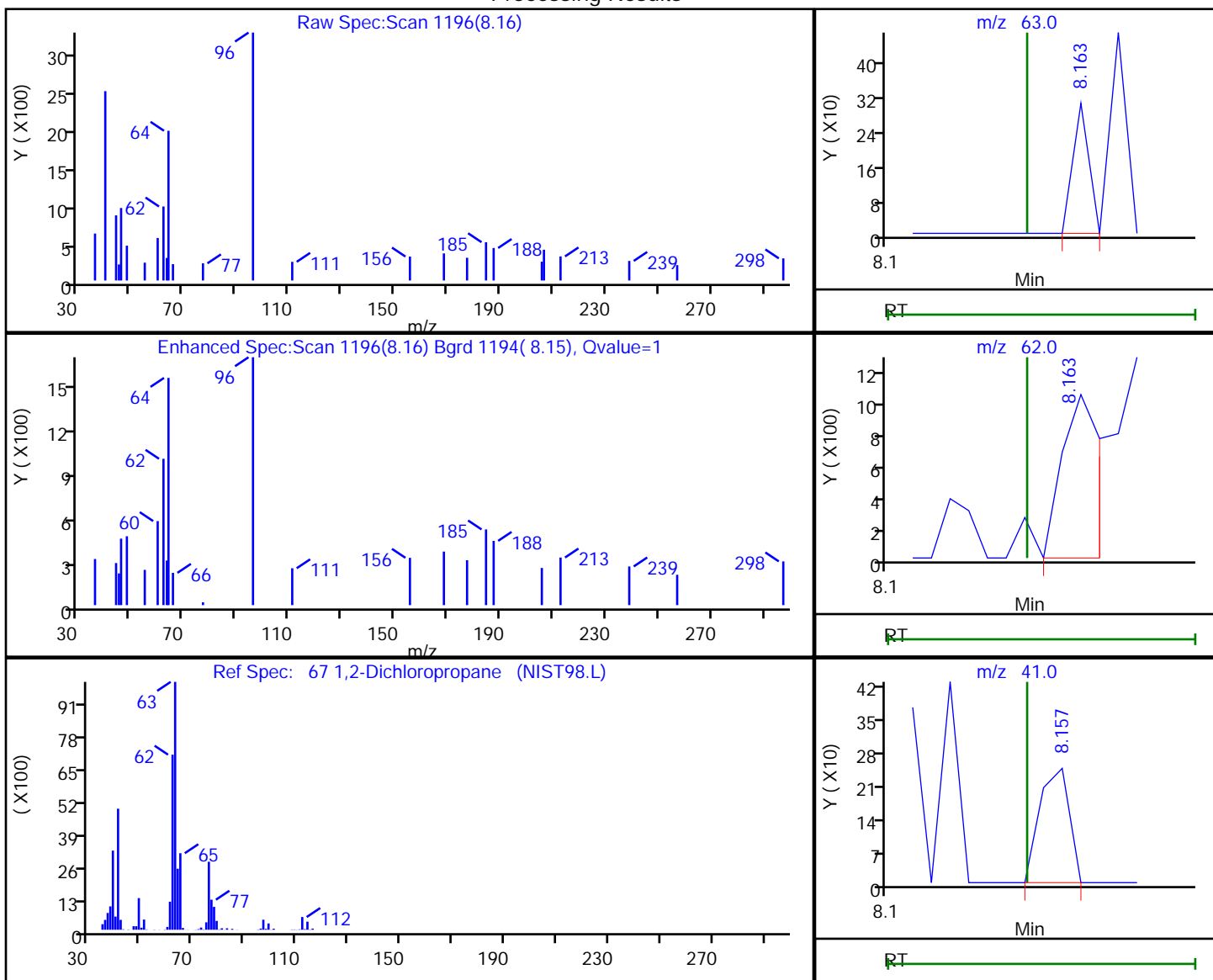
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.16	63.00	110	0.048253
8.16	62.00	854	
8.16	41.00	162	

Reviewer: bowieh, 06-Dec-2019 10:07:14

Audit Action: Marked Compound Undetected

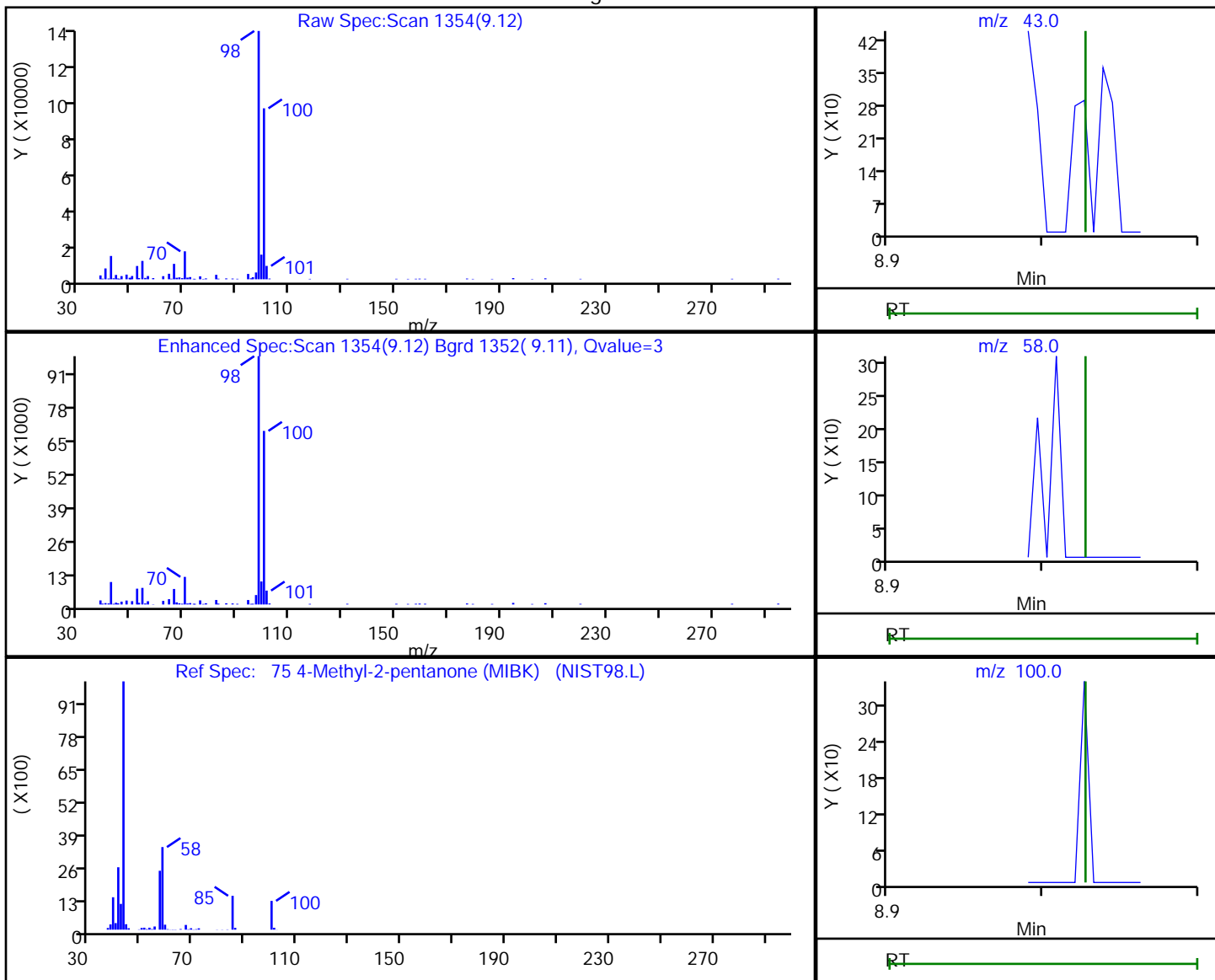
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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	357	0.197610
9.13	58.00	1695	
9.03	100.00	0	

Reviewer: bowieh, 06-Dec-2019 10:07:17

Audit Action: Marked Compound Undetected

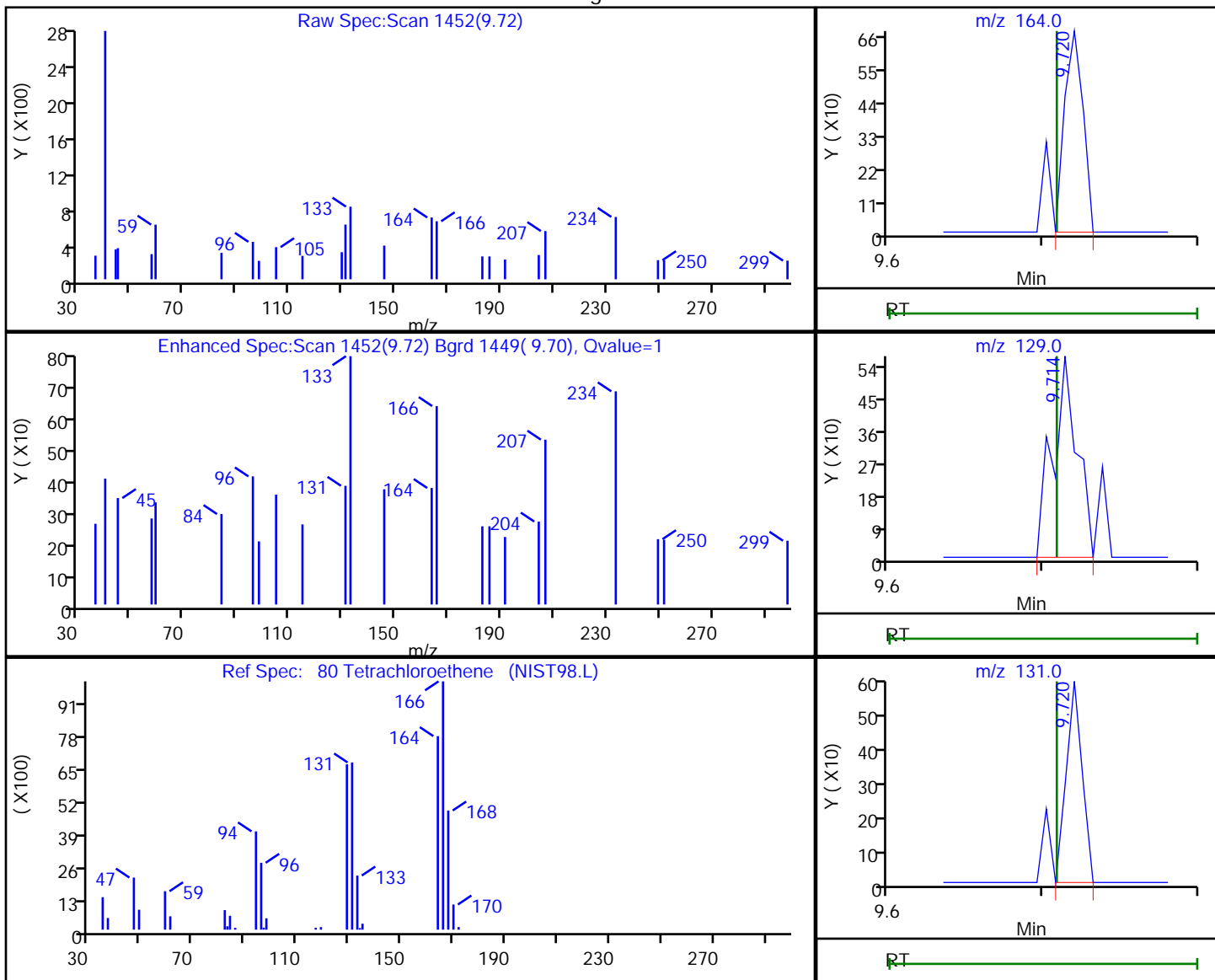
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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
9.72	164.00	557	0.220803
9.71	129.00	620	
9.72	131.00	425	

Reviewer: bowieh, 06-Dec-2019 10:07:21
 Audit Action: Marked Compound Undetected

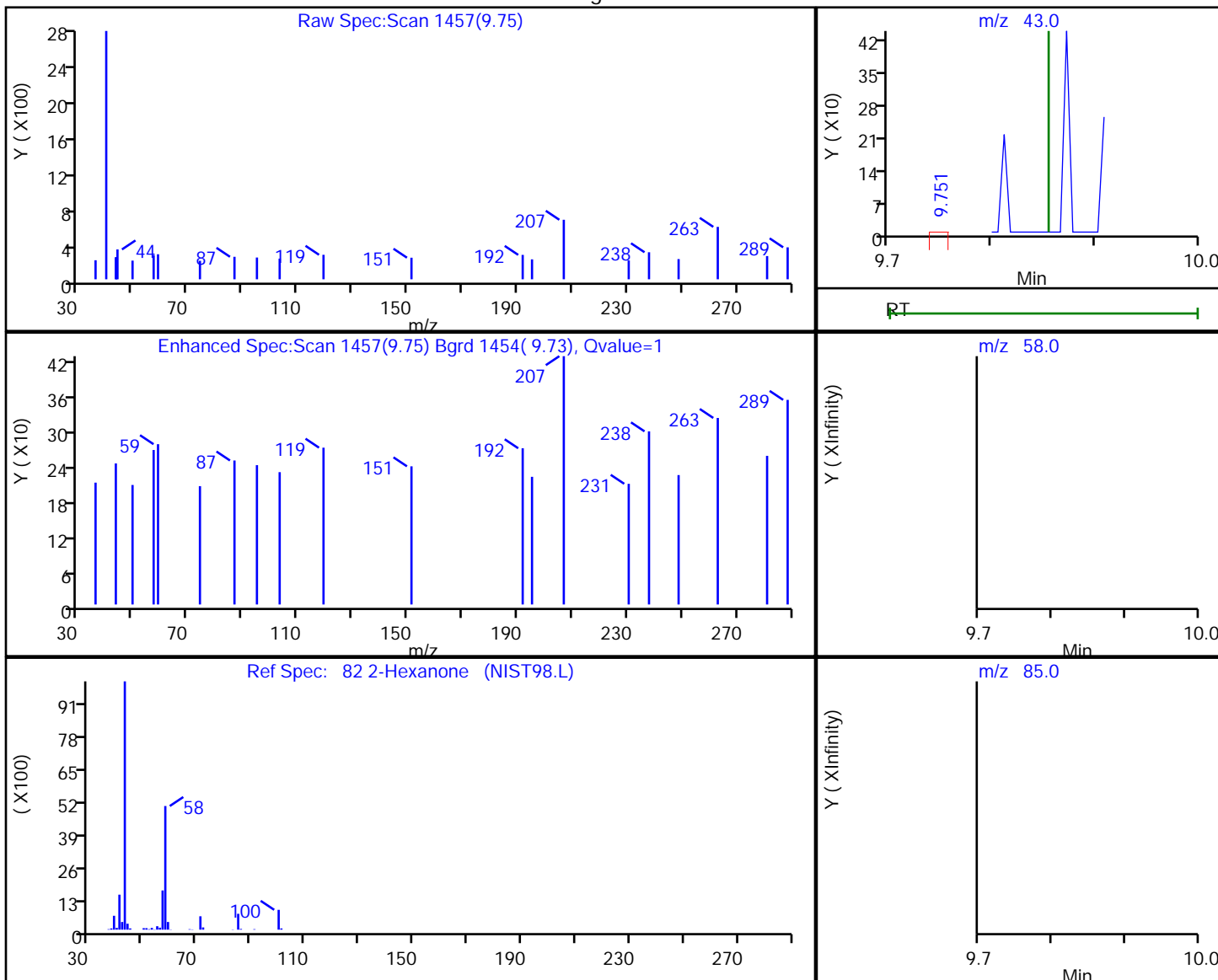
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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
9.75	43.00	292	12.918071
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:07:23

Audit Action: Marked Compound Undetected

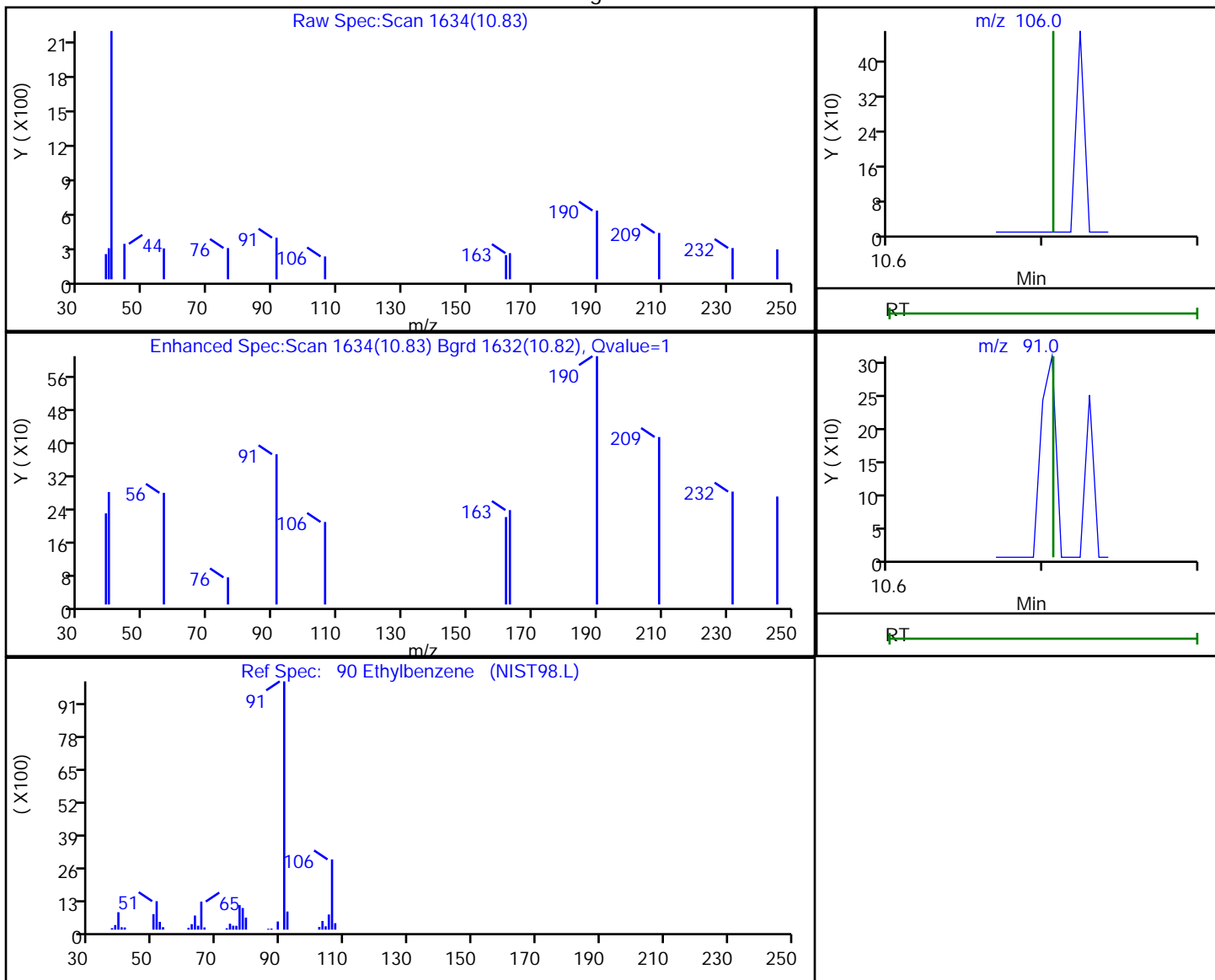
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120511.D
 Injection Date: 05-Dec-2019 13:55:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-1 Lab Sample ID: 180-99101-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 11
 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	73	0.019022
10.82	91.00	287	

Reviewer: bowieh, 06-Dec-2019 10:07:28

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-7-0/1-0 Lab Sample ID: 180-99101-2
 Matrix: Water Lab File ID: 5120512.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 13:50
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 14:19
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-7-0/1-0 Lab Sample ID: 180-99101-2
 Matrix: Water Lab File ID: 5120512.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 13:50
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 14:19
 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.: 300399 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)	103		70-150
2037-26-5	Toluene-d8 (Surr)	86		78-128
460-00-4	4-Bromofluorobenzene (Surr)	65		64-123
1868-53-7	Dibromofluoromethane (Surr)	114		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Lims ID: 180-99101-A-2
 Client ID: HD-COD-SW-7-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 14:19:30 ALS Bottle#: 5 Worklist Smp#: 12
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-012
 Misc. Info.: 180-99101-a-2
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:13:08 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:13:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.525	4.544	-0.019	0	199250	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	444016	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	83	117092	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	94	129905	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.782	6.770	0.012	94	128433	57.2	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	150075	51.6	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	92	416101	42.8	
\$ 8 4-Bromofluorobenzene (Surr	95	11.758	11.759	-0.001	94	122432	32.3	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.703	3.674	0.029	82	7213	7.94	
26 Carbon disulfide	76	3.874	3.869	0.005	60	3849	0.6448	a
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96		6.174				ND	U
46 2-Butanone (MEK)	43		6.186				ND	U
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83		6.600				ND	U
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.889	7.878	0.011	27	3259	1.14	M
67 1,2-Dichloropropane	63		8.145				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	9.203	9.198	0.005	46	4619	0.4019	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164		9.709				ND	U
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106	10.839	10.834	0.005	0	587	0.1170	
92 o-Xylene	106		11.217				ND	
93 Styrene	104		11.242				ND	
94 Bromoform	173		11.424				ND	
99 1,1,2,2-Tetrachloroethane	83		11.899				ND	U
S 133 Xylenes, Total	106				0		0.1170	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D

Injection Date: 05-Dec-2019 14:19:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-2

Lab Sample ID: 180-99101-2

Worklist Smp#: 12

Client ID: HD-COD-SW-7-0/1-0

Purge Vol: 5.000 mL

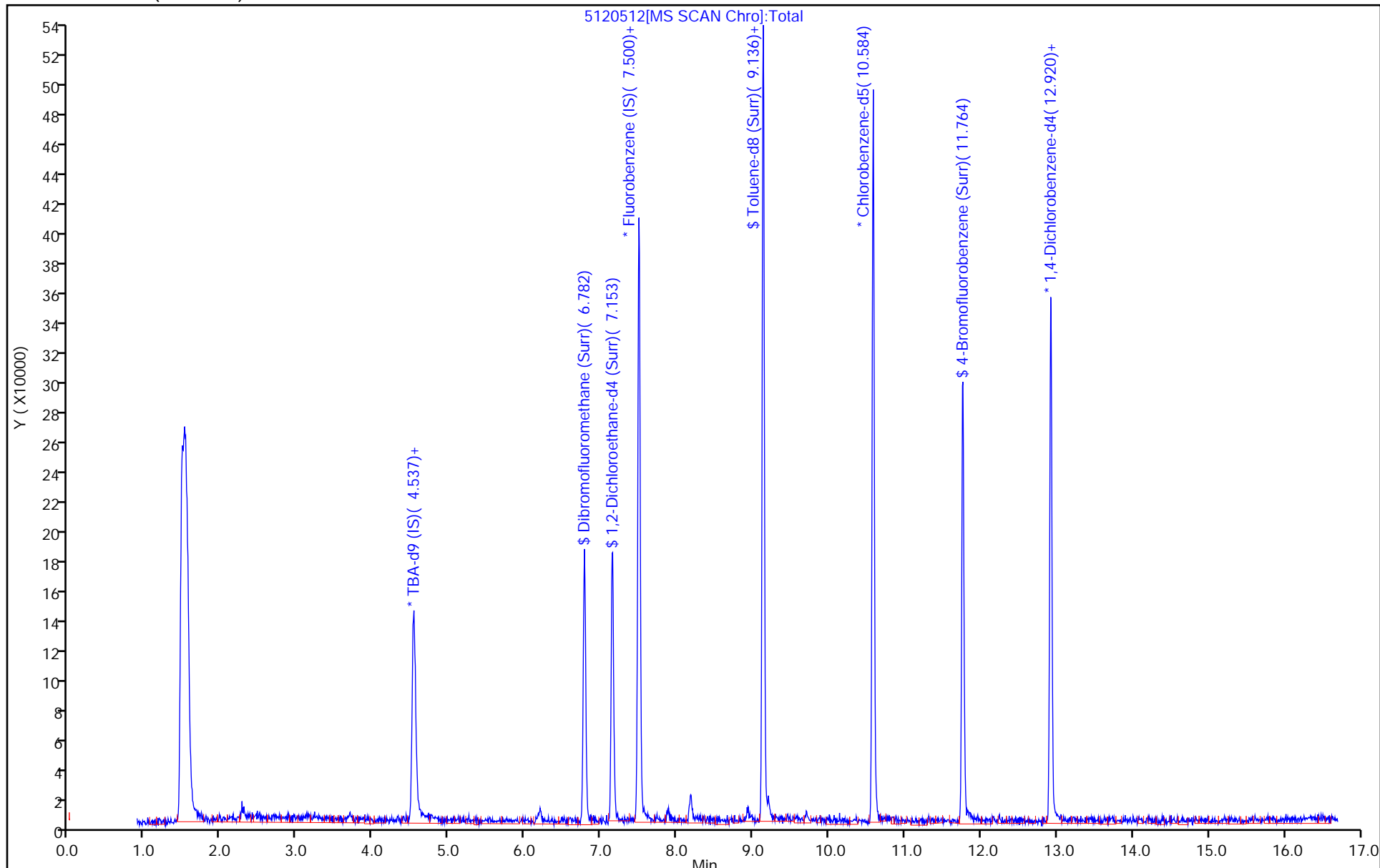
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Lims ID: 180-99101-A-2
 Client ID: HD-COD-SW-7-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 14:19:30 ALS Bottle#: 5 Worklist Smp#: 12
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-012
 Misc. Info.: 180-99101-a-2
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:13:08 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:13:08

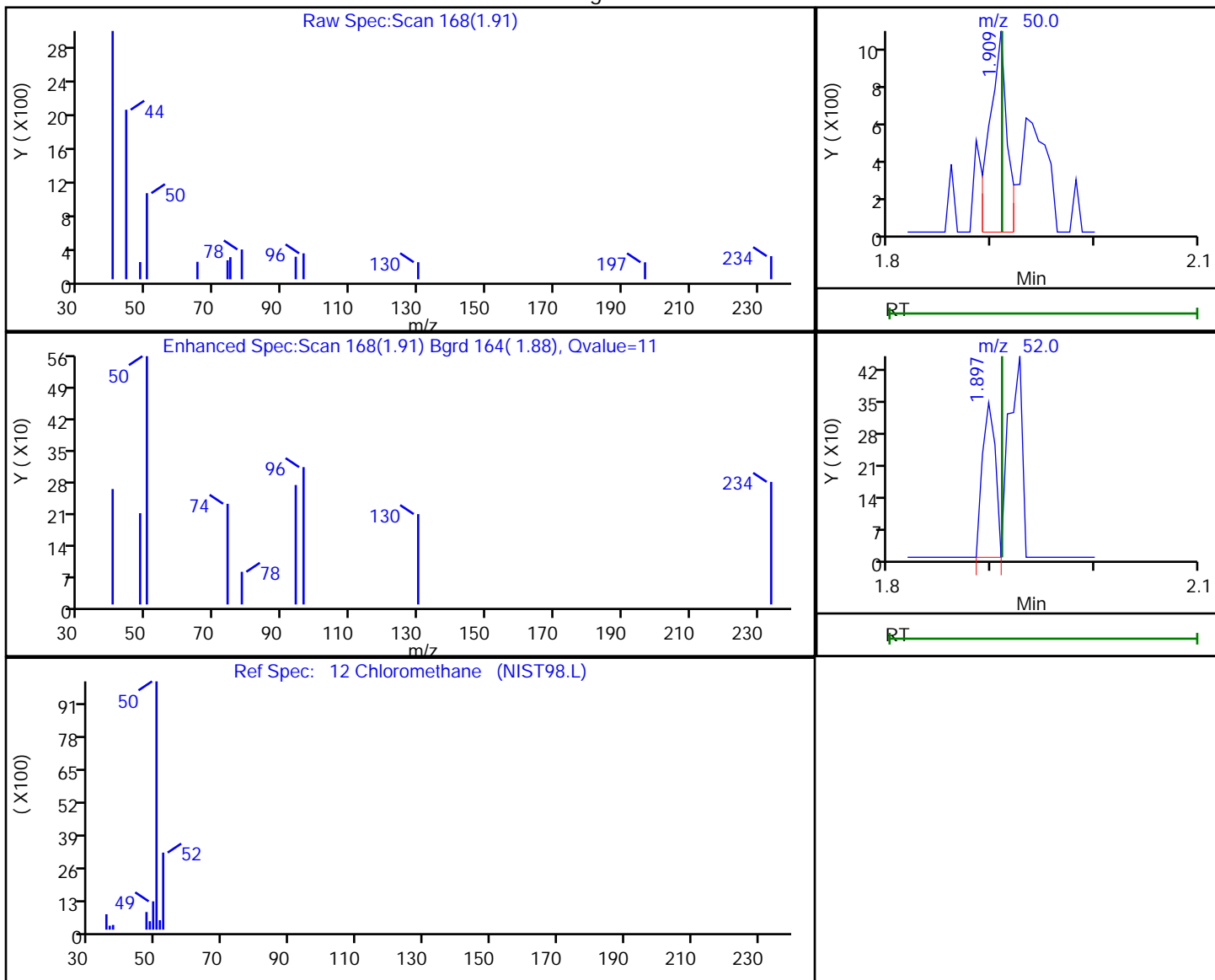
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	57.2	114.38
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	51.6	103.13
\$ 7 Toluene-d8 (Surr)	50.0	42.8	85.52
\$ 8 4-Bromofluorobenzene (Surr)	50.0	32.3	64.52

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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	1186	0.575966
1.90	52.00	300	

Reviewer: bowieh, 06-Dec-2019 10:09:55

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

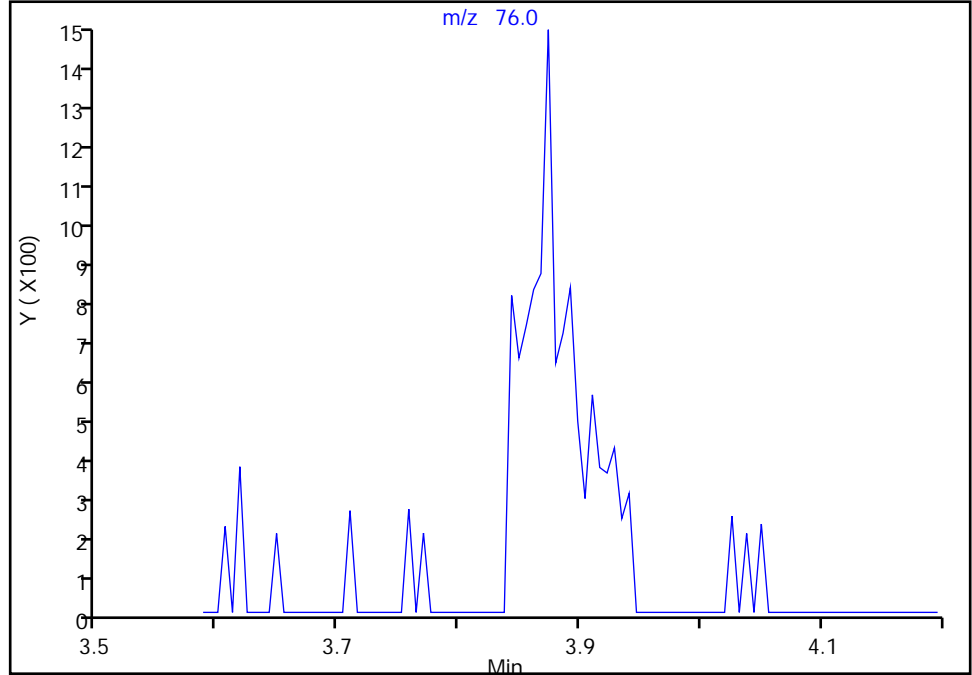
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Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

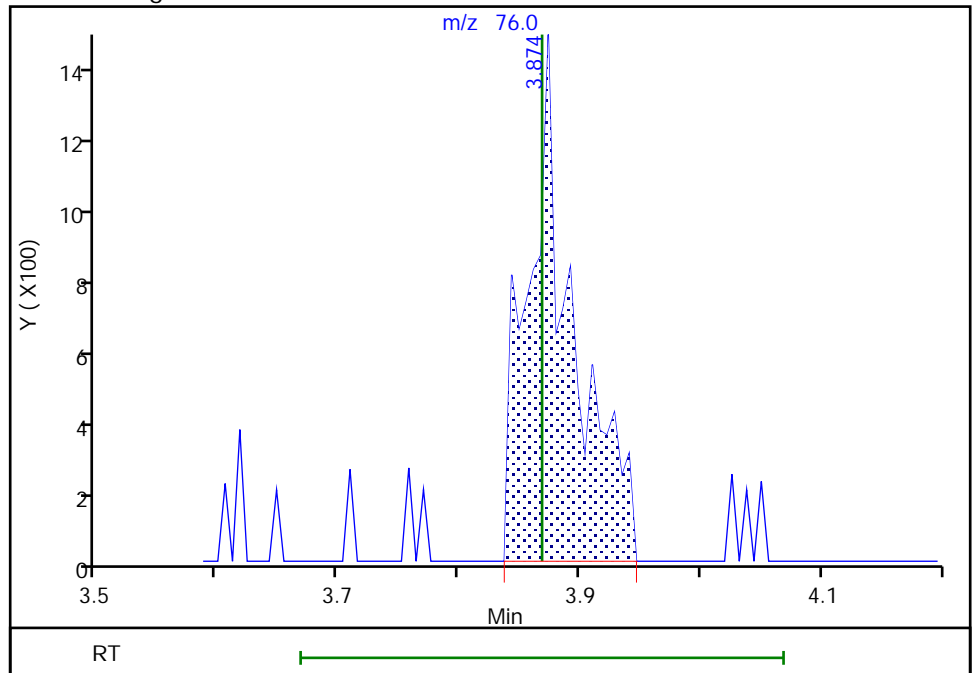
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 3849
Amount: 0.644782
Amount Units: ng



Reviewer: bowieh, 06-Dec-2019 10:10:37
Audit Action: Assigned Compound ID

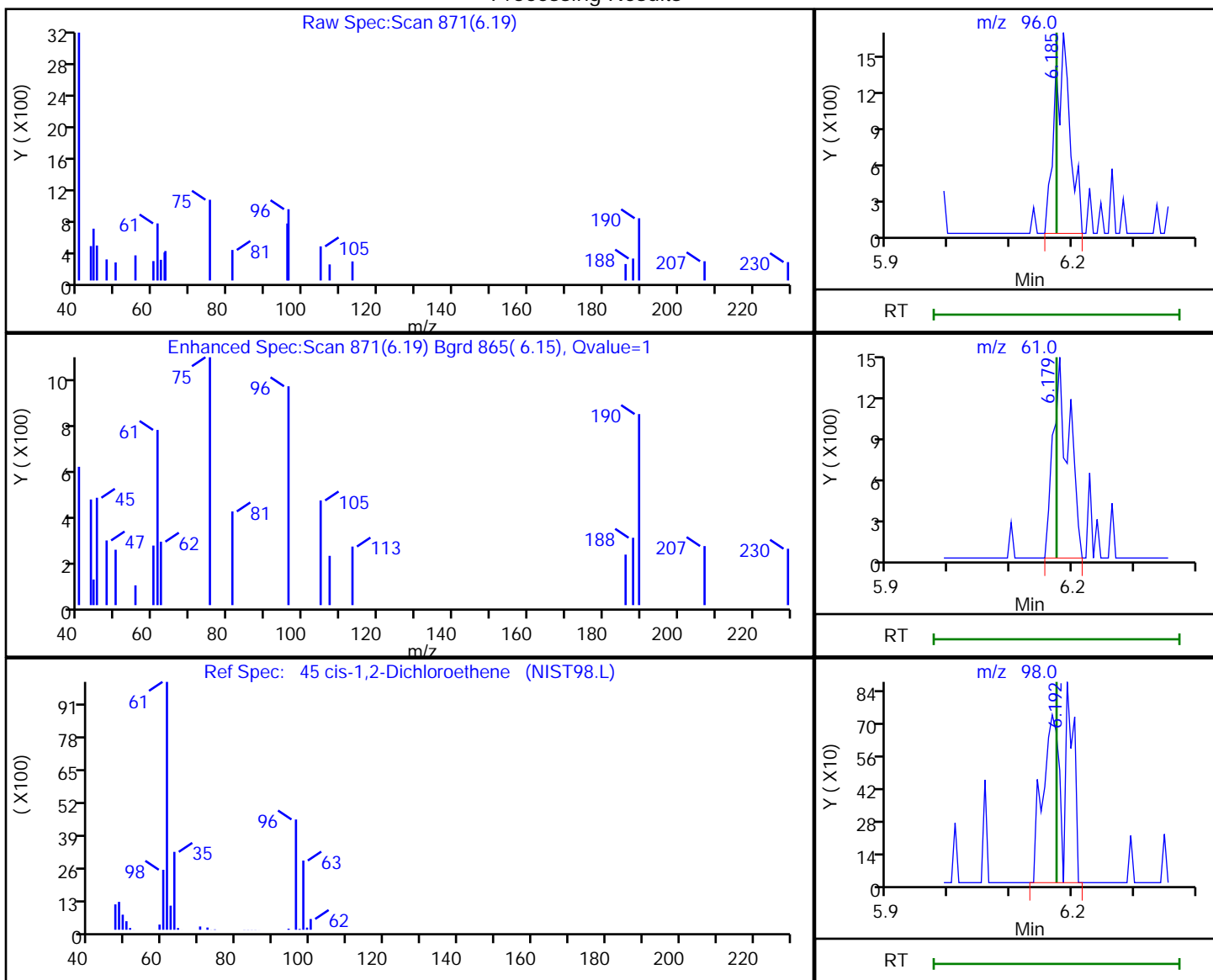
Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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	2740	1.011519
6.18	61.00	2574	
6.19	98.00	2150	

Reviewer: bowieh, 06-Dec-2019 10:12:08

Audit Action: Marked Compound Undetected

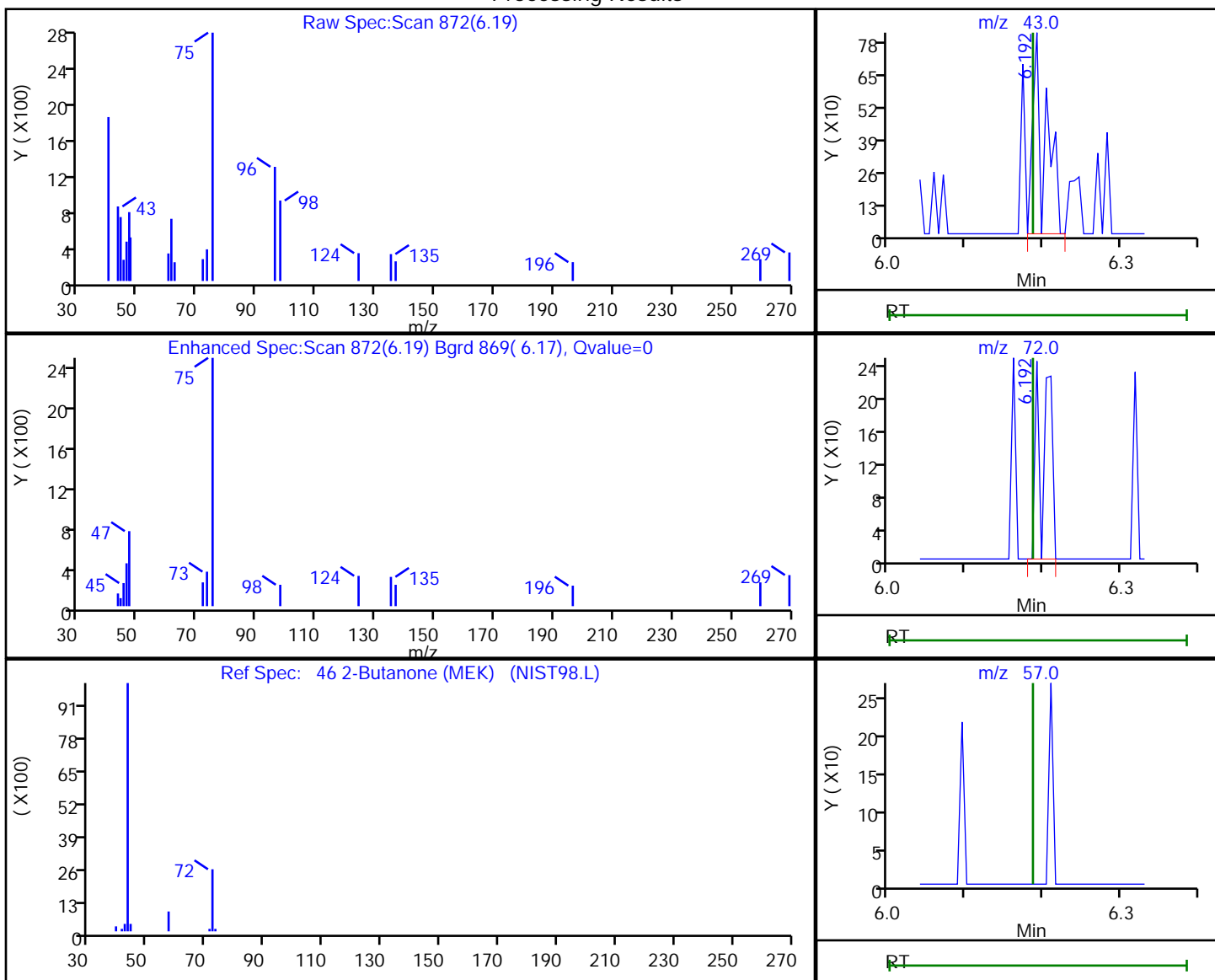
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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

46 2-Butanone (MEK), CAS: 78-93-3

Processing Results



RT	Mass	Response	Amount
6.19	43.00	919	0.817281
6.19	72.00	247	
6.19	57.00	0	

Reviewer: bowieh, 06-Dec-2019 10:12:18

Audit Action: Marked Compound Undetected

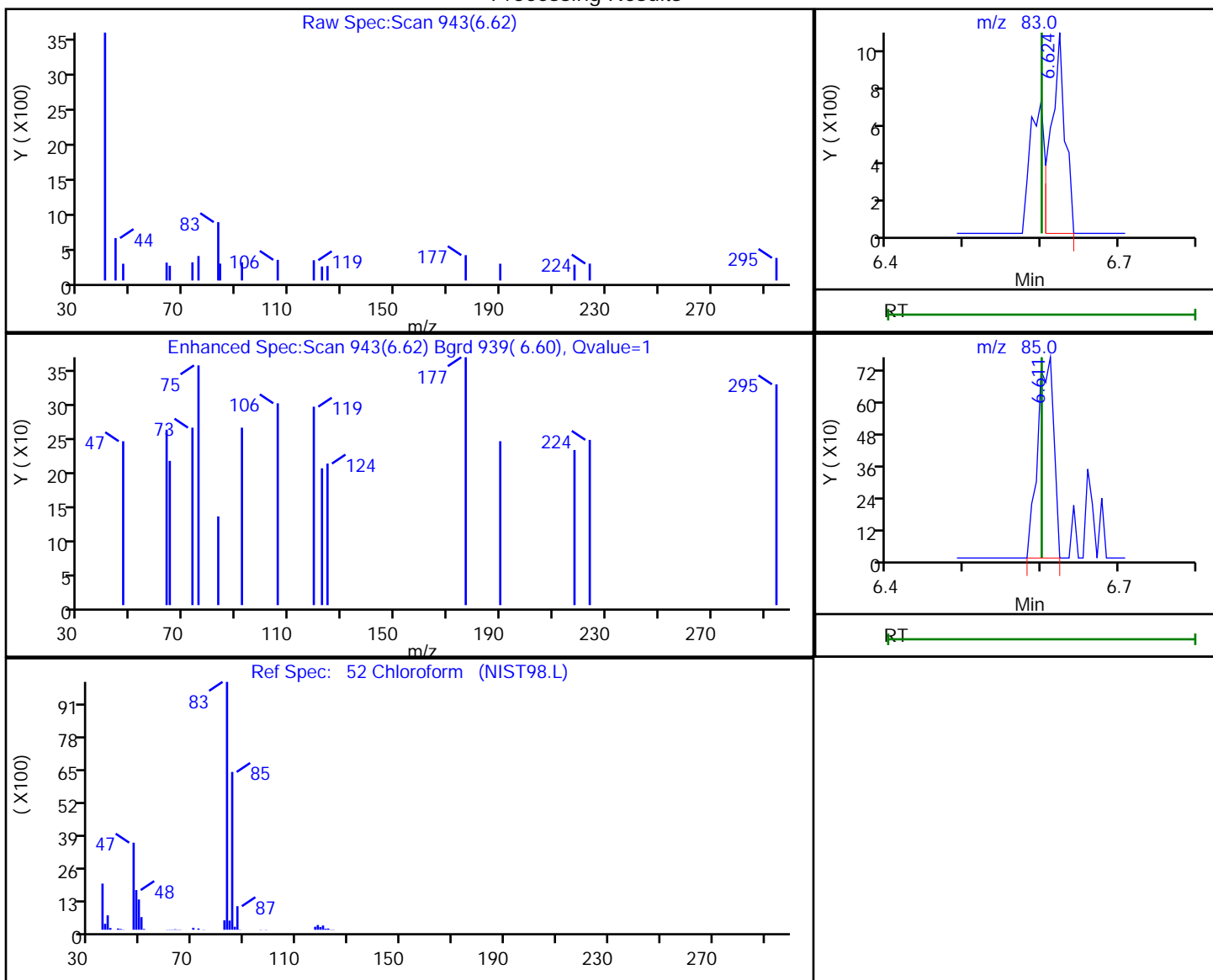
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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
6.62	83.00	1328	-3.784330
6.61	85.00	1101	

Reviewer: bowieh, 06-Dec-2019 10:12:24

Audit Action: Marked Compound Undetected

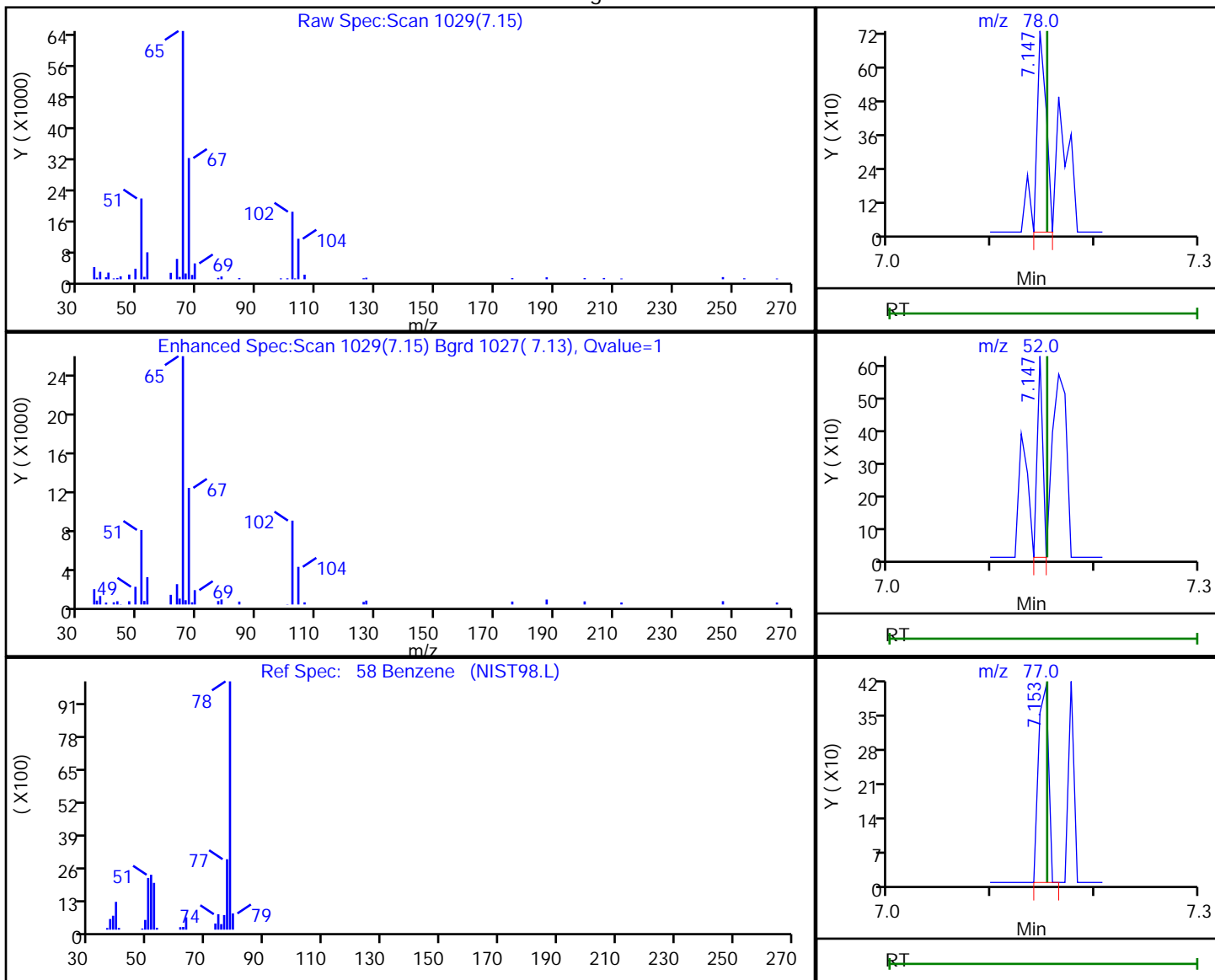
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
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	425	0.042157
7.15	52.00	227	
7.15	77.00	279	

Reviewer: bowieh, 06-Dec-2019 10:12:26

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

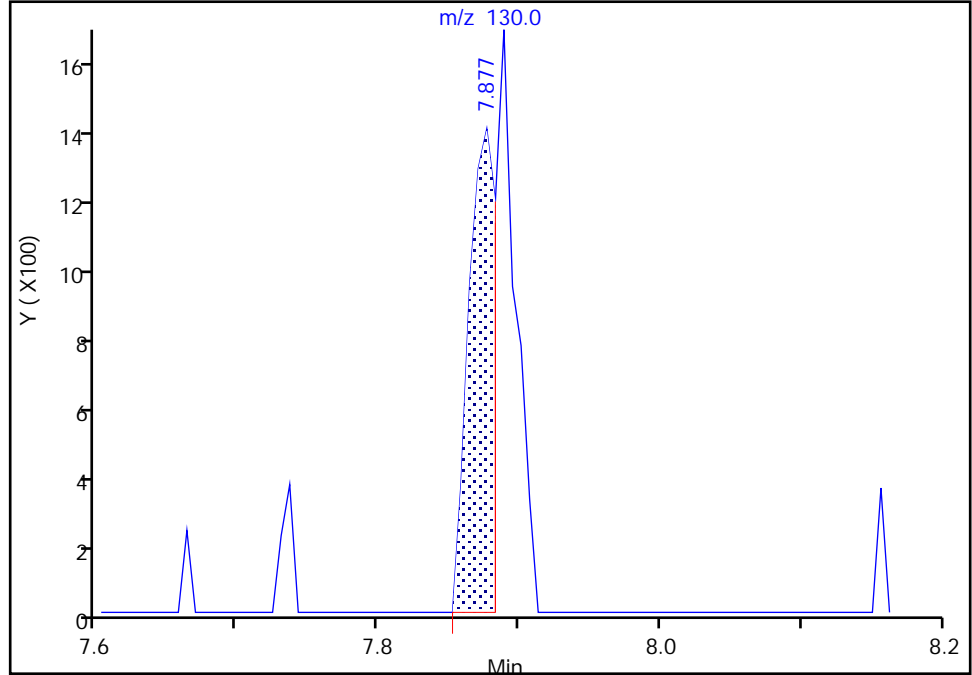
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Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

64 Trichloroethene, CAS: 79-01-6

Signal: 1

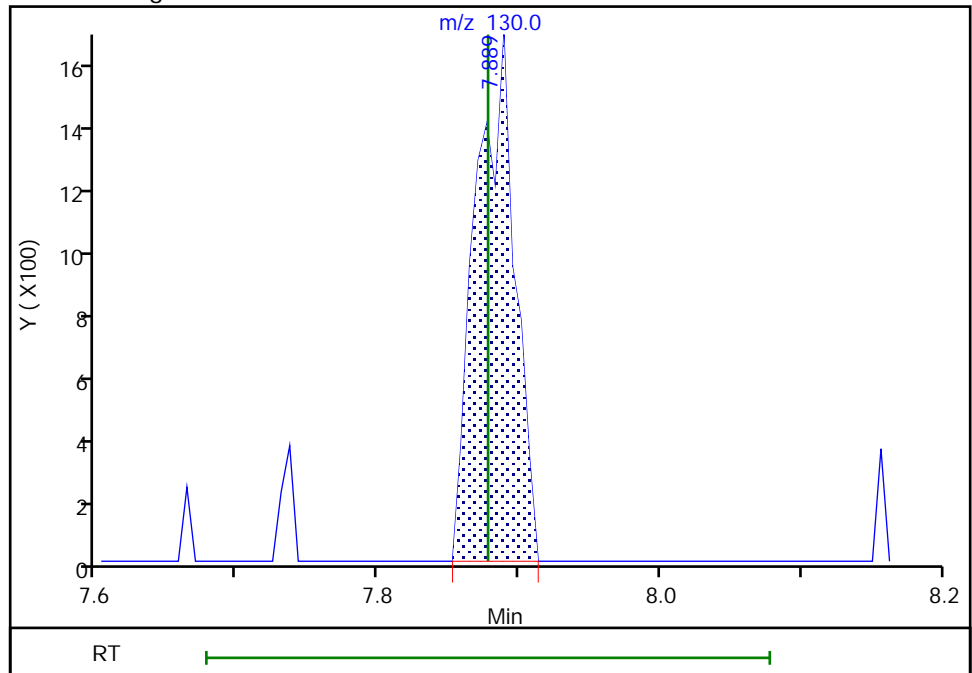
RT: 7.88
Area: 1898
Amount: 0.663078
Amount Units: ng

Processing Integration Results



RT: 7.89
Area: 3259
Amount: 1.138552
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 06-Dec-2019 10:12:37
Audit Action: Manually Integrated

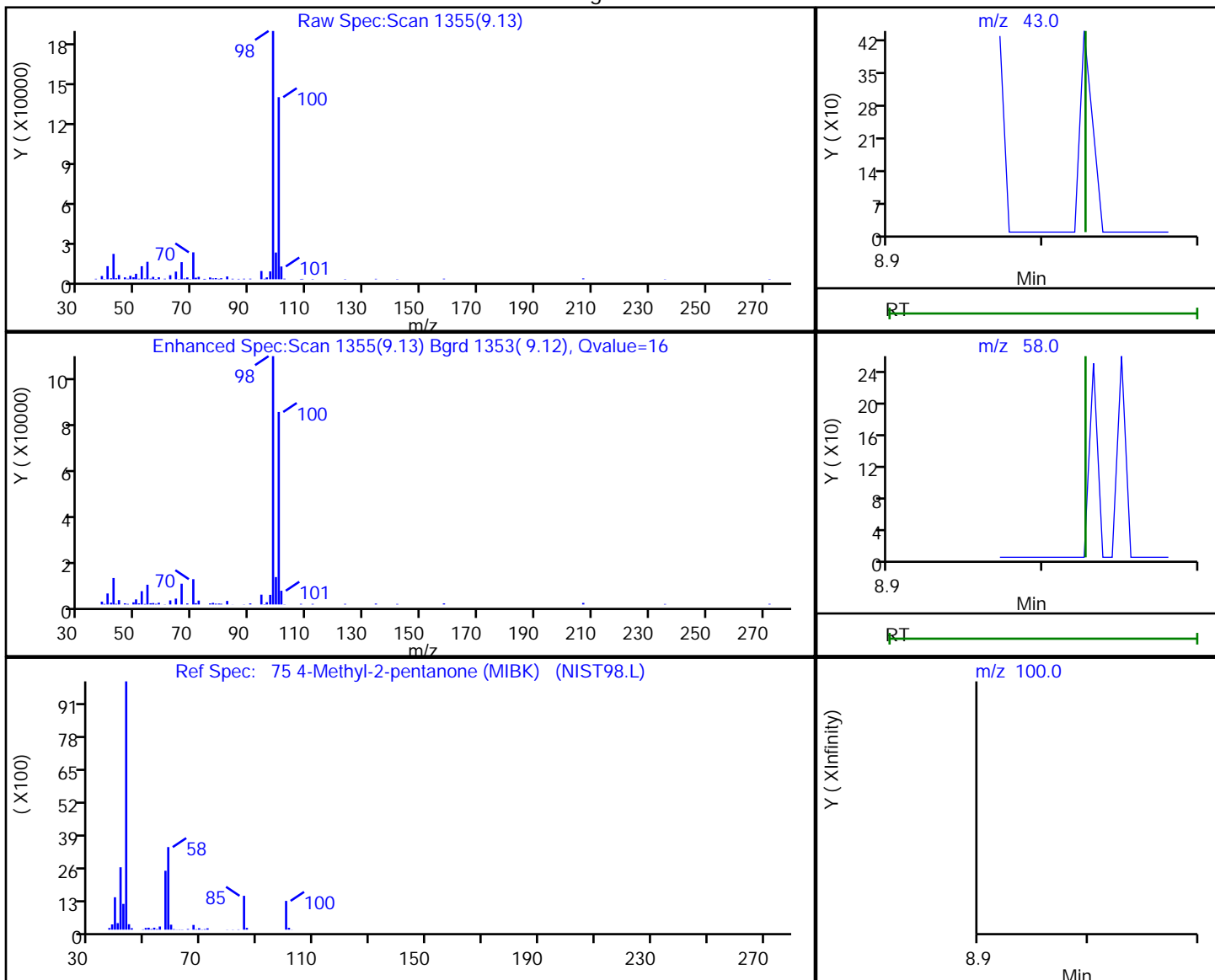
Audit Reason: Poor chromatography
Page 167 of 626

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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	684	0.361636
9.14	58.00	3382	
9.14	100.00	286613	

Reviewer: bowieh, 06-Dec-2019 10:12:41

Audit Action: Marked Compound Undetected

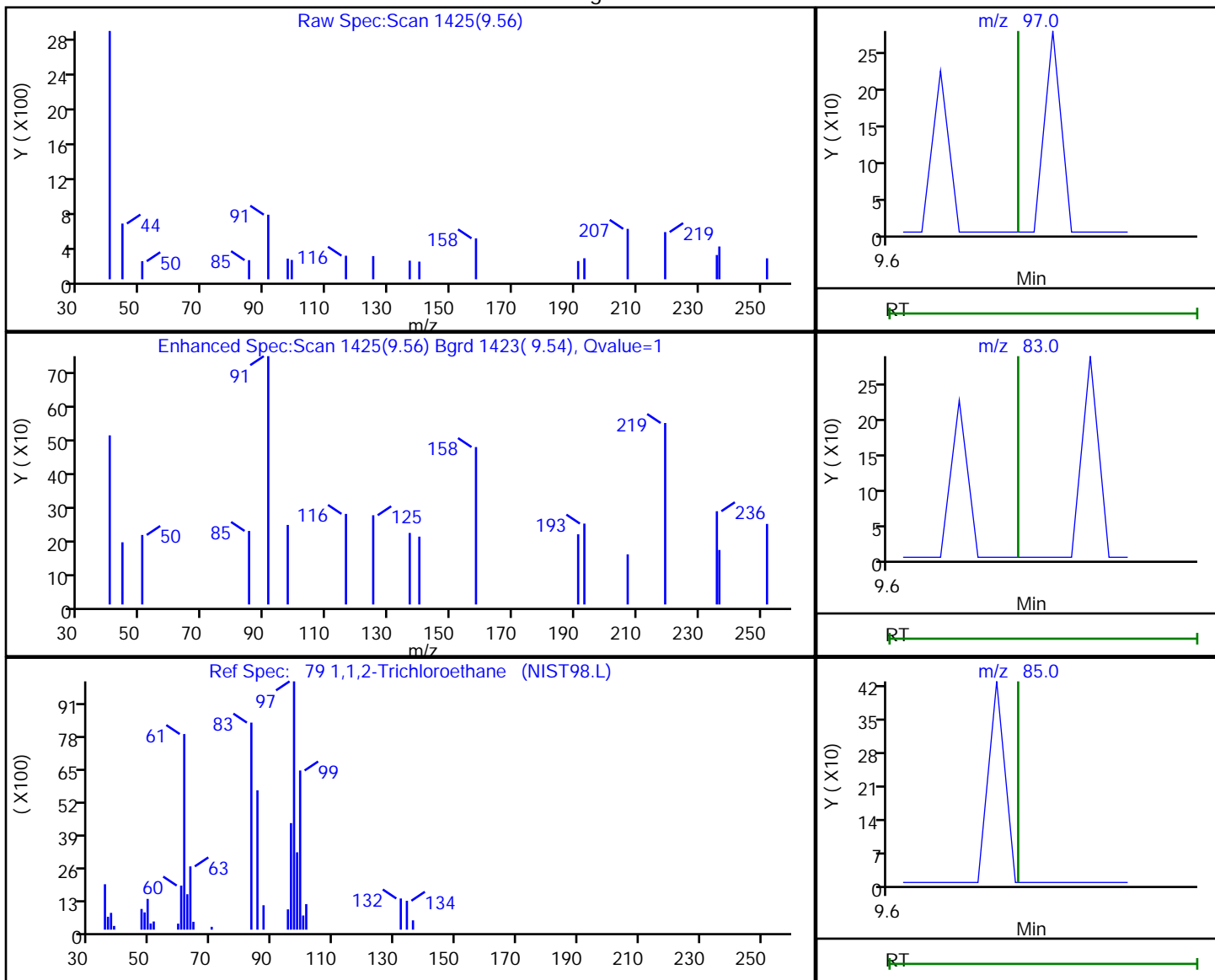
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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
9.56	97.00	87	0.037809
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:12:44

Audit Action: Marked Compound Undetected

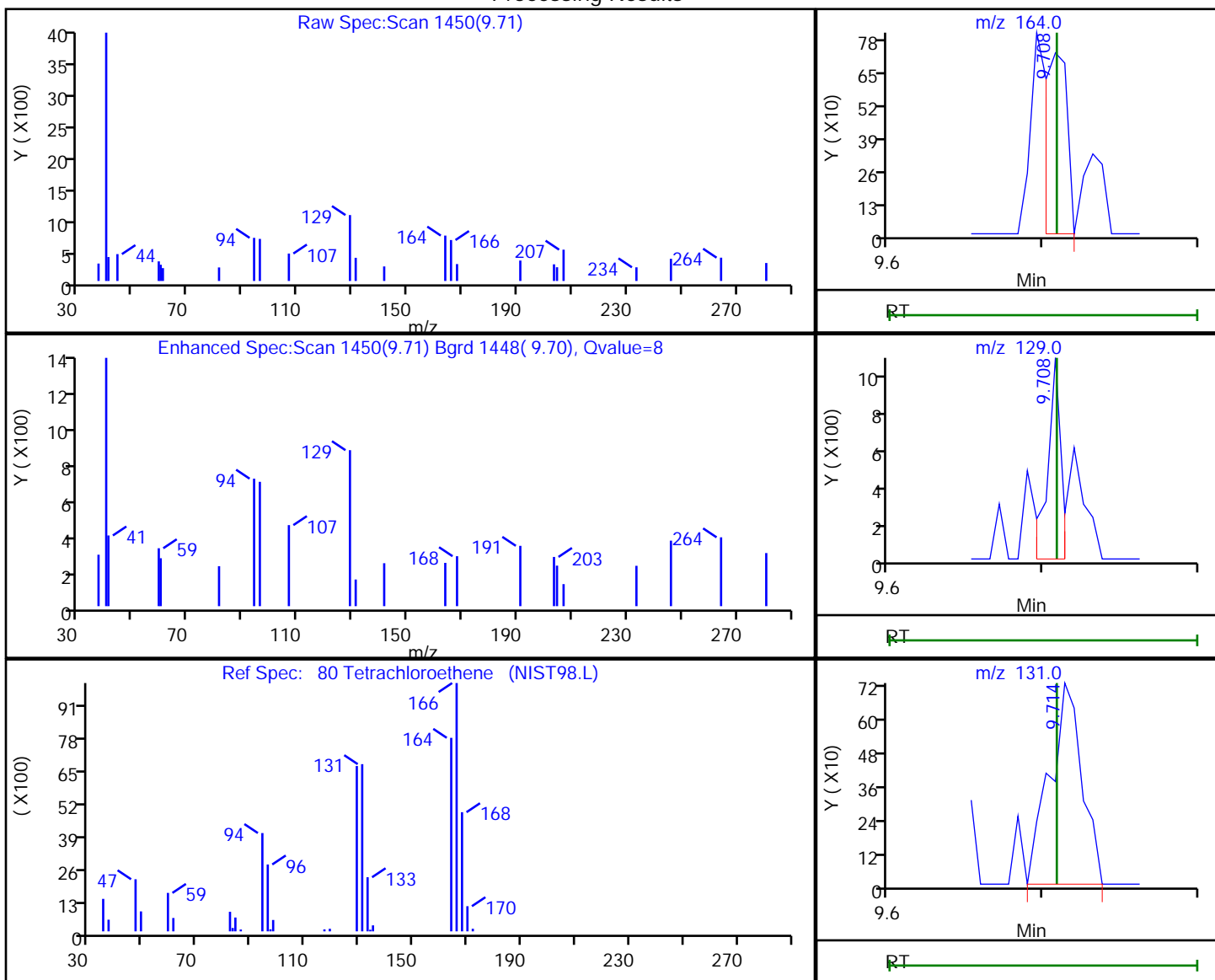
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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	741	0.280570
9.71	129.00	658	
9.71	131.00	1054	

Reviewer: bowieh, 06-Dec-2019 10:12:46

Audit Action: Marked Compound Undetected

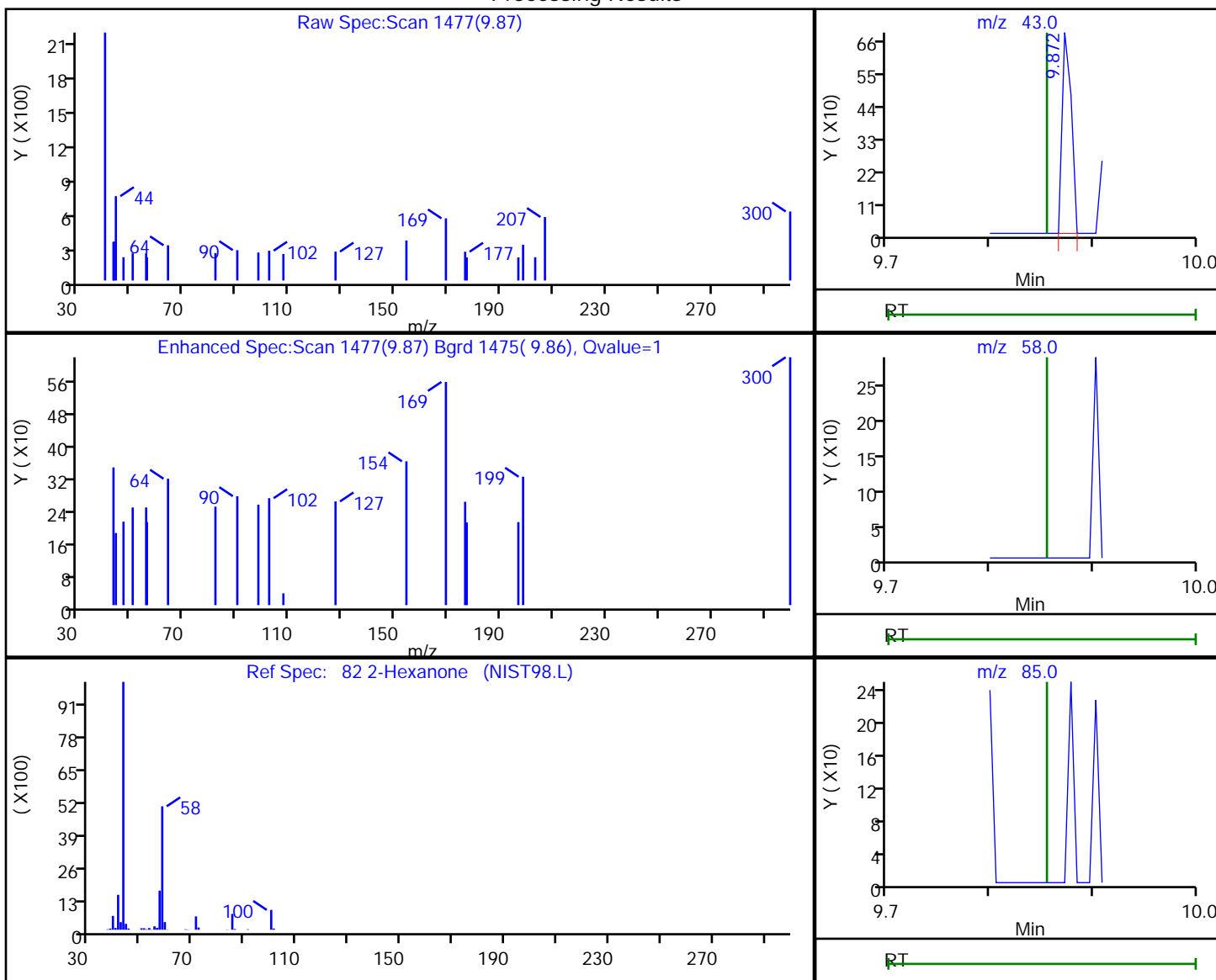
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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
9.87	43.00	423	12.986604
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:12:50

Audit Action: Marked Compound Undetected

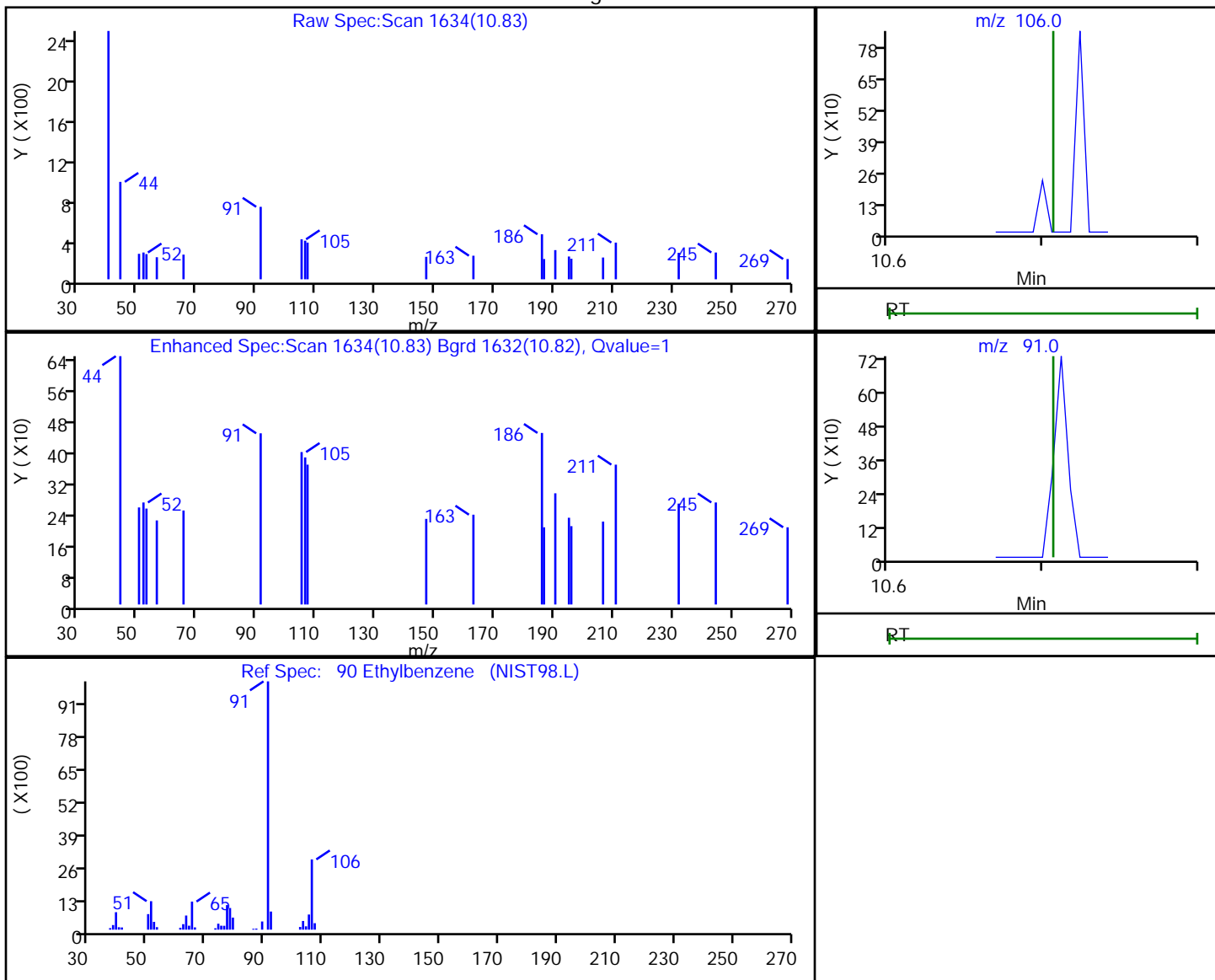
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
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	141	0.035093
10.83	91.00	1605	

Reviewer: bowieh, 06-Dec-2019 10:12:53

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

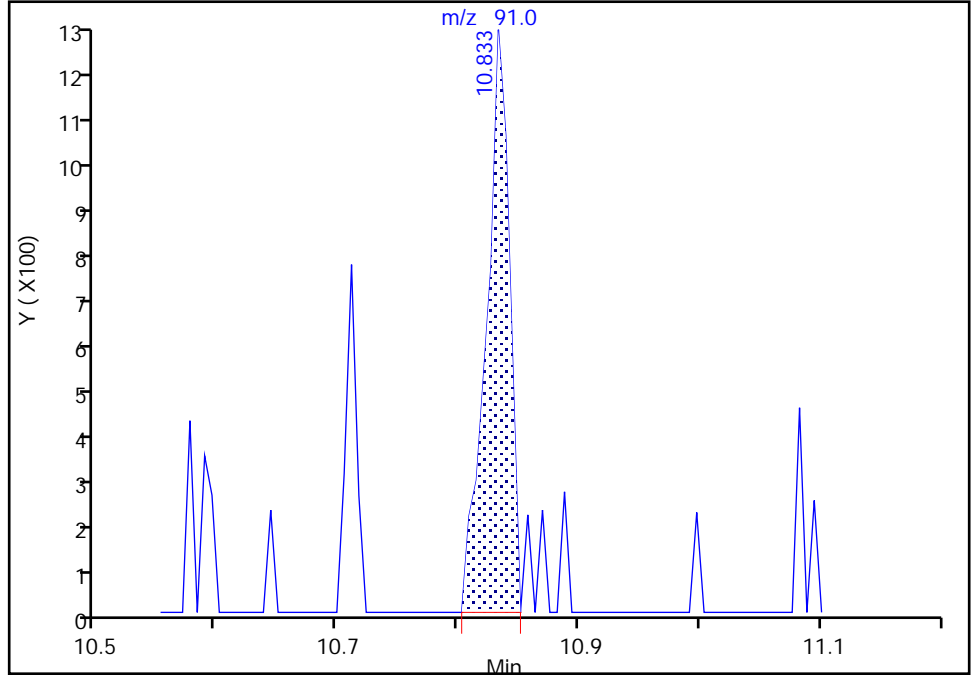
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Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

91 m-Xylene & p-Xylene, CAS: 179601-23-1

Signal: 2

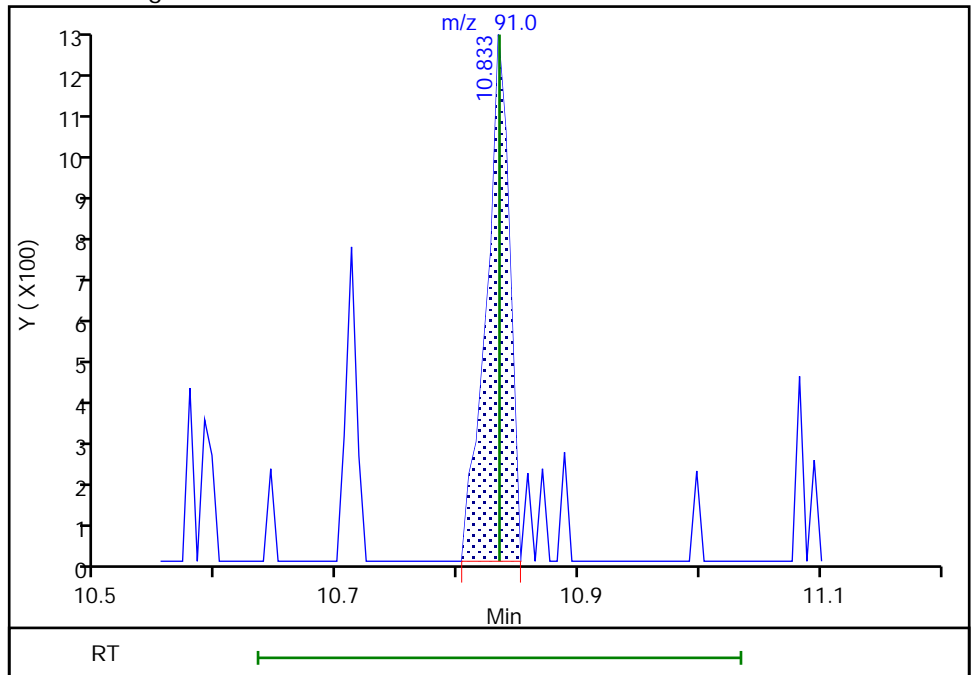
RT: 10.83
Area: 1605
Amount: 0.116952
Amount Units: ng

Processing Integration Results



RT: 10.83
Area: 1605
Amount: 0.116952
Amount Units: ng

Manual Integration Results



Eurofins TestAmerica, Pittsburgh

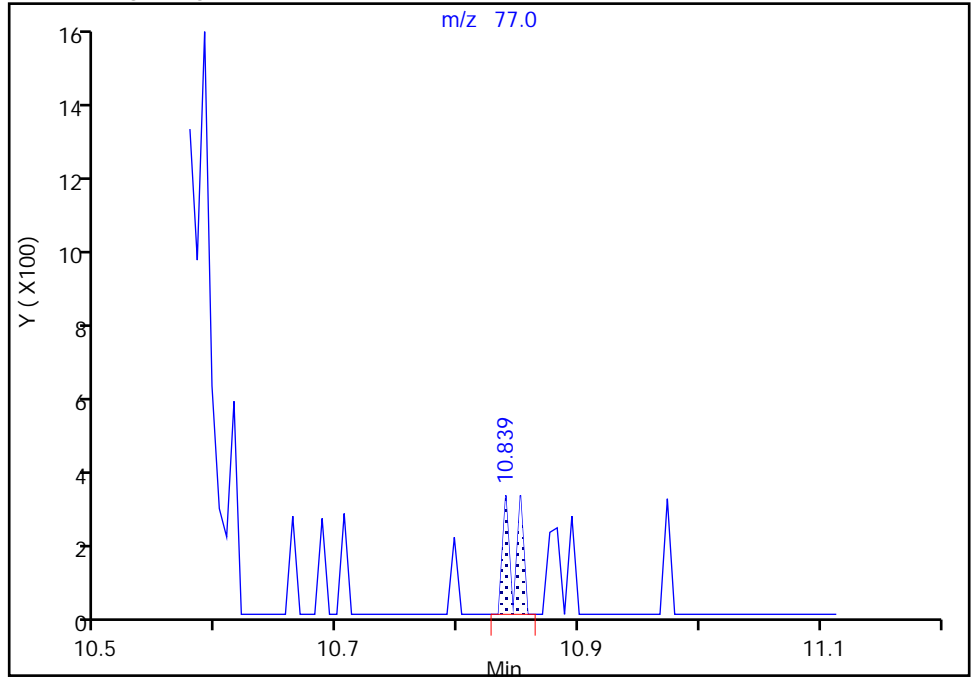
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

91 m-Xylene & p-Xylene, CAS: 179601-23-1

Signal: 3

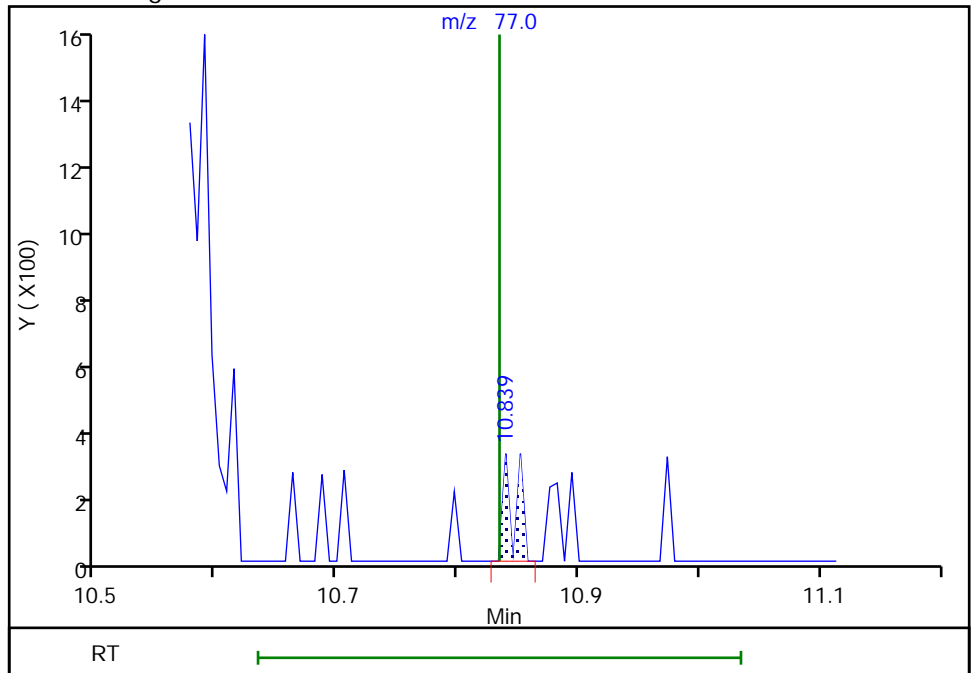
RT: 10.84
Area: 230
Amount: 0.116952
Amount Units: ng

Processing Integration Results



RT: 10.84
Area: 230
Amount: 0.116952
Amount Units: ng

Manual Integration Results

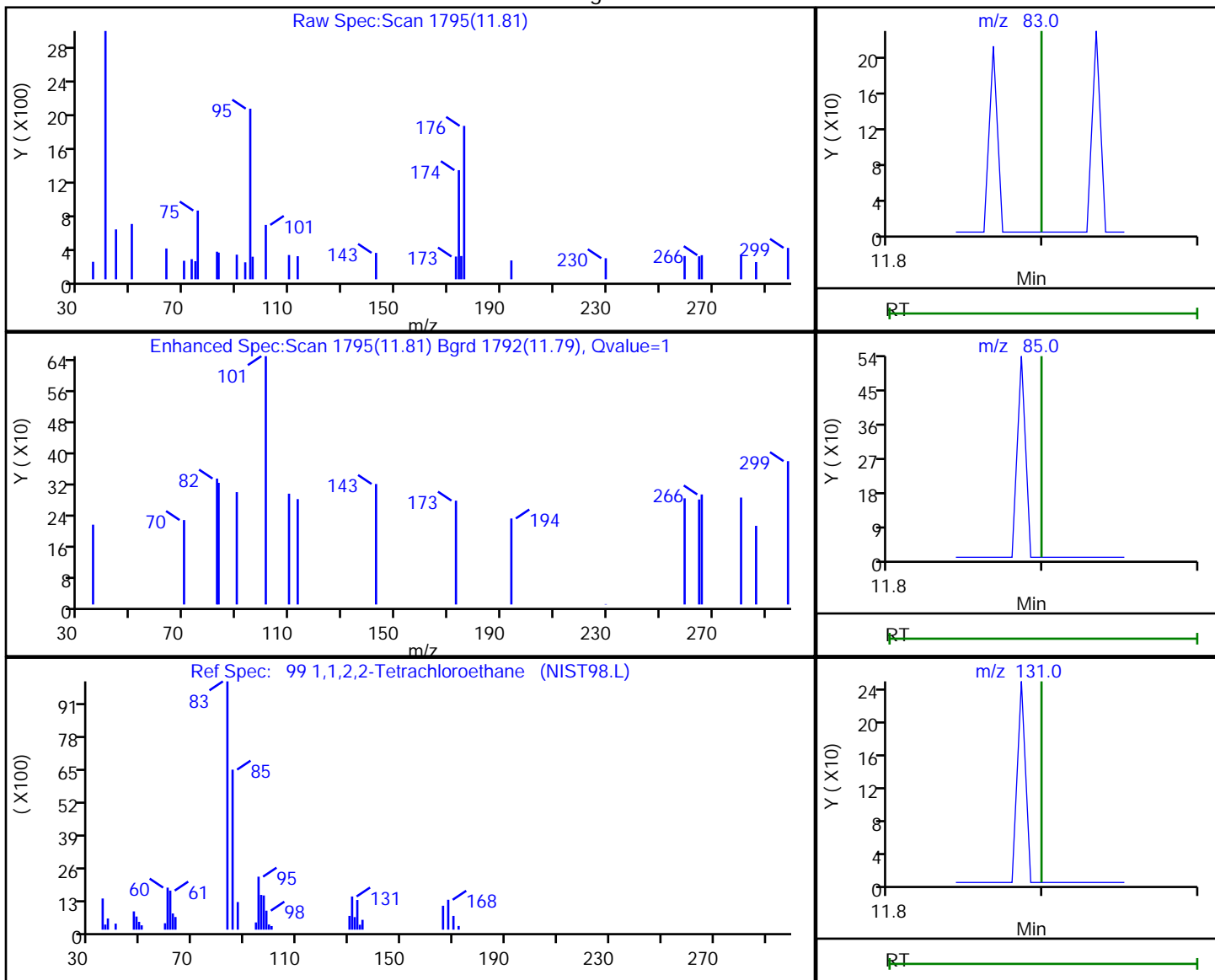


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120512.D
 Injection Date: 05-Dec-2019 14:19:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-2 Lab Sample ID: 180-99101-2
 Client ID: HD-COD-SW-7-0/1-0
 Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 12
 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

99 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results



RT	Mass	Response	Amount
11.81	83.00	197	0.074055
11.79	85.00	122	
11.90	131.00	0	

Reviewer: bowieh, 06-Dec-2019 10:13:03

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-8-0/1-0 Lab Sample ID: 180-99101-3
 Matrix: Water Lab File ID: 5120513.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 11:25
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 14:44
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-8-0/1-0 Lab Sample ID: 180-99101-3
 Matrix: Water Lab File ID: 5120513.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 11:25
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 14:44
 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.: 300399 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)	108		70-150
2037-26-5	Toluene-d8 (Surr)	88		78-128
460-00-4	4-Bromofluorobenzene (Surr)	66		64-123
1868-53-7	Dibromofluoromethane (Surr)	114		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
 Lims ID: 180-99101-A-3
 Client ID: HD-COD-SW-8-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 14:44:30 ALS Bottle#: 6 Worklist Smp#: 13
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-013
 Misc. Info.: 180-99101-a-3
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:14:45 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:14:45

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.537	4.544	-0.007	0	203162	1000.0	
* 2 Fluorobenzene (IS)	96	7.499	7.494	0.005	99	434958	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	84	117965	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	93	144211	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.781	6.770	0.011	94	125194	56.9	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.153	7.148	0.005	0	154358	54.1	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	94	432422	44.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.764	11.759	0.005	94	125724	32.9	
12 Chloromethane	50		1.910				ND	
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.679	3.674	0.005	82	8156	9.17	
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.173	6.174	-0.001	8	2578	0.9715	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83		6.600				ND	U
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	U
64 Trichloroethene	130	7.877	7.878	-0.002	37	1964	0.7004	
67 1,2-Dichloropropane	63		8.145				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	9.203	9.198	0.005	26	2938	0.2537	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164	9.708	9.709	-0.001	22	682	0.2563	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D

Injection Date: 05-Dec-2019 14:44:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-3

Lab Sample ID: 180-99101-3

Worklist Smp#: 13

Client ID: HD-COD-SW-8-0/1-0

Purge Vol: 5.000 mL

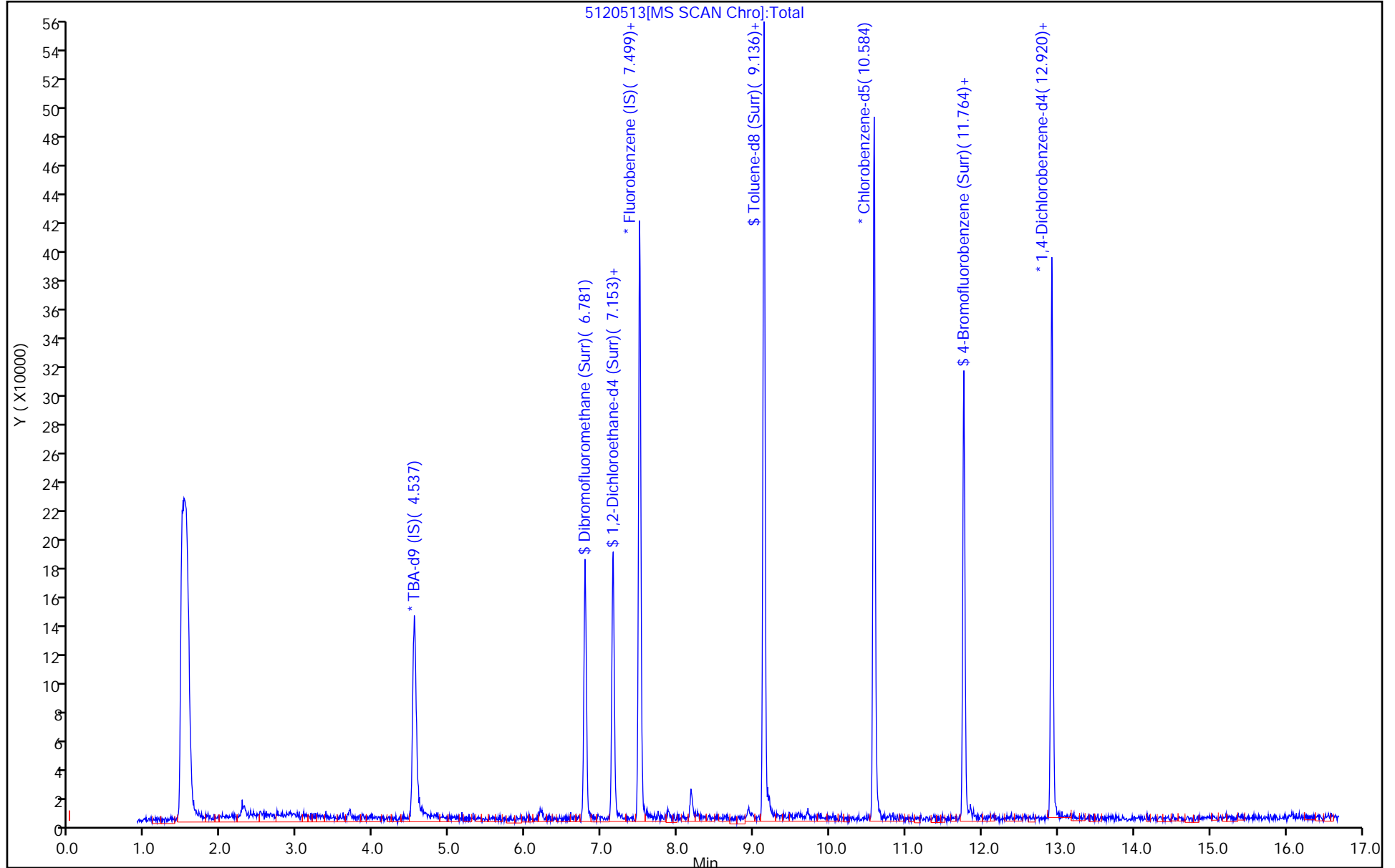
Dil. Factor: 1.0000

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\20191205-29868.b\5120513.D
 Lims ID: 180-99101-A-3
 Client ID: HD-COD-SW-8-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 14:44:30 ALS Bottle#: 6 Worklist Smp#: 13
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-013
 Misc. Info.: 180-99101-a-3
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:14:45 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:14:45

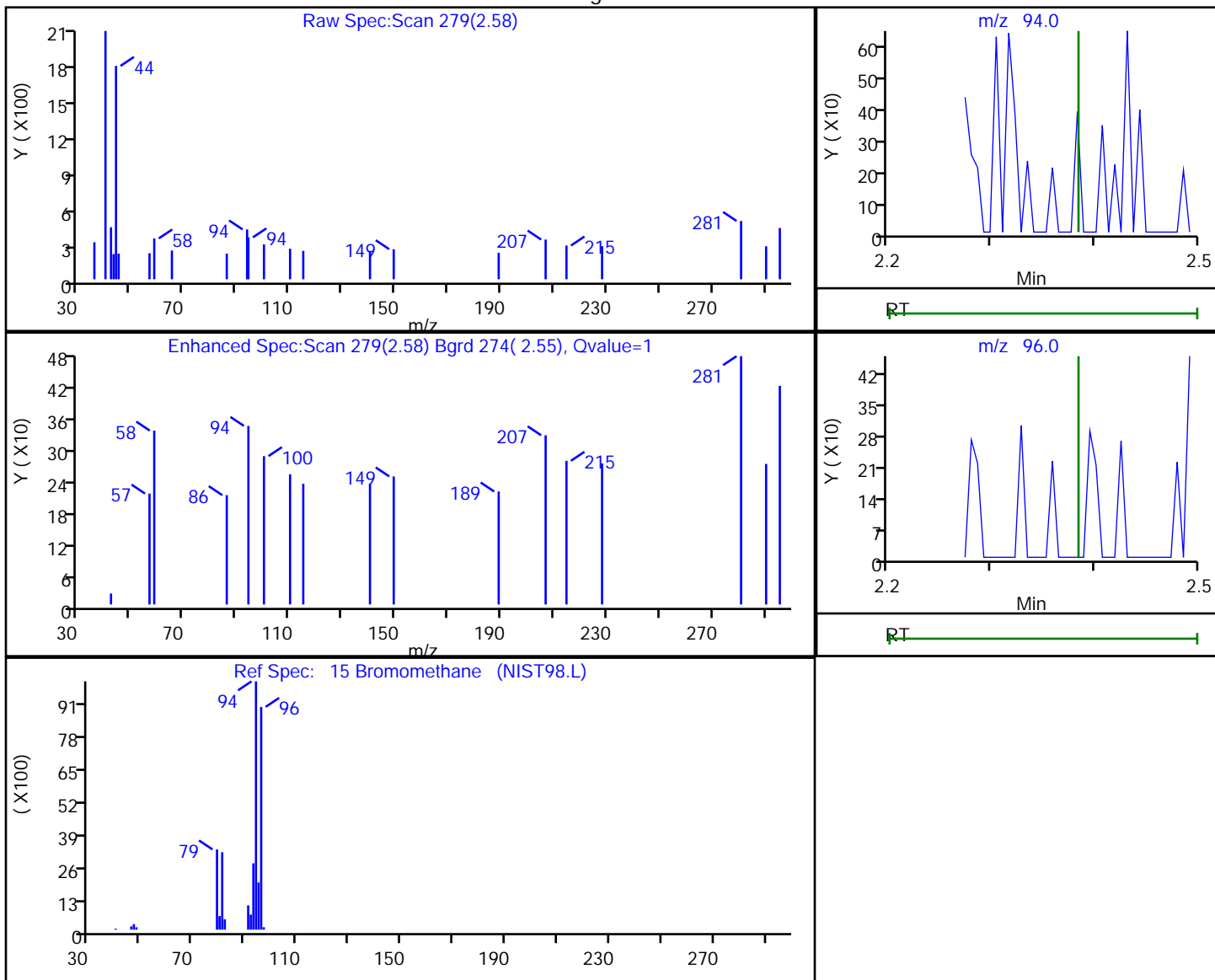
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	56.9	113.82
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.1	108.28
\$ 7 Toluene-d8 (Surr)	50.0	44.1	88.22
\$ 8 4-Bromofluorobenzene (Surr)	50.0	32.9	65.77

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
Client ID: HD-COD-SW-8-0/1-0
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
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
2.58	94.00	496	0.300687
2.58	96.00	196	

Reviewer: bowieh, 06-Dec-2019 10:13:19

Audit Action: Marked Compound Undetected

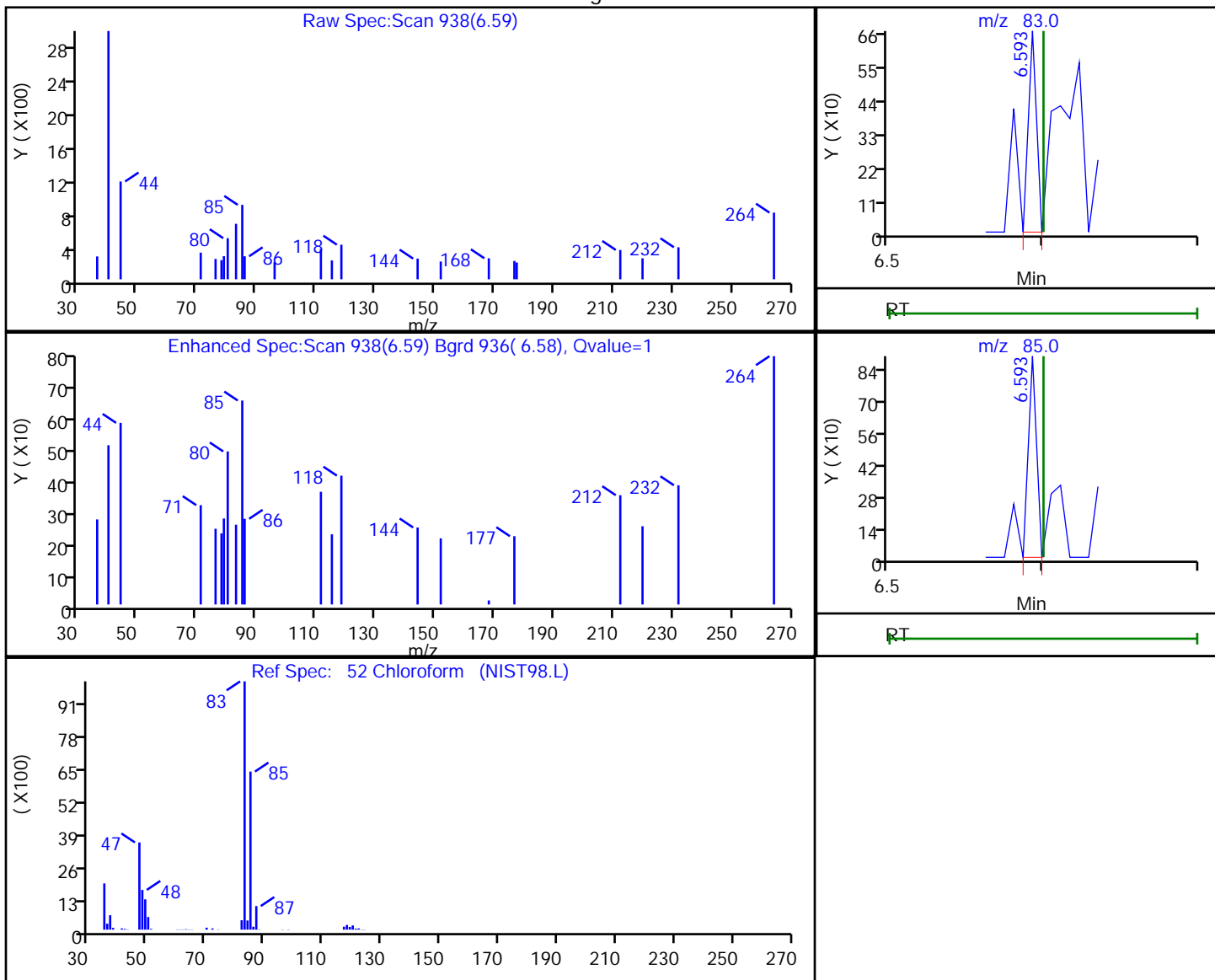
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
Client ID: HD-COD-SW-8-0/1-0
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
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
6.59	83.00	243	-4.052382
6.59	85.00	326	

Reviewer: bowieh, 06-Dec-2019 10:13:47

Audit Action: Marked Compound Undetected

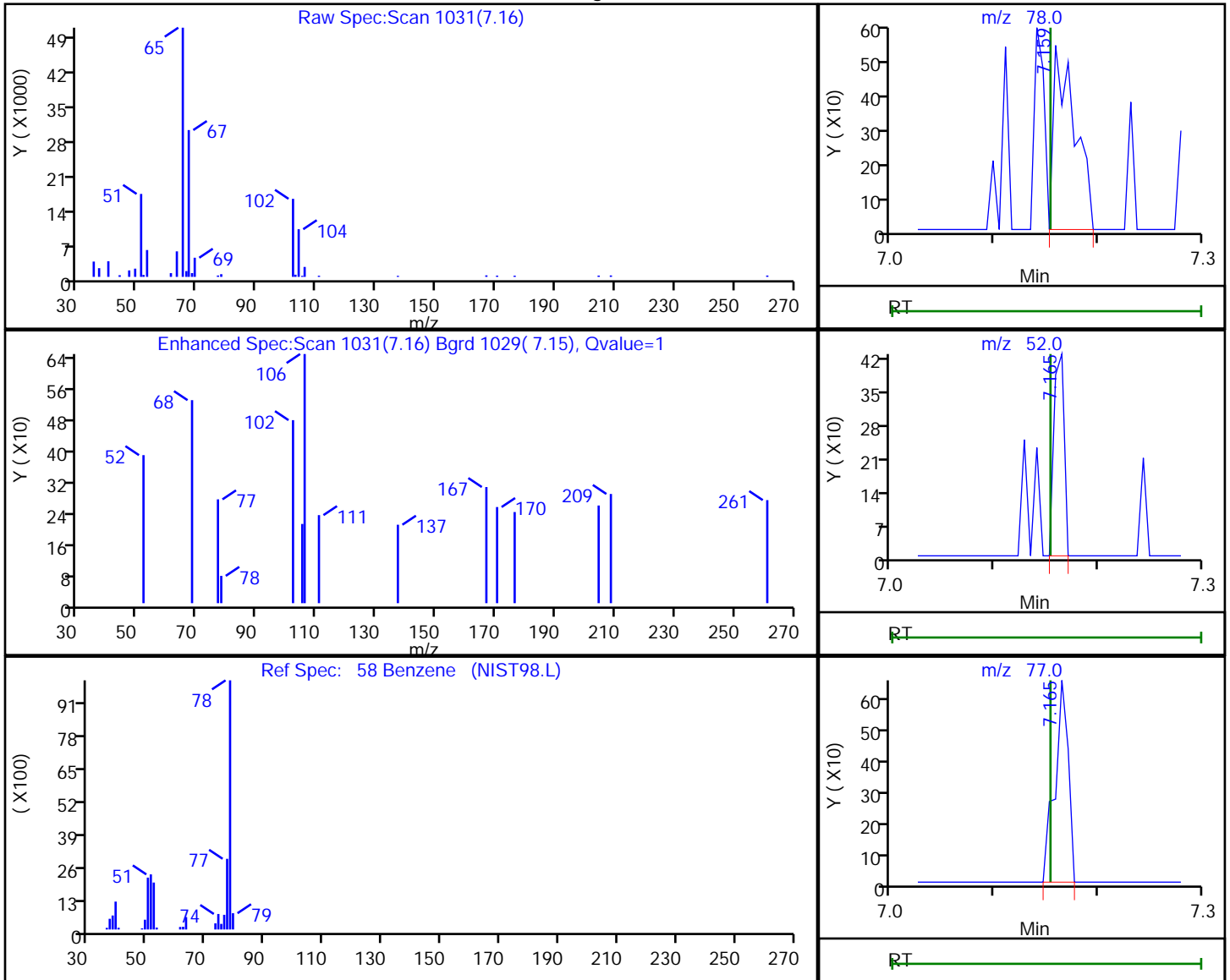
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
 Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
 Client ID: HD-COD-SW-8-0/1-0
 Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
 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	773	0.078274
7.16	52.00	297	
7.16	77.00	592	

Reviewer: bowieh, 06-Dec-2019 10:13:51

Audit Action: Marked Compound Undetected

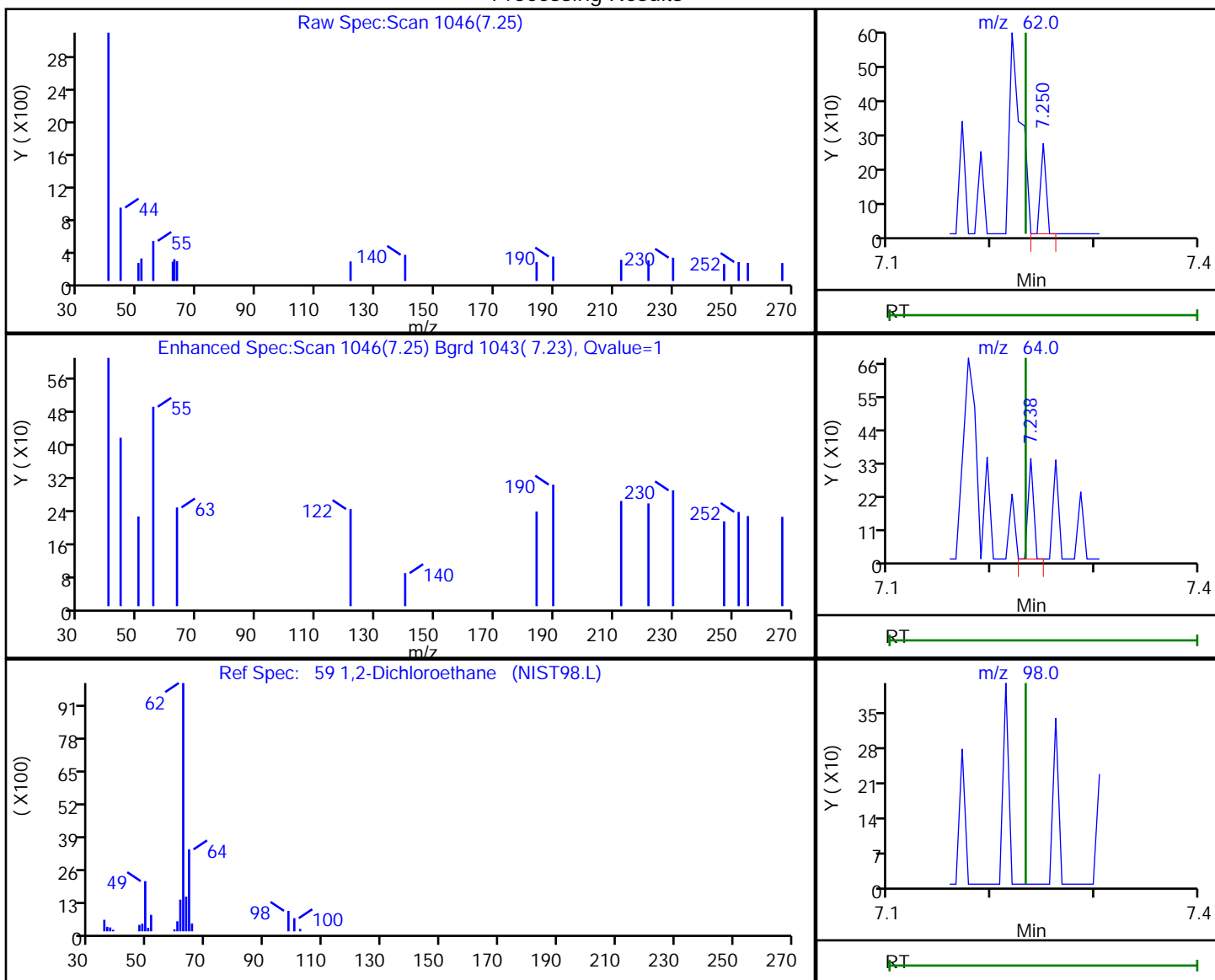
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
 Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
 Client ID: HD-COD-SW-8-0/1-0
 Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.25	62.00	97	0.028191
7.24	64.00	123	
7.23	98.00	0	

Reviewer: bowieh, 06-Dec-2019 10:13:52

Audit Action: Marked Compound Undetected

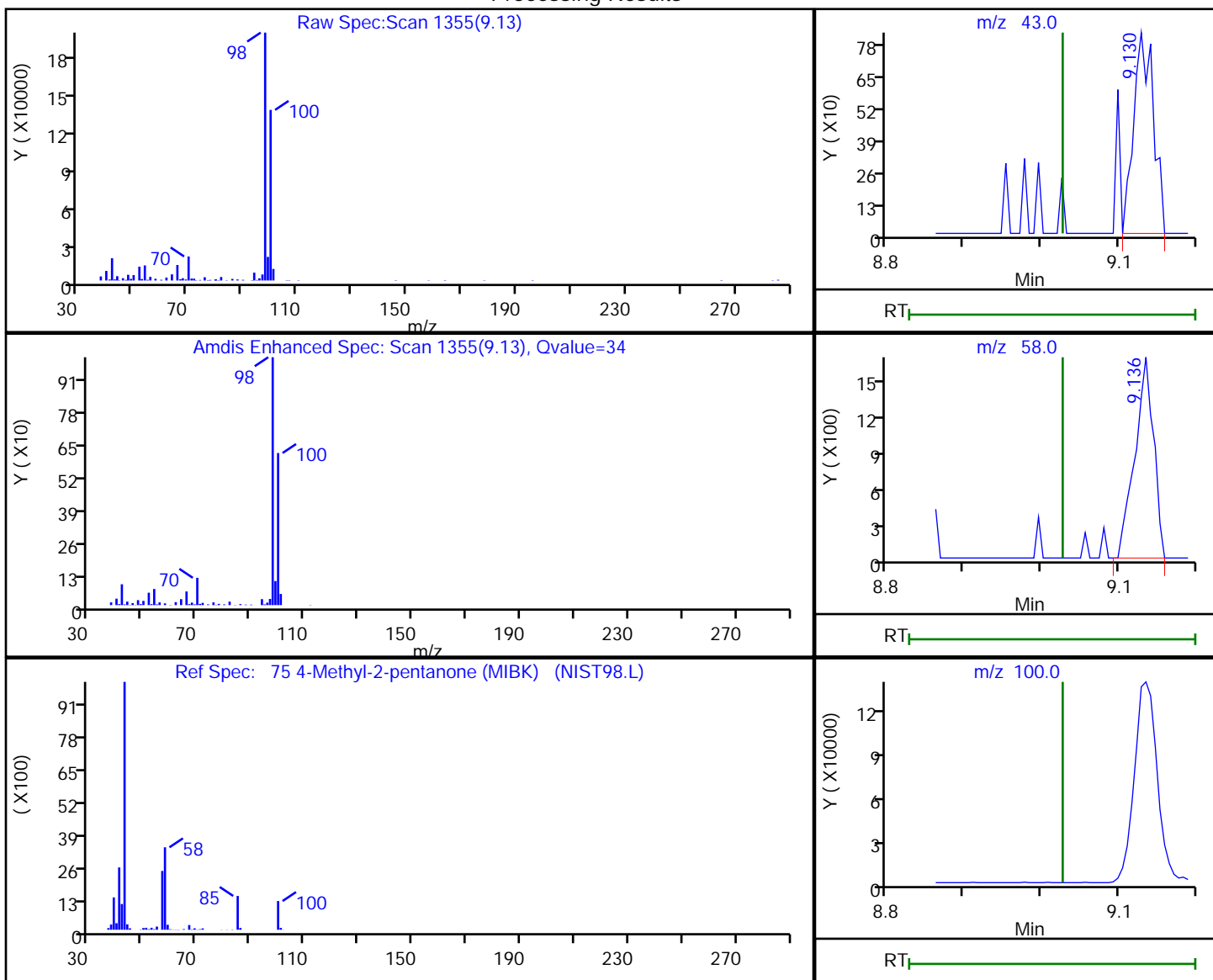
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
 Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
 Client ID: HD-COD-SW-8-0/1-0
 Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
 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	1468	0.770399
9.14	58.00	2711	
9.14	100.00	280566	

Reviewer: bowieh, 06-Dec-2019 10:13:57

Audit Action: Marked Compound Undetected

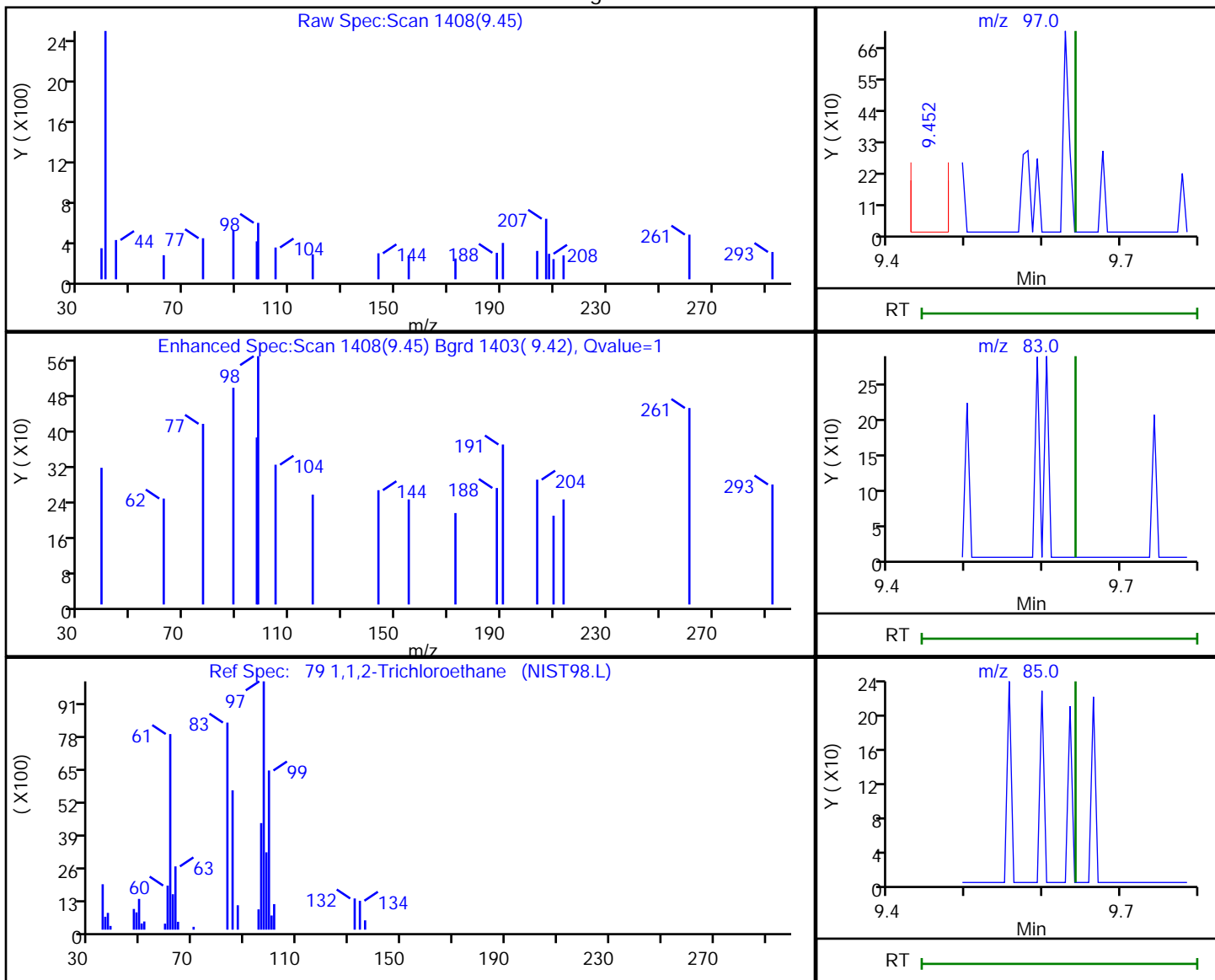
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
 Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
 Client ID: HD-COD-SW-8-0/1-0
 Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
 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
9.45	97.00	548	0.236392
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:14:04

Audit Action: Marked Compound Undetected

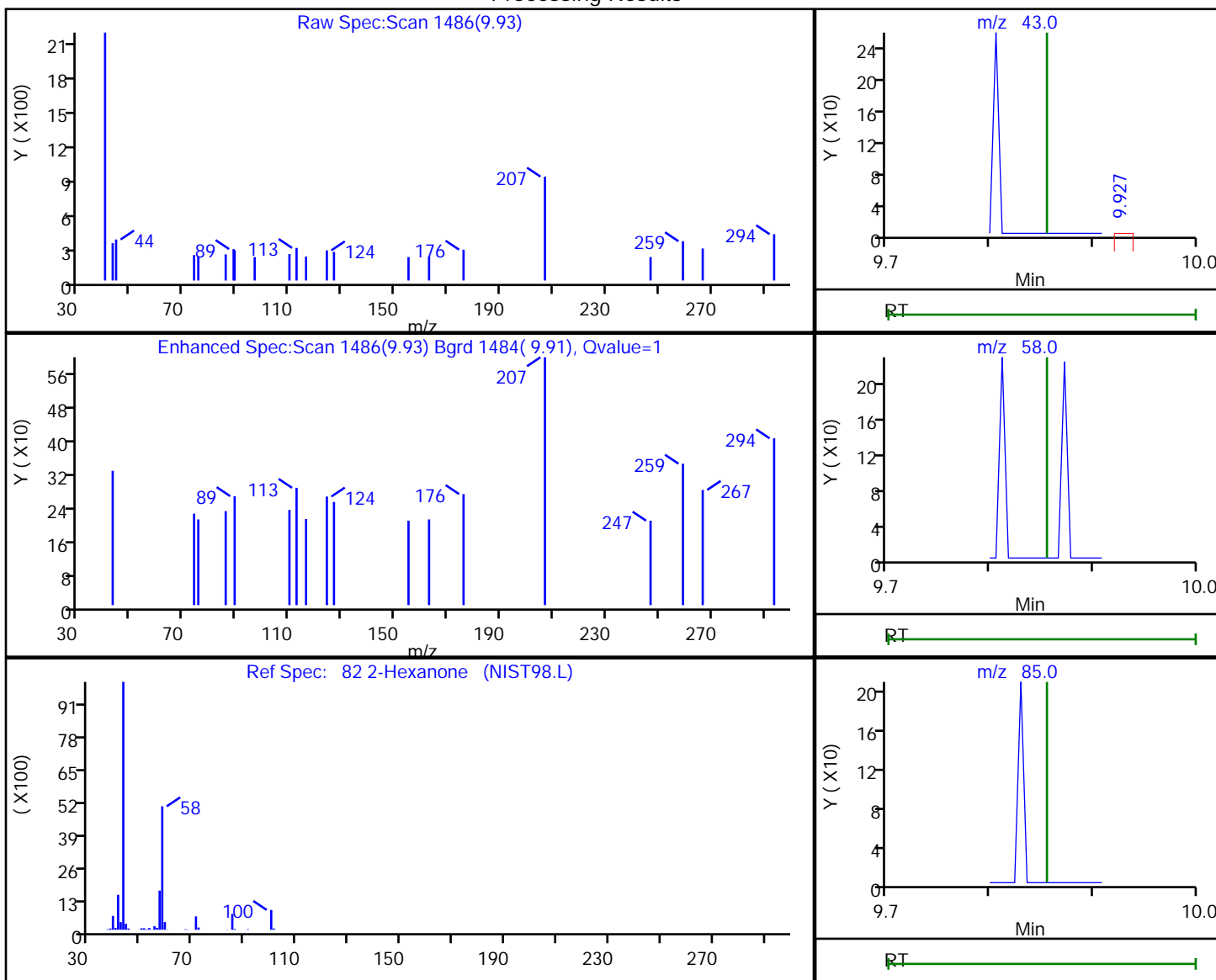
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
 Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
 Client ID: HD-COD-SW-8-0/1-0
 Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
 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
9.93	43.00	191	12.850220
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:14:13

Audit Action: Marked Compound Undetected

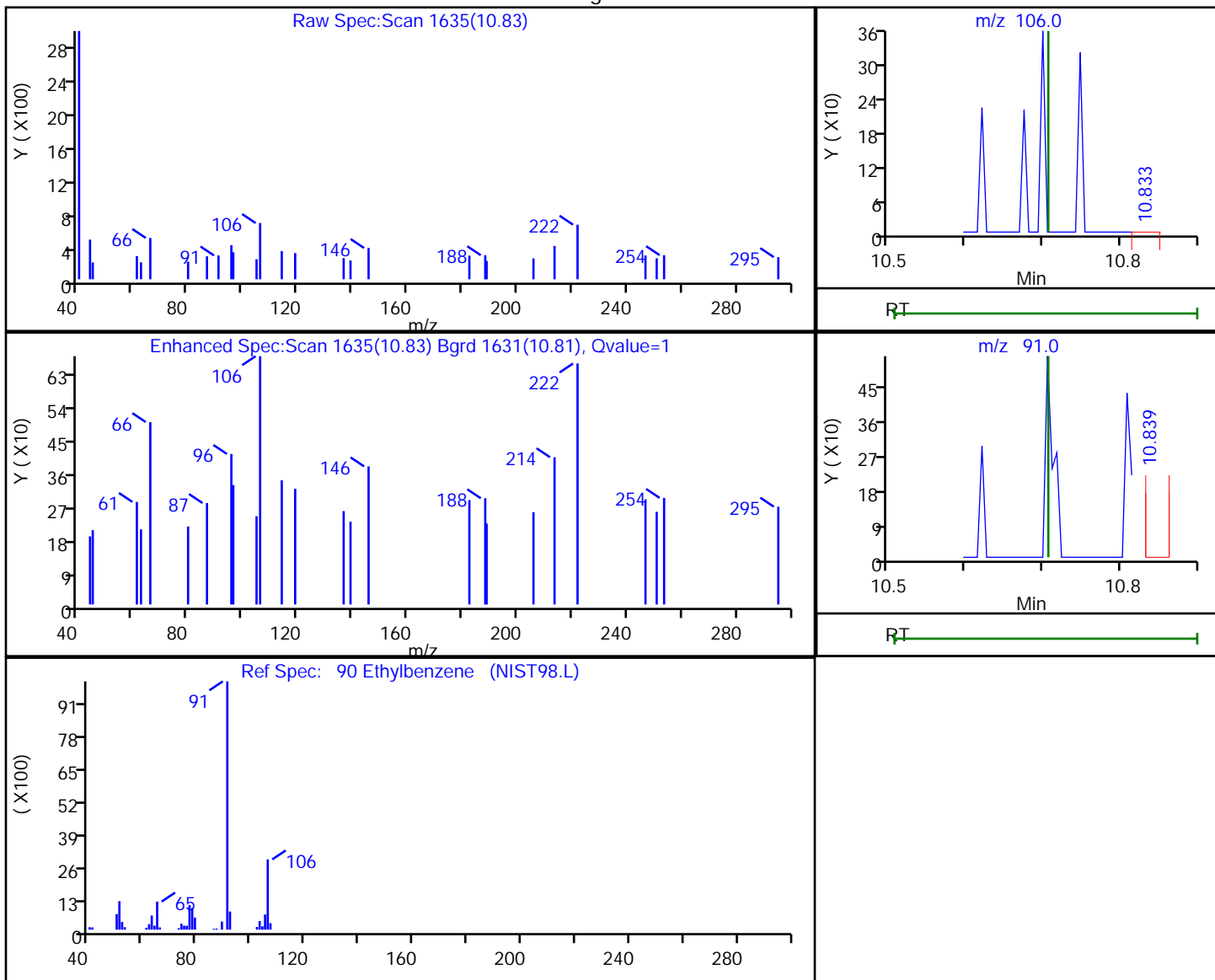
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120513.D
Injection Date: 05-Dec-2019 14:44:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-3 Lab Sample ID: 180-99101-3
Client ID: HD-COD-SW-8-0/1-0
Operator ID: 433269 ALS Bottle#: 6 Worklist Smp#: 13
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	761	0.187999
10.84	91.00	726	

Reviewer: bowieh, 06-Dec-2019 10:14:20

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-9-0/1-0 Lab Sample ID: 180-99101-4
 Matrix: Water Lab File ID: 5120514.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:40
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 15:08
 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.: 300399 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	0.90	J	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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-9-0/1-0 Lab Sample ID: 180-99101-4
 Matrix: Water Lab File ID: 5120514.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:40
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 15:08
 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.: 300399 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)	108		70-150
2037-26-5	Toluene-d8 (Surr)	84		78-128
460-00-4	4-Bromofluorobenzene (Surr)	67		64-123
1868-53-7	Dibromofluoromethane (Surr)	111		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Lims ID: 180-99101-A-4
 Client ID: HD-COD-SW-9-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 15:08:30 ALS Bottle#: 7 Worklist Smp#: 14
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-014
 Misc. Info.: 180-99101-a-4
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:15:56 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:15:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.539	4.544	-0.005	0	211676	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.494	0.007	99	447992	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	84	119283	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.922	12.921	0.001	94	144627	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.770	0.013	94	125749	55.5	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	158600	54.0	
\$ 7 Toluene-d8 (Surr)	98	9.138	9.131	0.007	93	414057	41.8	
\$ 8 4-Bromofluorobenzene (Surr	95	11.760	11.759	0.001	95	129919	33.6	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.687	3.674	0.013	71	14761	16.1	
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.169	6.174	-0.005	1	1904	0.6967	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.613	6.600	0.013	31	2321	-3.54	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	U
64 Trichloroethene	130		7.878				ND	U
67 1,2-Dichloropropane	63		8.145				ND	U
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	9.198	9.198	0.000	97	52920	4.52	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164	9.716	9.709	0.007	34	1225	0.4553	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106	10.841	10.834	0.007	0	1248	0.2441	
92 o-Xylene	106		11.217				ND	
93 Styrene	104		11.242				ND	U
94 Bromoform	173		11.424				ND	
99 1,1,2,2-Tetrachloroethane	83		11.899				ND	
S 133 Xylenes, Total	106				0		0.2441	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D

Injection Date: 05-Dec-2019 15:08:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-4

Lab Sample ID: 180-99101-4

Worklist Smp#: 14

Client ID: HD-COD-SW-9-0/1-0

Purge Vol: 5.000 mL

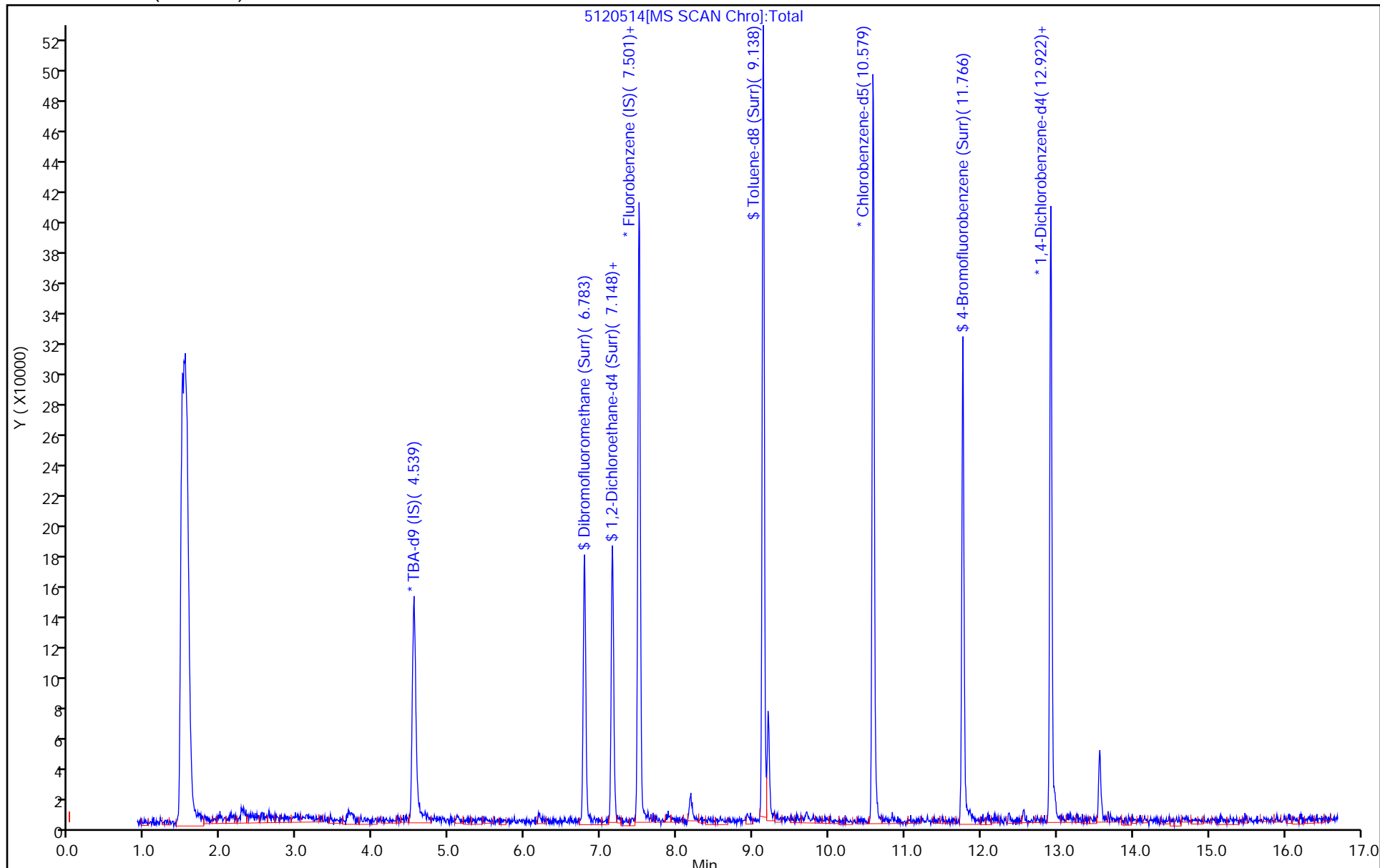
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Lims ID: 180-99101-A-4
 Client ID: HD-COD-SW-9-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 15:08:30 ALS Bottle#: 7 Worklist Smp#: 14
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-014
 Misc. Info.: 180-99101-a-4
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:15:56 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

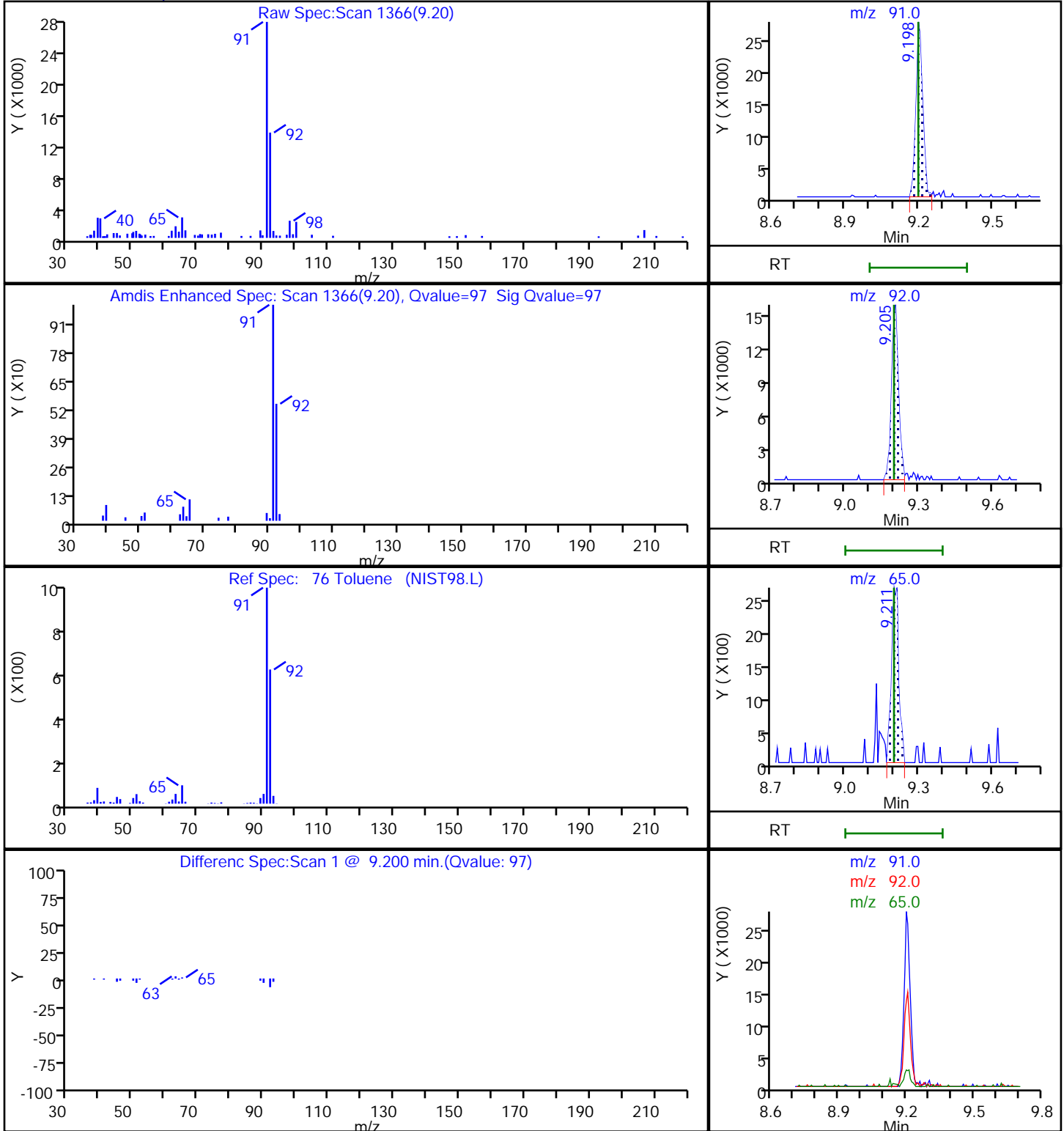
Date: 06-Dec-2019 10:15:56

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	55.5	111.00
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.0	108.02
\$ 7 Toluene-d8 (Surr)	50.0	41.8	83.54
\$ 8 4-Bromofluorobenzene (Surr)	50.0	33.6	67.21

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
Client ID: HD-COD-SW-9-0/1-0
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
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

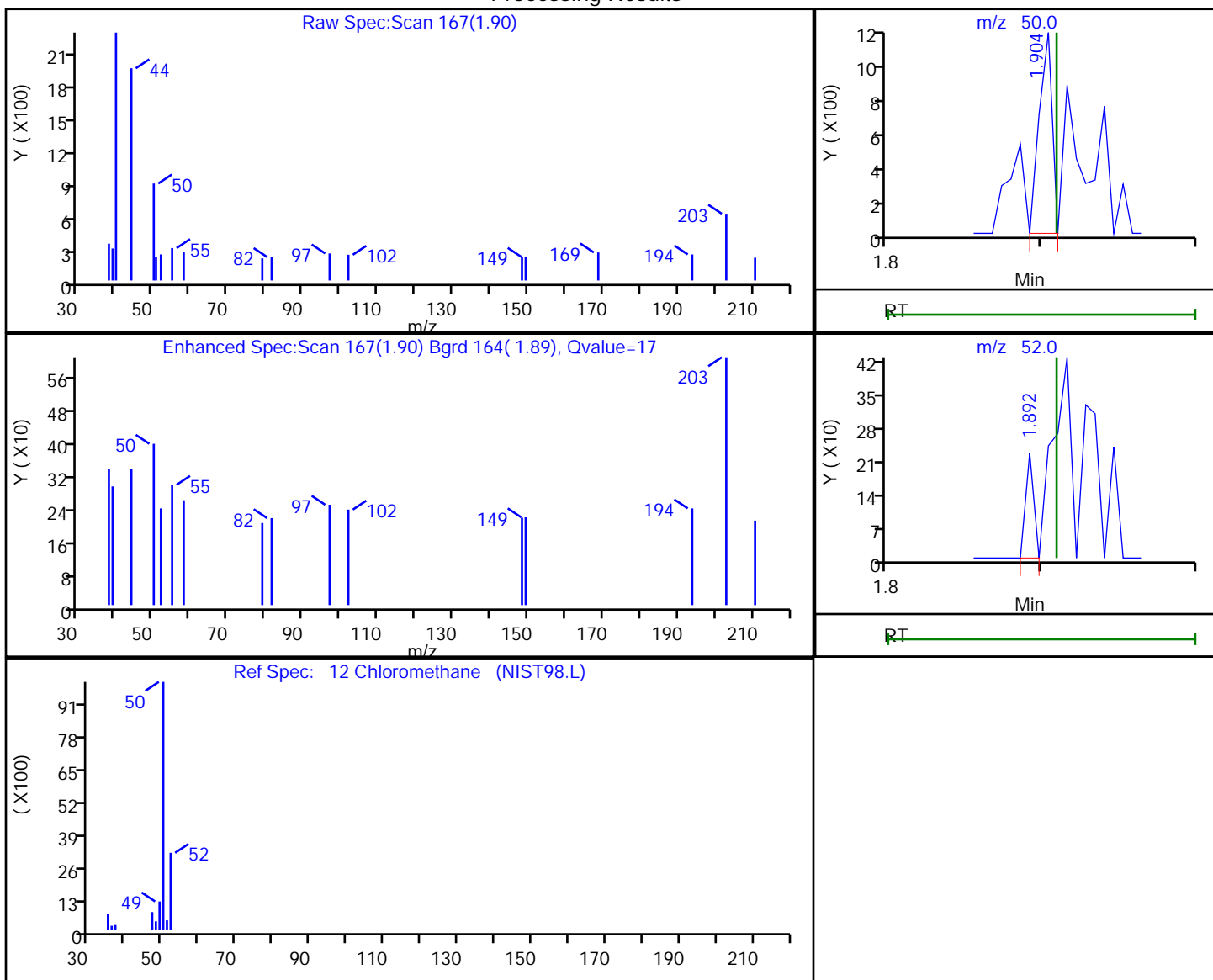


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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	641	0.308531
1.89	52.00	81	

Reviewer: bowieh, 06-Dec-2019 10:15:18

Audit Action: Marked Compound Undetected

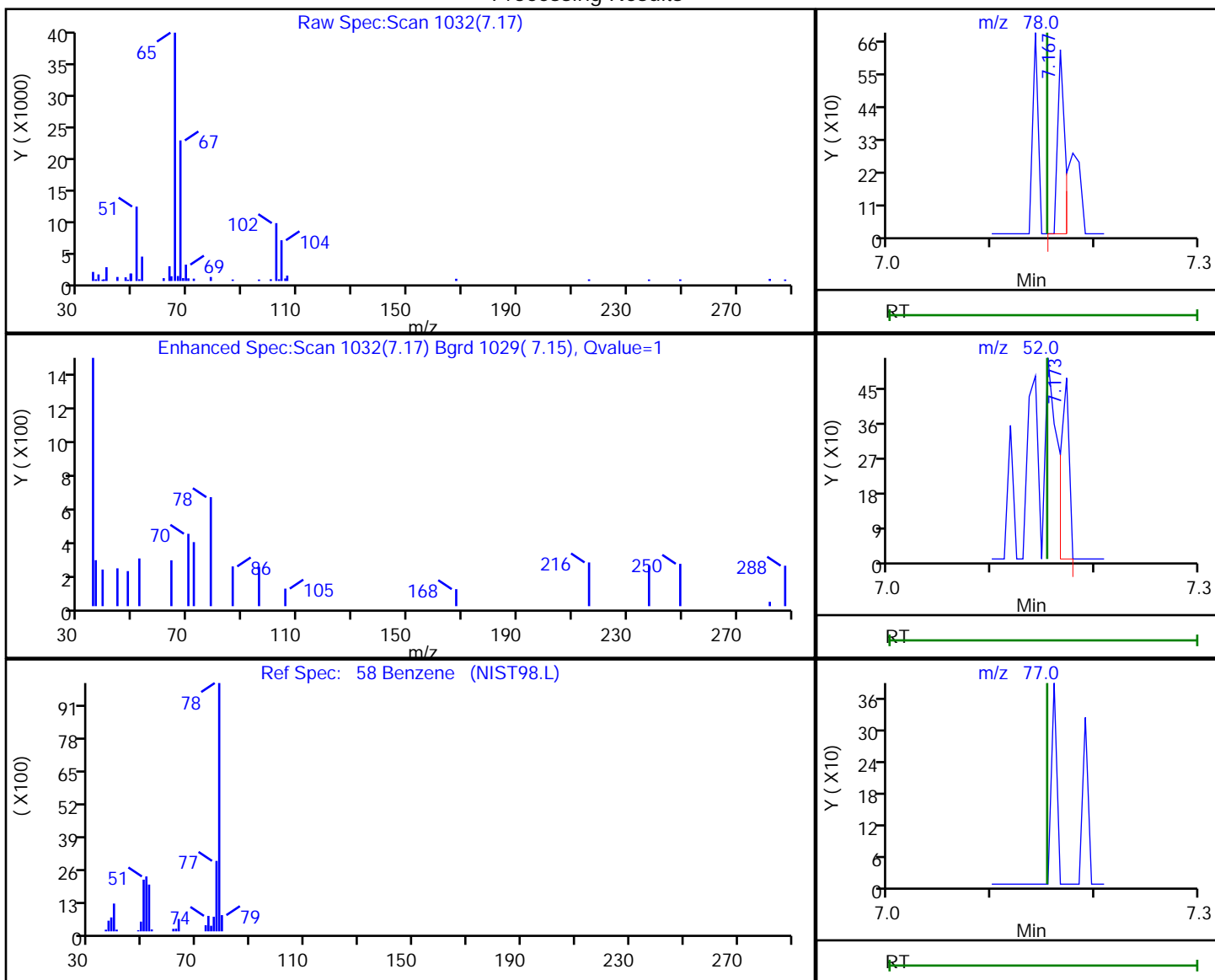
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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	305	0.029986
7.17	52.00	274	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:15:29

Audit Action: Marked Compound Undetected

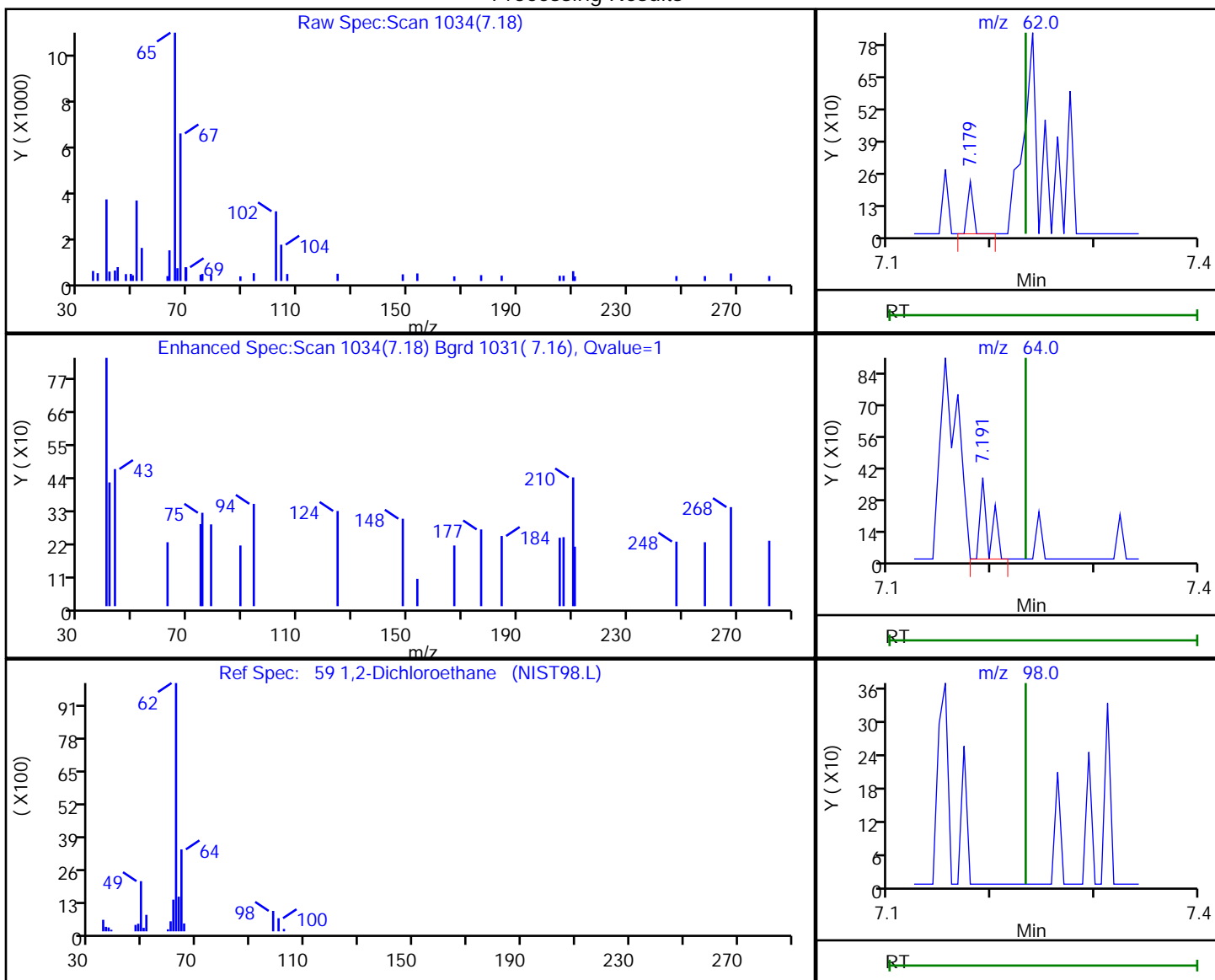
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.18	62.00	78	0.022010
7.19	64.00	223	
7.23	98.00	0	

Reviewer: bowieh, 06-Dec-2019 10:15:30

Audit Action: Marked Compound Undetected

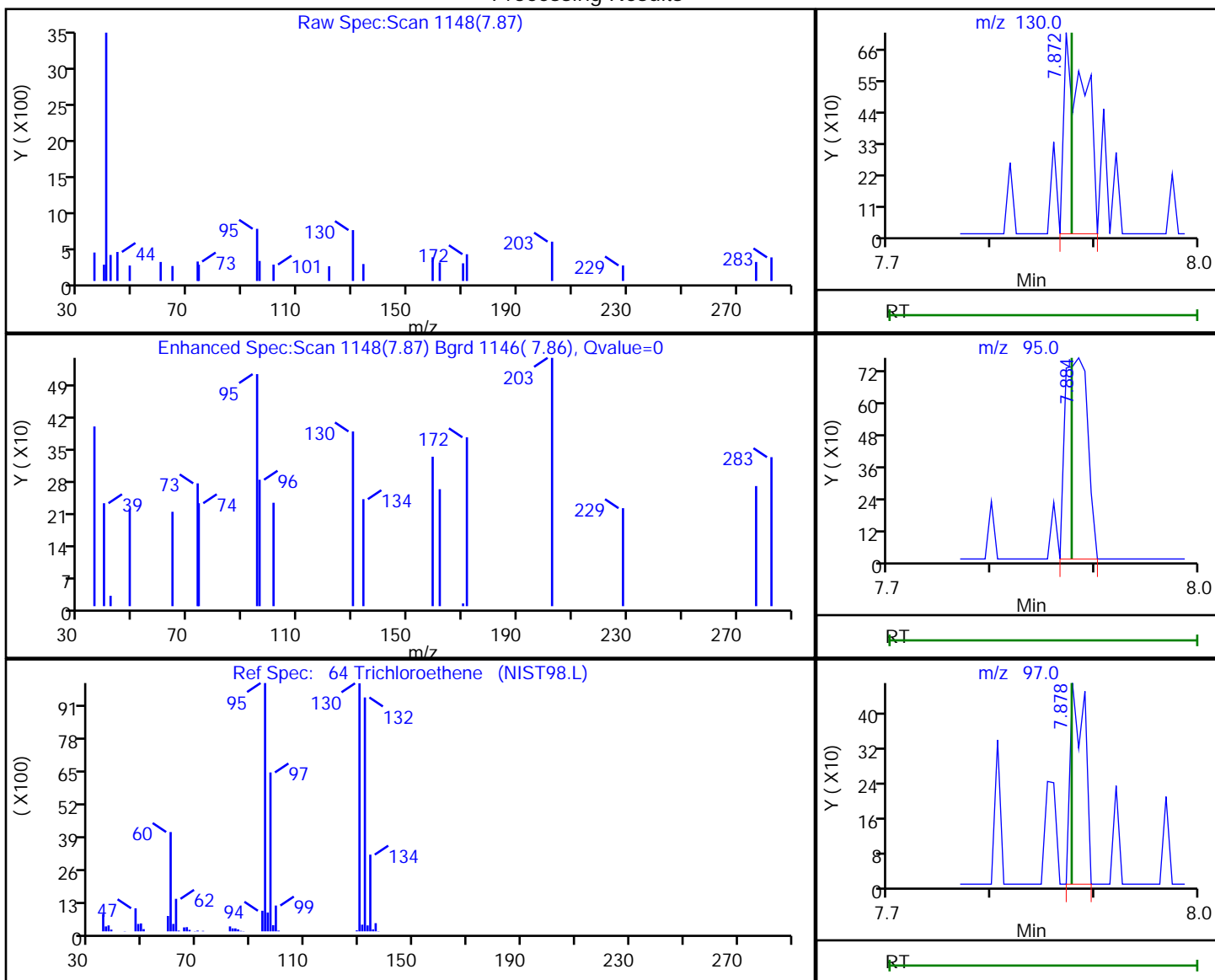
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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
7.87	130.00	1010	0.349718
7.88	95.00	1171	
7.88	97.00	444	

Reviewer: bowieh, 06-Dec-2019 10:15:32

Audit Action: Marked Compound Undetected

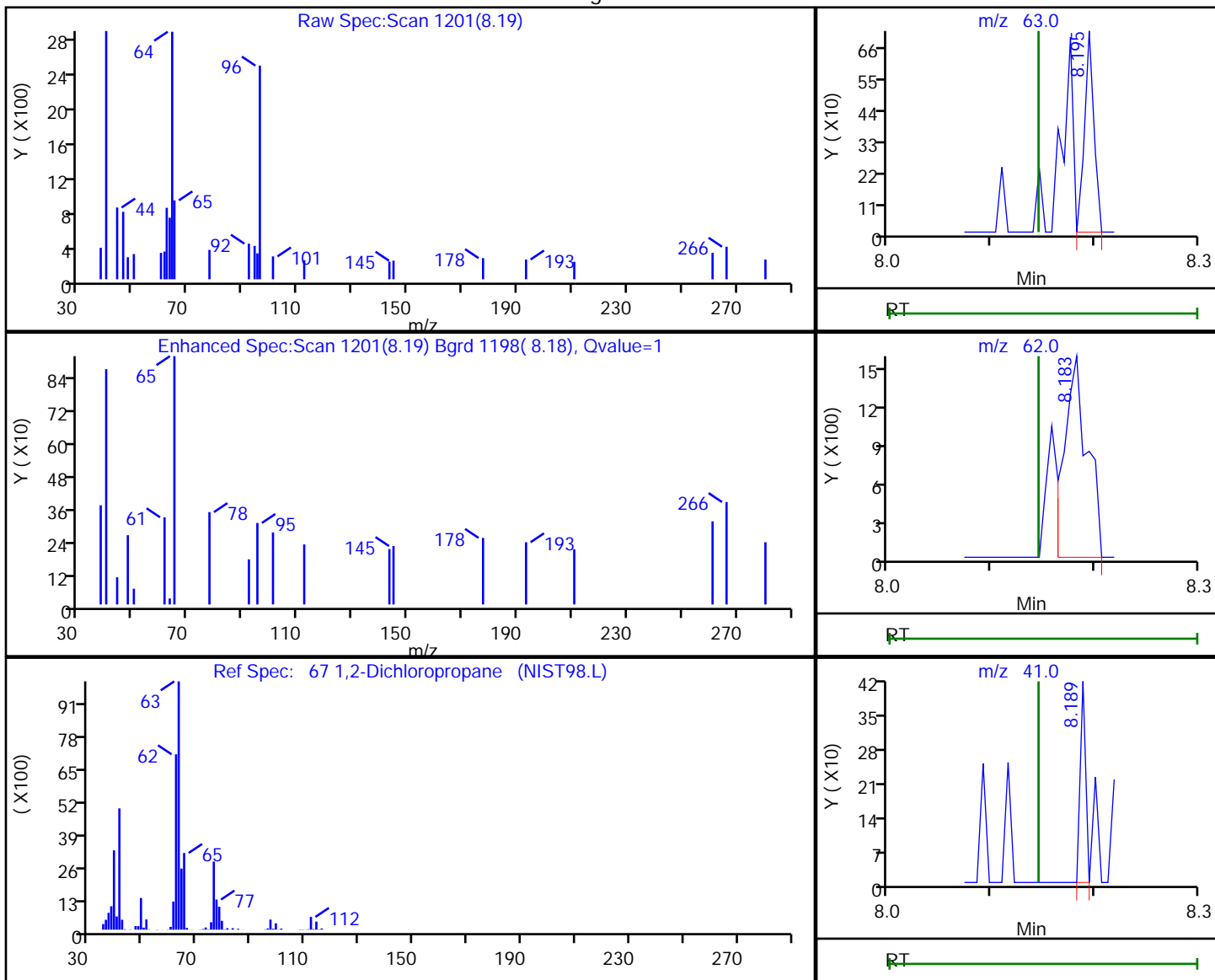
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
Client ID: HD-COD-SW-9-0/1-0
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.19	63.00	455	0.194677
8.18	62.00	2428	
8.19	41.00	151	

Reviewer: bowieh, 06-Dec-2019 10:15:33

Audit Action: Marked Compound Undetected

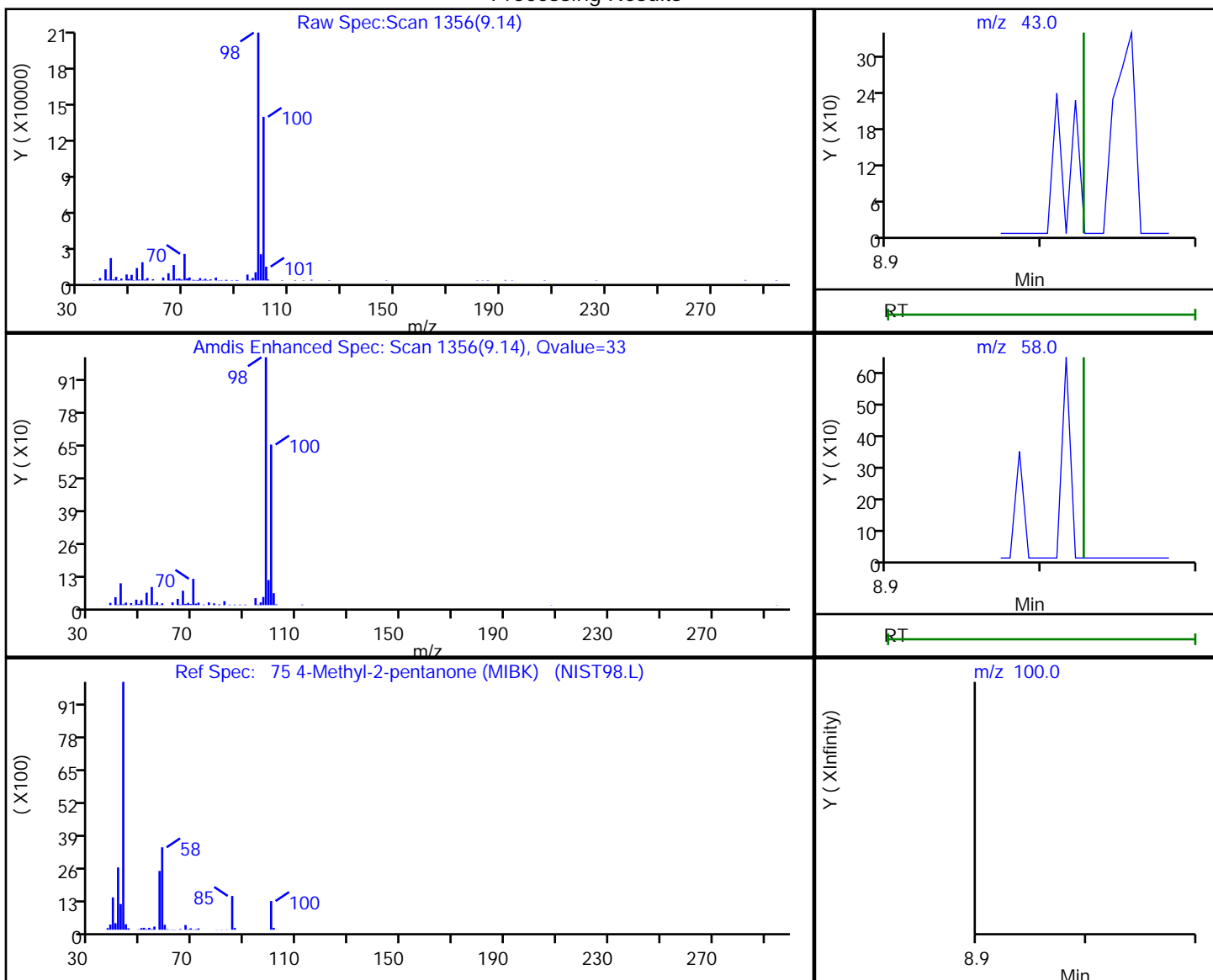
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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	959	0.497717
9.14	58.00	3246	
9.14	100.00	270380	

Reviewer: bowieh, 06-Dec-2019 10:15:35

Audit Action: Marked Compound Undetected

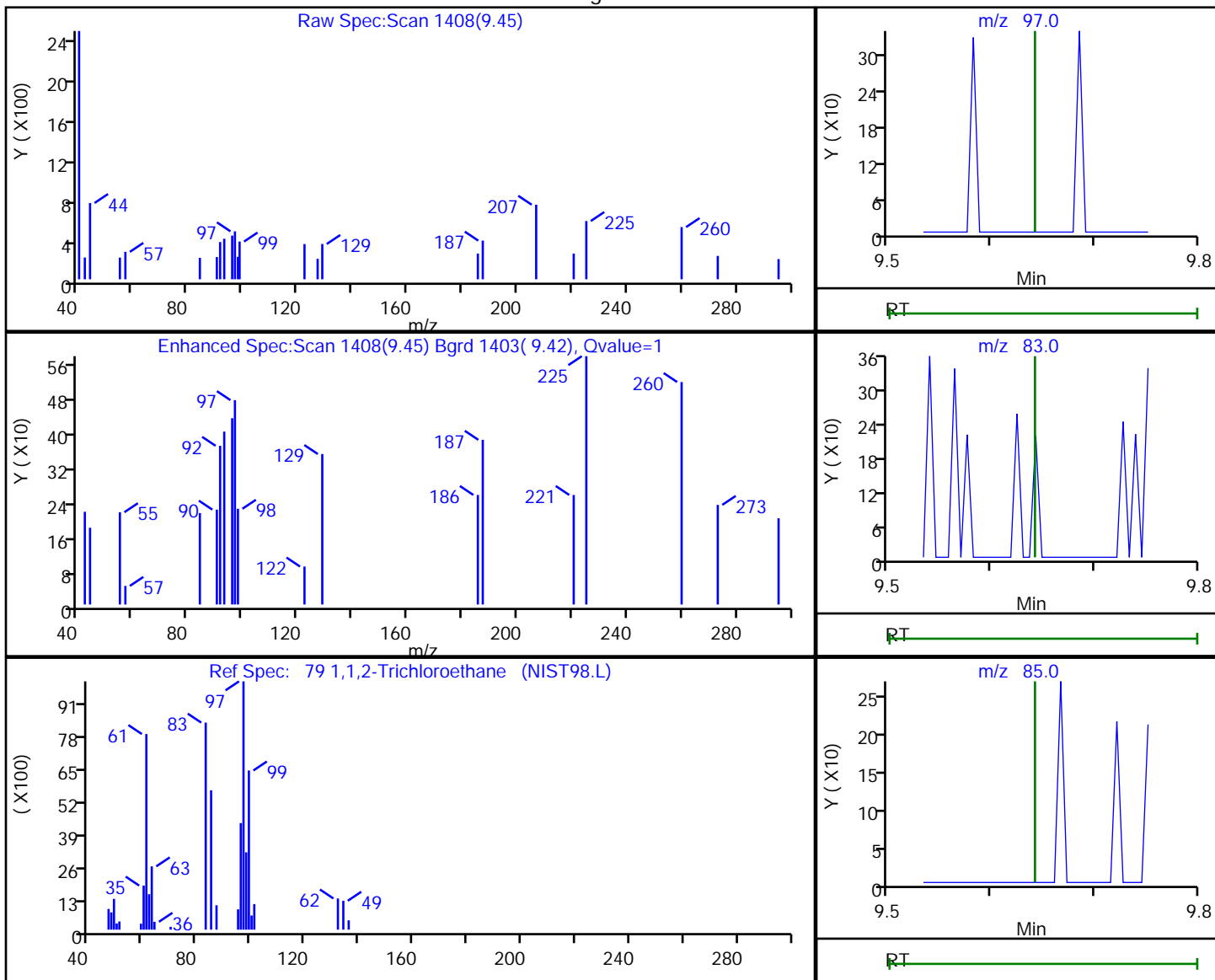
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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
9.45	97.00	273	0.116464
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:15:38

Audit Action: Marked Compound Undetected

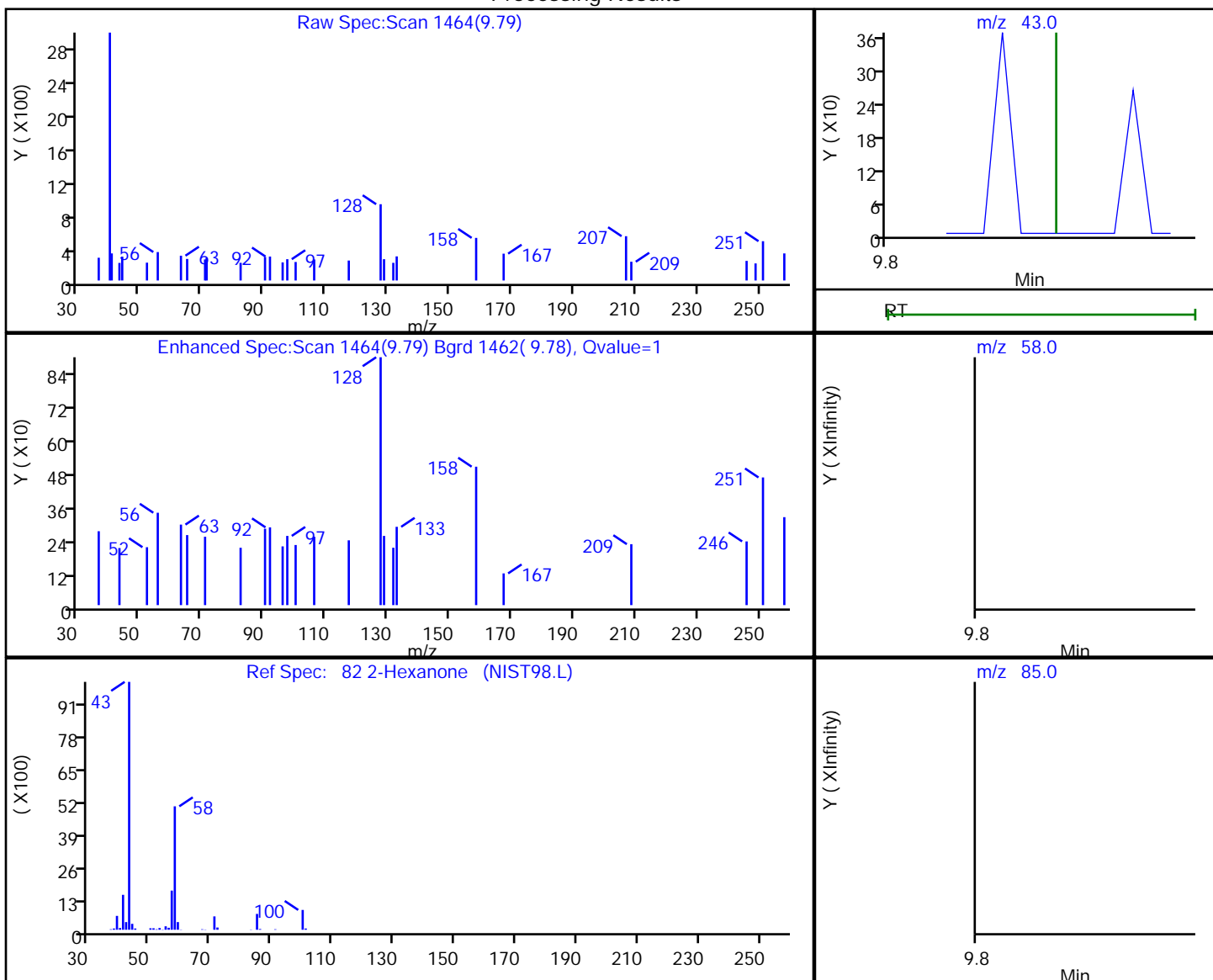
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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
9.79	43.00	75	12.782463
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:15:41
 Audit Action: Marked Compound Undetected

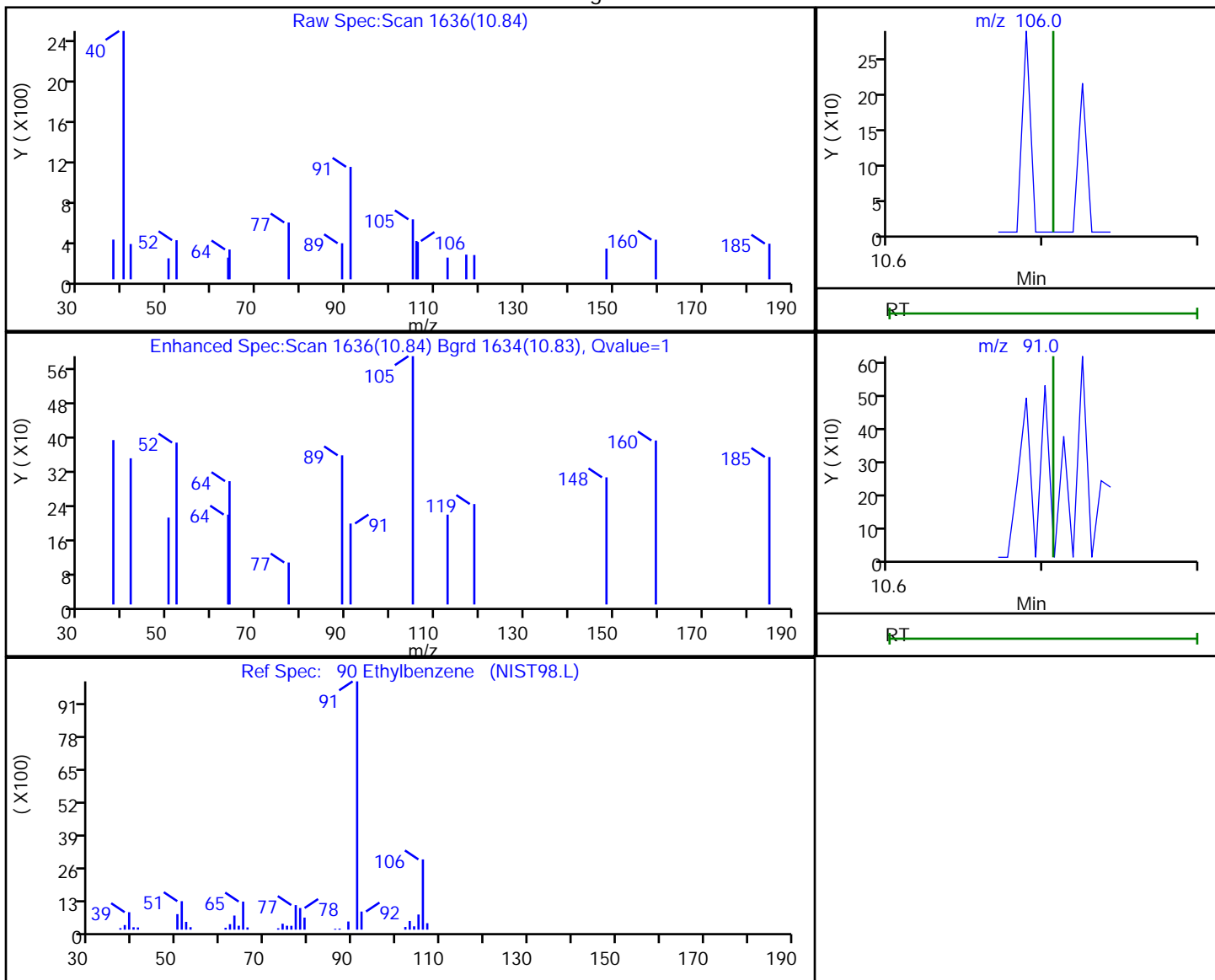
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
Client ID: HD-COD-SW-9-0/1-0
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
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	496	0.121179
10.83	91.00	2062	

Reviewer: bowieh, 06-Dec-2019 10:15:46

Audit Action: Marked Compound Undetected

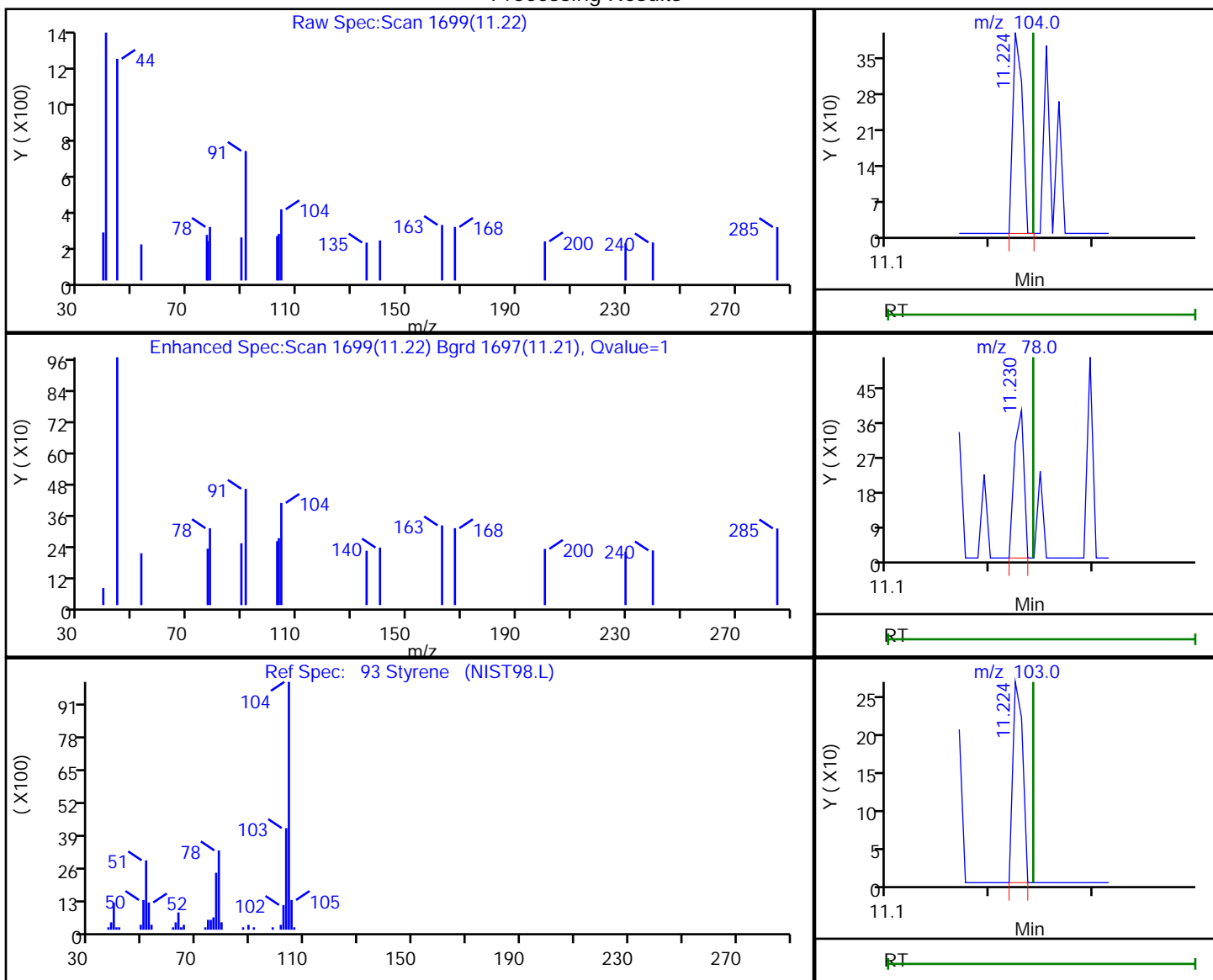
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120514.D
 Injection Date: 05-Dec-2019 15:08:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-4 Lab Sample ID: 180-99101-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 14
 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

93 Styrene, CAS: 100-42-5

Processing Results



RT	Mass	Response	Amount
11.22	104.00	256	0.030409
11.23	78.00	251	
11.22	103.00	174	

Reviewer: bowieh, 06-Dec-2019 10:15:52

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-13-0/1-0 Lab Sample ID: 180-99101-5
 Matrix: Water Lab File ID: 5120515.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 11:45
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 15:32
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-13-0/1-0 Lab Sample ID: 180-99101-5
 Matrix: Water Lab File ID: 5120515.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 11:45
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 15:32
 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.: 300399 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)	108		70-150
2037-26-5	Toluene-d8 (Surr)	88		78-128
460-00-4	4-Bromofluorobenzene (Surr)	62	X	64-123
1868-53-7	Dibromofluoromethane (Surr)	113		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Lims ID: 180-99101-A-5
 Client ID: HD-COD-SW-13-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 15:32:30 ALS Bottle#: 8 Worklist Smp#: 15
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-015
 Misc. Info.: 180-99101-a-5
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:40:23 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:40:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.532	4.544	-0.012	0	212907	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	100	433233	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	84	113772	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	93	108572	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.782	6.770	0.012	95	123716	56.5	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	153759	54.1	
\$ 7 Toluene-d8 (Surr)	98	9.137	9.131	0.006	93	417144	44.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.006	97	113863	30.9	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.674	3.674	0.000	82	7652	8.64	M
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.186	6.174	0.012	8	2737	1.04	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.594	6.600	-0.006	1	1042	-3.85	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	U
64 Trichloroethene	130	7.877	7.878	-0.001	36	2763	0.9893	
67 1,2-Dichloropropane	63		8.145				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	9.198	9.198	0.000	46	5266	0.4715	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164	9.703	9.709	-0.006	35	910	0.3546	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D

Injection Date: 05-Dec-2019 15:32:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-5

Lab Sample ID: 180-99101-5

Worklist Smp#: 15

Client ID: HD-COD-SW-13-0/1-0

Purge Vol: 5.000 mL

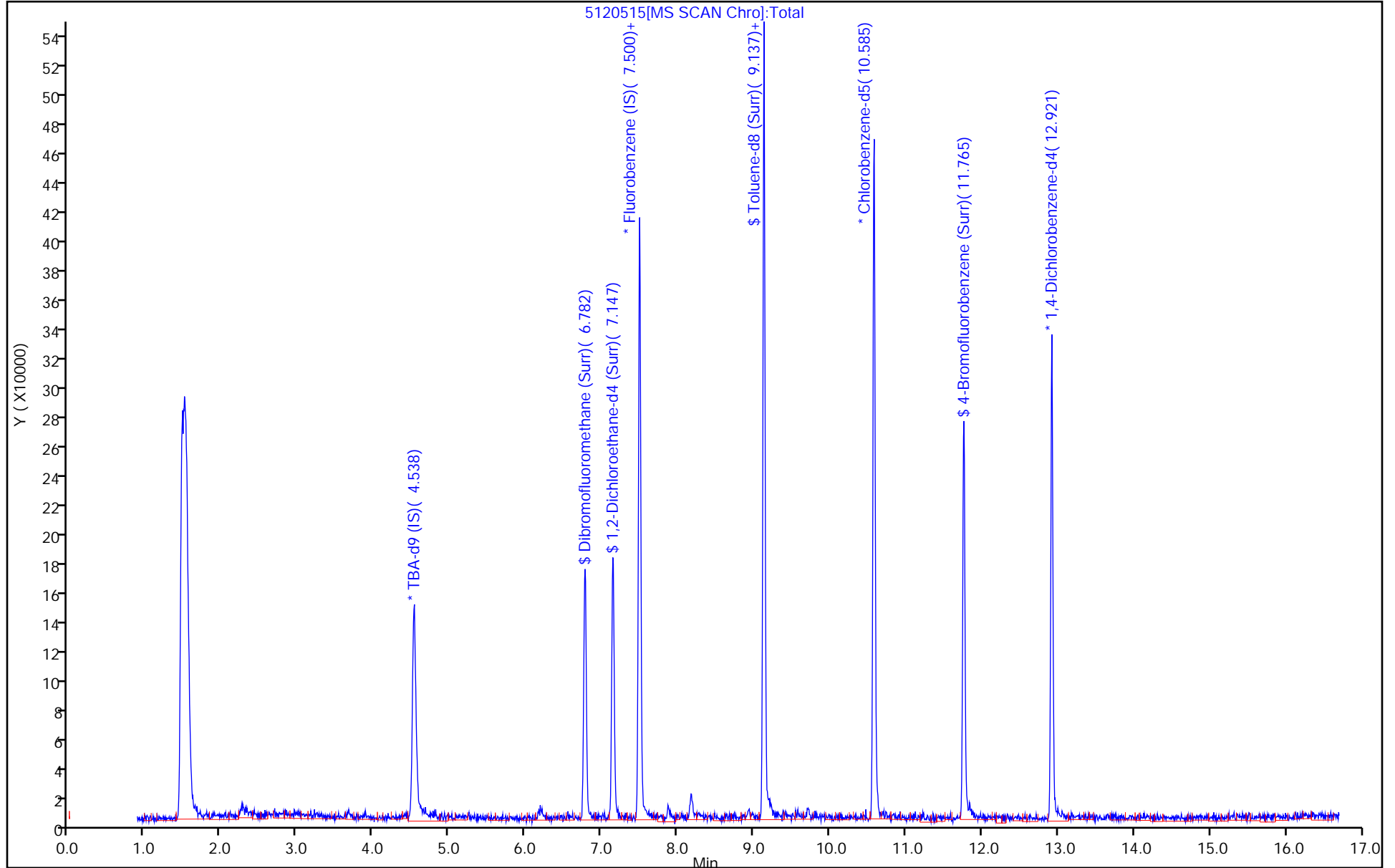
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Lims ID: 180-99101-A-5
 Client ID: HD-COD-SW-13-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 15:32:30 ALS Bottle#: 8 Worklist Smp#: 15
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-015
 Misc. Info.: 180-99101-a-5
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:40:23 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:40:23

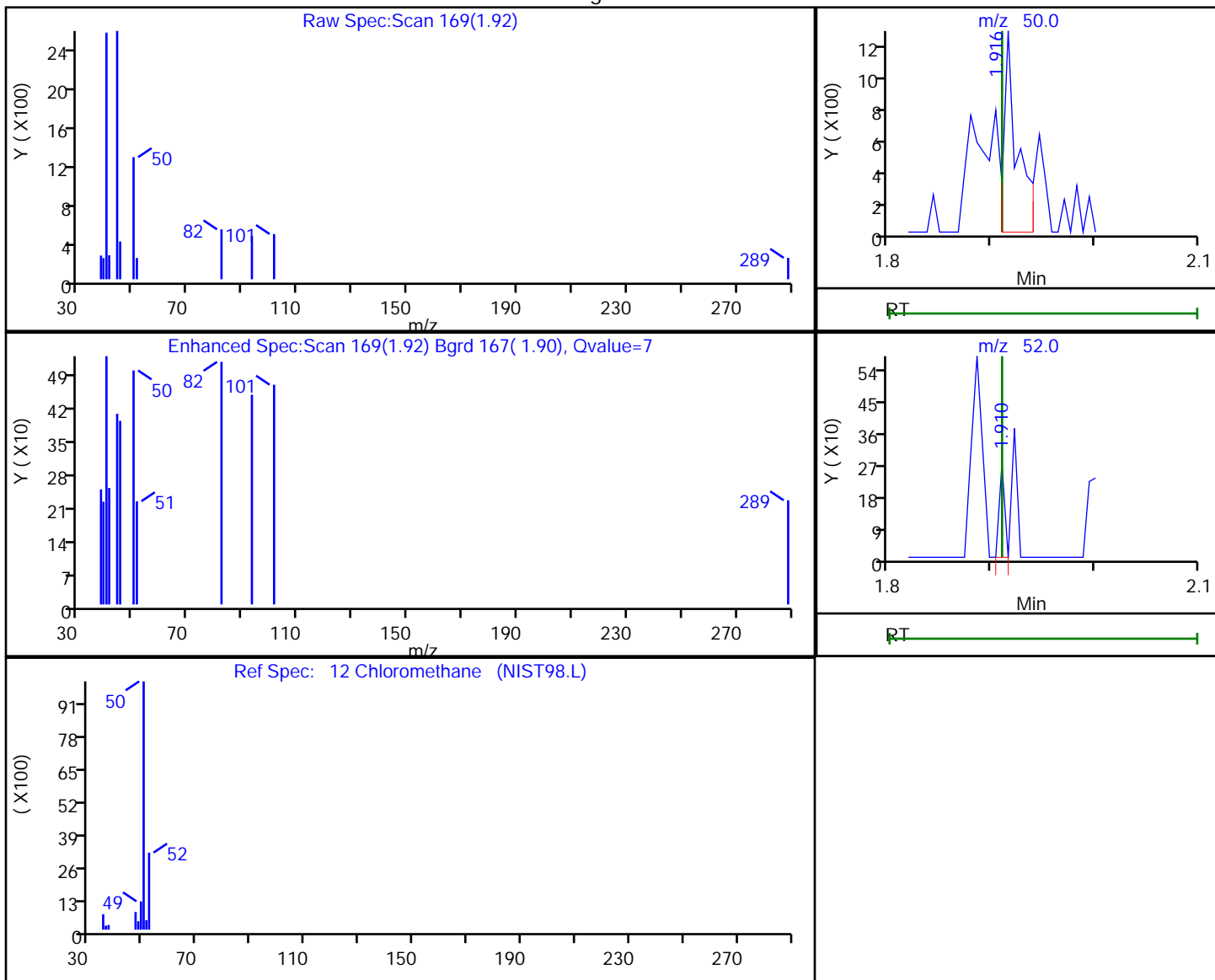
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	56.5	112.92
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.1	108.29
\$ 7 Toluene-d8 (Surr)	50.0	44.1	88.24
\$ 8 4-Bromofluorobenzene (Surr)	50.0	30.9	61.76

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: 433269 ALS Bottle#: 8 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

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.92	50.00	1139	0.566908
1.91	52.00	98	

Reviewer: bowieh, 06-Dec-2019 10:39:40

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

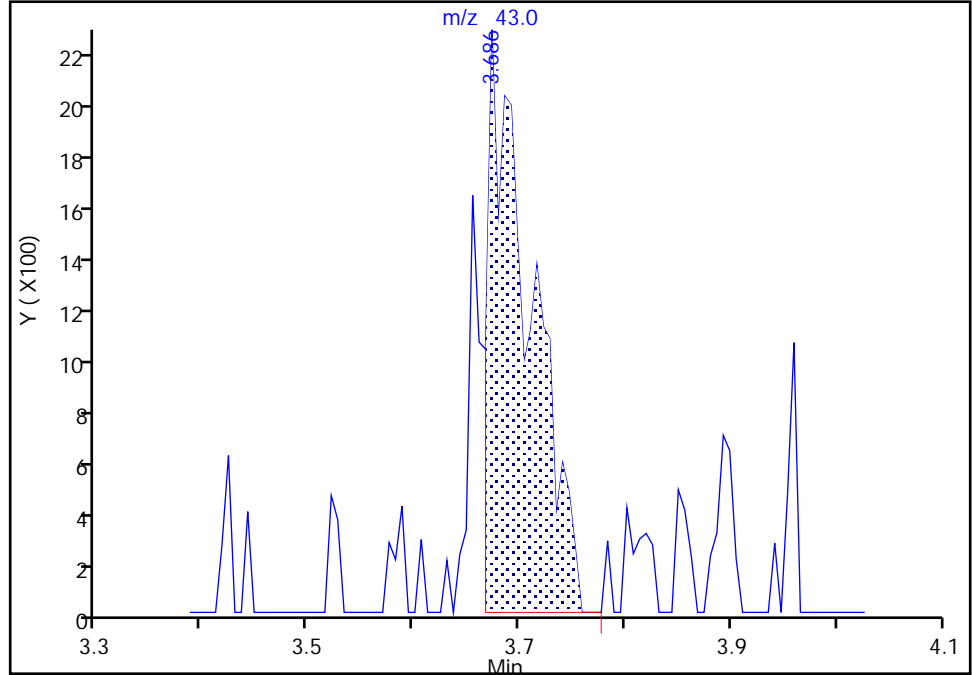
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: 433269 ALS Bottle#: 8 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

24 Acetone, CAS: 67-64-1

Signal: 1

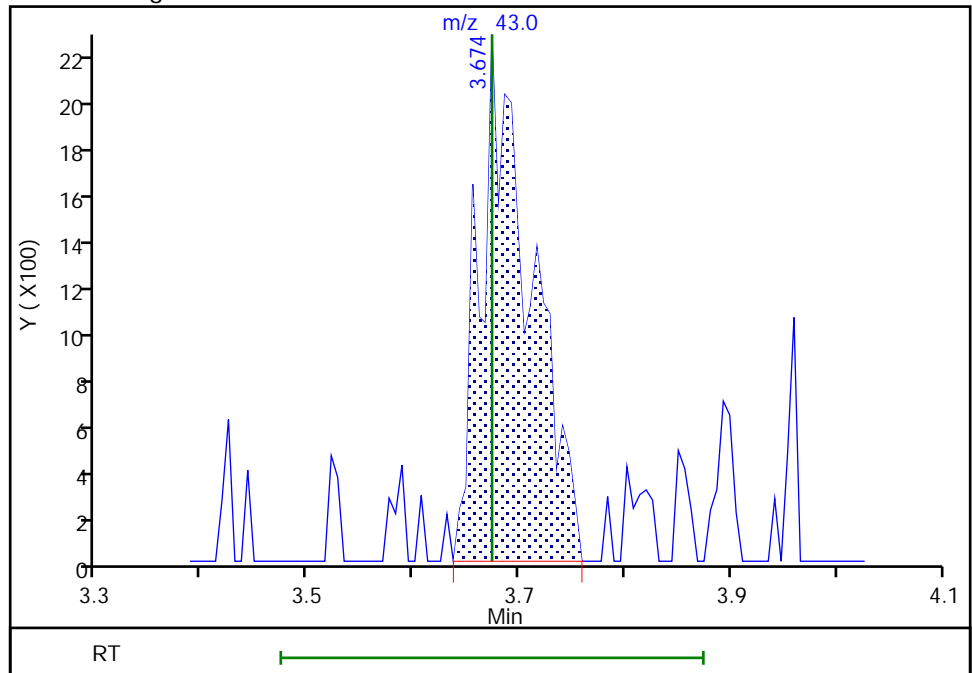
RT: 3.69
Area: 6462
Amount: 7.292580
Amount Units: ng

Processing Integration Results



RT: 3.67
Area: 7652
Amount: 8.635534
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 06-Dec-2019 10:39:50
Audit Action: Manually Integrated

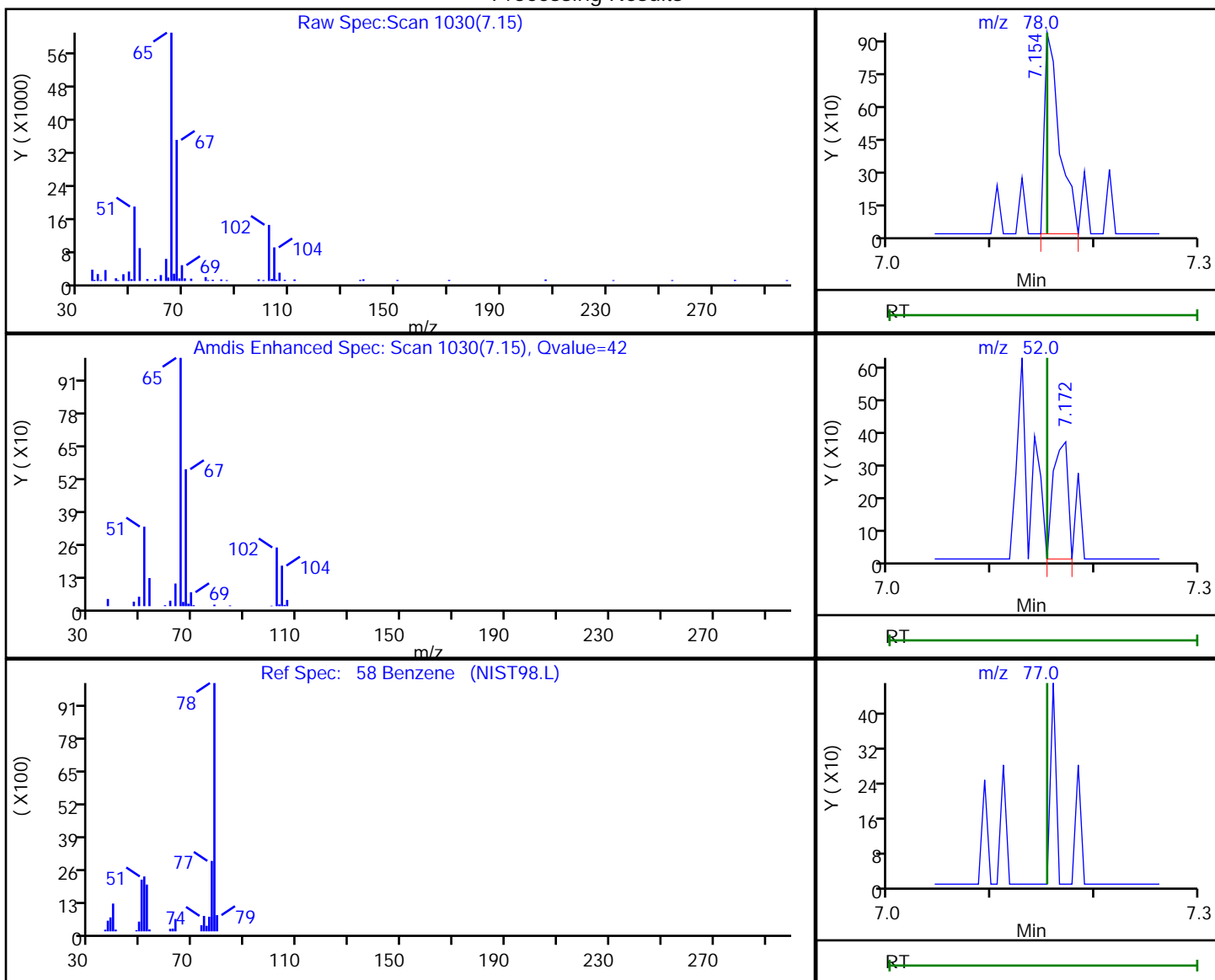
Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 8 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
7.15	78.00	951	0.096681
7.17	52.00	359	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:39:59

Audit Action: Marked Compound Undetected

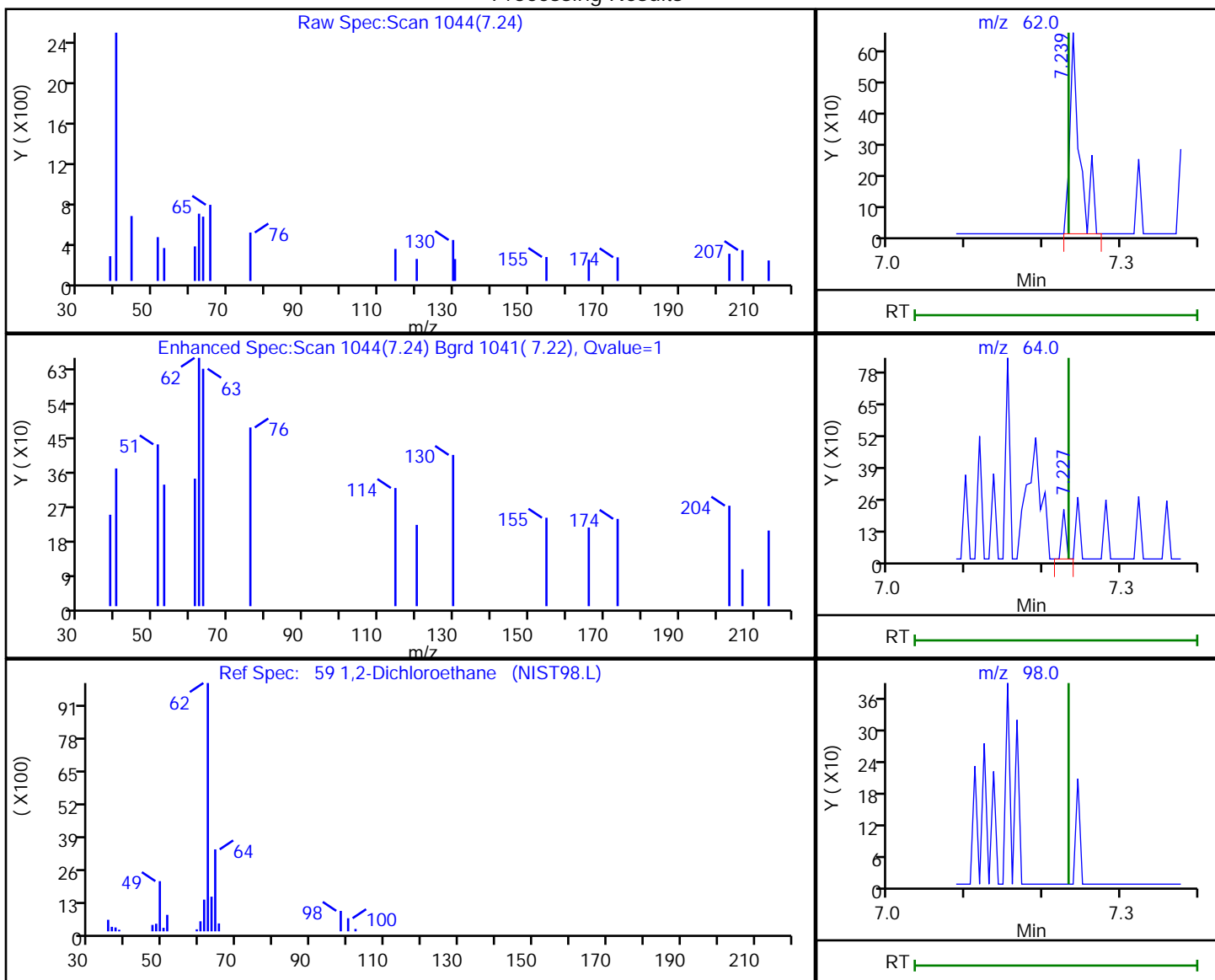
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 8 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.24	62.00	585	0.170696
7.23	64.00	75	
7.23	98.00	0	

Reviewer: bowieh, 06-Dec-2019 10:40:01
 Audit Action: Marked Compound Undetected

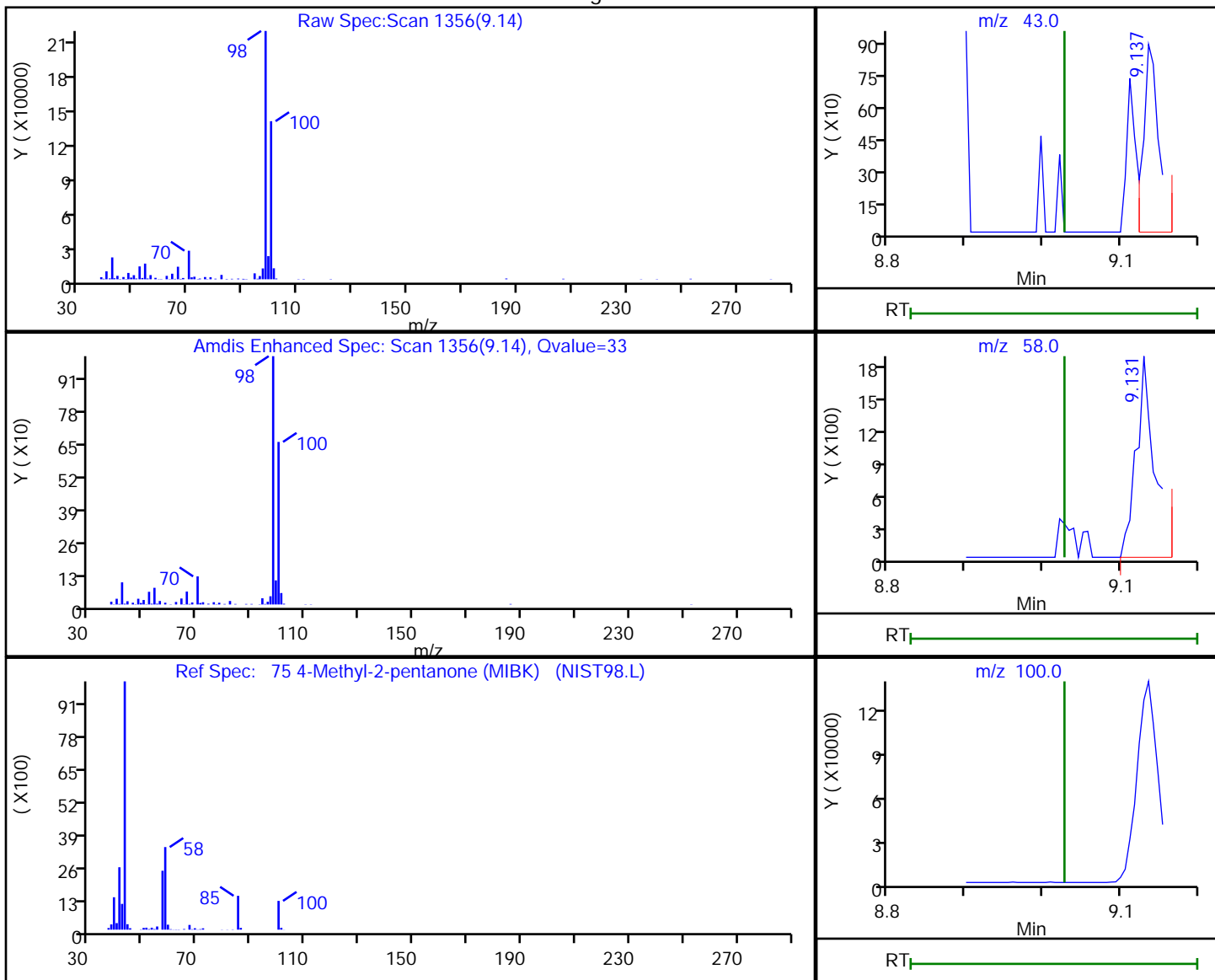
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 8 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	1292	0.703023
9.13	58.00	2881	
9.14	100.00	262754	

Reviewer: bowieh, 06-Dec-2019 10:40:04

Audit Action: Marked Compound Undetected

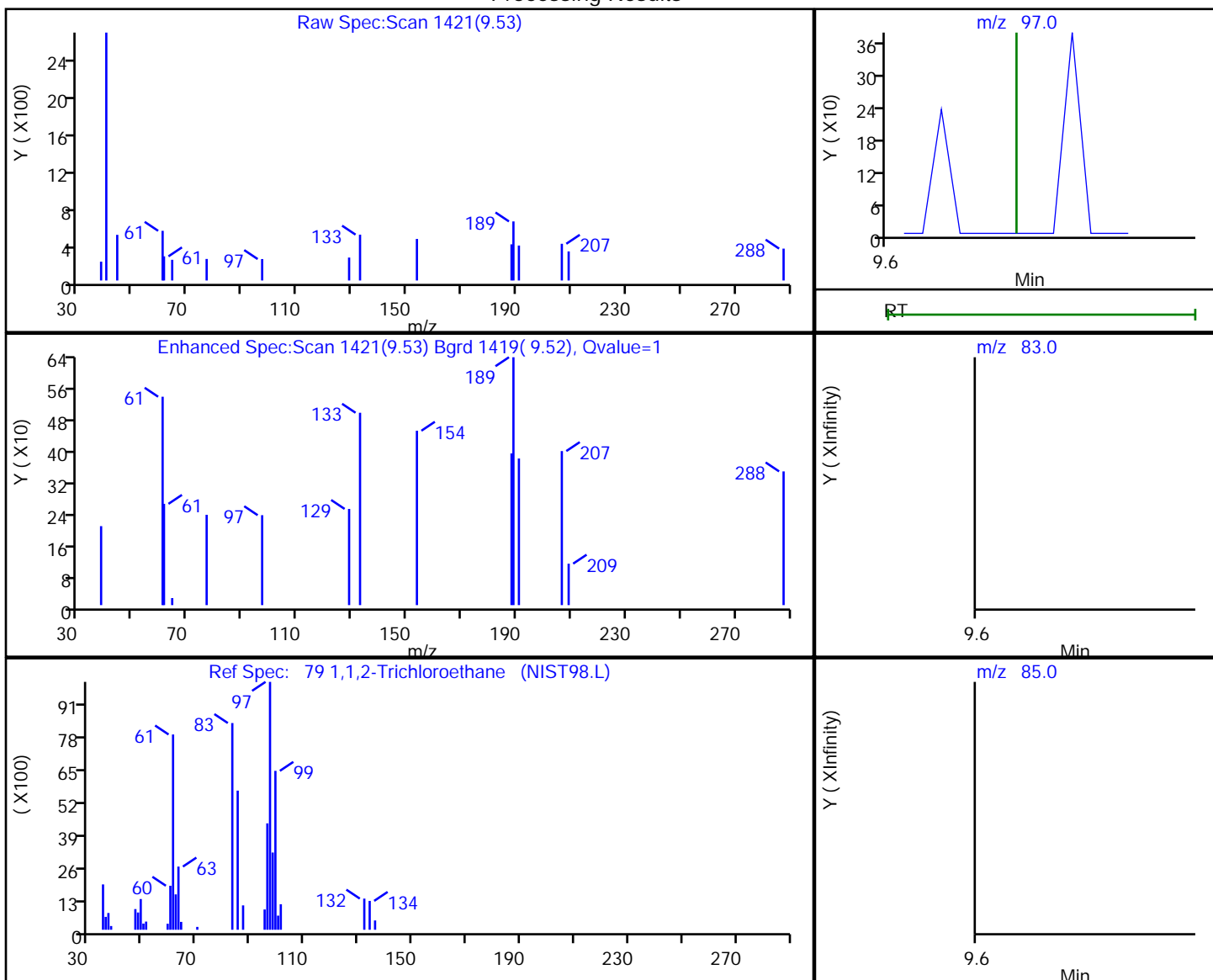
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 8 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

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

Processing Results



RT	Mass	Response	Amount
9.53	97.00	84	0.037571
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:40:09

Audit Action: Marked Compound Undetected

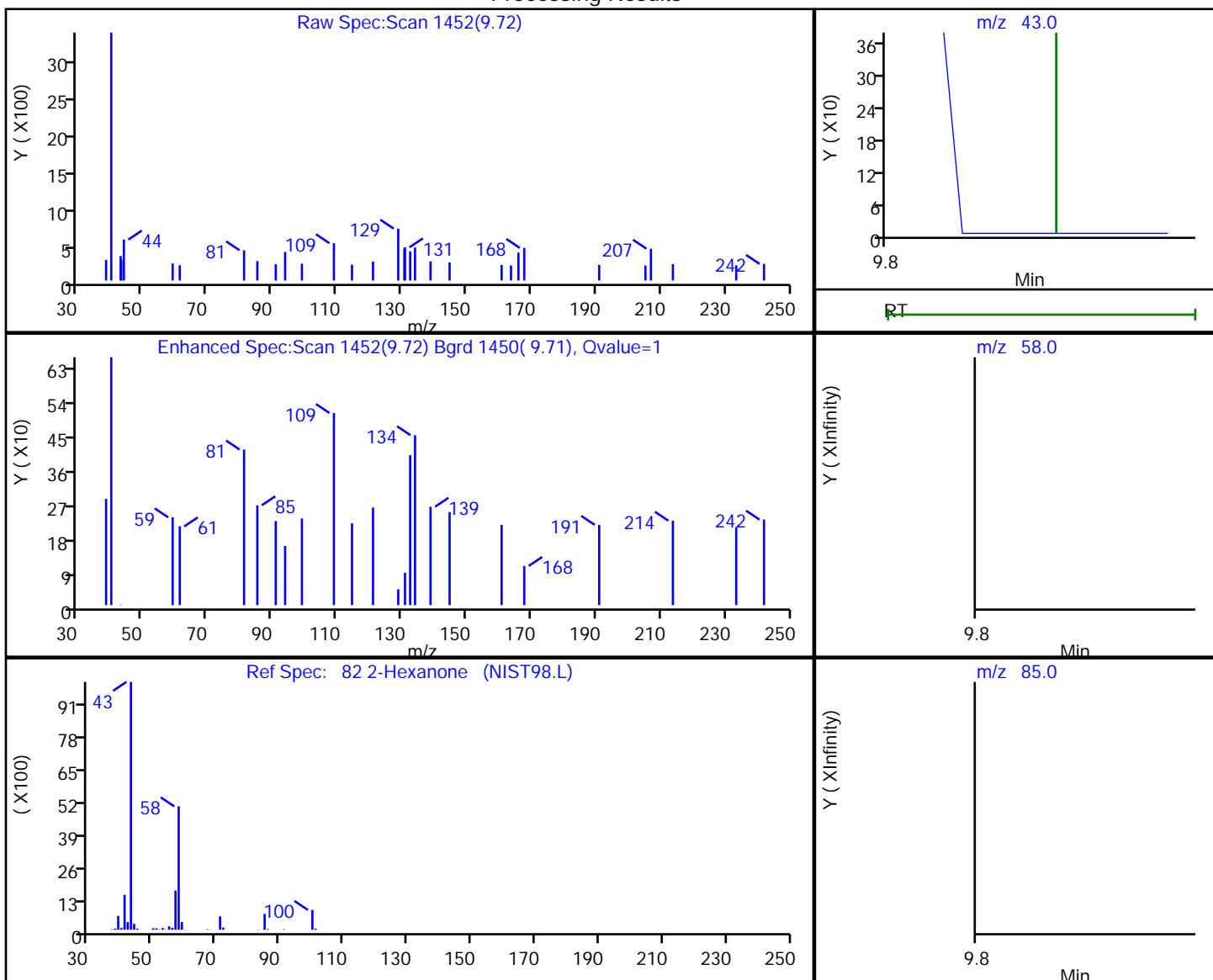
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
 Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 8 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

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

Processing Results



RT	Mass	Response	Amount
9.72	43.00	224	12.874147
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:40:11

Audit Action: Marked Compound Undetected

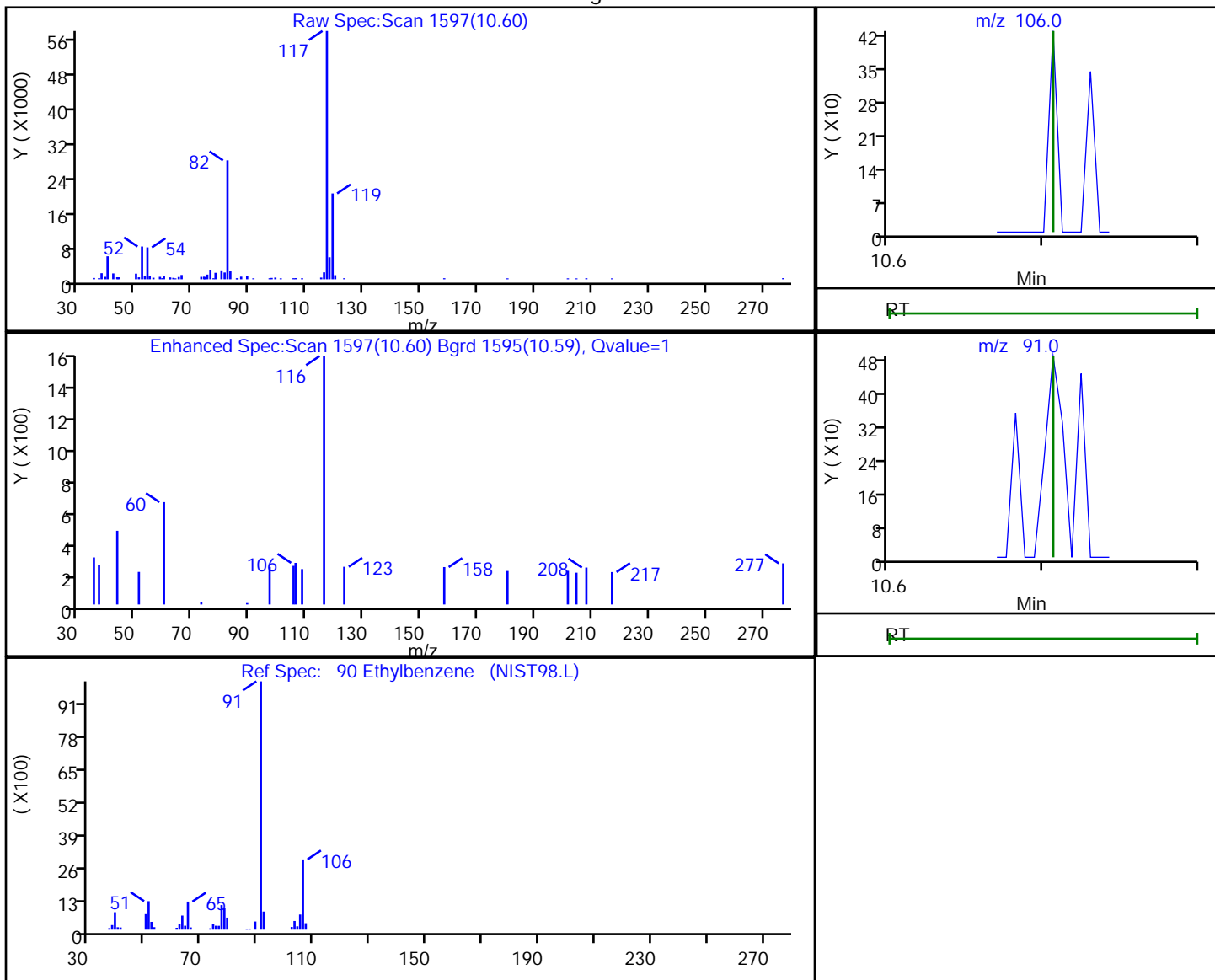
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120515.D
Injection Date: 05-Dec-2019 15:32:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-5 Lab Sample ID: 180-99101-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: 433269 ALS Bottle#: 8 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

90 Ethylbenzene, CAS: 100-41-4

Processing Results



RT	Mass	Response	Amount
10.60	106.00	97	0.024846
10.60	91.00	82	

Reviewer: bowieh, 06-Dec-2019 10:40:14

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-13-0/1-0 RA Lab Sample ID: 180-99101-5 RA
 Matrix: Water Lab File ID: 5121323.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 11:45
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 19:47
 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.: 301313 Units: ug/L

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

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-13-0/1-0 RA Lab Sample ID: 180-99101-5 RA
 Matrix: Water Lab File ID: 5121323.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 11:45
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 19:47
 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.: 301313 Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		70-150
2037-26-5	Toluene-d8 (Surr)	84		78-128
460-00-4	4-Bromofluorobenzene (Surr)	87		64-123
1868-53-7	Dibromofluoromethane (Surr)	124		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Lims ID: 180-99101-C-5
 Client ID: HD-COD-SW-13-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 19:47:30 ALS Bottle#: 16 Worklist Smp#: 23
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-023
 Misc. Info.: 180-99101-c-5
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:14:27 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:14:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.410	4.416	-0.006	0	100507	1000.0	
* 2 Fluorobenzene (IS)	96	7.397	7.391	0.006	99	358294	50.0	
* 3 Chlorobenzene-d5	119	10.481	10.482	-0.001	84	93727	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.823	12.818	0.005	94	135340	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.679	6.673	0.006	93	112466	62.1	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.044	7.038	0.006	0	131622	56.0	
\$ 7 Toluene-d8 (Surr)	98	9.033	9.034	-0.001	93	325254	41.8	
\$ 8 4-Bromofluorobenzene (Surr	95	11.661	11.662	-0.001	95	132872	43.7	
12 Chloromethane	50		1.831				ND	U
13 Vinyl chloride	62		1.965				ND	
15 Bromomethane	94		2.342				ND	U
16 Chloroethane	64		2.476				ND	U
22 1,1-Dichloroethene	96		3.467				ND	
24 Acetone	43	3.594	3.577	0.017	64	5188	7.08	
26 Carbon disulfide	76	3.777	3.753	0.024	94	16179	3.36	M
31 Methylene Chloride	84		4.289				ND	
33 Acrylonitrile	53		4.672				ND	
34 trans-1,2-Dichloroethene	96		4.696				ND	
35 Methyl tert-butyl ether	73		4.708				ND	U
37 1,1-Dichloroethane	63		5.329				ND	U
45 cis-1,2-Dichloroethene	96		6.065				ND	Ua
46 2-Butanone (MEK)	43		6.083				ND	U
49 Chlorobromomethane	128		6.351				ND	
52 Chloroform	83		6.497				ND	U
53 1,1,1-Trichloroethane	97		6.649				ND	
56 Carbon tetrachloride	117		6.813				ND	
58 Benzene	78		7.051				ND	U
59 1,2-Dichloroethane	62		7.124				ND	
64 Trichloroethene	130		7.775				ND	U
67 1,2-Dichloropropane	63		8.048				ND	U
71 Dichlorobromomethane	83		8.328				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.772				ND	
75 4-Methyl-2-pentanone (MIBK)	43		8.930				ND	U
76 Toluene	91	9.100	9.101	-0.001	53	3296	0.3582	
77 trans-1,3-Dichloropropene	75		9.350				ND	
79 1,1,2-Trichloroethane	97		9.539				ND	U
80 Tetrachloroethene	164		9.612				ND	
82 2-Hexanone	43		9.764				ND	U
84 Chlorodibromomethane	129		9.910				ND	U
85 Ethylene Dibromide	107		10.019				ND	
87 Chlorobenzene	112		10.512				ND	
89 1,1,1,2-Tetrachloroethane	131		10.603				ND	
90 Ethylbenzene	106		10.609				ND	U
91 m-Xylene & p-Xylene	106	10.590	10.743	-0.153	0	91	0.0227	
92 o-Xylene	106		11.126				ND	U
93 Styrene	104		11.145				ND	
94 Bromoform	173		11.321				ND	
99 1,1,2,2-Tetrachloroethane	83		11.808				ND	
S 133 Xylenes, Total	106				0		0.0227	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D

Injection Date: 13-Dec-2019 19:47:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-C-5

Lab Sample ID: 180-99101-5

Worklist Smp#: 23

Client ID: HD-COD-SW-13-0/1-0

Purge Vol: 5.000 mL

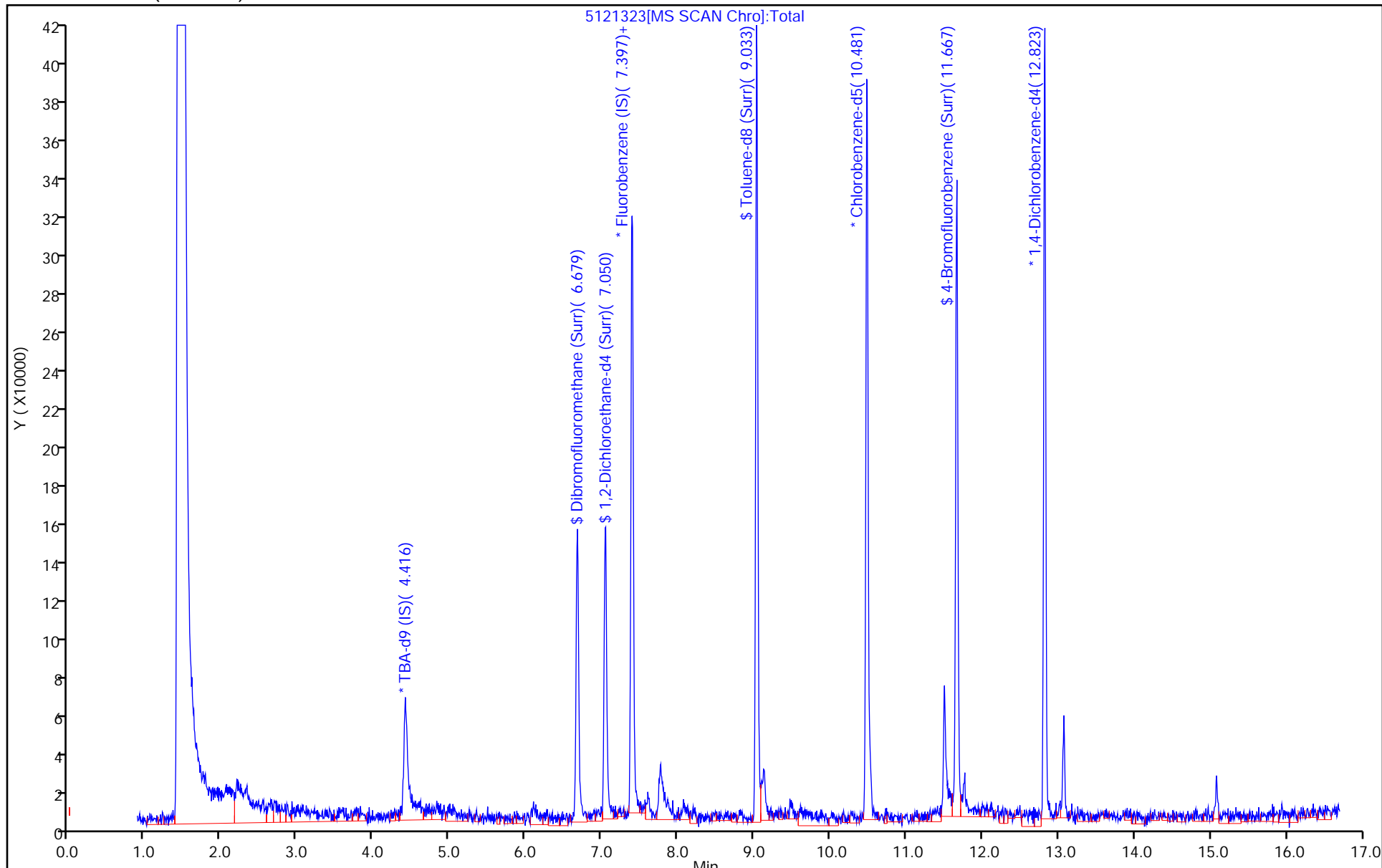
Dil. Factor: 1.0000

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\20191213-30001.b\5121323.D
 Lims ID: 180-99101-C-5
 Client ID: HD-COD-SW-13-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 19:47:30 ALS Bottle#: 16 Worklist Smp#: 23
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-023
 Misc. Info.: 180-99101-c-5
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:14:27 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:14:27

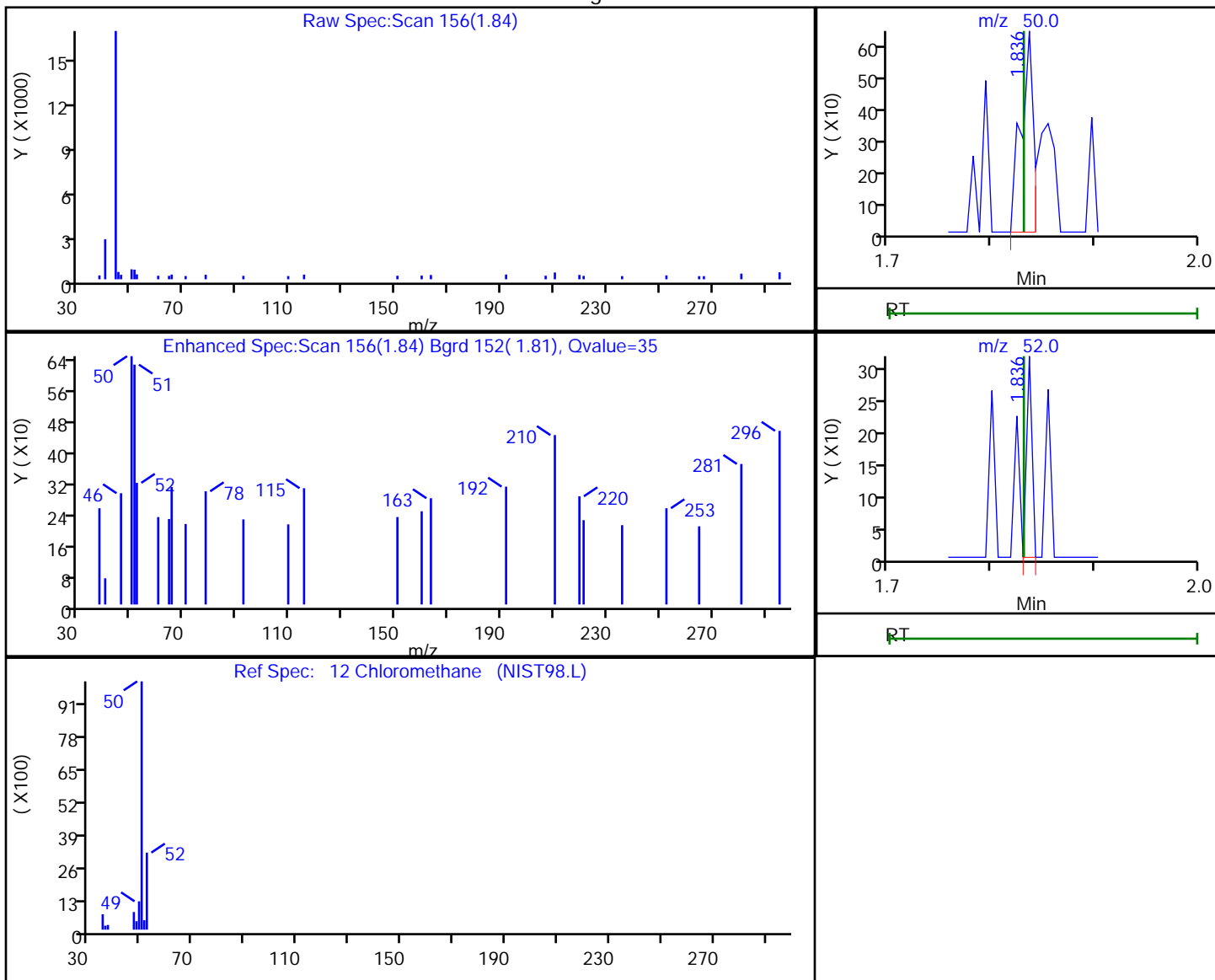
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	62.1	124.13
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	56.0	112.08
\$ 7 Toluene-d8 (Surr)	50.0	41.8	83.51
\$ 8 4-Bromofluorobenzene (Surr)	50.0	43.7	87.48

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.84	50.00	548	0.329801
1.84	52.00	115	

Reviewer: bowieh, 14-Dec-2019 12:13:26

Audit Action: Marked Compound Undetected

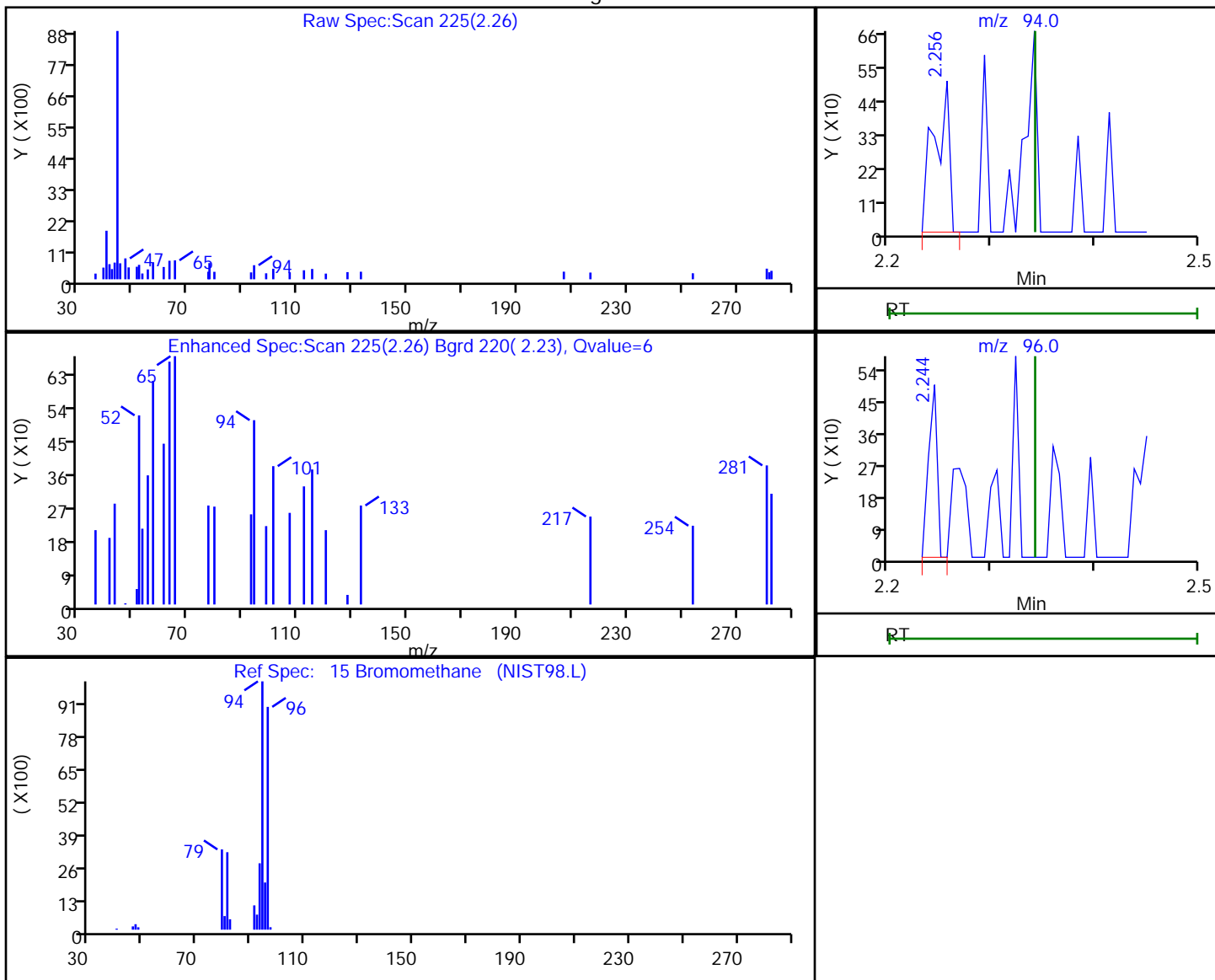
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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
2.26	94.00	508	0.373857
2.24	96.00	285	

Reviewer: bowieh, 14-Dec-2019 12:13:27

Audit Action: Marked Compound Undetected

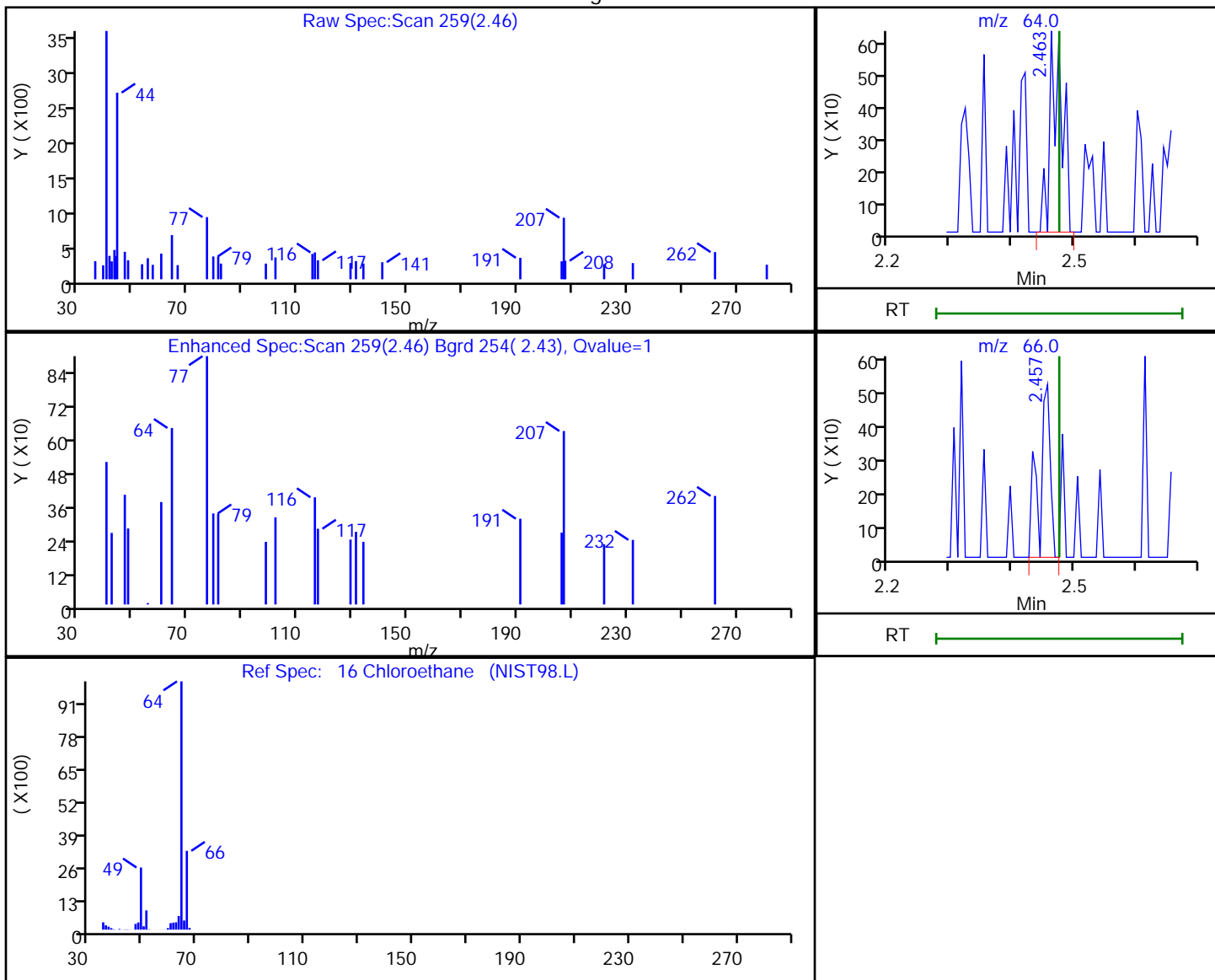
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

16 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.46	64.00	870	0.777418
2.46	66.00	639	

Reviewer: bowieh, 14-Dec-2019 12:13:28

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

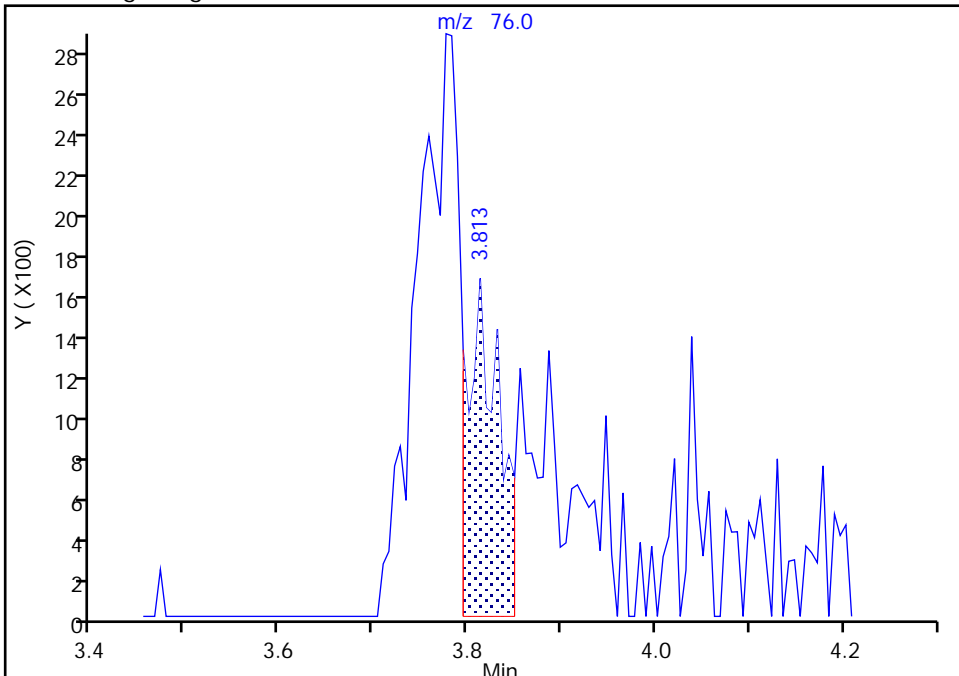
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: 433269 ALS Bottle#: 16 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

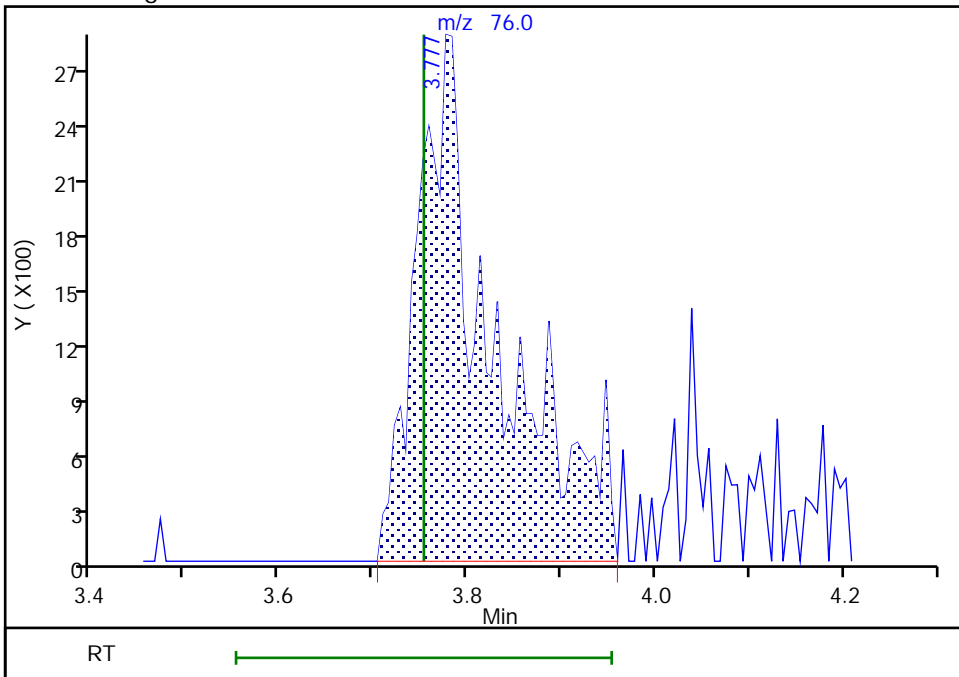
RT: 3.81
Area: 3844
Amount: 0.798008
Amount Units: ng

Processing Integration Results



RT: 3.78
Area: 16179
Amount: 3.358734
Amount Units: ng

Manual Integration Results

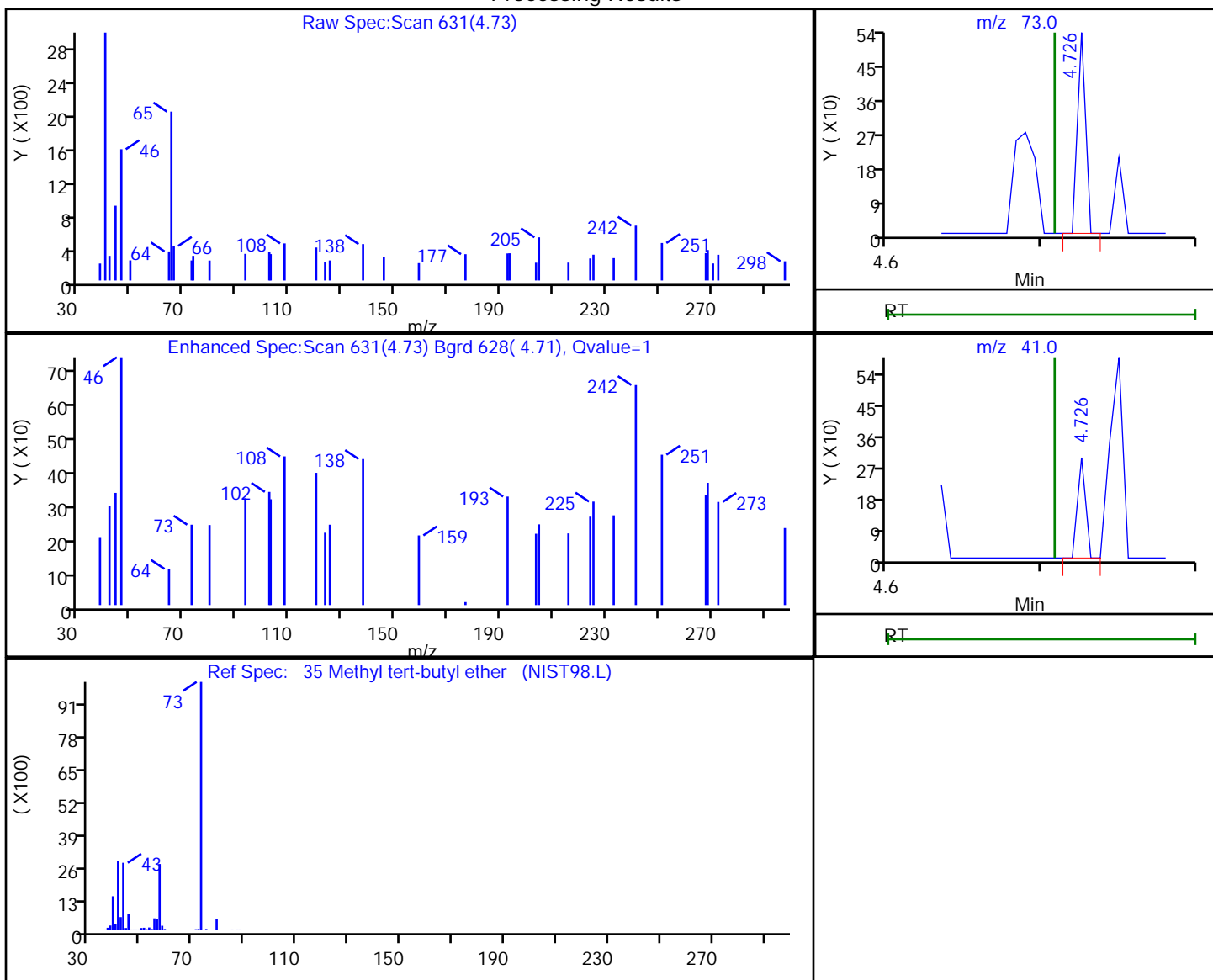


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

35 Methyl tert-butyl ether, CAS: 1634-04-4

Processing Results



RT	Mass	Response	Amount
4.73	73.00	195	0.038817
4.73	41.00	108	

Reviewer: bowieh, 14-Dec-2019 12:13:46

Audit Action: Marked Compound Undetected

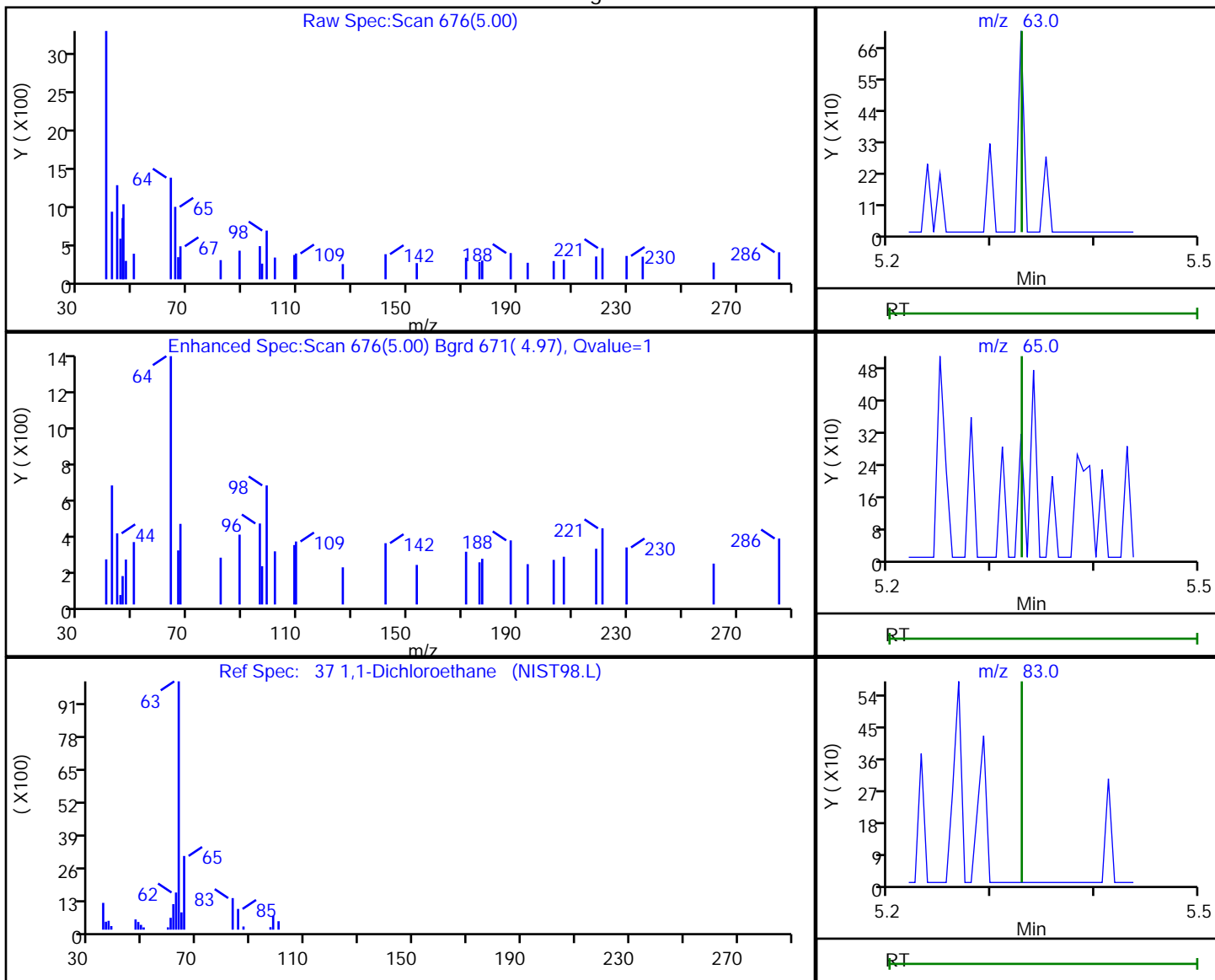
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

37 1,1-Dichloroethane, CAS: 75-34-3

Processing Results



RT	Mass	Response	Amount
5.00	63.00	585	0.180795
4.98	65.00	5572	
5.33	83.00	0	

Reviewer: bowieh, 14-Dec-2019 12:13:48

Audit Action: Marked Compound Undetected

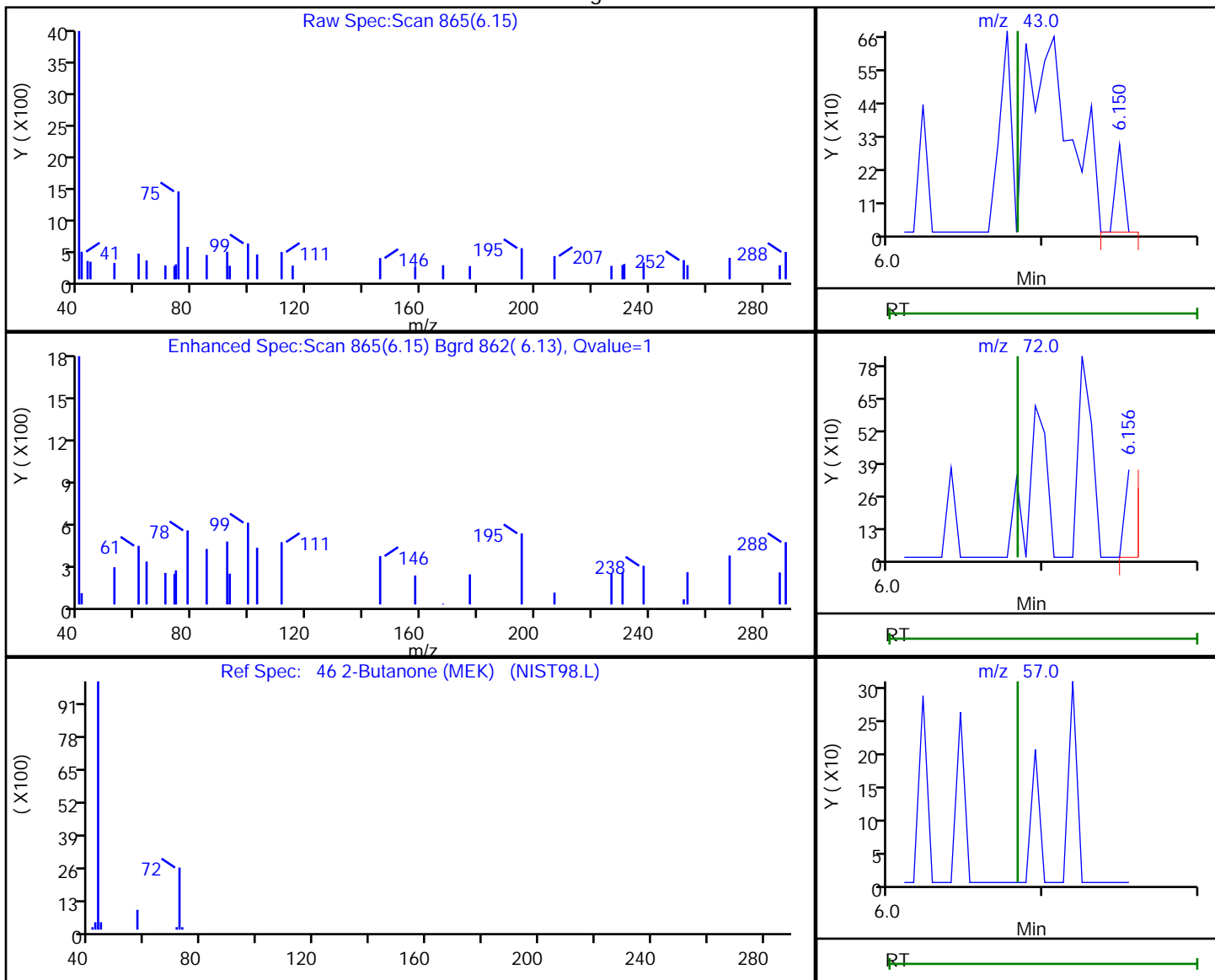
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

46 2-Butanone (MEK), CAS: 78-93-3

Processing Results



RT	Mass	Response	Amount
6.15	43.00	107	0.117923
6.16	72.00	130	
6.08	57.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:06

Audit Action: Marked Compound Undetected

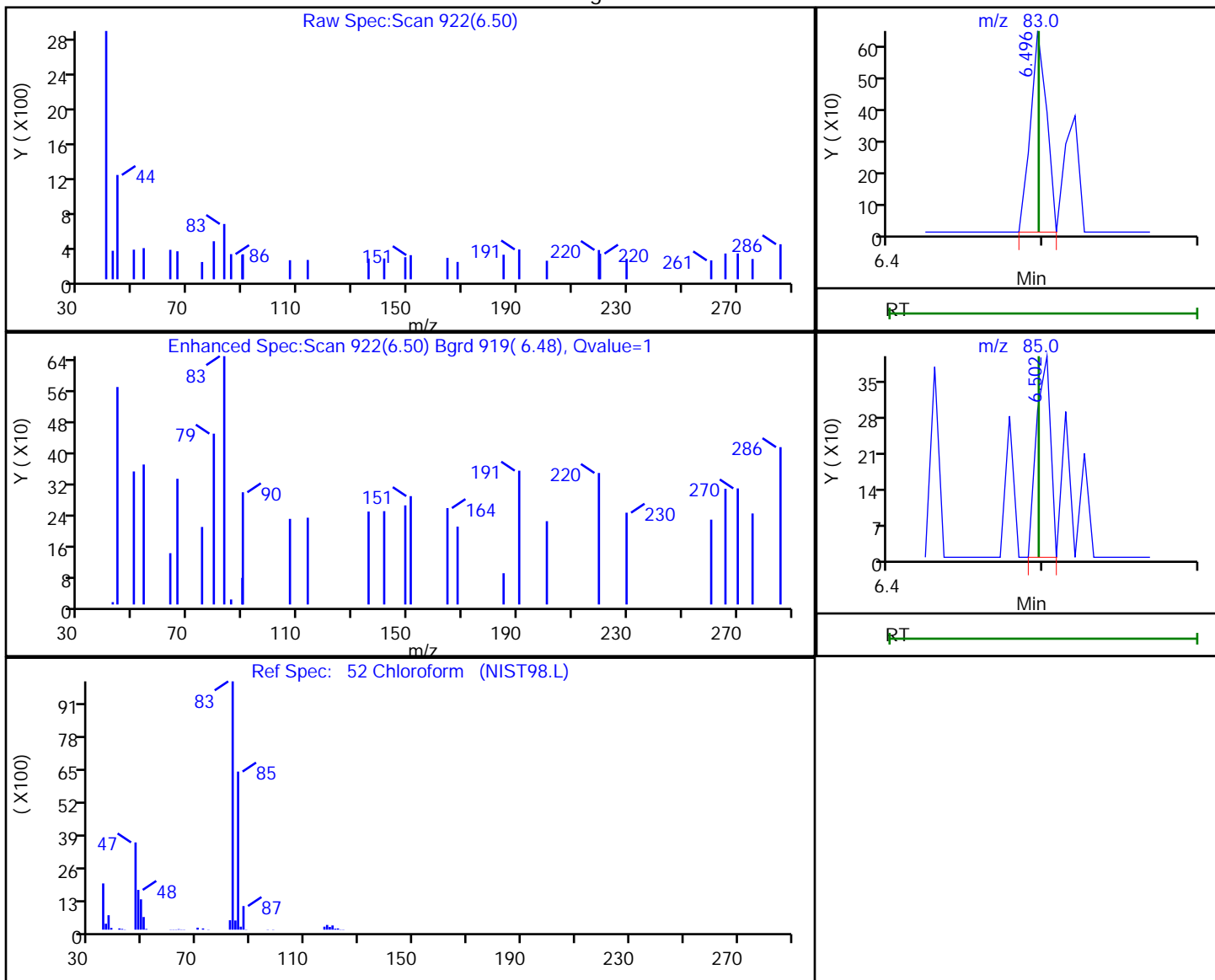
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

Processing Results



RT	Mass	Response	Amount
6.50	83.00	468	-3.969999
6.50	85.00	253	

Reviewer: bowieh, 14-Dec-2019 12:14:07

Audit Action: Marked Compound Undetected

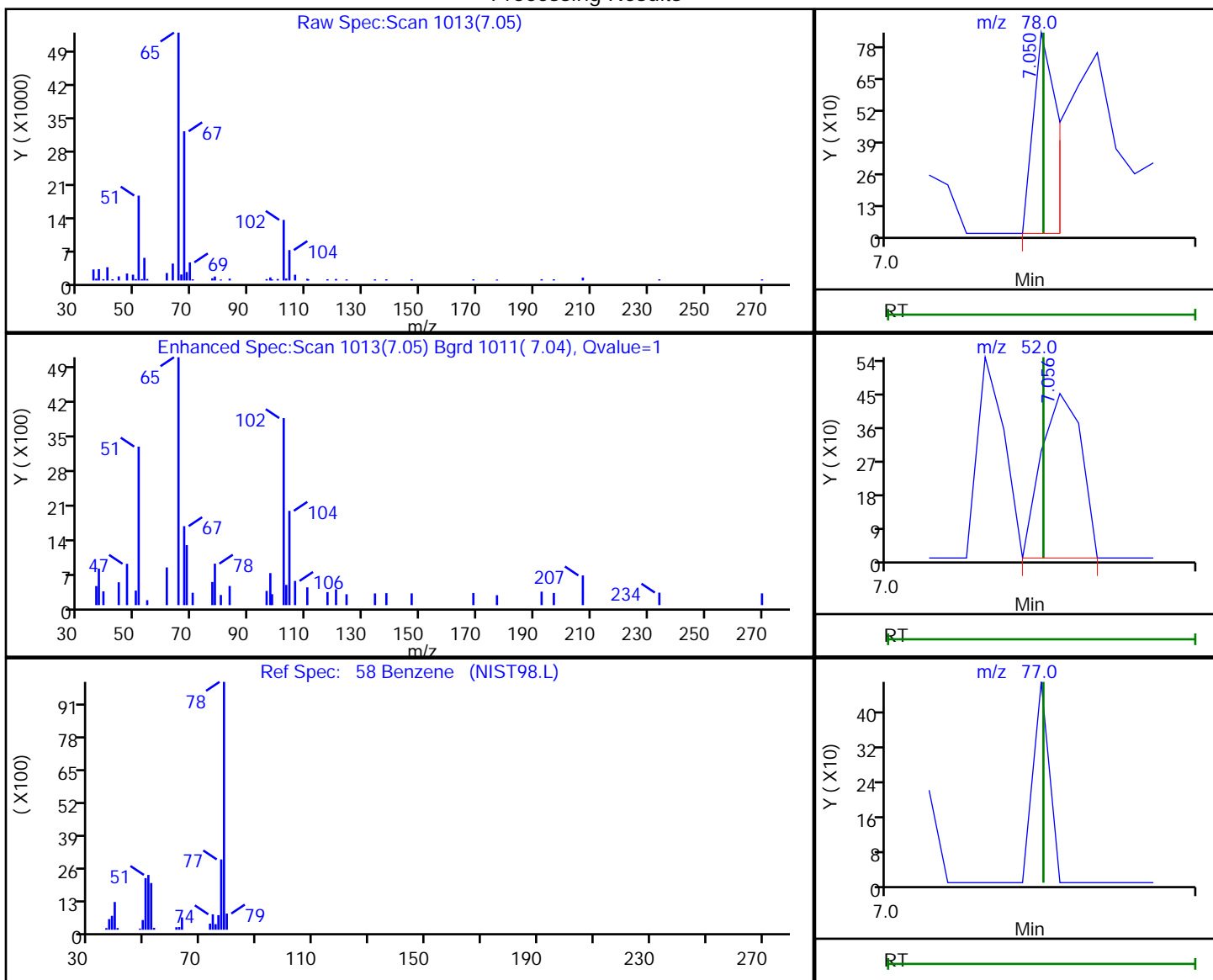
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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
7.05	78.00	476	0.058513
7.06	52.00	405	
7.05	77.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:09

Audit Action: Marked Compound Undetected

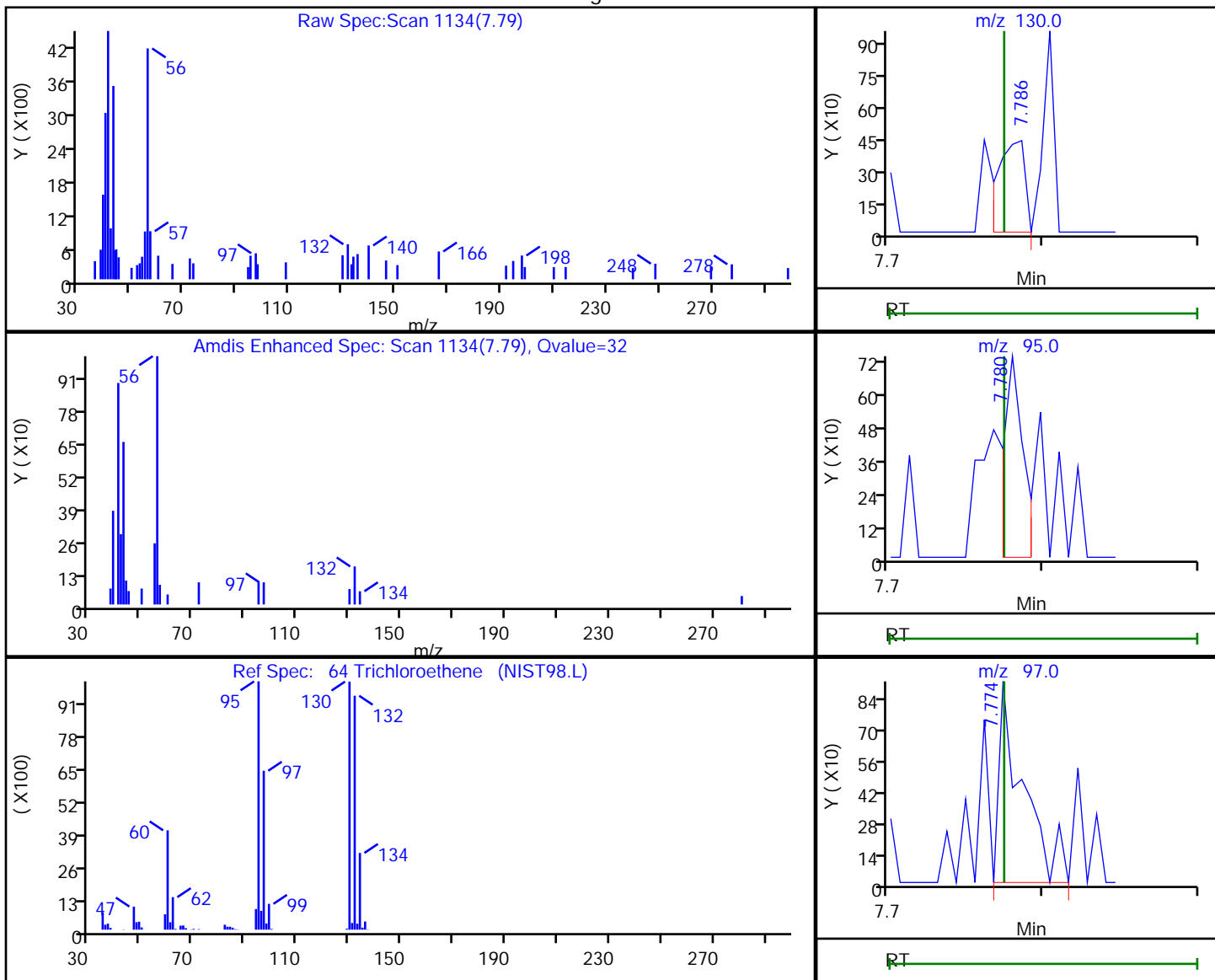
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Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

64 Trichloroethene, CAS: 79-01-6

Processing Results



RT	Mass	Response	Amount
7.79	130.00	526	0.227726
7.78	95.00	645	
7.77	97.00	989	

Reviewer: bowieh, 14-Dec-2019 12:14:10

Audit Action: Marked Compound Undetected

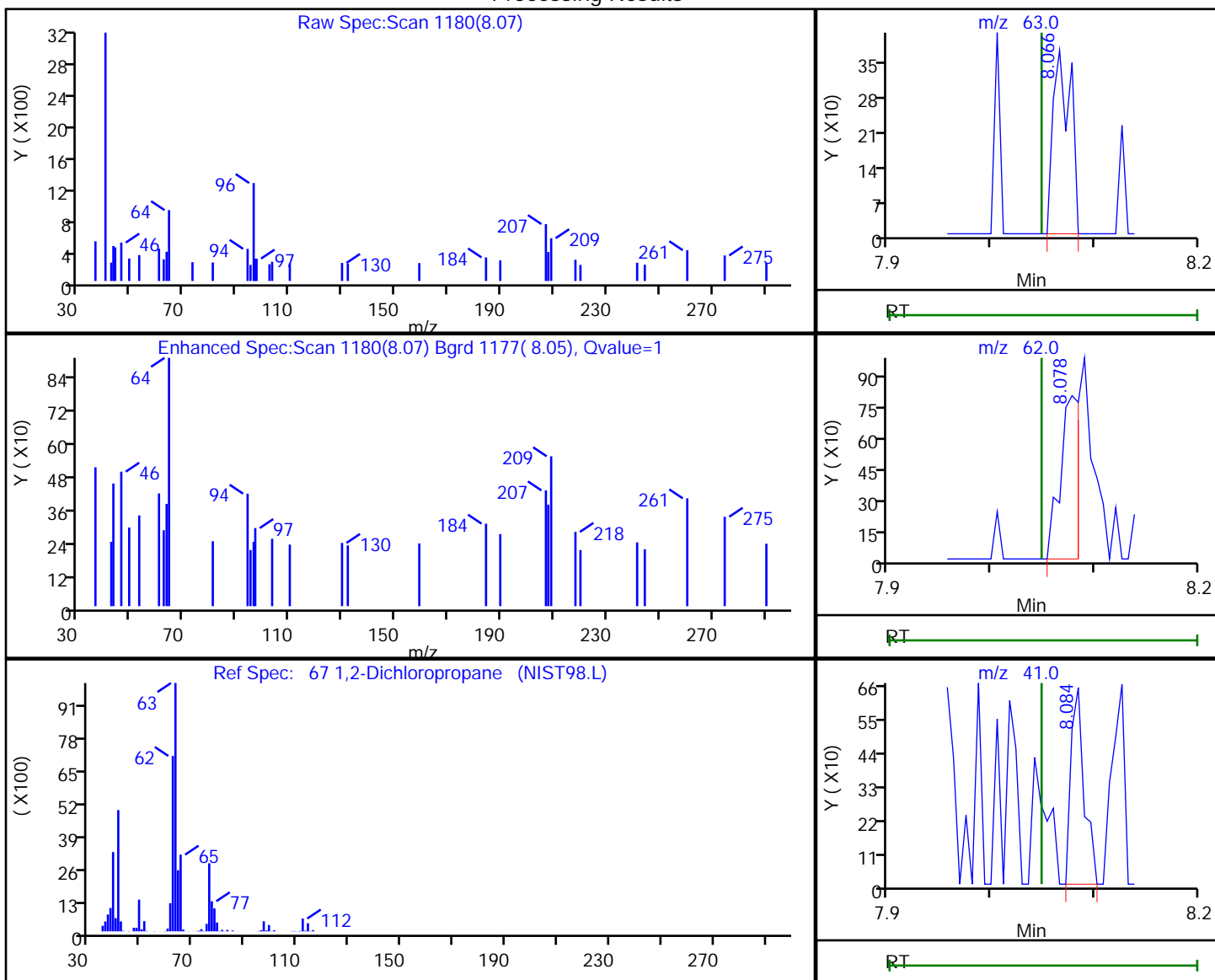
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.07	63.00	438	0.234319
8.08	62.00	1059	
8.08	41.00	584	

Reviewer: bowieh, 14-Dec-2019 12:14:11

Audit Action: Marked Compound Undetected

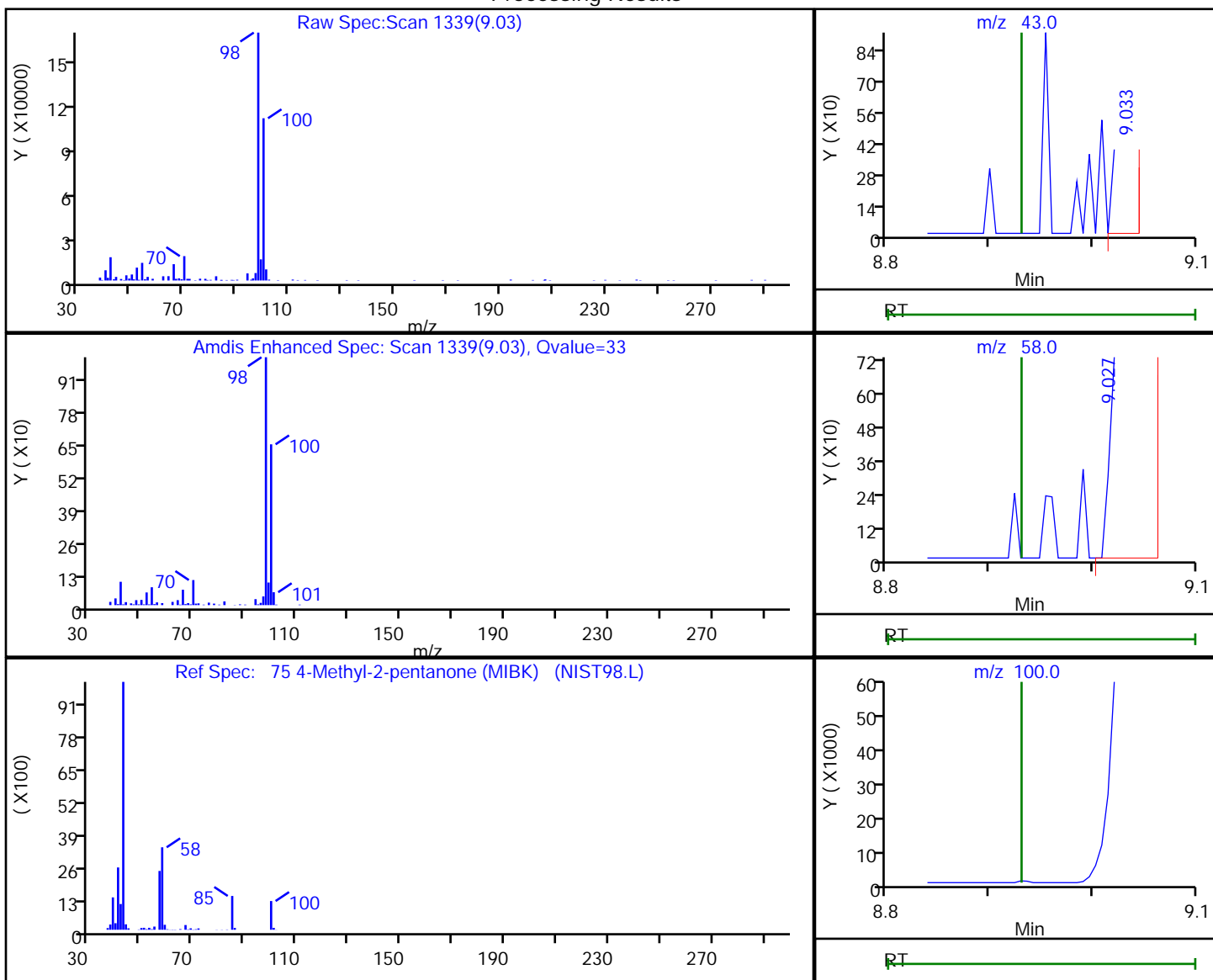
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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
9.03	43.00	949	0.626822
9.03	58.00	2776	
9.03	100.00	211557	

Reviewer: bowieh, 14-Dec-2019 12:14:13

Audit Action: Marked Compound Undetected

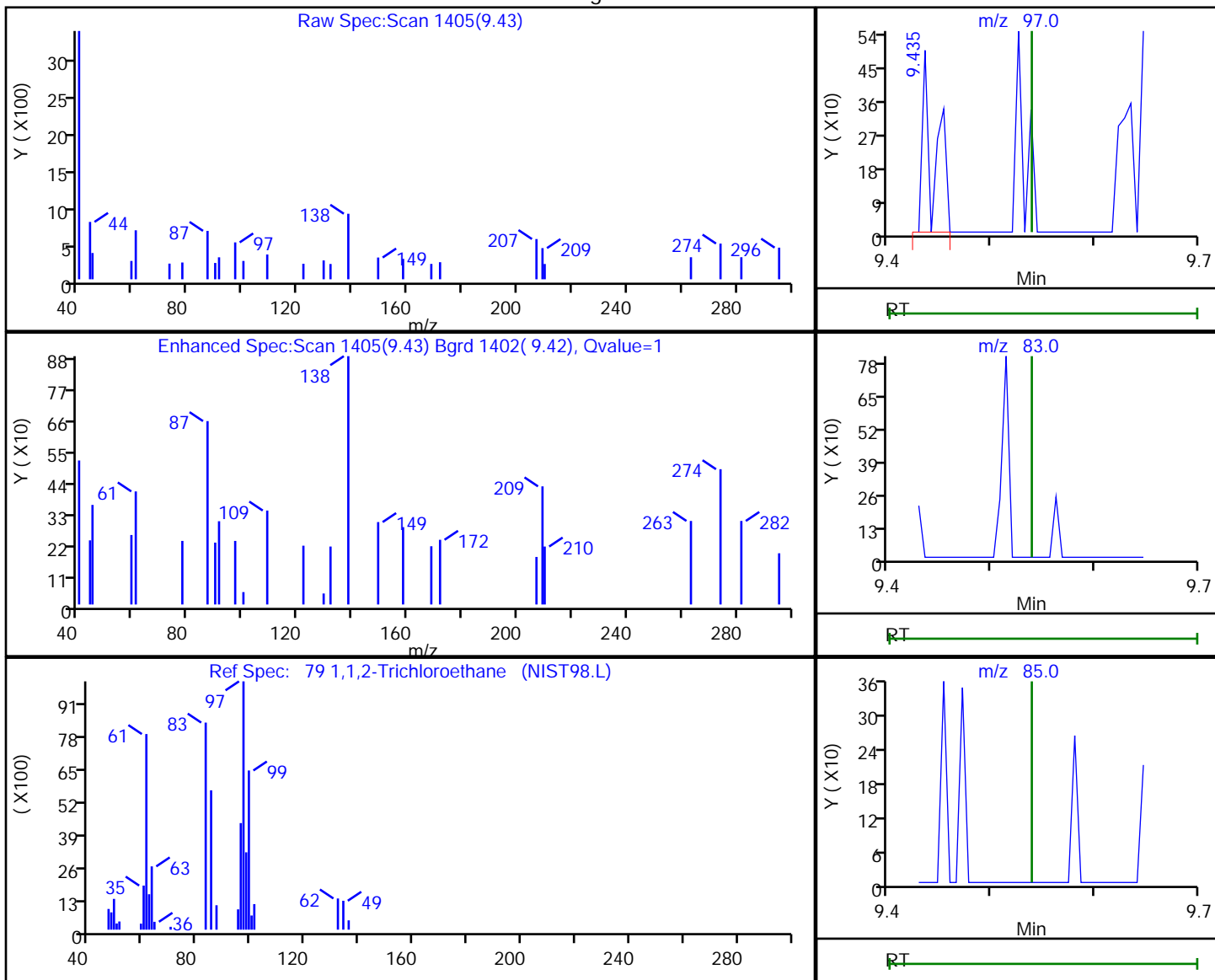
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

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

Processing Results



RT	Mass	Response	Amount
9.43	97.00	397	0.215542
9.54	83.00	0	
9.54	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:16

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D

Injection Date: 13-Dec-2019 19:47:30

Instrument ID: CHHP5

Lims ID: 180-99101-C-5

Lab Sample ID: 180-99101-5

Client ID: HD-COD-SW-13-0/1-0

Operator ID: 433269

ALS Bottle#: 16

Worklist Smp#: 23

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA_LL_CHHP5

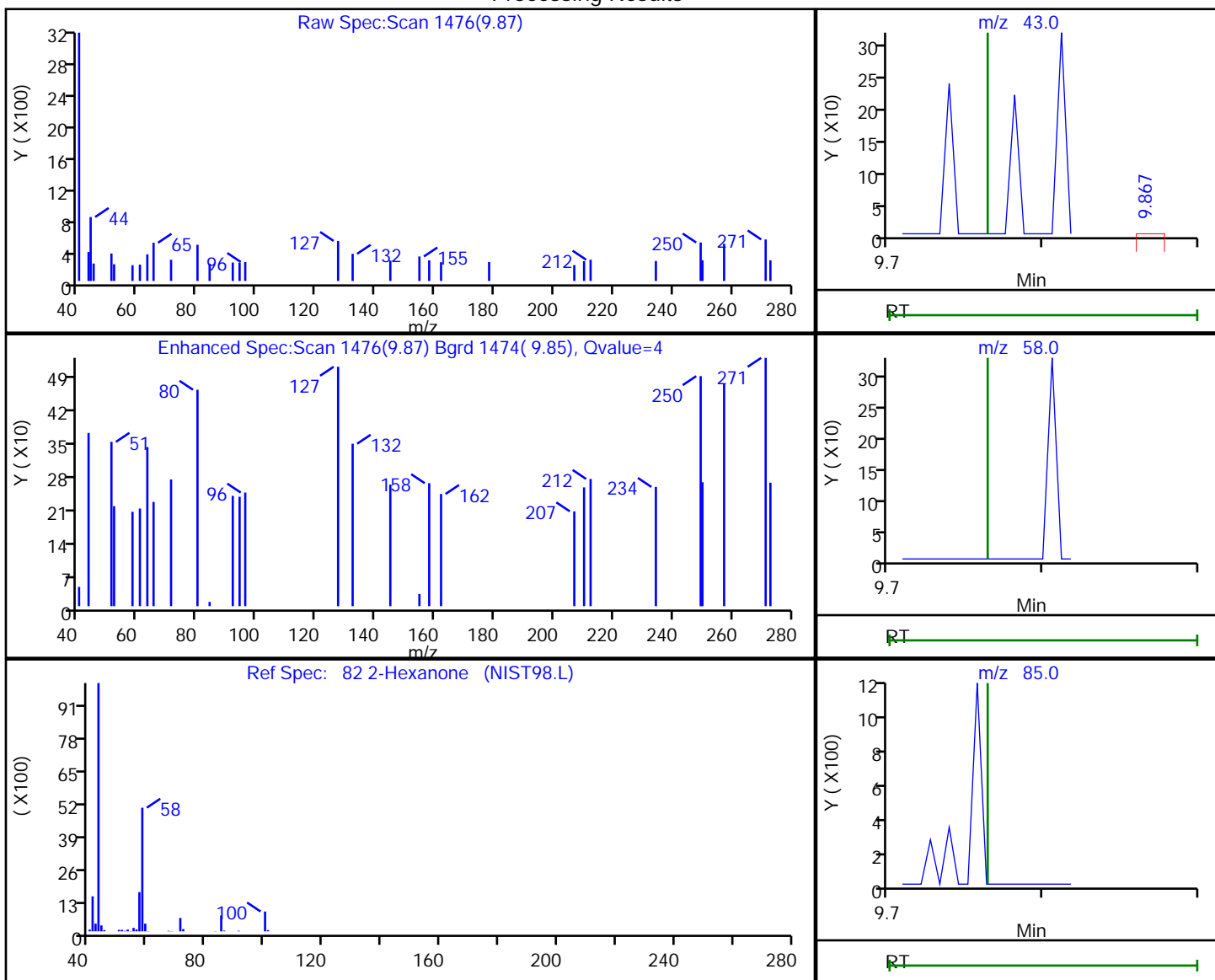
Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

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

Processing Results



RT	Mass	Response	Amount
9.87	43.00	222	12.901496
9.76	58.00	0	
9.76	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:17

Audit Action: Marked Compound Undetected

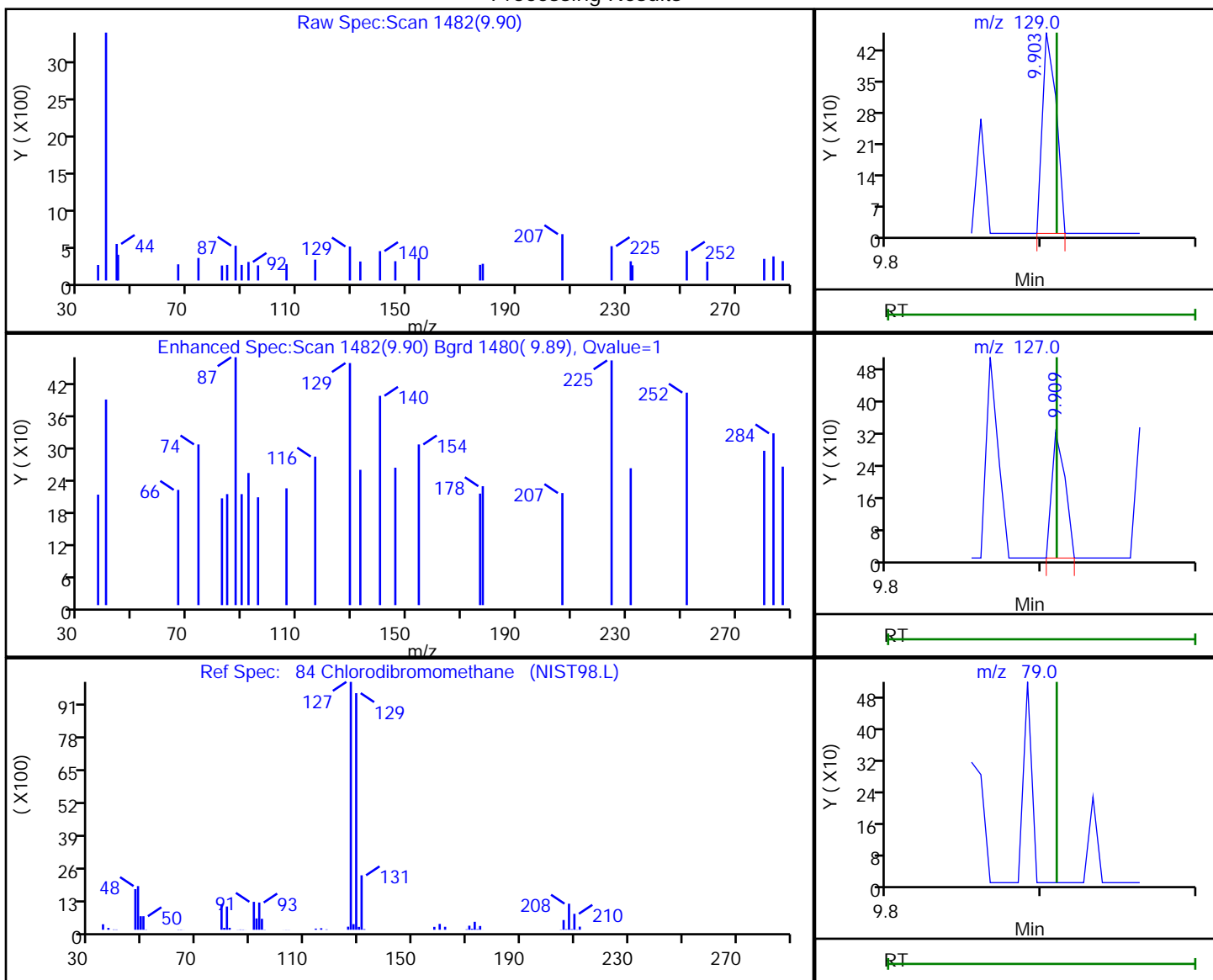
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

84 Chlorodibromomethane, CAS: 124-48-1

Processing Results



RT	Mass	Response	Amount
9.90	129.00	282	0.146668
9.91	127.00	192	
9.91	79.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:18

Audit Action: Marked Compound Undetected

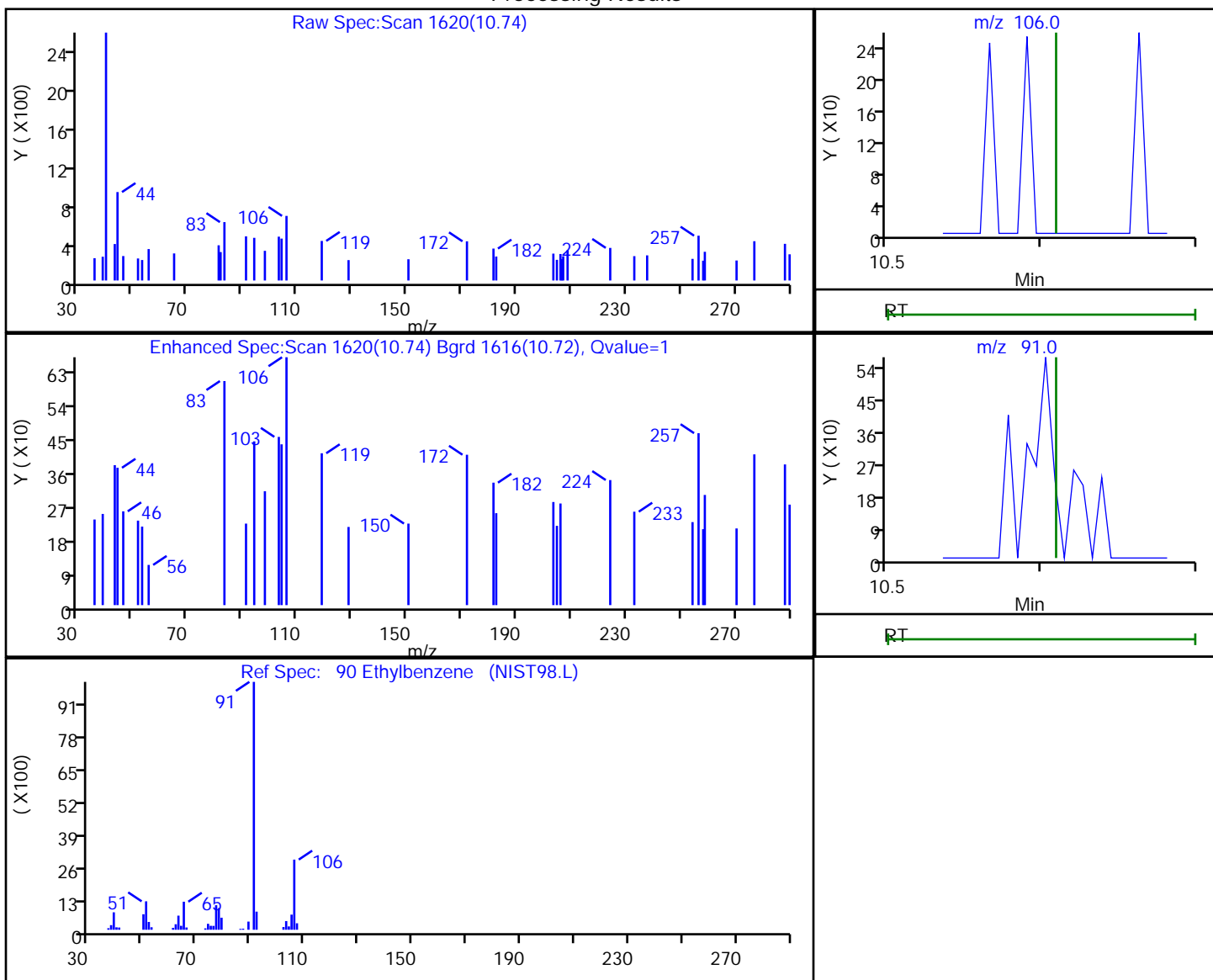
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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
10.74	106.00	660	0.205212
10.73	91.00	1071	

Reviewer: bowieh, 14-Dec-2019 12:14:20

Audit Action: Marked Compound Undetected

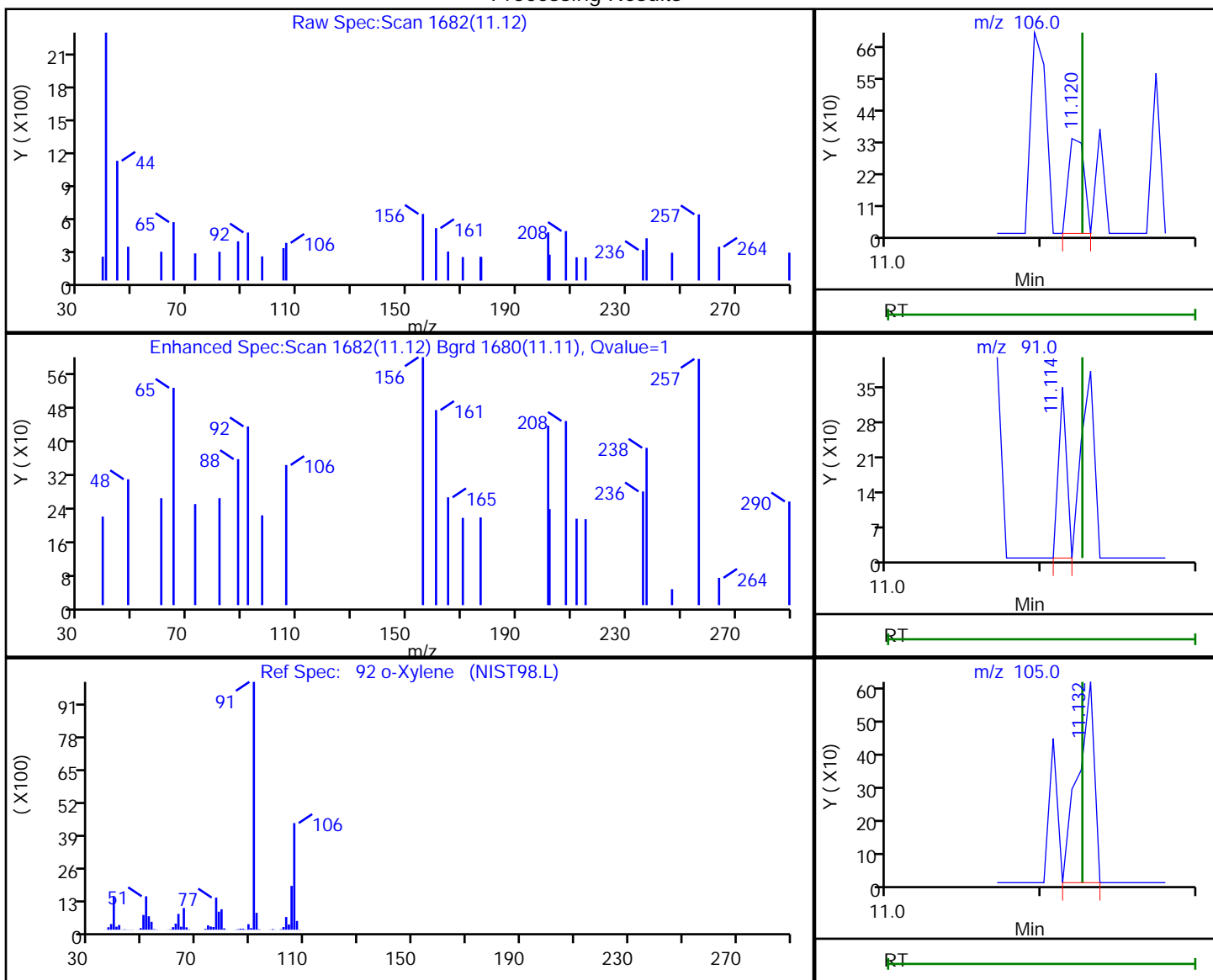
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121323.D
 Injection Date: 13-Dec-2019 19:47:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-5 Lab Sample ID: 180-99101-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: 433269 ALS Bottle#: 16 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

92 o-Xylene, CAS: 95-47-6

Processing Results



RT	Mass	Response	Amount
11.12	106.00	238	0.062910
11.11	91.00	124	
11.13	105.00	456	

Reviewer: bowieh, 14-Dec-2019 12:14:22

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 Lab Sample ID: 180-99101-6
 Matrix: Water Lab File ID: 5120516.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:10
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 15:57
 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.: 300399 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	0.86	J	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	0.99	J	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	2.7		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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 Lab Sample ID: 180-99101-6
 Matrix: Water Lab File ID: 5120516.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:10
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 15:57
 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.: 300399 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)	107		70-150
2037-26-5	Toluene-d8 (Surr)	89		78-128
460-00-4	4-Bromofluorobenzene (Surr)	64		64-123
1868-53-7	Dibromofluoromethane (Surr)	116		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
 Lims ID: 180-99101-A-6
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 15:57:30 ALS Bottle#: 9 Worklist Smp#: 16
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-016
 Misc. Info.: 180-99101-a-6
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:41:45 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:41:45

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.537	4.544	-0.007	0	210362	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	438767	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	84	112391	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	94	120409	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.782	6.770	0.012	95	129014	58.1	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	153289	53.3	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	94	414167	44.3	
\$ 8 4-Bromofluorobenzene (Surr	95	11.764	11.759	0.005	95	117417	32.2	
12 Chloromethane	50		1.910				ND	
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96	3.570	3.571	-0.001	1	884	0.3966	
24 Acetone	43	3.698	3.674	0.024	67	2270	2.53	
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.180	6.174	0.006	71	11456	4.28	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.612	6.600	0.012	49	7129	-2.32	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.883	7.878	0.005	92	13988	4.95	
67 1,2-Dichloropropane	63		8.145				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	9.203	9.198	0.005	30	2559	0.2319	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164	9.714	9.709	0.005	95	33843	13.4	
82 2-Hexanone	43		9.855				ND	
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				ND	
93 Styrene	104		11.242				ND	
94 Bromoform	173		11.424				ND	
99 1,1,2,2-Tetrachloroethane	83		11.899				ND	U
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_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D

Injection Date: 05-Dec-2019 15:57:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-6

Lab Sample ID: 180-99101-6

Worklist Smp#: 16

Client ID: HD-COD-SW-15-0/1-0

Purge Vol: 5.000 mL

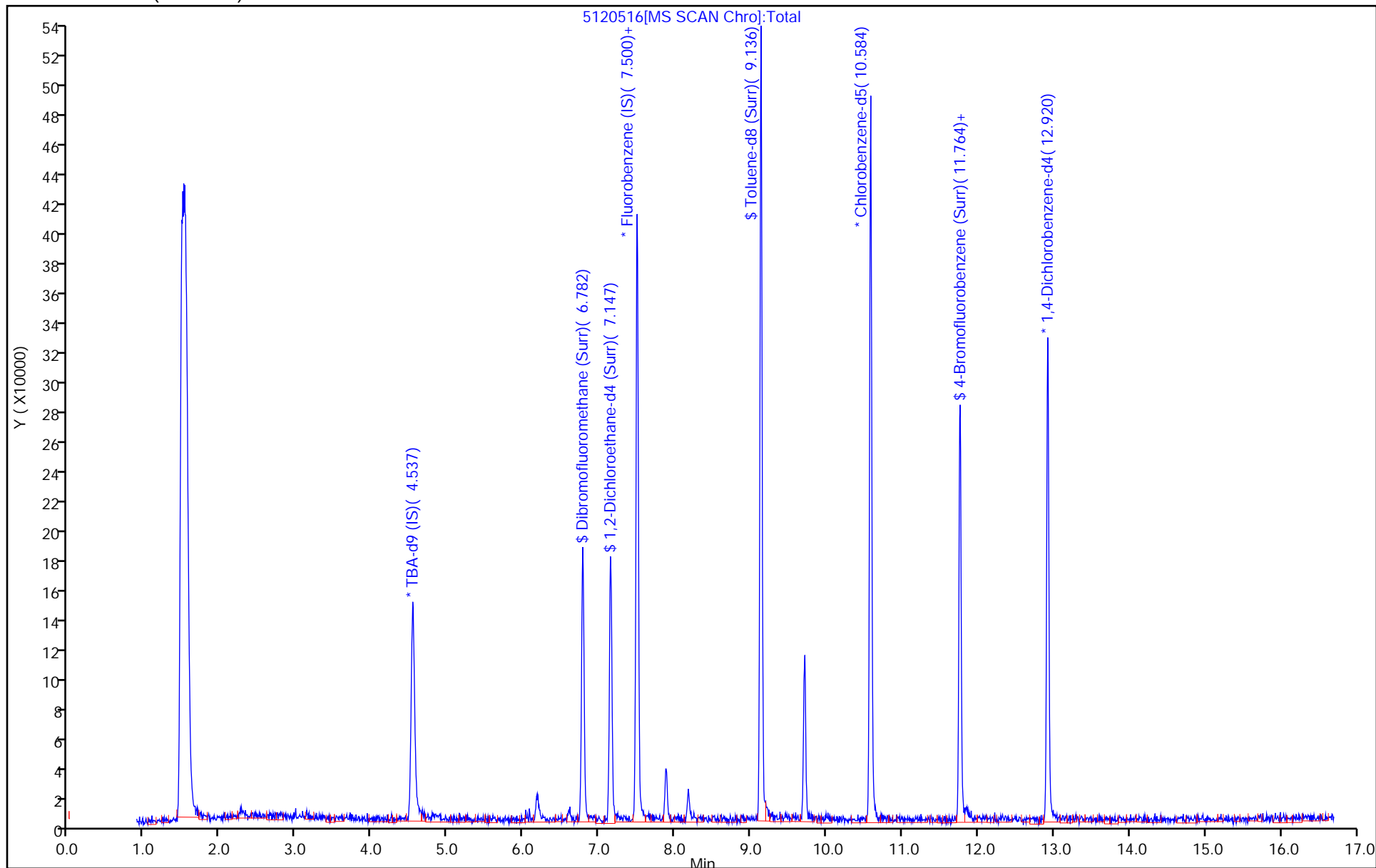
Dil. Factor: 1.0000

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\20191205-29868.b\5120516.D
 Lims ID: 180-99101-A-6
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 15:57:30 ALS Bottle#: 9 Worklist Smp#: 16
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-016
 Misc. Info.: 180-99101-a-6
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:41:45 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

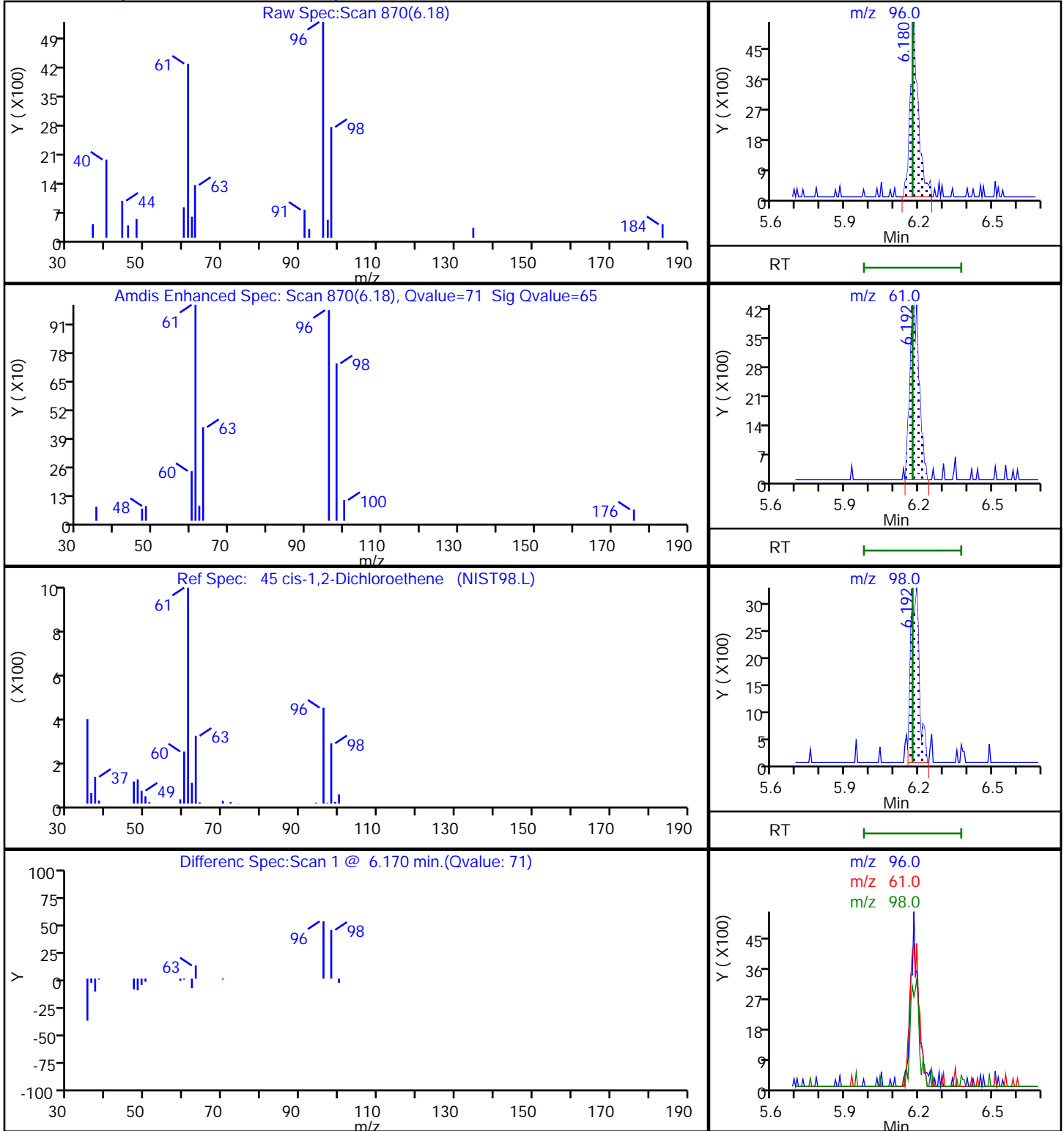
First Level Reviewer: bowieh Date: 06-Dec-2019 10:41:45

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	58.1	116.27
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.3	106.59
\$ 7 Toluene-d8 (Surr)	50.0	44.3	88.68
\$ 8 4-Bromofluorobenzene (Surr)	50.0	32.2	64.47

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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

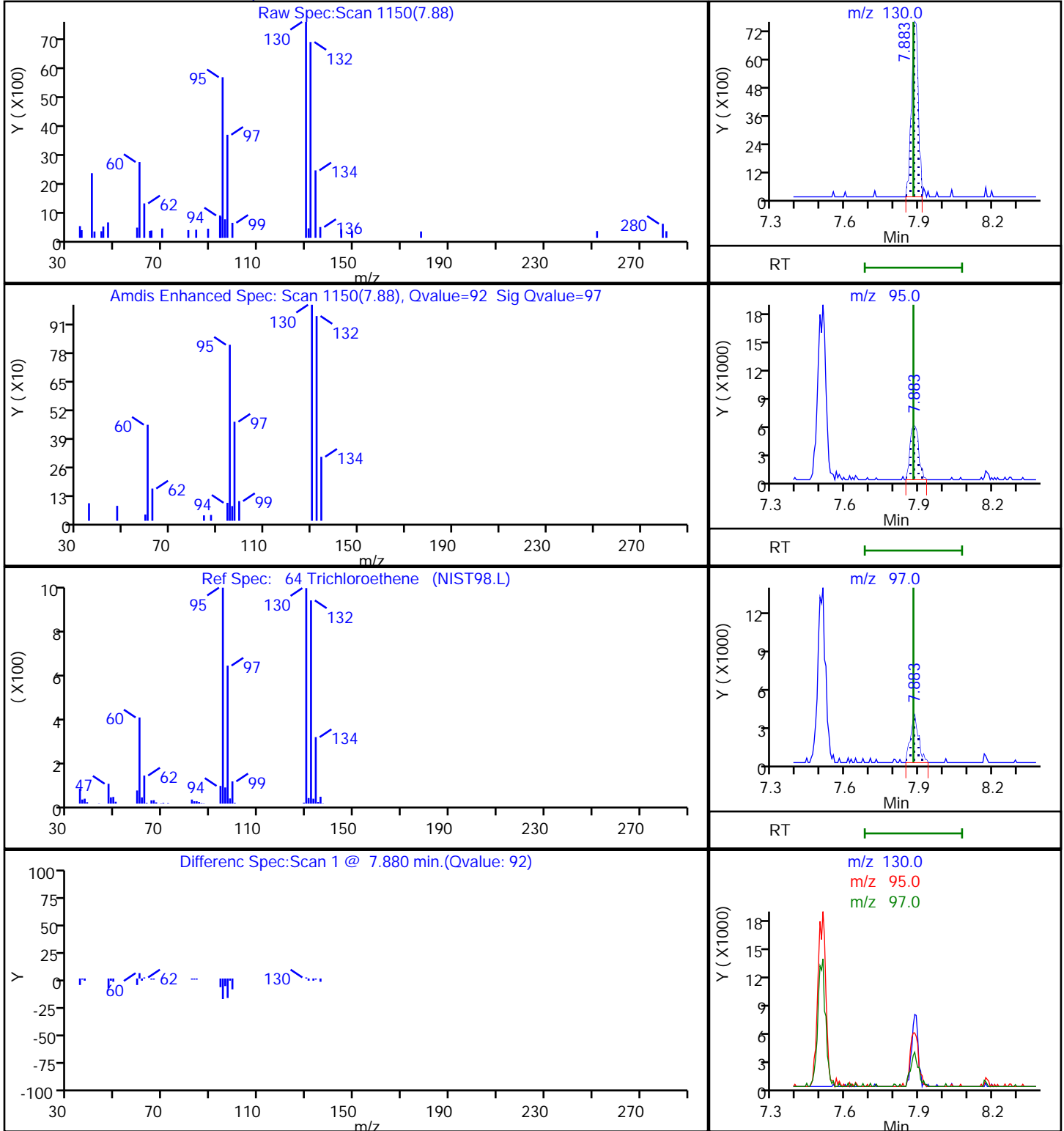
45 cis-1,2-Dichloroethene, CAS: 156-59-2



Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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

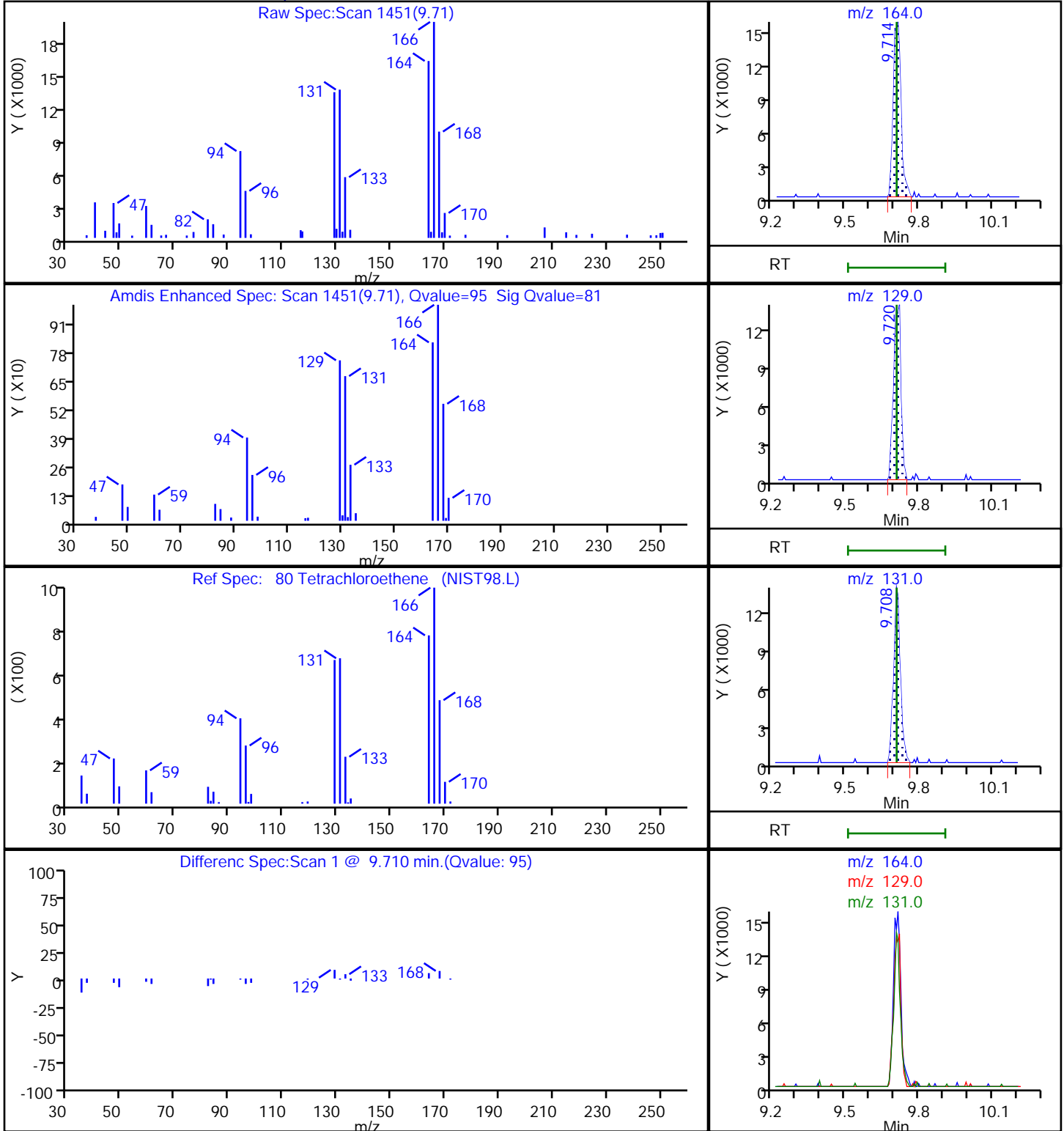
64 Trichloroethene, CAS: 79-01-6



Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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

80 Tetrachloroethene, CAS: 127-18-4

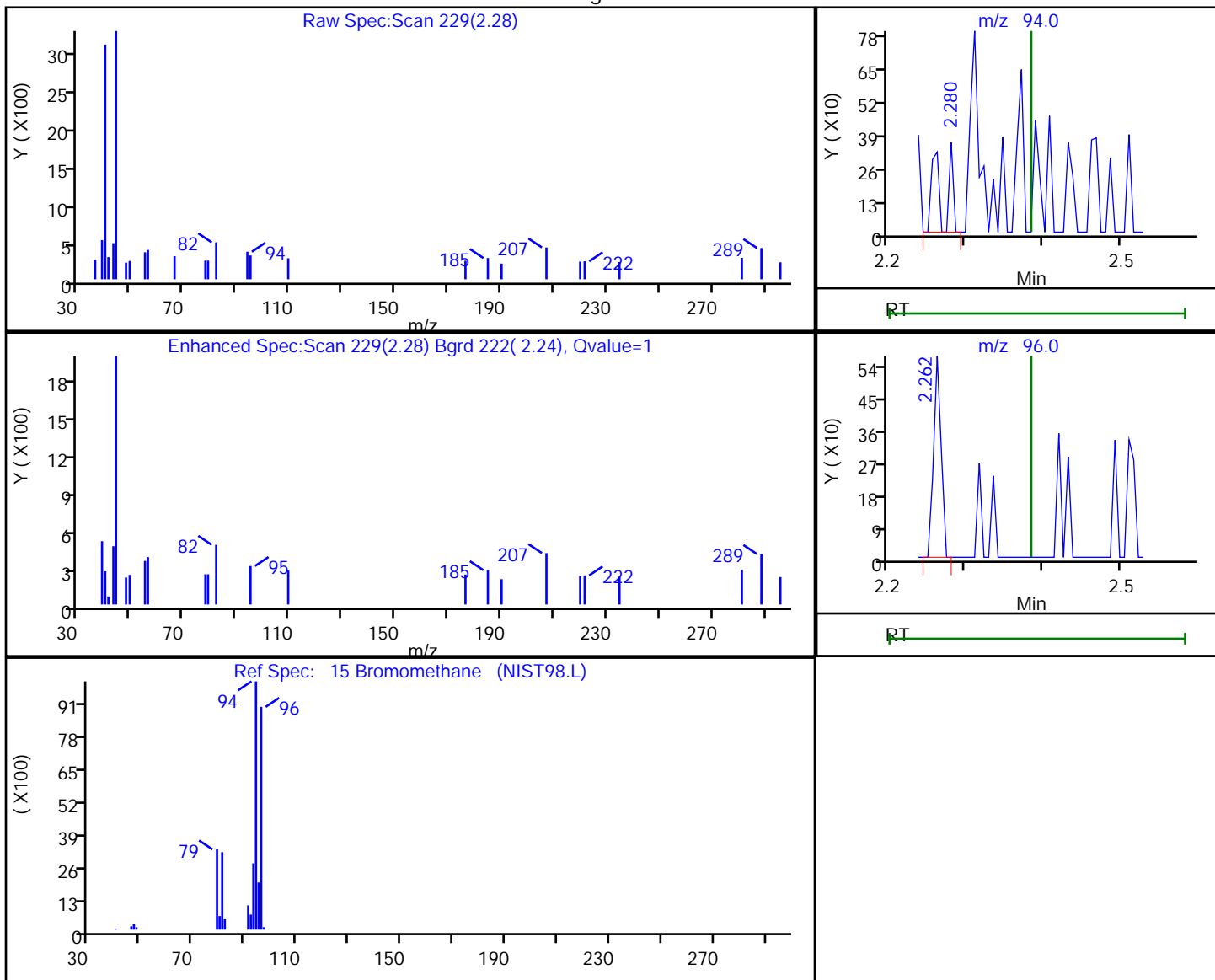


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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
2.28	94.00	351	0.210938
2.26	96.00	386	

Reviewer: bowieh, 06-Dec-2019 10:40:36

Audit Action: Marked Compound Undetected

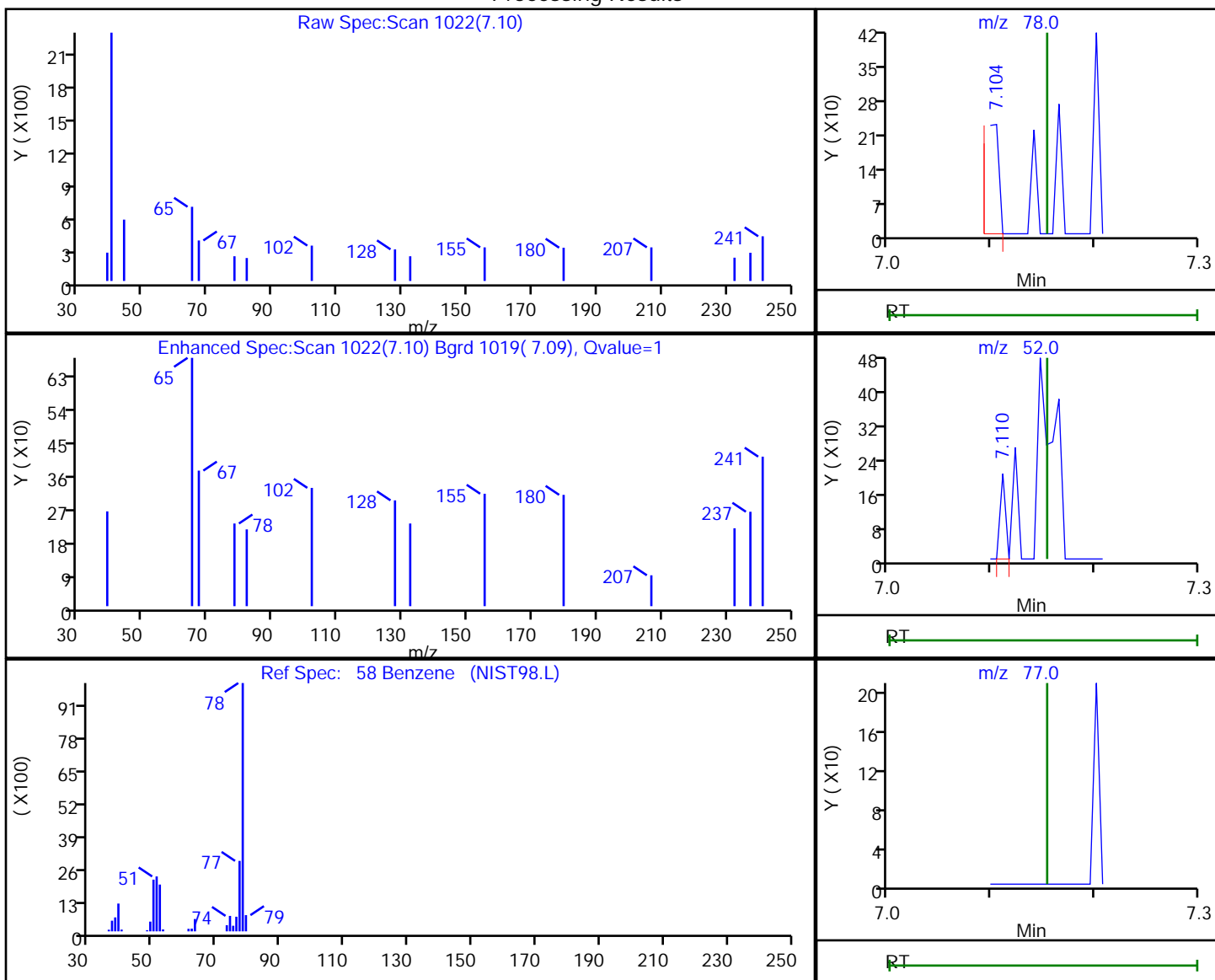
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
 Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
 Client ID: HD-COD-SW-15-0/1-0
 Operator ID: 433269 ALS Bottle#: 9 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
7.10	78.00	164	0.016462
7.11	52.00	73	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:40:48

Audit Action: Marked Compound Undetected

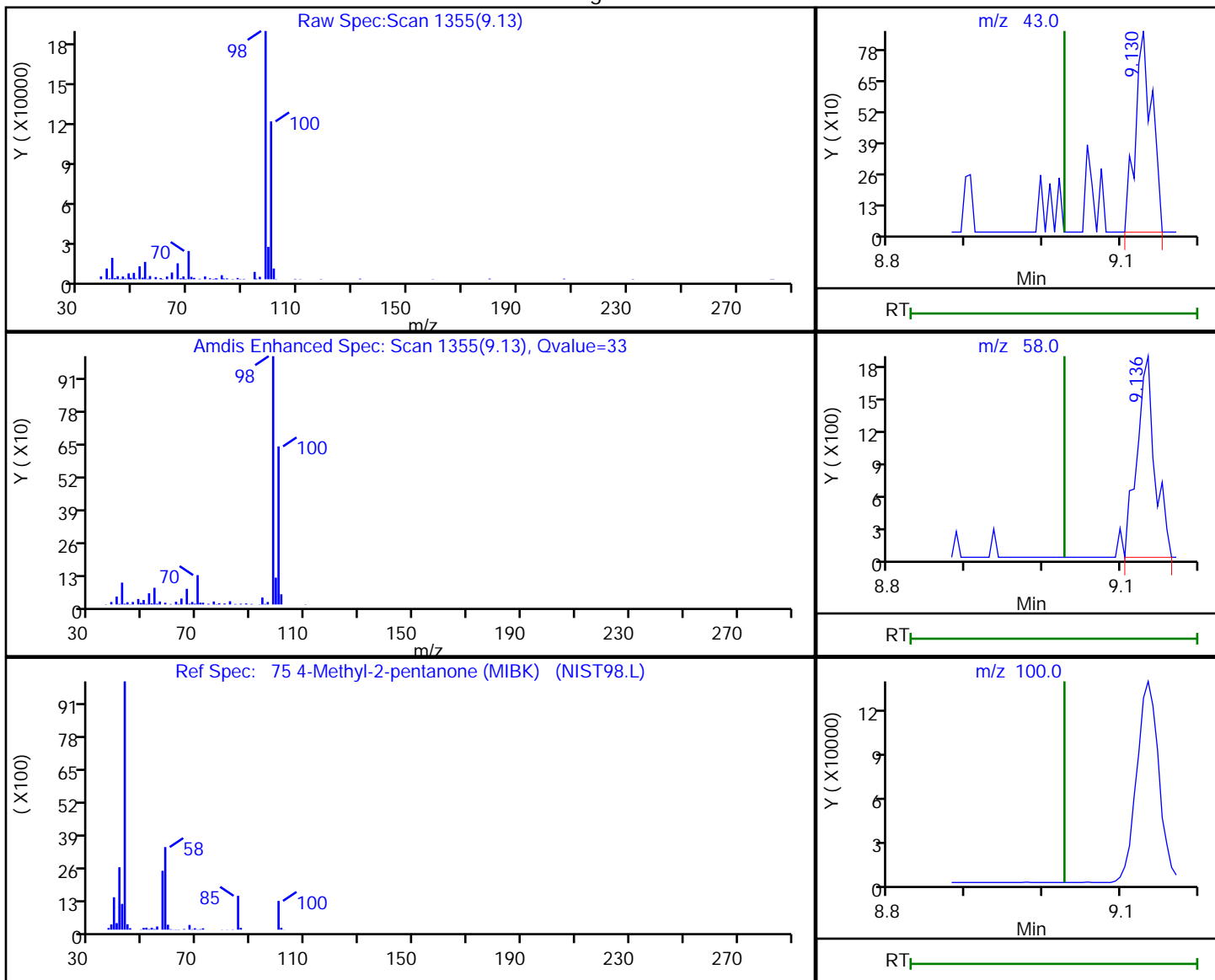
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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
9.13	43.00	1283	0.706704
9.14	58.00	3040	
9.14	100.00	264624	

Reviewer: bowieh, 06-Dec-2019 10:41:29

Audit Action: Marked Compound Undetected

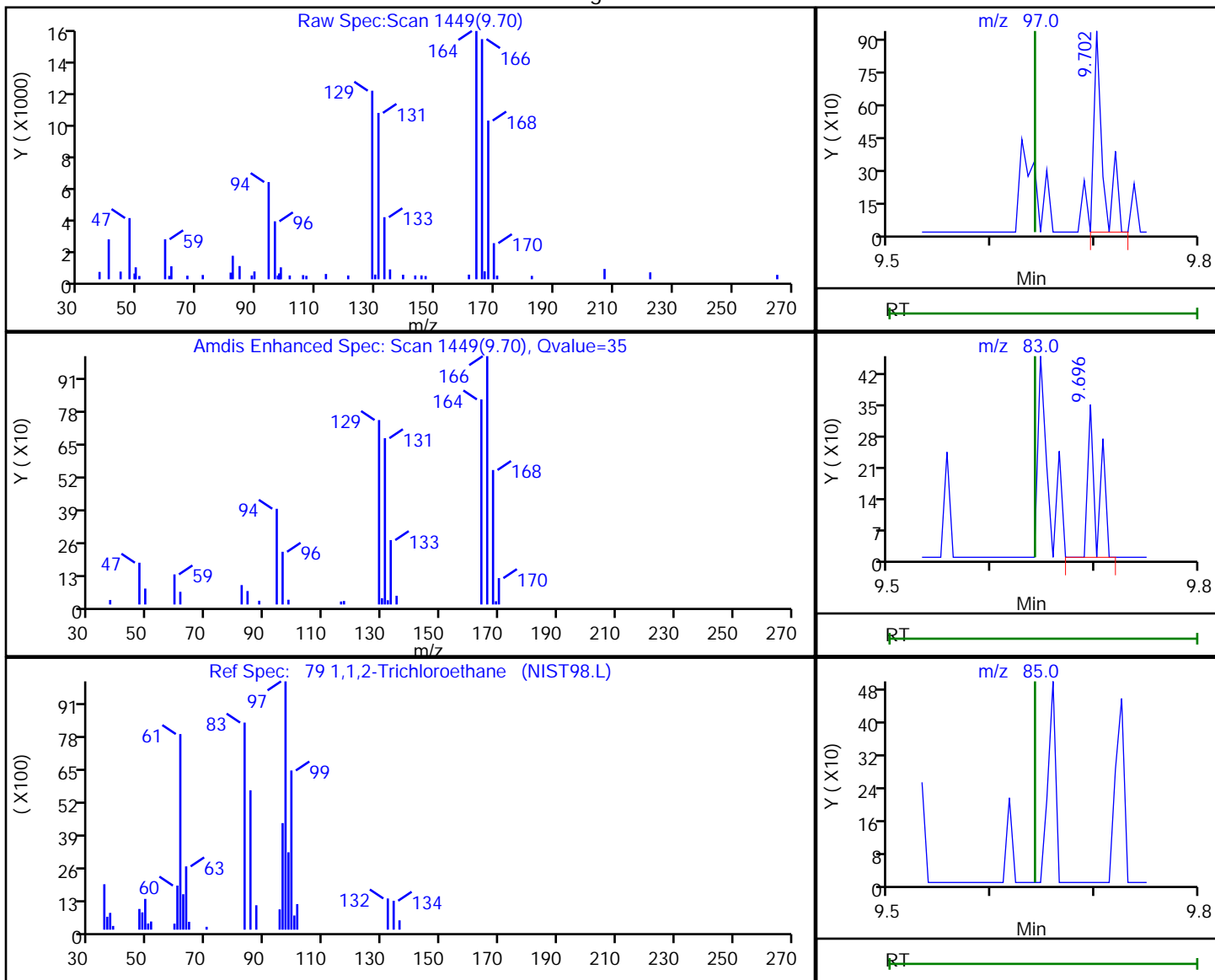
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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
9.70	97.00	570	0.258077
9.70	83.00	223	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:41:32

Audit Action: Marked Compound Undetected

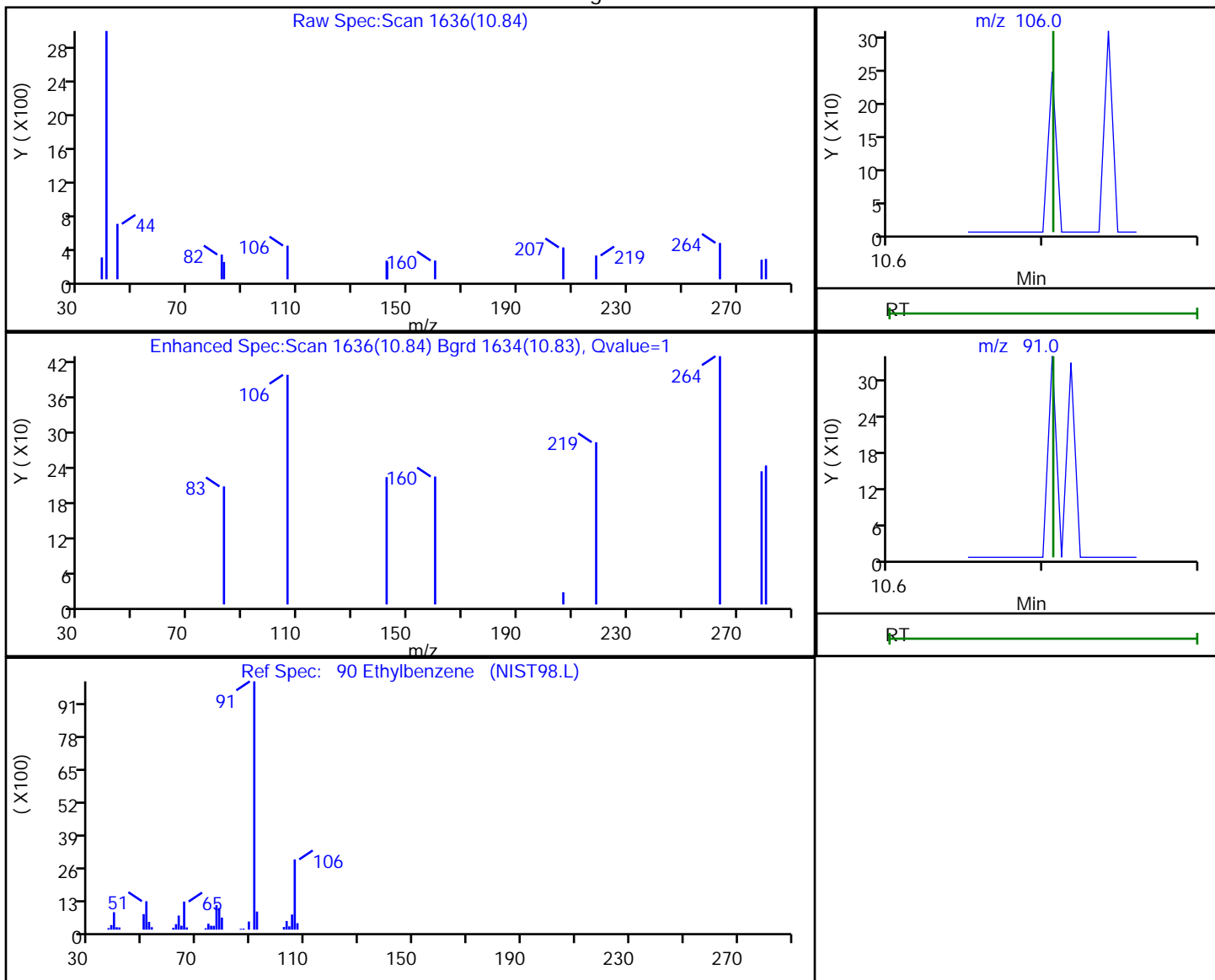
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: 433269 ALS Bottle#: 9 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	228	0.059119
10.85	91.00	277	

Reviewer: bowieh, 06-Dec-2019 10:41:37

Audit Action: Marked Compound Undetected

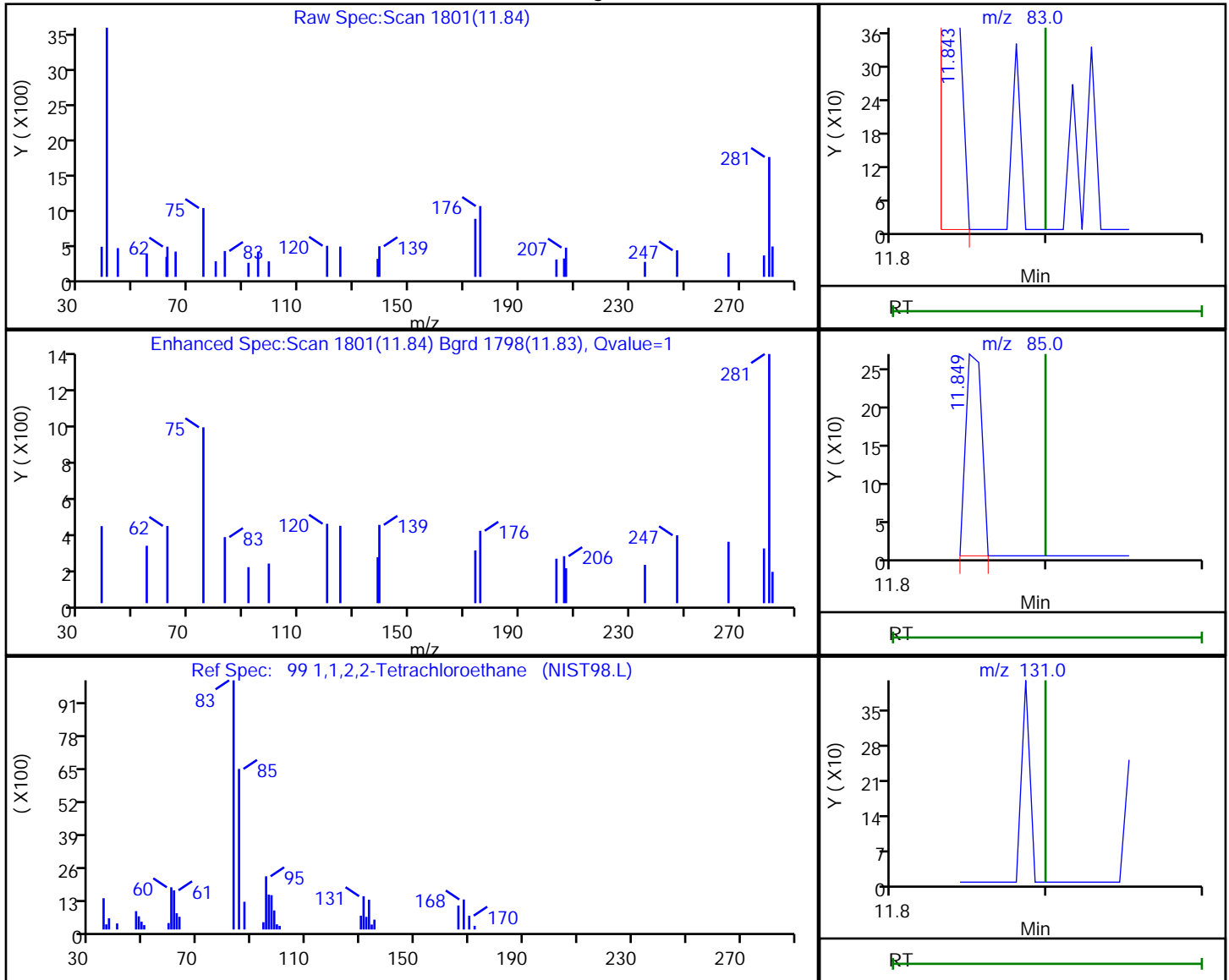
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120516.D
 Injection Date: 05-Dec-2019 15:57:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-6 Lab Sample ID: 180-99101-6
 Client ID: HD-COD-SW-15-0/1-0
 Operator ID: 433269 ALS Bottle#: 9 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

99 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results



RT	Mass	Response	Amount
11.84	83.00	216	0.084594
11.85	85.00	187	
11.90	131.00	0	

Reviewer: bowieh, 06-Dec-2019 10:41:41

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-16-0/1-0 Lab Sample ID: 180-99101-7
 Matrix: Water Lab File ID: 5120517.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:05
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 16:21
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-16-0/1-0 Lab Sample ID: 180-99101-7
 Matrix: Water Lab File ID: 5120517.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:05
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 16:21
 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.: 300399 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)	110		70-150
2037-26-5	Toluene-d8 (Surr)	90		78-128
460-00-4	4-Bromofluorobenzene (Surr)	63	X	64-123
1868-53-7	Dibromofluoromethane (Surr)	111		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
 Lims ID: 180-99101-A-7
 Client ID: HD-COD-SW-16-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 16:21:30 ALS Bottle#: 10 Worklist Smp#: 17
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-017
 Misc. Info.: 180-99101-a-7
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:44:31 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:44:31

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.533	4.544	-0.011	0	197175	1000.0	
* 2 Fluorobenzene (IS)	96	7.502	7.494	0.008	99	429364	50.0	
* 3 Chlorobenzene-d5	119	10.586	10.585	0.001	84	107470	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.922	12.921	0.001	92	111620	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.784	6.770	0.014	95	120841	55.6	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.149	7.148	0.001	0	154624	54.9	
\$ 7 Toluene-d8 (Surr)	98	9.132	9.131	0.001	93	402053	45.0	
\$ 8 4-Bromofluorobenzene (Surr	95	11.766	11.759	0.007	96	109657	31.5	
12 Chloromethane	50		1.910				ND	MU
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	U
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.688	3.674	0.014	61	8955	10.2	
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.182	6.174	0.008	29	2212	0.8445	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.608	6.600	0.008	1	1219	-3.80	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.879	7.878	0.001	39	2016	0.7283	
67 1,2-Dichloropropane	63		8.145				ND	U
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	9.205	9.198	0.007	37	3242	0.3073	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	
80 Tetrachloroethene	164	9.716	9.709	0.007	19	897	0.3700	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	
91 m-Xylene & p-Xylene	106		10.834				ND	U
92 o-Xylene	106		11.217				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

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D

Injection Date: 05-Dec-2019 16:21:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-7

Lab Sample ID: 180-99101-7

Worklist Smp#: 17

Client ID: HD-COD-SW-16-0/1-0

Purge Vol: 5.000 mL

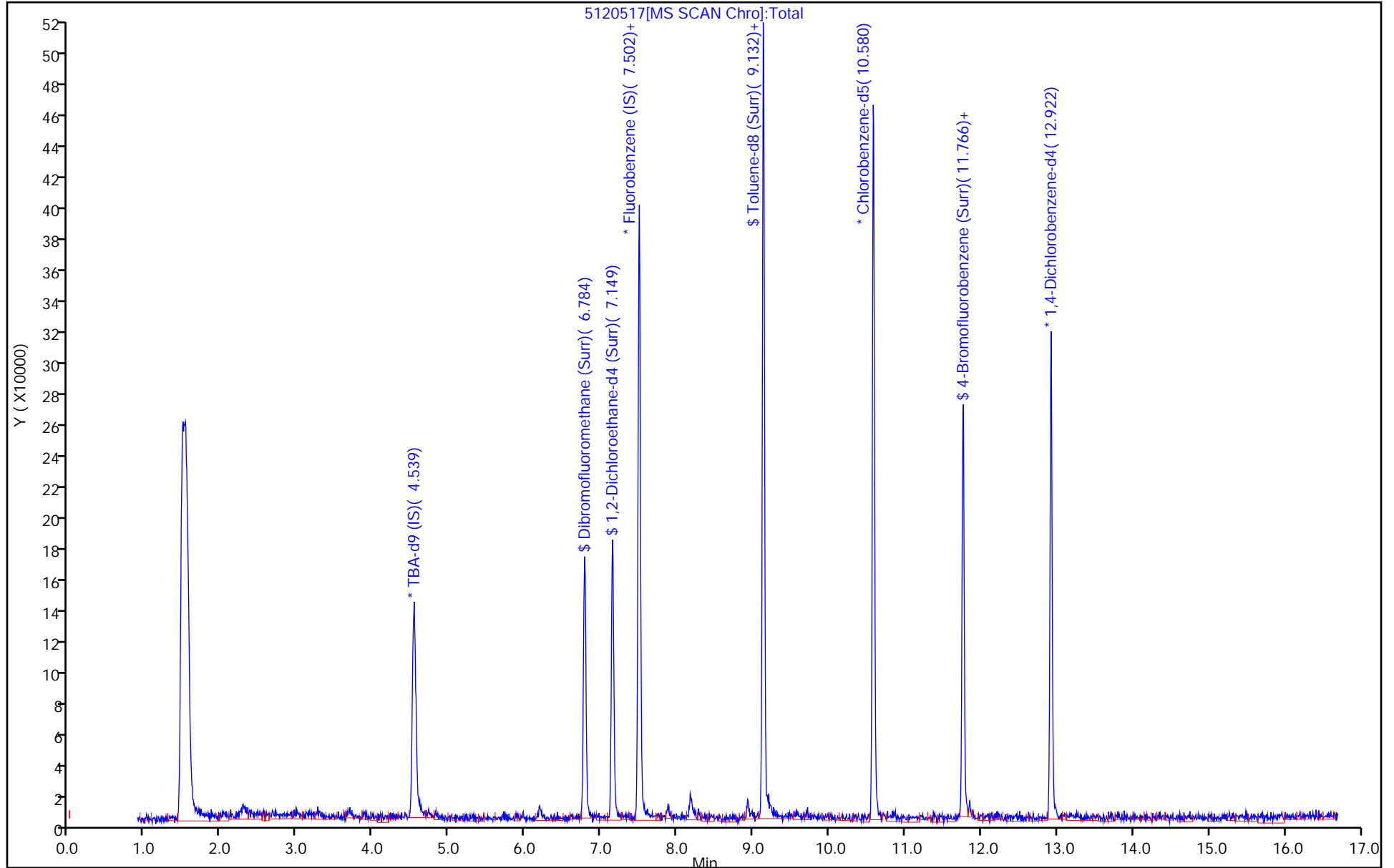
Dil. Factor: 1.0000

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\20191205-29868.b\5120517.D
 Lims ID: 180-99101-A-7
 Client ID: HD-COD-SW-16-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 16:21:30 ALS Bottle#: 10 Worklist Smp#: 17
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-017
 Misc. Info.: 180-99101-a-7
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:44:31 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:44:31

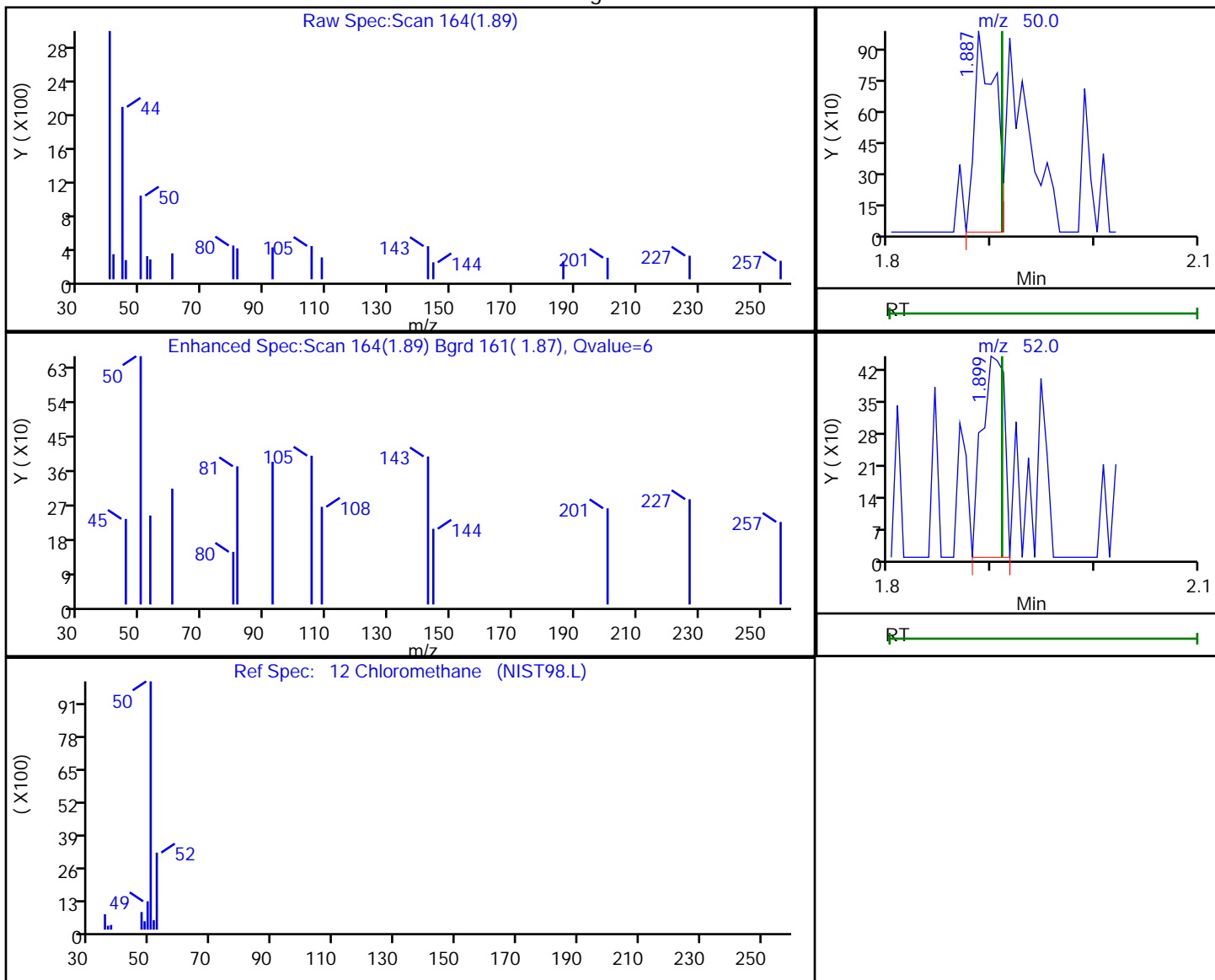
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	55.6	111.29
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.9	109.88
\$ 7 Toluene-d8 (Surr)	50.0	45.0	90.03
\$ 8 4-Bromofluorobenzene (Surr)	50.0	31.5	62.97

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
 Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 10 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
1.89	50.00	1388	0.697067
1.90	52.00	670	

Reviewer: bowieh, 06-Dec-2019 10:44:26

Audit Action: Marked Compound Undetected

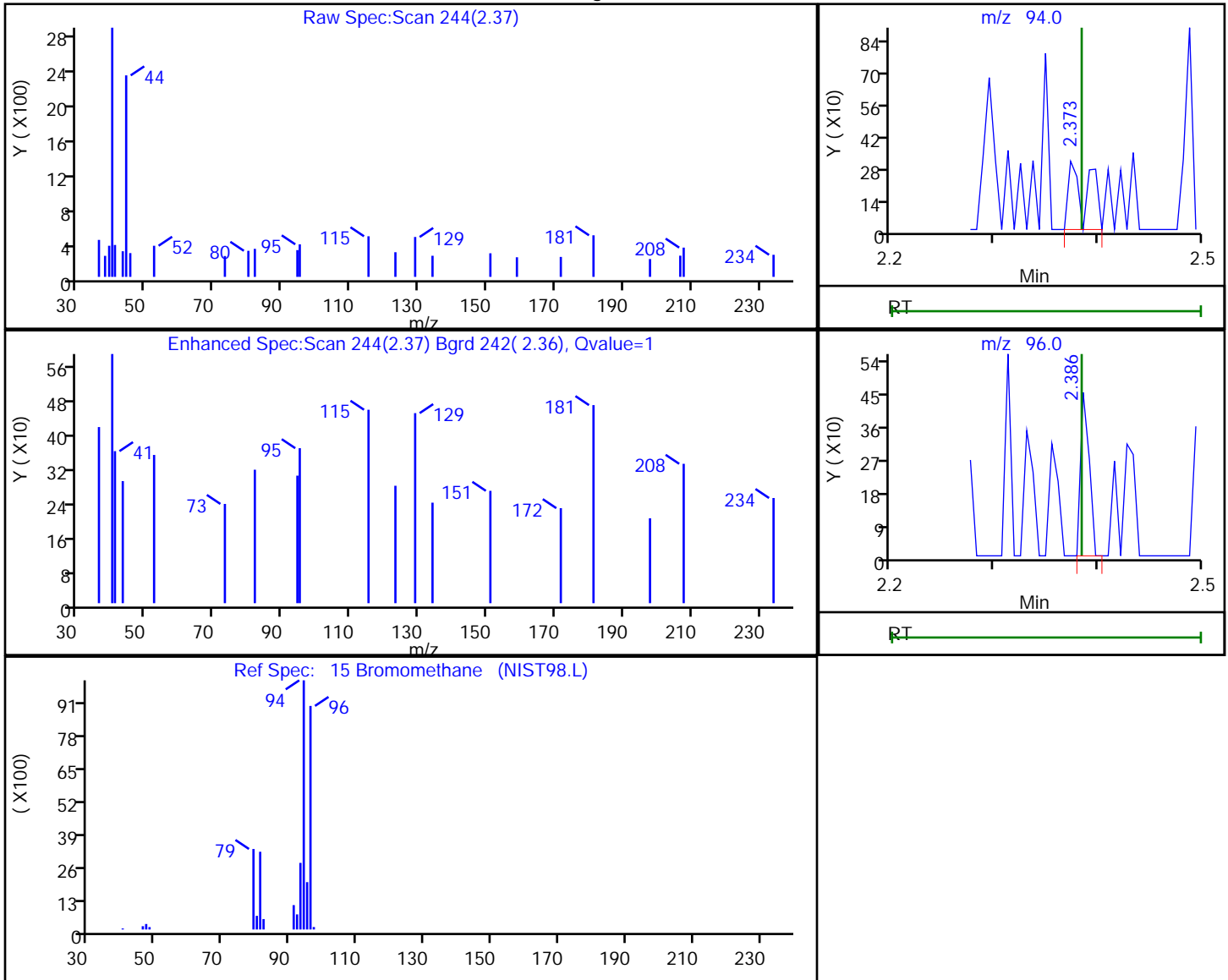
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 10 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
2.37	94.00	389	0.238894
2.39	96.00	262	

Reviewer: bowieh, 06-Dec-2019 10:42:24

Audit Action: Marked Compound Undetected

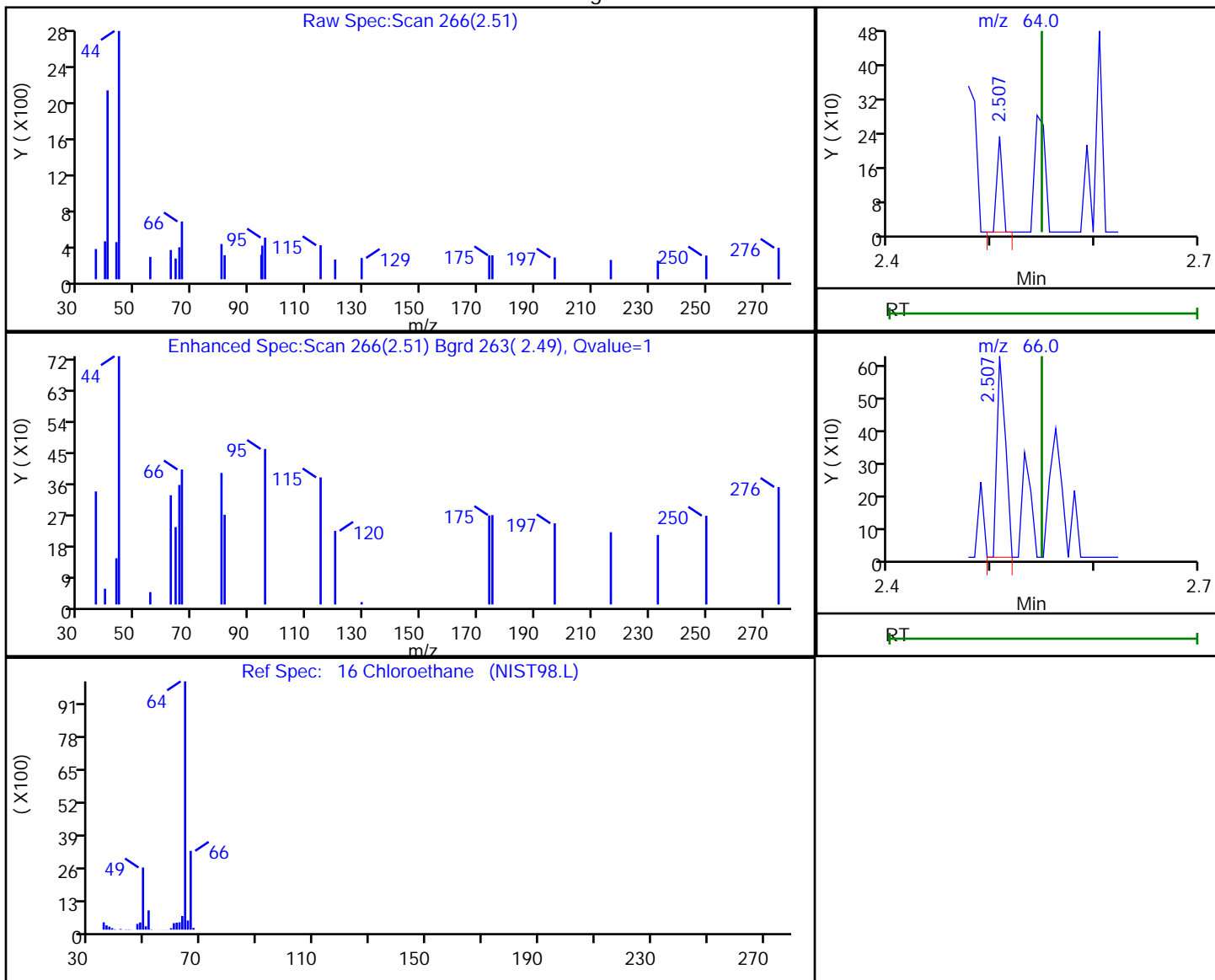
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 10 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

16 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.51	64.00	83	0.061891
2.51	66.00	361	

Reviewer: bowieh, 06-Dec-2019 10:42:25

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

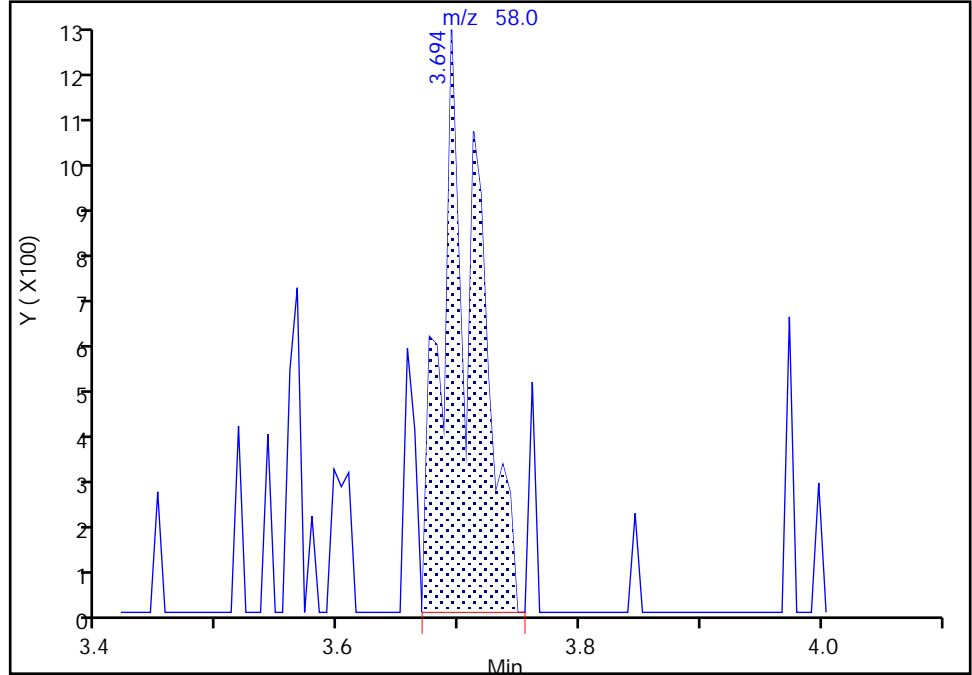
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Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 10 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

24 Acetone, CAS: 67-64-1

Signal: 2

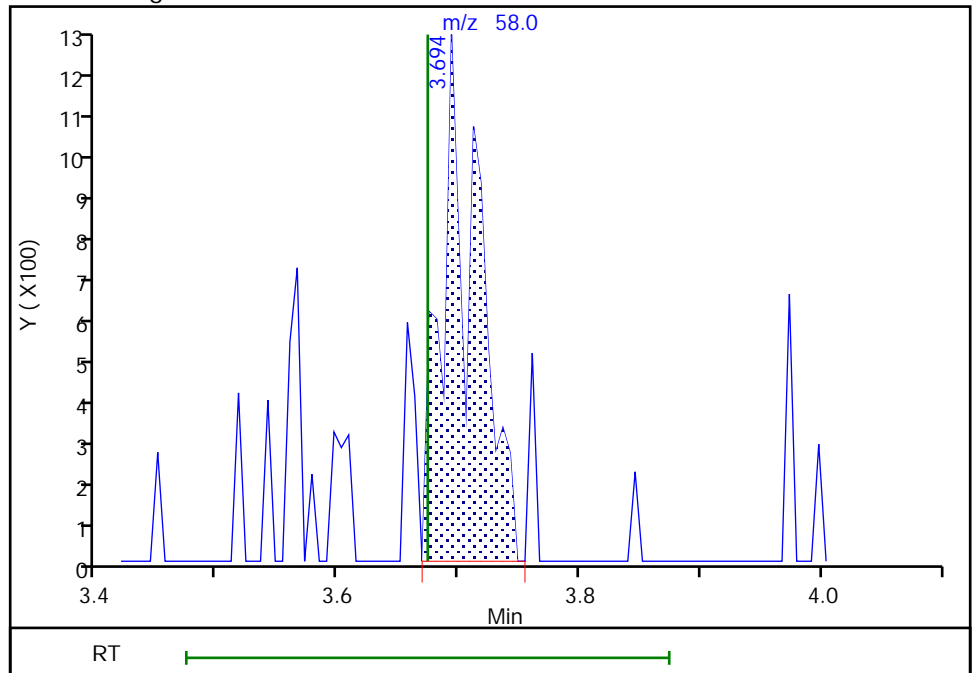
RT: 3.69
Area: 2588
Amount: 10.197078
Amount Units: ng

Processing Integration Results



RT: 3.69
Area: 2588
Amount: 10.197078
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 06-Dec-2019 10:42:26
Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D

Injection Date: 05-Dec-2019 16:21:30

Instrument ID: CHHP5

Lims ID: 180-99101-A-7

Lab Sample ID: 180-99101-7

Client ID: HD-COD-SW-16-0/1-0

Operator ID: 433269

ALS Bottle#: 10 Worklist Smp#: 17

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA_LL_CHHP5

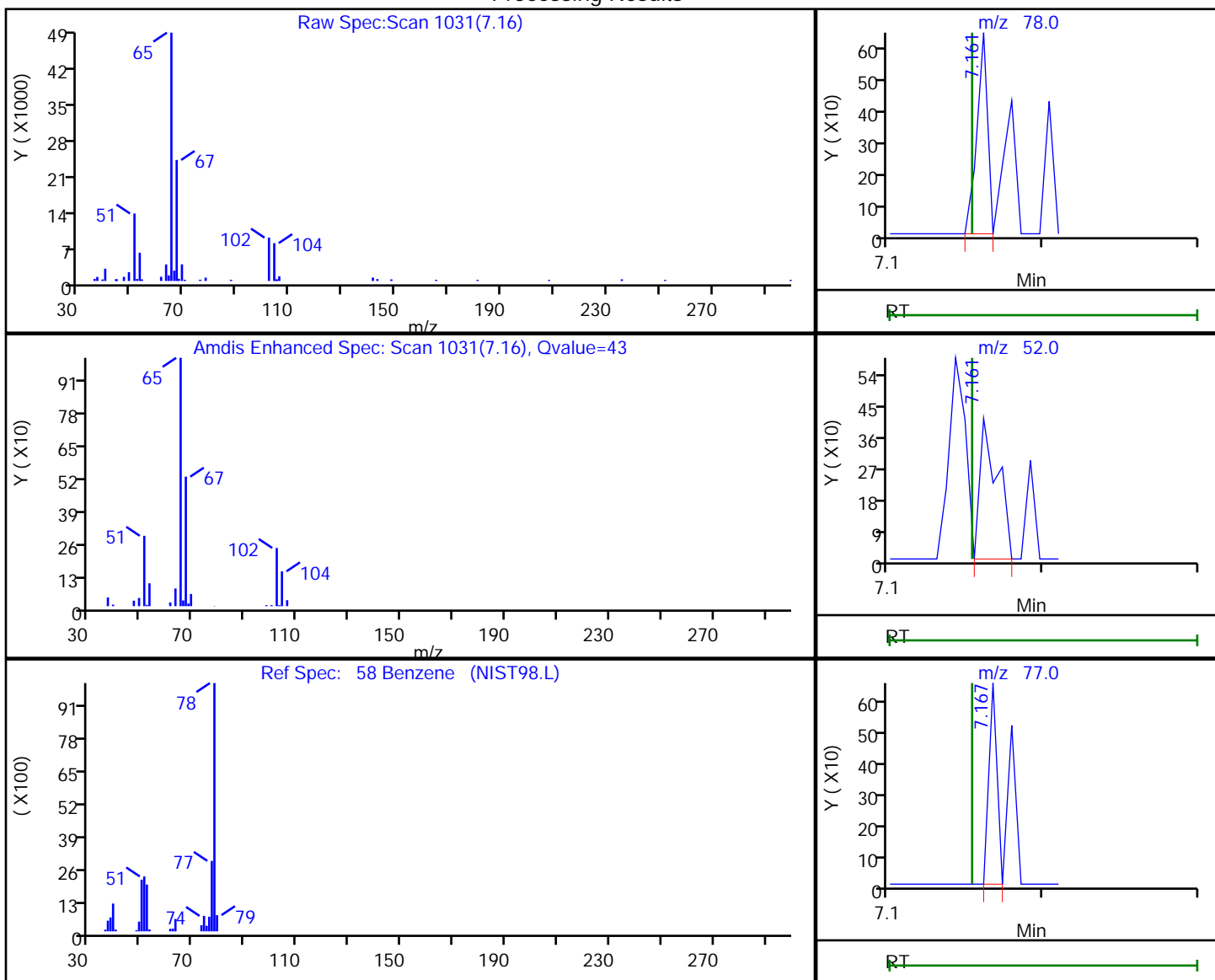
Limit Group: VOA 8260C_D ICAL

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	312	0.032005
7.16	52.00	331	
7.17	77.00	239	

Reviewer: bowieh, 06-Dec-2019 10:42:37

Audit Action: Marked Compound Undetected

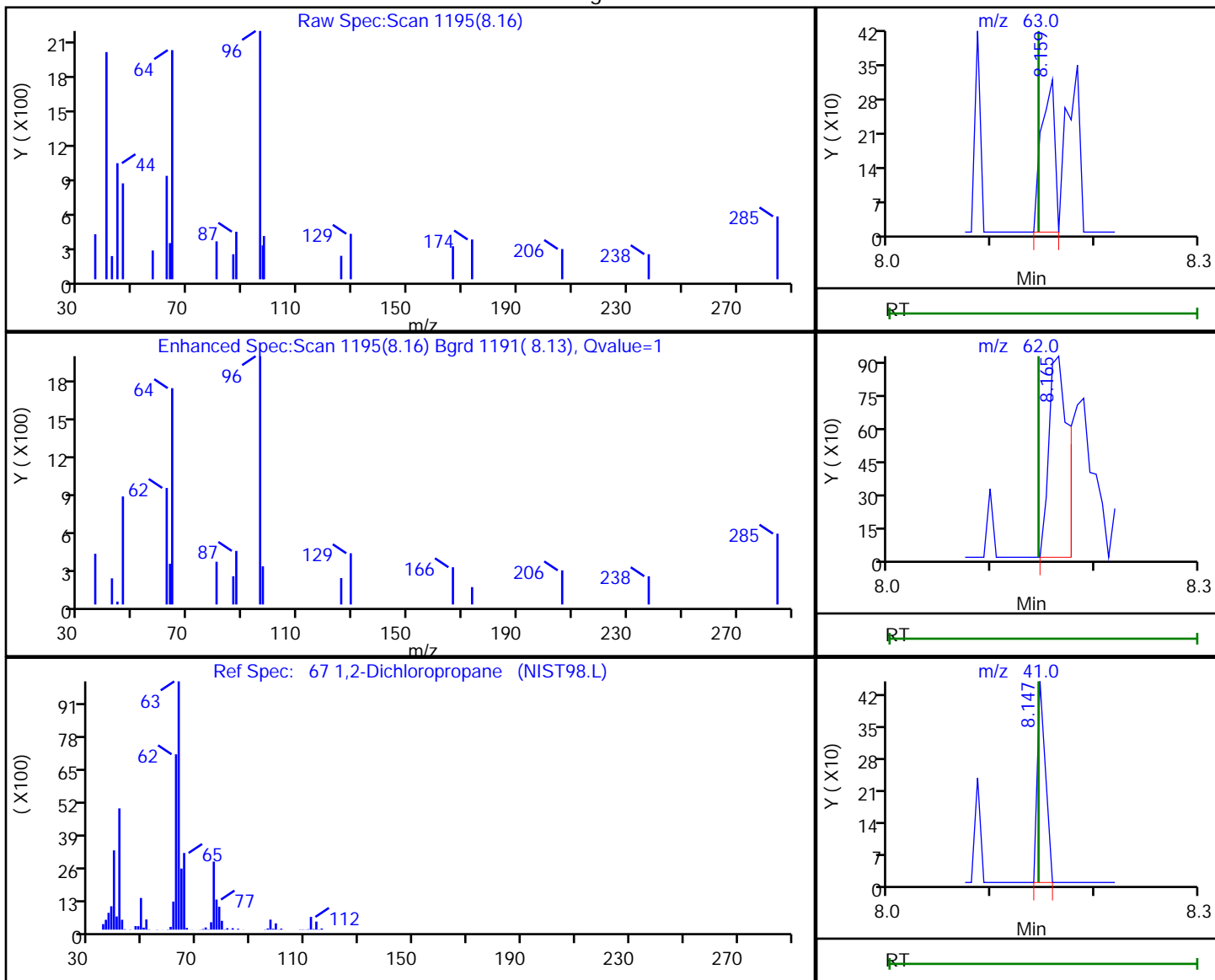
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
 Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 10 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.16	63.00	280	0.124999
8.16	62.00	1212	
8.15	41.00	246	

Reviewer: bowieh, 06-Dec-2019 10:42:41

Audit Action: Marked Compound Undetected

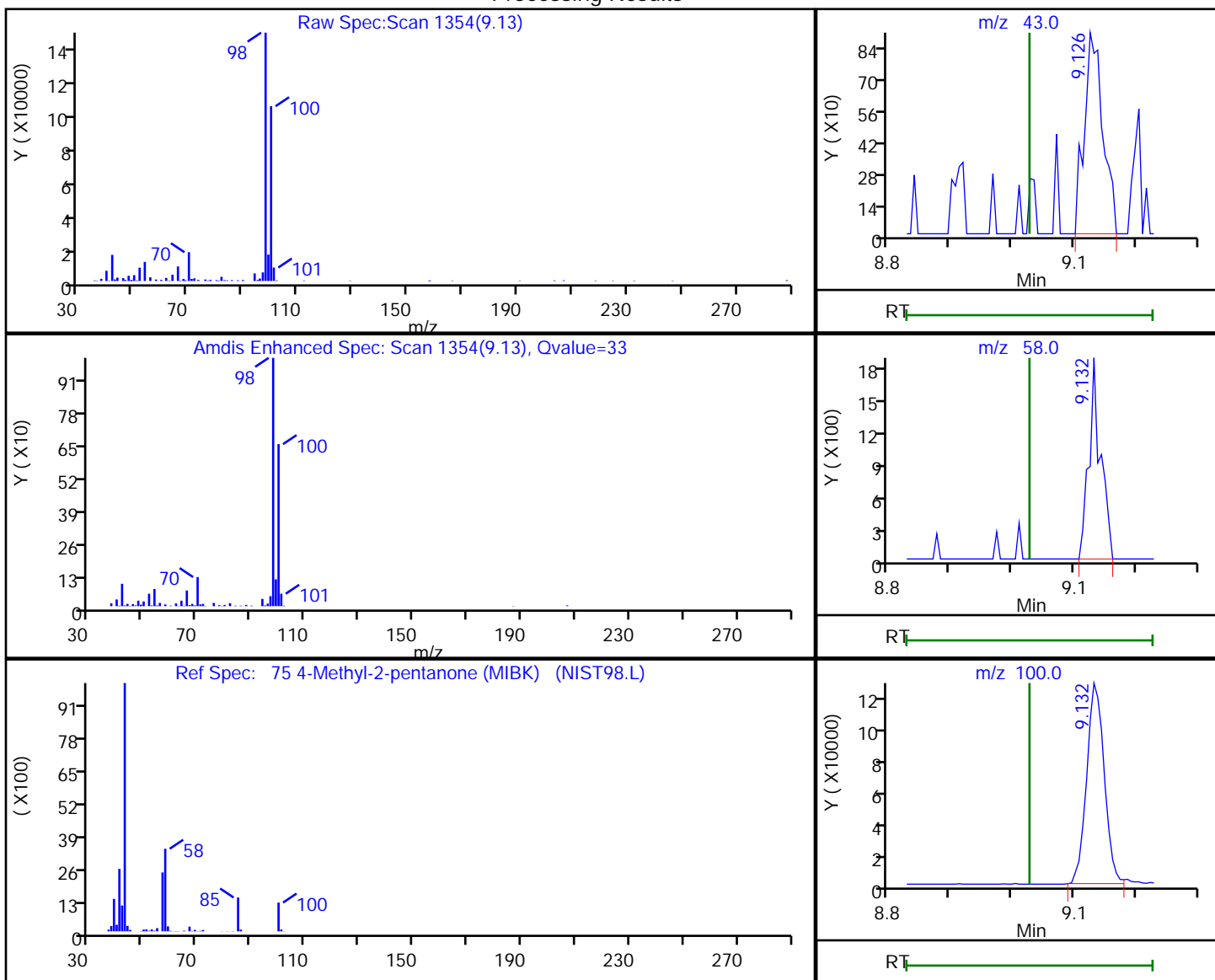
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
 Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 10 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	1897	1.092755
9.13	58.00	2470	
9.13	100.00	255581	

Reviewer: bowieh, 06-Dec-2019 10:42:43

Audit Action: Marked Compound Undetected

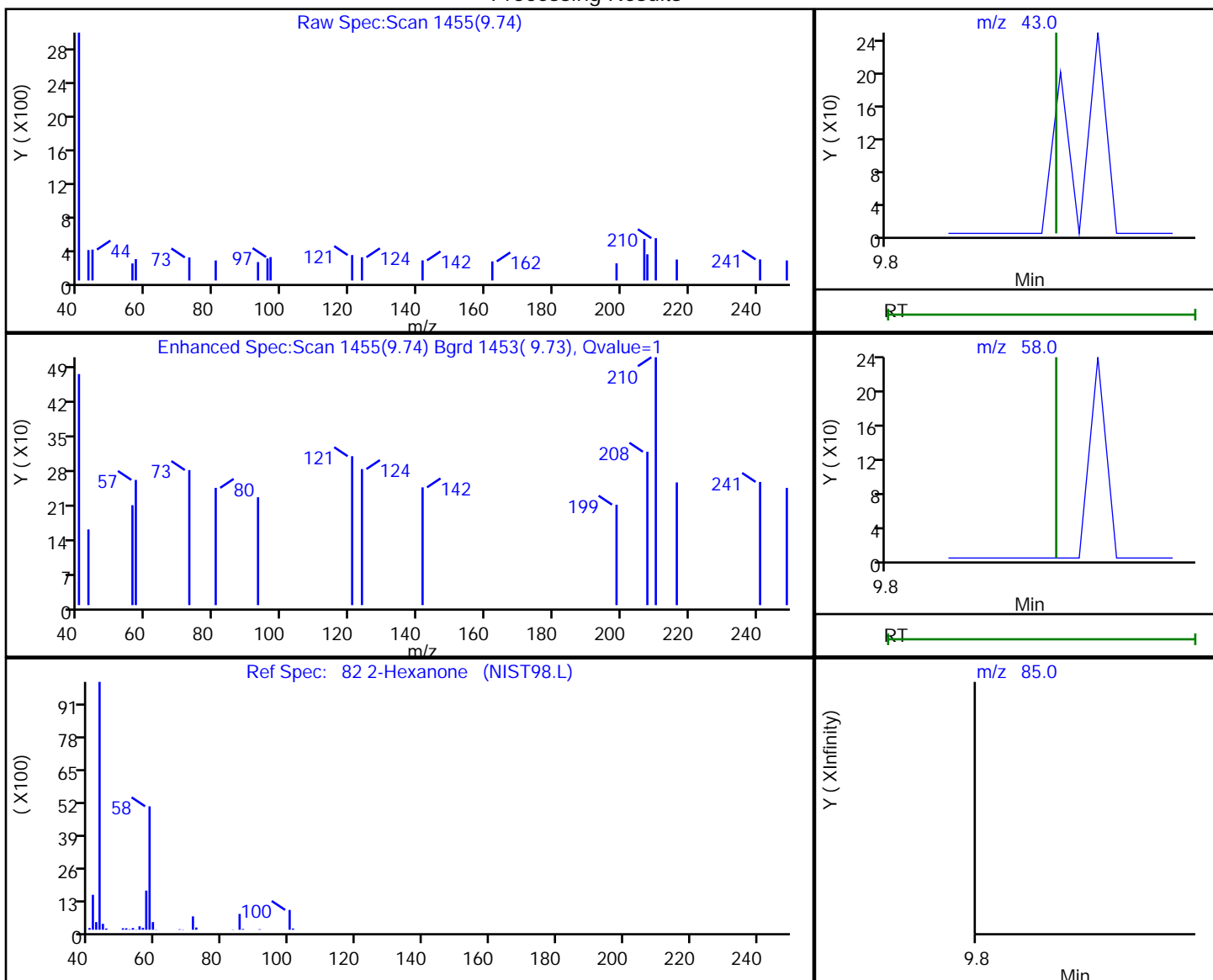
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
 Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 10 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

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

Processing Results



RT	Mass	Response	Amount
9.74	43.00	131	12.822841
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:42:49

Audit Action: Marked Compound Undetected

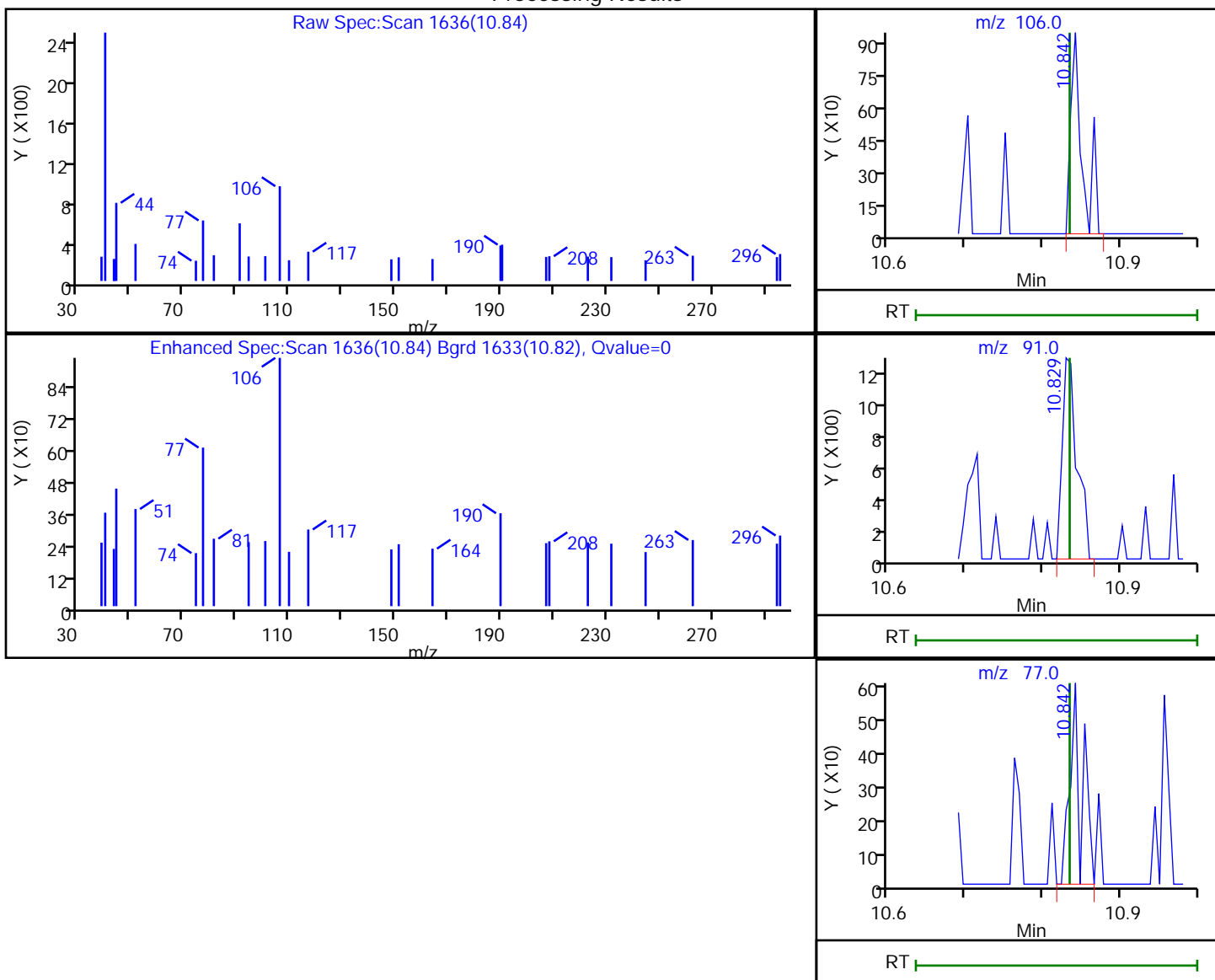
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120517.D
 Injection Date: 05-Dec-2019 16:21:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 10 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

91 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results



RT	Mass	Response	Amount
10.84	106.00	973	0.211214
10.83	91.00	1689	
10.84	77.00	660	

Reviewer: bowieh, 06-Dec-2019 10:42:53

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-16-0/1-0 RA Lab Sample ID: 180-99101-7 RA
 Matrix: Water Lab File ID: 5121324.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:05
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 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.: 301313 Units: ug/L

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

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-16-0/1-0 RA Lab Sample ID: 180-99101-7 RA
 Matrix: Water Lab File ID: 5121324.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:05
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND	H	1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60
107-13-1	Acrylonitrile	ND	H	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)	80		78-128
460-00-4	4-Bromofluorobenzene (Surr)	93		64-123
1868-53-7	Dibromofluoromethane (Surr)	115		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Lims ID: 180-99101-C-7
 Client ID: HD-COD-SW-16-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 20:12:30 ALS Bottle#: 17 Worklist Smp#: 24
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-024
 Misc. Info.: 180-99101-c-7
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:15:18 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:15:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.422	4.416	0.006	0	162837	1000.0	
* 2 Fluorobenzene (IS)	96	7.396	7.391	0.005	99	425909	50.0	
* 3 Chlorobenzene-d5	119	10.481	10.482	-0.001	83	124170	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.823	12.818	0.005	94	215789	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.679	6.673	0.006	95	123990	57.6	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.044	7.038	0.006	0	162188	58.1	
\$ 7 Toluene-d8 (Surr)	98	9.033	9.034	-0.001	93	414080	40.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.667	11.662	0.005	94	187239	46.5	
12 Chloromethane	50		1.831				ND	U
13 Vinyl chloride	62		1.965				ND	
15 Bromomethane	94		2.342				ND	U
16 Chloroethane	64		2.476				ND	
22 1,1-Dichloroethene	96		3.467				ND	
24 Acetone	43	3.570	3.577	-0.007	69	5380	6.18	
26 Carbon disulfide	76	3.765	3.753	0.012	43	5418	0.9462	a
31 Methylene Chloride	84		4.289				ND	
33 Acrylonitrile	53		4.672				ND	
34 trans-1,2-Dichloroethene	96		4.696				ND	
35 Methyl tert-butyl ether	73		4.708				ND	
37 1,1-Dichloroethane	63		5.329				ND	
45 cis-1,2-Dichloroethene	96		6.065				ND	U
46 2-Butanone (MEK)	43		6.083				ND	
49 Chlorobromomethane	128		6.351				ND	
52 Chloroform	83		6.497				ND	U
53 1,1,1-Trichloroethane	97		6.649				ND	
56 Carbon tetrachloride	117		6.813				ND	
58 Benzene	78		7.051				ND	U
59 1,2-Dichloroethane	62		7.124				ND	
64 Trichloroethene	130		7.775				ND	U
67 1,2-Dichloropropane	63		8.048				ND	U
71 Dichlorobromomethane	83		8.328				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.772				ND	
75 4-Methyl-2-pentanone (MIBK)	43		8.930				ND	U
76 Toluene	91	9.100	9.101	-0.001	36	2773	0.2275	
77 trans-1,3-Dichloropropene	75		9.350				ND	
79 1,1,2-Trichloroethane	97		9.539				ND	U
80 Tetrachloroethene	164		9.612				ND	U
82 2-Hexanone	43		9.764				ND	U
84 Chlorodibromomethane	129		9.910				ND	
85 Ethylene Dibromide	107		10.019				ND	U
87 Chlorobenzene	112		10.512				ND	
89 1,1,1,2-Tetrachloroethane	131		10.603				ND	
90 Ethylbenzene	106		10.609				ND	U
91 m-Xylene & p-Xylene	106		10.743				ND	
92 o-Xylene	106		11.126				ND	
93 Styrene	104		11.145				ND	U
94 Bromoform	173		11.321				ND	
99 1,1,2,2-Tetrachloroethane	83		11.808				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D

Injection Date: 13-Dec-2019 20:12:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-C-7

Lab Sample ID: 180-99101-7

Worklist Smp#: 24

Client ID: HD-COD-SW-16-0/1-0

Purge Vol: 5.000 mL

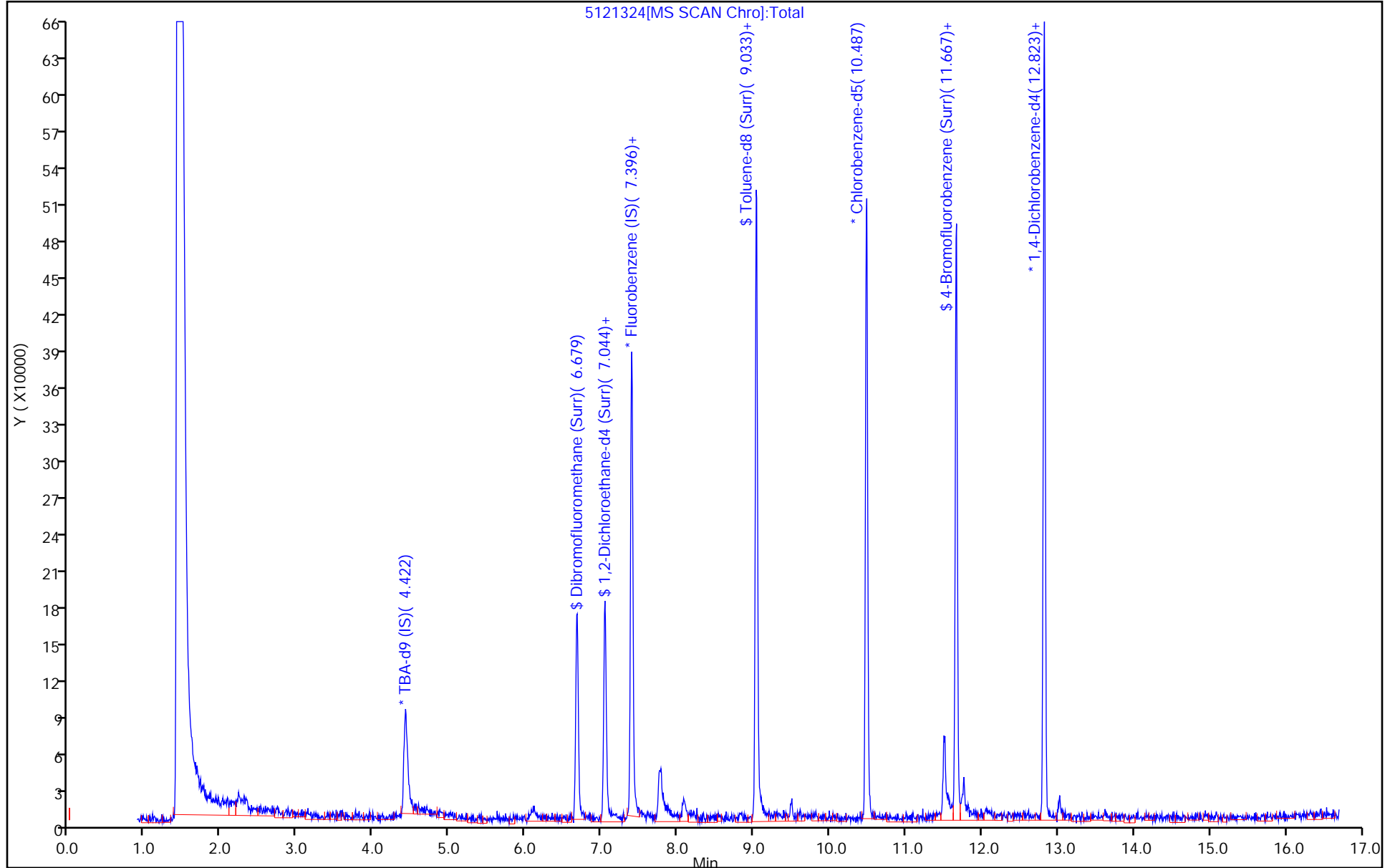
Dil. Factor: 1.0000

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\20191213-30001.b\5121324.D
 Lims ID: 180-99101-C-7
 Client ID: HD-COD-SW-16-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 20:12:30 ALS Bottle#: 17 Worklist Smp#: 24
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-024
 Misc. Info.: 180-99101-c-7
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:15:18 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:15:18

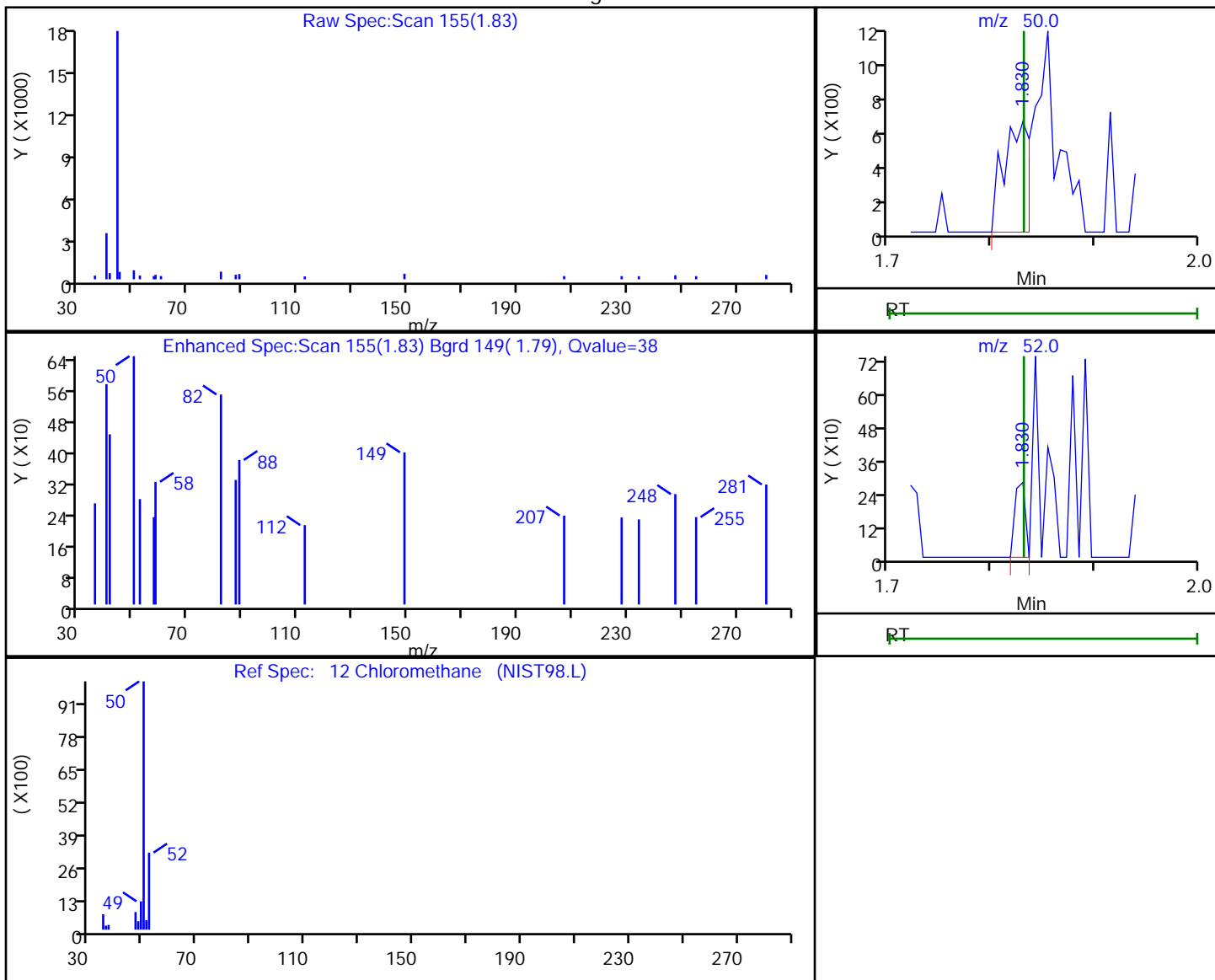
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	57.6	115.12
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	58.1	116.19
\$ 7 Toluene-d8 (Surr)	50.0	40.1	80.25
\$ 8 4-Bromofluorobenzene (Surr)	50.0	46.5	93.05

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
1.83	50.00	1128	0.571088
1.83	52.00	193	

Reviewer: bowieh, 14-Dec-2019 12:14:36

Audit Action: Marked Compound Undetected

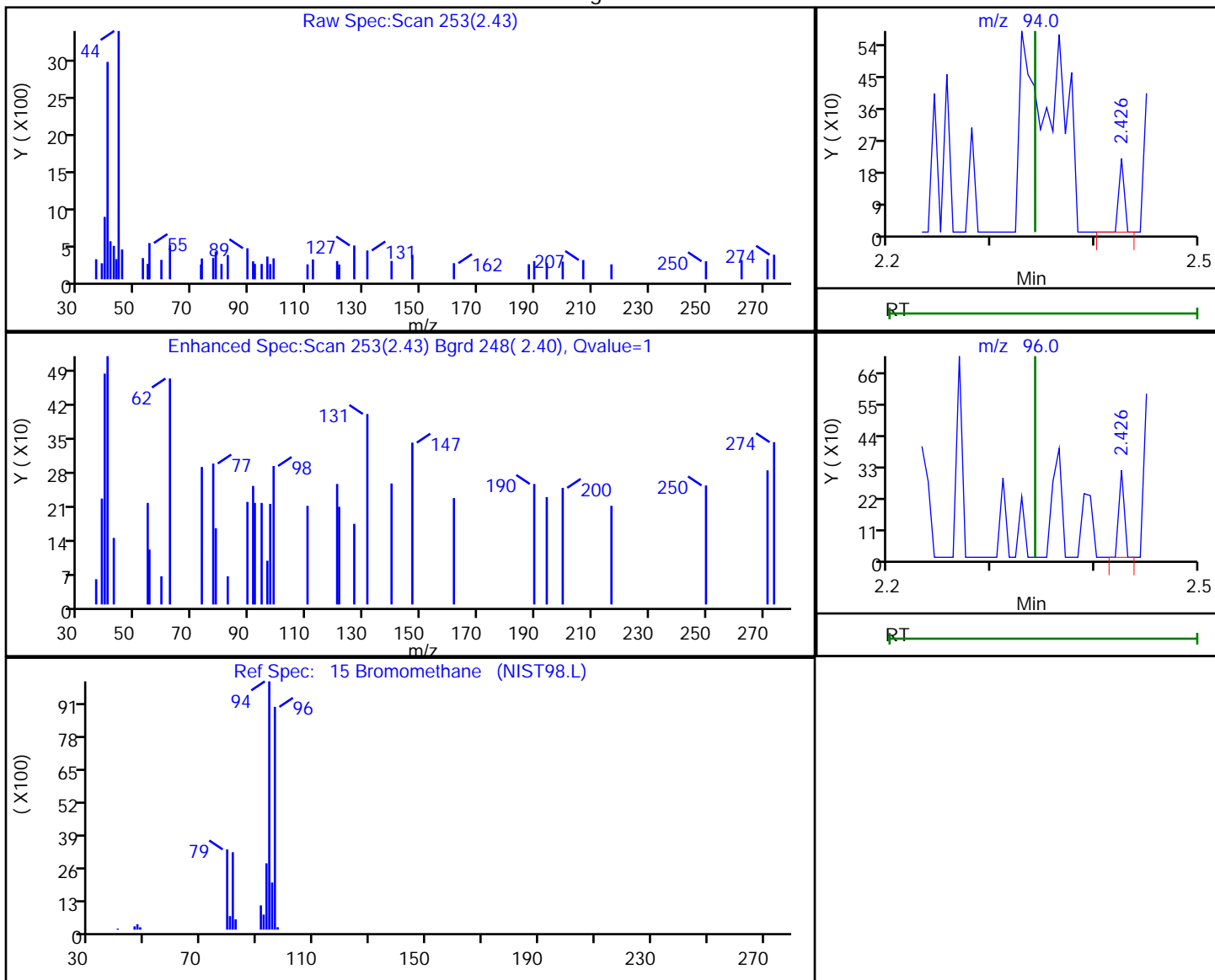
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
2.43	94.00	76	0.047052
2.43	96.00	113	

Reviewer: bowieh, 14-Dec-2019 12:14:38

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Euofins TestAmerica, Pittsburgh

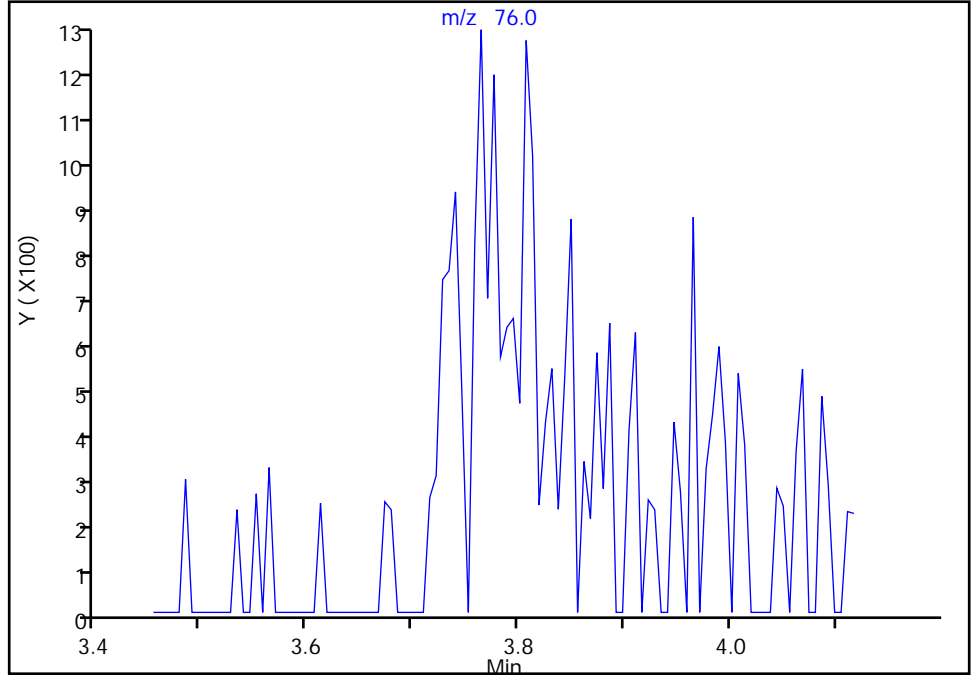
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Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 17 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

26 Carbon disulfide, CAS: 75-15-0

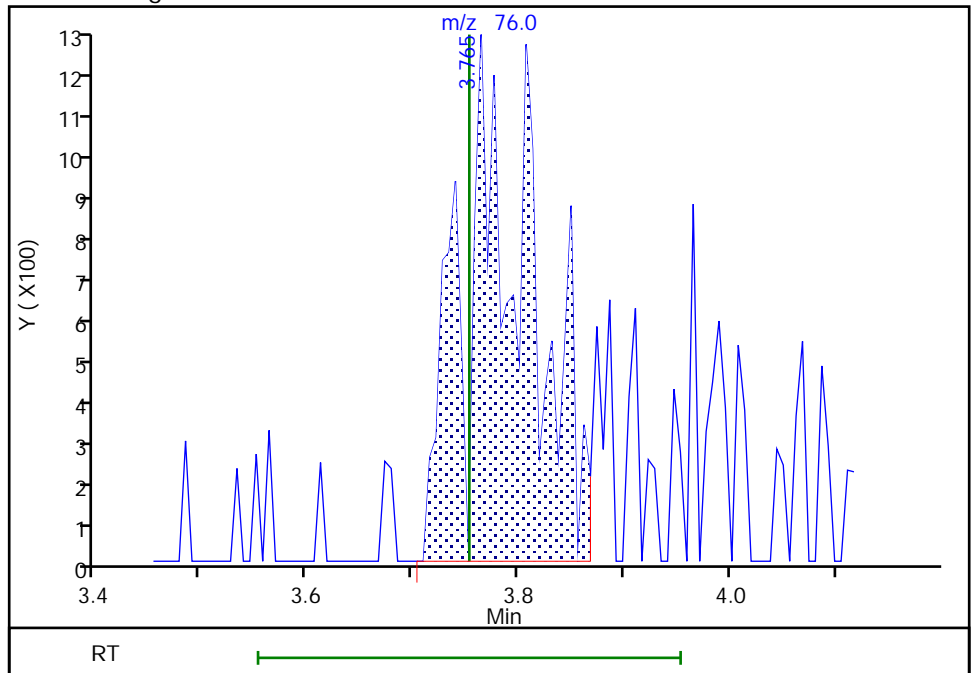
Signal: 1

Not Detected
Expected RT: 3.75

Processing Integration Results



Manual Integration Results



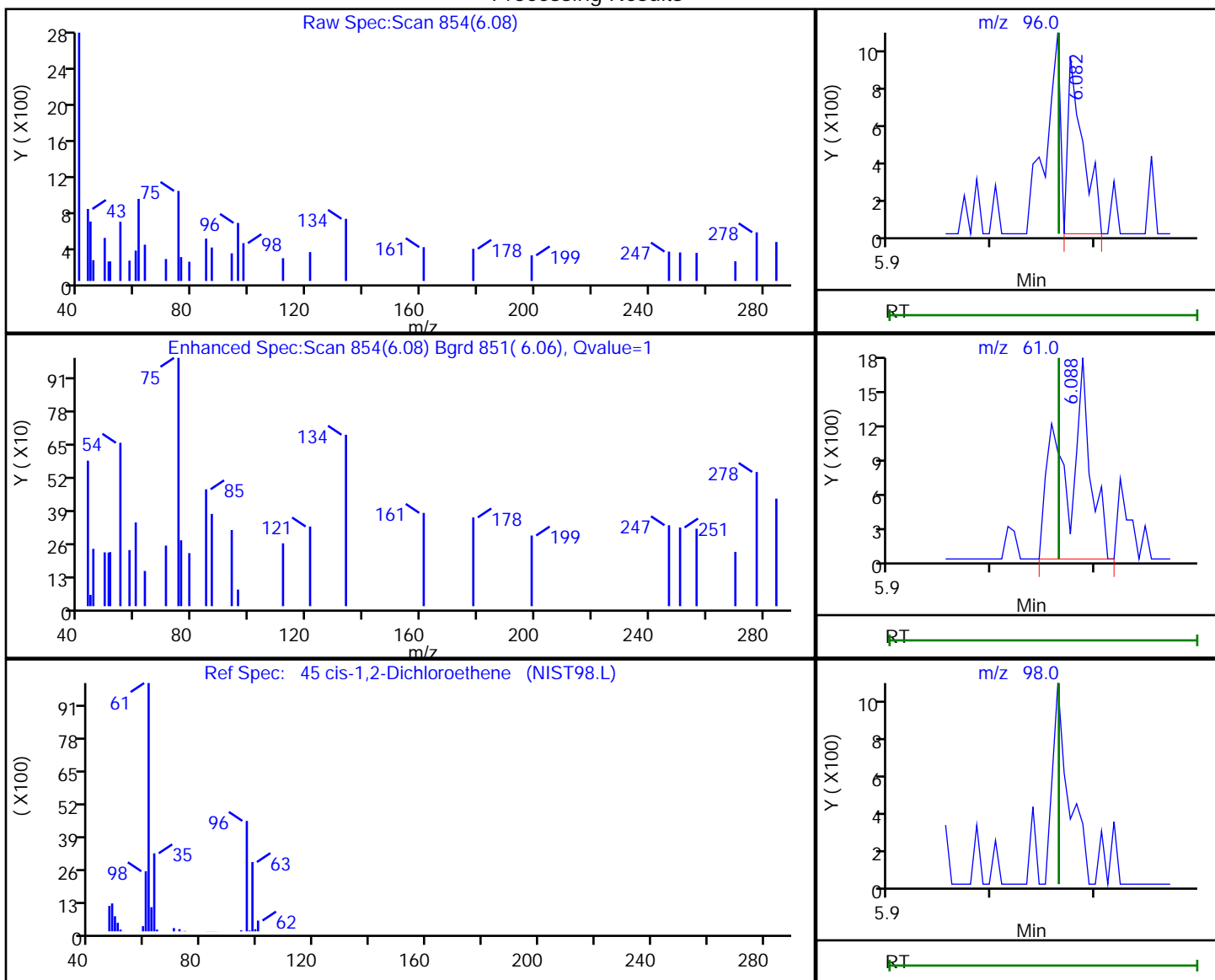
RT: 3.76
Area: 5418
Amount: 0.946206
Amount Units: ng

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
6.08	96.00	976	0.375625
6.09	61.00	2972	
6.07	98.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:46

Audit Action: Marked Compound Undetected

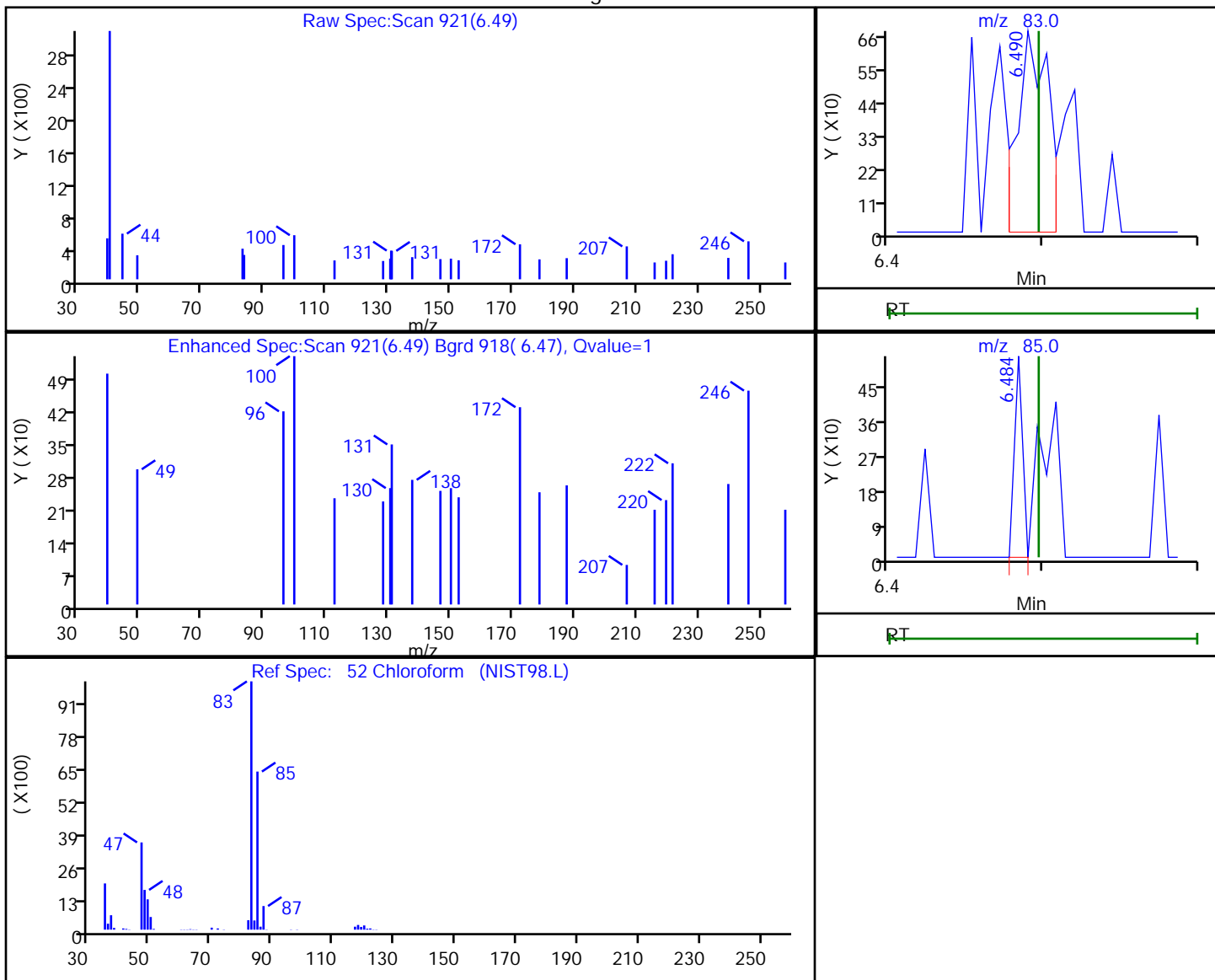
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 17 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

Processing Results



RT	Mass	Response	Amount
6.49	83.00	955	-3.866835
6.48	85.00	193	

Reviewer: bowieh, 14-Dec-2019 12:14:48

Audit Action: Marked Compound Undetected

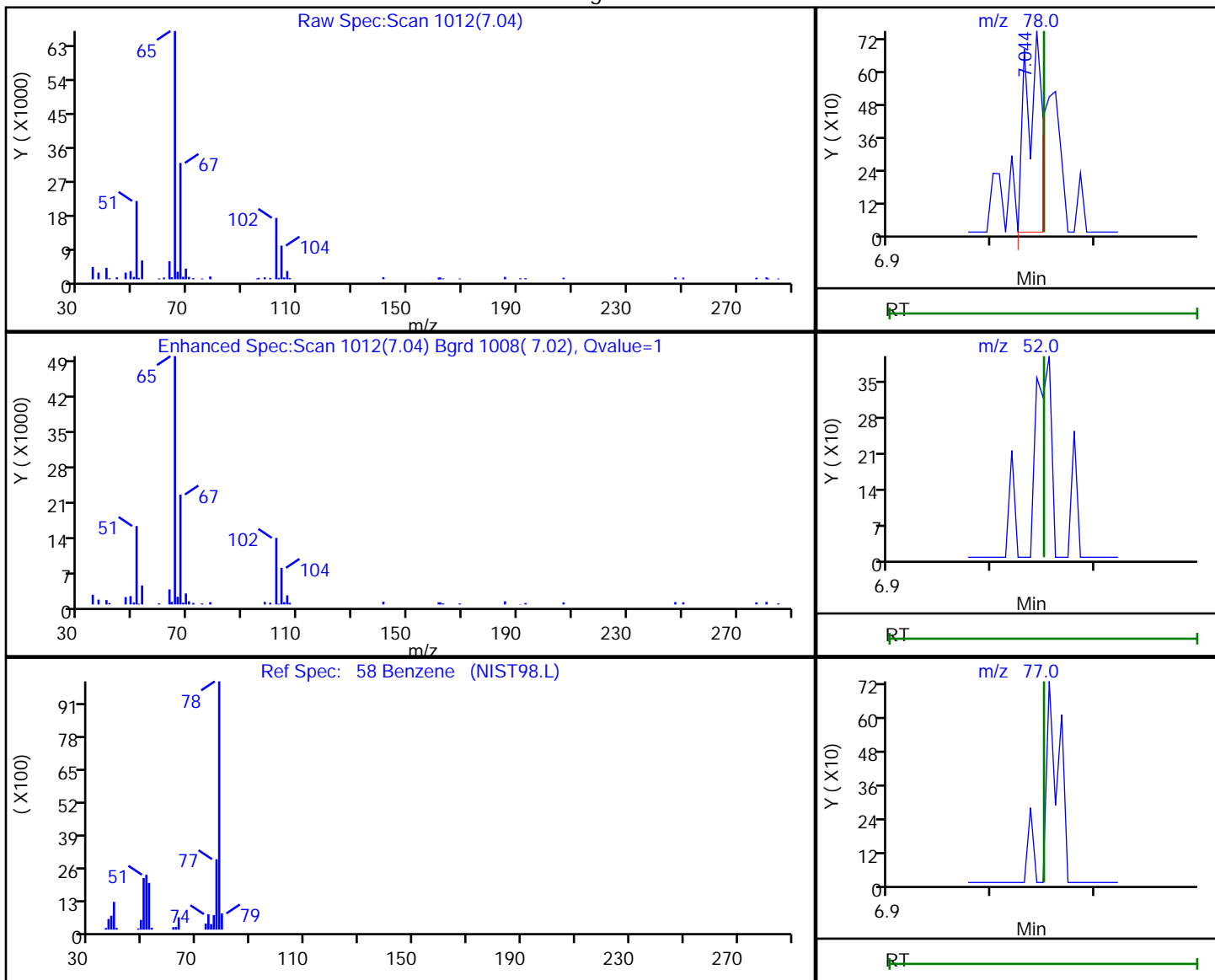
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
7.04	78.00	773	0.079937
7.05	52.00	0	
7.05	77.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:51
 Audit Action: Marked Compound Undetected

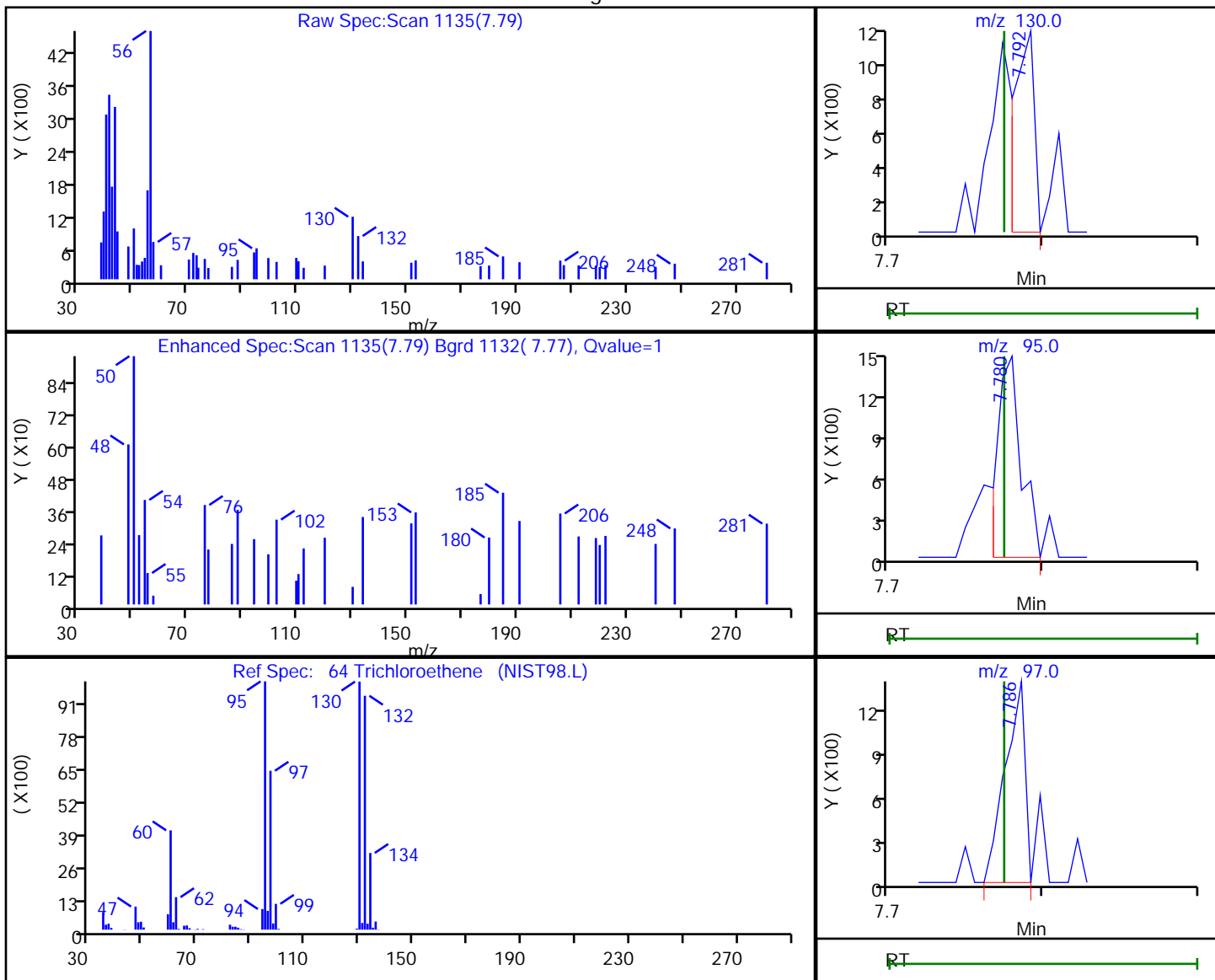
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
7.79	130.00	1041	0.379141
7.78	95.00	1608	
7.79	97.00	1192	

Reviewer: bowieh, 14-Dec-2019 12:14:53

Audit Action: Marked Compound Undetected

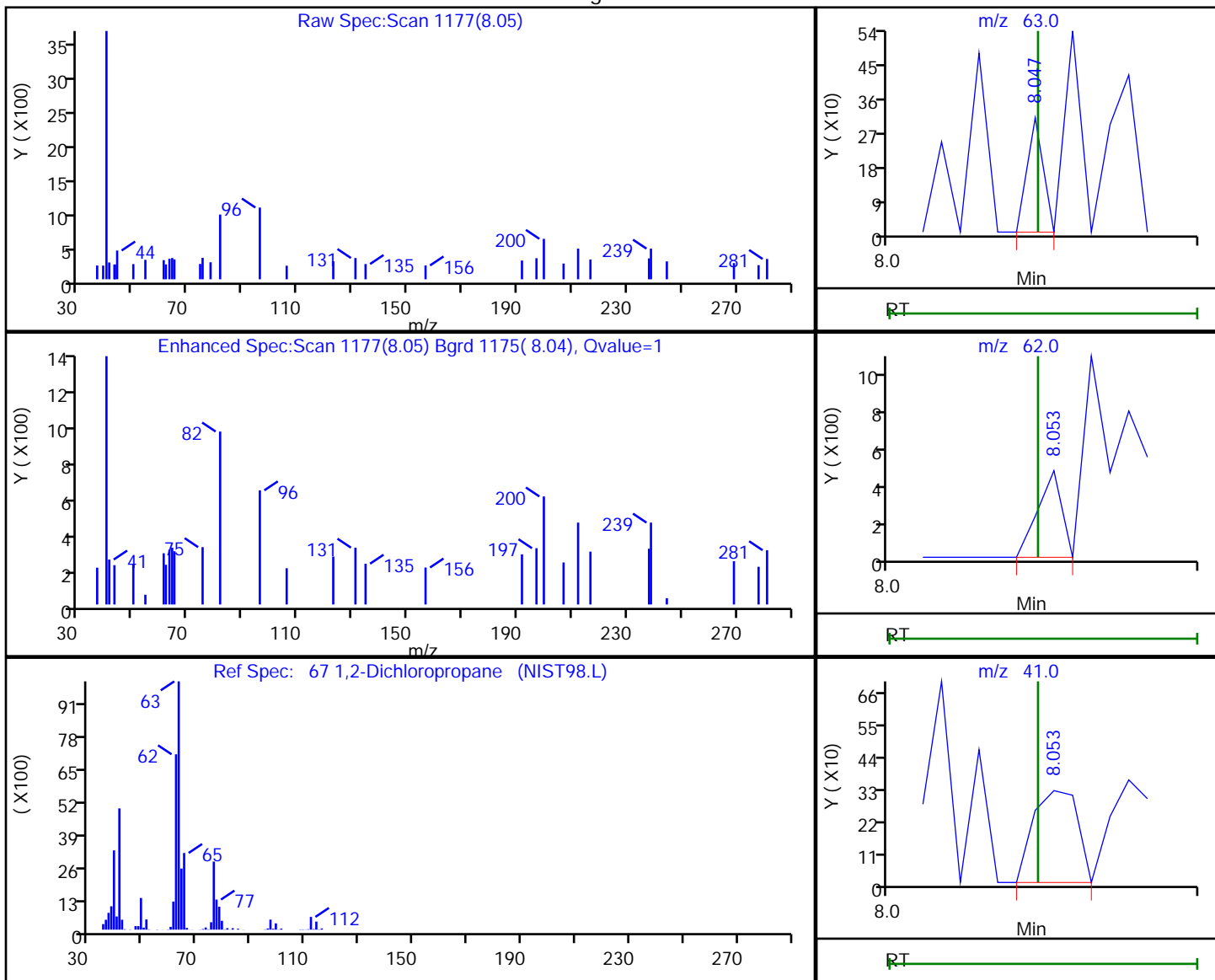
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.05	63.00	111	0.049955
8.05	62.00	250	
8.05	41.00	316	

Reviewer: bowieh, 14-Dec-2019 12:14:54

Audit Action: Marked Compound Undetected

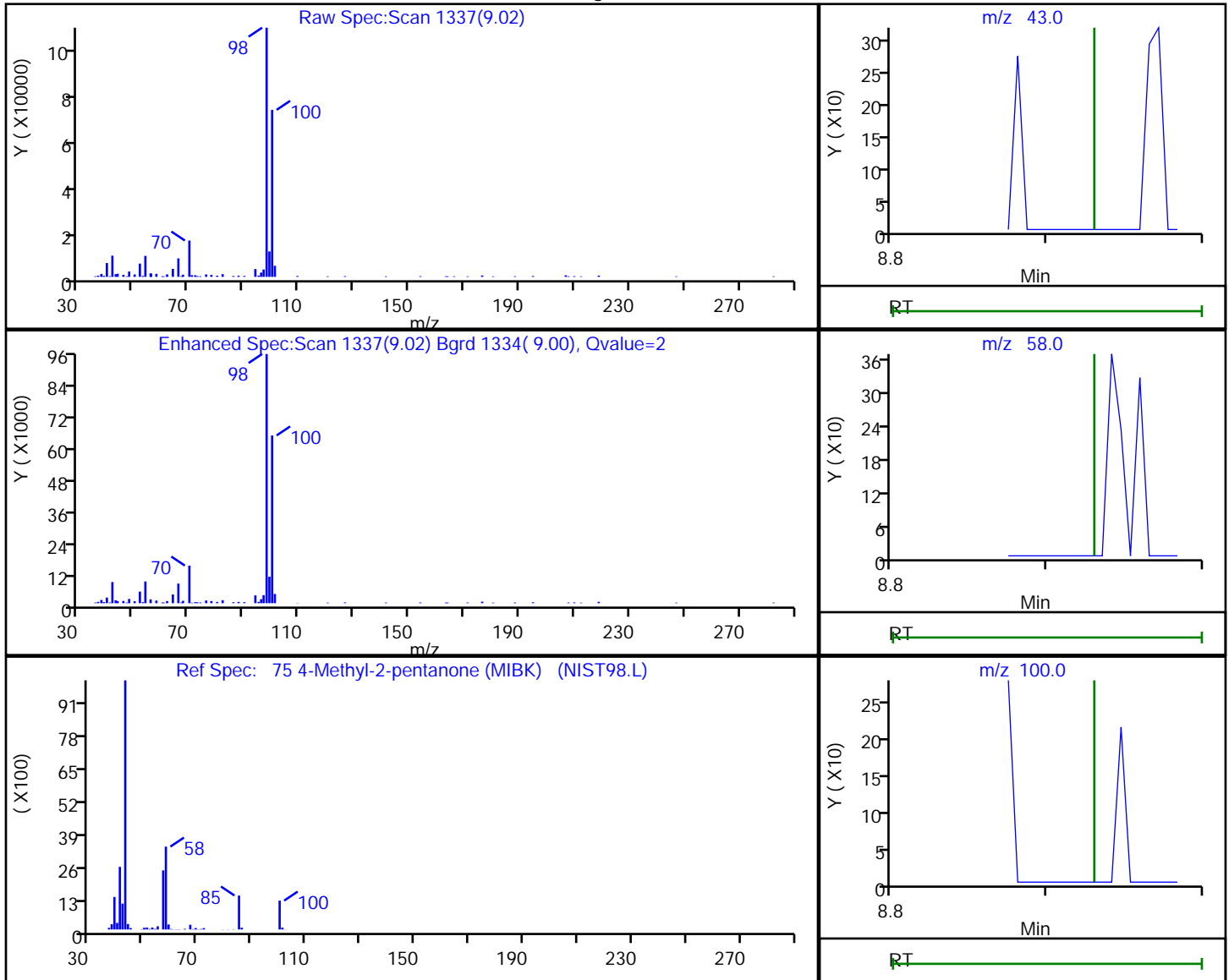
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
9.02	43.00	879	0.438243
9.03	58.00	3339	
8.93	100.00	0	

Reviewer: bowieh, 14-Dec-2019 12:14:57

Audit Action: Marked Compound Undetected

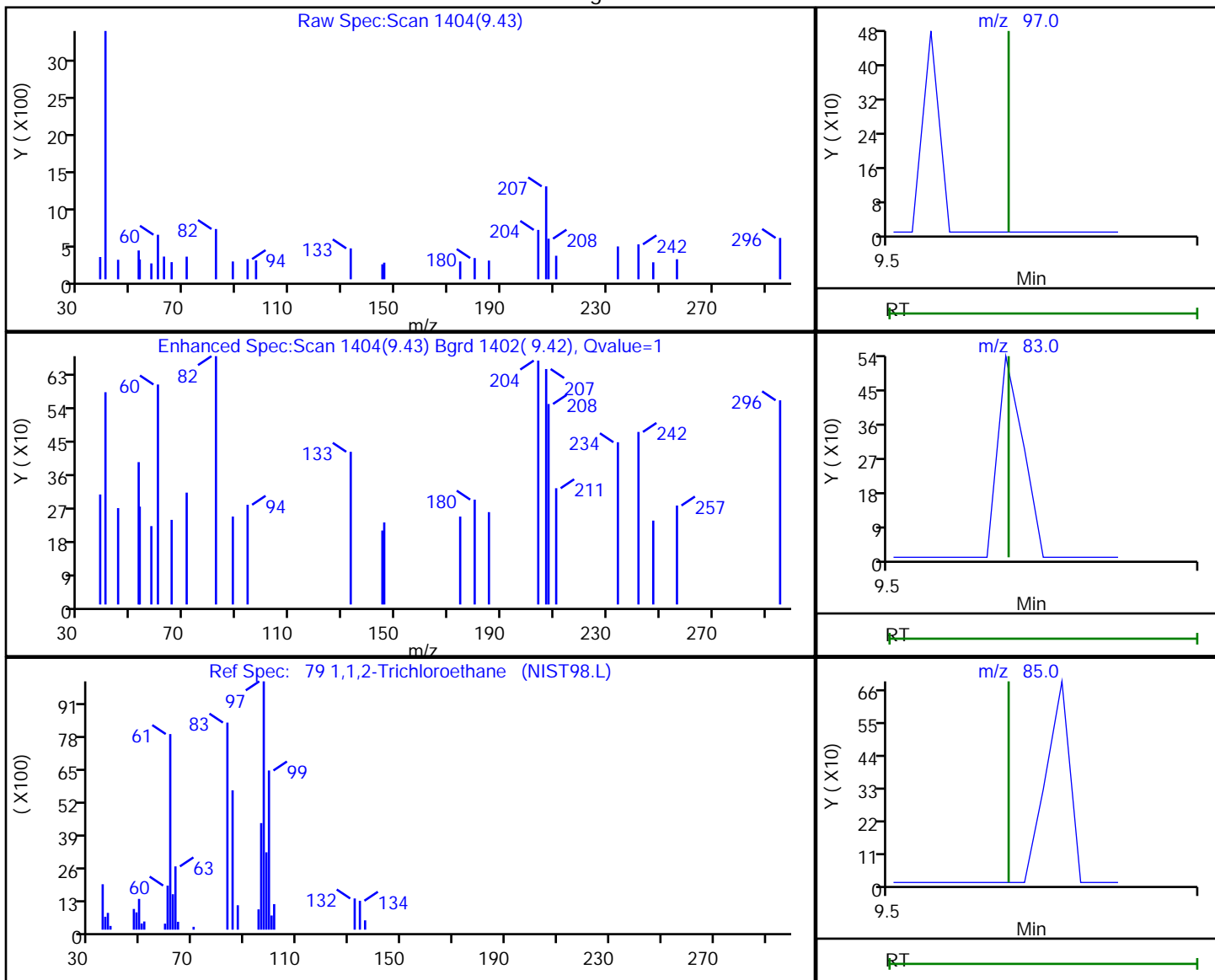
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
9.43	97.00	93	0.038113
9.54	83.00	0	
9.54	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:15:00

Audit Action: Marked Compound Undetected

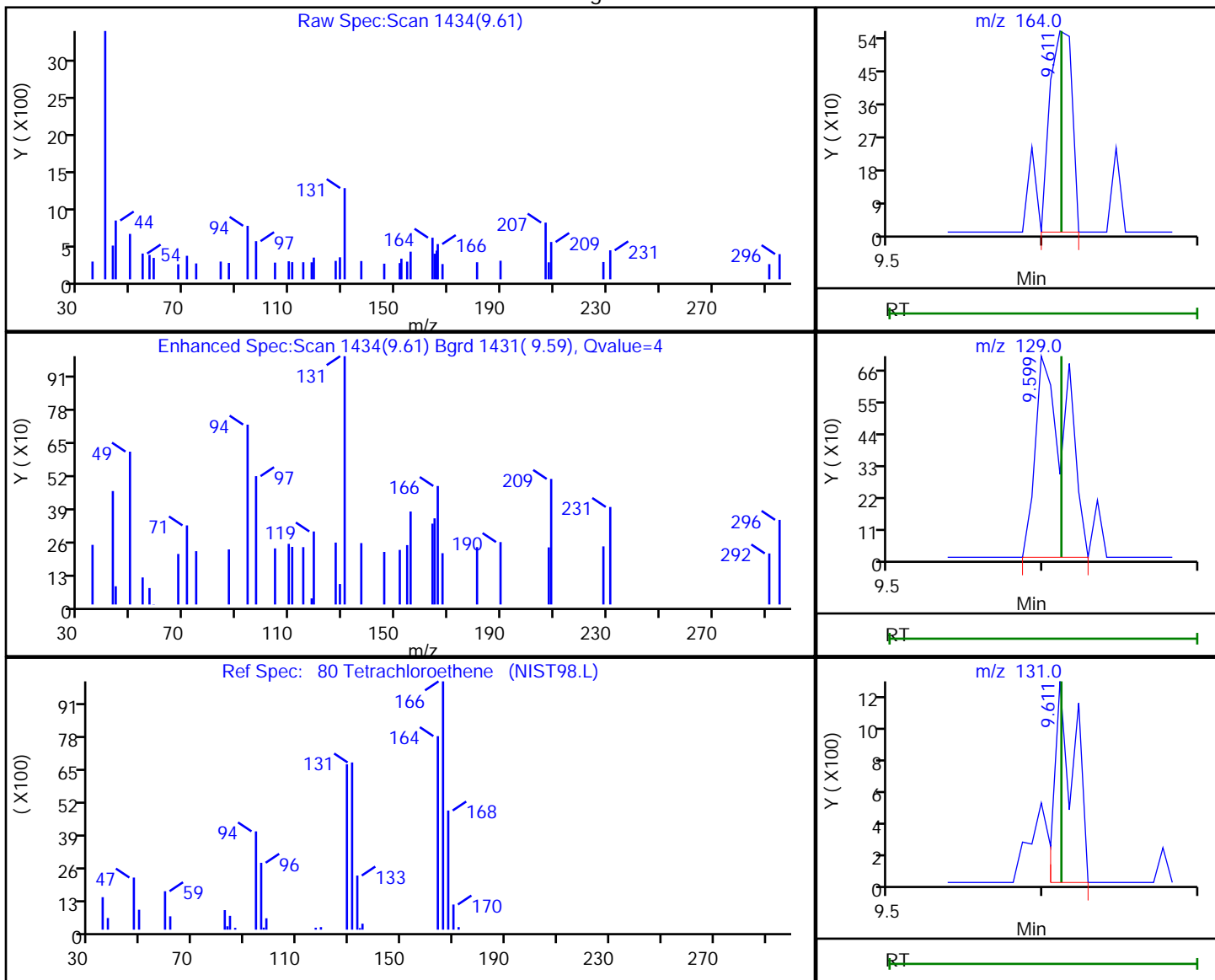
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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

80 Tetrachloroethene, CAS: 127-18-4

Processing Results



RT	Mass	Response	Amount
9.61	164.00	552	0.197094
9.60	129.00	999	
9.61	131.00	1079	

Reviewer: bowieh, 14-Dec-2019 12:15:03

Audit Action: Marked Compound Undetected

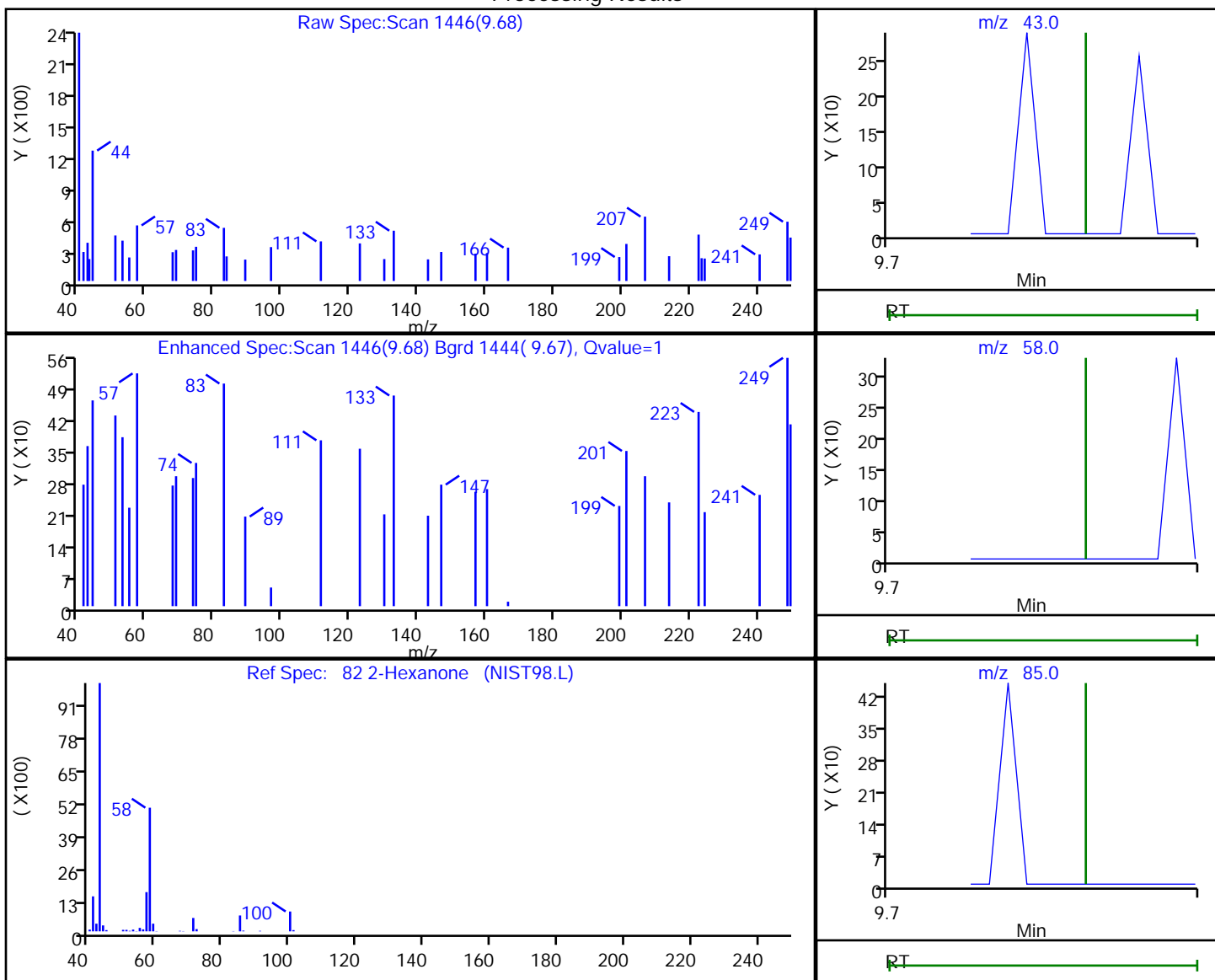
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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
9.68	43.00	76	12.781320
9.76	58.00	0	
9.76	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:15:06

Audit Action: Marked Compound Undetected

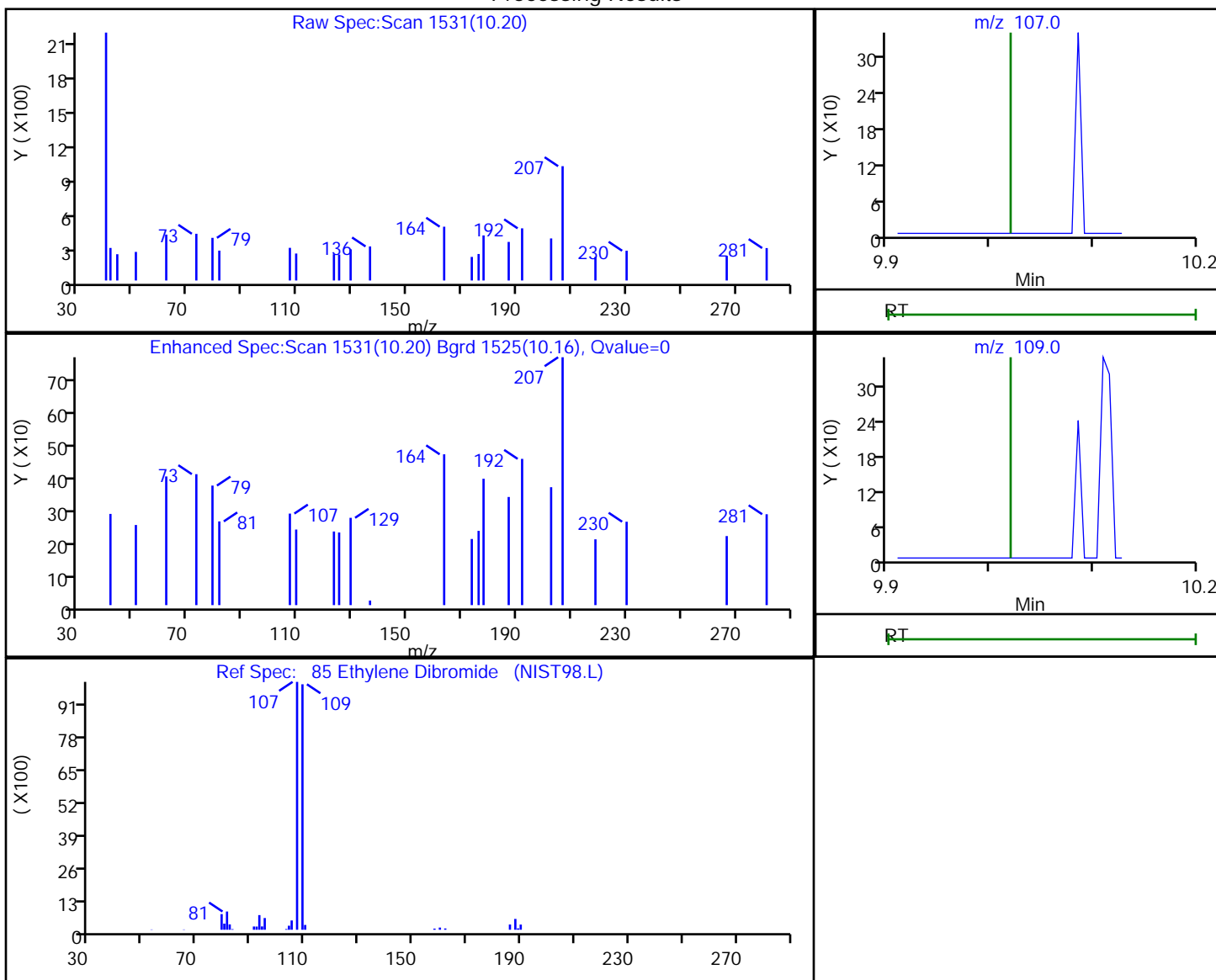
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 17 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

85 Ethylene Dibromide, CAS: 106-93-4

Processing Results



RT	Mass	Response	Amount
10.20	107.00	183	0.072902
10.21	109.00	255	

Reviewer: bowieh, 14-Dec-2019 12:15:08

Audit Action: Marked Compound Undetected

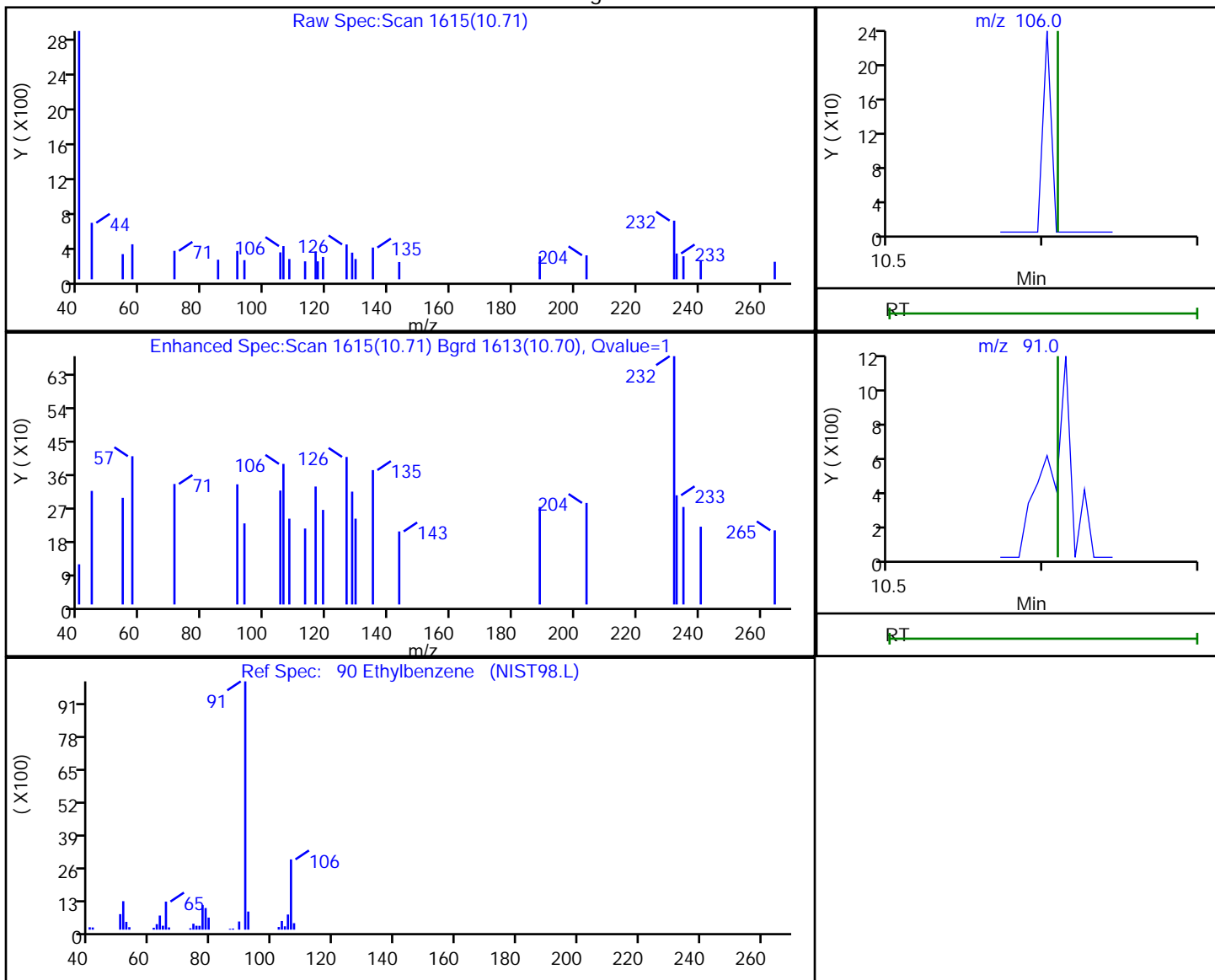
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: 433269 ALS Bottle#: 17 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
10.71	106.00	141	0.033092
10.71	91.00	120	

Reviewer: bowieh, 14-Dec-2019 12:15:11
Audit Action: Marked Compound Undetected

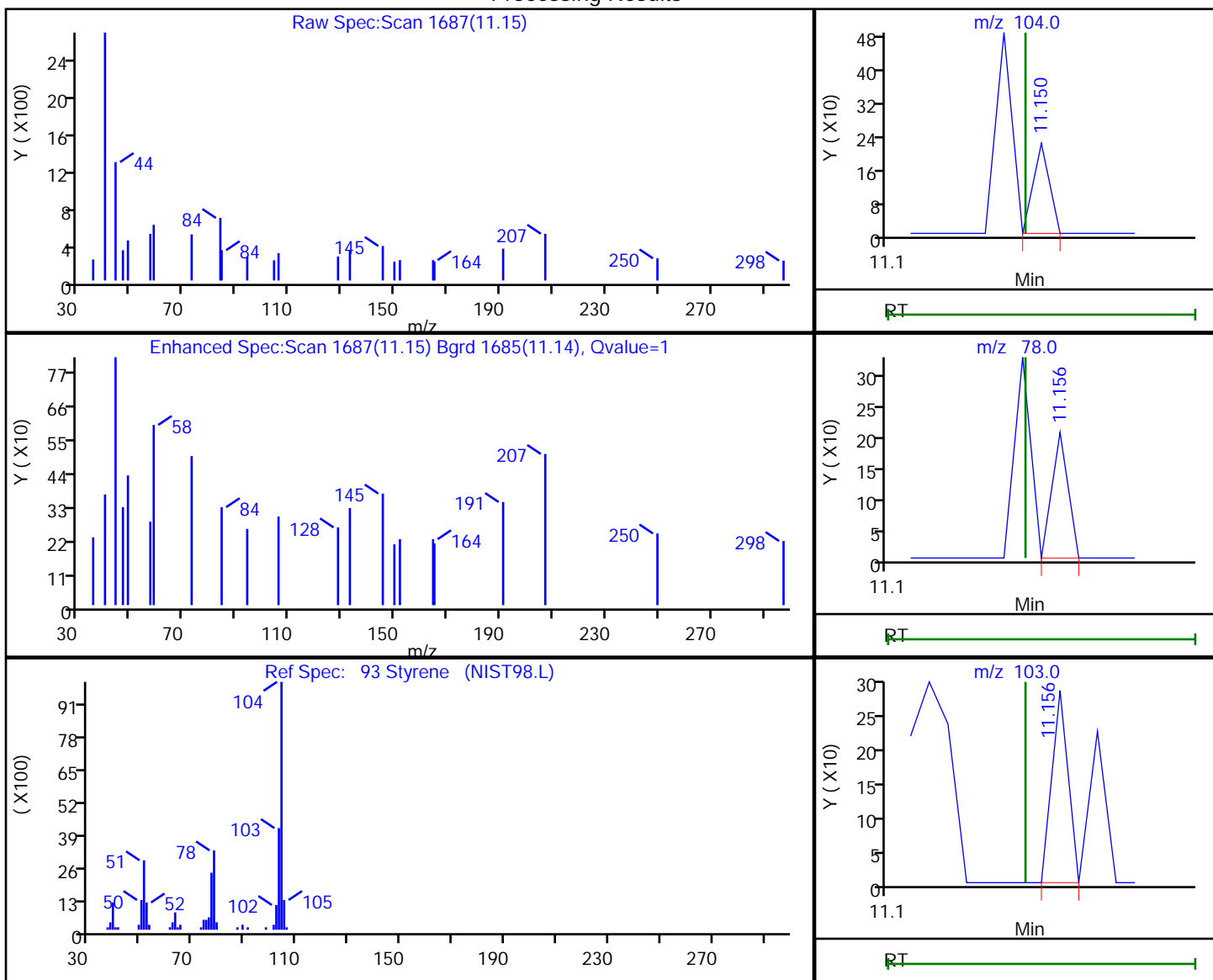
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121324.D
 Injection Date: 13-Dec-2019 20:12:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-7 Lab Sample ID: 180-99101-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: 433269 ALS Bottle#: 17 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

93 Styrene, CAS: 100-42-5

Processing Results



RT	Mass	Response	Amount
11.15	104.00	79	0.009015
11.16	78.00	75	
11.16	103.00	105	

Reviewer: bowieh, 14-Dec-2019 12:15:12

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-17-0/1-0 Lab Sample ID: 180-99101-8
 Matrix: Water Lab File ID: 5120518.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:25
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 16:46
 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.: 300399 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	1.0		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	1.5		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	3.8		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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-17-0/1-0 Lab Sample ID: 180-99101-8
 Matrix: Water Lab File ID: 5120518.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:25
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 16:46
 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.: 300399 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)	107		70-150
2037-26-5	Toluene-d8 (Surr)	91		78-128
460-00-4	4-Bromofluorobenzene (Surr)	68		64-123
1868-53-7	Dibromofluoromethane (Surr)	119		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Lims ID: 180-99101-A-8
 Client ID: HD-COD-SW-17-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 16:46:30 ALS Bottle#: 11 Worklist Smp#: 18
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-018
 Misc. Info.: 180-99101-a-8
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:45:29 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:45:29

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.539	4.544	-0.005	0	190356	1000.0	
* 2 Fluorobenzene (IS)	96	7.502	7.494	0.008	99	424258	50.0	
* 3 Chlorobenzene-d5	119	10.580	10.585	-0.005	84	104712	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.922	12.921	0.001	94	117453	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.784	6.770	0.014	95	127388	59.4	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.149	7.148	0.001	0	149062	53.6	
\$ 7 Toluene-d8 (Surr)	98	9.132	9.131	0.001	93	393818	45.3	
\$ 8 4-Bromofluorobenzene (Surr	95	11.760	11.759	0.001	98	115878	34.1	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	U
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.700	3.674	0.026	62	4807	5.54	
26 Carbon disulfide	76		3.869				ND	U
31 Methylene Chloride	84	4.417	4.398	0.019	35	1272	-2.26	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73	4.837	4.830	0.007	16	1927	0.3239	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.176	6.174	0.002	82	13110	5.07	
46 2-Butanone (MEK)	43		6.186				ND	U
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.607	6.600	0.007	37	5640	-2.65	
53 1,1,1-Trichloroethane	97		6.758				ND	U
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.885	7.878	0.007	93	20532	7.51	
67 1,2-Dichloropropane	63		8.145				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	9.199	9.198	0.001	35	2345	0.2281	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164	9.716	9.709	0.007	94	44288	18.8	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D

Injection Date: 05-Dec-2019 16:46:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-8

Lab Sample ID: 180-99101-8

Worklist Smp#: 18

Client ID: HD-COD-SW-17-0/1-0

Purge Vol: 5.000 mL

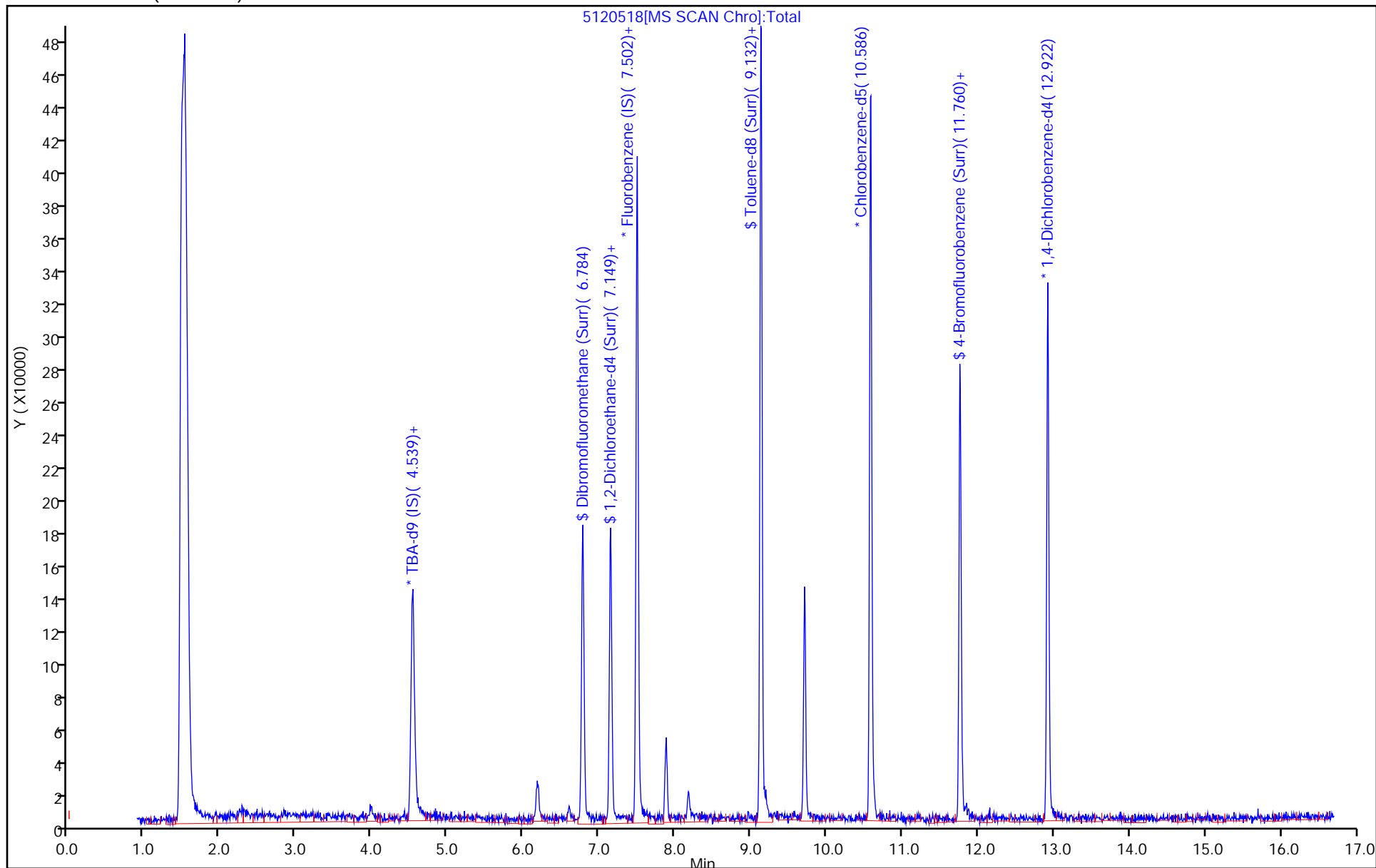
Dil. Factor: 1.0000

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\20191205-29868.b\5120518.D
 Lims ID: 180-99101-A-8
 Client ID: HD-COD-SW-17-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 16:46:30 ALS Bottle#: 11 Worklist Smp#: 18
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-018
 Misc. Info.: 180-99101-a-8
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:45:29 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:45:29

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	59.4	118.73
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.6	107.20
\$ 7 Toluene-d8 (Surr)	50.0	45.3	90.51
\$ 8 4-Bromofluorobenzene (Surr)	50.0	34.1	68.29

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D

Injection Date: 05-Dec-2019 16:46:30

Instrument ID: CHHP5

Lims ID: 180-99101-A-8

Lab Sample ID: 180-99101-8

Client ID: HD-COD-SW-17-0/1-0

Operator ID: 433269

ALS Bottle#: 11 Worklist Smp#: 18

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

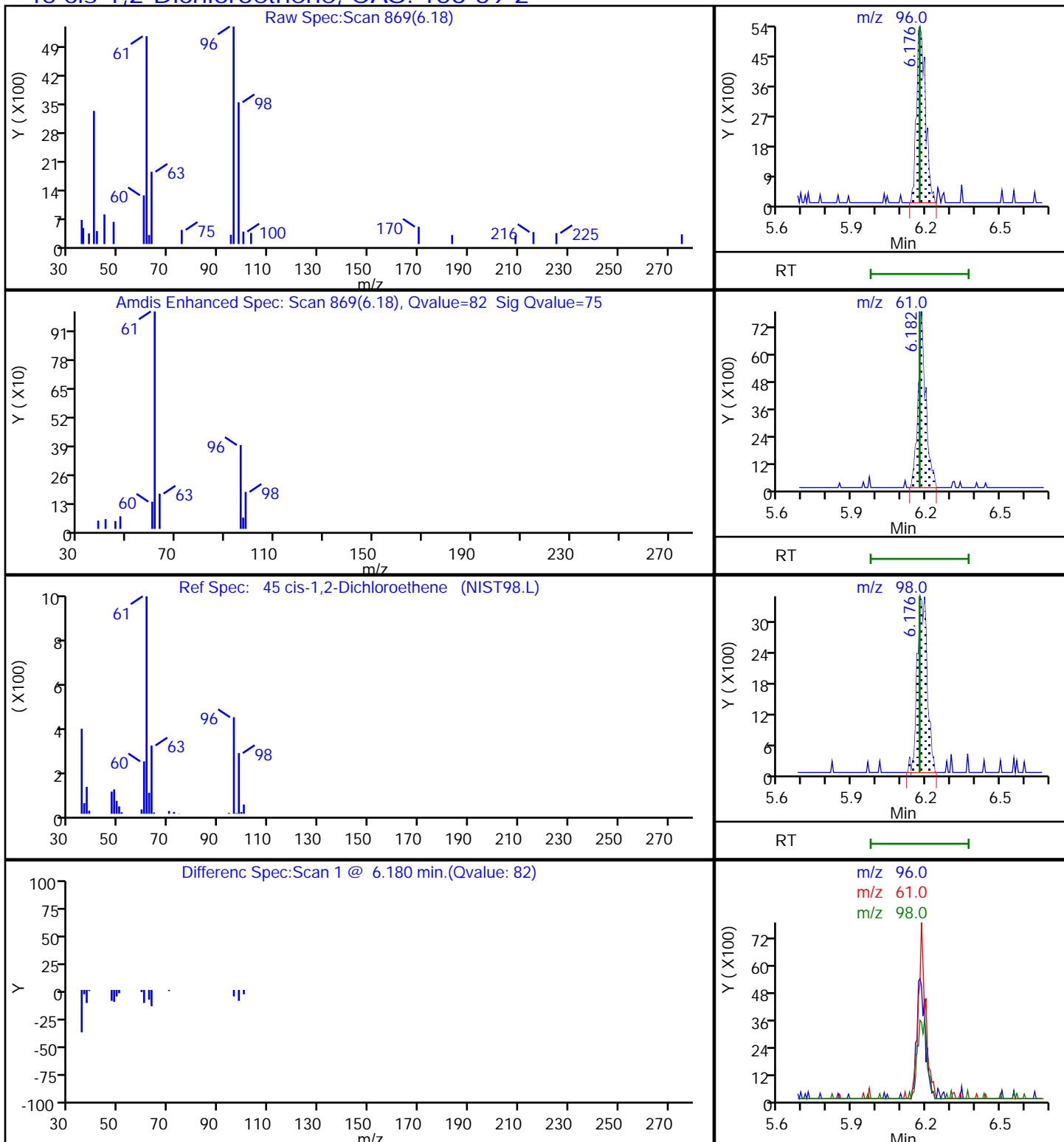
Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

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



Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D

Injection Date: 05-Dec-2019 16:46:30

Instrument ID: CHHP5

Lims ID: 180-99101-A-8

Lab Sample ID: 180-99101-8

Client ID: HD-COD-SW-17-0/1-0

Operator ID: 433269

ALS Bottle#: 11 Worklist Smp#: 18

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

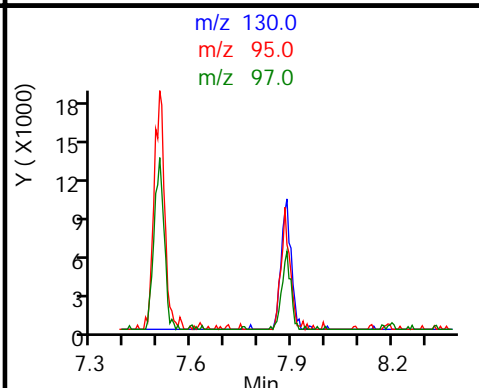
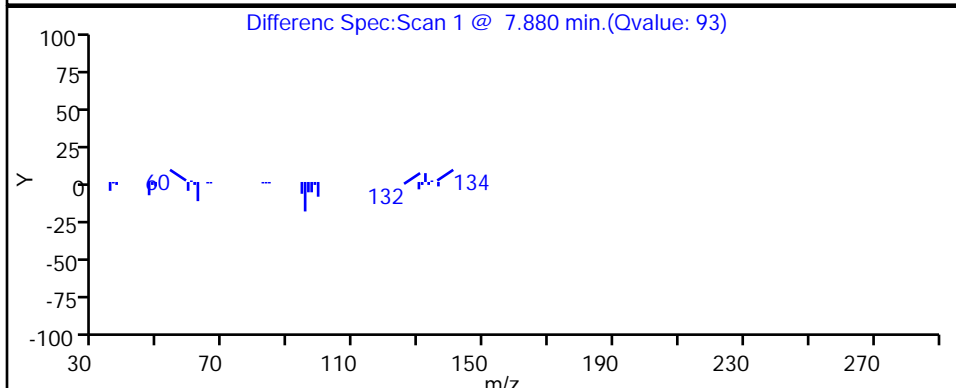
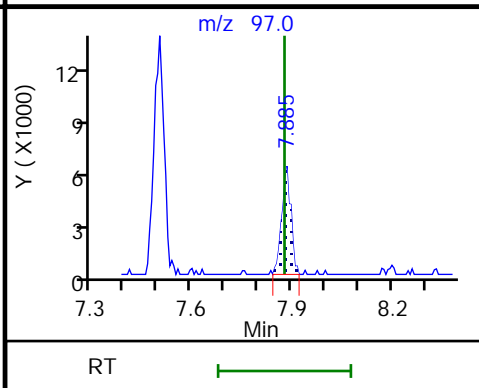
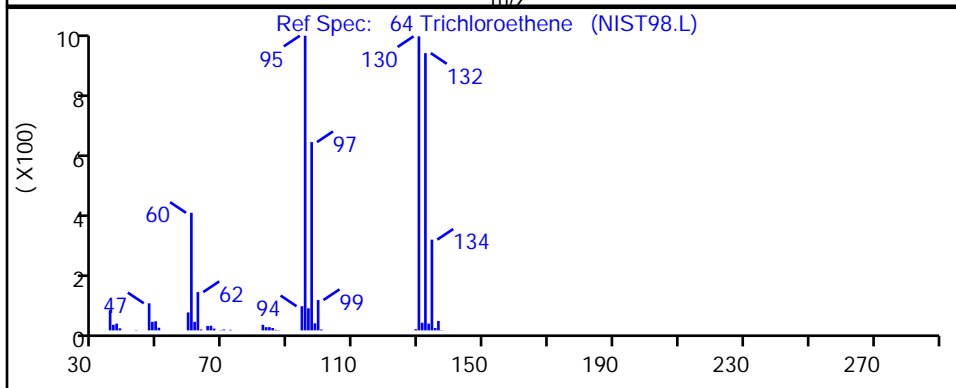
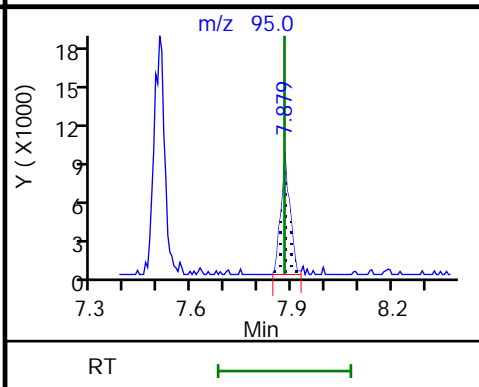
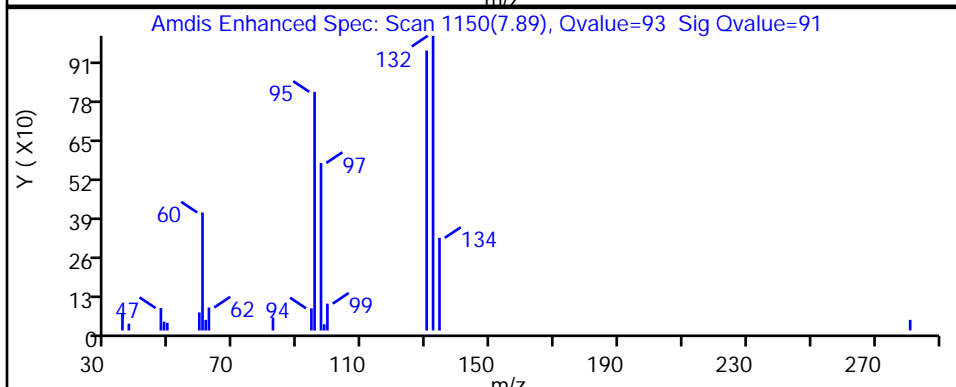
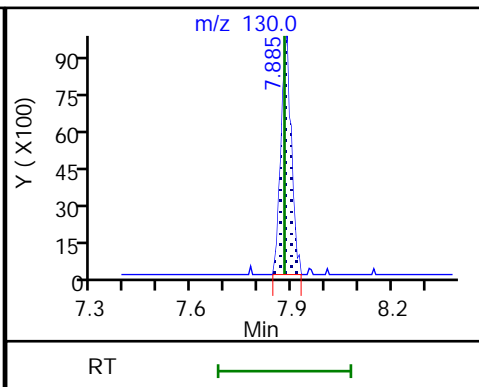
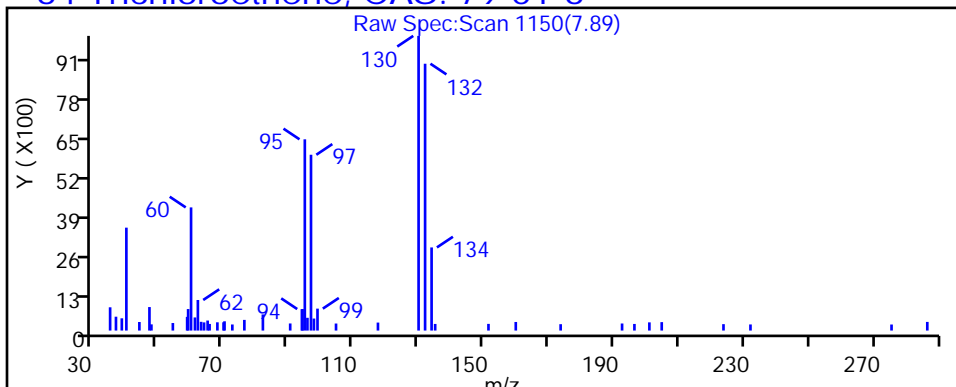
Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

64 Trichloroethene, CAS: 79-01-6



Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D

Injection Date: 05-Dec-2019 16:46:30

Instrument ID: CHHP5

Lims ID: 180-99101-A-8

Lab Sample ID: 180-99101-8

Client ID: HD-COD-SW-17-0/1-0

Operator ID: 433269

ALS Bottle#: 11 Worklist Smp#: 18

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

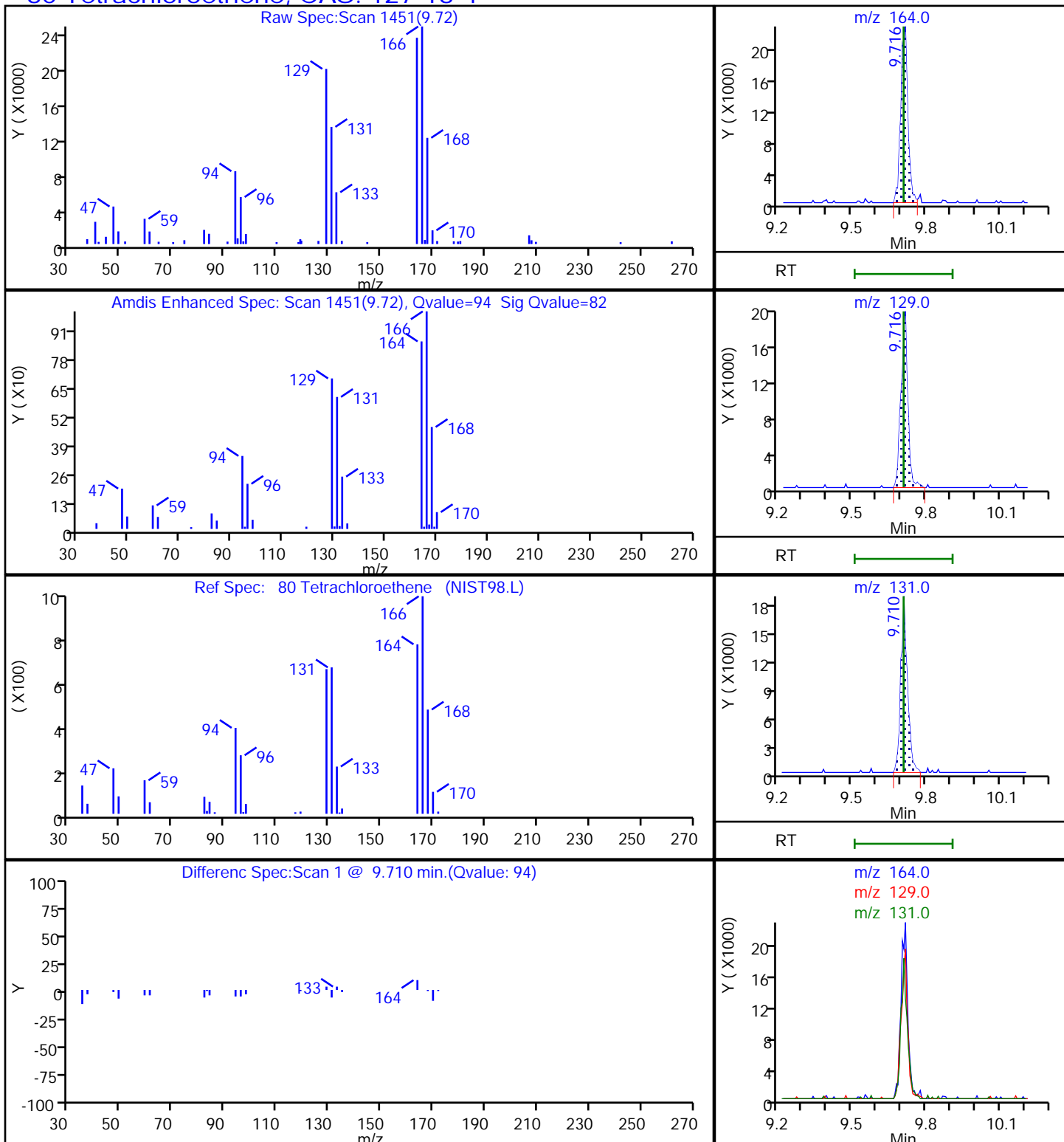
Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

80 Tetrachloroethene, CAS: 127-18-4

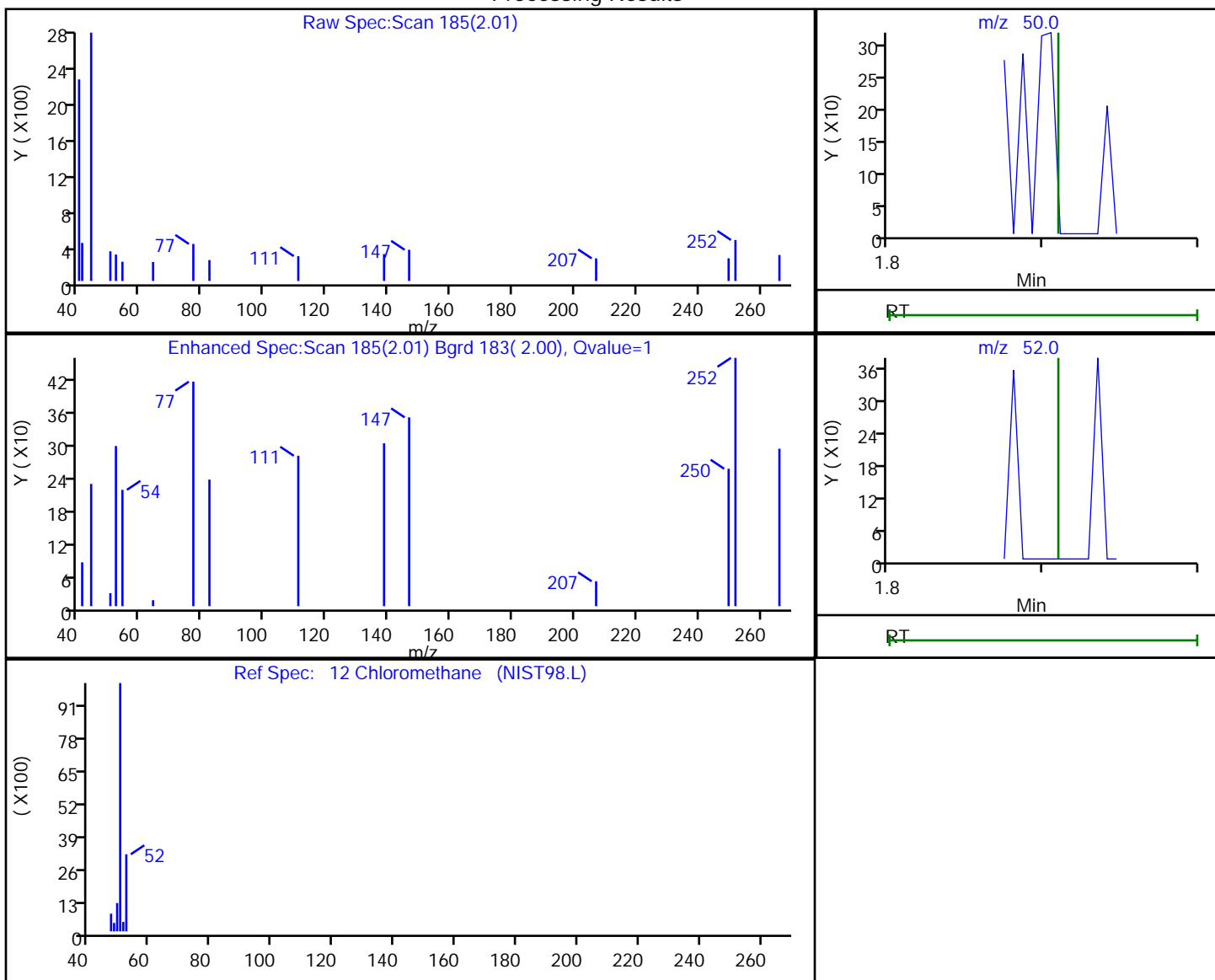


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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
2.01	50.00	121	0.061499
2.02	52.00	243	

Reviewer: bowieh, 06-Dec-2019 10:44:41

Audit Action: Marked Compound Undetected

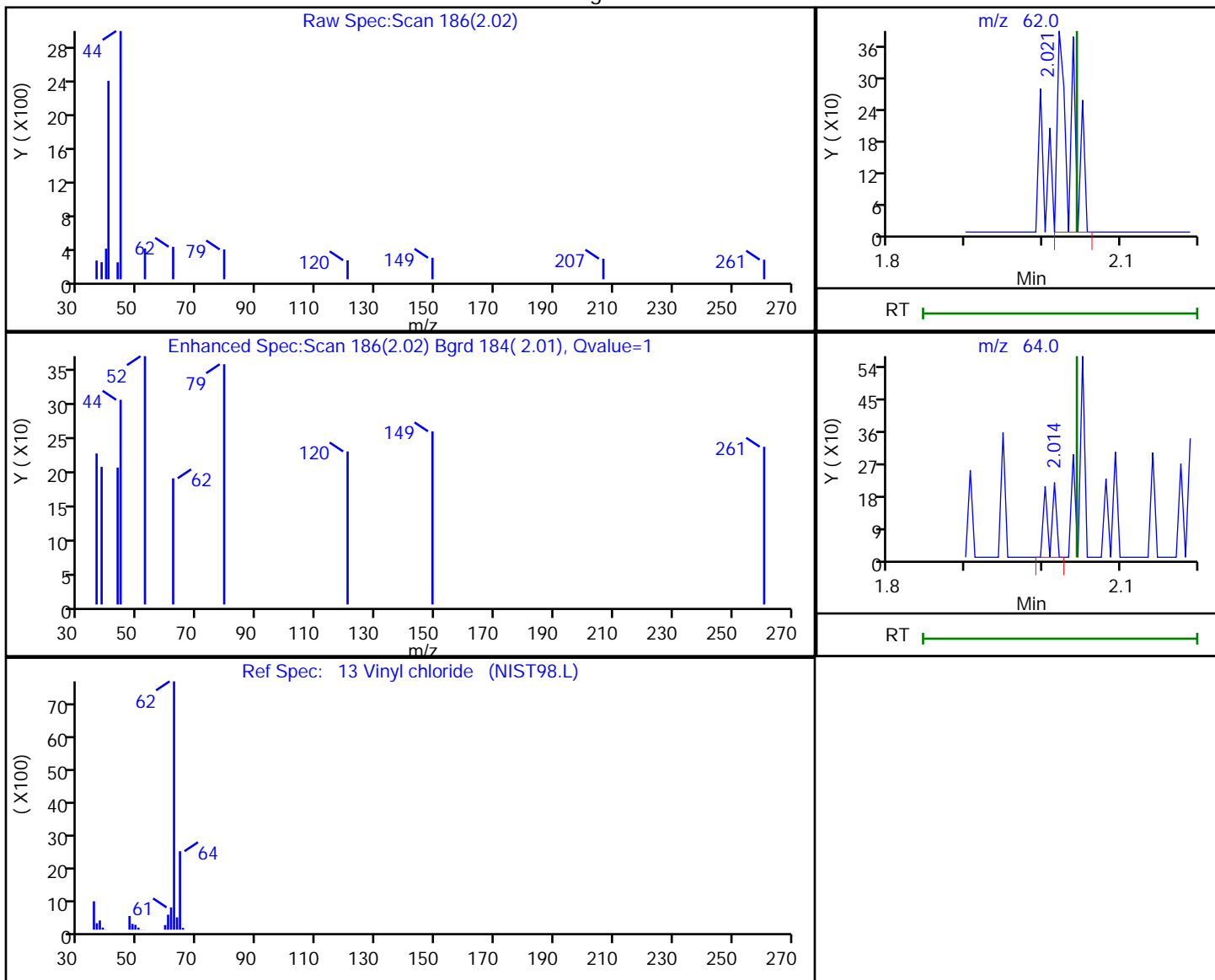
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
Client ID: HD-COD-SW-17-0/1-0
Operator ID: 433269 ALS Bottle#: 11 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

13 Vinyl chloride, CAS: 75-01-4

Processing Results



RT	Mass	Response	Amount
2.02	62.00	477	0.230676
2.01	64.00	151	

Reviewer: bowieh, 06-Dec-2019 10:44:43

Audit Action: Marked Compound Undetected

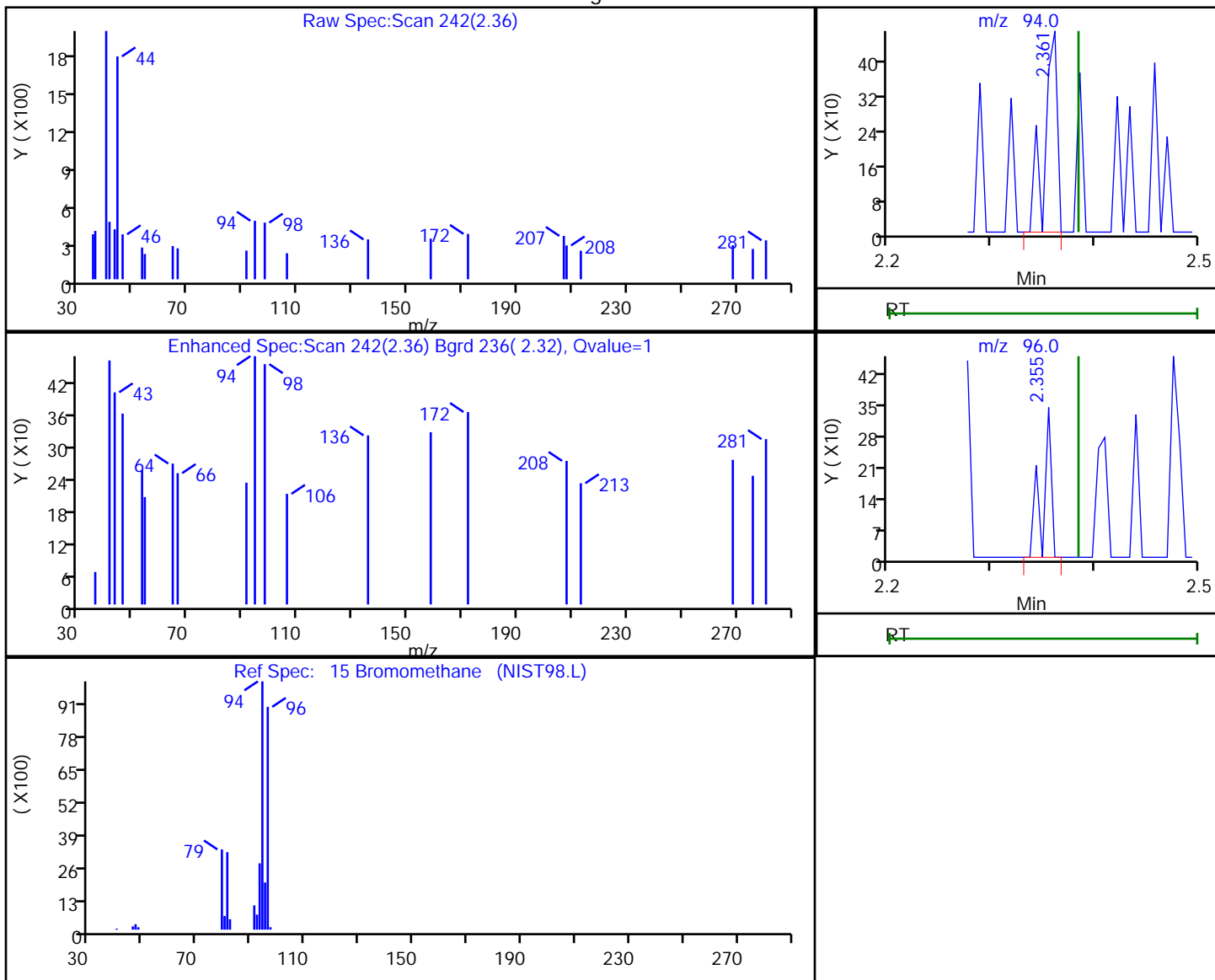
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
Client ID: HD-COD-SW-17-0/1-0
Operator ID: 433269 ALS Bottle#: 11 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

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.36	94.00	398	0.247363
2.36	96.00	200	

Reviewer: bowieh, 06-Dec-2019 10:44:44

Audit Action: Marked Compound Undetected

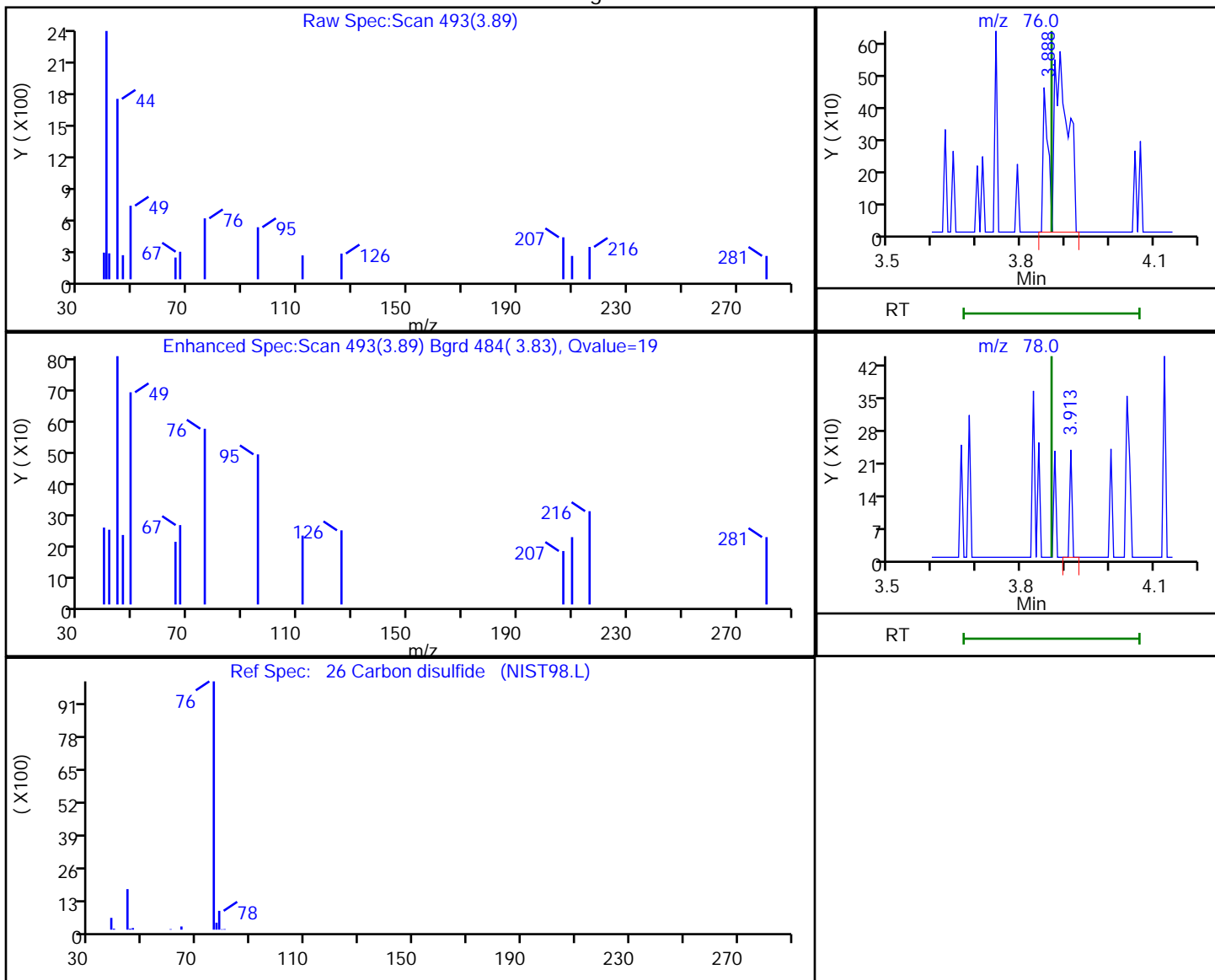
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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

Processing Results



RT	Mass	Response	Amount
3.89	76.00	1552	0.272098
3.91	78.00	86	

Reviewer: bowieh, 06-Dec-2019 10:44:54

Audit Action: Marked Compound Undetected

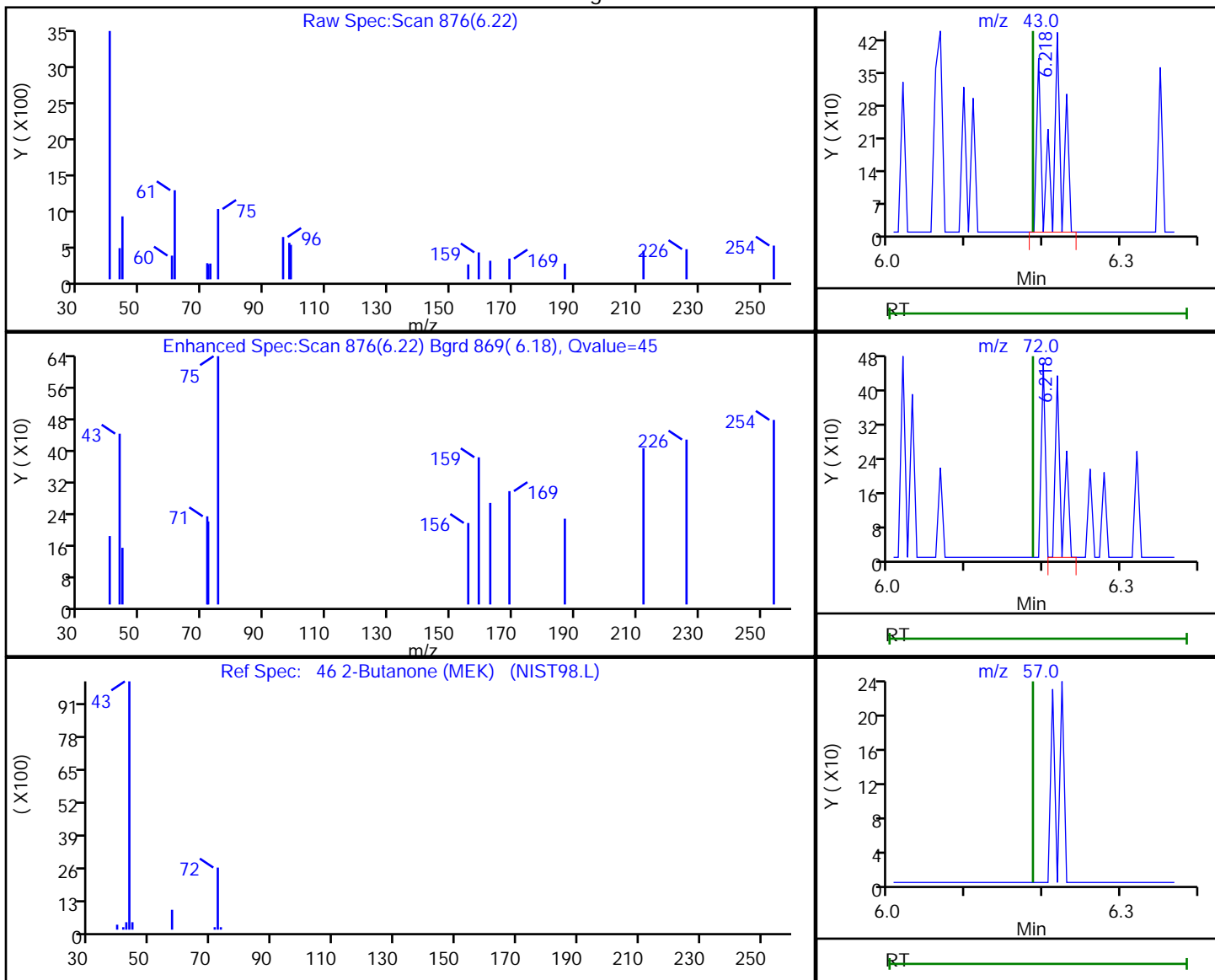
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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

46 2-Butanone (MEK), CAS: 78-93-3

Processing Results



RT	Mass	Response	Amount
6.22	43.00	488	0.454197
6.22	72.00	249	
6.19	57.00	0	

Reviewer: bowieh, 06-Dec-2019 10:44:59

Audit Action: Marked Compound Undetected

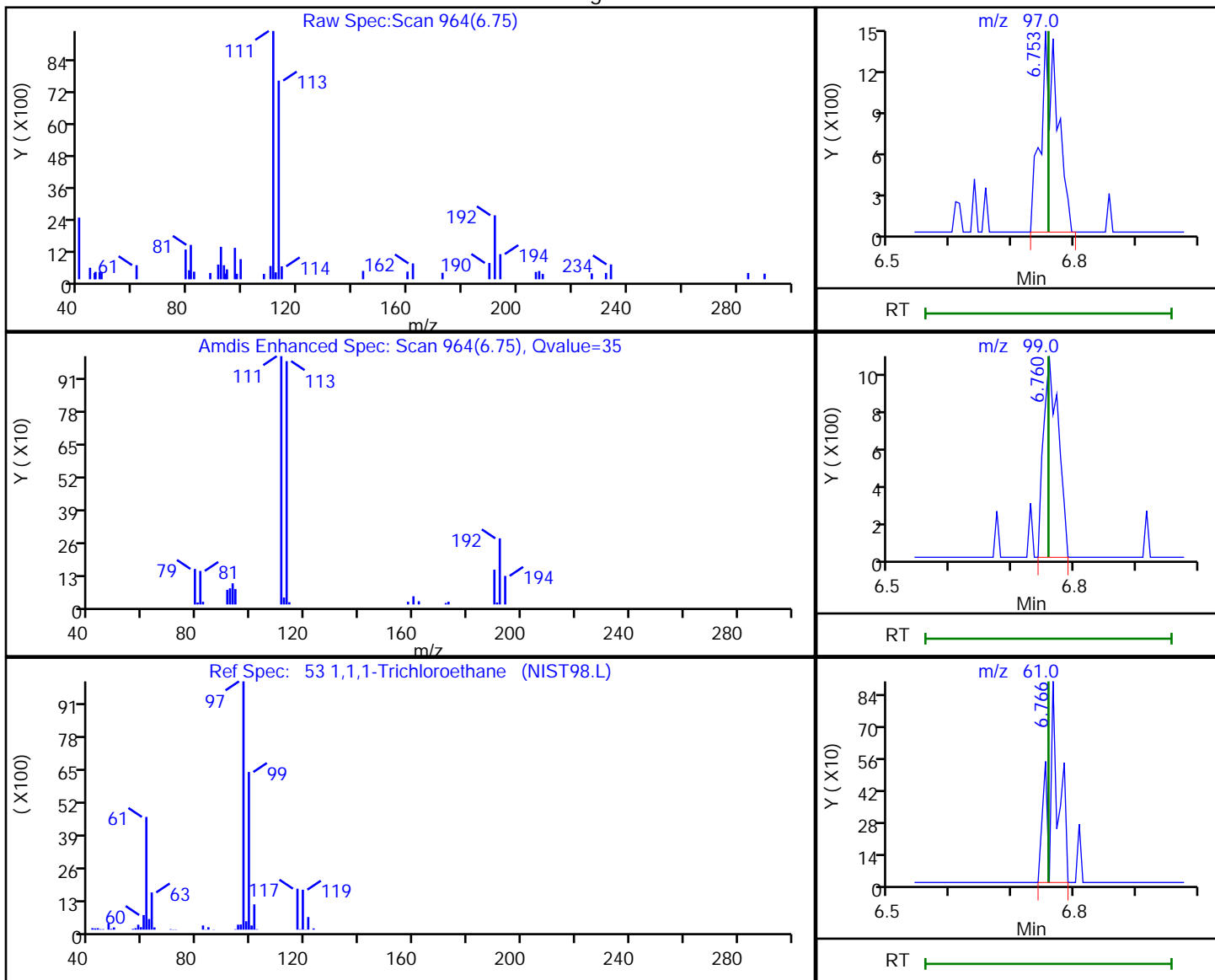
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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

53 1,1,1-Trichloroethane, CAS: 71-55-6

Processing Results



RT	Mass	Response	Amount
6.75	97.00	2658	0.804181
6.76	99.00	1678	
6.77	61.00	1024	

Reviewer: bowieh, 06-Dec-2019 10:45:03

Audit Action: Marked Compound Undetected

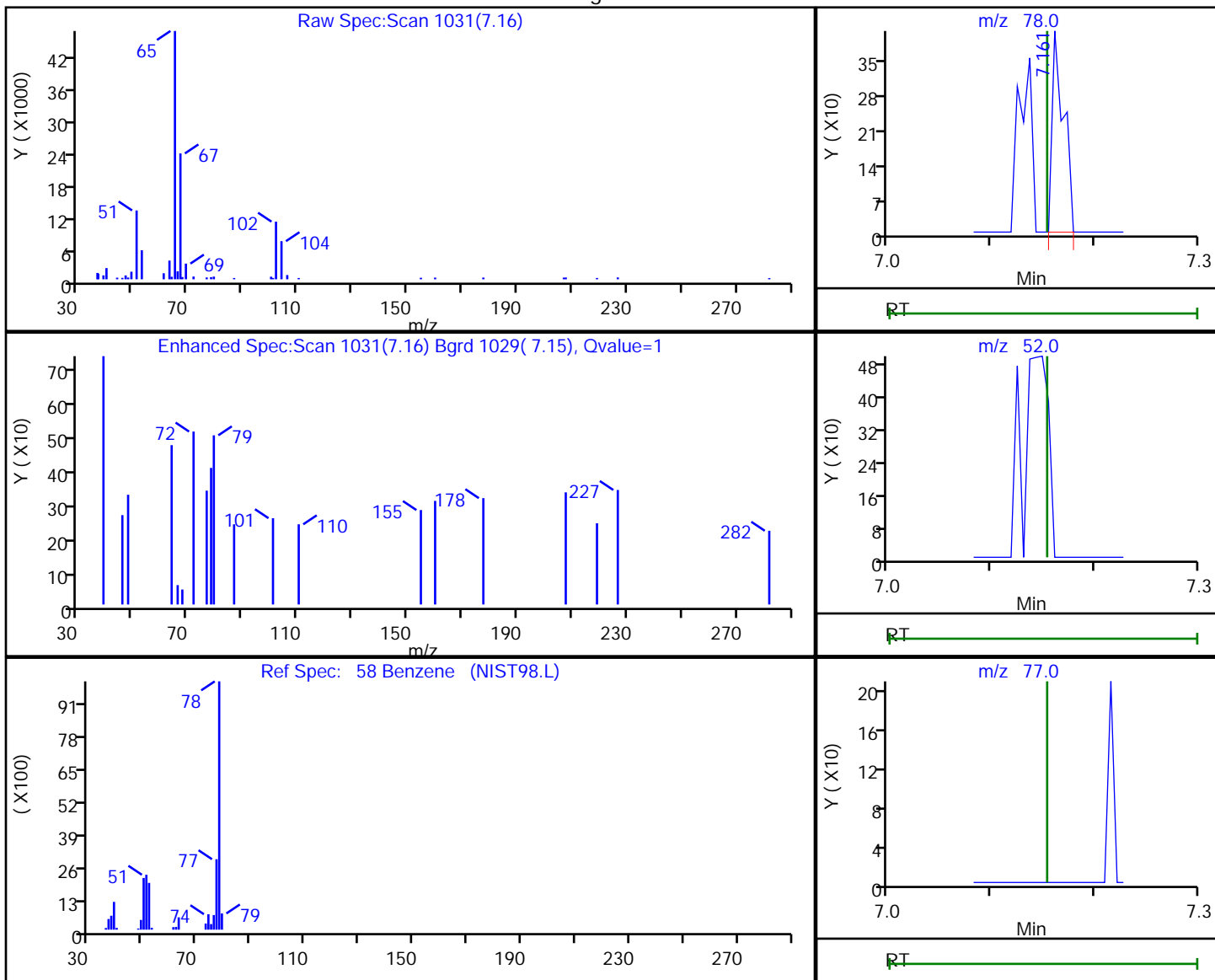
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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
7.16	78.00	315	0.032701
7.15	52.00	0	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:45:07
 Audit Action: Marked Compound Undetected

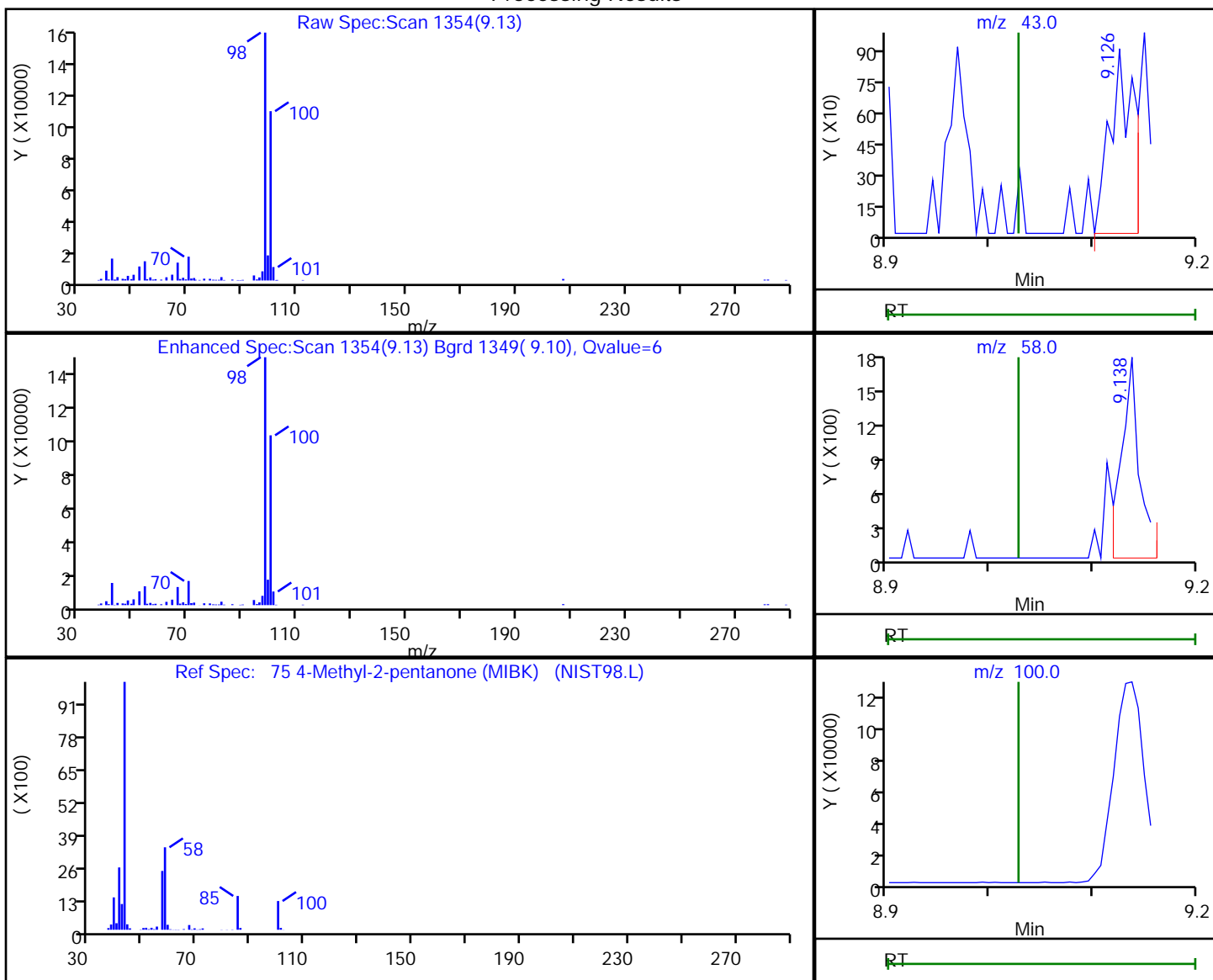
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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

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

Processing Results



RT	Mass	Response	Amount
9.13	43.00	1443	0.853125
9.14	58.00	2058	
9.14	100.00	266181	

Reviewer: bowieh, 06-Dec-2019 10:45:11
 Audit Action: Marked Compound Undetected

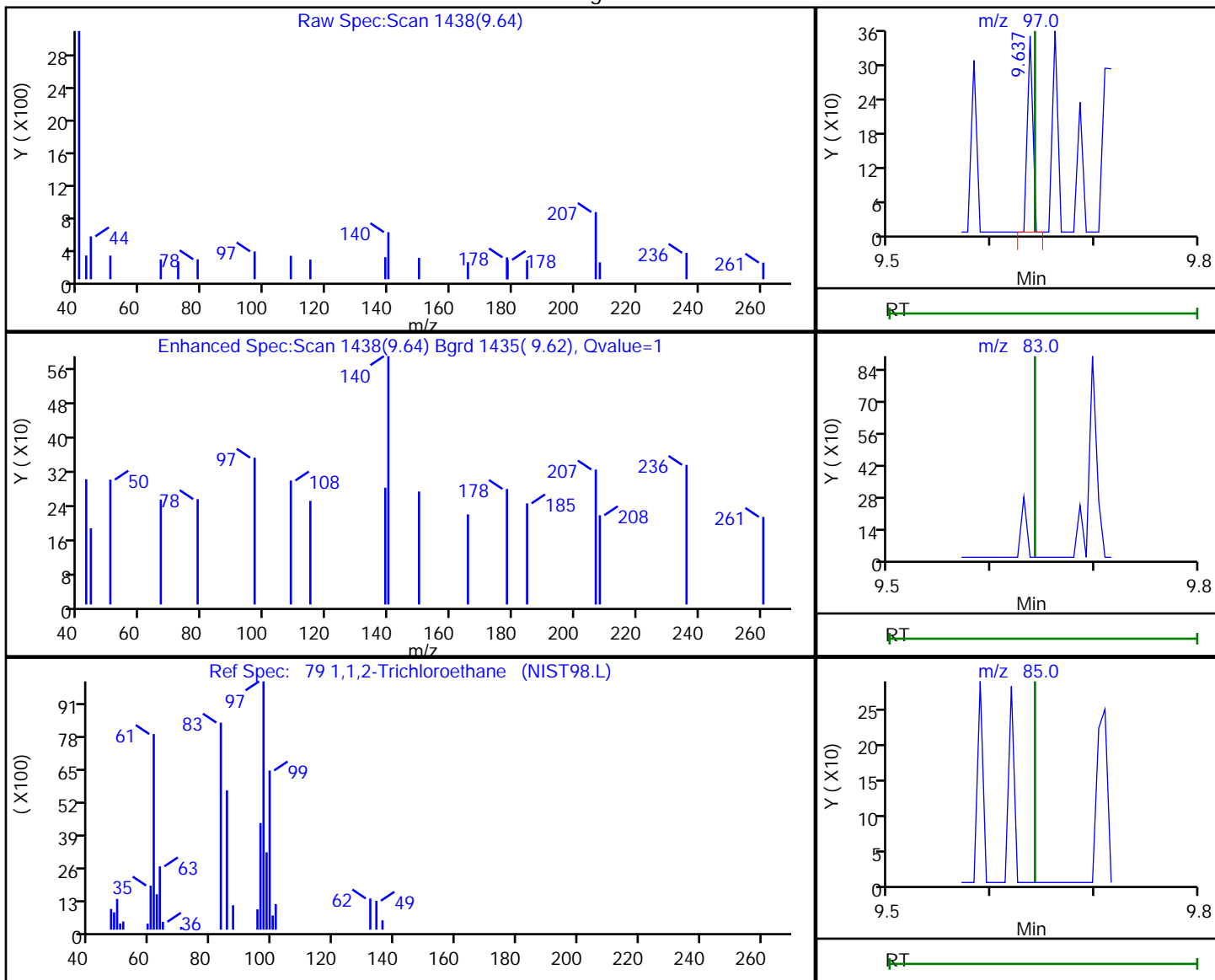
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
Client ID: HD-COD-SW-17-0/1-0
Operator ID: 433269 ALS Bottle#: 11 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

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

Processing Results



RT	Mass	Response	Amount
9.64	97.00	127	0.061718
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:45:14

Audit Action: Marked Compound Undetected

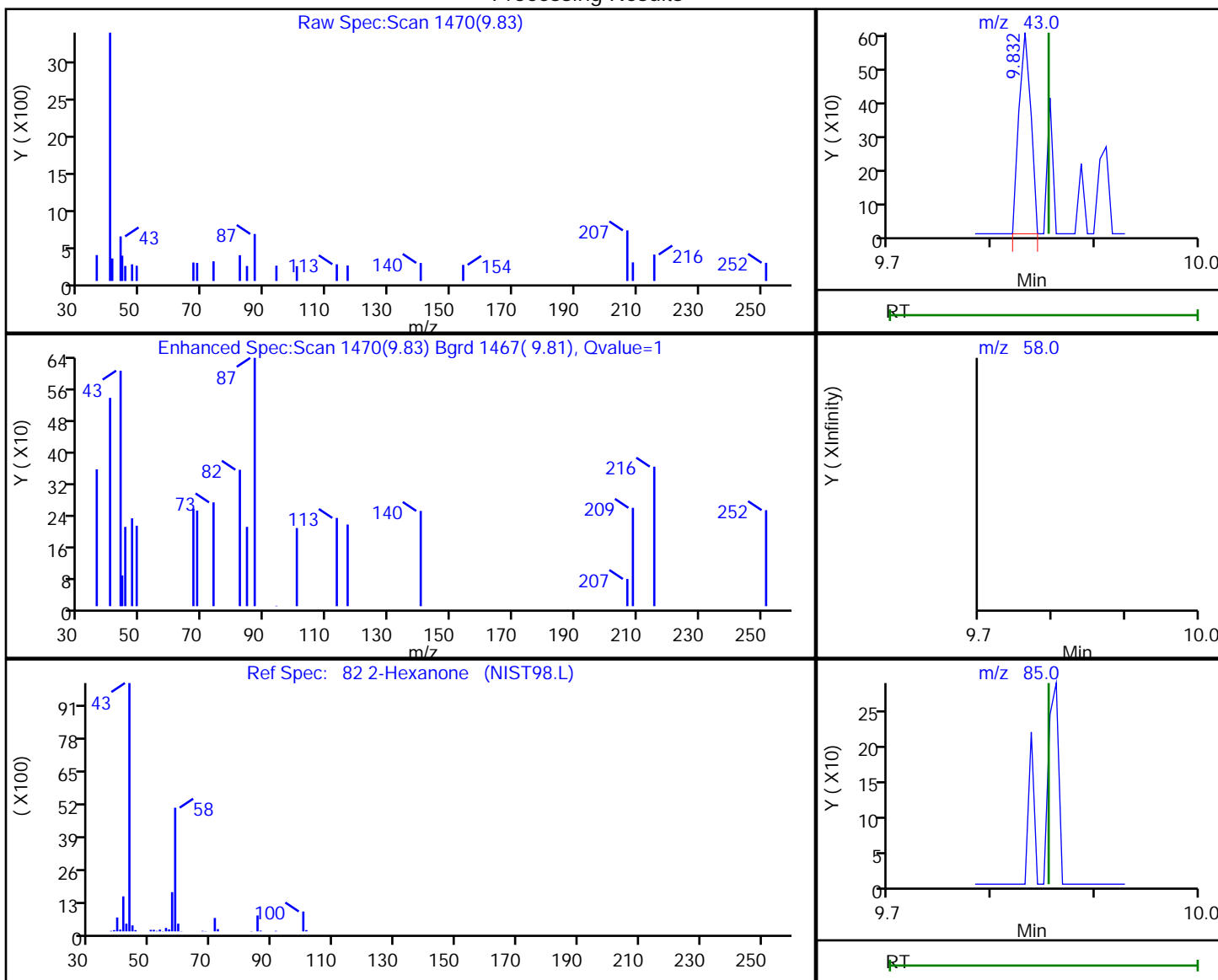
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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
9.83	43.00	486	13.056988
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:45:20

Audit Action: Marked Compound Undetected

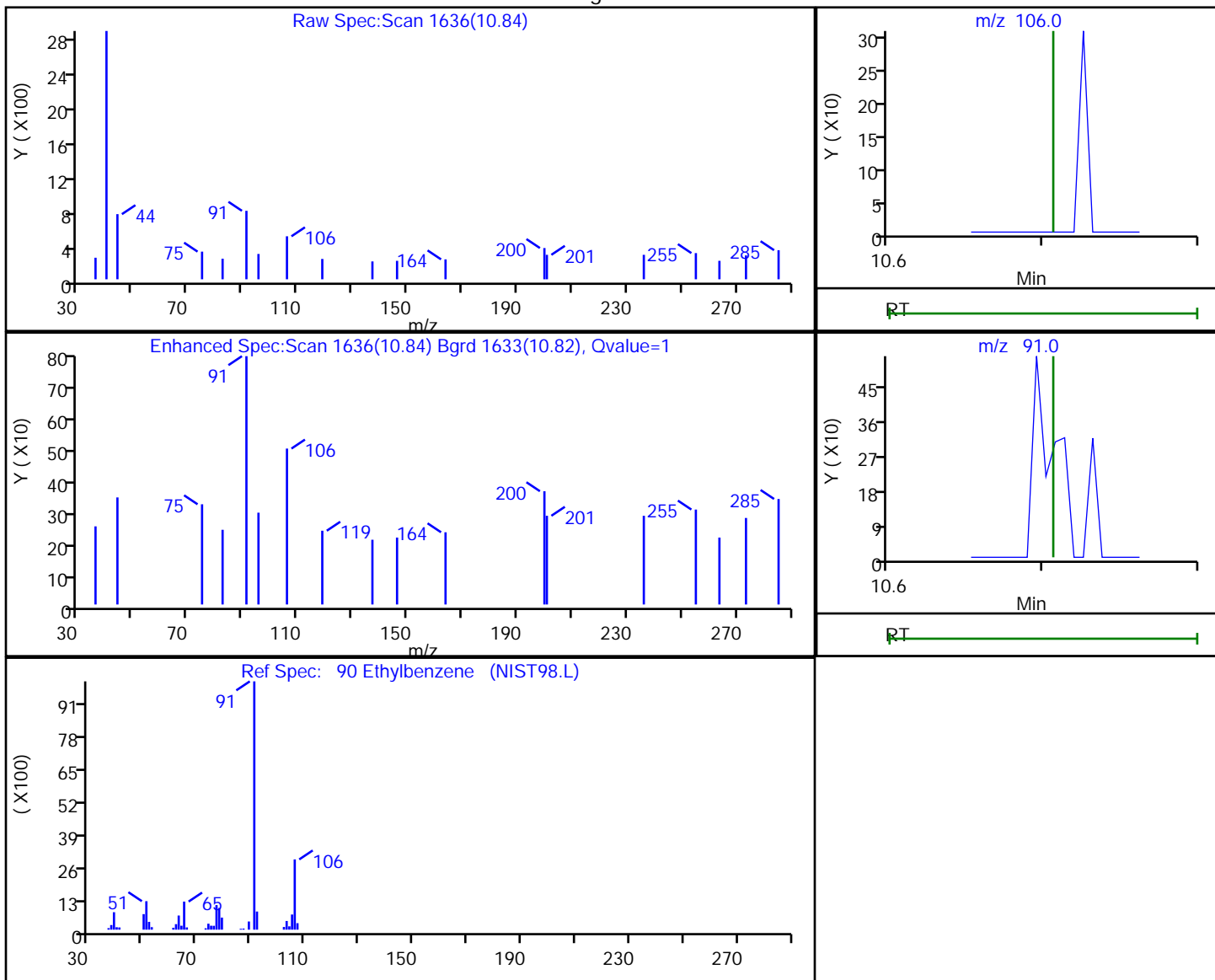
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120518.D
 Injection Date: 05-Dec-2019 16:46:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-8 Lab Sample ID: 180-99101-8
 Client ID: HD-COD-SW-17-0/1-0
 Operator ID: 433269 ALS Bottle#: 11 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
10.84	106.00	286	0.079596
10.84	91.00	1068	

Reviewer: bowieh, 06-Dec-2019 10:45:23

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-26-0/1-0 Lab Sample ID: 180-99101-9
 Matrix: Water Lab File ID: 5120519.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 13:30
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 17:10
 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.: 300399 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	4.7		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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-26-0/1-0 Lab Sample ID: 180-99101-9
 Matrix: Water Lab File ID: 5120519.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 13:30
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 17:10
 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.: 300399 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)	108		70-150
2037-26-5	Toluene-d8 (Surr)	88		78-128
460-00-4	4-Bromofluorobenzene (Surr)	62	X	64-123
1868-53-7	Dibromofluoromethane (Surr)	110		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
 Lims ID: 180-99101-B-9
 Client ID: HD-COD-SW-26-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 17:10:30 ALS Bottle#: 12 Worklist Smp#: 19
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-019
 Misc. Info.: 180-99101-b-9
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:46:17 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:46:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.537	4.544	-0.007	0	197455	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	433931	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	84	109370	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	94	107928	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.788	6.770	0.018	95	120199	54.8	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	153385	53.9	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	93	398946	43.9	
\$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.005	95	110227	31.1	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96	3.564	3.571	-0.007	19	537	0.2436	
24 Acetone	43	3.686	3.674	0.012	35	3468	3.91	a
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.192	6.174	0.018	1	2358	0.8907	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.600	6.600	0.000	90	18351	0.5468	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.877	7.878	-0.001	78	3022	1.08	
67 1,2-Dichloropropane	63		8.145				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	9.203	9.198	0.005	42	3158	0.2941	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164	9.714	9.709	0.005	96	57637	23.4	
82 2-Hexanone	43		9.855				ND	
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D

Injection Date: 05-Dec-2019 17:10:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-B-9

Lab Sample ID: 180-99101-9

Worklist Smp#: 19

Client ID: HD-COD-SW-26-0/1-0

Purge Vol: 5.000 mL

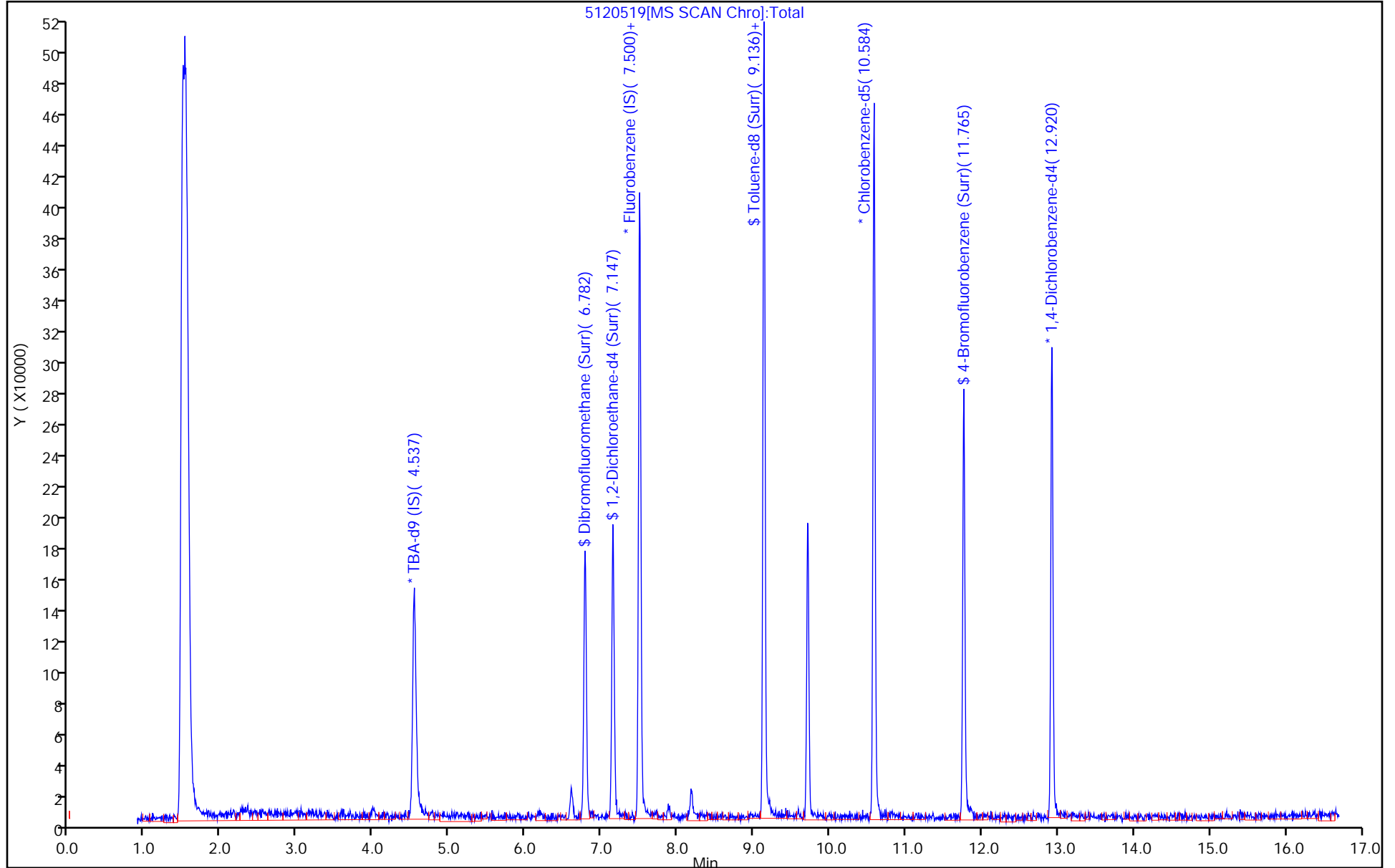
Dil. Factor: 1.0000

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\20191205-29868.b\5120519.D
 Lims ID: 180-99101-B-9
 Client ID: HD-COD-SW-26-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 17:10:30 ALS Bottle#: 12 Worklist Smp#: 19
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-019
 Misc. Info.: 180-99101-b-9
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:46:17 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

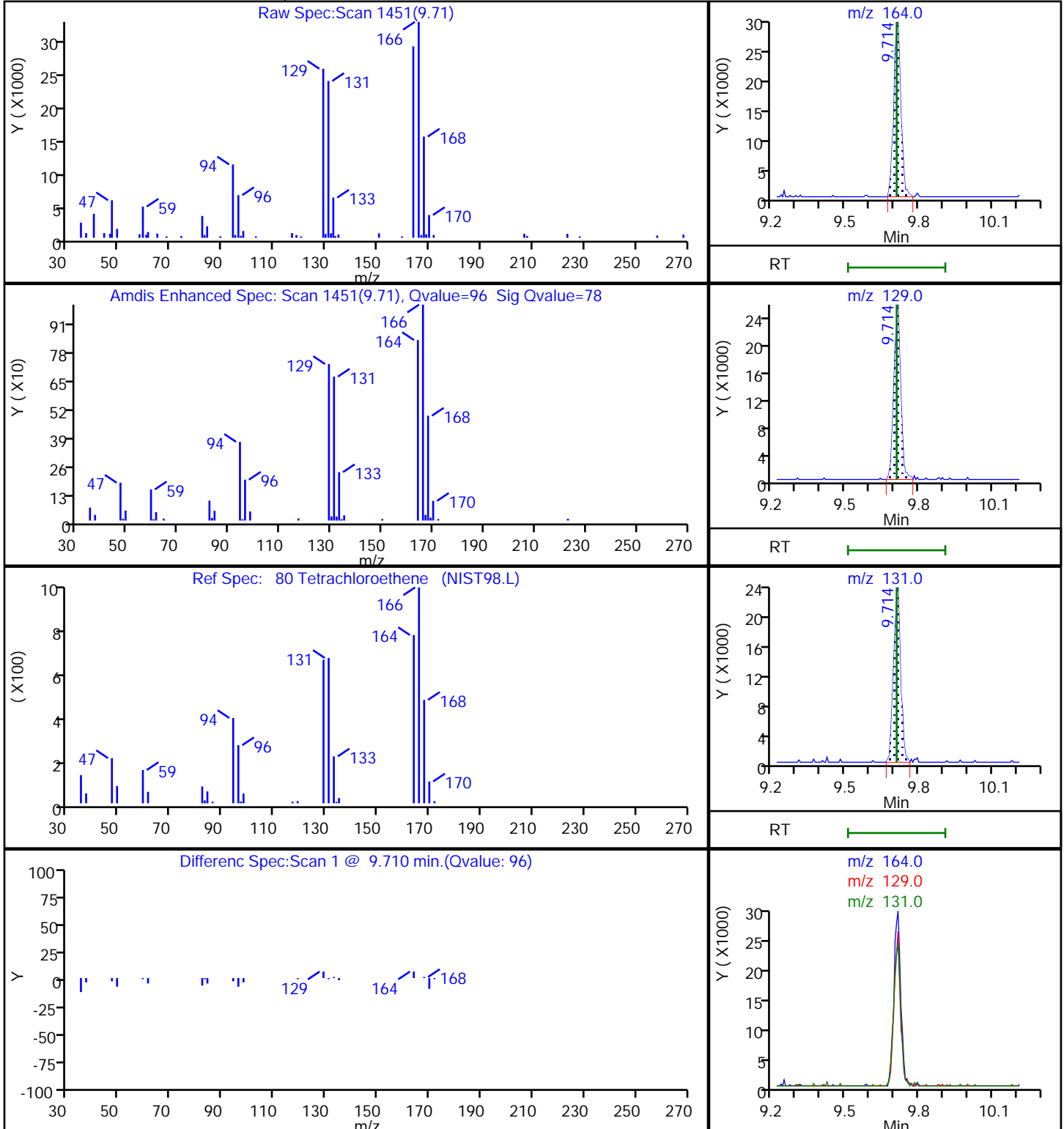
Date: 06-Dec-2019 10:46:17

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	54.8	109.54
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.9	107.85
\$ 7 Toluene-d8 (Surr)	50.0	43.9	87.78
\$ 8 4-Bromofluorobenzene (Surr)	50.0	31.1	62.19

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 12 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

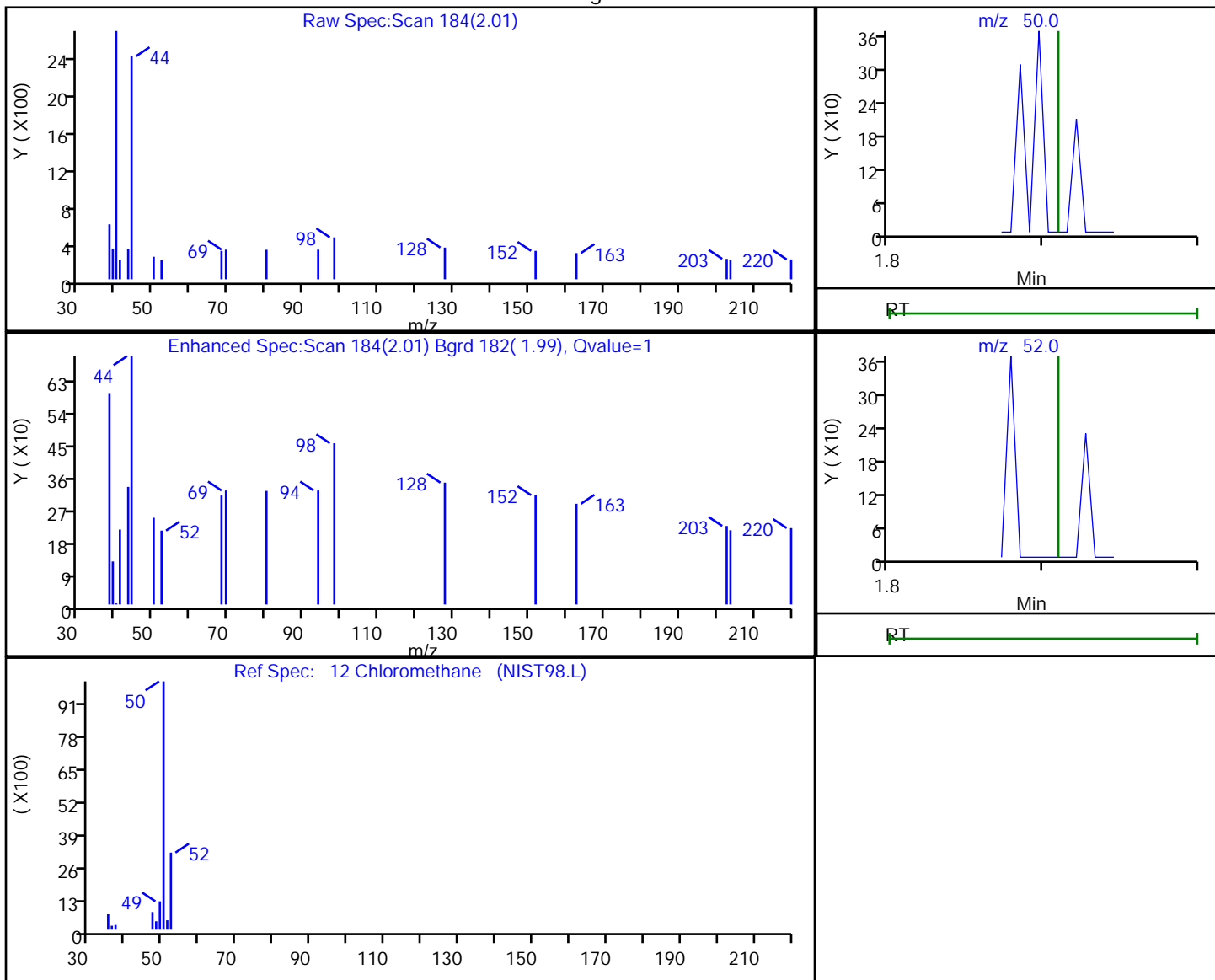


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 12 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
2.01	50.00	88	0.043729
2.01	52.00	163	

Reviewer: bowieh, 06-Dec-2019 10:45:42

Audit Action: Marked Compound Undetected

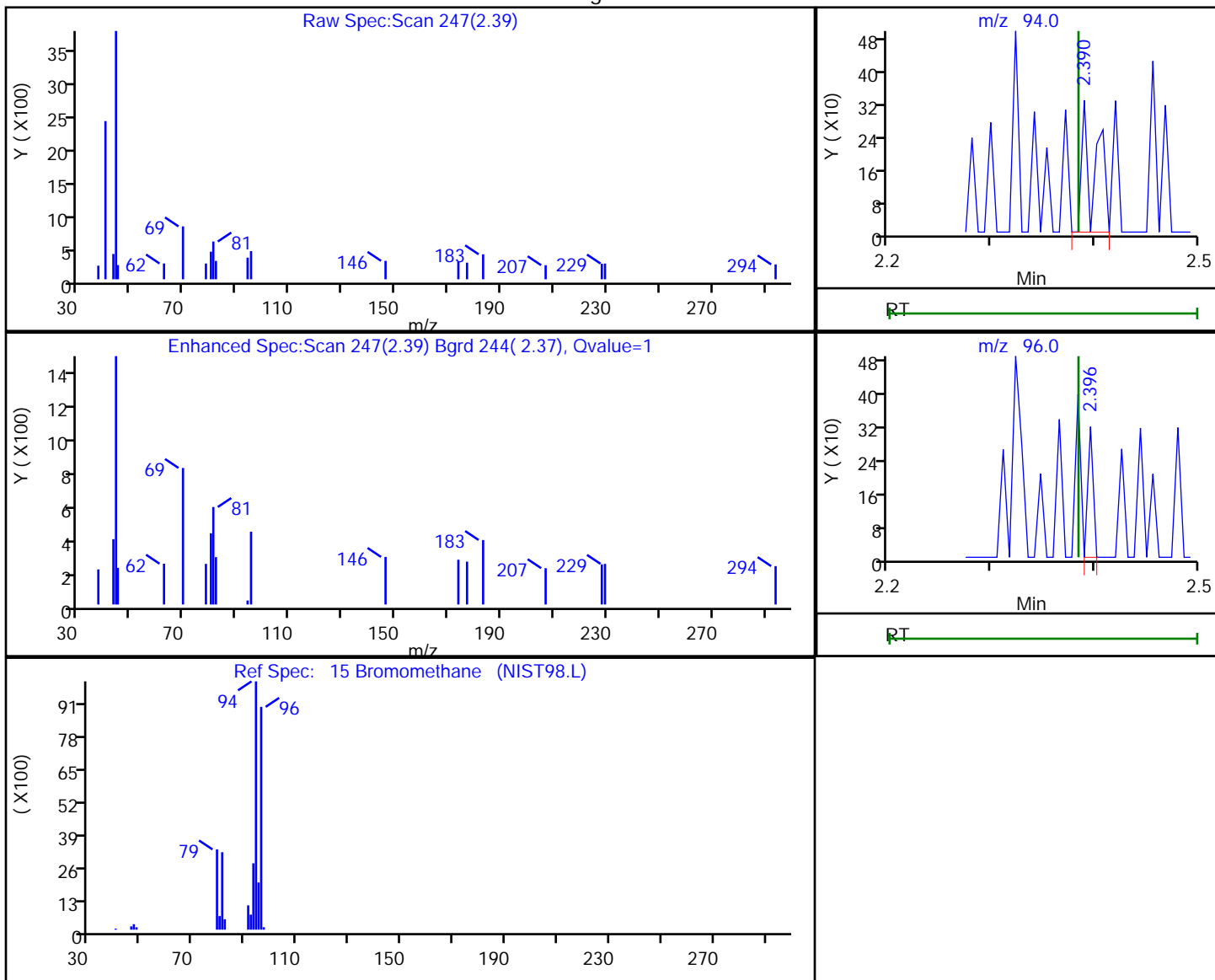
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 12 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
2.39	94.00	288	0.175006
2.40	96.00	116	

Reviewer: bowieh, 06-Dec-2019 10:45:44

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

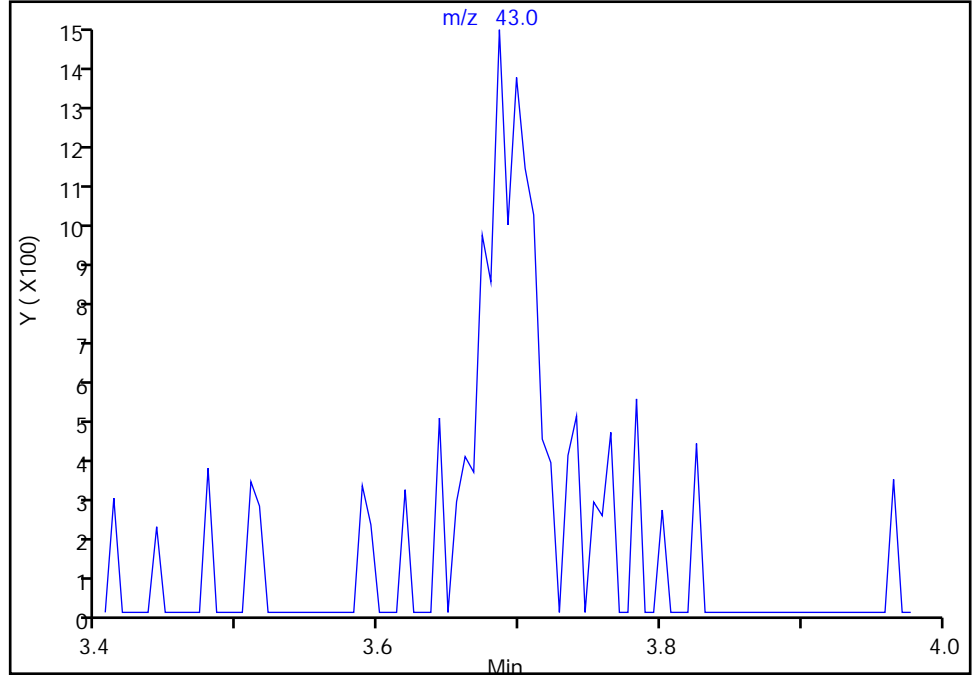
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Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 12 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

24 Acetone, CAS: 67-64-1

Signal: 1

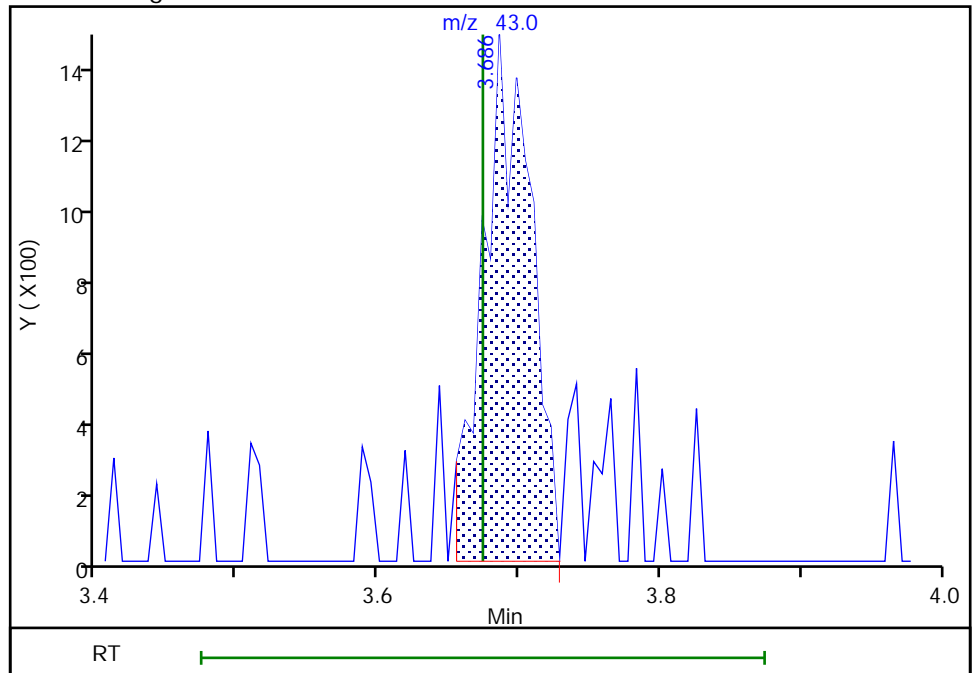
Not Detected
Expected RT: 3.67

Processing Integration Results



Manual Integration Results

RT: 3.69
Area: 3468
Amount: 3.907457
Amount Units: ng

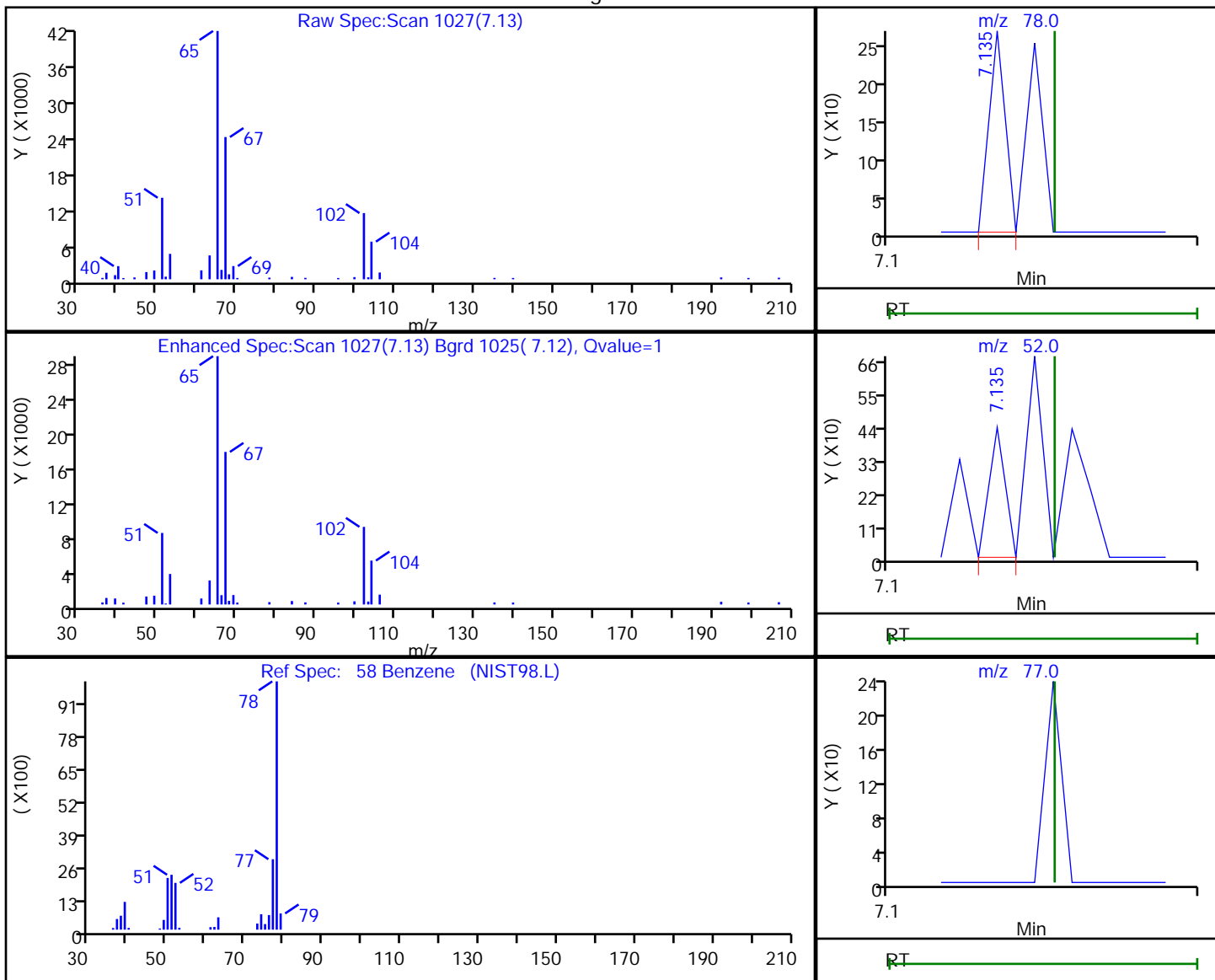


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 12 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

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.13	78.00	97	0.009845
7.13	52.00	158	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:45:58

Audit Action: Marked Compound Undetected

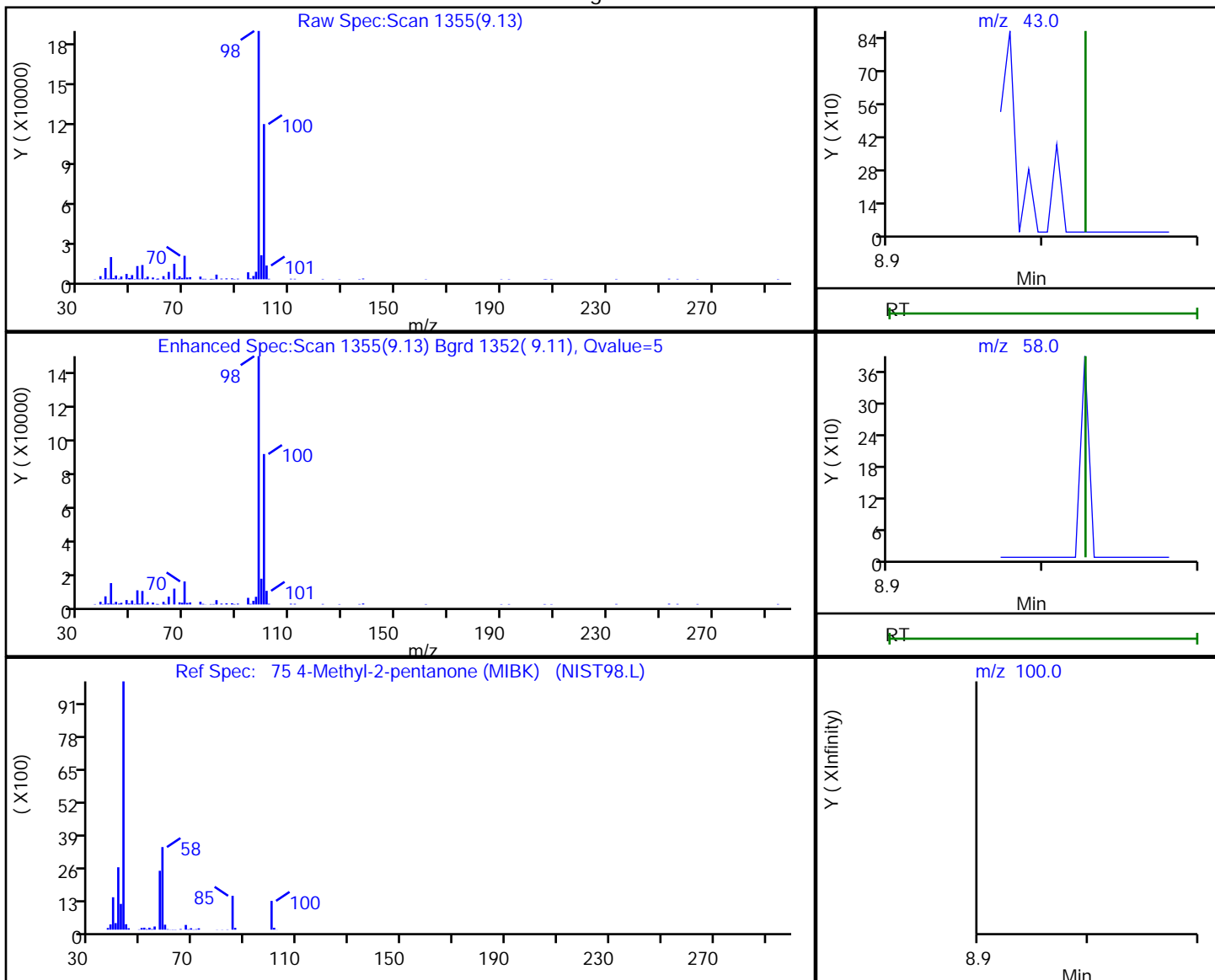
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 12 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
9.13	43.00	769	0.435282
9.14	58.00	3313	
9.14	100.00	256480	

Reviewer: bowieh, 06-Dec-2019 10:46:04

Audit Action: Marked Compound Undetected

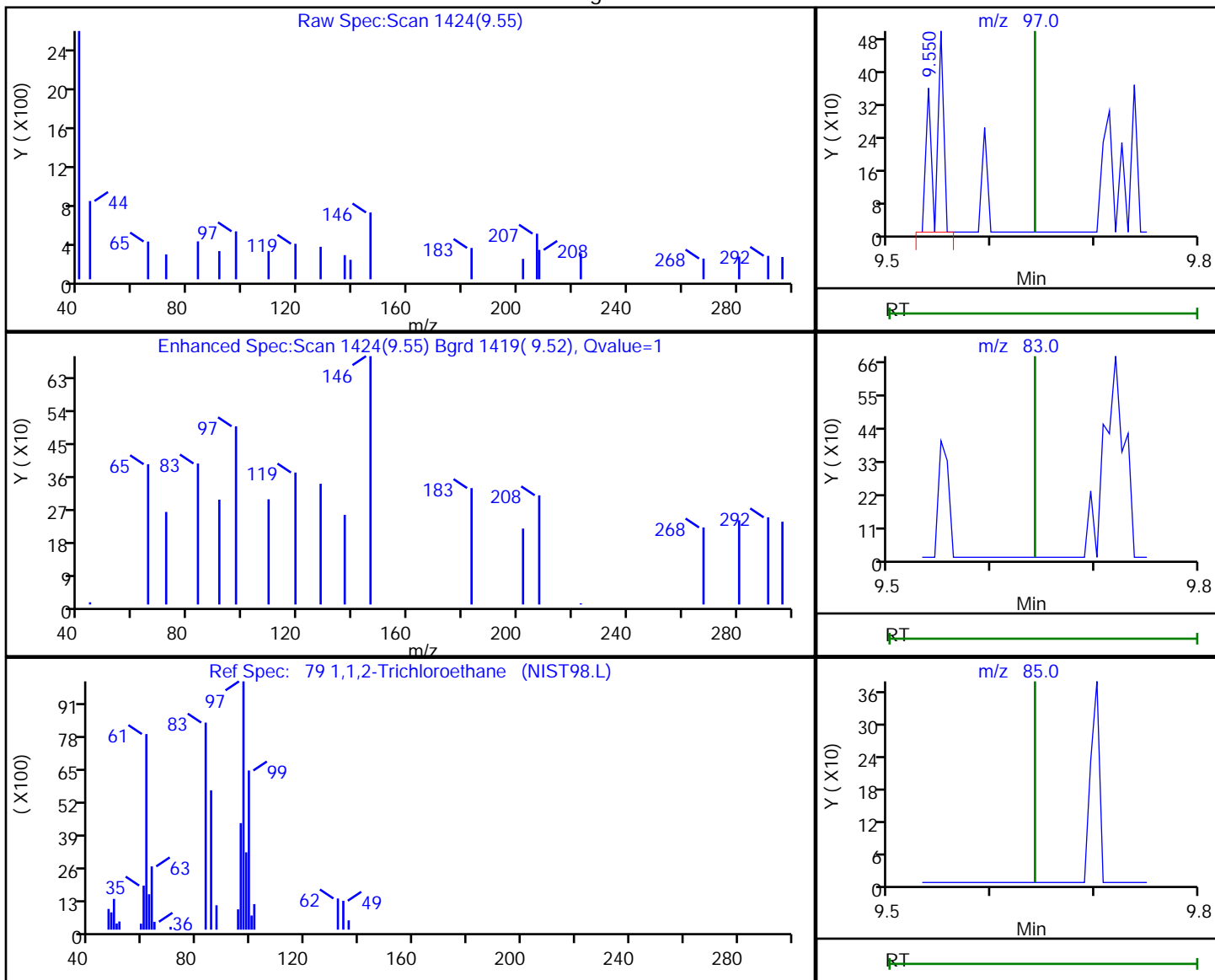
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
 Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 12 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
9.55	97.00	309	0.143769
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:46:08

Audit Action: Marked Compound Undetected

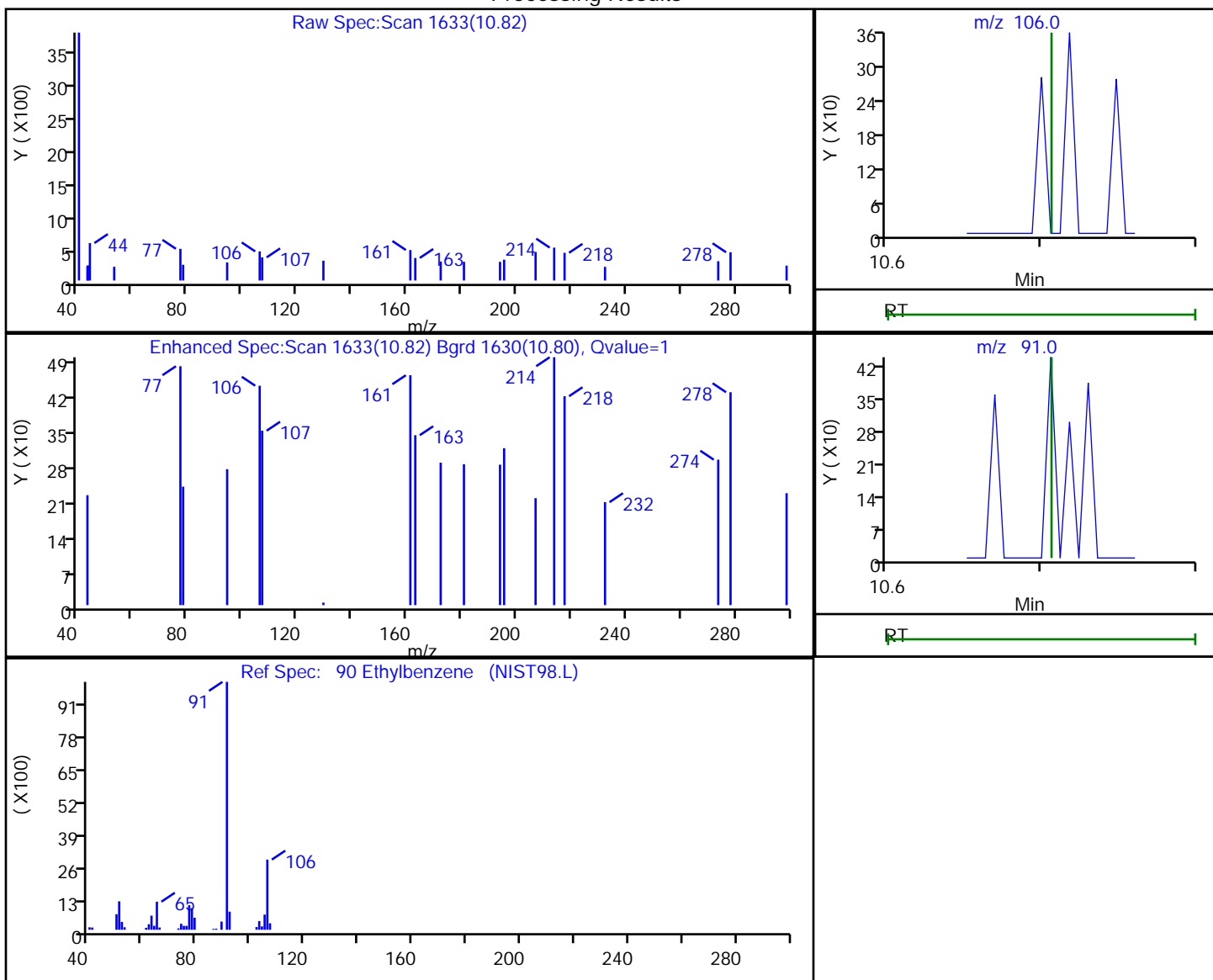
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120519.D
 Injection Date: 05-Dec-2019 17:10:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 12 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

90 Ethylbenzene, CAS: 100-41-4

Processing Results



RT	Mass	Response	Amount
10.82	106.00	237	0.063150
10.82	91.00	184	

Reviewer: bowieh, 06-Dec-2019 10:46:12

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-26-0/1-0 RA Lab Sample ID: 180-99101-9 RA
 Matrix: Water Lab File ID: 5121325.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 13:30
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	H	1.0	0.90
75-01-4	Vinyl chloride	ND	H ^c	1.0	0.88
74-83-9	Bromomethane	ND	H	1.0	0.89
75-00-3	Chloroethane	ND	H ^c	1.0	0.90
75-35-4	1,1-Dichloroethene	ND	H	1.0	0.55
67-64-1	Acetone	ND	H	5.0	3.4
75-15-0	Carbon disulfide	ND	H	1.0	0.88
75-09-2	Methylene Chloride	ND	H	1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND	H	1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND	H	1.0	0.59
75-34-3	1,1-Dichloroethane	ND	H	1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND	H	1.0	0.71
74-97-5	Bromochloromethane	ND	H	1.0	0.63
78-93-3	2-Butanone (MEK)	ND	H	5.0	2.6
67-66-3	Chloroform	ND	H	1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND	H	1.0	0.60
56-23-5	Carbon tetrachloride	ND	H	1.0	0.88
71-43-2	Benzene	ND	H	1.0	0.60
107-06-2	1,2-Dichloroethane	ND	H	1.0	0.57
79-01-6	Trichloroethene	ND	H	1.0	0.69
78-87-5	1,2-Dichloropropane	ND	H	1.0	0.66
75-27-4	Bromodichloromethane	ND	H	1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND	H	1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1
108-88-3	Toluene	ND	H	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	H	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND	H ^c	1.0	0.45
127-18-4	Tetrachloroethene	4.2	H	1.0	0.47
591-78-6	2-Hexanone	ND	H	5.0	3.3
124-48-1	Dibromochloromethane	ND	H	1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND	H	1.0	0.50
108-90-7	Chlorobenzene	ND	H	1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57
100-41-4	Ethylbenzene	ND	H	1.0	0.51
1330-20-7	Xylenes, Total	ND	H	2.0	0.89
100-42-5	Styrene	ND	H	1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-26-0/1-0 RA Lab Sample ID: 180-99101-9 RA
 Matrix: Water Lab File ID: 5121325.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 13:30
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	ND	H	1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	ND	H	1.0	0.60
107-13-1	Acrylonitrile	ND	H	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)	75	X	78-128
460-00-4	4-Bromofluorobenzene (Surr)	88		64-123
1868-53-7	Dibromofluoromethane (Surr)	117		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Lims ID: 180-99101-C-9
 Client ID: HD-COD-SW-26-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 20:36:30 ALS Bottle#: 18 Worklist Smp#: 25
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-025
 Misc. Info.: 180-99101-c-9
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:16:27 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICAL File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 14-Dec-2019 12:16:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.427	4.416	0.011	0	166554	1000.0	
* 2 Fluorobenzene (IS)	96	7.396	7.391	0.005	99	415716	50.0	
* 3 Chlorobenzene-d5	119	10.487	10.482	0.005	84	126504	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.823	12.818	0.005	94	206398	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.678	6.673	0.005	93	123304	58.6	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.037	7.038	-0.001	0	155169	56.9	
\$ 7 Toluene-d8 (Surr)	98	9.039	9.034	0.005	93	396171	37.7	
\$ 8 4-Bromofluorobenzene (Surr	95	11.661	11.662	-0.001	94	180779	44.1	
12 Chloromethane	50		1.831				ND	U
13 Vinyl chloride	62		1.965				ND	
15 Bromomethane	94		2.342				ND	U
16 Chloroethane	64		2.476				ND	U
22 1,1-Dichloroethene	96	3.466	3.467	-0.001	2	2389	1.13	
24 Acetone	43		3.577				ND	U
26 Carbon disulfide	76		3.753				ND	
31 Methylene Chloride	84		4.289				ND	
33 Acrylonitrile	53		4.672				ND	
34 trans-1,2-Dichloroethene	96		4.696				ND	
35 Methyl tert-butyl ether	73		4.708				ND	
37 1,1-Dichloroethane	63		5.329				ND	U
45 cis-1,2-Dichloroethene	96		6.065				ND	
46 2-Butanone (MEK)	43		6.083				ND	
49 Chlorobromomethane	128		6.351				ND	
52 Chloroform	83	6.502	6.497	0.005	92	17802	0.6055	
53 1,1,1-Trichloroethane	97		6.649				ND	
56 Carbon tetrachloride	117		6.813				ND	
58 Benzene	78		7.051				ND	U
59 1,2-Dichloroethane	62		7.124				ND	
64 Trichloroethene	130		7.775				ND	MU
67 1,2-Dichloropropane	63		8.048				ND	U
71 Dichlorobromomethane	83		8.328				ND	U

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.772				ND	
75 4-Methyl-2-pentanone (MIBK)	43		8.930				ND	U
76 Toluene	91	9.106	9.101	0.005	35	2700	0.2174	
77 trans-1,3-Dichloropropene	75		9.350				ND	
79 1,1,2-Trichloroethane	97		9.539				ND	U
80 Tetrachloroethene	164	9.611	9.612	-0.001	96	60472	21.2	
82 2-Hexanone	43		9.764				ND	U
84 Chlorodibromomethane	129		9.910				ND	
85 Ethylene Dibromide	107		10.019				ND	
87 Chlorobenzene	112		10.512				ND	
89 1,1,1,2-Tetrachloroethane	131		10.603				ND	
90 Ethylbenzene	106		10.609				ND	U
91 m-Xylene & p-Xylene	106		10.743				ND	
92 o-Xylene	106		11.126				ND	
93 Styrene	104		11.145				ND	
94 Bromoform	173		11.321				ND	
99 1,1,2,2-Tetrachloroethane	83		11.808				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D

Injection Date: 13-Dec-2019 20:36:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-C-9

Lab Sample ID: 180-99101-9

Worklist Smp#: 25

Client ID: HD-COD-SW-26-0/1-0

Purge Vol: 5.000 mL

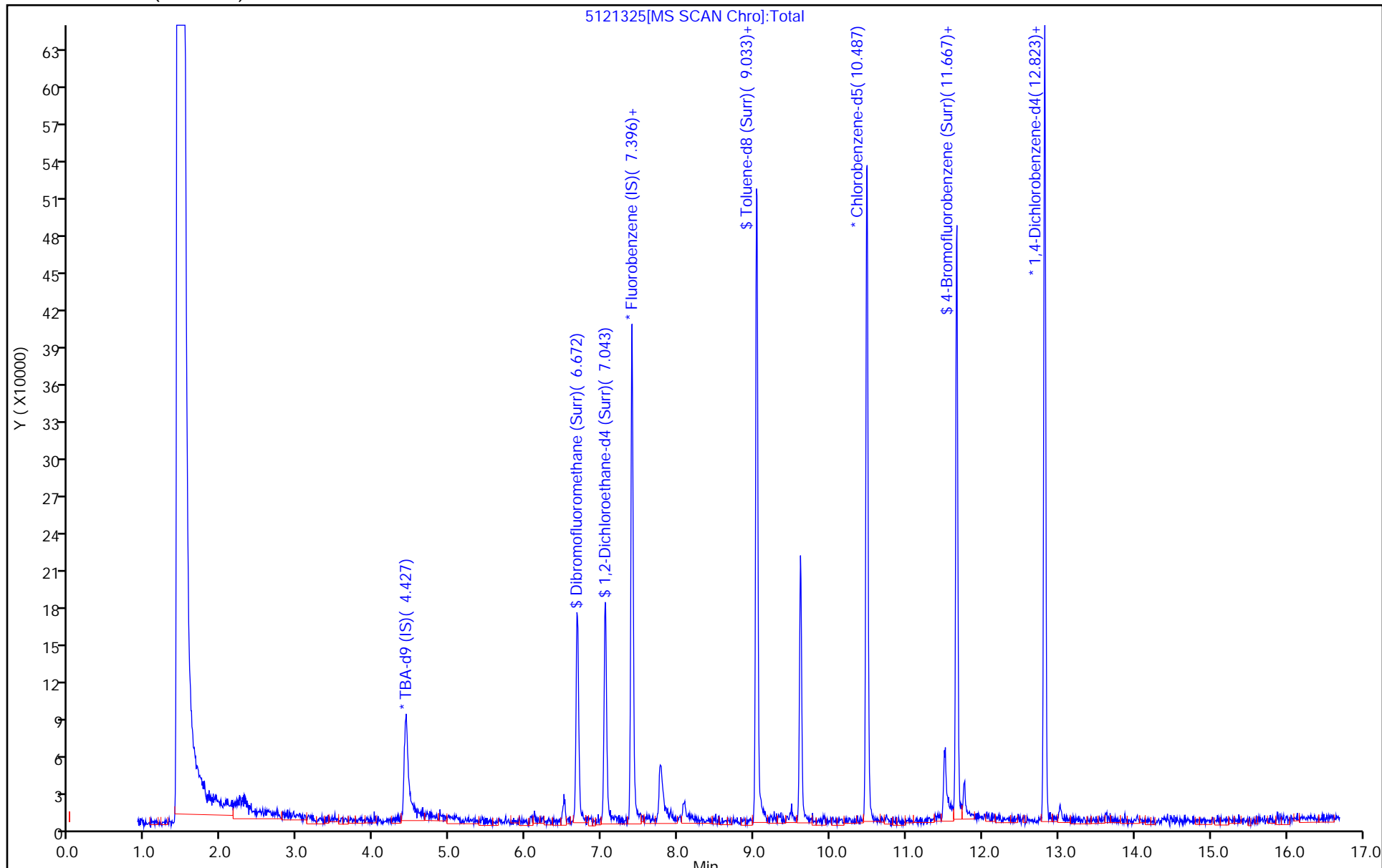
Dil. Factor: 1.0000

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\20191213-30001.b\5121325.D
 Lims ID: 180-99101-C-9
 Client ID: HD-COD-SW-26-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 20:36:30 ALS Bottle#: 18 Worklist Smp#: 25
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-025
 Misc. Info.: 180-99101-c-9
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:16:27 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 14-Dec-2019 12:16:27

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	58.6	117.29
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	56.9	113.88
\$ 7 Toluene-d8 (Surr)	50.0	37.7	75.37
\$ 8 4-Bromofluorobenzene (Surr)	50.0	44.1	88.19

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D

Injection Date: 13-Dec-2019 20:36:30

Instrument ID: CHHP5

Lims ID: 180-99101-C-9

Lab Sample ID: 180-99101-9

Client ID: HD-COD-SW-26-0/1-0

Operator ID: 433269

ALS Bottle#: 18 Worklist Smp#: 25

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

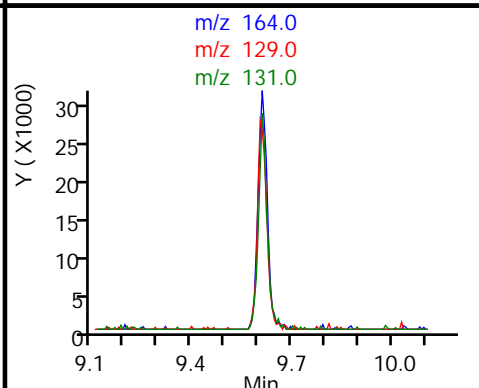
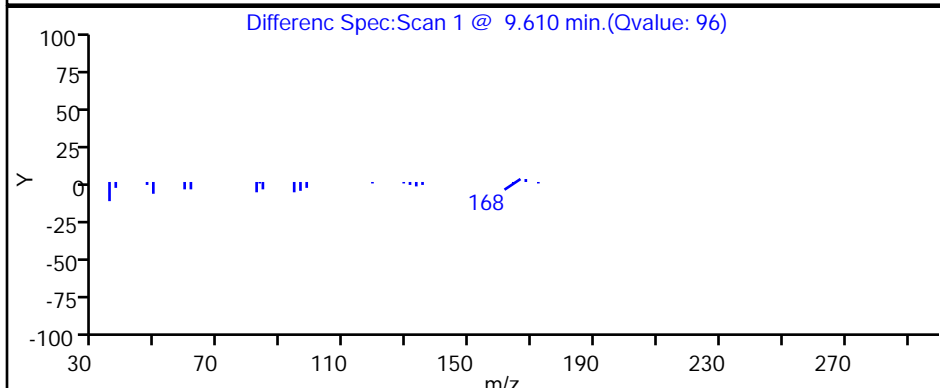
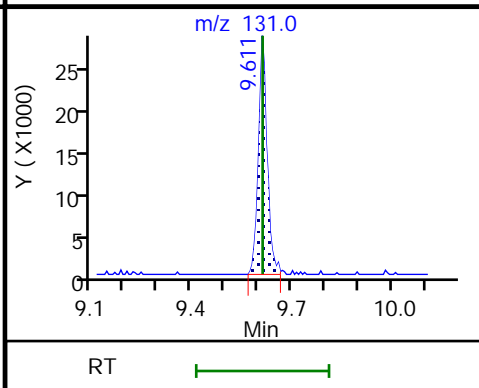
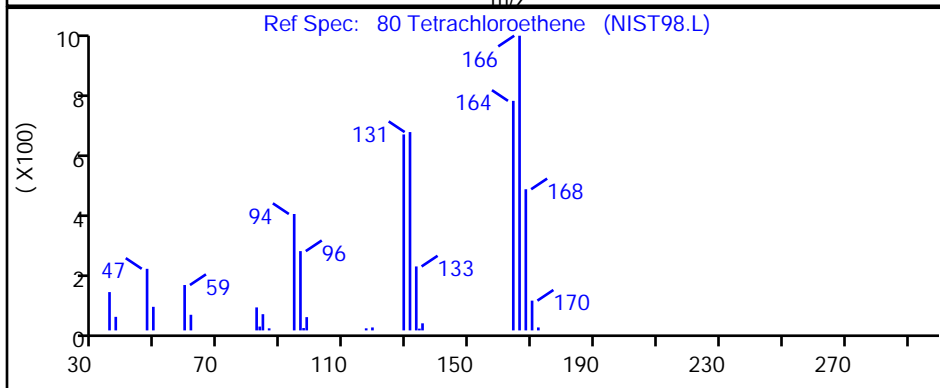
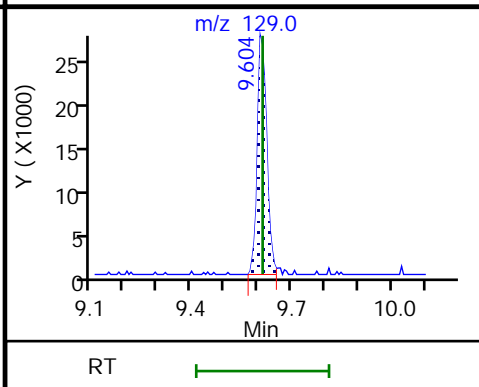
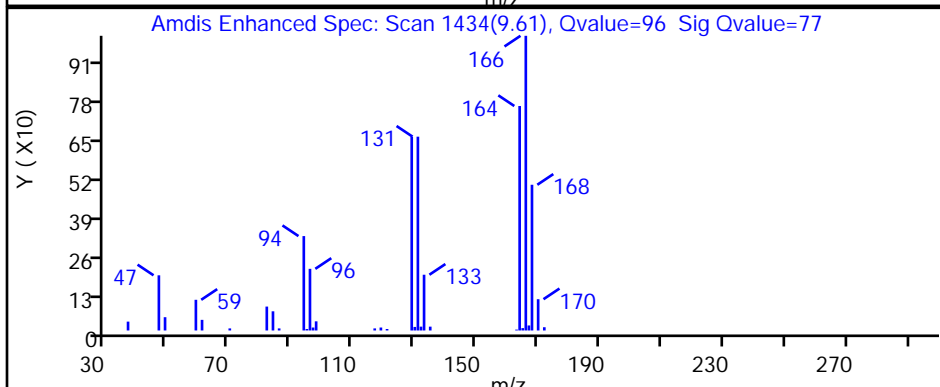
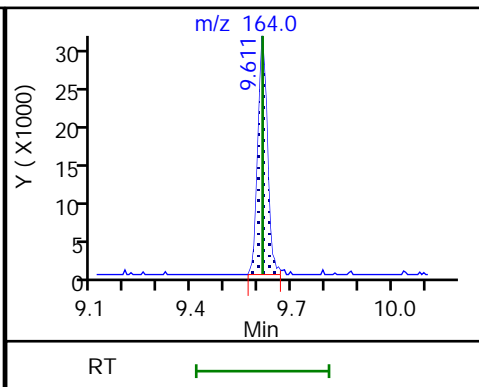
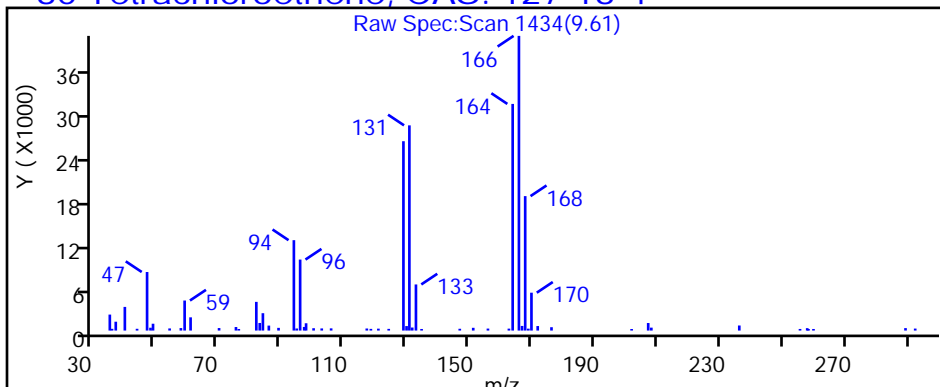
Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

80 Tetrachloroethene, CAS: 127-18-4

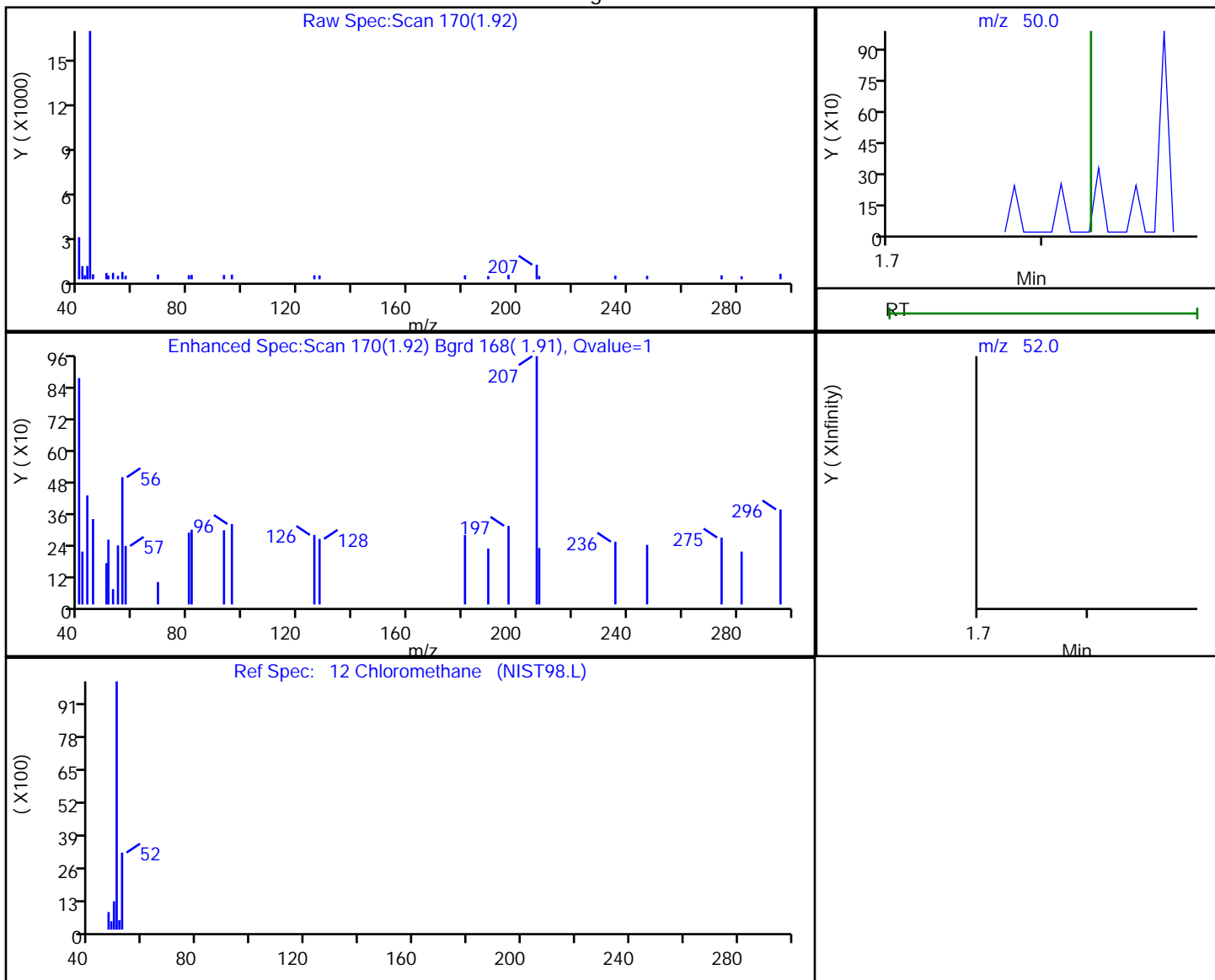


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 18 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

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.92	50.00	151	0.078323
1.92	52.00	382	

Reviewer: bowieh, 14-Dec-2019 12:15:33

Audit Action: Marked Compound Undetected

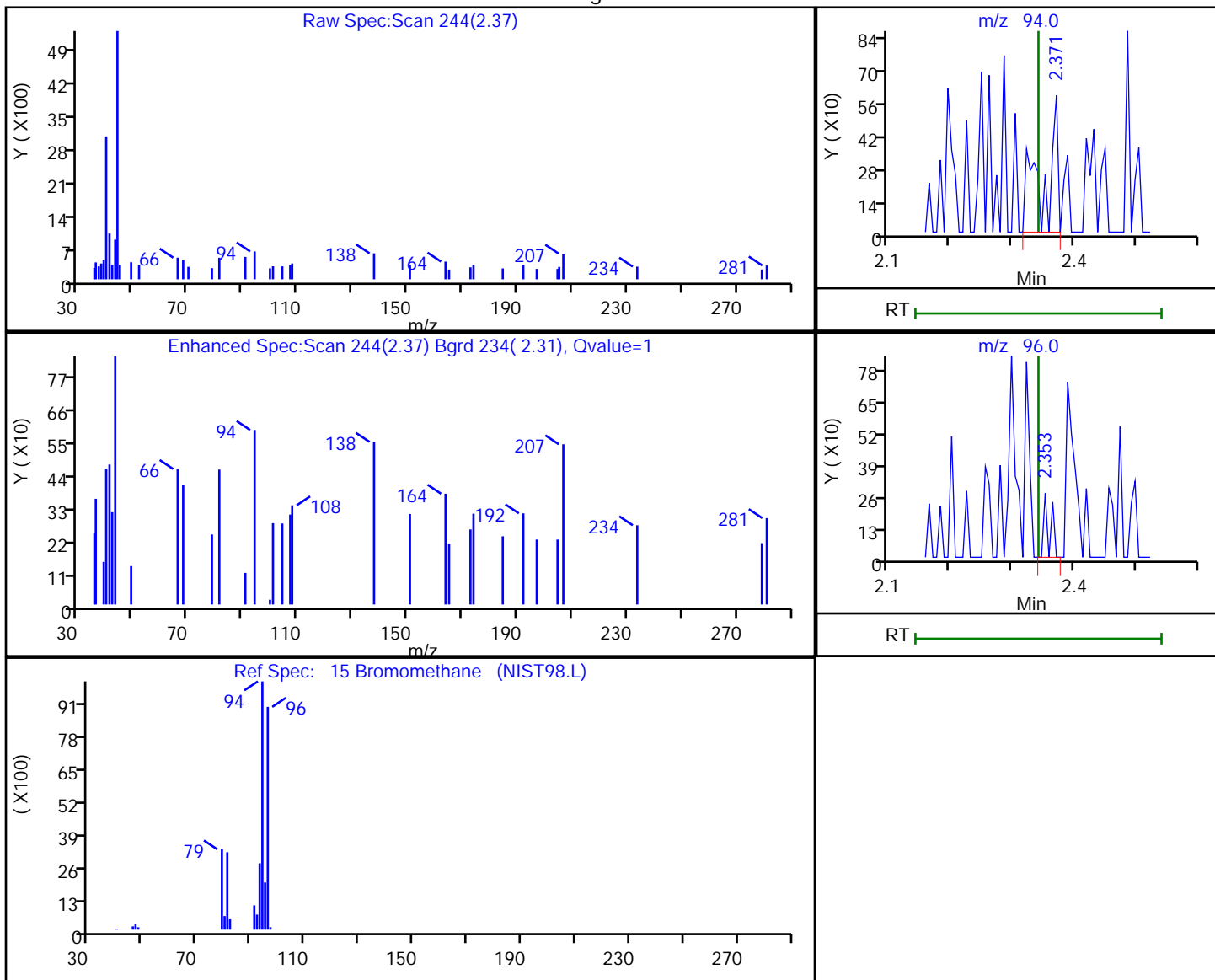
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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
2.37	94.00	865	0.548656
2.35	96.00	181	

Reviewer: bowieh, 14-Dec-2019 12:15:35

Audit Action: Marked Compound Undetected

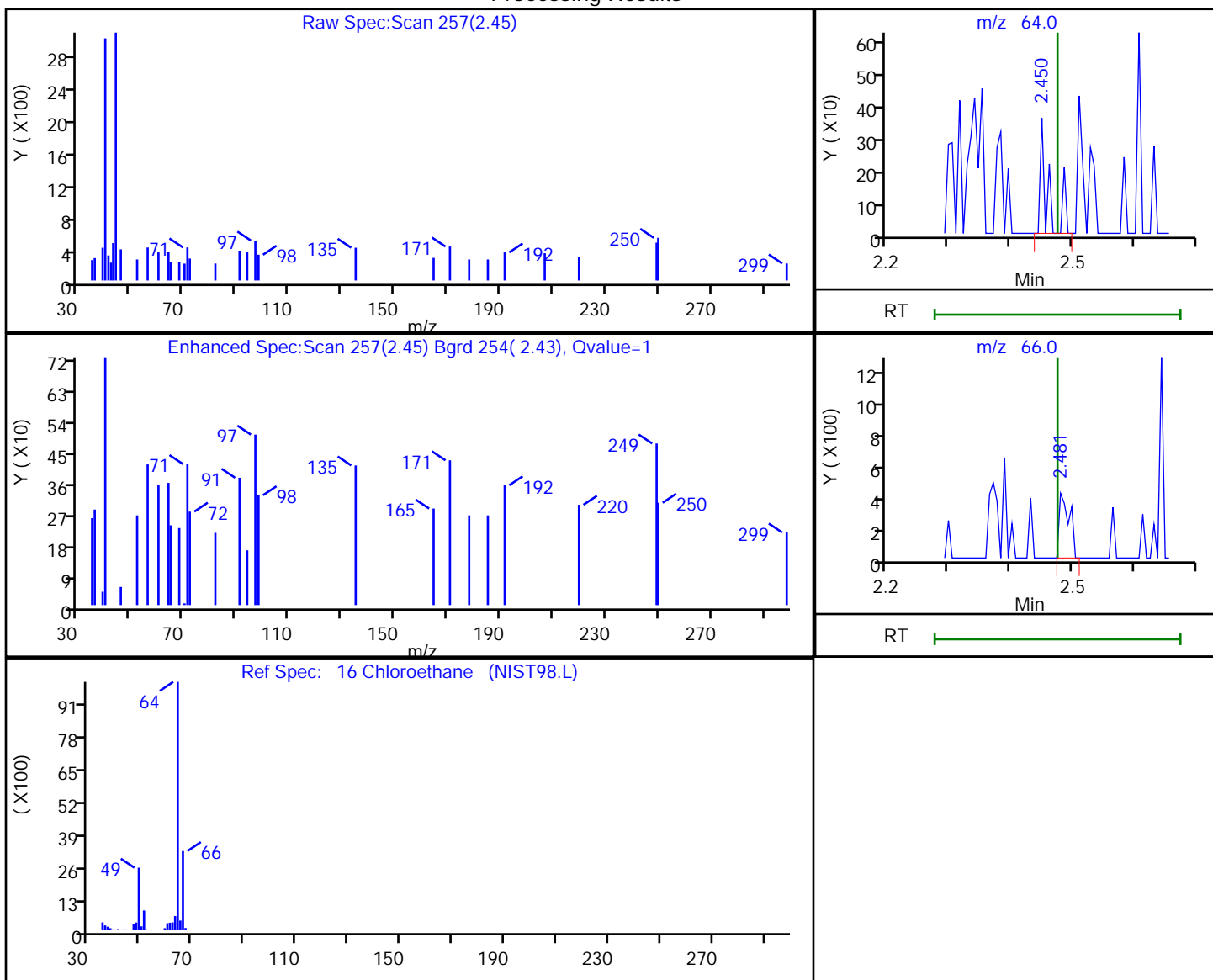
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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

16 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.45	64.00	283	0.217954
2.48	66.00	450	

Reviewer: bowieh, 14-Dec-2019 12:15:36

Audit Action: Marked Compound Undetected

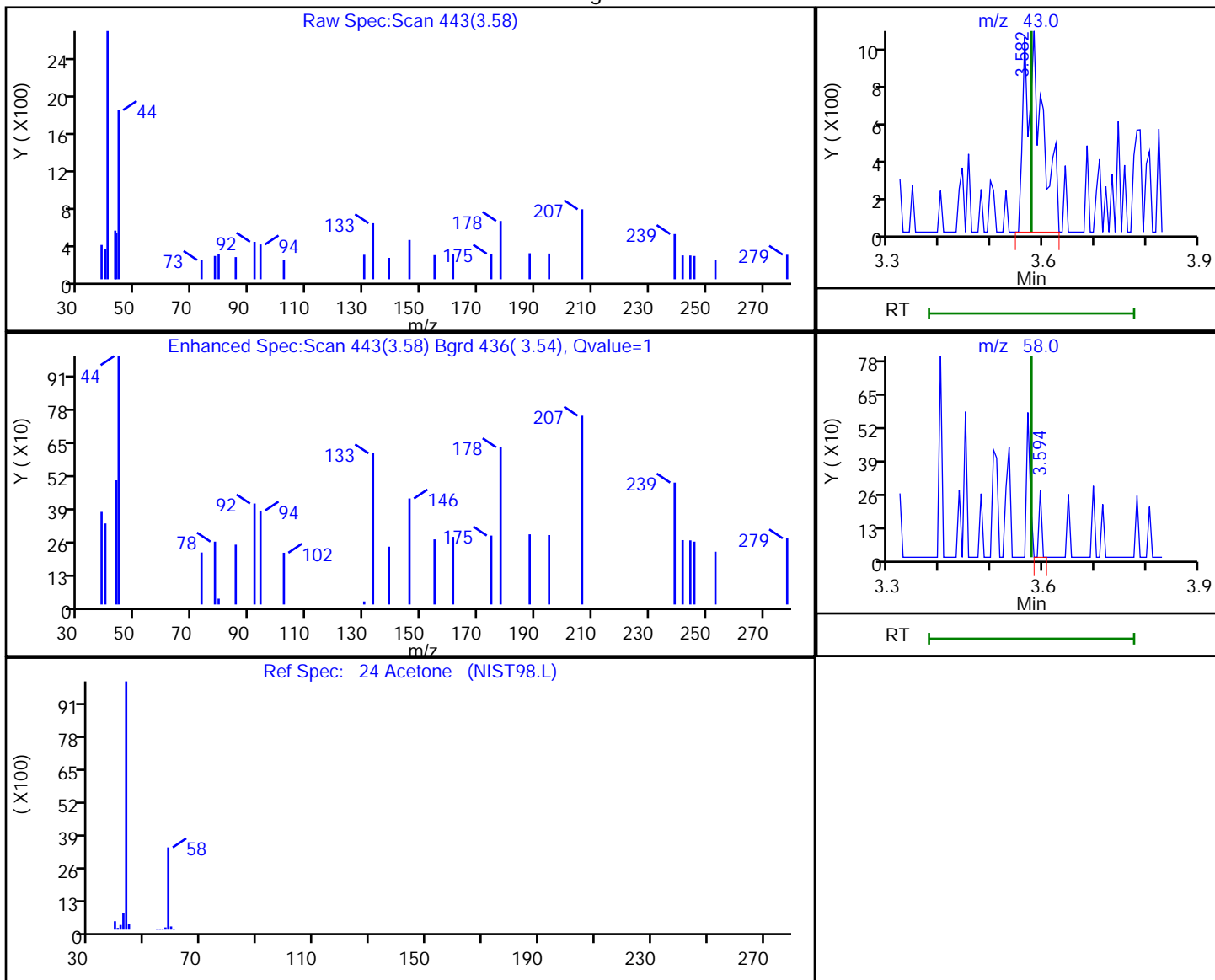
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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

24 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.58	43.00	2385	2.804965
3.59	58.00	97	

Reviewer: bowieh, 14-Dec-2019 12:15:40

Audit Action: Marked Compound Undetected

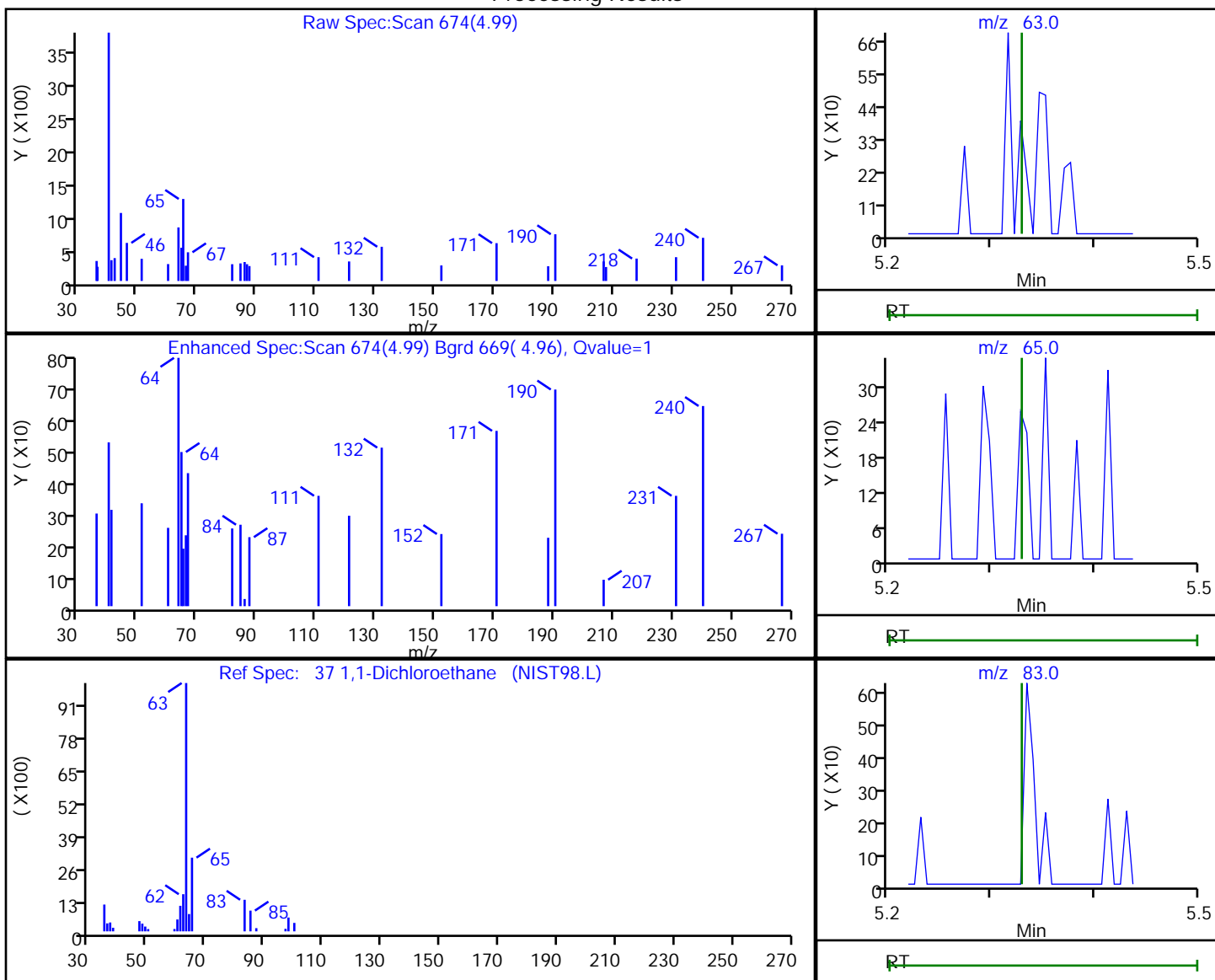
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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

37 1,1-Dichloroethane, CAS: 75-34-3

Processing Results



RT	Mass	Response	Amount
4.99	63.00	403	0.107344
4.98	65.00	8476	
5.33	83.00	0	

Reviewer: bowieh, 14-Dec-2019 12:15:45

Audit Action: Marked Compound Undetected

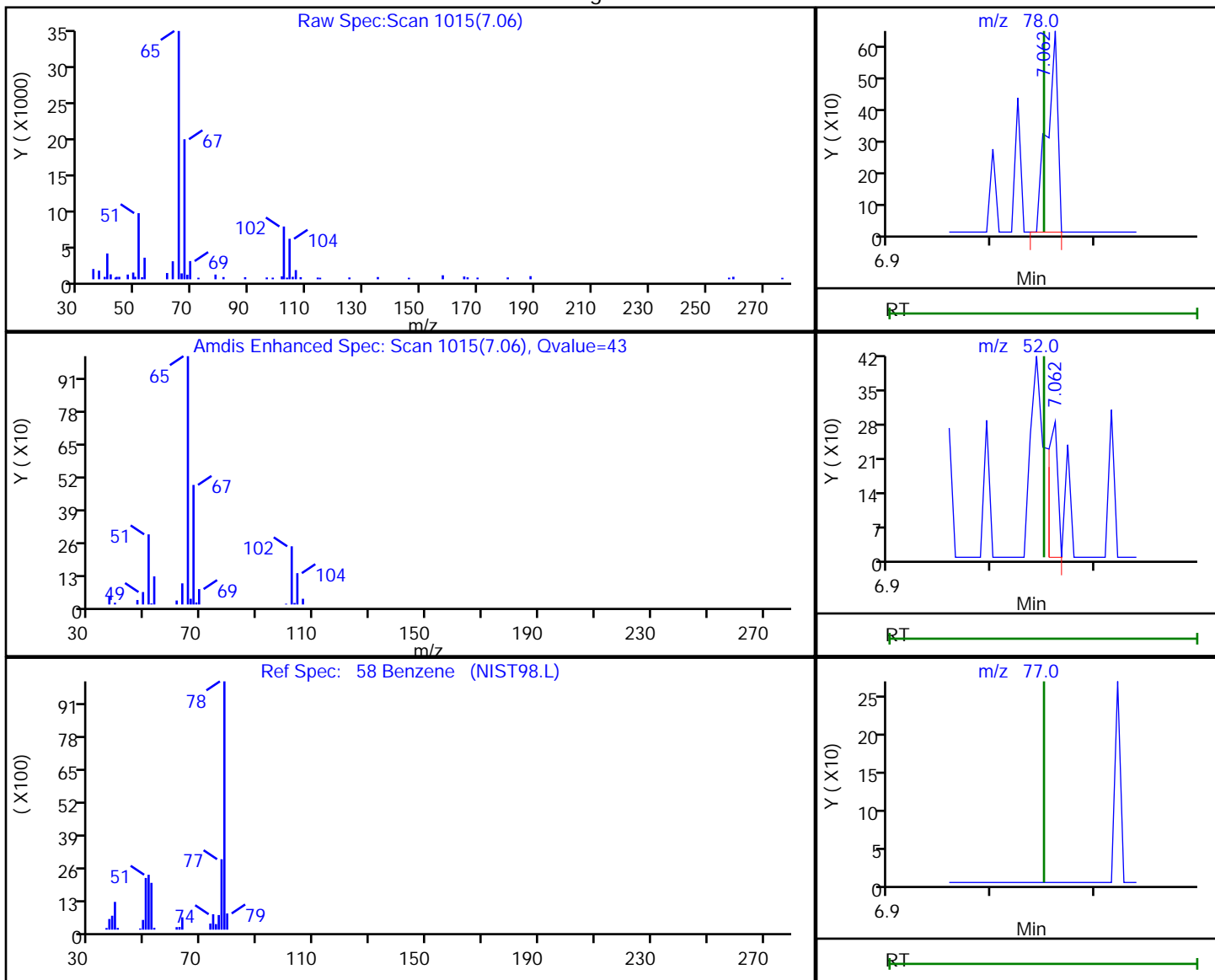
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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
7.06	78.00	462	0.048947
7.06	52.00	186	
7.05	77.00	0	

Reviewer: bowieh, 14-Dec-2019 12:15:54

Audit Action: Marked Compound Undetected

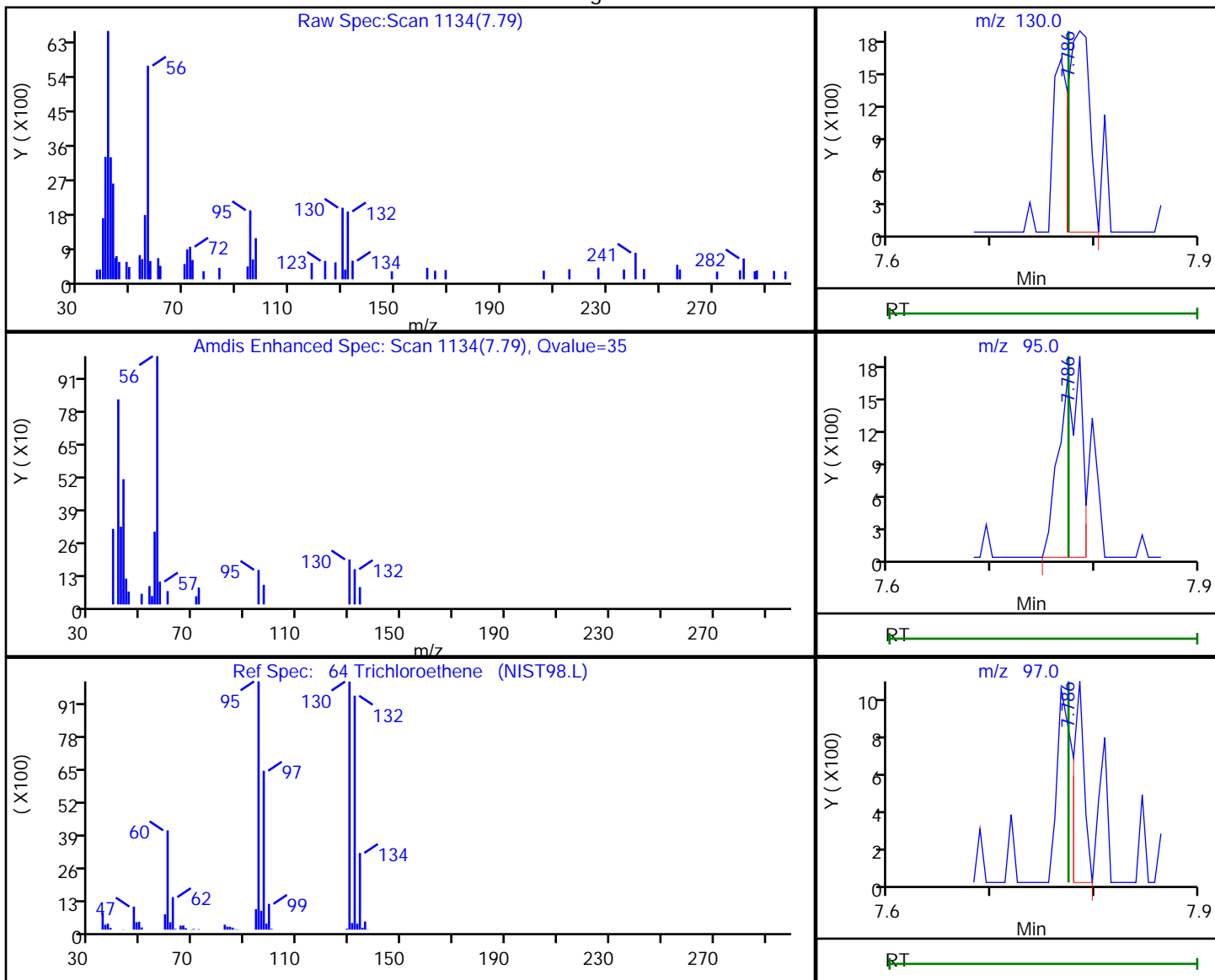
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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
7.79	130.00	2765	1.031729
7.79	95.00	2592	
7.79	97.00	775	

Reviewer: bowieh, 14-Dec-2019 12:16:08

Audit Action: Marked Compound Undetected

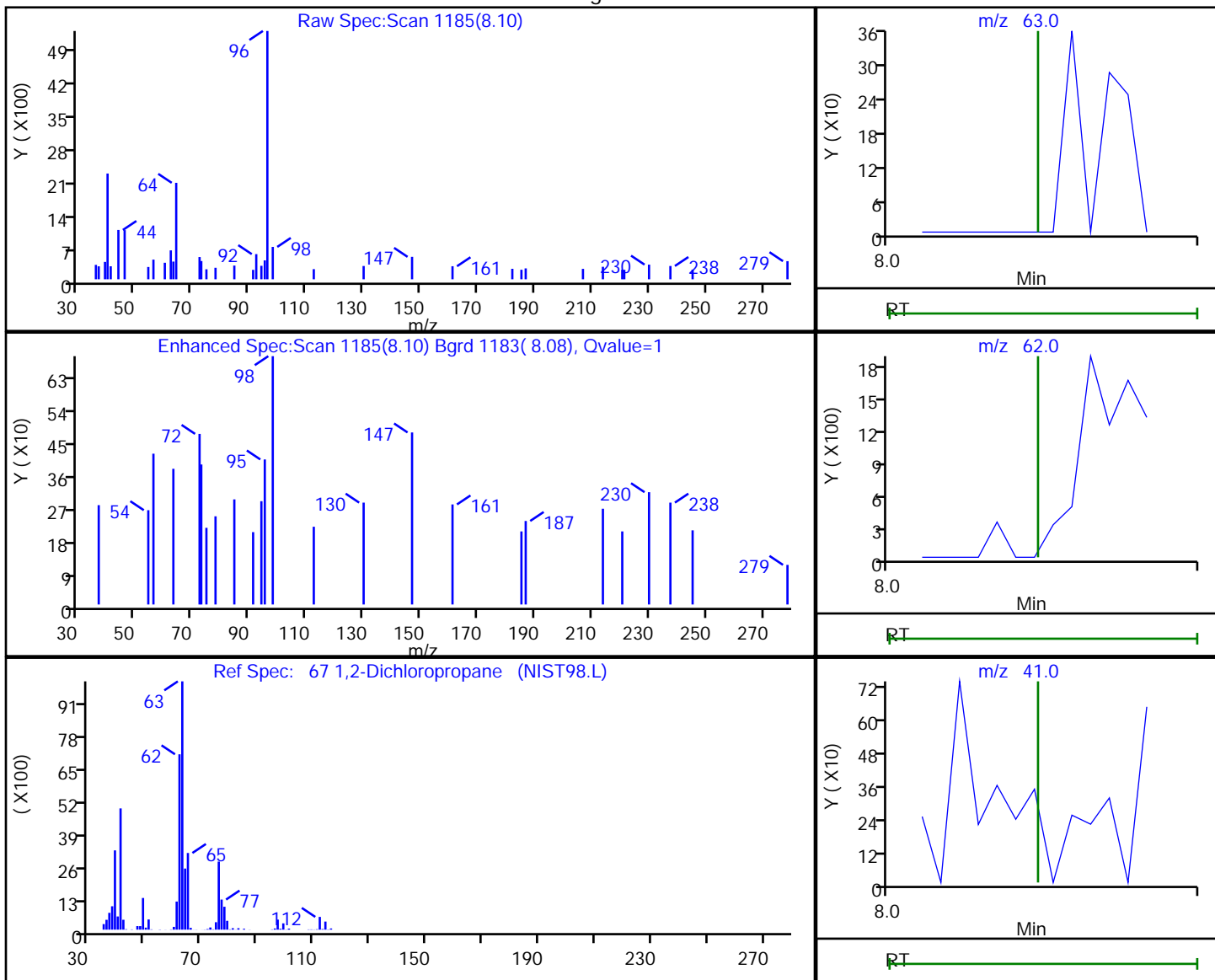
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.10	63.00	138	0.063629
8.09	62.00	3376	
8.10	41.00	193	

Reviewer: bowieh, 14-Dec-2019 12:16:10

Audit Action: Marked Compound Undetected

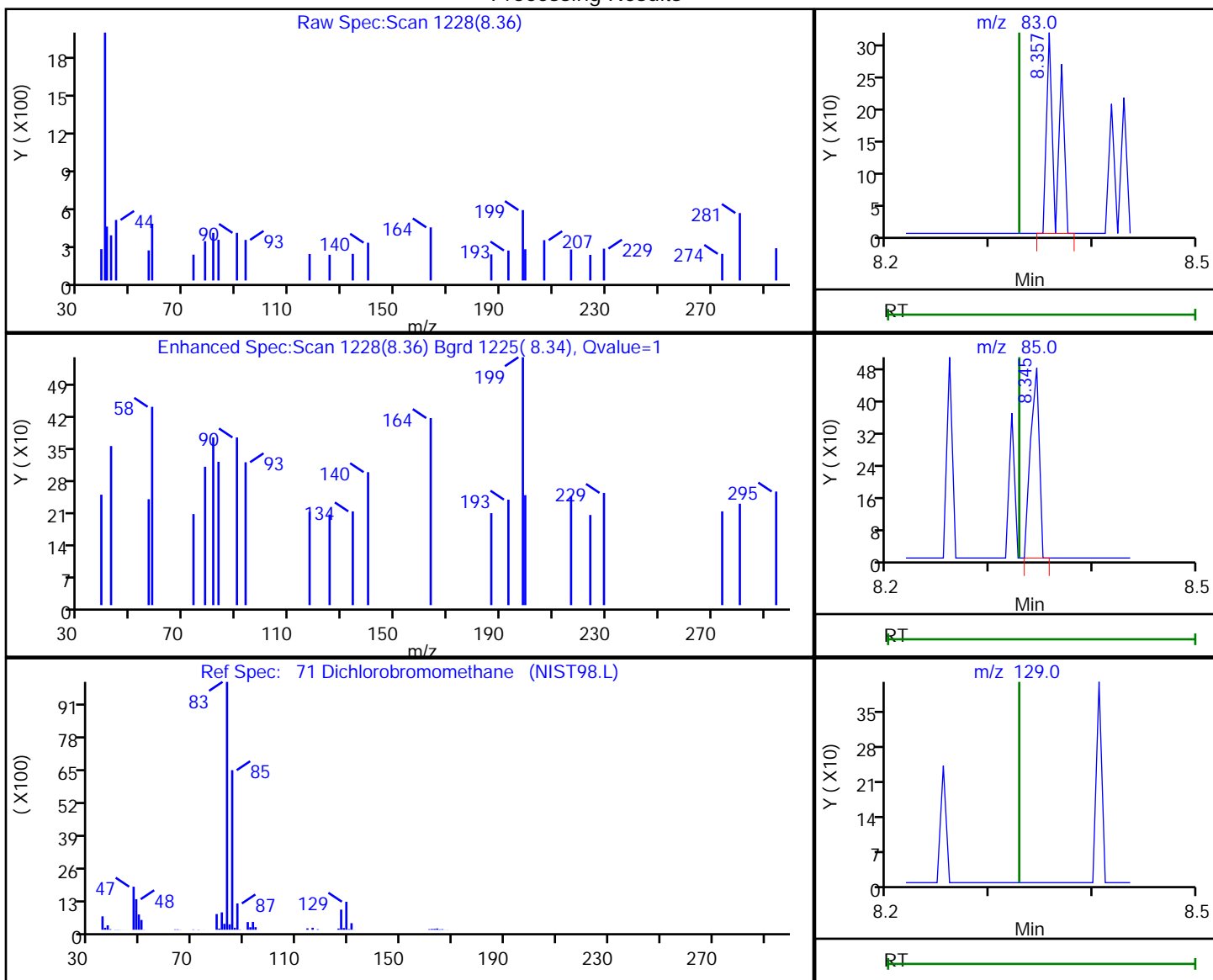
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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

71 Dichlorobromomethane, CAS: 75-27-4

Processing Results



RT	Mass	Response	Amount
8.36	83.00	214	0.075736
8.35	85.00	282	
8.33	129.00	0	

Reviewer: bowieh, 14-Dec-2019 12:16:11
 Audit Action: Marked Compound Undetected

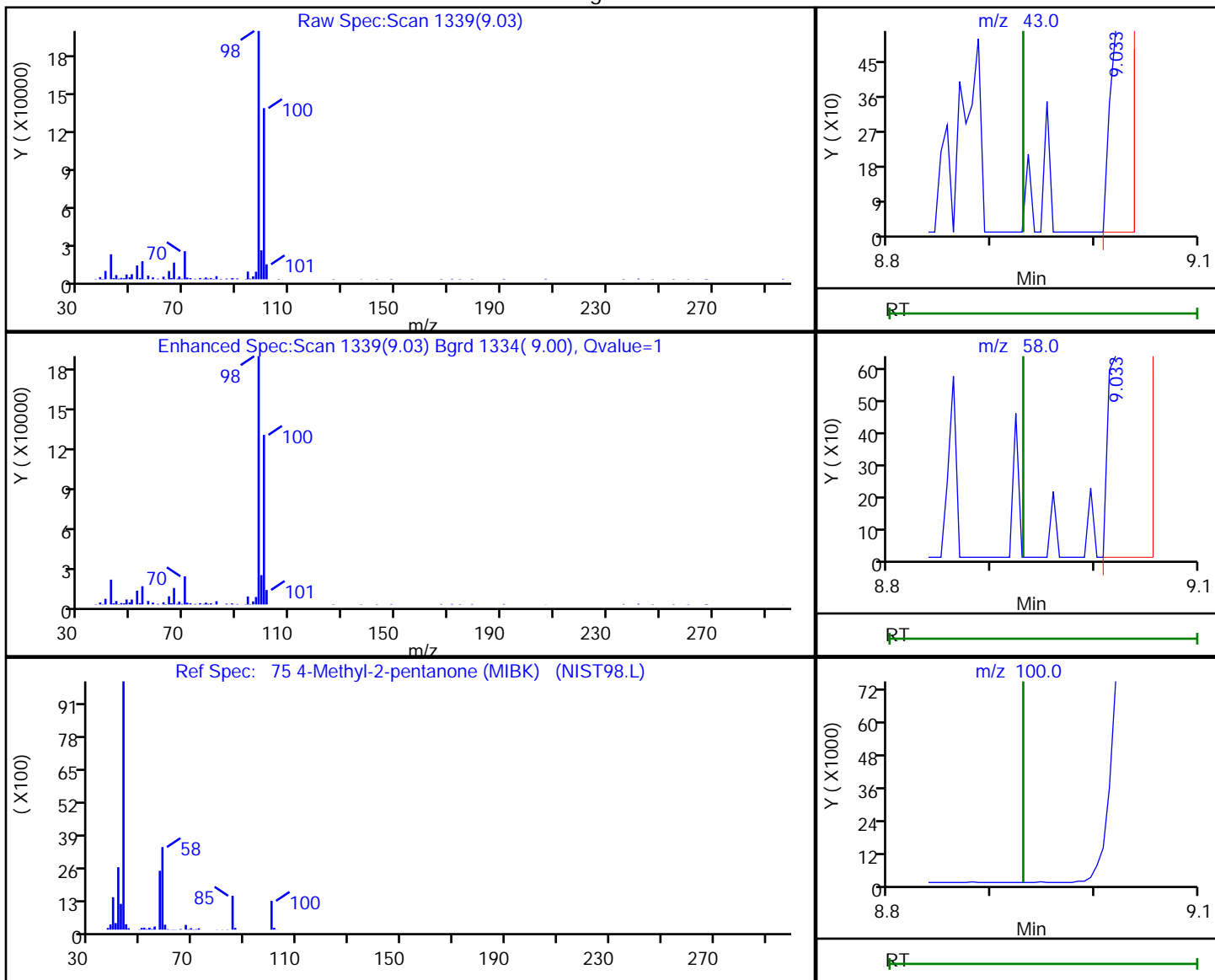
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: 433269 ALS Bottle#: 18 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
9.03	43.00	956	0.467839
9.03	58.00	2505	
9.03	100.00	276451	

Reviewer: bowieh, 14-Dec-2019 12:16:13

Audit Action: Marked Compound Undetected

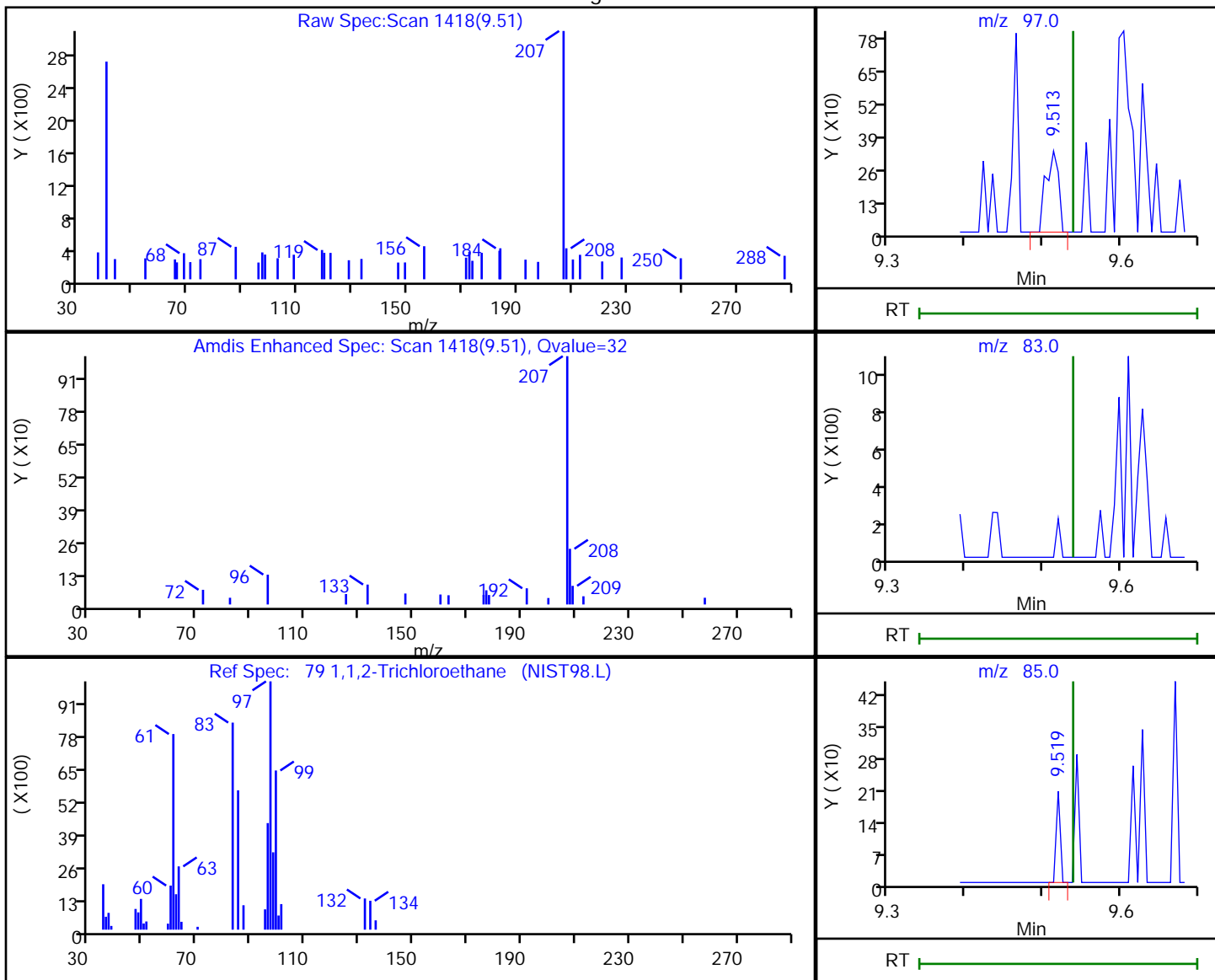
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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
9.51	97.00	365	0.146823
9.54	83.00	0	
9.52	85.00	73	

Reviewer: bowieh, 14-Dec-2019 12:16:15

Audit Action: Marked Compound Undetected

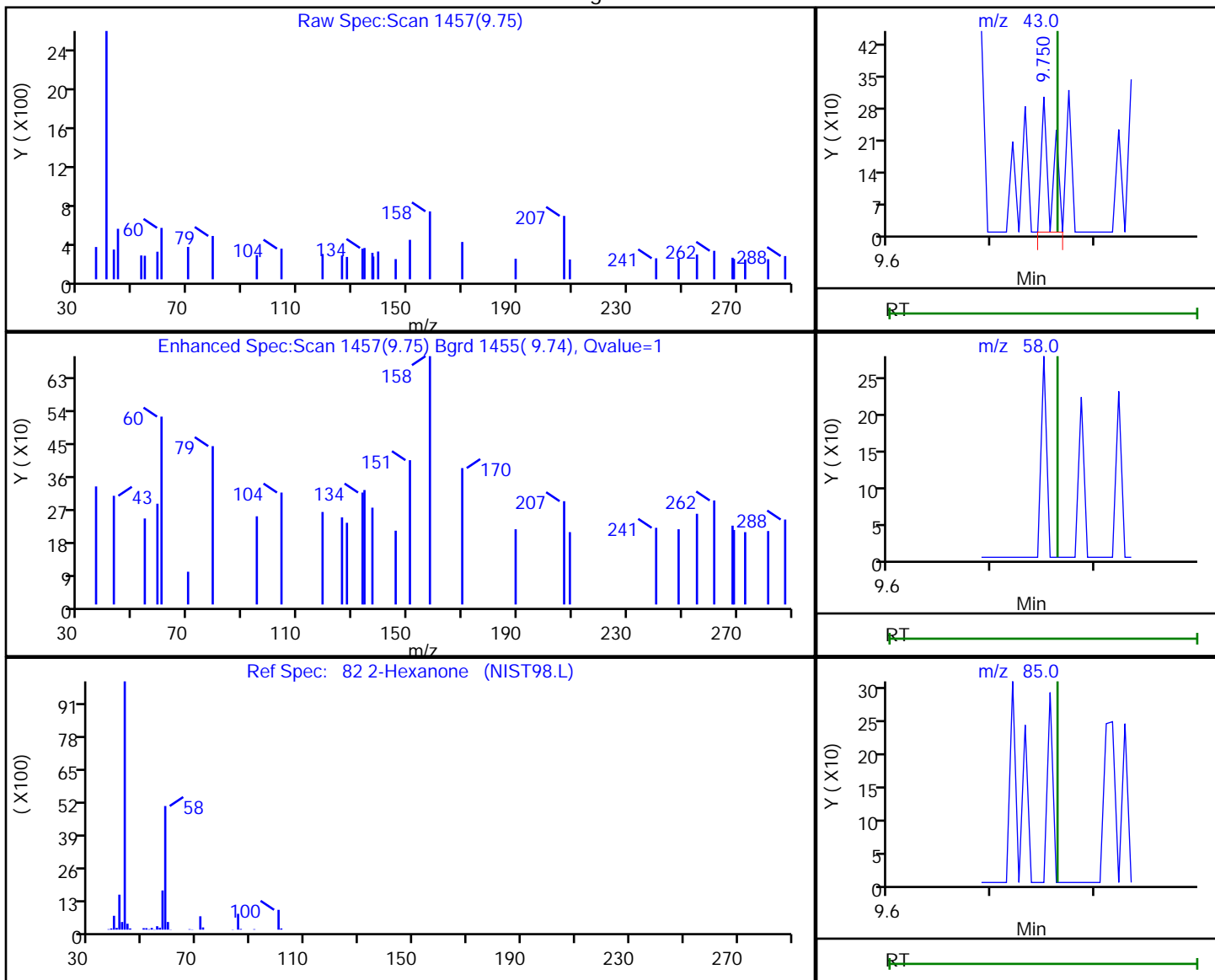
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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
9.75	43.00	193	12.843825
9.76	58.00	0	
9.76	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:16:18

Audit Action: Marked Compound Undetected

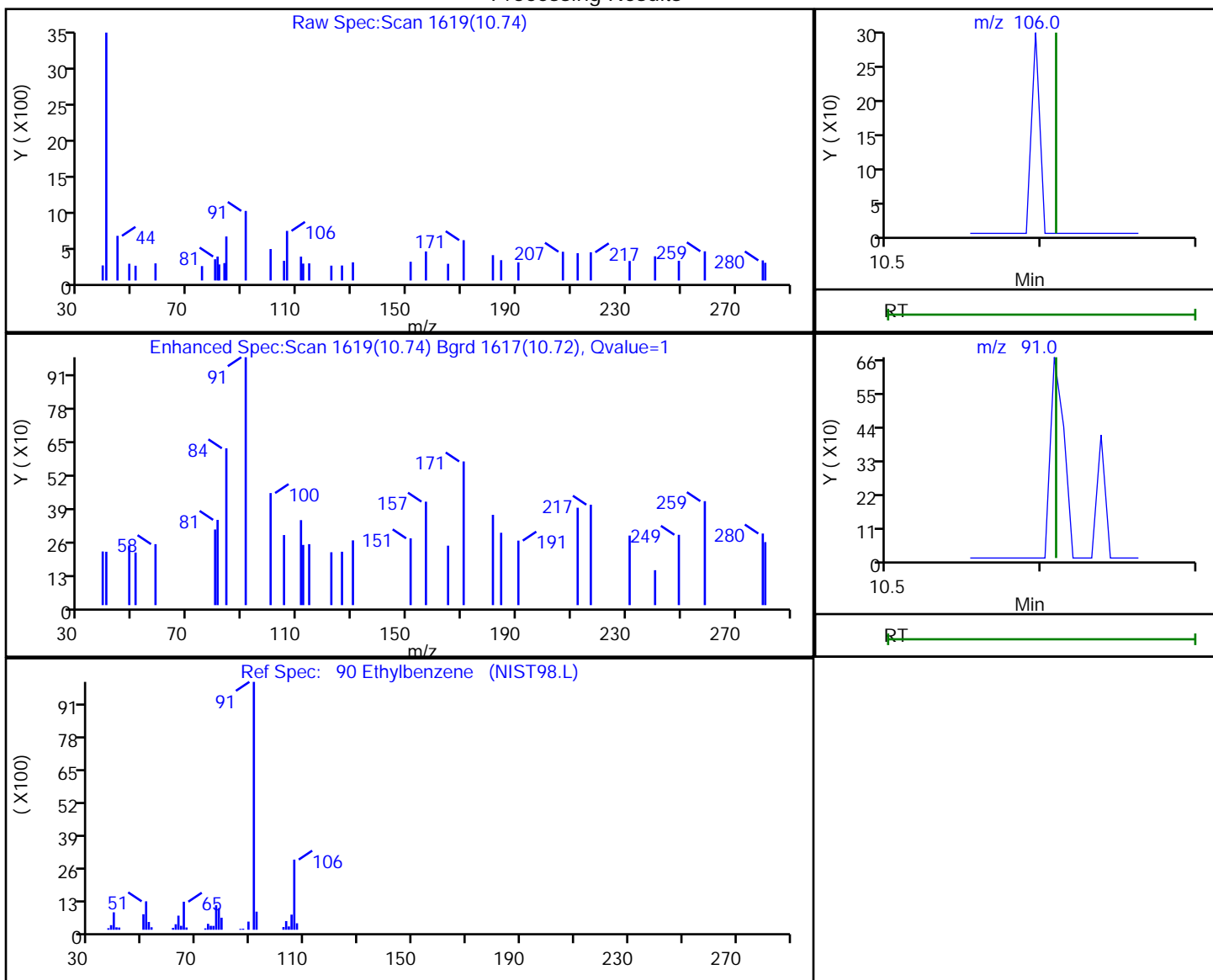
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121325.D
 Injection Date: 13-Dec-2019 20:36:30 Instrument ID: CHHP5
 Lims ID: 180-99101-C-9 Lab Sample ID: 180-99101-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: 433269 ALS Bottle#: 18 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
10.74	106.00	490	0.112880
10.74	91.00	1627	

Reviewer: bowieh, 14-Dec-2019 12:16:22

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-27-0/1-0 Lab Sample ID: 180-99101-10
 Matrix: Water Lab File ID: 5120520.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 17:34
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-27-0/1-0 Lab Sample ID: 180-99101-10
 Matrix: Water Lab File ID: 5120520.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 17:34
 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.: 300399 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)	108		70-150
2037-26-5	Toluene-d8 (Surr)	86		78-128
460-00-4	4-Bromofluorobenzene (Surr)	63	X	64-123
1868-53-7	Dibromofluoromethane (Surr)	115		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
 Lims ID: 180-99101-B-10
 Client ID: HD-COD-SW-27-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 17:34:30 ALS Bottle#: 13 Worklist Smp#: 20
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-020
 Misc. Info.: 180-99101-b-10
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:47:13 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:47:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.533	4.544	-0.011	0	196780	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.494	0.007	99	435823	50.0	
* 3 Chlorobenzene-d5	119	10.586	10.585	0.001	83	112055	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.922	12.921	0.001	94	116447	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.770	0.013	94	127142	57.7	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	153846	53.9	
\$ 7 Toluene-d8 (Surr)	98	9.132	9.131	0.001	92	398445	42.8	
\$ 8 4-Bromofluorobenzene (Surr	95	11.760	11.759	0.001	96	113730	31.3	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.687	3.674	0.013	66	8479	9.51	
26 Carbon disulfide	76	3.888	3.869	0.019	72	2548	0.4349	a
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.187	6.174	0.013	1	3417	1.29	
46 2-Butanone (MEK)	43		6.186				ND	U
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.613	6.600	0.013	90	12085	-1.06	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.878	7.878	0.000	85	4179	1.49	
67 1,2-Dichloropropane	63		8.145				ND	
71 Dichlorobromomethane	83	8.438	8.431	0.007	5	1349	0.4554	

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	9.205	9.198	0.007	22	3697	0.3361	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	
80 Tetrachloroethene	164	9.704	9.709	-0.005	84	5207	2.06	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D

Injection Date: 05-Dec-2019 17:34:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-B-10

Lab Sample ID: 180-99101-10

Worklist Smp#: 20

Client ID: HD-COD-SW-27-0/1-0

Purge Vol: 5.000 mL

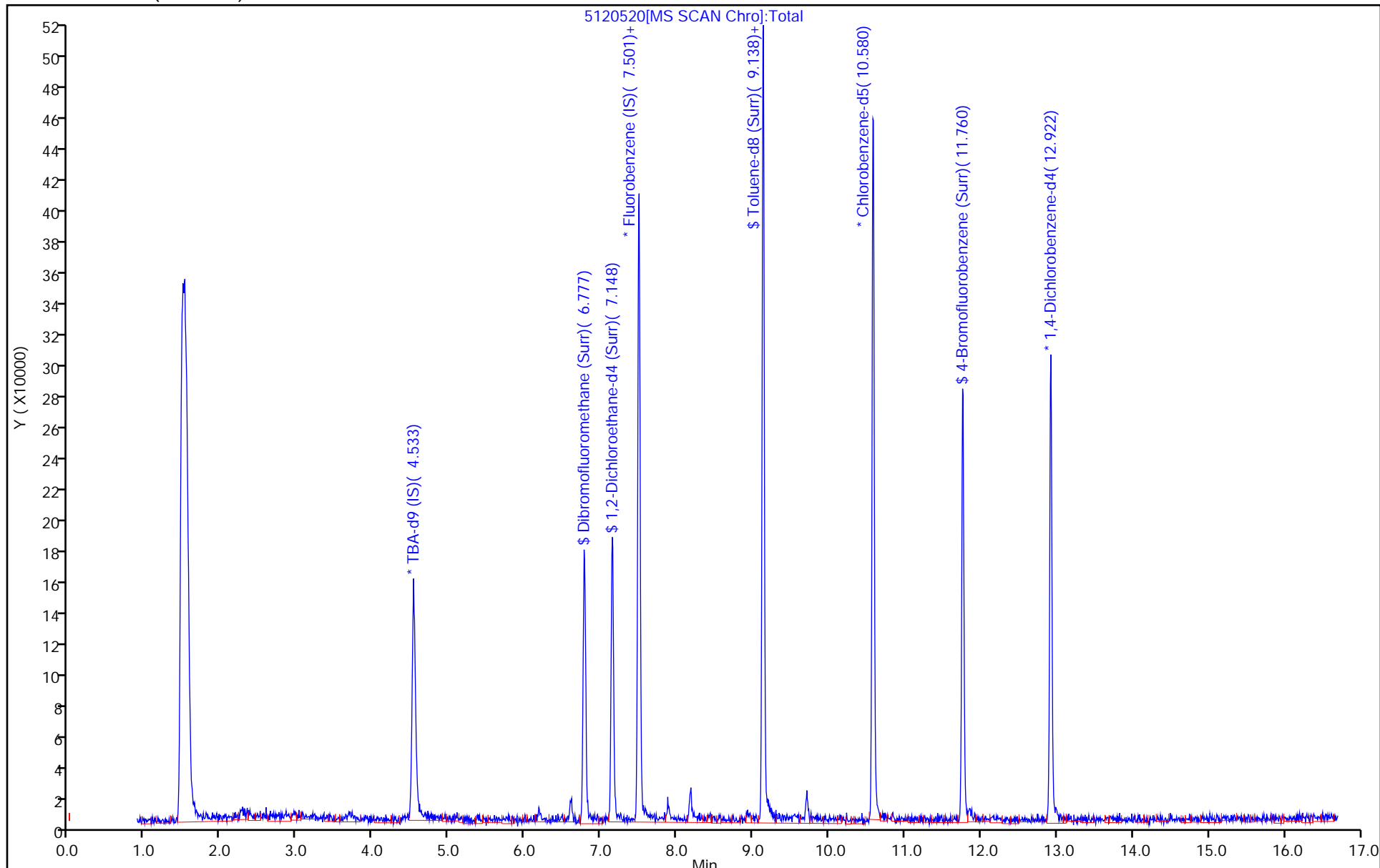
Dil. Factor: 1.0000

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\20191205-29868.b\5120520.D
 Lims ID: 180-99101-B-10
 Client ID: HD-COD-SW-27-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 17:34:30 ALS Bottle#: 13 Worklist Smp#: 20
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-020
 Misc. Info.: 180-99101-b-10
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:47:13 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:47:13

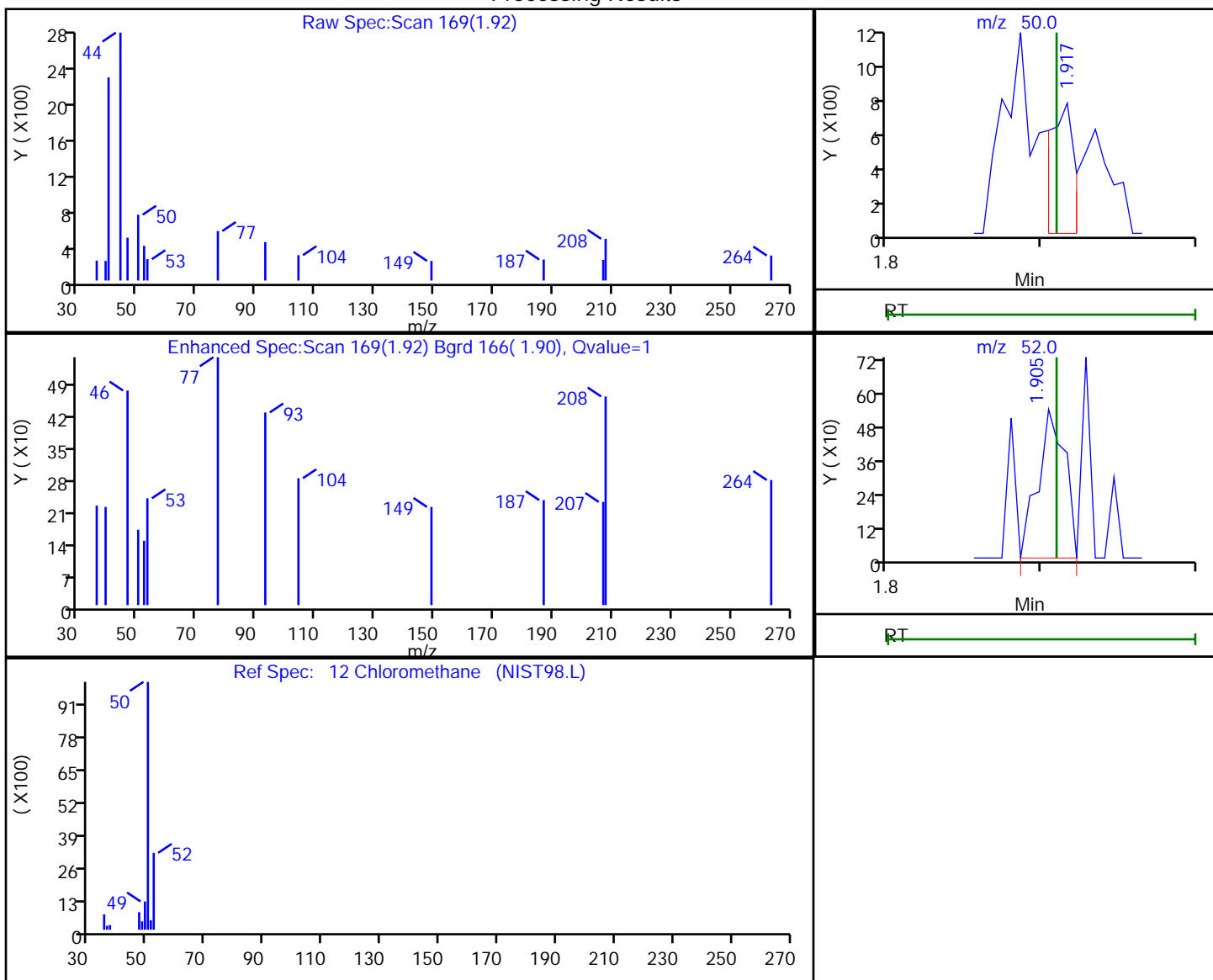
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	57.7	115.36
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.9	107.70
\$ 7 Toluene-d8 (Surr)	50.0	42.8	85.57
\$ 8 4-Bromofluorobenzene (Surr)	50.0	31.3	62.63

Euofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
 Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 13 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

12 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
1.92	50.00	810	0.400761
1.90	52.00	654	

Reviewer: bowieh, 06-Dec-2019 10:46:32

Audit Action: Marked Compound Undetected

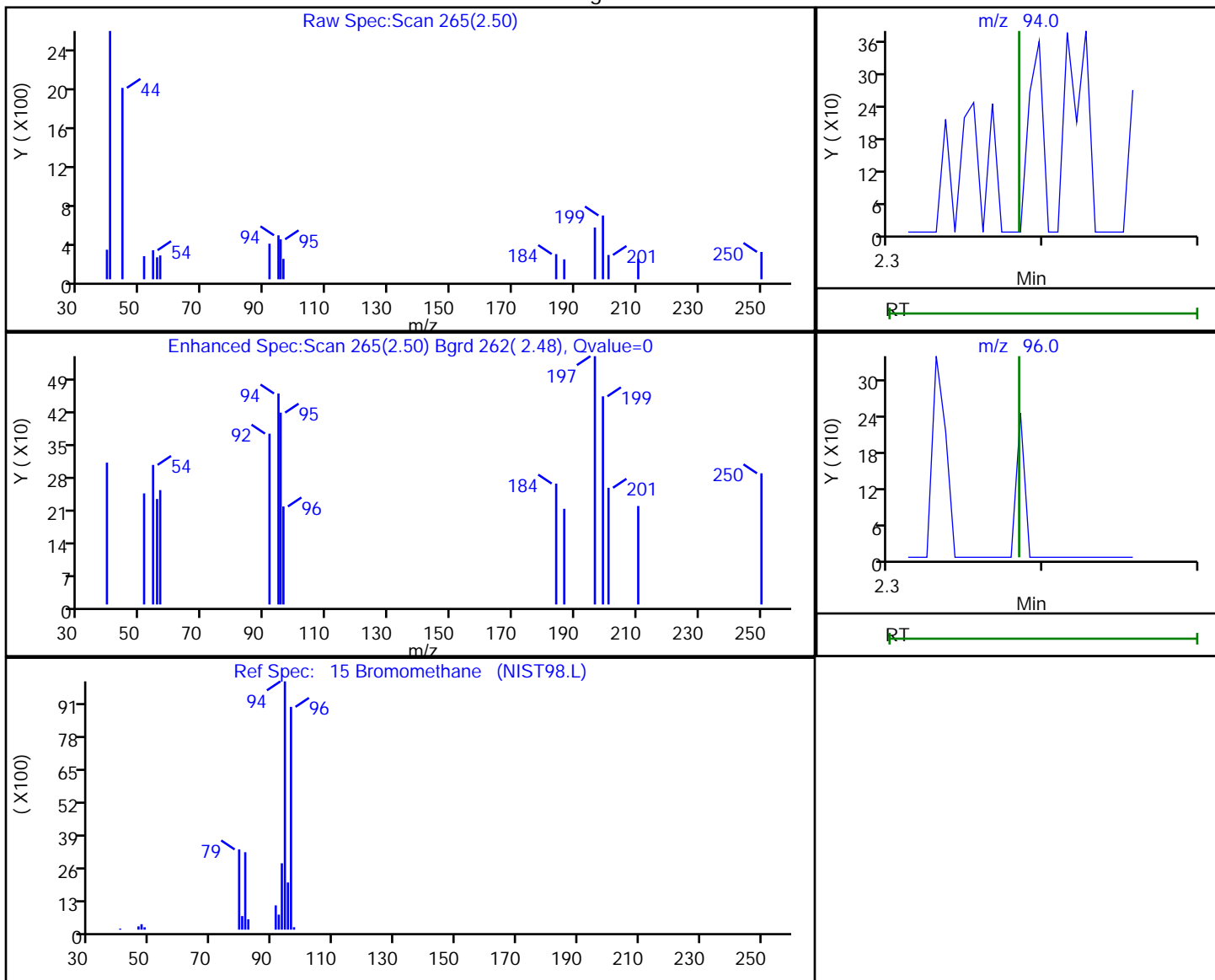
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
 Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 13 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

15 Bromomethane, CAS: 74-83-9

Processing Results



RT	Mass	Response	Amount
2.50	94.00	165	0.099829
2.49	96.00	413	

Reviewer: bowieh, 06-Dec-2019 10:46:34

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

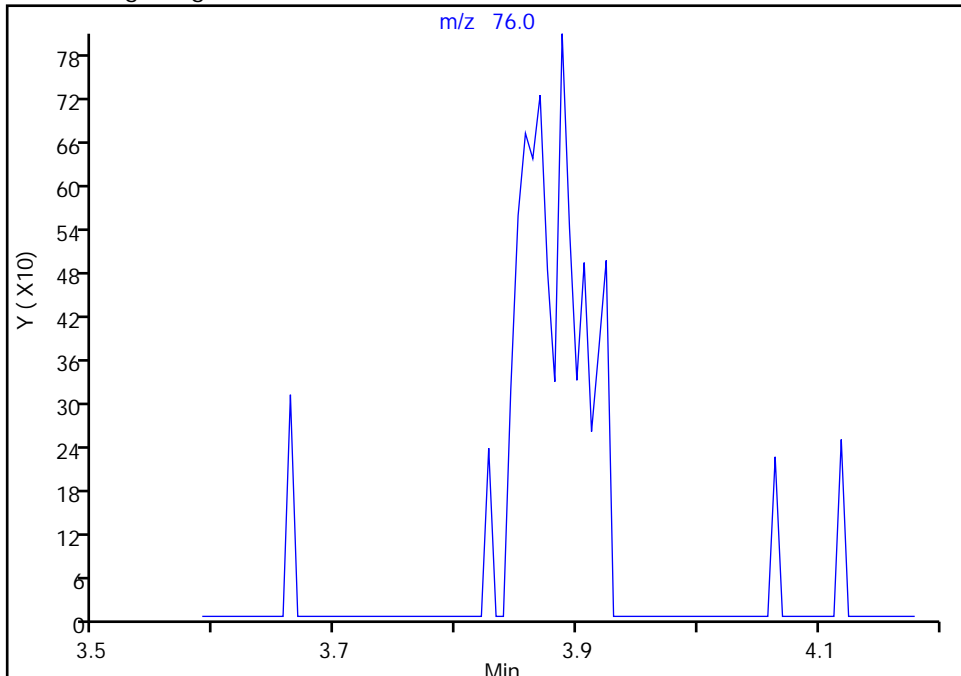
Data File:	\\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D				
Injection Date:	05-Dec-2019 17:34:30	Instrument ID:	CHHP5		
Lims ID:	180-99101-B-10	Lab Sample ID:	180-99101-10		
Client ID:	HD-COD-SW-27-0/1-0				
Operator ID:	433269	ALS Bottle#:	13	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_LL_CHHP5	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector:	MS SCAN		

26 Carbon disulfide, CAS: 75-15-0

Signal: 1

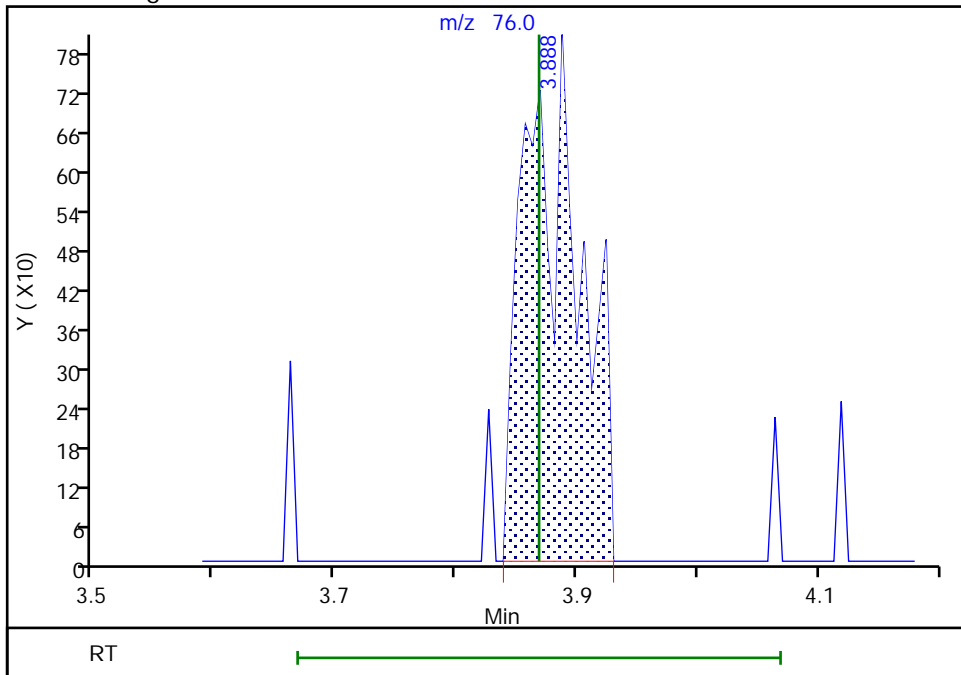
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.89
Area: 2548
Amount: 0.434863
Amount Units: ng

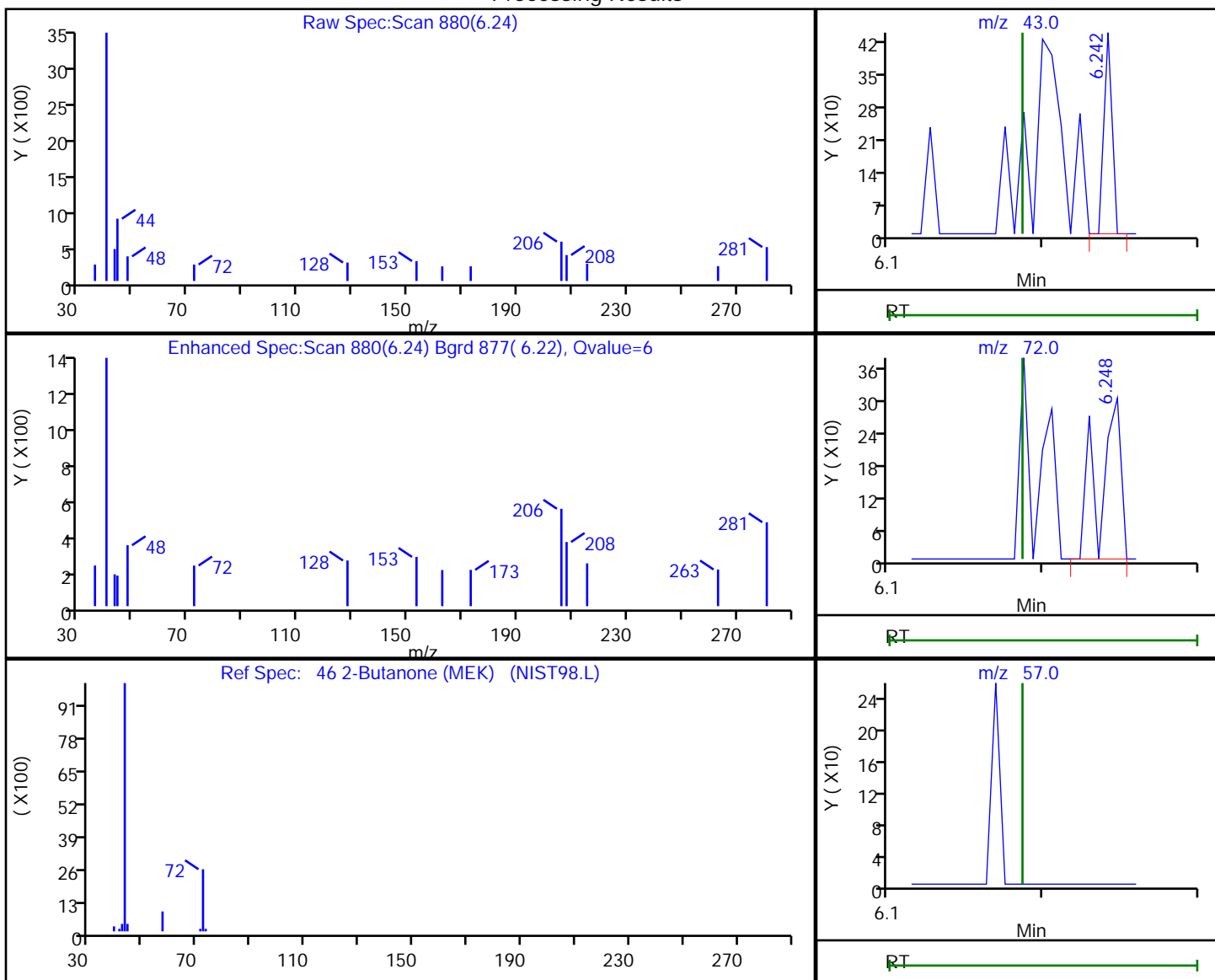


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
 Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 13 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

46 2-Butanone (MEK), CAS: 78-93-3

Processing Results



RT	Mass	Response	Amount
6.24	43.00	161	0.145871
6.25	72.00	289	
6.19	57.00	0	

Reviewer: bowieh, 06-Dec-2019 10:46:48

Audit Action: Marked Compound Undetected

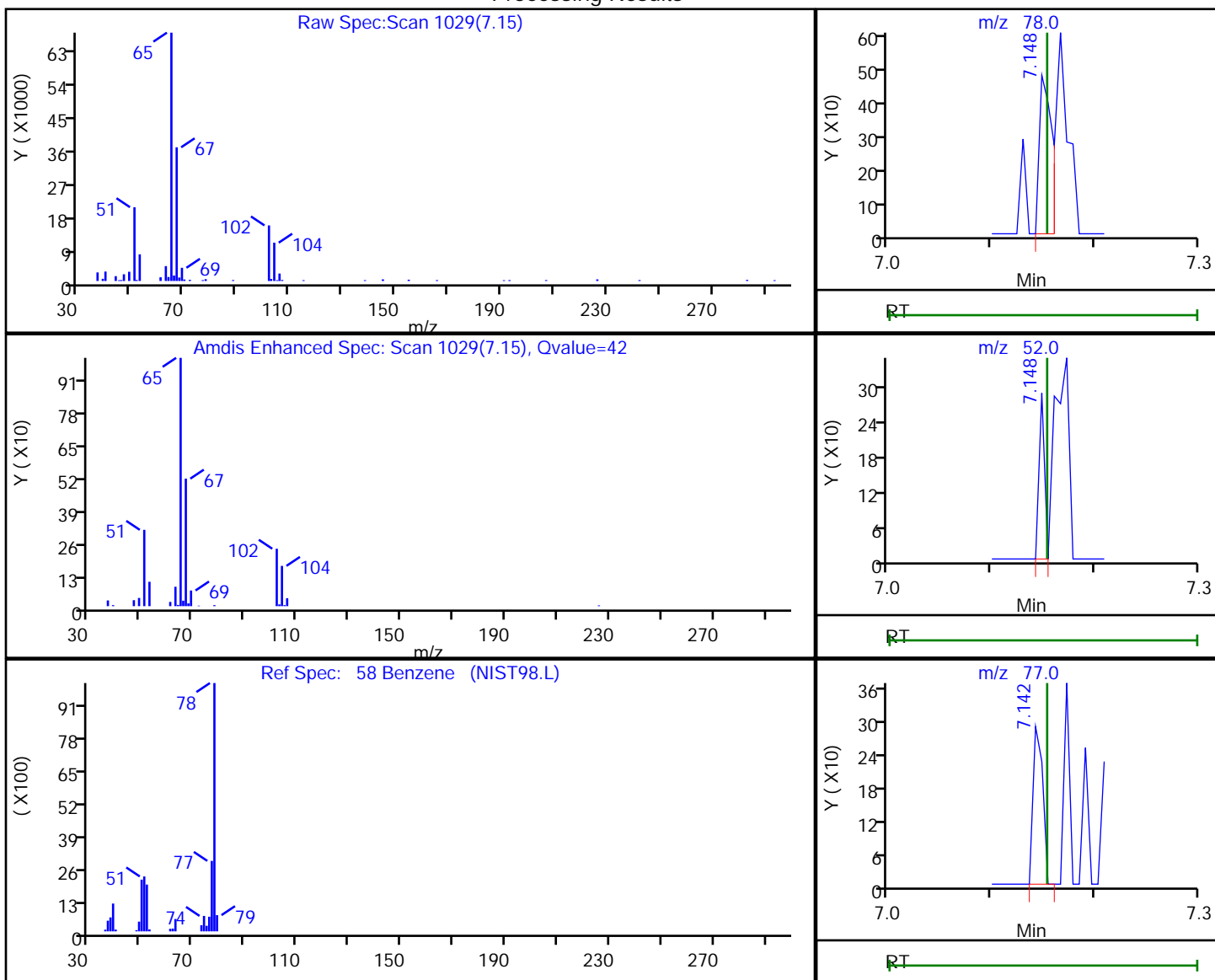
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
 Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 13 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

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.15	78.00	418	0.042243
7.15	52.00	103	
7.14	77.00	185	

Reviewer: bowieh, 06-Dec-2019 10:46:52

Audit Action: Marked Compound Undetected

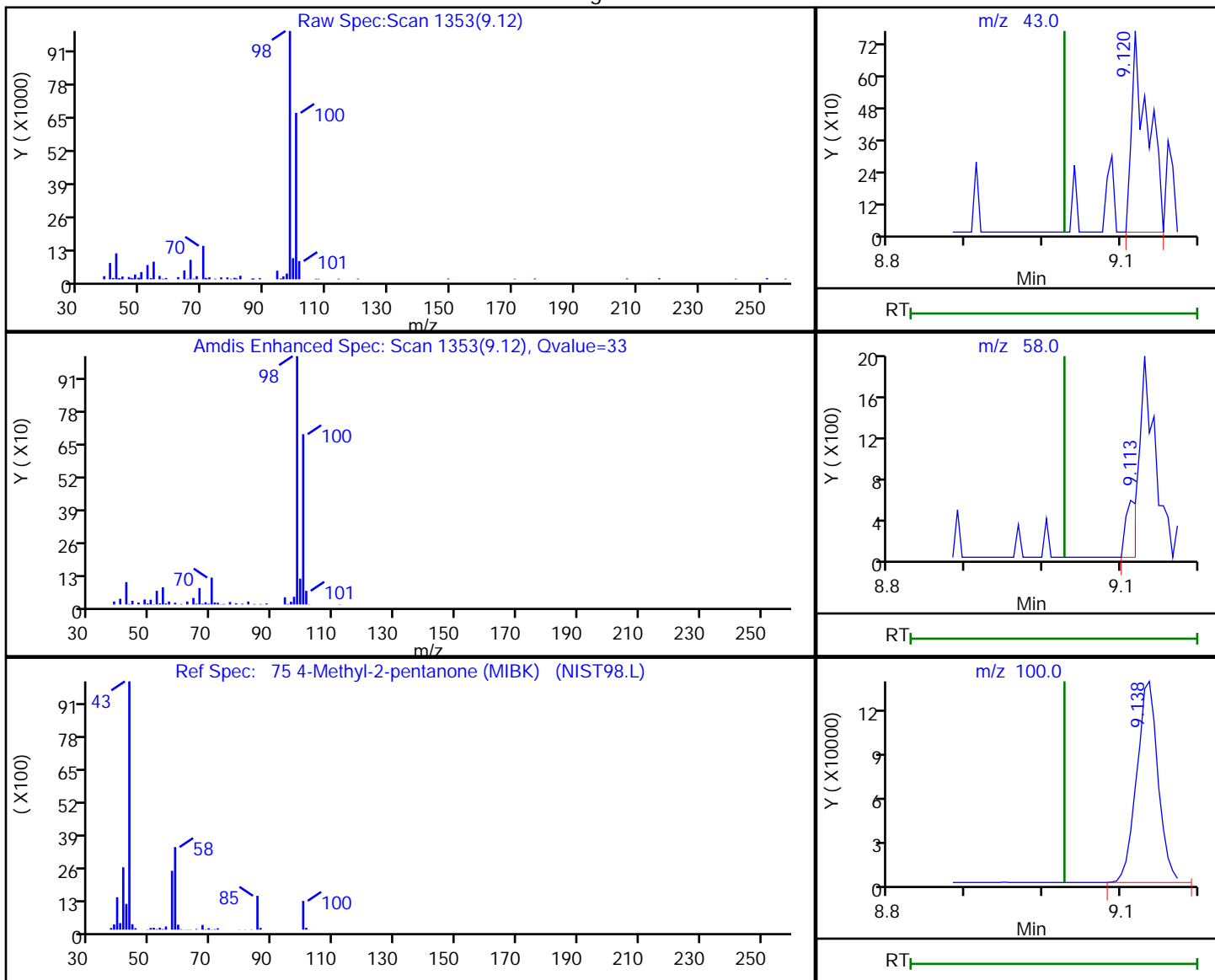
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
 Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 13 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	1125	0.621533
9.11	58.00	529	
9.14	100.00	266848	

Reviewer: bowieh, 06-Dec-2019 10:46:57

Audit Action: Marked Compound Undetected

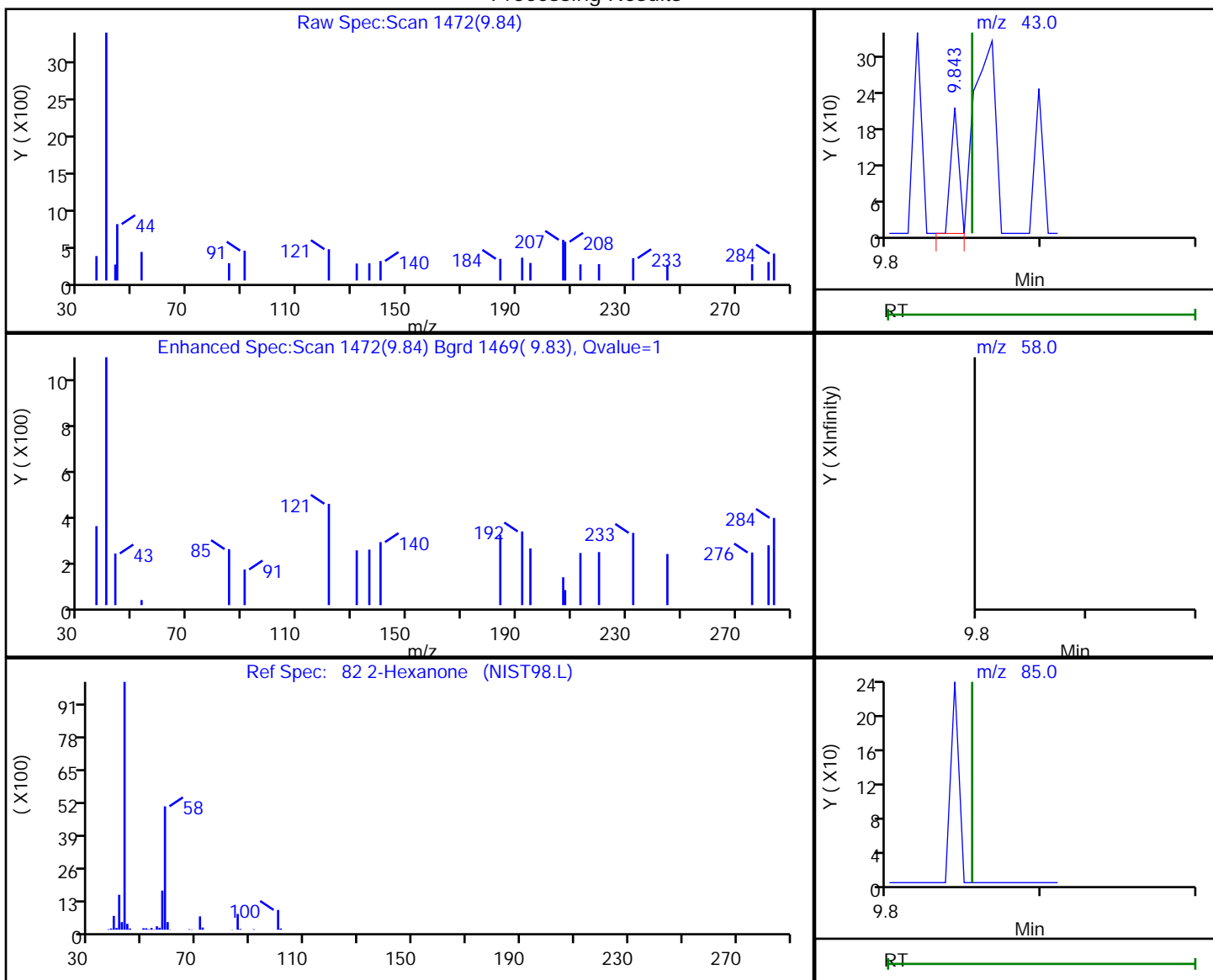
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: 433269 ALS Bottle#: 13 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

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

Processing Results



RT	Mass	Response	Amount
9.84	43.00	78	12.787069
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:47:03

Audit Action: Marked Compound Undetected

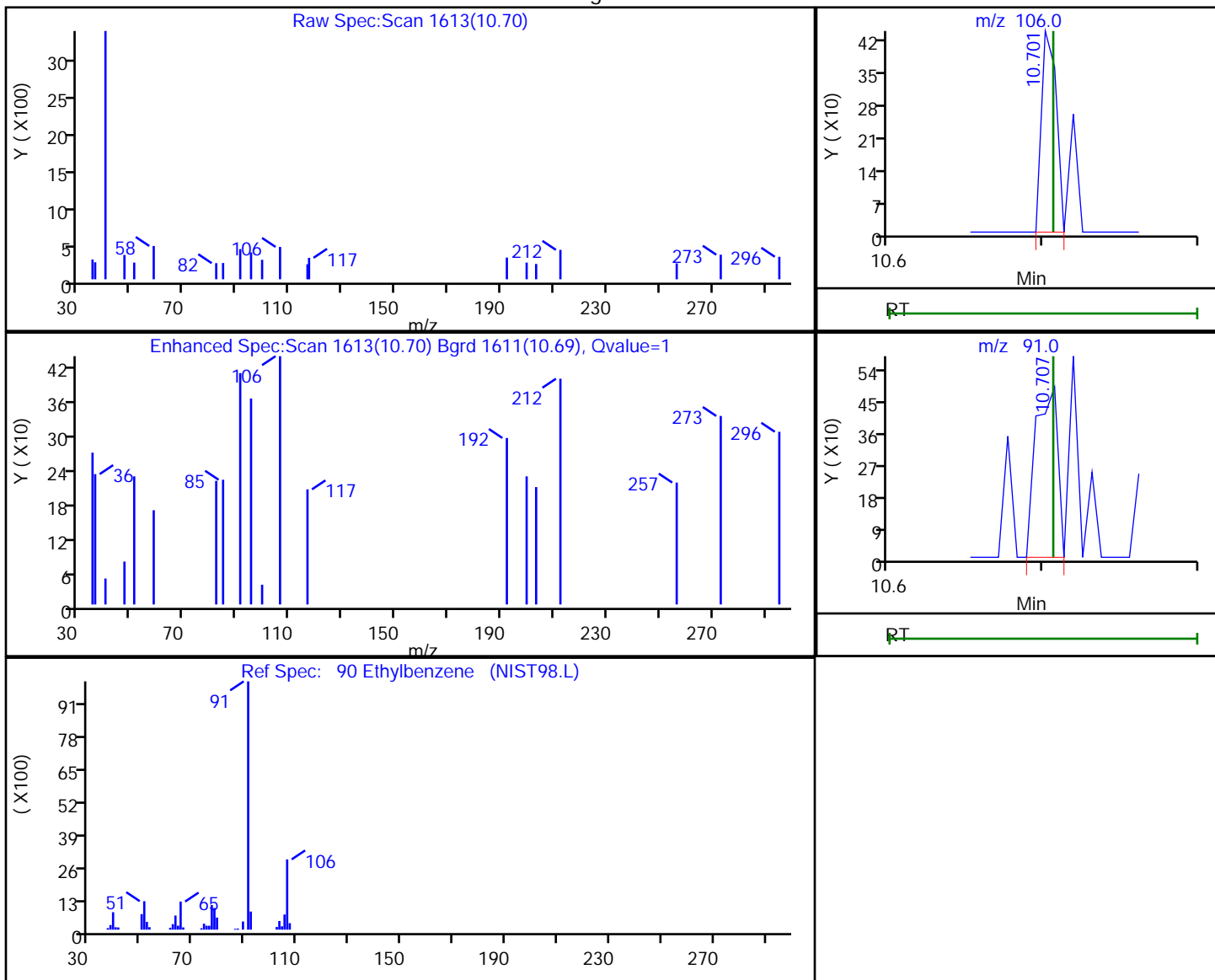
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120520.D
Injection Date: 05-Dec-2019 17:34:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-10 Lab Sample ID: 180-99101-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: 433269 ALS Bottle#: 13 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
10.70	106.00	292	0.075941
10.71	91.00	475	

Reviewer: bowieh, 06-Dec-2019 10:47:06

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-27-0/1-0 RA Lab Sample ID: 180-99101-10 RA
 Matrix: Water Lab File ID: 5121326.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 21:01
 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.: 301313 Units: ug/L

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

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-27-0/1-0 RA Lab Sample ID: 180-99101-10 RA
 Matrix: Water Lab File ID: 5121326.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 21:01
 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.: 301313 Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	121		70-150
2037-26-5	Toluene-d8 (Surr)	84		78-128
460-00-4	4-Bromofluorobenzene (Surr)	85		64-123
1868-53-7	Dibromofluoromethane (Surr)	117		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Lims ID: 180-99101-A-10
 Client ID: HD-COD-SW-27-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 21:01:30 ALS Bottle#: 19 Worklist Smp#: 26
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-026
 Misc. Info.: 180-99101-a-10
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:17:36 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:17:36

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.415	4.416	-0.001	0	93652	1000.0	
* 2 Fluorobenzene (IS)	96	7.396	7.391	0.005	99	380736	50.0	
* 3 Chlorobenzene-d5	119	10.486	10.482	0.004	84	100940	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.822	12.818	0.004	93	144563	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.678	6.673	0.005	93	113100	58.7	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.043	7.038	0.005	0	151342	60.6	
\$ 7 Toluene-d8 (Surr)	98	9.039	9.034	0.005	93	351245	41.9	
\$ 8 4-Bromofluorobenzene (Surr	95	11.661	11.662	-0.001	96	139767	42.7	
12 Chloromethane	50		1.831				ND	U
13 Vinyl chloride	62		1.965				ND	
15 Bromomethane	94		2.342				ND	U
16 Chloroethane	64		2.476				ND	
22 1,1-Dichloroethene	96		3.467				ND	
24 Acetone	43	3.582	3.577	0.005	81	5025	6.45	
26 Carbon disulfide	76	3.776	3.753	0.023	37	3407	0.6656	a
31 Methylene Chloride	84		4.289				ND	
33 Acrylonitrile	53		4.672				ND	
34 trans-1,2-Dichloroethene	96		4.696				ND	
35 Methyl tert-butyl ether	73		4.708				ND	U
37 1,1-Dichloroethane	63		5.329				ND	
45 cis-1,2-Dichloroethene	96	6.064	6.065	-0.001	47	2302	0.99	
46 2-Butanone (MEK)	43		6.083				ND	
49 Chlorobromomethane	128		6.351				ND	
52 Chloroform	83	6.508	6.497	0.011	92	11076	-0.9079	
53 1,1,1-Trichloroethane	97		6.649				ND	
56 Carbon tetrachloride	117		6.813				ND	
58 Benzene	78		7.051				ND	U
59 1,2-Dichloroethane	62		7.124				ND	
64 Trichloroethene	130	7.773	7.775	-0.001	39	3428	1.40	a
67 1,2-Dichloropropane	63		8.048				ND	
71 Dichlorobromomethane	83		8.328				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.772				ND	
75 4-Methyl-2-pentanone (MIBK)	43		8.930				ND	U
76 Toluene	91	9.105	9.101	0.004	19	4233	0.4272	M
77 trans-1,3-Dichloropropene	75		9.350				ND	
79 1,1,2-Trichloroethane	97		9.539				ND	U
80 Tetrachloroethene	164	9.616	9.612	0.004	70	5314	2.33	
82 2-Hexanone	43		9.764				ND	U
84 Chlorodibromomethane	129		9.910				ND	U
85 Ethylene Dibromide	107		10.019				ND	
87 Chlorobenzene	112		10.512				ND	
89 1,1,1,2-Tetrachloroethane	131		10.603				ND	
90 Ethylbenzene	106		10.609				ND	U
91 m-Xylene & p-Xylene	106		10.743				ND	
92 o-Xylene	106		11.126				ND	U
93 Styrene	104		11.145				ND	
94 Bromoform	173		11.321				ND	
99 1,1,2,2-Tetrachloroethane	83		11.808				ND	U
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D

Injection Date: 13-Dec-2019 21:01:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-10

Lab Sample ID: 180-99101-10

Worklist Smp#: 26

Client ID: HD-COD-SW-27-0/1-0

Purge Vol: 5.000 mL

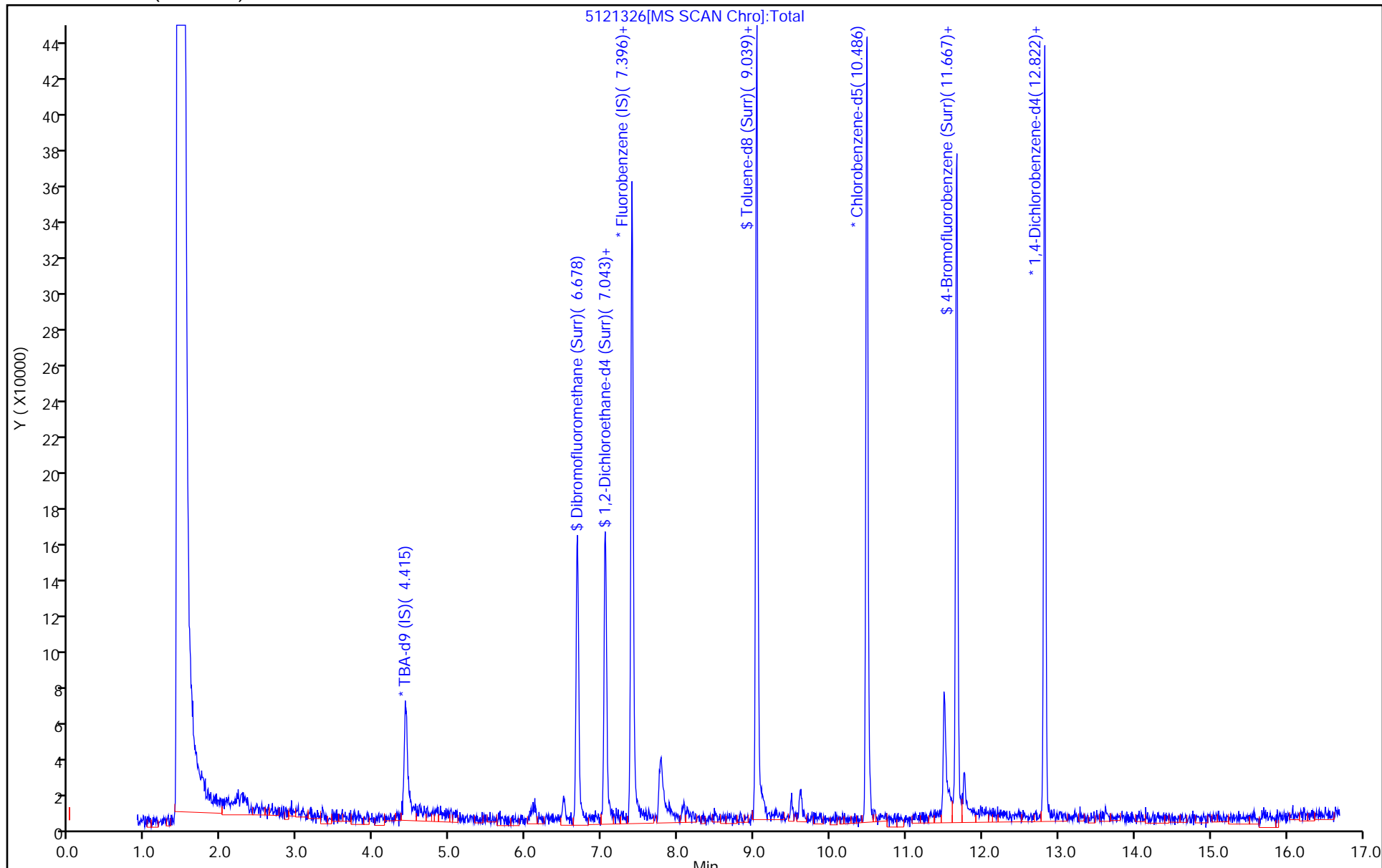
Dil. Factor: 1.0000

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\20191213-30001.b\5121326.D
 Lims ID: 180-99101-A-10
 Client ID: HD-COD-SW-27-0/1-0
 Sample Type: Client
 Inject. Date: 13-Dec-2019 21:01:30 ALS Bottle#: 19 Worklist Smp#: 26
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-026
 Misc. Info.: 180-99101-a-10
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:17:36 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:17:36

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	58.7	117.47
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	60.6	121.28
\$ 7 Toluene-d8 (Surr)	50.0	41.9	83.74
\$ 8 4-Bromofluorobenzene (Surr)	50.0	42.7	85.45

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D

Injection Date: 13-Dec-2019 21:01:30

Instrument ID: CHHP5

Lims ID: 180-99101-A-10

Lab Sample ID: 180-99101-10

Client ID: HD-COD-SW-27-0/1-0

Operator ID: 433269

ALS Bottle#: 19

Worklist Smp#: 26

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

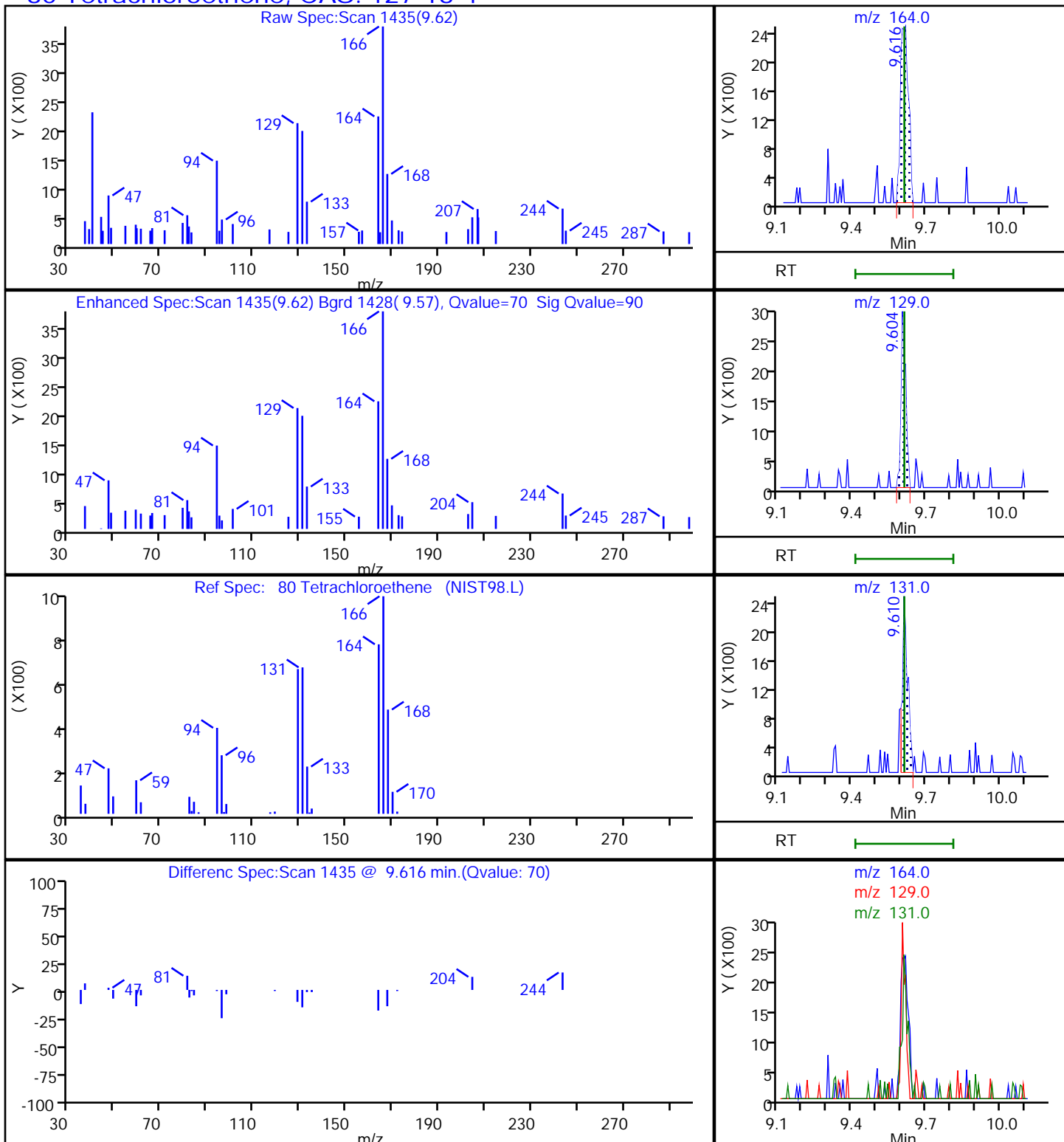
Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

80 Tetrachloroethene, CAS: 127-18-4

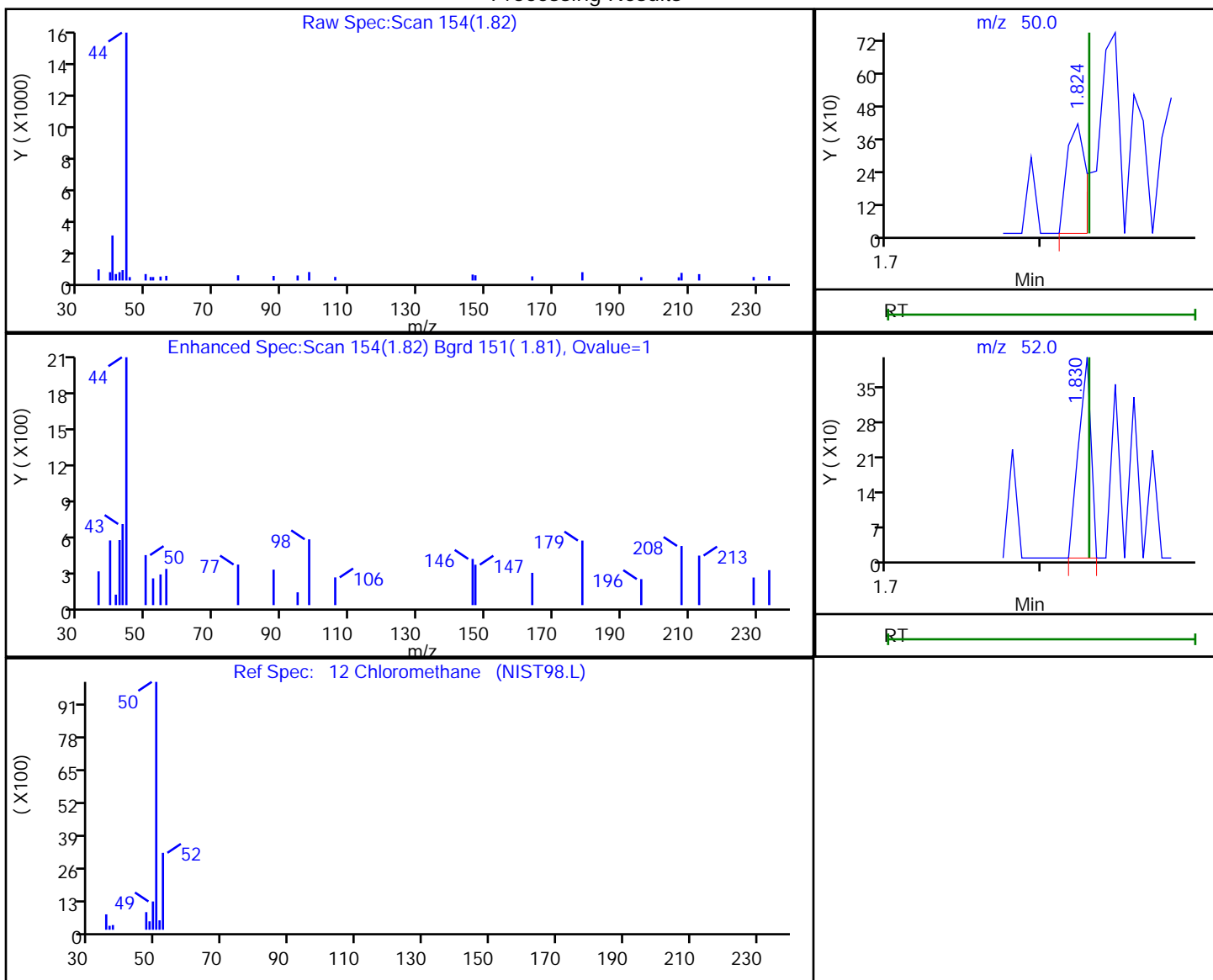


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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
1.82	50.00	348	0.197091
1.83	52.00	228	

Reviewer: bowieh, 14-Dec-2019 12:16:40

Audit Action: Marked Compound Undetected

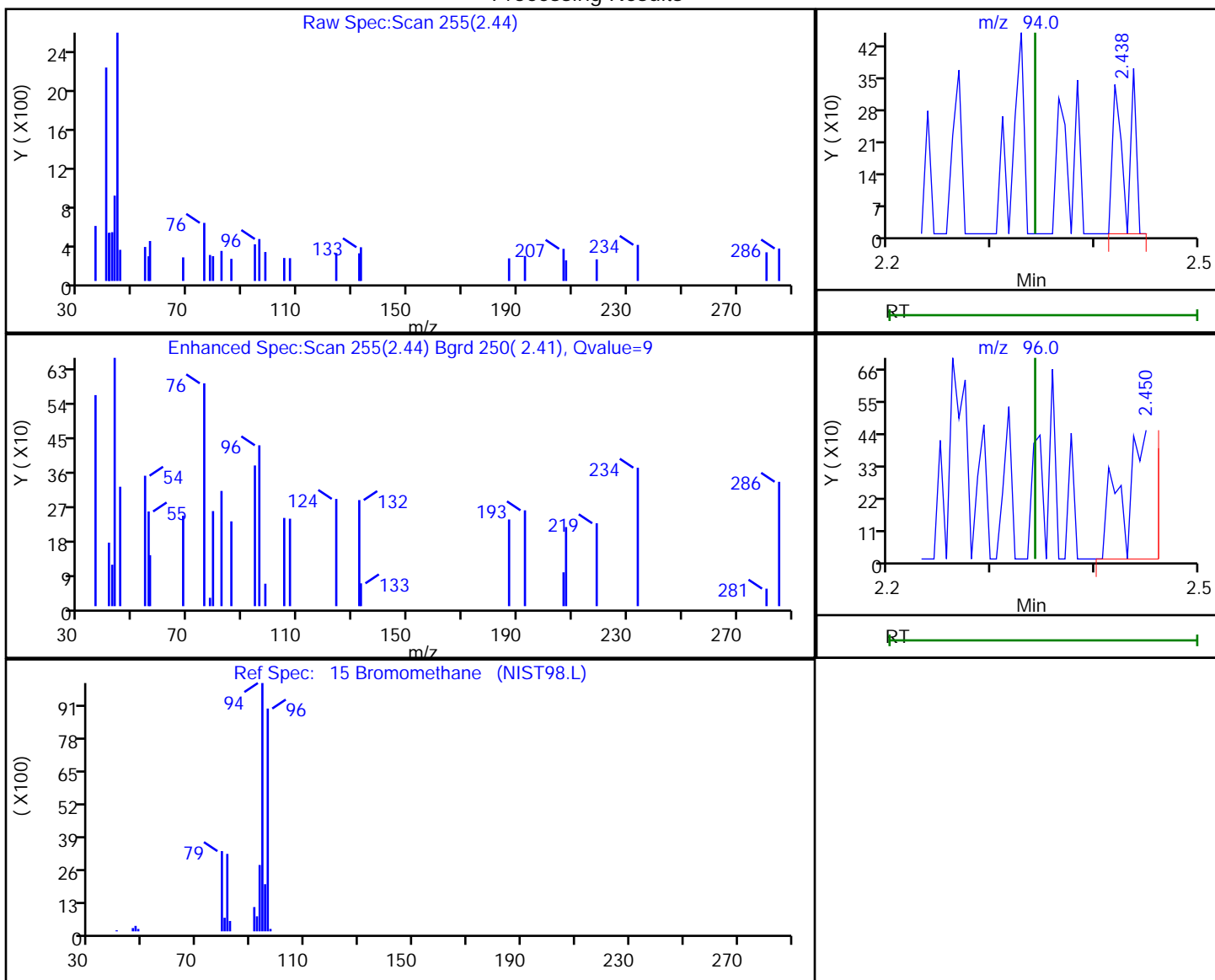
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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	333	0.230622
2.45	96.00	854	

Reviewer: bowieh, 14-Dec-2019 12:16:41

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Euofins TestAmerica, Pittsburgh

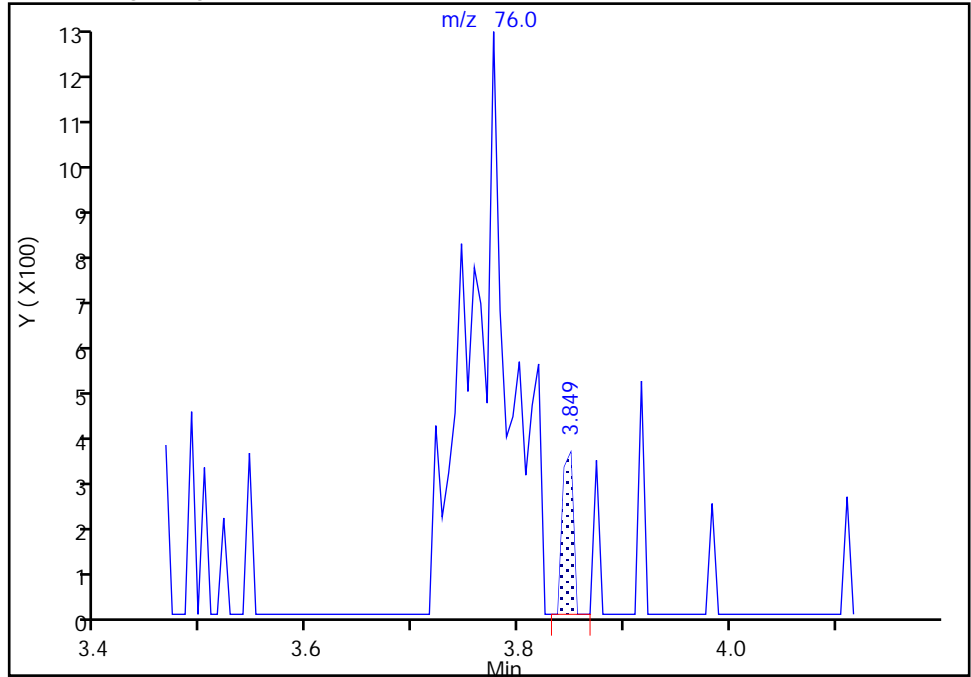
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 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

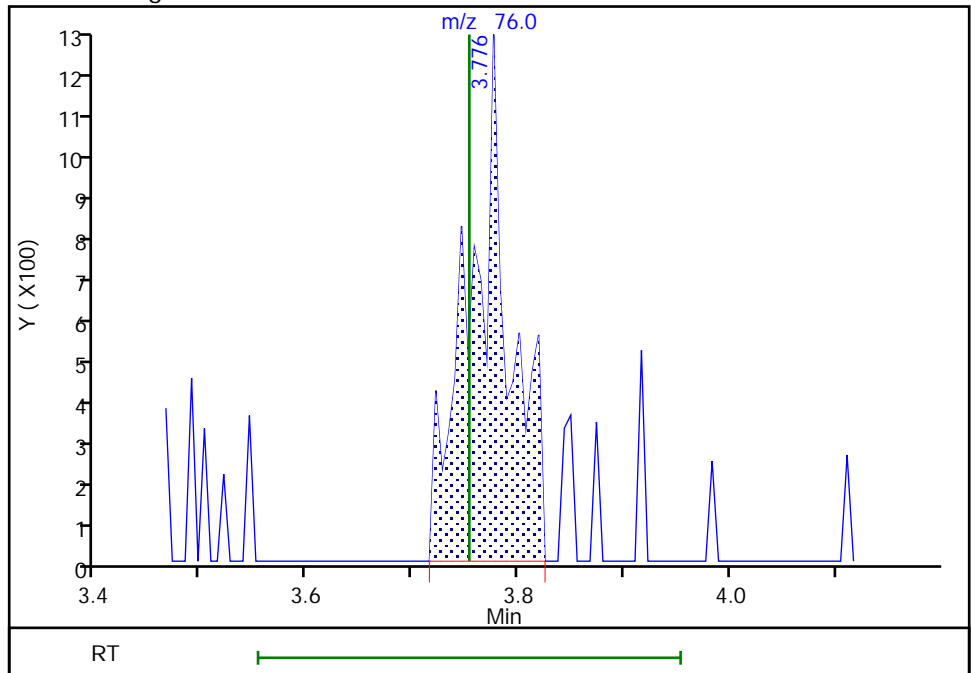
RT: 3.85
Area: 250
Amount: 0.048840
Amount Units: ng

Processing Integration Results



RT: 3.78
Area: 3407
Amount: 0.665598
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 14-Dec-2019 12:16:47

Audit Action: Assigned Compound ID

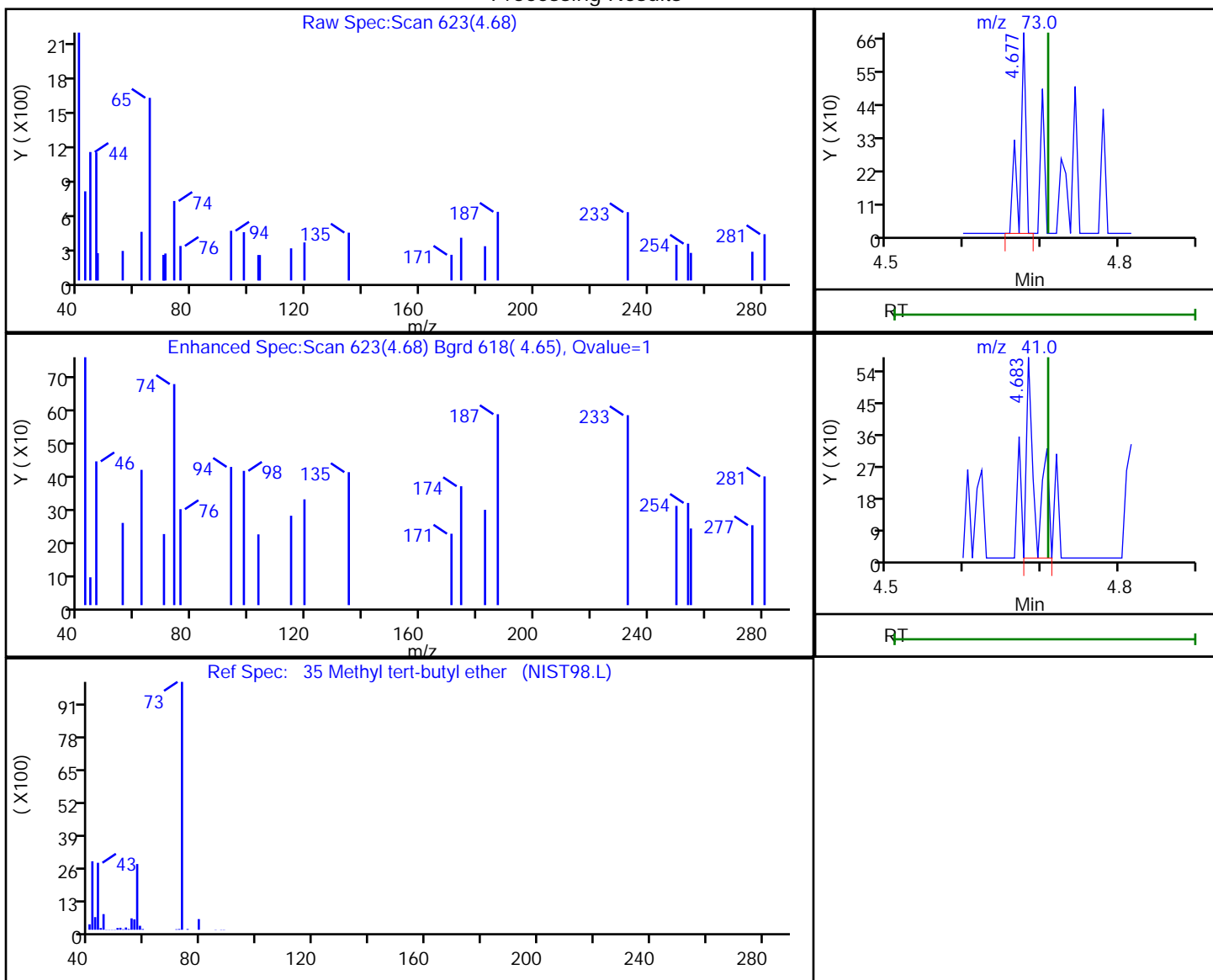
Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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
4.68	73.00	361	0.067625
4.68	41.00	491	

Reviewer: bowieh, 14-Dec-2019 12:16:51

Audit Action: Marked Compound Undetected

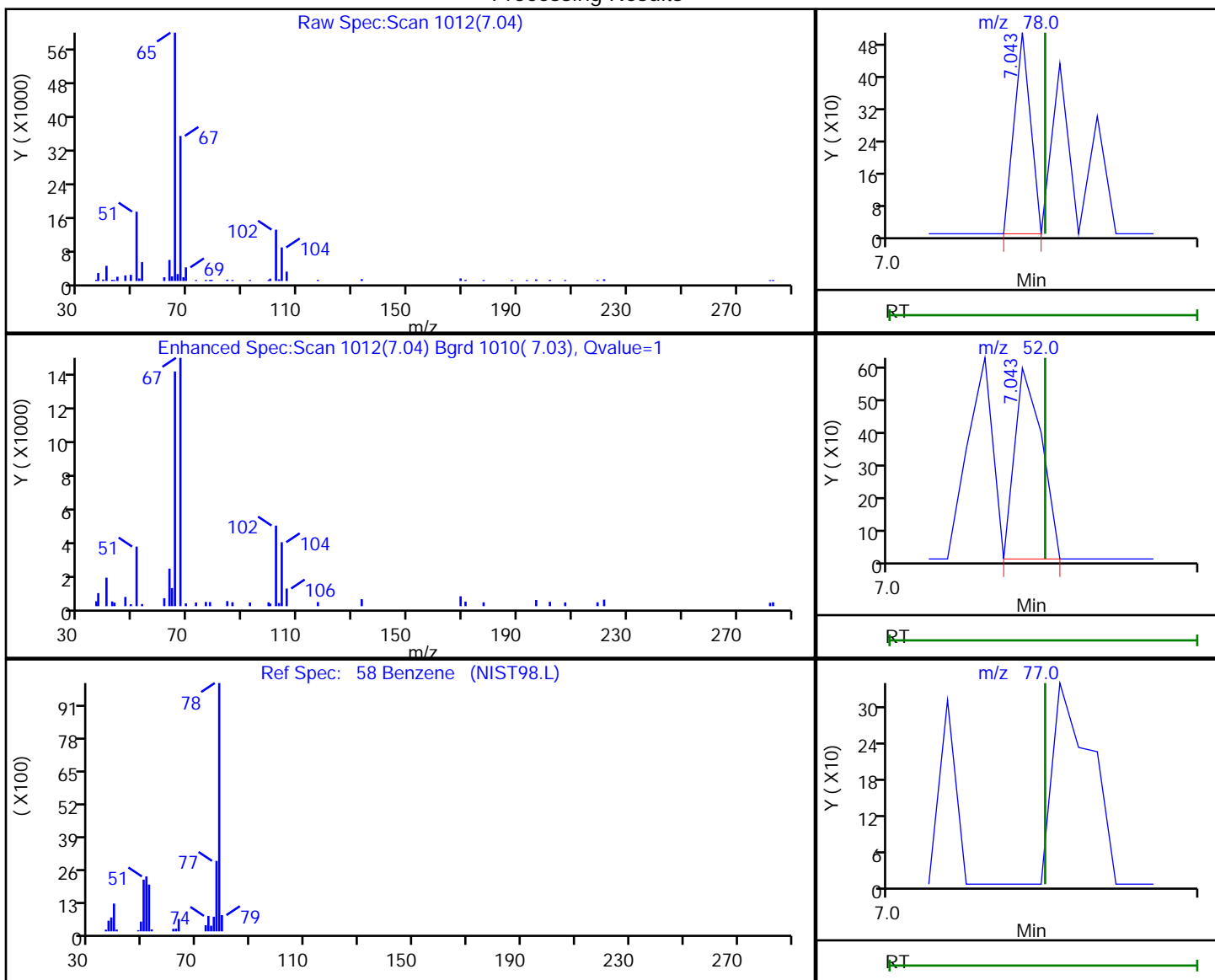
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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
7.04	78.00	185	0.021401
7.04	52.00	361	
7.05	77.00	0	

Reviewer: bowieh, 14-Dec-2019 12:17:03

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

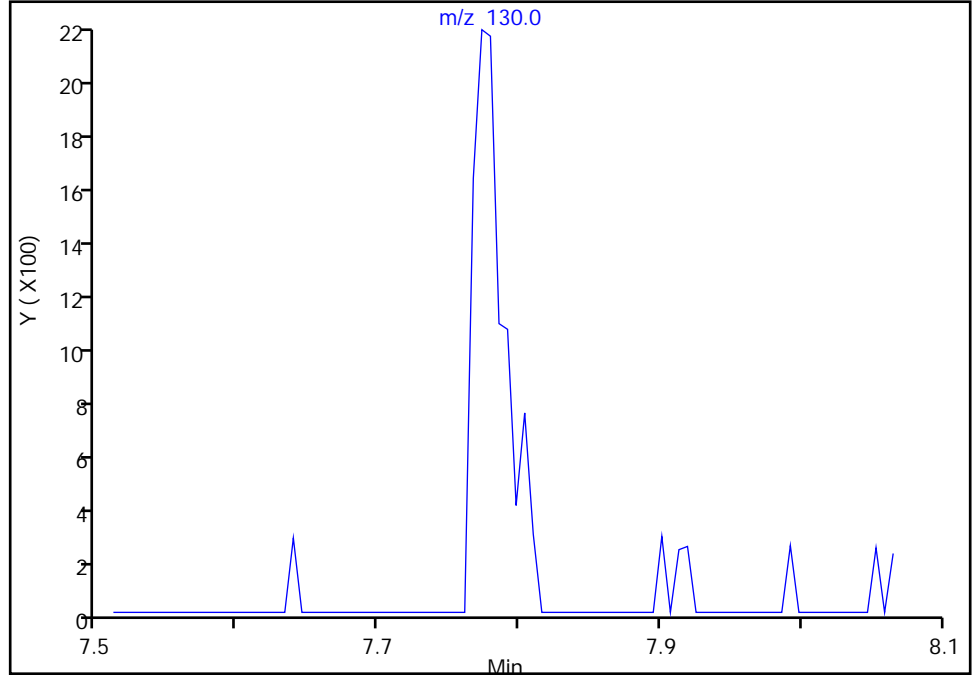
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 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

Signal: 1

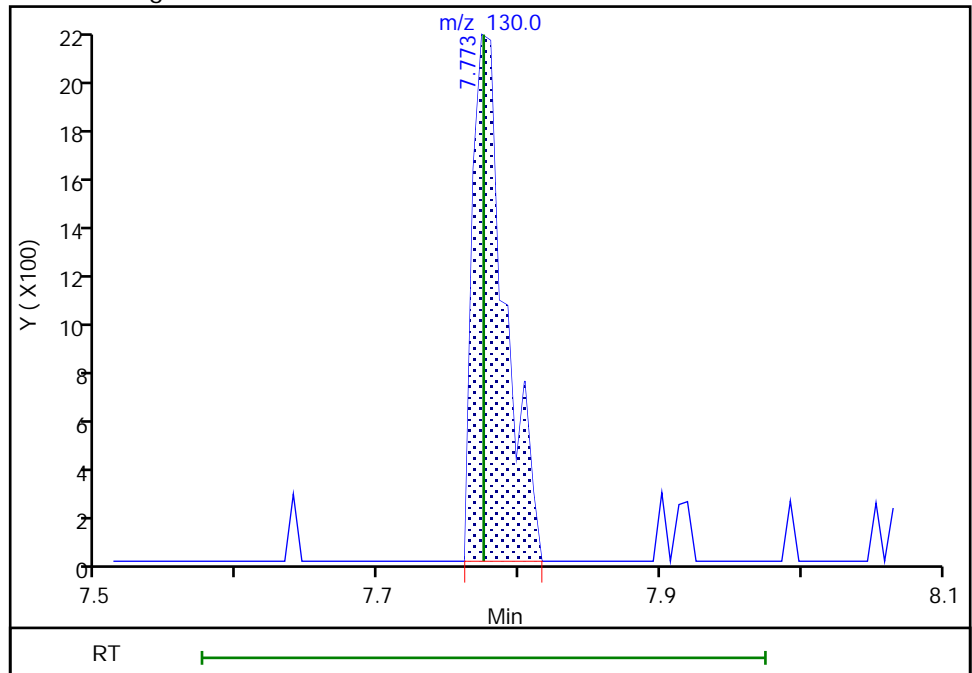
Not Detected
Expected RT: 7.77

Processing Integration Results



Manual Integration Results

RT: 7.77
Area: 3428
Amount: 1.396639
Amount Units: ng

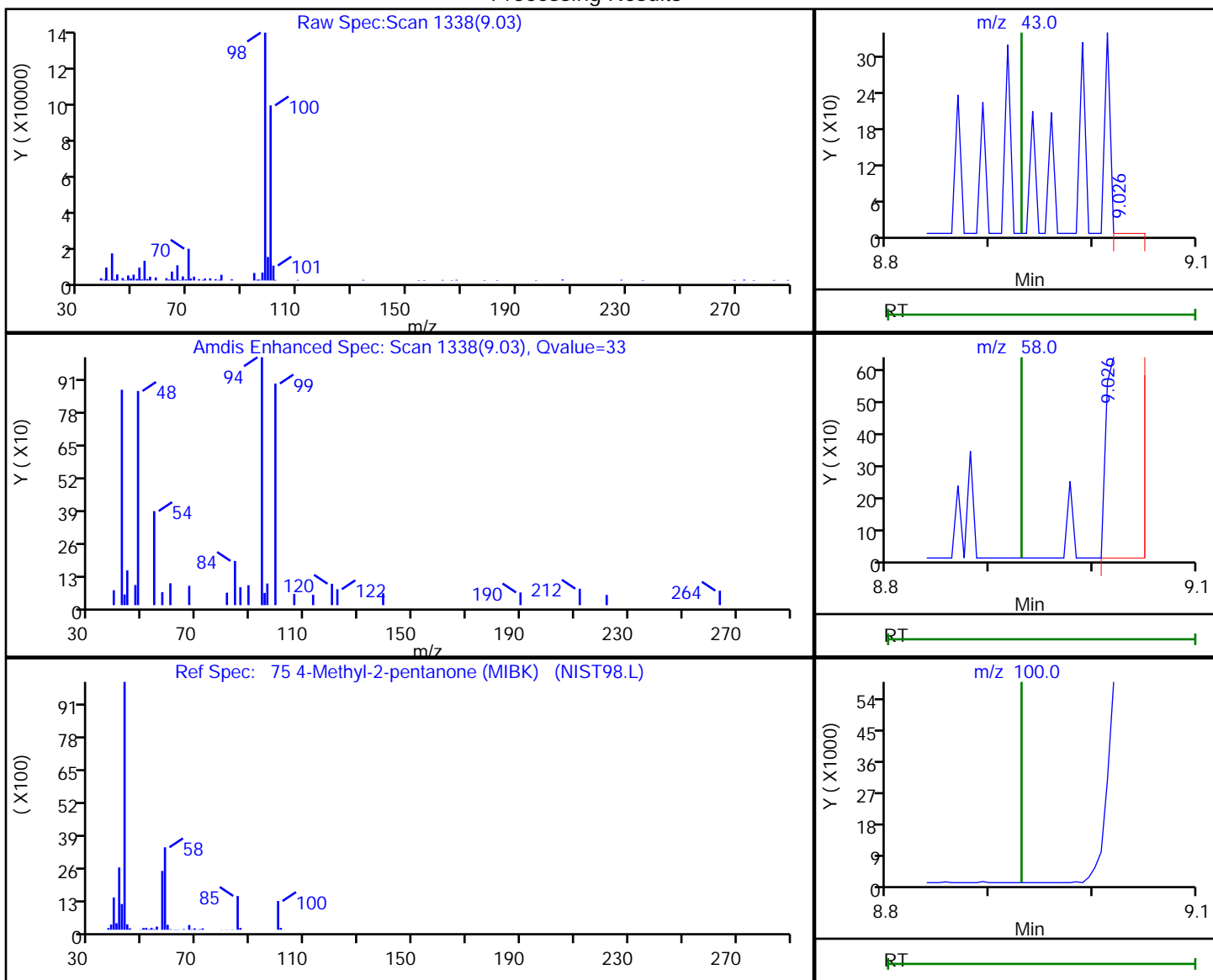


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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
9.03	43.00	936	0.574057
9.03	58.00	2240	
9.04	100.00	235921	

Reviewer: bowieh, 14-Dec-2019 12:17:12

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

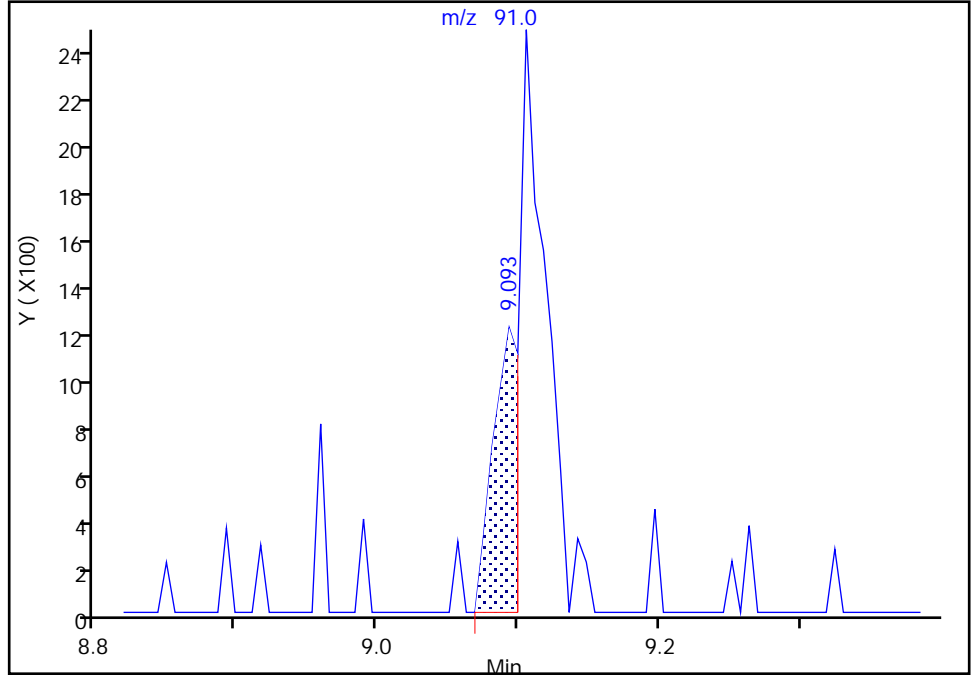
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 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

Signal: 1

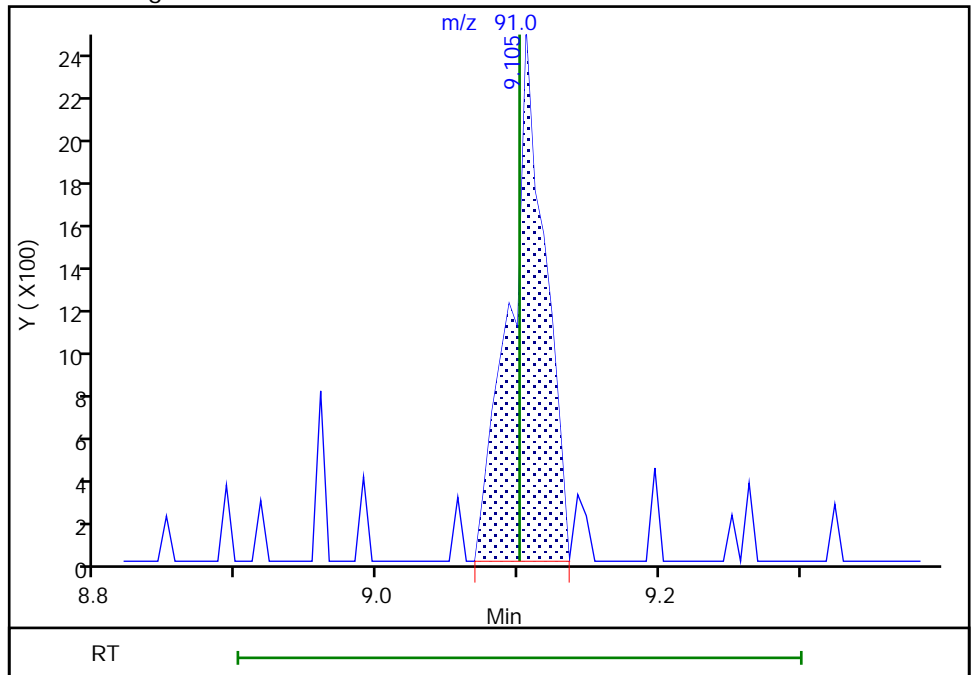
RT: 9.09
Area: 1539
Amount: 0.155320
Amount Units: ng

Processing Integration Results



RT: 9.11
Area: 4233
Amount: 0.427207
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 14-Dec-2019 12:17:20
Audit Action: Manually Integrated

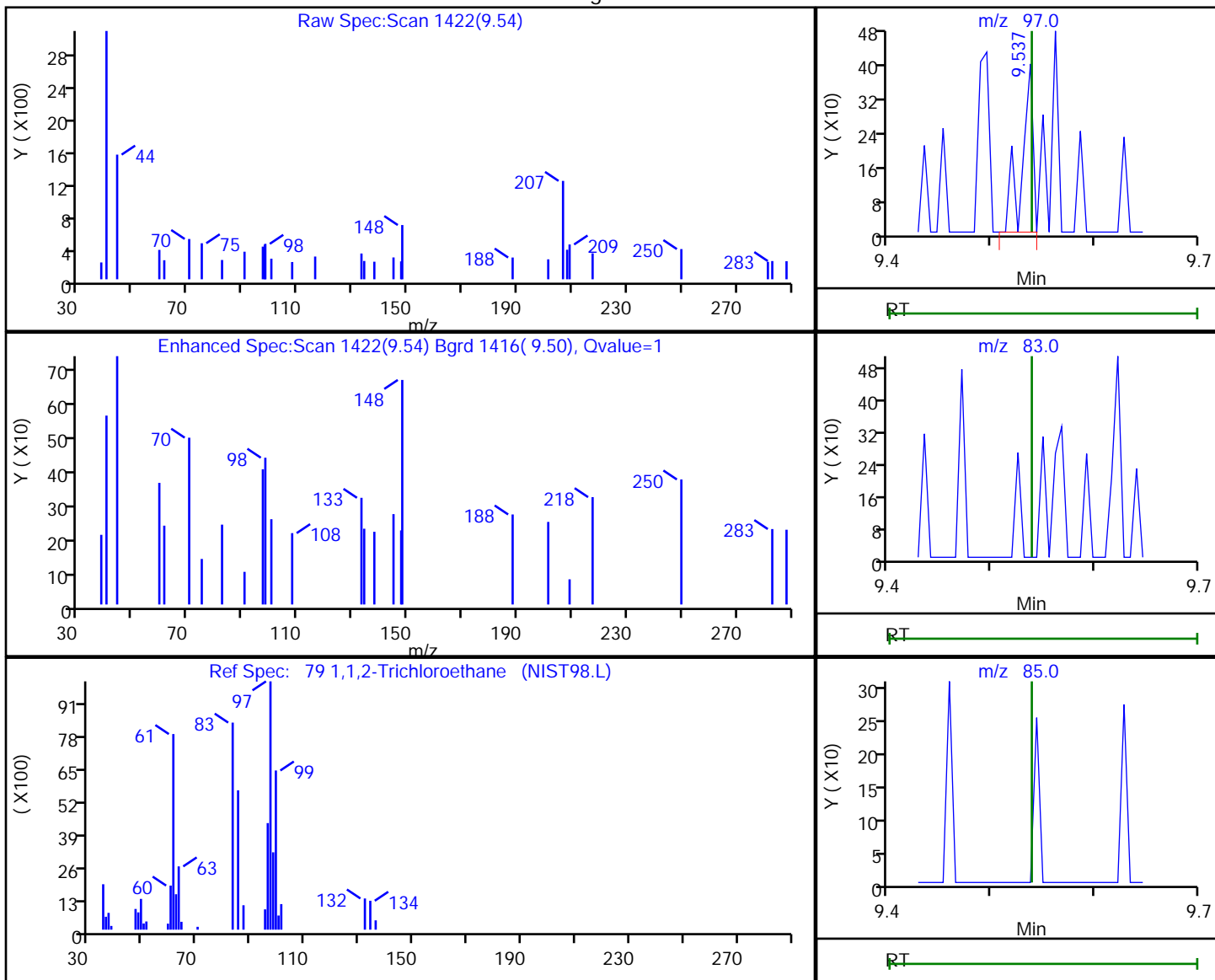
Audit Reason: Poor chromatography
Page 378 of 626

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
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
9.54	97.00	296	0.149223
9.54	83.00	0	
9.54	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:17:23

Audit Action: Marked Compound Undetected

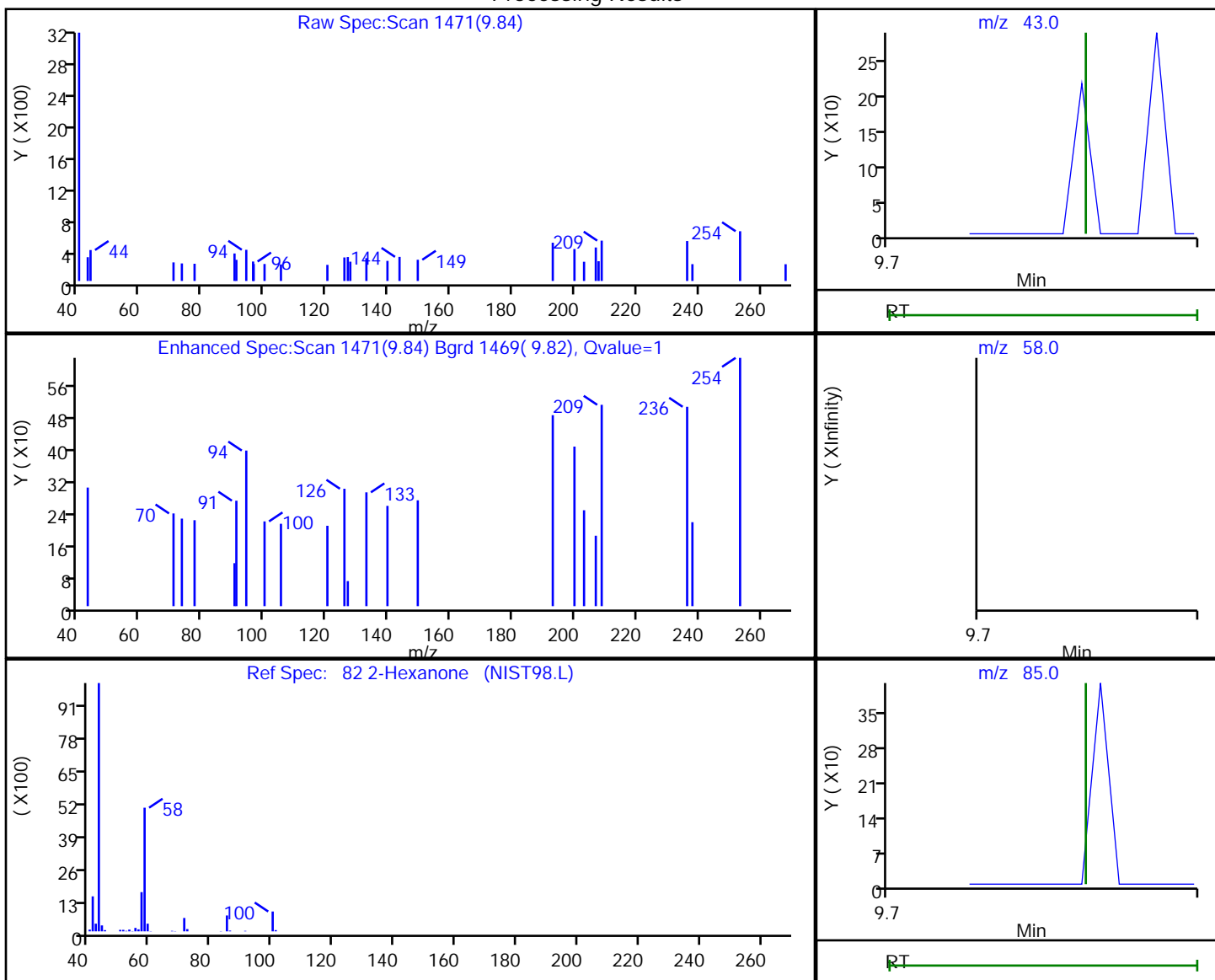
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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
9.84	43.00	109	12.813325
9.76	58.00	0	
9.76	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:17:25

Audit Action: Marked Compound Undetected

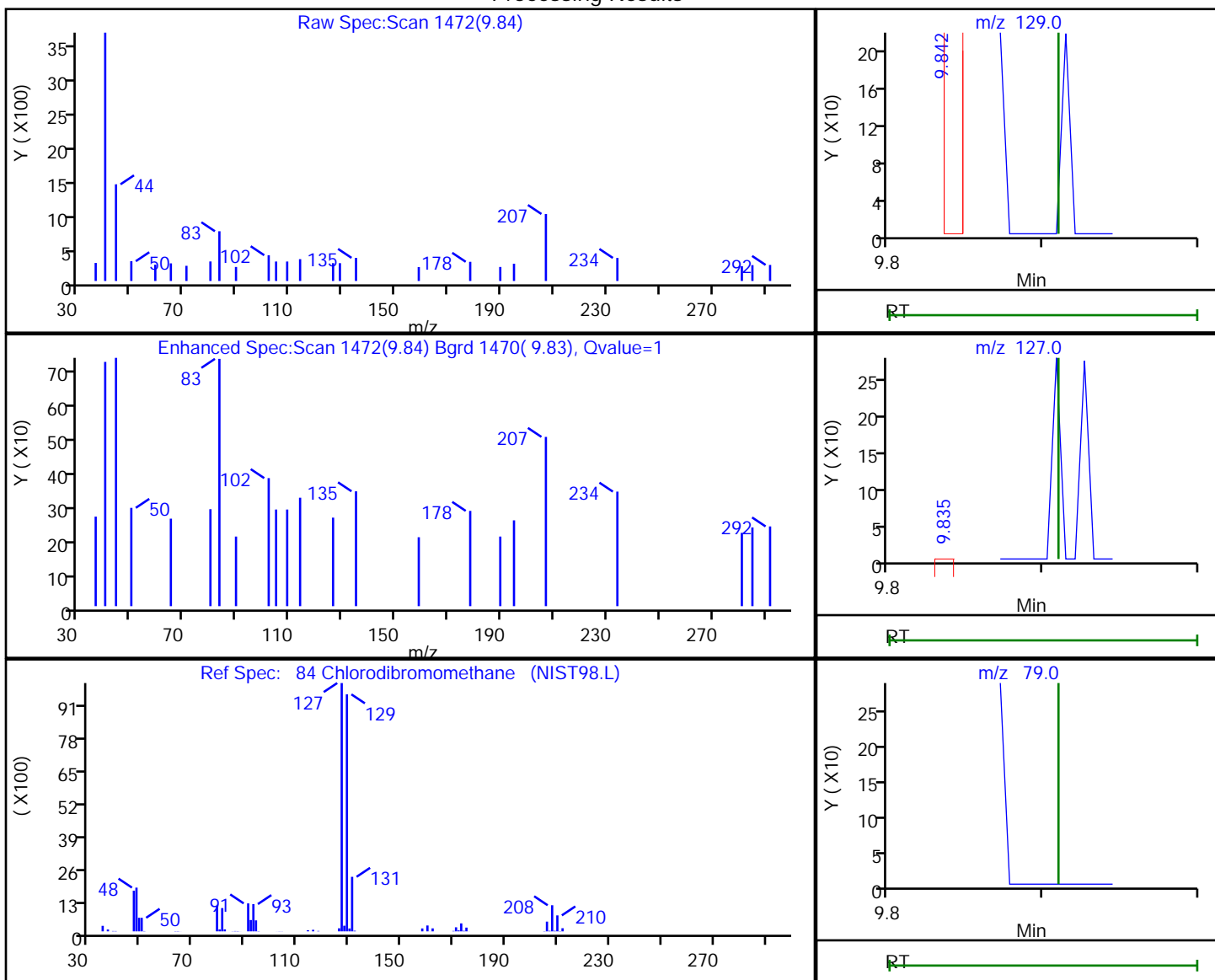
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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

84 Chlorodibromomethane, CAS: 124-48-1

Processing Results



RT	Mass	Response	Amount
9.84	129.00	96	0.046362
9.84	127.00	198	
9.91	79.00	0	

Reviewer: bowieh, 14-Dec-2019 12:17:26

Audit Action: Marked Compound Undetected

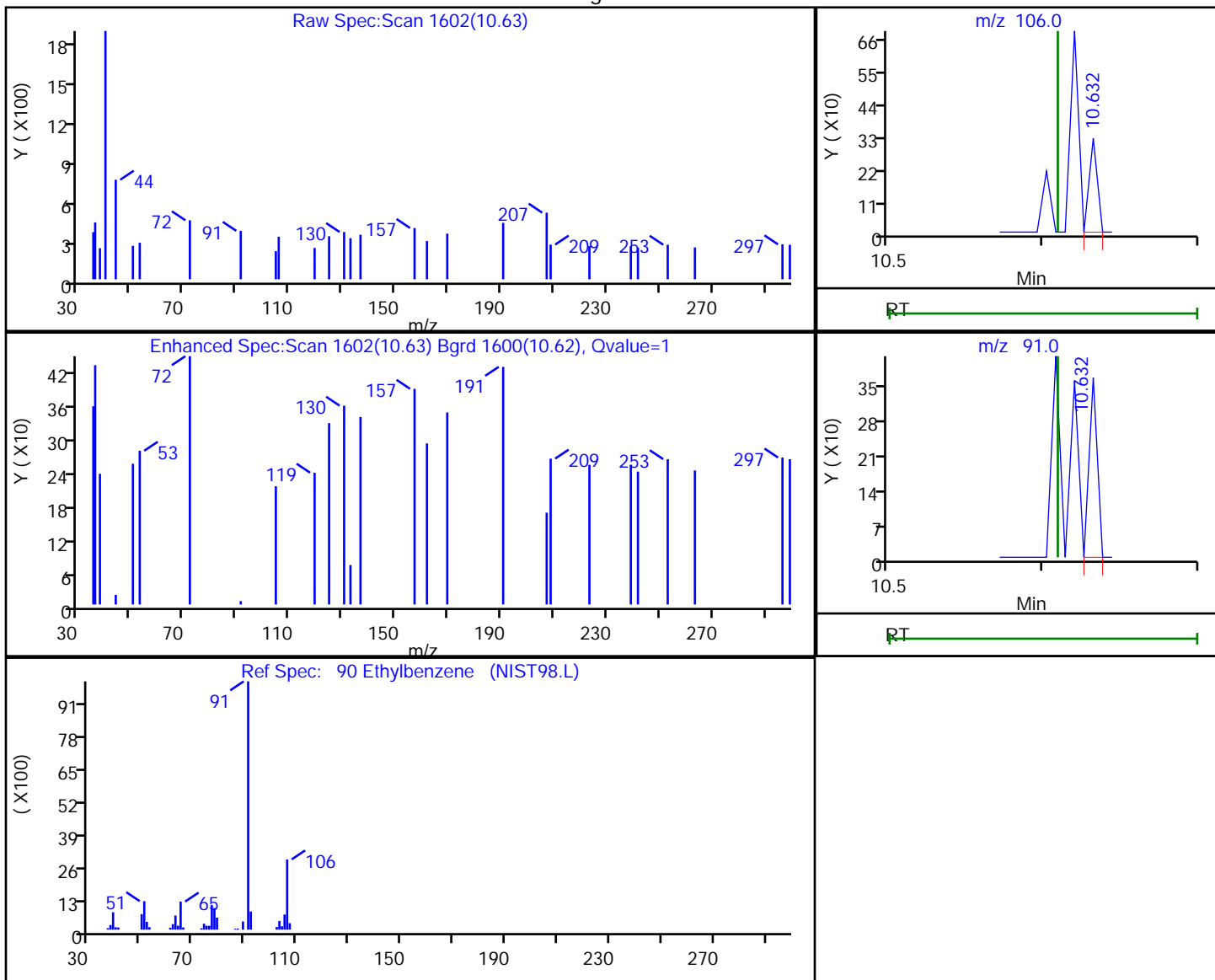
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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
10.63	106.00	116	0.033490
10.63	91.00	132	

Reviewer: bowieh, 14-Dec-2019 12:17:29

Audit Action: Marked Compound Undetected

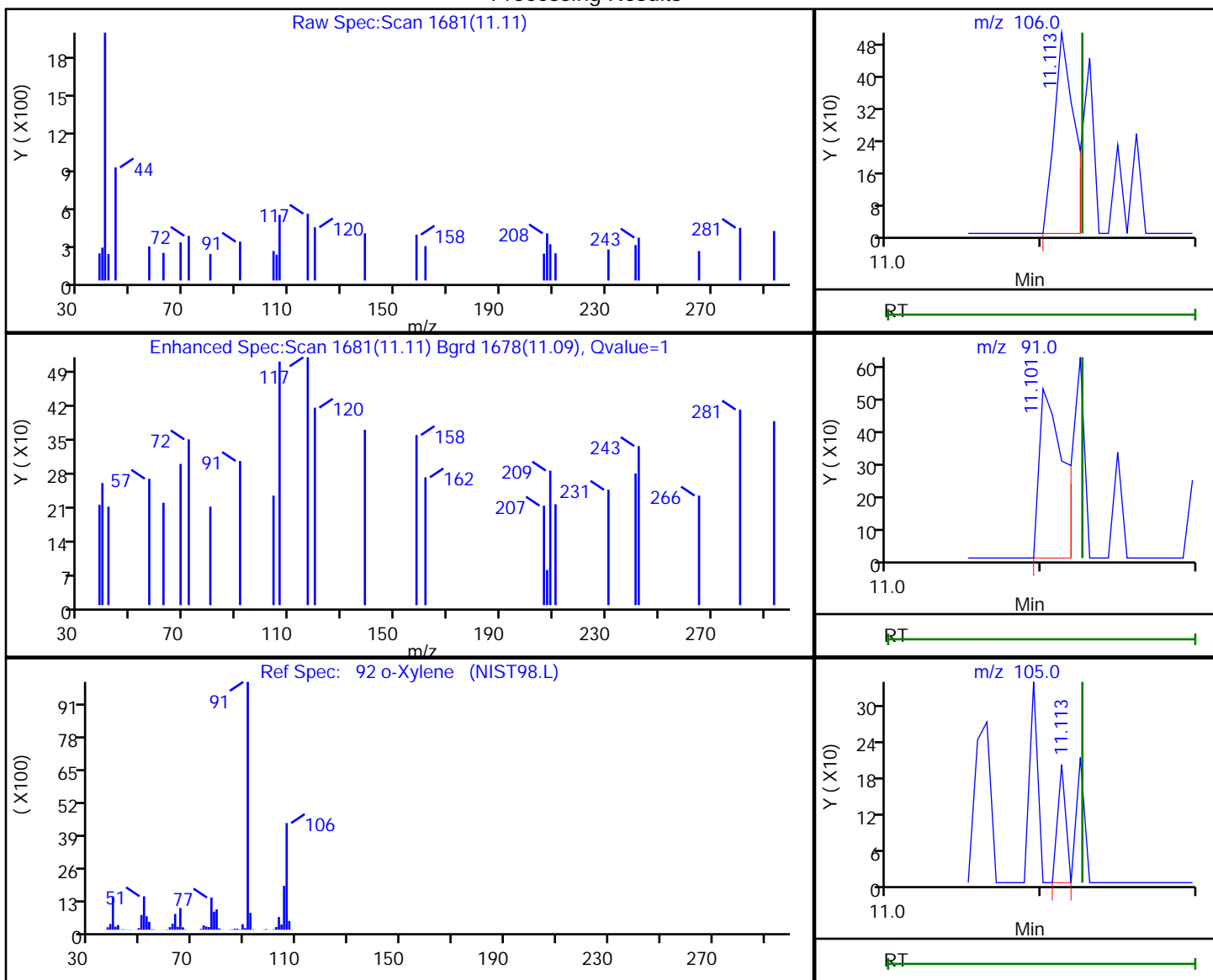
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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

92 o-Xylene, CAS: 95-47-6

Processing Results



RT	Mass	Response	Amount
11.11	106.00	460	0.112903
11.10	91.00	567	
11.11	105.00	73	

Reviewer: bowieh, 14-Dec-2019 12:17:30

Audit Action: Marked Compound Undetected

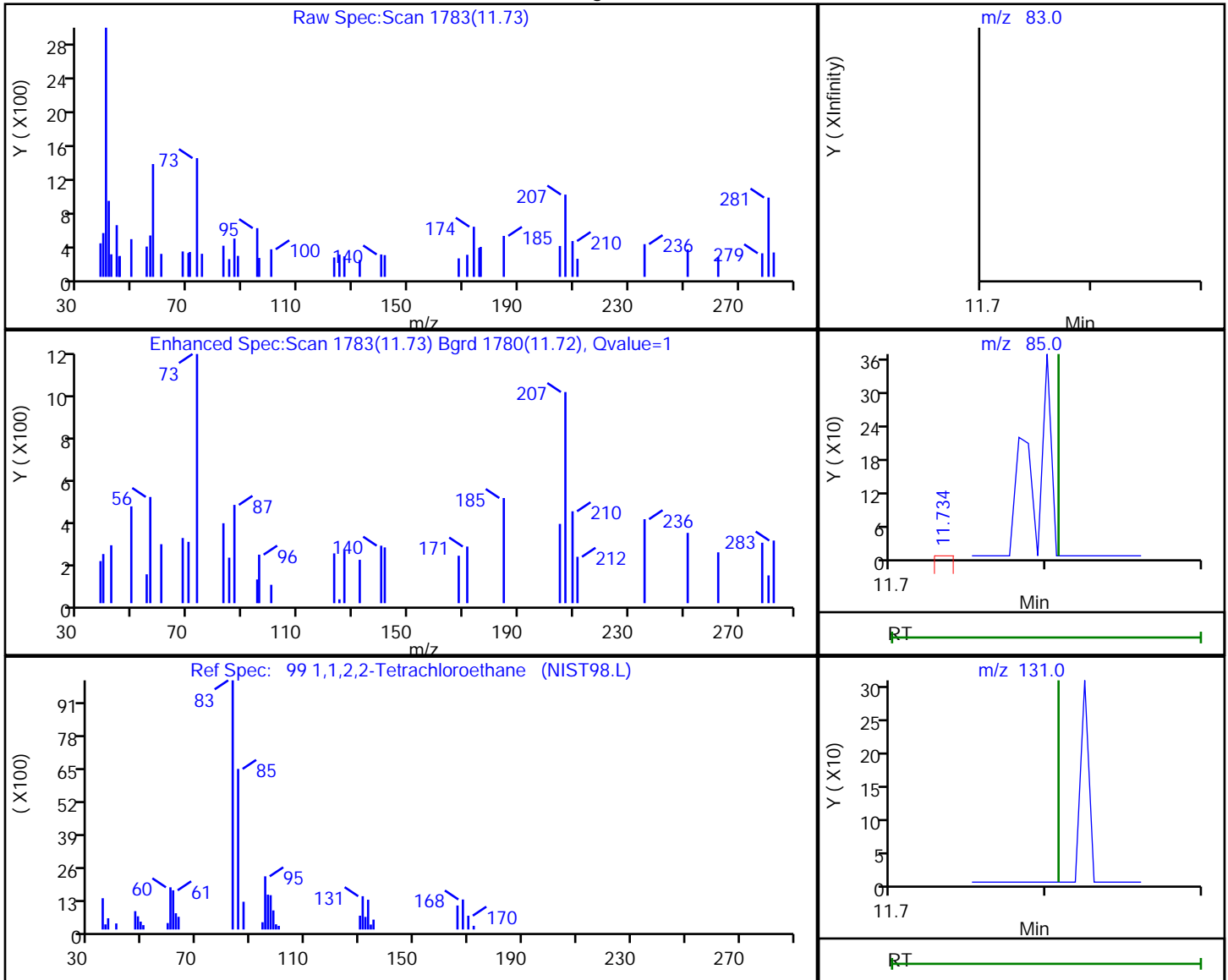
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121326.D
 Injection Date: 13-Dec-2019 21:01:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-10 Lab Sample ID: 180-99101-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: 433269 ALS Bottle#: 19 Worklist Smp#: 26
 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

99 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results



RT	Mass	Response	Amount
11.73	83.00	266	0.115994
11.73	85.00	78	
11.81	131.00	0	

Reviewer: bowieh, 14-Dec-2019 12:17:32

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-28-0/1-0 Lab Sample ID: 180-99101-11
 Matrix: Water Lab File ID: 5120521.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 17:58
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-28-0/1-0 Lab Sample ID: 180-99101-11
 Matrix: Water Lab File ID: 5120521.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 14:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 17:58
 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.: 300399 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)	110		70-150
2037-26-5	Toluene-d8 (Surr)	88		78-128
460-00-4	4-Bromofluorobenzene (Surr)	65		64-123
1868-53-7	Dibromofluoromethane (Surr)	111		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Lims ID: 180-99101-B-11
 Client ID: HD-COD-SW-28-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 17:58:30 ALS Bottle#: 14 Worklist Smp#: 21
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-021
 Misc. Info.: 180-99101-b-11
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:48:31 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:48:31

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.538	4.544	-0.006	0	209238	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	439061	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	83	114136	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	94	123841	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.770	0.012	94	123281	55.5	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	159005	55.2	
\$ 7 Toluene-d8 (Surr)	98	9.137	9.131	0.006	94	417740	44.0	
\$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.006	93	120498	32.6	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	U
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.692	3.674	0.018	81	10464	11.7	
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84	4.416	4.398	0.018	24	1628	-2.13	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.174	6.174	0.000	13	2242	0.8370	a
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.612	6.600	0.012	10	2316	-3.53	M
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.878	7.878	0.000	12	1886	0.6663	
67 1,2-Dichloropropane	63		8.145				ND	U
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	9.192	9.198	-0.006	34	6004	0.5359	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	
80 Tetrachloroethene	164	9.709	9.709	0.000	19	1719	0.6677	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106	11.223	11.217	0.006	1	613	0.1331	
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				0		0.1331	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D

Injection Date: 05-Dec-2019 17:58:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-B-11

Lab Sample ID: 180-99101-11

Worklist Smp#: 21

Client ID: HD-COD-SW-28-0/1-0

Purge Vol: 5.000 mL

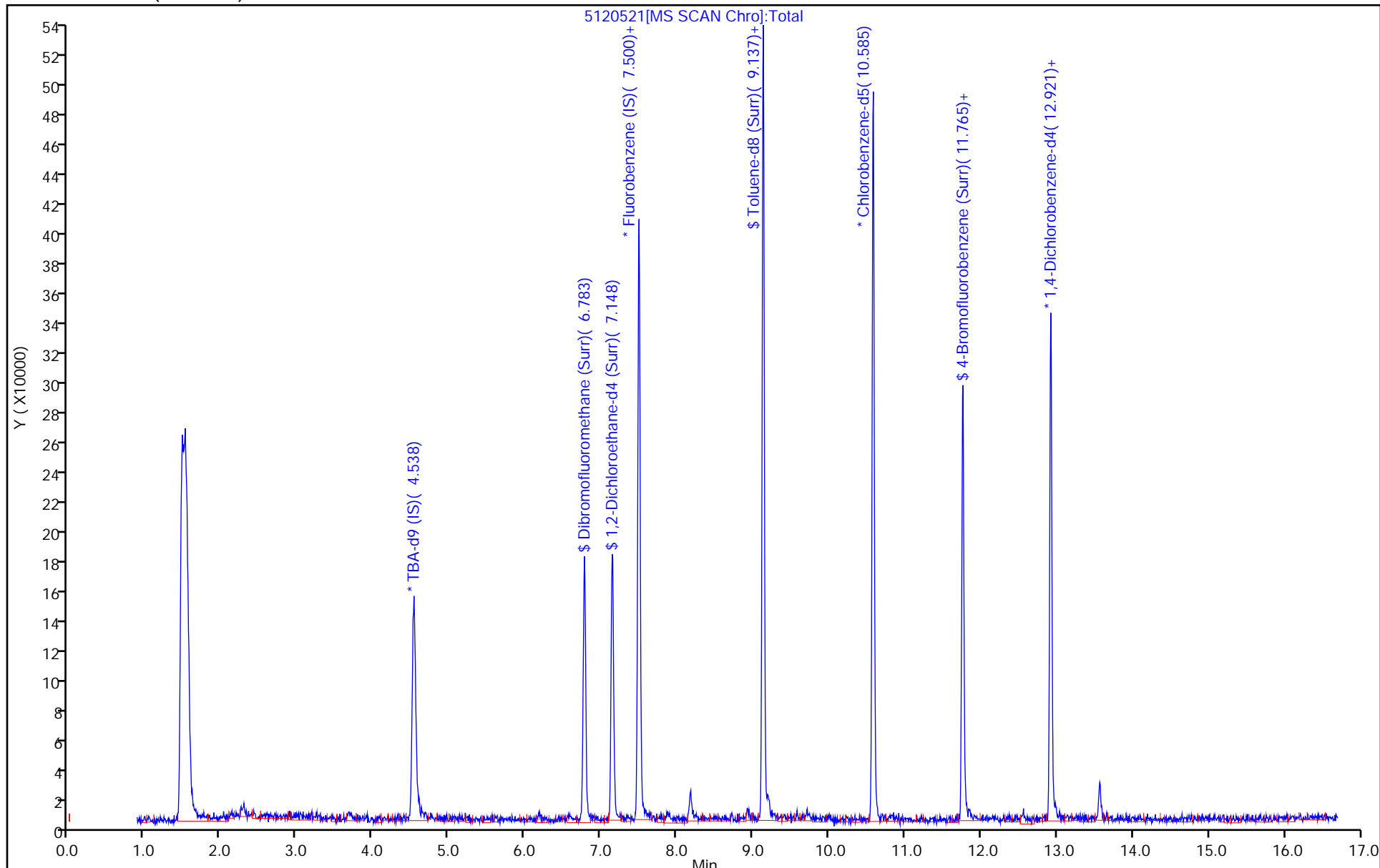
Dil. Factor: 1.0000

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\20191205-29868.b\5120521.D
 Lims ID: 180-99101-B-11
 Client ID: HD-COD-SW-28-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 17:58:30 ALS Bottle#: 14 Worklist Smp#: 21
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-021
 Misc. Info.: 180-99101-b-11
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:48:31 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:48:31

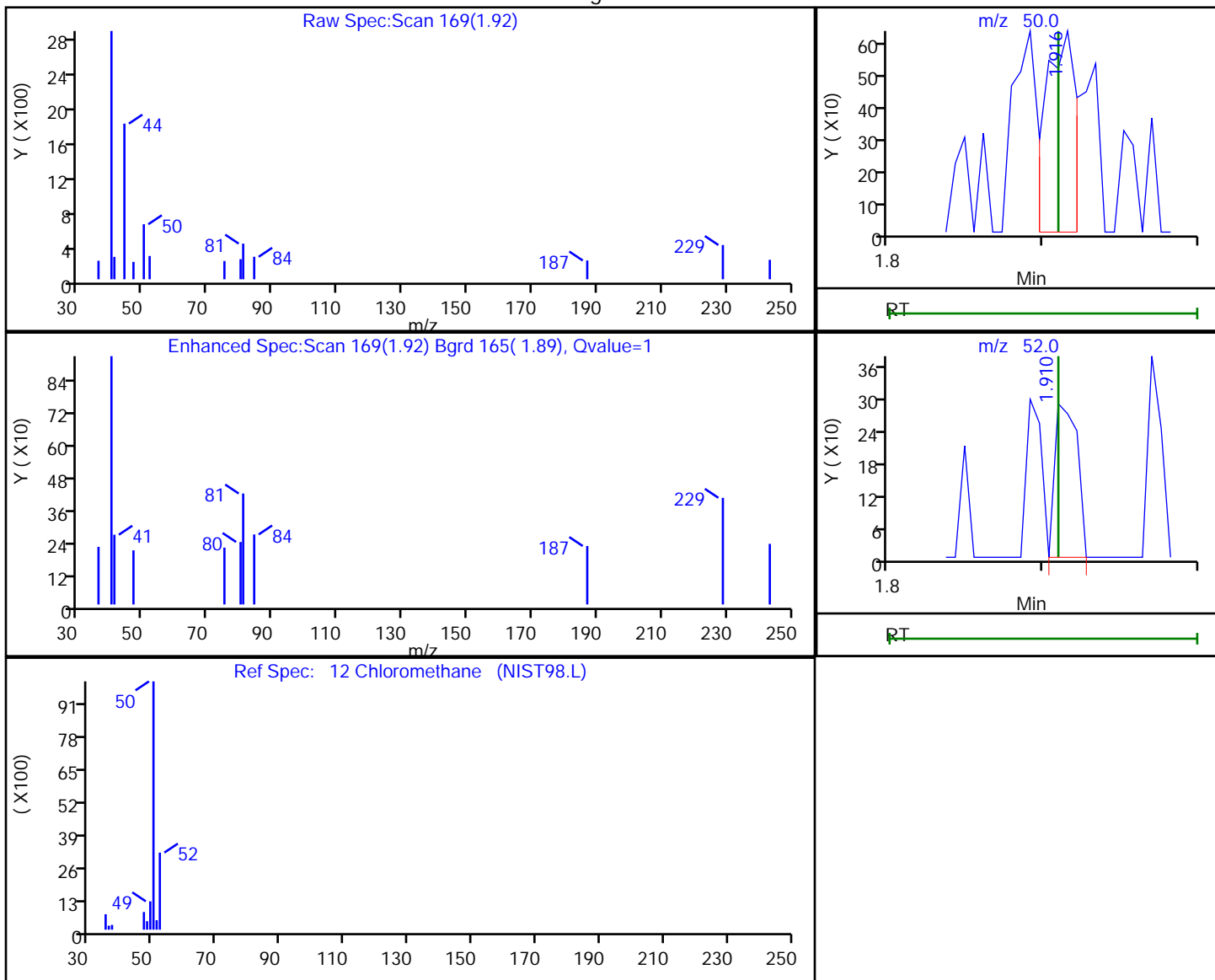
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	55.5	111.03
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	55.2	110.49
\$ 7 Toluene-d8 (Surr)	50.0	44.0	88.08
\$ 8 4-Bromofluorobenzene (Surr)	50.0	32.6	65.15

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: 433269 ALS Bottle#: 14 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
1.92	50.00	882	0.433166
1.91	52.00	290	

Reviewer: bowieh, 06-Dec-2019 10:47:29

Audit Action: Marked Compound Undetected

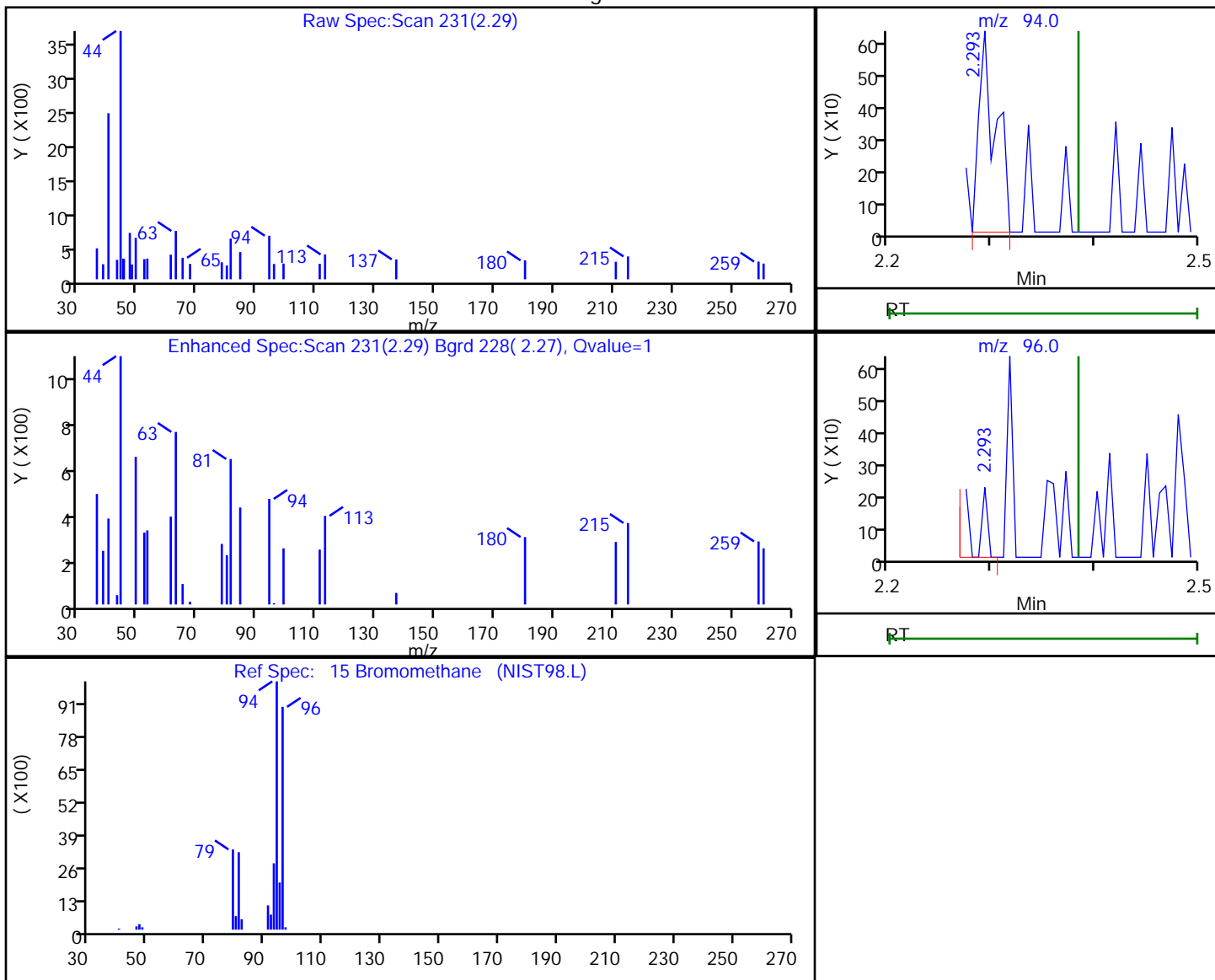
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
Client ID: HD-COD-SW-28-0/1-0
Operator ID: 433269 ALS Bottle#: 14 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
2.29	94.00	714	0.428800
2.29	96.00	160	

Reviewer: bowieh, 06-Dec-2019 10:47:31

Audit Action: Marked Compound Undetected

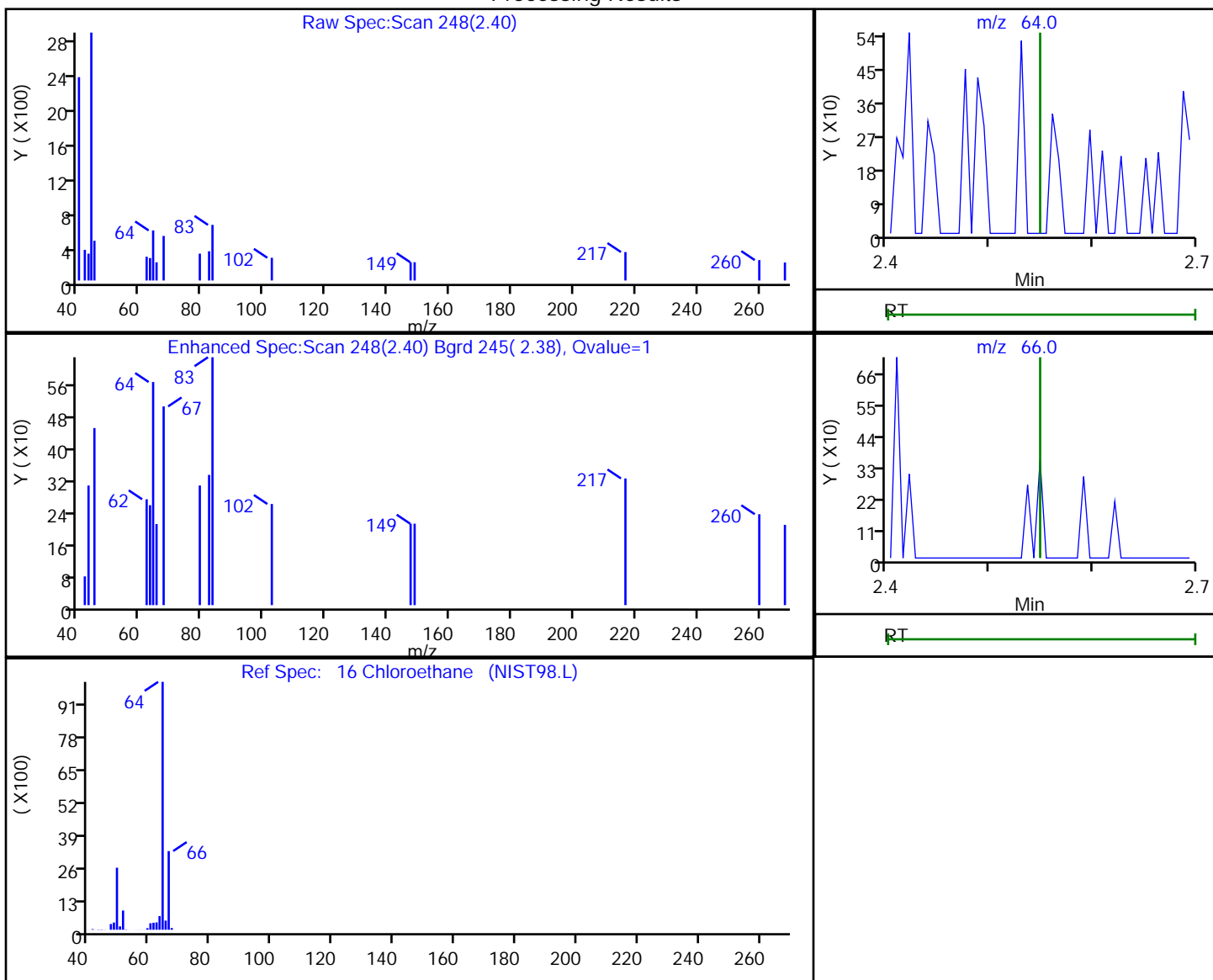
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: 433269 ALS Bottle#: 14 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

16 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.40	64.00	573	0.417835
2.41	66.00	370	

Reviewer: bowieh, 06-Dec-2019 10:47:32

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

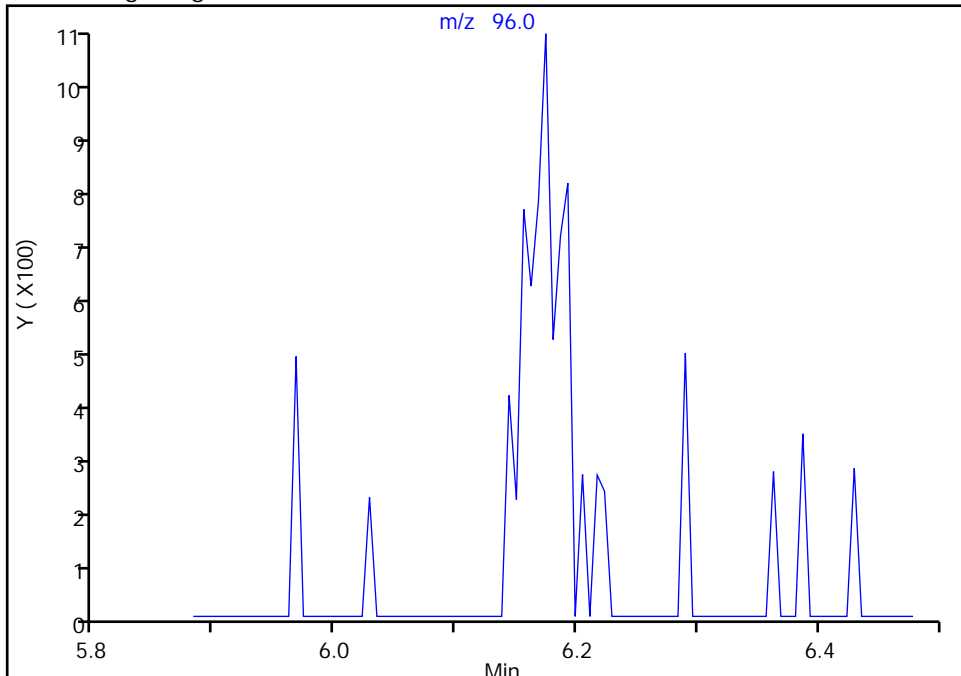
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
Client ID: HD-COD-SW-28-0/1-0
Operator ID: 433269 ALS Bottle#: 14 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 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

Signal: 1

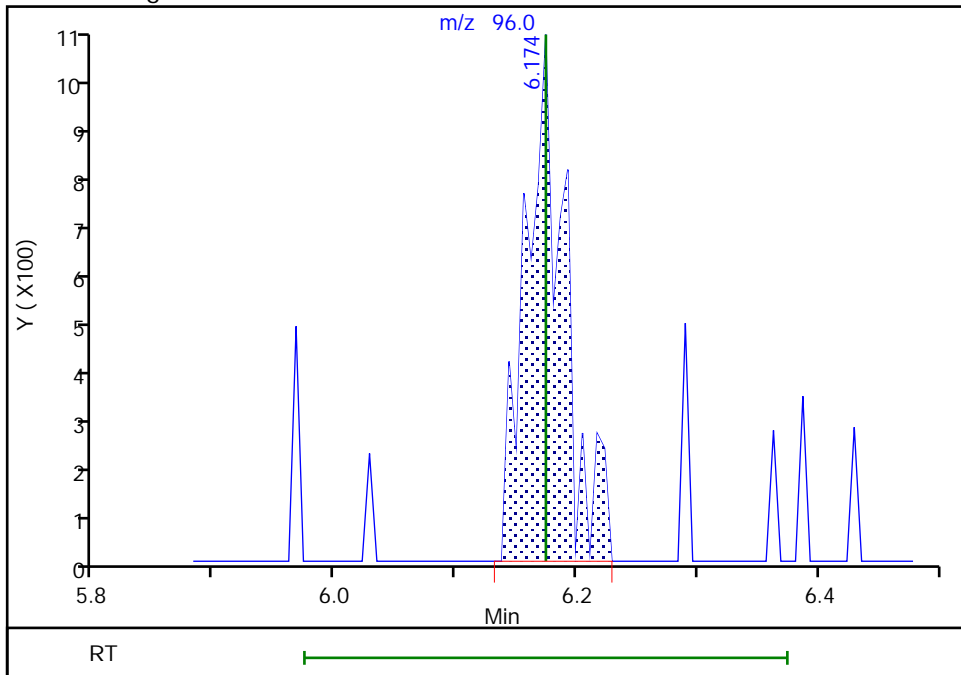
Not Detected
Expected RT: 6.17

Processing Integration Results



Manual Integration Results

RT: 6.17
Area: 2242
Amount: 0.837014
Amount Units: ng



Eurofins TestAmerica, Pittsburgh

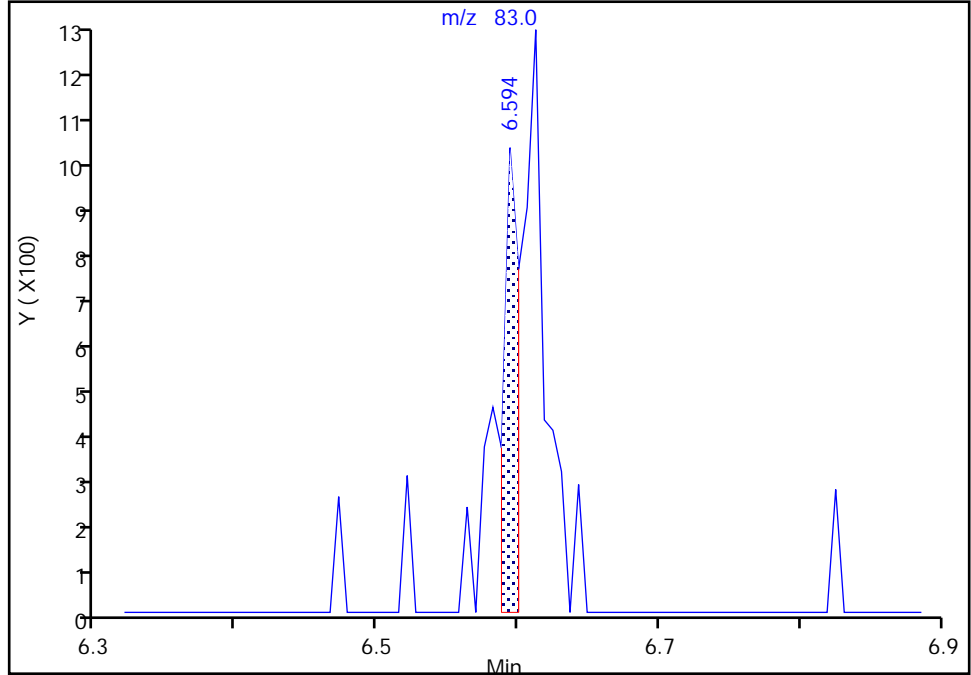
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
Client ID: HD-COD-SW-28-0/1-0
Operator ID: 433269 ALS Bottle#: 14 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

52 Chloroform, CAS: 67-66-3

Signal: 1

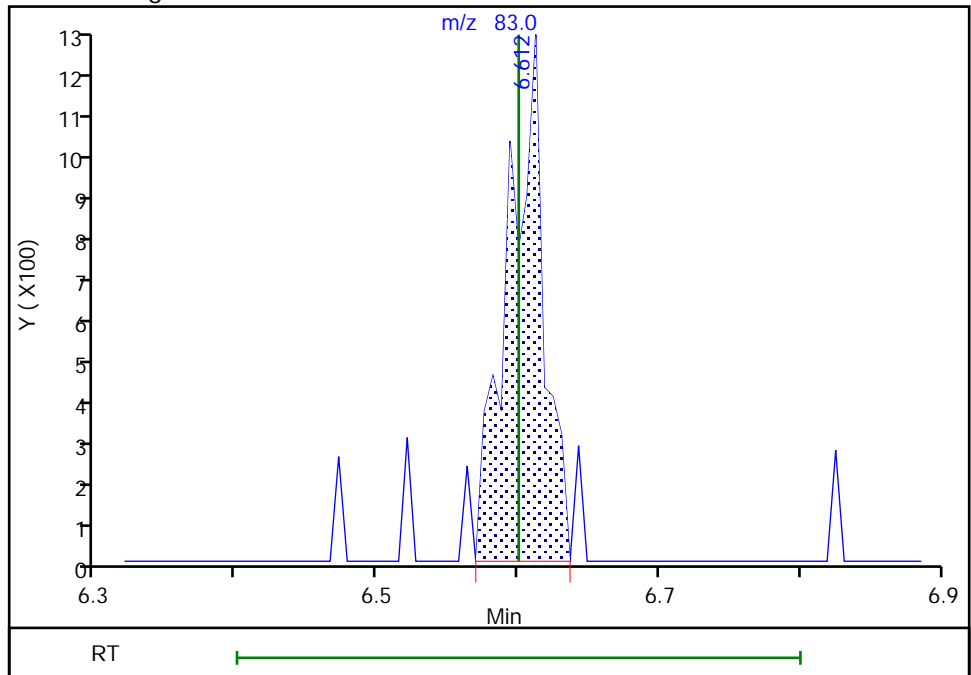
RT: 6.59
Area: 792
Amount: -3.915152
Amount Units: ng

Processing Integration Results



RT: 6.61
Area: 2316
Amount: -3.532611
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 06-Dec-2019 10:47:58
Audit Action: Manually Integrated

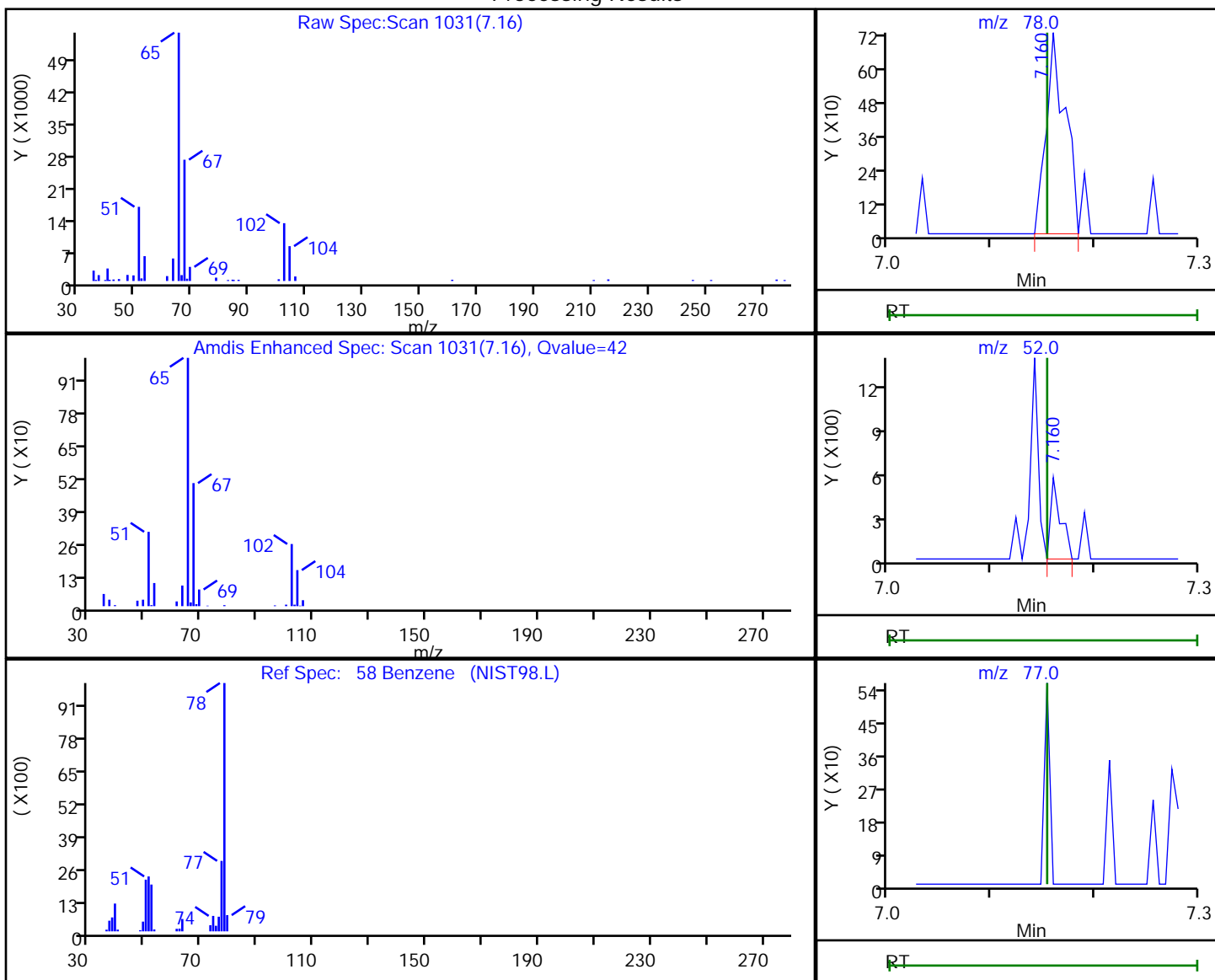
Audit Reason: Poor chromatography
Page 395 of 626

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: 433269 ALS Bottle#: 14 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
7.16	78.00	940	0.094295
7.16	52.00	383	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:48:02

Audit Action: Marked Compound Undetected

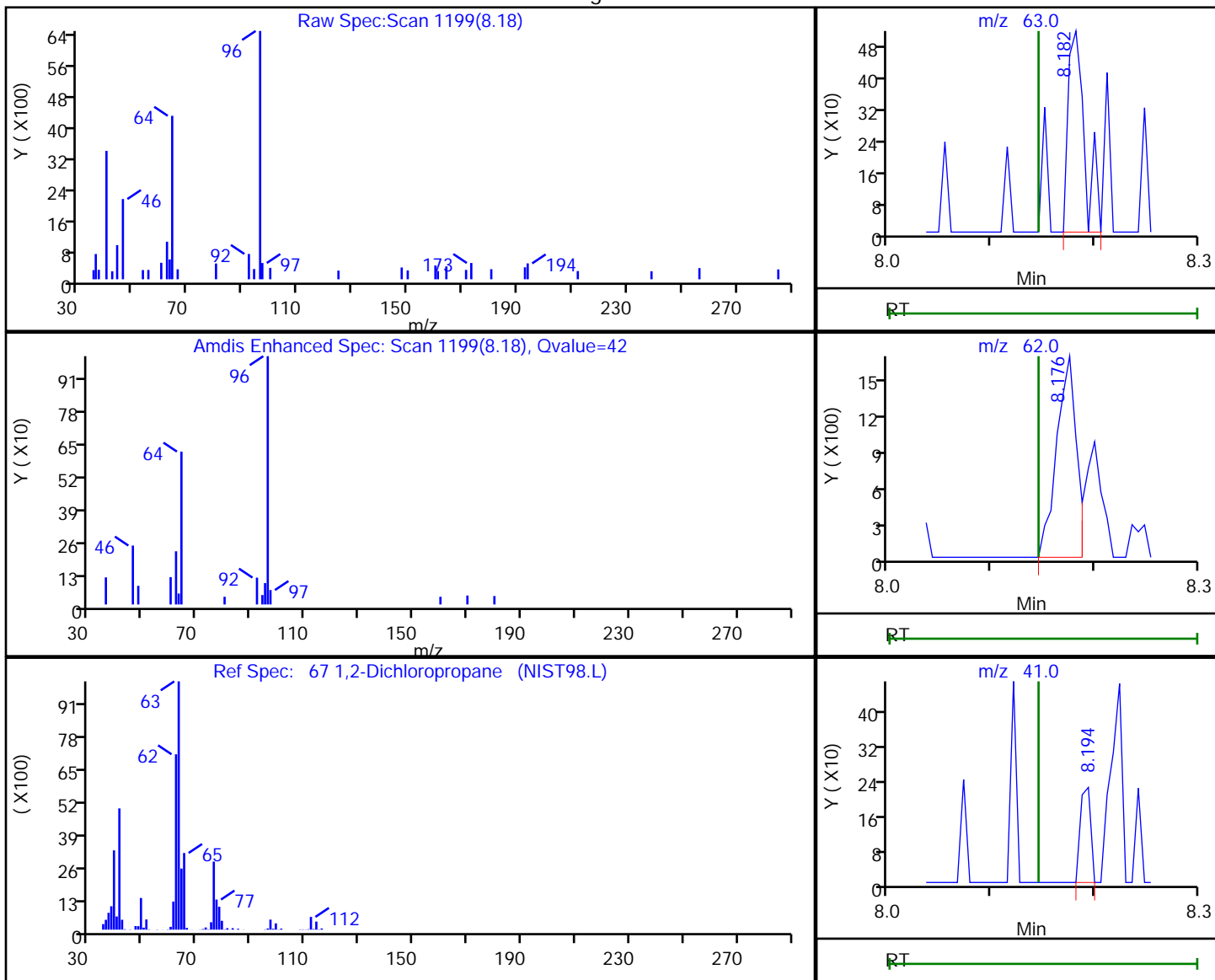
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: 433269 ALS Bottle#: 14 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.18	63.00	569	0.248405
8.18	62.00	2200	
8.19	41.00	153	

Reviewer: bowieh, 06-Dec-2019 10:48:05

Audit Action: Marked Compound Undetected

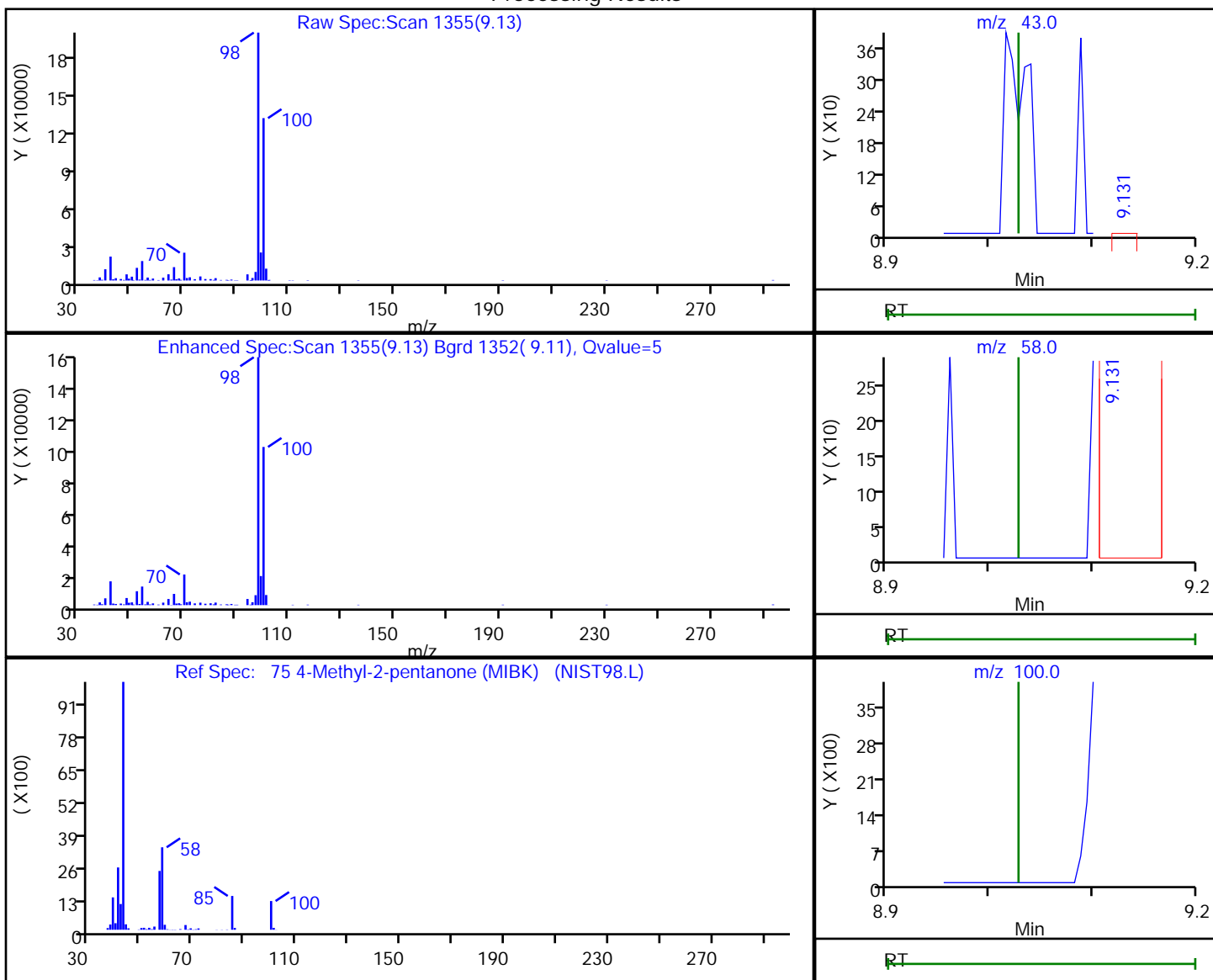
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: 433269 ALS Bottle#: 14 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
9.13	43.00	1022	0.554333
9.13	58.00	2946	
9.14	100.00	268408	

Reviewer: bowieh, 06-Dec-2019 10:48:08

Audit Action: Marked Compound Undetected

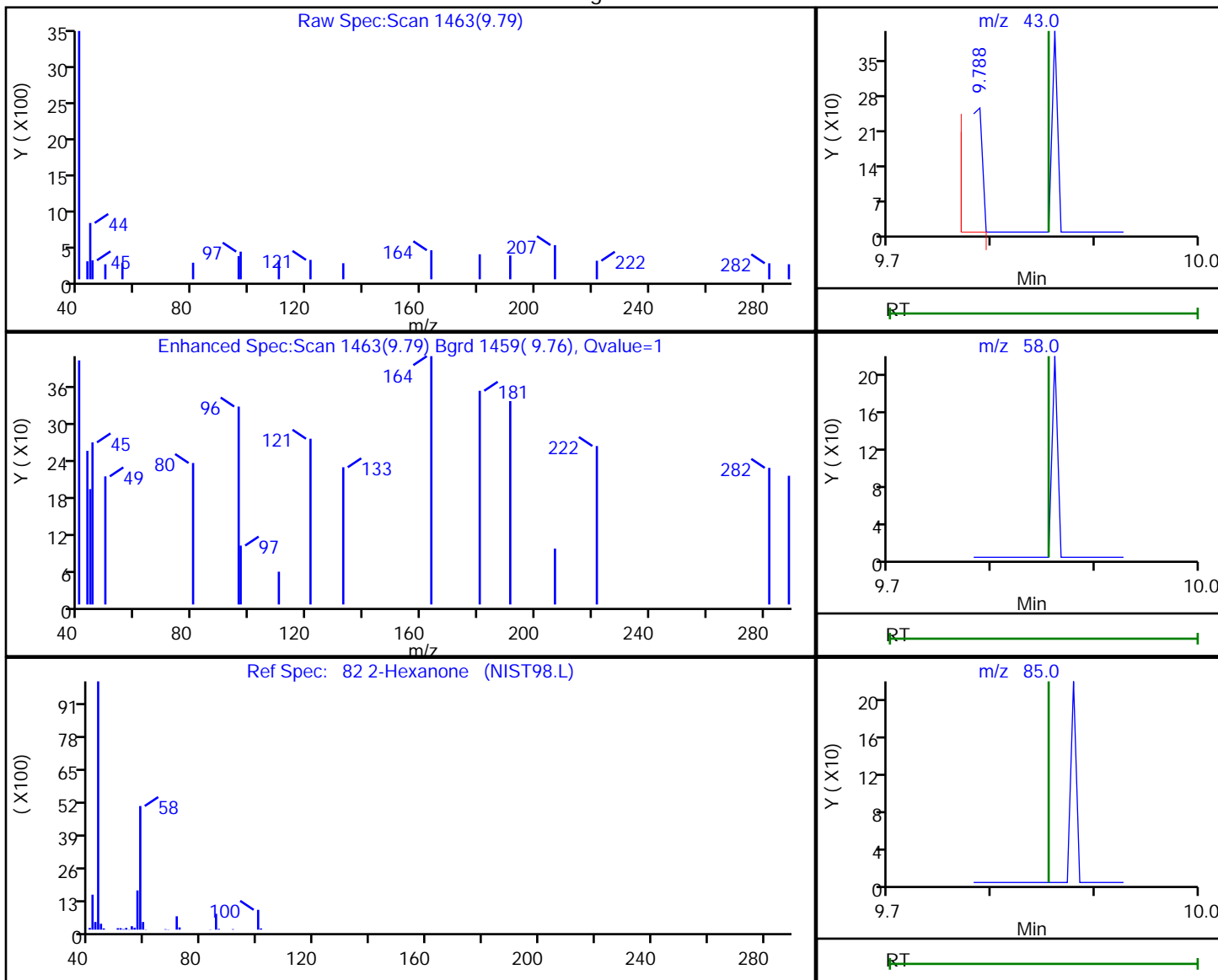
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
 Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: 433269 ALS Bottle#: 14 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

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

Processing Results



RT	Mass	Response	Amount
9.79	43.00	180	12.847343
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:48:13

Audit Action: Marked Compound Undetected

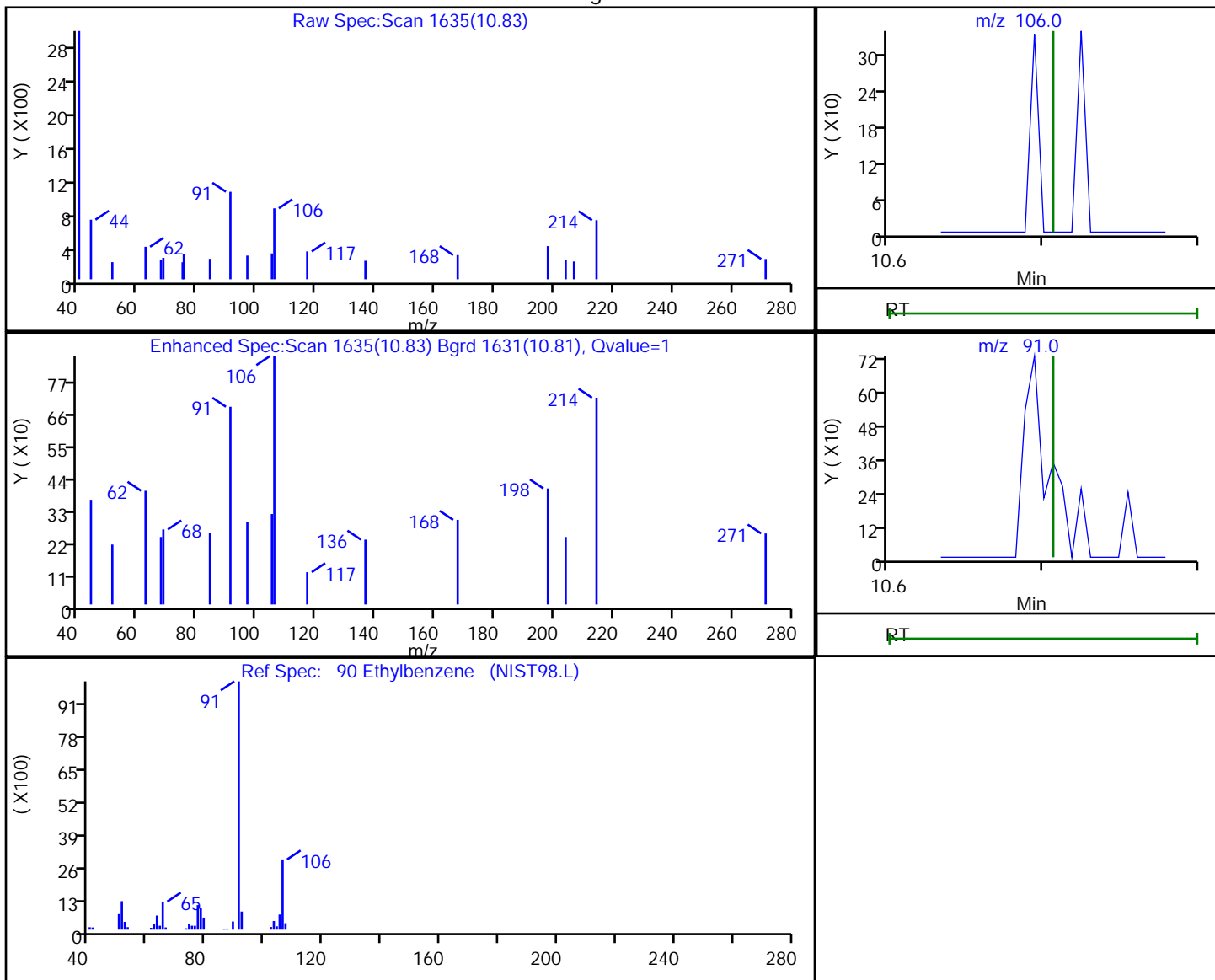
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120521.D
Injection Date: 05-Dec-2019 17:58:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-11 Lab Sample ID: 180-99101-11
Client ID: HD-COD-SW-28-0/1-0
Operator ID: 433269 ALS Bottle#: 14 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	701	0.178986
10.83	91.00	834	

Reviewer: bowieh, 06-Dec-2019 10:48:17

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-29-0/1-0 Lab Sample ID: 180-99101-12
 Matrix: Water Lab File ID: 5120522.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 10:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 18:23
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-29-0/1-0 Lab Sample ID: 180-99101-12
 Matrix: Water Lab File ID: 5120522.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 10:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 18:23
 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.: 300399 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)	90		78-128
460-00-4	4-Bromofluorobenzene (Surr)	67		64-123
1868-53-7	Dibromofluoromethane (Surr)	118		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Lims ID: 180-99101-B-12
 Client ID: HD-COD-SW-29-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 18:23:30 ALS Bottle#: 15 Worklist Smp#: 22
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-022
 Misc. Info.: 180-99101-b-12
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:49:35 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:49:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.544	4.544	0.000	0	207996	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.494	0.007	99	426304	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	85	111962	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	94	141721	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.777	6.770	0.007	95	126732	58.8	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	152501	54.6	
\$ 7 Toluene-d8 (Surr)	98	9.138	9.131	0.007	93	417941	44.9	
\$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	97	122420	33.7	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	U
15 Bromomethane	94		2.384				ND	
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96		3.571				ND	
24 Acetone	43	3.687	3.674	0.013	80	7566	8.68	a
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96		6.174				ND	U
46 2-Butanone (MEK)	43		6.186				ND	U
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.595	6.600	-0.005	1	725	-3.93	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	U
59 1,2-Dichloroethane	62		7.233				ND	
64 Trichloroethene	130	7.884	7.878	0.006	79	2144	0.7801	
67 1,2-Dichloropropane	63		8.145				ND	U
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	9.211	9.198	0.012	41	3906	0.3554	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	U
80 Tetrachloroethene	164		9.709				ND	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	
91 m-Xylene & p-Xylene	106		10.834				ND	U
92 o-Xylene	106		11.217				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_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D

Injection Date: 05-Dec-2019 18:23:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-B-12

Lab Sample ID: 180-99101-12

Worklist Smp#: 22

Client ID: HD-COD-SW-29-0/1-0

Purge Vol: 5.000 mL

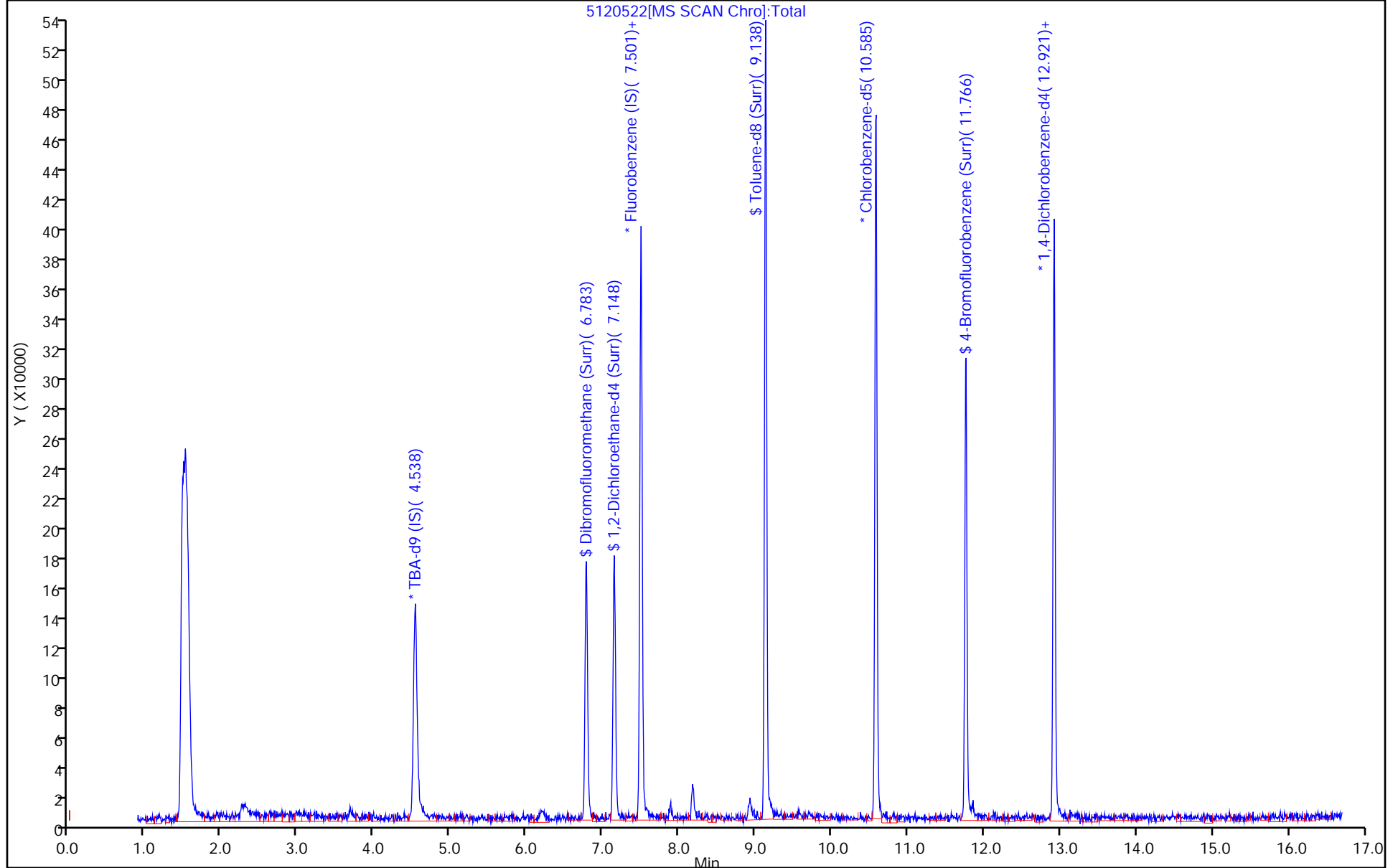
Dil. Factor: 1.0000

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\20191205-29868.b\5120522.D
 Lims ID: 180-99101-B-12
 Client ID: HD-COD-SW-29-0/1-0
 Sample Type: Client
 Inject. Date: 05-Dec-2019 18:23:30 ALS Bottle#: 15 Worklist Smp#: 22
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-022
 Misc. Info.: 180-99101-b-12
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:49:35 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:49:35

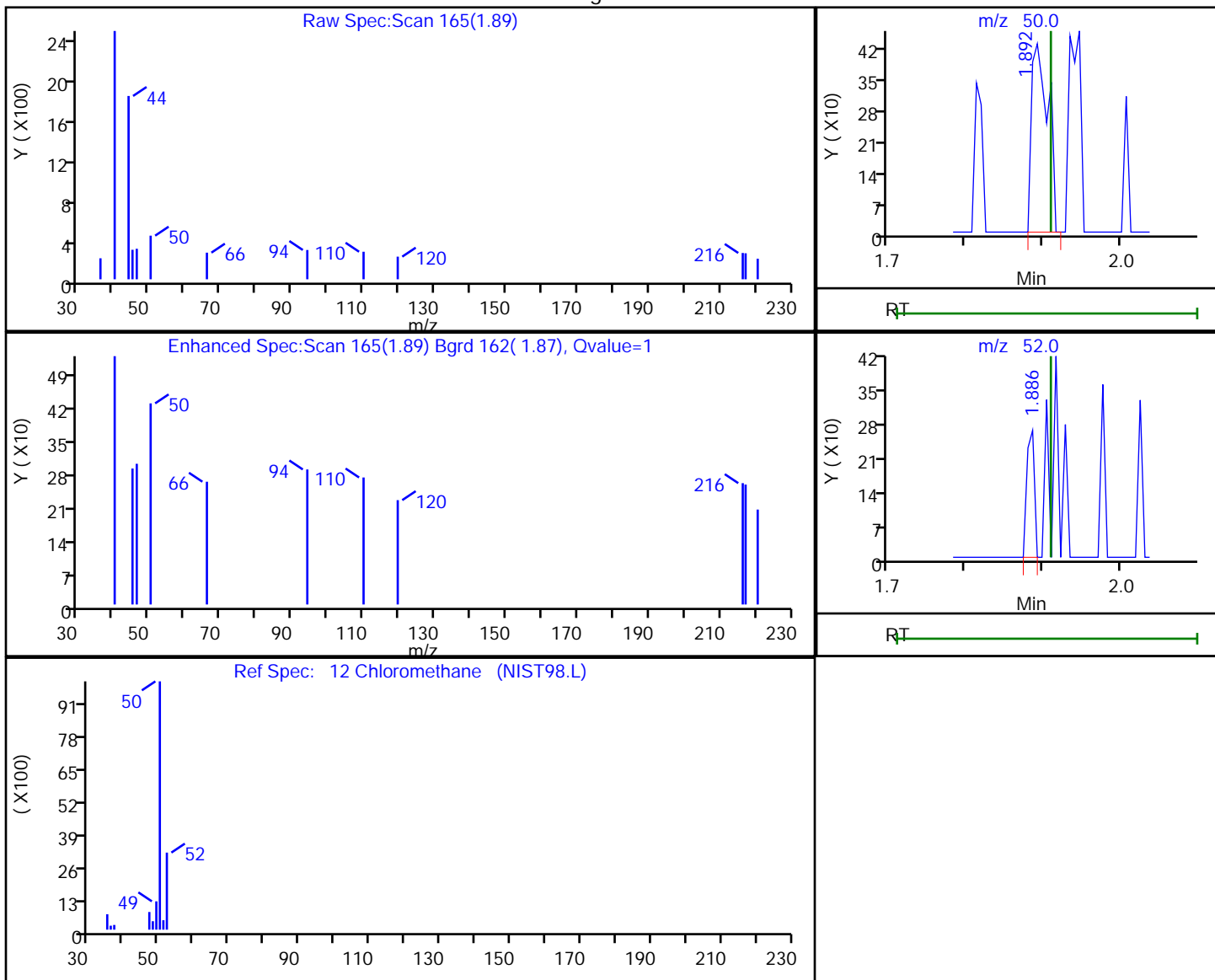
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	58.8	117.56
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.6	109.15
\$ 7 Toluene-d8 (Surr)	50.0	44.9	89.83
\$ 8 4-Bromofluorobenzene (Surr)	50.0	33.7	67.47

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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
1.89	50.00	634	0.320686
1.89	52.00	177	

Reviewer: bowieh, 06-Dec-2019 10:48:48

Audit Action: Marked Compound Undetected

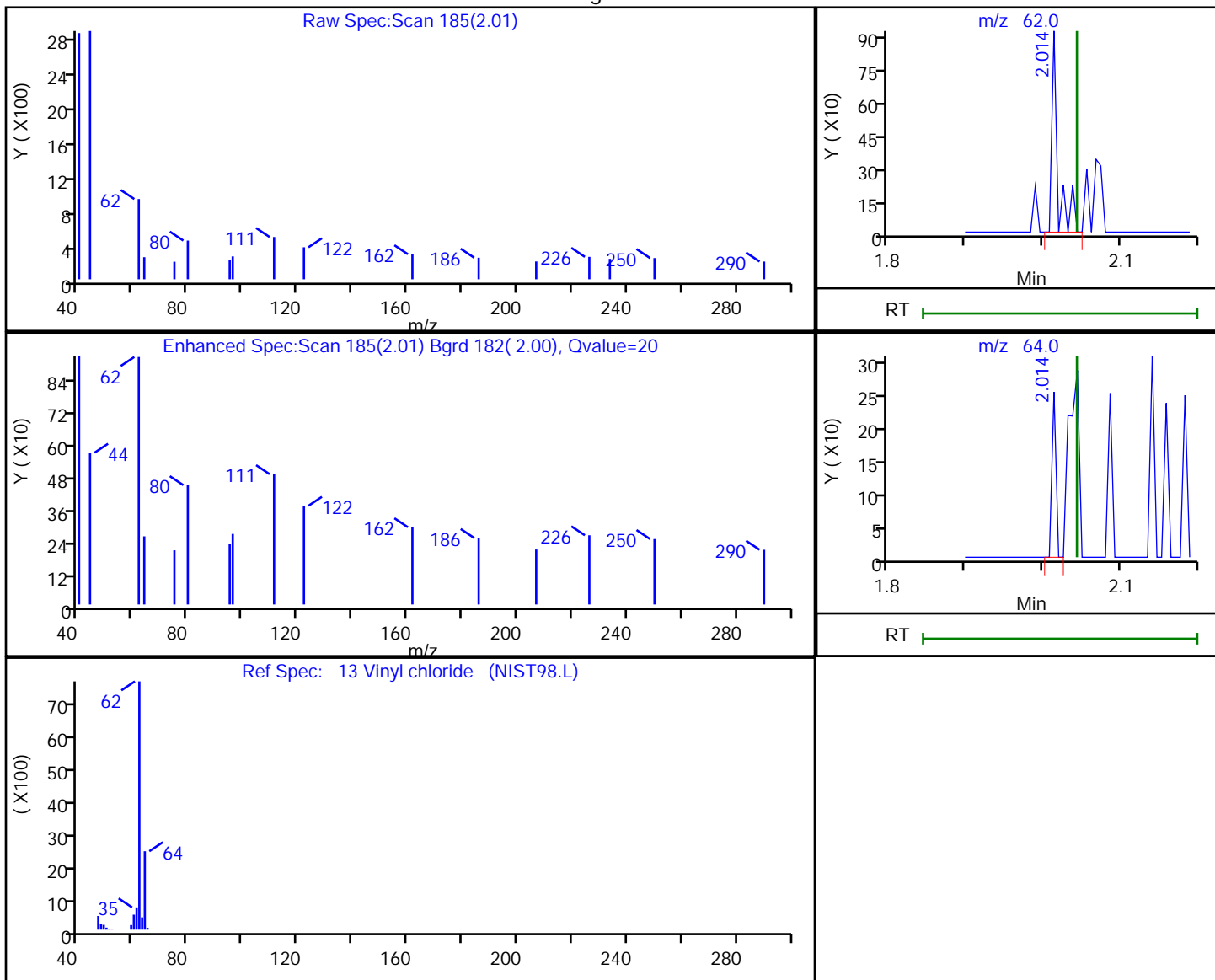
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

13 Vinyl chloride, CAS: 75-01-4

Processing Results



RT	Mass	Response	Amount
2.01	62.00	495	0.238232
2.01	64.00	93	

Reviewer: bowieh, 06-Dec-2019 10:48:50

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

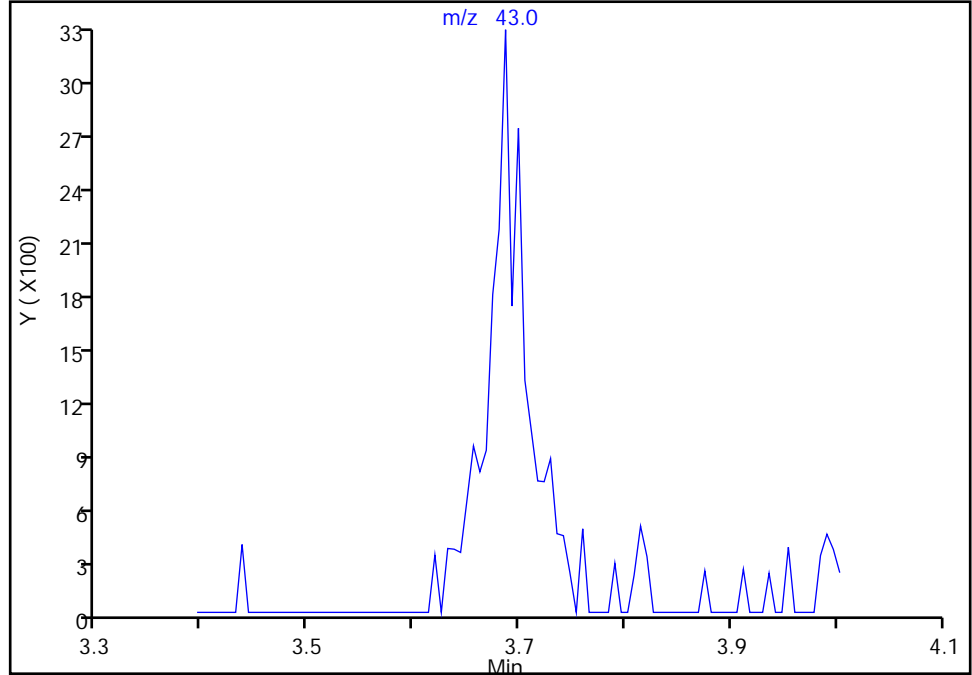
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
Client ID: HD-COD-SW-29-0/1-0
Operator ID: 433269 ALS Bottle#: 15 Worklist Smp#: 22
Purge Vol: 5.000 mL Dil. Factor: 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

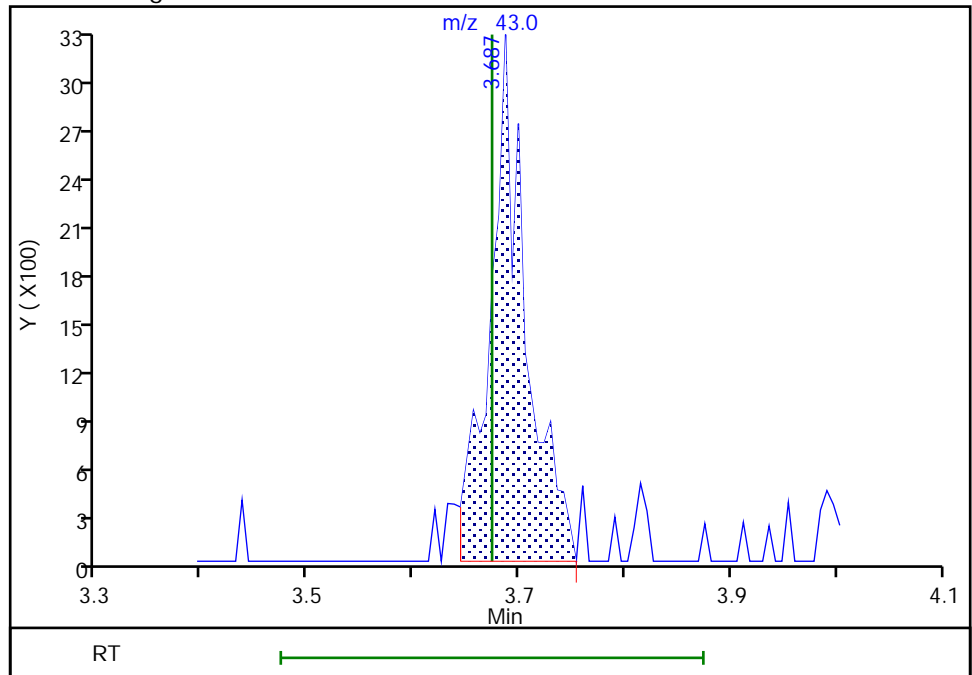
Not Detected
Expected RT: 3.67

Processing Integration Results



Manual Integration Results

RT: 3.69
Area: 7566
Amount: 8.677262
Amount Units: ng

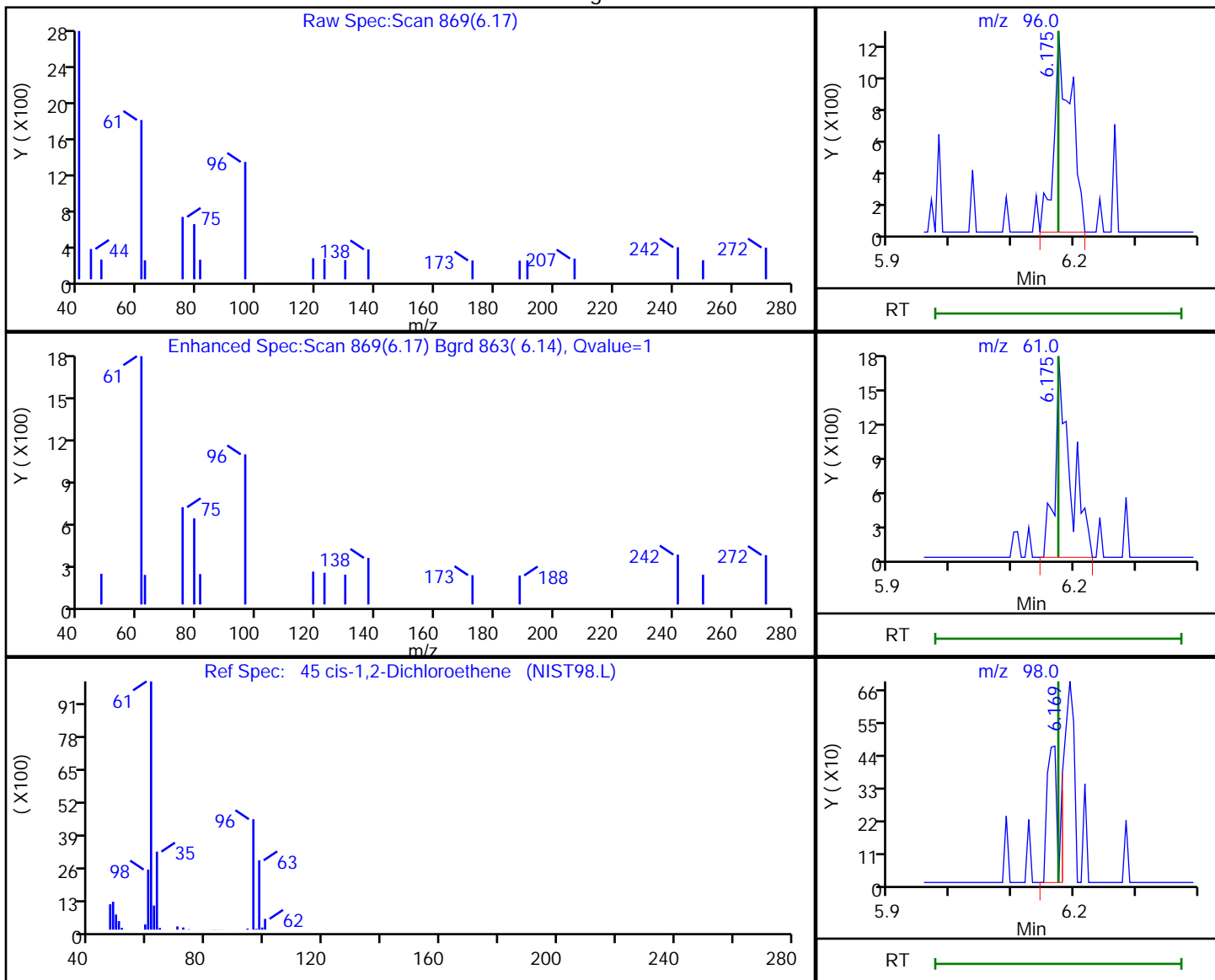


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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
6.17	96.00	2451	0.942423
6.17	61.00	2988	
6.17	98.00	614	

Reviewer: bowieh, 06-Dec-2019 10:49:07

Audit Action: Marked Compound Undetected

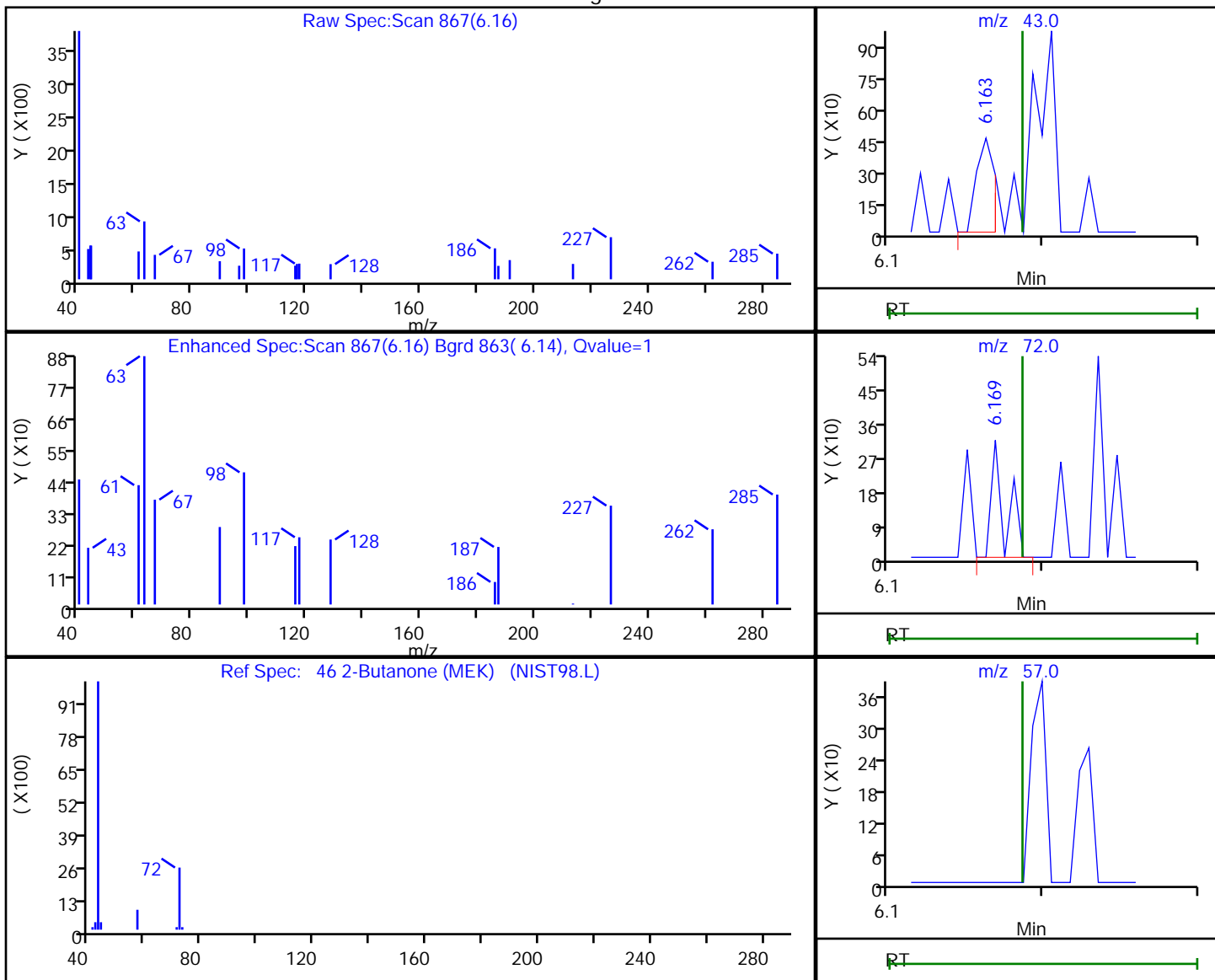
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

46 2-Butanone (MEK), CAS: 78-93-3

Processing Results



RT	Mass	Response	Amount
6.16	43.00	376	0.348275
6.17	72.00	189	
6.19	57.00	0	

Reviewer: bowieh, 06-Dec-2019 10:49:12

Audit Action: Marked Compound Undetected

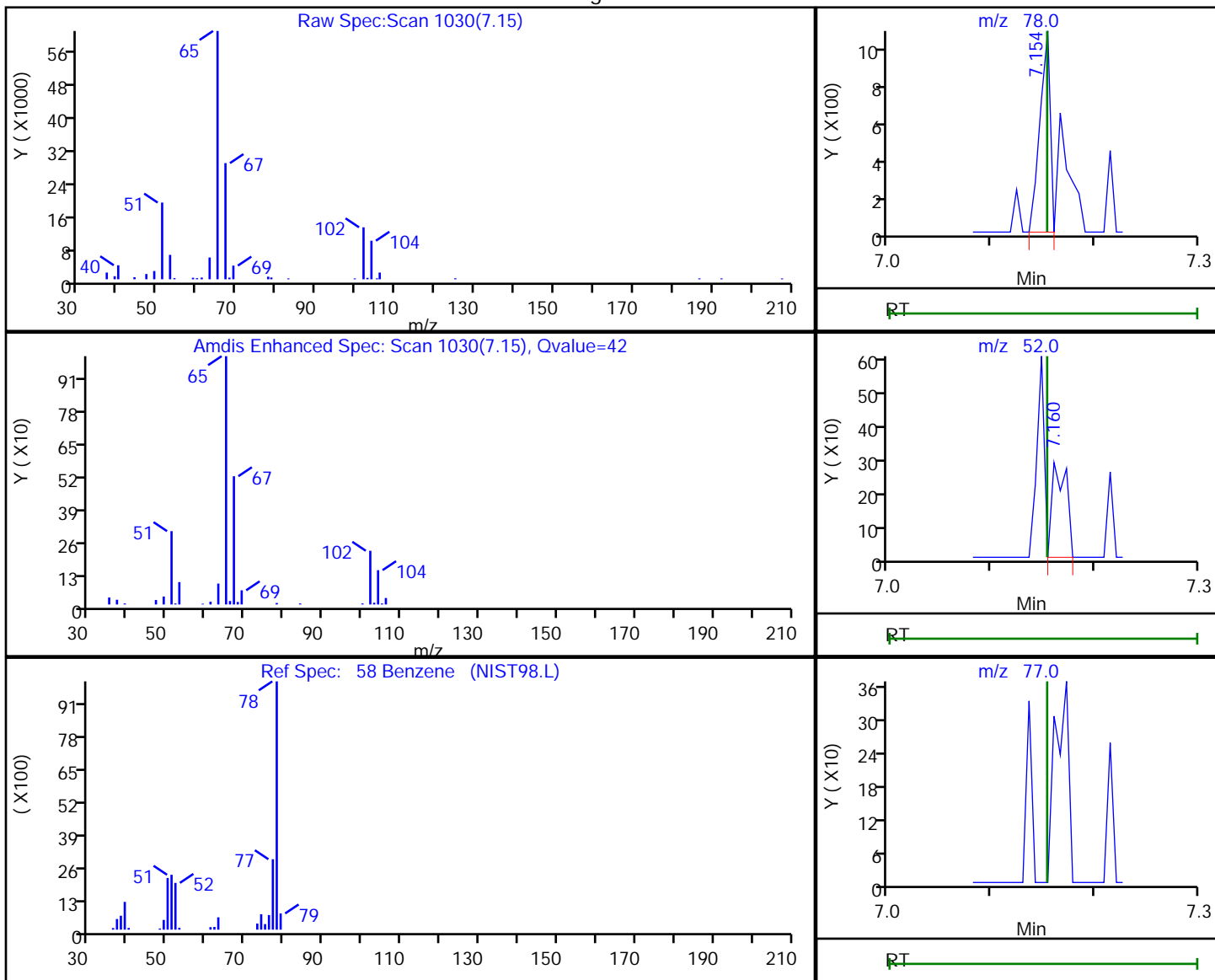
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

58 Benzene, CAS: 71-43-2

Processing Results



RT	Mass	Response	Amount
7.15	78.00	738	0.076247
7.16	52.00	274	
7.15	77.00	0	

Reviewer: bowieh, 06-Dec-2019 10:49:17

Audit Action: Marked Compound Undetected

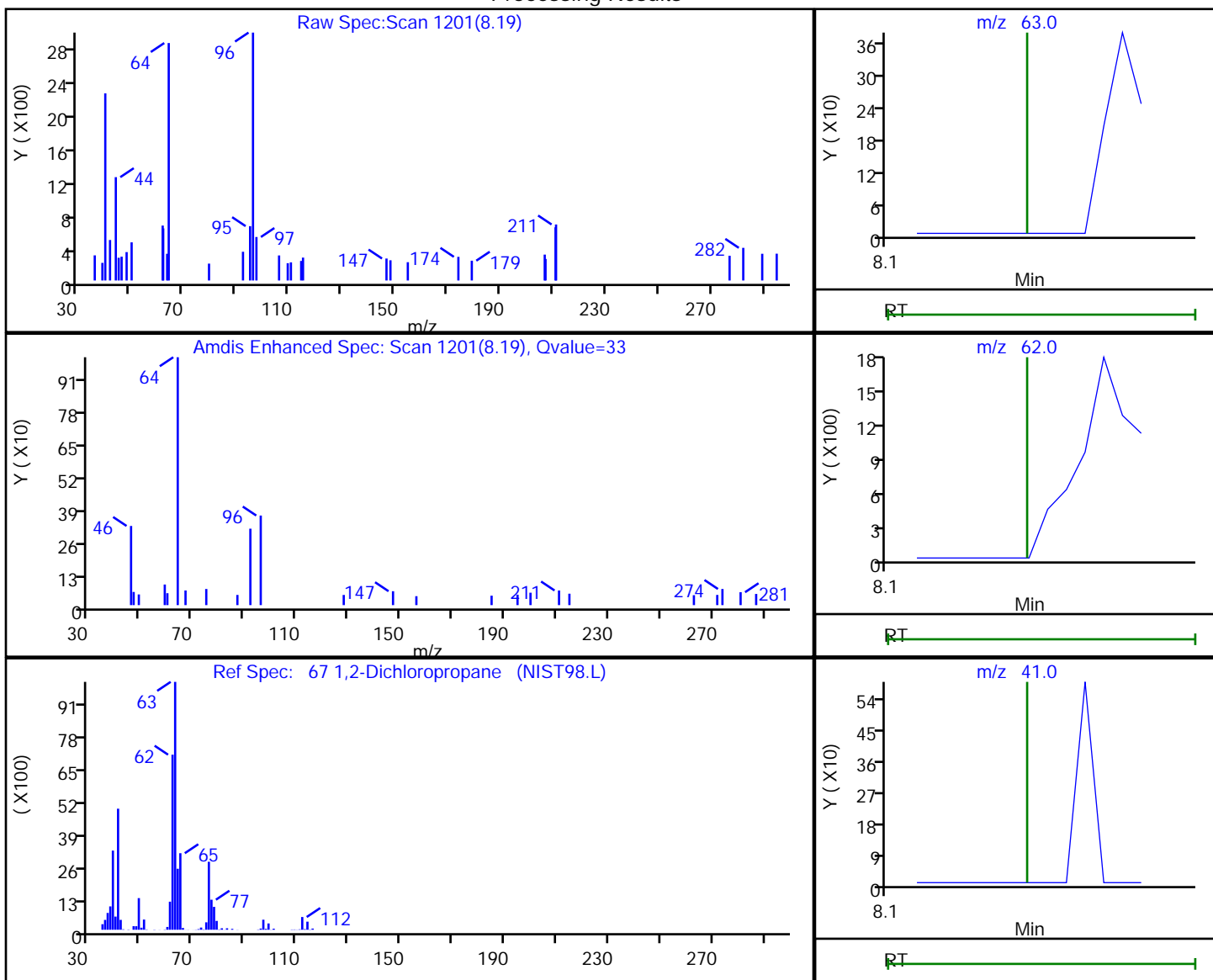
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.19	63.00	196	0.088127
8.19	62.00	1361	
8.20	41.00	150	

Reviewer: bowieh, 06-Dec-2019 10:49:19

Audit Action: Marked Compound Undetected

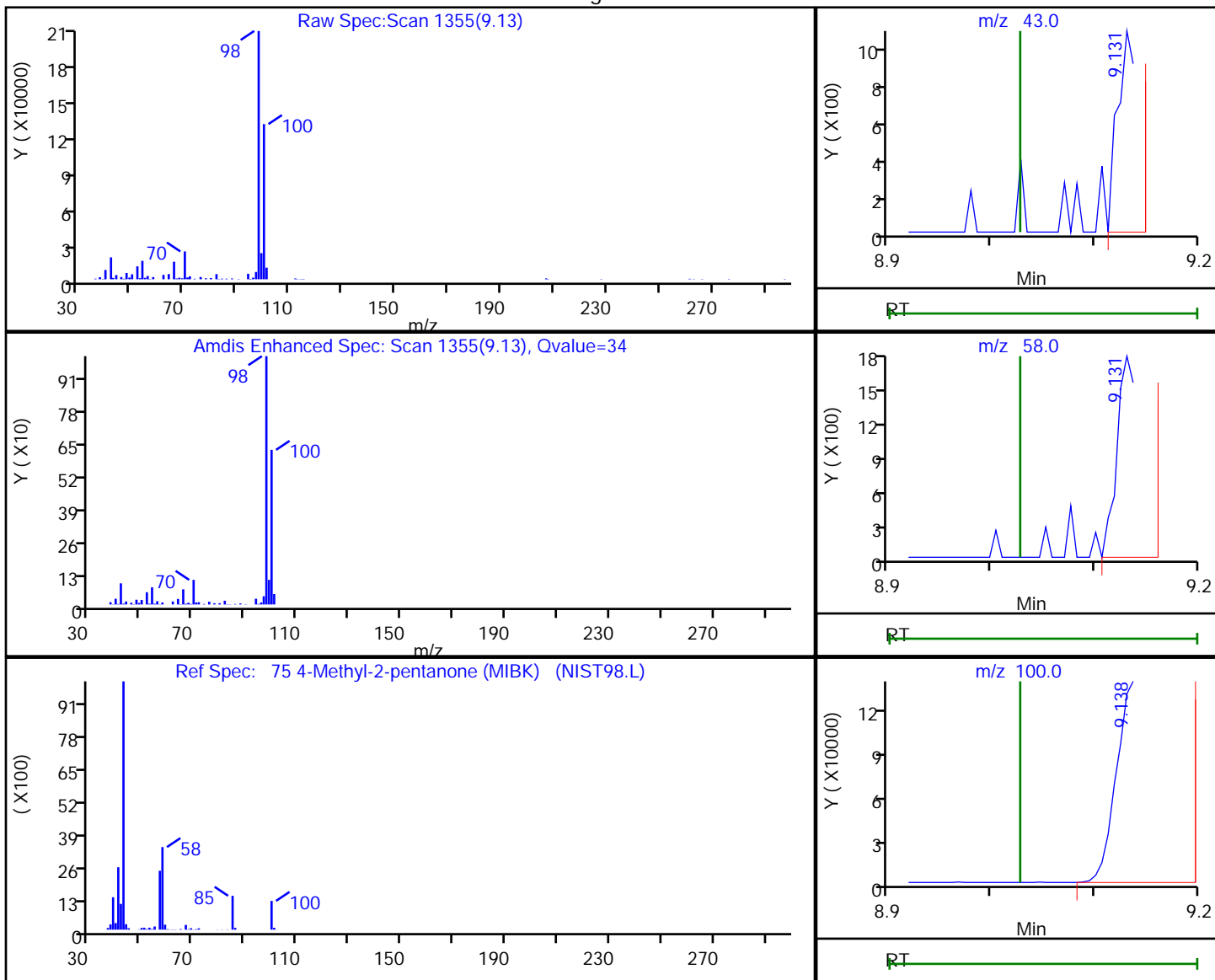
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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	1537	0.849857
9.13	58.00	3031	
9.14	100.00	265665	

Reviewer: bowieh, 06-Dec-2019 10:49:21

Audit Action: Marked Compound Undetected

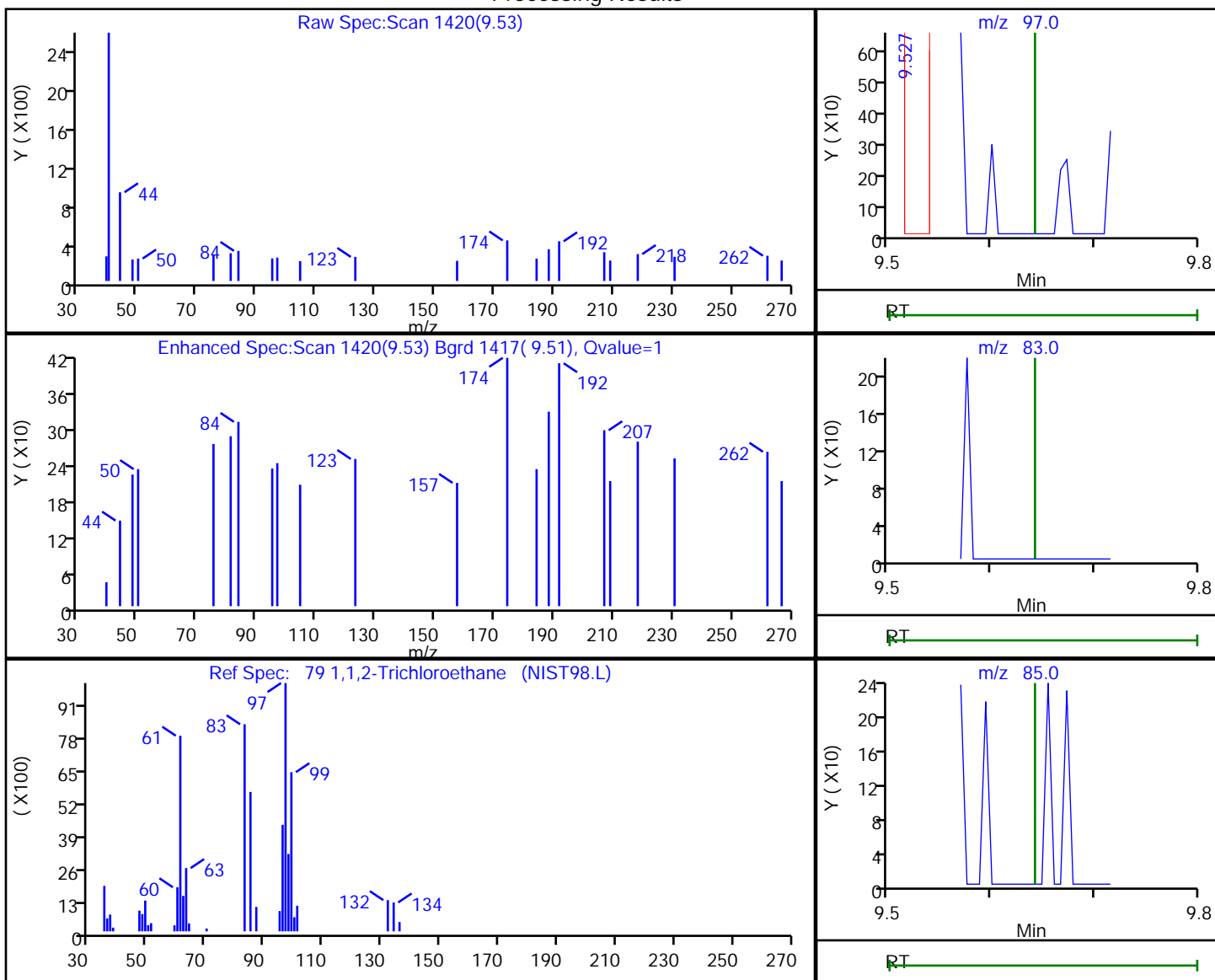
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

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

Processing Results



RT	Mass	Response	Amount
9.53	97.00	87	0.039542
9.64	83.00	0	
9.64	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:49:24

Audit Action: Marked Compound Undetected

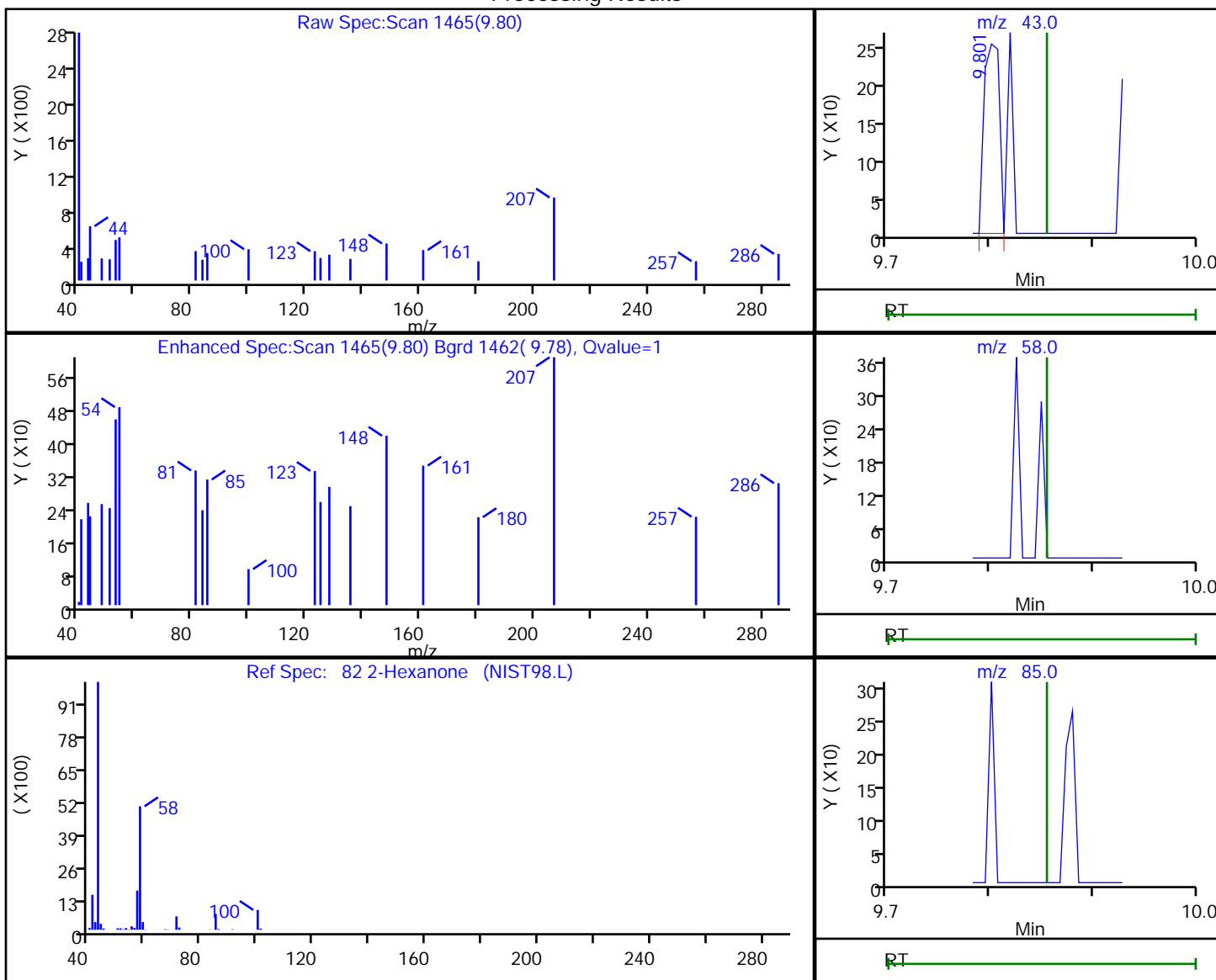
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

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

Processing Results



RT	Mass	Response	Amount
9.80	43.00	260	12.898324
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:49:26

Audit Action: Marked Compound Undetected

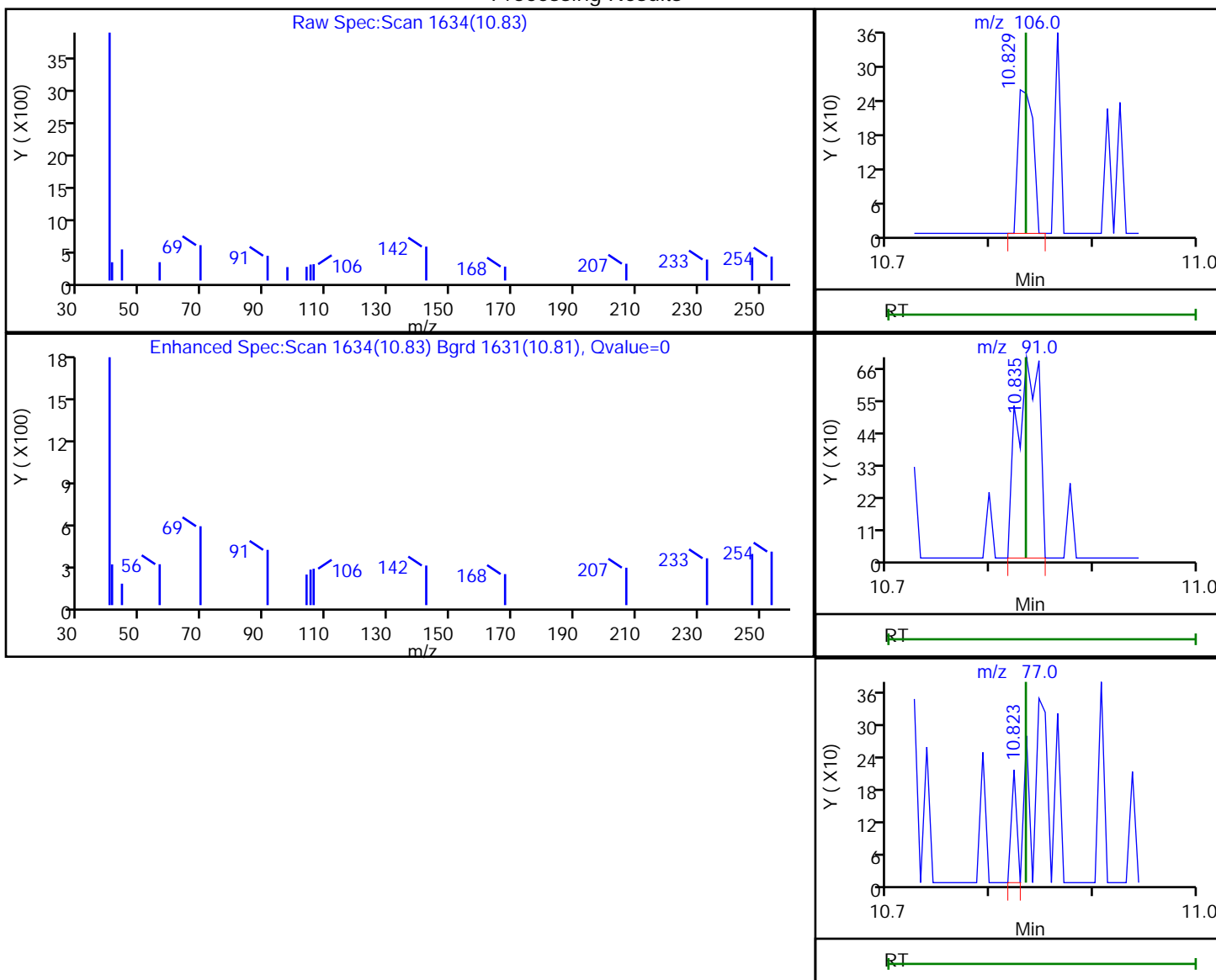
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120522.D
 Injection Date: 05-Dec-2019 18:23:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-12 Lab Sample ID: 180-99101-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: 433269 ALS Bottle#: 15 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

91 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results



RT	Mass	Response	Amount
10.83	106.00	254	0.052925
10.83	91.00	1036	
10.82	77.00	77	

Reviewer: bowieh, 06-Dec-2019 10:49:30

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-1 Lab Sample ID: 180-99101-13
 Matrix: Water Lab File ID: 5120532.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 22:27
 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.: 300399 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	4.7		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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-1 Lab Sample ID: 180-99101-13
 Matrix: Water Lab File ID: 5120532.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 22:27
 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.: 300399 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)	106		70-150
2037-26-5	Toluene-d8 (Surr)	89		78-128
460-00-4	4-Bromofluorobenzene (Surr)	61	X	64-123
1868-53-7	Dibromofluoromethane (Surr)	110		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
 Lims ID: 180-99101-A-13
 Client ID: HD-QC1-0/1-2
 Sample Type: Client
 Inject. Date: 05-Dec-2019 22:27:30 ALS Bottle#: 25 Worklist Smp#: 32
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-032
 Misc. Info.: 180-99101-a-13
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:57:11 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:57:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.531	4.544	-0.013	0	201421	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	445499	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.585	-0.001	84	113055	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	94	113360	50.0	s
\$ 5 Dibromofluoromethane (Surr	113	6.776	6.770	0.006	94	124357	55.2	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	154860	53.0	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	93	418711	44.6	
\$ 8 4-Bromofluorobenzene (Surr	95	11.764	11.759	0.005	96	111767	30.5	
12 Chloromethane	50		1.910				ND	U
13 Vinyl chloride	62		2.044				ND	
15 Bromomethane	94		2.384				ND	U
16 Chloroethane	64		2.548				ND	
22 1,1-Dichloroethene	96	3.612	3.571	0.041	1	991	0.4379	
24 Acetone	43	3.698	3.674	0.024	65	3729	4.09	
26 Carbon disulfide	76		3.869				ND	
31 Methylene Chloride	84		4.398				ND	
33 Acrylonitrile	53		4.787				ND	
34 trans-1,2-Dichloroethene	96		4.812				ND	
35 Methyl tert-butyl ether	73		4.830				ND	
37 1,1-Dichloroethane	63		5.438				ND	
45 cis-1,2-Dichloroethene	96	6.180	6.174	0.006	1	2364	0.8698	
46 2-Butanone (MEK)	43		6.186				ND	
49 Chlorobromomethane	128		6.460				ND	
52 Chloroform	83	6.599	6.600	-0.001	93	17643	0.2506	
53 1,1,1-Trichloroethane	97		6.758				ND	
56 Carbon tetrachloride	117		6.923				ND	
58 Benzene	78		7.154				ND	
59 1,2-Dichloroethane	62		7.233				ND	U
64 Trichloroethene	130	7.883	7.878	0.005	38	3096	1.08	
67 1,2-Dichloropropane	63		8.145				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	9.197	9.198	-0.001	23	2570	0.2316	
77 trans-1,3-Dichloropropene	75		9.441				ND	
79 1,1,2-Trichloroethane	97		9.642				ND	
80 Tetrachloroethene	164	9.708	9.709	-0.001	97	59909	23.5	
82 2-Hexanone	43		9.855				ND	U
84 Chlorodibromomethane	129		10.007				ND	
85 Ethylene Dibromide	107		10.122				ND	
87 Chlorobenzene	112		10.609				ND	
89 1,1,1,2-Tetrachloroethane	131		10.700				ND	
90 Ethylbenzene	106		10.706				ND	U
91 m-Xylene & p-Xylene	106		10.834				ND	
92 o-Xylene	106		11.217				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

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D

Injection Date: 05-Dec-2019 22:27:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-13

Lab Sample ID: 180-99101-13

Worklist Smp#: 32

Client ID: HD-QC1-0/1-2

Purge Vol: 5.000 mL

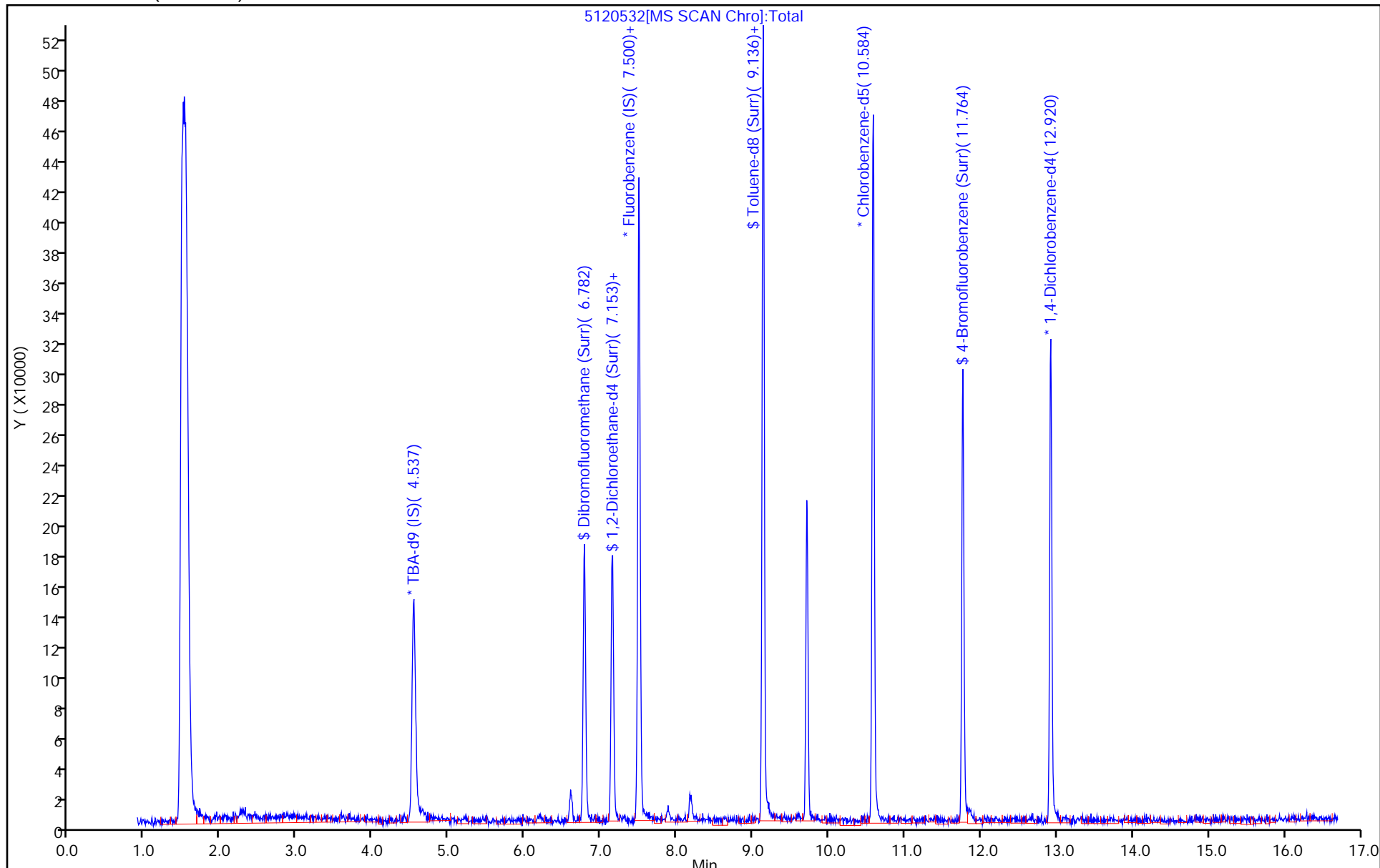
Dil. Factor: 1.0000

ALS Bottle#: 25

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\20191205-29868.b\5120532.D
 Lims ID: 180-99101-A-13
 Client ID: HD-QC1-0/1-2
 Sample Type: Client
 Inject. Date: 05-Dec-2019 22:27:30 ALS Bottle#: 25 Worklist Smp#: 32
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-032
 Misc. Info.: 180-99101-a-13
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:57:11 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:57:11

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	55.2	110.38
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.0	106.06
\$ 7 Toluene-d8 (Surr)	50.0	44.6	89.13
\$ 8 4-Bromofluorobenzene (Surr)	50.0	30.5	61.01

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D

Injection Date: 05-Dec-2019 22:27:30

Instrument ID: CHHP5

Lims ID: 180-99101-A-13

Lab Sample ID: 180-99101-13

Client ID: HD-QC1-0/1-2

Operator ID: 433269

ALS Bottle#: 25

Worklist Smp#: 32

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

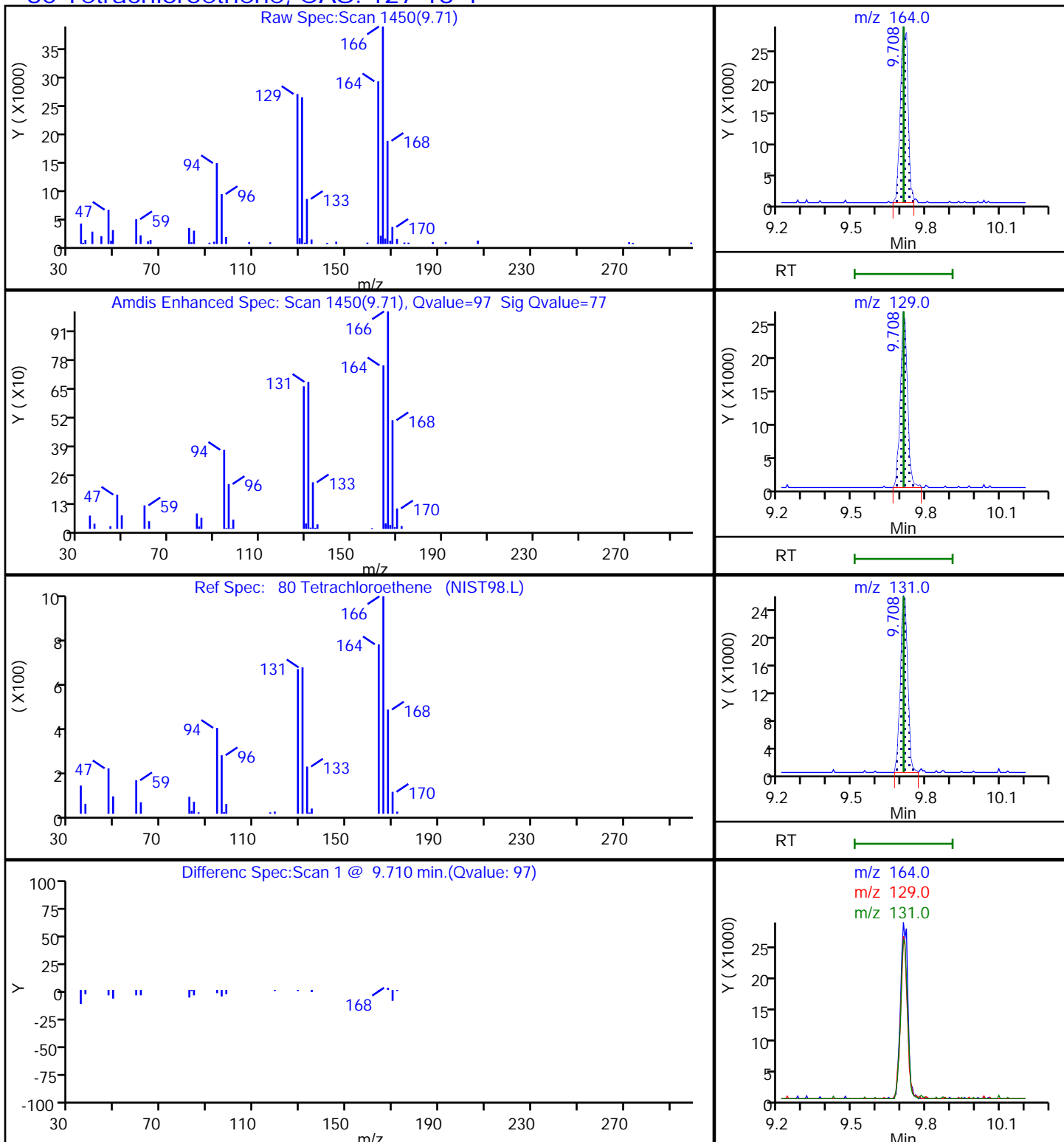
Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

80 Tetrachloroethene, CAS: 127-18-4

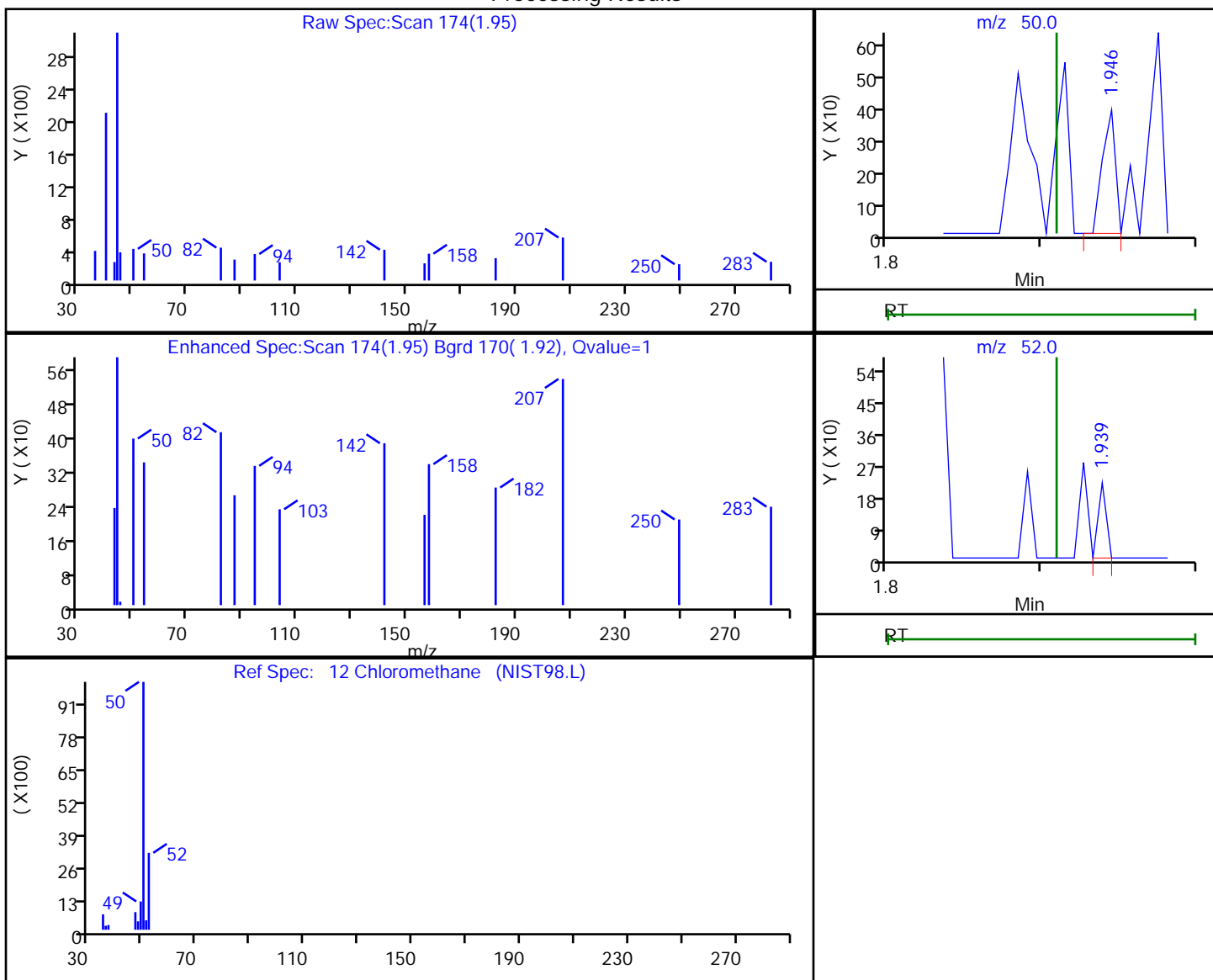


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
 Injection Date: 05-Dec-2019 22:27:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 25 Worklist Smp#: 32
 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
1.95	50.00	228	0.110357
1.94	52.00	79	

Reviewer: bowieh, 06-Dec-2019 10:56:42

Audit Action: Marked Compound Undetected

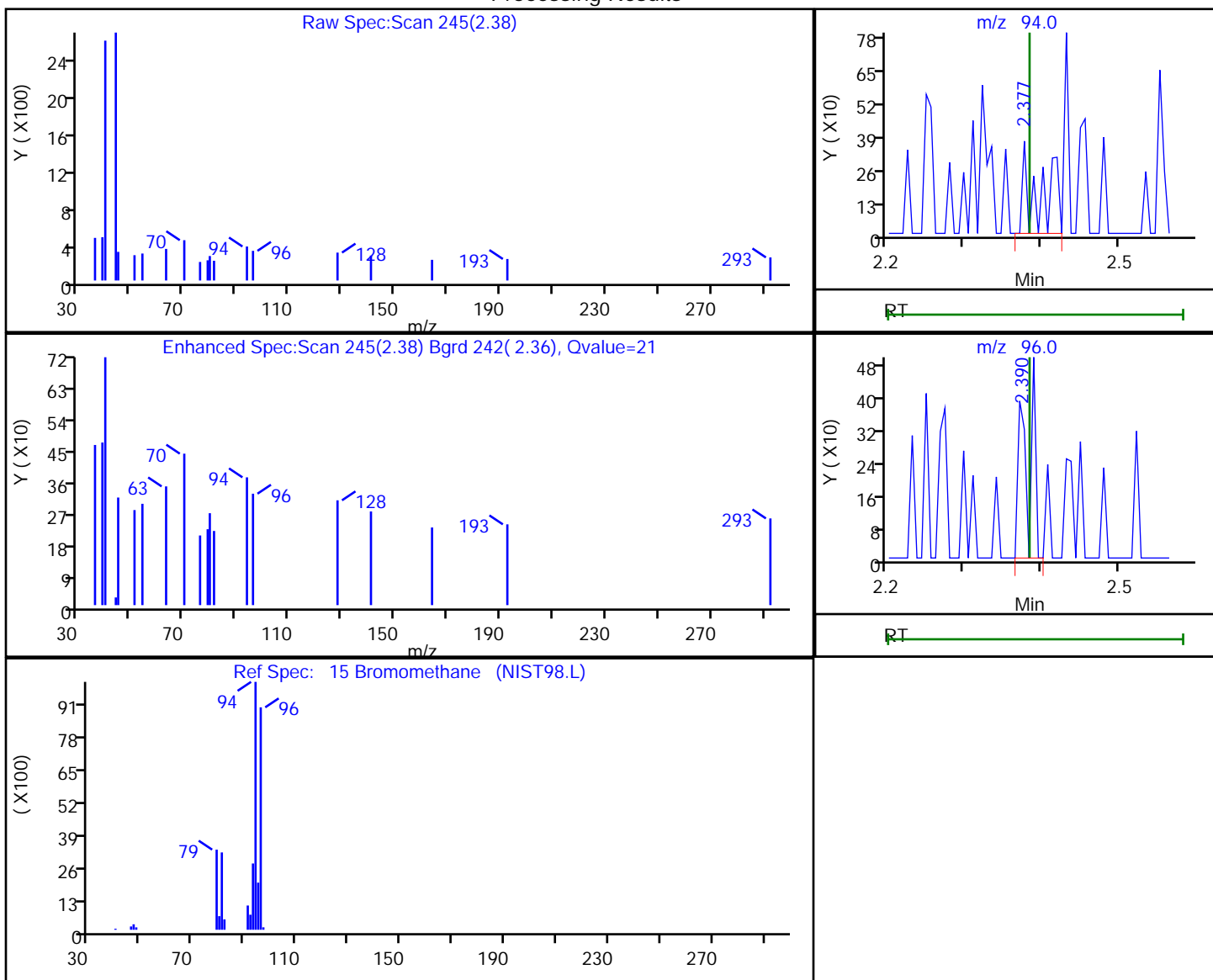
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
 Injection Date: 05-Dec-2019 22:27:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 25 Worklist Smp#: 32
 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
2.38	94.00	534	0.316064
2.39	96.00	442	

Reviewer: bowieh, 06-Dec-2019 10:56:44

Audit Action: Marked Compound Undetected

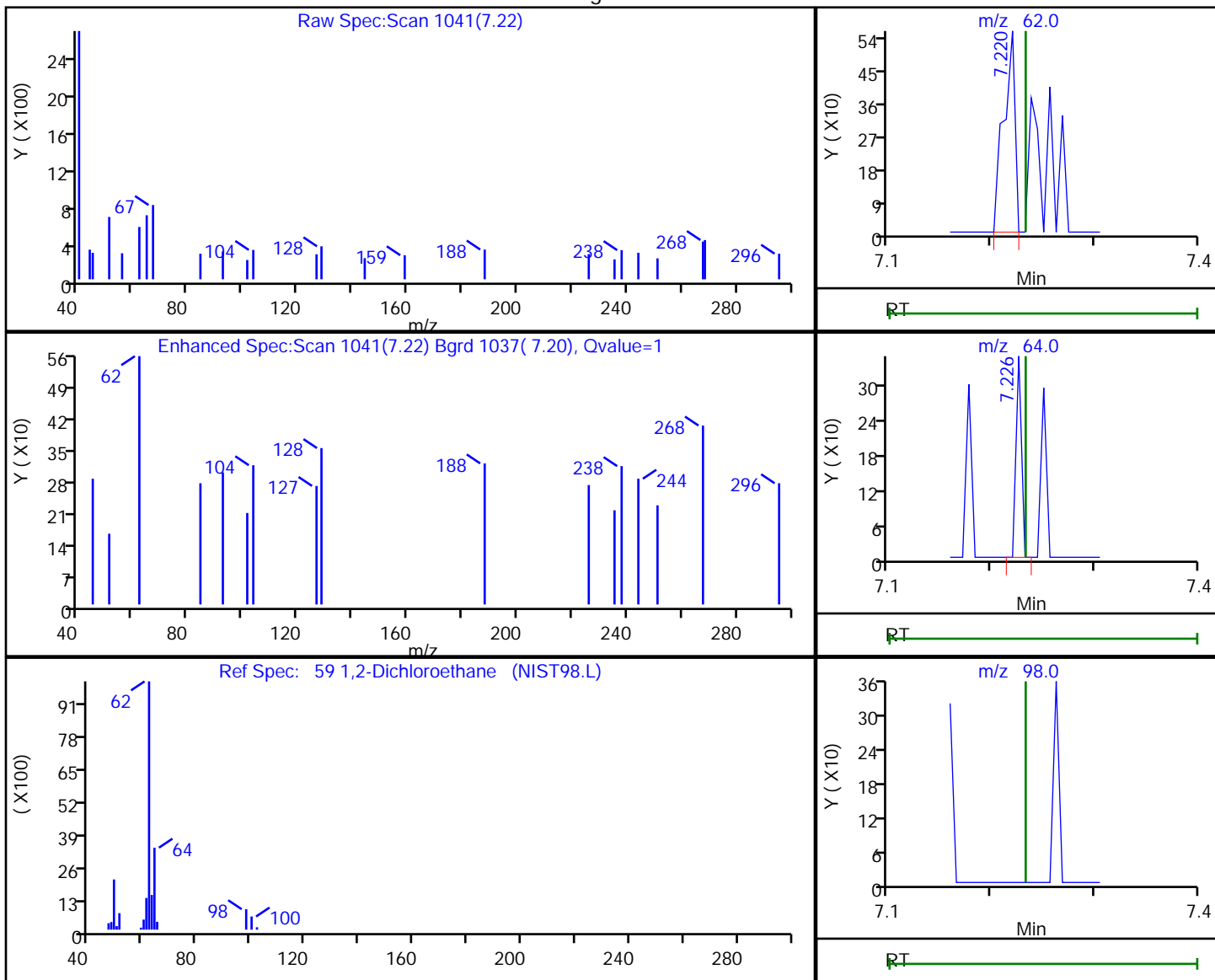
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
 Injection Date: 05-Dec-2019 22:27:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 25 Worklist Smp#: 32
 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.22	62.00	423	0.120028
7.23	64.00	128	
7.23	98.00	0	

Reviewer: bowieh, 06-Dec-2019 10:56:54

Audit Action: Marked Compound Undetected

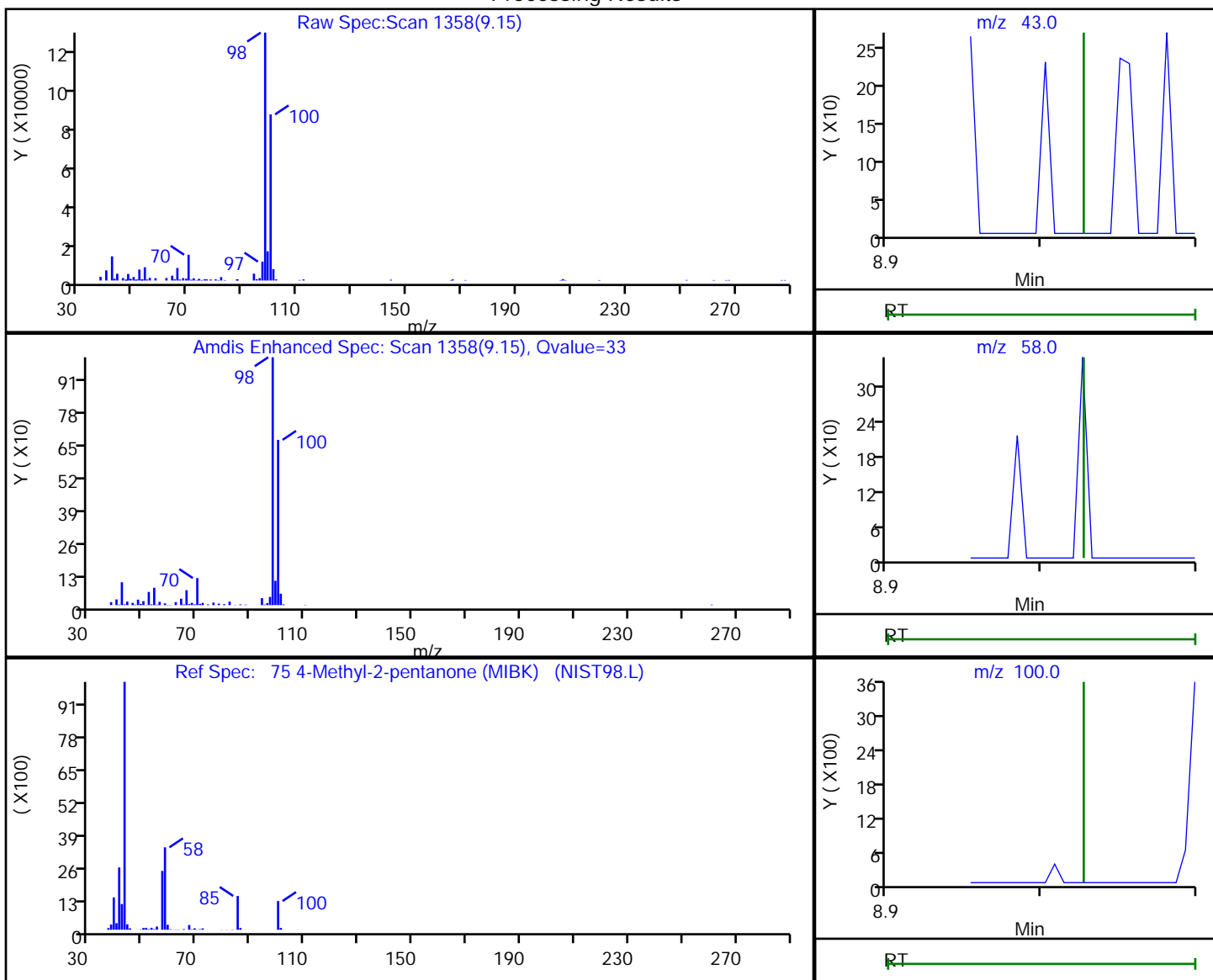
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
 Injection Date: 05-Dec-2019 22:27:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 25 Worklist Smp#: 32
 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	880	0.481876
9.14	58.00	2178	
9.14	100.00	273947	

Reviewer: bowieh, 06-Dec-2019 10:56:57

Audit Action: Marked Compound Undetected

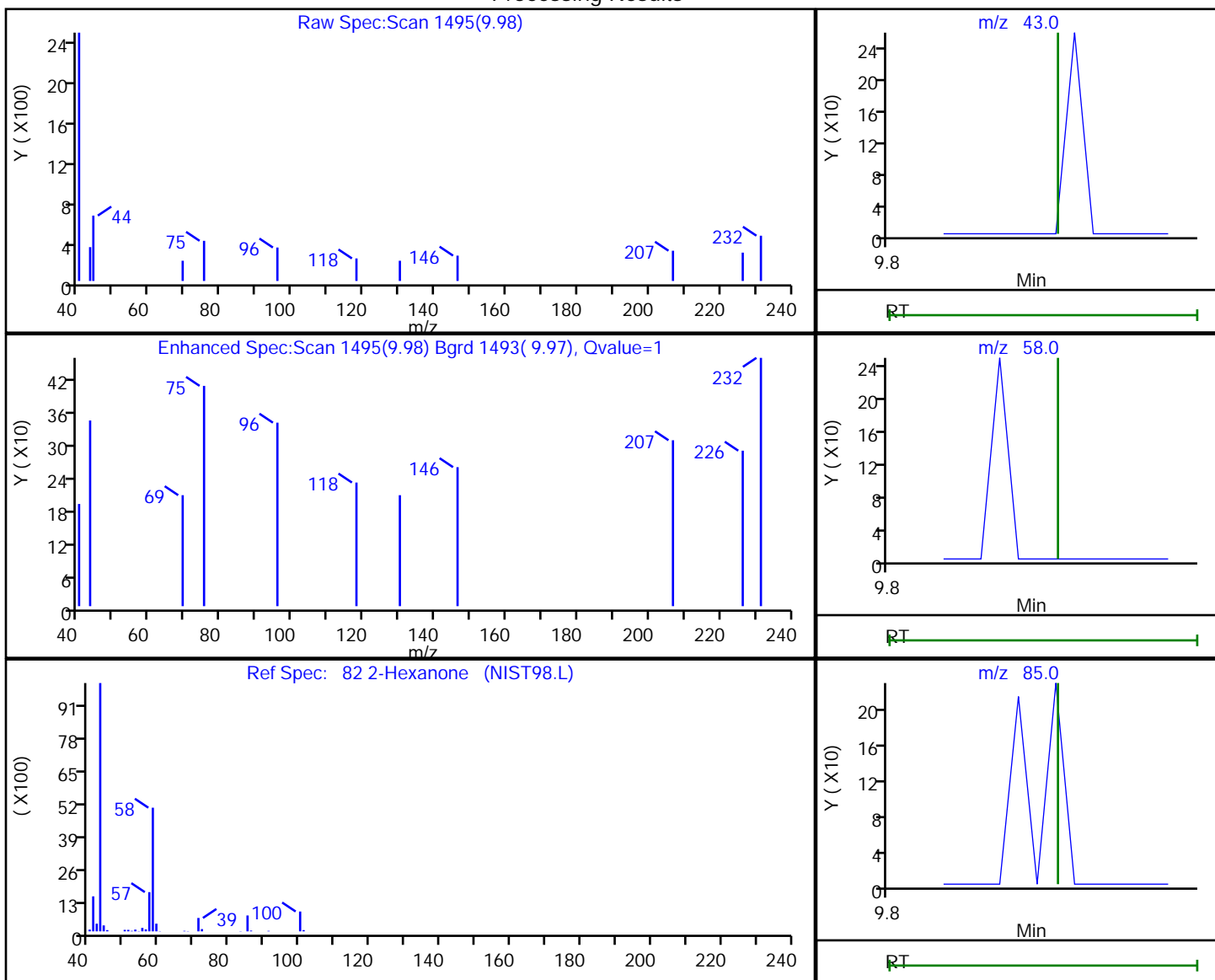
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
 Injection Date: 05-Dec-2019 22:27:30 Instrument ID: CHHP5
 Lims ID: 180-99101-A-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 25 Worklist Smp#: 32
 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	123	12.813880
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:57:02

Audit Action: Marked Compound Undetected

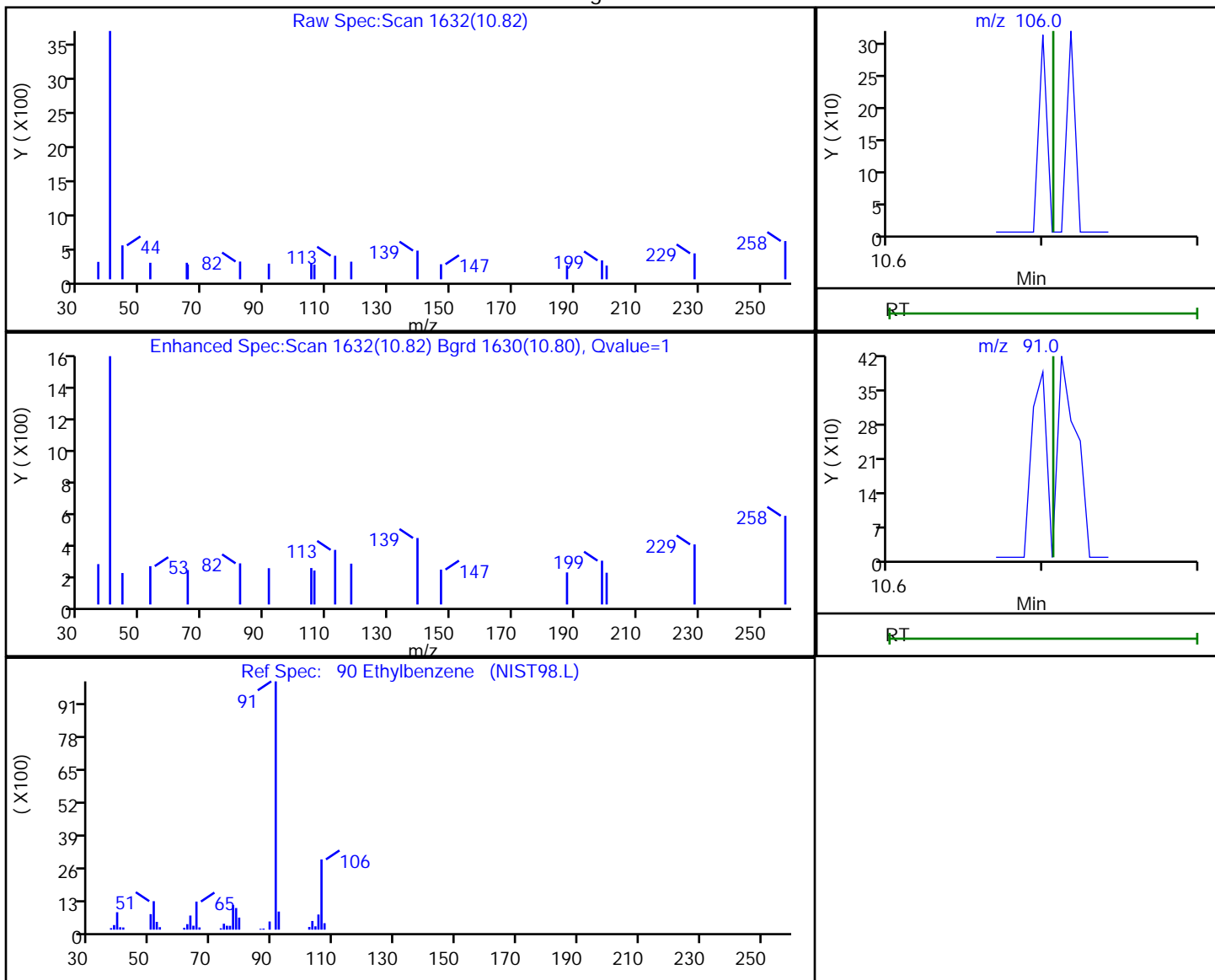
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120532.D
Injection Date: 05-Dec-2019 22:27:30 Instrument ID: CHHP5
Lims ID: 180-99101-A-13 Lab Sample ID: 180-99101-13
Client ID: HD-QC1-0/1-2
Operator ID: 433269 ALS Bottle#: 25 Worklist Smp#: 32
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	79	0.020364
10.82	91.00	85	

Reviewer: bowieh, 06-Dec-2019 10:57:04

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-1 RA Lab Sample ID: 180-99101-13 RA
 Matrix: Water Lab File ID: 5121327.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	ND	H	1.0	0.90
75-01-4	Vinyl chloride	ND	H ^c	1.0	0.88
74-83-9	Bromomethane	ND	H	1.0	0.89
75-00-3	Chloroethane	ND	H ^c	1.0	0.90
75-35-4	1,1-Dichloroethene	ND	H	1.0	0.55
67-64-1	Acetone	ND	H	5.0	3.4
75-15-0	Carbon disulfide	ND	H	1.0	0.88
75-09-2	Methylene Chloride	ND	H	1.0	0.89
156-60-5	trans-1,2-Dichloroethene	ND	H	1.0	0.67
1634-04-4	Methyl tert-butyl ether	ND	H	1.0	0.59
75-34-3	1,1-Dichloroethane	ND	H	1.0	0.63
156-59-2	cis-1,2-Dichloroethene	ND	H	1.0	0.71
74-97-5	Bromochloromethane	ND	H	1.0	0.63
78-93-3	2-Butanone (MEK)	ND	H	5.0	2.6
67-66-3	Chloroform	ND	H	1.0	0.60
71-55-6	1,1,1-Trichloroethane	ND	H	1.0	0.60
56-23-5	Carbon tetrachloride	ND	H	1.0	0.88
71-43-2	Benzene	ND	H	1.0	0.60
107-06-2	1,2-Dichloroethane	ND	H	1.0	0.57
79-01-6	Trichloroethene	ND	H	1.0	0.69
78-87-5	1,2-Dichloropropane	ND	H	1.0	0.66
75-27-4	Bromodichloromethane	ND	H	1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	ND	H	1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	H	5.0	3.1
108-88-3	Toluene	ND	H	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	ND	H	1.0	0.58
79-00-5	1,1,2-Trichloroethane	ND	H ^c	1.0	0.45
127-18-4	Tetrachloroethene	4.1	H	1.0	0.47
591-78-6	2-Hexanone	ND	H	5.0	3.3
124-48-1	Dibromochloromethane	ND	H	1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	ND	H	1.0	0.50
108-90-7	Chlorobenzene	ND	H	1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	ND	H	1.0	0.57
100-41-4	Ethylbenzene	ND	H	1.0	0.51
1330-20-7	Xylenes, Total	ND	H	2.0	0.89
100-42-5	Styrene	ND	H	1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-1 RA Lab Sample ID: 180-99101-13 RA
 Matrix: Water Lab File ID: 5121327.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:00
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	<i>Bromoform</i>	ND	H	1.0	0.98
79-34-5	<i>1,1,2,2-Tetrachloroethane</i>	ND	H	1.0	0.60
107-13-1	<i>Acrylonitrile</i>	ND	H	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)	76	X	78-128
460-00-4	4-Bromofluorobenzene (Surr)	93		64-123
1868-53-7	Dibromofluoromethane (Surr)	116		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Lims ID: 180-99101-B-13
 Client ID: HD-QC1-0/1-2
 Sample Type: Client
 Inject. Date: 13-Dec-2019 21:25:30 ALS Bottle#: 20 Worklist Smp#: 27
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-027
 Misc. Info.: 180-99101-b-13
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:18:25 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 12:18:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.428	4.416	0.012	0	177333	1000.0	
* 2 Fluorobenzene (IS)	96	7.397	7.391	0.006	99	398166	50.0	
* 3 Chlorobenzene-d5	119	10.488	10.482	0.006	84	118983	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.818	12.818	0.000	94	207451	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.679	6.673	0.006	94	117069	58.1	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.044	7.038	0.006	0	154030	59.0	
\$ 7 Toluene-d8 (Surr)	98	9.034	9.034	0.000	93	377953	38.2	
\$ 8 4-Bromofluorobenzene (Surr	95	11.662	11.662	0.000	92	179866	46.6	
12 Chloromethane	50		1.831				ND	U
13 Vinyl chloride	62		1.965				ND	
15 Bromomethane	94		2.342				ND	U
16 Chloroethane	64		2.476				ND	U
22 1,1-Dichloroethene	96		3.467				ND	
24 Acetone	43		3.577				ND	
26 Carbon disulfide	76		3.753				ND	
31 Methylene Chloride	84		4.289				ND	
33 Acrylonitrile	53		4.672				ND	
34 trans-1,2-Dichloroethene	96		4.696				ND	
35 Methyl tert-butyl ether	73		4.708				ND	U
37 1,1-Dichloroethane	63		5.329				ND	
45 cis-1,2-Dichloroethene	96	6.059	6.065	-0.006	1	657	0.2705	
46 2-Butanone (MEK)	43		6.083				ND	U
49 Chlorobromomethane	128		6.351				ND	
52 Chloroform	83	6.491	6.497	-0.006	92	16300	0.3978	
53 1,1,1-Trichloroethane	97		6.649				ND	U
56 Carbon tetrachloride	117		6.813				ND	
58 Benzene	78		7.051				ND	U
59 1,2-Dichloroethane	62		7.124				ND	U
64 Trichloroethene	130	7.774	7.775	0.000	54	3949	1.54	
67 1,2-Dichloropropane	63		8.048				ND	U
71 Dichlorobromomethane	83		8.328				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
74 cis-1,3-Dichloropropene	75		8.772				ND	
75 4-Methyl-2-pentanone (MIBK)	43		8.930				ND	
76 Toluene	91	9.101	9.101	-0.001	22	2985	0.2556	
77 trans-1,3-Dichloropropene	75		9.350				ND	
79 1,1,2-Trichloroethane	97		9.539				ND	U
80 Tetrachloroethene	164	9.612	9.612	0.000	95	54941	20.5	
82 2-Hexanone	43		9.764				ND	U
84 Chlorodibromomethane	129		9.910				ND	
85 Ethylene Dibromide	107		10.019				ND	
87 Chlorobenzene	112		10.512				ND	
89 1,1,1,2-Tetrachloroethane	131		10.603				ND	
90 Ethylbenzene	106		10.609				ND	U
91 m-Xylene & p-Xylene	106		10.743				ND	
92 o-Xylene	106		11.126				ND	
93 Styrene	104		11.145				ND	
94 Bromoform	173		11.321				ND	
99 1,1,2,2-Tetrachloroethane	83		11.808				ND	
S 133 Xylenes, Total	106		1.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D

Injection Date: 13-Dec-2019 21:25:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-B-13

Lab Sample ID: 180-99101-13

Worklist Smp#: 27

Client ID: HD-QC1-0/1-2

Purge Vol: 5.000 mL

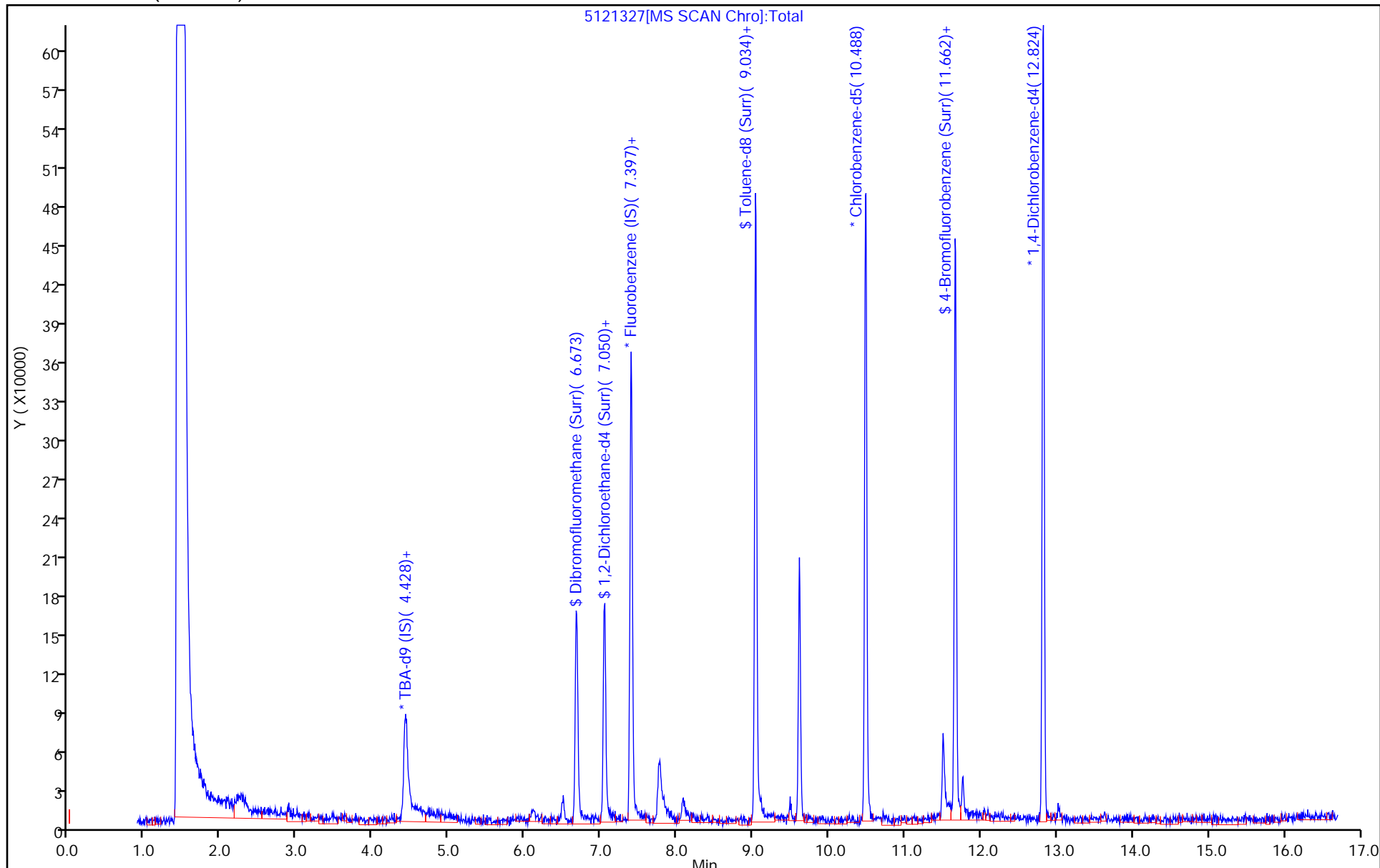
Dil. Factor: 1.0000

ALS Bottle#: 20

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\20191213-30001.b\5121327.D
 Lims ID: 180-99101-B-13
 Client ID: HD-QC1-0/1-2
 Sample Type: Client
 Inject. Date: 13-Dec-2019 21:25:30 ALS Bottle#: 20 Worklist Smp#: 27
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-027
 Misc. Info.: 180-99101-b-13
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 12:18:25 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

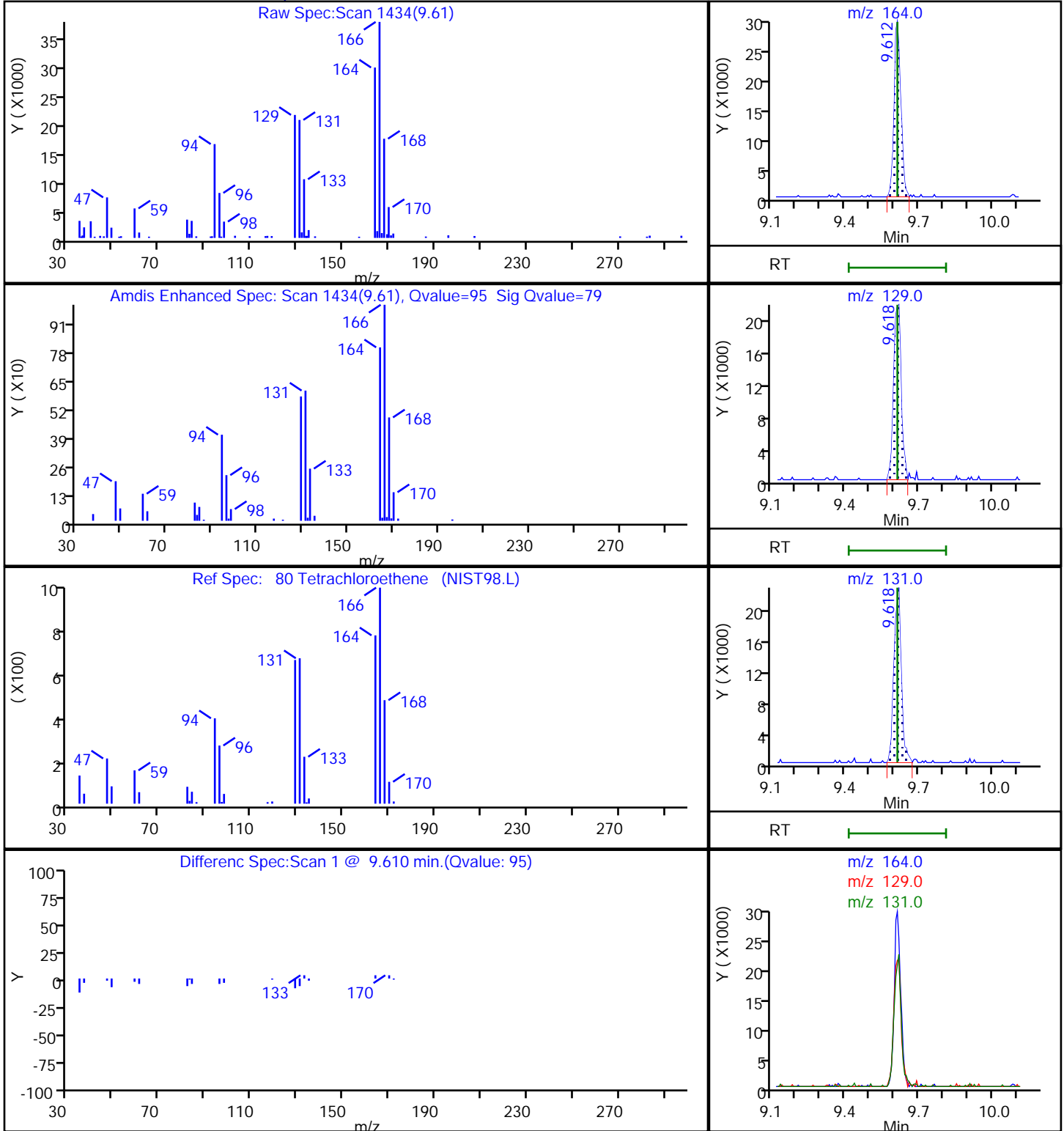
First Level Reviewer: bowieh Date: 14-Dec-2019 12:18:25

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	58.1	116.27
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	59.0	118.03
\$ 7 Toluene-d8 (Surr)	50.0	38.2	76.44
\$ 8 4-Bromofluorobenzene (Surr)	50.0	46.6	93.29

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
Client ID: HD-QC1-0/1-2
Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
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

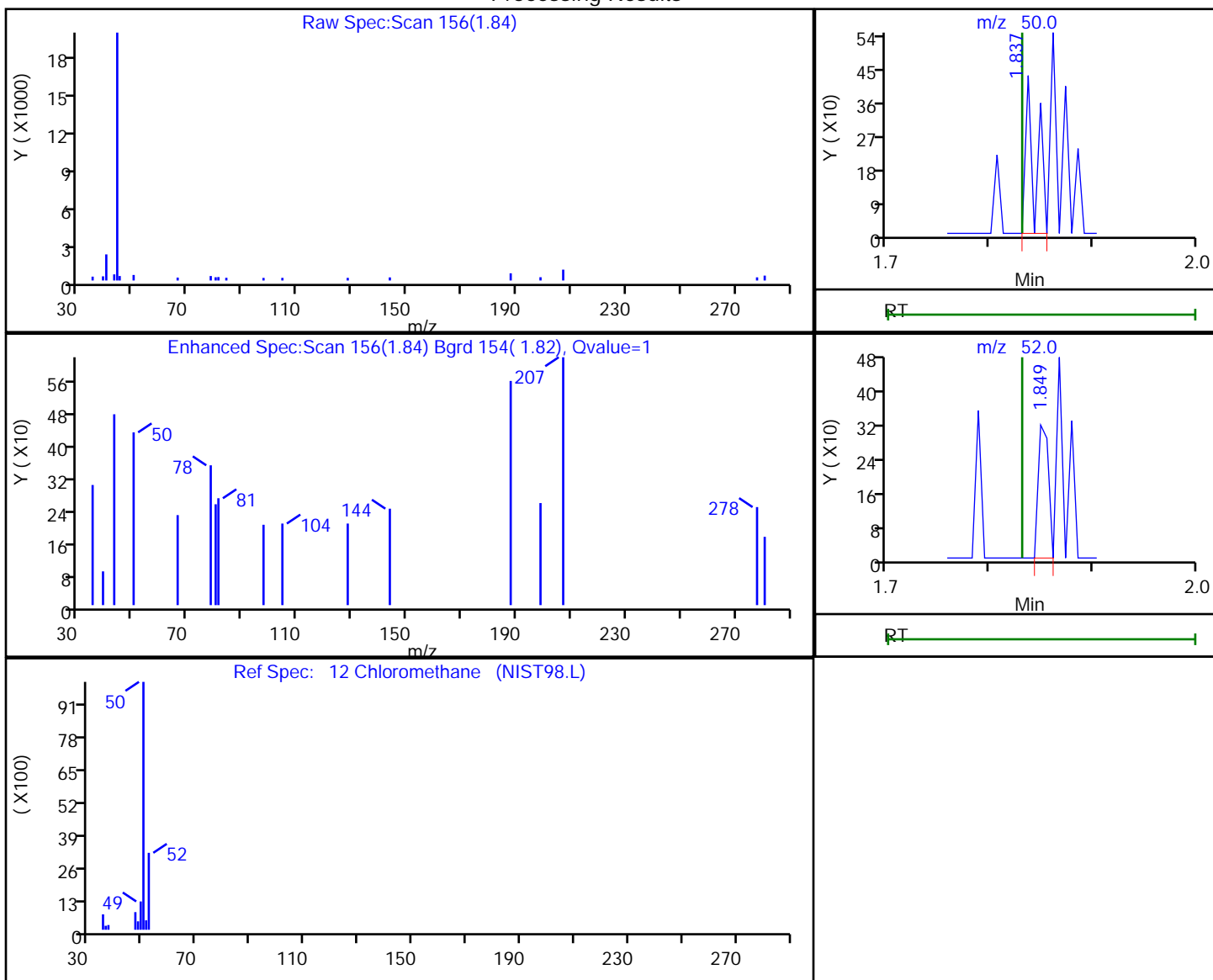


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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
1.84	50.00	286	0.154886
1.85	52.00	216	

Reviewer: bowieh, 14-Dec-2019 12:17:48

Audit Action: Marked Compound Undetected

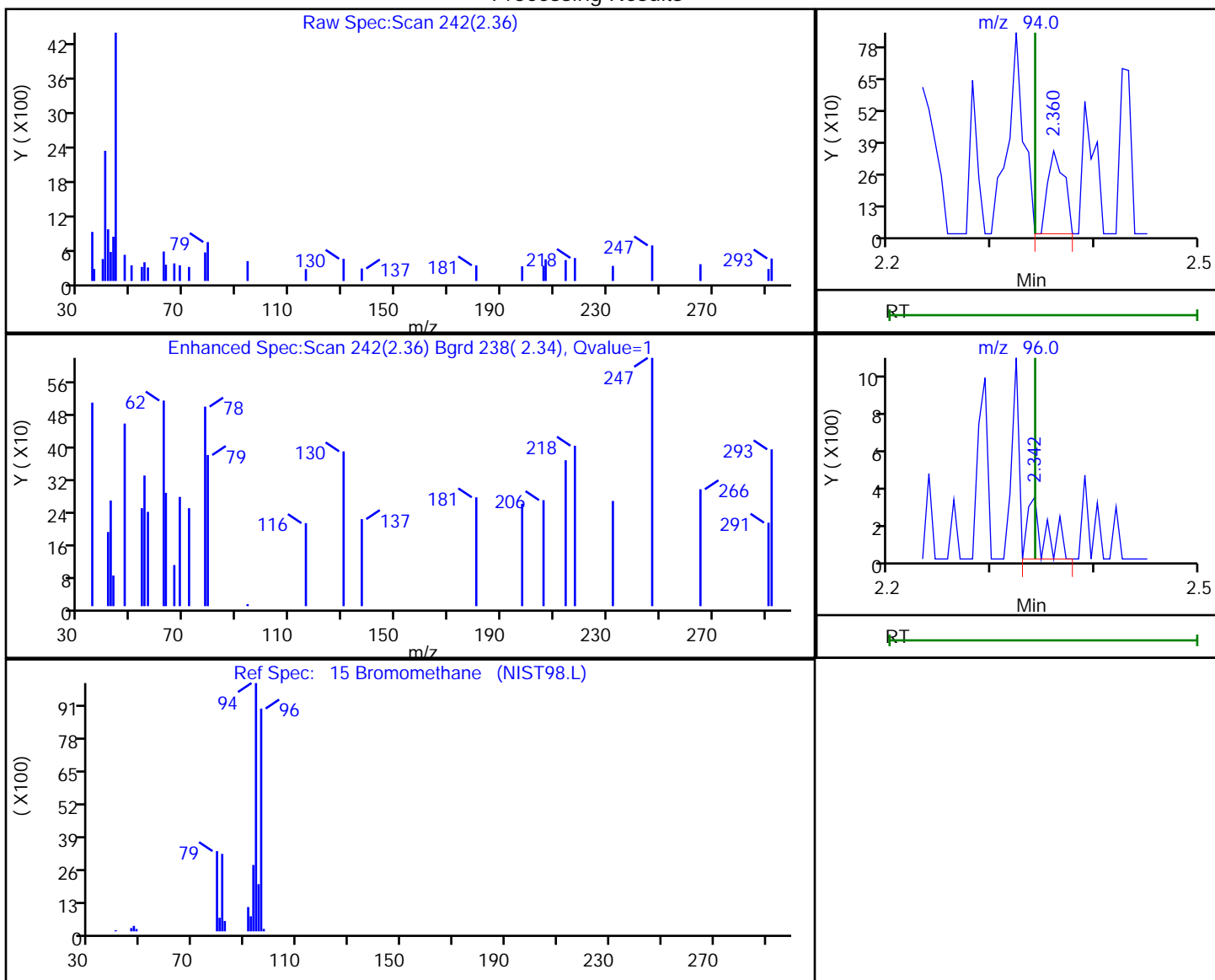
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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
2.36	94.00	380	0.251652
2.34	96.00	369	

Reviewer: bowieh, 14-Dec-2019 12:17:50

Audit Action: Marked Compound Undetected

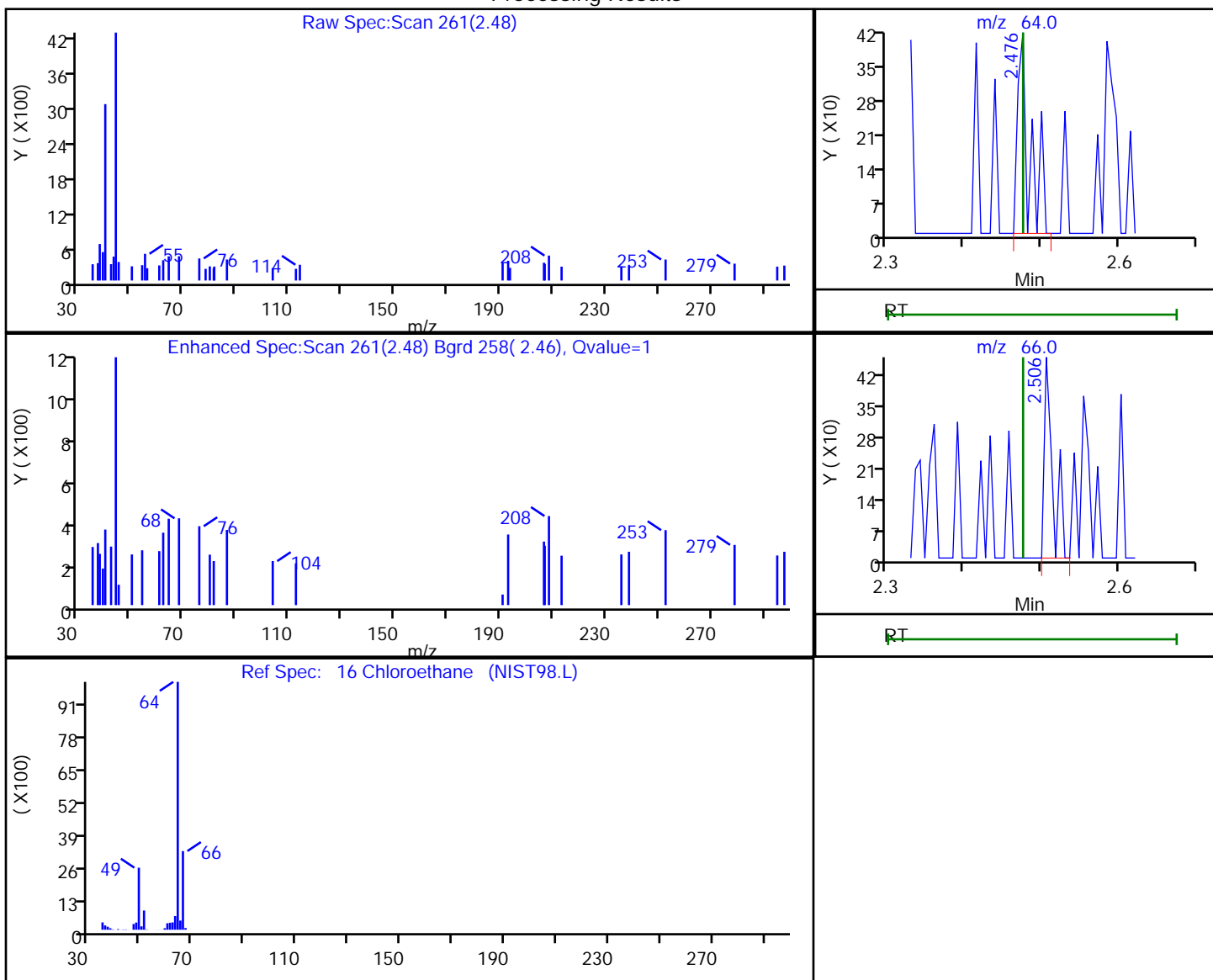
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
Client ID: HD-QC1-0/1-2
Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
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
2.48	64.00	445	0.357825
2.51	66.00	348	

Reviewer: bowieh, 14-Dec-2019 12:17:51

Audit Action: Marked Compound Undetected

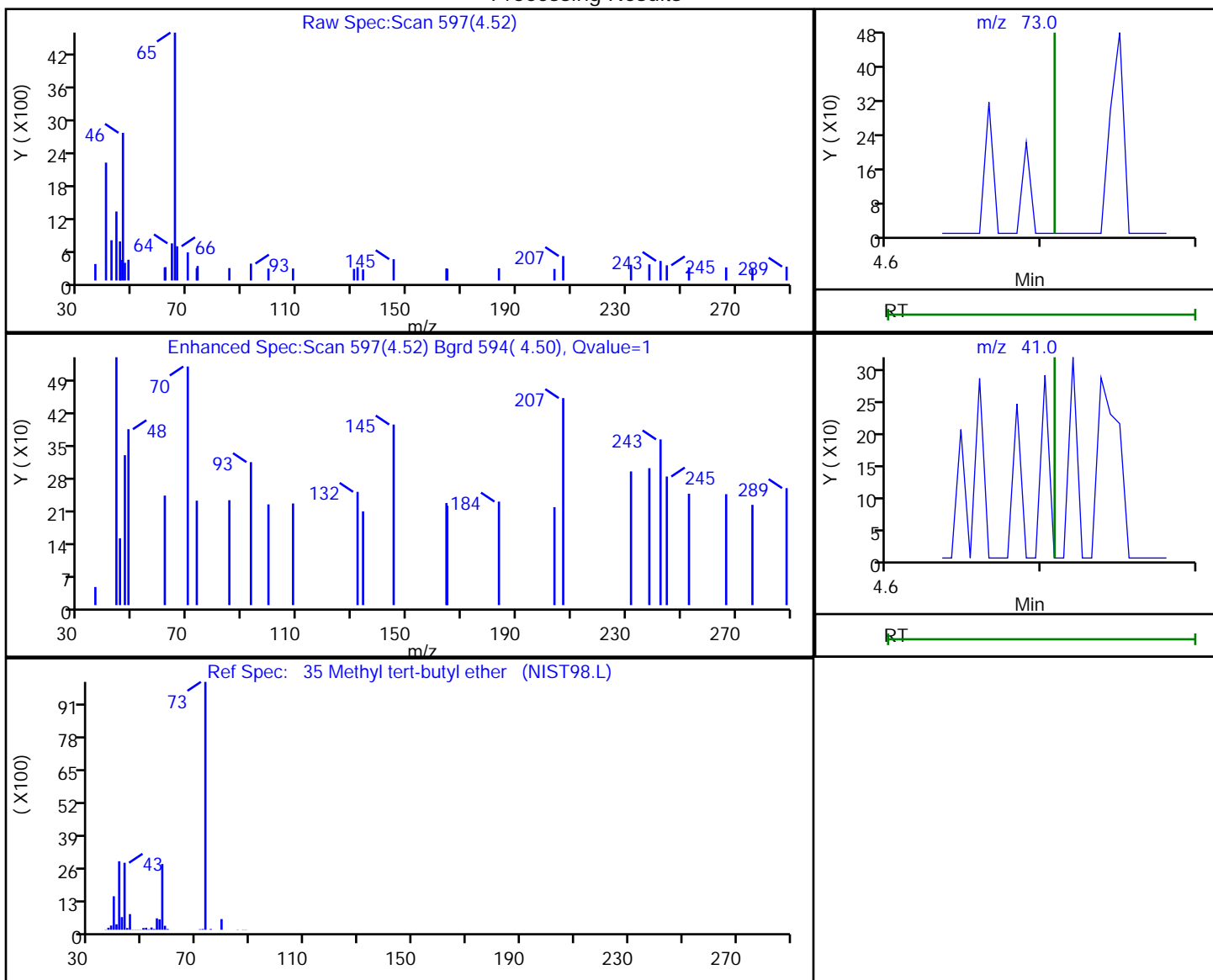
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
Client ID: HD-QC1-0/1-2
Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
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
4.52	73.00	179	0.032064
4.53	41.00	192	

Reviewer: bowieh, 14-Dec-2019 12:17:54

Audit Action: Marked Compound Undetected

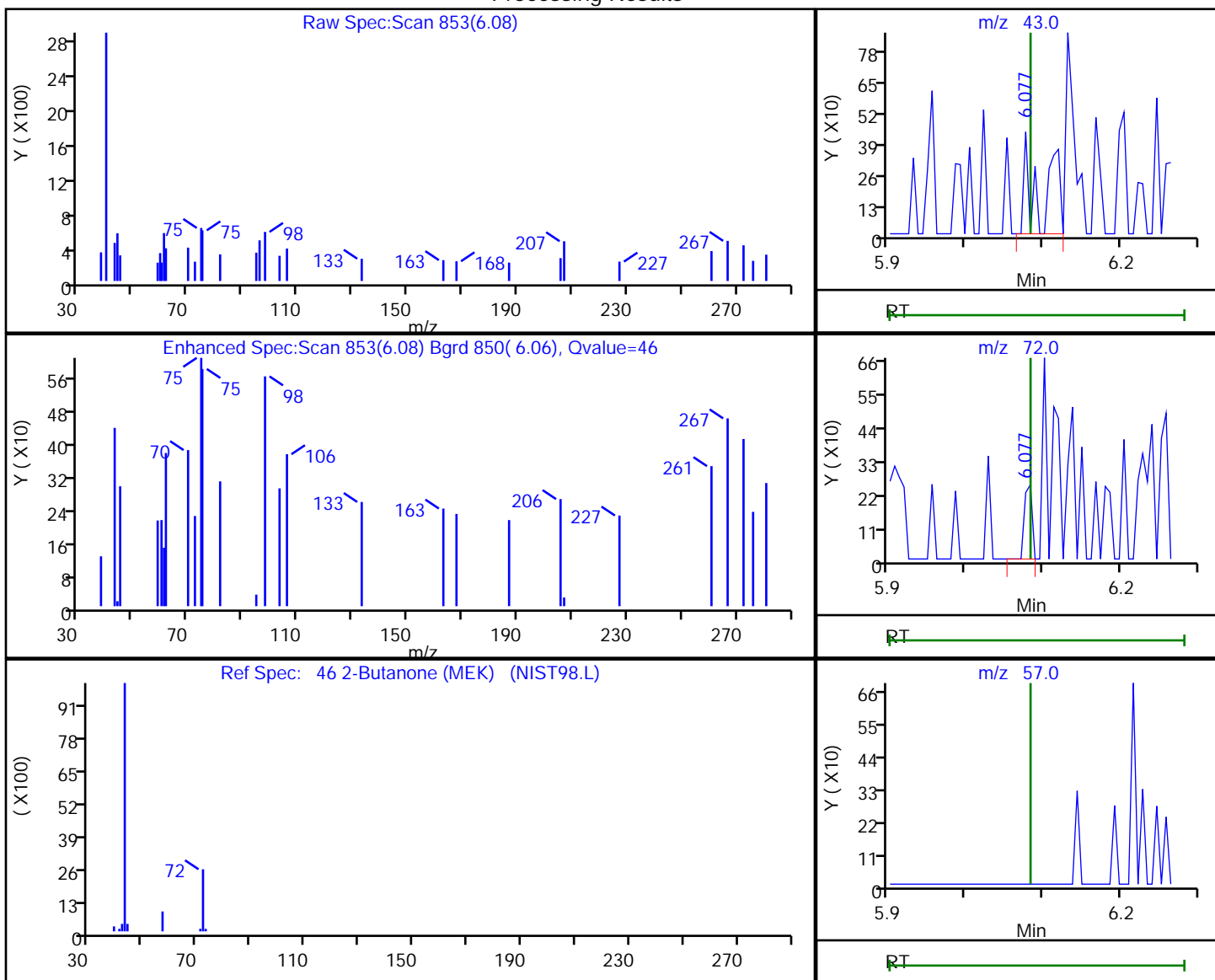
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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

46 2-Butanone (MEK), CAS: 78-93-3

Processing Results



RT	Mass	Response	Amount
6.08	43.00	617	0.611893
6.08	72.00	169	
6.08	57.00	0	

Reviewer: bowieh, 14-Dec-2019 12:17:57

Audit Action: Marked Compound Undetected

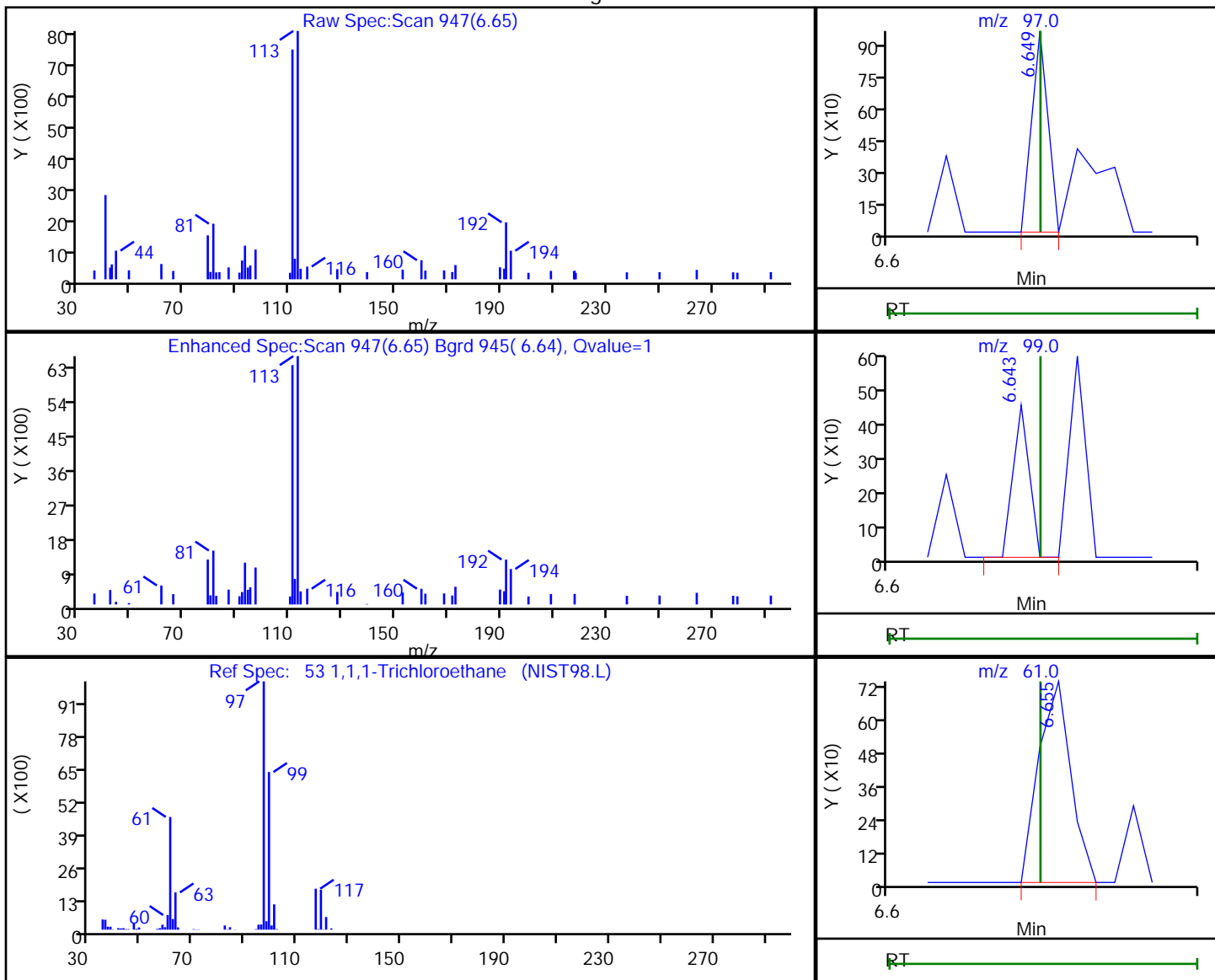
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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
6.65	97.00	353	0.113799
6.64	99.00	165	
6.65	61.00	532	

Reviewer: bowieh, 14-Dec-2019 12:18:00

Audit Action: Marked Compound Undetected

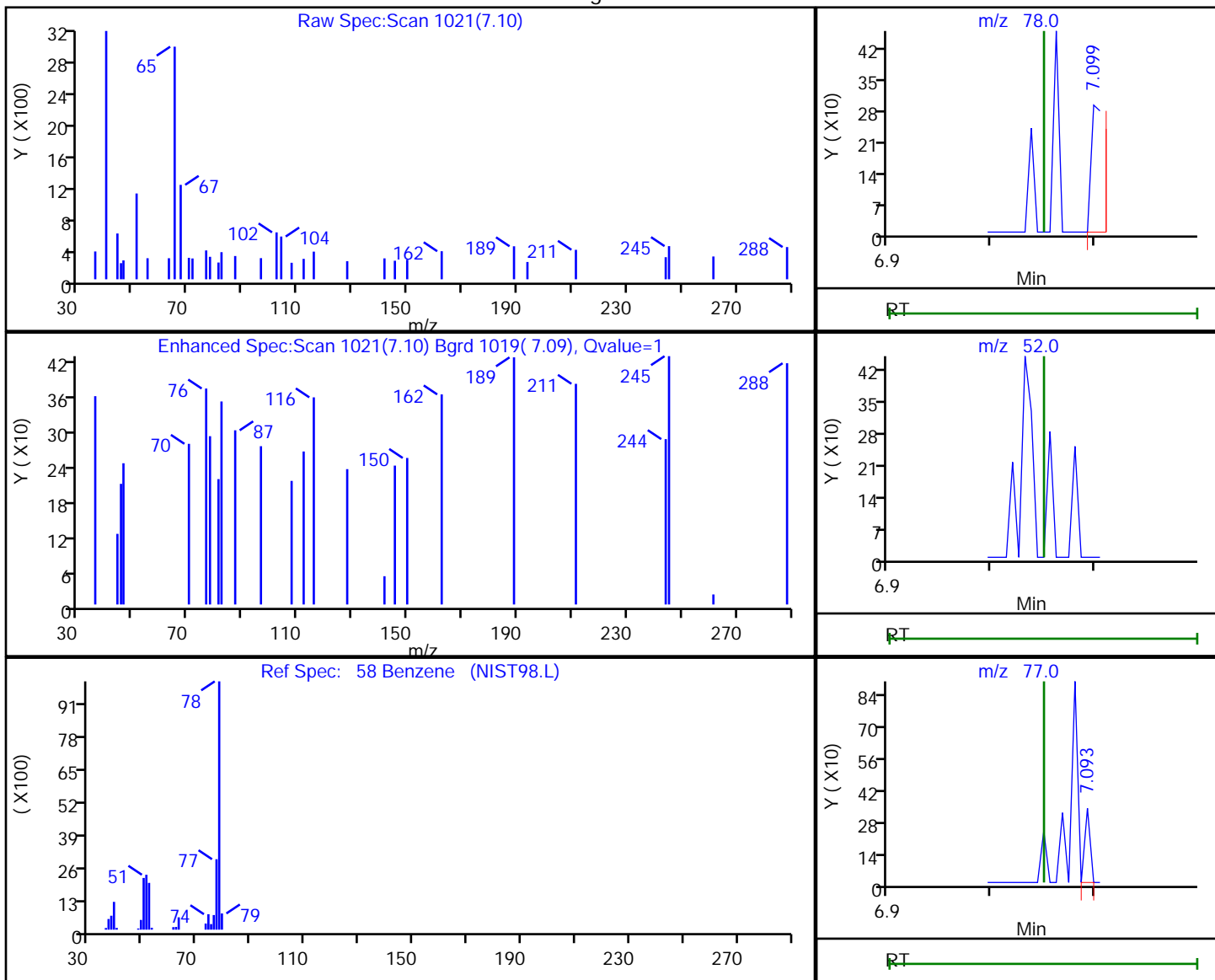
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
Client ID: HD-QC1-0/1-2
Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
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
7.10	78.00	204	0.022566
7.05	52.00	0	
7.09	77.00	121	

Reviewer: bowieh, 14-Dec-2019 12:18:02

Audit Action: Marked Compound Undetected

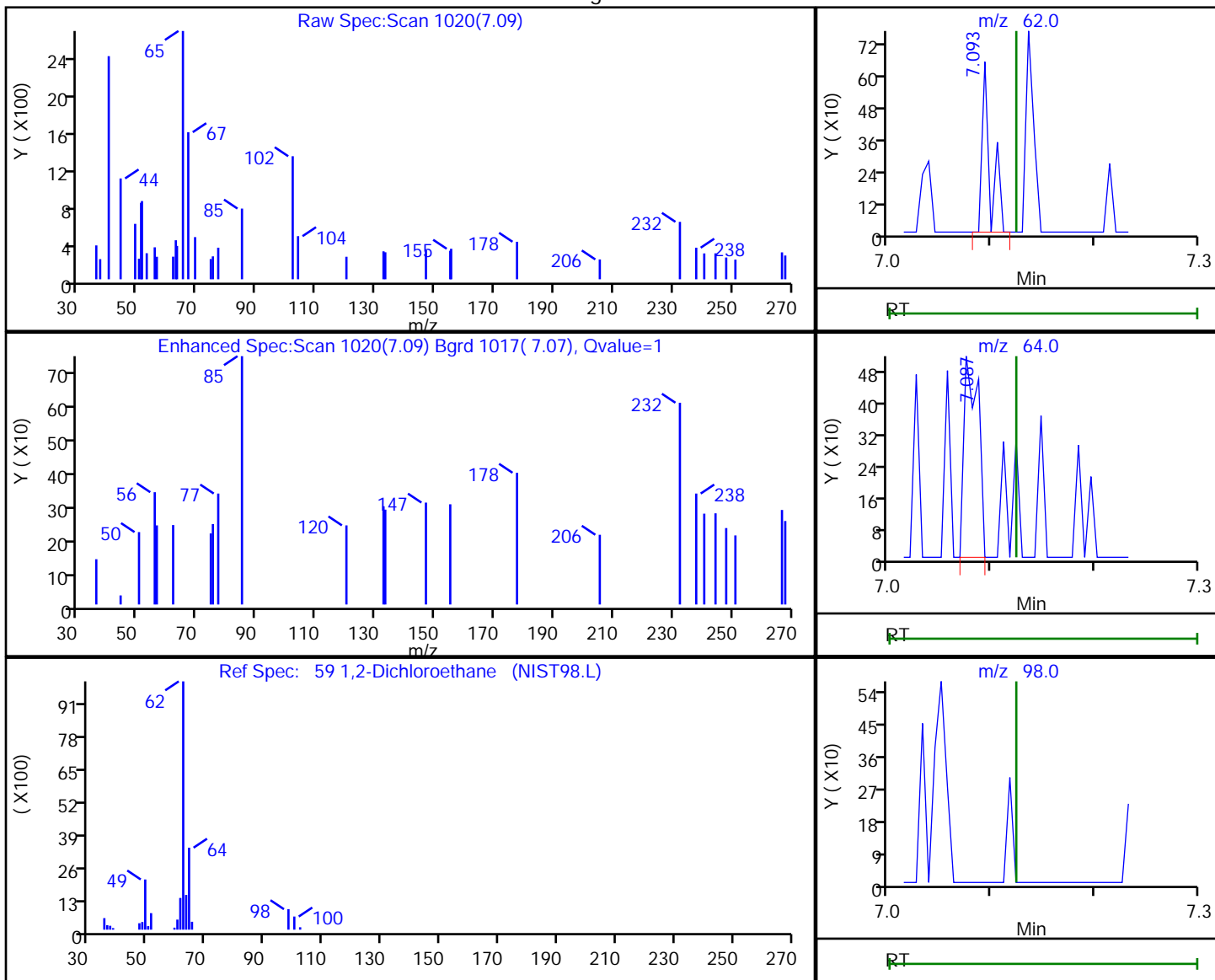
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.09	62.00	360	0.114295
7.09	64.00	495	
7.12	98.00	0	

Reviewer: bowieh, 14-Dec-2019 12:18:03

Audit Action: Marked Compound Undetected

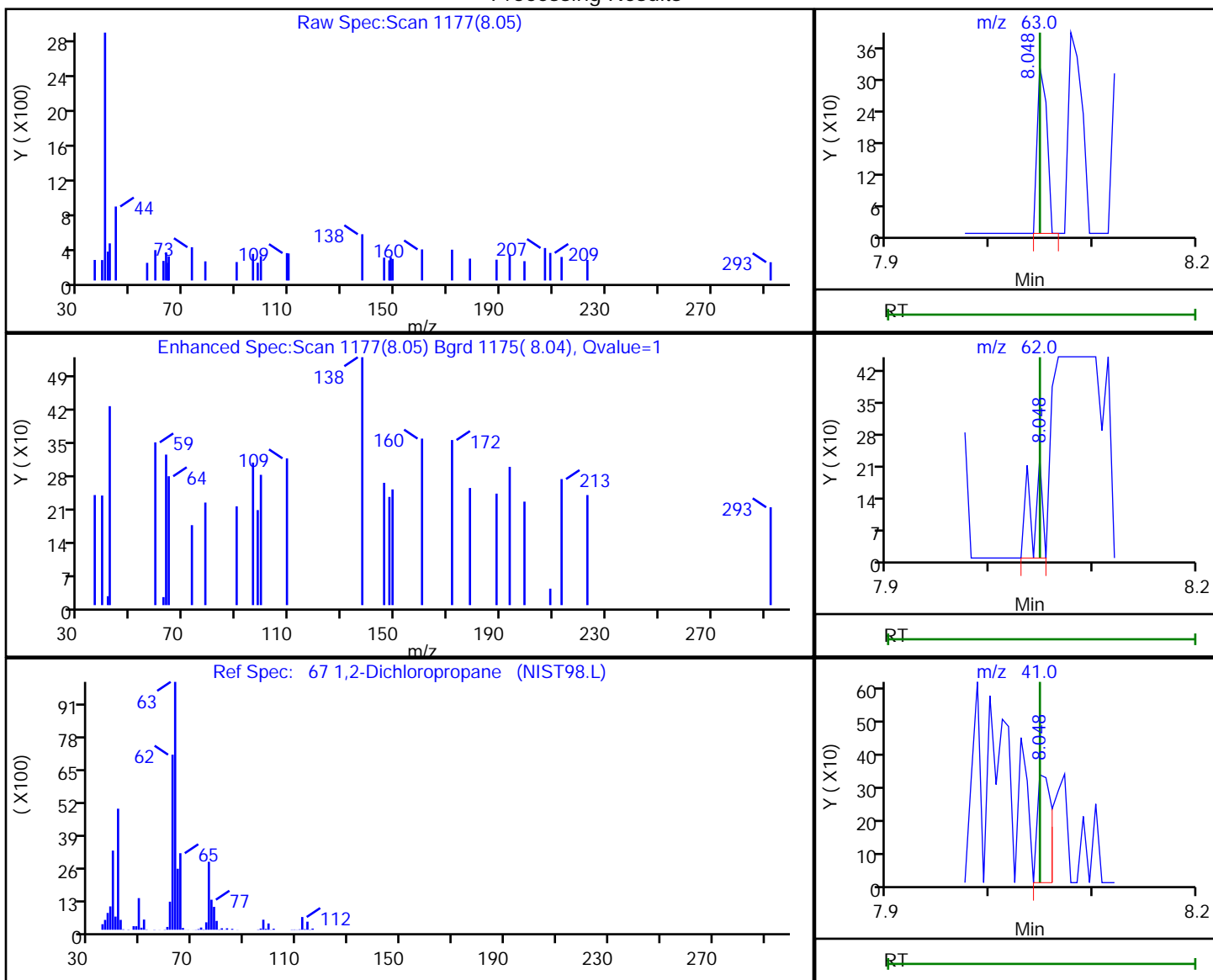
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.05	63.00	208	0.100132
8.05	62.00	157	
8.05	41.00	319	

Reviewer: bowieh, 14-Dec-2019 12:18:05

Audit Action: Marked Compound Undetected

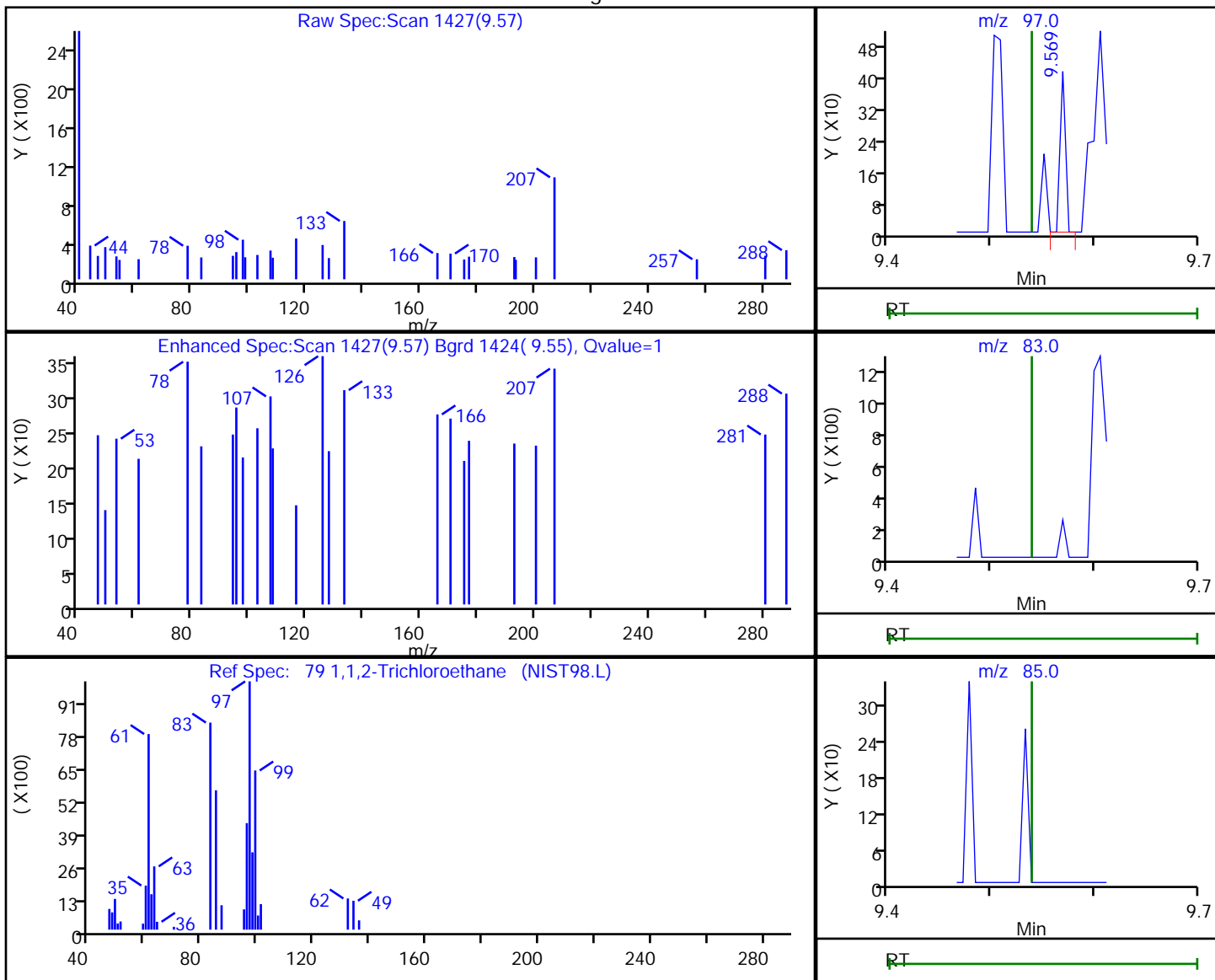
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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
9.57	97.00	151	0.064580
9.54	83.00	0	
9.54	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:18:09

Audit Action: Marked Compound Undetected

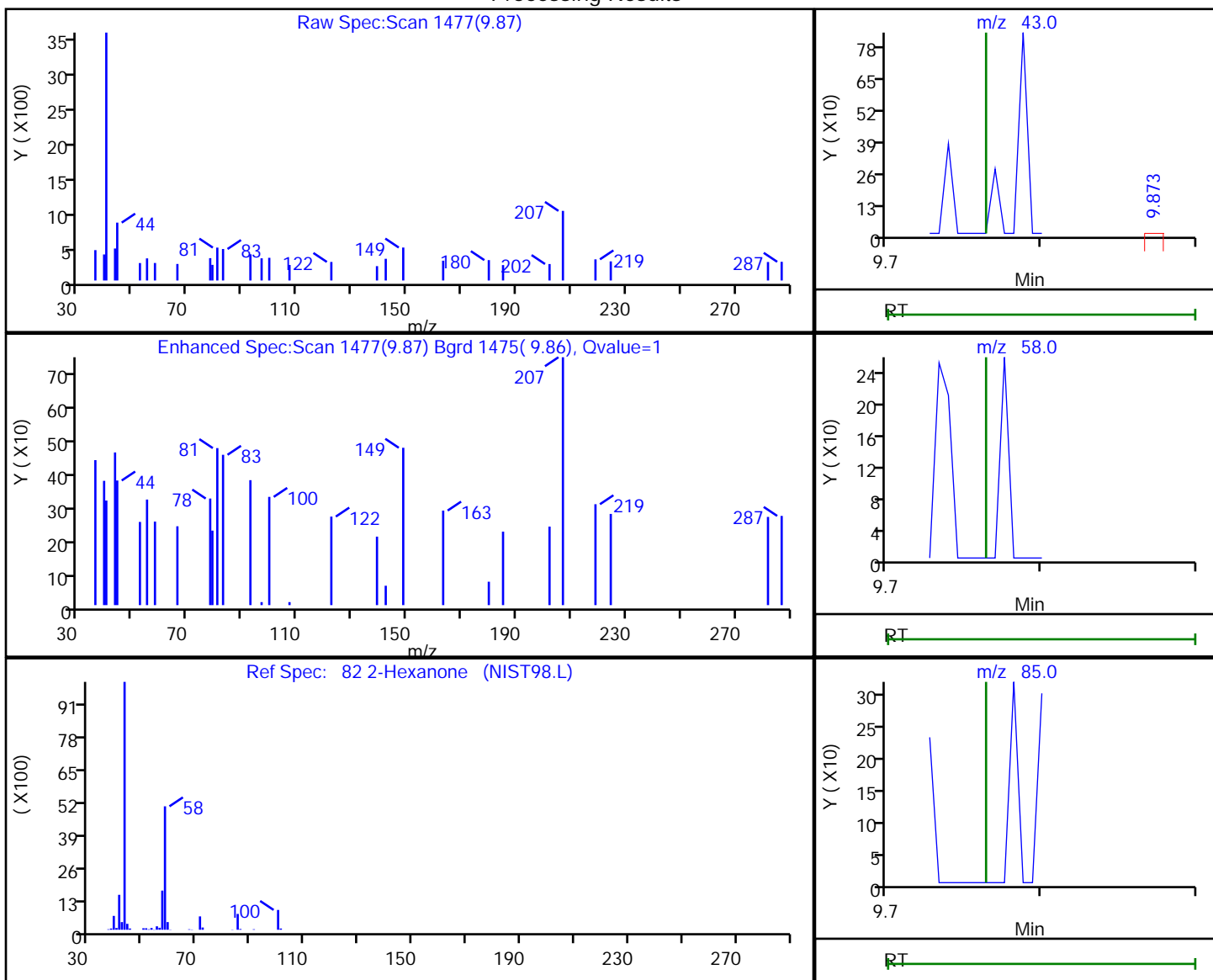
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
 Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
 Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
 Client ID: HD-QC1-0/1-2
 Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
 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
9.87	43.00	167	12.835472
9.76	58.00	0	
9.76	85.00	0	

Reviewer: bowieh, 14-Dec-2019 12:18:12

Audit Action: Marked Compound Undetected

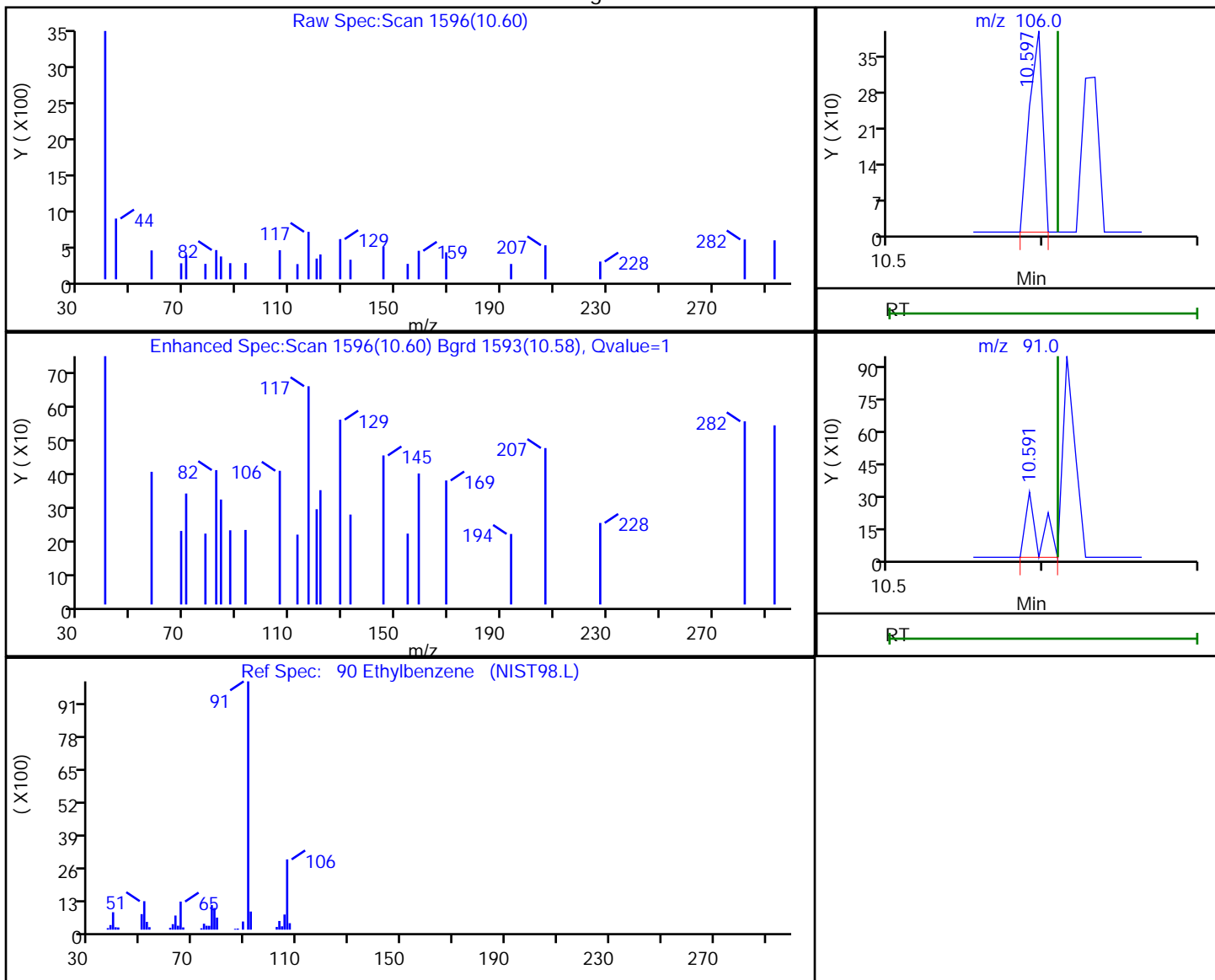
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121327.D
Injection Date: 13-Dec-2019 21:25:30 Instrument ID: CHHP5
Lims ID: 180-99101-B-13 Lab Sample ID: 180-99101-13
Client ID: HD-QC1-0/1-2
Operator ID: 433269 ALS Bottle#: 20 Worklist Smp#: 27
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
10.60	106.00	237	0.058048
10.59	91.00	189	

Reviewer: bowieh, 14-Dec-2019 12:18:15

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.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-299818/4	5112904.D
Level 2	IC 180-299818/5	5112905.D
Level 3	ICIS 180-299818/6	5112906.D
Level 4	IC 180-299818/7	5112907.D
Level 5	IC 180-299818/8	5112908.D
Level 6	IC 180-299818/9	5112909.D
Level 7	IC 180-299818/10	5112910.D
Level 8	IC 180-299818/11	5112911.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
Dichlorodifluoromethane	0.3894 0.3489	0.3404 0.3241	0.3255 0.3488	0.3396	0.3498	Ave		0.3458			0.1000	5.9	20.0				
Chloromethane	0.2454 0.2305	0.2309 0.2277	0.2180 0.2442	0.2259	0.2324	Ave		0.2319			0.1000	3.9	20.0				
Vinyl chloride	0.2807 0.2497	0.2437 0.2348	0.2188 0.2568	0.2323	0.2328	Ave		0.2437			0.1000	7.8	20.0				
1,3-Butadiene	0.3048 0.2299	0.2351 0.2073	0.2162 0.2236	0.2140	0.2139	Ave		0.2306			0.0100	13.6	20.0				
Bromomethane	0.2482 0.1812	0.1994 0.1725	0.1887 0.1688	0.1833	0.1749	Ave		0.1896			0.0500	13.5	20.0				
Chloroethane	0.1886 0.1549	0.1620 0.1460	0.1449 0.1491	0.1556	0.1482	Ave		0.1562			0.0500	9.2	20.0				
Dichlorofluoromethane	0.4894 0.3866	0.3996 0.3654	0.4070 0.3760	0.3827	0.3916	Ave		0.3998			0.0100	9.6	20.0				
Trichlorofluoromethane	0.5335 0.4509	0.4652 0.4102	0.4461 0.4149	0.4362	0.4505	Ave		0.4509			0.1000	8.5	20.0				
Ethyl ether	0.2490 0.2073	0.2408 0.2183	0.2315 0.2215	0.2116	0.2240	Ave		0.2255			0.0100	6.3	20.0				
Acrolein	0.0476 0.0464	0.0469 0.0471	0.0474 0.0463	0.0436	0.0455	Ave		0.0463			0.0100	2.8	20.0				
1,1-Dichloroethene	0.3063 0.2492	0.2548 0.2394	0.2406 0.2540	0.2436	0.2439	Ave		0.2540			0.1000	8.6	20.0				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3308 0.2812	0.2728 0.2604	0.2737 0.2734	0.2738	0.2768	Ave		0.2804			0.1000	7.6	20.0				
Acetone	0.0989 0.1089	0.0967 0.0945	0.0890 0.1116	0.0992	0.1195	Ave		0.1023			0.0500	9.9	20.0				
Iodomethane	0.5140 0.4564	0.4521 0.4394	0.4478 0.4786	0.4346	0.4528	Ave		0.4595			0.0100	5.6	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.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R ² OR COD	#	MIN R ² OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
Carbon disulfide	0.7675 0.6972	0.6200 0.6635	0.6206 0.7249	0.6298	0.6541	Ave	0.6722			0.1000	8.0		20.0				
Allyl chloride	0.1384 0.1502	0.1340 0.1477	0.1380 0.1581	0.1344	0.1427	Ave	0.1429			0.0100	5.9		20.0				
Methyl acetate	0.1800 0.1681	0.1657 0.1707	0.1621 0.1784	0.1623	0.1793	Ave	0.1708			0.1000	4.4		20.0				
Methylene Chloride	0.4175 0.2735	0.2925 0.2652	0.2786 0.2838	0.2604	0.2798	Lin2	0.7512	0.2659		0.1000				0.9990		0.9900	
tert-Butyl alcohol	0.9152 1.0261	0.8198 0.9491	1.0642 1.0556	1.0183	0.9890	Ave	0.9797			0.0100	8.4		20.0				
Acrylonitrile	0.0975 0.0937	0.0912 0.0938	0.0932 0.0996	0.0870	0.0978	Ave	0.0942			0.0100	4.3		20.0				
trans-1,2-Dichloroethene	0.3471 0.2837	0.2802 0.2721	0.2720 0.2945	0.2683	0.2855	Ave	0.2879			0.1000	8.8		20.0				
Methyl tert-butyl ether	0.7339 0.7139	0.6698 0.6962	0.6615 0.7571	0.6447	0.7313	Ave	0.7010			0.1000	5.7		20.0				
Hexane	0.4202 0.4050	0.3469 0.3858	0.3533 0.4320	0.3932	0.3832	Ave	0.3899			0.0100	7.6		20.0				
1,1-Dichloroethane	0.5425 0.4413	0.4317 0.4327	0.4279 0.4670	0.4288	0.4404	Ave	0.4515			0.2000	8.6		20.0				
Vinyl acetate	0.4389 0.4876	0.3907 0.4917	0.4282 0.5324	0.4368	0.4530	Ave	0.4574			0.0100	9.7		20.0				
2,2-Dichloropropane	0.0616 0.0637	0.0596 0.0612	0.0591 0.0655	0.0577	0.0640	Ave	0.0616			0.0100	4.4		20.0				
cis-1,2-Dichloroethene	0.3434 0.3025	0.3017 0.2941	0.2905 0.3210	0.2856	0.3014	Ave	0.3050			0.1000	6.2		20.0				
2-Butanone (MEK)	0.1300 0.1299	0.1202 0.1226	0.1200 0.1398	0.1147	0.1359	Ave	0.1266			0.0500	6.8		20.0				
Bromochloromethane	0.1334 0.1571	0.1620 0.1621	0.1545 0.1710	0.1477	0.1609	Ave	0.1561			0.0100	7.3		20.0				
Tetrahydrofuran	0.0928 0.0649	0.0643 0.0665	0.0614 0.0727	0.0648	0.0674	Ave	0.0694			0.0100	14.4		20.0				
Chloroform	0.8317 0.4732	0.5113 0.4628	0.4747 0.4843	0.4656	0.4822	Lin2	1.8664	0.4537		0.2000				0.9990		0.9900	
1,1,1-Trichloroethane	0.4365 0.4029	0.3710 0.3773	0.3589 0.3942	0.3745	0.4009	Ave	0.3895			0.1000	6.3		20.0				
Cyclohexane	0.5141 0.4835	0.3997 0.4576	0.4059 0.4938	0.4433	0.4581	Ave	0.4570			0.1000	8.8		20.0				
Carbon tetrachloride	0.4218 0.3853	0.3468 0.3638	0.3511 0.3803	0.3638	0.3734	Ave	0.3733			0.1000	6.3		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.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
1,1-Dichloropropene	0.4026 0.3885	0.3597 0.3709	0.3590 0.4013	0.3639	0.3820	Ave		0.3785			0.0100	4.7	20.0				
Isobutyl alcohol	0.0084 0.0067	0.0061 0.0070	0.0069 0.0071	0.0065	0.0074	Ave		0.0070		*	0.0100	9.4	20.0				
Benzene	1.2916 1.1355	1.0882 1.1224	1.0640 1.1927	1.0722	1.1154	Ave		1.1352			0.5000	6.6	20.0				
1,2-Dichloroethane	0.4251 0.3934	0.3888 0.3856	0.3871 0.4041	0.3709	0.4093	Ave		0.3955			0.1000	4.2	20.0				
n-Heptane	0.3235 0.3280	0.2888 0.3057	0.2726 0.3414	0.3031	0.3110	Ave		0.3093			0.0100	7.1	20.0				
Trichloroethene	0.3532 0.3311	0.3032 0.3181	0.3019 0.3459	0.3054	0.3198	Ave		0.3223			0.2000	6.1	20.0				
Methylcyclohexane	0.4589 0.5355	0.4276 0.5112	0.4436 0.5573	0.4930	0.5019	Ave		0.4911			0.1000	9.2	20.0				
1,2-Dichloropropane	0.3157 0.2545	0.2412 0.2584	0.2421 0.2802	0.2381	0.2565	Ave		0.2609			0.1000	9.9	20.0				
1,4-Dioxane	0.0028 0.0024	0.0022 0.0027	0.0020 0.0026	0.0021	0.0025	Ave		0.0024		*	0.0100	11.0	20.0				
Dibromomethane	0.1785 0.1669	0.1565 0.1653	0.1589 0.1789	0.1557	0.1703	Ave		0.1664			0.0100	5.5	20.0				
Bromodichloromethane	0.3544 0.3431	0.3225 0.3403	0.3213 0.3697	0.3201	0.3473	Ave		0.3398			0.2000	5.2	20.0				
cis-1,3-Dichloropropene	0.3481 0.4238	0.3458 0.4295	0.3614 0.4727	0.3739	0.4141	Ave		0.3962			0.2000	11.5	20.0				
4-Methyl-2-pentanone (MIBK)	0.6812 0.9046	0.6561 0.8682	0.7669 0.9511	0.7953	0.8379	Ave		0.8077			0.1000	12.8	20.0				
Toluene	4.6066 5.3650	4.3117 4.9500	4.6655 5.4278	4.9649	4.9735	Ave		4.9081			0.4000	7.7	20.0				
trans-1,3-Dichloropropene	1.1556 1.6923	1.2424 1.6305	1.3928 1.7787	1.4723	1.5816	Ave		1.4933			0.1000	14.7	20.0				
Ethyl methacrylate	0.9014 1.4929	0.9621 1.4263	1.2037 1.5962	1.2518	1.4185	Lin1	-5.738	1.4954			0.0100			0.9920		0.9900	
1,1,2-Trichloroethane	0.9260 1.0192	0.8686 0.9781	0.9895 1.0691	1.0042	1.0058	Ave		0.9826			0.1000	6.2	20.0				
Tetrachloroethene	1.2470 1.1986	0.9998 1.0988	1.0276 1.1991	1.1491	1.1022	Ave		1.1278			0.2000	7.7	20.0				
1,3-Dichloropropane	1.7583 1.8450	1.4761 1.7024	1.6845 1.9130	1.6488	1.7317	Ave		1.7200			0.0100	7.6	20.0				
2-Hexanone	0.5099 0.7268	0.4743 0.6689	0.5897 0.7547	0.6139	0.6795	Lin1	-9.310	0.7308			0.1000			0.9940		0.9900	

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

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

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
Dibromochloromethane	0.9888 1.1321	0.8070 1.0696	0.9440 1.1786	1.0067	1.0787	Ave		1.0257			0.1000	11.4		20.0			
1,2-Dibromoethane (EDB)	1.0223 1.0762	0.8923 0.9980	0.9744 1.1266	0.9737	1.0229	Ave		1.0108			0.1000	7.0		20.0			
Chlorobenzene	3.4786 3.5037	2.8614 3.2940	3.1857 3.6286	3.2357	3.2630	Ave		3.3063			0.5000	7.2		20.0			
1,1,1,2-Tetrachloroethane	1.1395 1.1739	0.9679 1.1345	1.0745 1.2443	1.1074	1.1313	Ave		1.1217			0.0100	7.1		20.0			
Ethylbenzene	1.5723 1.9398	1.4026 1.7526	1.6368 1.9457	1.7236	1.7524	Ave		1.7157			0.1000	10.6		20.0			
m-Xylene & p-Xylene	1.8181 2.4074	1.7928 2.2164	2.0440 2.4316	2.2410	2.1948	Ave		2.1432			0.1000	11.3		20.0			
o-Xylene	1.6343 2.2844	1.7295 2.1163	1.9366 2.3376	2.0236	2.0831	Ave		2.0182			0.3000	12.2		20.0			
Styrene	2.6798 4.0030	2.9009 3.8139	3.4142 4.2030	3.5155	3.7002	Ave		3.5288			0.3000	14.8		20.0			
Bromoform	0.6550 0.7591	0.5819 0.7393	0.6396 0.7970	0.6506	0.7243	Ave		0.6933			0.1000	10.4		20.0			
Isopropylbenzene	4.1850 5.9597	4.2577 5.5335	4.9885 6.0687	5.3072	5.4045	Ave		5.2131			0.1000	13.5		20.0			
1,1,2,2-Tetrachloroethane	1.0900 1.1983	0.9867 1.1768	1.1137 1.2846	1.1038	1.1335	Ave		1.1359			0.3000	7.7		20.0			
Bromobenzene	0.9350 0.9525	0.8611 0.8666	0.8450 0.9695	0.8666	0.9172	Ave		0.9017			0.0100	5.3		20.0			
trans-1,4-Dichloro-2-butene	0.1809 0.2248	0.1789 0.1998	0.1787 0.2247	0.1985	0.2105	Ave		0.1996			0.0100	9.6		20.0			
1,2,3-Trichloropropane	0.2664 0.2679	0.2470 0.2342	0.2469 0.2745	0.2390	0.2536	Ave		0.2537			0.0100	5.7		20.0			
N-Propylbenzene	0.8244 1.0456	0.8334 0.9303	0.8809 1.0171	0.9671	0.9560	Ave		0.9319			0.0100	8.7		20.0			
2-Chlorotoluene	0.8235 0.8491	0.7314 0.7650	0.7375 0.8645	0.7863	0.8294	Ave		0.7983			0.0100	6.4		20.0			
1,3,5-Trimethylbenzene	2.0862 2.8444	2.2867 2.5986	2.4978 2.8288	2.7472	2.7560	Ave		2.5807			0.0100	10.6		20.0			
4-Chlorotoluene	0.6786 0.9147	0.7591 0.8339	0.8274 0.9248	0.8553	0.8940	Ave		0.8360			0.0100	10.0		20.0			
tert-Butylbenzene	1.8994 2.3621	1.7983 2.1492	2.0121 2.3756	2.2438	2.2670	Ave		2.1384			0.0100	10.0		20.0			
1,2,4-Trimethylbenzene	2.0094 2.8077	2.2310 2.5883	2.5108 2.8553	2.7049	2.7622	Ave		2.5587			0.0100	11.7		20.0			

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

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CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
sec-Butylbenzene	2.4908 3.2040	2.4791 2.9340	2.7646 3.2680	3.0879	3.0997	Ave		2.9160			0.0100	10.6		20.0			
1,3-Dichlorobenzene	1.4907 1.5414	1.3276 1.5015	1.4888 1.6366	1.5405	1.5696	Ave		1.5121			0.6000	5.9		20.0			
4-Isopropyltoluene	1.9837 2.7457	2.0680 2.5771	2.4334 2.8232	2.7613	2.7279	Ave		2.5150			0.0100	13.0		20.0			
1,4-Dichlorobenzene	1.7084 1.6055	1.4248 1.5390	1.5511 1.6860	1.6080	1.6476	Ave		1.5963			0.5000	5.7		20.0			
n-Butylbenzene	1.5752 1.9756	1.4475 1.9266	1.7329 2.1148	1.9638	1.9778	Ave		1.8393			0.0100	12.5		20.0			
1,2-Dichlorobenzene	1.3402 1.3679	1.2352 1.3649	1.3845 1.4636	1.4080	1.4627	Ave		1.3784			0.4000	5.3		20.0			
1,2-Dibromo-3-Chloropropane	0.1073 0.0834	0.0688 0.0864	0.0807 0.0950	0.0789	0.0916	Ave		0.0865			0.0500	13.4		20.0			
1,2,4-Trichlorobenzene	0.4563 0.4070	0.3071 0.4840	0.4320 0.4871	0.4416	0.4648	Ave		0.4350			0.2000	13.4		20.0			
Hexachlorobutadiene	0.3140 0.1971	0.1809 0.2233	0.2310 0.2322	0.2298	0.2408	Lin1	0.2919	0.2203			0.0100				0.9930		0.9900
Naphthalene	0.6650 0.9691	0.5817 1.1398	0.8827 1.1648	0.9632	1.0599	Qua	-2.401	0.8734	0.0011824		0.0100				0.9940		0.9900
1,2,3-Trichlorobenzene	0.2291 0.2887	0.2354 0.3456	0.3157 0.3520	0.3183	0.3385	Lin1	-0.872	0.3354			0.0100				0.9920		0.9900
Dibromofluoromethane (Surr)	0.2556 0.2495	0.2518 0.2520	0.2572 0.2604	0.2529	0.2436	Ave		0.2529				2.0		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3490 0.3194	0.3261 0.3211	0.3265 0.3309	0.3212	0.3278	Ave		0.3278				2.9		20.0			
Toluene-d8 (Surr)	4.1324 4.4986	3.6404 4.1769	4.1280 4.4142	4.2307	4.0213	Ave		4.1553				6.3		20.0			
4-Bromofluorobenzene (Surr)	1.7311 1.6986	1.3832 1.6082	1.5817 1.7234	1.6692	1.5683	Ave		1.6205				7.1		20.0			

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

FORM VI
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RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-299818/4	5112904.D
Level 2	IC 180-299818/5	5112905.D
Level 3	ICIS 180-299818/6	5112906.D
Level 4	IC 180-299818/7	5112907.D
Level 5	IC 180-299818/8	5112908.D
Level 6	IC 180-299818/9	5112909.D
Level 7	IC 180-299818/10	5112910.D
Level 8	IC 180-299818/11	5112911.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	15528 591205	72866 650773	145278 871022	239705	340286	5.00 175	25.0 200	50.0 250	75.0	100
Chloromethane	FB	Ave	9785 390661	49428 457172	97301 609962	159429	226062	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl chloride	FB	Ave	11191 423059	52175 471487	97652 641461	163979	226444	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Butadiene	FB	Ave	12153 389506	50319 416167	96490 558421	151071	208026	5.00 175	25.0 200	50.0 250	75.0	100
Bromomethane	FB	Ave	9895 307082	42684 346295	84215 421700	129388	170129	5.00 175	25.0 200	50.0 250	75.0	100
Chloroethane	FB	Ave	7521 262467	34671 293253	64646 372445	109870	144167	5.00 175	25.0 200	50.0 250	75.0	100
Dichlorofluoromethane	FB	Ave	19514 655165	85526 733705	181643 938955	270139	380936	5.00 175	25.0 200	50.0 250	75.0	100
Trichlorofluoromethane	FB	Ave	21272 764043	99571 823617	199074 1036277	307919	438238	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl ether	FB	Ave	9928 351215	51541 438283	103304 553251	149361	217897	5.00 175	25.0 200	50.0 250	75.0	100
Acrolein	FB	Ave	37926 101190	50158 118240	63398 127146	71820	88514	100 225	125 250	150 275	175	200
1,1-Dichloroethene	FB	Ave	12215 422204	54545 480681	107372 634268	171973	237261	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	13191 476462	58394 522871	122131 682720	193284	269261	5.00 175	25.0 200	50.0 250	75.0	100
Acetone	FB	Ave	19718 368970	41388 379382	79419 557264	140005	232505	25.0 350	50.0 400	100 500	150	200
Iodomethane	FB	Ave	20494 773362	96769 882271	199861 1195368	306778	440436	5.00 175	25.0 200	50.0 250	75.0	100
Carbon disulfide	FB	Ave	30606 1181355	132716 1332308	276977 1810547	444579	636279	5.00 175	25.0 200	50.0 250	75.0	100

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SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
			LVL 6	LVL 7	LVL 8			LVL 6	LVL 7	LVL 8		
Allyl chloride	FB	Ave	5519 254459	28679 296505	61569 394955	94889	138845	5.00 175	25.0 200	50.0 250	75.0	100
Methyl acetate	FB	Ave	14357 569750	70948 685629	144720 891093	229126	348861	10.0 350	50.0 400	100 500	150	200
Methylene Chloride	FB	Lin2	16649 463472	62606 532472	124312 708811	183790	272194	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butyl alcohol	TBAd 9	Ave	8417 346211	41050 415668	94222 505267	136367	206366	50.0 1750	250 2000	500 2500	750	1000
Acrylonitrile	FB	Ave	38896 1587479	195298 1883990	416016 2487318	614234	951640	50.0 1750	250 2000	500 2500	750	1000
trans-1,2-Dichloroethene	FB	Ave	13840 480802	59979 546346	121391 735637	189386	277723	5.00 175	25.0 200	50.0 250	75.0	100
Methyl tert-butyl ether	FB	Ave	29263 1209652	143365 1398019	295228 1890962	455070	711385	5.00 175	25.0 200	50.0 250	75.0	100
Hexane	FB	Ave	16754 686296	74250 774723	157651 1078880	277556	372791	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloroethane	FB	Ave	21634 747740	92417 868913	190971 1166288	302681	428377	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl acetate	FB	Ave	17502 826185	83622 987315	191105 1329643	308348	440644	5.00 175	25.0 200	50.0 250	75.0	100
2,2-Dichloropropane	FB	Ave	2456 107960	12751 122980	26361 163647	40729	62267	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,2-Dichloroethene	FB	Ave	13695 512601	64582 590648	129639 801755	201603	293145	5.00 175	25.0 200	50.0 250	75.0	100
2-Butanone (MEK)	FB	Ave	25911 440105	51445 492426	107070 698414	161934	264403	25.0 350	50.0 400	100 500	150	200
Bromochloromethane	FB	Ave	5319 266202	34680 325481	68967 427023	104230	156488	5.00 175	25.0 200	50.0 250	75.0	100
Tetrahydrofuran	FB	Ave	7402 220075	27510 267165	54812 363029	91487	131152	10.0 350	50.0 400	100 500	150	200
Chloroform	FB	Lin2	33163 801930	109443 929350	211841 1209499	328641	469046	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1-Trichloroethane	FB	Ave	17404 682781	79419 757653	160189 984598	264337	389941	5.00 175	25.0 200	50.0 250	75.0	100
Cyclohexane	FB	Ave	20500 819311	85568 918786	181141 1233353	312930	445591	5.00 175	25.0 200	50.0 250	75.0	100
Carbon tetrachloride	FB	Ave	16820 652987	74230 730428	156676 949849	256795	363216	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloropropene	FB	Ave	16055 658288	77001 744727	160215 1002325	256841	371576	5.00 175	25.0 200	50.0 250	75.0	100
Isobutyl alcohol	FB	Ave	8329 285110	32777 349935	76552 441682	115393	179170	125 4375	625 5000	1250 6250	1875	2500

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RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

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	51504 1924094	232931 2253745	474845 2978703	756839	1084977	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloroethane	FB	Ave	16952 666636	83221 774334	172738 1009289	261792	398111	5.00 175	25.0 200	50.0 250	75.0	100
n-Heptane	FB	Ave	12899 555876	61825 613858	121666 852599	213985	302498	5.00 175	25.0 200	50.0 250	75.0	100
Trichloroethene	FB	Ave	14085 561135	64911 638798	134719 863935	215554	311044	5.00 175	25.0 200	50.0 250	75.0	100
Methylcyclohexane	FB	Ave	18300 907416	91527 1026489	197981 1391887	348007	488171	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloropropane	FB	Ave	12588 431331	51638 518796	108062 699933	168108	249469	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dioxane	FB	Ave	2209 80373	9587 107693	18084 129801	30243	47991	100 3500	500 4000	1000 5000	1500	2000
Dibromomethane	FB	Ave	7119 282762	33500 331975	70911 446762	109914	165691	5.00 175	25.0 200	50.0 250	75.0	100
Bromodichloromethane	FB	Ave	14132 581462	69036 683360	143389 923409	225947	337830	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,3-Dichloropropene	FB	Ave	13882 718081	74016 862462	161307 1180612	263955	402822	5.00 175	25.0 200	50.0 250	75.0	100
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	35174 759074	76448 923483	176282 1232515	280142	428428	25.0 350	50.0 400	100 500	150	200
Toluene	CBNZ d5	Ave	47574 2250944	251176 2632619	536231 3516960	874491	1271498	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,3-Dichloropropene	CBNZ d5	Ave	11934 710018	72378 867167	160084 1152502	259324	404333	5.00 175	25.0 200	50.0 250	75.0	100
Ethyl methacrylate	CBNZ d5	Lin1	9309 626349	56050 758584	138350 1034260	220480	362639	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloroethane	CBNZ d5	Ave	9563 427627	50600 520194	113728 692733	176881	257135	5.00 175	25.0 200	50.0 250	75.0	100
Tetrachloroethene	CBNZ d5	Ave	12878 502868	58242 584396	118108 776983	202392	281776	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichloropropane	CBNZ d5	Ave	18158 774103	85991 905422	193606 1239548	290412	442718	5.00 175	25.0 200	50.0 250	75.0	100
2-Hexanone	CBNZ d5	Lin1	26331 609884	55256 711492	135550 978030	216246	347449	25.0 350	50.0 400	100 500	150	200
Dibromochloromethane	CBNZ d5	Ave	10212 474986	47012 568878	108498 763653	177321	275769	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromoethane (EDB)	CBNZ d5	Ave	10558 451548	51980 530751	111987 730001	171500	261522	5.00 175	25.0 200	50.0 250	75.0	100
Chlorobenzene	CBNZ d5	Ave	35925 1469996	166692 1751881	366146 2351121	569913	834213	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.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

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	11768 492525	56384 603377	123500 806262	195051	289226	5.00 175	25.0 200	50.0 250	75.0	100
Ethylbenzene	CBNZ d5	Ave	16238 813870	81707 932092	188122 1260725	303579	448008	5.00 175	25.0 200	50.0 250	75.0	100
m-Xylene & p-Xylene	CBNZ d5	Ave	18776 1010053	104437 1178744	234922 1575550	394722	561107	5.00 175	25.0 200	50.0 250	75.0	100
o-Xylene	CBNZ d5	Ave	16878 958453	100751 1125556	222580 1514665	356426	532552	5.00 175	25.0 200	50.0 250	75.0	100
Styrene	CBNZ d5	Ave	27675 1679489	168993 2028367	392407 2723352	619187	945975	5.00 175	25.0 200	50.0 250	75.0	100
Bromoform	CBNZ d5	Ave	6764 318487	33901 393169	73509 516390	114586	185165	5.00 175	25.0 200	50.0 250	75.0	100
Isopropylbenzene	CBNZ d5	Ave	43220 2500441	248031 2942957	573348 3932241	934768	1381684	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	11257 502742	57481 625887	128006 832365	194421	289777	5.00 175	25.0 200	50.0 250	75.0	100
Bromobenzene	DCBd 4	Ave	14357 659967	76092 809838	164603 1080893	247945	385108	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	2777 155727	15813 186766	34817 250517	56791	88370	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichloropropane	DCBd 4	Ave	4091 185658	21829 218838	48087 306000	68379	106487	5.00 175	25.0 200	50.0 250	75.0	100
N-Propylbenzene	DCBd 4	Ave	12658 724479	73651 869429	171588 1133936	276695	401418	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorotoluene	DCBd 4	Ave	12644 588298	64630 714940	143660 963874	224945	348251	5.00 175	25.0 200	50.0 250	75.0	100
1,3,5-Trimethylbenzene	DCBd 4	Ave	32033 1970824	202078 2428521	486543 3153762	785965	1157219	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorotoluene	DCBd 4	Ave	10420 633782	67078 779333	161164 1031096	244708	375373	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butylbenzene	DCBd 4	Ave	29164 1636677	158917 2008577	391925 2648533	641940	951898	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trimethylbenzene	DCBd 4	Ave	30853 1945419	197151 2418917	489083 3183340	773856	1159806	5.00 175	25.0 200	50.0 250	75.0	100
sec-Butylbenzene	DCBd 4	Ave	38246 2220039	219079 2741965	538507 3643444	883432	1301550	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichlorobenzene	DCBd 4	Ave	22890 1067992	117321 1403222	290008 1824586	440721	659065	5.00 175	25.0 200	50.0 250	75.0	100
4-Isopropyltoluene	DCBd 4	Ave	30459 1902469	182746 2408449	473989 3147507	790014	1145413	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dichlorobenzene	DCBd 4	Ave	26232 1112452	125911 1438259	302136 1879750	460046	691802	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.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

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	Ave	24187 1368904	127916 1800478	337547 2357808	561851	830443	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichlorobenzene	DCBd 4	Ave	20579 947825	109152 1275613	269690 1631787	402836	614157	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	1648 57777	6081 80749	15715 105918	22586	38471	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trichlorobenzene	DCBd 4	Ave	7007 282008	27142 452278	84147 543072	126330	195174	5.00 175	25.0 200	50.0 250	75.0	100
Hexachlorobutadiene	DCBd 4	Lin1	4821 136563	15986 208722	45004 258911	65759	101105	5.00 175	25.0 200	50.0 250	75.0	100
Naphthalene	DCBd 4	Qua	10211 671454	51401 1065167	171939 1298605	275573	445024	5.00 175	25.0 200	50.0 250	75.0	100
1,2,3-Trichlorobenzene	DCBd 4	Lin1	3518 200024	20805 322993	61499 392444	91059	142117	5.00 175	25.0 200	50.0 250	75.0	100
Dibromofluoromethane (Surr)	FB	Ave	10191 422801	53905 506075	114803 650406	178532	236915	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloroethane-d4 (Surr)	FB	Ave	13916 541249	69808 644747	145690 826551	226719	318880	5.00 175	25.0 200	50.0 250	75.0	100
Toluene-d8 (Surr)	CBNZ d5	Ave	42677 1887432	212071 2221451	474457 2860205	745172	1028063	5.00 175	25.0 200	50.0 250	75.0	100
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	17878 712668	80581 855313	181788 1116657	294003	400943	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.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-299818/4	5112904.D
Level 2	IC 180-299818/5	5112905.D
Level 3	ICIS 180-299818/6	5112906.D
Level 4	IC 180-299818/7	5112907.D
Level 5	IC 180-299818/8	5112908.D
Level 6	IC 180-299818/9	5112909.D
Level 7	IC 180-299818/10	5112910.D
Level 8	IC 180-299818/11	5112911.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
	LVL 7 #	LVL 8 #					LVL 7	LVL 8				
Dichlorodifluoromethane	12.6	-1.6	-5.9	-1.8	1.2	0.9	50	30	30	30	30	30
	-6.3	0.9					30					
Chloromethane	5.8	-0.4	-6.0	-2.6	0.2	-0.6	50	30	30	30	30	30
	-1.8	5.3					30	30				
Vinyl chloride	15.2	0.0	-10.2	-4.7	-4.5	2.4	50	30	30	30	30	30
	-3.7	5.4					30	30				
1,3-Butadiene	32.2	1.9	-6.2	-7.2	-7.3	-0.3	50	30	30	30	30	30
	-10.1	-3.0					30	30				
Bromomethane	30.9	5.2	-0.5	-3.3	-7.8	-4.4	50	30	30	30	30	30
	-9.1	-11.0					30	30				
Chloroethane	20.8	3.7	-7.2	-0.3	-5.1	-0.8	50	30	30	30	30	30
	-6.5	-4.5					30	30				
Dichlorofluoromethane	22.4	-0.1	1.8	-4.3	-2.0	-3.3	50	30	30	30	30	30
	-8.6	-6.0					30	30				
Trichlorofluoromethane	18.3	3.2	-1.1	-3.3	-0.1	0.0	50	30	30	30	30	30
	-9.0	-8.0					30	30				
Ethyl ether	10.4	6.8	2.7	-6.2	-0.7	-8.1	50	30	30	30	30	30
	-3.2	-1.8					30	30				
Acrolein	2.6	1.1	2.2	-5.9	-1.8	0.2	50	30	30	30	30	30
	1.7	-0.1					30	30				
1,1-Dichloroethene	20.6	0.3	-5.3	-4.1	-4.0	-1.9	50	30	30	30	30	30
	-5.7	0.0					30	30				
1,1,2-Trichloro-1,2,2-trifluoroethane	18.0	-2.7	-2.4	-2.3	-1.3	0.3	50	30	30	30	30	30
	-7.1	-2.5					30	30				
Acetone	-3.3	-5.5	-13.0	-3.0	16.9	6.5	50	30	30	30	30	30
	-7.6	9.1					30	30				
Iodomethane	11.9	-1.6	-2.5	-5.4	-1.5	-0.7	50	30	30	30	30	30
	-4.4	4.2					30	30				
Carbon disulfide	14.2	-7.8	-7.7	-6.3	-2.7	3.7	50	30	30	30	30	30
	-1.3	7.8					30	30				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
	LVL 7 #	LVL 8 #					LVL 7	LVL 8				
Allyl chloride	-3.2	-6.3	-3.5	-6.0	-0.1	5.1	50	30	30	30	30	30
	3.3	10.6					30	30				
Methyl acetate	5.4	-3.0	-5.1	-5.0	5.0	-1.6	50	30	30	30	30	30
	-0.1	4.4					30	30				
Methylene Chloride	0.5	-1.3	-0.9	-5.9	2.4	1.2	50	30	30	30	30	30
	-1.7	5.6					30	30				
tert-Butyl alcohol	-6.6	-16.3	8.6	3.9	1.0	4.7	50	30	30	30	30	30
	-3.1	7.8					30	30				
Acrylonitrile	3.5	-3.2	-1.1	-7.7	3.8	-0.6	50	30	30	30	30	30
	-0.4	5.7					30	30				
trans-1,2-Dichloroethene	20.5	-2.7	-5.5	-6.8	-0.8	-1.5	50	30	30	30	30	30
	-5.5	2.3					30	30				
Methyl tert-butyl ether	4.7	-4.5	-5.6	-8.0	4.3	1.8	50	30	30	30	30	30
	-0.7	8.0					30	30				
Hexane	7.8	-11.0	-9.4	0.8	-1.7	3.9	50	30	30	30	30	30
	-1.1	10.8					30	30				
1,1-Dichloroethane	20.2	-4.4	-5.2	-5.0	-2.5	-2.3	50	30	30	30	30	30
	-4.2	3.4					30	30				
Vinyl acetate	-4.0	-14.6	-6.4	-4.5	-1.0	6.6	50	30	30	30	30	30
	7.5	16.4					30	30				
2,2-Dichloropropane	0.1	-3.2	-4.0	-6.3	4.0	3.5	50	30	30	30	30	30
	-0.5	6.5					30	30				
cis-1,2-Dichloroethene	12.6	-1.1	-4.8	-6.4	-1.2	-0.8	50	30	30	30	30	30
	-3.6	5.2					30	30				
2-Butanone (MEK)	2.6	-5.1	-5.3	-9.4	7.3	2.6	50	30	30	30	30	30
	-3.2	10.4					30	30				
Bromochloromethane	-14.5	3.8	-1.0	-5.4	3.1	0.6	50	30	30	30	30	30
	3.9	9.5					30	30				
Tetrahydrofuran	33.8	-7.3	-11.5	-6.6	-2.8	-6.4	50	30	30	30	30	30
	-4.1	4.8					30	30				
Chloroform	1.0	-3.8	-3.6	-2.9	2.2	2.0	50	30	30	30	30	30
	0.0	5.1					30	30				
1,1,1-Trichloroethane	12.0	-4.8	-7.9	-3.9	2.9	3.4	50	30	30	30	30	30
	-3.1	1.2					30	30				
Cyclohexane	12.5	-12.5	-11.2	-3.0	0.2	5.8	50	30	30	30	30	30
	0.1	8.1					30	30				
Carbon tetrachloride	13.0	-7.1	-6.0	-2.5	0.0	3.2	50	30	30	30	30	30
	-2.6	1.9					30	30				
1,1-Dichloropropene	6.4	-5.0	-5.1	-3.9	0.9	2.6	50	30	30	30	30	30
	-2.0	6.0					30	30				
Isobutyl alcohol	19.3	-12.5	-2.0	-6.6	5.2	-3.9	50	30	30	30	30	30
	-0.5	1.0					30	30				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
	LVL 7 #	LVL 8 #					LVL 7	LVL 8				
Benzene	13.8	-4.1	-6.3	-5.6	-1.7	0.0	50	30	30	30	30	30
	-1.1	5.1					30	30				
1,2-Dichloroethane	7.5	-1.7	-2.1	-6.2	3.5	-0.5	50	30	30	30	30	30
	-2.5	2.2					30	30				
n-Heptane	4.6	-6.6	-11.9	-2.0	0.6	6.1	50	30	30	30	30	30
	-1.2	10.4					30	30				
Trichloroethene	9.6	-5.9	-6.3	-5.3	-0.8	2.7	50	30	30	30	30	30
	-1.3	7.3					30	30				
Methylcyclohexane	-6.6	-12.9	-9.7	0.4	2.2	9.0	50	30	30	30	30	30
	4.1	13.5					30	30				
1,2-Dichloropropane	21.0	-7.5	-7.2	-8.7	-1.7	-2.4	50	30	30	30	30	30
	-1.0	7.4					30	30				
1,4-Dioxane	14.8	-7.2	-16.0	-11.2	2.3	-1.7	50	30	30	30	30	30
	11.2	7.7					30	30				
Dibromomethane	7.3	-5.9	-4.5	-6.4	2.4	0.3	50	30	30	30	30	30
	-0.6	7.5					30	30				
Bromodichloromethane	4.3	-5.1	-5.5	-5.8	2.2	1.0	50	30	30	30	30	30
	0.1	8.8					30	30				
cis-1,3-Dichloropropene	-12.1	-12.7	-8.8	-5.6	4.5	7.0	50	30	30	30	30	30
	8.4	19.3					30	30				
4-Methyl-2-pentanone (MIBK)	-15.7	-18.8	-5.0	-1.5	3.7	12.0	50	30	30	30	30	30
	7.5	17.8					30	30				
Toluene	-6.1	-12.2	-4.9	1.2	1.3	9.3	50	30	30	30	30	30
	0.9	10.6					30	30				
trans-1,3-Dichloropropene	-22.6	-16.8	-6.7	-1.4	5.9	13.3	50	30	30	30	30	30
	9.2	19.1					30	30				
Ethyl methacrylate	37.0	-20.3	-11.8	-11.2	-1.3	2.0	50	30	30	30	30	30
	-2.7	8.3					30	30				
1,1,2-Trichloroethane	-5.8	-11.6	0.7	2.2	2.4	3.7	50	30	30	30	30	30
	-0.5	8.8					30	30				
Tetrachloroethene	10.6	-11.3	-8.9	1.9	-2.3	6.3	50	30	30	30	30	30
	-2.6	6.3					30	30				
1,3-Dichloropropane	2.2	-14.2	-2.1	-4.1	0.7	7.3	50	30	30	30	30	30
	-1.0	11.2					30	30				
2-Hexanone	20.7	-9.6	-6.6	-7.5	-0.6	3.1	50	30	30	30	30	30
	-5.3	5.8					30	30				
Dibromochloromethane	-3.6	-21.3	-8.0	-1.8	5.2	10.4	50	30	30	30	30	30
	4.3	14.9					30	30				
1,2-Dibromoethane (EDB)	1.1	-11.7	-3.6	-3.7	1.2	6.5	50	30	30	30	30	30
	-1.3	11.5					30	30				
Chlorobenzene	5.2	-13.5	-3.6	-2.1	-1.3	6.0	50	30	30	30	30	30
	-0.4	9.7					30	30				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
	LVL 7 #	LVL 8 #					LVL 7	LVL 8				
1,1,1,2-Tetrachloroethane	1.6	-13.7	-4.2	-1.3	0.9	4.7	50	30	30	30	30	30
	1.1	10.9					30	30				
Ethylbenzene	-8.4	-18.3	-4.6	0.5	2.1	13.1	50	30	30	30	30	30
	2.1	13.4					30	30				
m-Xylene & p-Xylene	-15.2	-16.4	-4.6	4.6	2.4	12.3	50	30	30	30	30	30
	3.4	13.5					30	30				
o-Xylene	-19.0	-14.3	-4.0	0.3	3.2	13.2	50	30	30	30	30	30
	4.9	15.8					30	30				
Styrene	-24.1	-17.8	-3.2	-0.4	4.9	13.4	50	30	30	30	30	30
	8.1	19.1					30	30				
Bromoform	-5.5	-16.1	-7.8	-6.2	4.5	9.5	50	30	30	30	30	30
	6.6	14.9					30	30				
Isopropylbenzene	-19.7	-18.3	-4.3	1.8	3.7	14.3	50	30	30	30	30	30
	6.1	16.4					30	30				
1,1,2,2-Tetrachloroethane	-4.0	-13.1	-2.0	-2.8	-0.2	5.5	50	30	30	30	30	30
	3.6	13.1					30	30				
Bromobenzene	3.7	-4.5	-6.3	-3.9	1.7	5.6	50	30	30	30	30	30
	-3.9	7.5					30	30				
trans-1,4-Dichloro-2-butene	-9.4	-10.4	-10.4	-0.6	5.4	12.6	50	30	30	30	30	30
	0.1	12.6					30	30				
1,2,3-Trichloropropane	5.0	-2.6	-2.7	-5.8	0.0	5.6	50	30	30	30	30	30
	-7.7	8.2					30	30				
N-Propylbenzene	-11.5	-10.6	-5.5	3.8	2.6	12.2	50	30	30	30	30	30
	-0.2	9.1					30	30				
2-Chlorotoluene	3.1	-8.4	-7.6	-1.5	3.9	6.4	50	30	30	30	30	30
	-4.2	8.3					30	30				
1,3,5-Trimethylbenzene	-19.2	-11.4	-3.2	6.5	6.8	10.2	50	30	30	30	30	30
	0.7	9.6					30	30				
4-Chlorotoluene	-18.8	-9.2	-1.0	2.3	6.9	9.4	50	30	30	30	30	30
	-0.2	10.6					30	30				
tert-Butylbenzene	-11.2	-15.9	-5.9	4.9	6.0	10.5	50	30	30	30	30	30
	0.5	11.1					30	30				
1,2,4-Trimethylbenzene	-21.5	-12.8	-1.9	5.7	8.0	9.7	50	30	30	30	30	30
	1.2	11.6					30	30				
sec-Butylbenzene	-14.6	-15.0	-5.2	5.9	6.3	9.9	50	30	30	30	30	30
	0.6	12.1					30	30				
1,3-Dichlorobenzene	-1.4	-12.2	-1.5	1.9	3.8	1.9	50	30	30	30	30	30
	-0.7	8.2					30	30				
4-Isopropyltoluene	-21.1	-17.8	-3.2	9.8	8.5	9.2	50	30	30	30	30	30
	2.5	12.3					30	30				
1,4-Dichlorobenzene	7.0	-10.7	-2.8	0.7	3.2	0.6	50	30	30	30	30	30
	-3.6	5.6					30	30				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1 Analy Batch No.: 299818

SDG No.: _____

Instrument ID: CHHP5 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/29/2019 11:46 Calibration End Date: 11/29/2019 14:36 Calibration ID: 42163

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
	LVL 7 #	LVL 8 #					LVL 7	LVL 8				
n-Butylbenzene	-14.4 4.7	-21.3 15.0	-5.8	6.8	7.5	7.4	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	-2.8 -1.0	-10.4 6.2	0.4	2.2	6.1	-0.8	50 30	30 30	30	30	30	30
1,2-Dibromo-3-Chloropropane	24.0 -0.1	-20.5 9.8	-6.8	-8.8	5.9	-3.6	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	4.9 11.3	-29.4 12.0	-0.7	1.5	6.9	-6.4	50 30	30 30	30	30	30	30
Hexachlorobutadiene	16.0 0.7	-23.2 4.9	2.2	2.6	8.0	-11.3	50 30	30 30	30	30	30	30
Naphthalene	30.0 3.1	-24.3 0.4	-0.2	3.1	8.2	-7.7	50 30	30 30	30	30	30	30
1,2,3-Trichlorobenzene	20.3 4.3	-19.4 6.0	-0.7	-1.6	3.5	-12.4	50 30	30 30	30	30	30	30
Dibromofluoromethane (Surr)	1.1 -0.3	-0.4 3.0	1.7	0.0	-3.7	-1.3	50 30	30 30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	6.5 -2.0	-0.5 1.0	-0.4	-2.0	0.0	-2.5	50 30	30 30	30	30	30	30
Toluene-d8 (Surr)	-0.6 0.5	-12.4 6.2	-0.7	1.8	-3.2	8.3	50 30	30 30	30	30	30	30
4-Bromofluorobenzene (Surr)	6.8 -0.8	-14.6 6.4	-2.4	3.0	-3.2	4.8	50 30	30 30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
 Lims ID: IC VSTD1
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 29-Nov-2019 11:46:30 ALS Bottle#: 4 Worklist Smp#: 4
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-004
 Misc. Info.: ic vstd1
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:17 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 12:28:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.549	4.550	-0.001	0	183932	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.506	7.501	0.005	98	398750	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.584	10.591	-0.007	84	103273	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	93	153547	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.788	6.783	0.005	51	10191	5.00	5.05	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.159	7.148	0.011	0	13916	5.00	5.32	M
\$ 7 Toluene-d8 (Surr)	98	9.136	9.137	-0.001	91	42677	5.00	4.97	
\$ 8 4-Bromofluorobenzene (Surr	95	11.758	11.765	-0.007	91	17878	5.00	5.34	
11 Dichlorodifluoromethane	85	1.702	1.703	-0.001	98	15528	5.00	5.63	
12 Chloromethane	50	1.927	1.916	0.011	81	9785	5.00	5.29	
13 Vinyl chloride	62	2.055	2.044	0.011	50	11191	5.00	5.76	
14 Butadiene	39	2.055	2.068	-0.013	96	12153	5.00	6.61	a
15 Bromomethane	94	2.384	2.391	-0.007	57	9895	5.00	6.54	
16 Chloroethane	64	2.554	2.573	-0.019	43	7521	5.00	6.04	
17 Dichlorofluoromethane	67	2.846	2.871	-0.025	89	19514	5.00	6.12	
18 Trichlorofluoromethane	101	2.876	2.871	0.005	89	21272	5.00	5.92	
20 Ethyl ether	59	3.253	3.261	-0.008	88	9928	5.00	5.52	
21 Acrolein	56	3.448	3.461	-0.013	98	37926	100.0	102.6	
22 1,1-Dichloroethene	96	3.570	3.577	-0.007	92	12215	5.00	6.03	a
23 1,1,2-Trichloro-1,2,2-trif	101	3.667	3.674	-0.007	61	13191	5.00	5.90	
24 Acetone	43	3.691	3.693	-0.002	99	19718	25.0	24.2	a
25 Iodomethane	142	3.807	3.784	0.023	81	20494	5.00	5.59	
26 Carbon disulfide	76	3.868	3.887	-0.019	98	30606	5.00	5.71	
28 3-Chloro-1-propene	76	4.190	4.197	-0.007	90	5519	5.00	4.84	
30 Methyl acetate	43	4.215	4.222	-0.007	66	14357	10.0	10.5	a
31 Methylene Chloride	84	4.409	4.416	-0.007	84	16649	5.00	5.03	
32 2-Methyl-2-propanol	59	4.671	4.678	-0.007	86	8417	50.0	46.7	
33 Acrylonitrile	53	4.793	4.800	-0.007	95	38896	50.0	51.8	
34 trans-1,2-Dichloroethene	96	4.829	4.824	0.005	69	13840	5.00	6.03	
35 Methyl tert-butyl ether	73	4.835	4.836	-0.001	93	29263	5.00	5.23	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.225	5.238	-0.014	91	16754	5.00	5.39	
37 1,1-Dichloroethane	63	5.450	5.451	-0.001	97	21634	5.00	6.01	
38 Vinyl acetate	43	5.492	5.493	-0.001	99	17502	5.00	4.80	
44 2,2-Dichloropropane	97	6.167	6.187	-0.020	48	2456	5.00	5.00	M
45 cis-1,2-Dichloroethene	96	6.180	6.187	-0.007	79	13695	5.00	5.63	
46 2-Butanone (MEK)	43	6.198	6.199	-0.001	100	25911	25.0	25.7	
49 Chlorobromomethane	128	6.466	6.467	-0.001	94	5319	5.00	4.27	
51 Tetrahydrofuran	42	6.490	6.479	0.011	81	7402	10.0	13.4	
52 Chloroform	83	6.605	6.600	0.005	93	33163	5.00	5.05	
53 1,1,1-Trichloroethane	97	6.758	6.765	-0.007	96	17404	5.00	5.60	
54 Cyclohexane	56	6.824	6.832	-0.008	90	20500	5.00	5.62	
56 Carbon tetrachloride	117	6.940	6.935	0.005	92	16820	5.00	5.65	
55 1,1-Dichloropropene	75	6.958	6.947	0.011	91	16055	5.00	5.32	
57 Isobutyl alcohol	41	7.135	7.148	-0.013	46	8329	125.0	149.1	
58 Benzene	78	7.159	7.166	-0.007	96	51504	5.00	5.69	
59 1,2-Dichloroethane	62	7.238	7.239	-0.001	96	16952	5.00	5.37	
62 n-Heptane	43	7.506	7.513	-0.007	38	12899	5.00	5.23	
64 Trichloroethene	130	7.883	7.878	0.005	92	14085	5.00	5.48	
66 Methylcyclohexane	83	8.114	8.115	-0.001	89	18300	5.00	4.67	
67 1,2-Dichloropropane	63	8.163	8.152	0.011	79	12588	5.00	6.05	
70 1,4-Dioxane	88	8.248	8.231	0.017	34	2209	100.0	114.8	a
68 Dibromomethane	93	8.248	8.243	0.005	84	7119	5.00	5.37	
71 Dichlorobromomethane	83	8.437	8.438	-0.001	96	14132	5.00	5.21	
74 cis-1,3-Dichloropropene	75	8.869	8.876	-0.008	93	13882	5.00	4.39	
75 4-Methyl-2-pentanone (MIBK)	43	9.033	9.034	-0.001	95	35174	25.0	21.1	
76 Toluene	91	9.209	9.204	0.005	99	47574	5.00	4.69	
77 trans-1,3-Dichloropropene	75	9.453	9.448	0.005	93	11934	5.00	3.87	
78 Ethyl methacrylate	69	9.507	9.508	-0.001	83	9309	5.00	6.85	
79 1,1,2-Trichloroethane	97	9.641	9.642	-0.001	90	9563	5.00	4.71	
80 Tetrachloroethene	164	9.714	9.715	-0.001	96	12878	5.00	5.53	
81 1,3-Dichloropropane	76	9.799	9.800	-0.001	87	18158	5.00	5.11	
82 2-Hexanone	43	9.860	9.861	-0.001	96	26331	25.0	30.2	
84 Chlorodibromomethane	129	10.018	10.013	0.005	93	10212	5.00	4.82	
85 Ethylene Dibromide	107	10.128	10.129	-0.001	98	10558	5.00	5.06	
87 Chlorobenzene	112	10.614	10.616	-0.002	96	35925	5.00	5.26	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.707	-0.007	44	11768	5.00	5.08	
90 Ethylbenzene	106	10.706	10.713	-0.007	98	16238	5.00	4.58	
91 m-Xylene & p-Xylene	106	10.840	10.841	-0.001	0	18776	5.00	4.24	
92 o-Xylene	106	11.217	11.224	-0.007	96	16878	5.00	4.05	
93 Styrene	104	11.241	11.242	-0.001	91	27675	5.00	3.80	
94 Bromoform	173	11.430	11.425	0.005	91	6764	5.00	4.72	
97 Isopropylbenzene	105	11.588	11.589	-0.001	95	43220	5.00	4.01	
99 1,1,2,2-Tetrachloroethane	83	11.898	11.905	-0.007	76	11257	5.00	4.80	
100 Bromobenzene	156	11.910	11.905	0.005	88	14357	5.00	5.18	
102 trans-1,4-Dichloro-2-buten	53	11.941	11.942	-0.001	57	2777	5.00	4.53	M
101 1,2,3-Trichloropropane	110	11.965	11.960	0.005	76	4091	5.00	5.25	
103 N-Propylbenzene	120	12.008	12.003	0.005	97	12658	5.00	4.42	
104 2-Chlorotoluene	126	12.099	12.094	0.005	97	12644	5.00	5.16	
106 1,3,5-Trimethylbenzene	105	12.184	12.185	-0.001	92	32033	5.00	4.04	
107 4-Chlorotoluene	126	12.221	12.222	-0.002	98	10420	5.00	4.06	
108 tert-Butylbenzene	119	12.500	12.501	-0.001	90	29164	5.00	4.44	
110 1,2,4-Trimethylbenzene	105	12.561	12.562	-0.001	97	30853	5.00	3.93	

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	12.727	-0.001	94	38246	5.00	4.27	
113 1,3-Dichlorobenzene	146	12.847	12.848	-0.001	95	22890	5.00	4.93	
114 4-Isopropyltoluene	119	12.884	12.879	0.005	95	30459	5.00	3.94	
115 1,4-Dichlorobenzene	146	12.951	12.946	0.005	95	26232	5.00	5.35	
120 n-Butylbenzene	91	13.291	13.286	0.005	97	24187	5.00	4.28	
121 1,2-Dichlorobenzene	146	13.303	13.304	-0.001	91	20579	5.00	4.86	
122 1,2-Dibromo-3-Chloropropan	75	14.094	14.101	-0.007	30	1648	5.00	6.20	
126 1,2,4-Trichlorobenzene	180	14.909	14.917	-0.008	91	7007	5.00	5.25	
127 Hexachlorobutadiene	225	15.055	15.063	-0.008	87	4821	5.00	5.80	
128 Naphthalene	128	15.183	15.184	-0.001	93	10211	5.00	6.50	
129 1,2,3-Trichlorobenzene	180	15.420	15.421	-0.001	90	3518	5.00	6.02	
S 133 Xylenes, Total	106				0		10.0	8.29	
S 134 1,2-Dichloroethene, Total	96				0		10.0	11.7	
S 154 Total BTEX	106				0		25.0	23.3	
S 135 1,3-Dichloropropene, Total	1				0		10.0	8.26	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260SURR_00101	Amount Added: 0.20	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 0.20	Units: uL	
VOAVAPRI_00029	Amount Added: 0.20	Units: uL	
VOAACRPRI_00023	Amount Added: 4.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 0.80	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D

Injection Date: 29-Nov-2019 11:46:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD1

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

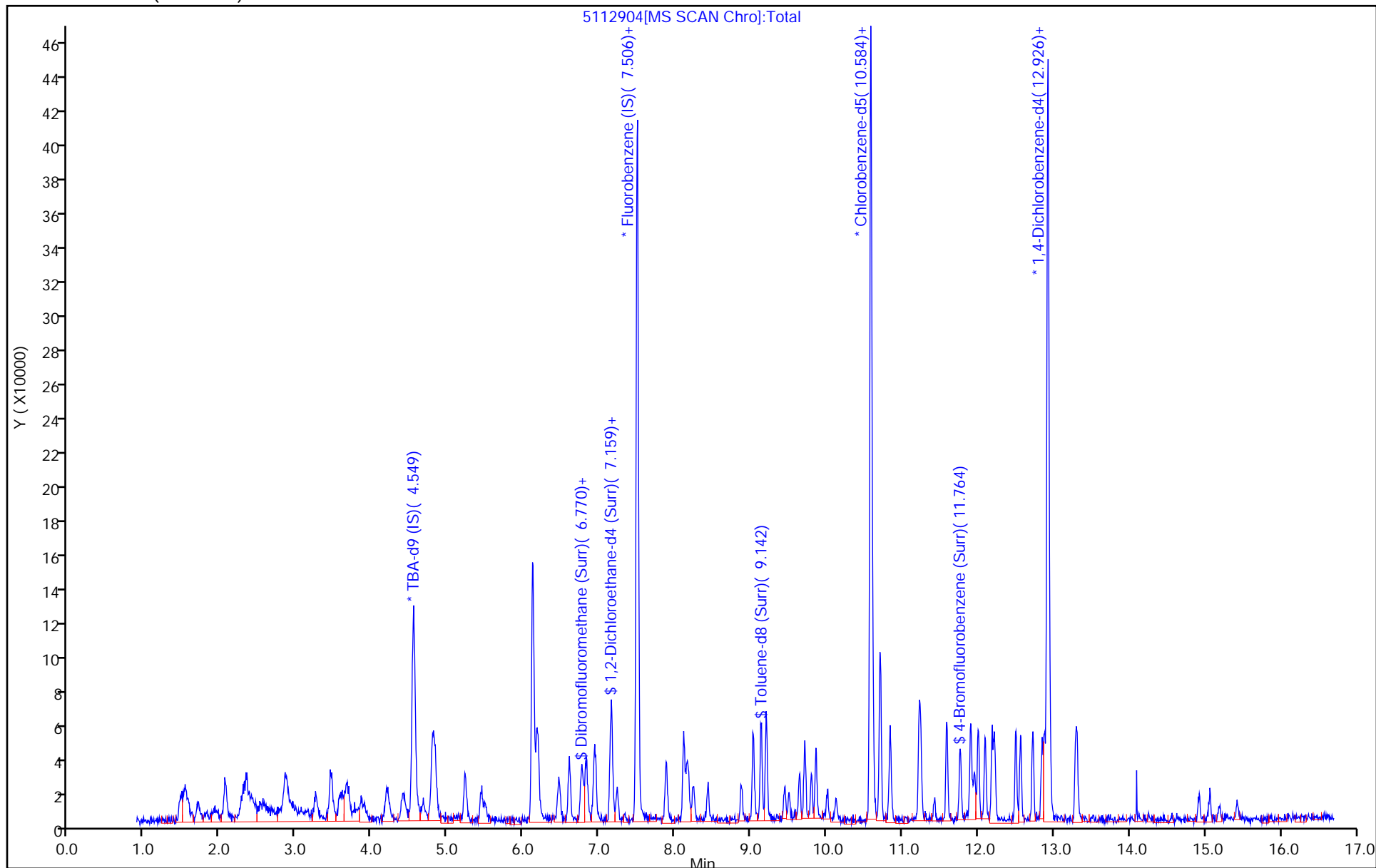
Dil. Factor: 1.0000

ALS Bottle#: 4

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh

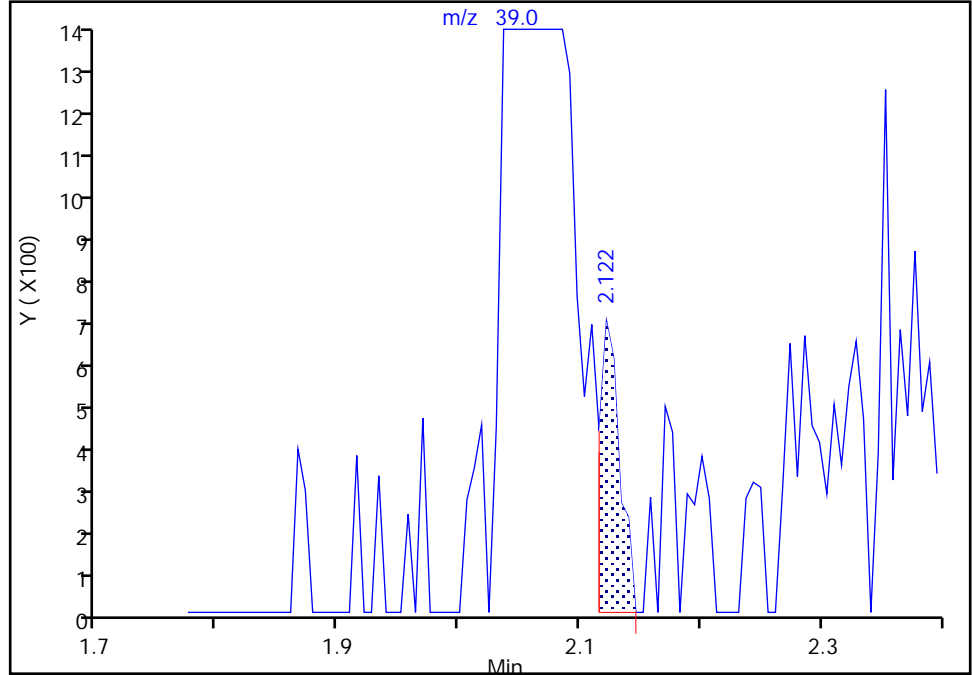
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Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

14 Butadiene, CAS: 106-99-0

Signal: 1

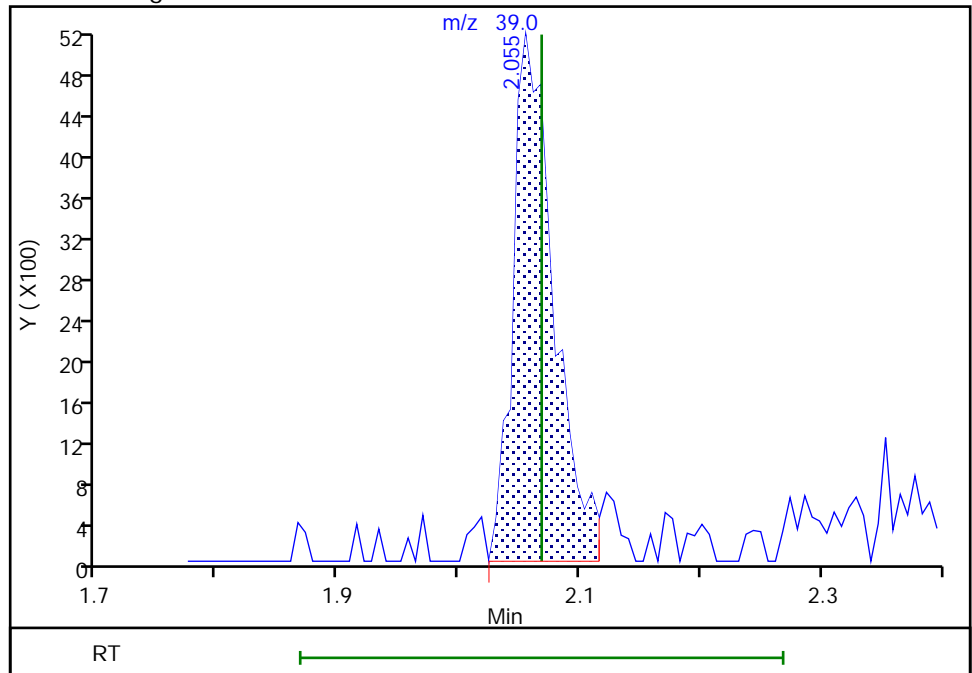
RT: 2.12
Area: 789
Amount: 0.499609
Amount Units: ng

Processing Integration Results



RT: 2.06
Area: 12153
Amount: 6.608952
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 29-Nov-2019 13:42:05
Audit Action: Assigned Compound ID

Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

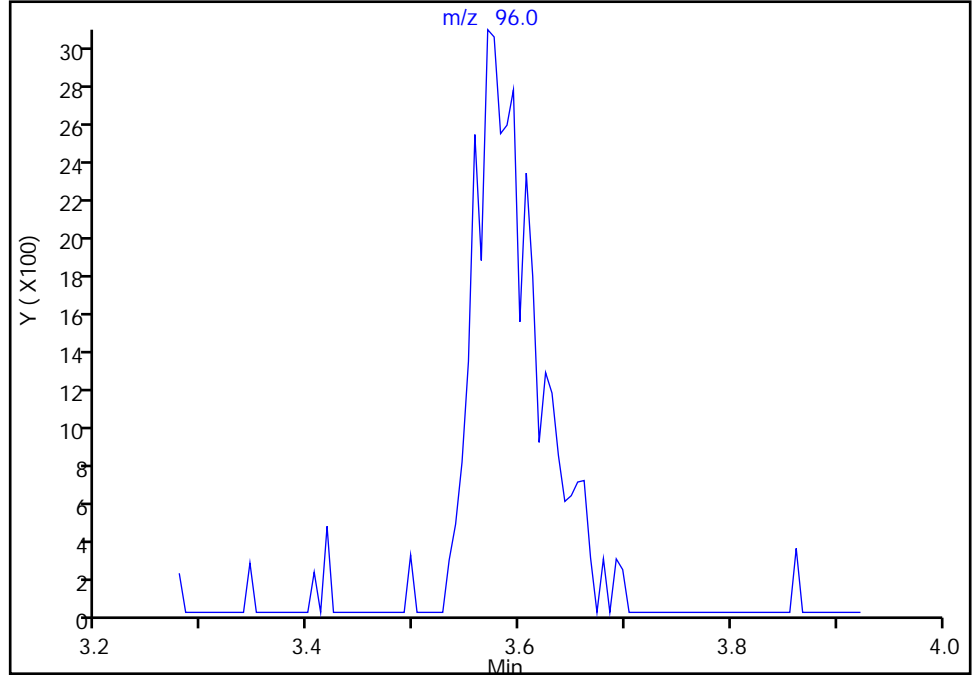
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

22 1,1-Dichloroethene, CAS: 75-35-4

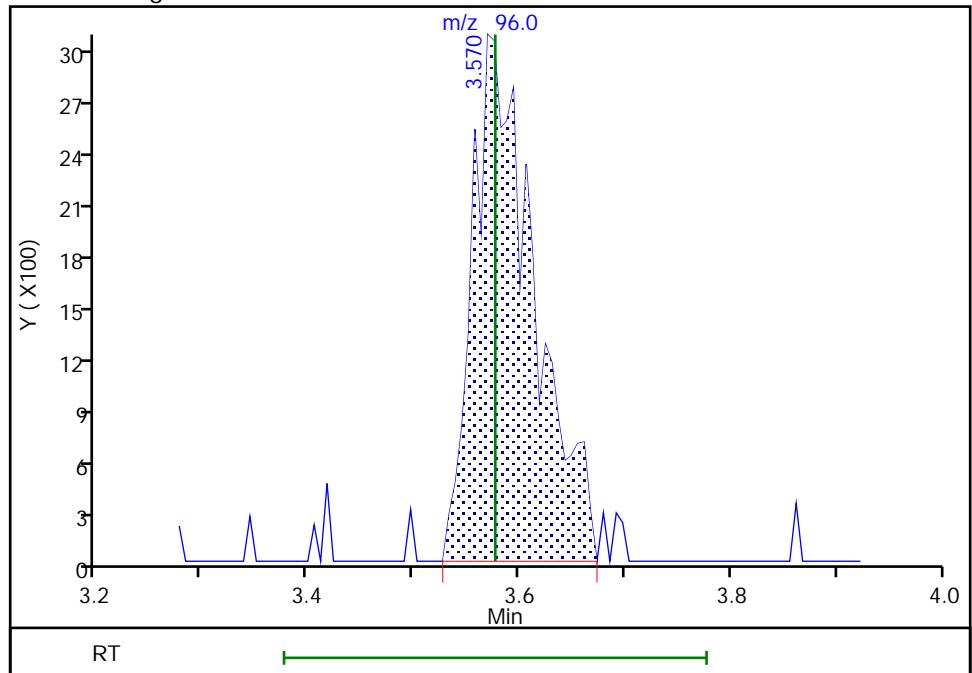
Signal: 1

Not Detected
Expected RT: 3.58

Processing Integration Results



Manual Integration Results



RT: 3.57
Area: 12215
Amount: 6.030836
Amount Units: ng

Eurofins TestAmerica, Pittsburgh

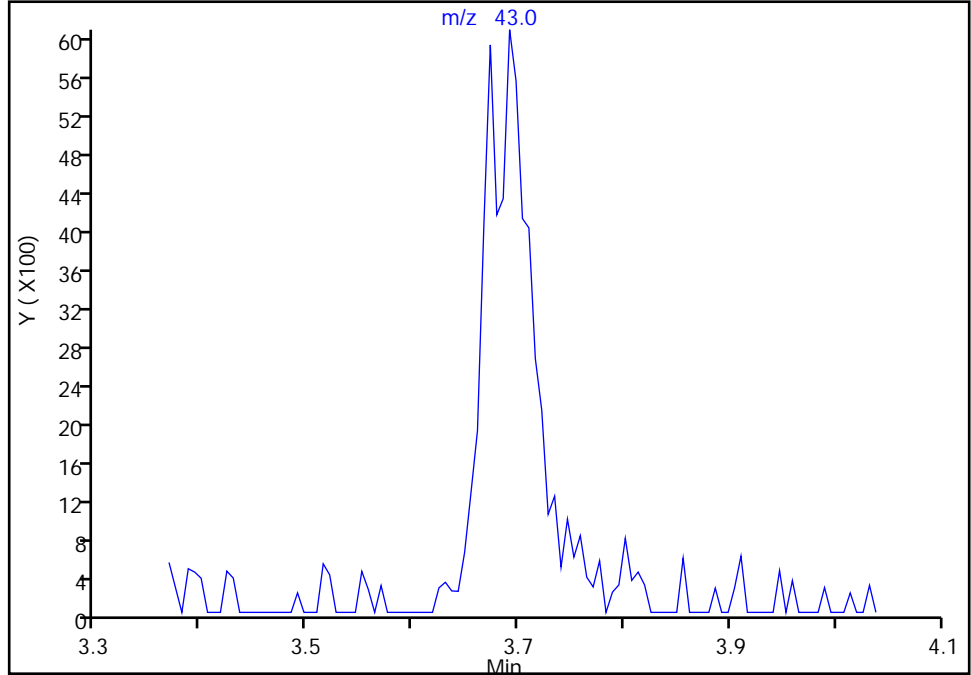
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Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

24 Acetone, CAS: 67-64-1

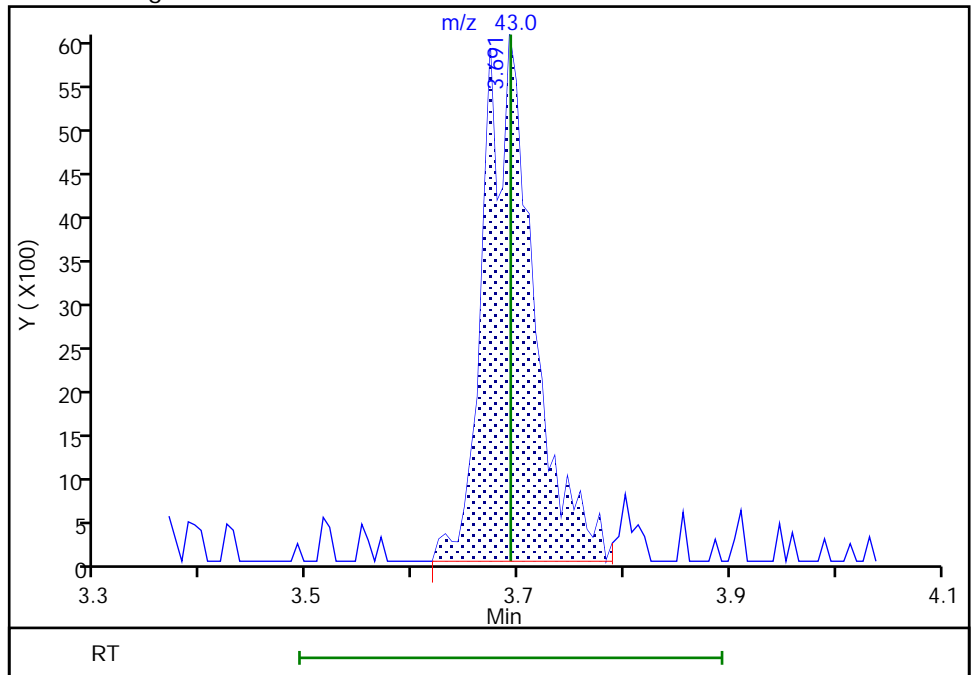
Signal: 1

Not Detected
Expected RT: 3.69

Processing Integration Results



Manual Integration Results



RT: 3.69
Area: 19718
Amount: 24.176751
Amount Units: ng

Eurofins TestAmerica, Pittsburgh

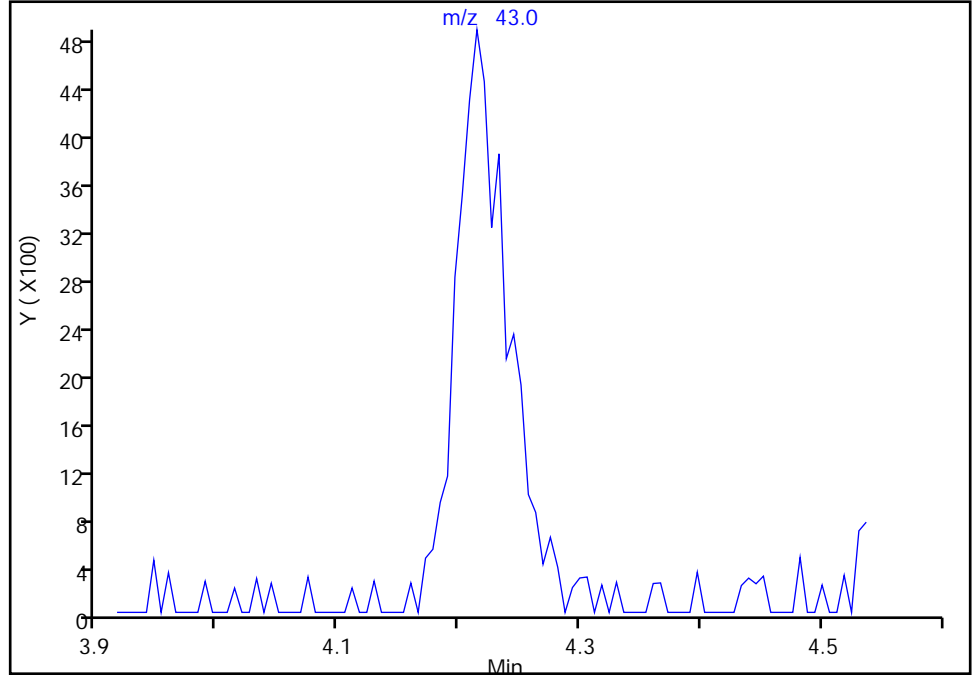
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

30 Methyl acetate, CAS: 79-20-9

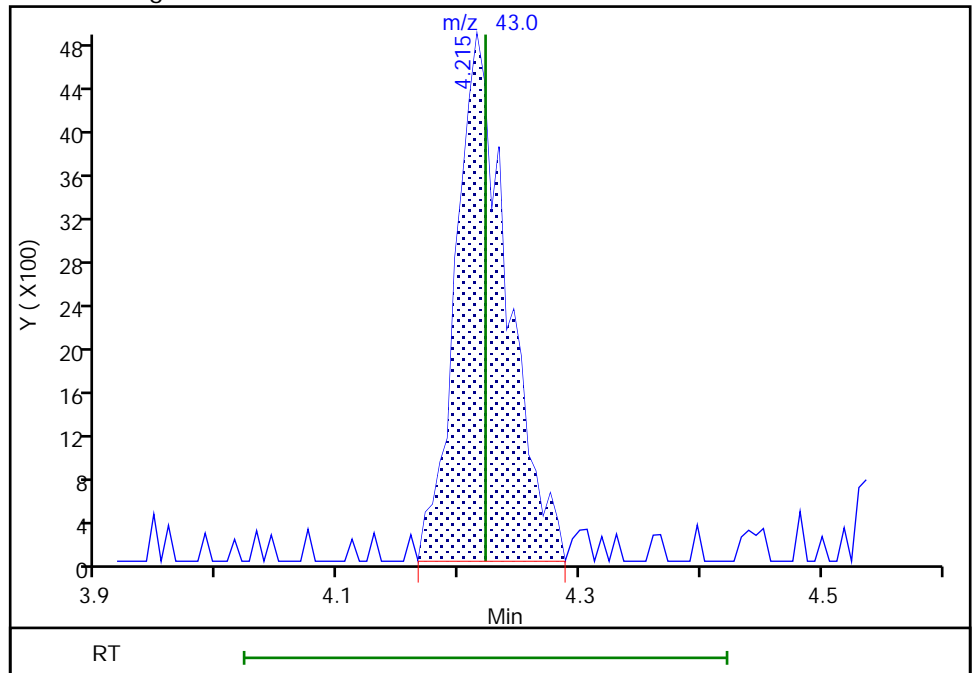
Signal: 1

Not Detected
Expected RT: 4.22

Processing Integration Results



Manual Integration Results



RT: 4.21
Area: 14357
Amount: 10.537527
Amount Units: ng

Eurofins TestAmerica, Pittsburgh

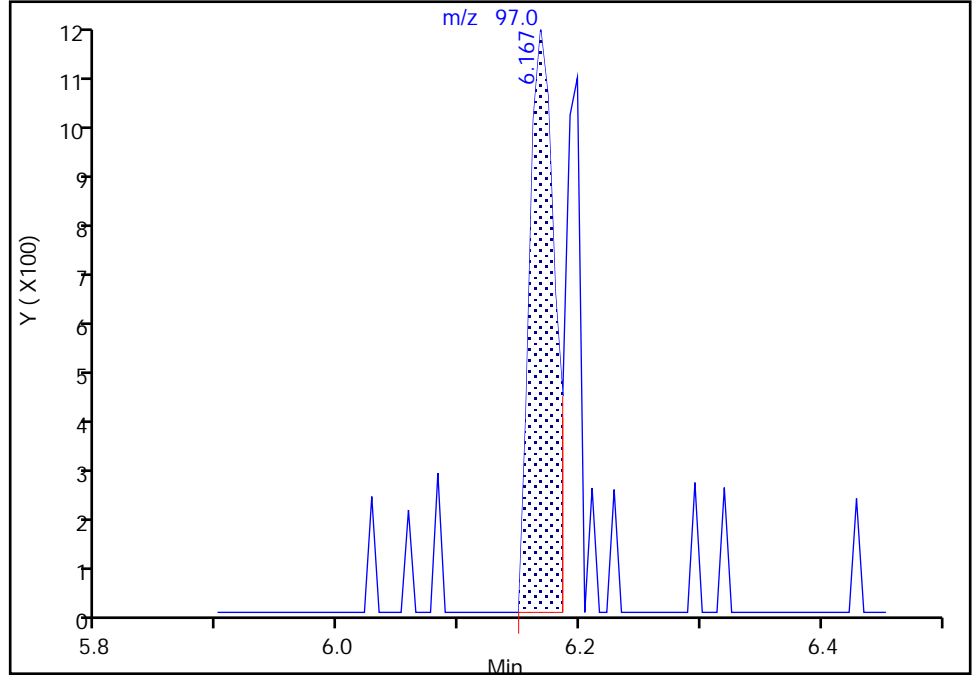
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

44 2,2-Dichloropropane, CAS: 594-20-7

Signal: 1

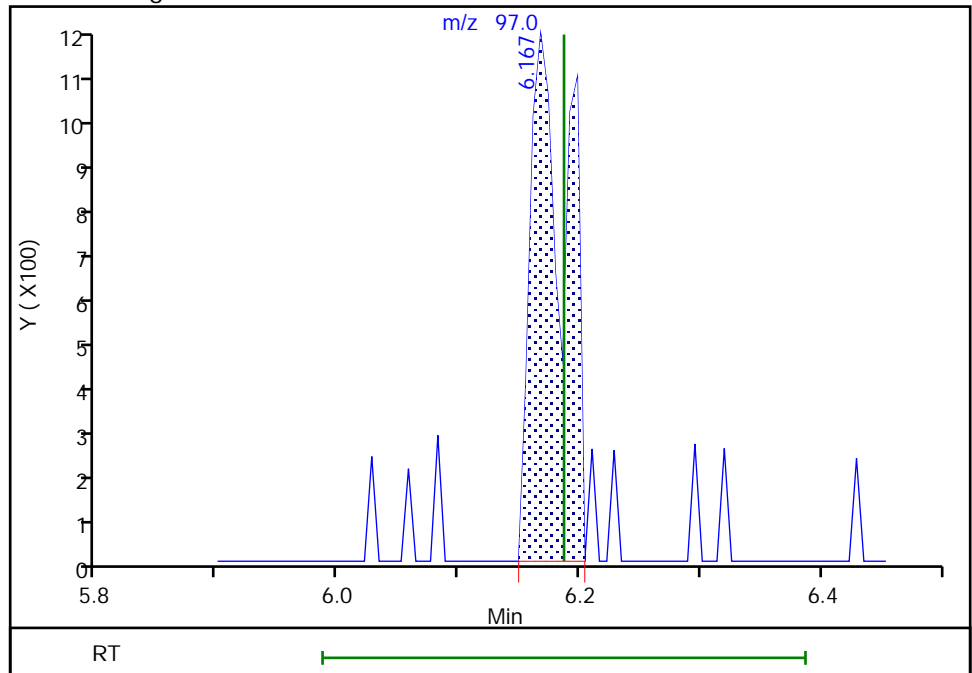
RT: 6.17
Area: 1702
Amount: 3.444038
Amount Units: ng

Processing Integration Results



RT: 6.17
Area: 2456
Amount: 5.003259
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 29-Nov-2019 13:41:38
Audit Action: Manually Integrated

Eurofins TestAmerica, Pittsburgh

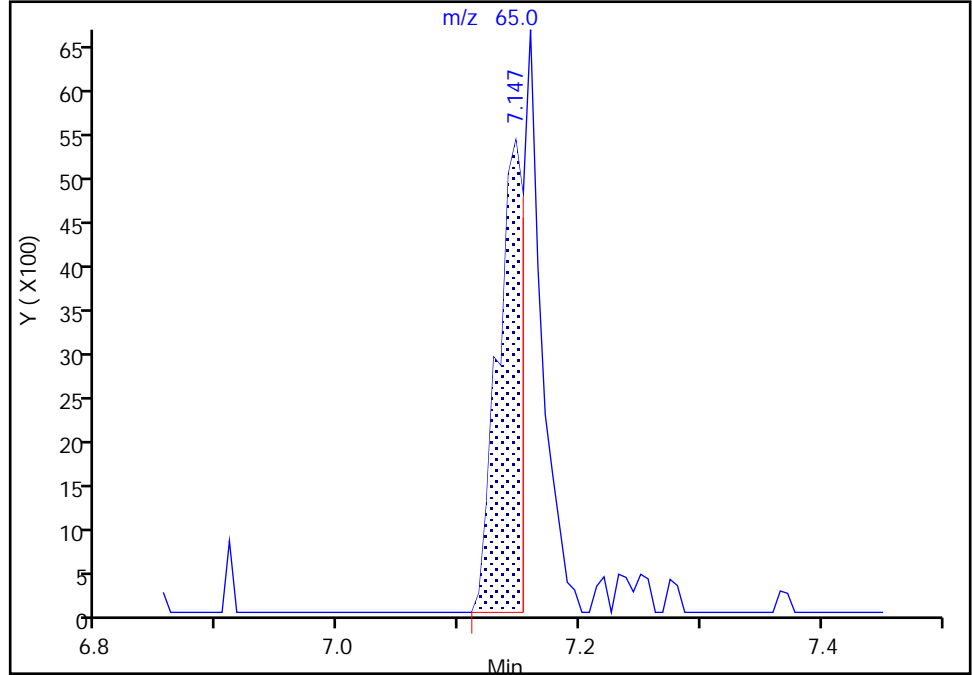
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

\$ 6 1,2-Dichloroethane-d4 (Surr), CAS: 17060-07-0

Signal: 1

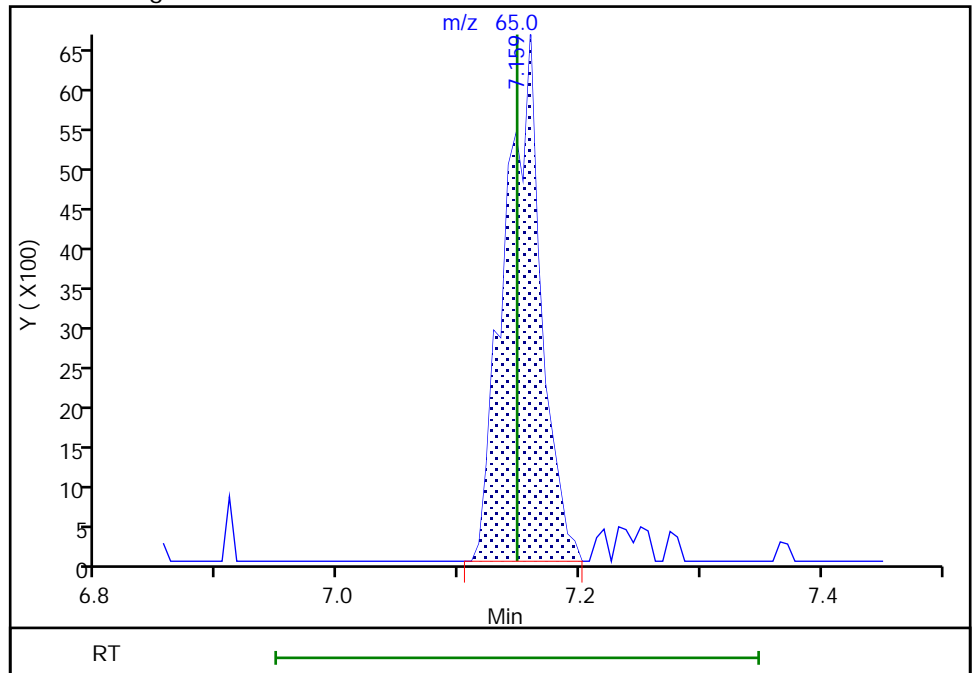
RT: 7.15
Area: 8103
Amount: 3.453117
Amount Units: ng

Processing Integration Results



RT: 7.16
Area: 13916
Amount: 5.324025
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 29-Nov-2019 13:42:13
Audit Action: Manually Integrated

Audit Reason: Poor chromatography
Page 474 of 626

Eurofins TestAmerica, Pittsburgh

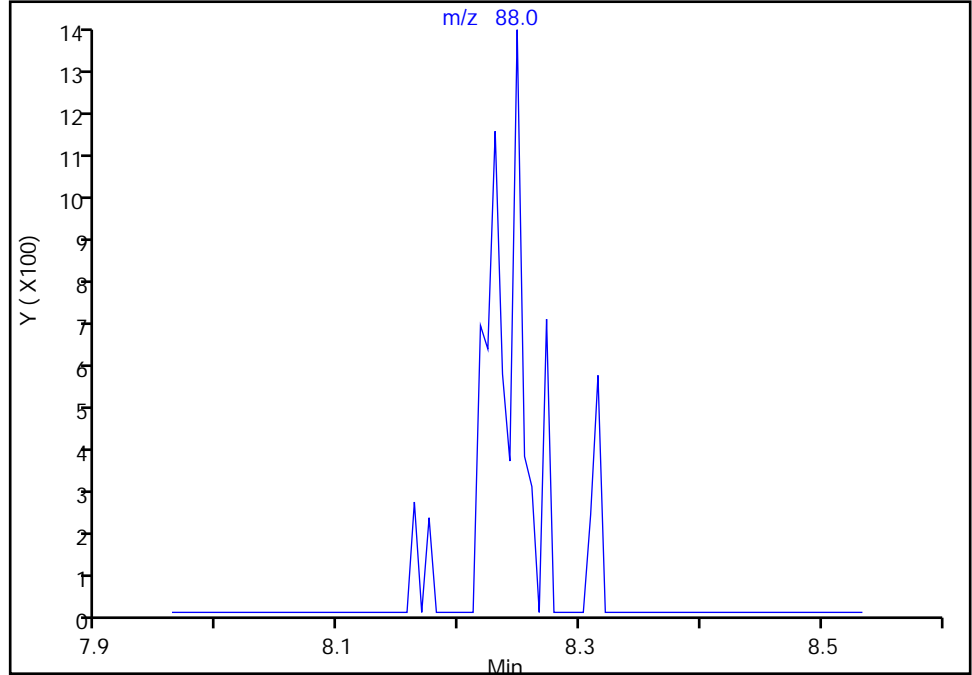
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

70 1,4-Dioxane, CAS: 123-91-1

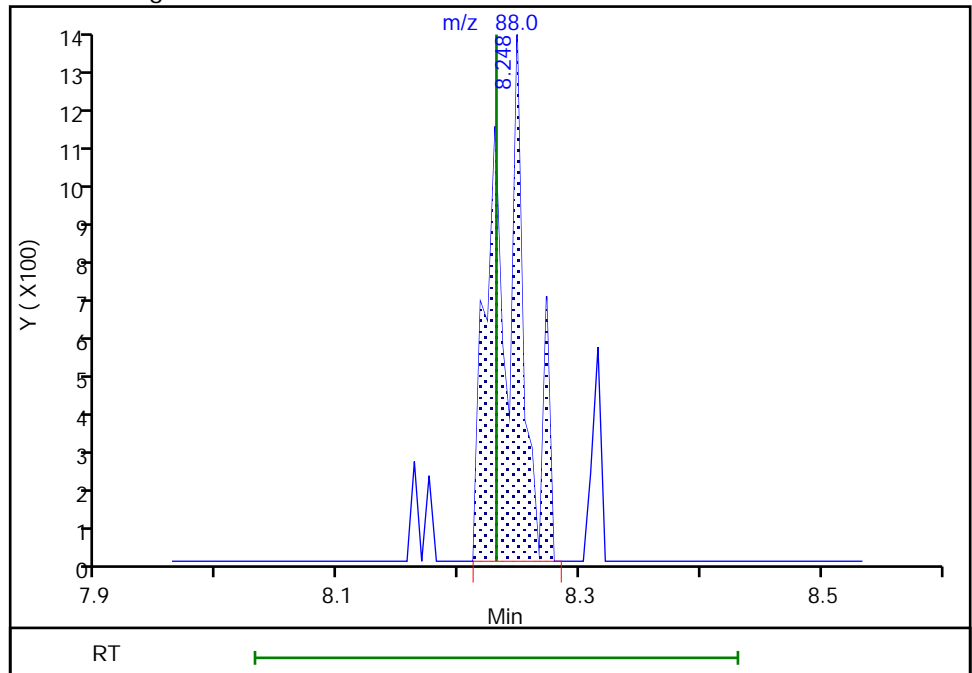
Signal: 1

Not Detected
Expected RT: 8.23

Processing Integration Results



Manual Integration Results



RT: 8.25
Area: 2209
Amount: 114.8383
Amount Units: ng

Eurofins TestAmerica, Pittsburgh

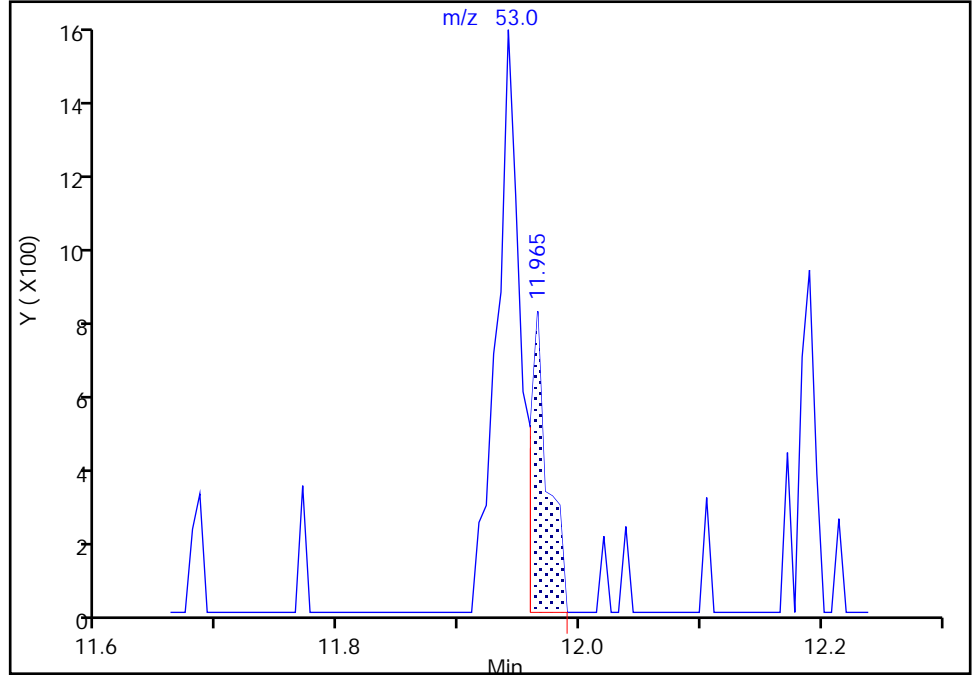
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112904.D
Injection Date: 29-Nov-2019 11:46:30 Instrument ID: CHHP5
Lims ID: IC VSTD1
Client ID:
Operator ID: 433269 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

102 trans-1,4-Dichloro-2-butene, CAS: 110-57-6

Signal: 1

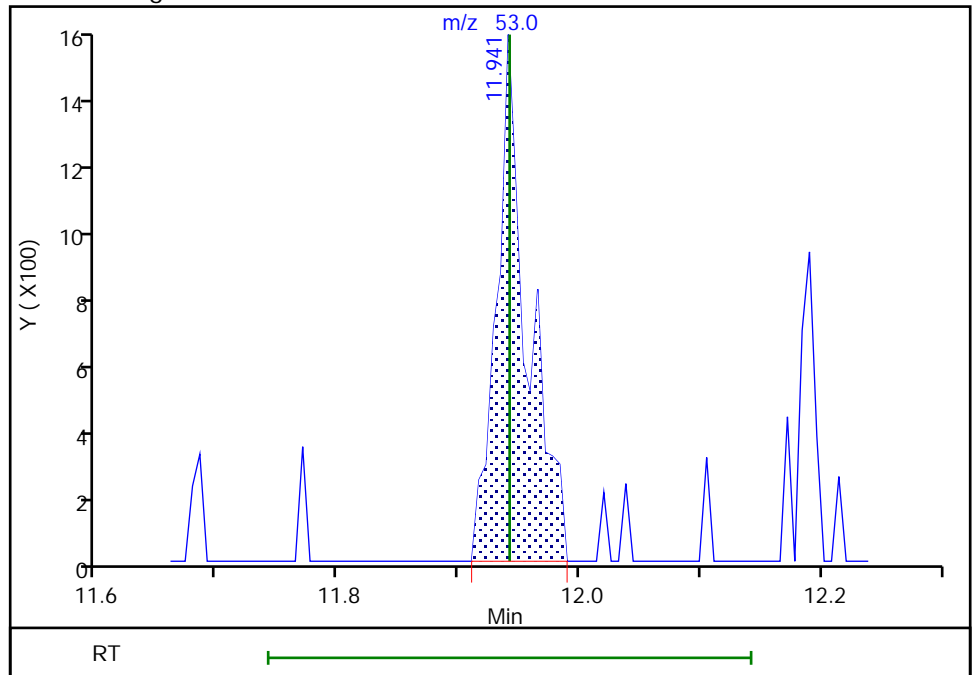
RT: 11.96
Area: 816
Amount: 5.337612
Amount Units: ng

Processing Integration Results



RT: 11.94
Area: 2777
Amount: 4.530482
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 29-Nov-2019 13:41:21
Audit Action: Manually Integrated

Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112905.D
 Lims ID: IC VSTD5
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 29-Nov-2019 12:10:30 ALS Bottle#: 5 Worklist Smp#: 5
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-005
 Misc. Info.: ic vstd5
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:23 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 13:40:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.556	4.550	0.006	0	200293	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.501	0.000	99	428110	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.591	-0.006	84	116510	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.927	12.921	0.006	92	176740	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.000	95	53905	25.0	24.9	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.154	7.148	0.006	0	69808	25.0	24.9	
\$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	93	212071	25.0	21.9	
\$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.765	0.000	92	80581	25.0	21.3	
11 Dichlorodifluoromethane	85	1.709	1.703	0.006	99	72866	25.0	24.6	
12 Chloromethane	50	1.922	1.916	0.006	99	49428	25.0	24.9	
13 Vinyl chloride	62	2.050	2.044	0.006	95	52175	25.0	25.0	
14 Butadiene	39	2.062	2.068	-0.006	96	50319	25.0	25.5	
15 Bromomethane	94	2.385	2.391	-0.006	87	42684	25.0	26.3	M
16 Chloroethane	64	2.573	2.573	0.000	98	34671	25.0	25.9	
17 Dichlorofluoromethane	67	2.853	2.871	-0.018	95	85526	25.0	25.0	
18 Trichlorofluoromethane	101	2.865	2.871	-0.006	96	99571	25.0	25.8	
20 Ethyl ether	59	3.261	3.261	0.000	88	51541	25.0	26.7	
21 Acrolein	56	3.461	3.461	0.000	99	50158	125.0	126.4	
22 1,1-Dichloroethene	96	3.589	3.577	0.012	88	54545	25.0	25.1	
23 1,1,2-Trichloro-1,2,2-trif	101	3.662	3.674	-0.012	89	58394	25.0	24.3	
24 Acetone	43	3.693	3.693	0.000	98	41388	50.0	47.3	
25 Iodomethane	142	3.796	3.784	0.012	96	96769	25.0	24.6	
26 Carbon disulfide	76	3.893	3.887	0.006	99	132716	25.0	23.1	
28 3-Chloro-1-propene	76	4.185	4.197	-0.012	88	28679	25.0	23.4	
30 Methyl acetate	43	4.222	4.222	0.000	96	70948	50.0	48.5	
31 Methylene Chloride	84	4.410	4.416	-0.006	87	62606	25.0	24.7	
32 2-Methyl-2-propanol	59	4.672	4.678	-0.006	95	41050	250.0	209.2	
33 Acrylonitrile	53	4.800	4.800	0.000	100	195298	250.0	242.0	
34 trans-1,2-Dichloroethene	96	4.818	4.824	-0.006	93	59979	25.0	24.3	
35 Methyl tert-butyl ether	73	4.830	4.836	-0.006	96	143365	25.0	23.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.232	5.238	-0.006	93	74250	25.0	22.2	
37 1,1-Dichloroethane	63	5.451	5.451	0.000	96	92417	25.0	23.9	
38 Vinyl acetate	43	5.499	5.493	0.006	97	83622	25.0	21.4	
44 2,2-Dichloropropane	97	6.181	6.187	-0.006	62	12751	25.0	24.2	
45 cis-1,2-Dichloroethene	96	6.187	6.187	0.000	80	64582	25.0	24.7	
46 2-Butanone (MEK)	43	6.193	6.199	-0.006	73	51445	50.0	47.5	
49 Chlorobromomethane	128	6.454	6.467	-0.013	86	34680	25.0	26.0	
51 Tetrahydrofuran	42	6.479	6.479	0.000	86	27510	50.0	46.3	
52 Chloroform	83	6.613	6.600	0.013	93	109443	25.0	24.1	
53 1,1,1-Trichloroethane	97	6.765	6.765	0.000	98	79419	25.0	23.8	
54 Cyclohexane	56	6.832	6.832	0.000	88	85568	25.0	21.9	
56 Carbon tetrachloride	117	6.935	6.935	0.000	96	74230	25.0	23.2	
55 1,1-Dichloropropene	75	6.947	6.947	0.000	97	77001	25.0	23.8	
57 Isobutyl alcohol	41	7.148	7.148	0.000	50	32777	625.0	546.7	
58 Benzene	78	7.160	7.166	-0.006	97	232931	25.0	24.0	
59 1,2-Dichloroethane	62	7.239	7.239	0.000	99	83221	25.0	24.6	
62 n-Heptane	43	7.513	7.513	0.000	86	61825	25.0	23.3	
64 Trichloroethene	130	7.890	7.878	0.012	96	64911	25.0	23.5	
66 Methylcyclohexane	83	8.115	8.115	0.000	89	91527	25.0	21.8	
67 1,2-Dichloropropane	63	8.158	8.152	0.006	92	51638	25.0	23.1	
70 1,4-Dioxane	88	8.249	8.231	0.018	34	9587	500.0	464.2	a
68 Dibromomethane	93	8.249	8.243	0.006	88	33500	25.0	23.5	
71 Dichlorobromomethane	83	8.432	8.438	-0.006	98	69036	25.0	23.7	
74 cis-1,3-Dichloropropene	75	8.876	8.876	0.000	96	74016	25.0	21.8	
75 4-Methyl-2-pentanone (MIBK)	43	9.034	9.034	0.000	92	76448	50.0	40.6	
76 Toluene	91	9.204	9.204	0.000	97	251176	25.0	22.0	
77 trans-1,3-Dichloropropene	75	9.448	9.448	0.000	91	72378	25.0	20.8	
78 Ethyl methacrylate	69	9.508	9.508	0.000	89	56050	25.0	19.9	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	92	50600	25.0	22.1	
80 Tetrachloroethene	164	9.715	9.715	0.000	96	58242	25.0	22.2	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	89	85991	25.0	21.5	
82 2-Hexanone	43	9.861	9.861	0.000	94	55256	50.0	45.2	
84 Chlorodibromomethane	129	10.013	10.013	0.000	94	47012	25.0	19.7	
85 Ethylene Dibromide	107	10.123	10.129	-0.006	97	51980	25.0	22.1	
87 Chlorobenzene	112	10.616	10.616	0.000	95	166692	25.0	21.6	
89 1,1,1,2-Tetrachloroethane	131	10.707	10.707	0.000	93	56384	25.0	21.6	
90 Ethylbenzene	106	10.713	10.713	0.000	98	81707	25.0	20.4	
91 m-Xylene & p-Xylene	106	10.841	10.841	0.000	0	104437	25.0	20.9	
92 o-Xylene	106	11.224	11.224	0.000	94	100751	25.0	21.4	
93 Styrene	104	11.242	11.242	0.000	93	168993	25.0	20.6	
94 Bromoform	173	11.425	11.425	0.000	97	33901	25.0	21.0	
97 Isopropylbenzene	105	11.589	11.589	0.000	96	248031	25.0	20.4	
100 Bromobenzene	156	11.905	11.905	0.000	90	76092	25.0	23.9	
99 1,1,2,2-Tetrachloroethane	83	11.905	11.905	0.000	74	57481	25.0	21.7	
102 trans-1,4-Dichloro-2-buten	53	11.942	11.942	0.000	76	15813	25.0	22.4	
101 1,2,3-Trichloropropane	110	11.954	11.960	-0.006	82	21829	25.0	24.3	
103 N-Propylbenzene	120	12.003	12.003	0.000	98	73651	25.0	22.4	
104 2-Chlorotoluene	126	12.094	12.094	0.000	97	64630	25.0	22.9	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	93	202078	25.0	22.2	
107 4-Chlorotoluene	126	12.216	12.222	-0.006	98	67078	25.0	22.7	
108 tert-Butylbenzene	119	12.501	12.501	0.000	92	158917	25.0	21.0	
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	97	197151	25.0	21.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.727	12.727	0.000	94	219079	25.0	21.3	
113 1,3-Dichlorobenzene	146	12.848	12.848	0.000	96	117321	25.0	22.0	
114 4-Isopropyltoluene	119	12.879	12.879	0.000	96	182746	25.0	20.6	
115 1,4-Dichlorobenzene	146	12.946	12.946	0.000	94	125911	25.0	22.3	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	127916	25.0	19.7	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	98	109152	25.0	22.4	
122 1,2-Dibromo-3-Chloropropan	75	14.095	14.101	-0.006	85	6081	25.0	19.9	
126 1,2,4-Trichlorobenzene	180	14.910	14.917	-0.007	92	27142	25.0	17.7	
127 Hexachlorobutadiene	225	15.056	15.063	-0.007	93	15986	25.0	19.2	
128 Naphthalene	128	15.190	15.184	0.006	96	51401	25.0	18.9	
129 1,2,3-Trichlorobenzene	180	15.421	15.421	0.000	93	20805	25.0	20.1	
S 133 Xylenes, Total	106				0		50.0	42.3	
S 134 1,2-Dichloroethene, Total	96				0		50.0	49.1	
S 154 Total BTEX	106				0		125.0	108.7	
S 135 1,3-Dichloropropene, Total	1				0		50.0	42.6	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260SURR_00101	Amount Added: 1.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 1.00	Units: uL	
VOAVAPRI_00029	Amount Added: 1.00	Units: uL	
VOAACRPRI_00023	Amount Added: 5.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 1.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112905.D

Injection Date: 29-Nov-2019 12:10:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD5

Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL

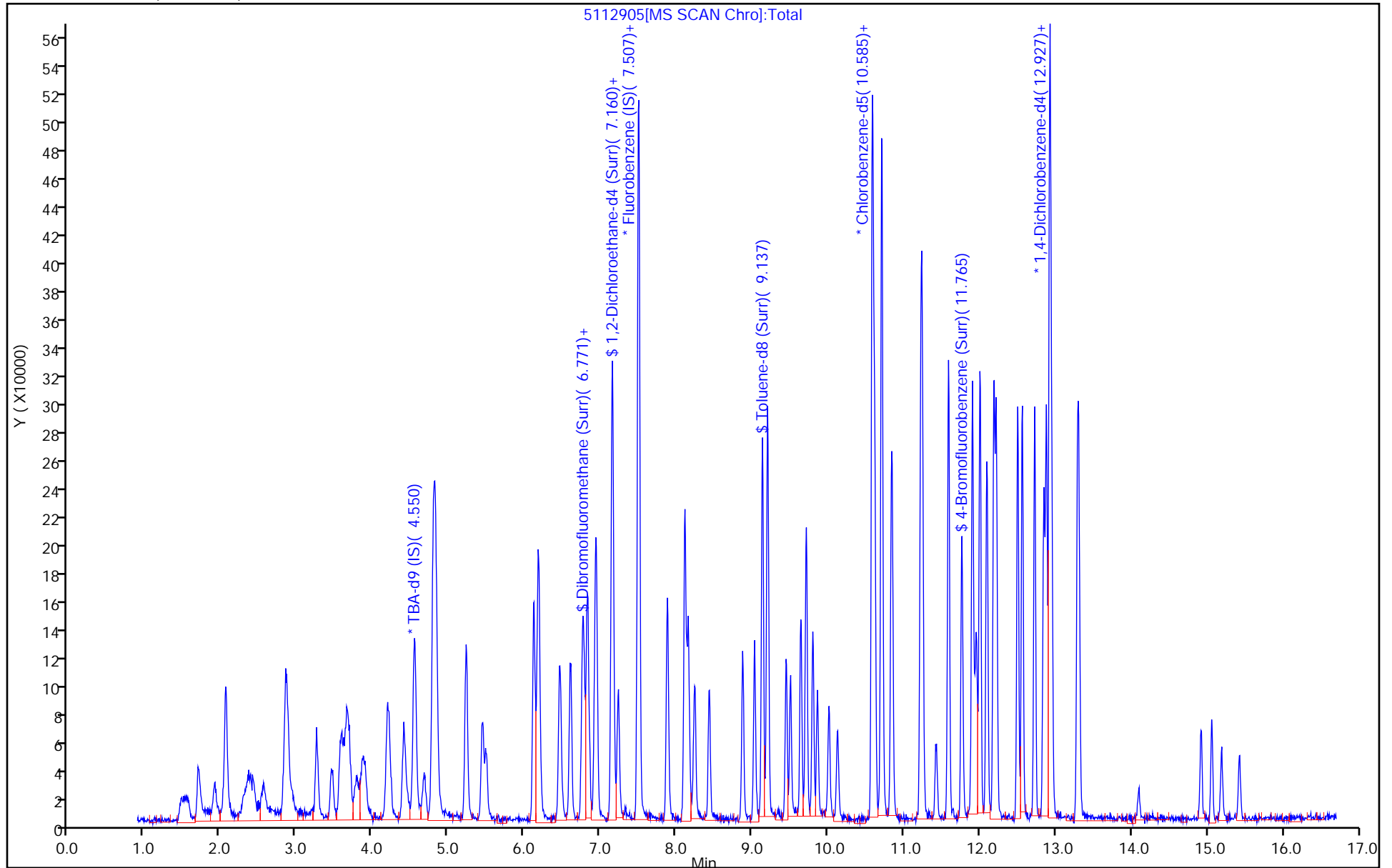
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh

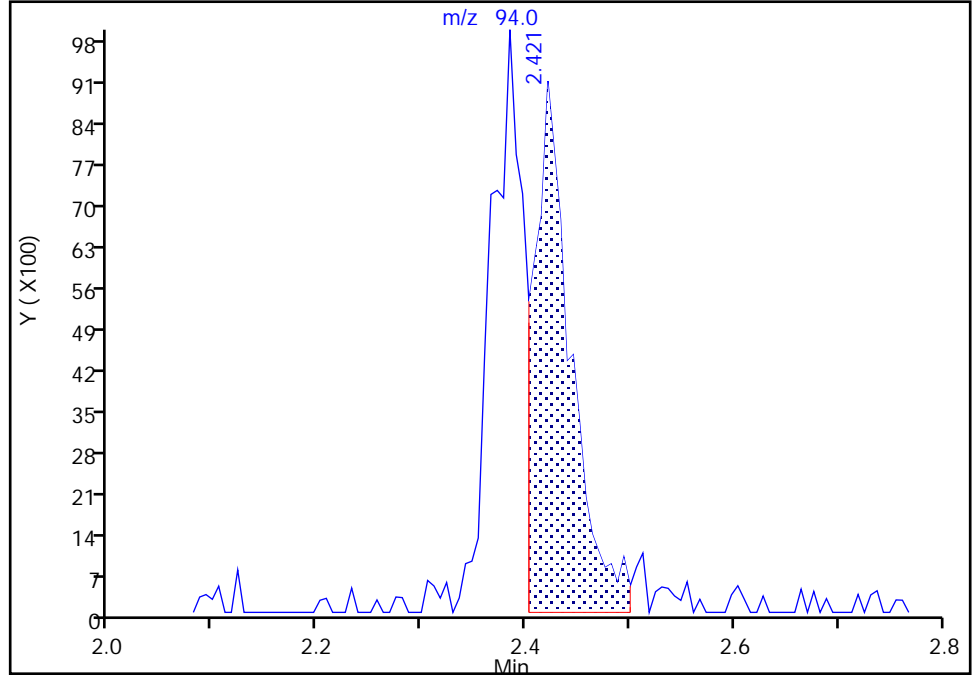
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112905.D
Injection Date: 29-Nov-2019 12:10:30 Instrument ID: CHHP5
Lims ID: IC VSTD5
Client ID:
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

15 Bromomethane, CAS: 74-83-9

Signal: 1

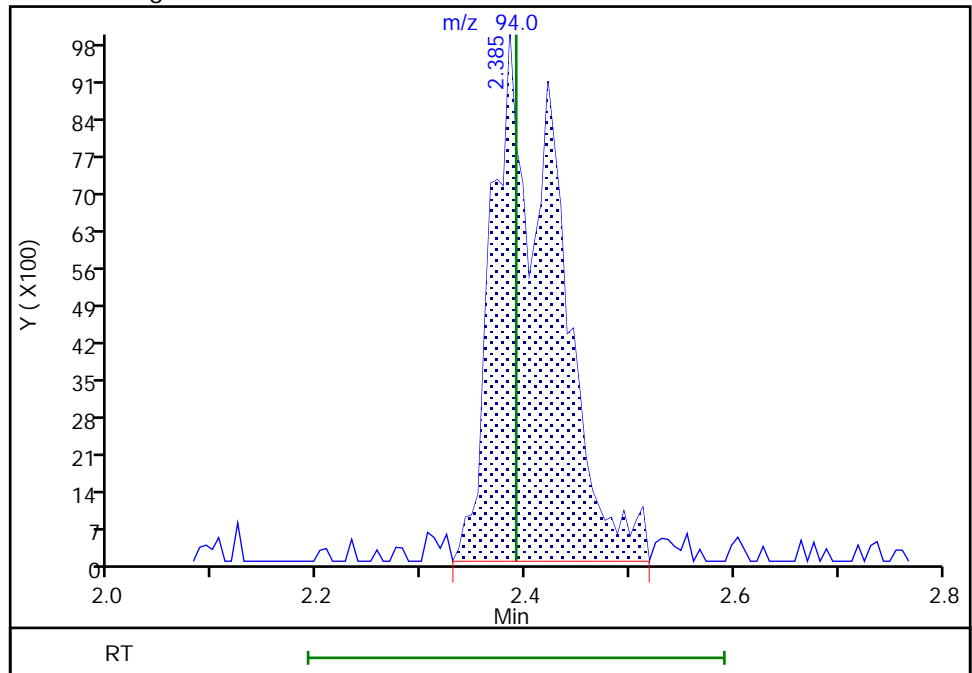
RT: 2.42
Area: 22413
Amount: 15.710006
Amount Units: ng

Processing Integration Results



RT: 2.38
Area: 42684
Amount: 26.290005
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 29-Nov-2019 13:39:44
Audit Action: Manually Integrated

Audit Reason: Split Peak

Eurofins TestAmerica, Pittsburgh

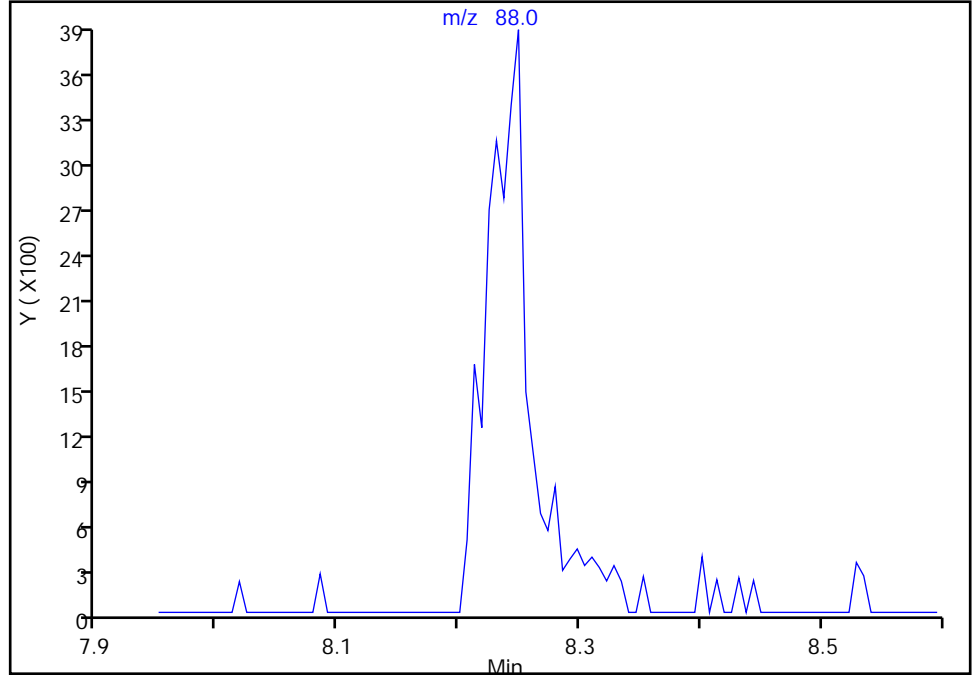
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112905.D
Injection Date: 29-Nov-2019 12:10:30 Instrument ID: CHHP5
Lims ID: IC VSTD5
Client ID:
Operator ID: 433269 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

70 1,4-Dioxane, CAS: 123-91-1

Signal: 1

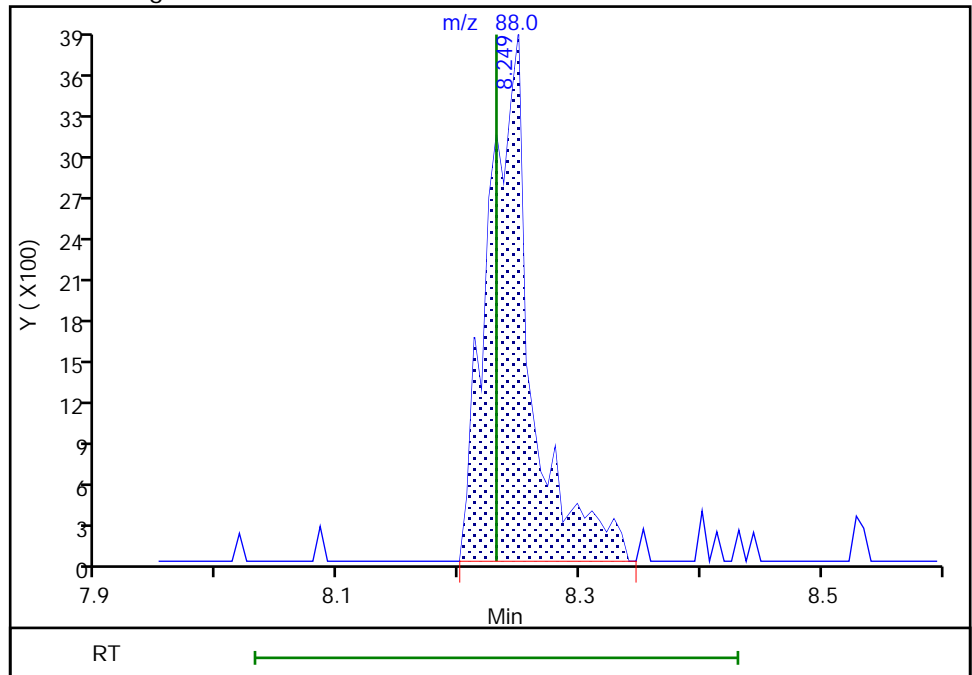
Not Detected
Expected RT: 8.23

Processing Integration Results



Manual Integration Results

RT: 8.25
Area: 9587
Amount: 464.2149
Amount Units: ng



Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112906.D
 Lims ID: ICIS VSTD10
 Client ID:
 Sample Type: ICIS Calib Level: 3
 Inject. Date: 29-Nov-2019 12:34:30 ALS Bottle#: 6 Worklist Smp#: 6
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-006
 Misc. Info.: icis vstd10
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:29 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 13:39:21

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	177082	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.501	0.000	98	446281	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.591	10.591	0.000	84	114935	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	91	194788	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.783	0.000	95	114803	50.0	50.9	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	145690	50.0	49.8	
\$ 7 Toluene-d8 (Surr)	98	9.137	9.137	0.000	92	474457	50.0	49.7	
\$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.765	0.000	94	181788	50.0	48.8	
11 Dichlorodifluoromethane	85	1.703	1.703	0.000	99	145278	50.0	47.1	
12 Chloromethane	50	1.916	1.916	0.000	99	97301	50.0	47.0	
13 Vinyl chloride	62	2.044	2.044	0.000	98	97652	50.0	44.9	
14 Butadiene	39	2.068	2.068	0.000	93	96490	50.0	46.9	
15 Bromomethane	94	2.391	2.391	0.000	91	84215	50.0	49.8	
16 Chloroethane	64	2.573	2.573	0.000	99	64646	50.0	46.4	
17 Dichlorofluoromethane	67	2.871	2.871	0.000	96	181643	50.0	50.9	
18 Trichlorofluoromethane	101	2.871	2.871	0.000	87	199074	50.0	49.5	
20 Ethyl ether	59	3.261	3.261	0.000	85	103304	50.0	51.3	
21 Acrolein	56	3.461	3.461	0.000	96	63398	150.0	153.3	
22 1,1-Dichloroethene	96	3.577	3.577	0.000	96	107372	50.0	47.4	
23 1,1,2-Trichloro-1,2,2-trif	101	3.674	3.674	0.000	89	122131	50.0	48.8	
24 Acetone	43	3.693	3.693	0.000	99	79419	100.0	87.0	
25 Iodomethane	142	3.784	3.784	0.000	97	199861	50.0	48.7	
26 Carbon disulfide	76	3.887	3.887	0.000	99	276977	50.0	46.2	
28 3-Chloro-1-propene	76	4.197	4.197	0.000	90	61569	50.0	48.3	
30 Methyl acetate	43	4.222	4.222	0.000	96	144720	100.0	94.9	
31 Methylene Chloride	84	4.416	4.416	0.000	88	124312	50.0	49.6	
32 2-Methyl-2-propanol	59	4.678	4.678	0.000	96	94222	500.0	543.1	
33 Acrylonitrile	53	4.800	4.800	0.000	100	416016	500.0	494.6	
34 trans-1,2-Dichloroethene	96	4.824	4.824	0.000	98	121391	50.0	47.2	
35 Methyl tert-butyl ether	73	4.836	4.836	0.000	95	295228	50.0	47.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.238	5.238	0.000	90	157651	50.0	45.3	
37 1,1-Dichloroethane	63	5.451	5.451	0.000	96	190971	50.0	47.4	
38 Vinyl acetate	43	5.493	5.493	0.000	97	191105	50.0	46.8	
44 2,2-Dichloropropane	97	6.187	6.187	0.000	59	26361	50.0	48.0	
45 cis-1,2-Dichloroethene	96	6.187	6.187	0.000	80	129639	50.0	47.6	
46 2-Butanone (MEK)	43	6.199	6.199	0.000	91	107070	100.0	94.7	
49 Chlorobromomethane	128	6.467	6.467	0.000	89	68967	50.0	49.5	
51 Tetrahydrofuran	42	6.479	6.479	0.000	83	54812	100.0	88.5	
52 Chloroform	83	6.600	6.600	0.000	94	211841	50.0	48.2	
53 1,1,1-Trichloroethane	97	6.765	6.765	0.000	98	160189	50.0	46.1	
54 Cyclohexane	56	6.832	6.832	0.000	87	181141	50.0	44.4	
56 Carbon tetrachloride	117	6.935	6.935	0.000	79	156676	50.0	47.0	
55 1,1-Dichloropropene	75	6.947	6.947	0.000	97	160215	50.0	47.4	
57 Isobutyl alcohol	41	7.148	7.148	0.000	79	76552	1250.0	1224.7	
58 Benzene	78	7.166	7.166	0.000	97	474845	50.0	46.9	
59 1,2-Dichloroethane	62	7.239	7.239	0.000	99	172738	50.0	48.9	
62 n-Heptane	43	7.513	7.513	0.000	83	121666	50.0	44.1	
64 Trichloroethene	130	7.878	7.878	0.000	96	134719	50.0	46.8	
66 Methylcyclohexane	83	8.115	8.115	0.000	88	197981	50.0	45.2	
67 1,2-Dichloropropane	63	8.152	8.152	0.000	91	108062	50.0	46.4	
70 1,4-Dioxane	88	8.231	8.231	0.000	38	18084	1000.0	840.0	
68 Dibromomethane	93	8.243	8.243	0.000	90	70911	50.0	47.7	
71 Dichlorobromomethane	83	8.438	8.438	0.000	98	143389	50.0	47.3	
74 cis-1,3-Dichloropropene	75	8.876	8.876	0.000	95	161307	50.0	45.6	
75 4-Methyl-2-pentanone (MIBK)	43	9.034	9.034	0.000	94	176282	100.0	95.0	
76 Toluene	91	9.204	9.204	0.000	99	536231	50.0	47.5	
77 trans-1,3-Dichloropropene	75	9.448	9.448	0.000	91	160084	50.0	46.6	
78 Ethyl methacrylate	69	9.508	9.508	0.000	87	138350	50.0	44.1	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	90	113728	50.0	50.4	
80 Tetrachloroethene	164	9.715	9.715	0.000	97	118108	50.0	45.6	
81 1,3-Dichloropropane	76	9.800	9.800	0.000	89	193606	50.0	49.0	
82 2-Hexanone	43	9.861	9.861	0.000	95	135550	100.0	93.4	
84 Chlorodibromomethane	129	10.013	10.013	0.000	91	108498	50.0	46.0	
85 Ethylene Dibromide	107	10.129	10.129	0.000	99	111987	50.0	48.2	
87 Chlorobenzene	112	10.616	10.616	0.000	95	366146	50.0	48.2	
89 1,1,1,2-Tetrachloroethane	131	10.707	10.707	0.000	92	123500	50.0	47.9	
90 Ethylbenzene	106	10.713	10.713	0.000	98	188122	50.0	47.7	
91 m-Xylene & p-Xylene	106	10.841	10.841	0.000	0	234922	50.0	47.7	
92 o-Xylene	106	11.224	11.224	0.000	96	222580	50.0	48.0	
93 Styrene	104	11.242	11.242	0.000	93	392407	50.0	48.4	
94 Bromoform	173	11.425	11.425	0.000	95	73509	50.0	46.1	
97 Isopropylbenzene	105	11.589	11.589	0.000	96	573348	50.0	47.8	
99 1,1,2,2-Tetrachloroethane	83	11.905	11.905	0.000	75	128006	50.0	49.0	
100 Bromobenzene	156	11.905	11.905	0.000	89	164603	50.0	46.9	
102 trans-1,4-Dichloro-2-buten	53	11.942	11.942	0.000	60	34817	50.0	44.8	
101 1,2,3-Trichloropropane	110	11.960	11.960	0.000	83	48087	50.0	48.7	
103 N-Propylbenzene	120	12.003	12.003	0.000	98	171588	50.0	47.3	
104 2-Chlorotoluene	126	12.094	12.094	0.000	97	143660	50.0	46.2	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	94	486543	50.0	48.4	
107 4-Chlorotoluene	126	12.222	12.222	0.000	96	161164	50.0	49.5	
108 tert-Butylbenzene	119	12.501	12.501	0.000	92	391925	50.0	47.0	
110 1,2,4-Trimethylbenzene	105	12.562	12.562	0.000	96	489083	50.0	49.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.727	12.727	0.000	94	538507	50.0	47.4	
113 1,3-Dichlorobenzene	146	12.848	12.848	0.000	97	290008	50.0	49.2	
114 4-Isopropyltoluene	119	12.879	12.879	0.000	96	473989	50.0	48.4	
115 1,4-Dichlorobenzene	146	12.946	12.946	0.000	96	302136	50.0	48.6	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	337547	50.0	47.1	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	98	269690	50.0	50.2	
122 1,2-Dibromo-3-Chloropropan	75	14.101	14.101	0.000	86	15715	50.0	46.6	
126 1,2,4-Trichlorobenzene	180	14.917	14.917	0.000	93	84147	50.0	49.7	
127 Hexachlorobutadiene	225	15.063	15.063	0.000	94	45004	50.0	51.1	
128 Naphthalene	128	15.184	15.184	0.000	96	171939	50.0	49.9	
129 1,2,3-Trichlorobenzene	180	15.421	15.421	0.000	97	61499	50.0	49.7	
S 133 Xylenes, Total	106				0		100.0	95.7	
S 134 1,2-Dichloroethene, Total	96				0		100.0	94.8	
S 154 Total BTEX	106				0		250.0	237.8	
S 135 1,3-Dichloropropene, Total	1				0		100.0	92.3	

Reagents:

VOA8260SURR_00101	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 2.00	Units: uL	
VOAVAPRI_00029	Amount Added: 2.00	Units: uL	
VOAACRPRI_00023	Amount Added: 6.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 2.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112906.D

Injection Date: 29-Nov-2019 12:34:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: ICIS VSTD10

Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL

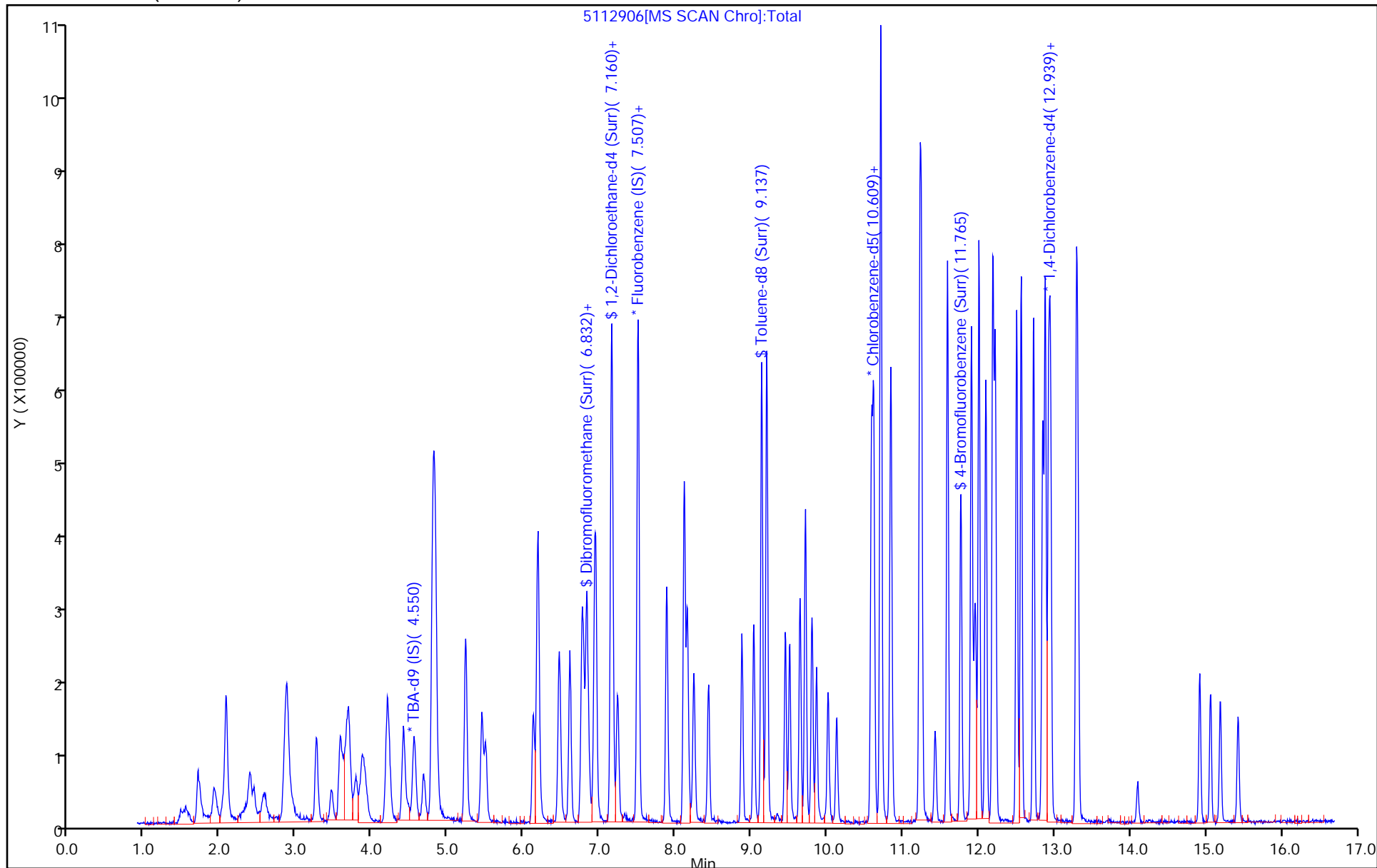
Dil. Factor: 1.0000

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\20191129-29787.b\5112907.D
 Lims ID: IC VSTD15
 Client ID:
 Sample Type: IC Calib Level: 4
 Inject. Date: 29-Nov-2019 12:58:30 ALS Bottle#: 7 Worklist Smp#: 7
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-007
 Misc. Info.: ic vstd15
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:35 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 13:38:49

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	178551	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.502	7.502	0.000	99	470595	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.586	10.586	0.000	85	117422	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.922	12.922	0.000	91	190732	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.784	6.784	0.000	95	178532	75.0	75.0	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.149	7.149	0.000	0	226719	75.0	73.5	
\$ 7 Toluene-d8 (Surr)	98	9.138	9.138	0.000	92	745172	75.0	76.4	
\$ 8 4-Bromofluorobenzene (Surr	95	11.766	11.766	0.000	93	294003	75.0	77.3	
11 Dichlorodifluoromethane	85	1.698	1.698	0.000	99	239705	75.0	73.6	
12 Chloromethane	50	1.917	1.917	0.000	98	159429	75.0	73.1	
13 Vinyl chloride	62	2.057	2.057	0.000	98	163979	75.0	71.5	
14 Butadiene	39	2.069	2.069	0.000	92	151071	75.0	69.6	
15 Bromomethane	94	2.380	2.380	0.000	92	129388	75.0	72.5	M
16 Chloroethane	64	2.556	2.556	0.000	98	109870	75.0	74.7	
17 Dichlorofluoromethane	67	2.854	2.854	0.000	97	270139	75.0	71.8	
18 Trichlorofluoromethane	101	2.879	2.879	0.000	98	307919	75.0	72.6	
20 Ethyl ether	59	3.268	3.268	0.000	88	149361	75.0	70.4	
21 Acrolein	56	3.463	3.463	0.000	99	71820	175.0	164.7	
22 1,1-Dichloroethene	96	3.572	3.572	0.000	96	171973	75.0	71.9	
23 1,1,2-Trichloro-1,2,2-trif	101	3.669	3.669	0.000	89	193284	75.0	73.3	
24 Acetone	43	3.694	3.694	0.000	100	140005	150.0	145.5	
25 Iodomethane	142	3.785	3.785	0.000	99	306778	75.0	70.9	
26 Carbon disulfide	76	3.894	3.894	0.000	98	444579	75.0	70.3	
28 3-Chloro-1-propene	76	4.193	4.193	0.000	91	94889	75.0	70.5	
30 Methyl acetate	43	4.223	4.223	0.000	97	229126	150.0	142.5	
31 Methylene Chloride	84	4.412	4.412	0.000	86	183790	75.0	70.6	
32 2-Methyl-2-propanol	59	4.673	4.673	0.000	96	136367	750.0	779.6	
33 Acrylonitrile	53	4.795	4.795	0.000	99	614234	750.0	692.5	
34 trans-1,2-Dichloroethene	96	4.819	4.819	0.000	98	189386	75.0	69.9	
35 Methyl tert-butyl ether	73	4.831	4.831	0.000	95	455070	75.0	69.0	

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	91	277556	75.0	75.6	
37 1,1-Dichloroethane	63	5.446	5.446	0.000	97	302681	75.0	71.2	
38 Vinyl acetate	43	5.494	5.494	0.000	96	308348	75.0	71.6	
44 2,2-Dichloropropane	97	6.176	6.176	0.000	59	40729	75.0	70.3	
45 cis-1,2-Dichloroethene	96	6.188	6.188	0.000	80	201603	75.0	70.2	
46 2-Butanone (MEK)	43	6.200	6.200	0.000	88	161934	150.0	135.9	
49 Chlorobromomethane	128	6.462	6.462	0.000	90	104230	75.0	71.0	
51 Tetrahydrofuran	42	6.474	6.474	0.000	86	91487	150.0	140.2	
52 Chloroform	83	6.602	6.602	0.000	94	328641	75.0	72.9	
53 1,1,1-Trichloroethane	97	6.760	6.760	0.000	98	264337	75.0	72.1	
54 Cyclohexane	56	6.827	6.827	0.000	87	312930	75.0	72.8	
56 Carbon tetrachloride	117	6.930	6.930	0.000	96	256795	75.0	73.1	
55 1,1-Dichloropropene	75	6.948	6.948	0.000	96	256841	75.0	72.1	
57 Isobutyl alcohol	41	7.149	7.149	0.000	76	115393	1875.0	1750.8	
58 Benzene	78	7.161	7.161	0.000	97	756839	75.0	70.8	
59 1,2-Dichloroethane	62	7.234	7.234	0.000	98	261792	75.0	70.3	
62 n-Heptane	43	7.514	7.514	0.000	88	213985	75.0	73.5	
64 Trichloroethene	130	7.885	7.885	0.000	96	215554	75.0	71.1	
66 Methylcyclohexane	83	8.116	8.116	0.000	88	348007	75.0	75.3	
67 1,2-Dichloropropane	63	8.153	8.153	0.000	91	168108	75.0	68.5	
70 1,4-Dioxane	88	8.238	8.238	0.000	36	30243	1500.0	1332.2	
68 Dibromomethane	93	8.244	8.244	0.000	90	109914	75.0	70.2	
71 Dichlorobromomethane	83	8.439	8.439	0.000	100	225947	75.0	70.6	
74 cis-1,3-Dichloropropene	75	8.877	8.877	0.000	96	263955	75.0	70.8	
75 4-Methyl-2-pentanone (MIBK)	43	9.035	9.035	0.000	93	280142	150.0	147.7	
76 Toluene	91	9.205	9.205	0.000	98	874491	75.0	75.9	
77 trans-1,3-Dichloropropene	75	9.449	9.449	0.000	90	259324	75.0	73.9	
78 Ethyl methacrylate	69	9.503	9.503	0.000	87	220480	75.0	66.6	
79 1,1,2-Trichloroethane	97	9.643	9.643	0.000	89	176881	75.0	76.7	
80 Tetrachloroethene	164	9.716	9.716	0.000	97	202392	75.0	76.4	
81 1,3-Dichloropropane	76	9.802	9.802	0.000	89	290412	75.0	71.9	
82 2-Hexanone	43	9.862	9.862	0.000	94	216246	150.0	138.7	
84 Chlorodibromomethane	129	10.014	10.014	0.000	89	177321	75.0	73.6	
85 Ethylene Dibromide	107	10.124	10.124	0.000	99	171500	75.0	72.2	
87 Chlorobenzene	112	10.611	10.611	0.000	95	569913	75.0	73.4	
89 1,1,1,2-Tetrachloroethane	131	10.708	10.708	0.000	91	195051	75.0	74.0	
90 Ethylbenzene	106	10.714	10.714	0.000	98	303579	75.0	75.3	
91 m-Xylene & p-Xylene	106	10.842	10.842	0.000	0	394722	75.0	78.4	
92 o-Xylene	106	11.219	11.219	0.000	96	356426	75.0	75.2	
93 Styrene	104	11.243	11.243	0.000	93	619187	75.0	74.7	
94 Bromoform	173	11.426	11.426	0.000	99	114586	75.0	70.4	
97 Isopropylbenzene	105	11.590	11.590	0.000	95	934768	75.0	76.4	
100 Bromobenzene	156	11.906	11.906	0.000	88	247945	75.0	72.1	
99 1,1,2,2-Tetrachloroethane	83	11.906	11.906	0.000	75	194421	75.0	72.9	
102 trans-1,4-Dichloro-2-buten	53	11.943	11.943	0.000	75	56791	75.0	74.6	
101 1,2,3-Trichloropropane	110	11.955	11.955	0.000	83	68379	75.0	70.7	
103 N-Propylbenzene	120	12.004	12.004	0.000	98	276695	75.0	77.8	
104 2-Chlorotoluene	126	12.095	12.095	0.000	97	224945	75.0	73.9	
106 1,3,5-Trimethylbenzene	105	12.186	12.186	0.000	94	785965	75.0	79.8	
107 4-Chlorotoluene	126	12.217	12.217	0.000	96	244708	75.0	76.7	
108 tert-Butylbenzene	119	12.503	12.503	0.000	92	641940	75.0	78.7	
110 1,2,4-Trimethylbenzene	105	12.557	12.557	0.000	97	773856	75.0	79.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.722	12.722	0.000	94	883432	75.0	79.4	
113 1,3-Dichlorobenzene	146	12.843	12.843	0.000	98	440721	75.0	76.4	
114 4-Isopropyltoluene	119	12.880	12.880	0.000	97	790014	75.0	82.3	
115 1,4-Dichlorobenzene	146	12.947	12.947	0.000	95	460046	75.0	75.5	
120 n-Butylbenzene	91	13.287	13.287	0.000	97	561851	75.0	80.1	
121 1,2-Dichlorobenzene	146	13.306	13.306	0.000	98	402836	75.0	76.6	
122 1,2-Dibromo-3-Chloropropan	75	14.096	14.096	0.000	84	22586	75.0	68.4	
126 1,2,4-Trichlorobenzene	180	14.918	14.918	0.000	93	126330	75.0	76.1	
127 Hexachlorobutadiene	225	15.058	15.058	0.000	92	65759	75.0	76.9	
128 Naphthalene	128	15.185	15.185	0.000	96	275573	75.0	77.4	
129 1,2,3-Trichlorobenzene	180	15.423	15.423	0.000	96	91059	75.0	73.8	
S 133 Xylenes, Total	106				0		150.0	153.6	
S 134 1,2-Dichloroethene, Total	96				0		150.0	140.1	
S 154 Total BTEX	106				0		375.0	375.7	
S 135 1,3-Dichloropropene, Total	1				0		150.0	144.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOA8260SURR_00101	Amount Added: 3.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 3.00	Units: uL	
VOAVAPRI_00029	Amount Added: 3.00	Units: uL	
VOAACRPRI_00023	Amount Added: 7.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 3.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112907.D

Injection Date: 29-Nov-2019 12:58:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD15

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

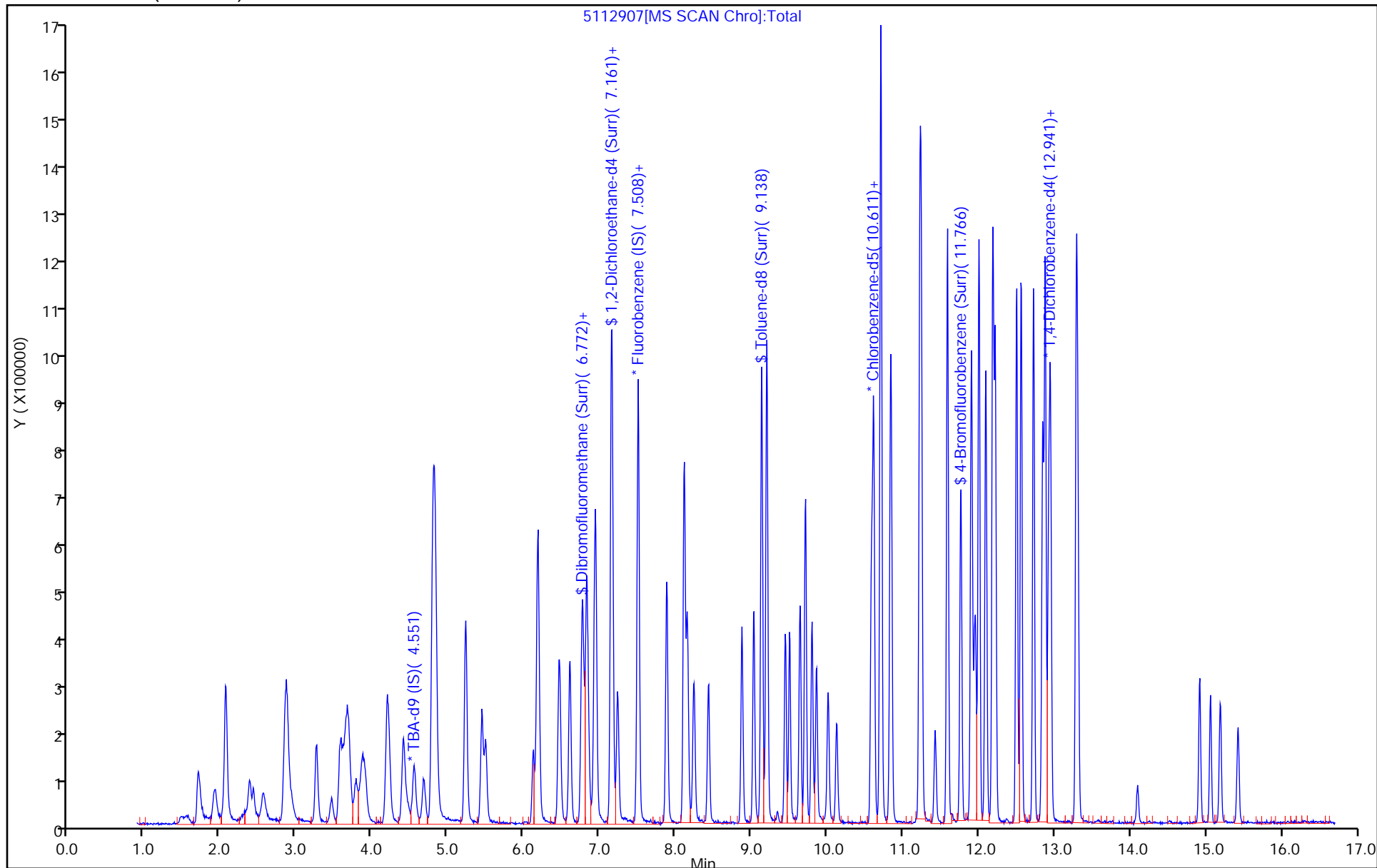
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh

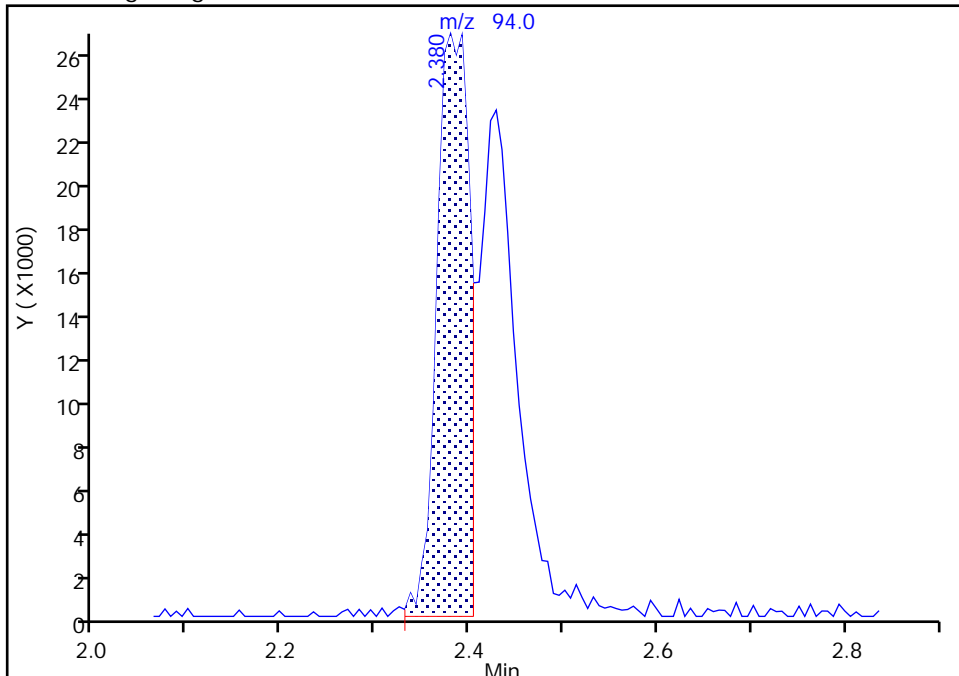
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112907.D
Injection Date: 29-Nov-2019 12:58:30 Instrument ID: CHHP5
Lims ID: IC VSTD15
Client ID:
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

15 Bromomethane, CAS: 74-83-9

Signal: 1

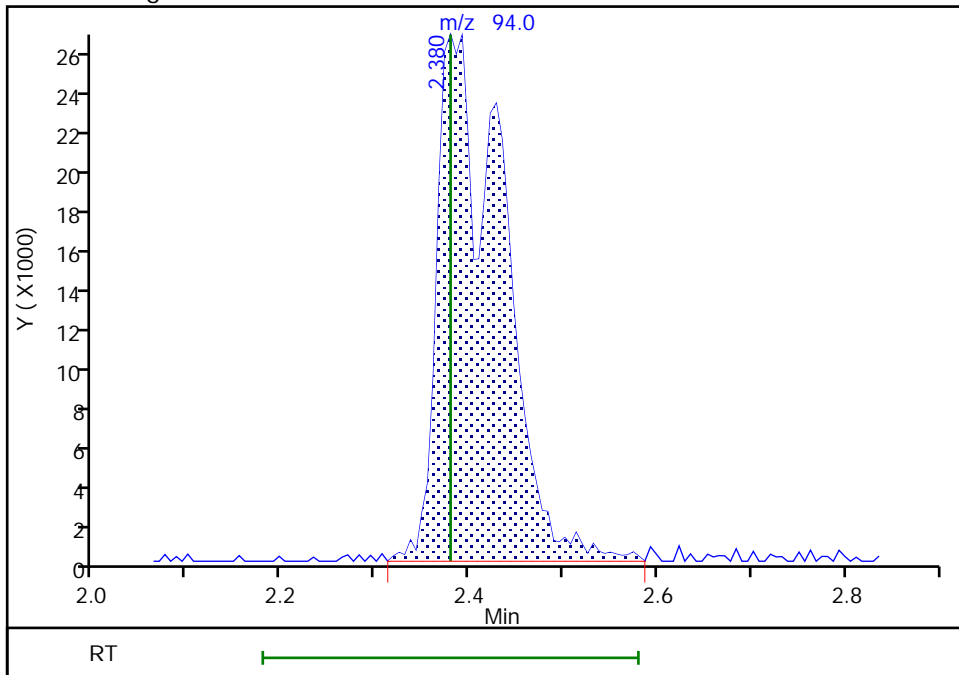
RT: 2.38
Area: 65463
Amount: 38.474228
Amount Units: ng

Processing Integration Results



RT: 2.38
Area: 129388
Amount: 72.498265
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 29-Nov-2019 13:51:56
Audit Action: Manually Integrated

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112908.D
 Lims ID: IC VSTD20
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 29-Nov-2019 13:23:30 ALS Bottle#: 8 Worklist Smp#: 8
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-008
 Misc. Info.: ic vstd20
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:41 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 13:49:00

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	208659	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.503	7.502	0.001	99	486368	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.587	10.586	0.001	84	127828	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.923	12.922	0.001	91	209946	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.785	6.784	0.001	94	236915	100.0	96.3	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.149	0.001	0	318880	100.0	100.0	
\$ 7 Toluene-d8 (Surr)	98	9.139	9.138	0.001	92	1028063	100.0	96.8	
\$ 8 4-Bromofluorobenzene (Surr	95	11.761	11.766	-0.005	95	400943	100.0	96.8	
11 Dichlorodifluoromethane	85	1.705	1.698	0.007	99	340286	100.0	101.2	
12 Chloromethane	50	1.918	1.917	0.001	99	226062	100.0	100.2	
13 Vinyl chloride	62	2.040	2.057	-0.017	98	226444	100.0	95.5	
14 Butadiene	39	2.064	2.069	-0.005	91	208026	100.0	92.7	
15 Bromomethane	94	2.380	2.380	0.000	93	170129	100.0	92.2	
16 Chloroethane	64	2.557	2.556	0.001	99	144167	100.0	94.9	
17 Dichlorofluoromethane	67	2.849	2.854	-0.005	97	380936	100.0	98.0	
18 Trichlorofluoromethane	101	2.867	2.879	-0.012	97	438238	100.0	99.9	
20 Ethyl ether	59	3.262	3.268	-0.006	88	217897	100.0	99.3	
21 Acrolein	56	3.463	3.463	0.000	98	88514	200.0	196.4	
22 1,1-Dichloroethene	96	3.573	3.572	0.001	96	237261	100.0	96.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.658	3.669	-0.011	90	269261	100.0	98.7	
24 Acetone	43	3.694	3.694	0.000	99	232505	200.0	233.7	
25 Iodomethane	142	3.780	3.785	-0.005	96	440436	100.0	98.5	
26 Carbon disulfide	76	3.883	3.894	-0.011	99	636279	100.0	97.3	
28 3-Chloro-1-propene	76	4.187	4.193	-0.006	91	138845	100.0	99.9	
30 Methyl acetate	43	4.224	4.223	0.001	96	348861	200.0	209.9	
31 Methylene Chloride	84	4.412	4.412	0.000	86	272194	100.0	102.4	
32 2-Methyl-2-propanol	59	4.680	4.673	0.007	95	206366	1000.0	1009.5	
33 Acrylonitrile	53	4.795	4.795	0.000	100	951640	1000.0	1038.1	
34 trans-1,2-Dichloroethene	96	4.814	4.819	-0.005	98	277723	100.0	99.2	
35 Methyl tert-butyl ether	73	4.832	4.831	0.001	95	711385	100.0	104.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.227	5.233	-0.006	91	372791	100.0	98.3	
37 1,1-Dichloroethane	63	5.446	5.446	0.000	96	428377	100.0	97.5	
38 Vinyl acetate	43	5.495	5.494	0.001	97	440644	100.0	99.0	
44 2,2-Dichloropropane	97	6.183	6.176	0.006	60	62267	100.0	104.0	
45 cis-1,2-Dichloroethene	96	6.183	6.188	-0.006	80	293145	100.0	98.8	
46 2-Butanone (MEK)	43	6.195	6.200	-0.005	97	264403	200.0	214.7	
49 Chlorobromomethane	128	6.462	6.462	0.000	89	156488	100.0	103.1	
51 Tetrahydrofuran	42	6.475	6.474	0.000	83	131152	200.0	194.4	
52 Chloroform	83	6.608	6.602	0.006	93	469046	100.0	102.2	
53 1,1,1-Trichloroethane	97	6.760	6.760	0.000	98	389941	100.0	102.9	
54 Cyclohexane	56	6.827	6.827	0.000	86	445591	100.0	100.2	
56 Carbon tetrachloride	117	6.931	6.930	0.001	97	363216	100.0	100.0	
55 1,1-Dichloropropene	75	6.949	6.948	0.001	97	371576	100.0	100.9	
57 Isobutyl alcohol	41	7.150	7.149	0.001	84	179170	2500.0	2630.2	
58 Benzene	78	7.162	7.161	0.001	97	1084977	100.0	98.3	
59 1,2-Dichloroethane	62	7.235	7.234	0.001	98	398111	100.0	103.5	
62 n-Heptane	43	7.509	7.514	-0.005	86	302498	100.0	100.6	
64 Trichloroethene	130	7.880	7.885	-0.005	96	311044	100.0	99.2	
66 Methylcyclohexane	83	8.117	8.116	0.001	86	488171	100.0	102.2	
67 1,2-Dichloropropane	63	8.154	8.153	0.001	92	249469	100.0	98.3	
70 1,4-Dioxane	88	8.239	8.238	0.001	37	47991	2000.0	2045.4	
68 Dibromomethane	93	8.239	8.244	-0.005	89	165691	100.0	102.4	
71 Dichlorobromomethane	83	8.433	8.439	-0.006	99	337830	100.0	102.2	
74 cis-1,3-Dichloropropene	75	8.877	8.877	0.000	96	402822	100.0	104.5	
75 4-Methyl-2-pentanone (MIBK)	43	9.030	9.035	-0.005	94	428428	200.0	207.5	
76 Toluene	91	9.206	9.205	0.001	98	1271498	100.0	101.3	
77 trans-1,3-Dichloropropene	75	9.449	9.449	0.000	91	404333	100.0	105.9	
78 Ethyl methacrylate	69	9.504	9.503	0.001	87	362639	100.0	98.7	
79 1,1,2-Trichloroethane	97	9.644	9.643	0.001	91	257135	100.0	102.4	
80 Tetrachloroethene	164	9.711	9.716	-0.005	96	281776	100.0	97.7	
81 1,3-Dichloropropane	76	9.802	9.802	0.000	90	442718	100.0	100.7	
82 2-Hexanone	43	9.863	9.862	0.001	94	347449	200.0	198.7	
84 Chlorodibromomethane	129	10.015	10.014	0.001	90	275769	100.0	105.2	
85 Ethylene Dibromide	107	10.131	10.124	0.007	97	261522	100.0	101.2	
87 Chlorobenzene	112	10.617	10.611	0.006	96	834213	100.0	98.7	
89 1,1,1,2-Tetrachloroethane	131	10.703	10.708	-0.006	94	289226	100.0	100.9	
90 Ethylbenzene	106	10.709	10.714	-0.005	98	448008	100.0	102.1	
91 m-Xylene & p-Xylene	106	10.842	10.842	0.000	0	561107	100.0	102.4	
92 o-Xylene	106	11.220	11.219	0.001	96	532552	100.0	103.2	
93 Styrene	104	11.244	11.243	0.001	94	945975	100.0	104.9	
94 Bromoform	173	11.426	11.426	0.000	99	185165	100.0	104.5	
97 Isopropylbenzene	105	11.591	11.590	0.001	95	1381684	100.0	103.7	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.906	-0.005	94	289777	100.0	99.8	
100 Bromobenzene	156	11.907	11.906	0.001	87	385108	100.0	101.7	
102 trans-1,4-Dichloro-2-buten	53	11.944	11.943	0.001	77	88370	100.0	105.4	
101 1,2,3-Trichloropropane	110	11.962	11.955	0.007	84	106487	100.0	100.0	
103 N-Propylbenzene	120	12.004	12.004	0.000	98	401418	100.0	102.6	
104 2-Chlorotoluene	126	12.096	12.095	0.001	97	348251	100.0	103.9	
106 1,3,5-Trimethylbenzene	105	12.187	12.186	0.001	94	1157219	100.0	106.8	
107 4-Chlorotoluene	126	12.217	12.217	0.000	96	375373	100.0	106.9	
108 tert-Butylbenzene	119	12.497	12.503	-0.006	92	951898	100.0	106.0	
110 1,2,4-Trimethylbenzene	105	12.558	12.557	0.001	97	1159806	100.0	108.0	

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	12.722	0.000	94	1301550	100.0	106.3	
113 1,3-Dichlorobenzene	146	12.844	12.843	0.001	98	659065	100.0	103.8	
114 4-Isopropyltoluene	119	12.880	12.880	0.000	97	1145413	100.0	108.5	
115 1,4-Dichlorobenzene	146	12.947	12.947	0.000	96	691802	100.0	103.2	
120 n-Butylbenzene	91	13.288	13.287	0.001	97	830443	100.0	107.5	
121 1,2-Dichlorobenzene	146	13.306	13.306	0.000	99	614157	100.0	106.1	
122 1,2-Dibromo-3-Chloropropan	75	14.097	14.096	0.001	87	38471	100.0	105.9	
126 1,2,4-Trichlorobenzene	180	14.918	14.918	0.000	92	195174	100.0	106.9	
127 Hexachlorobutadiene	225	15.058	15.058	0.000	93	101105	100.0	108.0	
128 Naphthalene	128	15.186	15.185	0.001	96	445024	100.0	108.2	
129 1,2,3-Trichlorobenzene	180	15.417	15.423	-0.006	95	142117	100.0	103.5	
S 133 Xylenes, Total	106				0		200.0	205.6	
S 134 1,2-Dichloroethene, Total	96				0		200.0	198.0	
S 154 Total BTEX	106				0		500.0	507.3	
S 135 1,3-Dichloropropene, Total	1				0		200.0	210.4	

Reagents:

VOA8260SURR_00101	Amount Added: 4.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 4.00	Units: uL	
VOAVAPRI_00029	Amount Added: 4.00	Units: uL	
VOAACRPRI_00023	Amount Added: 8.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 4.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112908.D

Injection Date: 29-Nov-2019 13:23:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD20

Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL

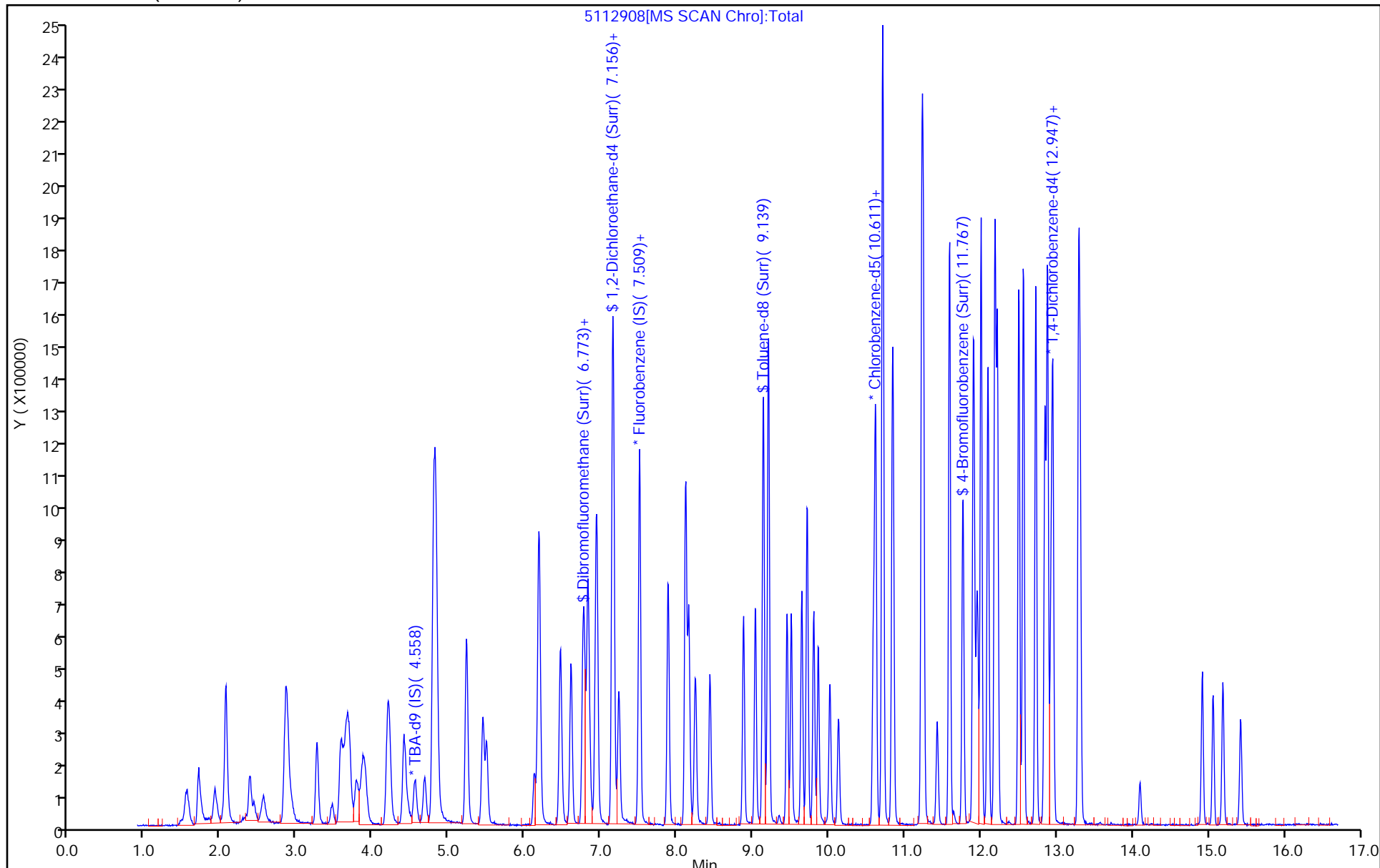
Dil. Factor: 1.0000

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\20191129-29787.b\5112909.D
 Lims ID: IC VSTD35
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 29-Nov-2019 13:47:30 ALS Bottle#: 9 Worklist Smp#: 9
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-009
 Misc. Info.: ic vstd35
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:48 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 14:17:05

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	192805	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.502	7.502	0.000	98	484156	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.587	10.586	0.001	83	119874	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.923	12.922	0.001	90	197968	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.784	6.784	0.000	94	422801	175.0	172.7	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.149	7.149	0.000	0	541249	175.0	170.5	
\$ 7 Toluene-d8 (Surr)	98	9.139	9.138	0.001	92	1887432	175.0	189.5	
\$ 8 4-Bromofluorobenzene (Surr	95	11.767	11.766	0.001	95	712668	175.0	183.4	
11 Dichlorodifluoromethane	85	1.705	1.698	0.007	99	591205	175.0	176.6	
12 Chloromethane	50	1.918	1.917	0.001	99	390661	175.0	174.0	
13 Vinyl chloride	62	2.051	2.057	-0.006	80	423059	175.0	179.3	
14 Butadiene	39	2.064	2.069	-0.005	92	389506	175.0	174.5	
15 Bromomethane	94	2.380	2.380	0.000	92	307082	175.0	167.2	
16 Chloroethane	64	2.556	2.556	0.000	100	262467	175.0	173.6	
17 Dichlorofluoromethane	67	2.855	2.854	0.001	97	655165	175.0	169.2	
18 Trichlorofluoromethane	101	2.873	2.879	-0.006	99	764043	175.0	175.0	
20 Ethyl ether	59	3.262	3.268	-0.006	88	351215	175.0	160.9	
21 Acrolein	56	3.463	3.463	0.000	99	101190	225.0	225.5	
22 1,1-Dichloroethene	96	3.578	3.572	0.006	98	422204	175.0	171.7	
23 1,1,2-Trichloro-1,2,2-trif	101	3.651	3.669	-0.018	89	476462	175.0	175.5	
24 Acetone	43	3.694	3.694	0.000	100	368970	350.0	372.6	
25 Iodomethane	142	3.791	3.785	0.006	98	773362	175.0	173.8	
26 Carbon disulfide	76	3.883	3.894	-0.011	99	1181355	175.0	181.5	
28 3-Chloro-1-propene	76	4.193	4.193	0.000	91	254459	175.0	183.9	
30 Methyl acetate	43	4.217	4.223	-0.006	97	569750	350.0	344.4	
31 Methylene Chloride	84	4.406	4.412	-0.006	86	463472	175.0	177.2	
32 2-Methyl-2-propanol	59	4.686	4.673	0.013	96	346211	1750.0	1832.9	
33 Acrylonitrile	53	4.795	4.795	0.000	99	1587479	1750.0	1739.6	
34 trans-1,2-Dichloroethene	96	4.819	4.819	0.000	98	480802	175.0	172.4	
35 Methyl tert-butyl ether	73	4.838	4.831	0.007	95	1209652	175.0	178.2	

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	90	686296	175.0	181.8	
37 1,1-Dichloroethane	63	5.446	5.446	0.000	96	747740	175.0	171.0	
38 Vinyl acetate	43	5.495	5.494	0.001	97	826185	175.0	186.5	
44 2,2-Dichloropropane	97	6.182	6.176	0.006	92	107960	175.0	181.1	
45 cis-1,2-Dichloroethene	96	6.182	6.188	-0.006	82	512601	175.0	173.5	
46 2-Butanone (MEK)	43	6.194	6.200	-0.006	99	440105	350.0	358.9	
49 Chlorobromomethane	128	6.462	6.462	0.000	87	266202	175.0	176.1	
51 Tetrahydrofuran	42	6.474	6.474	0.000	82	220075	350.0	327.7	
52 Chloroform	83	6.608	6.602	0.006	93	801930	175.0	178.4	
53 1,1,1-Trichloroethane	97	6.766	6.760	0.006	98	682781	175.0	181.0	
54 Cyclohexane	56	6.827	6.827	0.000	87	819311	175.0	185.1	
56 Carbon tetrachloride	117	6.930	6.930	0.000	97	652987	175.0	180.7	
55 1,1-Dichloropropene	75	6.949	6.948	0.001	97	658288	175.0	179.6	
57 Isobutyl alcohol	41	7.149	7.149	0.000	84	285110	4375.0	4204.6	
58 Benzene	78	7.162	7.161	0.001	97	1924094	175.0	175.0	
59 1,2-Dichloroethane	62	7.235	7.234	0.001	98	666636	175.0	174.1	
62 n-Heptane	43	7.508	7.514	-0.006	88	555876	175.0	185.6	
64 Trichloroethene	130	7.886	7.885	0.001	95	561135	175.0	179.8	
66 Methylcyclohexane	83	8.117	8.116	0.001	85	907416	175.0	190.8	
67 1,2-Dichloropropane	63	8.159	8.153	0.006	94	431331	175.0	170.8	
70 1,4-Dioxane	88	8.238	8.238	0.000	37	80373	3500.0	3441.3	
68 Dibromomethane	93	8.244	8.244	0.000	89	282762	175.0	175.5	
71 Dichlorobromomethane	83	8.433	8.439	-0.006	100	581462	175.0	176.7	
74 cis-1,3-Dichloropropene	75	8.877	8.877	0.000	96	718081	175.0	187.2	
75 4-Methyl-2-pentanone (MIBK)	43	9.029	9.035	-0.006	94	759074	350.0	392.0	
76 Toluene	91	9.206	9.205	0.001	98	2250944	175.0	191.3	
77 trans-1,3-Dichloropropene	75	9.449	9.449	0.000	91	710018	175.0	198.3	
78 Ethyl methacrylate	69	9.504	9.503	0.001	87	626349	175.0	178.5	
79 1,1,2-Trichloroethane	97	9.644	9.643	0.001	91	427627	175.0	181.5	
80 Tetrachloroethene	164	9.717	9.716	0.001	97	502868	175.0	186.0	
81 1,3-Dichloropropane	76	9.802	9.802	0.000	89	774103	175.0	187.7	
82 2-Hexanone	43	9.857	9.862	-0.005	93	609884	350.0	360.8	
84 Chlorodibromomethane	129	10.015	10.014	0.001	90	474986	175.0	193.2	
85 Ethylene Dibromide	107	10.124	10.124	0.000	98	451548	175.0	186.3	
87 Chlorobenzene	112	10.617	10.611	0.006	96	1469996	175.0	185.4	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.708	-0.006	94	492525	175.0	183.2	
90 Ethylbenzene	106	10.708	10.714	-0.006	98	813870	175.0	197.9	
91 m-Xylene & p-Xylene	106	10.842	10.842	0.000	0	1010053	175.0	196.6	
92 o-Xylene	106	11.225	11.219	0.006	96	958453	175.0	198.1	
93 Styrene	104	11.244	11.243	0.001	94	1679489	175.0	198.5	
94 Bromoform	173	11.426	11.426	0.000	98	318487	175.0	191.6	
97 Isopropylbenzene	105	11.590	11.590	0.000	95	2500441	175.0	200.1	
100 Bromobenzene	156	11.907	11.906	0.001	88	659967	175.0	184.9	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.906	-0.005	74	502742	175.0	184.6	
102 trans-1,4-Dichloro-2-buten	53	11.937	11.943	-0.006	79	155727	175.0	197.1	
101 1,2,3-Trichloropropane	110	11.955	11.955	0.000	83	185658	175.0	184.8	
103 N-Propylbenzene	120	12.004	12.004	0.000	98	724479	175.0	196.4	
104 2-Chlorotoluene	126	12.095	12.095	0.000	97	588298	175.0	186.1	
106 1,3,5-Trimethylbenzene	105	12.187	12.186	0.001	94	1970824	175.0	192.9	
107 4-Chlorotoluene	126	12.217	12.217	0.000	97	633782	175.0	191.5	
108 tert-Butylbenzene	119	12.503	12.503	0.000	92	1636677	175.0	193.3	
110 1,2,4-Trimethylbenzene	105	12.558	12.557	0.001	97	1945419	175.0	192.0	

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	12.722	0.000	93	2220039	175.0	192.3	
113 1,3-Dichlorobenzene	146	12.844	12.843	0.001	98	1067992	175.0	178.4	
114 4-Isopropyltoluene	119	12.880	12.880	0.000	97	1902469	175.0	191.1	
115 1,4-Dichlorobenzene	146	12.947	12.947	0.000	96	1112452	175.0	176.0	
120 n-Butylbenzene	91	13.288	13.287	0.001	97	1368904	175.0	188.0	
121 1,2-Dichlorobenzene	146	13.306	13.306	0.000	99	947825	175.0	173.7	
122 1,2-Dibromo-3-Chloropropan	75	14.091	14.096	-0.005	88	57777	175.0	168.7	
126 1,2,4-Trichlorobenzene	180	14.912	14.918	-0.006	93	282008	175.0	163.7	
127 Hexachlorobutadiene	225	15.058	15.058	0.000	91	136563	175.0	155.3	
128 Naphthalene	128	15.186	15.185	0.001	96	671454	175.0	161.6	
129 1,2,3-Trichlorobenzene	180	15.423	15.423	0.000	96	200024	175.0	153.2	
S 133 Xylenes, Total	106				0		350.0	394.7	
S 134 1,2-Dichloroethene, Total	96				0		350.0	346.0	
S 154 Total BTEX	106				0		875.0	958.8	
S 135 1,3-Dichloropropene, Total	1				0		350.0	385.5	

Reagents:

VOA8260SURR_00101	Amount Added: 7.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 7.00	Units: uL	
VOAVAPRI_00029	Amount Added: 7.00	Units: uL	
VOAACRPRI_00023	Amount Added: 9.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 7.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112909.D

Injection Date: 29-Nov-2019 13:47:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD35

Worklist Smp#: 9

Client ID:

Purge Vol: 5.000 mL

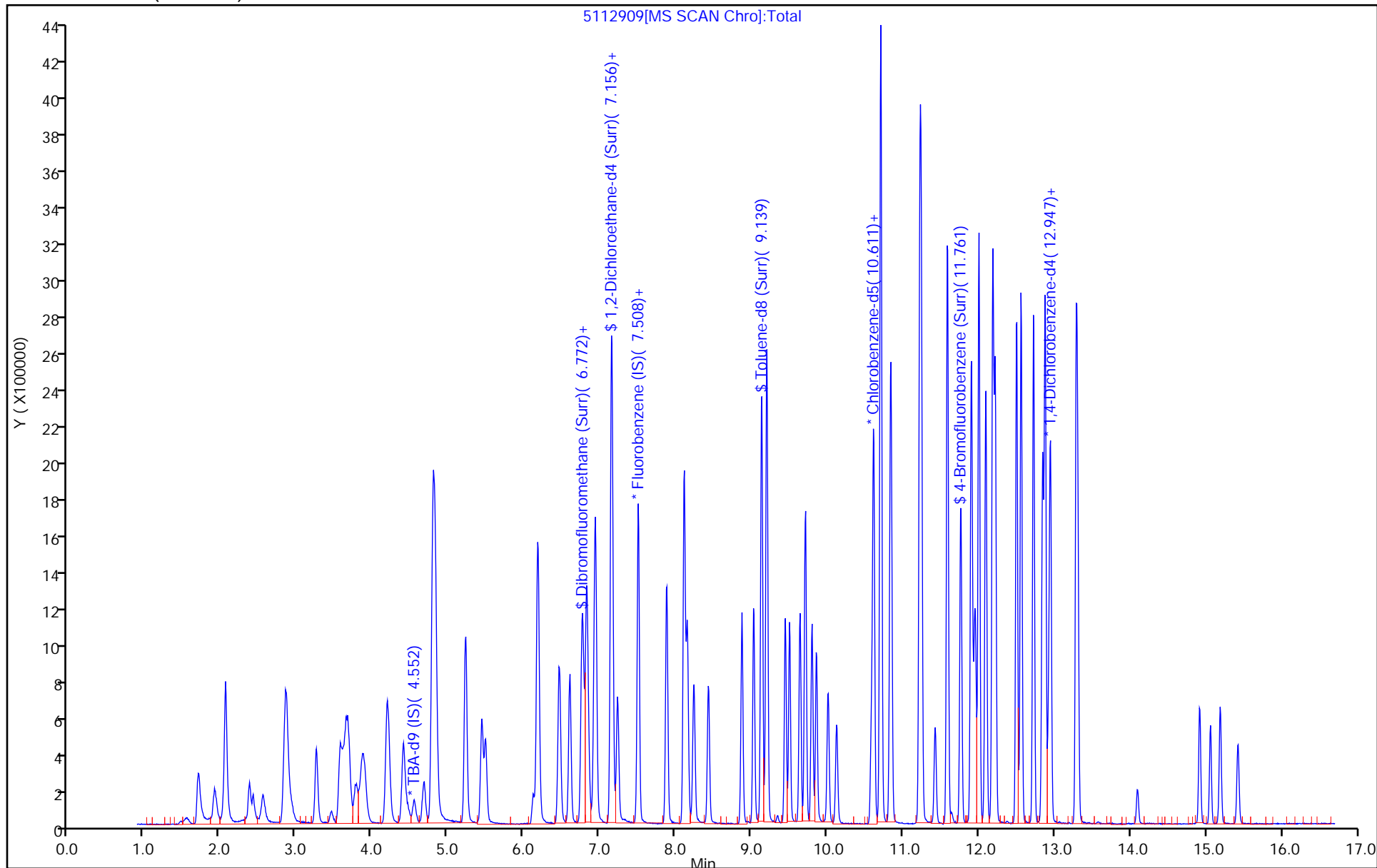
Dil. Factor: 1.0000

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\20191129-29787.b\5112910.D
 Lims ID: IC VSTD40
 Client ID:
 Sample Type: IC Calib Level: 7
 Inject. Date: 29-Nov-2019 14:12:30 ALS Bottle#: 10 Worklist Smp#: 10
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-010
 Misc. Info.: ic vstd40
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:54:55 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 14:52:50

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	218971	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.503	7.502	0.001	98	502001	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.587	10.586	0.001	83	132960	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.923	12.922	0.001	90	233638	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.785	6.784	0.001	95	506075	200.0	199.3	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.150	7.149	0.001	0	644747	200.0	195.9	
\$ 7 Toluene-d8 (Surr)	98	9.133	9.138	-0.005	92	2221451	200.0	201.0	
\$ 8 4-Bromofluorobenzene (Surr	95	11.761	11.766	-0.005	95	855313	200.0	198.5	
11 Dichlorodifluoromethane	85	1.705	1.698	0.007	99	650773	200.0	187.4	
12 Chloromethane	50	1.918	1.917	0.001	99	457172	200.0	196.4	
13 Vinyl chloride	62	2.058	2.057	0.001	77	471487	200.0	192.7	
14 Butadiene	39	2.064	2.069	-0.005	91	416167	200.0	179.8	
15 Bromomethane	94	2.380	2.380	0.000	93	346295	200.0	181.9	
16 Chloroethane	64	2.563	2.556	0.007	100	293253	200.0	187.0	
17 Dichlorofluoromethane	67	2.861	2.854	0.007	96	733705	200.0	182.8	
18 Trichlorofluoromethane	101	2.873	2.879	-0.006	99	823617	200.0	181.9	
20 Ethyl ether	59	3.263	3.268	-0.006	87	438283	200.0	193.6	
21 Acrolein	56	3.457	3.463	-0.006	98	118240	250.0	254.1	
22 1,1-Dichloroethene	96	3.579	3.572	0.007	96	480681	200.0	188.5	
23 1,1,2-Trichloro-1,2,2-trif	101	3.658	3.669	-0.011	89	522871	200.0	185.8	
24 Acetone	43	3.694	3.694	0.000	97	379382	400.0	369.5	
25 Iodomethane	142	3.786	3.785	0.001	98	882271	200.0	191.3	
26 Carbon disulfide	76	3.883	3.894	-0.011	99	1332308	200.0	197.4	
28 3-Chloro-1-propene	76	4.193	4.193	0.000	90	296505	200.0	206.6	
30 Methyl acetate	43	4.218	4.223	-0.005	96	685629	400.0	399.7	
31 Methylene Chloride	84	4.412	4.412	0.000	87	532472	200.0	196.6	
32 2-Methyl-2-propanol	59	4.674	4.673	0.001	96	415668	2000.0	1937.7	
33 Acrylonitrile	53	4.796	4.795	0.001	98	1883990	2000.0	1991.1	
34 trans-1,2-Dichloroethene	96	4.814	4.819	-0.005	98	546346	200.0	189.0	
35 Methyl tert-butyl ether	73	4.832	4.831	0.001	95	1398019	200.0	198.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.234	5.233	0.001	90	774723	200.0	197.9	
37 1,1-Dichloroethane	63	5.440	5.446	-0.006	97	868913	200.0	191.7	
38 Vinyl acetate	43	5.495	5.494	0.001	97	987315	200.0	215.0	
44 2,2-Dichloropropane	97	6.183	6.176	0.007	67	122980	200.0	199.0	
45 cis-1,2-Dichloroethene	96	6.183	6.188	-0.005	85	590648	200.0	192.9	
46 2-Butanone (MEK)	43	6.195	6.200	-0.005	98	492426	400.0	387.3	
49 Chlorobromomethane	128	6.469	6.462	0.006	87	325481	200.0	207.7	
51 Tetrahydrofuran	42	6.475	6.474	0.001	82	267165	400.0	383.7	
52 Chloroform	83	6.608	6.602	0.006	93	929350	200.0	199.9	
53 1,1,1-Trichloroethane	97	6.761	6.760	0.000	98	757653	200.0	193.7	
54 Cyclohexane	56	6.827	6.827	0.000	86	918786	200.0	200.2	
56 Carbon tetrachloride	117	6.931	6.930	0.001	97	730428	200.0	194.9	
55 1,1-Dichloropropene	75	6.949	6.948	0.001	97	744727	200.0	196.0	
57 Isobutyl alcohol	41	7.150	7.149	0.001	94	349935	5000.0	4977.1	
58 Benzene	78	7.162	7.161	0.001	97	2253745	200.0	197.7	
59 1,2-Dichloroethane	62	7.235	7.234	0.001	99	774334	200.0	195.0	
62 n-Heptane	43	7.509	7.514	-0.005	87	613858	200.0	197.7	
64 Trichloroethene	130	7.886	7.885	0.001	96	638798	200.0	197.4	
66 Methylcyclohexane	83	8.117	8.116	0.001	85	1026489	200.0	208.2	
67 1,2-Dichloropropane	63	8.154	8.153	0.001	93	518796	200.0	198.1	
70 1,4-Dioxane	88	8.233	8.238	-0.005	37	107693	4000.0	4447.1	
68 Dibromomethane	93	8.245	8.244	0.001	91	331975	200.0	198.7	
71 Dichlorobromomethane	83	8.433	8.439	-0.006	99	683360	200.0	200.3	
74 cis-1,3-Dichloropropene	75	8.878	8.877	0.001	96	862462	200.0	216.8	
75 4-Methyl-2-pentanone (MIBK)	43	9.030	9.035	-0.005	94	923483	400.0	430.0	
76 Toluene	91	9.206	9.205	0.001	98	2632619	200.0	201.7	
77 trans-1,3-Dichloropropene	75	9.449	9.449	0.000	92	867167	200.0	218.4	
78 Ethyl methacrylate	69	9.504	9.503	0.001	87	758584	200.0	194.6	
79 1,1,2-Trichloroethane	97	9.644	9.643	0.001	90	520194	200.0	199.1	
80 Tetrachloroethene	164	9.717	9.716	0.001	96	584396	200.0	194.9	
81 1,3-Dichloropropane	76	9.802	9.802	0.000	88	905422	200.0	198.0	
82 2-Hexanone	43	9.857	9.862	-0.005	93	711492	400.0	378.8	
84 Chlorodibromomethane	129	10.009	10.014	-0.005	90	568878	200.0	208.6	
85 Ethylene Dibromide	107	10.125	10.124	0.001	100	530751	200.0	197.5	
87 Chlorobenzene	112	10.617	10.611	0.006	96	1751881	200.0	199.3	
89 1,1,1,2-Tetrachloroethane	131	10.703	10.708	-0.005	93	603377	200.0	202.3	
90 Ethylbenzene	106	10.709	10.714	-0.005	98	932092	200.0	204.3	
91 m-Xylene & p-Xylene	106	10.843	10.842	0.000	0	1178744	200.0	206.8	
92 o-Xylene	106	11.220	11.219	0.001	96	1125556	200.0	209.7	
93 Styrene	104	11.244	11.243	0.001	95	2028367	200.0	216.2	
94 Bromoform	173	11.427	11.426	0.001	98	393169	200.0	213.2	
97 Isopropylbenzene	105	11.585	11.590	-0.005	95	2942957	200.0	212.3	
99 1,1,2,2-Tetrachloroethane	83	11.901	11.906	-0.005	74	625887	200.0	207.2	
100 Bromobenzene	156	11.907	11.906	0.001	87	809838	200.0	192.2	
102 trans-1,4-Dichloro-2-buten	53	11.944	11.943	0.001	74	186766	200.0	200.2	
101 1,2,3-Trichloropropane	110	11.956	11.955	0.001	82	218838	200.0	184.6	
103 N-Propylbenzene	120	12.004	12.004	0.000	98	869429	200.0	199.7	
104 2-Chlorotoluene	126	12.096	12.095	0.001	97	714940	200.0	191.7	
106 1,3,5-Trimethylbenzene	105	12.187	12.186	0.001	93	2428521	200.0	201.4	
107 4-Chlorotoluene	126	12.217	12.217	0.000	96	779333	200.0	199.5	
108 tert-Butylbenzene	119	12.503	12.503	0.000	91	2008577	200.0	201.0	
110 1,2,4-Trimethylbenzene	105	12.558	12.557	0.001	96	2418917	200.0	202.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.722	12.722	0.000	93	2741965	200.0	201.2	
113 1,3-Dichlorobenzene	146	12.844	12.843	0.001	98	1403222	200.0	198.6	
114 4-Isopropyltoluene	119	12.874	12.880	-0.006	97	2408449	200.0	204.9	
115 1,4-Dichlorobenzene	146	12.947	12.947	0.000	94	1438259	200.0	192.8	
120 n-Butylbenzene	91	13.288	13.287	0.001	97	1800478	200.0	209.5	
121 1,2-Dichlorobenzene	146	13.306	13.306	0.000	99	1275613	200.0	198.0	
122 1,2-Dibromo-3-Chloropropan	75	14.097	14.096	0.001	89	80749	200.0	199.7	
126 1,2,4-Trichlorobenzene	180	14.912	14.918	-0.006	94	452278	200.0	222.5	
127 Hexachlorobutadiene	225	15.052	15.058	-0.006	93	208722	200.0	201.5	
128 Naphthalene	128	15.186	15.185	0.001	96	1065167	200.0	206.2	
129 1,2,3-Trichlorobenzene	180	15.423	15.423	0.000	96	322993	200.0	208.7	
S 133 Xylenes, Total	106				0		400.0	416.5	
S 134 1,2-Dichloroethene, Total	96				0		400.0	381.9	
S 154 Total BTEX	106				0		1000.0	1020.3	
S 135 1,3-Dichloropropene, Total	1				0		400.0	435.2	

Reagents:

VOA8260SURR_00101	Amount Added: 8.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 8.00	Units: uL	
VOAVAPRI_00029	Amount Added: 8.00	Units: uL	
VOAACRPRI_00023	Amount Added: 10.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 8.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112910.D

Injection Date: 29-Nov-2019 14:12:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD40

Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL

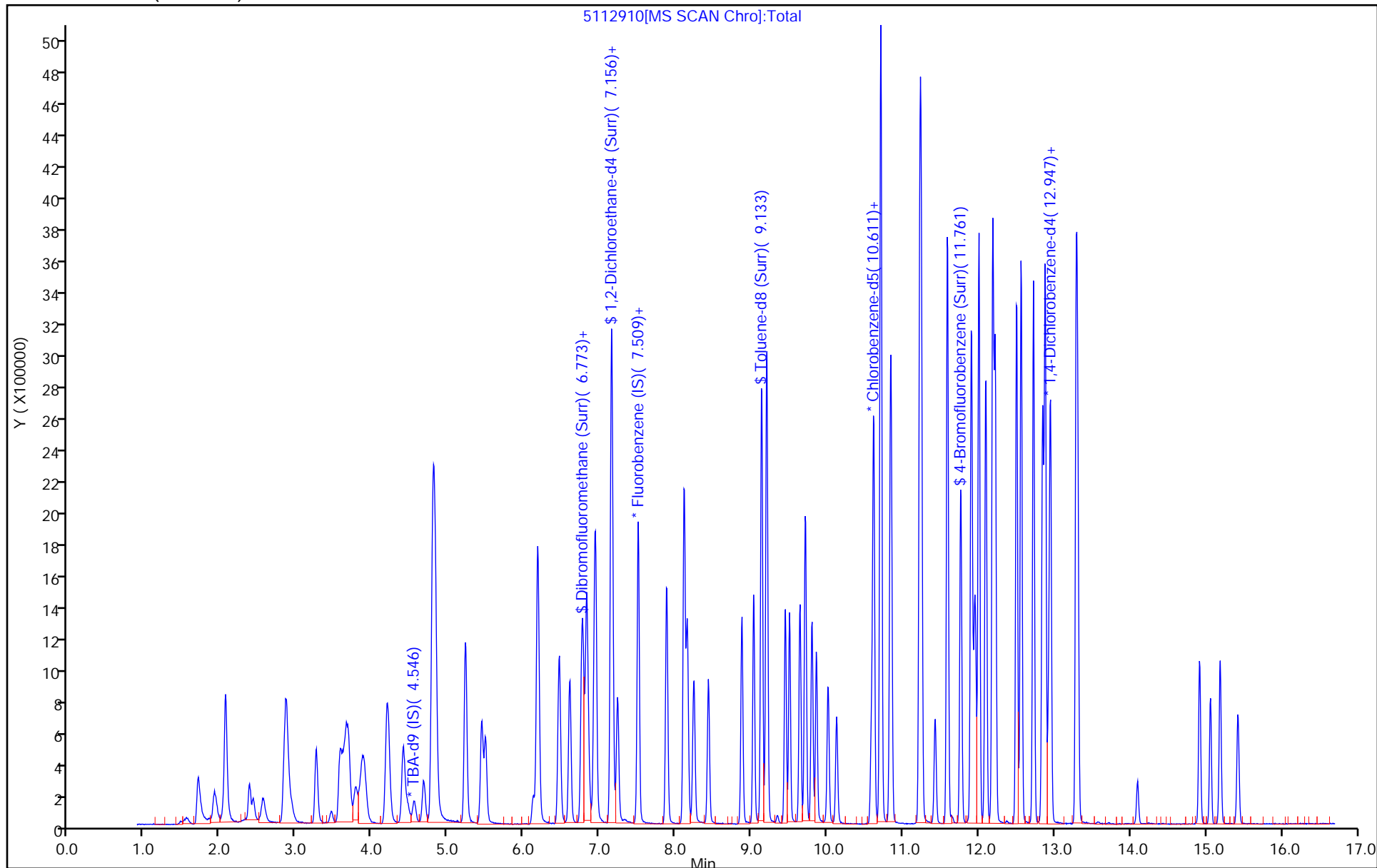
Dil. Factor: 1.0000

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\20191129-29787.b\5112911.D
 Lims ID: IC VSTD50
 Client ID:
 Sample Type: IC Calib Level: 8
 Inject. Date: 29-Nov-2019 14:36:30 ALS Bottle#: 11 Worklist Smp#: 11
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-011
 Misc. Info.: ic vstd50
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub146
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:55:03 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

First Level Reviewer: bowieh

Date: 29-Nov-2019 15:33:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.557	4.551	0.005	0	191457	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.502	-0.001	99	499507	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.586	-0.001	83	129590	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.922	-0.001	91	222978	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.784	-0.001	95	650406	250.0	257.4	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.149	-0.001	0	826551	250.0	252.4	
\$ 7 Toluene-d8 (Surr)	98	9.137	9.138	-0.001	92	2860205	250.0	265.6	
\$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.766	-0.007	95	1116657	250.0	265.9	
11 Dichlorodifluoromethane	85	1.703	1.698	0.005	99	871022	250.0	252.1	
12 Chloromethane	50	1.910	1.917	-0.007	99	609962	250.0	263.3	
13 Vinyl chloride	62	2.044	2.057	-0.013	98	641461	250.0	263.5	
14 Butadiene	39	2.062	2.069	-0.007	91	558421	250.0	242.4	
15 Bromomethane	94	2.373	2.380	-0.007	93	421700	250.0	222.6	
16 Chloroethane	64	2.555	2.556	-0.001	99	372445	250.0	238.7	
17 Dichlorofluoromethane	67	2.847	2.854	-0.007	97	938955	250.0	235.1	
18 Trichlorofluoromethane	101	2.859	2.879	-0.020	98	1036277	250.0	230.0	
20 Ethyl ether	59	3.255	3.268	-0.013	86	553251	250.0	245.6	
21 Acrolein	56	3.455	3.463	-0.008	99	127146	275.0	274.7	
22 1,1-Dichloroethene	96	3.577	3.572	0.005	97	634268	250.0	250.0	
23 1,1,2-Trichloro-1,2,2-trif	101	3.644	3.669	-0.025	90	682720	250.0	243.8	
24 Acetone	43	3.693	3.694	-0.001	100	557264	500.0	545.5	
25 Iodomethane	142	3.784	3.785	-0.001	96	1195368	250.0	260.4	
26 Carbon disulfide	76	3.875	3.894	-0.019	99	1810547	250.0	269.6	
28 3-Chloro-1-propene	76	4.191	4.193	-0.002	91	394955	250.0	276.6	
30 Methyl acetate	43	4.216	4.223	-0.007	96	891093	500.0	522.1	
31 Methylene Chloride	84	4.410	4.412	-0.002	88	708811	250.0	264.0	
32 2-Methyl-2-propanol	59	4.684	4.673	0.011	96	505267	2500.0	2693.8	
33 Acrylonitrile	53	4.794	4.795	-0.001	99	2487318	2500.0	2641.9	
34 trans-1,2-Dichloroethene	96	4.812	4.819	-0.007	98	735637	250.0	255.7	
35 Methyl tert-butyl ether	73	4.830	4.831	-0.001	95	1890962	250.0	270.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.232	5.233	-0.001	89	1078880	250.0	277.0	
37 1,1-Dichloroethane	63	5.445	5.446	-0.001	96	1166288	250.0	258.5	
38 Vinyl acetate	43	5.493	5.494	-0.001	97	1329643	250.0	291.0	
44 2,2-Dichloropropane	97	6.181	6.176	0.005	91	163647	250.0	266.1	
45 cis-1,2-Dichloroethene	96	6.181	6.188	-0.007	81	801755	250.0	263.1	
46 2-Butanone (MEK)	43	6.193	6.200	-0.007	99	698414	500.0	552.1	
49 Chlorobromomethane	128	6.461	6.462	-0.001	86	427023	250.0	273.9	
51 Tetrahydrofuran	42	6.473	6.474	-0.001	84	363029	500.0	524.0	
52 Chloroform	83	6.607	6.602	0.005	92	1209499	250.0	262.7	
53 1,1,1-Trichloroethane	97	6.759	6.760	-0.001	98	984598	250.0	253.0	
54 Cyclohexane	56	6.826	6.827	-0.001	86	1233353	250.0	270.1	
56 Carbon tetrachloride	117	6.929	6.930	-0.001	80	949849	250.0	254.7	
55 1,1-Dichloropropene	75	6.947	6.948	-0.001	97	1002325	250.0	265.1	
57 Isobutyl alcohol	41	7.148	7.149	-0.001	79	441682	6250.0	6313.4	
58 Benzene	78	7.160	7.161	-0.001	97	2978703	250.0	262.6	
59 1,2-Dichloroethane	62	7.233	7.234	-0.001	98	1009289	250.0	255.4	
62 n-Heptane	43	7.507	7.514	-0.007	87	852599	250.0	276.0	
64 Trichloroethene	130	7.884	7.885	-0.001	95	863935	250.0	268.3	
66 Methylcyclohexane	83	8.115	8.116	-0.001	85	1391887	250.0	283.7	
67 1,2-Dichloropropane	63	8.152	8.153	-0.001	94	699933	250.0	268.6	
70 1,4-Dioxane	88	8.237	8.238	-0.001	35	129801	5000.0	5386.8	
68 Dibromomethane	93	8.243	8.244	-0.001	89	446762	250.0	268.8	
71 Dichlorobromomethane	83	8.432	8.439	-0.007	99	923409	250.0	272.0	
74 cis-1,3-Dichloropropene	75	8.876	8.877	-0.001	96	1180612	250.0	298.3	
75 4-Methyl-2-pentanone (MIBK)	43	9.034	9.035	-0.001	94	1232515	500.0	588.8	
76 Toluene	91	9.204	9.205	-0.001	98	3516960	250.0	276.5	
77 trans-1,3-Dichloropropene	75	9.448	9.449	-0.001	91	1152502	250.0	297.8	
78 Ethyl methacrylate	69	9.502	9.503	-0.001	87	1034260	250.0	270.7	
79 1,1,2-Trichloroethane	97	9.642	9.643	-0.001	90	692733	250.0	272.0	
80 Tetrachloroethene	164	9.715	9.716	-0.001	97	776983	250.0	265.8	
81 1,3-Dichloropropane	76	9.800	9.802	-0.002	88	1239548	250.0	278.1	
82 2-Hexanone	43	9.855	9.862	-0.007	93	978030	500.0	529.1	
84 Chlorodibromomethane	129	10.013	10.014	-0.001	90	763653	250.0	287.3	
85 Ethylene Dibromide	107	10.123	10.124	-0.001	97	730001	250.0	278.6	
87 Chlorobenzene	112	10.616	10.611	0.005	96	2351121	250.0	274.4	
89 1,1,1,2-Tetrachloroethane	131	10.707	10.708	-0.001	94	806262	250.0	277.3	
90 Ethylbenzene	106	10.707	10.714	-0.007	98	1260725	250.0	283.5	
91 m-Xylene & p-Xylene	106	10.841	10.842	-0.001	0	1575550	250.0	283.6	
92 o-Xylene	106	11.224	11.219	0.005	96	1514665	250.0	289.6	
93 Styrene	104	11.242	11.243	-0.001	94	2723352	250.0	297.8	
94 Bromoform	173	11.425	11.426	-0.001	99	516390	250.0	287.4	
97 Isopropylbenzene	105	11.589	11.590	-0.001	95	3932241	250.0	291.0	
100 Bromobenzene	156	11.905	11.906	-0.001	87	1080893	250.0	268.8	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.906	-0.007	75	832365	250.0	282.7	
102 trans-1,4-Dichloro-2-buten	53	11.942	11.943	-0.001	87	250517	250.0	281.4	
101 1,2,3-Trichloropropane	110	11.960	11.955	0.005	83	306000	250.0	270.5	
103 N-Propylbenzene	120	12.003	12.004	-0.001	98	1133936	250.0	272.9	
104 2-Chlorotoluene	126	12.094	12.095	-0.001	97	963874	250.0	270.7	
106 1,3,5-Trimethylbenzene	105	12.185	12.186	-0.001	95	3153762	250.0	274.0	
107 4-Chlorotoluene	126	12.216	12.217	-0.001	97	1031096	250.0	276.6	
108 tert-Butylbenzene	119	12.502	12.503	-0.001	91	2648533	250.0	277.7	
110 1,2,4-Trimethylbenzene	105	12.562	12.557	0.005	96	3183340	250.0	279.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.727	12.722	0.005	93	3643444	250.0	280.2	
113 1,3-Dichlorobenzene	146	12.842	12.843	-0.001	98	1824586	250.0	270.6	
114 4-Isopropyltoluene	119	12.879	12.880	-0.001	97	3147507	250.0	280.6	
115 1,4-Dichlorobenzene	146	12.946	12.947	-0.001	96	1879750	250.0	264.1	
120 n-Butylbenzene	91	13.286	13.287	-0.001	97	2357808	250.0	287.5	
121 1,2-Dichlorobenzene	146	13.305	13.306	-0.001	99	1631787	250.0	265.5	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.096	-0.007	90	105918	250.0	274.5	
126 1,2,4-Trichlorobenzene	180	14.917	14.918	-0.001	92	543072	250.0	280.0	
127 Hexachlorobutadiene	225	15.057	15.058	-0.001	92	258911	250.0	262.2	
128 Naphthalene	128	15.184	15.185	-0.001	96	1298605	250.0	250.9	
129 1,2,3-Trichlorobenzene	180	15.422	15.423	-0.001	96	392444	250.0	265.0	
S 133 Xylenes, Total	106				0		500.0	573.2	
S 134 1,2-Dichloroethene, Total	96				0		500.0	518.8	
S 154 Total BTEX	106				0		1250.0	1395.8	
S 135 1,3-Dichloropropene, Total	1				0		500.0	596.1	

Reagents:

VOA8260SURR_00101	Amount Added: 10.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 10.00	Units: uL	
VOAVAPRI_00029	Amount Added: 10.00	Units: uL	
VOAACRPRI_00023	Amount Added: 11.00	Units: uL	
voaWKetmix1st_00020	Amount Added: 10.00	Units: uL	
VOA8260INT_00101	Amount Added: 2.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D

Injection Date: 29-Nov-2019 14:36:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: IC VSTD50

Worklist Smp#: 11

Client ID:

Purge Vol: 5.000 mL

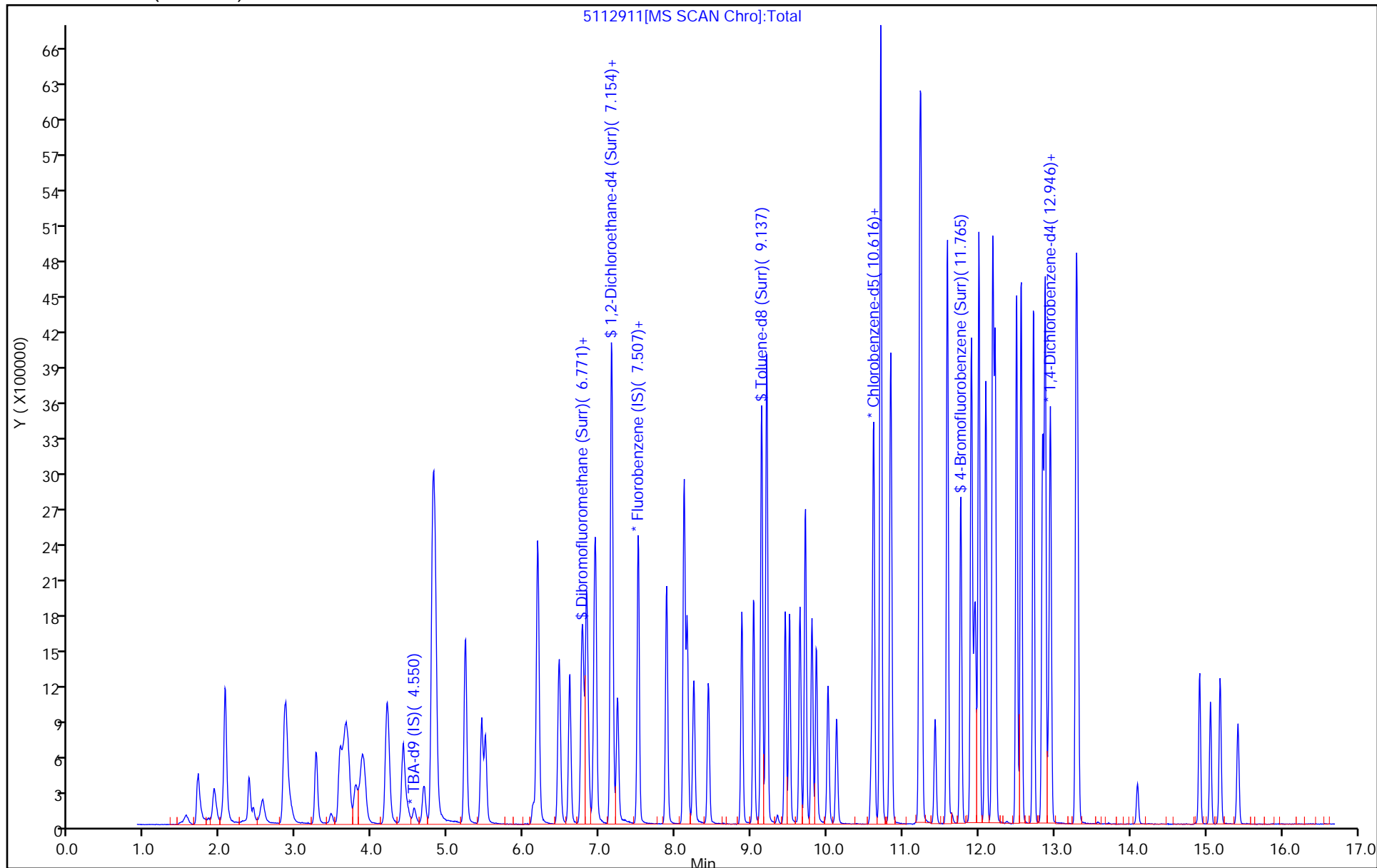
Dil. Factor: 1.0000

ALS Bottle#: 11

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Lab Sample ID: CCVIS 180-300399/2 Calibration Date: 12/05/2019 10:04
 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: 5120502.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	0.1489	0.0100	16.3	20.0	-18.5	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120502.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 05-Dec-2019 10:04:30 ALS Bottle#: 2 Worklist Smp#: 2
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-002
 Misc. Info.: ccvis
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub145
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 09:57:23 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 09:57:23

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	231599	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.494	7.494	0.000	99	574986	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	84	144546	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	92	277214	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.770	6.770	0.000	94	144047	50.0	49.5	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	173621	50.0	46.1	
\$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	92	576960	50.0	48.0	
\$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	94	222926	50.0	47.6	
11 Dichlorodifluoromethane	85	1.703	1.703	0.000	99	184590	50.0	46.4	
12 Chloromethane	50	1.910	1.910	0.000	98	144547	50.0	54.2	
13 Vinyl chloride	62	2.044	2.044	0.000	98	150726	50.0	53.8	
14 Butadiene	39	2.062	2.062	0.000	92	138830	50.0	52.4	
15 Bromomethane	94	2.384	2.384	0.000	92	116573	50.0	53.5	
16 Chloroethane	64	2.548	2.548	0.000	98	103054	50.0	57.4	
17 Dichlorofluoromethane	67	2.847	2.847	0.000	94	256159	50.0	55.7	
18 Trichlorofluoromethane	101	2.865	2.865	0.000	96	268294	50.0	51.7	
20 Ethyl ether	59	3.254	3.254	0.000	87	136761	50.0	52.7	
21 Acrolein	56	3.449	3.449	0.000	100	76769	150.0	144.1	
22 1,1-Dichloroethene	96	3.571	3.571	0.000	96	148388	50.0	50.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.650	3.650	0.000	87	168793	50.0	52.4	
24 Acetone	43	3.674	3.674	0.000	96	96326	100.0	81.9	
25 Iodomethane	142	3.771	3.771	0.000	98	259813	50.0	49.2	
26 Carbon disulfide	76	3.869	3.869	0.000	98	399127	50.0	51.6	
28 3-Chloro-1-propene	76	4.191	4.191	0.000	91	77464	50.0	47.1	
30 Methyl acetate	43	4.209	4.209	0.000	97	208292	100.0	106.0	
31 Methylene Chloride	84	4.398	4.398	0.000	88	176963	50.0	55.0	
32 2-Methyl-2-propanol	59	4.666	4.666	0.000	93	102349	500.0	451.1	
33 Acrylonitrile	53	4.787	4.787	0.000	97	558582	500.0	515.4	
34 trans-1,2-Dichloroethene	96	4.812	4.812	0.000	98	169997	50.0	51.3	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	333144	50.0	41.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.219	5.219	0.000	93	193056	50.0	43.1	
37 1,1-Dichloroethane	63	5.438	5.438	0.000	96	256710	50.0	49.4	
38 Vinyl acetate	43	5.487	5.487	0.000	97	178509	50.0	33.9	
44 2,2-Dichloropropane	97	6.174	6.174	0.000	90	34772	50.0	49.1	
45 cis-1,2-Dichloroethene	96	6.174	6.174	0.000	79	168233	50.0	48.0	
46 2-Butanone (MEK)	43	6.186	6.186	0.000	97	123995	100.0	85.2	
49 Chlorobromomethane	128	6.460	6.460	0.000	87	92552	50.0	51.6	
51 Tetrahydrofuran	42	6.466	6.466	0.000	83	67713	100.0	84.9	
52 Chloroform	83	6.600	6.600	0.000	93	277194	50.0	49.0	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	98	210822	50.0	47.1	
54 Cyclohexane	56	6.819	6.819	0.000	87	231007	50.0	44.0	
56 Carbon tetrachloride	117	6.923	6.923	0.000	96	196361	50.0	45.7	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	99	208380	50.0	47.9	
57 Isobutyl alcohol	41	7.148	7.148	0.000	73	102161	1250.0	1268.6	
58 Benzene	78	7.154	7.154	0.000	97	673523	50.0	51.6	
59 1,2-Dichloroethane	62	7.233	7.233	0.000	99	199380	50.0	43.8	
62 n-Heptane	43	7.507	7.507	0.000	85	148072	50.0	41.6	
64 Trichloroethene	130	7.878	7.878	0.000	95	172657	50.0	46.6	
66 Methylcyclohexane	83	8.109	8.109	0.000	88	235561	50.0	41.7	
67 1,2-Dichloropropane	63	8.145	8.145	0.000	94	156095	50.0	52.0	
68 Dibromomethane	93	8.230	8.230	0.000	89	91180	50.0	47.7	
70 1,4-Dioxane	88	8.230	8.230	0.000	35	23647	1000.0	852.5	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	186804	50.0	47.8	
73 2-Chloroethyl vinyl ether	63	8.723	8.723	0.000	93	171279	100.0	81.5	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	96	208388	50.0	45.7	
75 4-Methyl-2-pentanone (MIBK)	43	9.027	9.027	0.000	94	218413	100.0	93.5	
76 Toluene	91	9.198	9.198	0.000	98	731463	50.0	51.6	
77 trans-1,3-Dichloropropene	75	9.441	9.441	0.000	92	180792	50.0	41.9	
78 Ethyl methacrylate	69	9.502	9.502	0.000	88	147838	50.0	38.0	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	90	140625	50.0	49.5	
80 Tetrachloroethene	164	9.709	9.709	0.000	97	167669	50.0	51.4	
81 1,3-Dichloropropane	76	9.794	9.794	0.000	88	236416	50.0	47.5	
82 2-Hexanone	43	9.855	9.855	0.000	94	148181	100.0	82.9	
84 Chlorodibromomethane	129	10.007	10.007	0.000	89	138740	50.0	46.8	
85 Ethylene Dibromide	107	10.122	10.122	0.000	99	133374	50.0	45.6	
87 Chlorobenzene	112	10.609	10.609	0.000	96	461802	50.0	48.3	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.700	0.000	93	163119	50.0	50.3	
90 Ethylbenzene	106	10.706	10.706	0.000	98	229333	50.0	46.2	
91 m-Xylene & p-Xylene	106	10.834	10.834	0.000	0	294800	50.0	47.6	
92 o-Xylene	106	11.217	11.217	0.000	96	266593	50.0	45.7	
93 Styrene	104	11.242	11.242	0.000	94	509325	50.0	49.9	
94 Bromoform	173	11.424	11.424	0.000	98	93643	50.0	46.7	
97 Isopropylbenzene	105	11.589	11.589	0.000	95	671489	50.0	44.6	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	91	187061	50.0	57.0	
100 Bromobenzene	156	11.905	11.905	0.000	89	207920	50.0	41.6	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	85	35635	50.0	32.2	
101 1,2,3-Trichloropropane	110	11.954	11.954	0.000	82	61566	50.0	43.8	
103 N-Propylbenzene	120	12.002	12.002	0.000	99	204311	50.0	39.5	
104 2-Chlorotoluene	126	12.093	12.093	0.000	97	187454	50.0	42.4	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	94	607311	50.0	42.4	
107 4-Chlorotoluene	126	12.215	12.215	0.000	96	207704	50.0	44.8	
108 tert-Butylbenzene	119	12.501	12.501	0.000	93	457519	50.0	38.6	

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	12.556	12.556	0.000	97	622275	50.0	43.9	
112 sec-Butylbenzene	105	12.720	12.720	0.000	94	675331	50.0	41.8	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	378900	50.0	45.2	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	96	591016	50.0	42.4	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	95	404448	50.0	45.7	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	419472	50.0	41.1	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	98	366303	50.0	47.9	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.089	0.000	90	23579	50.0	49.2	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	95	111008	50.0	46.0	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	91	74955	50.0	60.0	
128 Naphthalene	128	15.184	15.184	0.000	96	226758	50.0	46.6	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	96	108465	50.0	60.9	
S 154 Total BTEX	106				0		250.0	242.7	
S 134 1,2-Dichloroethene, Total	96				0		100.0	99.3	
S 133 Xylenes, Total	106				0		100.0	93.3	
S 135 1,3-Dichloropropene, Total	1				0		100.0	87.6	

Reagents:

voaWKetmix1st_00020	Amount Added: 2.00	Units: uL	
VOAACRPRI_00023	Amount Added: 6.00	Units: uL	
VOACEVEPRI_00058	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 2.00	Units: uL	
VOAVAPRI_00029	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120502.D

Injection Date: 05-Dec-2019 10:04:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

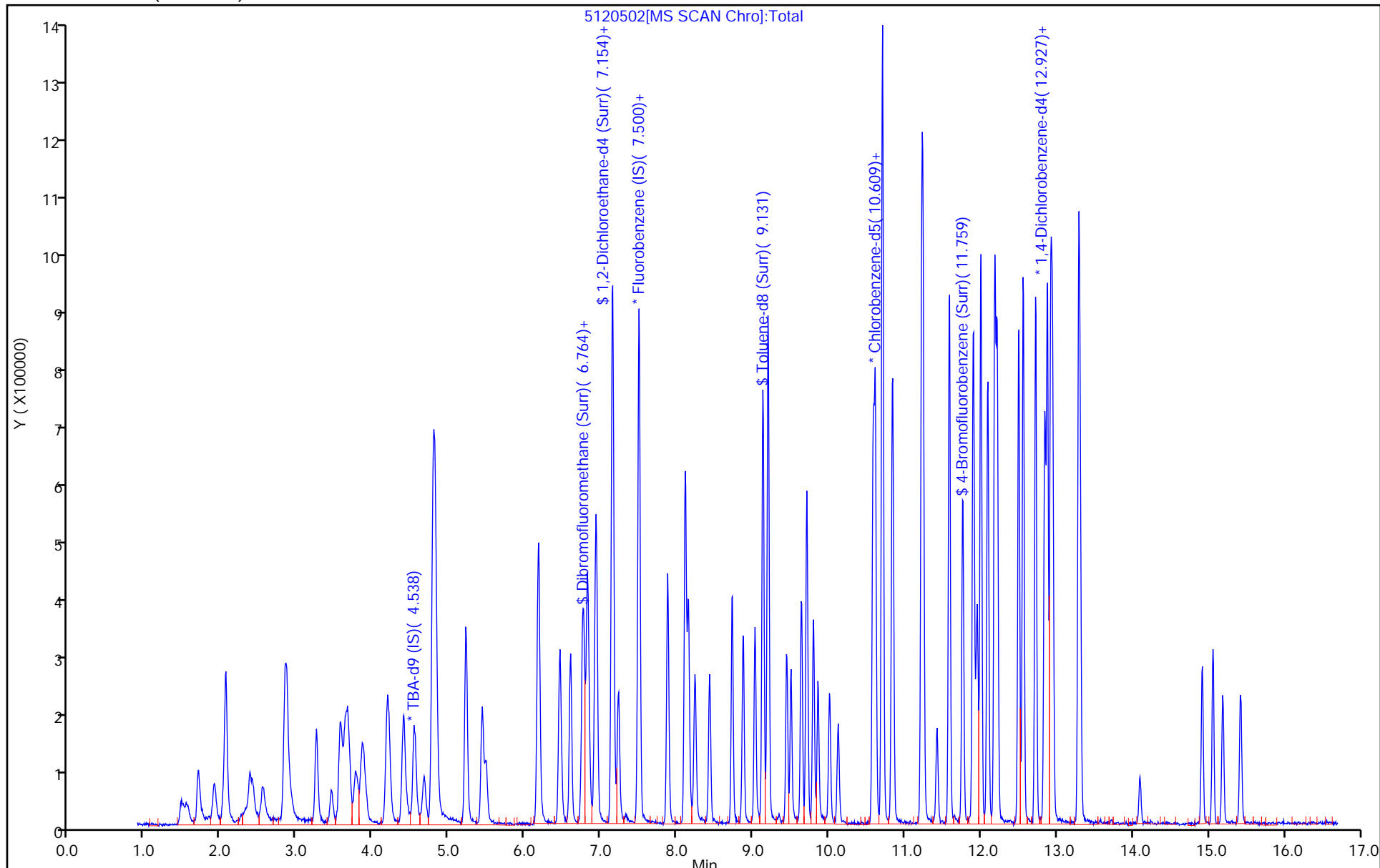
Dil. Factor: 1.0000

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.: 180-99101-1
 SDG No.: _____
 Lab Sample ID: CCVIS 180-300399/2 Calibration Date: 12/05/2019 10:04
 Instrument ID: CHHP5 Calib Start Date: 11/29/2019 11:46
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 11/29/2019 14:36
 Lab File ID: 5120502.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	0.3458	0.3210	0.1000	9.28	10.0	-7.2	20.0
Chloromethane	Ave	0.2319	0.2514	0.1000	10.8	10.0	8.4	20.0
Vinyl chloride	Ave	0.2437	0.2621	0.1000	10.8	10.0	7.6	20.0
1,3-Butadiene	Ave	0.2306	0.2415	0.0100	10.5	10.0	4.7	20.0
Bromomethane	Ave	0.1896	0.2027	0.0500	10.7	10.0	6.9	20.0
Chloroethane	Ave	0.1562	0.1792	0.0500	11.5	10.0	14.8	20.0
Dichlorofluoromethane	Ave	0.3998	0.4455	0.0100	11.1	10.0	11.4	20.0
Trichlorofluoromethane	Ave	0.4509	0.4666	0.1000	10.3	10.0	3.5	20.0
Ethyl ether	Ave	0.2255	0.2379	0.0100	10.5	10.0	5.5	20.0
Acrolein	Ave	0.0463	0.0445	0.0100	28.8	30.0	-4.0	20.0
1,1-Dichloroethene	Ave	0.2540	0.2581	0.1000	10.2	10.0	1.6	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2804	0.2936	0.1000	10.5	10.0	4.7	20.0
Acetone	Ave	0.1023	0.0838	0.0500	16.4	20.0	-18.1	20.0
Iodomethane	Ave	0.4595	0.4519	0.0100	9.83	10.0	-1.7	20.0
Carbon disulfide	Ave	0.6722	0.6942	0.1000	10.3	10.0	3.3	20.0
Allyl chloride	Ave	0.1429	0.1347	0.0100	9.43	10.0	-5.7	20.0
Methyl acetate	Ave	0.1708	0.1811	0.1000	21.2	20.0	6.0	20.0
Methylene Chloride	Lin2		0.3078	0.1000	11.0	10.0	10.1	20.0
tert-Butyl alcohol	Ave	0.9797	0.8839	0.0100	90.2	100	-9.8	20.0
Acrylonitrile	Ave	0.0942	0.0972	0.0100	103	100	3.1	20.0
trans-1,2-Dichloroethene	Ave	0.2879	0.2957	0.1000	10.3	10.0	2.7	20.0
Methyl tert-butyl ether	Ave	0.7010	0.5794	0.1000	8.26	10.0	-17.4	20.0
Hexane	Ave	0.3899	0.3358	0.0100	8.61	10.0	-13.9	20.0
1,1-Dichloroethane	Ave	0.4515	0.4465	0.2000	9.89	10.0	-1.1	20.0
Vinyl acetate	Ave	0.4574	0.3105	0.0100	6.79	10.0	-32.1*	20.0
2,2-Dichloropropane	Ave	0.0616	0.0605	0.0100	9.82	10.0	-1.8	20.0
cis-1,2-Dichloroethene	Ave	0.3050	0.2926	0.1000	9.59	10.0	-4.1	20.0
2-Butanone (MEK)	Ave	0.1266	0.1078	0.0500	17.0	20.0	-14.8	20.0
Bromochloromethane	Ave	0.1561	0.1610	0.0100	10.3	10.0	3.1	20.0
Tetrahydrofuran	Ave	0.0694	0.0589	0.0100	17.0	20.0	-15.1	20.0
Chloroform	Lin2		0.4821	0.2000	9.80	10.0	-2.0	20.0
1,1,1-Trichloroethane	Ave	0.3895	0.3667	0.1000	9.41	10.0	-5.9	20.0
Cyclohexane	Ave	0.4570	0.4018	0.1000	8.79	10.0	-12.1	20.0
Carbon tetrachloride	Ave	0.3733	0.3415	0.1000	9.15	10.0	-8.5	20.0
1,1-Dichloropropene	Ave	0.3785	0.3624	0.0100	9.58	10.0	-4.2	20.0
Isobutyl alcohol	Ave	0.0070	0.0071*	0.0100	254	250	1.5	20.0
Benzene	Ave	1.135	1.171	0.5000	10.3	10.0	3.2	20.0
1,2-Dichloroethane	Ave	0.3955	0.3468	0.1000	8.77	10.0	-12.3	20.0
n-Heptane	Ave	0.3093	0.2575	0.0100	8.33	10.0	-16.7	20.0
Trichloroethene	Ave	0.3223	0.3003	0.2000	9.32	10.0	-6.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Lab Sample ID: CCVIS 180-300399/2 Calibration Date: 12/05/2019 10:04
 Instrument ID: CHHP5 Calib Start Date: 11/29/2019 11:46
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 11/29/2019 14:36
 Lab File ID: 5120502.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	0.4911	0.4097	0.1000	8.34	10.0	-16.6	20.0
1,2-Dichloropropane	Ave	0.2609	0.2715	0.1000	10.4	10.0	4.1	20.0
1,4-Dioxane	Ave	0.0024	0.0021*	0.0100	171	200	-14.7	20.0
Dibromomethane	Ave	0.1664	0.1586	0.0100	9.53	10.0	-4.7	20.0
Bromodichloromethane	Ave	0.3398	0.3249	0.2000	9.56	10.0	-4.4	20.0
cis-1,3-Dichloropropene	Ave	0.3962	0.3624	0.2000	9.15	10.0	-8.5	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.8077	0.7555	0.1000	18.7	20.0	-6.5	20.0
Toluene	Ave	4.908	5.060	0.4000	10.3	10.0	3.1	20.0
trans-1,3-Dichloropropene	Ave	1.493	1.251	0.1000	8.38	10.0	-16.2	20.0
Ethyl methacrylate	Lin1		1.023	0.0100	7.61	10.0	-23.9*	20.0
1,1,2-Trichloroethane	Ave	0.9826	0.9729	0.1000	9.90	10.0	-1.0	20.0
Tetrachloroethene	Ave	1.128	1.160	0.2000	10.3	10.0	2.9	20.0
1,3-Dichloropropane	Ave	1.720	1.636	0.0100	9.51	10.0	-4.9	20.0
2-Hexanone	Lin1		0.5126	0.1000	16.6	20.0	-17.1	20.0
Dibromochloromethane	Ave	1.026	0.9598	0.1000	9.36	10.0	-6.4	20.0
1,2-Dibromoethane (EDB)	Ave	1.011	0.9227	0.1000	9.13	10.0	-8.7	20.0
Chlorobenzene	Ave	3.306	3.195	0.5000	9.66	10.0	-3.4	20.0
1,1,1,2-Tetrachloroethane	Ave	1.122	1.128	0.0100	10.1	10.0	0.6	20.0
Ethylbenzene	Ave	1.716	1.587	0.1000	9.25	10.0	-7.5	20.0
m-Xylene & p-Xylene	Ave	2.143	2.039	0.1000	9.52	10.0	-4.8	20.0
o-Xylene	Ave	2.018	1.844	0.3000	9.14	10.0	-8.6	20.0
Styrene	Ave	3.529	3.524	0.3000	9.99	10.0	-0.1	20.0
Bromoform	Ave	0.6933	0.6478	0.1000	9.34	10.0	-6.6	20.0
Isopropylbenzene	Ave	5.213	4.646	0.1000	8.91	10.0	-10.9	20.0
1,1,2,2-Tetrachloroethane	Ave	1.136	1.294	0.3000	11.4	10.0	13.9	20.0
Bromobenzene	Ave	0.9017	0.7500	0.0100	8.32	10.0	-16.8	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1996	0.1286	0.0100	6.44	10.0	-35.6*	20.0
1,2,3-Trichloropropane	Ave	0.2537	0.2221	0.0100	8.75	10.0	-12.5	20.0
N-Propylbenzene	Ave	0.9319	0.7370	0.0100	7.91	10.0	-20.9*	20.0
2-Chlorotoluene	Ave	0.7983	0.6762	0.0100	8.47	10.0	-15.3	20.0
1,3,5-Trimethylbenzene	Ave	2.581	2.191	0.0100	8.49	10.0	-15.1	20.0
4-Chlorotoluene	Ave	0.8360	0.7493	0.0100	8.96	10.0	-10.4	20.0
tert-Butylbenzene	Ave	2.138	1.650	0.0100	7.72	10.0	-22.8*	20.0
1,2,4-Trimethylbenzene	Ave	2.559	2.245	0.0100	8.77	10.0	-12.3	20.0
sec-Butylbenzene	Ave	2.916	2.436	0.0100	8.35	10.0	-16.5	20.0
1,3-Dichlorobenzene	Ave	1.512	1.367	0.6000	9.04	10.0	-9.6	20.0
4-Isopropyltoluene	Ave	2.515	2.132	0.0100	8.48	10.0	-15.2	20.0
1,4-Dichlorobenzene	Ave	1.596	1.459	0.5000	9.14	10.0	-8.6	20.0
n-Butylbenzene	Ave	1.839	1.513	0.0100	8.23	10.0	-17.7	20.0
1,2-Dichlorobenzene	Ave	1.378	1.321	0.4000	9.59	10.0	-4.1	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0865	0.0851	0.0500	9.83	10.0	-1.7	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Lab Sample ID: CCVIS 180-300399/2 Calibration Date: 12/05/2019 10:04
 Instrument ID: CHHP5 Calib Start Date: 11/29/2019 11:46
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 11/29/2019 14:36
 Lab File ID: 5120502.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	0.4350	0.4004	0.2000	9.21	10.0	-7.9	20.0
Hexachlorobutadiene	Lin1		0.2704	0.0100	12.0	10.0	20.1*	20.0
Naphthalene	Qua		0.8180	0.0100	9.33	10.0	-6.7	20.0
1,2,3-Trichlorobenzene	Lin1		0.3913	0.0100	12.2	10.0	21.9*	20.0
Dibromofluoromethane (Surr)	Ave	0.2529	0.2505		9.91	10.0	-0.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3278	0.3020		9.21	10.0	-7.9	20.0
Toluene-d8 (Surr)	Ave	4.155	3.992		9.61	10.0	-3.9	20.0
4-Bromofluorobenzene (Surr)	Ave	1.620	1.542		9.52	10.0	-4.8	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120502.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 05-Dec-2019 10:04:30 ALS Bottle#: 2 Worklist Smp#: 2
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-002
 Misc. Info.: ccvis
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub145
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 09:57:23 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 09:57:23

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	231599	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.494	7.494	0.000	99	574986	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.585	10.585	0.000	84	144546	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	92	277214	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.770	6.770	0.000	94	144047	50.0	49.5	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	173621	50.0	46.1	
\$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	92	576960	50.0	48.0	
\$ 8 4-Bromofluorobenzene (Surr	95	11.759	11.759	0.000	94	222926	50.0	47.6	
11 Dichlorodifluoromethane	85	1.703	1.703	0.000	99	184590	50.0	46.4	
12 Chloromethane	50	1.910	1.910	0.000	98	144547	50.0	54.2	
13 Vinyl chloride	62	2.044	2.044	0.000	98	150726	50.0	53.8	
14 Butadiene	39	2.062	2.062	0.000	92	138830	50.0	52.4	
15 Bromomethane	94	2.384	2.384	0.000	92	116573	50.0	53.5	
16 Chloroethane	64	2.548	2.548	0.000	98	103054	50.0	57.4	
17 Dichlorofluoromethane	67	2.847	2.847	0.000	94	256159	50.0	55.7	
18 Trichlorofluoromethane	101	2.865	2.865	0.000	96	268294	50.0	51.7	
20 Ethyl ether	59	3.254	3.254	0.000	87	136761	50.0	52.7	
21 Acrolein	56	3.449	3.449	0.000	100	76769	150.0	144.1	
22 1,1-Dichloroethene	96	3.571	3.571	0.000	96	148388	50.0	50.8	
23 1,1,2-Trichloro-1,2,2-trif	101	3.650	3.650	0.000	87	168793	50.0	52.4	
24 Acetone	43	3.674	3.674	0.000	96	96326	100.0	81.9	
25 Iodomethane	142	3.771	3.771	0.000	98	259813	50.0	49.2	
26 Carbon disulfide	76	3.869	3.869	0.000	98	399127	50.0	51.6	
28 3-Chloro-1-propene	76	4.191	4.191	0.000	91	77464	50.0	47.1	
30 Methyl acetate	43	4.209	4.209	0.000	97	208292	100.0	106.0	
31 Methylene Chloride	84	4.398	4.398	0.000	88	176963	50.0	55.0	
32 2-Methyl-2-propanol	59	4.666	4.666	0.000	93	102349	500.0	451.1	
33 Acrylonitrile	53	4.787	4.787	0.000	97	558582	500.0	515.4	
34 trans-1,2-Dichloroethene	96	4.812	4.812	0.000	98	169997	50.0	51.3	
35 Methyl tert-butyl ether	73	4.830	4.830	0.000	97	333144	50.0	41.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.219	5.219	0.000	93	193056	50.0	43.1	
37 1,1-Dichloroethane	63	5.438	5.438	0.000	96	256710	50.0	49.4	
38 Vinyl acetate	43	5.487	5.487	0.000	97	178509	50.0	33.9	
44 2,2-Dichloropropane	97	6.174	6.174	0.000	90	34772	50.0	49.1	
45 cis-1,2-Dichloroethene	96	6.174	6.174	0.000	79	168233	50.0	48.0	
46 2-Butanone (MEK)	43	6.186	6.186	0.000	97	123995	100.0	85.2	
49 Chlorobromomethane	128	6.460	6.460	0.000	87	92552	50.0	51.6	
51 Tetrahydrofuran	42	6.466	6.466	0.000	83	67713	100.0	84.9	
52 Chloroform	83	6.600	6.600	0.000	93	277194	50.0	49.0	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	98	210822	50.0	47.1	
54 Cyclohexane	56	6.819	6.819	0.000	87	231007	50.0	44.0	
56 Carbon tetrachloride	117	6.923	6.923	0.000	96	196361	50.0	45.7	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	99	208380	50.0	47.9	
57 Isobutyl alcohol	41	7.148	7.148	0.000	73	102161	1250.0	1268.6	
58 Benzene	78	7.154	7.154	0.000	97	673523	50.0	51.6	
59 1,2-Dichloroethane	62	7.233	7.233	0.000	99	199380	50.0	43.8	
62 n-Heptane	43	7.507	7.507	0.000	85	148072	50.0	41.6	
64 Trichloroethene	130	7.878	7.878	0.000	95	172657	50.0	46.6	
66 Methylcyclohexane	83	8.109	8.109	0.000	88	235561	50.0	41.7	
67 1,2-Dichloropropane	63	8.145	8.145	0.000	94	156095	50.0	52.0	
68 Dibromomethane	93	8.230	8.230	0.000	89	91180	50.0	47.7	
70 1,4-Dioxane	88	8.230	8.230	0.000	35	23647	1000.0	852.5	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	186804	50.0	47.8	
73 2-Chloroethyl vinyl ether	63	8.723	8.723	0.000	93	171279	100.0	81.5	
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	96	208388	50.0	45.7	
75 4-Methyl-2-pentanone (MIBK)	43	9.027	9.027	0.000	94	218413	100.0	93.5	
76 Toluene	91	9.198	9.198	0.000	98	731463	50.0	51.6	
77 trans-1,3-Dichloropropene	75	9.441	9.441	0.000	92	180792	50.0	41.9	
78 Ethyl methacrylate	69	9.502	9.502	0.000	88	147838	50.0	38.0	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	90	140625	50.0	49.5	
80 Tetrachloroethene	164	9.709	9.709	0.000	97	167669	50.0	51.4	
81 1,3-Dichloropropane	76	9.794	9.794	0.000	88	236416	50.0	47.5	
82 2-Hexanone	43	9.855	9.855	0.000	94	148181	100.0	82.9	
84 Chlorodibromomethane	129	10.007	10.007	0.000	89	138740	50.0	46.8	
85 Ethylene Dibromide	107	10.122	10.122	0.000	99	133374	50.0	45.6	
87 Chlorobenzene	112	10.609	10.609	0.000	96	461802	50.0	48.3	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.700	0.000	93	163119	50.0	50.3	
90 Ethylbenzene	106	10.706	10.706	0.000	98	229333	50.0	46.2	
91 m-Xylene & p-Xylene	106	10.834	10.834	0.000	0	294800	50.0	47.6	
92 o-Xylene	106	11.217	11.217	0.000	96	266593	50.0	45.7	
93 Styrene	104	11.242	11.242	0.000	94	509325	50.0	49.9	
94 Bromoform	173	11.424	11.424	0.000	98	93643	50.0	46.7	
97 Isopropylbenzene	105	11.589	11.589	0.000	95	671489	50.0	44.6	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	91	187061	50.0	57.0	
100 Bromobenzene	156	11.905	11.905	0.000	89	207920	50.0	41.6	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	85	35635	50.0	32.2	
101 1,2,3-Trichloropropane	110	11.954	11.954	0.000	82	61566	50.0	43.8	
103 N-Propylbenzene	120	12.002	12.002	0.000	99	204311	50.0	39.5	
104 2-Chlorotoluene	126	12.093	12.093	0.000	97	187454	50.0	42.4	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	94	607311	50.0	42.4	
107 4-Chlorotoluene	126	12.215	12.215	0.000	96	207704	50.0	44.8	
108 tert-Butylbenzene	119	12.501	12.501	0.000	93	457519	50.0	38.6	

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	12.556	12.556	0.000	97	622275	50.0	43.9	
112 sec-Butylbenzene	105	12.720	12.720	0.000	94	675331	50.0	41.8	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	98	378900	50.0	45.2	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	96	591016	50.0	42.4	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	95	404448	50.0	45.7	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	419472	50.0	41.1	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	98	366303	50.0	47.9	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.089	0.000	90	23579	50.0	49.2	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	95	111008	50.0	46.0	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	91	74955	50.0	60.0	
128 Naphthalene	128	15.184	15.184	0.000	96	226758	50.0	46.6	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	96	108465	50.0	60.9	
S 154 Total BTEX	106				0		250.0	242.7	
S 134 1,2-Dichloroethene, Total	96				0		100.0	99.3	
S 133 Xylenes, Total	106				0		100.0	93.3	
S 135 1,3-Dichloropropene, Total	1				0		100.0	87.6	

Reagents:

voaWKetmix1st_00020	Amount Added: 2.00	Units: uL	
VOAACRPRI_00023	Amount Added: 6.00	Units: uL	
VOACEVEPRI_00058	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 2.00	Units: uL	
VOAVAPRI_00029	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120502.D

Injection Date: 05-Dec-2019 10:04:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

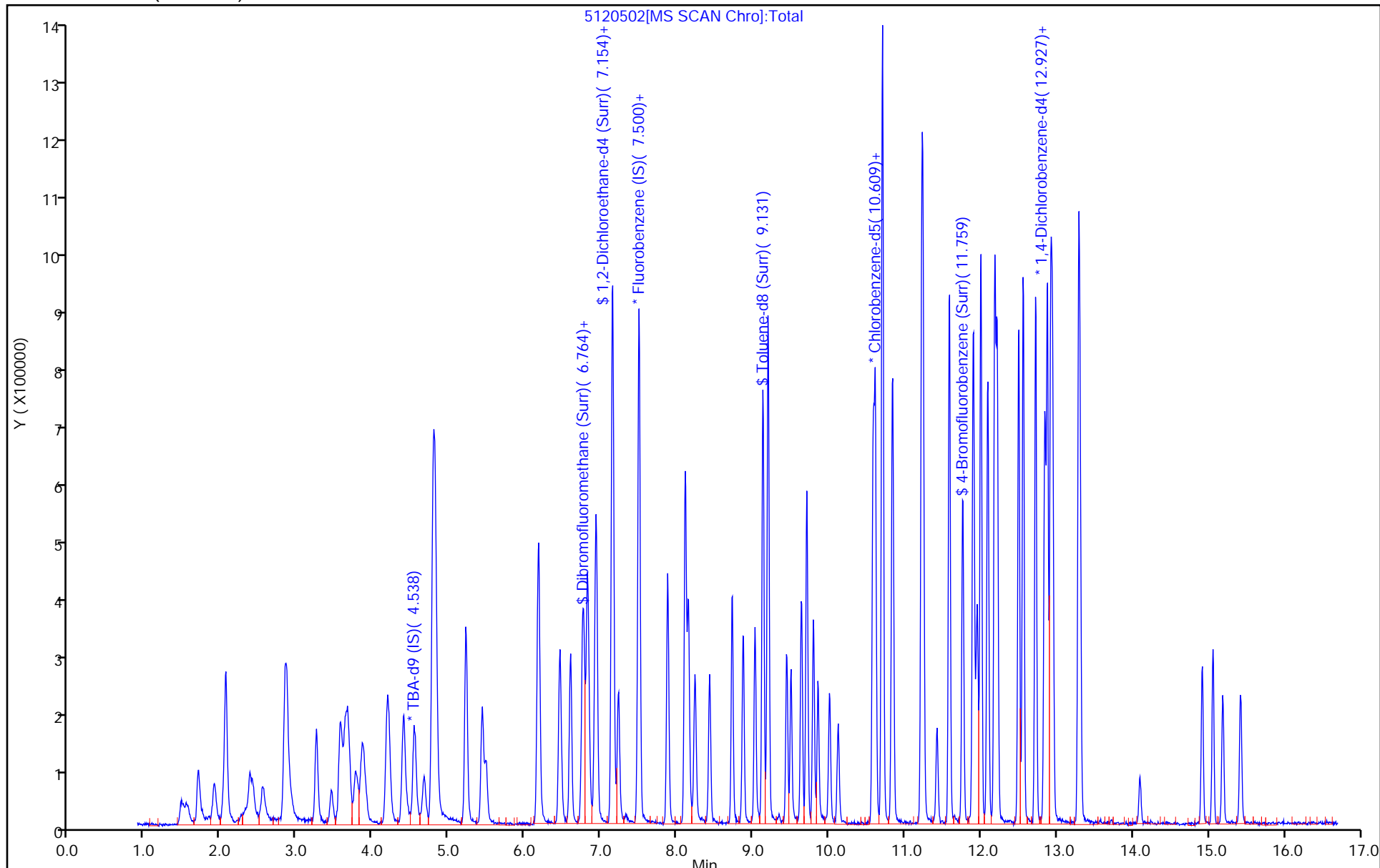
Dil. Factor: 1.0000

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.: 180-99101-1
 SDG No.: _____
 Lab Sample ID: CCVIS 180-301313/2 Calibration Date: 12/13/2019 11:12
 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: 5121302.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	0.1156	0.0100	12.7	20.0	-36.7*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121302.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 13-Dec-2019 11:12:30 ALS Bottle#: 2 Worklist Smp#: 2
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-002
 Misc. Info.: ccvis
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub60
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 10:49:11 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 10:49:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.416	4.416	0.000	0	88921	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.391	7.391	0.000	97	500718	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.482	10.482	0.000	84	112088	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.818	12.818	0.000	93	188560	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.673	6.673	0.000	93	130851	50.0	51.7	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.038	7.038	0.000	0	167797	50.0	51.1	
\$ 7 Toluene-d8 (Surr)	98	9.034	9.034	0.000	93	457011	50.0	49.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.662	11.662	0.000	95	162778	50.0	44.8	
11 Dichlorodifluoromethane	85	1.636	1.636	0.000	99	219994	50.0	63.5	
12 Chloromethane	50	1.831	1.831	0.000	98	129164	50.0	55.6	
13 Vinyl chloride	62	1.965	1.965	0.000	97	168694	50.0	69.1	
14 Butadiene	39	2.007	2.007	0.000	92	108750	50.0	47.1	
15 Bromomethane	94	2.342	2.342	0.000	91	80245	50.0	42.3	
16 Chloroethane	64	2.476	2.476	0.000	99	117039	50.0	74.8	
17 Dichlorofluoromethane	67	2.768	2.768	0.000	96	300114	50.0	75.0	
18 Trichlorofluoromethane	101	2.780	2.780	0.000	85	313111	50.0	69.3	
20 Ethyl ether	59	3.157	3.157	0.000	89	123536	50.0	54.7	
21 Acrolein	56	3.358	3.358	0.000	95	36342	150.0	78.3	
22 1,1-Dichloroethene	96	3.467	3.467	0.000	98	142720	50.0	56.1	
23 1,1,2-Trichloro-1,2,2-trif	101	3.553	3.553	0.000	89	192164	50.0	68.4	
24 Acetone	43	3.577	3.577	0.000	97	91855	100.0	89.7	
25 Iodomethane	142	3.674	3.674	0.000	97	242596	50.0	52.7	
26 Carbon disulfide	76	3.753	3.753	0.000	99	377396	50.0	56.1	
28 3-Chloro-1-propene	76	4.058	4.058	0.000	89	74458	50.0	52.0	
30 Methyl acetate	43	4.088	4.088	0.000	96	174112	100.0	101.8	
31 Methylene Chloride	84	4.289	4.289	0.000	84	165546	50.0	59.3	
32 2-Methyl-2-propanol	59	4.550	4.550	0.000	92	45978	500.0	527.8	
33 Acrylonitrile	53	4.672	4.672	0.000	97	420476	500.0	445.5	
34 trans-1,2-Dichloroethene	96	4.696	4.696	0.000	97	152982	50.0	53.1	
35 Methyl tert-butyl ether	73	4.708	4.708	0.000	96	327798	50.0	46.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.110	5.110	0.000	94	181936	50.0	46.6	
37 1,1-Dichloroethane	63	5.329	5.329	0.000	97	236952	50.0	52.4	
38 Vinyl acetate	43	5.378	5.378	0.000	97	169763	50.0	37.1	
44 2,2-Dichloropropane	97	6.065	6.065	0.000	69	34989	50.0	56.8	
45 cis-1,2-Dichloroethene	96	6.065	6.065	0.000	82	144227	50.0	47.2	
46 2-Butanone (MEK)	43	6.083	6.083	0.000	99	122777	100.0	96.8	
49 Chlorobromomethane	128	6.351	6.351	0.000	86	83569	50.0	53.5	
51 Tetrahydrofuran	42	6.363	6.363	0.000	77	48979	100.0	70.5	
52 Chloroform	83	6.497	6.497	0.000	94	256934	50.0	52.4	
53 1,1,1-Trichloroethane	97	6.649	6.649	0.000	98	214702	50.0	55.0	
54 Cyclohexane	56	6.722	6.722	0.000	87	209123	50.0	45.7	
56 Carbon tetrachloride	117	6.813	6.813	0.000	97	183766	50.0	49.2	
55 1,1-Dichloropropene	75	6.838	6.838	0.000	97	174954	50.0	46.2	
57 Isobutyl alcohol	41	7.044	7.044	0.000	47	63665	1250.0	907.8	
58 Benzene	78	7.051	7.051	0.000	97	570907	50.0	50.2	
59 1,2-Dichloroethane	62	7.124	7.124	0.000	98	212141	50.0	53.6	
62 n-Heptane	43	7.403	7.403	0.000	82	142638	50.0	46.1	
64 Trichloroethene	130	7.775	7.775	0.000	95	149616	50.0	46.4	
66 Methylcyclohexane	83	8.012	8.012	0.000	88	207882	50.0	42.3	
67 1,2-Dichloropropane	63	8.048	8.048	0.000	92	126302	50.0	48.3	
70 1,4-Dioxane	88	8.127	8.127	0.000	32	9824	1000.0	406.7	
68 Dibromomethane	93	8.133	8.133	0.000	91	80378	50.0	48.2	
71 Dichlorobromomethane	83	8.328	8.328	0.000	98	164532	50.0	48.3	
73 2-Chloroethyl vinyl ether	63	8.626	8.626	0.000	94	115798	100.0	63.3	
74 cis-1,3-Dichloropropene	75	8.772	8.772	0.000	96	170574	50.0	43.0	
75 4-Methyl-2-pentanone (MIBK)	43	8.930	8.930	0.000	93	151329	100.0	83.6	
76 Toluene	91	9.101	9.101	0.000	99	574821	50.0	52.2	
77 trans-1,3-Dichloropropene	75	9.350	9.350	0.000	92	155222	50.0	46.4	
78 Ethyl methacrylate	69	9.411	9.411	0.000	86	117568	50.0	38.9	
79 1,1,2-Trichloroethane	97	9.539	9.539	0.000	92	132822	50.0	60.3	
80 Tetrachloroethene	164	9.612	9.612	0.000	98	135163	50.0	53.5	
81 1,3-Dichloropropane	76	9.697	9.697	0.000	89	198658	50.0	51.5	
82 2-Hexanone	43	9.764	9.764	0.000	93	137418	100.0	96.6	
84 Chlorodibromomethane	129	9.910	9.910	0.000	90	124458	50.0	54.1	
85 Ethylene Dibromide	107	10.019	10.019	0.000	97	124740	50.0	55.0	
87 Chlorobenzene	112	10.512	10.512	0.000	96	366212	50.0	49.4	
89 1,1,1,2-Tetrachloroethane	131	10.603	10.603	0.000	91	130698	50.0	52.0	
90 Ethylbenzene	106	10.609	10.609	0.000	98	166808	50.0	43.4	
91 m-Xylene & p-Xylene	106	10.743	10.743	0.000	0	201550	50.0	41.9	
92 o-Xylene	106	11.126	11.126	0.000	95	184637	50.0	40.8	
93 Styrene	104	11.145	11.145	0.000	93	355260	50.0	44.9	
94 Bromoform	173	11.321	11.321	0.000	95	78951	50.0	50.8	
97 Isopropylbenzene	105	11.491	11.491	0.000	95	463518	50.0	39.7	
100 Bromobenzene	156	11.802	11.802	0.000	89	165549	50.0	48.7	
99 1,1,2,2-Tetrachloroethane	83	11.808	11.808	0.000	93	146393	50.0	57.5	
102 trans-1,4-Dichloro-2-buten	53	11.838	11.838	0.000	59	35772	50.0	47.5	
101 1,2,3-Trichloropropane	110	11.857	11.857	0.000	81	48908	50.0	51.1	
103 N-Propylbenzene	120	11.905	11.905	0.000	98	149985	50.0	42.7	
104 2-Chlorotoluene	126	11.990	11.990	0.000	97	135161	50.0	44.9	
106 1,3,5-Trimethylbenzene	105	12.088	12.088	0.000	93	425168	50.0	43.7	
107 4-Chlorotoluene	126	12.118	12.118	0.000	97	157101	50.0	49.8	
108 tert-Butylbenzene	119	12.398	12.398	0.000	93	318315	50.0	39.5	

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	12.459	12.459	0.000	97	426047	50.0	44.2	
112 sec-Butylbenzene	105	12.623	12.623	0.000	94	479207	50.0	43.6	
113 1,3-Dichlorobenzene	146	12.745	12.745	0.000	96	296154	50.0	51.9	
114 4-Isopropyltoluene	119	12.781	12.781	0.000	96	424147	50.0	44.7	
115 1,4-Dichlorobenzene	146	12.848	12.848	0.000	95	310079	50.0	51.5	
120 n-Butylbenzene	91	13.189	13.189	0.000	98	319231	50.0	46.0	
121 1,2-Dichlorobenzene	146	13.201	13.201	0.000	98	270066	50.0	52.0	
122 1,2-Dibromo-3-Chloropropan	75	13.992	13.992	0.000	88	14826	50.0	45.4	
126 1,2,4-Trichlorobenzene	180	14.813	14.813	0.000	94	111509	50.0	68.0	
127 Hexachlorobutadiene	225	14.959	14.959	0.000	93	95803	50.0	114.0	
128 Naphthalene	128	15.087	15.087	0.000	96	171314	50.0	51.2	
129 1,2,3-Trichlorobenzene	180	15.312	15.312	0.000	94	89874	50.0	73.7	
S 133 Xylenes, Total	106				0		100.0	82.8	
S 134 1,2-Dichloroethene, Total	96				0		100.0	100.3	
S 135 1,3-Dichloropropene, Total	1				0		100.0	89.4	

Reagents:

voaWKetmix1st_00021	Amount Added: 2.00	Units: uL	
VOACR2ND_00029	Amount Added: 6.00	Units: uL	
VOACEVE2ND_00031	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00383	Amount Added: 2.00	Units: uL	
VOAVAPRI_00031	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121302.D

Injection Date: 13-Dec-2019 11:12:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

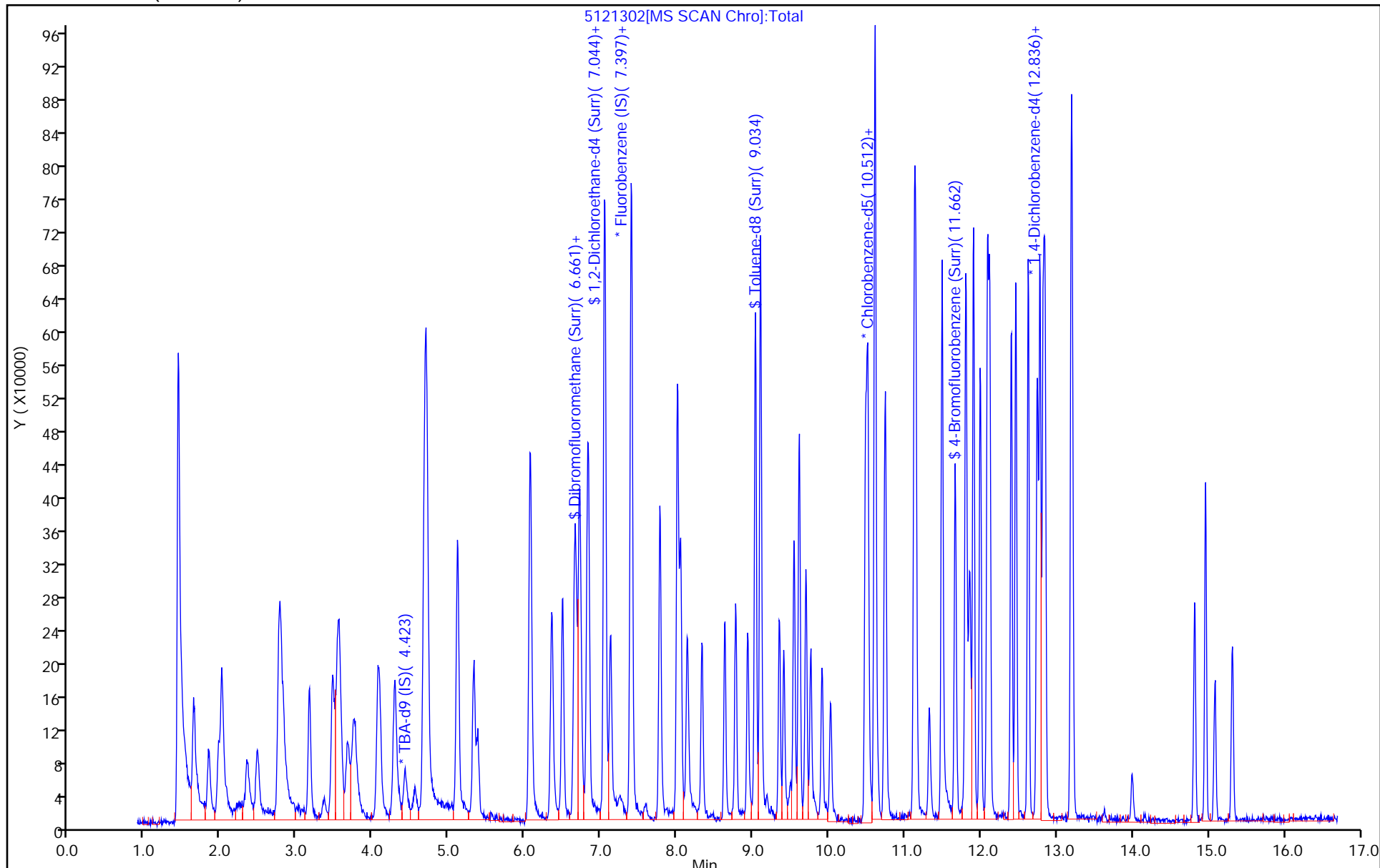
Dil. Factor: 1.0000

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.: 180-99101-1

SDG No.: _____

Lab Sample ID: CCVIS 180-301313/2 Calibration Date: 12/13/2019 11:12

Instrument ID: CHHP5 Calib Start Date: 11/29/2019 11:46

GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 11/29/2019 14:36

Lab File ID: 5121302.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	0.3458	0.4394	0.1000	12.7	10.0	27.1*	20.0
Chloromethane	Ave	0.2319	0.2580	0.1000	11.1	10.0	11.2	20.0
Vinyl chloride	Ave	0.2437	0.3369	0.1000	13.8	10.0	38.2*	20.0
1,3-Butadiene	Ave	0.2306	0.2172	0.0100	9.42	10.0	-5.8	20.0
Bromomethane	Ave	0.1896	0.1603	0.0500	8.45	10.0	-15.5	20.0
Chloroethane	Ave	0.1562	0.2337	0.0500	15.0	10.0	49.7*	20.0
Dichlorofluoromethane	Ave	0.3998	0.5994	0.0100	15.0	10.0	49.9*	20.0
Trichlorofluoromethane	Ave	0.4509	0.6253	0.1000	13.9	10.0	38.7*	20.0
Ethyl ether	Ave	0.2255	0.2467	0.0100	10.9	10.0	9.4	20.0
Acrolein	Ave	0.0463	0.0242	0.0100		30.0	-47.8*	20.0
1,1-Dichloroethene	Ave	0.2540	0.2850	0.1000	11.2	10.0	12.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2804	0.3838	0.1000	13.7	10.0	36.9*	20.0
Acetone	Ave	0.1023	0.0917	0.0500	17.9	20.0	-10.3	20.0
Iodomethane	Ave	0.4595	0.4845	0.0100	10.5	10.0	5.5	20.0
Carbon disulfide	Ave	0.6722	0.7537	0.1000	11.2	10.0	12.1	20.0
Allyl chloride	Ave	0.1429	0.1487	0.0100	10.4	10.0	4.0	20.0
Methyl acetate	Ave	0.1708	0.1739	0.1000	20.4	20.0	1.8	20.0
Methylene Chloride	Lin2		0.3306	0.1000	11.9	10.0	18.7	20.0
tert-Butyl alcohol	Ave	0.9797	1.034	0.0100	106	100	5.6	20.0
Acrylonitrile	Ave	0.0942	0.0840	0.0100	89.1	100	-10.9	20.0
trans-1,2-Dichloroethene	Ave	0.2879	0.3055	0.1000	10.6	10.0	6.1	20.0
Methyl tert-butyl ether	Ave	0.7010	0.6547	0.1000	9.34	10.0	-6.6	20.0
Hexane	Ave	0.3899	0.3634	0.0100	9.32	10.0	-6.8	20.0
1,1-Dichloroethane	Ave	0.4515	0.4732	0.2000	10.5	10.0	4.8	20.0
Vinyl acetate	Ave	0.4574	0.3390	0.0100	7.41	10.0	-25.9*	20.0
2,2-Dichloropropane	Ave	0.0616	0.0699	0.0100	11.4	10.0	13.5	20.0
cis-1,2-Dichloroethene	Ave	0.3050	0.2880	0.1000	9.44	10.0	-5.6	20.0
2-Butanone (MEK)	Ave	0.1266	0.1226	0.0500	19.4	20.0	-3.2	20.0
Bromochloromethane	Ave	0.1561	0.1669	0.0100	10.7	10.0	6.9	20.0
Tetrahydrofuran	Ave	0.0694	0.0489	0.0100	14.1	20.0	-29.5*	20.0
Chloroform	Lin2		0.5131	0.2000	10.5	10.0	4.9	20.0
1,1,1-Trichloroethane	Ave	0.3895	0.4288	0.1000	11.0	10.0	10.1	20.0
Cyclohexane	Ave	0.4570	0.4177	0.1000	9.14	10.0	-8.6	20.0
Carbon tetrachloride	Ave	0.3733	0.3670	0.1000	9.83	10.0	-1.7	20.0
1,1-Dichloropropene	Ave	0.3785	0.3494	0.0100	9.23	10.0	-7.7	20.0
Isobutyl alcohol	Ave	0.0070	0.0051*	0.0100	182	250	-27.4*	20.0
Benzene	Ave	1.135	1.140	0.5000	10.0	10.0	0.4	20.0
1,2-Dichloroethane	Ave	0.3955	0.4237	0.1000	10.7	10.0	7.1	20.0
n-Heptane	Ave	0.3093	0.2849	0.0100	9.21	10.0	-7.9	20.0
Trichloroethene	Ave	0.3223	0.2988	0.2000	9.27	10.0	-7.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Lab Sample ID: CCVIS 180-301313/2 Calibration Date: 12/13/2019 11:12

Instrument ID: CHHP5 Calib Start Date: 11/29/2019 11:46

GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 11/29/2019 14:36

Lab File ID: 5121302.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	0.4911	0.4152	0.1000	8.45	10.0	-15.5	20.0
1,2-Dichloropropane	Ave	0.2609	0.2522	0.1000	9.67	10.0	-3.3	20.0
1,4-Dioxane	Ave	0.0024	0.0010*	0.0100	81.3	200	-59.3*	20.0
Dibromomethane	Ave	0.1664	0.1605	0.0100	9.65	10.0	-3.5	20.0
Bromodichloromethane	Ave	0.3398	0.3286	0.2000	9.67	10.0	-3.3	20.0
cis-1,3-Dichloropropene	Ave	0.3962	0.3407	0.2000	8.60	10.0	-14.0	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.8077	0.6751	0.1000	16.7	20.0	-16.4	20.0
Toluene	Ave	4.908	5.128	0.4000	10.4	10.0	4.5	20.0
trans-1,3-Dichloropropene	Ave	1.493	1.385	0.1000	9.27	10.0	-7.3	20.0
Ethyl methacrylate	Lin1		1.049	0.0100	7.78	10.0	-22.2*	20.0
1,1,2-Trichloroethane	Ave	0.9826	1.185	0.1000	12.1	10.0	20.6*	20.0
Tetrachloroethene	Ave	1.128	1.206	0.2000	10.7	10.0	6.9	20.0
1,3-Dichloropropane	Ave	1.720	1.772	0.0100	10.3	10.0	3.0	20.0
2-Hexanone	Lin1		0.6130	0.1000	19.3	20.0	-3.4	20.0
Dibromochloromethane	Ave	1.026	1.110	0.1000	10.8	10.0	8.3	20.0
1,2-Dibromoethane (EDB)	Ave	1.011	1.113	0.1000	11.0	10.0	10.1	20.0
Chlorobenzene	Ave	3.306	3.267	0.5000	9.88	10.0	-1.2	20.0
1,1,1,2-Tetrachloroethane	Ave	1.122	1.166	0.0100	10.4	10.0	4.0	20.0
Ethylbenzene	Ave	1.716	1.488	0.1000	8.67	10.0	-13.3	20.0
m-Xylene & p-Xylene	Ave	2.143	1.798	0.1000	8.39	10.0	-16.1	20.0
o-Xylene	Ave	2.018	1.647	0.3000	8.16	10.0	-18.4	20.0
Styrene	Ave	3.529	3.169	0.3000	8.98	10.0	-10.2	20.0
Bromoform	Ave	0.6933	0.7044	0.1000	10.2	10.0	1.6	20.0
Isopropylbenzene	Ave	5.213	4.135	0.1000	7.93	10.0	-20.7*	20.0
Bromobenzene	Ave	0.9017	0.8780	0.0100	9.74	10.0	-2.6	20.0
1,1,2,2-Tetrachloroethane	Ave	1.136	1.306	0.3000	11.5	10.0	15.0	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1996	0.1897	0.0100	9.50	10.0	-5.0	20.0
1,2,3-Trichloropropane	Ave	0.2537	0.2594	0.0100	10.2	10.0	2.2	20.0
N-Propylbenzene	Ave	0.9319	0.7954	0.0100	8.54	10.0	-14.6	20.0
2-Chlorotoluene	Ave	0.7983	0.7168	0.0100	8.98	10.0	-10.2	20.0
1,3,5-Trimethylbenzene	Ave	2.581	2.255	0.0100	8.74	10.0	-12.6	20.0
4-Chlorotoluene	Ave	0.8360	0.8332	0.0100	9.97	10.0	-0.3	20.0
tert-Butylbenzene	Ave	2.138	1.688	0.0100	7.89	10.0	-21.1*	20.0
1,2,4-Trimethylbenzene	Ave	2.559	2.259	0.0100	8.83	10.0	-11.7	20.0
sec-Butylbenzene	Ave	2.916	2.541	0.0100	8.72	10.0	-12.8	20.0
1,3-Dichlorobenzene	Ave	1.512	1.571	0.6000	10.4	10.0	3.9	20.0
4-Isopropyltoluene	Ave	2.515	2.249	0.0100	8.94	10.0	-10.6	20.0
1,4-Dichlorobenzene	Ave	1.596	1.644	0.5000	10.3	10.0	3.0	20.0
n-Butylbenzene	Ave	1.839	1.693	0.0100	9.20	10.0	-8.0	20.0
1,2-Dichlorobenzene	Ave	1.378	1.432	0.4000	10.4	10.0	3.9	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0865	0.0786	0.0500	9.09	10.0	-9.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Lab Sample ID: CCVIS 180-301313/2 Calibration Date: 12/13/2019 11:12
 Instrument ID: CHHP5 Calib Start Date: 11/29/2019 11:46
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 11/29/2019 14:36
 Lab File ID: 5121302.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	0.4350	0.5914	0.2000	13.6	10.0	36.0*	20.0
Hexachlorobutadiene	Lin1		0.5081	0.0100	22.8	10.0	128.0*	20.0
Naphthalene	Qua		0.9085	0.0100	10.2	10.0	2.4	20.0
1,2,3-Trichlorobenzene	Lin1		0.4766	0.0100	14.7	10.0	47.3*	20.0
Dibromofluoromethane (Surr)	Ave	0.2529	0.2613		10.3	10.0	3.3	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3278	0.3351		10.2	10.0	2.2	20.0
Toluene-d8 (Surr)	Ave	4.155	4.077		9.81	10.0	-1.9	20.0
4-Bromofluorobenzene (Surr)	Ave	1.620	1.452		8.96	10.0	-10.4	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121302.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 13-Dec-2019 11:12:30 ALS Bottle#: 2 Worklist Smp#: 2
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-002
 Misc. Info.: ccvis
 Operator ID: 433269 Instrument ID: CHHP5
 Sublist: chrom-MSVOA_LL_CHHP5*sub60
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 10:49:11 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 10:49:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.416	4.416	0.000	0	88921	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.391	7.391	0.000	97	500718	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.482	10.482	0.000	84	112088	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.818	12.818	0.000	93	188560	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.673	6.673	0.000	93	130851	50.0	51.7	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.038	7.038	0.000	0	167797	50.0	51.1	
\$ 7 Toluene-d8 (Surr)	98	9.034	9.034	0.000	93	457011	50.0	49.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.662	11.662	0.000	95	162778	50.0	44.8	
11 Dichlorodifluoromethane	85	1.636	1.636	0.000	99	219994	50.0	63.5	
12 Chloromethane	50	1.831	1.831	0.000	98	129164	50.0	55.6	
13 Vinyl chloride	62	1.965	1.965	0.000	97	168694	50.0	69.1	
14 Butadiene	39	2.007	2.007	0.000	92	108750	50.0	47.1	
15 Bromomethane	94	2.342	2.342	0.000	91	80245	50.0	42.3	
16 Chloroethane	64	2.476	2.476	0.000	99	117039	50.0	74.8	
17 Dichlorofluoromethane	67	2.768	2.768	0.000	96	300114	50.0	75.0	
18 Trichlorofluoromethane	101	2.780	2.780	0.000	85	313111	50.0	69.3	
20 Ethyl ether	59	3.157	3.157	0.000	89	123536	50.0	54.7	
21 Acrolein	56	3.358	3.358	0.000	95	36342	150.0	78.3	
22 1,1-Dichloroethene	96	3.467	3.467	0.000	98	142720	50.0	56.1	
23 1,1,2-Trichloro-1,2,2-trif	101	3.553	3.553	0.000	89	192164	50.0	68.4	
24 Acetone	43	3.577	3.577	0.000	97	91855	100.0	89.7	
25 Iodomethane	142	3.674	3.674	0.000	97	242596	50.0	52.7	
26 Carbon disulfide	76	3.753	3.753	0.000	99	377396	50.0	56.1	
28 3-Chloro-1-propene	76	4.058	4.058	0.000	89	74458	50.0	52.0	
30 Methyl acetate	43	4.088	4.088	0.000	96	174112	100.0	101.8	
31 Methylene Chloride	84	4.289	4.289	0.000	84	165546	50.0	59.3	
32 2-Methyl-2-propanol	59	4.550	4.550	0.000	92	45978	500.0	527.8	
33 Acrylonitrile	53	4.672	4.672	0.000	97	420476	500.0	445.5	
34 trans-1,2-Dichloroethene	96	4.696	4.696	0.000	97	152982	50.0	53.1	
35 Methyl tert-butyl ether	73	4.708	4.708	0.000	96	327798	50.0	46.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Hexane	57	5.110	5.110	0.000	94	181936	50.0	46.6	
37 1,1-Dichloroethane	63	5.329	5.329	0.000	97	236952	50.0	52.4	
38 Vinyl acetate	43	5.378	5.378	0.000	97	169763	50.0	37.1	
44 2,2-Dichloropropane	97	6.065	6.065	0.000	69	34989	50.0	56.8	
45 cis-1,2-Dichloroethene	96	6.065	6.065	0.000	82	144227	50.0	47.2	
46 2-Butanone (MEK)	43	6.083	6.083	0.000	99	122777	100.0	96.8	
49 Chlorobromomethane	128	6.351	6.351	0.000	86	83569	50.0	53.5	
51 Tetrahydrofuran	42	6.363	6.363	0.000	77	48979	100.0	70.5	
52 Chloroform	83	6.497	6.497	0.000	94	256934	50.0	52.4	
53 1,1,1-Trichloroethane	97	6.649	6.649	0.000	98	214702	50.0	55.0	
54 Cyclohexane	56	6.722	6.722	0.000	87	209123	50.0	45.7	
56 Carbon tetrachloride	117	6.813	6.813	0.000	97	183766	50.0	49.2	
55 1,1-Dichloropropene	75	6.838	6.838	0.000	97	174954	50.0	46.2	
57 Isobutyl alcohol	41	7.044	7.044	0.000	47	63665	1250.0	907.8	
58 Benzene	78	7.051	7.051	0.000	97	570907	50.0	50.2	
59 1,2-Dichloroethane	62	7.124	7.124	0.000	98	212141	50.0	53.6	
62 n-Heptane	43	7.403	7.403	0.000	82	142638	50.0	46.1	
64 Trichloroethene	130	7.775	7.775	0.000	95	149616	50.0	46.4	
66 Methylcyclohexane	83	8.012	8.012	0.000	88	207882	50.0	42.3	
67 1,2-Dichloropropane	63	8.048	8.048	0.000	92	126302	50.0	48.3	
70 1,4-Dioxane	88	8.127	8.127	0.000	32	9824	1000.0	406.7	
68 Dibromomethane	93	8.133	8.133	0.000	91	80378	50.0	48.2	
71 Dichlorobromomethane	83	8.328	8.328	0.000	98	164532	50.0	48.3	
73 2-Chloroethyl vinyl ether	63	8.626	8.626	0.000	94	115798	100.0	63.3	
74 cis-1,3-Dichloropropene	75	8.772	8.772	0.000	96	170574	50.0	43.0	
75 4-Methyl-2-pentanone (MIBK)	43	8.930	8.930	0.000	93	151329	100.0	83.6	
76 Toluene	91	9.101	9.101	0.000	99	574821	50.0	52.2	
77 trans-1,3-Dichloropropene	75	9.350	9.350	0.000	92	155222	50.0	46.4	
78 Ethyl methacrylate	69	9.411	9.411	0.000	86	117568	50.0	38.9	
79 1,1,2-Trichloroethane	97	9.539	9.539	0.000	92	132822	50.0	60.3	
80 Tetrachloroethene	164	9.612	9.612	0.000	98	135163	50.0	53.5	
81 1,3-Dichloropropane	76	9.697	9.697	0.000	89	198658	50.0	51.5	
82 2-Hexanone	43	9.764	9.764	0.000	93	137418	100.0	96.6	
84 Chlorodibromomethane	129	9.910	9.910	0.000	90	124458	50.0	54.1	
85 Ethylene Dibromide	107	10.019	10.019	0.000	97	124740	50.0	55.0	
87 Chlorobenzene	112	10.512	10.512	0.000	96	366212	50.0	49.4	
89 1,1,1,2-Tetrachloroethane	131	10.603	10.603	0.000	91	130698	50.0	52.0	
90 Ethylbenzene	106	10.609	10.609	0.000	98	166808	50.0	43.4	
91 m-Xylene & p-Xylene	106	10.743	10.743	0.000	0	201550	50.0	41.9	
92 o-Xylene	106	11.126	11.126	0.000	95	184637	50.0	40.8	
93 Styrene	104	11.145	11.145	0.000	93	355260	50.0	44.9	
94 Bromoform	173	11.321	11.321	0.000	95	78951	50.0	50.8	
97 Isopropylbenzene	105	11.491	11.491	0.000	95	463518	50.0	39.7	
100 Bromobenzene	156	11.802	11.802	0.000	89	165549	50.0	48.7	
99 1,1,2,2-Tetrachloroethane	83	11.808	11.808	0.000	93	146393	50.0	57.5	
102 trans-1,4-Dichloro-2-buten	53	11.838	11.838	0.000	59	35772	50.0	47.5	
101 1,2,3-Trichloropropane	110	11.857	11.857	0.000	81	48908	50.0	51.1	
103 N-Propylbenzene	120	11.905	11.905	0.000	98	149985	50.0	42.7	
104 2-Chlorotoluene	126	11.990	11.990	0.000	97	135161	50.0	44.9	
106 1,3,5-Trimethylbenzene	105	12.088	12.088	0.000	93	425168	50.0	43.7	
107 4-Chlorotoluene	126	12.118	12.118	0.000	97	157101	50.0	49.8	
108 tert-Butylbenzene	119	12.398	12.398	0.000	93	318315	50.0	39.5	

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	12.459	12.459	0.000	97	426047	50.0	44.2	
112 sec-Butylbenzene	105	12.623	12.623	0.000	94	479207	50.0	43.6	
113 1,3-Dichlorobenzene	146	12.745	12.745	0.000	96	296154	50.0	51.9	
114 4-Isopropyltoluene	119	12.781	12.781	0.000	96	424147	50.0	44.7	
115 1,4-Dichlorobenzene	146	12.848	12.848	0.000	95	310079	50.0	51.5	
120 n-Butylbenzene	91	13.189	13.189	0.000	98	319231	50.0	46.0	
121 1,2-Dichlorobenzene	146	13.201	13.201	0.000	98	270066	50.0	52.0	
122 1,2-Dibromo-3-Chloropropan	75	13.992	13.992	0.000	88	14826	50.0	45.4	
126 1,2,4-Trichlorobenzene	180	14.813	14.813	0.000	94	111509	50.0	68.0	
127 Hexachlorobutadiene	225	14.959	14.959	0.000	93	95803	50.0	114.0	
128 Naphthalene	128	15.087	15.087	0.000	96	171314	50.0	51.2	
129 1,2,3-Trichlorobenzene	180	15.312	15.312	0.000	94	89874	50.0	73.7	
S 133 Xylenes, Total	106				0		100.0	82.8	
S 134 1,2-Dichloroethene, Total	96				0		100.0	100.3	
S 135 1,3-Dichloropropene, Total	1				0		100.0	89.4	

Reagents:

voaWKetmix1st_00021	Amount Added: 2.00	Units: uL	
VOACR2ND_00029	Amount Added: 6.00	Units: uL	
VOACEVE2ND_00031	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00383	Amount Added: 2.00	Units: uL	
VOAVAPRI_00031	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121302.D

Injection Date: 13-Dec-2019 11:12:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

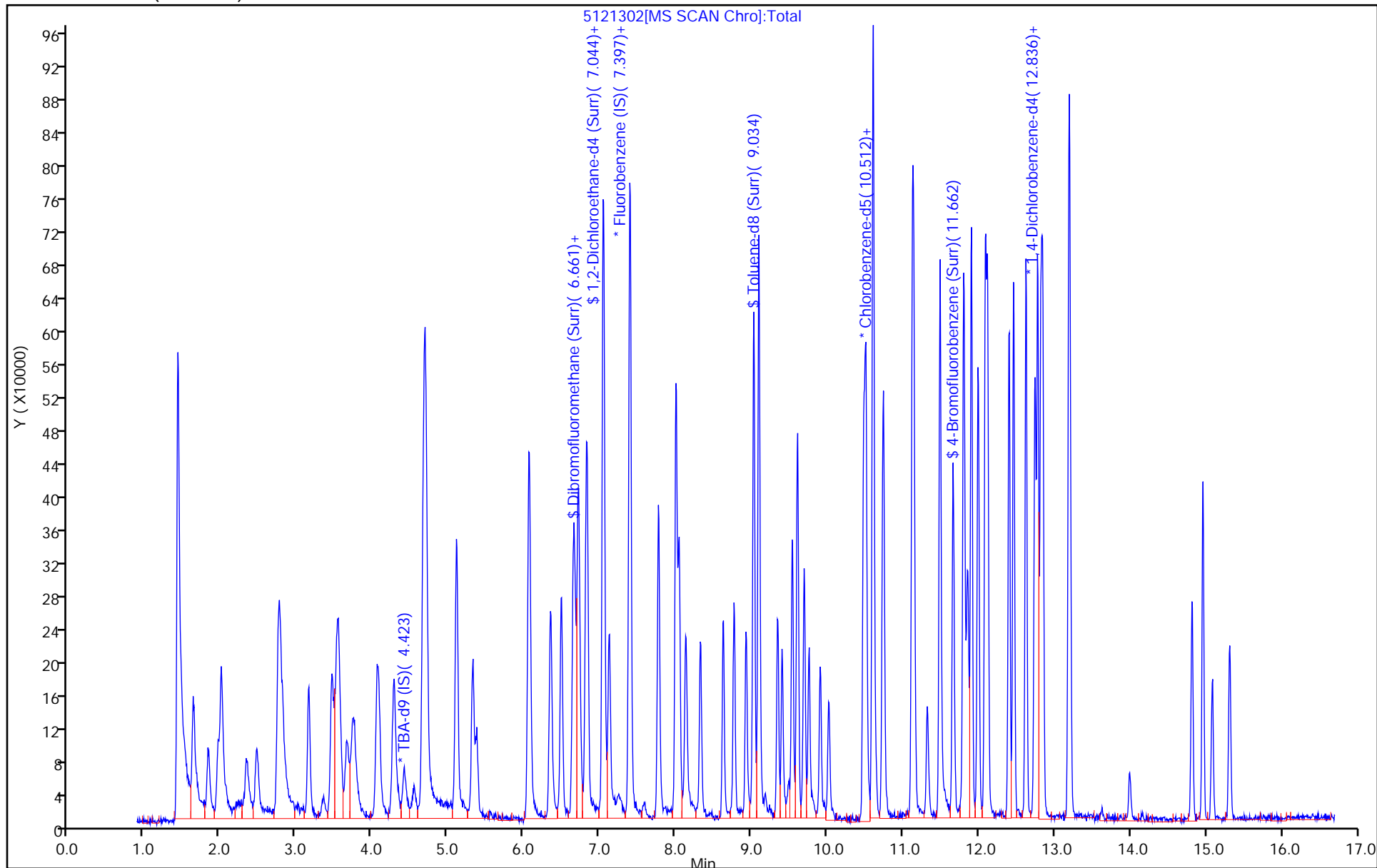
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
 Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112901.D
 Lims ID: BFB
 Client ID:
 Sample Type: BFB
 Inject. Date: 29-Nov-2019 10:22:30 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 5.0 mL Dil. Factor: 1.0000
 Sample Info: 180-0029787-001
 Misc. Info.: bfb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 30-Nov-2019 09:55:09 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0336

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
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\$ 10 BFB	95	8.451	8.451	0.000	0	90375	NR	NR	
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QC Flag Legend

Processing Flags

NR - Missing Quant Standard

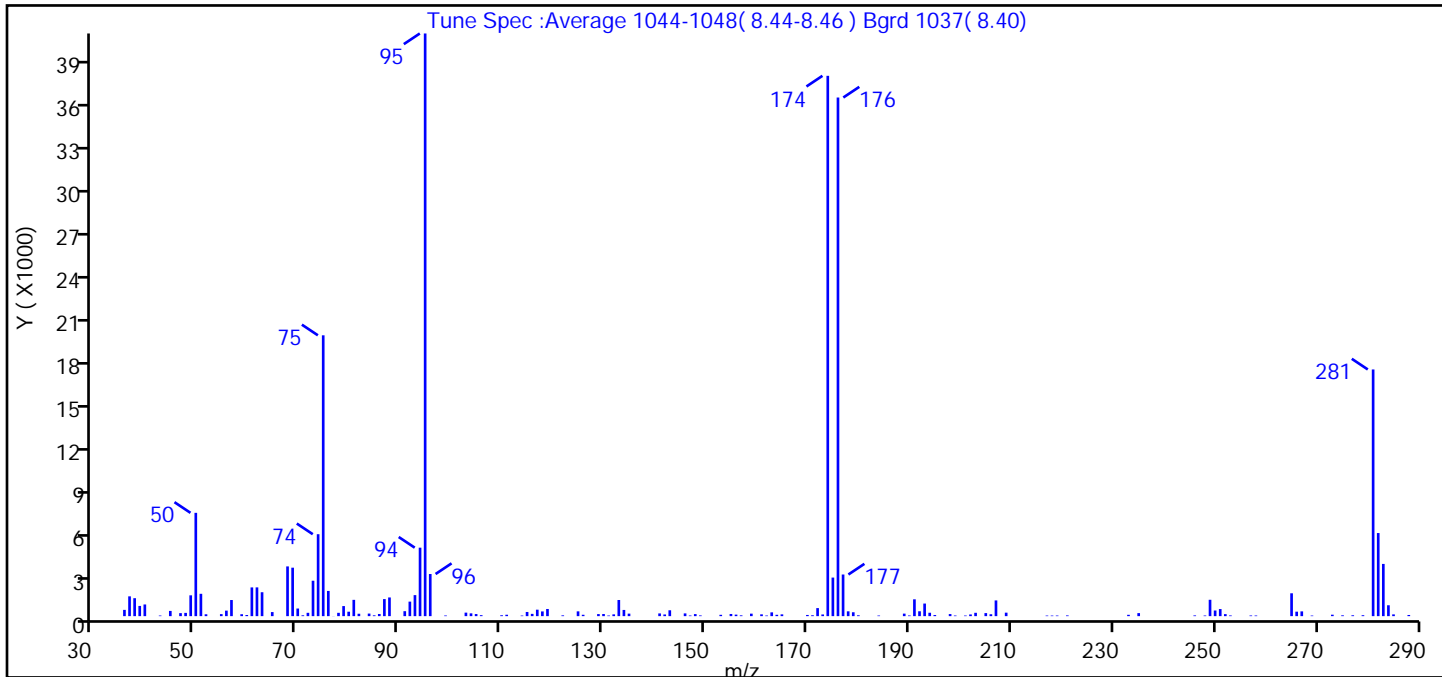
Reagents:

VOABFB25_00120 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112901.D
 Injection Date: 29-Nov-2019 10:22:30 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	48.2
96	5 to 9% of m/z 95	7.2
173	Less than 2% of m/z 174	0.3 (0.3)
174	50 to 120% of m/z 95	92.7
175	5 to 9% of m/z 174	6.6 (7.1)
176	Greater than 95% but less than 101% of m/z 174	89.0 (96.0)
177	5 to 9% of m/z 176	7.1 (8.0)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112901.D\MSVOA_LL_CHHP5.rsl\spectra
Injection Date: 29-Nov-2019 10:22:30
Spectrum: Tune Spec :Average 1044-1048(8.44-8.46) Bgrd 1037(8.40)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 145

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	435	84.00	178	146.00	190	203.00	232
37.00	1373	85.00	57	147.00	44	205.00	212
38.00	1245	86.00	150	148.00	143	206.00	131
39.00	708	87.00	1183	149.00	49	207.00	1090
40.00	810	88.00	1296	153.00	93	209.00	241
43.00	42	91.00	344	155.00	150	217.00	41
45.00	362	92.00	1007	156.00	106	218.00	40
47.00	209	93.00	1458	157.00	55	219.00	42
48.00	226	94.00	4748	159.00	173	221.00	50
49.00	1443	95.00	40400	161.00	125	233.00	93
50.00	7163	96.00	2921	162.00	43	235.00	210
51.00	1549	99.00	45	163.00	263	246.00	51
52.00	130	103.00	243	164.00	93	248.00	44
55.00	140	104.00	194	165.00	124	249.00	1135
56.00	382	105.00	146	170.00	82	250.00	391
57.00	1118	106.00	67	171.00	61	251.00	492
59.00	133	110.00	62	172.00	558	252.00	140
60.00	78	111.00	97	173.00	116	253.00	48
61.00	1992	114.00	41	174.00	37464	257.00	46
62.00	1994	115.00	289	175.00	2674	258.00	44
63.00	1658	116.00	158	176.00	35960	265.00	1585
65.00	282	117.00	448	177.00	2887	266.00	310
68.00	3449	118.00	327	178.00	334	267.00	331
69.00	3360	119.00	496	179.00	270	269.00	41
70.00	528	122.00	54	180.00	59	273.00	100
71.00	58	125.00	332	184.00	42	275.00	57
72.00	231	126.00	95	189.00	174	277.00	60
73.00	2456	129.00	143	190.00	46	279.00	64
74.00	5681	130.00	148	191.00	1167	281.00	17104
75.00	19472	131.00	42	192.00	338	282.00	5762
76.00	1748	132.00	124	193.00	873	283.00	3621
77.00	7	133.00	1119	194.00	235	284.00	755
78.00	230	134.00	430	195.00	77	285.00	122

Report Date: 30-Nov-2019 09:55:09

Chrom Revision: 2.3 09-Oct-2019 11:13:36

Data File:

\\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112901.D\MMSVOA_LL_CHHP5.rslt\spectra

Injection Date:

29-Nov-2019 10:22:30

Spectrum:

Tune Spec :Average 1044-1048(8.44-8.46) Bgrd 1037(8.40)

Base Peak:

95.00

Minimum % Base Peak: 0

Number of Points:

145

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	698	135.00	175	198.00	144	288.00	80
80.00	307	141.00	189	199.00	43		
81.00	1130	142.00	116	201.00	42		
82.00	167	143.00	407	202.00	117		

Report Date: 30-Nov-2019 09:55:09

Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112901.D

Injection Date: 29-Nov-2019 10:22:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: BFB

Worklist Smp#: 1

Client ID:

Injection Vol: 5.0 mL

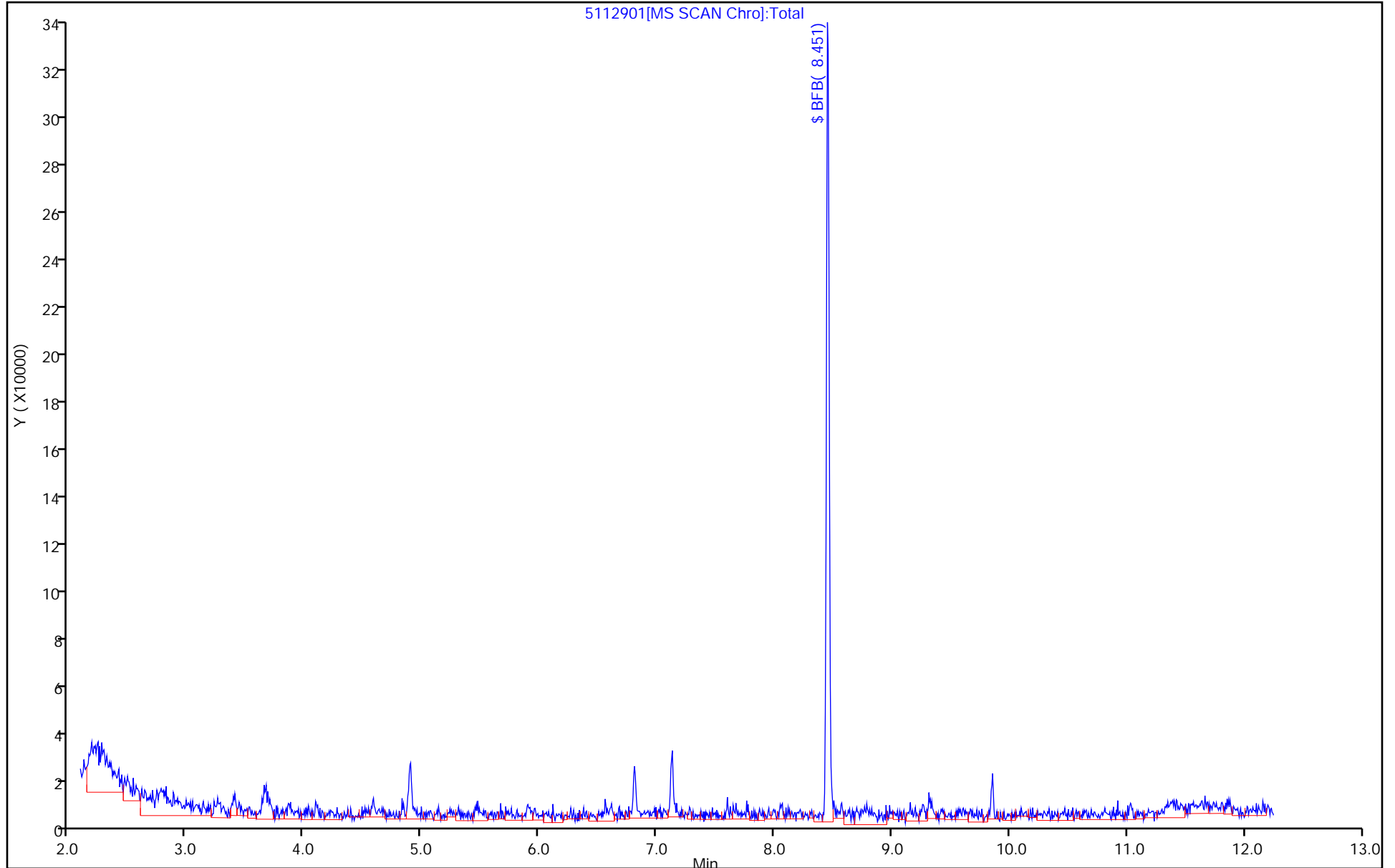
Dil. Factor: 1.0000

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\20191205-29868.b\5120501.D
 Lims ID: BFB
 Client ID:
 Sample Type: BFB
 Inject. Date: 05-Dec-2019 09:20:30 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 5.0 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-001
 Misc. Info.: bfb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 09:57:14 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 09:57:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
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\$ 10 BFB	95	8.451	8.451	0.000	0	71465	NR	NR	
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QC Flag Legend

Processing Flags

NR - Missing Quant Standard

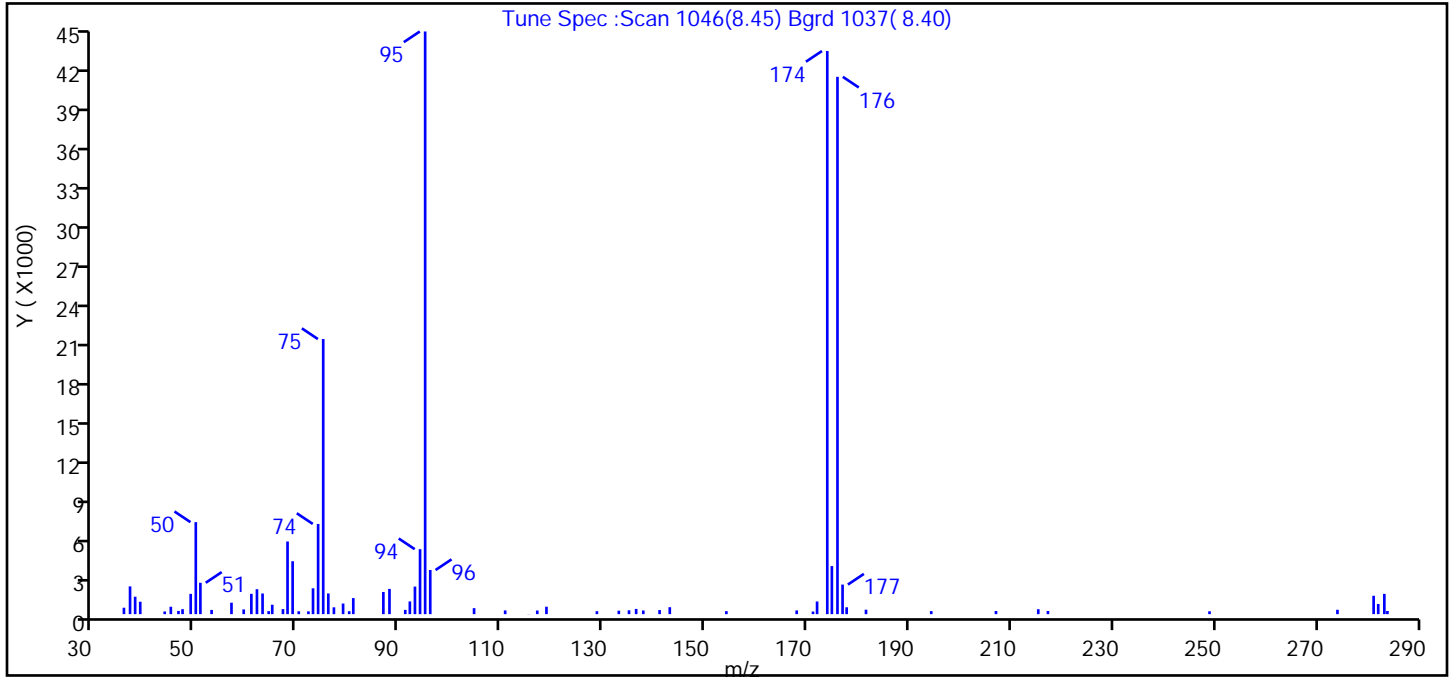
Reagents:

VOABFB25_00120 Amount Added: 1.00 Units: uL

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120501.D
 Injection Date: 05-Dec-2019 09:20:30 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	15.8
75	30 to 60% of m/z 95	47.2
96	5 to 9% of m/z 95	7.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	96.6
175	5 to 9% of m/z 174	8.2 (8.5)
176	Greater than 95% but less than 101% of m/z 174	92.2 (95.4)
177	5 to 9% of m/z 176	5.1 (5.5)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120501.D\MSVOA_LL_CHHP5.rsl\spectra
 Injection Date: 05-Dec-2019 09:20:30
 Spectrum: Tune Spec :Scan 1046(8.45) Bgrd 1037(8.40)
 Base Peak: 95.00
 Minimum % Base Peak: 0
 Number of Points: 72

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	493	65.00	723	93.00	2120	171.10	201
37.10	2135	67.10	390	94.00	4998	171.90	973
38.10	1342	68.00	5588	95.00	44816	173.90	43312
39.10	952	69.00	4070	96.00	3395	174.80	3695
43.90	204	70.20	220	104.60	461	175.90	41328
45.10	568	72.10	216	110.70	286	176.90	2275
46.60	247	73.00	1989	115.30	11	177.70	528
47.40	383	74.00	6939	117.00	278	181.50	343
49.00	1560	75.00	21160	118.80	570	194.30	234
50.00	7076	76.00	1590	128.70	227	207.00	242
50.90	2413	77.10	526	133.00	265	215.30	378
53.10	325	78.90	816	135.00	296	217.20	240
57.00	880	80.10	223	136.40	402	248.90	221
59.40	365	80.90	1235	137.80	282	274.00	336
60.90	1563	86.80	1706	141.00	315	281.10	1413
62.00	1918	88.00	1941	143.00	535	282.00	783
63.10	1588	91.10	327	154.10	231	283.20	1560
64.30	231	92.00	977	167.90	286	283.80	241

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120501.D

Injection Date: 05-Dec-2019 09:20:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: BFB

Worklist Smp#: 1

Client ID:

Injection Vol: 5.0 mL

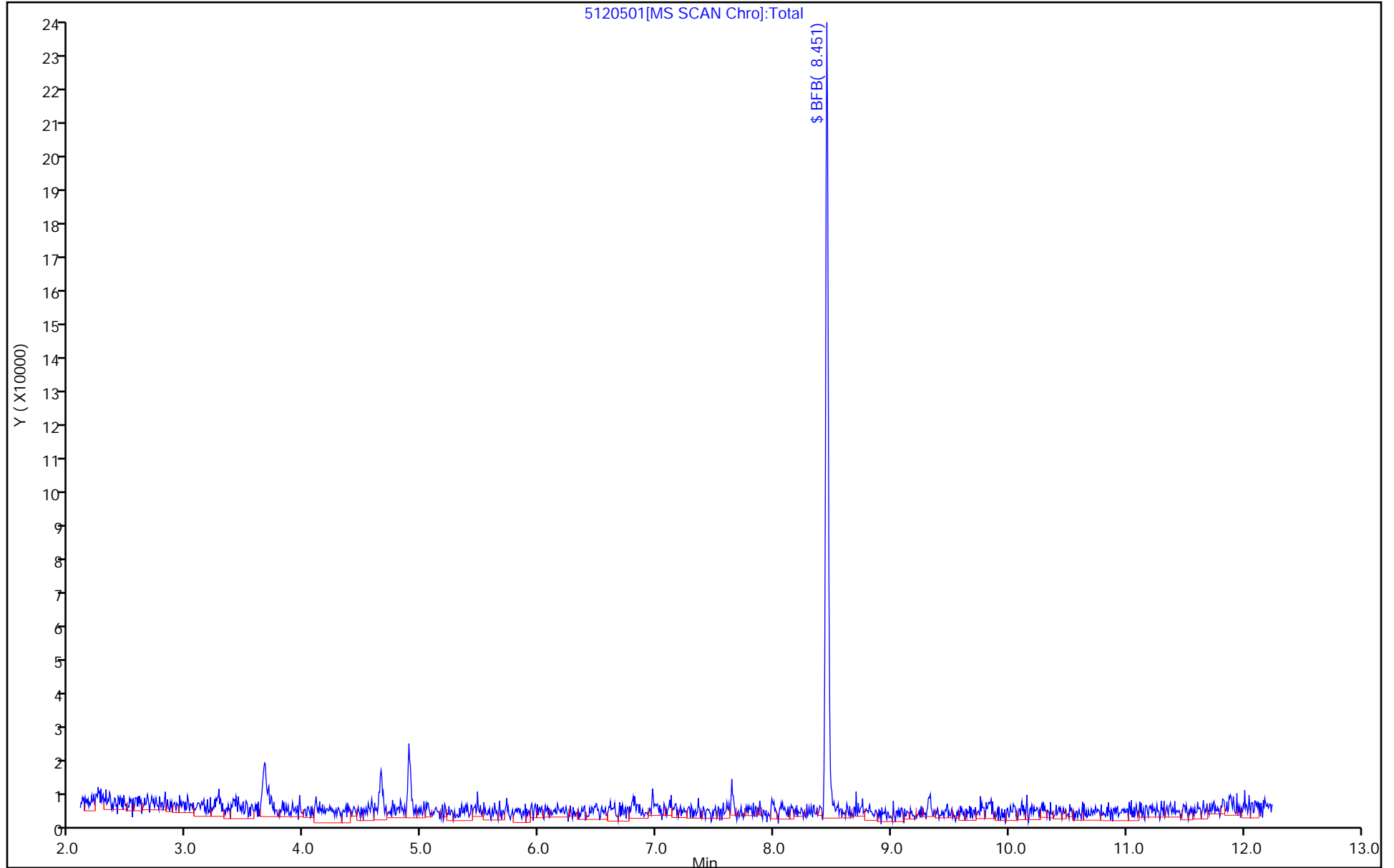
Dil. Factor: 1.0000

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\20191213-30001.b\5121301C.D
 Lims ID: BFB
 Client ID:
 Sample Type: BFB
 Inject. Date: 13-Dec-2019 10:38:30 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 5.0 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-001
 Misc. Info.: bfb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 10:48:33 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 14-Dec-2019 10:48:33

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
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\$ 10 BFB	95	8.371	8.371	0.000	0	94228	NR	NR	
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QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

VOABFB25_00120

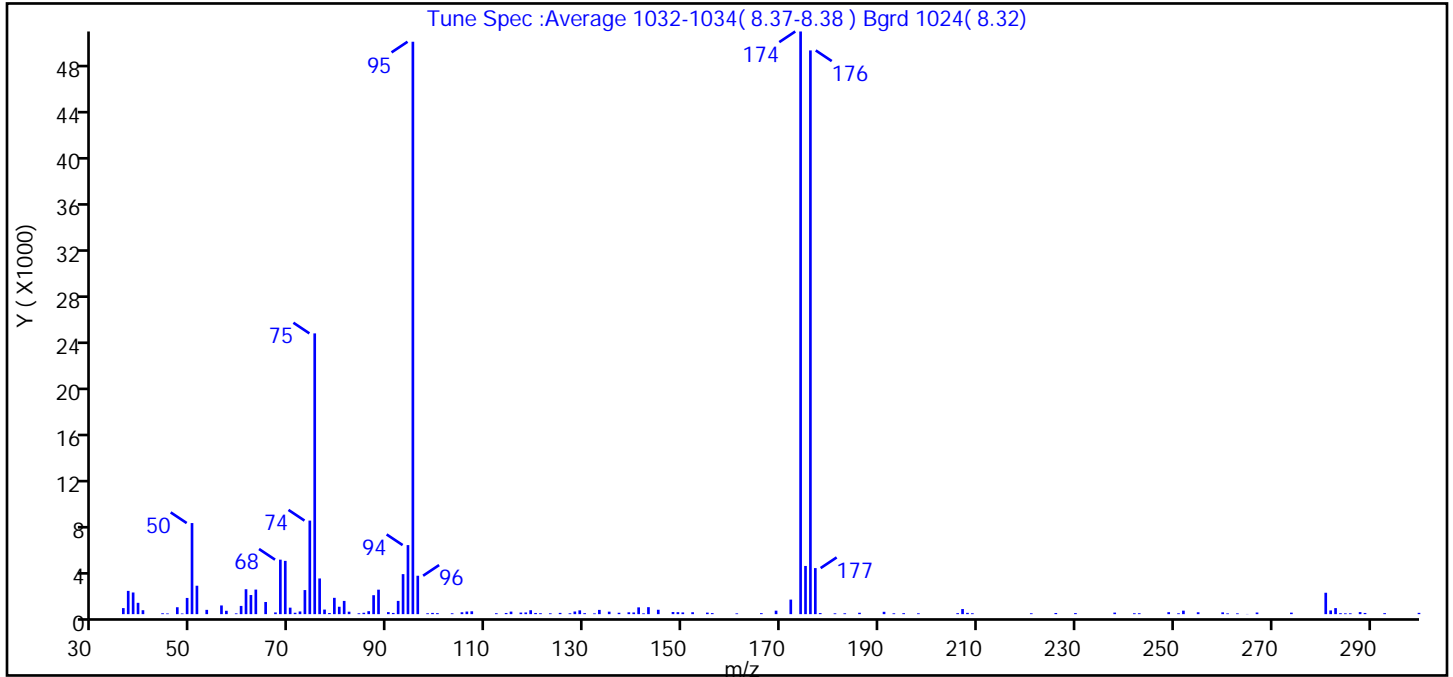
Amount Added: 1.00

Units: uL

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121301C.D
 Injection Date: 13-Dec-2019 10:38:30 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	15.9
75	30 to 60% of m/z 95	49.0
96	5 to 9% of m/z 95	6.7
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	101.8
175	5 to 9% of m/z 174	8.4 (8.3)
176	Greater than 95% but less than 101% of m/z 174	98.5 (96.7)
177	5 to 9% of m/z 176	8.0 (8.2)

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121301C.D\MSVOA_LL_CHHP5.rsl\spectr
Injection Date: 13-Dec-2019 10:38:30
Spectrum: Tune Spec :Average 1032-1034(8.37-8.38) Bgrd 1024(8.32)
Base Peak: 174.00
Minimum % Base Peak: 0
Number of Points: 132

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	523	79.00	1412	127.00	74	193.00	72
37.00	2014	80.00	641	128.00	228	195.00	84
38.00	1875	81.00	1146	129.00	329	198.00	74
39.00	980	82.00	212	130.00	85	206.00	86
40.00	341	84.00	75	132.00	67	207.00	442
44.00	75	85.00	119	133.00	368	208.00	112
45.00	60	86.00	256	135.00	214	209.00	77
47.00	598	87.00	1640	137.00	120	221.00	75
48.00	56	88.00	2118	139.00	160	226.00	100
49.00	1403	90.00	175	140.00	144	230.00	91
50.00	7885	91.00	105	141.00	587	238.00	133
51.00	2460	92.00	1147	142.00	69	242.00	77
53.00	371	93.00	3464	143.00	603	243.00	78
56.00	753	94.00	5977	145.00	380	249.00	170
57.00	290	95.00	49552	148.00	186	251.00	74
59.00	67	96.00	3325	149.00	171	252.00	302
60.00	712	98.00	76	150.00	149	255.00	163
61.00	2157	99.00	107	152.00	165	260.00	154
62.00	1655	100.00	87	155.00	133	261.00	67
63.00	2126	103.00	74	156.00	90	263.00	71
65.00	1052	105.00	164	161.00	67	265.00	15
67.00	148	106.00	224	166.00	85	267.00	141
68.00	4717	107.00	247	169.00	301	274.00	131
69.00	4613	112.00	79	172.00	1259	281.00	1852
70.00	562	114.00	101	174.00	50440	282.00	321
71.00	121	115.00	220	175.00	4171	283.00	523
72.00	233	117.00	137	176.00	48800	284.00	82
73.00	2084	118.00	146	177.00	3987	285.00	71
74.00	8099	119.00	339	178.00	92	286.00	72
75.00	24304	120.00	102	181.00	71	288.00	178
76.00	3089	121.00	80	183.00	74	289.00	102
77.00	396	123.00	72	186.00	120	293.00	86
78.00	96	125.00	109	191.00	203	300.00	111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	523	79.00	1412	127.00	74	193.00	72
37.00	2014	80.00	641	128.00	228	195.00	84
38.00	1875	81.00	1146	129.00	329	198.00	74
39.00	980	82.00	212	130.00	85	206.00	86
40.00	341	84.00	75	132.00	67	207.00	442
44.00	75	85.00	119	133.00	368	208.00	112
45.00	60	86.00	256	135.00	214	209.00	77
47.00	598	87.00	1640	137.00	120	221.00	75
48.00	56	88.00	2118	139.00	160	226.00	100
49.00	1403	90.00	175	140.00	144	230.00	91
50.00	7885	91.00	105	141.00	587	238.00	133
51.00	2460	92.00	1147	142.00	69	242.00	77
53.00	371	93.00	3464	143.00	603	243.00	78
56.00	753	94.00	5977	145.00	380	249.00	170
57.00	290	95.00	49552	148.00	186	251.00	74
59.00	67	96.00	3325	149.00	171	252.00	302
60.00	712	98.00	76	150.00	149	255.00	163
61.00	2157	99.00	107	152.00	165	260.00	154
62.00	1655	100.00	87	155.00	133	261.00	67
63.00	2126	103.00	74	156.00	90	263.00	71
65.00	1052	105.00	164	161.00	67	265.00	15
67.00	148	106.00	224	166.00	85	267.00	141
68.00	4717	107.00	247	169.00	301	274.00	131
69.00	4613	112.00	79	172.00	1259	281.00	1852
70.00	562	114.00	101	174.00	50440	282.00	321
71.00	121	115.00	220	175.00	4171	283.00	523
72.00	233	117.00	137	176.00	48800	284.00	82
73.00	2084	118.00	146	177.00	3987	285.00	71
74.00	8099	119.00	339	178.00	92	286.00	72
75.00	24304	120.00	102	181.00	71	288.00	178
76.00	3089	121.00	80	183.00	74	289.00	102
77.00	396	123.00	72	186.00	120	293.00	86
78.00	96	125.00	109	191.00	203	300.00	111

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121301C.D

Injection Date: 13-Dec-2019 10:38:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: BFB

Worklist Smp#: 1

Client ID:

Injection Vol: 5.0 mL

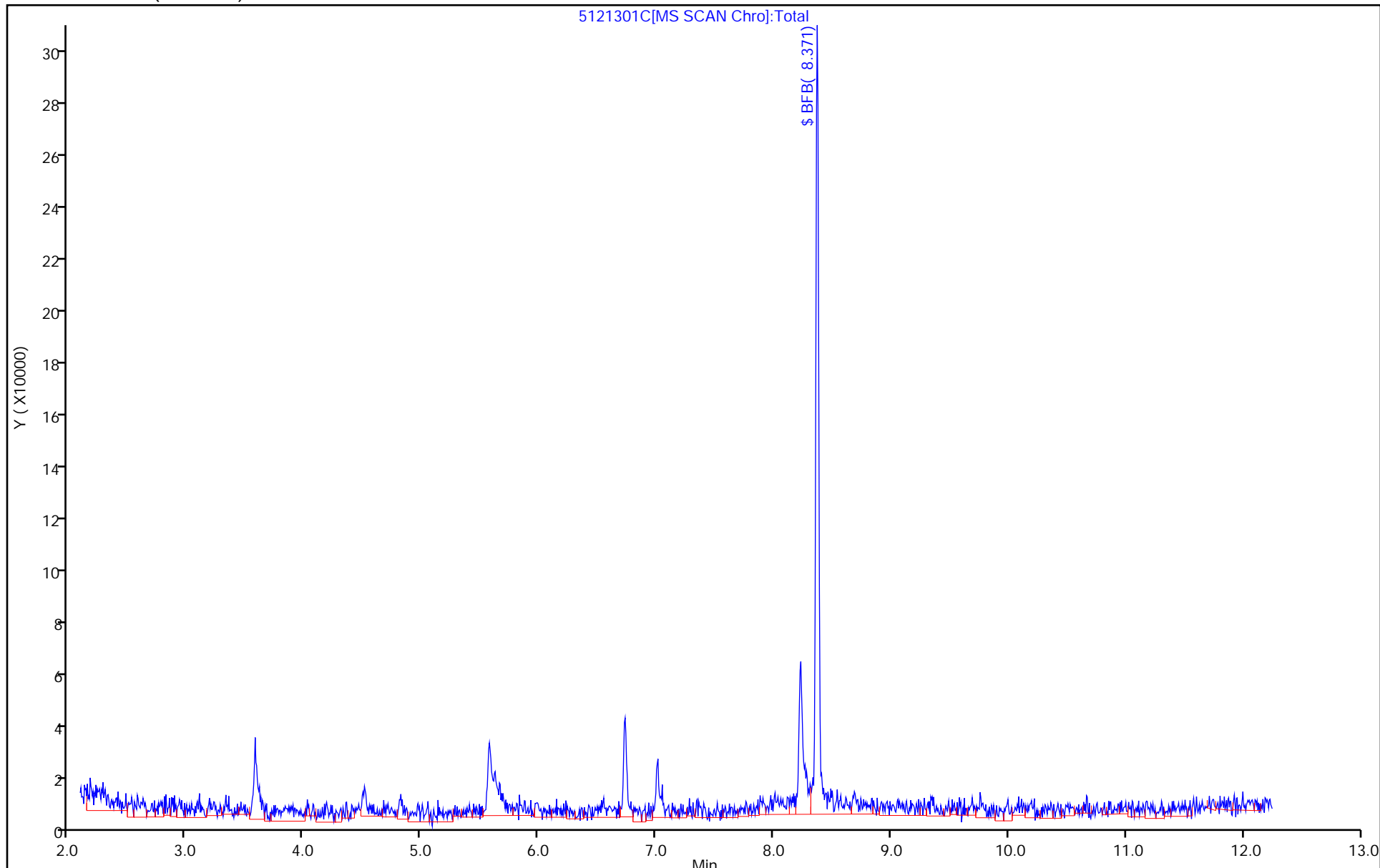
Dil. Factor: 1.0000

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 180-300399/7
 Matrix: Water Lab File ID: 5120507.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 11:56
 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.: 300399 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 180-300399/7
 Matrix: Water Lab File ID: 5120507.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 11:56
 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.: 300399 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)	103		70-150
2037-26-5	Toluene-d8 (Surr)	86		78-128
460-00-4	4-Bromofluorobenzene (Surr)	72		64-123
1868-53-7	Dibromofluoromethane (Surr)	109		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
 Lims ID: MB
 Client ID:
 Sample Type: MB
 Inject. Date: 05-Dec-2019 11:56:30 ALS Bottle#: 7 Worklist Smp#: 7
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-007
 Misc. Info.: mb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:01:29 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:01:29

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.529	4.544	-0.015	0	232128	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.498	7.494	0.004	99	465577	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.582	10.585	-0.003	84	121649	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.924	12.921	0.003	93	168335	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.780	6.770	0.010	95	128812	50.0	54.7	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.151	7.148	0.003	0	157830	50.0	51.7	
\$ 7 Toluene-d8 (Surr)	98	9.134	9.131	0.003	92	436040	50.0	43.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.762	11.759	0.003	96	142677	50.0	36.2	
11 Dichlorodifluoromethane	85		1.703					ND	
12 Chloromethane	50		1.910					ND	U
13 Vinyl chloride	62		2.044					ND	
14 Butadiene	39		2.062					ND	U
15 Bromomethane	94		2.384					ND	U
16 Chloroethane	64		2.548					ND	
19 Ethanol	45	2.619	2.640	-0.021	14	215		NC	
17 Dichlorofluoromethane	67		2.847					ND	
18 Trichlorofluoromethane	101		2.865					ND	
20 Ethyl ether	59		3.254					ND	U
21 Acrolein	56		3.449					ND	
22 1,1-Dichloroethene	96		3.571					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.650					ND	
24 Acetone	43		3.674					ND	U
25 Iodomethane	142		3.771					ND	
26 Carbon disulfide	76		3.869					ND	U
27 Isopropyl alcohol	45		3.990					ND	U
29 Acetonitrile	41		4.148					ND	
28 3-Chloro-1-propene	76		4.191					ND	
30 Methyl acetate	43		4.209					ND	
31 Methylene Chloride	84	4.419	4.398	0.021	46	6885		-0.0443	a
32 2-Methyl-2-propanol	59		4.666					ND	U
33 Acrylonitrile	53		4.787					ND	U

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		4.812					ND	
35 Methyl tert-butyl ether	73		4.830					ND	
36 Hexane	57		5.219					ND	U
37 1,1-Dichloroethane	63		5.438					ND	
38 Vinyl acetate	43		5.487					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		6.174					ND	U
45 cis-1,2-Dichloroethene	96		6.174					ND	U
46 2-Butanone (MEK)	43		6.186					ND	
48 Ethyl acetate	43		6.259					ND	
47 Propionitrile	54		6.265					ND	U
50 Methacrylonitrile	41		6.441					ND	
49 Chlorobromomethane	128		6.460					ND	
51 Tetrahydrofuran	42		6.466					ND	U
52 Chloroform	83	6.597	6.600	-0.003	90	9824		-1.79	M
53 1,1,1-Trichloroethane	97		6.758					ND	
54 Cyclohexane	56		6.819					ND	
56 Carbon tetrachloride	117		6.923					ND	
55 1,1-Dichloropropene	75		6.941					ND	
57 Isobutyl alcohol	41		7.148					ND	
58 Benzene	78		7.154					ND	
59 1,2-Dichloroethane	62		7.233					ND	
151 Isooctane	57		7.305					ND	
61 Tert-amyl methyl ether	73		7.330					ND	
62 n-Heptane	43		7.507					ND	U
63 n-Butanol	56		7.841					ND	U
64 Trichloroethene	130		7.878					ND	
65 Ethyl acrylate	55		7.999					ND	
66 Methylcyclohexane	83		8.109					ND	
67 1,2-Dichloropropane	63		8.145					ND	
69 Methyl methacrylate	69		8.230					ND	
68 Dibromomethane	93		8.230					ND	
70 1,4-Dioxane	88		8.230					ND	
71 Dichlorobromomethane	83		8.431					ND	
73 2-Chloroethyl vinyl ether	63		8.723					ND	
74 cis-1,3-Dichloropropene	75		8.875					ND	
75 4-Methyl-2-pentanone (MIBK)	43		9.027					ND	U
76 Toluene	91		9.198					ND	
77 trans-1,3-Dichloropropene	75		9.441					ND	
78 Ethyl methacrylate	69		9.502					ND	
79 1,1,2-Trichloroethane	97		9.642					ND	
80 Tetrachloroethene	164		9.709					ND	
81 1,3-Dichloropropane	76		9.794					ND	
82 2-Hexanone	43		9.855					ND	U
83 n-Butyl acetate	43		9.970					ND	
84 Chlorodibromomethane	129		10.007					ND	
85 Ethylene Dibromide	107		10.122					ND	
86 3-Chlorobenzotrifluoride	180		10.445					ND	
87 Chlorobenzene	112		10.609					ND	
89 1,1,1,2-Tetrachloroethane	131		10.700					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		10.834					ND	
92 o-Xylene	106		11.217					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		11.935					ND	U
101 1,2,3-Trichloropropane	110		11.954					ND	
103 N-Propylbenzene	120		12.002					ND	
104 2-Chlorotoluene	126		12.093					ND	U
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		12.556					ND	
112 sec-Butylbenzene	105		12.720					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	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	15.053	15.056	-0.003	1	473		-0.6874	
128 Naphthalene	128		15.184					ND	
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 154 Total BTEX	106		1.000					ND	
S 134 1,2-Dichloroethene, Total	96		1.000					ND	
S 133 Xylenes, Total	106		1.000					ND	
S 135 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D

Injection Date: 05-Dec-2019 11:56:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: MB

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

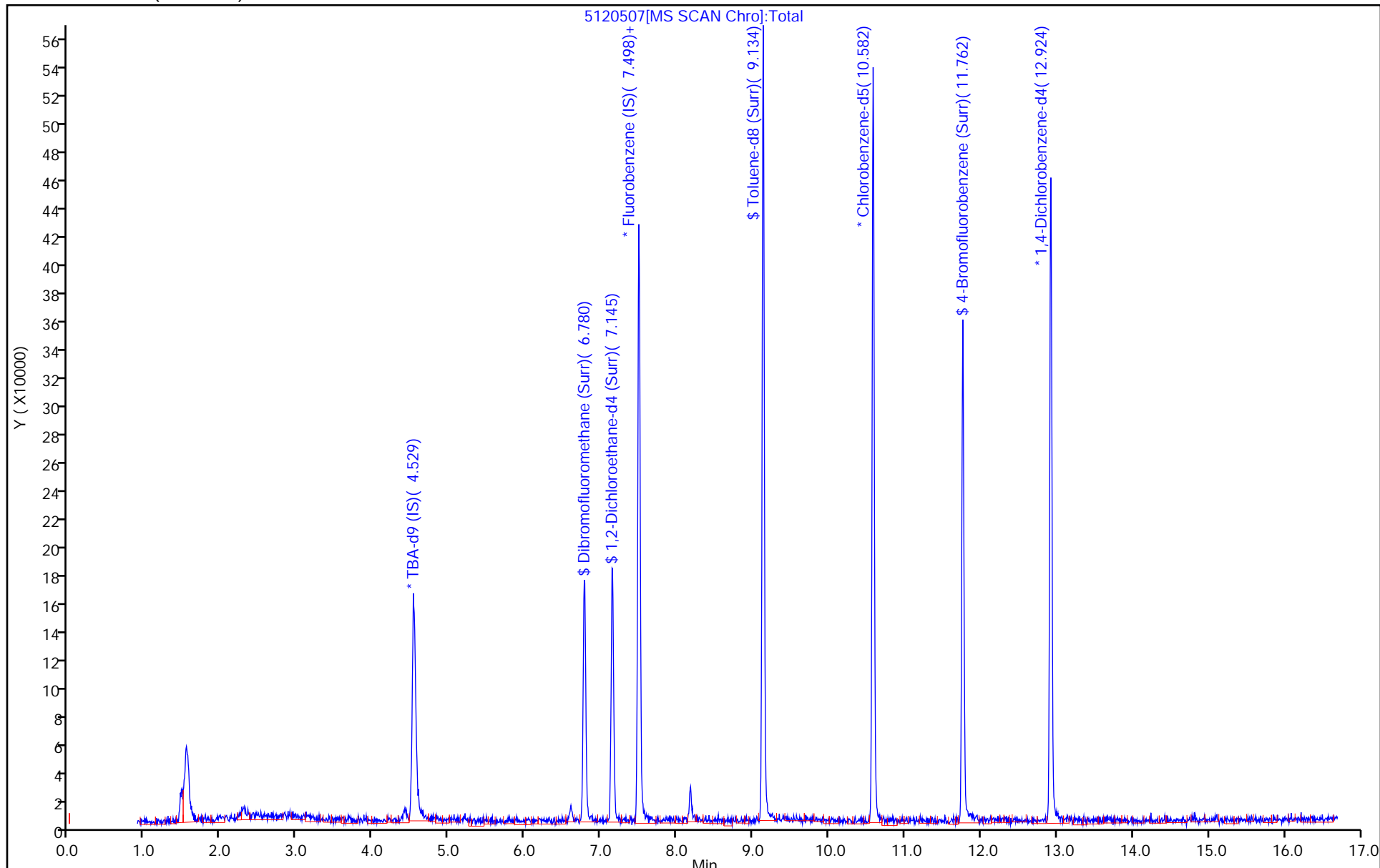
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
 Lims ID: MB
 Client ID:
 Sample Type: MB
 Inject. Date: 05-Dec-2019 11:56:30 ALS Bottle#: 7 Worklist Smp#: 7
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-007
 Misc. Info.: mb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:01:29 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:01:29

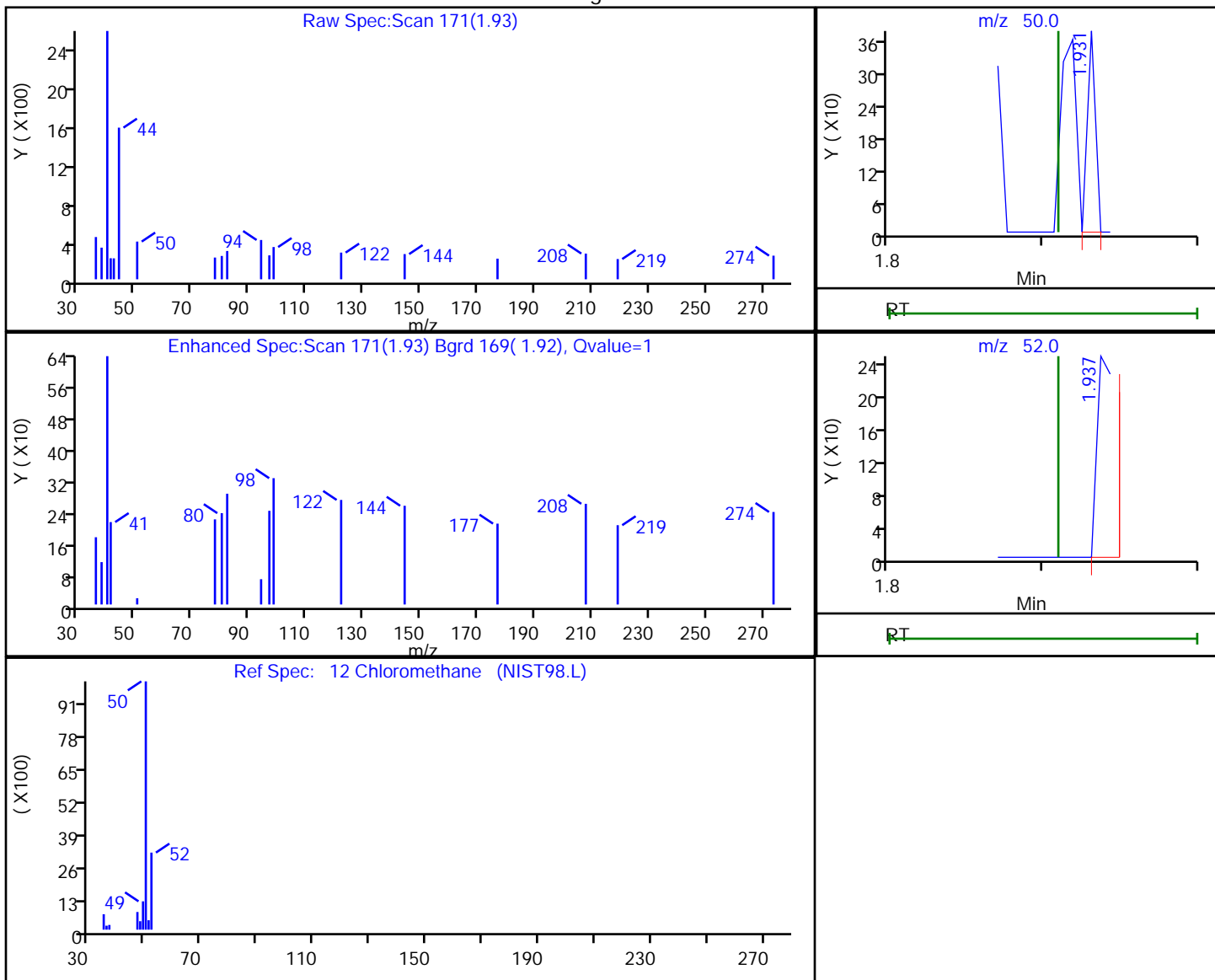
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	54.7	109.41
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	51.7	103.43
\$ 7 Toluene-d8 (Surr)	50.0	43.1	86.26
\$ 8 4-Bromofluorobenzene (Surr)	50.0	36.2	72.38

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 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
1.93	50.00	139	0.064377
1.94	52.00	172	

Reviewer: bowieh, 06-Dec-2019 09:59:46

Audit Action: Marked Compound Undetected

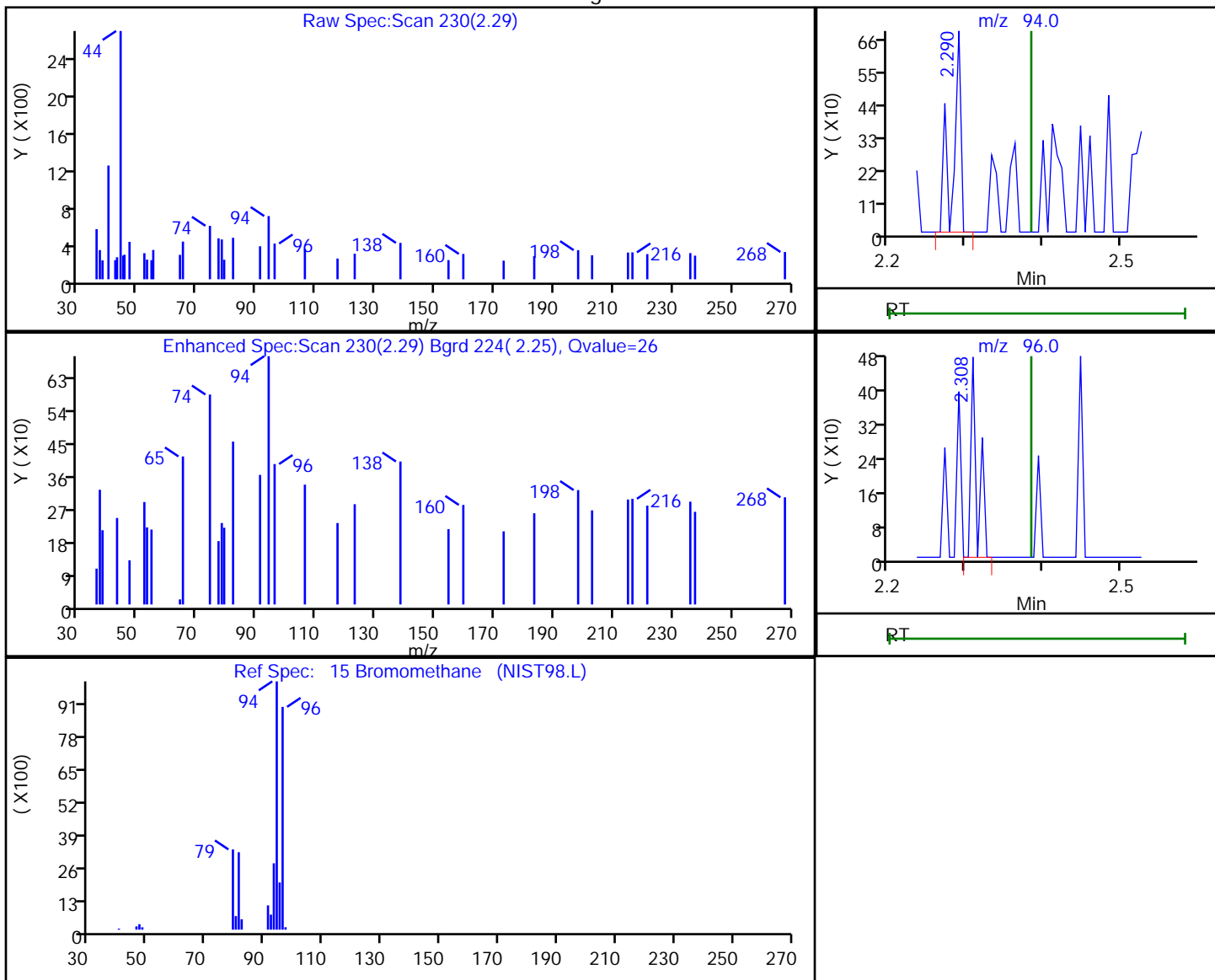
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 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
2.29	94.00	486	0.275249
2.31	96.00	273	

Reviewer: bowieh, 06-Dec-2019 09:59:48

Audit Action: Marked Compound Undetected

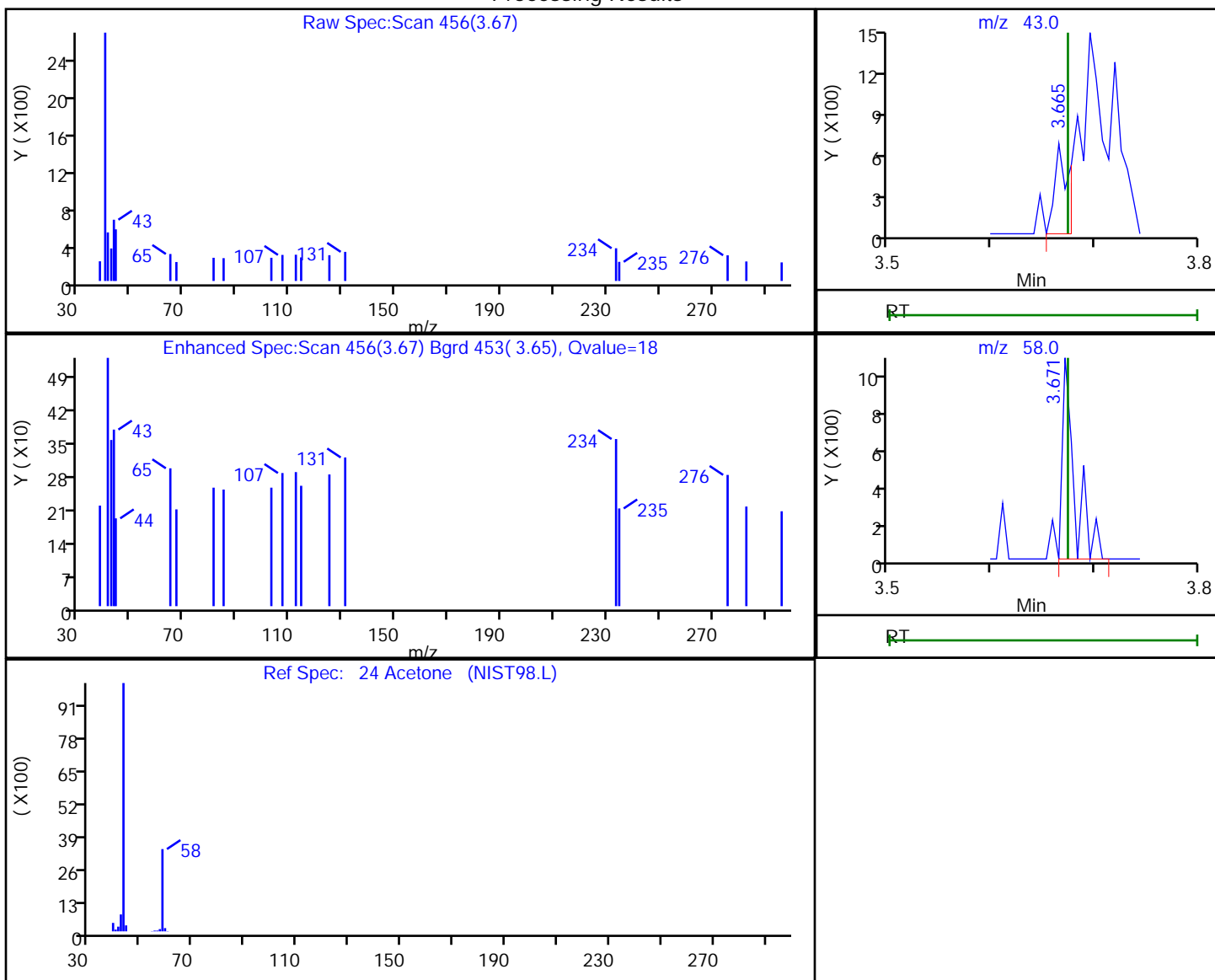
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

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 Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

24 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
3.67	43.00	625	0.656333
3.67	58.00	869	

Reviewer: bowieh, 06-Dec-2019 09:59:57

Audit Action: Marked Compound Undetected

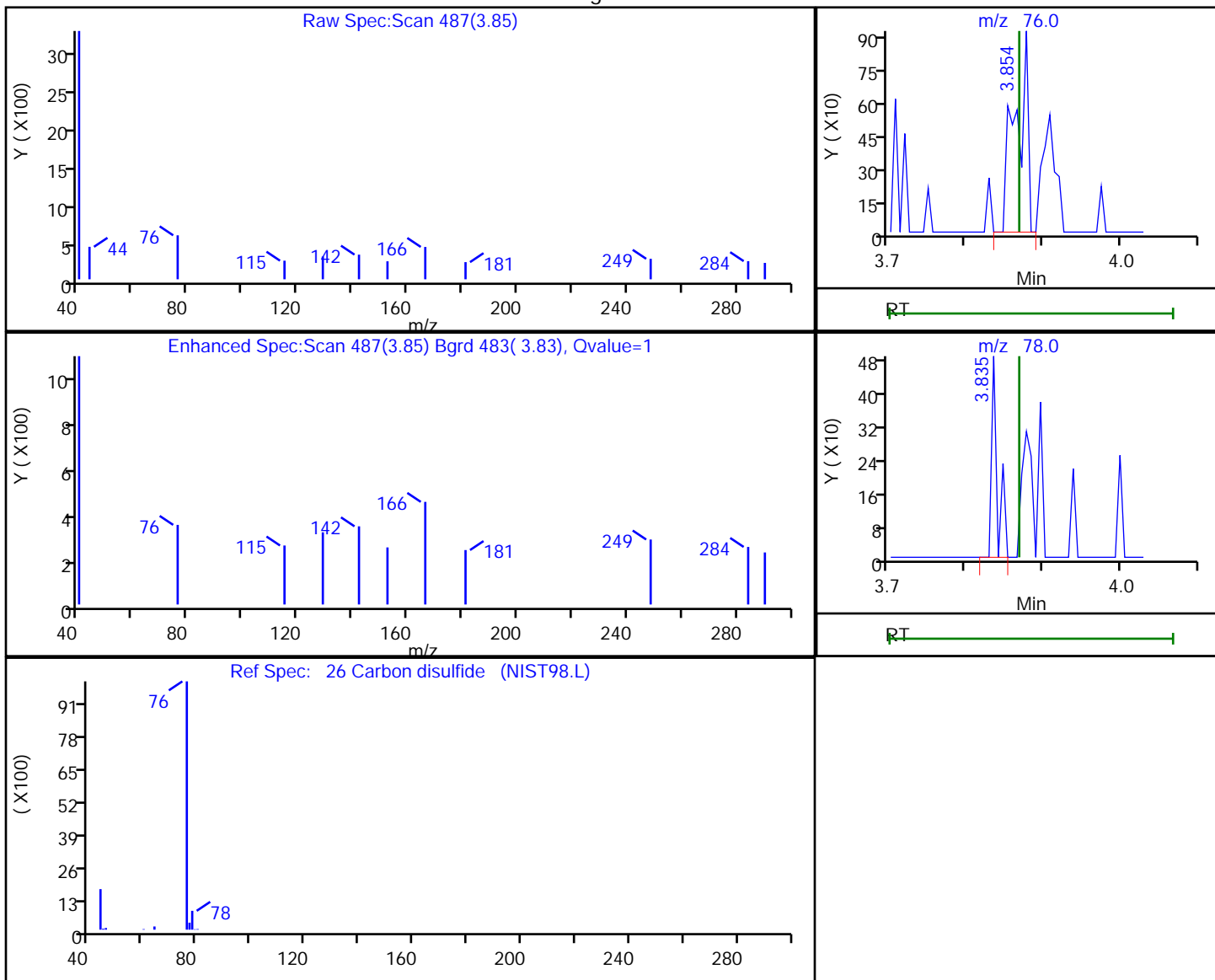
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 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

26 Carbon disulfide, CAS: 75-15-0

Processing Results



RT	Mass	Response	Amount
3.85	76.00	1046	0.167110
3.84	78.00	258	

Reviewer: bowieh, 06-Dec-2019 10:00:01

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

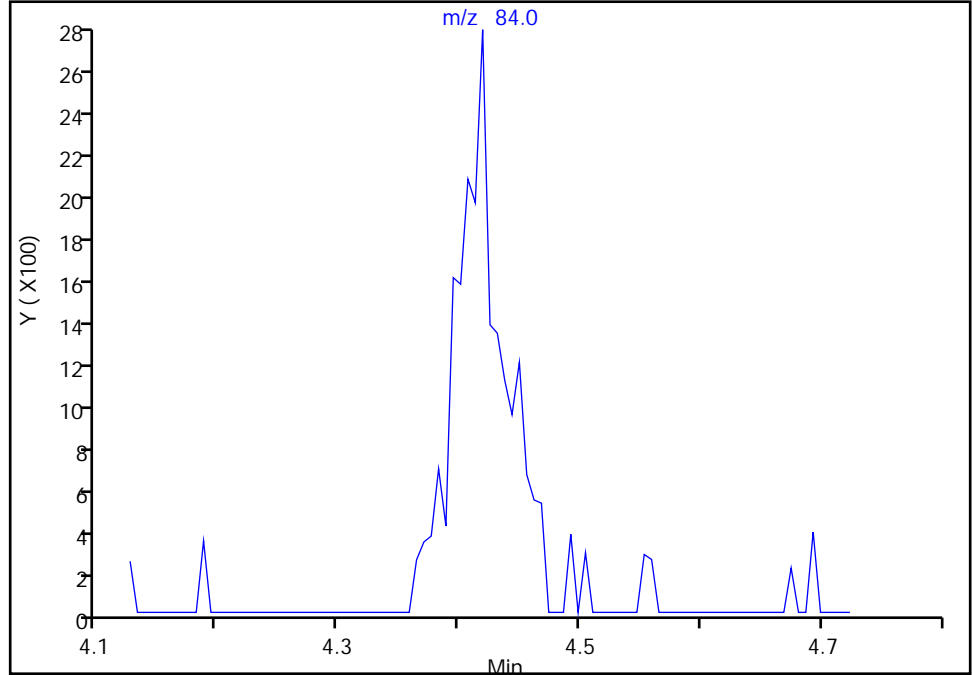
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Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

31 Methylene Chloride, CAS: 75-09-2

Signal: 1

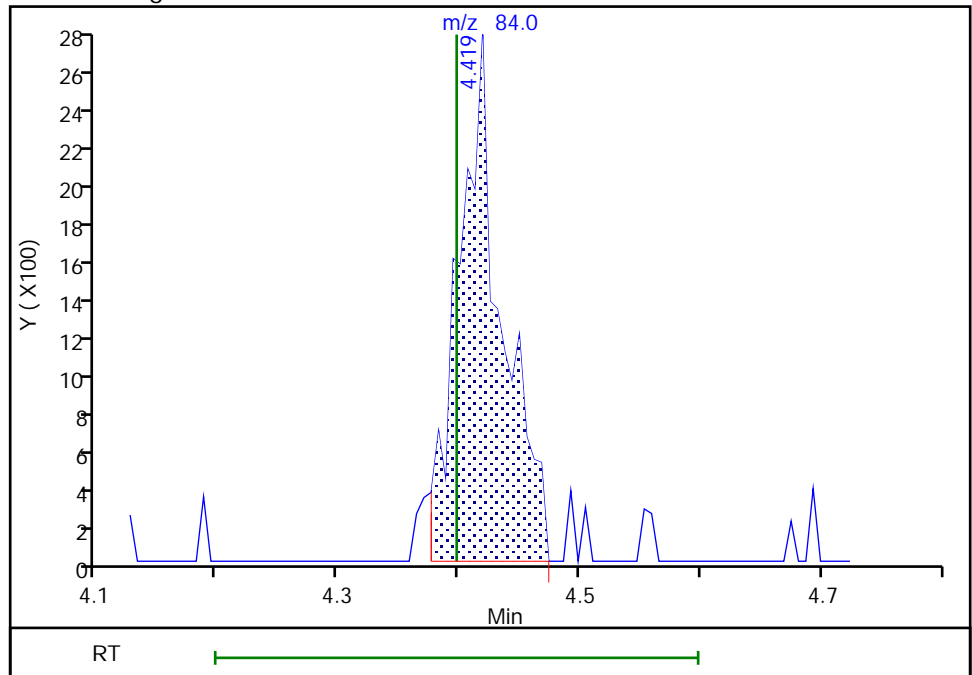
Not Detected
Expected RT: 4.40

Processing Integration Results



Manual Integration Results

RT: 4.42
Area: 6885
Amount: -0.044277
Amount Units: ng

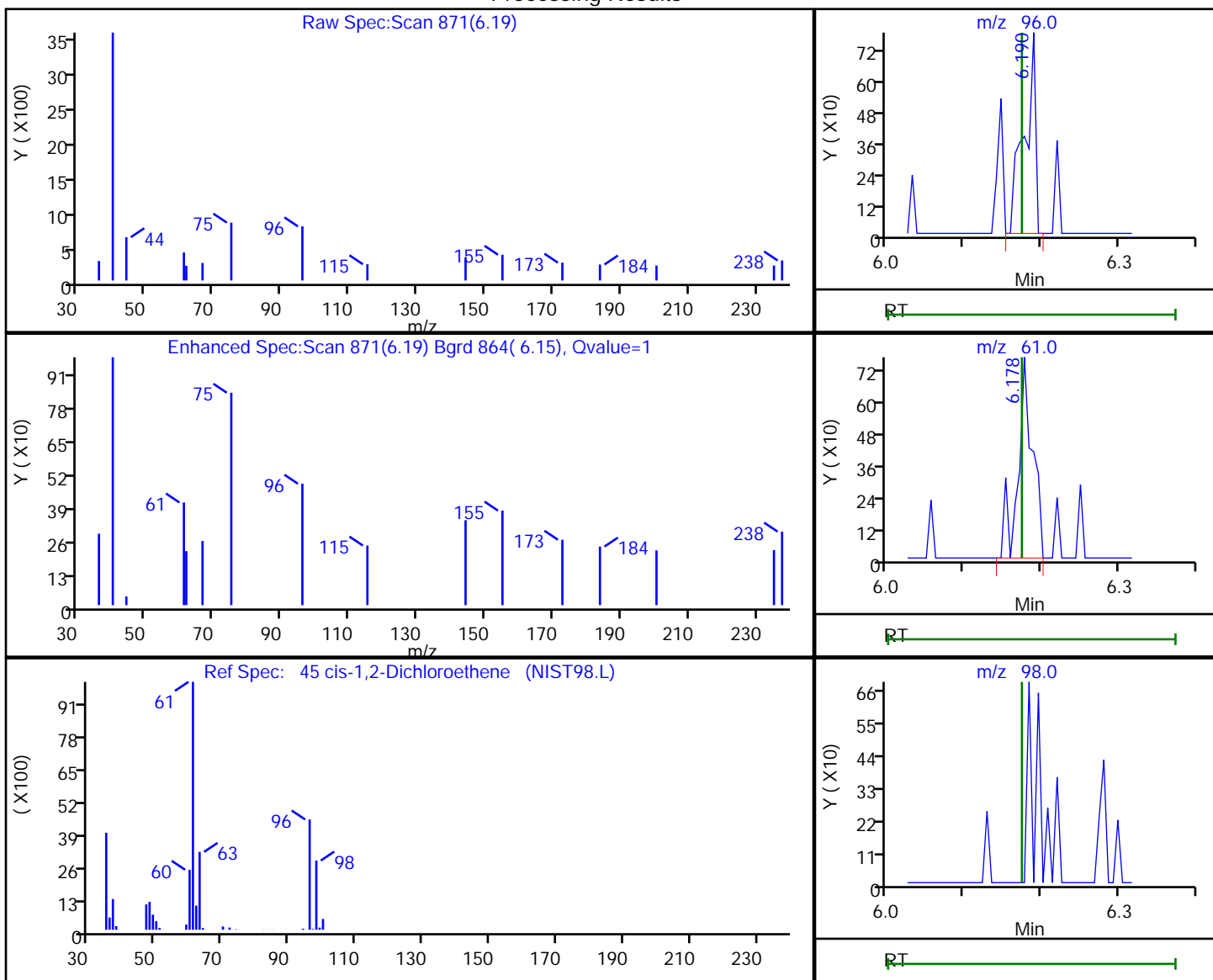


Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
 Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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
6.19	96.00	788	0.277432
6.18	61.00	1004	
6.17	98.00	0	

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

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

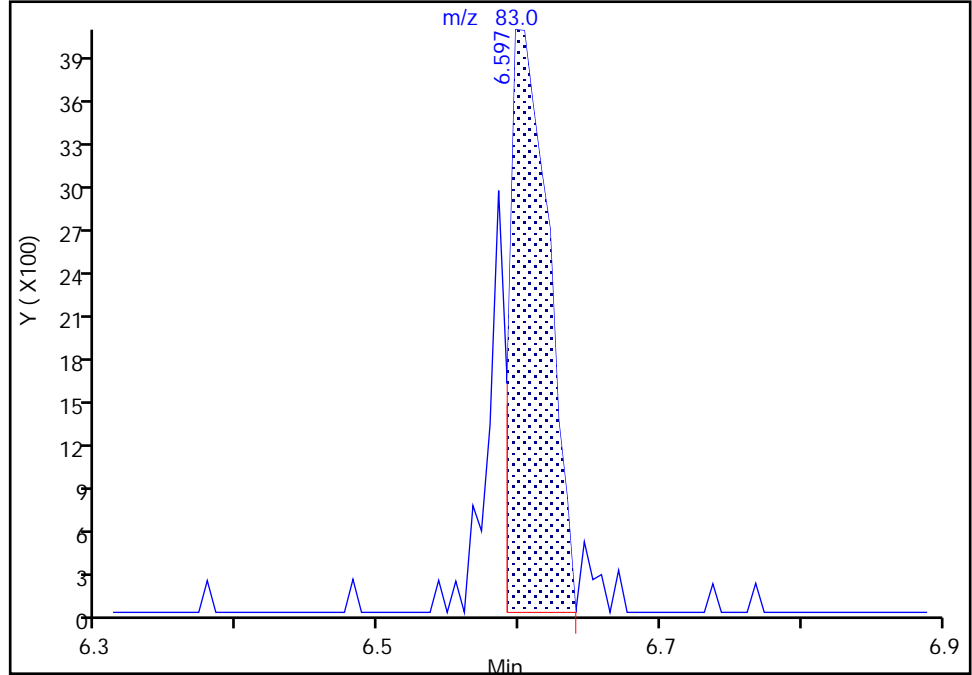
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Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

52 Chloroform, CAS: 67-66-3

Signal: 1

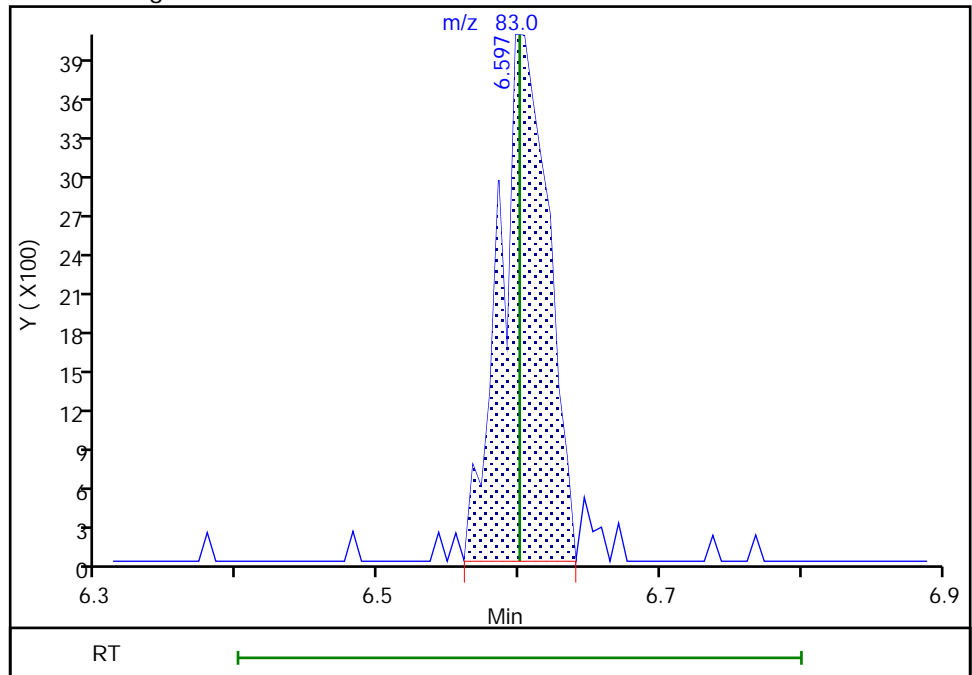
RT: 6.60
Area: 7779
Amount: -2.272543
Amount Units: ng

Processing Integration Results



RT: 6.60
Area: 9824
Amount: -1.788460
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 06-Dec-2019 10:00:47
Audit Action: Manually Integrated

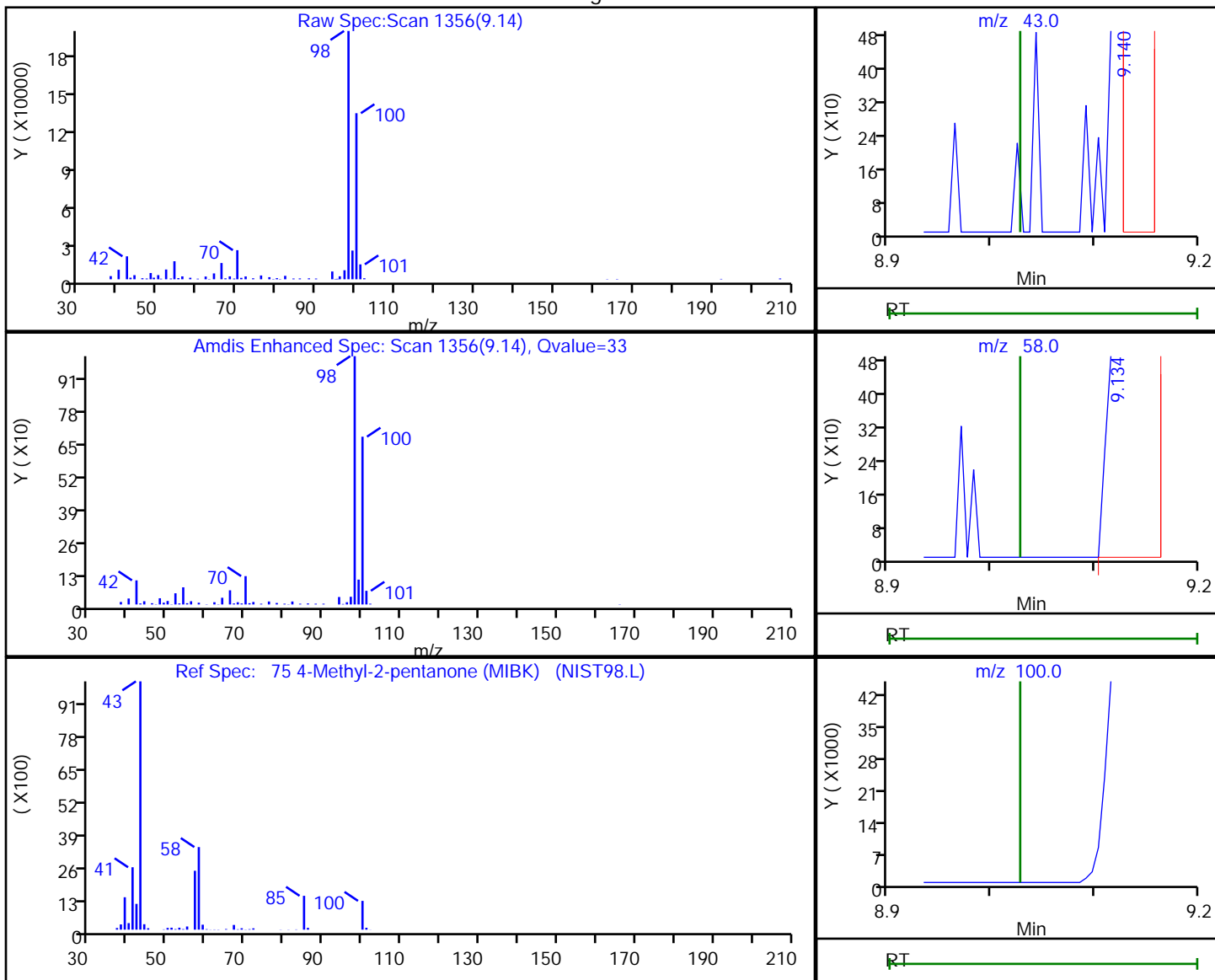
Audit Reason: Poor chromatography
Page 560 of 626

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
 Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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	1326	0.674804
9.13	58.00	2873	
9.13	100.00	291258	

Reviewer: bowieh, 06-Dec-2019 10:01:01

Audit Action: Marked Compound Undetected

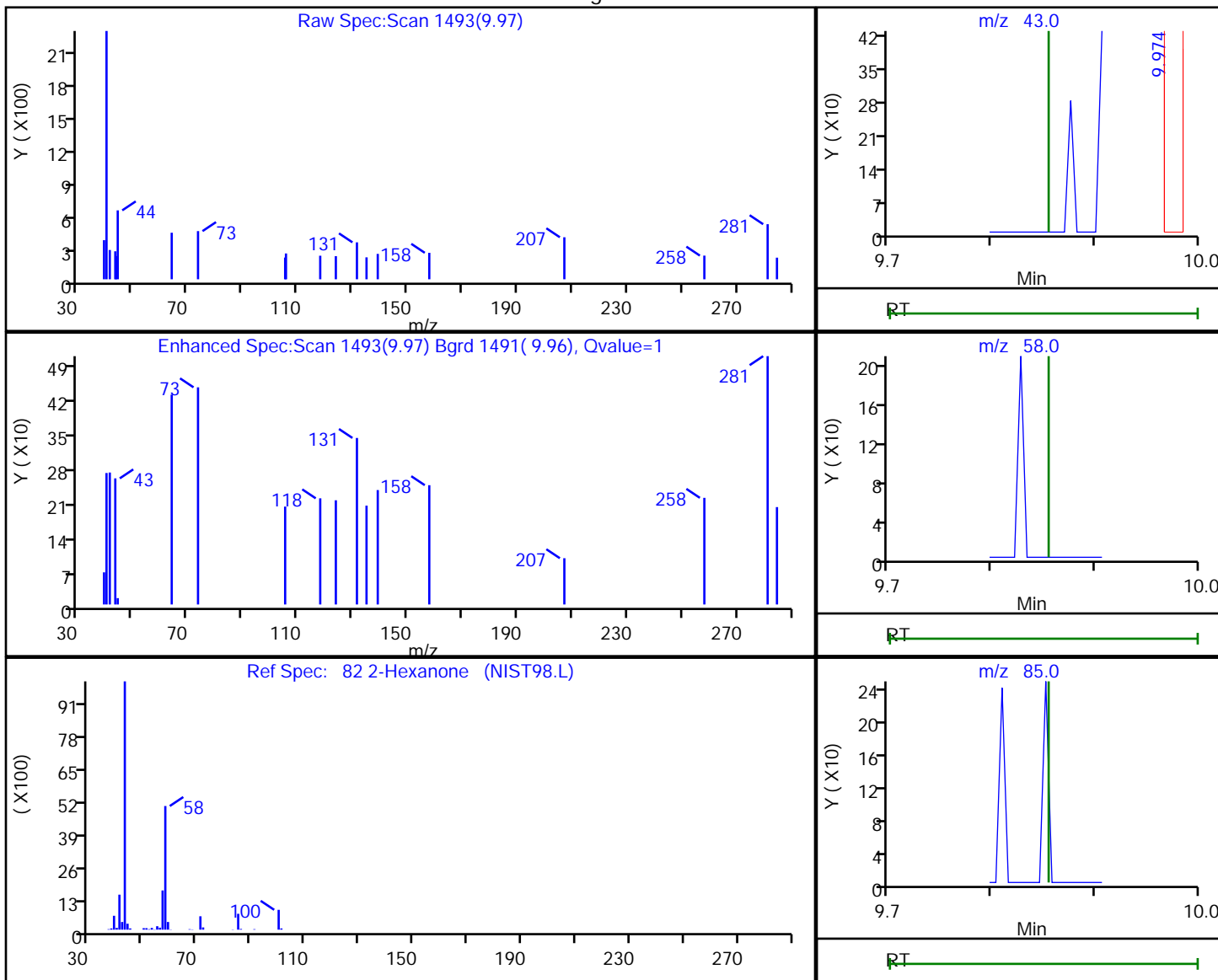
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 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
9.97	43.00	331	12.925603
9.85	58.00	0	
9.85	85.00	0	

Reviewer: bowieh, 06-Dec-2019 10:01:04

Audit Action: Marked Compound Undetected

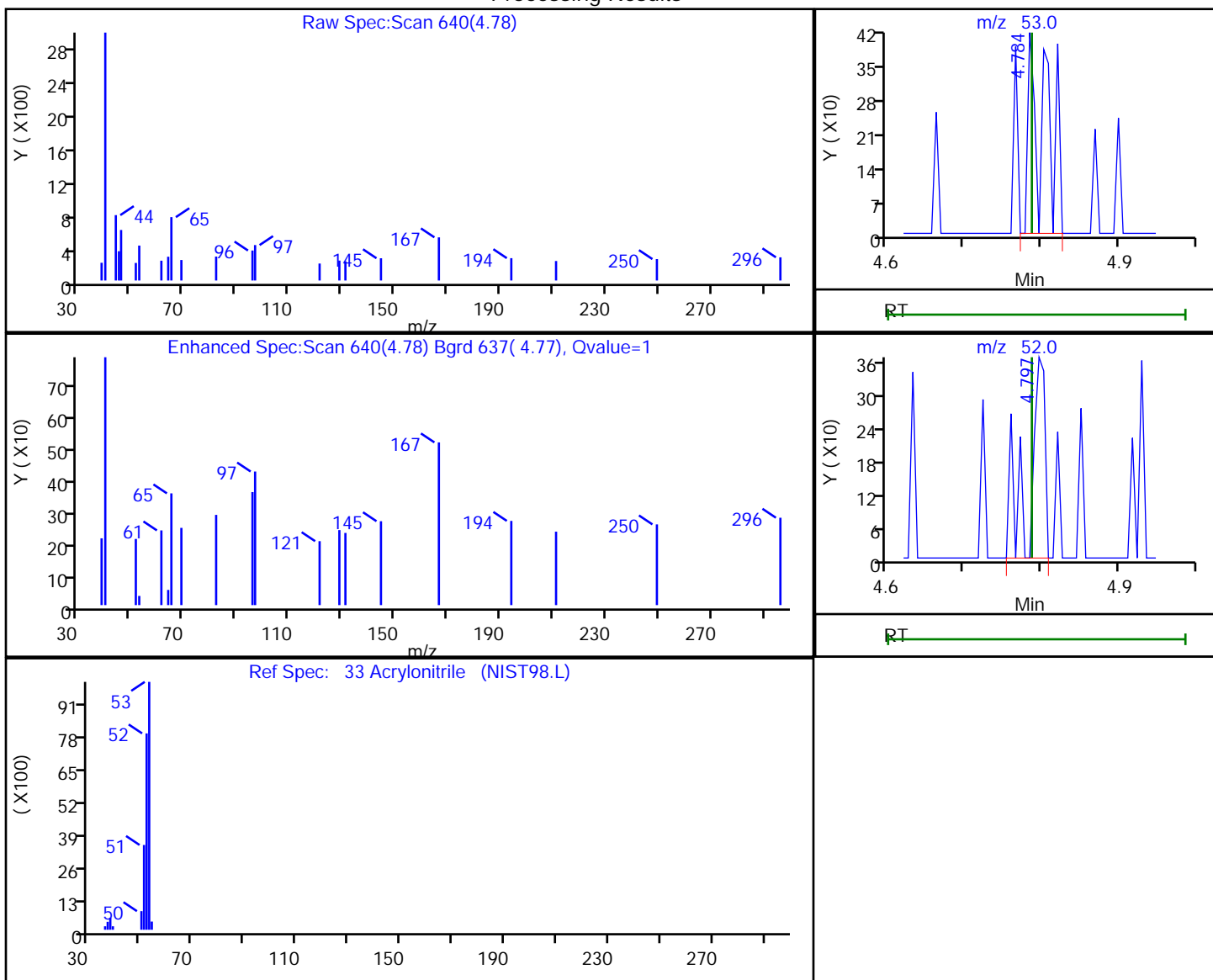
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120507.D
Injection Date: 05-Dec-2019 11:56:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 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

33 Acrylonitrile, CAS: 107-13-1

Processing Results



RT	Mass	Response	Amount
4.78	53.00	661	0.753236
4.80	52.00	516	

Reviewer: bowieh, 06-Dec-2019 10:00:13

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 180-301313/7
 Matrix: Water Lab File ID: 5121307.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 13:01
 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.: 301313 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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 180-301313/7
 Matrix: Water Lab File ID: 5121307.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 13:01
 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.: 301313 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)	82		78-128
460-00-4	4-Bromofluorobenzene (Surr)	84		64-123
1868-53-7	Dibromofluoromethane (Surr)	119		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Lims ID: MB
 Client ID:
 Sample Type: MB
 Inject. Date: 13-Dec-2019 13:01:30 ALS Bottle#: 7 Worklist Smp#: 7
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-007
 Misc. Info.: mb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 11:35:55 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 11:35:55

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.415	4.416	-0.001	0	139377	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.396	7.391	0.005	99	430970	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.481	10.482	-0.001	84	113419	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.823	12.818	0.005	94	162208	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.672	6.673	-0.001	95	129361	50.0	59.3	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.044	7.038	0.006	0	175095	50.0	62.0	
\$ 7 Toluene-d8 (Surr)	98	9.033	9.034	-0.001	93	385069	50.0	40.9	
\$ 8 4-Bromofluorobenzene (Surr	95	11.661	11.662	-0.001	96	154084	50.0	41.9	
11 Dichlorodifluoromethane	85		1.636					ND	
12 Chloromethane	50		1.831					ND	
13 Vinyl chloride	62		1.965					ND	
14 Butadiene	39		2.007					ND	U
15 Bromomethane	94		2.342					ND	
16 Chloroethane	64		2.476					ND	U
19 Ethanol	45	2.590	2.640	-0.050	1	758		NC	
17 Dichlorofluoromethane	67		2.768					ND	
18 Trichlorofluoromethane	101		2.780					ND	
20 Ethyl ether	59		3.157					ND	
21 Acrolein	56		3.358					ND	
22 1,1-Dichloroethene	96		3.467					ND	
23 1,1,2-Trichloro-1,2,2-trif	101		3.553					ND	
24 Acetone	43		3.577					ND	
25 Iodomethane	142		3.674					ND	
26 Carbon disulfide	76		3.753					ND	
27 Isopropyl alcohol	45		3.871					ND	U
29 Acetonitrile	41		4.029					ND	U
28 3-Chloro-1-propene	76		4.058					ND	U
30 Methyl acetate	43		4.088					ND	
31 Methylene Chloride	84	4.288	4.289	-0.001	50	7528		0.4595	
32 2-Methyl-2-propanol	59		4.550					ND	
33 Acrylonitrile	53		4.672					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 trans-1,2-Dichloroethene	96		4.696					ND	
35 Methyl tert-butyl ether	73		4.708					ND	U
36 Hexane	57		5.110					ND	
37 1,1-Dichloroethane	63		5.329					ND	
38 Vinyl acetate	43		5.378					ND	U
39 2-Chloro-1,3-butadiene	53		5.422					ND	
41 Isopropyl ether	45		5.428					ND	
42 Tert-butyl ethyl ether	59		5.891					ND	
44 2,2-Dichloropropane	97		6.065					ND	
45 cis-1,2-Dichloroethene	96		6.065					ND	U
46 2-Butanone (MEK)	43		6.083					ND	
48 Ethyl acetate	43		6.152					ND	U
47 Propionitrile	54		6.170					ND	
50 Methacrylonitrile	41		6.335					ND	U
49 Chlorobromomethane	128		6.351					ND	
51 Tetrahydrofuran	42		6.363					ND	U
52 Chloroform	83	6.502	6.497	0.005	95	9727		-1.63	M
53 1,1,1-Trichloroethane	97		6.649					ND	
54 Cyclohexane	56		6.722					ND	
56 Carbon tetrachloride	117		6.813					ND	
55 1,1-Dichloropropene	75		6.838					ND	U
57 Isobutyl alcohol	41		7.044					ND	U
58 Benzene	78		7.051					ND	U
59 1,2-Dichloroethane	62		7.124					ND	U
151 Isooctane	57		7.205					ND	
61 Tert-amyl methyl ether	73		7.229					ND	U
62 n-Heptane	43		7.403					ND	U
63 n-Butanol	56	7.774	7.752	0.022	85	23992		409.3	M
64 Trichloroethene	130		7.775					ND	
65 Ethyl acrylate	55		7.904					ND	U
66 Methylcyclohexane	83		8.012					ND	
67 1,2-Dichloropropane	63		8.048					ND	
70 1,4-Dioxane	88		8.127					ND	U
68 Dibromomethane	93		8.133					ND	U
69 Methyl methacrylate	69		8.135					ND	U
71 Dichlorobromomethane	83		8.328					ND	
73 2-Chloroethyl vinyl ether	63		8.626					ND	
74 cis-1,3-Dichloropropene	75		8.772					ND	
75 4-Methyl-2-pentanone (MIBK)	43		8.930					ND	U
76 Toluene	91		9.101					ND	
77 trans-1,3-Dichloropropene	75		9.350					ND	
78 Ethyl methacrylate	69		9.411					ND	U
79 1,1,2-Trichloroethane	97		9.539					ND	U
80 Tetrachloroethene	164		9.612					ND	U
81 1,3-Dichloropropane	76		9.697					ND	
82 2-Hexanone	43		9.764					ND	U
83 n-Butyl acetate	43		9.881					ND	U
84 Chlorodibromomethane	129		9.910					ND	
85 Ethylene Dibromide	107		10.019					ND	
86 3-Chlorobenzotrifluoride	180		10.445					ND	
87 Chlorobenzene	112		10.512					ND	
89 1,1,1,2-Tetrachloroethane	131		10.603					ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
90 Ethylbenzene	106		10.609					ND	U
91 m-Xylene & p-Xylene	106		10.743					ND	
88 4-Chlorobenzotrifluoride	180		10.779					ND	
92 o-Xylene	106		11.126					ND	
93 Styrene	104		11.145					ND	
94 Bromoform	173		11.321					ND	
97 Isopropylbenzene	105	11.478	11.491	-0.013	1	740		0.0626	
96 2-Chlorobenzotrifluoride	180		11.521					ND	
98 Cyclohexanone	55		11.591					ND	U
100 Bromobenzene	156		11.802					ND	U
99 1,1,2,2-Tetrachloroethane	83		11.808					ND	U
102 trans-1,4-Dichloro-2-buten	53		11.838					ND	U
101 1,2,3-Trichloropropane	110		11.857					ND	
103 N-Propylbenzene	120		11.905					ND	U
104 2-Chlorotoluene	126		11.990					ND	U
106 1,3,5-Trimethylbenzene	105	12.087	12.088	-0.001	1	868		0.1037	
107 4-Chlorotoluene	126		12.118					ND	U
105 3-Chlorotoluene	126		12.212					ND	
108 tert-Butylbenzene	119		12.398					ND	
110 1,2,4-Trimethylbenzene	105	12.464	12.459	0.005	1	1993		0.2401	
111 1,2-dichloro-4-(trifluorom	214		12.463					ND	
112 sec-Butylbenzene	105	12.622	12.623	-0.001	1	895		0.0946	
113 1,3-Dichlorobenzene	146	12.750	12.745	0.005	1	1975		0.4026	
114 4-Isopropyltoluene	119		12.781					ND	
116 2,4-Dichloro-1-(triflourom	214		12.836					ND	
115 1,4-Dichlorobenzene	146	12.847	12.848	-0.001	1	1603		0.3095	
117 1,2,3-Trimethylbenzene	105		12.874					ND	
118 2,5-Dichlorobenzotrifluori	214		12.878					ND	
119 Benzyl chloride	91		12.966					ND	U
120 n-Butylbenzene	91	13.194	13.189	0.005	1	1490		0.2497	
121 1,2-Dichlorobenzene	146		13.201					ND	U
122 1,2-Dibromo-3-Chloropropan	75		13.992					ND	
123 2,4- & 2,5- & 2,6- Dichlor	125		14.125					ND	
124 1,3,5-Trichlorobenzene	180	14.179	14.182	-0.003	1	399		0.1454	
125 2,3- & 3,4- Dichlorotoluen	125		14.557					ND	
126 1,2,4-Trichlorobenzene	180		14.813					ND	U
127 Hexachlorobutadiene	225		14.959					ND	U
128 Naphthalene	128	15.086	15.087	-0.001	1	640		2.96	
129 1,2,3-Trichlorobenzene	180		15.312					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 134 1,2-Dichloroethene, Total	96		1.000					ND	
S 154 Total BTEX	106		1.000					ND	
S 135 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

voaWI/SHP5_00015

Amount Added: 5.00

Units: uL

Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D

Injection Date: 13-Dec-2019 13:01:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: MB

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

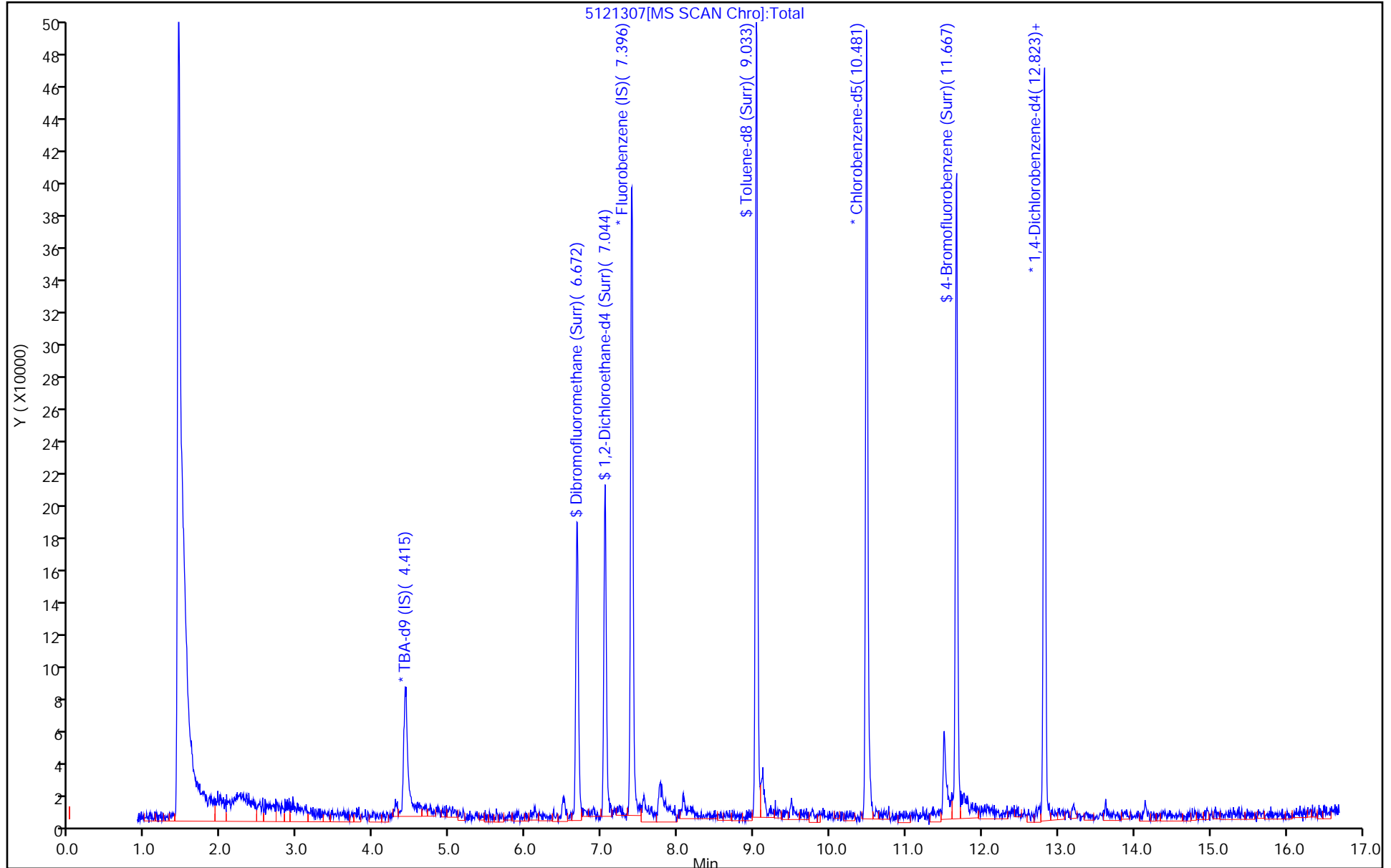
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Lims ID: MB
 Client ID:
 Sample Type: MB
 Inject. Date: 13-Dec-2019 13:01:30 ALS Bottle#: 7 Worklist Smp#: 7
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-007
 Misc. Info.: mb
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 11:35:55 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 14-Dec-2019 11:35:55

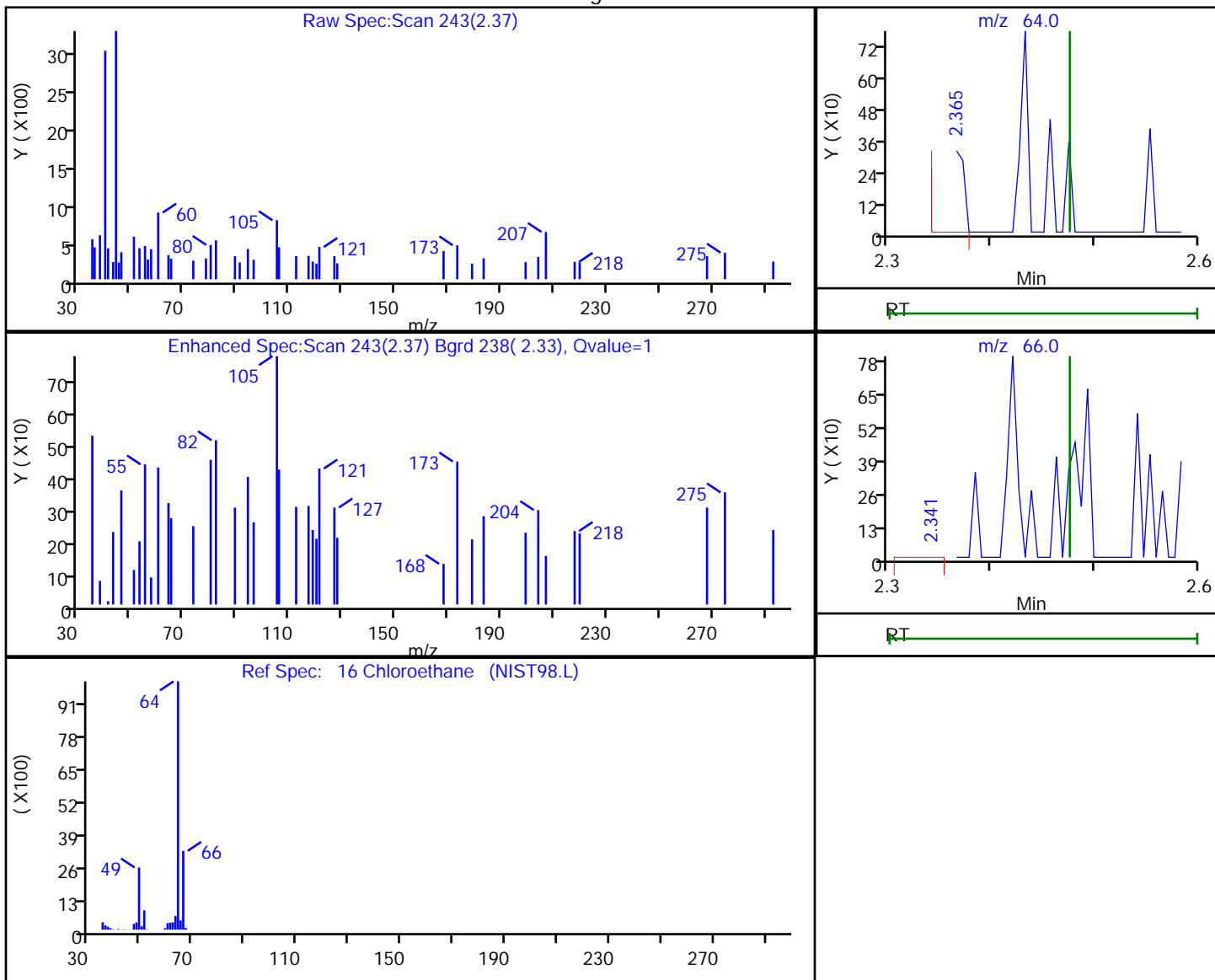
Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	59.3	118.70
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	62.0	123.96
\$ 7 Toluene-d8 (Surr)	50.0	40.9	81.70
\$ 8 4-Bromofluorobenzene (Surr)	50.0	41.9	83.84

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 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

16 Chloroethane, CAS: 75-00-3

Processing Results



RT	Mass	Response	Amount
2.37	64.00	322	0.239212
2.34	66.00	659	

Reviewer: bowieh, 14-Dec-2019 11:29:13

Audit Action: Marked Compound Undetected

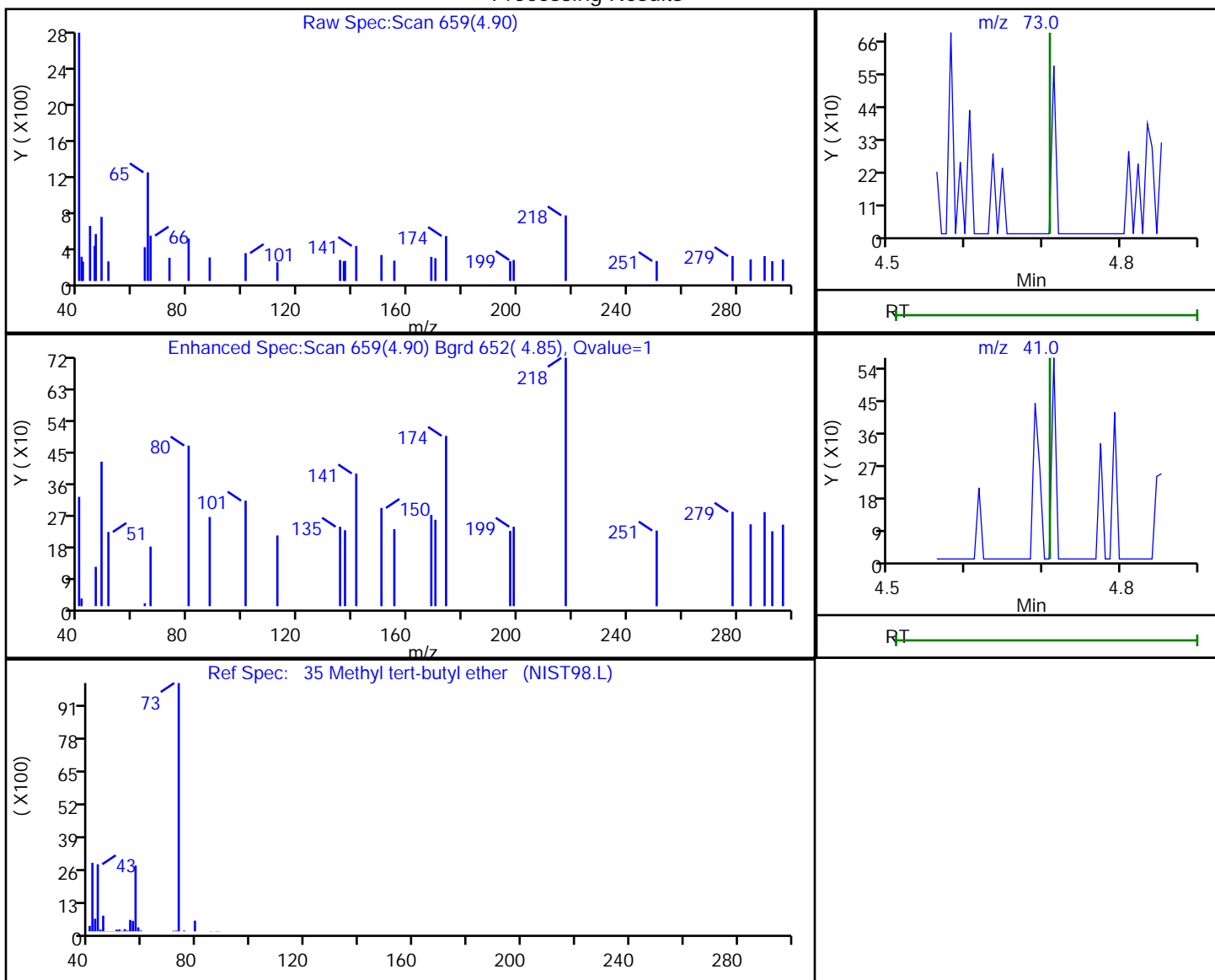
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

35 Methyl tert-butyl ether, CAS: 1634-04-4

Processing Results



RT	Mass	Response	Amount
4.90	73.00	168	0.027803
4.90	41.00	360	

Reviewer: bowieh, 14-Dec-2019 11:32:02

Audit Action: Marked Compound Undetected

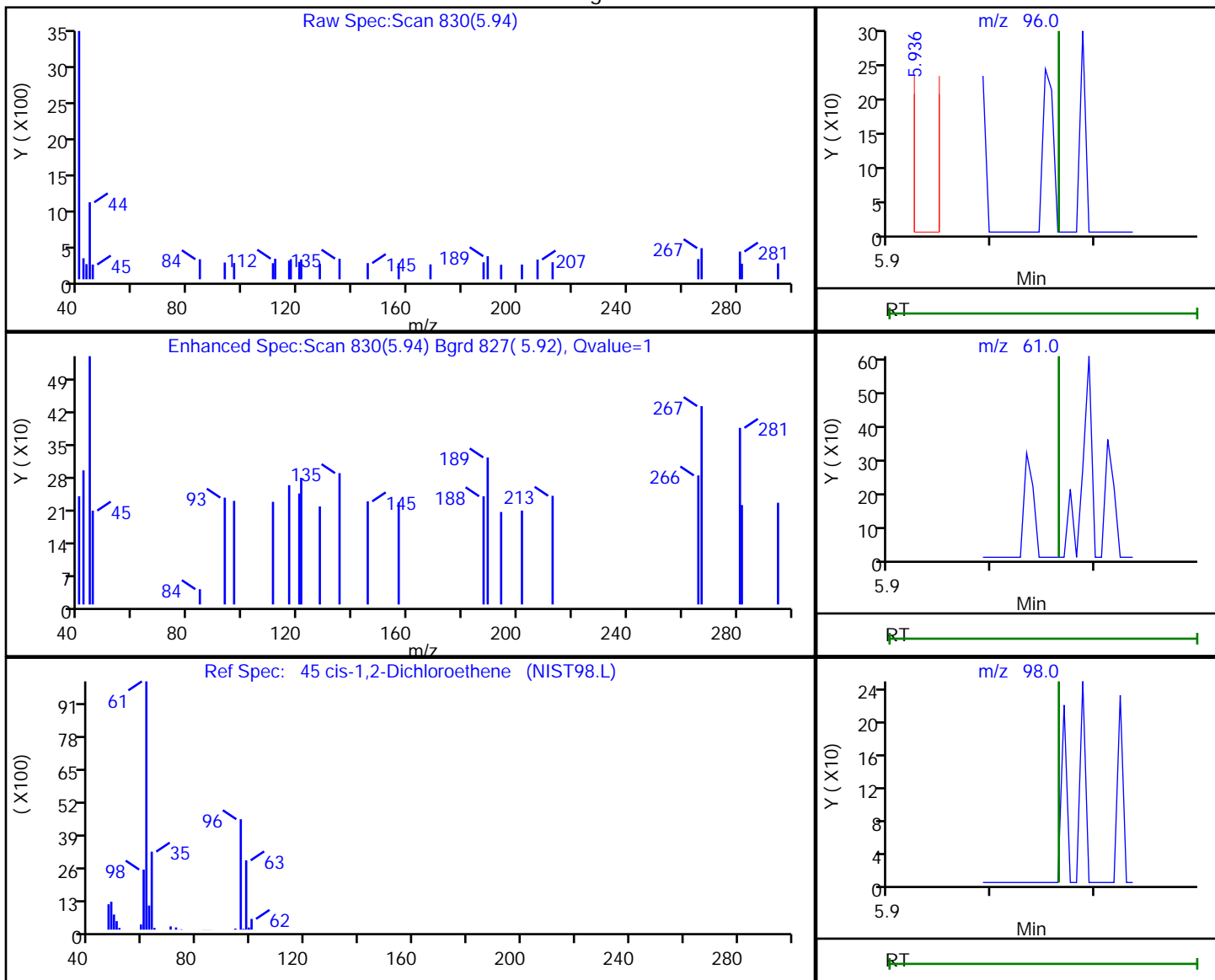
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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
5.94	96.00	82	0.031188
5.92	61.00	155	
6.07	98.00	0	

Reviewer: bowieh, 14-Dec-2019 11:32:07

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

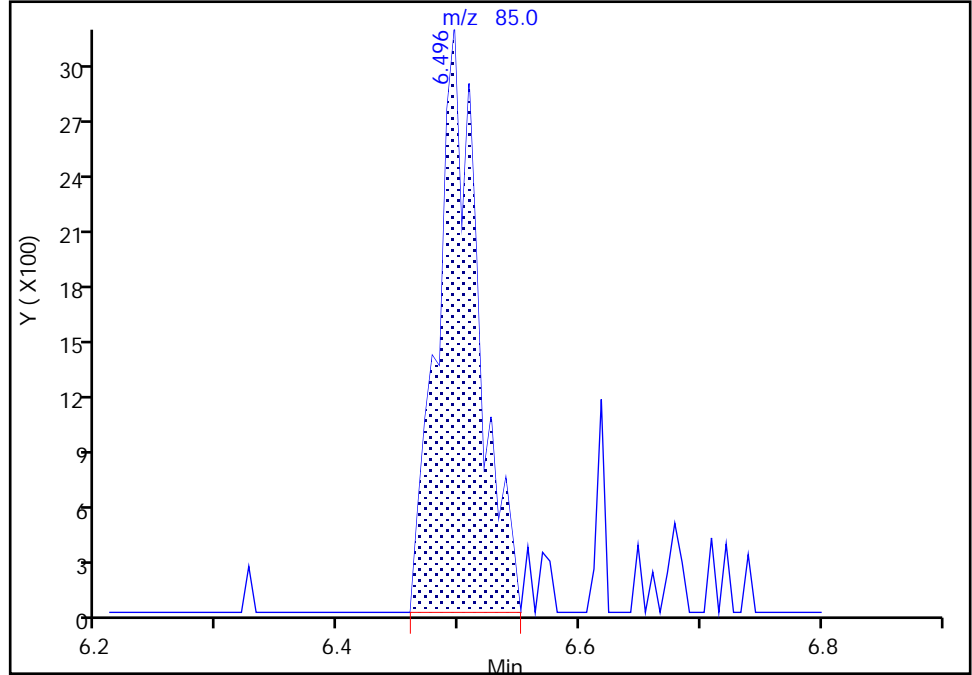
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

52 Chloroform, CAS: 67-66-3

Signal: 2

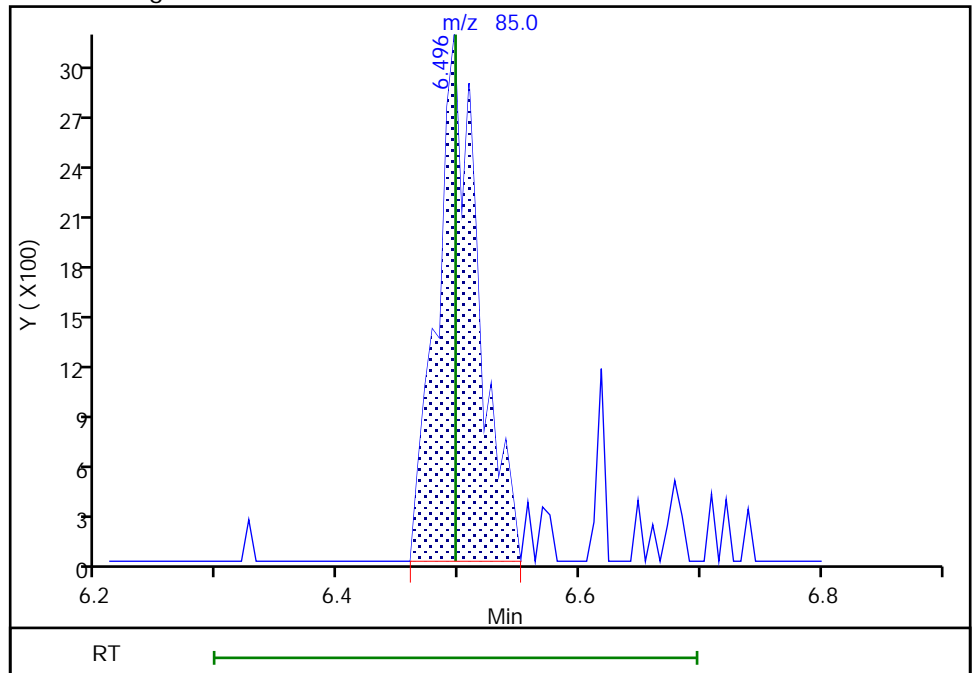
RT: 6.50
Area: 7367
Amount: -2.346134
Amount Units: ng

Processing Integration Results



RT: 6.50
Area: 7367
Amount: -1.626527
Amount Units: ng

Manual Integration Results



Eurofins TestAmerica, Pittsburgh

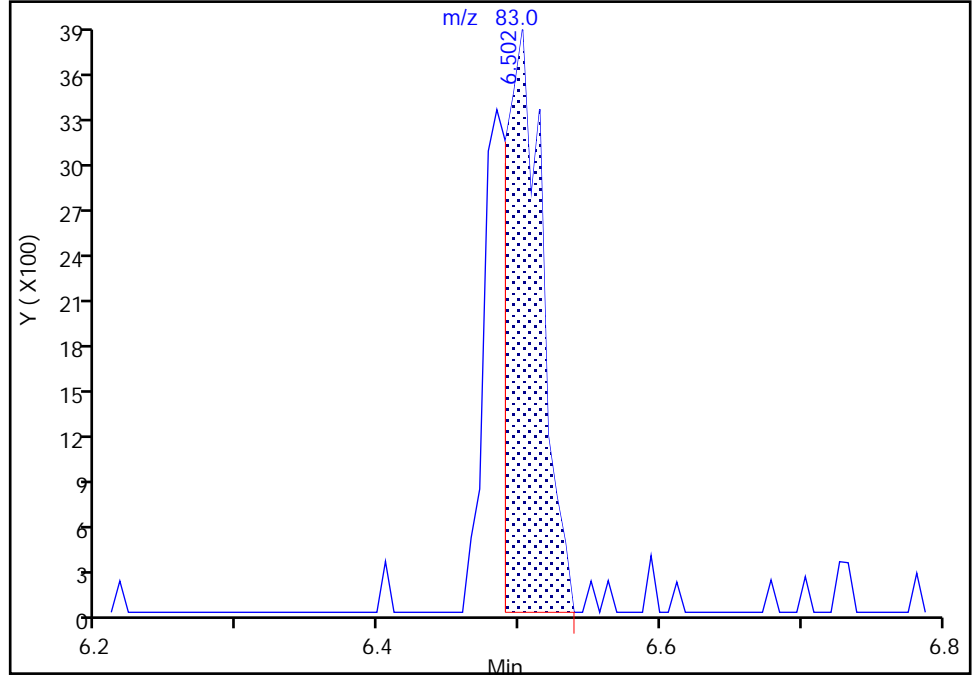
Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
Lims ID: MB
Client ID:
Operator ID: 433269 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVOA_LL_CHHP5 Limit Group: VOA 8260C_D ICAL
Column: DB-624 (0.18 mm) Detector: MS SCAN

52 Chloroform, CAS: 67-66-3

Signal: 1

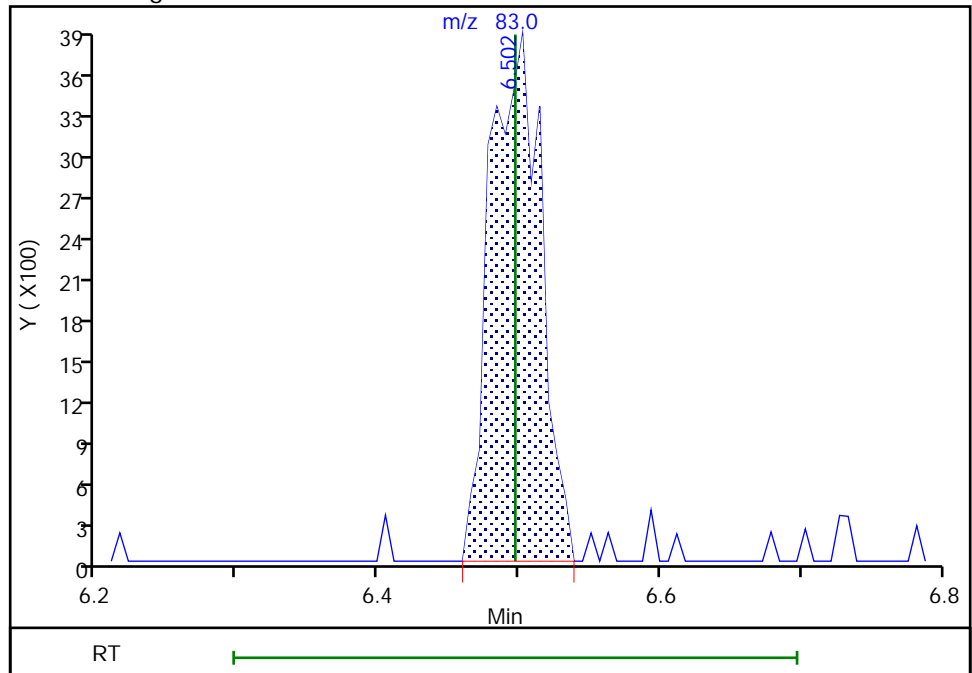
RT: 6.50
Area: 6913
Amount: -2.346134
Amount Units: ng

Processing Integration Results



RT: 6.50
Area: 9727
Amount: -1.626527
Amount Units: ng

Manual Integration Results



Reviewer: bowieh, 14-Dec-2019 11:32:40

Audit Action: Manually Integrated

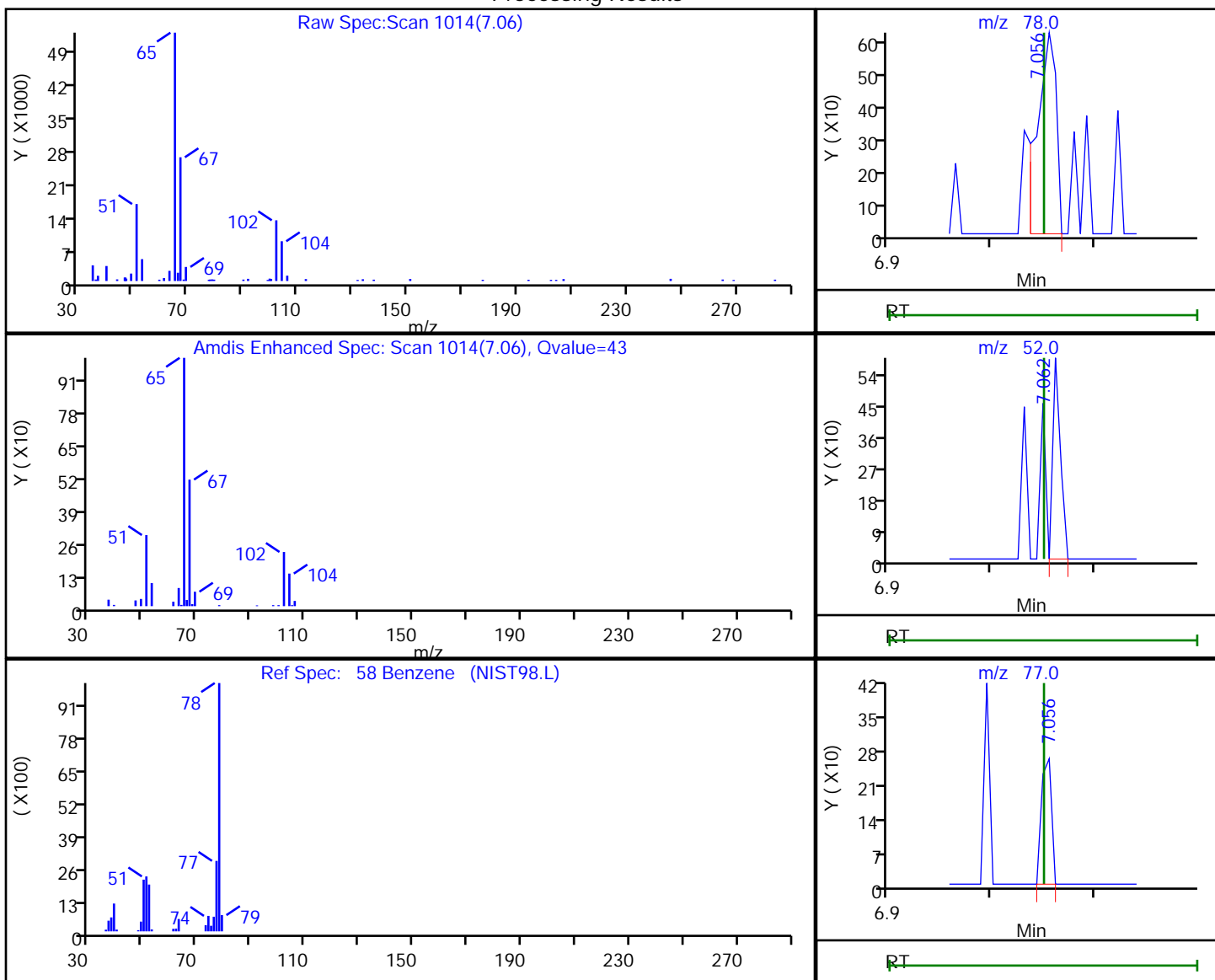
Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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
7.06	78.00	792	0.080940
7.06	52.00	303	
7.06	77.00	180	

Reviewer: bowieh, 14-Dec-2019 11:32:45
 Audit Action: Marked Compound Undetected

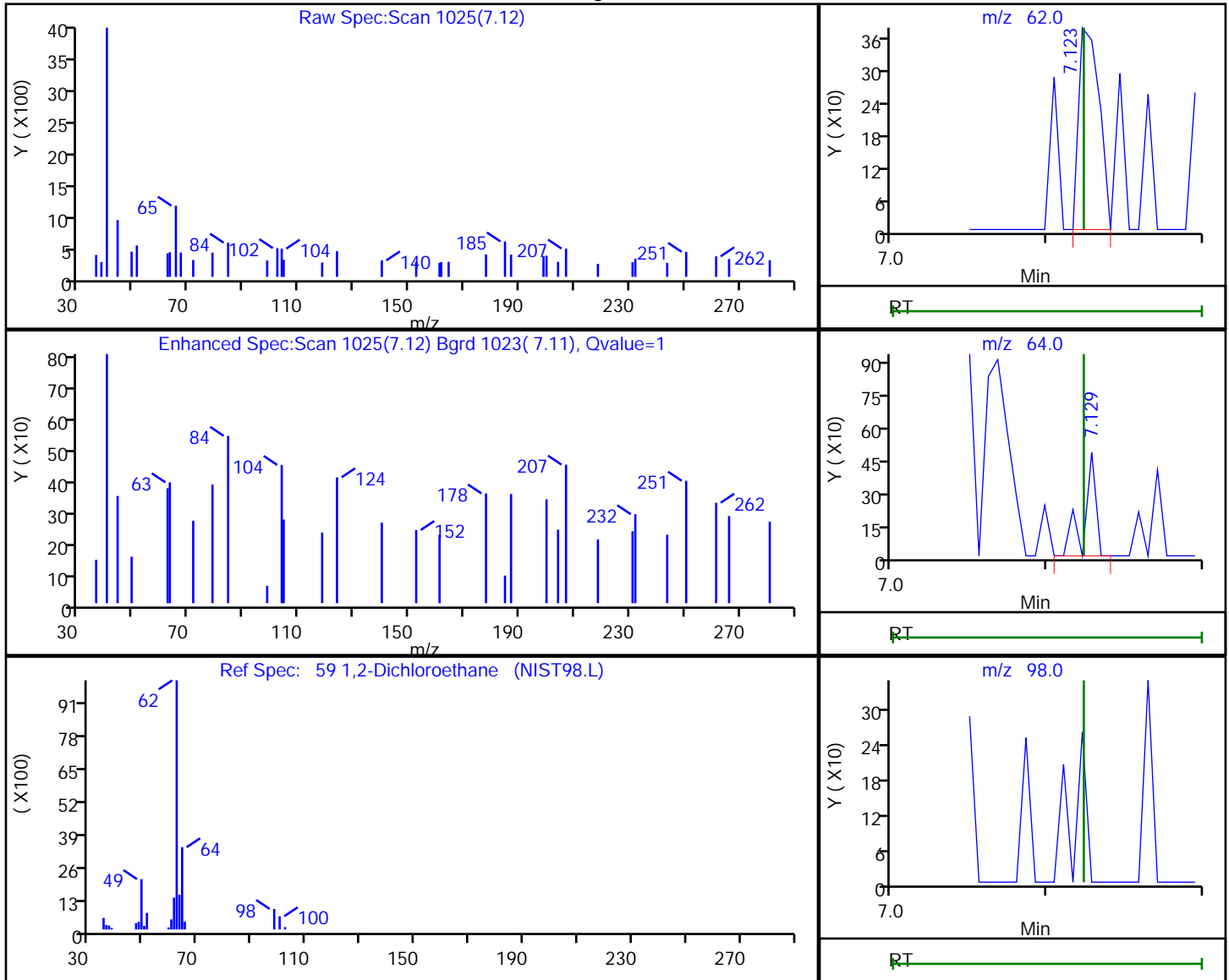
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.12	62.00	342	0.100316
7.13	64.00	254	
7.12	98.00	0	

Reviewer: bowieh, 14-Dec-2019 11:32:46

Audit Action: Marked Compound Undetected

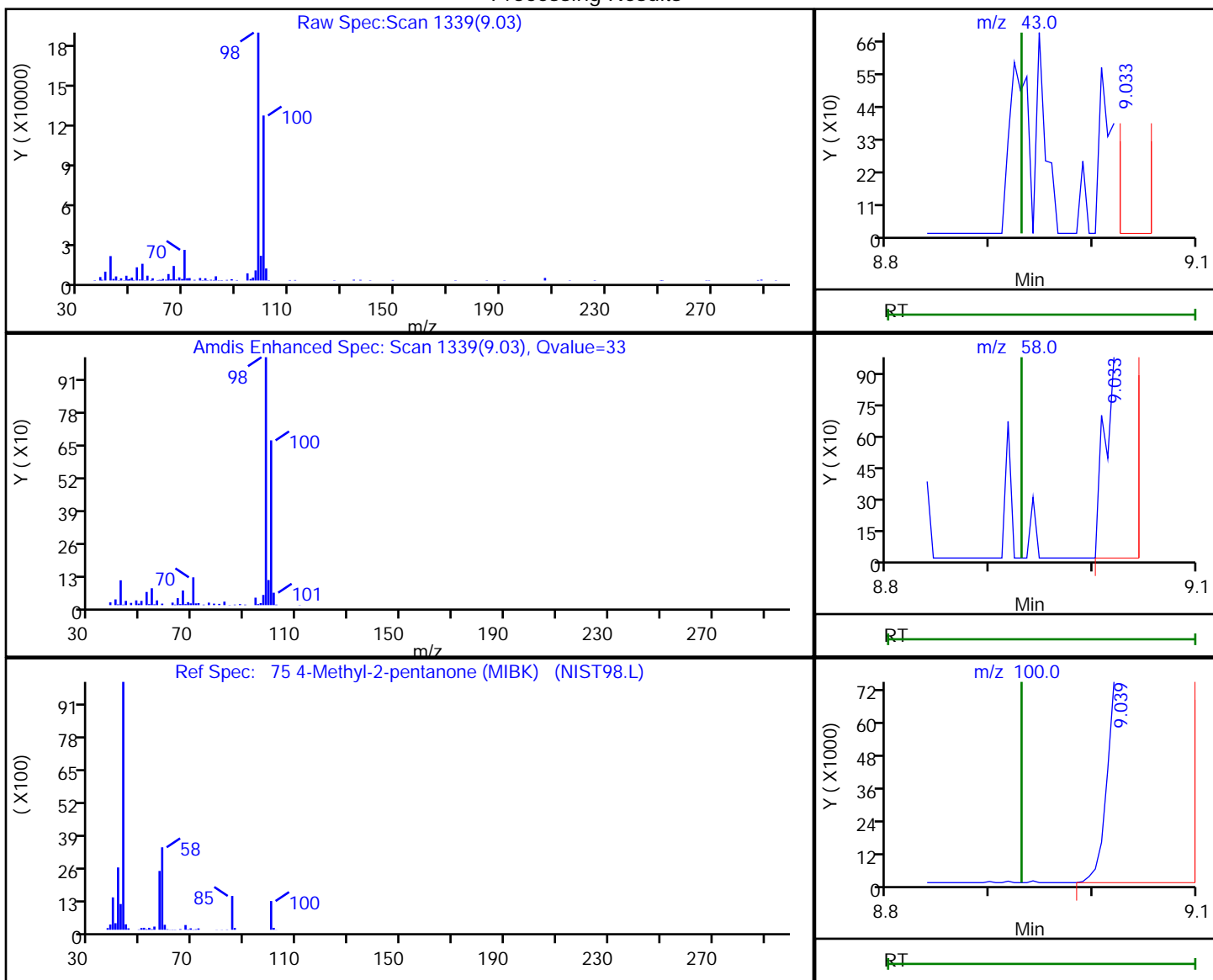
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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
9.03	43.00	967	0.527817
9.03	58.00	2468	
9.04	100.00	259919	

Reviewer: bowieh, 14-Dec-2019 11:33:10

Audit Action: Marked Compound Undetected

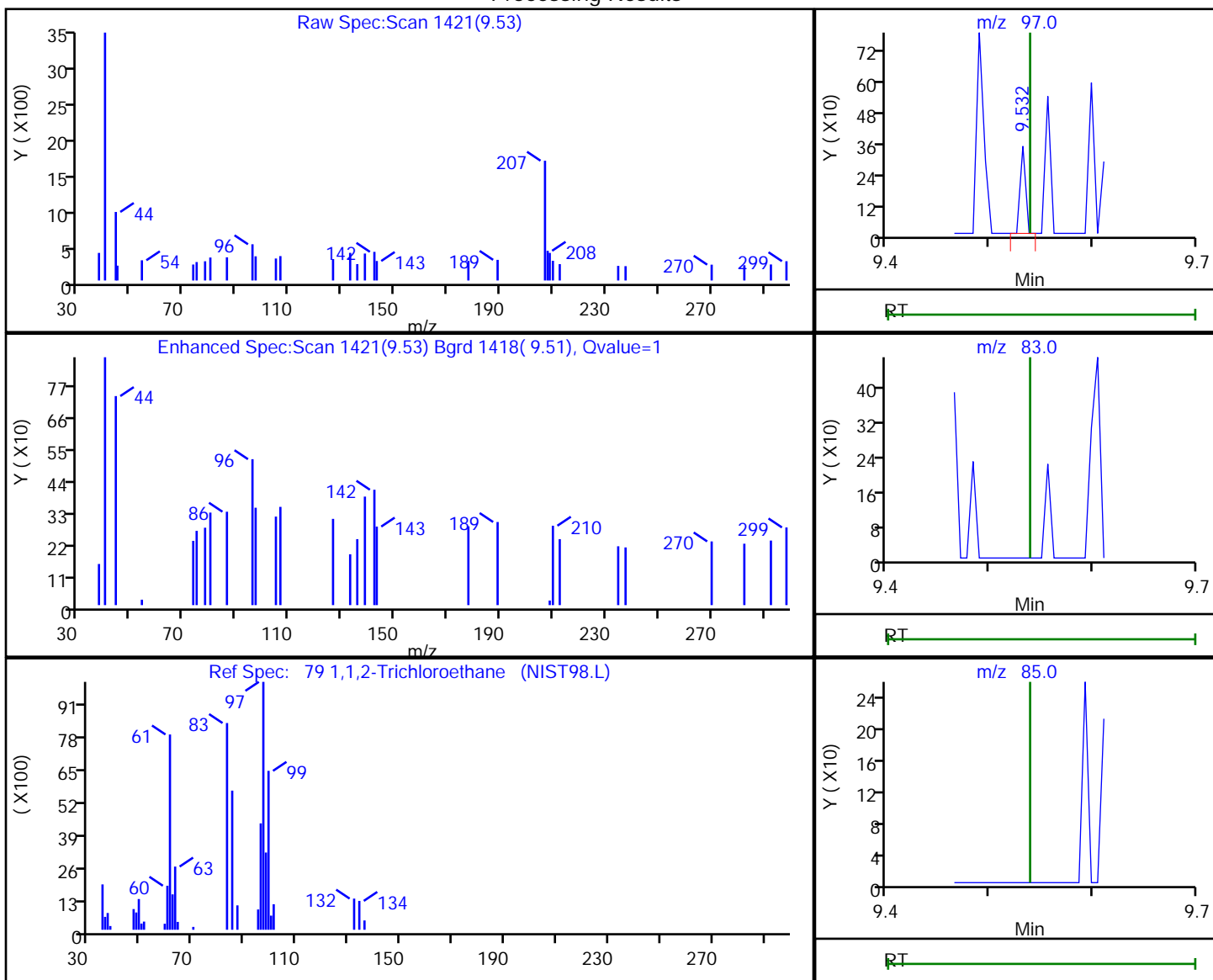
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

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

Processing Results



RT	Mass	Response	Amount
9.53	97.00	124	0.055634
9.54	83.00	0	
9.54	85.00	0	

Reviewer: bowieh, 14-Dec-2019 11:33:13

Audit Action: Marked Compound Undetected

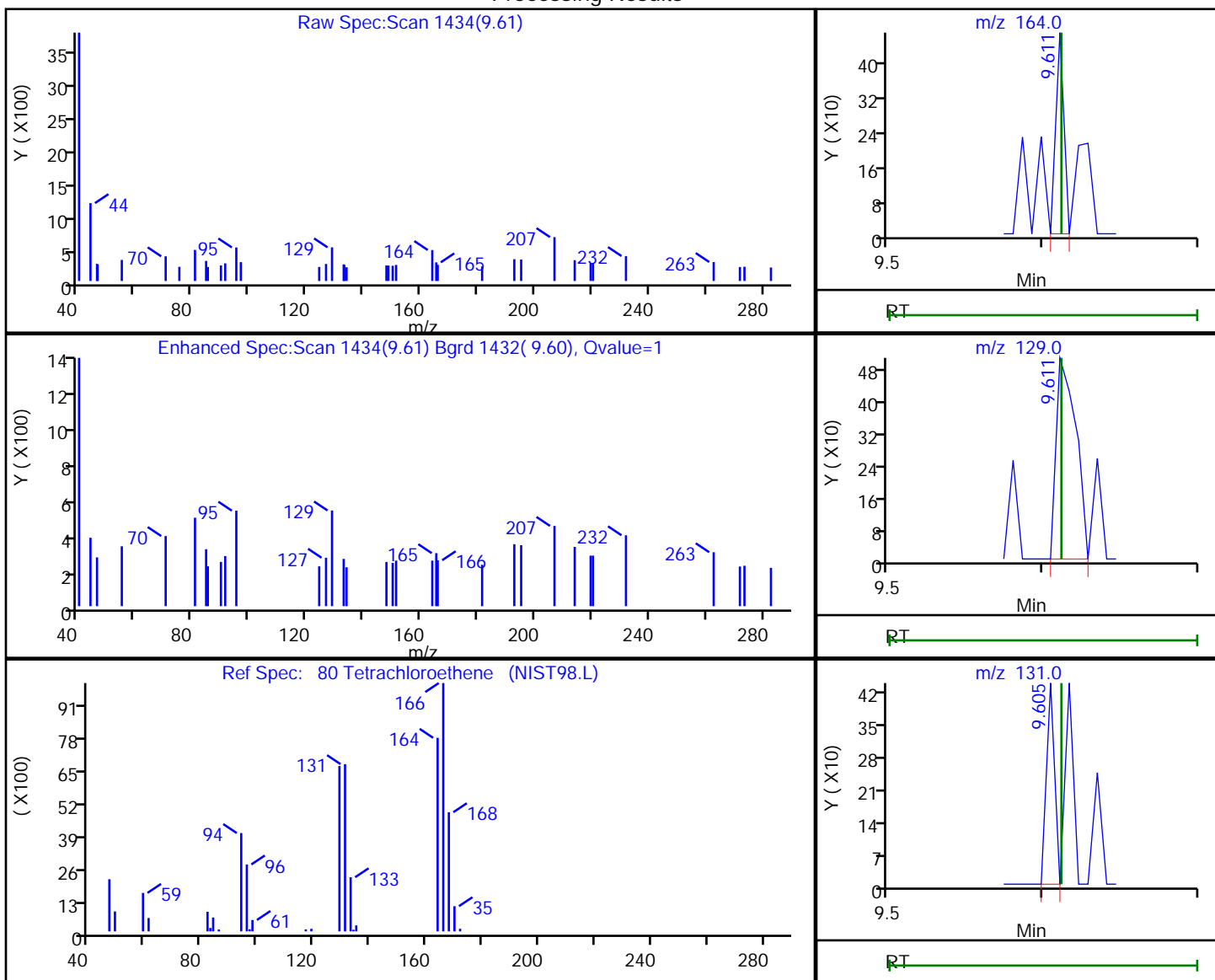
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

80 Tetrachloroethene, CAS: 127-18-4

Processing Results



RT	Mass	Response	Amount
9.61	164.00	169	0.066062
9.61	129.00	444	
9.60	131.00	158	

Reviewer: bowieh, 14-Dec-2019 11:33:14

Audit Action: Marked Compound Undetected

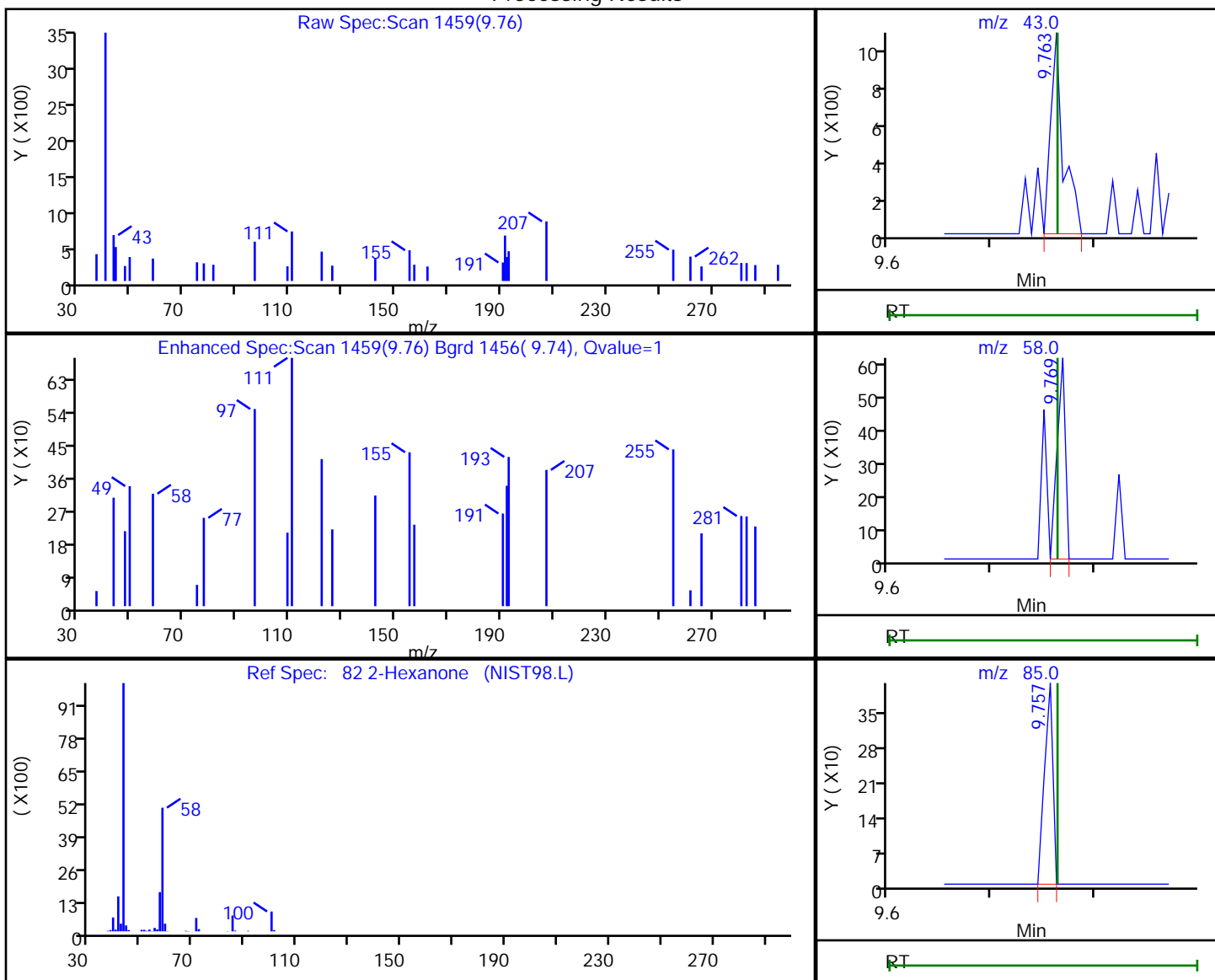
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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
9.76	43.00	879	13.269677
9.77	58.00	337	
9.76	85.00	226	

Reviewer: bowieh, 14-Dec-2019 11:33:15

Audit Action: Marked Compound Undetected

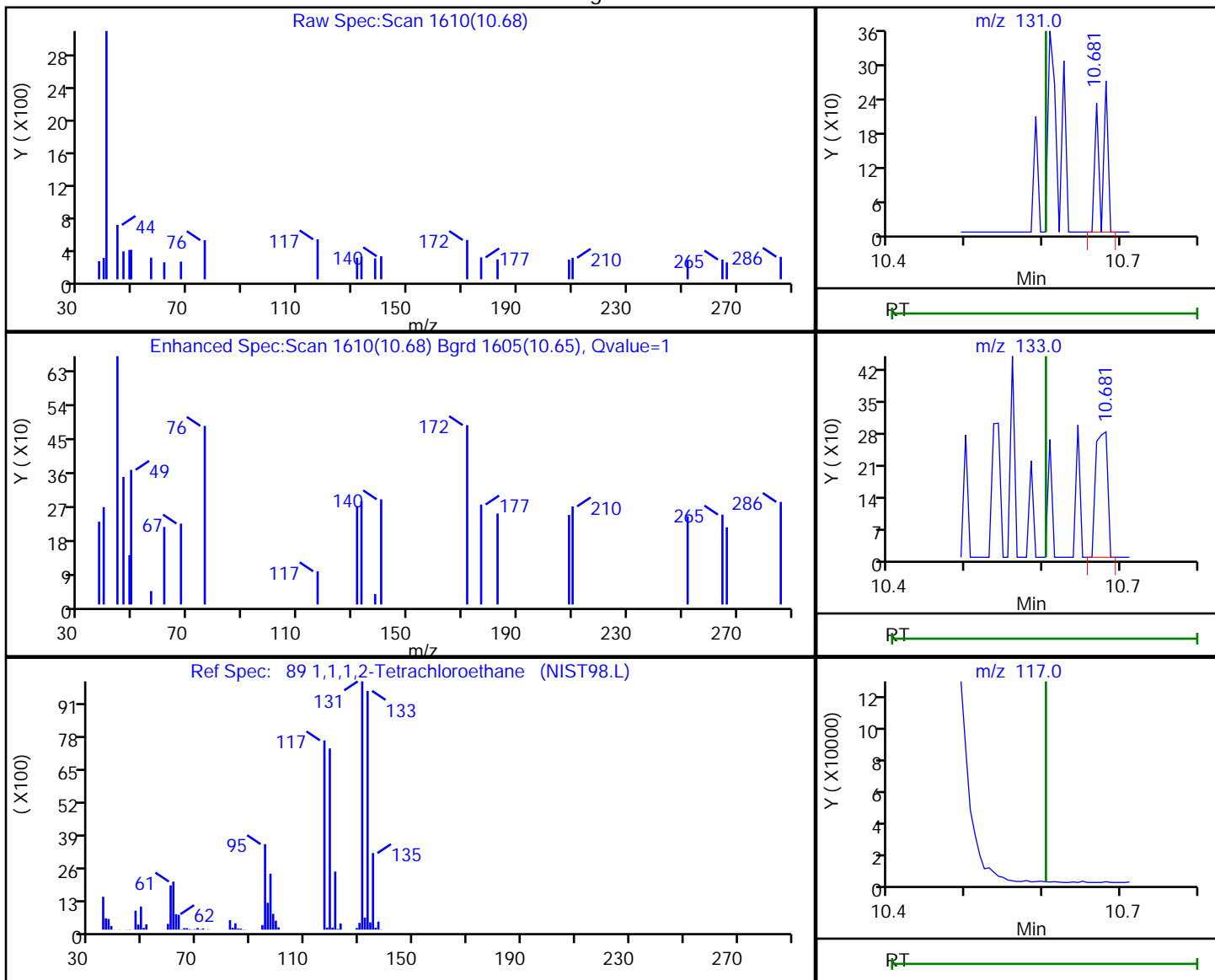
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

89 1,1,1,2-Tetrachloroethane, CAS: 630-20-6

Processing Results



RT	Mass	Response	Amount
10.68	131.00	178	0.069958
10.68	133.00	293	
10.60	117.00	0	

Reviewer: bowieh, 14-Dec-2019 11:33:19

Audit Action: Marked Compound Undetected

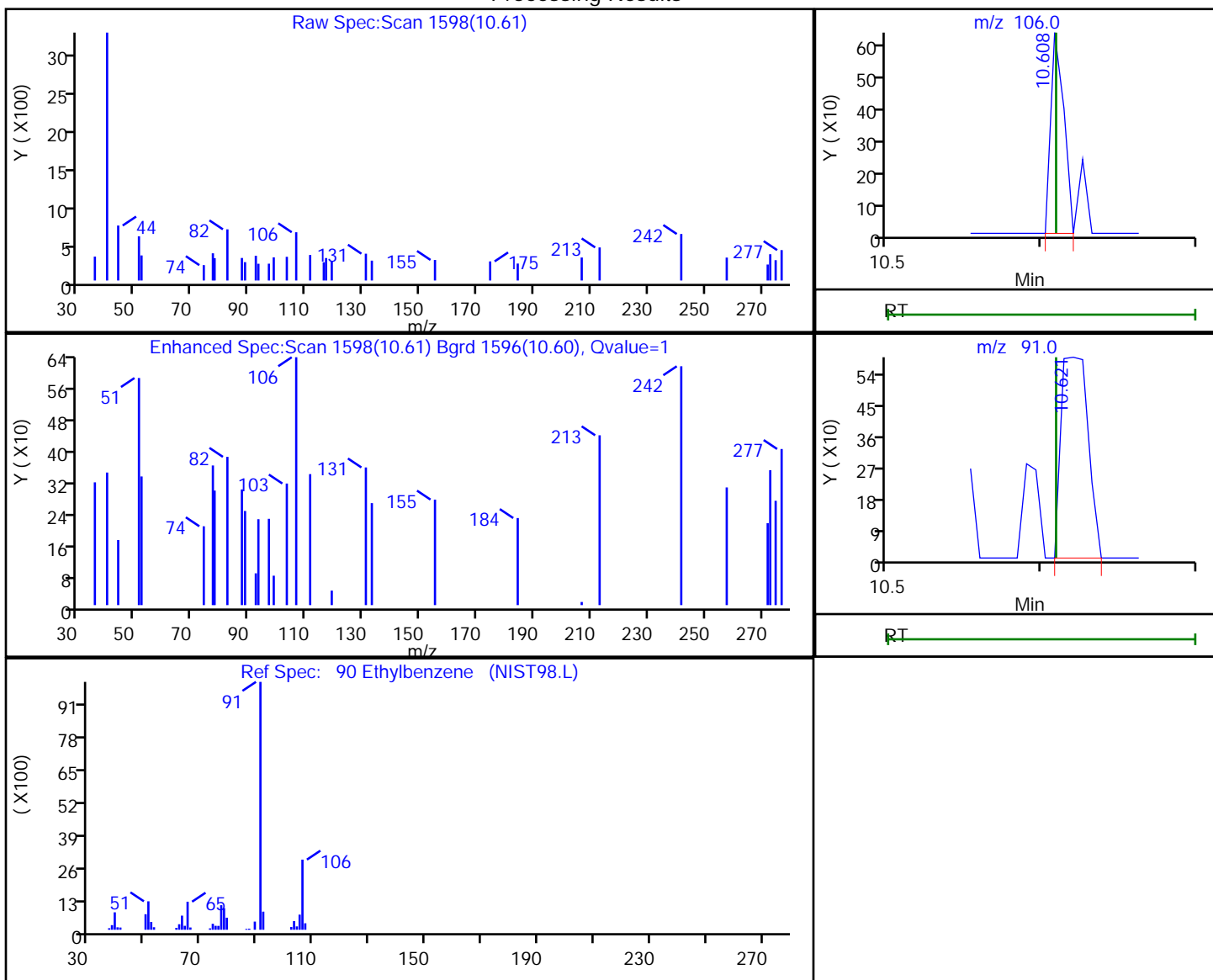
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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
10.61	106.00	374	0.096097
10.62	91.00	720	

Reviewer: bowieh, 14-Dec-2019 11:34:53

Audit Action: Marked Compound Undetected

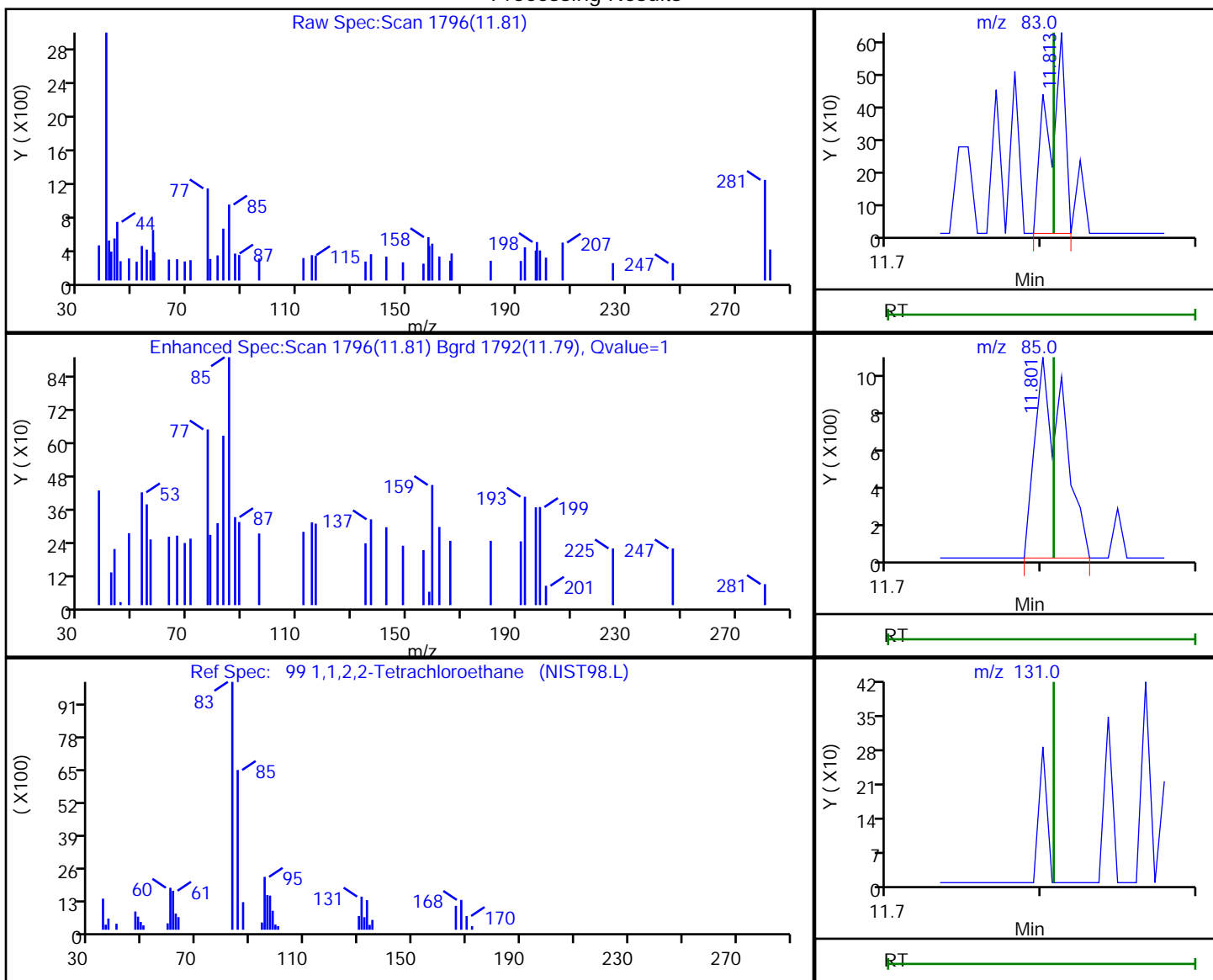
Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121307.D
 Injection Date: 13-Dec-2019 13:01:30 Instrument ID: CHHP5
 Lims ID: MB
 Client ID:
 Operator ID: 433269 ALS Bottle#: 7 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

99 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results



RT	Mass	Response	Amount
11.81	83.00	459	0.178133
11.80	85.00	1306	
11.81	131.00	0	

Reviewer: bowieh, 14-Dec-2019 11:35:06

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.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 180-300399/5
 Matrix: Water Lab File ID: 5120505.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 10:52
 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.: 300399 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	10.5		1.0	0.90
75-01-4	Vinyl chloride	9.26		1.0	0.88
74-83-9	Bromomethane	10.6		1.0	0.89
75-00-3	Chloroethane	10.8		1.0	0.90
75-35-4	1,1-Dichloroethene	9.94		1.0	0.55
67-64-1	Acetone	17.8		5.0	3.4
75-15-0	Carbon disulfide	9.51		1.0	0.88
75-09-2	Methylene Chloride	11.2		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	9.75		1.0	0.67
1634-04-4	Methyl tert-butyl ether	8.49		1.0	0.59
75-34-3	1,1-Dichloroethane	9.89		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	9.56		1.0	0.71
74-97-5	Bromochloromethane	9.97		1.0	0.63
78-93-3	2-Butanone (MEK)	17.1		5.0	2.6
67-66-3	Chloroform	9.56		1.0	0.60
71-55-6	1,1,1-Trichloroethane	8.85		1.0	0.60
56-23-5	Carbon tetrachloride	8.53		1.0	0.88
71-43-2	Benzene	10.0		1.0	0.60
107-06-2	1,2-Dichloroethane	9.25		1.0	0.57
79-01-6	Trichloroethene	9.33		1.0	0.69
78-87-5	1,2-Dichloropropane	9.96		1.0	0.66
75-27-4	Bromodichloromethane	9.37		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	9.36		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	18.5		5.0	3.1
108-88-3	Toluene	10.3		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	9.01		1.0	0.58
79-00-5	1,1,2-Trichloroethane	10.6		1.0	0.45
127-18-4	Tetrachloroethene	10.1		1.0	0.47
591-78-6	2-Hexanone	17.4		5.0	3.3
124-48-1	Dibromochloromethane	9.98		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	9.96		1.0	0.50
108-90-7	Chlorobenzene	10.2		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	10.3		1.0	0.57
100-41-4	Ethylbenzene	9.61		1.0	0.51
1330-20-7	Xylenes, Total	19.4		2.0	0.89
100-42-5	Styrene	10.2		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 180-300399/5
 Matrix: Water Lab File ID: 5120505.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 10:52
 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.: 300399 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	11.2		1.0	0.60
107-13-1	Acrylonitrile	103		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		70-150
2037-26-5	Toluene-d8 (Surr)	99		78-128
460-00-4	4-Bromofluorobenzene (Surr)	96		64-123
1868-53-7	Dibromofluoromethane (Surr)	91		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120505.D
 Lims ID: LCS
 Client ID:
 Sample Type: LCS
 Inject. Date: 05-Dec-2019 10:52:30 ALS Bottle#: 5 Worklist Smp#: 5
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-005
 Misc. Info.: lcs
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 09:57:36 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 09:57:44

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.557	4.544	0.013	0	239883	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.502	7.494	0.008	99	581666	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.580	10.585	-0.005	84	140363	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.916	12.921	-0.005	92	283537	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.784	6.770	0.014	94	133147	50.0	45.3	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.149	7.148	0.001	0	171519	50.0	45.0	
\$ 7 Toluene-d8 (Surr)	98	9.132	9.131	0.001	92	580308	50.0	49.7	
\$ 8 4-Bromofluorobenzene (Surr	95	11.760	11.759	0.001	93	219346	50.0	48.2	
11 Dichlorodifluoromethane	85	1.698	1.703	-0.005	99	169587	50.0	42.2	
12 Chloromethane	50	1.911	1.910	0.001	100	141772	50.0	52.6	
13 Vinyl chloride	62	2.045	2.044	0.001	96	131323	50.0	46.3	
14 Butadiene	39	2.063	2.062	0.001	88	124289	50.0	46.3	
15 Bromomethane	94	2.379	2.384	-0.005	90	117362	50.0	53.2	
16 Chloroethane	64	2.562	2.548	0.014	98	98543	50.0	54.2	
17 Dichlorofluoromethane	67	2.854	2.847	0.007	97	235165	50.0	50.6	
18 Trichlorofluoromethane	101	2.866	2.865	0.001	97	241184	50.0	46.0	
20 Ethyl ether	59	3.255	3.254	0.001	88	135063	50.0	51.5	
21 Acrolein	56	3.462	3.449	0.013	98	78799	150.0	146.2	
22 1,1-Dichloroethene	96	3.566	3.571	-0.005	96	146789	50.0	49.7	
23 1,1,2-Trichloro-1,2,2-trif	101	3.651	3.650	0.001	89	158657	50.0	48.6	
24 Acetone	43	3.693	3.674	0.019	99	105588	100.0	88.8	
25 Iodomethane	142	3.779	3.771	0.008	97	259788	50.0	48.6	
26 Carbon disulfide	76	3.882	3.869	0.013	99	371861	50.0	47.6	
28 3-Chloro-1-propene	76	4.192	4.191	0.001	91	76727	50.0	46.1	
30 Methyl acetate	43	4.223	4.209	0.014	97	212491	100.0	106.9	
31 Methylene Chloride	84	4.405	4.398	0.007	87	181411	50.0	55.8	
32 2-Methyl-2-propanol	59	4.685	4.666	0.019	93	108862	500.0	463.2	
33 Acrylonitrile	53	4.795	4.787	0.008	97	562770	500.0	513.3	
34 trans-1,2-Dichloroethene	96	4.813	4.812	0.001	97	163270	50.0	48.7	
35 Methyl tert-butyl ether	73	4.831	4.830	0.001	97	346004	50.0	42.4	
36 Hexane	57	5.226	5.219	0.007	91	188881	50.0	41.6	

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	5.438	0.001	97	259685	50.0	49.4	
38 Vinyl acetate	43	5.494	5.487	0.007	96	178515	50.0	33.5	
44 2,2-Dichloropropane	97	6.182	6.174	0.008	61	32514	50.0	45.4	
45 cis-1,2-Dichloroethene	96	6.182	6.174	0.008	79	169616	50.0	47.8	
46 2-Butanone (MEK)	43	6.194	6.186	0.008	91	125636	100.0	85.3	
49 Chlorobromomethane	128	6.461	6.460	0.001	88	90558	50.0	49.9	
51 Tetrahydrofuran	42	6.474	6.466	0.008	81	66772	100.0	82.8	
52 Chloroform	83	6.601	6.600	0.001	93	274117	50.0	47.8	
53 1,1,1-Trichloroethane	97	6.759	6.758	0.001	97	200528	50.0	44.3	
54 Cyclohexane	56	6.826	6.819	0.007	88	217700	50.0	40.9	
56 Carbon tetrachloride	117	6.924	6.923	0.002	97	185312	50.0	42.7	
55 1,1-Dichloropropene	75	6.942	6.941	0.001	96	195495	50.0	44.4	
57 Isobutyl alcohol	41	7.149	7.148	0.001	80	102889	1250.0	1263.0	
58 Benzene	78	7.161	7.154	0.007	97	660888	50.0	50.0	
59 1,2-Dichloroethane	62	7.234	7.233	0.001	98	212881	50.0	46.3	
62 n-Heptane	43	7.508	7.507	0.001	83	136682	50.0	38.0	
64 Trichloroethene	130	7.879	7.878	0.001	95	174892	50.0	46.6	
66 Methylcyclohexane	83	8.110	8.109	0.001	87	224383	50.0	39.3	
67 1,2-Dichloropropane	63	8.153	8.145	0.008	92	151157	50.0	49.8	
68 Dibromomethane	93	8.244	8.230	0.014	90	91060	50.0	47.0	
70 1,4-Dioxane	88	8.232	8.230	0.002	37	29622	1000.0	1055.7	
71 Dichlorobromomethane	83	8.432	8.431	0.001	99	185155	50.0	46.8	
73 2-Chloroethyl vinyl ether	63	8.731	8.723	0.008	93	150817	100.0	70.9	
74 cis-1,3-Dichloropropene	75	8.877	8.875	0.002	96	215689	50.0	46.8	
75 4-Methyl-2-pentanone (MIBK)	43	9.029	9.027	0.002	93	209947	100.0	92.6	
76 Toluene	91	9.199	9.198	0.001	98	708179	50.0	51.4	
77 trans-1,3-Dichloropropene	75	9.448	9.441	0.007	92	188759	50.0	45.0	
78 Ethyl methacrylate	69	9.503	9.502	0.001	86	156816	50.0	41.2	
79 1,1,2-Trichloroethane	97	9.643	9.642	0.001	90	146154	50.0	53.0	
80 Tetrachloroethene	164	9.710	9.709	0.001	95	159128	50.0	50.3	
81 1,3-Dichloropropane	76	9.801	9.794	0.007	89	242563	50.0	50.2	
82 2-Hexanone	43	9.856	9.855	0.001	94	152614	100.0	87.1	
84 Chlorodibromomethane	129	10.008	10.007	0.001	90	143646	50.0	49.9	
85 Ethylene Dibromide	107	10.124	10.122	0.002	98	141304	50.0	49.8	
87 Chlorobenzene	112	10.610	10.609	0.001	96	472555	50.0	50.9	
89 1,1,1,2-Tetrachloroethane	131	10.702	10.700	0.002	73	161861	50.0	51.4	
90 Ethylbenzene	106	10.708	10.706	0.002	98	231483	50.0	48.1	
91 m-Xylene & p-Xylene	106	10.835	10.834	0.001	0	294967	50.0	49.0	
92 o-Xylene	106	11.219	11.217	0.002	96	270429	50.0	47.7	
93 Styrene	104	11.243	11.242	0.001	94	505416	50.0	51.0	
94 Bromoform	173	11.426	11.424	0.002	98	95279	50.0	49.0	
97 Isopropylbenzene	105	11.584	11.589	-0.005	95	661727	50.0	45.2	
99 1,1,2,2-Tetrachloroethane	83	11.900	11.899	0.001	80	178947	50.0	56.1	
100 Bromobenzene	156	11.900	11.905	-0.005	86	216166	50.0	42.3	
102 trans-1,4-Dichloro-2-buten	53	11.943	11.935	0.008	79	37206	50.0	32.9	
101 1,2,3-Trichloropropane	110	11.955	11.954	0.001	84	61121	50.0	42.5	
103 N-Propylbenzene	120	12.003	12.002	0.001	98	217622	50.0	41.2	
104 2-Chlorotoluene	126	12.089	12.093	-0.004	97	190163	50.0	42.0	
106 1,3,5-Trimethylbenzene	105	12.186	12.185	0.001	94	607284	50.0	41.5	
107 4-Chlorotoluene	126	12.210	12.215	-0.005	96	209749	50.0	44.2	
108 tert-Butylbenzene	119	12.502	12.501	0.001	86	465826	50.0	38.4	
110 1,2,4-Trimethylbenzene	105	12.557	12.556	0.001	97	627725	50.0	43.3	

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	12.720	0.001	94	668062	50.0	40.4	
113 1,3-Dichlorobenzene	146	12.843	12.842	0.001	98	398443	50.0	46.5	
114 4-Isopropyltoluene	119	12.873	12.878	-0.005	96	595786	50.0	41.8	
115 1,4-Dichlorobenzene	146	12.946	12.945	0.001	96	415722	50.0	45.9	
120 n-Butylbenzene	91	13.287	13.286	0.001	96	425347	50.0	40.8	
121 1,2-Dichlorobenzene	146	13.305	13.304	0.001	98	376757	50.0	48.2	
122 1,2-Dibromo-3-Chloropropan	75	14.090	14.089	0.001	89	24524	50.0	50.0	
126 1,2,4-Trichlorobenzene	180	14.911	14.916	-0.005	93	126359	50.0	51.2	
127 Hexachlorobutadiene	225	15.057	15.056	0.001	92	73391	50.0	57.4	
128 Naphthalene	128	15.185	15.184	0.001	96	272909	50.0	53.9	
129 1,2,3-Trichlorobenzene	180	15.422	15.415	0.007	96	116264	50.0	63.7	
S 154 Total BTEX	106				0		250.0	246.3	
S 134 1,2-Dichloroethene, Total	96				0		100.0	96.5	
S 133 Xylenes, Total	106				0		100.0	96.8	
S 135 1,3-Dichloropropene, Total	1				0		100.0	91.8	

Reagents:

voaWKetmix1st_00020	Amount Added: 2.00	Units: uL	
VOAACRPRI_00023	Amount Added: 6.00	Units: uL	
VOACEVEPRI_00058	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 2.00	Units: uL	
VOAVAPRI_00029	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120505.D

Injection Date: 05-Dec-2019 10:52:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: LCS

Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL

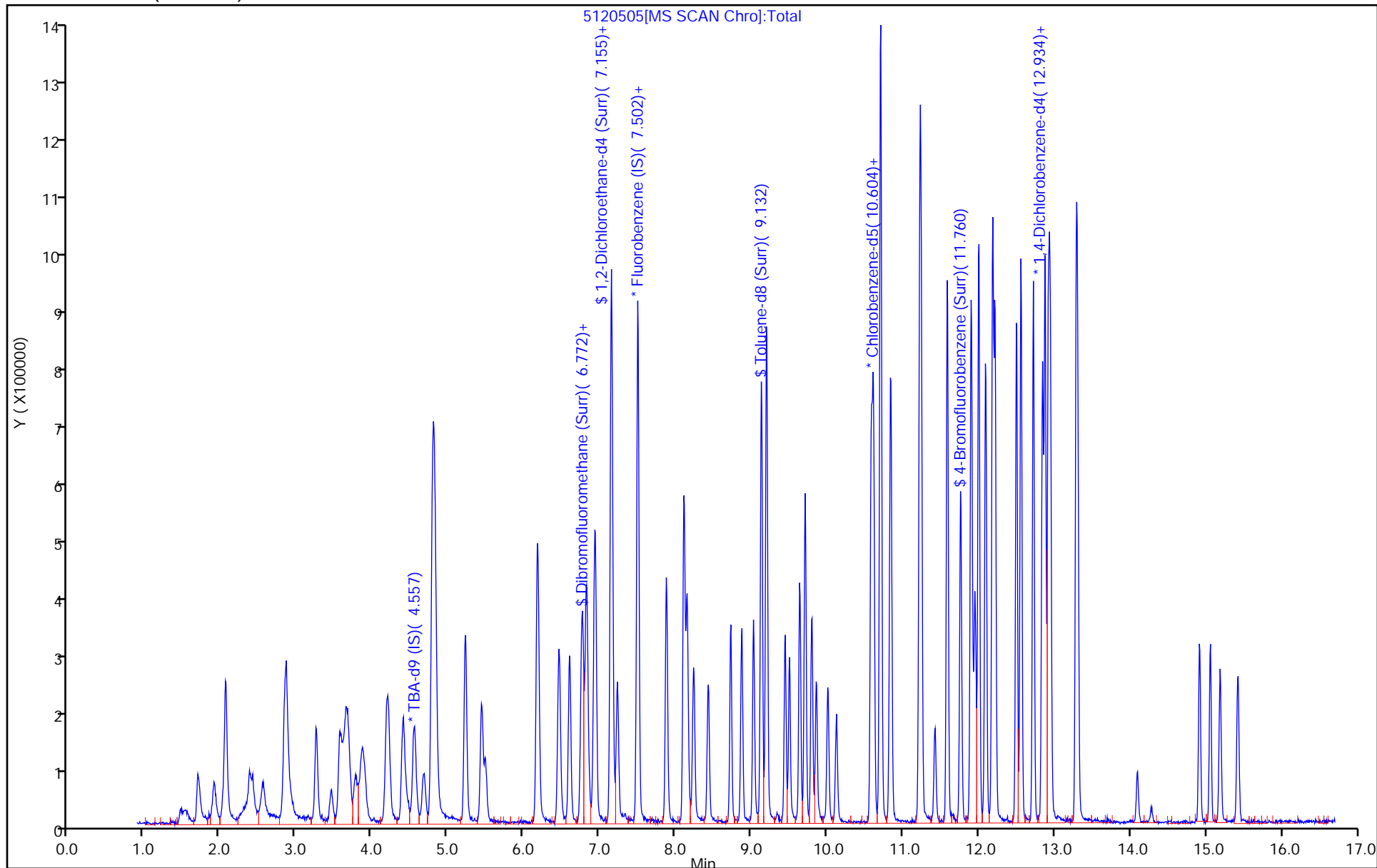
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120505.D
 Lims ID: LCS
 Client ID:
 Sample Type: LCS
 Inject. Date: 05-Dec-2019 10:52:30 ALS Bottle#: 5 Worklist Smp#: 5
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-005
 Misc. Info.: lcs
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 09:57:36 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 09:57:44

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	45.3	90.52
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	45.0	89.97
\$ 7 Toluene-d8 (Surr)	50.0	49.7	99.49
\$ 8 4-Bromofluorobenzene (Surr)	50.0	48.2	96.44

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 180-301313/5
 Matrix: Water Lab File ID: 5121305.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 12:01
 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	10.4		1.0	0.90
75-01-4	Vinyl chloride	12.1		1.0	0.88
74-83-9	Bromomethane	7.70		1.0	0.89
75-00-3	Chloroethane	13.2		1.0	0.90
75-35-4	1,1-Dichloroethene	9.73		1.0	0.55
67-64-1	Acetone	23.2		5.0	3.4
75-15-0	Carbon disulfide	10.7		1.0	0.88
75-09-2	Methylene Chloride	12.0		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	9.96		1.0	0.67
1634-04-4	Methyl tert-butyl ether	9.79		1.0	0.59
75-34-3	1,1-Dichloroethane	10.3		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	9.19		1.0	0.71
74-97-5	Bromochloromethane	10.7		1.0	0.63
78-93-3	2-Butanone (MEK)	23.1		5.0	2.6
67-66-3	Chloroform	10.2		1.0	0.60
71-55-6	1,1,1-Trichloroethane	10.0		1.0	0.60
56-23-5	Carbon tetrachloride	9.43		1.0	0.88
71-43-2	Benzene	9.88		1.0	0.60
107-06-2	1,2-Dichloroethane	9.97		1.0	0.57
79-01-6	Trichloroethene	9.29		1.0	0.69
78-87-5	1,2-Dichloropropane	10.0		1.0	0.66
75-27-4	Bromodichloromethane	10.4		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	9.28		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	17.8		5.0	3.1
108-88-3	Toluene	9.93		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	8.88		1.0	0.58
79-00-5	1,1,2-Trichloroethane	10.9		1.0	0.45
127-18-4	Tetrachloroethene	9.52		1.0	0.47
591-78-6	2-Hexanone	21.0		5.0	3.3
124-48-1	Dibromochloromethane	10.1		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	10.0		1.0	0.50
108-90-7	Chlorobenzene	9.06		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	9.61		1.0	0.57
100-41-4	Ethylbenzene	8.13		1.0	0.51
1330-20-7	Xylenes, Total	16.7		2.0	0.89
100-42-5	Styrene	8.60		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 180-301313/5
 Matrix: Water Lab File ID: 5121305.D
 Analysis Method: EPA 8260C Date Collected: _____
 Sample wt/vol: 5 (mL) Date Analyzed: 12/13/2019 12:01
 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.: 301313 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	9.16		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	10.3		1.0	0.60
107-13-1	Acrylonitrile	93.9		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		70-150
2037-26-5	Toluene-d8 (Surr)	94		78-128
460-00-4	4-Bromofluorobenzene (Surr)	84		64-123
1868-53-7	Dibromofluoromethane (Surr)	98		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121305.D
 Lims ID: LCS
 Client ID:
 Sample Type: LCS
 Inject. Date: 13-Dec-2019 12:01:30 ALS Bottle#: 5 Worklist Smp#: 5
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-005
 Misc. Info.: lcs
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 10:49:11 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 14-Dec-2019 10:56:14

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.432	4.416	0.016	0	116770	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.394	7.391	0.003	99	516981	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.485	10.482	0.003	84	128967	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.821	12.818	0.003	92	212833	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.670	6.673	-0.003	94	127945	50.0	48.9	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.041	7.038	0.003	0	177585	50.0	52.4	
\$ 7 Toluene-d8 (Surr)	98	9.031	9.034	-0.003	93	503532	50.0	47.0	
\$ 8 4-Bromofluorobenzene (Surr	95	11.659	11.662	-0.003	92	174819	50.0	41.8	
11 Dichlorodifluoromethane	85	1.645	1.636	0.009	98	203010	50.0	56.8	
12 Chloromethane	50	1.840	1.831	0.009	99	124389	50.0	51.9	
13 Vinyl chloride	62	1.962	1.965	-0.003	98	152307	50.0	60.4	
14 Butadiene	39	2.022	2.007	0.015	93	84804	50.0	35.6	
15 Bromomethane	94	2.345	2.342	0.003	90	75449	50.0	38.5	
16 Chloroethane	64	2.491	2.476	0.015	97	106738	50.0	66.1	
17 Dichlorofluoromethane	67	2.777	2.768	0.009	97	296836	50.0	71.8	
18 Trichlorofluoromethane	101	2.765	2.780	-0.015	90	288942	50.0	62.0	
20 Ethyl ether	59	3.160	3.157	0.003	90	128642	50.0	55.2	
21 Acrolein	56	3.343	3.358	-0.015	97	38704	150.0	80.8	
22 1,1-Dichloroethene	96	3.458	3.467	-0.009	97	127812	50.0	48.7	
23 1,1,2-Trichloro-1,2,2-trif	101	3.543	3.553	-0.010	85	154148	50.0	53.2	a
24 Acetone	43	3.574	3.577	-0.003	100	122750	100.0	116.1	
25 Iodomethane	142	3.671	3.674	-0.003	99	221731	50.0	46.7	
26 Carbon disulfide	76	3.750	3.753	-0.003	99	371758	50.0	53.5	
28 3-Chloro-1-propene	76	4.073	4.058	0.015	90	69881	50.0	47.3	
30 Methyl acetate	43	4.085	4.088	-0.003	97	174904	100.0	99.0	
31 Methylene Chloride	84	4.279	4.289	-0.010	85	172845	50.0	60.0	
32 2-Methyl-2-propanol	59	4.559	4.550	0.009	95	65788	500.0	575.1	
33 Acrylonitrile	53	4.675	4.672	0.003	97	457559	500.0	469.6	
34 trans-1,2-Dichloroethene	96	4.693	4.696	-0.003	95	148273	50.0	49.8	
35 Methyl tert-butyl ether	73	4.711	4.708	0.003	98	354839	50.0	49.0	
36 Hexane	57	5.113	5.110	0.003	92	183901	50.0	45.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.332	5.329	0.003	96	241537	50.0	51.7	
38 Vinyl acetate	43	5.387	5.378	0.009	96	187096	50.0	39.6	
44 2,2-Dichloropropane	97	6.062	6.065	-0.003	72	37314	50.0	58.6	
45 cis-1,2-Dichloroethene	96	6.068	6.065	0.003	81	144853	50.0	45.9	
46 2-Butanone (MEK)	43	6.086	6.083	0.003	98	151105	100.0	115.4	
49 Chlorobromomethane	128	6.342	6.351	-0.009	86	86220	50.0	53.4	
51 Tetrahydrofuran	42	6.360	6.363	-0.003	73	54187	100.0	75.6	
52 Chloroform	83	6.494	6.497	-0.003	93	257828	50.0	50.8	
53 1,1,1-Trichloroethane	97	6.652	6.649	0.003	98	201296	50.0	50.0	
54 Cyclohexane	56	6.719	6.722	-0.003	85	172903	50.0	36.6	
56 Carbon tetrachloride	117	6.816	6.813	0.003	97	181989	50.0	47.2	
55 1,1-Dichloropropene	75	6.835	6.838	-0.004	94	164927	50.0	42.1	
57 Isobutyl alcohol	41	7.041	7.044	-0.003	50	62206	1250.0	859.1	
58 Benzene	78	7.054	7.051	0.003	98	579960	50.0	49.4	
59 1,2-Dichloroethane	62	7.133	7.124	0.009	98	203890	50.0	49.9	
62 n-Heptane	43	7.406	7.403	0.003	80	143654	50.0	44.9	
64 Trichloroethene	130	7.771	7.775	-0.003	97	154785	50.0	46.4	
66 Methylcyclohexane	83	8.015	8.012	0.003	85	224838	50.0	44.3	
67 1,2-Dichloropropane	63	8.051	8.048	0.003	93	135168	50.0	50.1	
70 1,4-Dioxane	88	8.130	8.127	0.003	34	16980	1000.0	680.9	
68 Dibromomethane	93	8.136	8.133	0.003	91	86908	50.0	50.5	
71 Dichlorobromomethane	83	8.331	8.328	0.003	99	182459	50.0	51.9	
73 2-Chloroethyl vinyl ether	63	8.635	8.626	0.009	96	129548	100.0	68.6	
74 cis-1,3-Dichloropropene	75	8.775	8.772	0.003	96	190123	50.0	46.4	
75 4-Methyl-2-pentanone (MIBK)	43	8.933	8.930	0.003	95	185370	100.0	89.0	
76 Toluene	91	9.098	9.101	-0.003	99	628570	50.0	49.7	
77 trans-1,3-Dichloropropene	75	9.347	9.350	-0.003	92	171077	50.0	44.4	
78 Ethyl methacrylate	69	9.408	9.411	-0.003	85	135990	50.0	39.1	
79 1,1,2-Trichloroethane	97	9.542	9.539	0.003	93	138150	50.0	54.5	
80 Tetrachloroethene	164	9.609	9.612	-0.003	97	138474	50.0	47.6	
81 1,3-Dichloropropane	76	9.700	9.697	0.003	89	218852	50.0	49.3	
82 2-Hexanone	43	9.767	9.764	0.003	95	173740	100.0	104.9	
84 Chlorodibromomethane	129	9.913	9.910	0.003	90	133854	50.0	50.6	
85 Ethylene Dibromide	107	10.022	10.019	0.003	100	130855	50.0	50.2	
87 Chlorobenzene	112	10.509	10.512	-0.003	96	386129	50.0	45.3	
89 1,1,1,2-Tetrachloroethane	131	10.606	10.603	0.003	93	139068	50.0	48.1	
90 Ethylbenzene	106	10.606	10.609	-0.003	98	179872	50.0	40.6	
91 m-Xylene & p-Xylene	106	10.740	10.743	-0.003	0	238431	50.0	43.1	
92 o-Xylene	106	11.123	11.126	-0.003	95	209571	50.0	40.3	
93 Styrene	104	11.142	11.145	-0.003	94	391327	50.0	43.0	
94 Bromoform	173	11.324	11.321	0.003	97	81873	50.0	45.8	
97 Isopropylbenzene	105	11.488	11.491	-0.003	96	504146	50.0	37.5	
100 Bromobenzene	156	11.805	11.802	0.003	88	179435	50.0	46.8	
99 1,1,2,2-Tetrachloroethane	83	11.805	11.808	-0.003	79	150572	50.0	51.4	
102 trans-1,4-Dichloro-2-buten	53	11.847	11.838	0.009	79	38459	50.0	45.3	
101 1,2,3-Trichloropropane	110	11.853	11.857	-0.003	84	54685	50.0	50.6	
103 N-Propylbenzene	120	11.908	11.905	0.003	99	161971	50.0	40.8	
104 2-Chlorotoluene	126	11.993	11.990	0.003	97	148268	50.0	43.6	
106 1,3,5-Trimethylbenzene	105	12.091	12.088	0.003	93	452636	50.0	41.2	
107 4-Chlorotoluene	126	12.115	12.118	-0.003	97	169526	50.0	47.6	
108 tert-Butylbenzene	119	12.401	12.398	0.003	93	340678	50.0	37.4	
110 1,2,4-Trimethylbenzene	105	12.462	12.459	0.003	97	455750	50.0	41.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
112 sec-Butylbenzene	105	12.626	12.623	0.003	94	506241	50.0	40.8	
113 1,3-Dichlorobenzene	146	12.742	12.745	-0.003	98	310300	50.0	48.2	
114 4-Isopropyltoluene	119	12.778	12.781	-0.003	97	441209	50.0	41.2	
115 1,4-Dichlorobenzene	146	12.845	12.848	-0.003	96	327398	50.0	48.2	
120 n-Butylbenzene	91	13.186	13.189	-0.003	97	319157	50.0	40.8	
121 1,2-Dichlorobenzene	146	13.204	13.201	0.003	98	293290	50.0	50.0	
122 1,2-Dibromo-3-Chloropropan	75	13.989	13.992	-0.003	76	18050	50.0	49.0	
126 1,2,4-Trichlorobenzene	180	14.810	14.813	-0.003	94	106043	50.0	57.3	
127 Hexachlorobutadiene	225	14.956	14.959	-0.003	93	84293	50.0	88.6	
128 Naphthalene	128	15.078	15.087	-0.009	96	164484	50.0	44.3	
129 1,2,3-Trichlorobenzene	180	15.309	15.312	-0.003	94	89240	50.0	65.1	
S 133 Xylenes, Total	106				0		100.0	83.4	
S 134 1,2-Dichloroethene, Total	96				0		100.0	95.7	
S 135 1,3-Dichloropropene, Total	1				0		100.0	90.8	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

voaWKetmix1st_00021	Amount Added: 2.00	Units: uL	
VOACR2ND_00029	Amount Added: 6.00	Units: uL	
VOACEVE2ND_00031	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00383	Amount Added: 2.00	Units: uL	
VOAVAPRI_00031	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121305.D

Injection Date: 13-Dec-2019 12:01:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: LCS

Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL

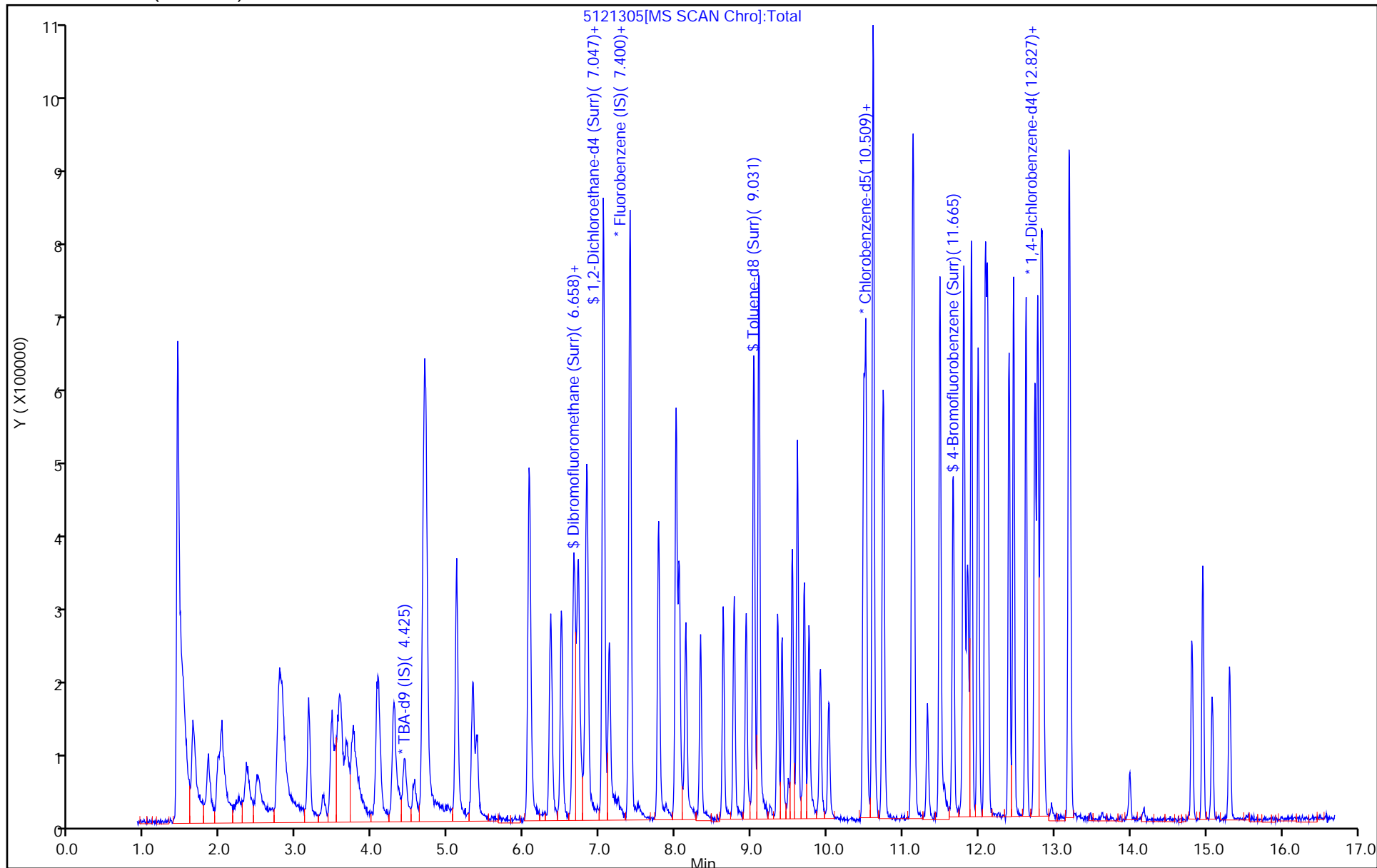
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: MSVOA_LL_CHHP5

Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)



Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\5121305.D
 Lims ID: LCS
 Client ID:
 Sample Type: LCS
 Inject. Date: 13-Dec-2019 12:01:30 ALS Bottle#: 5 Worklist Smp#: 5
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0030001-005
 Misc. Info.: lcs
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191213-30001.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 14-Dec-2019 10:49:11 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 14-Dec-2019 10:56:14

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	48.9	97.86
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	52.4	104.81
\$ 7 Toluene-d8 (Surr)	50.0	47.0	93.96
\$ 8 4-Bromofluorobenzene (Surr)	50.0	41.8	83.65

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 MS Lab Sample ID: 180-99101-1 MS
 Matrix: Water Lab File ID: 5120527.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 20:25
 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.: 300399 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	11.1		1.0	0.90
75-01-4	Vinyl chloride	9.96		1.0	0.88
74-83-9	Bromomethane	8.79		1.0	0.89
75-00-3	Chloroethane	11.4		1.0	0.90
75-35-4	1,1-Dichloroethene	9.93		1.0	0.55
67-64-1	Acetone	16.8		5.0	3.4
75-15-0	Carbon disulfide	9.85		1.0	0.88
75-09-2	Methylene Chloride	10.8		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	9.90		1.0	0.67
1634-04-4	Methyl tert-butyl ether	8.67		1.0	0.59
75-34-3	1,1-Dichloroethane	10.1		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	10.0		1.0	0.71
74-97-5	Bromochloromethane	10.6		1.0	0.63
78-93-3	2-Butanone (MEK)	15.5		5.0	2.6
67-66-3	Chloroform	9.45		1.0	0.60
71-55-6	1,1,1-Trichloroethane	9.41		1.0	0.60
56-23-5	Carbon tetrachloride	9.55		1.0	0.88
71-43-2	Benzene	10.2		1.0	0.60
107-06-2	1,2-Dichloroethane	9.61		1.0	0.57
79-01-6	Trichloroethene	9.35		1.0	0.69
78-87-5	1,2-Dichloropropane	9.83		1.0	0.66
75-27-4	Bromodichloromethane	9.75		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	8.06		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	15.9		5.0	3.1
108-88-3	Toluene	9.91		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	8.45		1.0	0.58
79-00-5	1,1,2-Trichloroethane	9.95		1.0	0.45
127-18-4	Tetrachloroethene	9.86		1.0	0.47
591-78-6	2-Hexanone	15.2		5.0	3.3
124-48-1	Dibromochloromethane	9.06		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	9.27		1.0	0.50
108-90-7	Chlorobenzene	9.57		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	10.2		1.0	0.57
100-41-4	Ethylbenzene	9.33		1.0	0.51
1330-20-7	Xylenes, Total	18.4		2.0	0.89
100-42-5	Styrene	9.77		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 MS Lab Sample ID: 180-99101-1 MS
 Matrix: Water Lab File ID: 5120527.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 20:25
 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.: 300399 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	8.87		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	10.6		1.0	0.60
107-13-1	Acrylonitrile	104		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-150
2037-26-5	Toluene-d8 (Surr)	94		78-128
460-00-4	4-Bromofluorobenzene (Surr)	88		64-123
1868-53-7	Dibromofluoromethane (Surr)	97		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120527.D
 Lims ID: 180-99101-A-1 MS
 Client ID:
 Sample Type: MS
 Inject. Date: 05-Dec-2019 20:25:30 ALS Bottle#: 20 Worklist Smp#: 27
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-027
 Misc. Info.: 180-99101-a-1 ms
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:54:02 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:54:02

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	4.544	0.006	0	230635	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.500	7.494	0.006	99	548099	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.578	10.585	-0.007	83	138573	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.920	12.921	-0.001	92	261880	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.776	6.770	0.006	95	134058	50.0	48.4	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.147	7.148	-0.001	0	167375	50.0	46.6	
\$ 7 Toluene-d8 (Surr)	98	9.136	9.131	0.005	93	542328	50.0	47.1	
\$ 8 4-Bromofluorobenzene (Surr	95	11.758	11.759	-0.001	93	197520	50.0	44.0	
11 Dichlorodifluoromethane	85	1.696	1.703	-0.007	99	165772	50.0	43.7	
12 Chloromethane	50	1.903	1.910	-0.007	100	140457	50.0	55.3	
13 Vinyl chloride	62	2.037	2.044	-0.007	99	133001	50.0	49.8	
14 Butadiene	39	2.061	2.062	-0.001	93	121434	50.0	48.0	
15 Bromomethane	94	2.378	2.384	-0.006	92	91316	50.0	43.9	
16 Chloroethane	64	2.536	2.548	-0.012	99	97778	50.0	57.1	
17 Dichlorofluoromethane	67	2.846	2.847	-0.001	95	247043	50.0	56.4	
18 Trichlorofluoromethane	101	2.846	2.865	-0.019	81	247661	50.0	50.1	
20 Ethyl ether	59	3.260	3.254	0.006	90	128439	50.0	52.0	
21 Acrolein	56	3.448	3.449	-0.001	99	72485	150.0	142.7	
22 1,1-Dichloroethene	96	3.564	3.571	-0.007	96	138264	50.0	49.7	
23 1,1,2-Trichloro-1,2,2-trif	101	3.649	3.650	-0.001	90	161793	50.0	52.6	
24 Acetone	43	3.698	3.674	0.024	100	94244	100.0	84.1	
25 Iodomethane	142	3.777	3.771	0.006	96	255607	50.0	50.8	
26 Carbon disulfide	76	3.868	3.869	-0.001	98	362975	50.0	49.3	
28 3-Chloro-1-propene	76	4.191	4.191	0.000	91	73905	50.0	47.2	
30 Methyl acetate	43	4.221	4.209	0.012	96	186994	100.0	99.8	
31 Methylene Chloride	84	4.397	4.398	-0.001	85	165995	50.0	54.1	
32 2-Methyl-2-propanol	59	4.671	4.666	0.005	92	101036	500.0	447.2	
33 Acrylonitrile	53	4.793	4.787	0.006	99	538914	500.0	521.7	
34 trans-1,2-Dichloroethene	96	4.805	4.812	-0.007	98	156170	50.0	49.5	
35 Methyl tert-butyl ether	73	4.829	4.830	-0.001	97	333252	50.0	43.4	
36 Hexane	57	5.225	5.219	0.006	92	173528	50.0	40.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.438	5.438	0.000	97	250935	50.0	50.7	
38 Vinyl acetate	43	5.492	5.487	0.005	97	155870	50.0	31.1	
44 2,2-Dichloropropane	97	6.180	6.174	0.006	60	33293	50.0	49.3	
45 cis-1,2-Dichloroethene	96	6.180	6.174	0.006	78	167219	50.0	50.0	
46 2-Butanone (MEK)	43	6.198	6.186	0.012	98	107485	100.0	77.4	
49 Chlorobromomethane	128	6.460	6.460	0.000	87	90350	50.0	52.8	
51 Tetrahydrofuran	42	6.466	6.466	0.000	81	62281	100.0	81.9	
52 Chloroform	83	6.600	6.600	0.000	92	255504	50.0	47.3	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	97	200856	50.0	47.0	
54 Cyclohexane	56	6.825	6.819	0.006	86	227039	50.0	45.3	
56 Carbon tetrachloride	117	6.922	6.923	0.000	96	195369	50.0	47.7	
55 1,1-Dichloropropene	75	6.946	6.941	0.005	96	187508	50.0	45.2	
57 Isobutyl alcohol	41	7.153	7.148	0.005	78	99754	1250.0	1299.5	
58 Benzene	78	7.159	7.154	0.005	97	637536	50.0	51.2	
59 1,2-Dichloroethane	62	7.226	7.233	-0.007	99	208434	50.0	48.1	
62 n-Heptane	43	7.506	7.507	-0.001	84	132675	50.0	39.1	
64 Trichloroethene	130	7.883	7.878	0.005	97	165101	50.0	46.7	
66 Methylcyclohexane	83	8.114	8.109	0.005	87	219723	50.0	40.8	
67 1,2-Dichloropropane	63	8.151	8.145	0.006	94	140495	50.0	49.1	
68 Dibromomethane	93	8.242	8.230	0.012	89	92454	50.0	50.7	
70 1,4-Dioxane	88	8.230	8.230	0.000	37	23112	1000.0	874.1	
71 Dichlorobromomethane	83	8.431	8.431	0.000	99	181556	50.0	48.7	
73 2-Chloroethyl vinyl ether	63		8.723				ND	ND	U
74 cis-1,3-Dichloropropene	75	8.875	8.875	0.000	97	175066	50.0	40.3	
75 4-Methyl-2-pentanone (MIBK)	43	9.027	9.027	0.000	95	177651	100.0	79.4	
76 Toluene	91	9.203	9.198	0.005	98	674018	50.0	49.6	
77 trans-1,3-Dichloropropene	75	9.447	9.441	0.006	91	174823	50.0	42.2	
78 Ethyl methacrylate	69	9.501	9.502	-0.001	88	133900	50.0	36.1	
79 1,1,2-Trichloroethane	97	9.641	9.642	-0.001	92	135507	50.0	49.8	
80 Tetrachloroethene	164	9.708	9.709	-0.001	96	154029	50.0	49.3	
81 1,3-Dichloropropane	76	9.793	9.794	-0.001	88	229762	50.0	48.2	
82 2-Hexanone	43	9.854	9.855	-0.001	95	127757	100.0	75.8	
84 Chlorodibromomethane	129	10.006	10.007	-0.001	92	128744	50.0	45.3	
85 Ethylene Dibromide	107	10.122	10.122	0.000	98	129835	50.0	46.3	
87 Chlorobenzene	112	10.609	10.609	0.000	96	438450	50.0	47.8	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.700	0.000	93	158293	50.0	50.9	
90 Ethylbenzene	106	10.706	10.706	0.000	98	221789	50.0	46.6	
91 m-Xylene & p-Xylene	106	10.840	10.834	0.006	0	274341	50.0	46.2	
92 o-Xylene	106	11.223	11.217	0.006	96	257510	50.0	46.0	
93 Styrene	104	11.241	11.242	-0.001	94	477566	50.0	48.8	
94 Bromoform	173	11.424	11.424	0.000	98	85191	50.0	44.3	
97 Isopropylbenzene	105	11.588	11.589	-0.001	95	623655	50.0	43.2	
99 1,1,2,2-Tetrachloroethane	83	11.898	11.899	-0.001	75	167180	50.0	53.1	
100 Bromobenzene	156	11.904	11.905	-0.001	88	193816	50.0	41.0	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	60	36836	50.0	35.2	
101 1,2,3-Trichloropropane	110	11.953	11.954	-0.001	83	61857	50.0	46.6	
103 N-Propylbenzene	120	12.002	12.002	0.000	98	200942	50.0	41.2	
104 2-Chlorotoluene	126	12.093	12.093	0.000	97	182384	50.0	43.6	
106 1,3,5-Trimethylbenzene	105	12.184	12.185	-0.001	95	551952	50.0	40.8	
107 4-Chlorotoluene	126	12.215	12.215	0.000	96	200588	50.0	45.8	
108 tert-Butylbenzene	119	12.501	12.501	0.000	93	420362	50.0	37.5	
110 1,2,4-Trimethylbenzene	105	12.555	12.556	-0.001	97	566694	50.0	42.3	

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	12.720	0.000	93	608604	50.0	39.8	
113 1,3-Dichlorobenzene	146	12.841	12.842	-0.001	98	352837	50.0	44.6	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	96	529747	50.0	40.2	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	96	369889	50.0	44.2	
120 n-Butylbenzene	91	13.285	13.286	-0.001	97	362626	50.0	37.6	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	99	325087	50.0	45.0	
122 1,2-Dibromo-3-Chloropropan	75	14.094	14.089	0.005	86	17630	50.0	38.9	
126 1,2,4-Trichlorobenzene	180	14.910	14.916	-0.006	92	79195	50.0	34.8	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	93	45994	50.0	38.5	
128 Naphthalene	128	15.190	15.184	0.006	96	136643	50.0	31.3	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	94	59195	50.0	36.3	
S 154 Total BTEX	106				0		250.0	239.6	
S 134 1,2-Dichloroethene, Total	96				0		100.0	99.5	
S 133 Xylenes, Total	106				0		100.0	92.2	
S 135 1,3-Dichloropropene, Total	1				0		100.0	82.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

U - Marked Undetected

Reagents:

voaWKetmix1st_00020	Amount Added: 2.00	Units: uL	
VOAACRPRI_00023	Amount Added: 6.00	Units: uL	
VOACEVEPRI_00058	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 2.00	Units: uL	
VOAVAPRI_00029	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120527.D

Injection Date: 05-Dec-2019 20:25:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-A-1 MS

Worklist Smp#: 27

Client ID:

Purge Vol: 5.000 mL

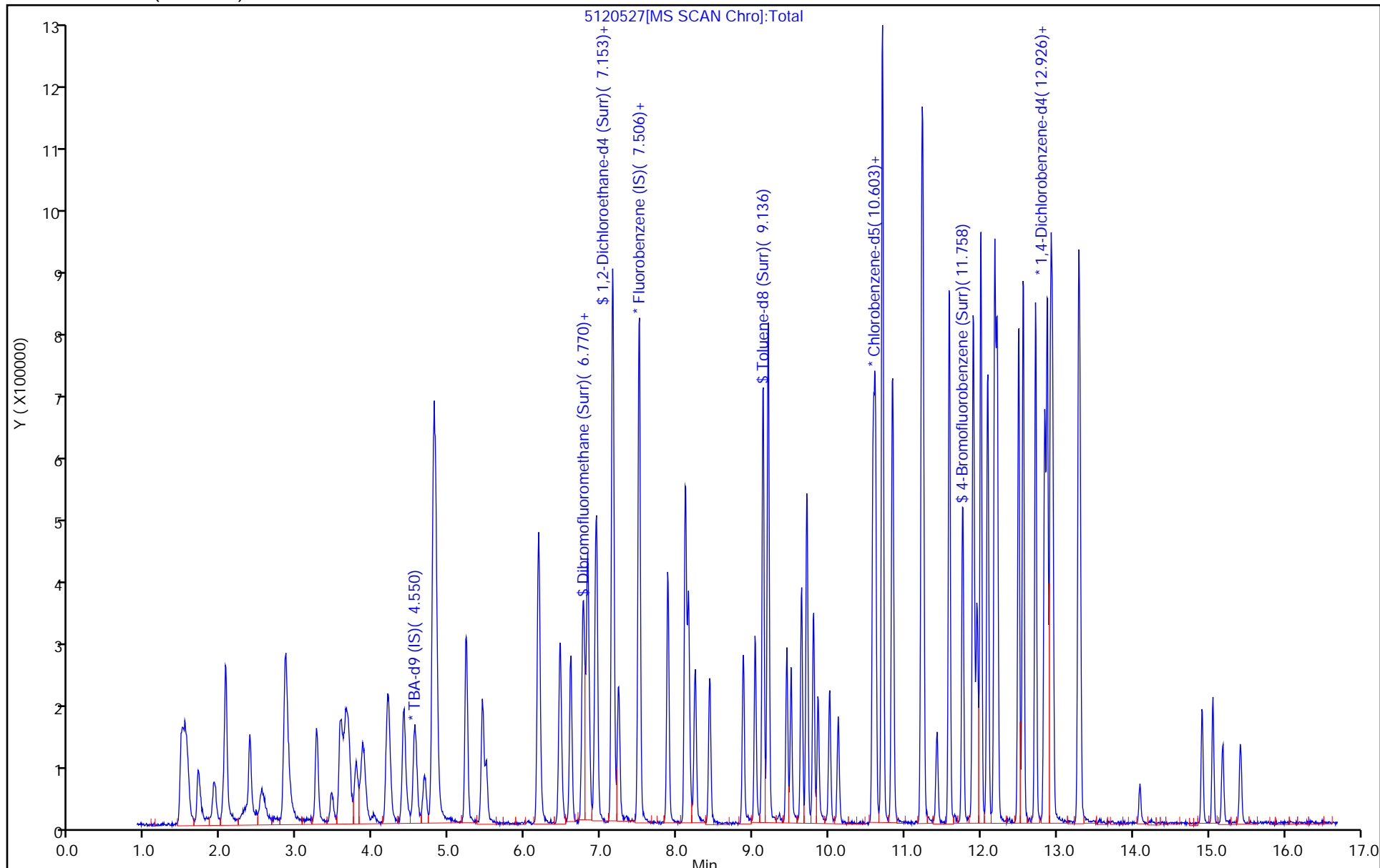
Dil. Factor: 1.0000

ALS Bottle#: 20

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\20191205-29868.b\5120527.D
 Lims ID: 180-99101-A-1 MS
 Client ID:
 Sample Type: MS
 Inject. Date: 05-Dec-2019 20:25:30 ALS Bottle#: 20 Worklist Smp#: 27
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-027
 Misc. Info.: 180-99101-a-1 ms
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:54:02 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:54:02

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	48.4	96.72
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	46.6	93.17
\$ 7 Toluene-d8 (Surr)	50.0	47.1	94.18
\$ 8 4-Bromofluorobenzene (Surr)	50.0	44.0	87.96

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 MSD Lab Sample ID: 180-99101-1 MSD
 Matrix: Water Lab File ID: 5120528.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 20:49
 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.: 300399 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	11.1		1.0	0.90
75-01-4	Vinyl chloride	10.3		1.0	0.88
74-83-9	Bromomethane	9.18		1.0	0.89
75-00-3	Chloroethane	12.2		1.0	0.90
75-35-4	1,1-Dichloroethene	9.45		1.0	0.55
67-64-1	Acetone	15.9		5.0	3.4
75-15-0	Carbon disulfide	9.84		1.0	0.88
75-09-2	Methylene Chloride	11.4		1.0	0.89
156-60-5	trans-1,2-Dichloroethene	10.1		1.0	0.67
1634-04-4	Methyl tert-butyl ether	9.13		1.0	0.59
75-34-3	1,1-Dichloroethane	10.0		1.0	0.63
156-59-2	cis-1,2-Dichloroethene	10.1		1.0	0.71
74-97-5	Bromochloromethane	10.6		1.0	0.63
78-93-3	2-Butanone (MEK)	15.9		5.0	2.6
67-66-3	Chloroform	9.78		1.0	0.60
71-55-6	1,1,1-Trichloroethane	9.25		1.0	0.60
56-23-5	Carbon tetrachloride	8.67		1.0	0.88
71-43-2	Benzene	10.2		1.0	0.60
107-06-2	1,2-Dichloroethane	9.77		1.0	0.57
79-01-6	Trichloroethene	9.71		1.0	0.69
78-87-5	1,2-Dichloropropane	10.5		1.0	0.66
75-27-4	Bromodichloromethane	9.69		1.0	0.64
10061-01-5	cis-1,3-Dichloropropene	8.55		1.0	0.59
108-10-1	4-Methyl-2-pentanone (MIBK)	16.7		5.0	3.1
108-88-3	Toluene	9.74		1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	8.40		1.0	0.58
79-00-5	1,1,2-Trichloroethane	10.5		1.0	0.45
127-18-4	Tetrachloroethene	9.13		1.0	0.47
591-78-6	2-Hexanone	15.4		5.0	3.3
124-48-1	Dibromochloromethane	9.29		1.0	0.84
106-93-4	1,2-Dibromoethane (EDB)	9.58		1.0	0.50
108-90-7	Chlorobenzene	9.75		1.0	0.50
630-20-6	1,1,1,2-Tetrachloroethane	9.85		1.0	0.57
100-41-4	Ethylbenzene	9.00		1.0	0.51
1330-20-7	Xylenes, Total	18.4		2.0	0.89
100-42-5	Styrene	9.76		1.0	0.47

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 MSD Lab Sample ID: 180-99101-1 MSD
 Matrix: Water Lab File ID: 5120528.D
 Analysis Method: EPA 8260C Date Collected: 11/21/2019 12:55
 Sample wt/vol: 5 (mL) Date Analyzed: 12/05/2019 20:49
 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.: 300399 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-25-2	Bromoform	9.05		1.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	10.4		1.0	0.60
107-13-1	Acrylonitrile	107		20	7.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-150
2037-26-5	Toluene-d8 (Surr)	92		78-128
460-00-4	4-Bromofluorobenzene (Surr)	89		64-123
1868-53-7	Dibromofluoromethane (Surr)	95		75-147

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120528.D
 Lims ID: 180-99101-C-1 MSD
 Client ID:
 Sample Type: MSD
 Inject. Date: 05-Dec-2019 20:49:30 ALS Bottle#: 21 Worklist Smp#: 28
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-028
 Misc. Info.: 180-99101-c-1 msd
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:54:42 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh

Date: 06-Dec-2019 10:54:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.556	4.544	0.012	0	229845	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.501	7.494	0.007	99	538359	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.579	10.585	-0.006	84	139511	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.921	12.921	0.000	92	253684	50.0	50.0	
\$ 5 Dibromofluoromethane (Surr	113	6.783	6.770	0.013	95	129687	50.0	47.6	
\$ 6 1,2-Dichloroethane-d4 (Sur	65	7.148	7.148	0.000	0	160158	50.0	45.4	
\$ 7 Toluene-d8 (Surr)	98	9.131	9.131	0.000	92	535699	50.0	46.2	
\$ 8 4-Bromofluorobenzene (Surr	95	11.765	11.759	0.006	95	201127	50.0	44.5	
11 Dichlorodifluoromethane	85	1.697	1.703	-0.006	99	156389	50.0	42.0	
12 Chloromethane	50	1.910	1.910	0.000	98	139154	50.0	55.7	
13 Vinyl chloride	62	2.032	2.044	-0.012	96	135600	50.0	51.7	
14 Butadiene	39	2.062	2.062	0.000	88	114631	50.0	46.2	
15 Bromomethane	94	2.378	2.384	-0.006	92	93746	50.0	45.9	
16 Chloroethane	64	2.543	2.548	-0.005	99	102426	50.0	60.9	
17 Dichlorofluoromethane	67	2.847	2.847	0.000	96	238716	50.0	55.5	
18 Trichlorofluoromethane	101	2.865	2.865	0.000	97	223556	50.0	46.0	
20 Ethyl ether	59	3.254	3.254	0.000	90	130138	50.0	53.6	
21 Acrolein	56	3.455	3.449	0.006	100	73898	150.0	148.1	
22 1,1-Dichloroethene	96	3.577	3.571	0.006	97	129252	50.0	47.3	
23 1,1,2-Trichloro-1,2,2-trif	101	3.644	3.650	-0.006	91	155631	50.0	51.6	
24 Acetone	43	3.692	3.674	0.018	99	87577	100.0	79.5	
25 Iodomethane	142	3.784	3.771	0.013	97	250670	50.0	50.7	
26 Carbon disulfide	76	3.881	3.869	0.012	98	356214	50.0	49.2	
28 3-Chloro-1-propene	76	4.185	4.191	-0.006	90	74305	50.0	48.3	
30 Methyl acetate	43	4.222	4.209	0.013	97	203037	100.0	110.4	
31 Methylene Chloride	84	4.410	4.398	0.012	87	171984	50.0	57.2	
32 2-Methyl-2-propanol	59	4.678	4.666	0.012	93	109738	500.0	487.4	
33 Acrylonitrile	53	4.793	4.787	0.006	100	544636	500.0	536.7	
34 trans-1,2-Dichloroethene	96	4.818	4.812	0.006	97	156916	50.0	50.6	
35 Methyl tert-butyl ether	73	4.836	4.830	0.006	96	344407	50.0	45.6	
36 Hexane	57	5.231	5.219	0.012	90	169336	50.0	40.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
37 1,1-Dichloroethane	63	5.444	5.438	0.006	97	243452	50.0	50.1	
38 Vinyl acetate	43	5.493	5.487	0.006	97	171565	50.0	34.8	
44 2,2-Dichloropropane	97	6.180	6.174	0.006	59	32287	50.0	48.7	
45 cis-1,2-Dichloroethene	96	6.180	6.174	0.006	79	165123	50.0	50.3	
46 2-Butanone (MEK)	43	6.187	6.186	0.001	97	108513	100.0	79.6	
49 Chlorobromomethane	128	6.460	6.460	0.000	87	89135	50.0	53.0	
51 Tetrahydrofuran	42	6.472	6.466	0.006	80	66009	100.0	88.4	
52 Chloroform	83	6.600	6.600	0.000	92	259029	50.0	48.9	
53 1,1,1-Trichloroethane	97	6.758	6.758	0.000	98	194079	50.0	46.3	
54 Cyclohexane	56	6.831	6.819	0.012	86	197127	50.0	40.1	
56 Carbon tetrachloride	117	6.929	6.923	0.007	97	174206	50.0	43.3	
55 1,1-Dichloropropene	75	6.941	6.941	0.000	96	174380	50.0	42.8	
57 Isobutyl alcohol	41	7.154	7.148	0.006	79	100353	1250.0	1330.9	
58 Benzene	78	7.160	7.154	0.006	97	620692	50.0	50.8	
59 1,2-Dichloroethane	62	7.233	7.233	0.000	98	208110	50.0	48.9	
62 n-Heptane	43	7.507	7.507	0.000	88	121213	50.0	36.4	
64 Trichloroethene	130	7.878	7.878	0.000	96	168566	50.0	48.6	
66 Methylcyclohexane	83	8.109	8.109	0.000	88	200953	50.0	38.0	
67 1,2-Dichloropropane	63	8.152	8.145	0.007	94	147534	50.0	52.5	
68 Dibromomethane	93	8.243	8.230	0.013	91	90420	50.0	50.5	
70 1,4-Dioxane	88	8.231	8.230	0.001	37	23218	1000.0	894.0	
71 Dichlorobromomethane	83	8.431	8.431	0.000	98	177248	50.0	48.4	
73 2-Chloroethyl vinyl ether	63		8.723				ND	ND	U
74 cis-1,3-Dichloropropene	75	8.869	8.875	-0.006	96	182390	50.0	42.8	
75 4-Methyl-2-pentanone (MIBK)	43	9.028	9.027	0.001	94	188451	100.0	83.6	
76 Toluene	91	9.204	9.198	0.006	98	667066	50.0	48.7	
77 trans-1,3-Dichloropropene	75	9.447	9.441	0.006	91	175076	50.0	42.0	
78 Ethyl methacrylate	69	9.502	9.502	0.000	88	139832	50.0	37.4	
79 1,1,2-Trichloroethane	97	9.642	9.642	0.000	88	144057	50.0	52.5	
80 Tetrachloroethene	164	9.715	9.709	0.006	94	143582	50.0	45.6	
81 1,3-Dichloropropane	76	9.800	9.794	0.006	89	227053	50.0	47.3	
82 2-Hexanone	43	9.861	9.855	0.006	92	131354	100.0	77.2	
84 Chlorodibromomethane	129	10.013	10.007	0.006	90	132913	50.0	46.4	
85 Ethylene Dibromide	107	10.123	10.122	0.001	99	135107	50.0	47.9	
87 Chlorobenzene	112	10.609	10.609	0.000	98	449676	50.0	48.7	
89 1,1,1,2-Tetrachloroethane	131	10.700	10.700	0.000	94	154074	50.0	49.2	
90 Ethylbenzene	106	10.707	10.706	0.001	98	215508	50.0	45.0	
91 m-Xylene & p-Xylene	106	10.840	10.834	0.006	0	276454	50.0	46.2	
92 o-Xylene	106	11.224	11.217	0.007	95	258998	50.0	46.0	
93 Styrene	104	11.242	11.242	0.000	94	480536	50.0	48.8	
94 Bromoform	173	11.424	11.424	0.000	97	87516	50.0	45.2	
97 Isopropylbenzene	105	11.589	11.589	0.000	95	604608	50.0	41.6	
99 1,1,2,2-Tetrachloroethane	83	11.899	11.899	0.000	77	164628	50.0	51.9	
100 Bromobenzene	156	11.905	11.905	0.000	87	202529	50.0	44.3	
102 trans-1,4-Dichloro-2-buten	53	11.935	11.935	0.000	72	34344	50.0	33.9	
101 1,2,3-Trichloropropane	110	11.960	11.954	0.006	83	58792	50.0	45.7	
103 N-Propylbenzene	120	12.002	12.002	0.000	98	186206	50.0	39.4	
104 2-Chlorotoluene	126	12.094	12.093	0.001	97	172314	50.0	42.5	
106 1,3,5-Trimethylbenzene	105	12.185	12.185	0.000	95	537869	50.0	41.1	
107 4-Chlorotoluene	126	12.215	12.215	0.000	96	192346	50.0	45.3	
108 tert-Butylbenzene	119	12.501	12.501	0.000	86	396263	50.0	36.5	
110 1,2,4-Trimethylbenzene	105	12.556	12.556	0.000	96	548813	50.0	42.3	

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	12.720	0.000	94	560460	50.0	37.9	
113 1,3-Dichlorobenzene	146	12.842	12.842	0.000	97	339421	50.0	44.2	
114 4-Isopropyltoluene	119	12.878	12.878	0.000	96	498110	50.0	39.0	
115 1,4-Dichlorobenzene	146	12.945	12.945	0.000	95	351300	50.0	43.4	
120 n-Butylbenzene	91	13.286	13.286	0.000	97	335315	50.0	35.9	
121 1,2-Dichlorobenzene	146	13.304	13.304	0.000	99	308860	50.0	44.2	
122 1,2-Dibromo-3-Chloropropan	75	14.089	14.089	0.000	85	17968	50.0	40.9	
126 1,2,4-Trichlorobenzene	180	14.916	14.916	0.000	91	70370	50.0	31.9	
127 Hexachlorobutadiene	225	15.056	15.056	0.000	92	42388	50.0	36.6	
128 Naphthalene	128	15.184	15.184	0.000	96	121645	50.0	29.1	
129 1,2,3-Trichlorobenzene	180	15.415	15.415	0.000	96	50415	50.0	32.2	
S 154 Total BTEX	106				0		250.0	236.7	
S 134 1,2-Dichloroethene, Total	96				0		100.0	100.9	
S 133 Xylenes, Total	106				0		100.0	92.2	
S 135 1,3-Dichloropropene, Total	1				0		100.0	84.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

U - Marked Undetected

Reagents:

voaWKetmix1st_00020	Amount Added: 2.00	Units: uL	
VOAACRPRI_00023	Amount Added: 6.00	Units: uL	
VOACEVEPRI_00058	Amount Added: 2.00	Units: uL	
VOA8260VOAPRI_00382	Amount Added: 2.00	Units: uL	
VOAVAPRI_00029	Amount Added: 2.00	Units: uL	
voaWI/SHP5_00015	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\5120528.D

Injection Date: 05-Dec-2019 20:49:30

Instrument ID: CHHP5

Operator ID: 433269

Lims ID: 180-99101-C-1 MSD

Worklist Smp#: 28

Client ID:

Purge Vol: 5.000 mL

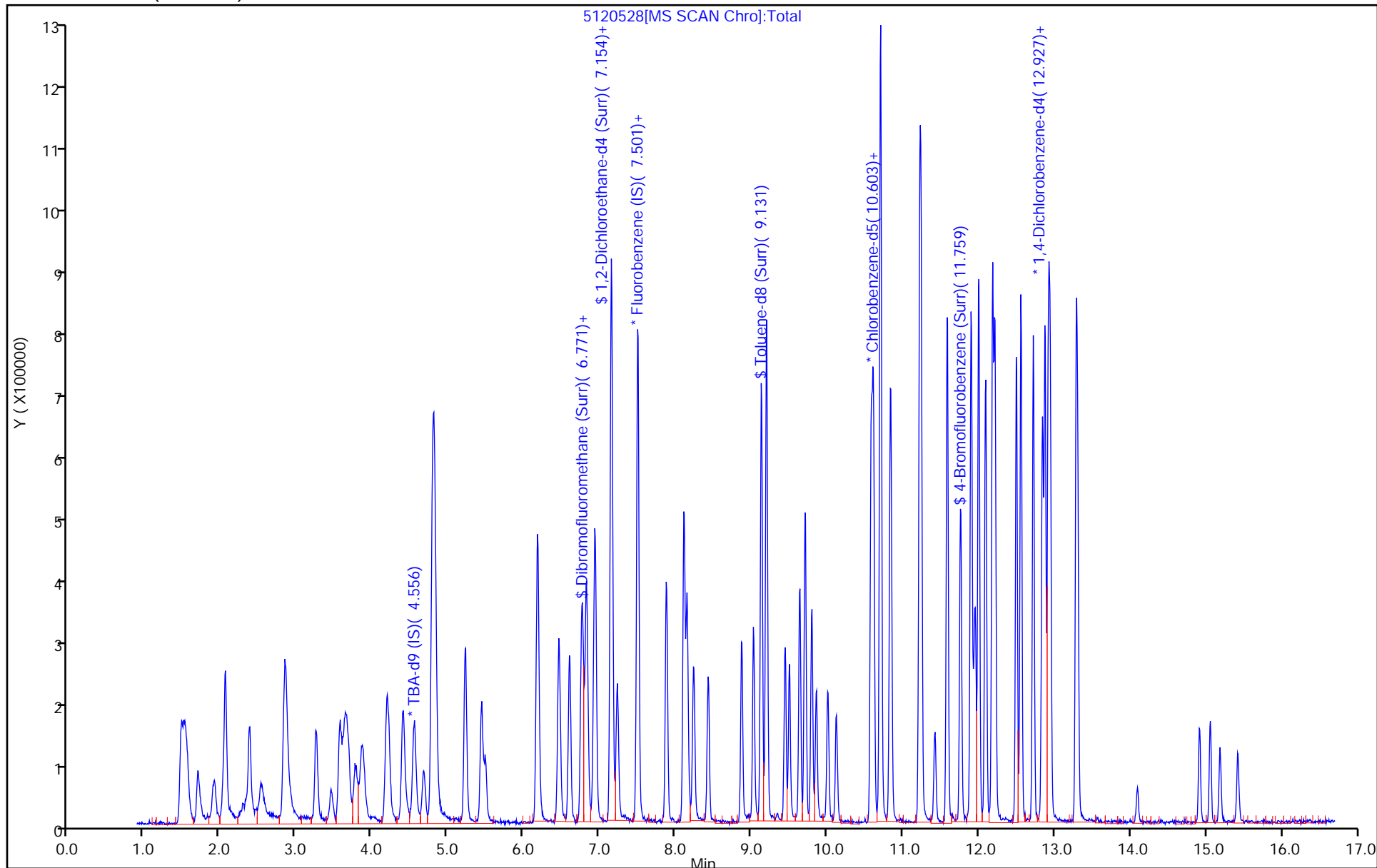
Dil. Factor: 1.0000

ALS Bottle#: 21

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\20191205-29868.b\5120528.D
 Lims ID: 180-99101-C-1 MSD
 Client ID:
 Sample Type: MSD
 Inject. Date: 05-Dec-2019 20:49:30 ALS Bottle#: 21 Worklist Smp#: 28
 Purge Vol: 5.000 mL Dil. Factor: 1.0000
 Sample Info: 180-0029868-028
 Misc. Info.: 180-99101-c-1 msd
 Operator ID: 433269 Instrument ID: CHHP5
 Method: \\chromna\Pittsburgh\ChromData\CHHP5\20191205-29868.b\MSVOA_LL_CHHP5.m
 Limit Group: VOA 8260C_D ICAL
 Last Update: 06-Dec-2019 10:54:42 Calib Date: 29-Nov-2019 14:36:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP5\20191129-29787.b\5112911.D
 Column 1 : DB-624 (0.18 mm) Det: MS SCAN
 Process Host: CTX0319

First Level Reviewer: bowieh Date: 06-Dec-2019 10:54:42

Compound	Amount Added	Amount Recovered	% Rec.
\$ 5 Dibromofluoromethane (Surr)	50.0	47.6	95.26
\$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	45.4	90.77
\$ 7 Toluene-d8 (Surr)	50.0	46.2	92.41
\$ 8 4-Bromofluorobenzene (Surr)	50.0	44.5	88.97

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Start Date: 11/29/2019 10:22

Analysis Batch Number: 299818 End Date: 11/29/2019 21:56

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-299818/1		11/29/2019 10:22	1	5112901.D	DB-624 0.18 (mm)
IC 180-299818/4		11/29/2019 11:46	1	5112904.D	DB-624 0.18 (mm)
IC 180-299818/5		11/29/2019 12:10	1	5112905.D	DB-624 0.18 (mm)
ICIS 180-299818/6		11/29/2019 12:34	1	5112906.D	DB-624 0.18 (mm)
IC 180-299818/7		11/29/2019 12:58	1	5112907.D	DB-624 0.18 (mm)
IC 180-299818/8		11/29/2019 13:23	1	5112908.D	DB-624 0.18 (mm)
IC 180-299818/9		11/29/2019 13:47	1	5112909.D	DB-624 0.18 (mm)
IC 180-299818/10		11/29/2019 14:12	1	5112910.D	DB-624 0.18 (mm)
IC 180-299818/11		11/29/2019 14:36	1	5112911.D	DB-624 0.18 (mm)
ICV 180-299818/16		11/29/2019 16:36	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 16:36	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 17:21	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 17:46	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 18:41	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 19:05	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 19:29	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 19:53	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 20:18	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 20:42	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 21:07	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 21:31	1		DB-624 0.18 (mm)
ZZZZZ		11/29/2019 21:56	1		DB-624 0.18 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Start Date: 12/05/2019 09:20Analysis Batch Number: 300399 End Date: 12/05/2019 22:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-300399/1		12/05/2019 09:20	1	5120501.D	DB-624 0.18 (mm)
CCVIS 180-300399/2		12/05/2019 10:04	1	5120502.D	DB-624 0.18 (mm)
CCV 180-300399/3		12/05/2019 10:28	1	5120503.D	DB-624 0.18 (mm)
LCS 180-300399/5		12/05/2019 10:52	1	5120505.D	DB-624 0.18 (mm)
ZZZZZ		12/05/2019 11:32	1		DB-624 0.18 (mm)
MB 180-300399/7		12/05/2019 11:56	1	5120507.D	DB-624 0.18 (mm)
180-99101-1		12/05/2019 13:55	1	5120511.D	DB-624 0.18 (mm)
180-99101-2		12/05/2019 14:19	1	5120512.D	DB-624 0.18 (mm)
180-99101-3		12/05/2019 14:44	1	5120513.D	DB-624 0.18 (mm)
180-99101-4		12/05/2019 15:08	1	5120514.D	DB-624 0.18 (mm)
180-99101-5		12/05/2019 15:32	1	5120515.D	DB-624 0.18 (mm)
180-99101-6		12/05/2019 15:57	1	5120516.D	DB-624 0.18 (mm)
180-99101-7		12/05/2019 16:21	1	5120517.D	DB-624 0.18 (mm)
180-99101-8		12/05/2019 16:46	1	5120518.D	DB-624 0.18 (mm)
180-99101-9		12/05/2019 17:10	1	5120519.D	DB-624 0.18 (mm)
180-99101-10		12/05/2019 17:34	1	5120520.D	DB-624 0.18 (mm)
180-99101-11		12/05/2019 17:58	1	5120521.D	DB-624 0.18 (mm)
180-99101-12		12/05/2019 18:23	1	5120522.D	DB-624 0.18 (mm)
ZZZZZ		12/05/2019 18:47	20		DB-624 0.18 (mm)
ZZZZZ		12/05/2019 19:12	50		DB-624 0.18 (mm)
ZZZZZ		12/05/2019 19:36	25		DB-624 0.18 (mm)
180-99101-1 MS		12/05/2019 20:25	1	5120527.D	DB-624 0.18 (mm)
180-99101-1 MSD		12/05/2019 20:49	1	5120528.D	DB-624 0.18 (mm)
ZZZZZ		12/05/2019 21:38	1		DB-624 0.18 (mm)
ZZZZZ		12/05/2019 22:02	1		DB-624 0.18 (mm)
180-99101-13		12/05/2019 22:27	1	5120532.D	DB-624 0.18 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-99101-1

SDG No.: _____

Instrument ID: CHHP5 Start Date: 12/13/2019 10:38

Analysis Batch Number: 301313 End Date: 12/13/2019 22:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-301313/1		12/13/2019 10:38	1	5121301C.D	DB-624 0.18 (mm)
CCVIS 180-301313/2		12/13/2019 11:12	1	5121302.D	DB-624 0.18 (mm)
LCS 180-301313/5		12/13/2019 12:01	1	5121305.D	DB-624 0.18 (mm)
ZZZZZ		12/13/2019 12:37	1		DB-624 0.18 (mm)
MB 180-301313/7		12/13/2019 13:01	1	5121307.D	DB-624 0.18 (mm)
ZZZZZ		12/13/2019 13:41	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 14:06	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 14:30	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 14:54	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 15:19	1250		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 17:20	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 17:45	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 18:09	250		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 18:34	1		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 18:58	250		DB-624 0.18 (mm)
180-99101-5 RA		12/13/2019 19:47	1	5121323.D	DB-624 0.18 (mm)
180-99101-7 RA		12/13/2019 20:12	1	5121324.D	DB-624 0.18 (mm)
180-99101-9 RA		12/13/2019 20:36	1	5121325.D	DB-624 0.18 (mm)
180-99101-10 RA		12/13/2019 21:01	1	5121326.D	DB-624 0.18 (mm)
180-99101-13 RA		12/13/2019 21:25	1	5121327.D	DB-624 0.18 (mm)
ZZZZZ		12/13/2019 21:50	1250		DB-624 0.18 (mm)
ZZZZZ		12/13/2019 22:14	1250		DB-624 0.18 (mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-99101-1

SDG No.: _____

Batch Number: 300399 Batch Start Date: 12/05/19 09:20 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	VOA8260INT 00101	VOA8260VOAPRI 00382	VOAACRPRI 00023
BFB 180-300399/1		EPA 8260C		5 mL	5 mL				
CCVIS 180-300399/2		EPA 8260C		5 mL	5 mL			2 uL	6 uL
CCV 180-300399/3		EPA 8260C		5 mL	5 mL		2 uL		
LCS 180-300399/5		EPA 8260C		5 mL	5 mL			2 uL	6 uL
MB 180-300399/7		EPA 8260C		5 mL	5 mL				
180-99101-B-1	HD-COD-SW-6-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-2	HD-COD-SW-7-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-3	HD-COD-SW-8-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-4	HD-COD-SW-9-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-5	HD-COD-SW-13-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-6	HD-COD-SW-15-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-7	HD-COD-SW-16-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-8	HD-COD-SW-17-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-B-9	HD-COD-SW-26-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-B-10	HD-COD-SW-27-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-B-11	HD-COD-SW-28-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-B-12	HD-COD-SW-29-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-1 MS	HD-COD-SW-6-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU		2 uL	6 uL
180-99101-C-1 MSD	HD-COD-SW-6-0/1-0	EPA 8260C	T	5 mL	5 mL	<2 SU		2 uL	6 uL
180-99101-A-13	HD-QC1-0/1-2	EPA 8260C	T	5 mL	5 mL	<2 SU			

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOABFB25 00120	VOACEVEPRI 00058	VOALIST22ND 00008	VOAVAPRI 00029	voaWI/SHP5 00015	voaWKetmix1st 00020
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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.: 180-99101-1

SDG No.: _____

Batch Number: 300399 Batch Start Date: 12/05/19 09:20 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOABFB25 00120	VOACEVEPRI 00058	VOALIST22ND 00008	VOAVAPRI 00029	voaWI/SHP5 00015	voaWKetmix1st 00020
BFB 180-300399/1		EPA 8260C		1 uL					
CCVIS 180-300399/2		EPA 8260C			2 uL		2 uL	5 uL	2 uL
CCV 180-300399/3		EPA 8260C				2 uL			
LCS 180-300399/5		EPA 8260C			2 uL		2 uL	5 uL	2 uL
MB 180-300399/7		EPA 8260C						5 uL	
180-99101-B-1	HD-COD-SW-6-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-2	HD-COD-SW-7-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-3	HD-COD-SW-8-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-4	HD-COD-SW-9-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-5	HD-COD-SW-13-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-6	HD-COD-SW-15-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-7	HD-COD-SW-16-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-8	HD-COD-SW-17-0/1-0	EPA 8260C	T					5 uL	
180-99101-B-9	HD-COD-SW-26-0/1-0	EPA 8260C	T					5 uL	
180-99101-B-10	HD-COD-SW-27-0/1-0	EPA 8260C	T					5 uL	
180-99101-B-11	HD-COD-SW-28-0/1-0	EPA 8260C	T					5 uL	
180-99101-B-12	HD-COD-SW-29-0/1-0	EPA 8260C	T					5 uL	
180-99101-A-1 MS	HD-COD-SW-6-0/1-0	EPA 8260C	T		2 uL		2 uL	5 uL	2 uL
180-99101-C-1 MSD	HD-COD-SW-6-0/1-0	EPA 8260C	T		2 uL		2 uL	5 uL	2 uL
180-99101-A-13	HD-QC1-0/1-2	EPA 8260C	T					5 uL	

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.: 180-99101-1

SDG No.: _____

Batch Number: 300399 Batch Start Date: 12/05/19 09:20 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date: _____

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.: 180-99101-1

SDG No.: _____

Batch Number: 301313 Batch Start Date: 12/13/19 10:38 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 00383	VOAACR2ND 00029	VOABFB25 00120
BFB 180-301313/1		EPA 8260C		5 mL	5 mL				1 uL
CCVIS 180-301313/2		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
LCS 180-301313/5		EPA 8260C		5 mL	5 mL		2 uL	6 uL	
MB 180-301313/7		EPA 8260C		5 mL	5 mL				
180-99101-C-5	HD-COD-SW-13-0/1 -0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-C-7	HD-COD-SW-16-0/1 -0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-C-9	HD-COD-SW-26-0/1 -0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-A-10	HD-COD-SW-27-0/1 -0	EPA 8260C	T	5 mL	5 mL	<2 SU			
180-99101-B-13	HD-QC1-0/1-2	EPA 8260C	T	5 mL	5 mL	<2 SU			

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOACEVE2ND 00031	VOAVAPRI 00031	voaWI/SHP5 00015	voaWKetmix1st 00021		
BFB 180-301313/1		EPA 8260C							
CCVIS 180-301313/2		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
LCS 180-301313/5		EPA 8260C		2 uL	2 uL	5 uL	2 uL		
MB 180-301313/7		EPA 8260C				5 uL			
180-99101-C-5	HD-COD-SW-13-0/1 -0	EPA 8260C	T			5 uL			
180-99101-C-7	HD-COD-SW-16-0/1 -0	EPA 8260C	T			5 uL			
180-99101-C-9	HD-COD-SW-26-0/1 -0	EPA 8260C	T			5 uL			
180-99101-A-10	HD-COD-SW-27-0/1 -0	EPA 8260C	T			5 uL			
180-99101-B-13	HD-QC1-0/1-2	EPA 8260C	T			5 uL			

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.: 180-99101-1

SDG No.: _____

Batch Number: 301313 Batch Start Date: 12/13/19 10:38 Batch Analyst: Bowie, Hannah R

Batch Method: EPA 8260C Batch End Date: _____

Batch Notes	
Batch Comment	MeOH 3167194
pH Indicator ID	HC991818
Vial Lot Number	0103701E

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 15236
 Phone: 412.263.7058 Fax: 412.963.2470

TestAmerica
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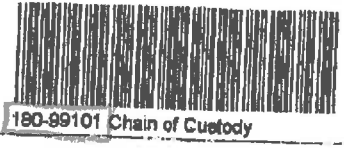
TestAmerica Laboratories, Inc.

Chain of Custody Record

Project Manager: Chris O'Neil
 Tel/Fax: 717-991-8176 / (717) 756-1246
 Analyte Turnaround Time
 Calendar (C) or Work Days (W)
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Casey Littlefield
 Lab Contact: Carrie Gamber
 Date Submitted: 11/21/19
 Carrier: **Harrisburg #267**
 COC No: 25191121TRP3
 1 of 1 V.A.C.
 100 NIS 09372.42
 Container No. 1
 SDG No.

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	87-46 Method VOC's YH (26C) Modified GAPP Lit
HD-COD-SW-0-01-0	11/21/19	1255	Surface Water	Water	3	X
HD-COD-SW-7-01-0		1350	Surface Water	Water	3	X
HD-COD-SW-8-01-0		1125	Surface Water	Water	3	X
HD-COD-SW-9-01-0		1440	Surface Water	Water	3	X
HD-COD-SW-13-01-0		1145	Surface Water	Water	3	X
HD-COD-SW-15-01-0		1410	Surface Water	Water	3	X
HD-COD-SW-16-01-0		1205	Surface Water	Water	3	X
HD-COD-SW-17-01-0		1225	Surface Water	Water	3	X
HD-COD-SW-28-01-0		1330	Surface Water	Water	3	X
HD-COD-SW-27-01-0		1400	Surface Water	Water	3	X
HD-COD-SW-28-01-0		1455	Surface Water	Water	3	X
HD-COD-SW-28-01-0		1055	Surface Water	Water	3	X
HD-Q1-01-1		1700	Surface Water - Trip Blank	Water	3	X
HD-Q1-01-2		11219	TEAP	W	2	X



Duplicate

Permissible Incident Identification
 Non-Hazardous Skin Irritant Acrid B Unknown
 Special Instructions/ QC Requirements & Comments: CLP Like Deliverables, Project Specific Analyte Lists
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Spoiled By Lab In Use For _____ Months

Retransmitted by	Company	Date/Time	Retransmitted by	Company	Date/Time
<i>[Signature]</i>	ETA	11/21/19 15:50	<i>[Signature]</i>	ETA	11/21/19 0900
<i>[Signature]</i>	ETA	11/21/19	<i>[Signature]</i>	ETA	11/21/19

TestAmerica Pittsburgh
 301 Alpha Drive
 Pittsburgh, PA 15238
 phone 412.963.7058 fax 412.963.2470

Chain of Custody Record

TestAmerica
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TestAmerica Laboratories, Inc.

COC No: **20191121TAPB**
 I of 1 COCs

Date Submitted: **11/21/19**
 Carrier: **FED EX**

Site Contact: **Casey Littlefield**
 Lab Contact: **Carrie Gamber**

Project Manager: **Chris O'Neil**
 Tel/Fax: **717-901-8176 / (717) 756-1246**

Client Contact
 Groundwater Sciences Corporation
 2601 Market Place St. Suite 310
 Harrisburg, PA 17110
 Phone (717) 901-8180
 FAX (717) 657-1611
 Project Name: **2019 Surface Water Monthly**
 Site: **YNOP, York PA**
 Quote # **18000557**

Job No. 1001242

Container No. 1

SDG No.

Special, Specific, Notes:

Harrisburg #267

SW-846 Method VOCs via (8260C) Modified QAPP List

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.
HD-COD-SW-6-0/1-0	11/21/19	1255	Surface Water	Water	3
HD-COD-SW-7-0/1-0		1350	Surface Water	Water	3
HD-COD-SW-8-0/1-0		1125	Surface Water	Water	3
HD-COD-SW-9-0/1-0		1440	Surface Water	Water	3
HD-COD-SW-13-0/1-0		1145	Surface Water	Water	3
HD-COD-SW-15-0/1-0		1410	Surface Water	Water	3
HD-COD-SW-16-0/1-0		1205	Surface Water	Water	3
HD-COD-SW-17-0/1-0		1225	Surface Water	Water	3
HD-COD-SW-26-0/1-0		1330	Surface Water	Water	3
HD-COD-SW-27-0/1-0		1400	Surface Water	Water	3
HD-COD-SW-28-0/1-0		1455	Surface Water	Water	3
HD-COD-SW-29-0/1-0		1055	Surface Water	Water	3
HD-QC1-0/1-2		1200	Trip Blank	Water	2
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Unpreserved 7= Na2S2O3					38
Field Filter					2
Field Filter					N

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab hive For Months

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Unknown Parion B

Special Instructions/QC Requirements & Comments: **CLP Like Deliverables, Project Specific Analyte Lists**

Relinquished by: *[Signature]* Company: **GSC** Date/Time: **11/21/19 15:50**

Relinquished by: *[Signature]* Company: **ETA** Date/Time: **11/21/19**

Relinquished by: *[Signature]* Company: **ETA** Date/Time: **11/21/19 09:00**

Do Not Lift Using This Tag

TestAmerica

THE LEADER IN ENVIRONMENT



2272
11.22

RT 0
FZ 0

ORIGIN ID:GTYA (717) 461-6245

TESTAMERICA HARRISBURG SC
5020 RITTER RD
SUITES 205/206
MECHANICSBURG, PA 170554837
UNITED STATES US

LB MAN
889/CAFE3211

BILL RECEIPT

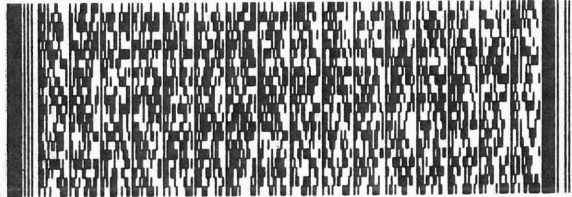
551C1/330/104C

TO **SAMPLE RECEIVING**
TESTAMERICA PITTSBURGH
301 ALPHA DRIVE
RIDC PARK
PITTSBURGH PA 152382907

(412) 968-7058
INVT:
PO:

REF:

DEPT:



FedEx
Express



J1E1118060501uv

FRI - 22 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 4690 5823 2272
0201

EK AGCA

15238
PA-US **PIT**



Uncorrected temp 2.6 °C
Thermometer ID 10

CF 0 Initials B

PT-WI-SR-001 effective 11/8/18



Login Sample Receipt Checklist

Client: Groundwater Sciences Corporation

Job Number: 180-99101-1

Login Number: 99101

List Number: 1

Creator: Matko, Larry

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
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.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	